

THANK YOU!

We are grateful for your purchase of HYT product. We believe this easy-to-use radio will provide you with clear and reliable communications in high efficiency. 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

TC700 VHF Two-way Radio

TC700 UHF Two-way Radio

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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.

SAR measured values of body-worn is 3.52 mW/g and face-held is 2.29 mW/g.

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.HYT.com.cn>

FCC Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to 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

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.

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

Product Inspection

Please carefully unpack the radio. Before use, it is recommended that you inspect the product as follows.

First check the shipping carton for any signs of damage. Confirm the supplied product against the packing slip to assure accuracy. If any items are missing or have been damaged during shipment, please file a claim to the carrier immediately.

Supplied Accessories

Item	Qty. (PCS)
Antenna *	1
Battery	1
Desktop Charger	1
Power Adapter	1
Strap	1
Belt Clip	1
Screw (belt clip)	2
Owner's Manual	1
Warranty Card	1
Declaration of Conformity	1

*Note: 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.

Battery Information

Battery Charging Information

The battery is not charged at the factory. Batteries must be fully charged before initial use or if they have not been used for some period of time. The battery capacity will be optimum only after being charged/discharged for two or three times. When the battery power is low, it either needs to be charged or replaced with a new one.

Applicable Battery Packs

Charge only the battery packs listed below. Other types of batteries may burst, causing personal injury.

BL-700A (7.2V 1700mAh)

BL-700B (7.2V 1700mAh)

Notes:

1. Do not short out the battery terminals or dispose of the battery by fire.
2. Never attempt to disassemble the battery.
3. Charge the battery in 5 to 40°C temperature, otherwise the battery can't be fully charged.
4. Turn off the radio before charging. Using the radio while charging its battery will interfere with correct charging.
5. Do not pull/plug the adaptor and the battery in the charging process to avoid interfering with the charging phase.
6. When the battery operating time decreases even though it is fully and correctly charged, that means the battery life is over, please replace it with a new one.
7. Do not recharge the optional Ni-MH battery if it is already fully charged, otherwise, the battery life will be shortened or damage may be caused.

WARNING: Conductive metals including jewelry, key, decorating lace may result in short circuit and generate a large quantity of heat when coming into contact with battery electrodes. To avoid damage to articles or human injury, treat any battery with care, especially when placing it into pocket, wallet or other mental containers.

Charging the Battery

When radio LED flashes red and three Beeps sound within 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	Status
Red LED glows	Charging
Green LED glows	Done

1. Plug the power cord into the adapter. (See Fig. 1)

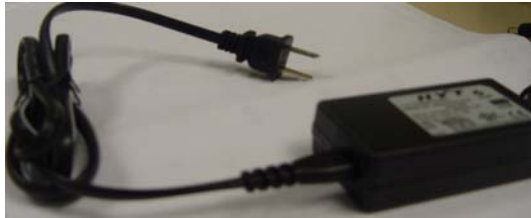


Fig. 1

2. Plug the DC socket of adapter into the DC jack on back of the charger. (See Fig. 2)



Fig. 2

3. Insert the battery or the radio with battery into the charger cup. (See Fig. 3)



Fig. 3

4. Plug the AC socket of adapter into an AC outlet. (See Fig. 4)



Fig. 4

5. Make sure the battery is well connected with the charger connectors; when charging starts, the red LED glows.
5. The green LED glows 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 if you connect the charger to power source before inserting the battery.

*After removing the battery from charger, do not insert the battery or another one into charger until charger LED glows green.

* When battery and charger connector are well connected, charger LED will solidly glow red in charging mode and flashes when the battery is damaged or ambient temperature is over high or over low.

Accessory Installation

Attaching the Battery

1. Push the battery along the guide on back of the radio until the battery latch at the bottom of the radio locks.

Removing the Battery

1. Turn off the radio.
2. Pull back the battery latch.
3. Slide the battery away from the radio.

Attaching the Antenna

1. Screw the antenna into the connector on the top of radio by holding the antenna at its base.
2. Turn the antenna clockwise to fasten it.

