

#### ◇ Delete Messages

1. Select "Inbox", "Outbox" or "Draft Box" in the "Short Message" menu, and then select the text message to be deleted.
2. Press the [MENU] key to select "Delete", and a prompt box will pop up on the LCD screen.
3. Press the [MENU] key to delete the message.

#### ■ Call history

Users can view recent incoming/outgoing/missed/recent calls through the call history menu. Call history includes the following submenus:

- **Dialed calls:** Displays all dialed and sent individual call records (up to 20 records can be stored), and allows viewing, deleting call details, or saving contacts.
- **Received calls:** Displays all received call records (up to 20 records can be stored), and allows viewing, deleting call details, or saving contacts.
- **Missed calls:** Displays all unanswered individual call records (up to 20 records can be stored), and allows viewing, deleting call details, or saving contacts.

You can do the following for any call record in the call record list:

1. Press and hold [PTT] to initiate a call;
2. Delete records one by one.
3. Delete all dialed/received/missed calls/recent calls.

#### ■ Settings menu

The settings menu is divided into walkie-talkie settings, channel editing, walkie-talkie information, and factory reset settings. The walkie-talkie is set to public settings, and channel editing is only used for the configuration of the current walkie-talkie channel.

##### ◇ Walkie-talkie settings

###### Power level

Allows you to set the transmission power of the walkie-talkie on this channel.

- **High power:** The screen displays the H icon.
- **Low power:** The screen displays the L icon.

⚠ **Note:** Switch between low and high power by long pressing the CALL key.

#### Launch time limit (TOT)

The transmit time limit is the maximum time a single call is allowed to transmit, which prevents the current channel from being occupied by a single user for too long.

- **Close:** Turn off the sending time limit, and the sending time is not limited.
- **Time-limited range:** 0S-300S. Transmission will be limited to the set time. After reaching this time, the walkie-talkie will automatically stop sending.

#### Bandwidth

Set the bandwidth for the analog channel.

Broadband (25.0KHz) or narrowband (12.5KHz).

⚠ **Note:** This feature is only available for analog channels, digital channels do not have this menu.

#### Squelch level

You can adjust the squelch level through this menu, and the squelch level can be switched between on, normal, and enhanced.

- **Squelch is always on:** The walkie-talkie de-

termines that the carrier always matches and always turns on the speaker.

- **Normal squelching:** Set the squelching level for audio output when squelching is normal. Normal is the default value (ie regular filtering);
- **Squelch strict:** Set the squelch level for audio output when squelching strict. Strictly filter unwanted calls or background noise, and calls from remote locations may also be filtered out.

⚠ **Note:** This feature is only available for analog channels, digital channels do not have this menu.

#### Voice control

- **Voice switch:** Turn on or off the voice-activated transmission function.
- **Voice-activated gain level:** Set the sensitivity of the internal microphone voice-activated emission. The larger the value, the higher the sensitivity.
- **Voice-activated delay:** Select the time to delay.

#### Beep

This menu allows you to define a walkie-talkie

tone, including tone on or off, tone tone, and volume.

- **Mute:** Set whether the walkie-talkie is working in silent mode. When you choose to turn on mute, the walkie-talkie will not prompt for any operation.

When the mute function is turned on, all prompts are turned off, and is displayed. When the mute function is turned off, the prompt tone is turned on.

- **Key tone:** Set whether the end users will issue a prompt tone when operating the keys (side keys, panel keys).
- **SMS tone:** SMS tone allows you to choose whether to send a tone when the end point receives the message or the transmitter sends the message. Valid only in digital channels.
- **Group call tone:** Set whether to send a prompt tone after receiving the group call on the current channel. Only valid under digital channels.
- **Call tone:** Set whether to send a prompt tone after receiving a call on the current channel. Only valid under digital channels.
- **Call end prompt:** Set whether to issue a prompt tone after the call hold time (group call,

individual call) is over.

- **Outgoing call prompt:** Set whether to issue a prompt tone when the current channel user presses PTT to transmit.
- **Power-on prompt tone:** Set whether to issue a prompt tone when the walkie-talkie is turned on.

### Keyboard lock

After the settings are turned on, stand by until the set time, and the walkie-talkie will automatically lock the keyboard. (Long press the hand keyboard #word key to enter and exit the lock keyboard)

### Display mode

- **Display name:** The walkie-talkie is displayed in the form of a channel alias.
- **Display frequency:** The walkie-talkie is displayed in the form of operating frequency.

