

# **Preface**

Thank you for purchasing Hytera TC-508 portable radio. TC-508 is endowed with compact appearance, durable structure, practical functions and reliable performance. It will bring you perfect communication.

To derive optimum performance from your radio, please read this manual and the supplied Safety Information Booklet carefully before use

## Instructional Icons

The following icons are available through this manual:



**Caution:** indicates situations that could cause damage to your radio.



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

## Term Explanation

The following terms will appear through this manual:

### Key Operation

Short press: to press a key and release it quickly.

Long press: to press and hold down a key for above 1 second.

Hold down: to press a key and remain holding it down.

### User Mode

Refers to the mode entered after you turn on the radio directly.

### CTCSS/CDCSS

The signaling can help you prevent unwanted conversations at the same frequency.

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<http://www.hytera.cn>.

## RF Energy Exposure Compliance

- Your radio is designed and tested to comply with a number of national and international standards and guidelines (listed below) regarding human exposure to radio frequency electromagnetic energy. This radio complies with the IEEE and ICNIRP exposure limits for occupational/controlled RF exposure environment at operating duty factors of up to 50% transmitting and is authorized by the FCC for occupational use only. In terms of measuring RF energy for compliance with the FCC exposure guidelines, your radio radiates measurable RF energy only while it is transmitting (during talking in VOX and PTT mode), not when it is receiving (listening) or in standby mode.
- The device complies with SAR and/or RF field strength limits of RSS-102 requirement and contact information where the user can obtain Canadian information on RF exposure and compliance.

### Your radio complies with the following of RF energy exposure standards and guidelines

- United States Federal Communications Commission, Code of Federal Regulations; 47CFR part 2 sub-part J
- American National Standards Institute (ANSI)/Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1992
- Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1999 Edition
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998

### Operational Instructions and Training Guidelines

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

#### Transmit and Receive

To transmit (talk), push the Push-To-Talk (PTT) key; to receive, release the PTT key.

#### EU Regulatory Conformance

The equipment is in compliance with the essential requirements and other relevant provisions of the Directive 1999/5/EC.

**CE 0678** 



Note: The above information is applicable to EU countries only.

## FCC Licensing Information

### Part 15 Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and 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 circuit different from that to which the receiver is connected.
- ✚ Consult the dealer or an experienced radio/TV technician for help.

### FCC Licensing Requirements

A license from Federal Communications Commission is required prior to use. Your dealer will program each radio with your authorized frequencies, signaling codes, etc., and will be there to meet your communications needs as your system expands. Contact your dealer for more information.

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Please unpack carefully and check that all items listed below are received. If any item is missing or damaged, please contact your dealer.



Battery



Rapid-rate Charger (for Li-Ion battery)



