

## 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:

TF-31X Portable Radio (X may represent 2 or 5).

## Copyright Information

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

## FCC Statement

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

- Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a different circuit to that of the receiver's outlet.
- Consult the dealer or an experienced radio/TV technician for help.

Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Note: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## Compliance with RF Exposure Standards

Hytera's 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), push 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 a Hytera-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 optional accessories of the product.

## IC Statement

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

Après examen de ce matériel aux conformités 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 Industry Canada 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 the following directives: 1999/5/EC or 2014/53/EU, 2006/66/EC, 2011/65/EU, and 2012/19/EU.

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

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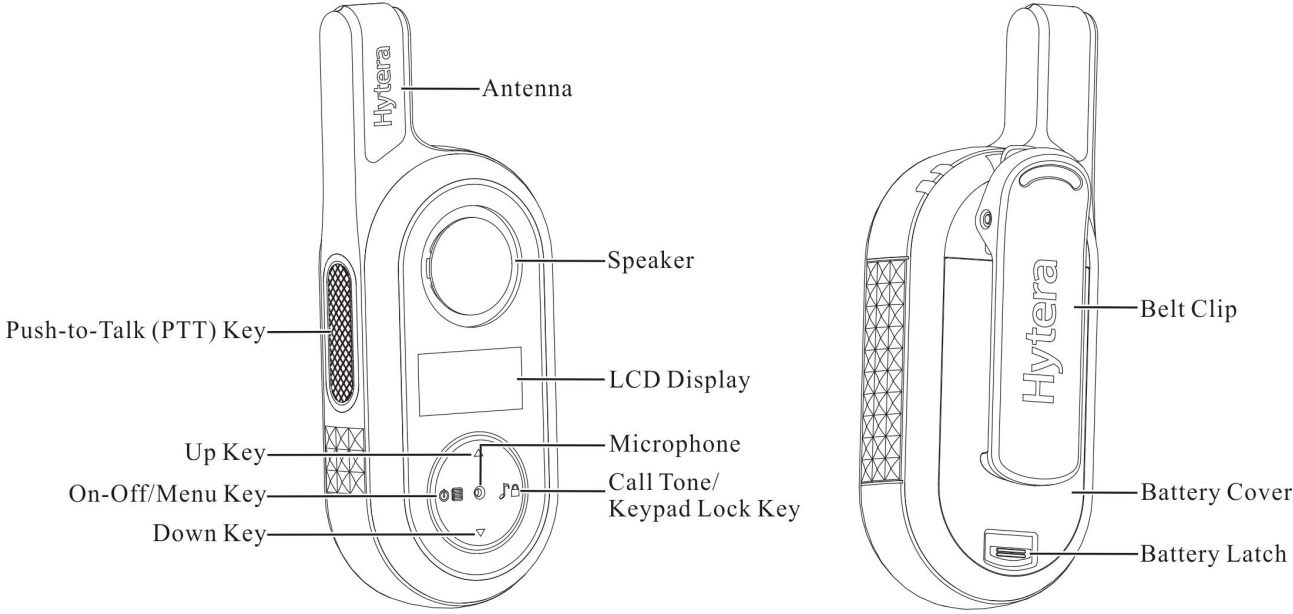
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# 1. Packing List

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

<b>Item</b>	<b>Quantity (PCS)</b>	<b>Item</b>	<b>Quantity (PCS)</b>
Radio	2	Lanyard	2
Belt Clip	2	Documentation Kit	1

# 2. Product Controls



## 3. Getting Started

### 3.1 Inserting Batteries

You need to prepare three AAA alkaline batteries (not included).

To attach batteries, do as follows:

1. Lift the battery latch, and then remove the battery cover.
2. Insert three AAA alkaline batteries following the polarity indicated in the battery compartment.
3. Place the battery cover back in place.

### 3.2 Attaching the Belt Clip

To attach the belt clip, do as follows:

1. Align the rails on the belt clip with the groove on the back of the radio.
2. Press the belt clip downwards into place.

### 3.3 Turning the Radio On/Off

Press and hold the **On-Off/Menu** key to turn the radio on or off.

### 3.4 Adjusting the Volume

On the home screen, press the **Up** key or **Down** key to increase or decrease the volume.

### 3.5 Selecting a Channel

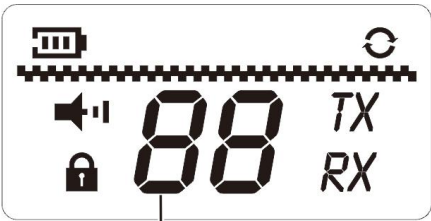
To communicate with other users through these radios, you need to select the same channel as others.

To select a channel, do as follows:

1. Press the **On-Off/Menu** key.  
The channel number flashes.
2. Press the **Up** key or **Down** key to select a channel.
3. Press the **PTT** key to confirm your selection.



