



USER MANUAL

PD98X DIGITAL PORTABLE RADIO



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:

PD98X Digital Portable Radio (X may represent 2, 5, 6 or 8)

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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.

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.

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Documentation Information

Icon Conventions

Icon	Description
 NOTE	Indicates references that can further describe the related topics.
 CAUTION	Indicates situations that could cause data loss or equipment damage.
 DANGER	Indicates situations that could cause minor bodily injury.

Notation Conventions

Item	Description	Example
Boldface	Denotes menus, tabs, parameter names, window names, dialogue names, and hardware buttons.	To save the configuration, click Apply .
		The Log Level Settings dialogue appears.
		Press the PTT key.
" "	Denotes messages, directories, file names, folder names, and parameter values.	The screen displays "Invalid Battery!".
		Open "PDT_PSS.exe".
		Go to "D:/opt/local".
>	Directs you to access a multi-level menu.	In the Port text box, enter "22".
		Go to File > New .
<i>Italic</i>	Denotes document titles.	For details about using the DWS, refer to <i>Dispatch Workstation User Guide</i> .
Courier New	Denotes commands and their execution results.	To set the IP address, run the following command: <code>vos-cmd - m name IP</code>

Packing List

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

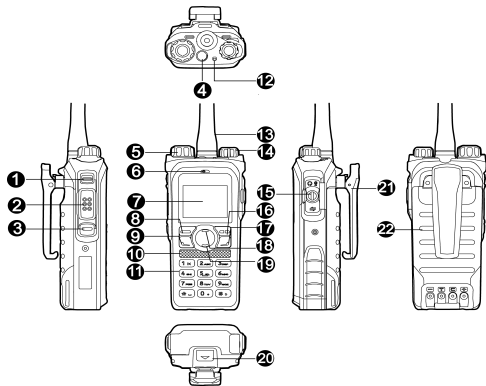
Item	Quantity (PCS)	Item	Quantity (PCS)
Radio	1	Antenna	1
Battery	1	Belt Clip	1
Charger	1	Strap	1
Power Adapter	1	Documentation Kit	1

NOTE

- Figures in this manual are for reference only.
- Check whether the frequency band marked on the antenna label matches that on the radio label. If not, contact your dealer.

Product Overview

Product Layout



No.	Part Name	No.	Part Name
1	Side Key 1 (SK1)	12	LED Indicator
2	Push-to-Talk (PTT) Key	13	Antenna
3	Side Key 2 (SK2)	14	On-Off/Volume Control Knob
4	Top Key (TK)	15	Accessory Connector
5	Channel/Group Selector Knob	16	Back/Subgroup Key
6	Microphone	17	P2/End Key
7	LCD Display	18	Up Key
8	OK/Menu Key	19	Down Key
9	P1/Answer Key	20	Battery Latch

No.	Part Name	No.	Part Name
10	Speaker	21	Belt Clip
11	Numeric Keypad	22	Battery

Programmable Keys

You can request your dealer to program the following keys as shortcuts to radio features: **SK1**, **SK2**, **TK**, **P1/Answer** key, **P2/End** key, **Back/Subgroup** Key, **Up** key, and **Down** key. Consult your dealer for assignable radio features.

Before Use

Charging the Battery

⚠ CAUTION

- Read the *Safety Information Booklet* before charging.
- Use the approved charger to charge the battery.
- 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, make sure to charge the battery. You can charge either the standalone battery or the radio with battery attached. It is recommended that the radio remain turned off during charging.

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.

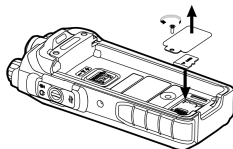
The LED indicator on the charger shows the charging status, as described in the following table:

LED Indicator	Charging Status
Flashes red slowly	No battery is placed on the charger.
Glow red	The battery is being charged.
Glow orange	The battery is charged to 90% or above.
Glow green	The battery is fully charged.
Flashes red rapidly	The battery fails to be charged.

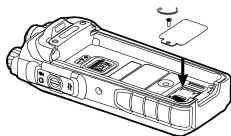
Installing the TF Card

If the TransFlash (TF) card is applicable to your radio and you have an available TF card, install the TF card as follows:

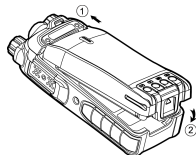
1. Loosen the screw on the TF card cover, and then remove the cover.
2. Place the TF card in the card slot.



3. Put the card cover and screw back in place, and then use the screwdriver to tighten the screw.



Attaching the Battery



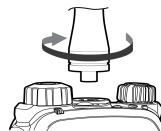
NOTE

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

Attaching the Antenna

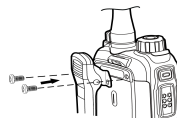
⚠ CAUTION

- Do not hold the radio by the antenna and swing it. This may affect the antenna performance and shorten the life span of the antenna.
- Avoid excessive strength or destructive rotation when installing the antenna.



Attaching the Belt Clip

1. Use a screwdriver to remove the screws on the back of the radio.
2. Align the screw holes on the belt clip with those on the back of the radio.
3. Install the screws into the holes, and then use the screwdriver to tighten them.



Attaching the Audio Accessory

⚠ CAUTION

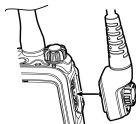
For optimal waterproof and dustproof performance, do as follows:

- Attach accessories with care to avoid scraping the silicone rubber surrounding the accessory connector screw hole.
- Close the accessory connector cover and fasten the screw when no accessory is attached.

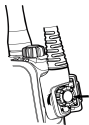
1. Loosen the screw on the accessory connector cover, and then open the cover.



2. Plug the accessory into the accessory connector.

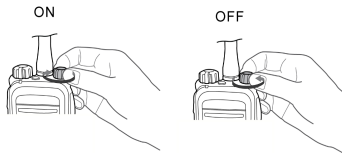


3. Rotate the screw on the accessory plug clockwise.

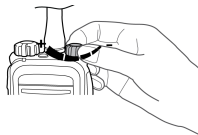


Basic Operations


Turning the Radio On or Off



Adjusting the Volume



Checking the Battery Power

To check the battery power, press and hold the preprogrammed **Battery Power Indicator** key. More bars indicate more battery power. The icon  indicates that the battery runs low. In this case, recharge or replace the battery. The following table lists the battery power indications.

LED Indicator	Alert Tone	Battery Power
Glows green	Three beeps	High
Glows orange	Two beeps	Medium
Glows red	One beep	Low
Glows red	Low battery tone	Under the low battery threshold. Recharge or

LED Indicator	Alert Tone	Battery Power
		replace the battery.

Locking or Unlocking the Keypad

When the keypad is not in use, you can lock it to avoid unintended operations.


- Auto Keypad Lock

The Auto Keypad Lock feature allows the keypad to be automatically locked when no operation is made or no call or message is received within the preset time period.

To enable or disable the feature, on the home screen, go to **Menu > Settings > Radio Set > Keypad Lock**.

- Manual Keypad Lock or Unlock

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

- » Press the preprogrammed **Keypad Lock** key.
- » On the home screen, press the **OK/Menu** key and then press .

- Keypad Lock Backup




If the Keypad Lock Backup feature is enabled by your dealer, the radio saves the last settings of keypad or knob lock upon power-off.

NOTE

You can go to **Menu > Settings > Radio Set > Optional Key** to select more keys or knobs to be locked, including the programmable keys, **Channel/Group Selector** knob, **On- Off/Volume Control** knob, and **PTT** key.

Using the Keypad

You can use the keypad to enter user aliases or IDs and edit messages.

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

Switching the Operation Mode


Configured by your dealer, the radio can operate in conventional mode or trunking mode.

To manually switch the operation mode, do one of the following:

- Go to **Menu > Mode > Manual Switch**, and then select the mode.
- Press the preprogrammed **Operation Mode Switch** key.

To allow the radio to automatically switch to a mode based on signal strength, do one of the following:

- Go to **Menu > Mode > Auto Switch**, and then select **Enable**.
- Press the preprogrammed **Mode Auto Switch** key.

With the Mode Auto Switch feature enabled, the LCD displays .

Conventional Mode

In conventional mode, radios on the same channel can establish data and voice communication. To ensure normal communication of the radio, you have to select a zone and a channel before using.

Selecting a Zone

A zone is a group of channels within the same operational area, allowing you to manage channels in a convenient manner. The radio supports up to 64 zones, each of which contains up to 256 channels.

To select a zone, do one of the following:

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

Selecting a Channel


- Rotate the **Channel Selector** knob.
- Press the preprogrammed **Channel Up** or **Channel Down** key.
- To switch to the preset channel, press the preprogrammed **Preset Channel** key.



NOTE

If the Channel Notify feature is enabled, the radio automatically notify you of the current channel upon power-on or channel change.

Trunking Mode

In trunking mode, the radio automatically hunts for an available base station (BS) to register with. During hunting, the LCD displays "Registering. Please wait!" and the icon , and the LED indicator flashes orange slowly with an alert tone. After successful registration, the radio can communicate with a private contact, group, or subgroup.

Selecting a Group or a Private Contact

- Rotate the **Group Selector** knob.

- Press the **Back/Subgroup** Key or go to **Menu > Subgroup**, press the **Up** or **Down** key to select a subgroup, and then select the group or private contact.
- Press the preprogrammed **Group/Private Contact Up** or **Group/Private Contact Down** key.

Selecting a Subgroup

A subgroup consists of multiple groups or private contacts.


To select a subgroup, do one of the following:

- Press the **Back/Subgroup** Key or go to **Menu > Subgroup**, and then press the **Up** or **Down** key.
- Press the preprogrammed **Subgroup Up** or **Subgroup Down** key.