Removing the Antenna

1. Turn the antenna counter-clockwise until you can remove it.

Attaching the Belt Clip

1. Align the screw eyelets of belt clip holder with those of radio chassis.
2. Use the supplied screws to lock it.

Removing the Battery Clip

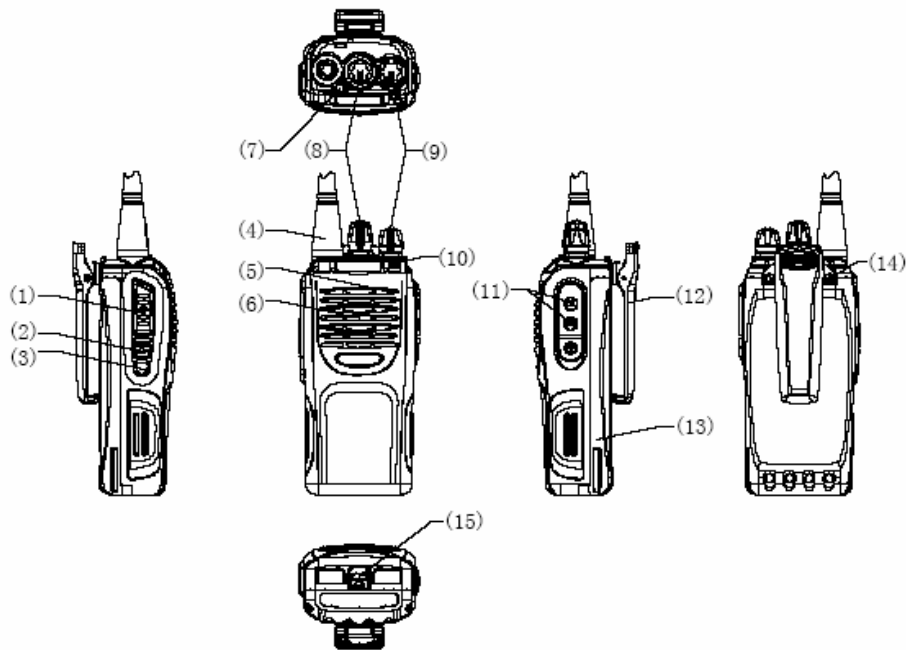
1. Loosen the screw to remove the belt clip.

Attaching Remote Earphone/Microphone

1. Unclose the cover of the earphone/microphone jack (no need to remove it);
2. Insert the earphone/microphone plug into the jack.

Note: The radio is not fully water resistant while using remote earphone/microphone.

Getting Acquainted



(1) PTT Key

- To transmit, hold down the PTT key and speak into the microphone; Release it to receive.

(2) SK1 (Side Key 1)

- Programmable key

(3) SK2 (Side Key 2)

- Programmable key

(4) Antenna

(5) Microphone

(6) Speaker

(7) TK (Top Key)

- Programmable key

(8) Channel Selector Knob

- Rotate the knob to select channel 1-16.

(9) Power/Volume Control Knob

- Rotate the knob clockwise until a “click” sounds to turn on the radio; Rotate it counter clockwise to turn off the radio. When the radio is on, turn the knob to adjust

the volume.

(10) LED Indicator

Radio status is indicated by LED state/color or alert tone.

