Hytera

User Manual

HP60X DIGITAL PORTABLE RADIO



Hytera

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Preface

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.

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:

HP60X Digital Portable Radio (X may represent 2, 5, 6, or 8)

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If you have any suggestions or would like to receive more information, please visit our website at: https://www.hytera.com/en/download-center.html.

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 your 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.

ISEDC Statement

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

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

This device complies with Innovation, Science and Economic Development Canada Compliance license-exempt RSS standard(s). 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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

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 Conventions

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.

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 box appears.
		Press the **PTT** key.
" "	Denotes messages, directories, file names, folder names, and parameter values.	The screen displays "Invalid Battery!".
		Open "PSS.exe".
		Go to "D:/opt/local".
		In the Port text box, enter "22".
>	Directs you to access a multi-level menu.	Go to **File** > **New**.
Italic	Denotes document titles.	For details about using the DWS, refer to *Dispatch Workstation User Guide*.
`Courier New`	Denotes commands and their execution results.	To set the IP address, run the following command: `vos-cmd - m name IP`

1. Packing List

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

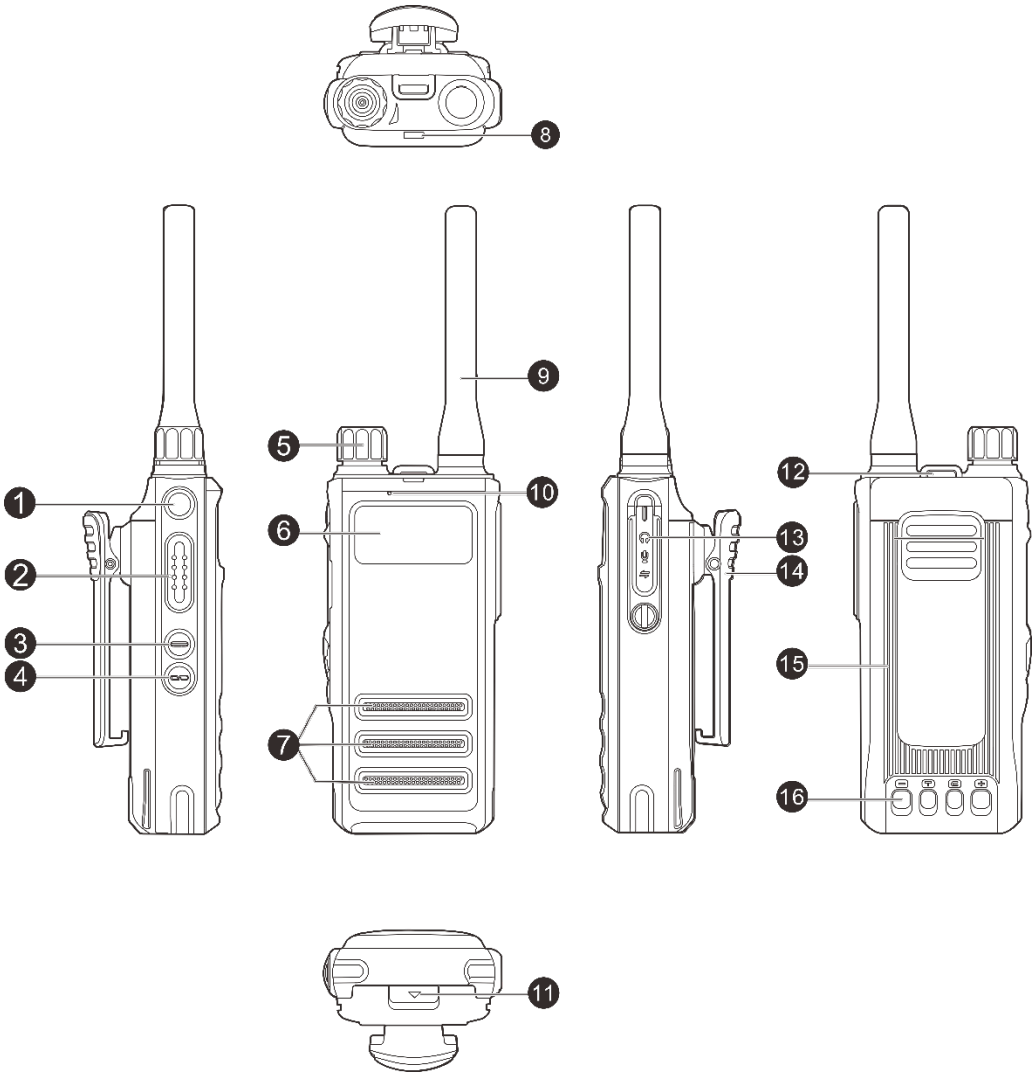
Item	Quantity (PCS)	Item	Quantity (PCS)
Radio	1	Antenna	1
Battery	1	Belt Clip	1
Charger	1	Strap	1
Power Adapter	1	Documentation Kit	1

