THANK YOU!

We are grateful for your purchase of HYT product. We believe this easy–to-use radio will provide you with dependable and reliable communications. This HYT portable two-way radio is a precision device. Treat it with care, and you will enjoy years of reliable operation.

MODELS COVERED IN THIS MANUAL

TC3000 VHF Radio
TC3000 UHF Radio

Contents

User Safety, Training, and General Information

READ THIS IMPORTANT INFORMATION ON SAFE AND EFFICIENT OPERATION BEFORE USING YOUR HYT PORTABLE TWO-WAY RADIO.

Compliance with RF Energy Exposure Standards

Your **HYT** two-way 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 (FCC) and ICNIRP exposure limits for occupational/controlled RF exposure environment at duty cycles of up to 50% talk-50% listen and should be used 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), not when it is receiving (listening) or in standby mode.

Note: The approved batteries supplied with this radio are rated for a 5-5-90 duty cycle (5% talk-5% listen-90% standby), even though this radio complies with the FCC occupational RF exposure limits at duty cycles of up to 50% talk.

Your HYT two-way 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) button; to receive, release the PTT button.

Hand-held radio operation

Hold the radio in a vertical position with the microphone one to two inches (2.5 to 5 cm) away from the lips.

Body-worn operation

- Always place the radio in an HYT approved clip, holder, holster, case, or body harness for this product. Use of non-HYT-approved accessories may exceed FCC RF exposure guidelines.

Antennas & Batteries

Use only HYT approved, supplied antenna or HYT approved replacement antenna. Unauthorized antennas, modifications, or attachments could damage the radio and may violate FCC regulations.

- Use only HYT approved, supplied batteries or HYT approved replacement batteries. Use of non- HYT -approved batteries may exceed FCC RF exposure guidelines.

Approved Accessories

For a list of HYT approved accessories, see the accessories page of this user manual or visit the following website which lists approved accessories: http://www.hty.com.cn

Important note: FCC Information

MODIFICATIONS OR CHANGES NOT EXPRESSLY APPROVED BY THE MANUFACTURER COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

IMPORTANT NOTE: To maintain compliance with the FCC's RF exposure guidelines, hold the transmitter and antenna at least 1 inch (2.5 centimeters) from your face and speak in a normal voice, with the antenna pointed up and away from the face. If you wear, the handset on your body while using the headset accessory, use only the manufacturers supplied belt clip for this product and ensure that the antenna is at least 1 inch (2.5 centimeters) from your body when transmitting. To provide the recipients of your transmission the best sound quality, hold the unit at least 5cm (2 inches) from the mouth, and place the antenna slightly off to one side.

 WARNING

Your radio generates radio frequency electromagnetic energy during transmission mode. The radio is designed for and classified as "Occupational Use Only" and must be used by individuals who are properly trained and aware of these hazards and the means in which to minimize such hazards. This radio is NOT intended for use by the "General Population" or in uncontrolled environments.

 CAUTION

To ensure that your exposure to radio frequency electromagnetic energy is within the FCC allowable limits for occupational use, always follow these guidelines:
DO NOT operate the radio without a proper antenna attached, as this may damage the radio and increase your RF exposure. A proper antenna is supplied with the radio by the manufacturer or an antenna specifically authorized by the manufacturer for use with this radio.
DO NOT transmit for more than 50% of the total radio use time (this is a maximum 50% duty cycle radio). Transmitting more than 50% can cause FCC RF exposure compliance requirements to be exceeded. Pressing the PTT switch enables the radio to transmit.
ALWAYS use ONLY authorized accessories with this radio. Use of unauthorized accessories can cause the FCC RF Exposure compliance requirements to be exceeded.

FCC 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 Requirements

Your radio must be properly licensed Federal Communications Commission prior to use. Your HYT Wireless dealer can assist you in meeting these requirements. 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.

Precautions

- Only qualified technicians are allowed to maintain this product.
- Do not use the radio or charge a battery in explosive areas such as coal gas, dust, steam, etc.
- Switch OFF the radio while refueling or parking at gas station.
- Do not modify or adjust this radio without permission.
- Do not expose the radio to direct sunlight over a long time, nor place it close to heating source.
- Do not place the radio in excessively dusty, humid areas, nor on unstable surfaces.
- Stubby antenna especially suits communication in close quarters, while long and fine antenna provides better communication quality and avoids any uncomfortableness when wearing the radio on waist.
- The communication range will be impacted in rainy or cloudy days or when you are in forest.