### Dual watch

- **Off:** Single-stay standby mode.
- **Dual band dual standby:** dual-guard dual-standby mode.
- **Dual band Single standby:** single-stay sin-

gle-stay mode, which can switch the waiting frequency band.

### Dual watch call stop

After the setting is turned on, in the dual-guard standby mode, after each call or reception ends, it will stay in the active channel for a period of time before entering the dual-guard standby mode.

### Boot interface

- **Preset characters:** After turning on the power, the walkie-talkie will display the characters set in.
- **Picture:** After the power is turned on, the walkie-talkie will display a pre-programmed picture.

### Boot character display

When the boot interface is a preset character, set the required boot character display.

### Languages

Support Chinese/English.

### Backlight

- **Brightness:** The backlight brightness of the LCD screen can be adjusted in three levels. The higher the level, the brighter the screen brightness.
- **Backlight time:** different backlight brightness time of the screen can be set: normal light, 5s, 10s, 15s, 30s, 45s, 60s, 120s, 180s, 240s, 300s.

### Menu reset time

Set the different times for the automatic exit menu without operation: 0s to 60s, with a step of 5s.

### Relay activation tone

Set up relay activation audio

 **Note:** This feature is only available for analog channels, digital channels do not have this menu.

### SMS format

- **H-SMS:** Allows SMS text communication with Hytera DMR walkie-talkies.
- **M-SMS:** Allows SMS text communication with

Motorola DMR walkie-talkies.

- **D-SMS:** Allows SMS text communication with DMR Alliance walkie-talkies.

⚠ **Note:** This feature is only available for digital channels, analog channels do not have this menu.

### Tail cancellation

Optional tail cancellation options: Off, 55Hz / 62Hz / 134.4Hz.

⚠ **Note:** This feature is only available for analog channels, digital channels do not have this menu.

### ◇ Channel editing

Walkie-talkie configuration menu path: Press OK to enter the main menu -> Settings -> Walkie-talkie configuration.

When the channel type is digital, it will automatically hide the menu in the analog section.

### Digital walkie-talkie configuration steps

#### Transmit/receive frequency

Sets the reception frequency of the current chan-

nel, which is valid for the current channel.

1. Press the **[MENU]** key to enter the main menu -> Settings -> Channel Edit -> Transmit Frequency or Receive Frequency.
2. Display the current transmission frequency or reception frequency, press the return key to delete the number bit by bit, and press the number key to enter the corresponding frequency.
3. After the change is completed, press the **[MENU]** key, and the screen will display that the setting was successful and return to the previous menu.

⚠ **Note:** The frequency range is limited by the frequency band. Please follow the frequency control of the local radio authority and use the transmission frequency in compliance.

### Channel name

Allows to reset the channel name.

### Color code

Color codes can identify a system, and users who need to communicate with each other must set the same color code; the host does not respond to

channel activity that does not match the pre-programmed color code.

- **Value range:** integers from 0 to 15.

⚠ **Note:** Digital channels should have the same color code as repeaters.

### Time slot

Set the working time slot for the current channel, and the options are time slot 1 or time slot 2.

- **Slot 1:** Always use "Slot 1" to transmit and receive in transit mode; in pass-through mode, this setting is invalid, and time slot 1 is used when receiving transit signals through.
- **Slot 2:** Always use "Slot 2" to transmit and receive in transit mode; in pass-through mode, this setting is invalid, and time slot 2 is used when receiving transit signals through.

### Through dual capacity

Direct dual capacity refers to the time division multiple access direct mode of DMR digital walkie-talkies, in which the same frequency point supports calls with two different time slots at the same time. The walkie-talkies in the same group must use the same time slot for calls, so as to ensure

that they will not interfere with walkie-talkies using other time slots.

- **On:** Walkie-talkies in the same group must use the same time slot (time slot 1 or time slot 2) to communicate.
- **Turn off:** Cancel the pass-through dual-slot function.

After opening the direct dual-slot communication, the walkie-talkie needs to be connected in the same time slot.

### Step

VFO channel mode, the channel switch button once, jump frequency value.

2.5K, 5K, 6.25K, 10K, 12.5K, 20K, 30K, 50K, a total of 8 frequency steps.

### Launch permit

The selection of transmit condition policies is granted during reception for the currently configured receiver.

- **Always allow:** The receiver can respond by pressing the transmit key during reception.
- **Color code idle:** The receiver receives the same frequency, the same color code, press

the transmit key, and is not allowed to respond; different color codes can respond.

- **Channel busy:** The receiver cannot respond by pressing the transmit key during reception.