NOTE

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

2. Product Overview

2.1 Product Layout



No.	Part Name	No.	Part Name
1	On-Off Key	9	Antenna
2	Push-to-Talk (PTT) Key	10	Microphone
3	Side Key 1 (SK1)	11	Battery Latch
4	Side Key 2 (SK2)	12	Strap Hole
5	Smart Knob	13	Accessory Connector
6	OLED Display	14	Belt Clip
7	Speaker	15	Battery
8	LED Indicator	16	Charging Contacts

2.2 Programmable Keys

For enhanced convenience, you can request your dealer to program **SK1** and **SK2** as shortcuts to radio features. For details, consult your dealer.

3. Before Use

3.1 Charging the Battery

CAUTION

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

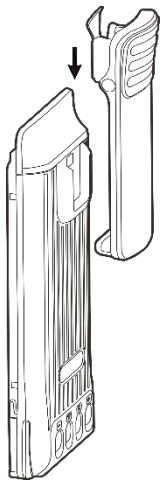
Before initial use, charge the battery alone or the battery attached to the radio. It is recommended that the radio remain powered off during charging.

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

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

3.2 Attaching the Belt Clip

Align the holder on the belt clip with the groove on the battery, and then press the belt clip downwards into place.



NOTE

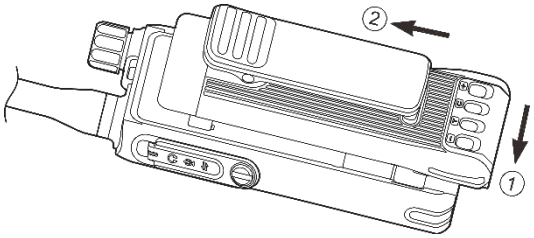
You can press and hold the belt clip spring plate and push the belt clip upwards to remove it.

3.3 Attaching the Battery

CAUTION

- Use the approved battery to avoid the risk of explosion.
- Dispose of the used battery according to "Precautions for Disposal" in the *Safety Information Booklet*.

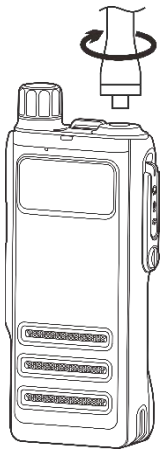
1. Align the tabs on the battery with the grooves in the battery slot.
2. Press and push the battery into the battery slot until a click is heard.



3.4 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.



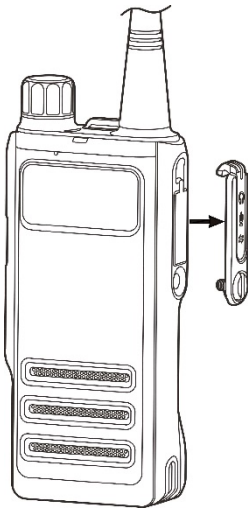
3.5 Attaching the Audio Accessory

CAUTION

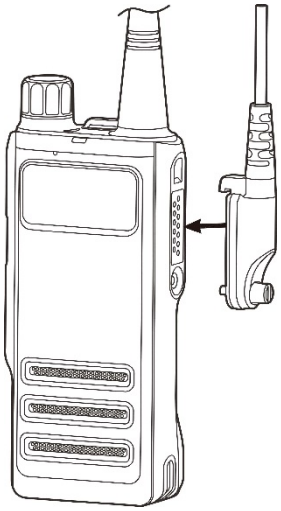
For optimal waterproof and dustproof performance, do as follows:

- Attach the accessory with care to avoid scraping the silicone rubber surrounding the accessory connector screw hole.
- Close the accessory connector cover and fasten the screw after removing the accessory.