Safety: It is important that the operator is aware of and understands hazards common to the operation of any radio.

Product Inspection

Thank you for your use of HYT portable two-way radio TC3000. Before use, you are recommended to inspect the product as follows.

First check the shipping carton for any signs of damage. If any damage has occurred, please contact your dealer immediately. Confirm the supplied product against the packing slip to assure accuracy.

Available Accessories

Item	Qty. (pcs)
Antenna *	1
Belt Clip	1
Strap	1
Battery	1
Desktop Charger	1
AC Adapter	1
Declaration of Conformity*	1
Owner's Manual	1

*Notes:

① Frequency is marked on the color circle of the antenna.

Red circle indicates UHF and green indicates VHF.

If frequency is not marked on the color circle, please refer to the label on the main unit for details.

② Only available for European market.

Battery Information

■ Initial use of the battery

The battery is not fully charged at the factory. Please charge the new battery before initial use. In general, the battery should be charged for 12 hours before initial use, which is suitable for Ni-Cd, Ni-MH or Li-ion battery charged with slow or rapid charger. It is recommended to take this step during the first three times of use. When the battery power is low, it needs to be charged.

Applicable Battery Packs

Charge only the HYT approved battery packs. Other batteries may burst and cause personal injury.

Safety attention

1. Conductive metals including jewelry, key, etc, may result in short circuit, discharge, generation of a large quantity of heat, or leakage when coming into contact with battery contacts or electrodes. To avoid damage to articles or human injury, treat any battery with care.

2. Do not short out the battery terminals or dispose of the battery in fire. Never attempt to disassemble the battery. If discarded, the battery should be thrown into dedicated battery recycle box.

Normal operation

★ Please charge the battery indoor to ensure the optimal charging effect.

★ In general, the battery can be removed if the charger indicator turns from red to green.

★ Turn off the radio when charging the battery inside the radio.

★ Do not charge the battery if its power hasn't been used up (if the power used up, the radio will give alert tone), otherwise, the battery life will be shortened.

★ Do not return fully charged batteries to the charger for an "extra boost". This action will significantly reduce cycle life.

To prolong battery life

★ Battery performance will be greatly decreased under -20℃ temperature. Please use back-up battery in cold weather. The cold battery unable to work in this situation may work under room temperature, so keep it for later use.

★ The dust on the battery contact may affect the life cycle of the battery. Please use clean dry cloth to wipe it before the insertion of the battery into the radio.

Battery storage notice

1. Due to the self-discharge, the battery which will not be used for a long time should

be stored after full charge to avoid the damage to the battery because of over-discharge.

2. Take out the battery stored for about 6 months to charge it, to avoid the influence of electrolyte over-discharge on battery capacity.

3. Notice the ambient humidity and temperature for the battery storage. Please store it in cool dry area with room temperature, to decrease self-discharge.

Battery charging

When radio LED flashes red and three Beeps sound every 30 seconds after the battery is installed, that means battery power is low. Please charge the battery.

You are recommended to use HYT-approved, supplied charger; Charger LED will indicate the charging status.
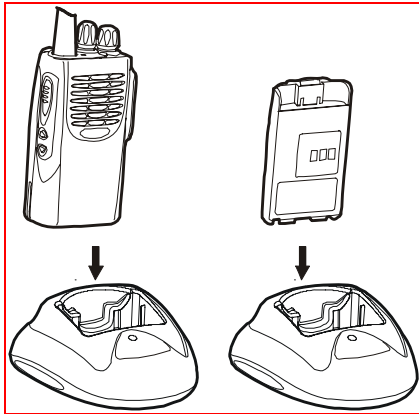
LED	Indication
Flashing red	Low battery voltage
Red	Charging
Green	Fully charged

1. Plug the power cable into the adapter.
2. Plug the DC socket of adapter into the DC jack on the rear of the charger.
3. Insert the battery or the radio with battery into the charger cup.
4. Plug the AC socket of adapter into an AC outlet.
5. Make sure that the battery connectors are in contact with the charging terminals; the charger LED glows red and charging begins.
6. The charger LED glows green when the battery is fully charged in about 3 hours, please remove the battery or the radio with battery from the charger.

*Notes: Charger LED may flash red if you put the battery into the charger, which is a normal pre-charge process for the charger to protect the battery when the battery power is low. It will turn to normal charge status (glow red) after 30 seconds.