Power Adapter



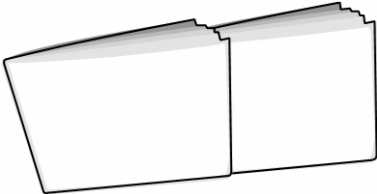
Antenna



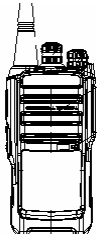
Belt Clip



Strap



Owner's Manual & Safety Information Booklet



Radio Unit

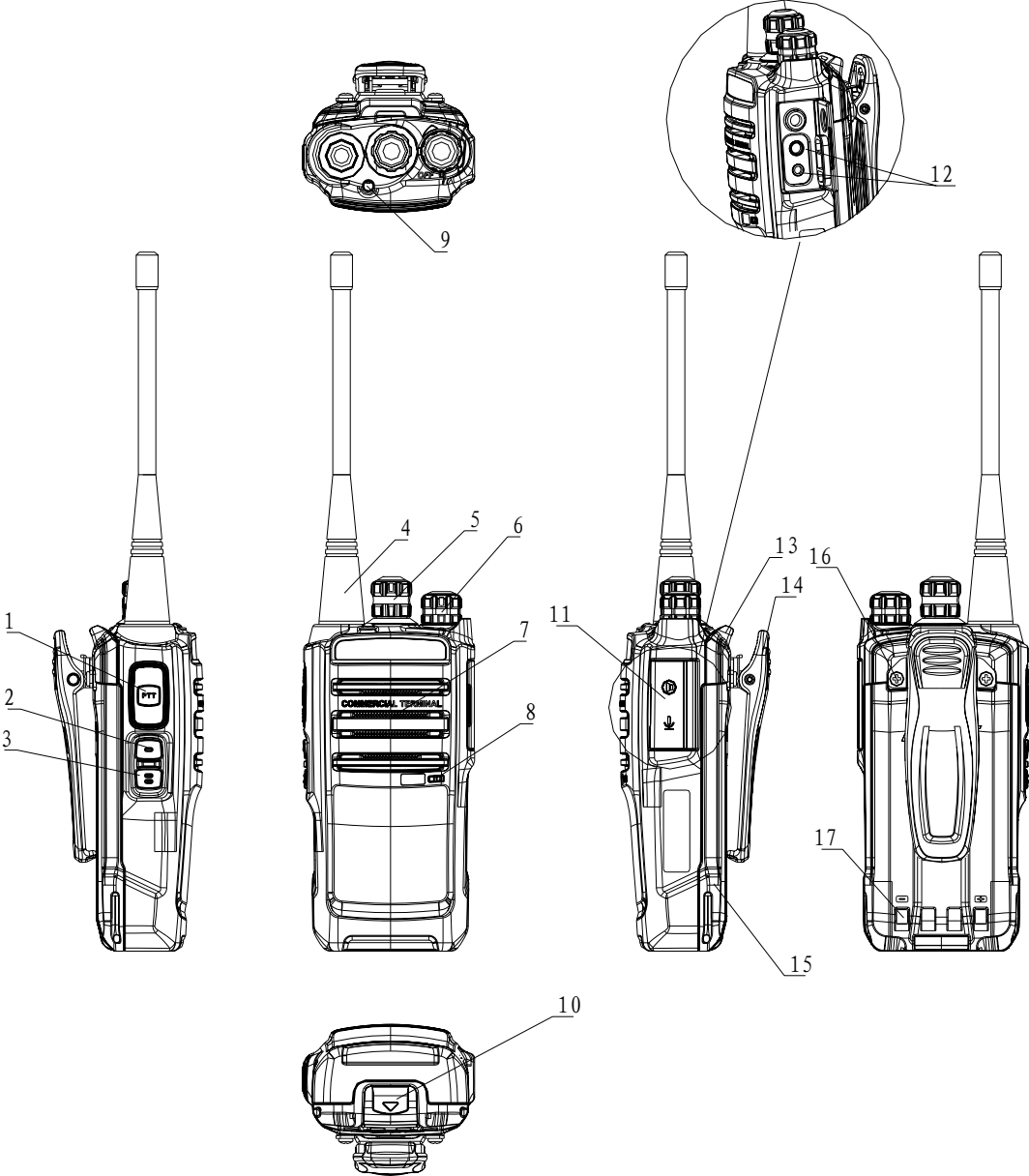


**Note:**

- ✚ The above pictures are for reference only. Actual products may vary slightly.
- ✚ The antenna may vary with different frequency bands. And the frequency band is marked on the label of antenna; if not, please refer to the label on the radio for frequency band information.



Radio Overview



No.	Part Name	No.	Part Name
①	PTT Key	⑩	Battery Latch
②	SK1 (programmable)	⑪	Accessory jack cover
③	SK2 (programmable)	⑫	Accessory Jack
④	Antenna	⑬	Strap Hole



5	Channel Selector Knob	14	Belt Clip
6	Radio On-Off/Volume Control Knob	15	Battery
7	Speaker	16	Screw of Belt Clip
8	Microphone	17	Charging Piece
9	LED Indicator		

## Programmable Keys

For enhanced convenience, you may request your dealer to program the keys **SK1** and **SK2** as shortcuts to the functions listed below:

No.	Shortcut Keys	Function
1	Power Adjustment	To adjust power level through one button press.
2	Monitor	To adjust the condition for incoming signal match
3	Monitor Momentary	
4	Squelch Off	To always unmute speaker no matter whether carrier is present or not
5	Squelch Off Momentary	
6	Scan	To receive signals on other channels.
7	VOX	The radio can automatically begin to transmit when you speak.
8	Battery Power Indicator	To indicate the battery strength
9	Channel Lockout	The current channel can not be switched by rotating the <b>Volume Control / Channel Selector</b> knob.