# 4. LCD ICONS



Channel Number

Icon	Description	Icon	Description
	Battery		Scan
	Volume Indicator	<i>TX</i>	Transmit
	Lock	<i>RX</i>	Receive

## 5. Call Services

### 5.1 Initiating a Call

To initiate a call, do as follows:

1. Select a channel.
2. Hold the radio vertically 2.5 to 5 cm from your mouth.
3. Press and hold the **PTT** key, and then speak into the microphone.

When transmitting, the radio displays **TX**.

4. When you finish talking, release the **PTT** key.

### 5.2 Receiving a Call

When receiving a call, you can listen to the call without any operation. If you need to speak, wait until the person who is speaking release his/her **PTT** key, and then press and hold your **PTT** key to speak into the microphone.

## 6. Supplementary Features


### 6.1 Keypad Lock

The Keypad Lock feature allows you to lock the keypad to avoid accidental operations when the radio is not in use. In the keypad lock mode, you can initiate calls and turn the radio on or off.

To lock or unlock the keypad, press and hold the **Call Tone/Keypad Lock** key until  appears or disappears on the screen.

### 6.2 Scan

The Scan feature allows you to find someone in your team who has accidentally changed the channel, and can quickly find unused channels for your own use.

To turn on this feature, press the **On-Off/Menu** key for two consecutive times, and then press the **Call Tone/Keypad Lock** key. The radio displays  and begins to scan channels. When detecting activities on a channel, the radio stays on the channel to receive signals. Two seconds after the signal disappears, the radio continues to scan channels.

To turn off this feature, press the **On-Off/Menu** key again.

### 6.3 Monitor

The Monitor feature allows the radio to receive weak signals on the current channel.

To turn on this feature, do as follows:

1. Press the **On-Off/Menu** key for three consecutive times.

The **RX** icon flashes.

2. Press the **Call Tone/Keypad Lock** key.

The radio begins to monitor the channel and receive signals.

To turn off this feature, press the **On-Off/Menu** key.

### 6.4 Call Tone

The Call Tone feature allows you to send a call tone to notify others that you want to talk.

To transmit the call tone, press the **Call Tone/Keypad Lock** key.

## 6.5 Talk End Tone

The Talk End Tone feature allows you to send a talk end tone when you release the **PTT** key. This tone notifies others that you have finished your talk.

To turn on this feature, do as follows:

1. Turn off the radio.
2. Press and hold the **On-Off/Menu** key and the **PTT** key at the same time to turn on the radio.


To disable this feature, do as follows:

1. Turn off the radio.
2. Press and hold the **On-Off/Menu** key to turn on the radio.

## 6.6 Battery Save

The Battery Save feature reduces power consumption of the radio. When the radio does not detect any activity or operation for three seconds, it enters the battery save mode.

## 6.7 Low Battery Alert

When the radio displays , the battery icon flashes to alert that the battery is low. Replace the battery to exit the low battery alert mode.

## 6.8 TOT

The purpose of TOT is to prevent any user from occupying a channel for more than 60 seconds. After 60 seconds, the radio stops transmitting and keeps beeping. To stop beeping, release the **PTT** key.

## 6.9 Auto Squelch

The Auto Squelch feature allows the radio to automatically remove background noise to improve voice clarity during the call.

## 7. Optional Accessories

Contact your local point of purchase for the optional accessories used with the product.

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 **Caution**

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

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## 8. Troubleshooting

Phenomena	Analysis	Solution
The radio cannot be turned on.	The batteries may be installed improperly.	Remove and reattach the batteries.
	The battery power may run out.	Replace the batteries.
	The batteries may suffer from poor contact caused by dirtied or damaged battery contacts.	Clean the battery contacts or replace the batteries.
During receiving, the voice is weak, discontinuous or totally inactive.	The battery voltage may be low.	Replace the batteries.
	The volume level may be low.	Increase the volume.
	The speaker may be blocked.	Clean the surface of the speaker.
You cannot communicate with other members.	The channel may be inconsistent with that of other members.	Set your channel to the same as those of other members.
	You may be too far away from other members.	Move towards other members.
You hear unknown voices or noise.	You may be interrupted by radios using the same channel.	Change the channel code.
You are unable to hear anyone because of too much noise and hiss.	You may be too far away from other members.	Move towards other members.
	You may locate in 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, restart the radio, and try contacting again.
	It could be the result of external disturbance (such as electromagnetic interference).	Stay away from equipment that may cause interference.

Phenomena	Analysis	Solution
You cannot use the keys.	The keypad may fail to function temporarily.	Restart the radio.
The LCD does not display any information.	The LCD may fail to function temporarily.	Restart the radio.

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

# Channels and Frequencies

## TF-312

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	462.5625	12	467.6625
2	462.5875	13	467.6875
3	462.6125	14	467.7125
4	462.6375	15	462.5500
5	462.6625	16	462.5750
6	462.6875	17	462.6000
7	462.7125	18	462.6250
8	467.5625	19	462.6500
9	467.5875	20	462.6750
10	467.6125	21	462.7000
11	467.6375	22	462.7250

## TF-315

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	446.00625	5	446.05625
2	446.01875	6	446.06875
3	446.03125	7	446.08125
4	446.04375	8	446.09375