PREFACE

Thank you for purchasing TD-H3 Plus Two Way Radio, It is a multitask GMRS transceiver. Combining the latest technology in radio communication along with a sturdy mechanical frame, TD-H3 Plus is the ideal and effective solution for the professionals who need to stay in touch with the working team (in construction sites, buildings, shows, trade fairs or hotels) or for leisure users that just want to keep up with friends and family.

IMPORTANT NOTICE

To help you ward off bodily injury or property loss that may arise from improper operation, please read all the information carefully before using our products. This contains instructions for safe usage and RF energy awareness and control for compliance with applicable standards and regulation.

Safety Information for GMRS Radios

Your wireless handheld portable transceiver contains a low power transmitter. When the talk button is pushed, it sends out radio frequency (RF) signals. The device is authorized to operate at a duty factor not to exceed 50%. In August 1996, the Federal Communications Commissions (FCC) adopted RF exposure guidelines with safety levels for handheld wireless devices.

FCC Part 15.21 Warning Statement

THE GRANTEE IS NOT RESPONSIBLE FOR ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

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1.Getting Started

1.1 Regulations and Safety Warnings

FCC Licensing Information

This device complies with Part 95E and 15 of the federal Communications Commission (FCC) Rules.
Operation is subject to the condition that that this device does not cause harmful interference. The radio operates on radio frequencies that are regulated by the Federal Communications Commission (FCC). To transmit on these frequencies, you are required to have a license issued by the FCC. To obtain forms, call the FCC forms hotline at: 1-800-418-3676 or go to http://www.fcc.gov For questions concerning commercial licensing, contact the FCC at 1-888- CALL-FCC (1-888-225-5322).
Before filling out you application, you must decide which frequency you can operate on.
NOTICE: Use of this radio outside the country where it was intended to be distributed is subject to government regulations and may be prohibited.

FCC Regulatory Conformance

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 circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

WARNING! MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBIITED UNDER FCC RULES AND FEDERRAL LAW.

EU Regulatory Conformance

As certified by the qualified laboratory, the product is in compliance with the essential requirements and other relevant provisions of the Directive 2014/53/EU. All applicable EU regulations are regarded (2006/66/EC, 2011/65/EU,(EU)2015/863, 2012/19/EU). ***NOTE: It can be operating under 2000m.***

WARNING! European Users should note that operation of this unit in Transmit mode requires the operator to have a valid Amateur Radio License from their respective Countries Amateur Radio Licensing Authority for the Frequencies and Transmitter Power levels that this Radio transmits on. Failure to comply may be unlawful and liable for prosecution. At this subject, refer to the “EU” specification guide 2014/53/EU.

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

Compliance with RF Exposure Standards

The 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 Information

WARNING! Read this information before using the radio. In August 1996 the Federal Communications Commission (FCC) of the United States with its action in Report and Order FCC 96-326 adopted an updated safety standard for human exposure to radio frequency electromagnetic energy emitted by FCC regulated transmitters.

Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies. The design of the radio complies with the FCC guidelines and these international standards.
Never allow children to operate the radio without adult supervision and the knowledge of the following guidelines.
WARNING! It is up to the user to properly operate this radio transmitter to insure safe operation. Please adhere to the following:
Use only the supplied or an approved antenna. Unauthorized antennas, modifications, or attachments could impair call quality, damage the radio, or result in violation of FCC regulations.
Do not use the radio with a damaged antenna.
If a damaged antenna comes into contact with the skin, a minor burn may result. Please contact your local dealer for a replacement antenna.

Hand-held Operation (Held-to-Face)

This device was evaluated for typical hand-held (held-to- face) operations with a 1 inch spacing from the front of the radio. For hand-held operation, the radio should be held 1 inch from the user's face in order to comply with FCC RF exposure requirements.

Body-worn Operation

This device was evaluated for body-worn operations with the supplied belt-clip accessory. (All necessary accessories are included in the package; any additional or optional accessories are not required for compliance with the guidelines.) Third party accessories (unless approved by the manufacturer) should be avoided as these might not comply with FCC RF exposure guidelines.
For more information about RF exposure, please visit the FCC web site at www.fcc.gov.

FCC Warnings

Replacement or substitution of transistors, regular diodes or other parts of a unique nature, with parts other than those recommended by our company may cause a violation of the technical regulations of part 95 of the FCC rules, or violation of type acceptance requirements of part 2 of the rules.

1.2 Main Features

• 22 Modifiable GMRS Channels (RX &TX)
• 8 Modifiable GMRS Repeater Channels (RX & TX)
• Scanning Receiver Frequency Range:FM 87-108MHz, AM 108-136MHz, VHF 136-174MHz,240-260MHz, 350-370MHz, UHF 400-520MHz
• 199 Memory Channels
• 50 CTCSS Tones and 105 DCS Codes
• Squelch Adjustable in 9 Levels
• Step Frequency, Selectable Between 0.5K | 2.5K | 5.0K | 6.25K | 10.0K | 12.5K | 25.0K | 50.0K
• VOX (Voice activated transmit)
• TOT (Time out timer)
• Dual Watch / Dual Reception/ Dual-band Handheld Transceiver
• Power Save
• Alarm Function
• DTMF Function
• 1750Hz Tone for Repeaters
• Programmable Repeater Offset
• Customizable Functions for Side Key
• Full Dot Matrix LCD Display Screen
• MIC Gain
• Frequency Hopping
• Scramble Functions
• Scan Function
• LED Flashlight
• Busy Channel Lockout Function (BCL)
• Setting and Storing of Channel Names
• VOICE: Vocal indication of the function selected
• Channel or Frequency Mode Selection
• Keypad Lock
• Roger Beep
• Power on Display
• USB-C Charging Port
• 2-Pin Kenwood Accessory Jack
• Support NOAA Weather Reception Function in the United States and Canada
• Calling Function
• Audio Function
• OD PTT Function
• Bluetooth Programming

About Range

This product series radios are designed to give you maximum range under optimum conditions.

- Maximum Range: Little to No sight Obstruction.
- Medium Range: Partial Obstruction to Line of Sight.
- Short Range: Major Obstruction to Ling of Sight.

Optimum conditions are:

- Over water
- Open rural areas without obstructions
- Flat areas where you can see the other person

To ensure you get maximum range:

- Be sure to use fresh or fully charged batteries - low batteries will cause low power conditions.
- Be sure to set your radio to use Hi power.

1.3 Maintenance

Your Two Way Radio is an electronic product of exact design and should be treated with care.

The suggestions below will help you to fulfill any warranty obligations and to enjoy this product for many years.

- Do not attempt to open the radio for any reason! The radio's precision mechanics and electronics require experience and specialized equipment; for the same reason, the radio should under no circumstances be realigned as it has already been calibrated for maximum performance. Unauthorized opening of the transceiver will void the warranty.
- Do not store the Radio under the sunshine or in hot areas.
- High temperatures can shorten the life of electronic devices, and warp or melt certain plastics.
- Do not store the radio in dusty and dirty areas.
- Keep the Radio dry. Rainwater or damp will corrode electronic circuits.
- If it appears that the Radio diffuses peculiar smell or smoke, please shut off its power immediately and take off the charger or battery from the radio.
- Do not transmit without antenna.

2.Battery Information

2.1 Charging the Battery Pack

The Li-ion battery pack is not charged at the factory; please charge it before use. Charging the battery pack for the first time after purchase or extended storage (more than 2 months) may not bring the battery pack to its normal maximum operating capacity. Best operation will require fully charging/ discharging the battery two or three times before the operating capacity will reach its best performance. The battery pack life may be depleted when it's operating time decreases even though it has been fully and correctly charged. If this is the case, replace the battery pack.

2.2 Charger Supplied

Please use the specified charger provided by our company. Other models may cause explosion and personal injury. After installing the battery pack, and if the radio displays low battery with a voice prompt, please charge the battery.