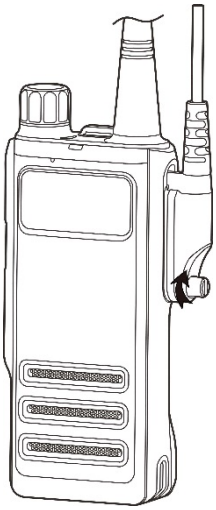
1. Loosen the screw on the accessory connector cover, and then remove the cover.



2. Insert the audio accessory plug into the accessory connector.



3. Tighten the screw on the audio accessory plug.



4. Basic Operations

4.1 Turning On or Off the Radio

To turn on or off the radio, press and hold ⏻.

4.2 Adjusting the Volume

Rotate the **Smart** knob clockwise to increase the volume, or counter-clockwise to decrease the volume.

4.3 Selecting a Zone

A zone is a group of channels within the same operational area.

To select a zone, press the preprogrammed **Zone Up** or **Zone Down** key.

4.4 Selecting a Channel

The radio receives and transmits voice and data on the selected channel. Before selecting a channel, make sure that the current zone contains the channel.

To select a channel, do one of the following:

- Press the **Smart** knob, and then rotate the knob within 5s.

  NOTE

  If you do not rotate the **Smart** knob within 5s, or if you press it again within 5s, you can rotate it to only adjust the volume.

- Press the preprogrammed **Channel Up** or **Channel Down** key.
- Press the preprogrammed **Preset Channel** key.

5. Status Indications

5.1 OLED Icons

5.1.1 Basic Status

Icon	Radio Status
	The radio detects no signal.
	The number of bars indicates the signal strength.
	The radio is in emergency mode.
	The radio is scanning.
	The radio stays on an active channel.
	The radio stays on Priority Channel 1.
	The radio stays on Priority Channel 2.
	The radio operates in low power mode.
	The radio operates in high power mode.
	More bars indicate more remaining battery power.
	The battery power runs out. Recharge or replace the battery.
	The BT feature is enabled.
	A BT device is connected.
	The GPS feature is enabled, and valid positioning data has been received.
	The GPS feature is enabled, but no valid positioning data has been received.

5.1.2 Operation Mode

Icon	Radio Status
C D	The radio operates on a digital channel in conventional mode.
C A	The radio operates on an analog channel in conventional mode.

5.2 LED Indications

LED Indicator	Radio Status
Flashes green	The radio is being turned on.

LED Indicator	Radio Status
Glows green	The radio is receiving.
Glows red	The radio is transmitting.
Flashes orange slowly	The radio is scanning or roaming.
Flashes orange rapidly	The radio is operating in emergency mode.
Glows orange	Call hang time: No voice is being transmitted or received during a call. Within such a period, you can press and hold the **PTT** key to speak.
Flashes blue every 3s	The BT feature is enabled, but no BT device is connected.
Flashes blue every 1.5s	A BT device is connected.
Flashes blue every 0.1s	The BT feature is being disabled.

6. Call Services

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

6.1 Group Call

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

6.1.1 Initiating a Group Call

Through Preset Contact

Press and rotate the **Smart** knob to select the digital channel preset with a group contact, and then press and hold the **PTT** key.

Through One Touch Call

With the One Touch Call feature preprogrammed by your dealer, press the preprogrammed **One Touch Call** key, and then press and hold the **PTT** key.

6.1.2 Answering a Group Call

You can answer a group call without any operation.

6.1.3 Ending a Group Call

A group call ends when the call hang time expires.

6.2 Private Call

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

6.2.1 Initiating a Private Call

Through Preset Contact

Press and rotate the **Smart** knob to select the digital channel preset with a private contact, and then press and hold the **PTT** key.

Through One Touch Call

With the One Touch Call feature preprogrammed by your dealer, press the preprogrammed **One Touch Call** key, and then press and hold the **PTT** key.

6.2.2 Answering a Private Call

You can answer a private call without any operation.

6.2.3 Ending a Private Call

A private call ends when the call hang time expires.

