

HYT TC-508U(1)

HYT TC-508 Series Handheld Transceiver User Manual

Brand: HYT | Model: TC-508U(1)

INTRODUCTION

Product Overview

The HYT TC-508 series handheld transceiver is a robust and user-friendly two-way radio designed for reliable communication. Its compact, palm-sized design ensures ease of handling and portability. Weighing approximately 9.87 ounces, it offers comfortable use for extended periods.

This transceiver complies with MIL-STD-810 C/D/E/F standards and boasts an IP54 rating, indicating general protection against dust and resistance to light rain or minor water splashes. These features ensure outstanding performance in various environments.



A front view of the HYT TC-508 series handheld transceiver, showcasing its compact design, antenna, channel selector knob, and microphone area.

Key Features

- **16 Channels:** Easily switch between up to 16 channels using the dedicated channel selector knob.
- **CTCSS / CDCSS:** Utilize unique CDCSS / CTCSS codes to establish private workgroups and prevent interference from unwanted conversations on the same frequency.
- **Long Battery Life:** Equipped with a 1650mAh high-capacity Li-Ion battery, providing approximately 10 hours of operation. Features a battery save mode in standby and audio/visual low battery alerts.

- **Battery Strength Indicator:** Monitor battery level for optimal usage.
- **Programmable Channel Spacing:** Supports 25 KHz / 12.5 KHz channel spacing.
- **Selectable Squelch Level:** Adjust squelch to filter out weak signals or background noise.
- **Squelch Tail Elimination:** Reduces annoying squelch tail noise.
- **Channel Scan:** Automatically scan through channels to find active conversations.
- **Auto Battery Save:** Extends battery life during periods of inactivity.
- **Low Battery Alert:** Provides timely warnings when battery power is low.
- **Busy Channel Lockout (BCL):** Prevents transmission on a channel that is already in use.
- **Time-out-timer (TOT):** Limits transmission duration to prevent accidental continuous transmission.
- **PC Programmable:** Allows for customized settings via computer.
- **Wired Clone:** Enables easy duplication of radio settings to another unit.

WHAT'S IN THE BOX

Upon opening the package, please verify that all items listed below are present and in good condition:

- HYT TC-508 Series Handheld Transceiver Unit
- Rechargeable Li-Ion Battery
- Antenna
- Belt Clip
- Hand Strap
- Charger (may be included depending on specific package)

SETUP

Battery Installation

1. Align the battery with the grooves on the back of the radio.
2. Slide the battery upwards until it clicks securely into place.
3. To remove, press the battery release latch (if present, typically on the bottom of the battery) and slide the battery downwards.

Antenna Attachment

1. Screw the antenna clockwise into the connector on the top of the radio until it is finger-tight. Do not overtighten.
2. To remove, unscrew the antenna counter-clockwise.

Initial Charging

Before first use, fully charge the battery. Connect the charger to a power outlet and place the radio (with battery installed) into the charging cradle. The charging indicator will typically show red during charging and turn green when fully charged.

OPERATING INSTRUCTIONS

Power On/Off

Rotate the Power/Volume knob (typically the leftmost knob on top) clockwise to turn the radio on. Continue rotating to increase volume. Rotate counter-clockwise until a click is heard to turn the radio off.

Channel Selection

Rotate the Channel Selector knob (typically the rightmost knob on top) to select one of the 16 available channels. Each click corresponds to a different channel.

Volume Adjustment

Adjust the volume by rotating the Power/Volume knob. Rotate clockwise to increase volume and counter-clockwise to decrease volume.

Transmitting and Receiving

- **Receiving:** When the radio is on and tuned to an active channel, you will hear incoming transmissions. The LED indicator may glow green.
- **Transmitting:** To transmit, press and hold the Push-to-Talk (PTT) button located on the side of the radio. Speak clearly into the microphone (located below the speaker grille). The LED indicator will typically glow red during transmission. Release the PTT button to stop transmitting and return to receive mode.

CTCSS / CDCSS (Tone/Code Squelch)

CTCSS (Continuous Tone-Coded Squelch System) and CDCSS (Continuous Digital-Coded Squelch System) are used to filter out unwanted signals. If your radio is programmed with a specific CTCSS/CDCSS code, it will only open its squelch and allow you to hear transmissions that also carry the same tone/code. This helps prevent interference from other users on the same frequency.

Channel Scan

To activate channel scan, typically a programmable side button or a menu option is used. When scan is active, the radio will cycle through programmed channels, stopping on any active channel. Once the transmission ends, it will resume scanning.

Busy Channel Lockout (BCL)

BCL prevents you from transmitting on a channel that is already in use. If BCL is enabled and you press the PTT button on an active channel, the radio will emit an alert tone and will not transmit.

Time-out-timer (TOT)

TOT limits the maximum duration of a single transmission. If you continuously press the PTT button for longer than the programmed TOT duration, the radio will automatically stop transmitting and emit an alert tone. This prevents accidental continuous transmission and conserves battery life.

MAINTENANCE

Battery Care

- Always use the original or approved charger for your radio.
- Do not expose the battery to extreme temperatures (hot or cold).
- Avoid fully discharging the battery frequently, as this can reduce its lifespan.
- If the radio will not be used for an extended period, remove the battery and store it in a cool, dry place.

Cleaning

- Wipe the radio's exterior with a soft, damp cloth. Do not use harsh chemicals or abrasive cleaners.
- Ensure the charging contacts are clean and free of debris.
- Do not immerse the radio in water, despite its water resistance rating.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Radio does not power on.	Battery is low or not installed correctly.	Charge the battery. Ensure battery is securely installed.
Cannot transmit or receive.	Incorrect channel selected; volume too low; CTCSS/CDCSS mismatch; antenna loose.	Verify channel. Increase volume. Check CTCSS/CDCSS settings. Secure antenna.
Poor audio quality or static.	Weak signal; interference; squelch level too low.	Move to an area with better signal. Adjust squelch level.
Battery life is shorter than expected.	Battery old; frequent transmission; battery save mode off.	Replace old battery. Reduce transmission time. Enable battery save mode.

SPECIFICATIONS

Brand	HYT
Model Number	TC-508U(1)
Product Dimensions	2.13 x 4.45 x 1.38 inches
Item Weight	9.9 ounces (280.7 grams)
Number of Channels	16
Frequency Range	400-470 MHz (UHF)
Talking Range Maximum	3 Miles (approximate, depends on terrain)
Voltage	3.7 Volts
Water Resistance Level	IP54 (Water Resistant)

Compliance	MIL-STD-810 C/D/E/F
Color	Black
Manufacturer	Hytera
Date First Available	April 19, 2011

WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or visit the official HYT website. Keep your proof of purchase for warranty claims.

If you encounter issues not covered in this manual, please contact authorized service personnel or the retailer from whom you purchased the product.

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