2.3 Use Caution with the Li-ion Battery

a. Do not short the battery terminals or throw the battery into a fire. Never attempt to remove the casing from the battery pack, as our company cannot be held responsible for any accident caused by modifying the battery.
b. The ambient temperature should be between 5℃-40℃ (40˚F - 105˚F) while charging the battery. Charging outside this range may not fully charge the battery.
c. Please turn off the radio before inserting it into the charger. It may otherwise interfere with correct charging.
d. To avoid interfering with the charging cycle, please do not cut off the power or remove the battery during charging until the green light is on.
e. Do not recharge the battery pack if it is fully charged. This may shorten the life of the battery pack or damage the battery pack.
f. Do not charge the battery or the radio if it is damp. Dry it before charging to avoid damage.

WARNING!

When keys, ornamental chain or other electric metals contact the battery terminal, the battery may become damage or injure a human. If the battery terminals are short circuited it will generate a lot of heat. Take care when carrying and

using the battery. Remember to put the battery or radio into an insulated container. Do not put it into a metal container.

2.4 How to Charge

a. Plug the AC adaptor into the AC outlet, and then plug the cable of the AC adaptor into the DC jack located on the back of the charger. The indicator light blinks orange and is then ready to charge a battery.

b. Plug the battery or the radio into the charger. Make sure the battery terminals are good in contact with charging terminals. The indicator light turns to red--- charging begins.

c. It takes approximately 2-5 hours to fully charge the battery. When the lamp lights green, the charging is completed. Remove the battery or the radio unit with its battery from socket.

When charging a radio (with battery) the indicating lamp will not turn into green to show the fully charged status if the radio is powered on. Only when the radio is switched off will the lamp indicate normal operation. The radio consumes energy when it is power-on, and the charger cannot detect the correct battery voltage when the battery has been fully charged. So the charger will charge the battery in constant voltage mode and fail to indicate correctly when the battery has been fully charged.

2.5 LED Indicator

STATUS	LED
No Battery	Green and red alternately flashing
Charge Normally	Red
Fully Charged	Green

NOTE：Trouble means battery too warm, battery short-circuited or charger short-circuited.

2.6 How to Store the Battery

a. If the battery needs to be stored, keep it in status of 80% discharged.

b. It should be kept in low temperature and dry environment.

c. Keep it away from hot places and direct sunlight.

» Do not short circuit the battery terminals.

» Never attempt to remove the casing from the battery pack.

» Never store the battery in unsafe surroundings, as a short may cause an explosion.
» Do not put the battery in a hot environment or throw it into a fire, as it may cause an explosion.

2.7 Using the Type-C USB Charger

The Type-C USB charger is a handy port that allows you to conveniently charge your Li-ion battery pack.

1. Make sure your radio is turned OFF.

2. Plug the Type-C USB cable into the Type-C USB charging port on your battery. Connect the other end of the micro-USB charger to wall power outlet.

3. An empty battery will be fully charged in 4 hours.

4. The battery meter on LCD will move to indicate the battery is charging.

Note:

• It is recommended to power OFF your radio while charging. However, if power is turned on while charging, you may not be able to transmit a message if the battery is completely empty. Allow time for the battery to charge to 1 bar before attempting to transmit a message.

• For optimal battery life, remove the radio from the charger within 6 hours. Do not store the radio while connected to the charger.

3. Installation of Accessories

Before the radio is ready for use we need to attach the battery pack, as well as charge the battery.

3.1 Installing/ Removing the Antenna

a. Installing the Antenna: Screw the antenna into the connector on the top of the transceiver by holding the antenna at its base and turning it clockwise until secure.

b. Removing the Antenna: Turn the antenna counter-clockwise to remove it.

3.2 Installing the Belt Clip

a. At the back of the radio there are two parallel screws mounted above the battery, remove these and thread them through the holes on the belt clip as you screw them back into the radio body.

b. Removing the Belt Clip: Unscrew counter-clockwise to remove the belt clip.

3.3 Installing the Battery Pack

Before attaching or removing the battery make sure your radio is turned off by turning the power/volume knob all the way counter-clockwise.

a. Make sure the battery is aligned in parallel with the radio body with the lower edge of the battery about 1-2cm below the edge of the radio.

b. Once aligned with the guide-rails, slide the battery upward until you hear a click as the battery locks in place.

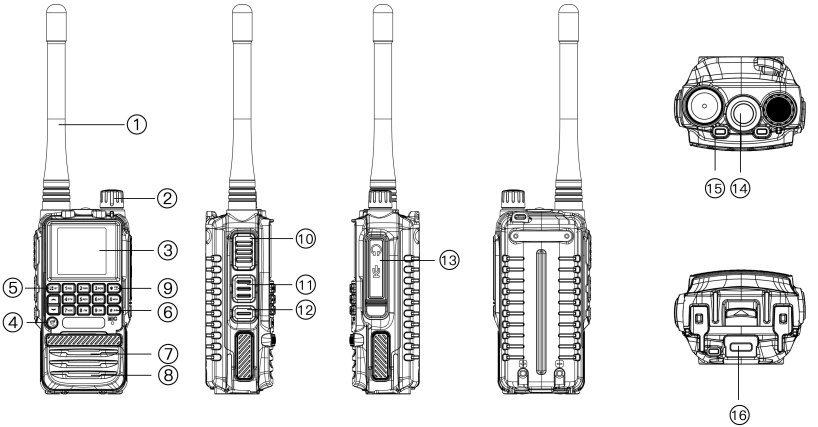
Remove the battery pack

To remove the battery, press the battery release below the battery pack.

3.4 Installing the Additional Speaker/Microphone (Optional)

Pry open the rubber MIC-Headset jack cover and then insert the Speaker / Microphone plug into the double jack.

4.Radio Overview



4.1 Buttons and Controls of the Radio

1. Antenna
2. Power Switch / Volume Control: Rotate to switch on/off the radio and adjust the volume
3. 1.44" LCD Screen
4. VFO/MR/Exit Key: Channel Mode/Frequency Mode/Exit Key
5. MENU/Bluetooth Key: Short press to enter the MENU; Long press to turn Bluetooth on or off
6. A/B Key: Press to switch A/B band
7. Speaker
8. Microphone
9. DTMF/Keypad Lock: Long press to turn on or off the keypad lock
10. PTT Key: Transmit key, hold the key to speak, release the key after speaking, and receive incoming calls.
11. PF1 Side Key Custom Key 1:

Enter MENU → Radio Setting → 2+7 buttons, short press to customize: NONE, FM Radio, Lamp, TONE, Alarm, Weather, PTT2, OD PTT;

Enter MENU → Radio Setting → 2+8 buttons, long press to customize: NONE, FM Radio, Lamp, Cancel Sq,TONE, Alarm, Weather.

12. PF2 Side Key Custom Key 2:

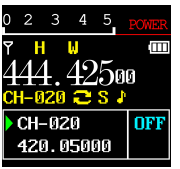
Enter MENU → Radio Setting → 2+9 buttons, short press to customize: NONE, FM Radio, Lamp, TONE, Alarm, Weather, PTT2, OD PTT;

Enter MENU→Radio Setting → 3+0 buttons, long press to customize:NONE, FM Radio, Lamp, Cancel Sq,TONE, Alarm,Weather.