Indication		LED State/Color	Alert Tone
User Wired Clone Mode	Power on	Flash orange twice	
	Source radio during cloning	Solidly glow red	
	Target radio during cloning	Solidly glow green	
Special Wired Clone Mode	Power on	Flash orange three times	
	Source radio during cloning	Solidly glow red	
	Target radio during cloning	Solidly glow green	
Wireless Clone Mode	Power on	Flash orange once	
	Source radio during cloning	Solidly glow red	
	Target radio during cloning	Solidly glow green	
Manual Adjust Mode	Power on	Flash red twice	
	Switch to wideband	Flash red once	
	Switch to F1	Flash green once	
	Select adjustment item group	Group 1: flash orange once Group 2: flash orange twice	
All Reset Mode		Flash green twice	
Power on in User Mode		Flash green once	
Low Battery Alert		Solidly glow red	three Beeps every 30s
Transmit		Glow red	
Receive		Glow green	
Scan		Flash red once every second	
Read/Write	Read	Glow red	
	Write	Glow green	
DTMF/PTT ID/2Tone /5Tone Transmit	Transmitting	Glow red	
	Done	Glow orange	
2Tone/5Tone Decode		Flash orange when decoding is completed	
High/Middle/Low Power	1W		one Beep
	2.5W		two Beeps

	4W		three Beeps
Programmable Key	Enter		one Beep
	Exit		two Beeps

(11) Speaker/Microphone Jack

(12) Belt Clip

(13) Battery

(14) Screws (belt clip)

(15) Battery Latch

Programmable Auxiliary Functions

Your dealer can program each of the TK, SK1, SK2 keys with one of the following auxiliary functions. Please refer to their descriptions in “Advanced Operation”.

- None (No Function)
- [Call1/Call2](#)
- Emergency
- Emergency Cancel
- Lone Worker
- Man Down (optional)
- [Monitor Toggle](#)
- Monitor Momentary
- Nuisance Temporary Delete
- Nuisance Delete
- SQL Check & Adjust
- Scan
- [Scrambler](#)
- [Scrambler with Back Up](#)
- Squelch Off
- Squelch Off Momentary
- Talk Around
- Power Check & Adjust
- Whisper
- [VOX](#)
- Battery Power Indicator
- Rental Time Indicator
- Communication Range Alarm

Basic Operation

1. Turn On the Radio: Rotate the Power/Volume Control knob clockwise until **green LED flashes one time.**
 - A BEEP sounds if alert tone is set your dealer.
2. Monitor: press the preprogrammed MONI key or SQ OFF key to hear background noise, then turn the Power/Volume Control knob to adjust the volume.
3. Select Channel: Rotate Channel Selector Knob to select your desired channel; the radio will report the current channel number when one is selected.
4. Transmit: Press and hold PTT, speak into the microphone with normal voice.
 - Keep microphone about 3 to 4cm away from your lips.
5. Receive: Release PTT, the radio returns to receive mode.

Advanced Operations

The following functions are programmable by your dealer, as described above.

Auto Dial

Press the preprogrammed [Call1/Call2](#) key to transmit the stored DTMF code, 2-tone /5-tone code.

Emergency

Program the programmable key (TK) with emergency feature. When activated, the emergency feature enables the radio to emit emergency alarm or send ENI (Emergency Number Identity) / background tone to companions or system (as selected by user via programming software).

	①	②
Emergency	Press and hold	Briefly press
Emergency Cancel	Briefly press	Press and hold

Lone Worker

The preprogrammed Lone Worker key is pressed to ensure user's safety when they work alone. It includes two modes:

■ **Auto Check:** In lone worker mode, the radio will sound an alert tone at the preset time. User must press a key to reset the timer (the user is safe), otherwise, the radio will automatically enter emergency mode.

■ **Safety Check:** When receiving a safety check signal, the radio will emit an alert tone. Press any key to reset the radio, indicating the user is safe; otherwise, the radio will automatically enter emergency mode

Man Down(optional)

In man down mode, the radio will automatically enter emergency alert mode if it is horizontally or inversely positioned after the preset time elapses. Place the radio in the vertical position to disable the emergency alert feature.

Monitor/Squelch Off

● Monitor Toggle

Press the preprogrammed [Monitor Toggle](#) key to enable the signaling squelch feature; press it again to exit.