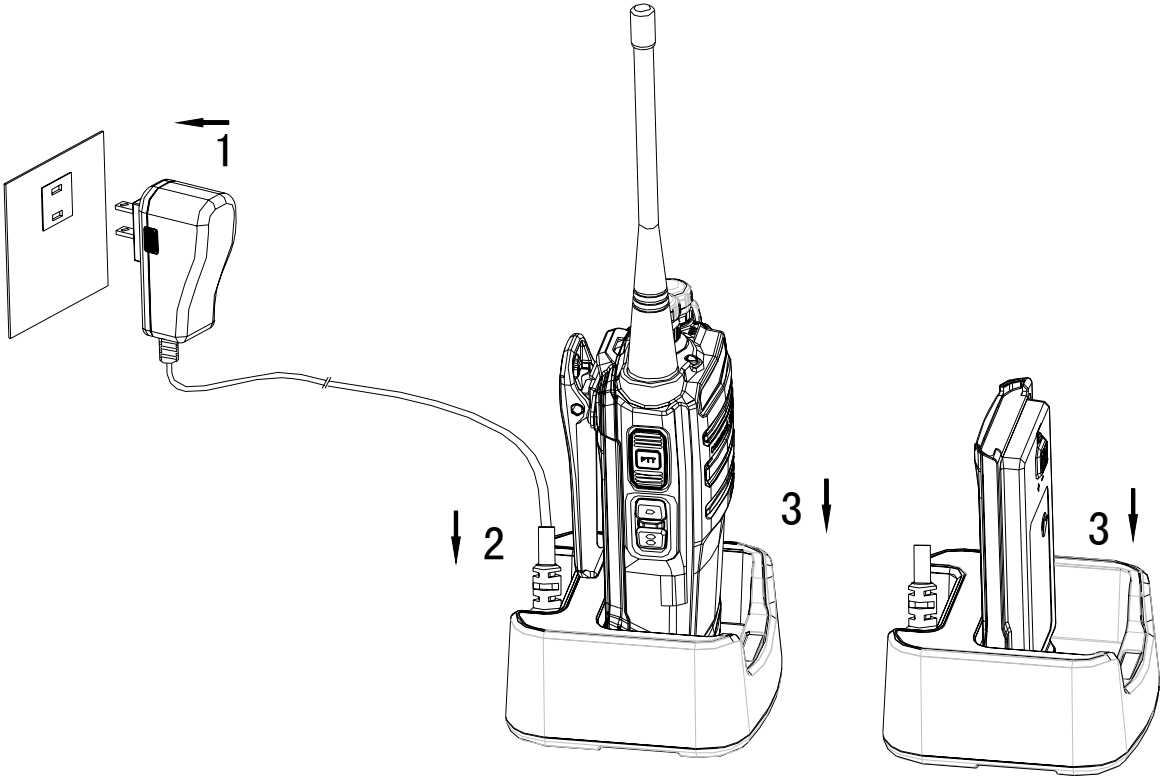
Note: Long and short press of a key can be a different functions by your dealer.



### Charging the Battery

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

■ Charge Diagram



■ Procedures

1. Connect the power adapter to AC source. See arrow 1.
2. Plug the power adapter into the rear socket of the charger. See arrow 2.
3. Place the radio with the battery attached, or the battery alone, into the charger. See arrow 3.
4. The charging process initiates when LED glows red, and is completed when LED glows green.



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

Charge Indicator

LED Indicator	Charge Status
Red LED glows.	Charging
Orange LED glows.	Approximately charged completely
Green LED glows.	Fully charged

When battery power runs low, the LED will flash red, and the low-pitched tone will sound periodically. In this case, please replace or charge the battery.