13. MIC/SP/USB-C Port: External speaker/microphone jack/USB-C programming port
14. Flashlight
15. Indicator: Red when transmitting; Green when receiving.
16. Battery Latch

4.2 Main Controls and Parts of the Radio

LCD Display



No.	Icon	Description
1		Signal strength indicator with 4 signal strength levels
2	H	High transmitting power (longest communication distance and largest power consumption).
	L	Low transmitting power (most power efficient and relatively close distance).
3		Roger beep/Keypad beep (It doesn't show when both are off)
4	DCS	This symbol indicates that the current tone is DCS.
	CT	This symbol indicates that the current tone is CTCSS.
5	+	Enables access of repeaters in VFO/Frequency Mode. TX will be shifted higher in frequency than RX.
6	−	Enables access of repeaters in VFO/Frequency Mode. TX will be shifted lower in frequency than RX.
7		The presence of this symbol indicates that the dual-band watch is on, in the dual watch state, the intercom can simultaneously monitor the two frequency bands displayed on the screen

8		The symbol will appear when the keyboard is locked; Hold 【* m】 to unlock
9	S	Power save function enabled
10	N	This symbol appears when the channel is operating in narrowband mode.
11	W	This symbol appears when the channel is operating in broadband mode.
12		Current battery power remaining.  Full battery charge;  Battery Remains.  When the battery is about to run out, the outer frame of this icon flashes to show that the radio is unable to transmit at this time.
13		OD transmit icon
14		OD Receive Icon
15		A white icon indicates Bluetooth is on, but not connected.
16		A blue icon indicates Bluetooth is connected
17		Volume display

4.3 Status Indications

The status LED has a very simple and traditional design.

LED Indicator	Radio Status
Constant Red	Transmitting.
Constant Green	Receiving.

4.4 Main Keypad Controls

• **. key**

It is used for activating the MENU, choose each MENU selection and confirm the parameter.

Long press to turn Bluetooth on or off.

• **▲ key**

Press it for more than 2 seconds, the channel and frequency will move upwards rapidly; in SCAN mode, press this control to move the scanning upwards.

• **▼ key**

Keep it pressed it for more than 2 seconds, the channel and frequency will move downwards rapidly; in SCAN mode, press this control to move the scanning downwards.

• **VFO/MR - mode key|Exit key**

a.Press to exit the Menu and functions.

b.Pressing key switches between Frequency (VFO) Mode and Memory (MR) mode. Memory mode is sometimes also referred to as Channel mode.

To save frequencies to channel memory you must be in Frequency (VFO) mode.

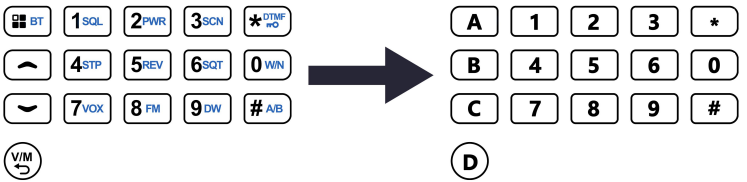
• **A/B select key**

The **[A/B]** key switches between A (upper) and B (lower) displays. The frequency or channel on the selected display becomes the active listening and transmit frequency or channel.

To save frequencies to channel memory you must be on the A display.

• **Numeric keypad**

With these keys you can input the information or your selections on the radio. In tx mode, push the number keys to send a corresponding DTMF code.



• **(* DTMF #O) key**

Press the key to activate the DTMF dial function.

If you press this key for more than 2 seconds you will lock/unlock the keypad.

5. Basic Operations

5.1 Power on the Radio

• Turning the unit on

To turn the unit on, simply rotate the **volume/power** knob clockwise until you hear a "click". If your radio powers on correctly there should be an audible double beep after about one second and the display will show a message or flash the LCD depending on settings for about one second. Then it will display a frequency or channel. If the Voice prompt is enabled, the voice will announce "frequency mode" or "channel mode".

• Turning the unit off

Turn the **volume/power** knob counter-clock wise all the way until you hear a "click". The unit is now off.

5.2 Adjusting the Volume

To turn up the volume, turn the volume/power knob clock-wise. To turn the volume down, turn the **volume/power** knob counter-clock-wise. Be careful not to turn it too far, as you may inadvertently turn your radio off.

5.3 Channel Selection

There are two modes of operation: Frequency (VFO) mode, and Channel or Memory (MR) mode.
For everyday use, Channel (MR) mode is going to be a whole lot more practical than Frequency (VFO) mode. However, Frequency (VFO) mode is very handy for experimentation out in the field. Frequency (VFO) mode is also used for programming channels into memory.
In Channel (MR) mode you can navigate up and down the channel by using the ▲/▼ keys or the encoder.
Ultimately which mode you end up using will depend entirely on your use case.

5.4 Making a Call

- **Channel mode call**: After selecting a channel, hold down the **[PTT]** key to initiate a call to the current channel. Speak into the microphone with normal tone. Initiate a call, the red LED is on.
- **Frequency mode call**: Press **[V/M]** key to switch to the frequency mode, input the working frequency within the allowable frequency range, and press and hold the **[PTT]** key to transmit on the current frequency. Speak into the microphone with normal tone. Making a call, the red LED is on.
- **Receive a call**: When you release the **[PTT]** key, you can answer it without any action.
  When receiving a call, the green LED is on.

NOTE: To ensure the best reception volume, keep the distance between the microphone and the mouth at the time of transmission from 2.5 cm to 5 cm.

5.5 Frequency (VFO) Mode

In Frequency (VFO) mode you can navigate up and down the band by using the ▲/▼ keys. Each press will increment or decrement your frequency according to the frequency step you've set your transceiver to.
You can also input frequencies directly on your numeric keypad with kilohertz accuracy.
The following example assumes the use of a 12.5 kHz frequency step.
Example. Entering the frequency 432.56250 MHz on display *A*
a. In standby mode, switch to the frequency (VFO) mode.
b. Enter **[4][3][2][5][6][2][5] [0]** on the numeric keypad.
◎In VFO mode, the VFO is displayed. Any transmission is prohibited, and reception and scanning are allowed. Among them, the scanning frequency can be precisely set.

WARNING!

Just because you can program in a channel does not mean you're automatically authorized to use that frequency. Transmitting on frequencies you're not authorized to operate on is illegal, and in most jurisdictions a serious offence. However, it is legal in most jurisdictions to listen. Contact your local regulatory body for further information on what laws, rules and regulations apply to your area.

5.6 Channel (MR) Mode

The use of Channel (MR) mode is dependent on actually having programmed in some channels to use.
Once you have channels programmed and ready, you can use the ▲/▼ keys or the encoder to navigate between channels.
◎In MR mode, the channel number will display CH-XXX.

6. Advanced Features

6.1 Frequency Scanning

This function can scan the frequency.
a. In frequency mode, press **【3 SCAN】** key for more than 2 seconds. The radio will start scanning the frequency according to the set frequency step.
b. Press **【V/M EXIT】** key to stop the scanning.
Note: for Scan mode, see Menu→Scan→No.1.

6.2 Channel Scanning

Use scan to search the channels for transmissions from unknown parties, to find someone in your group who has accidentally changed channels or to quickly find unused channels for your own use.
a. In channels mode, press **【3 SCAN】** key for more than 2 seconds. The radio will start scanning according to the channel you set.
b. You can change the scanning direction with the ▲/▼ keys.
c. Press **【V/M EXIT】** key to stop scanning.

6.3 CTCSS/DCS Scanning

This function allows scanning frequencies with CTCSS/DCS tones enabled.
In standby mode, press MENU→Scan→SEEK DCS to select scanning CTCSS or DCS.

NOTES: The function cannot be activated when the radio is set in Channel mode. The Scan will start only when the receiving band will detect a signal.

6.4 Manual Programming (Channels Memory)

Memory channels are an easy way to store commonly used frequencies so that they can easily be retrieved at a later date. The radio features 199 memory channels that each can hold: Receive frequencies, group signaling information, bandwidth, ANI/ PTT-ID settings and a six character alphanumeric identifier or channel name.You store them in the specified channel number via Menu→Program Channel→item 25 Store Channels.