● Monitor Momentary

Press and hold the [Monitor Momentary key](#) to enable the signaling squelch feature; release it to exit.

● Squelch Off

Press the preprogrammed [Squelch Off](#) key to activate the noise squelch feature; press it again to exit.

● Squelch Off Momentary

Press and hold the [Squelch Off Momentary](#) key to activate the noise squelch feature; release it to exit.

Scan

Press the preprogrammed Scan key, scan starts from the current channel and goes through the scan list. Red LED flashes in scan mode and solidly glows when a signal is received on a channel and signaling matches. Press the key again to exit.

● Nuisance Temporary Delete

When scan stops on a channel, press the preprogrammed Nuisance Temporary Delete key to temporarily remove the channel from the scan list.

- You cannot delete the priority channel, if one has been set.
- You cannot delete a channel if there will be less than 2 channels available for scanning.
- Exit from scan mode or turn on the radio again, the deleted channel will return to the scan list.

● Nuisance Delete

Press the preprogrammed Nuisance Delete key to permanently remove the channel from the scan list. The deleted channel can't return to the scan list even though the

radio exits from Scan mode or restarts.

- You cannot delete the priority channel, if one has been set.
- You cannot delete a channel if there will be less than 2 channels available for scanning.

SQL Check & Adjust

Program one of the programmable keys with this feature;

Press and hold the preprogrammed key to hear the squelch level of the current channel.

Briefly press the key to adjust the SQL. Squelch will be increased by one level and setting is saved each time when you press the key.

Voice Encryption

The voice encryption feature includes **scrambler** and **scrambler with back up**.

Usually both the calling and called radios activate the scrambler feature to prevent other parties using the same frequency from wiretapping.

■ Scrambler

Press the preprogrammed Scrambler key, the radio scrambles your voice so that anybody listening to your conversation will not be able to understand what you are saying. [The information is not stored](#) when the radio is powered on again.

■ Scrambler with Back Up

Press the preprogrammed Scrambler with Back Up key to activate the scrambling feature. The information is stored when the radio is powered on again.

Talk Around

Press the preprogrammed Talk Around key, the radio [will transmit on the RX frequency](#).

Power Check & Adjust

Program one of the programmable keys with this feature;

Press and hold the preprogrammed key, Beep tone corresponds to power level, a Beep indicates Low power; two Beeps indicate Middle power and three Beeps indicate High power.

Briefly press the key to adjust the power level; Power will be increased by one level and setting is saved each time when you press the key.

Whisper

Press the preprogrammed Whisper key, you would be clearly heard even if you speak with low voice.

Press it again to exit.

VOX

Press the preprogrammed VOX key, the user can transmit without holding down the PTT key. This feature can only be used with required audio accessory.

Battery Power Indicator

Press the preprogrammed Battery Power Indicator key, the battery power will be indicated by audible indicating tone (“1”, “2”, “3”, “4”).

Rental Time Indicator

In rental mode, the radio can only be used for a preset period of time. Press the preprogrammed Rental Time Indicator key, the radio will report the remaining time the user is allowed to use the radio until the preset rental time elapses.

Communication Range Alarm

Audible alert will sound when your radio is out of communication range.

Background Operations

Time-Out-Timer (TOT)

Time-Out-Timer is used to prevent someone from using the same channel for a long time. If the transmission exceeds the time preset by your dealer (default is 1 minute), transmission will stop and an alert tone will sound. To stop the alert tone, release the PTT key. Press the PTT key again to resume transmitting.

Your dealer can program a warning function to alert you before the TOT elapses.

Busy Channel Lockout (BCL) and Busy Tone Lockout (BTL)

When activated, the BCL and BTL feature will prevent you from talking on a channel that is already in use. Press PTT while the channel is in use, the radio will generate an alert tone and return to receive mode.

Carrier: If the selected channel is set by your dealer as “busy channel lockout” and is being used by other users, press PTT, the radio will emit a Beep and will not transmit signals.