Accessory Installation

Battery

Attach the battery

Insert the two tabs on bottom of the battery into the slots at the bottom of the radio. Push top of the battery towards the radio until a click is heard. (See figure 1)

Fig.1

Remove the battery

Turn off the radio. Push the battery latch on the middle of the radio to remove the upper side of the battery away from the radio. And then remove the battery. (See figure2)
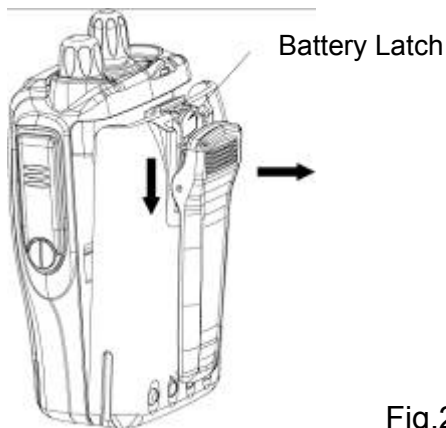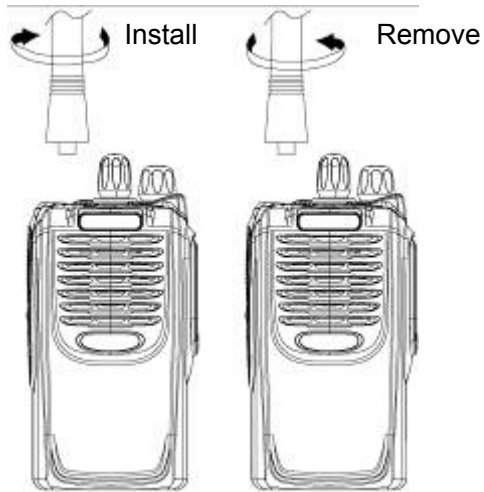
Battery Latch

Fig.2

Antenna

Insert the threaded end of the antenna into the connector on top of the radio. Rotate the antenna clockwise to fasten it. (See the following figure)

Rotate the antenna counterclockwise to remove it. (See the following figure)

Install   Remove

Belt Clip

Attach Belt Clip

Align the slot of the belt clip with the T-slot at the battery cover and press the belt clip downwards until it is locked. (See figure 3)
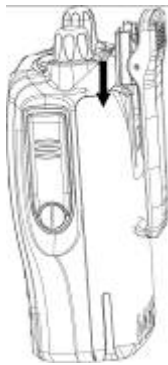

Fig.3

Remove the belt clip

Press the disassembly release upwards with a key until it releases and then push the belt clip upwards with your thumb to remove it. (See figure 4)
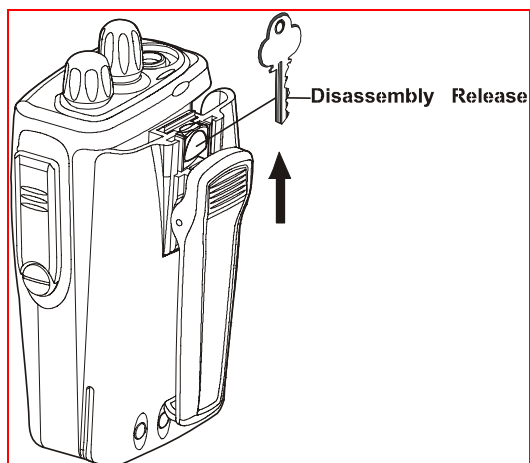

Disassembly Release

Fig.4

Earplug Cover

Rotate the screw at the bottom of the cover counter clockwise by a screwdriver until it is out of the nut to remove the Earphone/Microphone jack cover. (See figure 5)
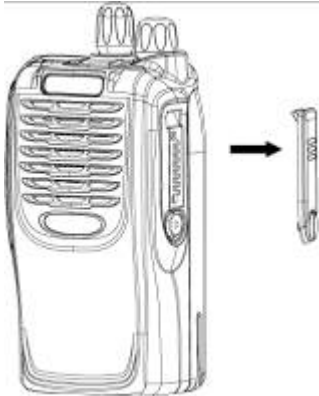

Fig.5

External Earphone/Microphone (Optional)