Frequency Mode vs. Channel Mode

In standby mode, press VFO/MR key to switch between frequency (VFO) mode and channel (MR) mode.
These two modes have different functions and are often confused.
Frequency Mode (VFO) : Used for a temporary frequency assignment, such as a test frequency or quick field programming if permitted.
Channel Mode (MR) : Used for selecting preprogrammed channels.

Ex 1. Programming a Scan Channel with CTCSS Tone

EXAMPLE New memory in Channel 31:
RX = 432.55000 MHz
TX CTCSS tone 123.0

A. Press the **[VFO/MR]** key to set the radio to VFO mode, displaying the VFO icon.
B. **[Menu] →Program Channel→[1][3] [Menu]**→Delete previous data in the channel (e.g. Channel 31)→**OK**
C. **[Exit] [2] [Menu]→ALTER→CTCSS→123.0 [Menu] [Exit]** , select the desired TX code tone
D. **Enter the RX frequency** (e.g. 43255000)
E. **[Menu] →Program Channel→[1][2]**Enter the desired channel (e.g. 31)→**[Exit]** RX has been added
F. Press the **[VFO/MR]** key to return to MR mode and the channel number will reappear.

Ex 2. Channel memory for scanning frequency

EXAMPLE New memory in Channel 31:
RX = 432.55000 MHz

A. Press **[V/M]** to set the radio to MR mode, and the CH-XXX icon will be displayed.
B. Press and hold the **[3 SCAN]** key to start scanning the desired frequency.
There is activity at frequency 432.55000, stay there temporarily, and press the **[PTT]** key to stop scanning.

6.5 Using the Flashlight

You can use this radio in an emergency. Customize the side key **[PF1]** or **[PF2]** as the flashlight function in advance, and the radio will turn on the high-intensity LED flashlight on the radio.
• When the emergency strobe light is activated, the radio operates normally.
(1) Press the **[PF1]** or **[PF2]** key once, and it will turn on continuously (Always On Mode).
(2) And then, press the **[PF1]** or **[PF2]** key once, and the strobe light will sound an emergency signal (Strobe Emergency Mode).
(3) And then, press the **[PF1]** or **[PF2]** key once, and the light will turn off.

6.6 Emergency Alert

The Emergency Alert function can be used to signal for help to your team members.
To activate the Emergency Alert function, customize the side key **[PF1]** or **[PF2]** key as the Alarm function in advance, press the **[PF1]** or **[PF2]** key. The radio will sound a loud alarm and the flashlight will flash.
Press the **[PTT]** key to exit the Emergency Alert function.
WARNING: The Emergency Alert function should only be used in an actual emergency situation.

6.7 FM Radio

When listening to broadcast FM, you need to customize the side key **[PF1]** or **[PF2]** key to the FM Radio in advance. The frequency range for listening to radio is 87-108MHz.
(1) In frequency or channel mode, press the **[PF1]** key or the **[PF2]** key to turn on the radio.

(2) Select the desired radio frequency with the ▲ or ▼ keys or input the frequency.
(3) Press the **[PF1]** key or the **[PF2]** key to exit FM radio.
Note: While listening to the radio, the frequency or channel of the A/B receiving signal will automatically switch to frequency or channel mode for normal transmission and reception.
When the signal disappears, the radio will automatically switch to FM radio mode again.

6.8 NOAA Weather Radio

Your radio has 11 channels of NOAA Weather Broadcast, which enables the user to receive weather reports from a designated NOAA station. To use this function, you need to customize the side key **[PF1]** or **[PF2]** key to NOAA Weather in advance.
(1) Press the **[PF1]** or **[PF2]** key to enter the NOAA weather mode.
(2) You can manually select a weather channel by press the ▲ or ▼ key.
(3) Press the **[PF1]** or **[PF2]** key to exit the NOAA weather mode.

Weather channel frequencies and names

Channel Number	RX Frequency MHz	Channel Number	RX Frequency MHz
Wx -01	162.55000	***Wx -06***	162.50000
Wx -02	162.40000	***Wx -07***	162.52500
Wx -03	162.47500	***Wx -08***	161.65000
Wx -04	162.42500	***Wx -09***	161.77500
Wx -05	162.45000	***Wx -10***	161.75000
		Wx -11	162.00000

NOTE: Weather Channels Wx 1 Thru 11, Receive-only channels for NOAA and Canadian weather broadcasts. You cannot transmit on these channels.

6.9 TX Repeater Tone (1000Hz, 1450Hz, 1750Hz, 2100Hz)

To use this function, you need to customize the side key **[PF1]** or **[PF2]** key to TONE in advance. Press the **[PF1]** or **[PF2]** key to send the repeater tone, and select 1000Hz/1450Hz/1750Hz/2100Hz in item 24 of Radio Setting. This function is very useful for communicating via a repeater.

6.10 Calling Function

1. Turn on Bluetooth
(Menu→Bluetooth→BT ON/OFF or long press the menu button to turn it on)
2. Connect your phone to Bluetooth
(check the Bluetooth name in Menu→Bluetooth→BT Name:TD-H3 Plusxxxx)
3. When a call comes in, short press key 1 to answer
4. When in standby mode, long press key 4 to call back
5. When in a call, short press key 3/PTT to hang up

6.11 Audio Function

1. Turn on Bluetooth
(Menu→Bluetooth→BT ON/OFF or long press the menu button to turn it on)
2. Connect the phone to Bluetooth
(check the Bluetooth name in Menu→Bluetooth→BT Name:TD-H3 Plusxxxx)
3. Open the phone's music player to play music, and the intercom acts as a speaker
4. Press number key 1 to play the previous song when playing music
5. Press number key 3 to play the next song when playing music
6. Long/short press number key 2 to play/pause music

6.12 Odmaster PTT (OD PTT) Function

1. Turn on Bluetooth
(Menu→Bluetooth→BT ON/OFF or long press the [MENU] button to turn on)
2. Connect the phone to Bluetooth
(Check the Bluetooth name in Menu→Bluetooth→BT Name:TD-H3 Plusxxxx)
3. Set the side key to OD PTT
(Menu→Radio Setting→Customize Side Key (27 or 29 items,) such as setting 29 item PF2 S Press to OD PTT)
4. Confirm that it is Receiver mode

(check in Menu→Bluetooth→BT Mode)

5. Set OD PTT to OD or OD+Analog

(OD: transmit only to OD; **OD+Analog:** transmit to OD+machines with the same frequency)

6. Open Odmaster APP and enter the group

7. Press OD PTT to talk

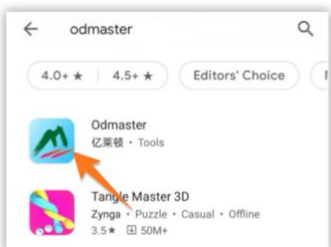
6.13 Bluetooth Programming

Odmaster APP

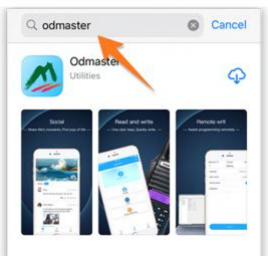
— Step 1 —

Download Odmaster App

Google Play:



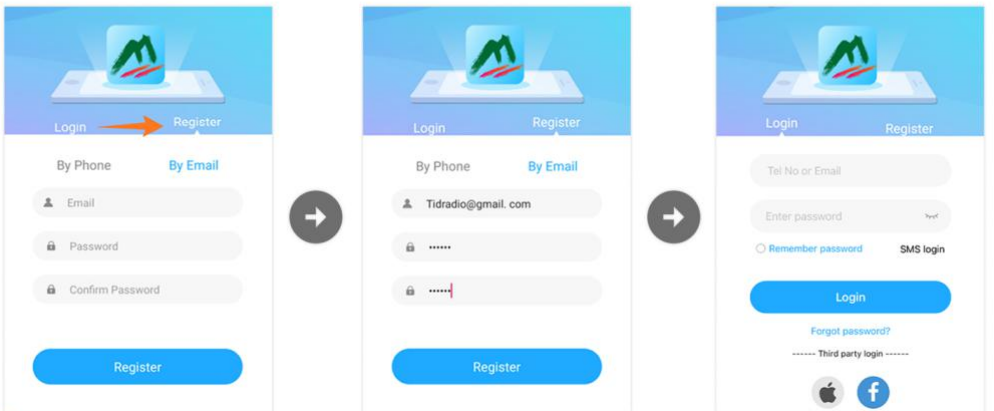
iOS App Store:



— Step 2 —

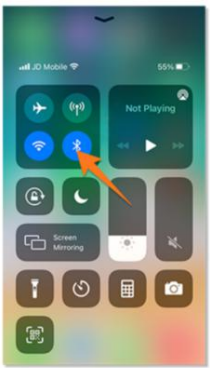
Register an account and log in

Tips : It is recommended to register by email or log in directly by Facebook

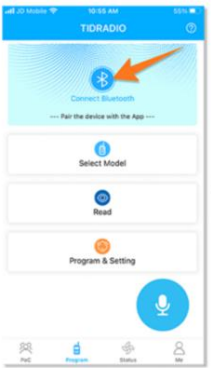


— Step 3 —

Connect bluetooth and radio in app

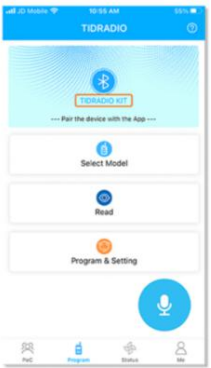


Turn on mobile phone bluetooth



Connect bluetooth in App

Connect device



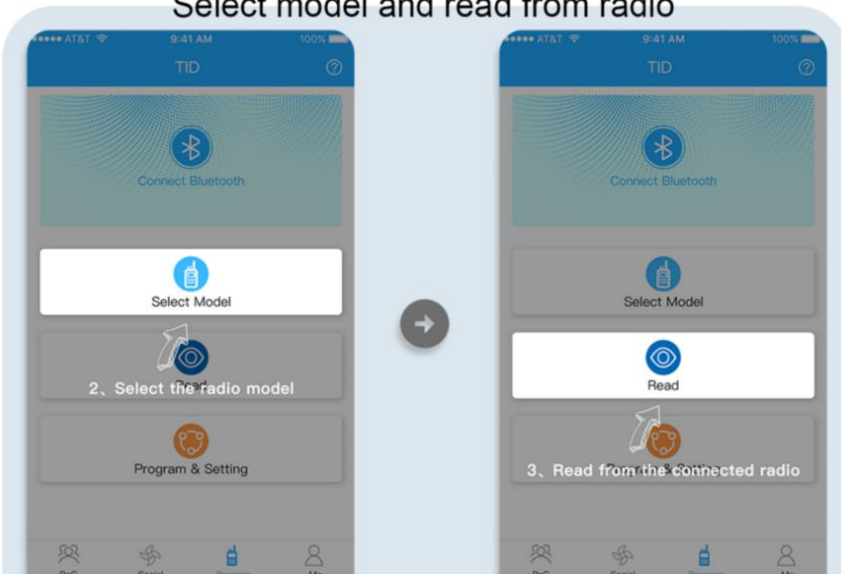
When "TIDRADIO KIT" is displayed, the connection is successful.

Tips:

After the phone is turned on Bluetooth, do not paired the device with your phone in BT settings, just make sure that BT is enabled and then open the Odmaster App and pair with the programmer within the App.

— Step 4 —

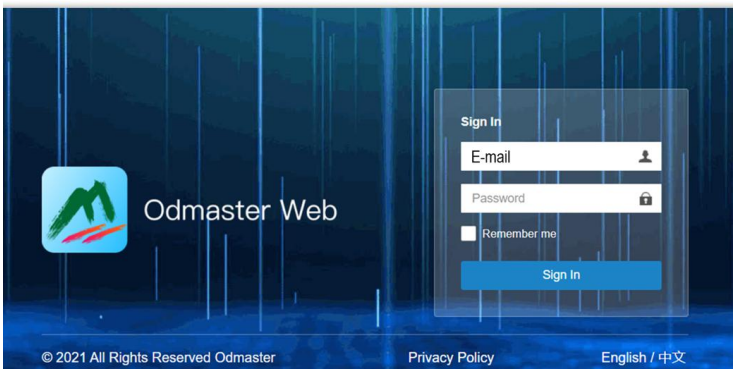
Select model and read from radio



PC Programming

Odmaster Web allows you to set parameters on the web page. After saving, it will be synchronized to the mobile phone and can be directly written to the radio. Compared with the mobile phone page, the web page is more comfortable, convenient and faster.

Sign in your account on Odmaster Web
(https://web.odmaster.net)



7. Working The MENU System

For a complete reference on available menu items and parameters, see **Appendix C, Shortcut Menu operations.**
Note: in channel mode, the setting of these features is not possible: CTCSS/ DCS tones, wide/narrow bandwidth, PTT-ID, Busy channel lock out, channel name edit.

7.1 Basic Use

Using the menu with arrow keys
A. Press the **[MENU]** key to enter the menu.
B. Use the▲/▼ keys to navigate between menu items.
C. Once you find the desired menu item, press **[MENU]** again to select that menu item.
D. Use the ▲/▼ keys to select the desired parameter.
E. When you've selected the parameter you want to set for a given menu item;
a). To confirm your selection, press **[MENU]** and it will save your setting and bring you back to the main menu.
b). To cancel your changes, press **[V/M EXIT]** and it will reset that menu item and bring you out of the menu entirely.
F. To exit out of the menu at any time, press the **[V/M EXIT]** key.

7.2 Using Short-cuts

Using the menu with arrow keys
A. Press the **[MENU]** key to enter the menu.
B. Use the numerical keypad to enter the number of the menu item.
C. To enter the menu item, press the **[MENU]** key.
D. For entering the desired parameter you have two options:
a). Use the arrow keys as we did in the previous section; ▲/▼
b). Use the numerical keypad to enter the numerical short-cut code.
E. And just as in the previous section;
a). To confirm your selection, press **[MENU]** and it will save your setting and bring you back to the main menu.

b). To cancel your changes, press **[V/M EXIT]** and it will reset that menu item and bring you out of the menu entirely.
F. To exit out of the menu at any time, press the **[V/M EXIT]** key.
G. All further examples and procedures in this manual will use the numerical menu short- cuts.

7.3 Functions and Operations

7.31 Radio Setting

(1) Squelch LV (Squelch level) - MENU No.1

Thanks to this function you can adjust the squelch in 9 different levels:
• Levels 1- 9: level 1 (lowest squelch level), level 9 (highest squelch level). Default level 4.
If the squelch is set to the highest level, the radio will receive the strongest signals only.

(2) Step Freq (Step frequency) - MENU No.2

This function lets you select the desired frequency step.
The selectable steps are the following: 0.5/2.5/5.0/6.25/10.0/12.5/25.0/50.0 KHz
Note: in channel mode, this function cannot be modified.

(3) VOX Level - MENU No.3

This function allows hands-free conversations: just speak in the direction of the microphone and the communication will be automatically activated.
You can choose amongst 5 levels: Off, 1-5. 1 is the highest level, 9 is the lowest one. If this option is set to Off, the VOX function is turned off
Note: the higher is the level, the higher is the microphone sensitivity. The VOX function cannot be modified in SCAN and FM radio mode.

(4) VOX Delay - MENU No.4

This function lets you select the desired VOX delay.

The selectable steps are the following: 1.0/2.0/3.0 Seconds.

(5) TOT (Time-out-timer) - MENU No.5

The TOT function is used to prevent a too long transmission and limits the tx time: TOT temporarily stops the transmission if the radio has been used beyond the max pre-set time (for example 30s, 60s, 90s,120s,150s,180s,210s).