6.3 All Call

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

6.3.1 Initiating an All Call

Through Preset Contact

Press and rotate the **Smart** knob to select the digital channel preset with the all call contact, and then press and hold the **PTT** key.

Through One Touch Call

With the One Touch Call feature preprogrammed by your dealer, press the preprogrammed **One Touch Call** key, and then press and hold the **PTT** key.

6.3.2 Answering an All Call

You can answer an all call without any operation.

6.3.3 Ending an All Call

An all call ends when the calling party releases the **PTT** key.

6.4 Call on Analog Channel

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

6.4.1 Call Without Signaling

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

On the home screen, press and rotate the **Smart** knob to select the analog channel, and then press and hold the **PTT** key.

6.4.2 Call with Signaling

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

Press the preprogrammed **One Touch Call** key.

7. Supplementary Features

7.1 Profiles

The Profiles feature allows you to set the audio, alert tone, and vibration of the radio to suit your preference and work environments. The profiles include the following:

- General mode: It applies to the low-noise environment, such as a quiet street.
- Meeting mode: It applies to the indoor environment that is relatively quiet.
- Outdoor mode: It applies to the high-noise environment, such as a highway.
- Covert mode: It applies to the special environment where the radio operates without any visible and audible alerts and notifications. The radio uses only the audio accessory to output audio.
- Customized mode: It applies to other specific situations.

To switch the profile, press the preprogrammed **Profiles Switch** key.

7.2 Audio Settings

7.2.1 Switching the Audio Options

You can set the radio to use the microphone or speaker for transmitting and receiving voice. With the audio accessory connected, you can switch the audio options. For details, see the following table.

Option	Description	Operation
Follow PTT	When you transmit voice through the **PTT** key of the radio, the radio uses the internal microphone. When you transmit voice through the audio accessory, the radio uses the external microphone.	● Press the preprogrammed **Mic Set Switch** key to switch the microphone audio option. ● Press the preprogrammed **SPK Set Switch** key to switch the speaker audio option.
Only Internal	The radio uses only the internal microphone and speaker.	
Only External	The radio uses only the microphone and speaker of the audio accessory, such as earpieces and remote speaker microphone.	
External First	When audio accessories are connected, the radio uses the external microphone and speaker. Otherwise, the radio uses the internal microphone and speaker.	

7.2.2 Enabling the Noise Cancellation

The Noise Cancellation feature allows the radio to automatically eliminate ambient noise when receiving or transmitting voice. This feature enhances the voice clarity, while also decreases the volume.

If the feature is preprogrammed, press the preprogrammed **Noise Cancellation** key to enable it.

7.3 Power Level

The Power Level feature allows you to set the TX power level to high or low. High power enables communications with radios far away from you but consumes more battery power. Low power enables communications with radios close to you and saves battery power.

To adjust the power level, press the preprogrammed **Adjust Power Level** key.

7.4 Scan

The Scan feature allows you to listen to activities on other channels, keeping track of your team members. With this feature enabled, the radio scans according to the scan list. The LED indicator flashes orange slowly. When detecting activities on a channel, the radio stays on the channel. The LED indicator glows green.

To enable this feature, press the preprogrammed **Scan** key.

NOTE

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

7.5 Positioning

The Positioning feature allows the radio to collect its location information through GPS. This feature is preprogrammed by your dealer.

NOTE

This feature applies only to radios with GPS.

7.5.1 Voice w/Location

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

This feature is preprogrammed by your dealer, and configured in either of the following ways:

- When you press and hold the **PTT** key to transmit voice, the radio reports its location information at the same time.
- When you press and hold the **PTT** key to transmit voice, the radio reports its location information at regular intervals.

7.5.2 GPS Report

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

You can report the location information in either of the following ways:

- Press the preprogrammed **GPS Report** key.
- Request your dealer to configure the GPS Report trigger as power-on/off, preset time, or distance interval.

  The radio automatically reports the location information according to the trigger.

7.6 BT

CAUTION

- To derive optimal communication quality, it is recommended that the BT devices approved by the Company are used.
- If BT earpieces of other companies are used, you must use them with the wireless ring PTT of the Company. Otherwise, transmission is unavailable through the earpieces.

The BT feature allows the radio to connect to a BT device for short-distance communication and data exchange.