CTCSS/DCS: If CTCSS/DCS is set on the selected channel that is programmed by your dealer as “busy channel lockout” and is being used by other users, press PTT, the radio will emit a Beep and will not transmit signals.

Opt signaling: If 2-Tone/5-Tone/DTMF/HDC-2400 is programmed on the selected channel which is set by your dealer as “busy channel lockout” and is being used by other users, press PTT, the radio will emit a Beep and will not transmit signals.

Battery Save

It's enabled by your dealer to minimize the amount of power used.

When there is no activity on the channel and no operation (no key is being pressed, and no switch is being turned) is performed for 12 seconds, Battery Save is automatically turned on. When a signal is received or an operation is performed, Battery Save is automatically turned off.

Low Battery Alert

Low Battery Alert alerts you to recharge or replace the battery. When the battery voltage becomes low, radio LED will flash red and three Beeps sound within 30 seconds, indicating to recharge or replace the battery with a new one.

CTCSS/DCS

When **CTCSS/DCS** is set, the squelch feature will be opened only when signals containing the matching tone or code are received. Likewise, your signals will be received only by parties using the same **CTCSS/DCS** signaling.

CTCSS/DCS may have been programmed on a channel to block unwanted calls from other parties using the same channel.

If other parties transmit on the same channel with different tone or code, the squelch feature will not open and you will not hear the call. This allows you to ignore (not hear) these calls. Although it may seem like you have a private channel while using **CTCSS/DCS**, other parties can still hear your calls if the same tone or code is set.

DTMF

DTMF feature is set On/Off by your dealer. When it is set on a channel, press the Programmable key (Call 1, Call 2) to transmit DTMF code.

- LED glows red during transmission and goes out when transmission ends.

2-Tone/5-Tone

2-Tone/5-Tone feature is set On/Off by your dealer. When it is set on a channel, press the Programmable key (Call 1, Call 2) to transmit 2-Tone/5-Tone signal.

When 2-Tone/5-Tone is set on a channel, the preset functions will only be activated when the matching 2-Tone/5-Tone signals are received. Likewise, your signals will be received only by parties using the same 2-Tone/5-Tone signals.

- Red LED glows during transmission; orange LED glows when the radio completes the transmission and receives a confirmation signal indicating successful decode, otherwise, the light goes out.

- LED glows green in decode mode, and flashes orange for a preset period of time after successful decoding.

Signaling Control

CTCSS/DCS AND 2-Tone/5-Tone: If both signalings are employed, the squelch feature is only opened when both match.

CTCSS/DCS OR 2-Tone/5-Tone: If both signalings are employed, the squelch feature is opened when either matches.

PTT ID

Beginning / End of Transmission Identification signal (PTT ID) is used to connect/disconnect the radio with repeaters and telephone systems.

Press PTT to transmit a Beginning of Transmission signal.

Release PTT to transmit an End of Transmission signal.

When both are set, briefly press PTT to transmit the ID signal.

Troubleshooting Guide

Trouble	Solution
No power	*Battery may be used up. Please recharge or replace the battery. *The battery may not be properly installed. Remove the battery and attach it again.
Power doesn't last long even if fully charged	*Battery life is over, please replace it with a new one.
Can't talk to or hear group members	*Make sure you are using the same frequency and same CTCSS as your group members. *Your group members may be out of the communication range.
Other voice (non-group members) are present on the channel	*Change CTCSS tone. Make sure your group members all are present on the channel change to the same tone.

Care and Cleaning

- * Do not carry your radio by the antenna or remote microphone;
- * Wipe the battery contacts 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

Earset with boom microphone & in-line PTT EH-M2

Earset with in-line microphone & PTT EH-M3

Earbud with in-line microphone & PTT ES-M1

Remote speaker microphone

Antenna (VHF/UHF)

Frequency Chart

Model: _____

Serial Number: _____

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

HYT endeavors 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.