Insert the tab at the bottom of the earphone/microphone into the slot on top of the radio. (See figure 6). Align the nuts at top of the earphone/microphone with the holes on the radio and then turn them clockwise to fasten.
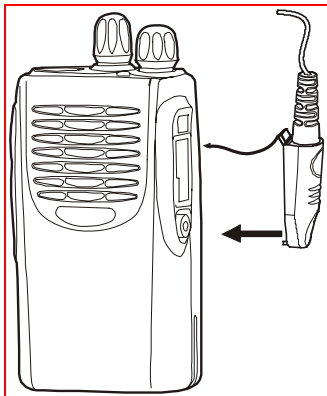

Fig.6

Getting Started
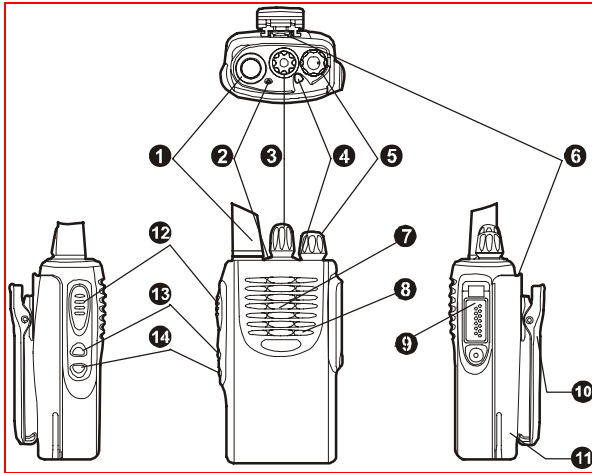
(1) Antenna

Used to transmit/receive signals.

(2) LED

Following table indicates LED indication and corresponding radio status.

LED	Status
No display	Standby
Green	Receive
Red	Transmit
Flashing green	Scan
Flashing red	Low battery voltage
Flashing orange	Call waiting

(3) Channel Selector

Used to select wanted channel.

(4) Programmable key [A]

(5) Power/Volume Control Knob

Rotate the Power/Volume Knob clockwise until a "click" is heard to turn the radio on, fully counter clockwise to turn the radio off. When the radio is on, turn the knob to adjust volume.

(6) Battery Latch

Used to fasten the battery.

(7) Speaker

Used to output sounds.

(8) Microphone

Used to input sounds.

(9) External Jack

Used to connect with external earphone or programming cable.

(10) Belt Clip

Used to clip the radio on your belt.

(11) Battery Pack

(12) PTT key

Press and hold PTT, radio operates in transmit mode. Release PTT, radio returns to receive mode.

(13) Programmable Key [B]

(14) Programmable Key [C]

The following table shows the key function when

1. Short press;
2. Long press;
3. Hold down and monitor.

Key function

Key Function	Short Press	Long press	Hold Down
Emergency Siren	Enable emergency siren	Disable emergency siren	—
Monitor	—	—	Monitor
Scan	Enable/Disable scan	Enable/Disable scan	—
Nuisance Delete	Delete nuisance channel in scan	Delete nuisance channel in scan	—
Select High/Low Power	Select High/Low Power	Select High/Low Power	—
Repeater/Talk Around	Select Repeater or Talk Around Mode	Select Repeater or Talk Around Mode	—
Repeater/Reverse Frequency	Select Repeater or Reverse Frequency Mode	Select Repeater or Reverse Frequency Mode	—
Music Call	Transmit a Music Call	Transmit a Music Call	—
Call 1	Transmit selective call signalling (2-Tone, HDC, DTMF)	Transmit selective call signalling (2-Tone, HDC, DTMF)	—
Call 2	Transmit selective call signalling (2-Tone, HDC, DTMF)	Transmit selective call signalling (2-Tone, HDC, DTMF)	—
Vibration	Toggle vibration on/off	Toggle vibration on/off	—

Please contact your dealer for more details about programmable key. Functions are subject to addition without prior notice.

Features and Operation

Note:

TC3000 provides a series of audible alert tones. A series of tones may be sounded with the following conditions:

Alt ☐   Bourdon ■

Operation	Description	Audible Tone
Turn on the radio	Power on-Ready	
Turn on the radio	Power on-Failure	
Repeater/Talk Around	Repeater	
Repeater/Talk Around	Talk Around	
Repeater/Reverse Frequency	Repeater	
Repeater/Reverse Frequency	Reverse Frequency	
Select Power	High Power	
Select Power	Low Power	
	Low Battery Alert Tone	
	Idle Channel Tone	
	PLL Unlock Tone	

Turn On/Off the Radio

Rotate "Power/Volume" knob clockwise. An alert tone indicates that the self-test of the radio has been completed satisfactorily. LED glows green at the same time. If self-test fails and/or the selected channel is not set, you will also hear an alert tone.