NOTE

The BT feature applies only to radios with the BT module.

7.6.1 Enabling the BT Feature

You can enable the BT feature in either of the following ways:

- Press the preprogrammed **BT** key.

  After this feature is enabled, the LED indicator flashes blue every three seconds.
- Request your dealer to preprogram the BT feature and the BT Always Discoverable feature.

  After power-on, the radio automatically activates the BT feature and stays detectable for other BT devices.

7.6.2 Connecting a BT Device

Before connecting a BT device, check the connectivity between the radio and the BT device.

NOTE

The connectivity is preprogrammed by your dealer through the Customer Programming Software (CPS).

With the connectivity preprogrammed, the radio automatically searches and connects to the BT device.

After successful connection, the LED indicator of the radio flashes blue every 1.5s.

7.6.3 Switching the BT Audio Output

With a BT device connected, you can press the preprogrammed **BT Audio Switch** key to switch the audio output device between BT earpieces and the radio.

7.7 One Touch Call

The One Touch Call feature allows you to quickly initiate a preset service by pressing the preprogrammed **One Touch Call** key.

The following table shows the services that can be implemented by this feature and the corresponding operations.

Service	Operation
On an analog channel, you can initiate a call to a 2-tone contact.	● To initiate a call on a digital channel, press the preprogrammed **One Touch Call** key, and then press and hold the **PTT** key. ● To initiate other services, press the preprogrammed **One Touch Call** key.
On a digital channel, you can do any of the following: ● Initiate a group call, a private call, or an all call. ● Send a quick text message or position message to a private or group contact. ● Initiate an alert call, radio check, remote monitor, revive, or kill service to a private contact.	

7.8 Roam

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

To enable or disable this feature, press the preprogrammed **Roam** key.

7.9 Talk Around

The Talk Around feature allows you to continue communication in direct mode when the repeater malfunctions or the radio is out of the coverage of the repeater.

To enable this feature, press the preprogrammed **Talk Around** key to switch between direct mode and repeater mode.

7.10 Squelch Level

The Squelch Level feature allows you to adjust the squelch level of the radio. The squelch level refers to the squelch threshold required for the speaker of the radio to be turned on. The higher squelch level requires a stronger signal.

To adjust the squelch level, press the preprogrammed **Adjust Squelch Level** key.

7.11 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 release the channel, so as to initiate a new call or a new data service.

This feature includes manual priority interrupt and auto priority interrupt.

7.11.1 Manual Priority Interrupt

Press the preprogrammed **Priority Interrupt** key to interrupt the ongoing activities.

7.11.2 Auto Priority Interrupt

Auto Priority Interrupt includes Emergency Priority Interrupt, Call Back Priority Interrupt, Message Priority Interrupt, Kill Priority Interrupt, and All Call Priority Interrupt.

With this feature preprogrammed by your dealer, you can interrupt an ongoing call in one of the following ways:

- Press and hold the **PTT** key.
- Initiate an emergency call.
- Initiate an all call.
- Send a message.
- Send the Kill command.

7.12 Emergency

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

In emergency mode, the radio transmits at high power level by default. According to the emergency type preset by your dealer, the radio gives different indications. The available emergency types are as follows:

Emergency Type	Description
Siren Only	The radio emits a siren but does not transmit any emergency signal to the control center.
Regular	The radio gives an audible indication.
Silent	The radio gives no audible indication.
Silent w/Voice	The radio gives an audible indication only upon receiving a call. Otherwise, the radio gives no audible indication.
Alarm w/Siren	The radio transmits the emergency signal to the control center, and then emits a siren.

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

Emergency Mode	Description	Note
Call Only	It allows you to initiate an emergency call.	If the emergency type is Siren Only or Alarm w/Siren, you do not need to set the emergency mode.
Alarm w/Call	It allows you to send an emergency alarm and initiate an emergency call.	
Alarm	It allows you to send an emergency alarm.	

7.12.1 Initiating an Emergency Call

Press the preprogrammed **Emergency On** key to initiate an emergency call to the preset contact.

If the Alarm w/Call To Follow feature is preprogrammed by your dealer, you can speak into the microphone without pressing and holding the **PTT** key. If the preset voice cycles expire, you can press and hold the **PTT** key to initiate the emergency call again.