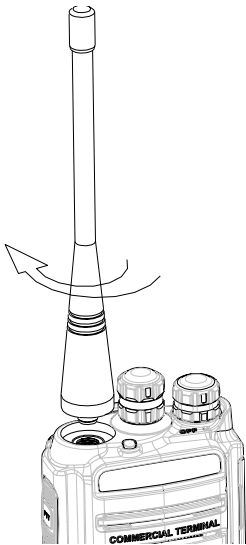


**Caution:** Be sure to read the Safety Information Booklet, to get necessary safety information.

## Assembling the Accessories

### Assembling the Antenna

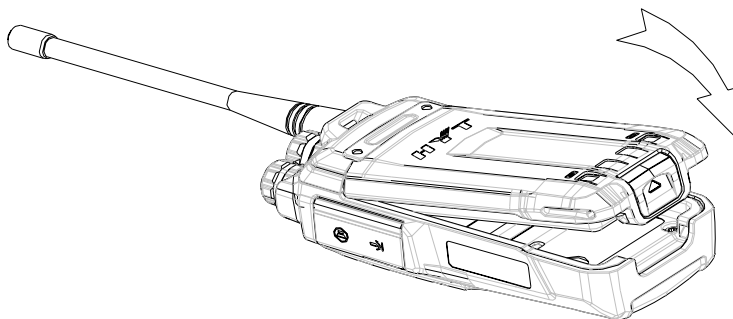
Turn the antenna clockwise to fasten it.



To remove the antenna, rotate it counter-clockwise.

### Assembling the Battery

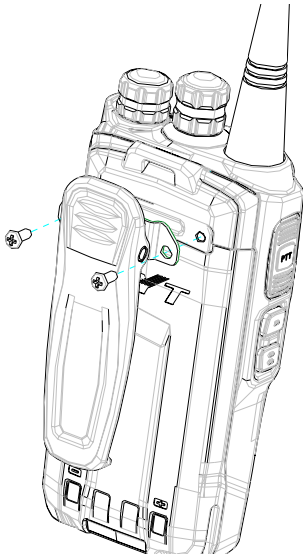
1. Slide the battery into the radio's slot.
2. Slightly press the bottom of the battery until a click is heard.



To remove the battery, turn off the radio first. Slide the battery latch upward to release the battery.

### Assembling the Belt Clip

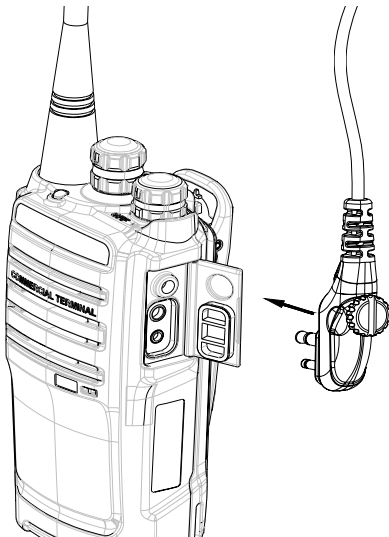
1. Remove the screws.
2. Align the screw holes on the belt clip with those on the radio's body, and then tighten the screws.




To remove the belt clip, loosen the screws.

### Assembling the Audio Accessory/Programming Cable

1. Open the accessory jack cover.
2. Plug an accessory into the accessory jack, and then tighten the screw.



To remove accessories, loosen the screw first.

 **Caution:** When you are using an external accessory, waterproof performance of the radio may get affected.



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

LED Indicator	Radio Status
Red LED glows.	Transmitting
Red LED flashes.	Low battery alert
Green LED glows.	Receiving
Green LED flashes.	Scanning



## Turning the Radio On/Off

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

## Adjusting Volume

You may adjust call volume through the knob. Rotate the knob clockwise to increase the volume, or counter-clockwise to decrease the volume.

## Selecting a Channel

The radio supports up to 16 channels. You can rotate the **Channel Selector** knob to select a desired channel. White mark on the knob corresponding to the channel shall be the current channel.



Note: When the radio is currently on a blank channel, it sounds beep tones continuously.

## Transmitting / Receiving

To transmit a signal, press and hold down the **PTT**, and speak into the microphone. During transmission, the LED glows red.

To receive, just release the **PTT**. When a signal is received, the LED glows green.



**Note:**

- To ensure optimal volume of the receiving radio, hold the palm microphone approximately 2.5 to 5 centimeters away from your mouth.
- Communication range may get affected in rainy days or forest locations.



## CTCSS/CDCSS

CDCSS/CTCSS can be used to prevent unwanted conversations at the same frequency. If CTCSS/CDCSS is set on a certain channel, you can only receive voice calls from radios with matching CTCSS/CDCSS. Otherwise you will receive voice calls from all users operating at the same frequency.