Status Indications
















LCD Icons















Operation Mode Icons

Icon	Radio Status
DM	Direct Mode: In conventional mode, the radio communicates with another radio directly.
RM	Repeater Mode: In conventional mode, the radio communicates with another radio through a repeater.
TM-DW	Trunking Mode - Digital Wide: In trunking mode, the radio operates under multiple interconnected BSs.
TM-DL	Trunking Mode - Digital Local: In trunking mode, the radio operates under a single BS.
DM-R	In DMO, the SFR feature is enabled the in the current channel.
	The Work Mode Auto Switch feature is enabled.



Basic Status Icons

Icon	Radio Status
	The Dual-Tone Multi-Frequency (DTMF) keypad is enabled.
	The number of bars indicates the charge left in the battery.
	There is no signal in conventional or TM-DW mode.

Icon	Radio Status
	The number of bars indicates the signal strength in conventional or TM-DW mode.
	There is no signal in TM-DL mode.
	The number of bars indicates the signal strength in TM-DL mode.
	The radio operates in high power mode.
	The radio operates in medium power mode.
	The radio operates in low power mode.
	An accessory is connected.
	The Global Positioning System (GPS) feature is enabled, and the radio has received valid GPS data.
	The GPS feature is enabled, but the radio has not received valid GPS data.
	The BT feature is enabled.
	A BT accessory is connected.
	The radio is in emergency mode.
	The radio is roaming.
	The radio is detecting signal strength for roaming.
	The Scrambler or Encryption feature is enabled.

Icon	Radio Status
	The radio is scanning or hunting.
	The radio stays on a non-priority channel.
	The radio stays on priority channel 1.
	The radio stays on priority channel 2.
	The Non-Dedicated TSCC feature is enabled.
	The Voice Operated Transmit (VOX) feature is enabled.
	The Monitor feature is enabled.
	The speaker is turned on.
	The radio operates in silent mode.
	The SFR feature is enabled.
	An error occurs to the TF card.
	The TF card is almost full.
	The Call Record Feature is enabled.
	An error occurs to the Call Record feature.

Short Data Icons

Icon	Radio Status
	There is/are unread short message(s).
	The inbox is full.

Icon	Radio Status
	There is/are unread work order(s).
	The work order list is full.

Call Icons

Icon	Radio Status
	There is/are missed call(s).
	The Call Divert feature is enabled.
	The call setup mode is switch to full-duplex.
	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 contact list.
	An include call is in progress.

LED Indications

LED Indicator	Radio Status
Flashes green	The radio is being turned on.
Flashes green slowly	The radio is standby in trunking mode.
Glows green	The radio is receiving.
Glows red	The radio is transmitting.
Flashes red	The calling radio is establishing a call in trunking mode.

LED Indicator	Radio Status
Flashes orange slowly	<ul style="list-style-type: none"> Conventional mode: The radio is scanning or roaming. Trunking mode: The radio is hunting.
Flashes orange rapidly	<ul style="list-style-type: none"> Conventional mode: The radio is in emergency mode. Trunking mode: The called radio is establishing a Full Off Air Call Set-Up (FOACSU) call.
Glows orange	Call hang time: No voice is being transmitted or received on the channel during a call. During the call hang time, you can press and hold the PTT key and speak.
Flashes blue every 3 seconds	The BT feature is enabled, but no BT device is connected.
Flashes blue every 1.5 seconds	A BT device is connected.
Flashes blue every 0.1 seconds	The BT feature is being disabled.

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.

NOTE

In trunking mode, if the radio is not registered or attached, or an empty group is selected, you cannot initiate a call.

Group Call

A group call is a call from an individual user in a group to all other members in the group.

NOTE


In trunking mode, the Auto Select Available Site feature allows the radio to automatically register with a BS where the current group is not limited after powering on or during the group/BS changing. This feature ensures successful call establishment between the radio and the current group.

Initiating a Group Call

When you initiate a group call, the radio displays

Conventional Mode

- To initiate a group call to the preset contact on the current channel, press and hold the **PTT** key.
- To initiate a group call through the contact list, do as follows:
 - Press the preprogrammed **Contact List** or **Favorite Contact List** key, or go to **Menu > Contact > Contact List** or **Favorite Contact**.
 - Select the group contact.
 - Press and hold the **PTT** key.
- To initiate a group call through the keypad, do as follows:

1. Go to **Menu > Contact > Manual Dial**, or go to **Menu > Settings > Radio Set > Keypad Mode**, and then select **Enable**.
2. On the home screen, press  to switch the input mode to **Group ID**.
3. Enter the group ID.
4. Press and hold the **PTT** key.

Trunking Mode

- To initiate a group call to the standby group contact, press and hold the **PTT** key.
- To initiate a group call through the contact list, do as follow:

1. Enter the contact list in one of the following ways:


» Press the preprogrammed **Favorite Contact List** key.

» Go to **Menu > Contact > Favorite Contact**.



» Press the preprogrammed **Current Subgroup Contact** key.



» Press the **Back/Subgroup** key.


» Go to **Menu > Subgroup**.

2. Select the group or subgroup contact.
 3. Press  or the **PTT** key.
- To initiate a group call through the call log, do as follows:



1. Enter the call log in one of the following ways:
 - » Go to **Menu > Call Logs > Outgoing or Incoming > Outgoing List or Incoming List**.

» If  is programmed as the **Redial Call Log** key by your dealer, press  on the home screen.

» If  is programmed as the **BackDial Call Log** key by your dealer, press  on the home screen.

2. Select the group contact.
3. Press  or the **PTT** key.

- To initiate a group call through the keypad, do as follows:


1. Go to **Menu > Settings > Radio Set > Keypad Mode**, and then select **Enable**.
2. On the home screen, enter the group ID.
3. Press , , or the **PTT** key.

NOTE

Keypad mode is enabled by your dealer. To input a number complying with the dialling rules, consult your dealer for more details.


Receiving a Group Call

Conventional Mode

When receiving a group call, the radio displays .

You can listen to an incoming group call without any operation.

Trunking Mode

When receiving a group call, the radio automatically establishes the call. After the call is successfully established, the radio displays .

You can listen to the call without any operation.

Ending a Group Call

In conventional and trunking mode, a group call automatically ends when the call hang time expires.

In trunking mode, a group call also ends in any of the following cases:

- The calling party ends the call.
- The call duration exceeds the preset time.
- The BS signal is lost.
- The calling party selects an empty group with the **Group Selector** knob.
- A preemptive or emergency call interrupts the call.
- The Clear Down feature is enabled and the calling part switches to the contact.

Private Call



A private call is a call from an individual user to another individual user.

Initiating a Private Call


The private call can be established in full Duplex or Half Duplex mode.

- Full-duplex private call: During the call, the calling and called parties can transmit and receive voice simultaneously.
- Half-duplex private call: During the call, only one party can speak and the other party can only hear.

To switch the call setup mode, press the preprogrammed **Call Setup Mode Switch** key or go to **Menu > Settings > Radio Set > Call Setup Mode**.









When you initiate a private call, the radio displays  (in Half Duplex mode) or  (in Full Duplex mode).

Conventional Mode

- To initiate a private call to the private contact preset for the current channel, press and hold the **PTT** key.
- To initiate a private call through the contact list, do as follows:
 1. Press the preprogrammed **Contact List** or **Favorite Contact List** key, or go to **Menu > Contact > Contact List** or **Favorite Contact**.
 2. Select the private contact.
 3. Press and hold the **PTT** key.
- To initiate a private call through the call log, do as follows:
 1. Go to **Menu > Call Logs > Outgoing, Incoming, or Missed > Outgoing List, Incoming List, or Missed List**.
 2. Select the private contact.
 3. Press and hold the **PTT** key.
- To initiate a private call through the keypad, do as follows:
 1. Go to **Menu > Contact > Manual Dial**, or go to **Menu > Settings > Radio Set > Keypad Mode** and then select **Enable**.
 2. Press  to switch the input mode to **Private ID**.
 3. Enter the private ID.
 4. Press and hold the **PTT** key.

Trunking Mode

- To initiate a private call to the standby private contact, press and hold the **PTT** key.
- To initiate a private call through the contact list, do as follow:



1. Press the preprogrammed **Contact List** or **Favorite Contact List** key, or go to **Menu > Contact > Private Contact** or **Favorite Contact**.
 2. Select the private contact.
 3. Press  or the **PTT** key.
- To initiate a private call through the call log, do as follows:
 1. Enter the call log in one of the following ways:
 - » Go to **Menu > Call Logs > Outgoing, Incoming, or Missed > Outgoing List, Incoming List, or Missed List**.
 - » If  is programmed as the **Redial Call Log** key by your dealer, press  on the home screen.
 - » If  is programmed as the **BackDial Call Log** key by your dealer, press  on the home screen.
 2. Select the private contact.
 3. Press  or the **PTT** key.
 - To initiate a group call through the keypad, do as follows:
 1. Go to **Menu > Settings > Radio Set > Keypad Mode**, and then select **Enable**.
 2. On the home screen, enter the group ID.
 3. Press , , or the **PTT** key.

NOTE

Keypad mode is enabled by your dealer. To input a number complying with the dialling rules, consult your dealer for more details.

Receiving a Private Call

Conventional Mode



When receiving a private call, the radio displays  (a half-duplex private call) or  (a full-duplex private call).


You can listen to an incoming private call without any operation.

Trunking Mode


Configured by the trunking system, you can listen to a private call in different ways varying with the setup mode of the call.

- Full Off Air Call Set-Up (FOACSU)

To answer the call, press  or the **PTT** key within the preset time. After the call is successfully established, the radio emits a tone and displays .

If you do not answer the call, the radio displays .

- Off Air Call Set-Up (OACSU)

When receiving an OACSU private call, the radio automatically establishes the call. After the call is successfully established, the radio displays .

You can listen to the call without any operation.

Ending a Private Call

In conventional and trunking mode, a private call automatically ends when the call hang time expires.

In trunking mode, a private call also ends in any of the following cases:

- The calling or the called party ends the call.

- The call duration exceeds the preset time.
- The BS signal is lost.
- The calling or the called party selects an empty group through the **Group Selector** knob.
- A preemptive or emergency call interrupts the call.
- The Clear Down feature is enabled and the calling or called party switches to another contact.

All Call

Conventional Mode

An all call is a call from an individual user to all other users on the current channel.

Trunking Mode

An all call is a call from an individual user to all other users in the whole system. The all call can be classified into the following two types:


- **Broadcast All Call:** Only the calling party can speak and be heard during the call by pressing and holding the **PTT** key.
- **General All Call:** Both the calling party and called party can speak and be heard during the call by pressing and holding the **PTT** key.

To set the type, go to **Menu > Settings > Radio Set > All Call**, and then select **Broadcast Call** or **General Call**.



The All Call feature is enabled by your dealer.



Initiating an All Call

When you initiate a group call, the radio displays .

Conventional Mode

- To initiate an all call to the all call contact preset on the current channel, press and hold the **PTT** key.
- To initiate an all call through the contact list, do as follows:
 1. Press the preprogrammed **Contact List** key, or go to **Menu > Contact > Contact List**.
 2. Select the all call contact.
 3. Press and hold the **PTT** key.




Trunking Mode

- To initiate an all call through the keypad, do as follows:
 1. Go to **Menu > Settings > Radio Set > Keypad Mode**, and then select **Enable**.
 2. On the home screen, enter the all call number.
 3. Press  , or the **PTT** key.



NOTE

Keypad mode is enabled by your dealer. To input a number complying with the dialling rules, consult your dealer for more details.

- To initiate an all call through the call log, do as follows:
 1. If  is programmed as the **Redial Call Log** key by your dealer, press  on the home screen.
 2. Select the all call log.
 3. Press  or the **PTT** key.

Receiving an All Call

When receiving an all call, the radio displays

You can listen to an incoming all call without any operation.

Ending an All Call

In conventional mode and trunking mode, an all call ends when the calling party releases the **PTT** key.

In trunking mode, an all call also ends in any of the following cases:

- The calling party ends the call.
- The call duration exceeds the preset time.
- The BS signal is lost.
- The calling party selects an empty group with the **Group Selector** knob.
- The Clear Down feature is enabled and the calling party switches to another contact.

Broadcast Call (Trunking Only)

A broadcast call is a special group call during which only the calling party can speak and be heard by pressing and holding the **PTT** key.



NOTE

The Broadcast Call feature is enabled by your dealer.

Initiating a Broadcast Call

When you initiate a broadcast call, the radio displays .

- To initiate a broadcast call through the contact list, do as follows:
 1. Enter the contact list in one of the following ways:




» Press the preprogrammed **Favorite Contact List** key.

» Go to **Menu > Contact > Favorite Contact**.

» Press the preprogrammed **Current Subgroup Contact** key.



» Press the **Back/Subgroup** key.



» Go to **Menu > Subgroup**.


2. Select the group contact.
 3. Select the **Call Type as Broadcast Call**.
 4. Press  or the **PTT** key.
- To initiate a broadcast call through the keypad, do as follows:
 1. Go to **Menu > Settings > Radio Set > Keypad Mode**, and then select **Enable**.
 2. On the home screen, enter the group ID.
 3. Press , , or the **PTT** key.

NOTE


Keypad mode is enabled by your dealer. To input a number complying with the dialling rules, consult your dealer for more details.

- To initiate a broadcast call through the call log, do as follows:
 1. Enter the call log in one of the following ways:
 - » Go to **Menu > Call Logs > Outgoing or Incoming > Outgoing List or Incoming List**.
 - » If  is programmed as the **Redial Call Log** key by your dealer, press  on the home screen.

» If  is programmed as the **BackDial Call Log** key by your dealer, press  on the home screen.

2. Select the group call log.
3. Select the **Call Type as Broadcast Call**.
4. Press  or the **PTT** key.

Receiving a Broadcast Call

When receiving a broadcast call, the radio automatically establishes the call. After the call is successfully established, the radio displays .

You can listen to the broadcast call without any operation.

Ending a Broadcast Call

A broadcast call ends in any of the following cases:

- The call duration exceeds the preset time.
- The calling party ends the call.
- The BS signal is lost.
- The calling party selects an empty group with the **Group Selector** knob.
- A preemptive or emergency call interrupts the call.
- The Clear Down feature is enabled and the calling party switches to another contact.

Receiving a Broadcast Call

Ending a Broadcast Call

A broadcast call ends in any of the following cases:

- The calling party ends the call.
- The call duration exceeds the period preset by your dealer.
- A preemptive or emergency call interrupts the call.
- The base station signal is lost.

Include Call (Trunking Only)

An include call is a special group call during which another group is invited within the call hang time. The include call has the same talk priority and the Clear Down feature as a group call. Only the group call supports the Include Call feature.

For operations of the include call, see "Group Call" on page 8.

NOTE


The Include Call feature is enabled by your dealer.

Phone Call

A phone call is a call between a radio and a phone. If a repeater is connected to a PSTN/PABX gateway and joins the PSTN/PABX system, the radio can communicate with the phone through the repeater.

Initiating a Phone Call

You can initiate a phone call in conventional mode and trunking mode.

When you initiate a phone call, the radio displays the dialling information in conventional mode or  in trunking mode.

Conventional Mode

- To initiate a phone call through the keypad, do as follows:
 1. Send the connect code to connect your radio to the phone system in one of the following ways:

» Enable the DTMF keypad, enter the connect code, and then press the **PTT** key.

» With the One-Key Connect feature enabled by your dealer, press .

The radio accesses the phone system upon displaying the dialing information.


2. Enter the phone ID through the numeric keypad.
 3. Press and hold the **PTT** key.
- To initiate a phone call through the contact list, do as follows:

1. Enable the DTMF keypad, and then enter the connect code.



The radio accesses the phone system upon displaying the dialing information.

2. Go to **Menu > Phone > Phone Contact**, and then select the contact from the list.
3. Press and hold the **PTT** key.

Trunking Mode

- To initiate a phone call through the contact list, do as follows:
 1. Press the preprogrammed **Favorite Contact List** or **Private Contact** key, or go to **Menu > Contact > Private Contact** or **Favorite Contact**.
 2. Select the PSTN/PABX contact.
 3. Press  or the **PTT** key.
- To initiate a phone call through the keypad, do as follows:
 1. Go to **Menu > Settings > Radio Set > Keypad**









Mode, and then select **Enable**.

2. On the home screen, enter the PSTN/PABX number.
3. Press , , or the **PTT** key.

NOTE

Keypad mode is enabled by your dealer. To input a number complying with the dialling rules, consult your dealer for more details.

If the Phone Dial feature is enabled by your dealer, you can do as follows:

1. Go to **Menu > Contact > Phone Dial**.
 2. Press  to switch the input mode.
 3. Enter the customized PSTN/PABX number between 1-20digits.
 4. Press , , or the **PTT** key.
- To initiate a phone call through the call log, do as follows:
 1. Enter the call log in one of the following ways:
 - » Go to **Menu > Call Logs > Outgoing, Incoming, or Missed> Outgoing List, Incoming List, or Missed List**.
 - » If  is programmed as the **Redial Call Log** key by your dealer, press  on the home screen.
 - » If  is programmed as the **BackDial Call Log** key by your dealer, press  on the home screen.
 2. Select the phone call record.
 3. Press  or the **PTT** key.

NOTE


- To enable the DTMF keypad, press the preprogrammed **DTMF Keypad** key or go to **Menu > Phone > DTMF Keypad**.
- The connect code is the code used by the radio to access the phone system and the disconnect code is the code used by the radio to exit the phone system. The connect code and the disconnect code are configured by your dealer.


Receiving a Phone Call


Conventional Mode

When receiving a phone call, you can enter the connect code through the numeric keypad to joins the phone system. Then you can listen to the phone call.

Trunking Mode

When receiving a phone call, the radio displays .


You can establish the call by pressing  or the **PTT** key within the preset time.

After the call is successfully established, the radio displays .

Ending a Phone Call

Conventional Mode

In conventional mode, a phone call ends in one of the following cases:

- The radio user enters the disconnect code through the numeric keypad.
- The One-Key Disconnect feature is enabled and the radio user presses .
- The phone user hangs up during the call.

Trunking Mode

In trunking mode, a phone call ends in any of the following cases:

- The call duration exceeds the preset time.
- The calling party ends the call.
- The BS signal is lost.
- The calling party selects an empty group with the **Group Selector** knob.
- A preemptive or emergency call interrupts the call.
- The Clear Down feature is enabled, and the calling party switches to another contact.

Call on Analog Channel

Call Without Signaling

On an analog channel without signaling, you can initiate a call to all the other users on the channel in the following way:

1. Rotate the **Channel Selector** knob to select the channel.
2. Press and hold the **PTT** key.

Call With Signaling

On an analog channel with signaling, you can initiate a call to a specific contact on the channel. You can request your dealer to set the signaling type to HDC1200 (compatible with the MDC1200), 5-tone, or 2-tone.

To initiate a call with signaling, do as follows:

1. Go to **Menu > Contact > Contact List** or press the preprogrammed **Contact List** key.
2. Select the HDC1200, 5-tone, or 2-tone contact.
3. Press the **PTT** key or the preprogrammed **One Touch Call** key to send code.

The calling radio displays the calling icon with alert tone, and its LED indicator glows red.

When receiving the matched signaling, the called radio automatically decodes the signaling and its LED indicator glows green. The call is established successfully.

Message Services

The Message feature allows you to send and receive the following types of messages in trunking mode or on a digital channel in conventional mode:

- **Text Message:** messages created using the keypad. You can view, edit, send, save, or delete text messages.
- **Quick Text:** frequently used messages predefined by your dealer. The quick text messages are editable, and in trunking mode, you can add or delete quick text messages.
- **Status Message (trunking only):** messages describing the radio's status. The status messages are predefined by your dealer and are not editable. You can view the received status messages and send status messages through the status message code.

Viewing a Message

To view a newly received message, on the home screen, press the **OK/Menu** key upon receiving the message.

If configured by your dealer, you can view a newly received message without any operation.

To view messages in the InBox, OutBox, or Drafts, do as follows:

1. Go to **Menu > Message > InBox, OutBox,** or **Drafts > InBox List, Outbox List,** or **Drafts List.**
2. Select the message.
3. Press the **OK/Menu** key.

Sending a Message

Sending a Text Message

1. Go to **Menu > Message > New Msg.** and then type the text.
2. Press the **OK/Menu** key, and then select **Send.**
3. Select the contact or enter the contact ID through the keypad.
4. Press the **OK/Menu** key.



NOTE

Instead of directly sending the new message, you can also select **Save** in conventional mode or select **Save to Drafts** or **Save to QuickText** in trunking mode to save the new message, and send it later.

Sending a Quick Text Message

1. Go to **Menu > Message > Quick Text**, and then select the quick text message.
2. (Optional) Edit the message.
3. Press the **OK/Menu** key, and then select **Send.**
4. Select the contact or enter the contact ID through the keypad.
5. Press the **OK/Menu** key.



NOTE

Instead of directly sending the quick text message, you can also select **Save** to save the modified quick status message, and send it later.

Sending a Status Message

1. Go to **Menu > Message > Status Msg.**, and then select the status message.
2. Press the **OK/Menu** key, and then select the contact or enter the contact ID through the keypad.
3. Press the **OK/Menu** key.



NOTE

You can send status messages by manual dialing.
Consult your dealer for more information.

Deleting a Message

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

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

In trunking mode, you can go to **Menu > Message > Quick Text** to delete quick text messages.

General Features

The features supported by the radio vary with the operation mode. For details, see the following table.

Feature	Conventional		Trunking
	Digital	Analog	
Password	√	√	√
Vibration	√	√	√
Backlight, Brightness,	√	√	√

Feature	Conventional		Trunking
	Digital	Analog	
LED Indicator, Alert Tone			
Day/Night Mode	√	√	√
Power Level	√	√	√
VOX	√	√	√
Covert Mode	√	√	√
Rent	√	√	√
Anti-counterfeit Battery	√	√	√
Keypad Lock	√	√	√
Keypad Mode	√	√	√
Send Alias	√	×	√
User Assignment ID	√	×	√
Auto Add Contacts	√	×	√
ESN Check in Idle	×	×	√
Any Call	×	×	√
Talk Around	√	√	×
Real Time Clock (RTC)	√	√	√
SPK Selection	√	√	√
MIC Selection	√	√	√
MIC AGC	√	√	√
Audio Feedback Suppression	√	×	√

Feature	Conventional		Trunking
	Digital	Analog	
Always Treble Boost	√	√	√
Three Band Equalize	√	√	√
Noise Suppression	√	√	√
Voice Notify	√	√	√
Duplex Call	√	×	√
Call Setup Mode	√	×	√
Private Call, Group Call, All Call	√	×	√
Phone Call	√	√	√
Broadcast Call	×	×	√
Include Call	×	×	√
Call Without Signalling	×	√	×
Call With Signalling	×	√	×
Text Message	√	×	√
Status Message	×	×	√
Quick Text	√	×	√
One Touch Call/Menu	√	√	√
Quick Dial	√	√	√
Contact	√	√	√
Scan	√	√	√
Background Hunt, HomeStation Hunt, Multi-site Handover,	×	×	√

Feature	Conventional		Trunking
	Digital	Analog	
VoteNow Hunt			
Time-out Timer (TOT)	√	√	√
Busy Channel Lockout	√	√	×
Customized Single Tone	√	√	×
Priority Interrupt	√	×	×
Pseudo Trunk	√	×	×
XPT System	√	×	×
Dual-slot Data Transmission	√	×	×
SFR	√	×	×
Roam	√	×	√
Work Order	√	×	√
Data Query	×	×	√
Call Divert	×	×	√
Call Priority	×	×	√
Dynamic Group Number Assignment (DGNA)	×	×	√
BT	√	√	√
BT Location	√	×	√
Positioning	√	√	√

Feature	Conventional		Trunking
	Digital	Analog	
View Position	√	√	√
Query Location	√	×	×
Query Neighbors	×	×	√
GPS Msg	√	×	√
Call Location	√	×	√
GPS Report	√	×	√
Quick GPS	√	×	×
Voice w/Location	√	×	√
Emergency	√	√	√
Man Down	√	√	√
Lone Worker	√	√	√
TF Encryption	√	×	×
Recorder	√	√	×
Encrypt	√	×	√
Scrambler	×	√	×
Stun	×	√	√
Revive	×	√	√
Kill	×	×	√
Emergency Erase Data	√	√	√
Supplementary Services (Alert Call, Radio Check, Remote Monitor, Radio Enable, Radio	√	×	×

Feature	Conventional		Trunking
	Digital	Analog	
Disable)			
Compandor	×	√	×
Monitor	×	√	×
Adjust Squelch Level	×	√	×
CTCSS/CDCSS	×	√	×

Basic Settings

To configure frequently used features, go to **Menu > Settings > Radio Set**. For details, see the following table.

Feature	Description	Operation
Password	The feature allows you to create a power-on password. The radio will be locked when the wrong password is entered up to the predefined times. To reuse the radio, consult your dealer to reset the password.	<ol style="list-style-type: none"> Go to Password > On/Off, select On, and then enter the old password. (The default password is "88888888".) Back to Password, select Password Set, and then enter the old password. Enter the new password.
Backlight	The feature is designed to illuminate the	Go to Backlight , and then select Off , On , or Timed .

Feature	Description	Operation
	LCD and the keypad.	
Brightness	The feature allows you to set the LCD brightness.	Go to Brightness , and then press the Up or Down key.
Day/Night Mode	The feature allows you to set the work mode of the LCD display. The LCD brightness and display are subject to the work mode.	Go to Day/Night , and then select Day Mode or Night Mode .
LED Indicator	The feature allows you to identify the radio status by means of visual indication.	Go to LED , and then select Enable or Disable .
Alert Tone	The feature allows you to identify the radio status by means of audible indication.	1. Go to Tone , and then select the alert tone type. 2. Enable the feature, and then set the volume level.
Vibration	The feature allows the radio	1. Go to Vibration > On/Off , and then select Enable .

Feature	Description	Operation
	to notify you of an incoming call or message by vibrating.	2. Back to Vibration , select the vibration type, and the select Settings . 3. Set the vibration duration, interval, and cycles.
Power Level	The feature allows you to set the TX power level of the radio to High or Low.	Go to Power Level , and then select High Power or Low Power .
VOX	The 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.	1. Go to VOX > On/Off , and then select On . 2. Back to VOX , and then select Gain Level . 3. Select the internal or external MIC, and then adjust the sensitivity of the microphone transmission.
Rent	The feature allows you to rent a radio from a dealer. When the rental time expires, the	To check the remaining rental time, go to Rent > Rent Query

Feature	Description	Operation
	radio will be disabled.	
Anti-counterfeit Battery	The feature allows you to check whether the battery is original. If not, the radio does not support the Battery Save, Low Power Alert, and Low Power Transmit Inhibit features.	To check the battery, go to Battery . The radio also automatically checks the battery upon power-on.
User Assignment ID	The feature allows you to input an ID for your radio so as to identify different radio users.	If the feature is enabled by your dealer, you need to enter the ID upon power-on every time. To change your radio ID, go to Menu > Programming > Radio > Radio ID .
Talk Around	In DMO mode, the feature allows you to continue communication when the repeater malfunctions or your radio is out	Go to Talk Around , and then enable or disable the feature.

Feature	Description	Operation
	of the repeater's coverage.	
Send Alias	The feature allows you to send the radio alias when initiating a call. The called party can view the alias on the display and identify the calling party.	Go to Send Alias , and then enable or disable the feature.
Dual-slot Data Transmission	The feature allows the radio to use two idle time slots on digital channels to transmit large amount of data.	Go to Dual-Slot data , and then enable the feature.
Auto Add Contact	The feature allows the called party to automatically add the calling party into the contact list, if the calling party has enabled the Send Alias feature.	Go to Auto Add Contact , and then enable or disable the feature.

Feature	Description	Operation
ESN Check in Idle	When the radio is requesting registration or after the radio registers successfully, it responds to ESN check initiated by the trunking system.	Go to ESN Check in Idle , and then enable or disable the feature. When the feature is disabled, the radio only responds to the ESN check when requesting registration.
Any Call	The feature allows the radio to initiate a call to a contact whose ID is not in the radio's contact list.	<ul style="list-style-type: none"> Go to Any Call > Individual Number, select Enable to allow the radio to call any private contact, or select Disable to allow the radio only to call the contacts in its contact list and the emergency ID. Any call to a phone number is similar to a private contact. Go to Any Call > Group Number, select Enable to allow the radio to call any group contacts except for the background

Feature	Description	Operation
		group, or select Disable to allow the radio only to call the group contact in the contact list, dynamic group contact, and emergency ID.
RTC	The feature allows you to view the time information and set the time format. The radio displays the time as hh:mm on the home screen, or --:-- when no time data is received.	<ul style="list-style-type: none"> Go to Date & Time > Time Display, and then enable or disable the time display on the home screen, call log, and messages. Go to Date & Time > Time View. The radio displays Time as hh:mm:ss, and Date as yyyy-mm-dd. Go to Date & Time > Time Format, and then select 24-hour or 12-hour notation. Go to Date & Time > Time Zone, and then set the local time zone.

Audio Settings

MIC/SPK Selection

The MIC/SPK Selection feature allows you to select the microphone and speaker used by the radio to transmit and receive voice. For details, see the following table.

Option	Description	Operation
Follow PTT	When you initiate a call by using the radio's PTT key, the radio uses the internal microphone to receive voice; when you initiate a call by using the audio accessory, the radio uses the external microphone to receive voice.	<ul style="list-style-type: none"> Go to Menu > Settings > Radio Set > MIC & SPK, select MIC Selection or SPK Selection, and then choose the way as required.
Only Internal	The radio uses only the internal microphone and speaker.	<ul style="list-style-type: none"> Press the preprogrammed Mic Set Switch key or SPK Set Switch key to change the audio selection of the microphone or speaker.
Only External	The radio uses only the audio accessory's microphone and speaker, such as earpieces and remote speaker microphone.	
External First	When audio accessories are connected, the radio	

Option	Description	Operation
	uses the external microphone and speaker. Otherwise, it uses the internal microphone and speaker.	

Microphone Settings

Enabling the Mic AGC Feature

The Mic AGC feature allows the calling radio to control the voice output gain within a proper range during transmission, so as to provide improved voice with proper volume for the called party. The feature ensures a stable voice even in noisy environment.

To enable the feature, go to **Menu > Settings > Audio Set**, and then select the **Digital Mic AGC** or **Analog Mic AGC**.

Enabling the Audio Feedback Suppression Feature

The Audio Feedback Suppression feature allows the radio to adjust the gain of received voices, so as to weaken the noise in short-distance communication and improve the voice quality.

To enable the feature, go to **Menu > Settings > Audio Set > Audio Feedback Suppressors**.

Audio Optimization

Enabling the Always Treble Boost Feature

The Always Treble Boost feature allows the radio to automatically output louder voice for audio clarity irrespective of the surrounding environment conditions.

To enable the feature, go to **Menu > Settings > Audio Set > Audio Optimization > Treble Boost**.

Configuring the Three Band Equalize Feature

The Three Band Equalize feature allows the radio to adjust the balance between frequency components of the audio signal when receiving voice. In this way, the feature optimizes the quality of the received voice, and satisfies your demands in different working environments.

To achieve the optimal equalization, you can set different frequency gains in different situations. The following table lists the recommended settings.

Scenario	Gain for Low Frequency (dB)	Gain for Mid Frequency (dB)	Gain for High Frequency (dB)
Square	0	3	5
Indoor	3.5	1.5	-1.5
Downtown	2	2	8

To configure the feature, do as follows:

- Go to **Menu > Settings > Audio Set > Audio Optimization > 3-Band Equalize**, and then enable the feature.

- Back to the **3-Band Equalize** menu, set the gains of high, mid, and low frequencies (Rang: -8 dB to +8 dB).

NOTE

The feature cannot work at the same time with the Always Treble Boost feature.

Noise Suppression

The Noise Suppression feature allows the radio automatically eliminates ambient noises during reception or transmission. As a result, the audio clarity is enhanced but the volume is decreased.

To enable the feature, go to **Menu > Settings > Audio Set > Noise Suppression**.

Voice Notify

The Voice Notify feature allows you to assign the voice file to the zone, channel, subgroup, or standby contact. In this way, when you switch the zone, channel, subgroup, or standby contact, the radio automatically plays the voice file to notify you.

If your dealer has imported the voice file and program the Voice Notify feature for your radio, you can enable the feature by pressing the preprogrammed **Voice Notify** key, or going to **Menu > Settings > Radio Set > Tone > Voice Notify** and then select **Enable**.

NOTE

With the Voice Notify feature enabled, on conventional mode, the radio notify you of the zone and channel in sequence. On trunking mode, the radio notify you of the subgroup and standby contact in sequence.

One Touch Call/Menu

The One Touch Call/Menu feature allows you to press the preprogrammed **One Touch Call/Menu** key to quickly access a service assigned by your dealer.

The services available for assignment are as follows.

Mode	Description
Conventional	On analog channel, you can initiate a call to a 5-tone or 2-tone contact.
	On digital channel, you can make the following operations: <ul style="list-style-type: none"> Initiate a group, private, or all call. Send a quick text or GPS message to a private or group contact. Send a command of alert call, radio check, remote monitor, radio enable, or radio disable to a private contact. Switch to a function menu, such as message and contact list.
Trunking	You can make the following operations: <ul style="list-style-type: none"> Initiate a group, private, all, broadcast, or emergency call. Send a quick text or status message. Switch to a function menu, such as message and contact list.

- To initiate a call on digital channel in conventional mode, press the preprogrammed **One Touch Call/Menu** key, and then press the **PTT** key.
- To make other operations through the numeric

keypad, do as follows:

- Go to **Menu > Settings > Radio Set > Keypad Mode**, and then select **One Touch Call/Menu**.
 - Back to the home screen, press the preprogrammed numeric key.
- To make other operations through the preprogrammed key, press the preprogrammed **One Touch Call/Menu** key.



Scan

In conventional mode, the Scan feature allows you to listen to activities on other channels, 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.

Enabling the Scan Feature

To enable the Scan feature, do one of the following:

- Go to **Menu > Scan > Scan On/Off**, and then select **On**.
- Press the preprogrammed **Scan** key.

With the Scan feature enabled, the radio displays , and the LED indicator slowly flashes orange. When activities are detected on a channel, the radio stays on the channel, and the LED indicator glows green. If the radio stays on a non-priority channel, the radio displays . If the radio stays on priority channel 1 or 2, the radio displays P_1 or P_2 respectively.

NOTE

If you do not want to listen to the activities on a channel, press the preprogrammed **Nuisance Temporary Delete** key to temporarily remove the channel from the scan list.

Setting the Scan List

The scan list contains at most 32 channels (including analog and digital channels) for radio to scan.

To set the scan list, go to **Menu > Scan > Scan List**, select the scan list, select **Edit/View**, and then do one of the following:

- To add a channel to the scan list, select **Add CH**, and then select the channel.
- To delete a channel from the scan list, select the channel, and then select **Delete CH**.
- To set a channel with scanning priority, select the channel, and then select **Edit Prio CH > Set PrioCH-1** or **Set PrioCH-2**.

Hunt

In trunking mode, the radio must register with a BS for normal operation. The radio can adopt versatile Trunked Station Control Channel (TSCC) strategies to ensure a quick registration.

Hunt Before Registration

Before registering, the radio hunts through the control channels for available BSs.

Two hunting plans are adoptable: Fixed Trunking Station Control Channel (Fixed TSCC) and Flexible Trunking Station Control Channel (Flexible TSCC).

When the radio has unified frequency plans, it can use Fixed TSCC to hunt on the control channels in the fixed list. When the radio does not have unified frequency plans, it can use the Flexible TSCC to hunt on the control channels in the flexible list.

The hunt modes available in the Fixed TSCC are as follows:

Mode	Description	Operation
Short Hunt	Allows the radio to hunt the fixed TSCC in the defined hunt list.	Go to Menu > Scan > TSCC Hunt , and then select Short Hunt , Comprehensive Hunt , or Team Hunt .
Comprehensive Hunt	Allows the radio to hunt all the channels within the preset frequency range.	
Team Hunt	Allows the radio to hunt the fixed TSCC in the defined team hunt list.	

Hunt After Registration

After successful registration, the radio can enable one of the following hunt modes to ensure seamless communication:

Mode	Description	Operation
Background Hunt	The feature allows an idle radio to keep detecting the signal strength of the BS with which it registers. If the signal strength goes below the threshold level preset by the	<ul style="list-style-type: none"> ● Go to Menu > Hunt, and then select Background Hunt, Homestation Hunt, or Handover. ● Press the

Mode	Description	Operation
	dealer, the radio will automatically hunt for an adjacent BS with stronger signal strength and register with it.	
HomeStation Hunt	In an overlapping area, the feature allows the radio operating on another channel to switch back to the homestation channel when its signal strength reaches the preset threshold. It is recommended that you set your frequently used channel as the homestation channel.	preprogrammed Background Hunt , Homestation Hunt , or Multi-site Handover key.
Multi-site Handover	The signal strength received from a BS may fluctuate due to position change and affect the radio's communication quality. In such occasions, the feature allows the radio to	

Mode	Description	Operation
	automatically register with the BS with stronger signals.	
VoteNow Hunt	The feature allows the radio in idle to check the signal strength of the BS assigned in a Broadcast call, and decide whether to register with the BS.	The mode is enabled by default. The radio automatically exits the mode after finishing hunting.

Contact Management

Contact Management allows you to view, add, edit, or delete a contact on the radio.

NOTE

- The ID and alias of a new contact must be unique.
- You can save the ID in the call logs to the contact list.

Managing Favorite Contacts

1. Go to **Menu > Contact > Favorite Contact**, or press the preprogrammed **Favorite Contact List** key.
2. Do one of the following:
 - To view or delete a favorite contact in conventional or trunking mode, select the contact in the favorite contact list, and then select **View Favorite Contact** or **Delete**.

- In conventional mode, to add a favorite contact, select **Add** in the favorite contact list.
- In trunking mode, to manage contacts through folders, select **Folder Management** in the favorite contact list, and then do the following:
 - » To add a new favorite contact, select **Add**.
 - » To delete all the favorite contacts in the folder, select **Delete All**.
 - » To add a child folder, select **Add Folder**.
 - » To delete all the folders in the list, select **Delete All Folders**.

Managing Private Contacts

Viewing, Editing, or Deleting a Private Contact

- In conventional mode, go to **Menu > Contact > Contact List** or press the preprogrammed **Contact List** key, select the private contact, and then select **View Contact**, **Edit Contact**, or **Del Contact**. (You cannot delete the private contact connected to the TX Contact or One-Touch Call.)
- In trunking mode, go to **Menu > Contact > Private Contact** or press the preprogrammed **Private Contact** key, select the contact, and then select **View Contact**, **Edit Contact**, or **Del Contact**.

Adding a Private Contact

- In conventional mode, go to **Menu > Contact > New Contact**, input the ID and alias of the new contact, and then select **Save**.
- In trunking mode, go to **Menu > Contact > New Contact**, input the ID of the new contact, select the **Call Type** as **Private Contact**, input the alias, and then select **Save**.

Managing Phone Contacts

Viewing, Editing, or Deleting a Phone Contact

- In conventional mode, go to **Menu > Phone > Phone Contact** or press the preprogrammed **Phone List** key, select the phone contact, and then select **View Contact**, **Edit Contact**, or **Del Contact**.
- In trunking mode, go to **Menu > Contact > Private Contact**, select the required phone contact from the list, and then select **View Contact**, **Edit Contact**, or **Del Contact**.

Adding a Phone Contact

- In conventional mode, go to **Menu > Phone > New Contact**, input the ID and alias of the new contact, and then select **Save**.
- In trunking mode, go to **Menu > Contact > New Contact**, input the ID of the new contact, select the **Call Type** as **PABX/PSTN**, input the alias, and then select **Save**.

Priority Group

A priority group is a special type of group with priority level. In trunking mode, the radio participates in group calls according to group priority levels.

If the Priority Group feature is programmed to your radio by your dealer, go to **Menu > Priority Group** to enable the feature. With the feature enabled, you can set the group priority level to **Level 1**, **Level 2**, or **Level 3**. The greater number indicates a higher priority level.

TOT

The TOT feature allows the radio to automatically stop transmission and keep beeping when the preset transmission period (60s by default) expires.

To stop beeping, release the **PTT** key. You need to wait for a certain period (preset by your dealer) to initiate transmission again.

This feature is enabled by default to prevent a radio user from occupying a channel for an extended period. It also avoids potential radio damage caused by overheating.

Busy Channel Lockout

The Busy Channel Lockout feature prevents you from talking on a channel that is already in use. The radio keeps beeping if you press and hold the **PTT** key when the current channel is occupied by other radios.

This feature is enabled by default to prevent interference from other radios on the same channel during transmission.

Customized Single Tone

The Customized Single Tone feature allows you to customize the TX audio for emergency alarm or to notify a target radio.

If this feature is enabled by your dealer, you can press and hold the preprogrammed **Customized Single Tone** key to send the TX audio to the current contact and release the key to stop sending.

Priority Interrupt

The Priority Interrupt feature allows you to interrupt the ongoing activities (such as a call, a call hang status, or remote monitor) on the current channel to free the channel, so as to initiate a new call or a new data service.

The feature includes Manual Priority Interrupt and Auto Priority Interrupt.

Manual Priority Interrupt

To manually terminate the ongoing activities, press the preprogrammed **Manual Priority Interrupt** key.

Auto Priority Interrupt

Auto Priority Interrupt includes Emergency Priority Interrupt, Call Back Priority Interrupt, Message Priority Interrupt, Radio Disable Priority Interrupt, and All Call Priority Interrupt. When this feature is enabled by your dealer, you can interrupt an ongoing call by initiating an emergency call, all call, or sending the Radio Disable command or a short message.

Pseudo Trunk

The Pseudo Trunk feature allows the radio in repeater mode to select an idle time slot for communication. When one slot is busy, the radio automatically selects the other time slot for communication. In this way, the feature improves channel utilization and decreases the interference to other ongoing calls on the channel.

To enable the feature, go to **Menu > Programming > Channel > Slot > Pseudo Trunk**.

XPT System

The XPT System is based on the digital conventional system. It connects multiple repeaters to create an extended pseudo trunking system. The system allows the radio to communicate through any of the repeaters in the site by sharing the logic channels of these repeaters, so as to increase the channel utilization and extend the communication capacity. In such case, a dedicated control channel is no longer required.

XPT system is categorized as single-site trunking system and multi-site trunking system.

- Single-site trunking system consists of a master repeater and multiple slave repeaters. These repeaters are connected by exchange devices.
- Multi-site trunking system consists of multiple single-site trunking systems. They are connected by the multi-site IP network.

The radio in the XPT system supports services including call, data, roam, emergency, and priority interrupt. For detailed information, see the features in conventional mode.

SFR

The SFR feature allows the radio in DMO mode to receive services on one time slot and then forwards them on the other, using the same frequency and code. With this feature enabled, the radio can repeat the voice, data, or signaling even when it is out of network coverage. In this way, the feature expands the communication coverage and saves frequency resources.

To enable the feature, you can press the preprogrammed **SRF** key or go to **Menu > Settings > Radio Set > SRF**. Then the radio displays "DM-R" and R.

If Auto SRF is enabled by your dealer for a channel, the radio automatically enables the SRF feature when switching to the channel.


Roam

Conventional Mode

The Roam feature allows the radio in the IP-based multisite system to automatically register with the available BS according to the signal strength. In this way, you can enjoy seamless communication across sites or networks.

Enabling the Roam Feature

- Press the preprogrammed **Roam** key.
- Go to **Menu > Roam > Roam On/Off**, and then select **On**.

When the roam feature is enabled, the radio displays .


Setting the Roam List

The roam list is a group of channels under monitoring. Each list contains up to 32 channels.

To add or delete a channel in a roam list, go to **Menu > Roam > Roam List**, and then select the required roam list.

Trunking Mode

The Roam feature allows the radio on the move to automatically register with a non-home BS or network.

When signals are detected, the radio initiates to register and displays .




The Roam feature is enabled by your dealer.

Work Order

The Work Order feature allows you to receive a task from the dispatcher and report the latest task state to the dispatcher at each stage of the task.

Viewing a Work Order

- Live view

When receiving a new work order, the radio displays  and a prompt box. You can directly view the newly received work order on the home screen without any operation.

- Menu view

To view the work order through the menu, go to **Menu > Work Orders > All Task or New Task**.

After the status update, the work order moves from **New Task** to appropriate menu option. You can view work order by the status alias.

Reporting the Task Status

- Go to **Menu > Work Orders**, and then select an available task status to report.
- Press the preprogrammed **Task Status** key (numeric key 0 to 9).

Data Query

The Data Query feature allows you to query related information from a third party by sending the command or keyword to the trunking system through Over the Air Signalling. For example, you can query the radio user through the radio number.

To query information, go to **Menu > Query**, and then send the query command or keyword to the system.

Call Divert

The Call Divert feature allows you to divert an incoming private call to a designated radio, when the radio is malfunctioned or powered off or the radio users cannot answer a call.

To enable this feature, do as follows:

1. Go to **Menu > Settings > Radio Set > Call Divert > On/Off**, and then select **On**.
2. Select **Divert ID**, and then enter the ID through the keypad.
3. Select the call type as **Private ID**, **PABX**, or **PSTN**.

Call Priority

The Call Priority feature allows you to set the priority of voice services except the emergency call. When all channels are occupied, the call requests are put in a queue according to their priorities. During queuing, the radio displays "Call Queued".

To set the priority, go to **Menu > Settings > Radio Set > Priority**, and then select one of the following as required: **Low**, **Medium**, **High**, and **Preemption**.

The **Preemption** option is available only when the Preemptive Call feature is enabled by your dealer. A preemptive call can interrupt other on-going calls with lower priority to release the channels for itself.

DGNA

The DGNA feature allows you to initiate a call to or receive a call from a dynamic group temporarily created by a dispatcher.

The radio displays "DGNA Success!" when the dynamic group is added successfully and "DGNA Deleted" when the dynamic group is deleted. The added dynamic group is saved in a dynamic subgroup list under **Subgroup** on your radio.

For operations to initiate, receive or end a dynamic group call, see "Group Call" on page 8.

Positioning

The Positioning feature allows you to collect the location information of the radio through satellites.



NOTE

- The Positioning feature is enabled by your dealer.
- The Positioning feature is only available to radios with COMPASS, GPS, or GLONASS.

Enabling the Positioning Feature

- In conventional mode, go to **Menu > Accessories > GPS or COMPASS**, and then enable the feature.
- In trunking mode, the feature is enabled by your dealer.

Viewing Position

- Viewing the radio's position

Go to the **Menu > Accessories > GPS or COMPASS > Position**.

The location information of your radio (including its longitude, latitude, time, data, and the number of visible satellites) are displayed.

- Viewing the contact's position
 - » In conventional mode, go to **Menu > Accessories > GPS or COMPASS > Query Location**, and then select the contact or enter the private ID through the keypad.

The location information of the private contact (including alias, direction, and distance) are displayed.

» In trunking mode, go to **Menu > Accessories > GPS or COMPASS > Query Neighbors**.

The location information of a nearby group contact (including alias, direction, and distance) are displayed.

Sending GPS Msg

In conventional mode, to send your location information to a contact by message, do as follows:

1. Go to **Menu > Accessories > GPS or COMPASS > Position**.
2. Press the **OK/Menu** key.
3. Select the contact.
4. Press the **OK/Menu** key.

Call Location

The Call Location feature allows the receiving radio to display the location information (including its direction, distance and geographic coordinates) of the transmitting radio. Before enabling this feature, the transmitting radio must enable the Voice w/Location feature.

To enable and configure the Call Location feature, do as follows:

1. Go to **Menu > Accessories > GPS or COMPASS > Call Location**, and then enable the feature.
2. Back to **Call Location**, select

GPS Report

The GPS Report feature allows the radio to report its location information to the control center or trunking system.

Conventional Mode

If the shortcut for the GPS Report feature is programmed by your dealer, you can report the GPS data by pressing the preprogrammed **GPS Report** key.

You can also request your dealer to configure the GPS trigger to allow the radio to automatically report the GPS data upon power-on/off or according to the preset interval time or distance.

Trunking Mode

If the GPS Active Report feature is enabled by your dealer, the radio automatically reports the GPS data when reaching a preset time or distance.

If the GPS Report in Voice feature is enabled, you can report GPS data during communication.

Quick GPS

The Quick GPS feature allows all radios of the same dispatch station to transmit location information at specific time slices. To be specific, the Report Interval Time is divided into different time slices with the same time length, and the time slices are allocated to all radios of the dispatch station. In this way, the radios transmit positioning data to the dispatch station in order, improving transmission efficiency.

If your dealer configures the feature to a digital channel, the channel is only used to report the quick GPS data. The services of voice, short data, RRS, and conventional GPS report are not supported on the channel.

BT

CAUTION

- For better communication quality, it is recommended to use the BT devices specified by the company.
- If you use other company's BT earpieces, use them with our specified wireless ring PTT. Otherwise, your radio cannot transmit through the earpieces.

BT is a wireless technology that supports short-distance communication and data exchange between devices, such as wireless earpieces, remote speaker microphone, and wireless PTT. You can connect the radio to a BT device through the built-in BT module.

Enabling the BT Feature

- Press the preprogrammed **BT** key.
- Go to **Menu > Accessories > BT > On/Off**, and then select **On**.

When the BT feature is enabled, the LED indicator flashes blue every 3 seconds.

NOTE

The feature is only available to radios with BT module.

Connecting to a BT Device

To connect the radio to a BT device, do as follows:

1. Turn on the BT device and set it to pairing mode. (For detailed operations, refer to the manual of the BT device.)
2. Go to **Menu > Accessories > BT > Paired Devices**, and then search the BT device.
3. Select the BT device, and then accept the connection request.

NOTE

The radio needs to search the wireless PTT and wireless earpieces separately. The operations are the same.

When the BT device is successfully connected, the LCD displays "Connect Success!", and the LED indicator flashes blue every 1.5 seconds.

Switching BT Audio

To switch the audio output device between BT earpieces and radio in BT connection mode, press the preprogrammed **BT Audio Switch** key. You do not need to disconnect or reconnect the BT earpiece for the switching.

Other Operations

Change the BT Name of the Radio

Go to **Menu > Accessories > BT > BT Devices Name**, and change the name.

Setting Visibility

To set the radio always visible to other BT devices, go to **Menu > Accessories > BT > Always Detected**, and then select **On**.

BT Location

NOTE

The feature is only available to the radio with BT module.

The BT Location feature allows the radio to expand the positioning area when the indoor GPS signal is weak or invalid.

To use this feature, you need to consult the company to deploy the BT Beacons.

When the radio detects the BT beacons with Universally Unique Identifier (UUID) included in the Beacon Info table, the radio sends the beacon information to the dispatch station or trunking system for flexible dispatching and accurate positioning.

To enable the BT Location feature, consult your dealer for authorization, enable the BT feature, and then go to **Menu > Accessory > BT Location > On/Off > On**.

Viewing the BT Beacons Information

The BT Beacon Info includes the UUID, alias, address, and signal strength. The radio only displays the information of the latest detected beacons (10 beacons at most), and lists them according to their signal strength.

To view the BT Beacons information, go to **Menu > Accessory > BT Location > Beacons Info**.

Reporting the BT Location

Conventional Mode

After configured by your dealer, your radio can report the BT location to the designated digital channel for one time or periodically by using single trigger or periodical trigger.

- Single Trigger: The radio reports the BT location for one time, when you press the preprogrammed **BT Location Report** key, or upon power-on/off.
- Periodical Trigger: The radio reports the BT location periodically according to the preset time interval.



NOTE

The radio cannot report the BT location when operating on the digital channel designated for the Quick GPS feature.

Trunking Mode

When receiving the BT location query command from the trunking system, the radio automatically reports the BT location through the control channel or auxiliary control channel for one time or periodically.

If the BT Location Active Report feature is enabled by your dealer, your radio automatically reports the BT location when reaching the preset time.

Voice w/Location

The Voice w/Location feature allows the radio to report its location information to the dispatch station or trunking system when initiating a private call, group call, or an emergency call.

To enable the feature, go to **Menu > Accessories > Voice w/Location**. Configured by your dealer, your radio can report its location by using the following triggers:

- Your radio reports its location for one time when you press and hold the **PTT** key to initiate a call.
- Your radio reports its location for one time when you press and hold the **PTT** key to initiate a call, and then it reports locations periodically according to the preset time interval until you release the **PTT** key.

TF Application

The TF Application feature allows you to view the TF card information, and enable or disable the TF Encryption and Recorder feature.

TF Information

To view the TF information, including type, remaining capacity and total capacity, go to **Menu > TF Application > TF Information**.

TF Encryption

The TF Encryption feature allows you to customize the encryption algorithm and keys to encrypt the voice and

data service on the digital channel to meet your higher communication security requirements.

To enable the TF Encryption Feature on the current channel, press the preprogrammed **TF Card** key, or go to **Menu > TF Application > TF Encryption**

Recorder

The Recorder feature allows your radio to record live voices and calls on the TF card, and allows you to manage the recording files.



NOTE

The Recorder feature is enabled by your dealer.

Live Record

The Live Record feature allows your radio to record voices in the current environment. You can record for at most 495 minutes.

Enabling the Live Record Feature

To enable the Live Record feature, go to **Menu > TF Application > Recorder > Live Record**.

Exiting the Live Record feature

- To exit the Live Record feature, press the **Back** key.
- The radio automatically exit the Live Record feature when another feature with higher priority is in service or the TF card is full.

Call Record

The Call Record feature allows your radio to record the current call or all calls.

Enabling the Call Record Feature

To enable the Call Record feature, press the preprogrammed **Call Record** key, or go to **Menu > TF Application > Recorder > Call Record** and then enable the feature.

Exiting the Call Record feature

- To exit the Call Record feature, press the preprogrammed **Call Record** key, or go to **Menu > TF Application > Recorder > Call Record** and then disable the feature.
- The radio automatically exit the Call Record feature when another feature with higher priority is in service or the TF card is full.

File List

The File List feature allows you to manage record files through record folders.

The record file and record folder are described in the following table.

Item	Description	Name Rule
Record folder	Each record folder contains up to 200 record files.	Record_xxxx xxxx: refers to the folder number. Its range is 0001 to 9999.
Record file	The maximum length of a record file is five minutes. A recording longer than 5	Xyyy_mmdhmmss.zz ● Xyyy: X can be R (for live record) or C (for call record). yyy is the number of a complete call. ● mmdhmmss: refers to the recording date and time. In

Item	Description	Name Rule
	minutes will be divided into multiple files.	trunking mode, it is the time read by the RTC. In convention mode, it is "0000000000". ● zz: When a recording is divided into multiple files, it is counted with .zz.

NOTE

- If the Automatic Recording Deletion feature is enabled by your dealer, the radio will automatically delete the earliest record when the TF card is full.
- If the Recording Compression feature is enabled by your dealer, the radio will compress the record files without impacting the voice quality to save the space of the TF card.

To manage record files, go to **Menu > TF Application > Recorder > File List**, select a file, and then do one of the following:





- To play the file, go to **Play > Start**. During the playback, you can pause or exit it.
- To view the file information, select **View**.
The file name, record date and time, record length, ID of the talking party, and the call type are displayed.
- To delete the file, select **Delete**.
- To rename the file, select **Edit**, change the name, and then confirm the operation.
The name can not be empty or repeated.

Personal Safety Services

Emergency

The Emergency feature allows you to ask for help from your companion or the control center in case of emergency. With the highest priority, you can make an emergency call even when your radio is in transmitting or receiving status.

In emergency mode, the radio transmits with the high power level by default and gives different indications according to the emergency type preset by your dealer. The emergency types can be the following.

Emergency Type	Description
Siren Only	The radio sounds shrill alarm tones and displays  and  , but the radio does not send an alarm to the control center.
Regular	The radio gives both audible and visible indications.
Silent	The radio gives no audible or visible indication, and you cannot listen to a received call.
Silent w/Voice	The radio gives audible indication only upon receiving a call. Otherwise, the radio gives no audible or visible indication.
Alarm w/Siren	The radio sends an alarm to the control center, sounds shrill alarm tones, and displays  and  .

In addition, you can request your dealer to set one of the following emergency modes:

Emergency Mode	Description
Alarm	Allows you to only send an emergency alarm.
Call Only	Allows you to initiate an emergency call.
Alarm w/Call	Allows you to send an emergency alarm and initiate an emergency call.

NOTE

There is no need to set the emergency mode when the emergency type is set to "Siren Only" or "Alarm w/Siren".

Initiating an Emergency Call

You can press the preprogrammed **Emergency On** key to initiate an emergency call to the preset contact.

In trunking mode, you can also initiate an emergency call in the following way:

1. Go to **Menu > Contact > Favorite List**, and then select a group.
2. Select **Emergency Call**, and then press the **PTT** key.

When the emergency mode is set to "Alarm" or "Call Only", you can enable the Alarm w/Call to Follow feature. Then you can initiate an emergency call automatically by speaking into the microphone without pressing and holding the **PTT** key. When the preset voice cycles for automatic emergency transmission expire, you can press and hold the **PTT** key to make the emergency call again.

Receiving an Emergency Call

You can listen to an incoming emergency call without any operation.

Ending an Emergency Call

Conventional Mode

The calling party can end an emergency call in one of the following ways:

- Press the preprogrammed **Emergency Off** key.
- Turn the radio off.

The called party can end an emergency call in one of the following ways:

- Press the **Back** key, and then press **TK**.
- Switch to another channel.
- Turn the radio off.

Trunking Mode

The calling party can end an emergency call in one of the following ways:

- Press the preprogrammed **Emergency Off** key.
- Turn the radio off.
- Rotate the **Group Selector** knob to select an empty group.

The called party can end an emergency call in one of the following ways:

- Press the **Back** key, and then press **TK**.
- Switch to another channel.
- Turn the radio off.

NOTE

With the Send Emergency Exit Message feature enabled by your dealer, your radio will send an exit emergency message to the called party when you end a mistaken emergency alarm or emergency call.

Man Down

The Man Down feature allows the radio to automatically enter the emergency mode, when the radio is inclined by an angle greater than the preset angle, or 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.

To enable the feature, do one of the following:

- Go to **Menu > Settings > Radio Set > Man Down**, and then select **Enable**.
- Press the preprogrammed **Man Down** key.

Lone Worker

The Lone Worker feature allows the radio to automatically send an emergency alarm to your companion or the control center if you do not operate your radio within the preset time. The feature ensures your safety when you work alone and encounter an emergency.

To enable the feature, do one of the following:

- Go to **Menu > Settings > Radio Set > Lone Worker**, and then select **Enable**.
- Press the preprogrammed **Lone Worker** key.

Encryption

The Encryption feature allows the transmitting radio to transfer the encrypted voice and data. Only the receiving radio with the same encrypt key or ID can decrypt the voice and data. This prevents eavesdropping and ensures communication privacy.

Enabling the Encryption Feature

To enable the feature, do one of the following:

- Go to **Menu > Settings > Radio Set > Encrypt > On/Off**, and then select **On**.
- Press the preprogrammed **Encrypt** key.



NOTE

In conventional mode, when you enable the Encryption feature, voice and data on the current channel are encrypted. The Encryption feature will be turned on automatically whenever you switch back to the channel.

Configuring the Encryption Feature

- In conventional mode, you can add, edit, and select the encrypt key.
 - » To add the encrypt key, go to **Menu > Settings > Radio Set > Encrypt > Add Encrypt Key**, specify the parameters of the encrypt key, and then press **Save**. The radio displays "Save successfully".

The following table lists the parameters of the encrypt key:

Parameter	Description
Key ID	The ID for each encrypt key must be unique. The range is 1 to 255.
Key Alias	The alias of the encrypt key consists of letters, digits, special characters, and Chinese characters.
Key Length	The key length can be set to 10, 32, or 64 characters.
Key Value	The key value consists of digits or letters. It must be shorter than the key length.

- » To editing the encrypt key, go to **Menu > Settings > Radio Set > Encrypt > Encrypt Key List**, select the encrypt key, select **Edit**, edit the key, and then press **Save**.
- » To selecting the encrypt key, go to **Menu > Settings > Radio Set > Encrypt > Encrypt Key List**, select the encrypt key, and then press **Select**.
- In trunking mode, you can configure the encrypt type as follows:
 1. Go to **Menu > Settings > Radio Set > Encrypt > Encrypt Services**.
 2. Select **Voice Only**, **Data Only** or **Voice and Data**.

Scrambler

The Scrambler feature allows the radio to invert the frequency spectrum of transmitted audio signals. Only the receiving radio with the same scrambler setting can

restore the audio signals. This prevents eavesdropping and ensures communication privacy.

To enable the feature, do one of the following:

- Go to **Menu > Settings > Radio Set > Scrambler**, and then select **Enable**.
- Press the preprogrammed **Scrambler** key.

Convert Mode

The feature allows the radio totally mute in some special situations. With the feature enabled, the backlight and all visible and audible indications are turned off. If the radio is connected to audio accessories, the voice is output through the accessories.

To enable the feature, do one of the following:

- Go to **Menu > Settings > Radio Set > Covert Mode**, and then select **On**.
- Press the preprogrammed **Convert Mode** key.

Emergency Erase Data

The Emergency Erase Data feature allows the radio to erase encrypted data in case of emergency, so as to prevent the data from unauthorized access. When erasing data, the radio stops voice and data services and returns to the home screen.

If this feature is enabled by your dealer, you can delete the encryption data in one of the following ways:

- Press **SK1** and the **PTT** key two times (Time interval of pressing the two keys is no more than 1.5s.), and then press **SK1** again to confirm deleting.
- When your radio is killed, the data will be erased automatically.

Stun, Revive and Kill

When stunned by the trunking system, the radio displays "Stunned" and its functions except the registration, revive, kill, and authentication are locked out. A stunned radio can restore to normal use when receiving the revive command from the trunking system. Then, the radio displays "Revived".

When killed by the trunking system, the radio displays "Killed" and all its functions are locked out. The radio can only be turned on or off. To reuse a killed radio, send it back to your dealer or the Company.

The Stun, Revive and Kill features are enabled by default, and can be triggered by the trunking system or the command center.

Supplementary Features

In conventional mode, the radio supports the following features on digital channel and analog channel.

On Digital Channel

Feature	Description	Operation
Alert Call	The feature allows you to send an alert call to a private contact. The called party can call you back after seeing the alert.	<ul style="list-style-type: none"> ● Press the preprogrammed One Touch Call/Menu key. ● Go to Menu > Contact > Favorites List or Contact List, select the private call contact, select Ctrl Services, and then select the supplementary service. ● Go to Menu > Settings > Radio Set > Keypad Mode > Enable, enter the private contact ID, press the OK/Menu key, and then select the supplementary service.
Radio Check	The feature allows you to send a Radio Check command to a private contact, so as to check whether its radio is turned on or operating on the current channel without disturbing the contact.	
Remote Monitor	The feature allows you to remotely activate the microphone of a private contact's radio without the contact's awareness, and monitor its activities or background voice.	
Radio Enable	The feature allows you to send a Radio Enable command to a private contact to restore its radio to normal use.	
Radio Disable	The feature allows you to send a Radio Disable command to a private contact to disable its radio. Except remote monitor, all other functions of the disabled radio are locked out. The radio must be reprogrammed by the dealer for reuse or enabled by the Radio Enable command.	

On Analog Channel

Feature	Description	Operation
Comporator	The feature allows the radio to compress the voice signal when transmitting and decompress the voice signal when receiving, so as to improve the voice quality.	Go to Menu > Settings > Radio Set > Comporator , and then enable or disable the feature.
Monitor	The feature allows the radio to receive more signals including weak signals, and helps you to recognize the weak voice in the speaker.	<ul style="list-style-type: none"> ● Press the preprogrammed Monitor key to enable or disable the feature. ● Press and hold the preprogrammed Monitor Momentary key to enable the feature, and then release the key to disable the feature.
Adjust Squelch Level	The squelch level refers to the squelch threshold required for the radio's speaker to be turned on. Generally, the higher squelch level requires stronger signal for the radio to be unmuted. The squelch level includes Low, Normal and Tight. If you set the squelch to low level, the speaker keeps unmuted.	<ul style="list-style-type: none"> ● Go to Menu > Settings > Radio Set > Squelch, and then select Low, Normal or Tight. ● Press the preprogrammed Adjust Squelch Level key to adjust the level.
CTCSS/CDCSS	The feature allows the radio to play the voice only when the received CTCSS/CDCSS matches the transmitted CTCSS/CDCSS.	Go to Menu > Programming > Channel , and then set the type and value of RX/TX CTCSS/CDCSS.

Troubleshooting

Phenomena	Analysis	Solution
The terminal cannot be turned on.	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 be poorly connected due to dirtied or damaged battery contacts.	Clean the battery contacts or replace the battery.
The radio cannot register.	No signals from the BS can be detected.	Make sure the radio is within the coverage of the BS.
	The validity of the radio has not been authenticated by the BS.	Contact the BS manager to check if the radio is authorized in the network management system.
The radio registers repeatedly.	The signal is discontinuous.	Make sure the radio is within the coverage of the BS.
Calls cannot be established.	The signal is poor.	Make sure the radio is within the coverage of the BS.
No sounds can be heard after the call was established .	The radio ID may be occupied by others.	Contact the BS manager to check whether the radio ID is repeated in the network management system.
The called party disconnects repeatedly during communication.	The signal is discontinuous.	Make sure the radio is within the coverage of the BS.
The voice is unclear.	The signal is poor.	Make sure call participants are within the communication range.
Keys are unavailable.	The keypad may be temporarily out of order.	Restart the radio.
The LCD does not display any information.	The LCD may be temporarily out of order.	Restart the radio.
The GPS cannot locate your position.	You may be in a position with poor GPS signal.	Move to an open and flat area, and then restart the GPS.
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.	Rotate the On-Off/Volume Control knob to increase the volume, or consult your dealer to disable the Digital Mic AGC feature.
	The antenna may be loose or may be installed incorrectly.	Turn the radio off, 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 of the radio may be inconsistent with that of other member radios.	Verify that your TX/RX frequency and signaling type are correct.

Phenomena	Analysis	Solution
	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.
	The signal is poor.	Make sure call participants are within the communication range.
You hear unknown voice or noise.	You may be interrupted by radios using the same frequency.	Change the frequency, or adjust the squelch level.
	The radio may be set with no signaling.	Request your dealer to set signaling for all member radios to avoid interference at the same frequency, and make sure that all group members share the same signaling.
During receiving, you hear too much noise and hiss.	The signal is poor.	Make sure call participants are within the communication range.
	You may be in a position with poor signals, such as near a high building or 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.

If the above solutions cannot fix your problems, or you may have some other queries, contact your dealer or the Company 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 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



CAUTION

Turn the product off 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



CAUTION

Use the accessories specified by the Company only. Otherwise, we will not be liable for any loss or damage arising out of the use of any unauthorised accessories.

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

Abbreviations

Abbreviation	Full Name
A	
AGC	Automatic Gain Control
B	
BS	Base Station
D	
DGNA	Dynamic Group Number Assignment
DTMF	Dual-tone Multi-frequency
E	
ESN	Electronic Serial Number
F	
FOACSU	Full Off Air Call Set-Up
G	
GPS	Global Positioning System
L	

Abbreviation	Full Name
LCD	Liquid-Crystal Display
LED	Light-Emitting Diode
O	
OACSU	Off Air Call Set-Up
P	
PABX	Private Automatic Branch Exchange
PSTN	Public Switched Telephone Network
PTT	Push-To-Talk
R	
RTC	Real Time Clock
S	
SK	Side Key
T	
TF	TransFlash
TK	Top Key
TM-DL	Trunking Mode - Digital Local
TM-DW	Trunking Mode - Digital Wide
TOT	Time-out Timer
V	
VOX	Voice Operated Transmit
X	
XPT	Extended Pseudo Trunk



NOTE

Existing devices should be upgraded to Hytera's iM or iS firmware before being used as part of a system. For details about upgrade, contact your Hytera dealer.



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