Rotate "Power/Volume" knob counterclockwise until a click is heard to turn the radio off.

Adjust the Volume

Rotate "Power/Volume" knob to adjust the volume.

Select Channel

TC3000 provides 16 conventional channels. Some of the channels may be not programmed and can't be used. Please contact your dealer for more details.

Rotate "Channel Selector" knob to select wanted channel.

Transmit

1. Turn on the radio.

2. Rotate "Channel Selector" knob to select wanted channel.

3. Press PTT and speak into the microphone with your mouth 2.5-5 centimeters away from the radio. LED glows red during transmission.

4. Release PTT key to finish speaking.

Receive

1. Turn on the radio.

2. Rotate "Channel Selector" knob to select wanted channel.

3. Adjust the volume.

4. Then you can receive a valid call. LED glows green during receiving.

Monitor

1. Press MONI key to monitor the current channel.

2. Release MONI key to exit.

Repeater/Talk Around

When the repeater doesn't work or you are out of the communication range of the repeater and within the communication range of your group member, you can bypass the repeater and talk directly to your group member.

Press programmed "Repeater/Talk Around" key to select between repeater and talk around mode. An alert tone indicates that radio operates in talk around mode. A different alert tone indicates that you are talking via a repeater.

Repeater/Reverse Frequency

When you are out of the communication range of the repeater and within the communication range of your group member, you can talk with your group member by reverse frequency if your group member is within the communication range of the repeater.

Press programmed "Repeater/Reverse Frequency" key to select between repeater and reverse frequency. An alert tone indicates that radio operates in reverse frequency mode. A different alert tone indicates that you are talking via a repeater.

Note: "Repeater/Talk Around" and "Repeater/Reverse Frequency" can't be set simultaneously in one radio.

Selectable Power

Each channel of the radio is set as different power levels that are user selectable. (High power is forbidden in certain channels).

1. High power allows your talk to be heard from further distance.

2. Low power helps to save battery power.

Press programmed "power select" key to select high/low power. An alert tone indicates that the radio operates at high power and another alert tone indicates low power.

Scan

Scan feature allows you to monitor all channels.

When scan feature is enabled, the radio will detect all channels. If an active channel is detected, the radio will remain on that channel and you will be able to hear the conversation.

Disable/Enable Scan Feature

1. Press scan key, scanning begins.

2. Press scan key again, scanning ends.

LED flashes green in scan mode.

Callback

Pressing PTT during scanning can callback on the callback channel. Please contact your dealer for more details about callback channel.

Nuisance Delete

Nuisance delete feature allows you to temporarily delete an unwanted channel from the scan list.

When the radio stops on the nuisance channel, press the programmed "nuisance delete" key until an alert tone is sounded to delete this channel.

When scan feature is enabled again. The deleted channel will return to the scan list.

Note: Priority channel can't be deleted.

Priority Channel Scan

This feature allows you to scan important channels. The dealer can program a channel as priority channel through the programming software. Please contact your dealer for more details.

Note: The radio will constantly monitor the priority channel when it stops on a non-priority channel. If an activity is detected on the priority channel, the radio will move to and remain on the priority channel.

Music Call

Press the programmed Music call key, the radio will sound a series of rings to call and wake the radio that has the same channel and signaling to draw the user's attention.

Emergency Siren

The radio can be programmed to transmit emergency ANI or emit emergency siren.

1. Press Emergency Siren key to activate Emergency Siren feature.

2. Press and hold Emergency Siren key to disable Emergency Siren feature.

VOX Feature

VOX feature can be programmed to the radio by your dealer through the programming software. Plug an earphone into the radio to enable VOX feature.

1. VOX feature enables you to transmit automatically by speaking into the microphone.

2. Transmission stops automatically when you stop speaking.

3. Press PTT to disable VOX feature.

4. Turn the radio on again, VOX feature will be activated.

Built-in Modem

MSK modulator with speed of 1200/2400bit/s inside the radio supports data transmission. Please contact your dealer for details.

Low Battery Alert

When the battery voltage becomes low, the red LED will flash and beeps sound. You need to replace or recharge the battery.