### Launch contacts

Configure a common contact for the current channel and initiate a call to that contact when [PTT] is pressed.

You can choose group call, individual call, full call, default value: contact 1.

### Receiving group list

A list of receiving groups is associated with the current channel to facilitate users to receive multiple group calls on a digital channel. When a call is detected from a group ID that matches the list of receiving groups, the intercom opens the speaker and end users can respond or call back within the group call hold time.

- Select a receiving group list by using the [▲]/[▼] key, press the [MENU] key to confirm the application list and return to the previous menu.

### Channel type

- **Digital Channel:** This channel uses digital signaling to provide digital communication services to users. When set as a digital channel, the channel will display .
- **Analog channel:** This channel uses analog signaling to provide users with analog communication services. When set to analog channel, the channel will display .

### Analog channel setting steps

When the channel type is an analog channel, it will automatically hide the digital menu. The menus listed below are only for analog channels. The menus not listed are the same as digital channels. Please refer to "Digital Channel Settings".

### Receive subtones

Decode frequencies for analog channel subtones: without subtones, analog subtones, digital subtones or digital reverse subtones.

You can switch to the digital subtone by pressing the [\*] key on your hand, and then press the #key to switch the digital inverse subtone.

### Sub tone

Coding frequencies for analog channel subtones: without subtones, analog subtones, digital subtones or digital reverse subtones.

You can switch to the digital subtone by pressing the [\*] key on your hand, and then press the #key to switch the digital inverse subtone.

### Busylock

- **Always allow:** The receiver can respond by pressing the transmit key during reception.
- **Channel busy:** The receiver cannot respond by pressing the transmit key during reception.
- **Subtone matching:** During the receiving process, the receiver can respond by pressing the transmit button for the same subtone; for different subtones, pressing the transmit button cannot respond.
- **Subtone mismatch:** During the receiving process, the receiver cannot respond by pressing the transmit button for the same subtone; for different subtones, pressing the transmit button can respond.

### ◇ Walkie-talkie information

**Method:** Press the [MENU] key to enter the main menu -> Settings -> Intercom information. You can view the basic information of the end point.

Enter the walkie-talkie alias, ID query status.

- **Intercom ID:** In the digital channel, you can specify an ID for the machine to identify yourself, and use this ID to identify other users when they make a call or send you a text message. In the analog channel, it will display the pre-programmed walkie-talkie's own ID code.

⚠ **Note:** The ID number is up to 8 digits, and it is recommended not to repeat the number. The walkie-talkie ID will be viewed in the walkie-talkie information.

- **Intercom Alias:** Displays the current alias.

⚠ **Note:** Aliases are up to 16 characters, walkie-talkie aliases will be viewed in walkie-talkie information.

- **Frequency band:** The currently supported frequency range.

- **Firmware version:** the current software version.
- **Serial number:** The serial number of this machine.

#### ◇ **Factory reset**

You can control whether the menu item is displayed through Menu -> Configuration -> Factory Reset in CPS.

Restore factory default data, the method is as follows:

1. Press the **[MENU]** key to enter the main menu -> Settings -> Factory Reset
2. Prompt to confirm recovery
  - Press the back key to exit the reset
  - Press the **[MENU]** key to continue the reset, the machine will be restored to factory settings, and it will restart automatically.

⚠ **Note:** Do not rotate the button to shut down during factory reset.

## ■ **Recording**

Support for 10 minutes of local recording on digital channels, call recording is intended for security

purposes, and the end point can record the received and transmitted voice of the call.

Each call will be saved as a separate audio file.

You can control whether the menu item is displayed through Menu -> Configuration -> Recording in the CPS.

#### ◇ **Recording settings**

**Method 1:** Press the **[MENU]** key to enter the main menu -> Recording -> Recording Settings, and turn on the recording function.

#### ◇ **Audio files**

Recording list management includes playing, deleting, and viewing details.

1. Press the **[MENU]** key to enter the main menu -> Recording -> Recording File.
2. Press the **[▲]/[▼]** key to retrieve the recording entry, and then press the **[MENU]** key to select.
  - If you select "Play", the screen displays the recording playback, and plays the current entry recording.
  - If you select "Delete", delete the recording of the current entry.

#### ◇ **Delete All**

1. Go to the main menu -> Recording -> Delete All.
2. Press the **[MENU]** key and the screen displays "Delete?"
  - Press the **[MENU]** key to delete all recording files.
  - Pressing the back key will cancel the deletion.

### ■ Cryptographic services

Set a password to manage the end point, and only allow related operations if the end point verifies that the password is correct.