You may request your dealer to program corresponding parameters. For detailed information, please contact your dealer.

## Time-out Timer (TOT)

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

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

## Adjusting the Power Level

With this feature, you may switch power levels quickly. Generally, we recommend you to adopt low power for battery saving. However, if you cannot communicate with radios located at a distant place with low power, please select high power.

### Operation:

Press the programmed **Adjust Power Level** key to switch between high power and low power ( from high power to low power a low-pitched tone sounds; from low power to high power a high-pitched tone sounds).

## Monitor

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

### Operation:

- Press the programmed **Monitor** key to activate this function (an alert tone sounds); press it

again to deactivate the function (the alert tone sounds twice). Or

- Press the programmed **Monitor Momentary** key to activate this function (an alert tone sounds); press it again to deactivate the function (the alert tone sounds twice).

## Squelch Off

This feature allows you to unmute the speaker to receive all audio signals on current channel.

### Operation:

- Press the programmed **Squelch Off** key to activate this function; press the key again to deactivate it. Or
- Press the programmed **Squelch Off Momentary** key to activate this function; release the key to deactivate it.



**Note:** When this function is enabled on current channel, you will hear audio signals (if any); otherwise, background noise will be heard.

## Scan

The function “Scan” allows you to listen to communication activities on other channels so that you can keep a close track of your team members. You can request your dealer to create the scan list.

### Operation:

#### 1. Scan Start

- Press the programmed **Scan** key to activate this function; Or
- Switch to a channel for which the feature “Auto Scan” is enabled via the programming software.



**Note:** The radio will not start scan if there are less than two channels in the scan list.

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

- The LED flashes green during scanning.
- When activities are detected on a channel, the radio will stay on the channel to receive current activities, and the LED glows green.
- If the Talk Back feature is enabled by your dealer, press the **PTT** to reply when the radio stays on a certain channel.



- You can scan the frequently used channel if the priority scan feature is enabled. When staying on a non-priority channel, the radio will keep detecting activities on the priority channel. Once any activity is detected, it will jump to the priority channel immediately. For more information, please contact your dealer.

### 3. Methods to Exit Scanning

- Press **Scan** key again, Or
- Switch to a channel where Auto Scan feature is not enabled; Or
- Turn the radio off.



**Note:**

- ✚ The Scan Start Alert and the Scan End Alert can be enabled / disabled by the dealer.
- ✚ During scanning, the radio will still respond to operation of pressing the following keys: **PTT** key, **Squelch Off** key, **Squelch Off Momentary** key, **Monitor** and **Monitor Momentary** keys.

## VOX

This feature allows you to transmit your voice with no need to press the **PTT**. However, you must employ a dedicated earpiece to realize this function.


**Operation:**

1. Set the **PTT/VOX Switch** on the earpiece to **VOX**;
2. Plug the earpiece into the accessory jack;
3. Press the programmed **VOX** key to activate this function.
4. Speak into the microphone (on the earpiece) to transmit your voice, and transmission will stop automatically when you stop talking;
5. Power the radio off or press the **VOX** key again to deactivate this function.



**Note:**

- ✚ If the **PTT/VOX Switch** on the earpiece is set to **PTT**, you can only transmit by pressing the external **PTT**, no matter whether **VOX** is activated.
- ✚ When the **PTT/VOX Switch** is set to **PTT**, you are not allowed to switch it from **PTT** to **VOX** directly; otherwise, continuous transmission may occur. If continuous transmission occurs unexpectedly, you can restore the radio to normal operation by toggling the switch from **VOX** to **PTT**, or turning the radio off and back on.

 You can select an appropriate VOX sensitivity according to the environment. In case of heavy noises, continuous transmission may occur if VOX feature is activated.

## Battery Strength Indicator

This feature allows you to know the current battery strength.

### Operation:

Press and hold down the programmed **Battery Strength Indicator** key, and the LED glows to indicate remaining battery strength by different colors (see table below). Release the key to exit.

The table lists different colors representing different battery strength levels.

LED Indicator	Battery Strength
Green LED glows.	High
Orange LED glows.	Medium
Red LED glows.	Low

## Low Battery Alert

This feature allows you to know the low battery status. When battery power runs low, the LED will flash red, and the low-pitched tone will sound periodically. In this case, please replace or charge the battery.