2-Tone/HDC1200 Selective Call

The radio can call selected radios if selective call feature is enabled. Selective call signalling includes 2-Tone and HDC signalling.

✧ 2-Tone

The radio enters call waiting mode when transmission ends or at receiving a valid selective signalling. The LED flashes orange in call waiting mode. The radio will exit from the call waiting mode when the call waiting reset time elapses, the MONI key is pressed, or when the channel selector knob is rotated.

Please refer to your dealer for details.

✧ HDC1200

HDC1200 is a kind of digital signalling achieved via MSK modulation. Both ordinary call and system call are available via HDC1200. Ordinary call is divided into selective call and alert call, including individual call, group call, fleet call and broadcast; While system call refers to such calls in which a system is involved as stun, revive and radio check.

System Call

Stun

An authorized radio may remote stun other radios, causing it can receive revive signalling only, but cannot transmit or receive any other signals.

Revive

An authorized radio may remote revive a stunned or killed radio.

Radio Check

The control center or an authorized radio may send a safety check message to radios. The target radio automatically sends a transpond at receiving it.

Ordinary Call

Individual Call: Call between two individual radios.

Group Call: A call generated by an individual radio to a radio group.

Broadcast: A unidirectional call generated by an individual radio to a whole system.

You need to do some settings via programming software to use HDC1200.

➢ Select HCD1200 in "Optional Signalling" box in channel edit window. And select corresponding call list for CALL1 and CALL2.

Set the selected system and call list.

Set the programmable keys for CALL1 and CALL2.

Set the squelch mode (logic relationship).

➢ As for individual calls, Caller Zone ID should be set the same as receiver Primary ID in programming software. Both the caller and receiver will share the same response when caller Primary ID and receiver zone ID are the same.

➢ As for system call, it is default as Individual call with response. The receiver responds with its primary ID to the caller if the caller Zone ID and receiver Primary ID are the same.

The operation mode in squelch mode is same as that of other optional signalling.

Please refer to your dealer for details.

Troubleshooting Guide

Trouble	Solution
No power	● Battery may be used up. Please replace or recharge the battery. ● Battery may not be attached properly. Remove the battery and attach again.
Power doesn't last long even if fully charged.	● Battery life cycle is over. Please replace it with a new one.
Can't talk to or hear other users in your group.	● Make sure you are using the same frequency and CTCSS tone as other users in your group. ● Other users may be too far away. Make sure you are within the communication range.
Voice of other users (non-group user) appears on the channel.	● Please change your CTCSS tone. Be sure to change the tone on all the other radios in your group.

Care and Cleaning

✧ Do not carry your radio by the antenna or remote microphone;

✧ Wipe the battery with a lint-free cloth to remove dirt, grease, or other material that may prevent good electrical connection;

✧ When not in use, keep the accessory jacks covered with the protective caps;

✧ Clean the shell, controls and keys of your radio with neutral detergent and warm water after a long period of usage. Avoid using strong chemicals.

Optional Accessories

Dual Pocket Rapid Charger CH20L01
(for Li-Ion batteries)

Multi-unit Charger MCL01
(for Li-Ion batteries)

Remote Speaker Microphone SM08N1

Receive-only Earpiece with Transparent Acoustic Tube (use with Remote Speaker Microphone SM08) ESS04

Receive-only Earpiece (for use with Remote Speaker Microphone SM08) ESS01

Switch Power (exclusive to dual pocket rapid charger) PS2001

Earbud with in-line VOX ESN01

Earbud with Transparent Acoustic Tube EAN01

Earset with Boom Mic & in-line VOX EHN02

Earset with in-line Mic & VOX EHN01

Throat-vibrating Earpiece with Transparent Acoustic Tube ELN01

Headset ECN02

Leather Carry Case (applicable to TC3000 series) LCBN09

Transparent Waterproof Bag LCBY03

Chest Pack LCBN03

Frequency Chart

Model:

Serial Number:

Channel	Transmit Frequency	Transmit CTCSS	Receive Frequency	Receive CTCSS
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

Key Function Table

Key	Briefly Press	Press and Hold
Key A		
Key B		
Key C		

HYT endeavor to achieve the accuracy and completeness of this manual, but cannot guarantee its accuracy at all times. All the above specifications and design are subject to change by HYT without notice.

All the reproduction and translation of this manual without authorization of HYT is not allowed.