Note: If this option is set to OFF, press and hold the PTT key to keep transmission.

(6) Roger Beep (Roger) - MENU No. 6

When the PTT is released, the radio will beep to confirm to other users that you have finished your transmission and that they can start talking.

(7) Keypad Beep (Beep) - MENU No.7

When this function is enabled, every time a button is pressed, you will hear a beep tone.

(8) Power Save - MENU No.8

The power save feature enables a reduction in the consumption of the battery when the radio is in standby.

You have 5 selections available: Off/ Level 1/ Level 2/ Level 3/ Level 4.

For example: Level 1= 1s working and 1s battery saving. Level 2= 1s working and 2s battery is saving.

Note: The higher the number the longer the battery lasts. The higher number increases the RX sleep cycle, but you may miss the first few syllables before the RX opens.

(9) Keypad Lock - MENU No.9

When this feature is activated, the keypad will be automatically locked after 10s,this prevents accidental pressure of any keys.

The keypad lock can be manually activated/deactivated through the keypad: keep pressed [*] .

(10)Dual Watch - MENU No.10

When this function is activated, you can receive the frequency of channel A and channel B at the same time.

If a signal is detected, the▼/▲ pointer will blink on the corresponding channel or frequency.

Note: In Dual Watch operation mode, you can change the parameter of AB channel or frequency freely.

(11)Voice (Voice prompts function) - MENU No. 11

With this function, you activate a voice that informs you about any operation/ selection you are doing.

(12)Backlight - MENU No.12

With this function you can adjust the auto off time of the display backlight (Always On, 5-30Sec).
Delay time for backlight to turn off when no operation is performed. Default 5 Seconds.
When the option is Always On, the backlight is always on, which will affect the battery standby time.

(13) Brightness - MENU No.13

This function can adjust the display backlight brightness. There are 5 levels of brightness to adjust, 1st is the darkest, 5th is the brightest, and the default is 4th level.

(14) Pwr on Disp (Power on display) - MENU No.14

With this Menu you can customize the welcome message that appears on the display when the radio is switched on.
Choose amongst the following options:
• **Voltage** (the power voltage is momentarily displayed)
• **Message** (welcome message)
• **Picture** (Default Pictures)

(15) SYNC (Dual band single display) - MENU No.15

The radio is dual-band, dual-display, and the screen can display A/B frequency band at the same time. It can also be set to dual-band single-screen display. When single frequency point is displayed, the channel nickname, frequency and channel number will be displayed at the same time.
• **ON**: Turn on the SYNC function, which is a dual-band dual-display mode. The main frequency and sub-frequency will be displayed.
• **OFF**: Turn off the SYNC function and display the alias, frequency, and channel number of the current channel.

(16) ANI-Edit - MENU No.16

Press the [MENU] key to allow the identity code [3 digits] to be modified.
The ID number cannot be repeated (these ID codes will be related to selective calling). The default is 123.

(17) Disp Type-A (Display Type-A) - MENU No.17

This function is used to set the display mode of channel A.
Display modes:
• **Frequency + Number.**
• **Name + Number.**
Note: Channel name mode must be set by the programming software. Up to three numbers or characters can be edited.

(18) Disp Type-B (Display Type-B) - MENU No.18

This function is used to set the display mode of channel B.
Display modes:
• **Frequency + Number.**
• **Name + Number.**
Note: Channel name mode must be set by the programming software. Up to three numbers or characters can be edited.

(19) DTMFST - MENU No.19

Determines when DTMF sidetones are heard from the transceiver speaker.
• **OFF**: No DTMF sidetones are heard
• **ON**: The transceiver emits DTMF code sounds when transmitting

(20) PTT-Delay - MENU No. 20

Can be set from 100 to 3000ms, step value 100.

(21) Language - MENU No.21

With this function, you can select the language of the LCD display and operation prompt.
• **Chinese(中文)**
• **English**

(22) Alarm Mode - MENU No.22

This function can set the on site alarm/TX alarm of the radio.
The following two options can be selected:
• **On Site**: Only the local alarm (flashlight flashes quickly)
• **TX Alarm**: Send an alarm tone for 10 seconds, then pause for 2 seconds and continue the cycle.

(23) Side Tone (Tail) - MENU No.23

• **OFF**: Turn off the tail sound elimination function, and you may hear a "click" sound when releasing PTT.
• **ON**: Turn on the tail sound elimination function (the tail sound elimination method is set by CPS)

(24) Tone Burst (TBST) - MENU No.24

With this function you can select 1000Hz, 1450Hz, 1750Hz, 2100Hz repeater tone. To send out a repeater tone,you need to customize the side key **[PF1]** or **[PF2]** key to TONE in advance. Press the **[PF1]** or **[PF2]** key to send the repeater tone.
If you have the keypad lock enabled on your radio, you can still send a 1750Hz tone the regular way without having to unlock your radio.

(25) Talk Around - MENU No.25

• **OFF**: Out of the relay coverage, prompt ‘failed to activate relay’
• **ON**: Out of the relay coverage, the transmission frequency is equal to the receiving frequency, and the screen displays ‘ | → | ’

(26) FM Interrupt - MENU No.26

- **OFF**: In FM radio mode, the radio will not be interrupted when there is an incoming call. Press PTT or the radio button to exit the radio mode.
- **ON**: In FM radio mode, the radio function will be temporarily interrupted when there is an incoming call to receive the call. Return to the radio mode after a delay of 5 seconds.

(27) PF1 S Press - MENU No.27

Short press to customize the side key 1 function: NONE, FM radio, Lamp, TONE, Alarm, Weather, PTT2, OD PTT.
Note:If PF1 S Press Key is set to PTT2 or OD PTT, the PF1 L Press Key cannot be set.

(28) PF1 L Press - MENU No.28

Long press the custom side key 1 function: NONE, FM radio, Lamp, Cancel Sq,TONE, Alarm, Weather.

(29) PF2 S Press - MENU No.29

Short press to customize the side key 2 function: NONE, FM radio, Lamp, TONE, Alarm, Weather, PTT2, OD PTT.
Note:If PF2 S Press Key is set to PTT2 or OD PTT, the PF2 L Press Key cannot be set.

(30) PF2 L Press - MENU No.30

Long press the custom side key 2 function: NONE, FM radio, Lamp, Cancel Sq,TONE, Alarm, Weather.

(31) Factory R (Factory Reset) - MENU No.31

With this function you can reset the transceiver to the factory-programmed settings and parameters. After that, you can set the desired functions.
There are three types of reset:

- **VFO**: Allows resetting all settings in frequency mode (without resetting channels and intercom settings) to restore to the initial state.
- **CHL**:Allows resetting all settings in channel mode (without resetting VFO and intercom settings) to restore to the initial

state.

• **FULL**: Allows resetting all settings of intercom settings, channel information, and VFO mode to restore to the initial state.

(32) Breath Led - MENU No.32

This feature allows users to customize the frequency at which the LED light flashes during standby mode.

(33) MIC GAIN - MENU No.33

Adjust the microphone gain according to their specific needs.The microphone gain can be adjusted within a range of 0 to 9. The higher the level, the better the microphone gain effect.

(34) DTMF Speed - MENU No.34

Control the speed of sending DTMF by turning on different rates. The higher the rate, the slower the sending.
The default is 110ms.

(35) DCD - MENU No.35

• **OFF**:Turn off DTMF signaling. Default is off.
• **ON**:Turn on DTMF signaling to perform DTMF single call, group call, etc.

(36) D-HOLD - MENU No.36

DTMF Auto Reset Times(5s-60s)

(37) D-RSP - MENU No.37

DTMF Decoding Response (NULL/RING/REPLY/BOTH)
• **NULL**:No sound after DTMF call. Default NULL.
• **RING**:There is a ringing tone after DTIMF call.
• **REPLY**:After the ringing tone after DTMF call, the caller will call back for 1s.
• **BOTH**:After the ringing tone after DTMF call, there will be a ringing tone + call back for 1s.