You can set the read frequency or write frequency password through CPS software -> programming -> read frequency and write frequency service, and write it to the walkie-talkie after checking it.

1. Read and write frequency password: Up to 8 numbers or letters can be set as the password.
2. If the read and write frequency password is not set, there is no need to fill in the password when reading and writing frequency.

⚠ **Note:** Remember your password and call your dealer for help if you forget your password.

### ■ Programming Guide

You need to connect the walkie-talkie to the computer via a dedicated writing cable for programming.

#### ◇ Frequency flow

The process of configuring the walkie-talkie with CPS writing software is as follows:

**Start → Connect the radio to PC → Read Configuration → Edit Configuration File → Write Configuration → Exit → End**

If you have a local configuration file for the walkie-talkie, you can also open the local configuration file in the CPS for configuration, and then write it to the walkie-talkie (write frequency).

- During the process of reading data (reading frequency) from the walkie-talkie, display "reading frequency".
- During the process of writing data (writing frequency) to the walkie-talkie, display "writing frequency".

#### ◇ DMR repeater configuration

In normal channel mode, digital channels or analog channels can be set, for example:

The handset frequency parameters are:

Receiving frequency: 412.025000MHz.

Transmission frequency: 422.025000MHz.

Then the relay frequency parameters are:

Receiving frequency (repeater downlink is the transmission frequency of the relay, that is, the receiving frequency of the handheld end point) 422.025000MHz.

Transmission frequency (the reception frequency of the relay station uplink, that is, the transmission frequency of the handheld end point) 412.025000MHz.

⚠ **Note:** The end point is in relay mode, and the power is set to high power, which is more conducive to signal reception.

| TECHNICAL SPECIFICATIONS |  |
|--------------------------|--|
|--------------------------|--|

| GENERAL               |                                            |
|-----------------------|--------------------------------------------|
| Specification         | Value                                      |
| Frequency Range (MHz) | 136-174&400-470Mhz                         |
| Memory channels       | 1000                                       |
| Frequency Stability   | ±2.5ppm                                    |
| Channel Spacing       | 12.5K                                      |
| Operating Temperature | -10 -55°C                                  |
| Supply Voltage        | 13.8V DC±15%                               |
| Dimension             | 98(W)*43(H)*126(D)mm/103(W)*47(H)*126(D)mm |
| Weight                | 448g                                       |

| RECEIVER                  |              |
|---------------------------|--------------|
| Sensitivity (12dB SINAD)  | ≤0.35μV      |
| Sensitivity(Digital Mode) | 0.3μV/BER 5% |
| Channel choice            | ≥60dB        |
| Intermodulation           | ≥60dB        |

#### 4FSK digital modulation

| RECEIVER              |                      |
|-----------------------|----------------------|
| Spurious Rejection    | ≥70dB                |
| Audio response        | +1~3dB (0.3~2.55KHz) |
| Signal to noise ratio | ≥40dB                |
| Audio Distortion      | ≤5%                  |
| Audio output power    | ≥2W±10%              |

| TRANSMIT              |                                   |
|-----------------------|-----------------------------------|
| Output power          | 25W/20W(VHF/UHF)                  |
| Modulation Mode       | Analog:9K96F3E<br>Digital:7K41F1D |
| Channel Power         | ≥60dB                             |
| Signal to noise ratio | ≥36dB                             |
| Parasitic Harmonic    | ≥60dB                             |
| Audio response        | +1~3dB (0.3~2.55KHz)              |
| Audio distortion      | ≤5%                               |

**EU Statement**

We declare that the radio is compliance with Radio equipment Directive (RED) 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: xxxxxx

The device in the environment with the temperature between -10-55°C and operating under 2000m, otherwise, it may damage your radio.

**RF Exposure Warning Statements:**

This equipment complies radiation exposure limits set forth for an uncontrolled environment. This equipment shall be installed and operated with minimum distance 150 cm between the radiator & body. This equipment complies with RF radiation exposure limits set forth for an uncontrolled environment.

External Antenna:

Antenna Gain: 0dbi (Typical), 3dBi (Max)

Antenna Impedance:50 Ohms

**FCC compliance statement**

This radio transmitter has been approved by FCC to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

External Antenna:

Maximum Antenna Gain: 0dbi (Typical), 3dBi (Max)

Antenna impedance: 50 Ohms

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment shall be installed and operated with minimum distance 80 cm between the radiator& body.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference including received interference that may cause undesired operation.

**WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.**