7.12.2 Receiving an Emergency Call

You can answer an emergency call without any operation.

7.12.3 Ending an Emergency Call

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

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

The called party can exit an emergency call in either of the following ways:

- Switch the channel.
- Turn off the radio.

NOTE

With the Send Emergency Exit Message feature preprogrammed by your dealer, you can send an emergency exit message to the receiver when ending an emergency alarm or emergency call initiated by mistake.

7.13 Man Down

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

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

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

To enable this feature, press the preprogrammed **Man Down** key.

7.14 Lone Worker

The Lone Worker feature allows the radio to automatically send an emergency alarm to your companion or the control center in either of the following scenarios:

- You do not operate the radio within the preset time.
- The radio does not transmit voice within the preset time.

You can press the keys, rotate the knob, or transmit voice to exit the emergency mode.

To enable this feature, press the preprogrammed **Lone Worker** key.

7.15 Encrypt

The Encrypt feature provides end-to-end encryption for voice and data to protect your voice and data against eavesdropping.

7.15.1 Enabling the Encrypt Feature

Press the preprogrammed **Encrypt** key.

NOTE

The Encrypt feature is enabled for the current channel. When switching to the current channel, the radio automatically enables encryption.

7.15.2 Setting the Encrypt Feature

To use the encryption services, the transmitting radio and the receiving radio must enable the Encrypt feature simultaneously with matching encryption key. The encryption key is preprogrammed by your dealer.

7.16 Scrambler

The Scrambler feature allows the radio to invert the frequency spectrum of transmitted audio signals. Only the receiving radio with the same Scrambler settings can restore the audio signals. This prevents eavesdropping and ensures communication privacy.

To enable this feature, press the preprogrammed **Scrambler** key.

7.17 Kill and Revive

You can send the Kill command to a private contact to kill its radio. The killed radio is incapable of any function except the remote monitor. The killed radio must be reprogrammed by your dealer or revived by the Revive command for reuse.

You can send the Revive command to a private contact to restore its radio to normal use.

7.18 Emergency Erase Data

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

If this feature is preprogrammed by your dealer, the encrypted data can be erased in the following cases:

- Press **SK1** and then the **PTT** key (within 1.5s) for two times, and then press **SK1** again.
- When the radio is killed, the data in the radio will be erased automatically.

8. Troubleshooting

Phenomena	Analysis	Solution
The radio cannot be turned on.	The battery may be installed improperly.	Remove and reattach the battery.
	The battery power may have run out.	Recharge or replace the battery.
	The battery may suffer from poor contact caused by dirtied or damaged battery contacts.	Clean the battery contacts.
During receiving, the voice is weak, discontinuous, or totally inactive.	The battery voltage may be low.	Recharge or replace the battery.
	The volume may be low.	Increase the volume.
	The antenna may be loosened or installed improperly.	Turn the radio off, and then remove and reattach the antenna.
	The speaker may be blocked or damaged.	Clean the surface of the speaker.
Communications with group members are unavailable.	The frequency or signaling type may be inconsistent with that of other members.	Set your TX/RX frequency and signaling to the same as that of other members.
	The channel type (digital/analog) may be set inconsistently.	Make sure all members are on the same digital/analog channel.
	You may be too far away from the group members.	Move towards other members.
There are unknown voices or sounds on the channel.	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.	Set signaling for all member radios to avoid interference at the same frequency.
There is too much noise and hiss.	The signal may be weak.	Make sure call participants are within the communication range.
	The radio may be in an unfavorable position. For example, the signal may be blocked by tall buildings or frustrated in the underground areas.	Move to an open and flat area, and restart the radio.
	The radio may suffer from external disturbance (such as electromagnetic interference).	Stay away from the equipment that may cause interference.
The LCD does not display any information.	The LCD may fail to function temporarily.	Restart the radio.

Phenomena	Analysis	Solution
The voice is unclear.	The signal may be weak.	Make sure call participants are within the communication range.
The GPS cannot locate your position.	The radio may be at an unfavorable position, so no GPS signal is received.	Move to an open and flat area, and try again.
The BT device cannot be paired.	The battery power of the BT device may be low.	Recharge the BT device.
	The BT device may be too far away from the radio.	Move the BT device towards the radio.

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

9. Radio Care

9.1 Radio

CAUTION

If the radio is seriously wet inside, do not turn on it. Contact your dealer or maintenance center for maintenance in time.

To guarantee optimum performance as well as a long service life of the radio, follow the tips below:

- Do not disassemble the radio.
- Do not throw, crack, or hammer the radio.
- Do not pierce or scrape the radio, espeically the interfaces.
- Do not expose the radio to the extreme temperature.
- Keep the radio away from substances that can corrode it.
- Close the accessory connector cover when no accessory is in use.
- Do not connect the radio to the incompatible device.
- Do not hold the radio by its antenna.

To avoid liquid penetration into the radio, follow the tips below:

- Do not expose the radio to the environment with high temperature and high humidity.
- Keep the radio away from salty water, ionized water, alcoholic beverage, lotion, or other impure water.
- Before connecting the accessory or charger to the radio, ensure the radio and the interface are dry.

If the radio has been wet, follow the tips below:

- Do not turn on the radio.
- Do not connect the accesory or charger to the radio.
- Do not dry the radio by microwave, hair dry, or other external heat sources.
- Do not insert the cotton buds or tissue into the interface.
- Use the clean and soft cloth to dry the water on the radio surface, and then put the radio to the well-ventilated place until it is dry.

9.2 Battery

To guarantee optimum performance as well as a long service life of the battery, follow the tips below:

- Use the approved charger to charge the battery.
- Keep the radio turnned off during charging.

- Do not use the radio during charging.
- Charge the battery under the temperature from 0℃ to 45℃.
- When the low battery alert occurs, replace or charge the battery in time.
- When the battery is fully charged, disconnect the charger in time.
- Do not drop the battery by force.
- Do not make the battery wet.
- To avoid short circuit, do not use the conductive substance such as iron wire to touch the anode and cathode of the battery.

9.3 Cleaning

CAUTION

- Turn off the radio and remove the battery before cleaning.
- Ensure no external devices are connected to the radio.
- Do not use chemical preparations such as stain removers, alcohol, sprays, or oil preparations.
- Do not directly spray the neutral cleanser on the radio.
- Do not use the radio before it is fully dry.
- After cleaning the accessory connector , put the cover back in place.

It is recommended to clean the radio regularly. During cleaning, you can check whether the components are damaged. If damages exist, contact your local dealer or the Company.

1. Use the non-metal brush to clean up the dust or dirt on the radio surface.
2. Use the lint-free cloth with proper neutral cleanser to clean the surface, screen, keys, knobs, and interfaces.
3. Use another lint-free cloth with proper pure water to clean up the cleanser or residue.
4. When cleaning the battery slot, use the non-metal brush to clean up the dust and dirt in the slot, and then use the dry and soft lint-free cloth to clean the contacts.

9.4 Sterilizing

CAUTION

- Turn off the radio and remove the battery before sterilizing.
- Ensure no external devices are connected to the radio.
- Do not directly spray the alcohol on the radio.

- Keep the radio away from the power supply and fire.
- Do not use the radio before it is fully dry.
- After sterilizing the accessory connector, put the cover back in place.

It is recommended to sterilize the radio regularly. You can sterilize the radio by the following tips:

Use the lint-free cloth with proper rubbing alcohol (density ≥ 70%) to clean the radio surface, screen, keys, knobs, and interfaces.

9.5 Storing

CAUTION

- Turn off the radio and remove the battery before storage.
- Ensure no external devices are connected to the radio.

When storing the radio, follow the tips below:

- Keep the radio in the well-ventilated place with the temperature from –5℃ to 25℃ and with the humidity from 45% to 75%.
- Keep the radio away from the acidic and corrosive substances.
- Keep the radio away from the fire or other heat sources.
- Do not store the radio in direct sunlight.
- During storing, charge the battery once every three months, and care the battery once every six months.

10. Optional Accessories

CAUTION

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

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

11. Abbreviations

Abbreviation	Full Name
CPS	Customer Programming Software
GPS	Global Positioning System
IATA	International Air Transport Association
LED	Light-emitting Diode
OLED	Organic Light-emitting Diode
PTT	Push-to-Talk
SK	Side Key

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