(38) AM_BAND - MENU No.38

Enter the receiving frequency.If the local aviation frequency is not clear, the scanning function can scan the 108-136 full frequency band.

• **ON**: set the channel modulation method to AM, listen to aviation intercom.
• **OFF**: set the channel modulation method to FM.

Menu 38 settings are only valid for 108-136 frequency band.

(39) 200TX - MENU No.39

• **OFF**: The 200 frequency band is not open in VFO mode. Default is off.
• **ON**: The 200 frequency band can be input in VFO mode.

(40) 350TX - MENU No.40

• **OFF**: The 350 frequency band is not open in VFO mode. Default is off.
• **ON**: The 350 frequency band can be input in VFO mode.

(41) 200TX - MENU No.41

• **OFF**: The 500 frequency band is not open in VFO mode. Default is off.
• **ON**: The 500 frequency band can be input in VFO mode.

7.32 Program Channel

(1) RX Sub-audio - MENU No.1

In this Menu you can set a CTCSS/DCS/Reverse DCS tone in RX mode.For specific values,please refer to Appendix C and D.

• **CTCSS** (67.0 to 254.1)
• **DCS** (D023N to D754N)
• **Reverse** DCS (D023I to D754I)

Note: CTCSS/DCS/Reverse DCS is in Channel mode. This feature cannot be modified in Channel mode.

(2) TX Sub-audio - MENU No.2

In this Menu you can set a CTCSS/DCS/Reverse DCS tone in TX mode.For specific values,please refer to Appendix C and D.
You can choose:
• **CTCSS** (67.0 to 254.1)
• **DCS** (D023N to D754N)
• **Reverse DCS** (D023I to D754I)
Note: CTCSS/DCS/Reverse DCS is in Channel mode. This feature cannot be modified in Channel mode.

(3) Bandwidth - MENU No.3

This function is used to set the working bandwidth of the radio.
You can choose between wide or narrow bandwidth.
• **Wide**: 25KHz
• **Narrow**: 12.5KHz

(4) TX Power - MENU No.4

• **Low Power**
• **High Power**

(5) Busy Lock - MENU No.5

• **OFF:** Transmission is allowed even when the channel is occupied. Default is OFF.
• **ON**: Transmission is prohibited when the channel is occupied.

(6) Call Code - MENU No.6

8 groups of signaling codes (the signaling code is edited by the host computer, call code, call alias)

(7) PTT-ID - MENU No.7

With this function you can decide when sending the ANI-ID code in tx mode.

You can choose amongst 4 possibilities.
• **OFF**:press PTT to turn it off
• **BOT**:the code is sent when you press the PTT
• **EOT**:the code is sent when the PTT is released
• **BOTH**: the code is sent when you press and release the PTT
Note: select 'OFF' when using in case of affecting the radio.

(8) Scan Add - MENU No.8

• **ON**: the current channel is added to the scan, the scan current channel
• **OFF**: Do not scan the current channel.

(9) Scramble - MENU No.9

With this function only one received the same decryption program in order to obtain voice.To communicate with each other only to open the same scramble between loom, If scrambling different, the machine can receive signals, but can not hear clearly what is said.

(10) OFFSET(Frequency offset) - MENU No.10

In this MENU you can set the deviation between TX and RX. The frequency offset of this radio is 00.000-99.998MHz.

(11) SET-D (Frequency offset direction) - MENU No.11

Using this function, you can set the direction of the frequency offset in rx and tx.
You have the following options:
• **OFF**: None offset
• **Positive**: Positive offset
• **Negative**: Negative offset
Note: you should set different frequency deviation according to the repeaters selected. This function is not enabled in channel mode.

(12) Memory CHL (Channel Store) - MENU No.12

When the radio is in frequency working mode or standby mode, input the desired frequency or parameters directly.

NOTES: If you want to set CTCSS tones, DCS codes or the frequency offset, you have to do it before storing the channel. The channels already stored are displayed as CH-XXX ("CH" and -channel number), and other channels only display channel numbers.

(13) Delete CHL (Channel Delete) - MENU No.13

In this menu you can delete a channel of the radio.

(14) Hopping (Frequency hopping) - MENU No.14

- **OFF**
- **ON**:Activate the frequency hopping function to prevent interference from outside the group

7.33 Radio Information

(1) Versions Info- MENU No.1

- **Radio ID**
- **Radio Alias**
- **Firmware Version**
- **Hardware Version**

7.34 Scan

(1) Scan Mode- MENU No.1

Thanks to this function, radio can SCAN in frequency or channel mode. You can choose amongst three options:

- **TO (Time-operated Scan)**

Whenever a signal is detected, the radio will suspend the SCAN for 5 seconds, and then will continue to SCAN even if the

signal is still present.

• **CO (Carrier-operated Scan)**

Whenever a signal is detected, the radio will stop scanning. It will resume to SCAN once the signal will disappear.

• **SE (Search Scan)**

The radio will stop scanning once a signal is detected.

(2) SEEK DCS (Scan of frequencies with DCS) - MENU No.2

The function allows scanning the frequencies with DCS/CTCSS/R-DCS tone enabled.

NOTES: The function cannot be activated when the radio is set in Channel mode. The Scan will start only when the receiving band will detect a signal.

(3) Hang Time (Scan hang time) - MENU No.3

When scanning, if a signal is received, the scanning will be temporarily stopped. The time from this time to the rescanning is the hang time. The hang time has a step value of 0.5S. The default value is 1 second.

(4) Scan Freq (One touch frequency search) - MENU No.4

After turning it on, you can one touch frequency search:

• 1 Long press number key 1 to enter frequency scan.

• 2 Use up and down keys to select the channel to save the frequency.

• 3 The monitor will show frequency and DCS when somebody transmit.

• 4 Wait for the interface to display completed

• 5 Press **[Menu]** confirmation key to confirm the save.Press * key to re-measure.

7.35 Bluetooth

(1) BT ON/OFF (Bluetooth on/off)- MENU No.1

• **OFF**

• **ON**

(2) BT Mode (Bluetooth mode)- MENU No.2

• **Receiver:**In contrast to the transmitting mode, a Bluetooth device in receiving mode is passively waiting to receive data from other devices. For example, when a Bluetooth headset is used to answer a call, the headset is in receiving mode.

---Switch the TD-H3 Plus to **Receiver mode** and connect with the mobile phone Bluetooth.

Note:The Bluetooth name is **TD-H3 Plus XXXX**. Do not connect with the suffix (BLE).

• **Emitter:**In transmitting mode, a Bluetooth device actively sends data outward. This usually occurs when the device needs to transmit information to other Bluetooth devices. For example, when a mobile phone is used to send an audio signal to a headset via Bluetooth, the mobile phone is in transmitting mode.

Note:The Emitter needs to be paired with Bluetooth menu->No. 4 (BT Pairing).

Compatible accessories: Bluetooth PTT, Bluetooth MIC, Bluetooth headset, etc.

(3) BT Name (Bluetooth name)- MENU No.3

•**BT Name:** TD-H3 Plusxxxx

(4) BT Pairing (Bluetooth pairing)- MENU No.4

• **Pairable**: Enter the Bluetooth search list
• **Paired**: List of matched devices

(5) OD PTT (Odmaster PTT)- MENU No.5

• **OD**: Transmit only to OD. Default
• **OD + Analog :**OD PTT + analog PTT transmit simultaneously

(6) OD Mode (Odmaster Mode) - MENU No.6

Local Mode: The sound of interaction with OD is broadcast through the intercom, using the microphone and speaker of the intercom.Default Local mode.

Forward Mode: The sound of interaction with OD/intercom is forwarded to other intercoms or OD platforms, and the local machine does not broadcast.

Full Mode: A combination of mode 1 and mode 2.

(7) BT Int MIC (Bluetooth Int MIC)- MENU No.7

Bluetooth microphone gain switch.

- **OFF**
- **ON**

(8) BT Int Spk (Bluetooth Int Speak)- MENU No.8

Bluetooth speaker gain switch.

- **OFF**
- **ON**

(9) BT MIC Gain (Bluetooth MIC gain)- MENU No.9

Bluetooth microphone gain adjustment, optional 1-5 levels.

(10) BT Spk Gain (Bluetooth speak gain)- MENU No.10

Bluetooth speaker gain adjustment, optional 1-5 levels.

(11) BT Pin Code (Bluetooth pin code)- MENU No.11

Pairing PIN code

Appendix A. - Trouble Shooting Guide

Phenomena	Analysis	Solution
You cannot turn on the radio.	The battery may be installed improperly.	Remove and reattach the battery.
	The battery power may run out.	Recharge or replace the battery.
	The battery may suffer from poor contact caused by dirty or damaged battery contacts.	Clean the battery contacts or replace the battery.
During receiving, the voice is weak or intermittent.	The battery voltage maybe low.	Recharge or replace the battery.
	The volume level may be low.	Increase the volume.
	The antenna maybe loose or maybe installed incorrectly.	Turnoff the radio, and then remove and reattach the antenna.
	The speaker maybe blocked.	Clean the surface of the speaker.
You cannot communicate with other group members.	The frequency or signaling type maybe inconsistent with that of other members.	Verify that your TX/RX frequency and signaling type are correct.
	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 frequency.	Change the frequency, or adjust the squelch level.
	The radio in analog mode maybe set with no signaling.	Request your dealer to set signaling for the current channel to avoid interference
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 be in an unfavorable position. For example, your communication may be blocked by high buildings or blocked in an underground area.	Move to an open and flat area, restart the radio, and try again.
	It may be the result of external disturbance (such as electromagnetic interference).	Stay away from equipment that may cause interference.
The radio keeps transmitting.	VOX may be turned on or the headset is not installed in place	Turn off the VOX function. Check that the headphones are in place.

NOTE: If the above solutions cannot fix your problems, or you may have some other queries, please contact your dealer for more technical support.

Appendix B. - Technical Specifications

General	
Frequency Range	GMRS(RX & TX) 136-173.99 & 400-519.99MHz(Scanning RX)
Memory Channel	199
Operation Voltage	DC 7.4 V ±10%
Battery Capacity	2500mAh (Li-Ion)
Frequency Stability	±2.5ppm
Operating Temperature	-20℃ to +50℃
Mode of Operation	Simplex
Antenna Impedance	50ohm
Transmitter Part	
RF Output Power	≤5W
FM Modulation	11K0F3E@12.5KHz
Adjacent Channel Power	60dB @ 12.5KHz
Transmission current	≤1500mA
Receiver Part	
Receive Sensitivity	0.25μV (12dB SINAD)
Adjacent Channel Selectivity	≥55dB@12.5KHz
Inter Modulation and Rejection	≥55dB@12.5KHz
Conducted Spurious Emission	≤-57dB@12.5KHz
Rated Audio Power Output	1W @16 ohms
Receive current	≤380mA
Rated Audio Distortion	≤5%

NOTE: All specifications may be modified without prior notice or liability. Thank you.

Appendix C. - DCS Table

DCS CODE LIST

Number	Code	Number	Code	Number	Code	Number	Code	Number	Code
1	D023N	2	D025N	3	D026N	4	D031N	5	D032N
6	D036N	7	D043N	8	D047N	9	D051N	10	D053N
11	D054N	12	D065N	13	D071N	14	D072N	15	D073N
16	D074N	17	D114N	18	D115N	19	D116N	20	D122N
21	D125N	22	D131N	23	D132N	24	D134N	25	D143N
26	D145N	27	D152N	28	D155N	29	D156N	30	D162N
31	D165N	32	D172N	33	D174N	34	D205N	35	D212N
36	D223N	37	D225N	38	D226N	39	D243N	40	D244N
41	D245N	42	D246N	43	D251N	44	D252N	45	D255N
46	D261N	47	D263N	48	D265N	49	D266N	50	D271N
51	D274N	52	D306N	53	D311N	54	D315N	55	D325N
56	D331N	57	D332N	58	D343N	59	D346N	60	D351N
61	D356N	62	D364N	63	D365N	64	D371N	65	D411N
66	D412N	67	D413N	68	D423N	69	D431N	70	D432N
71	D445N	72	D446N	73	D452N	74	D454N	75	D455N
76	D462N	77	D464N	78	D465N	79	D466N	80	D503N
81	D506N	82	D516N	83	D523N	84	D526N	85	D532N
86	D546N	87	D565N	88	D606N	89	D612N	90	D624N
91	D627N	92	D631N	93	D632N	94	D645N	95	D654N
96	D662N	97	D664N	98	D703N	99	D712N	100	D723N

101	D731N	102	D732N	103	D734N	104	D743N	105	D754N
106	D023I	107	D025I	108	D026I	109	D031I	110	D032I
111	D036I	112	D043I	113	D047I	114	D051I	115	D053I
116	D054I	117	D065I	118	D071I	119	D072I	120	D073I
121	D074I	122	D114I	123	D115I	124	D116I	125	D122I
126	D125I	127	D131I	128	D132I	129	D134I	130	D143I
131	D145I	132	D152I	133	D155I	134	D156I	135	D162I
136	D165I	137	D172I	138	D174I	139	D205I	140	D212I
141	D223I	142	D225I	143	D226I	144	D243I	145	D244I
146	D245I	147	D246I	148	D251I	149	D252I	150	D255I
151	D261I	152	D263I	153	D265I	154	D266I	155	D271I
156	D274I	157	D306I	158	D311I	159	D315I	160	D325I
161	D331I	162	D332I	163	D343I	164	D346I	165	D351I
166	D356I	167	D364I	168	D365I	169	D371I	170	D411I
171	D412I	172	D413I	173	D423I	174	D431I	175	D432I
176	D445I	177	D446I	178	D452I	179	D454I	180	D455I
181	D462I	182	D464I	183	D465I	184	D466I	185	D503I
186	D506I	187	D516I	188	D523I	189	D526I	190	D532I
191	D546I	192	D565I	193	D606I	194	D612I	195	D624I
196	D627I	197	D631I	198	D632I	199	D645I	200	D654I
201	D662I	202	D664I	203	D703I	204	D712I	205	D723I
206	D731I	207	D732I	208	D734I	209	D743I	210	D754I

Appendix D. - CTCSS Table

CTCSS CHART (Hz)

Number	Frequency	Number	Frequency	Number	Frequency	Number	Frequency	Number	Frequency
1	67.0	2	69.3	3	71.9	4	74.4	5	77.0
6	79.7	7	82.5	8	85.4	9	88.5	10	91.5
11	94.8	12	97.4	13	100	14	103.5	15	107.2
16	110.9	17	114.8	18	118.8	19	123.0	20	127.3
21	131.8	22	136.5	23	141.3	24	146.2	25	151.4
26	156.7	27	159.8	28	162.2	29	165.5	30	167.9
31	171.3	32	173.8	33	177.3	34	179.9	35	183.5
36	186.2	37	189.9	38	192.8	39	196.6	40	199.5
41	203.5	42	206.5	43	210.7	44	218.1	45	225.7
46	229.1	47	233.6	48	241.8	49	250.3	50	254.1

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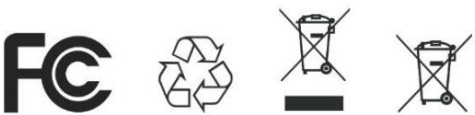

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