

Operation instructions

USER'S MANUAL



Professional wireless intercom
PROFESSIONAL FM TRANSCEIVER

Function Introduction

- Frequency range: VHF136-300MHz, UHF300-520MHz, AM108-136MHz (aviation reception), FM65-108MHz (FM radio)
- Large dual-screen display, full keyboard manual frequency input setting, free from programming software constraints
- Chinese and English language selection, voice prompts for main functions and channels
- Built-in input method, supporting local editing of intercom alias and channel name
- Identity code editing alias display for quickly obtaining the other party's identity ID information
- Dual watch/double standby switch, quick switching between high/medium/low power levels
- Positioning system, GPS to obtain location information coordinates and distance measurement sharing (optional)
- Noise reduction function to suppress background noise and make calls clearer (optional)
- Bluetooth function, equipped with a dedicated intercom Bluetooth headset for more convenient communication (optional)
- One-key frequency pairing, quickly realize frequency information transmission and copying at close range, eliminating programming settings
- Automatic or manual keyboard lock, LCD backlight and key backlight functions (adjustable backlight brightness)
- Automatic power saving, low voltage indication and alarm, real-time battery voltage query function
- 999 memory channels, QT/DQT sub-audio encoding and decoding, custom side key functions
- Channel creation, storage and deletion, channel scan addition and deletion, priority scan channel setting
- Repeater function settings: frequency offset, frequency offset direction, repeater off-network, repeater activation audio setting
- FM radio function (FM65~108MHz), radio interruption function (whether to allow radio interruption)

- Weather alert function, supporting US NOAA weather forecast reception, real-time weather warning for safe travel
- Acoustic and optical alarm function (three alarm type settings: alarm whistle/emission of alarm sound/emission of alarm code) to protect your safety
- Voice scrambling encryption, companding, frequency hopping functions for strong call confidentiality; voice activation (VOX) hands-free call, VOX level 1-9 optional
- Featured scanning functions: VFO scanning range setting, three scanning recovery mode options, grouped channel scanning, sub-audio scanning, priority channel scanning

1. Packing List

Before use, it is recommended that you check the product packaging box for signs of damage, open it carefully, and confirm whether the items listed in the following table are included. If you find any loss or damage to the product or its accessories during transportation, please contact the transporter or dealer immediately.

Item	Quantity	Item	Quantity
Intercom main unit	1	Belt clip	1
Lithium-ion battery pack	1	Wrist strap	1
Battery charger	1	User manual	1
Power adapter	1		
Full-band antenna	1		

Please refer to the color ring label at the bottom of the antenna for the antenna frequency band. If the frequency band is not indicated on the label, please refer to the specific frequency band on the main unit label.

2. Preparation Before Use

Installing the Antenna

Rotate the antenna clockwise until it is tight. To remove the antenna, rotate it counterclockwise.

Note: Do not swing the product by holding the top of the antenna, as this will reduce the performance and service life of the antenna.

Installing the Belt Clip

Use the included screws (two) to install the belt clip on the back of the intercom.

Installing the Battery Pack

Before installing or removing the battery, ensure that the intercom is completely turned off by rotating the power/volume knob counterclockwise.

To install the battery pack:

1. Face the back of the intercom towards you, align the tail of the lithium-ion battery pack with the bottom of the intercom and 贴紧 it.
2. Push the head of the battery upward until it is locked by the battery catch.

To remove the battery pack:

1. Face the back of the intercom towards you, press down firmly on the battery lock until the front of the battery pops up and separates from the body.
2. Lift the battery and slide it forward until it is removed from the intercom.

Installing Audio Accessories/Installing External Headphones (Optional, Purchased Separately)

1. Open the accessory interface cover;
2. Align the accessory plug with the accessory interface and push it firmly into place.
3. When the headphone is not in use, pull the headphone plug out of the headphone jack and cover the headphone cover. When the universal interface is not in use, please cover the dust cover.

Note: Please install the accessories correctly; otherwise, the external headphone or intercom programming of this product may be affected.

Charging the Battery Pack

Note: Ensure that the product is turned off during charging.





Please use the designated charging cradle of our company to charge the battery. The indicator light of the charging cradle shows the charging status.

1. Insert the plug of the power adapter into the power socket;
2. Insert the other end of the power adapter into the jack on the back of the charging cradle;
3. Correctly insert the battery or the product with the battery into the charging cradle;

The indicator light on the charging cradle shows the charging status. When the indicator light is red , it means charging has started. When the indicator light turns green, it means charging is complete .

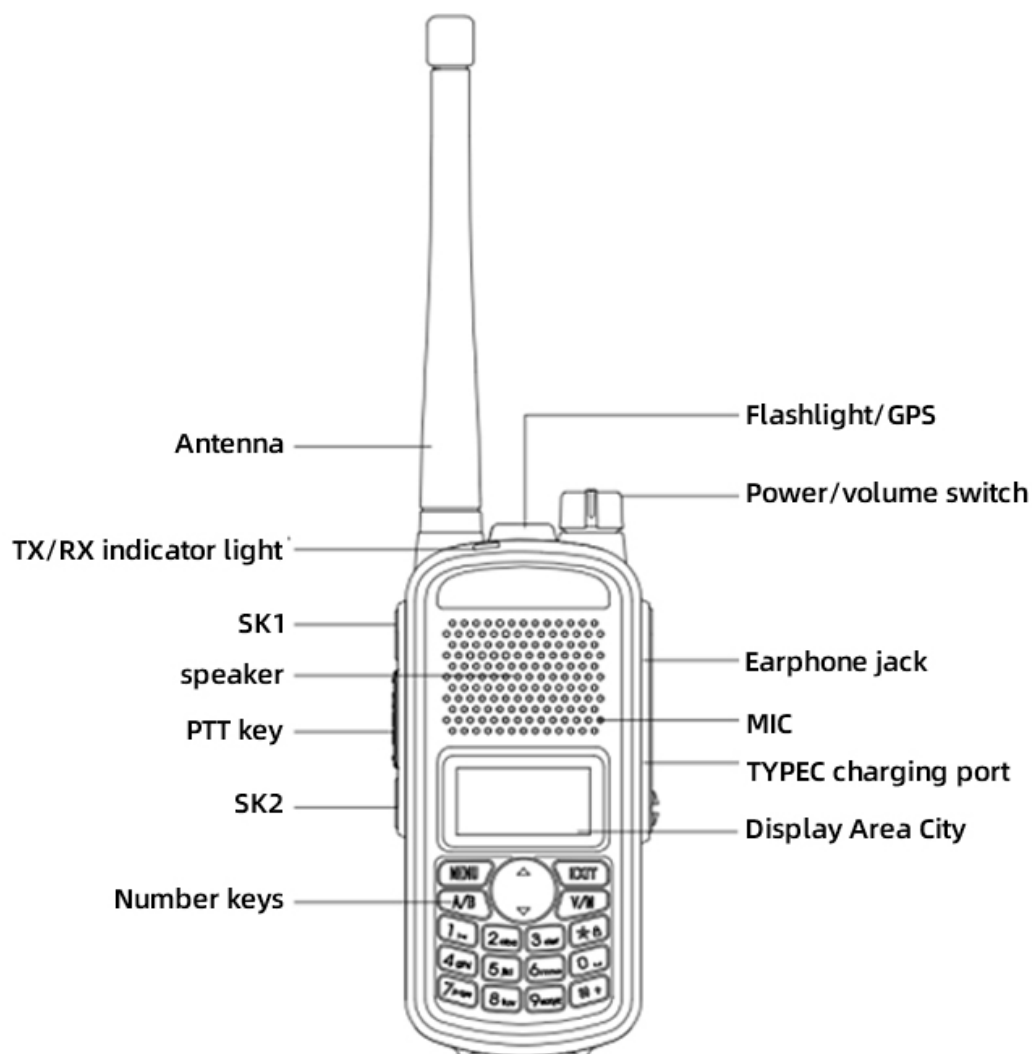
Battery Level Indication

This function allows you to know the remaining battery power.

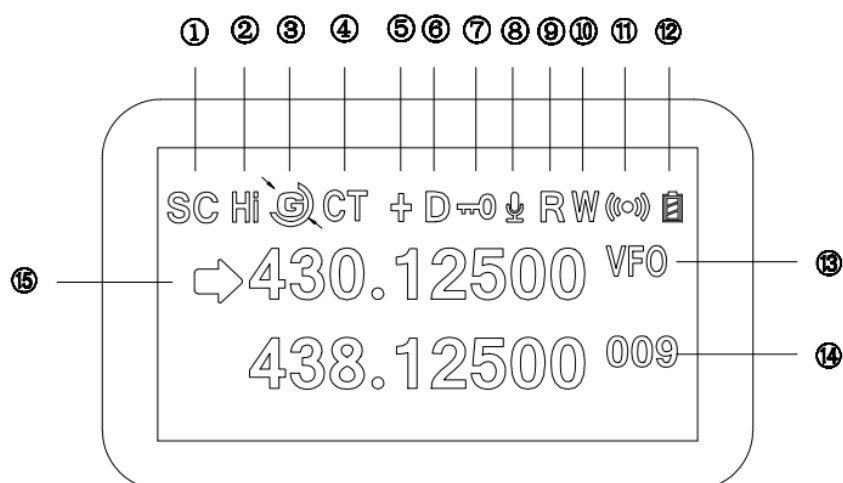
Battery Icon	Battery Level
	High
	Medium
	Low
	Insufficient

Note: When the voice broadcasts "low battery", it means the battery is exhausted. Please charge the battery pack in time!

Familiarizing Yourself with the Device



Product Parsing Diagram



Screen Function Icon Explanation

1: Frequency aggregation 2: High power 3: GPS 4: Sub-audio 5: Frequency offset direction 6: Dual-frequency monitoring 7: Keyboard locked 8: Voice control 9: Frequency inversion 10: Wide band 11: Noise reduction on 12: Battery level 13: Frequency mode 14: Channel mode 15: Main channel

3. Basic Operations

Power On and Off

To turn on the intercom, rotate the **【Power/Volume Switch】** knob clockwise until you hear a "click" and a short prompt tone. To turn off the intercom, rotate the knob counterclockwise until you hear a "click".

If the voice prompt function is enabled, the intercom will voice prompt the current working mode (frequency mode or channel mode) when turned on.

Voice prompt setting path: Press the **【MENU】** key to enter the menu >> Settings >> Option 7: Voice prompt switch.

Adjusting Volume

Turn on the intercom, rotate the **【Power/Volume Switch】** knob clockwise to increase the voice receiving volume, and counterclockwise to decrease it.

Switching Main/Sub Frequency Band

In standby mode, short-press the **【A/B】** key, and the display (→) switches between A and B bands to indicate the switching of main/sub frequency bands.

Note: The band where (→) stays is the main frequency band, and the other is the sub frequency band.

Channel and Frequency Mode Selection

In standby mode, short-press the **【VFO/MR】** key to switch between channel mode and frequency mode.

- In channel mode, the channel number will be displayed on the right.
- In frequency mode, VFO will be displayed on the right.

Frequency Input

In VFO mode, there are two ways to input frequency:

- Method 1: Manually input the precise frequency through the numeric keys.
- Method 2: Press the **【↑/↓】** key to select the frequency according to the preset step frequency.

Step frequency setting: In standby mode, press the **【MENU】** key to enter the menu >> Settings > > 2 Step frequency >> Set step frequency.

Channel Selection

In channel mode, select channels in the following ways:

- Method 1: Directly press the **【↑/↓】** key to select channels up or down. Long-press the **【↑/↓】** key to quickly switch channels up or down.
- Method 2: Manually input the channel number to directly enter the channel.

When the voice prompt function is enabled, the corresponding channel will be announced by voice .

Making/Receiving Calls

To ensure the best receiving volume, keep the microphone 2.5cm - 5cm away from your mouth when transmitting.

Making a call (no signaling call):

A no signaling call refers to a call initiated on a channel without signaling, and the call target is all users on that channel.

After selecting the channel, press and hold the 【PTT】 key. The intercom is in transmitting state, and the red indicator light is always on. Then speak into the microphone in a normal tone.

Making a call (with signaling call):

A call with signaling refers to a call initiated to a target contact on a channel with signaling. The signaling type is DTMF signaling, which is realized through encoding and decoding. (It needs to be preset by the dealer).

On the channel adapted to DTMF calls, press and hold the 【PTT】 key to initiate a call with signaling. When the receiving terminal receives the matching signaling, it can decode without any operation.

Receiving a call:

After releasing the 【PTT】 key, there will be a transmission end prompt tone. The intercom is in a receivable state. When receiving a call, the green indicator light is always on.

Note: In frequency mode, input the allowable working frequency through the numeric keyboard, press and hold the 【PTT】 key. The intercom is in transmitting state, and the red indicator light is always on. Then speak into the microphone in a normal tone.

Changing transmit power: Before initiating a call, you can temporarily switch the intercom power by short-pressing the 【#】 key. Hi, Mi or Lo displayed on the top indicates high power, medium power or low power transmission.



Common Basic Operations of Numeric Keyboard

1. Quick Search Function

Press the 【↑/↓】 key to set various functions or function parameters. Long-press the 【↑】 key or 【↓】 key for quick search.



2. Frequency Inversion Function Setting

When using the frequency inversion function, the transmitting and receiving frequencies of the intercom will be swapped, and the set CTCSS/DCS encoding and decoding will also be swapped.


In standby mode, short-press the 【* 】 key to swap the receiving and transmitting frequencies, and 'R' will be displayed on the top of the screen. Short-press the 【* 】 key twice again to exit to the main interface.


3. Off-Network Function Setting

When using the off-network function, the transmitting frequency and sub-audio signaling of the intercom will be converted to be consistent with the receiving frequency and sub-audio signaling. The main unit transmits using the receiving frequency.

In standby mode, short-press the 【* 】 key twice, and 'T' will be displayed on the top of the screen. Short-press the 【* 】 key once again to exit to the main interface.

4. Keyboard Locking

When the numeric keyboard is unlocked, long-press the 【* 】 key to lock the numeric keyboard, and the (lock icon) will be displayed at the bottom of the screen.

When the numeric keys are locked, long-press the 【* 】 key to unlock, and the (lock icon) at the bottom of the screen will disappear.

4. Function Menu

You can select, edit and view relevant intercom information functions for settings, programming, scanning, intercom information and positioning system in the menu options.

4.1 Basic Use of Menu

1. In standby mode, press the 【MENU】 key to enter the first-level menu.
2. Use the 【↑/↓】 key to select the desired option among the menu options.
3. After finding the desired menu option, press the 【MENU】 key again to select the menu option.
4. Use the 【↑/↓】 key to select the desired function option. Press the 【MENU】 key again to enter the menu option.
5. Use the 【↑/↓】 key to select the required parameters for this item.

(1) To confirm the selection, press the 【MENU】 key, which will save your settings and return to the main menu.

(2) To cancel the change, press the **【Exit】** key, which will reset the menu item and allow you to exit the menu completely.

6. To return to the previous menu, press the **【Exit】** key, or press the PTT key to exit the menu mode completely.

You can enter "Menu, Settings" through the menu key of the terminal to set some common functions. The specific description and operation method are as follows.

Serial Number	Function	Options	Description
1	Squelch Level	0,...,9	Squelch level. The lower the level, the more susceptible to interference; the higher the level, the lower the sensitivity. The default value is 3.
2	Step Frequency	2.5KHz, 5.0KHz, 6.25 KHz, 10.00KHz, 12.5 0KHz, 20.0KHz, 25.0 KHz	In frequency mode, press the 【↑/↓】 key to change the step value of the frequency, with a range of 2.5~50 KHz
3	Voice Control Transmission	Off; 1,2,...9	Turn off voice control transmission; The level intensity to activate voice control, with a range of 1~9.
4	Voice Control Delay	Off; 0.5...2.0(S)	Turn off voice control delay; The delay time to activate voice control, with a range of 0.5...2.0(S)

5	Transmit Time Limit	Off; 15.....600(S)	Press and hold the PTT key to transmit continuously; The range is 15.....600(S)
6	Beep Switch	Off; On	No beep when off; Beep when on
7	Voice Prompt Switch	Off; On	No operation voice when off; With operation prompt voice when on
8	Call End Prompt Tone	Off; TONE; MDC1200	Turn off call end prompt tone; Call end prompt tone ; Call end prompt wow tone
9	Power Saving Mode	Off; On	Turn off power saving mode; Turn on 1.....4 level power saving mode
10	Auto Keyboard Lock	Off; On	Turn off auto keyboard lock; Turn on auto keyboard lock function
11	Dual-Frequency Monitoring	Off; On	Dual monitoring off; Dual monitoring on
12	Backlight Brightness	Backlight brightness 1.....5	Select the required brightness
13	Backlight Time	Always on; 1.....10(S)	Backlight is always on; Select the required time
14	Menu Exit Time	Off; 1.....30(S)	Do not exit the menu interface automatically when

			off; You can select the time to exit the menu interface automatically from 1.....30(S)
15	A Band Working Mode	Channel frequency ; Channel name ; Channel number ; Frequency + Channel number	In channel mode for A band, the channel displays frequency; In channel mode for A band, the channel displays channel name; In channel mode for A band, the channel displays channel number; In channel mode for A band, the channel displays frequency + channel number
16	B Band Working Mode	Channel frequency ; Channel name ; Channel number ; Frequency + Channel number	In channel mode for B band, the channel displays frequency; In channel mode for B band, the channel displays channel name; In channel mode for B band, the channel displays channel number; In channel mode for AB band, the channel displays frequency + channel number
17	Sidetone Switch	Off; Key sidetone; Identity code; Key + Identity code	Off, no sidetone when transmitting; With key sidetone when transmitting ; With identity code sidetone when

			transmitting; With both identity code and key sidetone when transmitting
18	ID Editing	Edit ID code	Such as 123...
19	ID Transmission Delay	100(MS)...1000(MS)	The delay time can be set from 100(MS) ...1000(MS)
20	Language Selection	Chinese; English	Chinese voice; English voice
21	Alarm Type	On-site alarm; Send alarm sound; Send alarm code	
22	Tail Tone Elimination	Off; On	When off, the machine does not send a shutdown code after releasing PTT, usually when relaying through a repeater, to make it generate noise to confirm whether the local signal is relayed; When on, the machine sends a shutdown code after releasing the PTT key to suppress the instantaneous noise on the receiving side
23	Repeater Activation Audio	1000HZ...2100HZ	The setting range is

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Note: In frequency mode, input the allowable working frequency through the numeric keyboard, press and hold the **【PTT】** key. The intercom is in transmitting state, and the red indicator light is always on. Then speak into the microphone in a normal tone.

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 3. After finding the desired menu option, press the 【MENU】 key again to select the menu option.
 4. Use the 【↑/↓】 key to select the desired function option. Press the 【MENU】 key again to enter the menu option.
 5. Use the 【↑/↓】 key to select the required parameters for this item.
- (1) To confirm the selection, press the 【MENU】 key, which will save your settings and return to the main menu.
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3	Voice Control Transmission	Off; 1,2,...9	Turn off voice control transmission; The

			level intensity to activate voice control, with a range of 1~9.
4	Voice Control Delay	Off; 0.5...2.0(S)	Turn off voice control delay; The delay time to activate voice control, with a range of 0.5...2.0(S)
5	Transmit Time Limit	Off; 15.....600(S)	Press and hold the PTT key to transmit continuously; The range is 15.....600(S)
6	Beep Switch	Off; On	No beep when off; Beep when on
7	Voice Prompt Switch	Off; On	No operation voice when off; With operation prompt voice when on
8	Call End Prompt Tone	Off; TONE; MDC1200	Turn off call end prompt tone; Call end prompt tone ; Call end prompt wow tone
9	Power Saving Mode	Off; On	Turn off power saving mode; Turn on 1.....4 level power saving mode
10	Auto Keyboard Lock	Off; On	Turn off auto keyboard lock; Turn on auto keyboard lock function
11		Off; On	

	Dual-Frequency Monitoring		Dual monitoring off; Dual monitoring on
12	Backlight Brightness	Backlight brightness 1.....5	Select the required brightness
13	Backlight Time	Always on; 1.....10(S)	Backlight is always on; Select the required time
14	Menu Exit Time	Off; 1.....30(S)	Do not exit the menu interface automatically when off; You can select the time to exit the menu interface automatically from 1.....30(S)
15	A Band Working Mode	Channel frequency ; Channel name ; Channel number ; Frequency + Channel number	In channel mode for A band, the channel displays frequency; In channel mode for A band, the channel displays channel name; In channel mode for A band, the channel displays channel number; In channel mode for A band, the channel displays frequency + channel number
16	B Band Working Mode	Channel frequency ; Channel name ; Channel number ; Frequency + Channel number	In channel mode for B band, the channel displays frequency; In channel mode for B band, the channel displays channel name; In channel mode for B band,

			the channel displays channel number; In channel mode for AB band, the channel displays frequency + channel number
17	Sidetone Switch	Off; Key sidetone; Identity code; Key + Identity code	Off, no sidetone when transmitting; With key sidetone when transmitting ; With identity code sidetone when transmitting; With both identity code and key sidetone when transmitting
18	ID Editing	Edit ID code	Such as 123...
19	ID Transmission Delay	100(MS)...1000(MS)	The delay time can be set from 100(MS) ...1000(MS)
20	Language Selection	Chinese; English	Chinese voice; English voice
21	Alarm Type	On-site alarm; Send alarm sound; Send alarm code	
22	Tail Tone Elimination	Off; On	When off, the machine does not send a shutdown code after releasing PTT, usually when relaying through a repeater, to make it generate noise to confirm whether the local signal is relayed; When on, the machine sends a

			shutdown code after releasing the PTT key to suppress the instantaneous noise on the receiving side
23	Repeater Activation Audio	1000HZ...2100HZ	The setting range is 1000HZ...2100HZ
24	Over-Repeater Tail Tone Elimination	Off; 1.....10	No tail tone elimination when off ; The setting range is 1.....10
25	Over-Repeater Tail Tone Delay	Off; 1.....10	Turn off over-repeater tail tone delay; The setting range is 1.....10
26	Radio Interruption	Off; On	When off, no interruption when there is an intercom signal incoming; When on, switch to receiving when there is an intercom signal incoming
27	Side Key 1 Short-Press Function	Off, Monitor, Frequency sweep, Scan, Voltage, Alarm , Scramble, Radio , Compand, Sub-frequency PTT	Select functions according to your needs
28	Side Key 1 Long-Press Function	Off, Monitor, Frequency sweep, Scan, Voltage, Alarm , Scramble, Radio , Compand, Sub-frequency PTT	Select functions according to your needs
29			

	Side Key 2 Short-Press Function	Off, Monitor, Frequency sweep, Scan, Voltage, Alarm , Scramble, Radio , Compand, Sub-frequency PTT	Select functions according to your needs
30	Side Key 2 Long-Press Function	Off, Monitor, Frequency sweep, Scan, Voltage, Alarm , Scramble, Radio , Compand, Sub-frequency PTT	Select functions according to your needs
31	Power-On Display	Preset picture; Preset information; Battery voltage	The power-on interface displays a picture; The power-on interface displays set information, set through programming software; The power-on interface displays battery voltage
32	Identity Code	Off; On	No transmission of local identity code ; Transmit local identity code
33	Local Identity	Machine 1..... Machine 80	Select according to your needs: Machine 1.....Machine 80
34	Restore Factory Settings	Frequency mode; All	Only restore frequency mode ; Restore settings before leaving the factory
35	Noise Reduction Function	Off; On	No noise reduction function when off



			; Turn on noise reduction function to shield all noise and make calls clearer.
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4.2 Basic Operations of Common Functions

4.2.1 Voice Control Transmission (VOX)

When the VOX function is enabled, you do not need to press the PTT key to transmit. It automatically transmits through the sound of normal speech, stops transmitting automatically after speaking stops, and waits for reception. In some work scenarios where users cannot free their hands to press the **【PTT】** key to call, this function can be enabled.

a. In standby mode, press the **【MENU】** key to enter the menu >> Settings >> 3 Voice control transmission >> Set VOX level.

- Enable VOX, select VOX level 1-9. The larger the value, the higher the sensitivity. The **【】** icon is displayed on the top of the screen.
- Disable VOX, select Off, and the **【】** icon disappears

b. In standby mode, press the **【MENU】** key to enter the menu >> Settings >> 4 Voice control delay >> Set VOX delay time.

4.2.2 Dual-Frequency Monitoring

When in dual-frequency monitoring mode, the intercom can receive frequencies set on channels A or B. The operation is as follows:

In standby mode, press the **【MENU】** key to enter the menu >> Settings >> 11 Dual-frequency monitoring >> Set Off/On.

When the dual-frequency monitoring function is enabled, the icon 'D' is displayed on the first line of the screen. When the dual-frequency monitoring function is disabled, the icon 'D' on the first line of the screen disappears.

4.2.3 Working Mode (A/B Band)

Operation 1: In standby mode, press the **【MENU】** key to enter the menu >> Settings >> 15/16 A/B band working mode >> Set the desired mode.

The working mode of the intercom can be set to VFO frequency mode and channel mode. The channel mode has 3 display modes: Channel number; Frequency + Channel number; Channel name.

Operation 2: In standby mode, short-press the **【VFO/MR】** key to switch between channel mode and frequency mode.

Changing channel name: In standby mode, press the **【MENU】** key to enter the menu >> Programming >> Channel alias for editing.

4.2.4 Sidetone Switch

In standby mode, press the **【MENU】** key to enter the menu >> Settings >> 17 Sidetone switch, select the desired sidetone, and press the **【MENU】** key to confirm and return.

The local sidetones are: >> OFF: Off.

ANI-ST: Identity code sidetone is enabled during transmission.

DT+ANI: Both key and identity code sidetones are enabled during transmission.

4.2.5 Acoustic and Optical Alarm

In standby mode, press the **【MENU】** key to enter the menu >> Settings >> 21 Alarm type, select the desired type, and press the **【MENU】** key to confirm and return. There are three modes for you to set: on-site alarm, send alarm sound, and send alarm code.

Long-press the side key SK1 definition key to activate the alarm function. The speaker emits an alarm sound. Press the PTT key to exit the alarm. (The side key 1/2 short and long press functions can be manually set through the menu to select alarm definition)

4.2.6 Radio

In standby mode, short-press the SK1 side key to turn on the radio. The screen displays the radio interface and the tuning frequency.

a. Press the **【↑/↓】** key to search for radio channels according to the preset step frequency or directly input the known radio frequency through the keyboard.

b. Or press the **【#】** key to automatically search for radio channels.

Press the side key or **【Exit】** key again to exit the radio mode.

4.2.7 Radio Interruption

In standby mode, press the **【MENU】** key to enter the menu >> Settings >> 26 Radio interruption. Select whether to be interrupted by intercom calls while listening to FM radio.

- On: When listening to FM radio, incoming calls will be interrupted. Calls have priority.
- Off: When listening to FM radio, you will continue to listen to the radio without being interrupted even if there is an intercom call.

4.2.8 Repeater Activation Audio

The intercom works in duplex mode. Even if it is in the channel locked state, you can transmit the repeater activation audio through the following operations.

Turn on the intercom, press and hold the **【PTT】** key, then press the SK2 key to transmit 1750Hz audio to activate the dormant repeater.

Repeater activation audio setting path: Press the **【MENU】** key to enter the menu >> Settings > > 23 Repeater activation audio. There are 4 types of audio available: 1000Hz, 1450Hz, 1750Hz, 2100Hz.

4.2.9 Restore Factory Settings

- Frequency mode VFO: Allows resetting all settings in frequency mode (does not reset channels and intercom settings) to restore to the initial state.
- All ALL: Allows resetting intercom settings, channel information, and all settings in VFO mode to restore to the initial state.

Note: The intercom can only be reset if the "Allow reset" option is checked through CPS programming.

4.3 Operation of Featured Functions

4.3.1 One-Key Frequency Pairing Function

- a. In standby mode, long-press the **【MENU】** key to enable one-key frequency pairing, enter the frequency sweep interface, select the receiving frequency band (VHF/UHF) by pressing the **【↑ / ↓】** key. When a signal is received, the current frequency of the other party can be decoded. If the current frequency has superimposed sub-audio, it will also be displayed on the screen. Press the **【MENU】** key to complete frequency pairing, or press the **【Exit】** key to cancel and exit.
- b. Or press the side key SK1 frequency sweep definition key to enable frequency pairing, with the same operation as step a. (The side key 1/2 short and long press functions can be manually set through the menu to select frequency sweep function definition)

4.3.2 Aviation Reception

Reception (transmit restricted) and scanning can be performed on the aviation frequency band (AM) 108-136MHz.

4 Keep the microphone 2.5cm - 5cm away from your mouth when transmitting.

Making a call (no signaling call):

A no signaling call refers to a call initiated on a channel without signaling, and the call target is all users on that channel.

After selecting the channel, press and hold the **【PTT】** key. The intercom is in transmitting state, and the red indicator light is always on. Then speak into the microphone in a normal tone.

Making a call (with signaling call):

A call with signaling refers to a call initiated to a target contact on a channel with signaling. The signaling type is DTMF signaling, which is realized through encoding and decoding. (It needs to be preset by the dealer).

On the channel adapted to DTMF calls, press and hold the **【PTT】** key to initiate a call with signaling. When the receiving terminal receives the matching signaling, it can decode without any operation.

Receiving a call:

After releasing the **【PTT】** key, there will be a transmission end prompt tone. The intercom is in a receivable state. When receiving a call, the green indicator light is always on.

Note: In frequency mode, input the allowable working frequency through the numeric keyboard, press and hold the **【PTT】** key. The intercom is in transmitting state, and the red indicator light is always on. Then speak into the microphone in a normal tone.

Changing transmit power: Before initiating a call, you can temporarily switch the intercom power by short-pressing the **【#】** key. Hi, Mi or Lo displayed on the top indicates high power, medium power or low power transmission.



Common Basic Operations of Numeric Keyboard

1. Quick Search Function

Press the **【▲/▼】** key to set various functions or function parameters. Long-press the **【▲】** key or **【▼】** key for quick search.



2. Frequency Inversion Function Setting

When using the frequency inversion function, the transmitting and receiving frequencies of the intercom will be swapped, and the set CTCSS/DCS encoding and decoding will also be swapped.


In standby mode, short-press the **【* 】** key to swap the receiving and transmitting frequencies, and 'R' will be displayed on the top of the screen. Short-press the **【* 】** key twice again to exit to the main interface.


3. Off-Network Function Setting

When using the off-network function, the transmitting frequency and sub-audio signaling of the intercom will be converted to be consistent with the receiving frequency and sub-audio signaling. The main unit transmits using the receiving frequency.

In standby mode, short-press the **【* 】** key twice, and 'T' will be displayed on the top of the screen. Short-press the **【* 】** key once again to exit to the main interface.

4. Keyboard Locking

When the numeric keyboard is unlocked, long-press the **【* 】** key to lock the numeric keyboard, and the (lock icon) will be displayed at the bottom of the screen.

When the numeric keys are locked, long-press the **【* 】** key to unlock, and the (lock icon) at the bottom of the screen will disappear.

4. Function Menu

You can select, edit and view relevant intercom information functions for settings, programming, scanning, intercom information and positioning system in the menu options.

4.1 Basic Use of Menu

1. In standby mode, press the **【MENU】** key to enter the first-level menu.
2. Use the **【▲/▼】** key to select the desired option among the menu options.

3. After finding the desired menu option, press the **【MENU】** key again to select the menu option.
 4. Use the **【▲/▼】** key to select the desired function option. Press the **【MENU】** key again to enter the menu option.
 5. Use the **【▲/▼】** key to select the required parameters for this item.
- (1) To confirm the selection, press the **【MENU】** key, which will save your settings and return to the main menu.
- (2) To cancel the change, press the **【Exit】** key, which will reset the menu item and allow you to exit the menu completely.
6. To return to the previous menu, press the **【Exit】** key, or press the PTT key to exit the menu mode completely.

You can enter "Menu, Settings" through the menu key of the terminal to set some common functions. The specific description and operation method are as follows.

Serial Number	Function	Options	Description
1	Squelch Level	0,...,9	Squelch level. The lower the level, the more susceptible to interference; the higher the level, the lower the sensitivity. The default value is 3.
2	Step Frequency	2.5KHz, 5.0KHz, 6.25 KHz, 10.00KHz, 12.5 0KHz, 20.0KHz, 25.0 KHz	In frequency mode, press the 【▲/▼】 key to change the step value of the frequency, with a range of 2.5~50 KHz
3	Voice Control Transmission	Off; 1,2,...9	Turn off voice control transmission; The level intensity to activate voice

			control, with a range of 1~9.
4	Voice Control Delay	Off; 0.5...2.0(S)	Turn off voice control delay; The delay time to activate voice control, with a range of 0.5...2.0(S)
5	Transmit Time Limit	Off; 15.....600(S)	Press and hold the PTT key to transmit continuously; The range is 15.....600(S)
6	Beep Switch	Off; On	No beep when off; Beep when on
7	Voice Prompt Switch	Off; On	No operation voice when off; With operation prompt voice when on
8	Call End Prompt Tone	Off; TONE; MDC1200	Turn off call end prompt tone; Call end prompt tone ; Call end prompt wow tone
9	Power Saving Mode	Off; On	Turn off power saving mode; Turn on 1.....4 level power saving mode
10	Auto Keyboard Lock	Off; On	Turn off auto keyboard lock; Turn on auto keyboard lock function
11	Dual-Frequency Monitoring	Off; On	Dual monitoring off; Dual monitoring on

12	Backlight Brightness	Backlight brightness 1.....5	Select the required brightness
13	Backlight Time	Always on; 1.....10(S)	Backlight is always on; Select the required time
14	Menu Exit Time	Off; 1.....30(S)	Do not exit the menu interface automatically when off; You can select the time to exit the menu interface automatically from 1.....30(S)
15	A Band Working Mode	Channel frequency ; Channel name ; Channel number ; Frequency + Channel number	In channel mode for A band, the channel displays frequency; In channel mode for A band, the channel displays channel name; In channel mode for A band, the channel displays channel number; In channel mode for A band, the channel displays frequency + channel number
16	B Band Working Mode	Channel frequency ; Channel name ; Channel number ; Frequency + Channel number	In channel mode for B band, the channel displays frequency; In channel mode for B band, the channel displays channel name; In channel mode for B band, the channel displays channel number; In channel mode for AB

			band, the channel displays frequency + channel number
17	Sidetone Switch	Off; Key sidetone; Identity code; Key + Identity code	Off, no sidetone when transmitting; With key sidetone when transmitting ; With identity code sidetone when transmitting; With both identity code and key sidetone when transmitting
18	ID Editing	Edit ID code	Such as 123...
19	ID Transmission Delay	100(MS)...1000(MS)	The delay time can be set from 100(MS) ...1000(MS)
20	Language Selection	Chinese; English	Chinese voice; English voice
21	Alarm Type	On-site alarm; Send alarm sound; Send alarm code	
22	Tail Tone Elimination	Off; On	When off, the machine does not send a shutdown code after releasing PTT, usually when relaying through a repeater, to make it generate noise to confirm whether the local signal is relayed; When on, the machine sends a shutdown code after releasing the PTT key to suppress the

			instantaneous noise on the receiving side
23	Repeater Activation Audio	1000HZ...2100HZ	The setting range is 1000HZ...2100HZ
24	Over-Repeater Tail Tone Elimination	Off; 1.....10	No tail tone elimination when off ; The setting range is 1.....10
25	Over-Repeater Tail Tone Delay	Off; 1.....10	Turn off over-repeater tail tone delay; The setting range is 1.....10
26	Radio Interruption	Off; On	When off, no interruption when there is an intercom signal incoming; When on, switch to receiving when there is an intercom signal incoming
27	Side Key 1 Short-Press Function	Off, Monitor, Frequency sweep, Scan, Voltage, Alarm , Scramble, Radio , Compand, Sub-frequency PTT	Select functions according to your needs
28	Side Key 1 Long-Press Function	Off, Monitor, Frequency sweep, Scan, Voltage, Alarm , Scramble, Radio , Compand, Sub-frequency PTT	Select functions according to your needs
29	Side Key 2 Short-Press Function	Off, Monitor, