



USER MANUAL

MD65X DIGITAL MOBILE 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:

MD65X Digital Mobile 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 PIT 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".
		In the Port text box, enter "22".
>	Directs you to access a multi-	Go to File > New .

Item	Description	Example
	level menu.	
<i>Italic</i>	Denotes document titles.	For details about using the DWS, refer to <i>Dispatch Workstation User Guide</i> .
<i>Courier New</i>	Denotes commands and their execution results.	To set the IP address, run the following command: vos-cmd - m name IP

Packing List

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

Item	Quantity (PCS)	Item	Quantity (PCS)
Mobile Radio	1	Remote Speaker	1
		Microphone	
Mounting Bracket	1	Microphone Hanger	1
Locking Knob	2	Screw (4 mm x 16 mm)	3
Screw (4.8 mm x 20 mm)	4	Power Cord (with fuse)	1
Documentation Kit	1	/	/

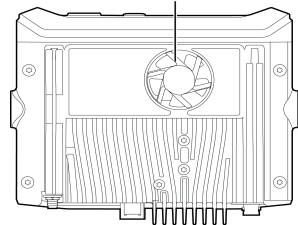
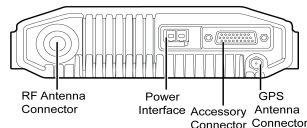
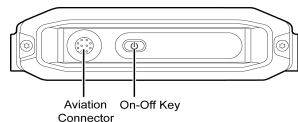
NOTE

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

Product Overview

Product Layout

Mobile Radio

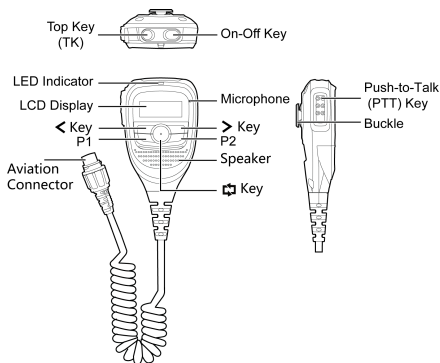




NOTE

The GPS antenna connector is used only by mobile radios with GPS feature.

Remote Speaker Microphone



You can request your dealer to program the following keys as shortcuts to assignable radio features: **TK**, **P1**, and **P2** key.

Installation

Instructions

Before you install the radio in a vehicle, read the following instructions carefully:

- The radio must work with a 13.6 V \pm 15% negative ground electrical system. Ensure to check the

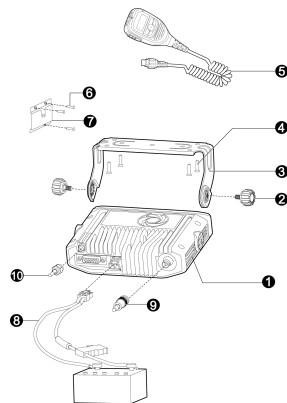
polarity and voltage of the vehicle power supply prior to installation.

- Check how long the screws will extend from the bottom surface of the radio. Drill the mounting hole cautiously to avoid damage to the vehicle wiring and other parts.
- Connect the antenna and power cord to the radio before you install it in the bracket. And make sure the antenna and power cord are dedicated for digital radios of the Company.
- Install the radio with mounting bracket supplied by the Company, to avoid radio looseness in case of accidents. The loose radio may cause bodily injury.
- Install the radio in a location where you can reach the front panel conveniently.
- Keep sufficient clearance at the back of the radio for wiring.
- Be sure to use the fuse with the same specification for DC power cord upon replacement.
- If any other devices are in the vicinity of this radio, the antenna of this radio shall be no less than 10 meters away from that of such RF device.

Tools

- Electric drill
- Cross head screwdriver
- T20 torx screwdriver

Parts



NO.	Part Name	NO.	Part Name
1	Mobile Radio	6	4 mm x 16 mm Screw
2	Locking Knob	7	Microphone Hanger
3	Mounting Bracket	8	Power Cord
4	4.8 mm x 20 mm Screw	9	RF Antenna
5	Remote Speaker Microphone	10	GPS Antenna



NOTE

- The RF antenna must be purchased separately.
- The GPS antenna is available only to MD65X mobile radios with GPS feature.

Procedure

1. Select a location where you can operate the radio conveniently, drill holes based on the shape of the mounting bracket, and then use the 4.8 mm x 20 mm screws to secure the bracket.
2. Connect the RF antenna, GPS antenna, and then power cord to the radio.
3. Slide the radio into the properly mounted bracket and secure it using the locking knobs.
4. Install the microphone hanger in a location where it can be reached easily, and use the 4 mm x 16 mm screws to secure it.
5. Align the triangle index on the remote speaker microphone with the microphone installation index, plug the connector into the radio, and rotate the connector clockwise to secure it.
6. Place the remote speaker microphone on the hanger when you do not use it.

Basic Operations

Turning the Radio On or Off



DANGER

To avoid bodily injury, do not touch a rotating blade.




To turn the radio on or off, do one of the following:

- Long press the **On-Off** key on the mobile radio.

- Long press the **On-Off** key on the remote speaker microphone.

Adjusting the Volume


To adjust the volume, do one of the following:

- Press  on the remote microphone speaker until  appears, and then press **>** or **<** to increase or decrease the volume.
- On the home screen or on the calling interface, press **or**  on the remote microphone to increase or decrease the volume.

Setting the Display

Switching the Day/Night Mode

The Day/Night Mode feature allows you to set the work mode of the LCD display. The LCD display varies in different work mode.

To switch the work mode, press  on the remote speaker microphone until the work mode (for example, Day) appears, and then press **>** or **<** to select the required work mode.


Locking the Keypad Light


The feature allows you to set the keypad light always on in the darkness, so as to facilitate your operation on the remote speaker microphone.


To lock the keypad light, do as follows:

1. On the home screen, long press **>** and **<** at the same time.
2. Select **Lock the Keypad Light**.
3. Press **<** to confirm the operation.

Locking or Unlocking the Key

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

To lock or unlock the  key, do as follows:

1. On the home screen, long press **>** and **<** at the same time.
2. Select **Lock or Unlock **.
3. Press **<** to confirm the operation.

Switching the Operation Mode

The radio can operate in conventional or trunking mode.


- To manually switch the operation mode, press the preprogrammed **Operation Mode Switch** key.
- To allow the radio to automatically switch to conventional mode when the signal drops below the preset level in trunking mode, press the preprogrammed **Mode Auto Switch** key.

Conventional Mode

In conventional mode, the radio receives and transmits data and voice on the selected channel.

Selecting a Zone and Channel


A channel is used to receive and transmit data and voice. A zone is a group of channels within the same operational area. The radio supports up to 64 zones, each of which contains up to 256 channels. To select a zone and then a channel contained in it, do as follows:

1. Select a zone in one of the following ways:
 - On the home screen, press  on the remote speaker microphone until a zone alias (for

example, Zone 1) appears, and then press > or < to select the required zone.

- Press the preprogrammed **Zone Up or Zone Down** key to select the required zone.

2. Select a channel in one of the following ways:

- Press  on the remote speaker microphone until a channel alias (for example, CHD1) appears, and then press > or < to select the required channel.
- Press the preprogrammed **Channel Up** or **Channel Down** key to select the required channel.
- Press the preprogrammed **Preset Channel** key to switch to the preset channel.

NOTE


If the Voice Notify feature is enabled by your dealer, the radio announces the channel number upon power-on or channel switching.

Trunking Mode


In trunking mode, the radio communicates with each other through base stations after successful registration. The radio can communicate with a group of radios or a single radio.

Selecting a Subgroup

A subgroup is a group of group or private contacts. To select a subgroup, do one of the following:








- Press  on the remote speaker microphone until a subgroup alias (for example, Subgroup 1) appears, and then press > or < to select the required subgroup.
- Press the preprogrammed **Subgroup Up** or **Subgroup Down** key to select the required subgroup.
















Selecting a Group or Private Contact

- Press  on the remote speaker microphone until a group or private alias (for example, Group Call 1) appears, and then press > or < to select the required group or private contact.
- Press the preprogrammed **Group/Private Up** or **Group/Private Down** key to select the required group or private contact.

Status Indications

LCD Icons

Icon	Radio Status
C	The radio operates in conventional mode.
X	The radio operates in eXtended Pseudo Trunking (XPT) mode.
D	The radio operates in digital trunking mode.
A	The radio operates in analog trunking mode.
	The number of bars indicates the volume.
	There is no signal in conventional, XPT, or TMDW mode.
	The number of bars indicates the signal strength in conventional, XPT, or TMDW mode.
	There is no signal in TM-DL mode.
	The number of bars indicates the signal strength in TM-DL mode.
	The radio is scanning.
	The radio stays on a non-priority channel.

Icon	Radio Status
P ₁	The radio stays on priority channel 1.
P ₂	The radio stays on priority channel 2.
	The radio is roaming.
	The radio is detecting available channels for roaming.
	The radio operates in low/high power mode.
	The Global Positioning System (GPS) feature is enabled, and the radio is receiving GPS data.
	The GPS feature is enabled, but the radio receives no GPS data.
	The Scrambler or Encrypt feature is enabled.
	The radio is in emergency mode.
	The fan is operating properly.
	The fan fails to operate.
	A private call is in progress.
	The radio is initiating/receiving a private call.
	A group call is in progress.
	The radio is initiating/receiving a group call.
	An all call is in progress.
	The radio is initiating/receiving an all call.

Icon	Radio Status
	An emergency group call is in progress in conventional or XPT mode.
	The radio is initiating/receiving an emergency group call in conventional or XPT mode.
	An emergency call is in progress in trunking mode.
	The radio is initiating/receiving an emergency call in trunking mode.
	An abnormality occurs, or the radio fails to initiate a call.

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.
Flashes orange slowly	The radio is scanning, roaming or hunting.
Flashes orange rapidly	<ul style="list-style-type: none"> Conventional mode: The radio is operating in emergency mode. Trunking mode: The called radio is establishing a Full Off Air Call Set-Up (FOACSU) call.

LED Indicator	Radio Status
Glows orange	Call hang time: No voice is being transmitted or received on the channel during a call. Within such a period, you can press and hold the PTT key and speak.

Call Services

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

NOTE

The **PTT** key in the manual refers to the **PTT** key on the remote speaker microphone

Call on Digital Channel

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

- Group call: a call from an individual user in a group to all the other members in the group.
- Private call: a call from an individual user to another individual user.
- Broadcast call (enabled by your dealer): a special group call in the trunking mode. During the call, only the calling party can speak.
- All call (enabled by your dealer): In conventional mode, it is a call from an individual user to all other users on the current channel. In trunking mode, it is a call from an individual user to all other users in the network. According to whether the called party can

respond after listening to the call, an all call is classified into the following two types:

- » Broadcast all call: The called party cannot respond to the call.
- » General all call: The called party can respond to the call.

NOTE

In trunking mode, with the Auto Select Available Site feature enabled by your dealer, the radio can register with an available BS where the current group is not limited after being turned on or during the current group/BS changing.

Initiating a Call

Conventional Mode

- On the home screen, select the required channel, and then press and hold the **PTT** key to initiate a call to the contact preset on the channel.
- If the One Touch Call feature is configured by your dealer, press the preprogrammed **One Touch Call** key, and then press and hold the **PTT** key to initiate a call.

Trunking Mode

NOTE

If the radio is not registered or attached, or an empty group is selected, you cannot initiate a call.

- On the home screen, select the required group or private contact, and then press the **PTT** key to initiate a call.
- If the One Touch Call feature is configured by your dealer, press the preprogrammed **One Touch Call** key to initiate a call.

Receiving a Call

Conventional Mode

You can listen to an incoming private/group/broadcast/all call without any operations.

Trunking Mode

You can listen to an incoming group/broadcast/all call without any operations.

For an incoming private call, you can listen to it in different ways varying with the setup mode of the call:

- When receiving an Off Air Call Set-Up (OACSU) private call, you can listen to it without any operation.
- When receiving a FOACSU private call, press the **PTT** key to establish the call.

Ending a Call

Conventional Mode

- A private/group call ends when the call hang time expires.
- An all call ends when the calling party releases the **PTT** key.

Trunking Mode

- A call ends when the calling party hangs up or presses the preprogrammed **Clear Down** key.
- A private call also ends when the called party hangs up or presses the preprogrammed **Clear Down** key.

Call on Analog Channel (Conventional Only)

Call Without Signaling

On an analog channel without signaling, you can initiate a call to all the other users on the channel. Do as follows:

1. On the home screen, select the required analog channel.
2. Press and hold the **PTT** key, and speak into the microphone.

Call With Signaling

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

1. On the home screen, select the required channel.
2. On the home screen, select the target contact.
3. Press and hold the **PTT** key, and then speak into the microphone.

Supplementary Features

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

Feature	Conventional		Trunking
	Digital	Analog	
Alert Tone	√	√	√
Power Level	√	√	√
VOX	√	√	√
Rent	√	√	√
Send Alias	√	×	√
ESN Check in Idle	×	×	√
Talk Around	√	√	×
SPK Selection	√	√	√
MIC Selection	√	√	√
MIC AGC	√	√	√

Feature	Conventional		Trunking
	Digital	Analog	
Always Treble Boost	√	√	√
3-Band Equalizer	√	√	√
Group Call	√	×	√
Private Call	√	×	√
Broadcast Call	×	×	√
All Call	√	×	√
Call With Signaling	×	√	×
Call Without Signaling	×	√	×
Status Message	×	×	√
Quick Text	√	×	√
One Touch Call	√	√	√
Scan	√	√	×
Hunt	×	×	√
Background Hunt, Homestation Hunt, Multi-site Handover, Vote Now	×	×	√
Time-out Timer (TOT)	√	√	√
Busy Channel Lockout	√	√	×
Customized Single Tone	√	√	×
Priority Interrupt	√	×	×

Feature	Conventional		Trunking
	Digital	Analog	
Pseudo Trunk	√	×	×
XPT System	√	×	×
Dual-slot Data Transmission	√	×	×
Roam	√	×	√
Clarity Transmission	√	×	√
Call Priority	×	×	√
Dynamic Group Number Assignment (DGNA)	×	×	√
Positioning	√	√	√
Voice W/Location	√	×	√
GPS Report	√	×	√
Quick GPS	√	×	×
Ignition Sense	√	√	√
Public Address	√	√	√
Horn & Lights	√	√	√
Emergency	√	√	√
Lone Worker	√	√	√
Encrypt	√	×	√
Scrambler	×	√	×
Stun	×	√	√
Revive	×	√	√
Kill	×	×	√

Feature	Conventional		Trunking
	Digital	Analog	
Emergency Erase Data	√	√	√
Supplementary Features (Alert Call, Radio Check, Remote Monitor, Radio Enable, Radio Disable)	√	×	×
Compondor	×	√	×
Monitor	×	√	×
Adjust Squelch Level	×	√	×
CTCSS/CDCSS	×	√	×

Radio Settings

You can configure the frequently used features on radio.
For details, see the following table.

Feature	Description	Operation
Power Level	The feature allows you to set the TX power level of the radio to High or Low. High level strengthens the TX signal. Low level saves the battery power.	Press the preprogrammed Power Level Adjust key to change the power level.
VOX	The feature allows you to transmit voice without pressing or holding the PTT key. The radio	Press the preprogrammed VOX key to enable or

Feature	Description	Operation
	automatically transmits voice when the volume reaches the preset level. Consult your dealer to configure the VOX Gain Level, and then you can adjust the sensitivity of the microphone transmission.	disable the feature.
Customized Single Tone	The feature allows you to customize the TX audio for emergency alarm or to target radio.	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.
Roam	<ul style="list-style-type: none"> Conventional mode: The feature allows you to enjoy seamless communication across sites or networks, when the radio automatically registers with the available BS according to the signal strength. 	<ul style="list-style-type: none"> Conventional mode: Press the preprogrammed Roam key to enable or disable the feature.

Feature	Description	Operation
	<ul style="list-style-type: none"> Trunking mode: The feature allows the radio to register with a non-home BS or network when it is on the move. When the radio detects signal, it initiates to register. 	<ul style="list-style-type: none"> Trunking mode: The feature is enabled by your dealer.
Talk Around	The feature allows you to continue communication in DMO mode, when the repeater malfunctions or your radio is out of the repeater's coverage.	Press the preprogrammed Talk Around key to change between DMO and repeater mode.
Send Alias	The feature allows you to send the radio alias during a call. The called party can view the alias on the display and identify the calling party.	The feature is enabled by your dealer.
Rent	The feature allows you to rent a radio from a dealer. When the rental time expires, the radio will be disabled.	The feature is enabled by your dealer.
TOT	The feature allows the radio to automatically stop voice transmission and keep beeping when the preset period (60s by	The feature is enabled by default.

Feature	Description	Operation
	default) expires. To stop beeping, release the PTT key. You need to wait for a certain preset period to initiate a call again.	
Busy Channel Lockout	The 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.	The feature is enabled by default.

Audio Settings

MIC & SPK

The MIC & SPK feature allows you to select the microphone and speaker used by the radio for transmitting and receiving voice. With the audio accessory connected, you can switch the audio selections. For details, see the following table.

Option	Description	Operation
Follow PTT	When you transmit voice through the radio's PTT key, the radio uses the internal microphone; when you transmit voice through the audio accessory, the radio uses the external	<ul style="list-style-type: none"> Press the preprogrammed Mic Set Switch key to change the audio selection of the microphone.

Option	Description	Operation
	microphone.	<ul style="list-style-type: none"> Press the preprogrammed SPK Set Switch key to change the audio selection of the speaker.
Only Internal	The radio uses only the internal microphone.	
Only External	The radio uses only the audio accessory's microphone and speaker, such as earpiece and remote speaker microphone.	
External First	When audio accessories are connected, the radio uses the external microphone and speaker; otherwise, it uses the internal microphone and speaker.	

Setting the Microphone

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.

The feature is enabled by your dealer.

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.

The feature is enabled by your dealer.

Configuring the 3-Band Equalizer Feature

The 3-Band Equalizer 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.

The feature is enabled by your dealer. To achieve the optimal equalization, you might process the gain of Intermediate Frequency signal in different situations. Consult your dealer to configure it according to your actual requirements.



NOTE

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

Conventional Features

On Digital Channel

Feature	Description	Operation
Priority Interrupt	The feature allows you to interrupt the ongoing activities	<ul style="list-style-type: none">Manual Priority Interrupt: Press the preprogrammed

Feature	Description	Operation
	(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 service.	Priority Interrupt key. <ul style="list-style-type: none">Auto Priority Interrupt: After your dealer's configuration, 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 feature allows the radio in direct mode and 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	The feature is enabled by your dealer.

Feature	Description	Operation
	interference to other ongoing calls on the channel.	
XPT System	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.	The feature is enabled by your dealer.
Dual-slot Data Transmission	The feature allows the radio to use two time slots on digital channels to transmit a large amount of data.	The feature is enabled by your dealer.

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.	Press the preprogrammed One Touch Call key.
Radio Check	The feature allows you to send a Radio Check command to a private contact, so as to check whether its radio is powered on or operating on the current channel without disturbing the contact.	Press the preprogrammed One Touch Call key.
Remote Monitor	The feature allows you to remotely activate the microphone of a private contact, and monitor the radio's activities or background voice.	Press the preprogrammed One Touch Call key.
Radio Enable	The feature allows you to send the Radio Enable command to a private contact to restore its radio to normal use.	Press the preprogrammed One Touch Call key.

Feature	Description	Operation
Radio Disable	The feature allows you to send the 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.	Press the preprogrammed One Touch Call key.

On Analog Channel

Feature	Description	Operation
Compandor	The feature allows the radio to compress the voice signal when transmitting and decompress the voice signal when receiving during voice communication, so as to improve the voice quality.	The feature is enabled by your dealer.

Feature	Description	Operation
Monitor	The feature allows the radio to receive more signals or 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 release the key to disable the feature.
Adjust Squelch Level	The feature allows you to adjust the squelch threshold required for the radio to be unmuted. Generally, the higher squelch level requires stronger signal for the radio to be unmuted. The squelch level includes Low, Normal and 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 one	The feature is enabled by your dealer.

Trunking Features

Feature	Description	Operation
ESN Check in Idle	When the radio is requesting registration or after the radio registers successfully, it will respond to the trunking system's ESN check.	The feature is enabled by your dealer.
Call Priority	The feature allows you to set the priority of voice services except emergency call. When all channels are occupied, the call requests are put in a queue according to their priorities.	The feature is enabled by your dealer.
DGNA	The feature allows you to initiate a call to or receive a call from a dynamic group temporarily created by the dispatcher.	See the operations in "Call on Digital Channel".

Troubleshooting

Phenomena	Analysis	Solution
You cannot turn on the radio.	The power cord may be disconnected or not securely connected to the outlet.	Properly connect the power cord and ensure secure connection.
The radio cannot register successfully.	The radio fails to detect signals from the base station.	Make sure your radio is within the coverage of the base station.
	The validity of the radio has not been authenticated by the base station.	Contact the base station manager to check whether the radio is authorized in the network management system.
The radio registers repeatedly.	The signal is discontinuous.	Make sure your radio is within the coverage of the base station.
You cannot establish a call.	The signal is poor.	Make sure your radio is within the coverage of the base station.
You cannot hear voice after establishing a call.	Your radio ID may be repeated.	Contact the base station manager to check whether your radio ID is repeated in the network management system.
The called party disconnects repeatedly during communication.	The signal is discontinuous.	Make sure your radio is within the coverage of the base station.
You hear unclear voice.	The signal is poor.	Make sure you and other members 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 members share the same signaling.
You cannot use the keys.	The keys may not work temporarily.	Restart the radio.
The GPS cannot locate your position.	The radio may be at an unfavorable position, so that no GPS signal is received.	Move to an open and flat area, and restart the GPS.
	The volume level may be low.	Increase the volume.
During receiving, the voice is weak or intermittent.	The antenna may be loose or may be installed incorrectly.	Turn off the radio, and then remove and reattach the antenna.
	The speaker may be blocked or damaged.	Clean the surface of the speaker.
You cannot communicate with other group members.	The frequency or signaling type may be inconsistent with that of other members.	Verify that your TX/RX frequency and signaling type are correct.

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 you and other members are within the communication range.
During receiving, you hear too much noise and hiss.	The signal is poor.	Make sure you and other members are within the communication range.
	You may be in unfavourable position. For example, your communication may be blocked by high buildings or blocked in an underground area.	Move to an open an 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, please contact your local 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.
- If the radio is used in a harsh environment (such as sea and salt fog), periodically clean and dry the radio.
- Make sure the product is completely dry before use.

Optional Accessories

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

CAUTION

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

Abbreviations

Abbreviation	Full Name
FOACSU	Full Off Air Call Set-up
GPS	Global Positioning System
LED	Light-emitting Diode
OACSU	Off Air Call Set-up
PTT	Push-to-Talk
XPT	eXtended Pseudo Trunking

NOTE

Existing devices should be upgraded to Hytera's iM or iS before being used as part of a system. Speak to your Hytera dealer about how to upgrade your existing devices and for more information on Hytera's iM or iS firmware.



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Address: Hytera Tower, Hi-Tech Industrial Park North, 9108#Beihuan Road,
Nanshan District, shenzhen, People's Republic of China

Postcode: 518057
<http://www.hytera.com>