**Note:** When the battery strength is insufficient, the programmed **Battery Strength Indicator** key will become unavailable. However, when the battery strength is drained, transmission will be prohibited; if you press **PTT** in such situations, the radio will sound an alert to warn you.

## Channel Lock

The feature is for channel lock, so as to prevent misoperation on the **Channel Selector** knob.

### Operation:

Press the programmed **Channel Lock** key to enable the feature (the alert tone sounds once). To disable the feature, press this key again (the alert tone sounds twice). When this function is enabled, your current operating channel will remain unchanged even if you rotate the **Channel Selector Knob**.



**Note:** This function will be deactivated if the radio is powered off and back on, or it is programmed.

## Battery Save

In Standby mode, when no signal is received / transmitted or no operation (key press) is performed for 10 seconds (programmable), the radio will automatically enter Battery Save mode to reduce power consumption. The radio may exit the Battery Save mode and get activated as soon as any key is pressed or any signal is received.

## Busy Channel Lockout

If enabled via the programming software, this feature can prevent your radio interfering with other transmitting radios on the same channel. When the channel is already in use, the radio will keep beeping and return to RX mode upon pressing the **PTT** key. To stop beeping, please release the **PTT** key.



Phenomena	Analysis	Solution
The product can not be powered on.	The battery may be improperly installed.	Remove the battery and attach it again.
	The battery may run out.	Recharge or replace the battery.
	The battery may suffer from poor contact caused by dirtied or damaged battery contacts.	Clean the battery contacts. If the problem can not be solved, contact your dealer or our authorized service center for inspection and repair.
During receiving signals, the voice is weak, discontinuous or totally inactive.	The battery strength may be too low.	Recharge or replace the battery.
	The volume may be set to a low level.	Increase the volume by rotating the <b>Volume Control</b> knob clockwise.
	The antenna may get loose or may be improperly installed.	Power off the radio, re-install the antenna and power on the radio again.
	The speaker may be blocked or damaged.	Clean surface of the speaker. If the problem can not be solved, contact your dealer or our authorized service center for inspection and repair.
You can not communicate with other members.	The frequency or signaling may be inconsistent with that of other members.	Set your TX/RX frequency and signaling to the same as that of other members.
	The radio may be locked on other channels.	Deactivate the Channel Lock function and switch to your desired channel.
	You may be too far away from the group members.	Move towards other members. And make sure that you are within the communication range.
Irrelevant communication activities or noises are heard 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.
The noise is too loud.	You may be too far away from other members.	Move towards other members, power off your radio and then restart it.
	You may be at an unfavorable position. For example, your communication may be blocked by high buildings or frustrated in the underground areas.	Move to an open and flat area, and restart the radio.
	You may suffer from external disturbance (such as electromagnetic interference).	Stay away from equipment that may cause interference.

If the above solutions can not fix your problems, or you may have some other queries, please contact us

or your local dealer for more technical support.



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

**Product Care**

- Keep the radio far away from substances that can corrode the circuit.
- Do not hold the radio by its antenna or earpiece cable directly.
- Attach the accessory jack cover when the radio is not in use.

**Product Cleaning**

- Clean up the dust and fine particles on the radio surface and charging piece with a clean and dry lint-free cloth or a brush regularly.
- Use neutral cleanser and a non-woven cloth to clean the keys, control knobs and front case regularly. Do not use chemical preparations such as stain removers, alcohol, sprays or oil preparations, so as to avoid surface case damage. Make sure the terminal is completely dry before use.




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



The following items are the main optional accessories for the product, and please consult your local dealer for more other accessories.

			
Li-Ion Battery (1650mAh) BL1719	Li-Ion Battery (1100mAh) BL1102	Vehicle Adapter CHV09	Six-unit Switching Power PS7002
			
Earbud with in-Line PTT & VOX ESM11	Earbud with on-MIC PTT & VOX ESM12	D-earset with Boom MIC & VOX EHM16	D-earset with in-Line MIC & VOX EHM15
			
Nylon Carrying Case (not swivel) (black)	Antenna		

 **Caution:** Note: Use the accessories specified by Hytera only. If not, Hytera shall not be liable for any losses or damages arising out of use of unauthorized accessories.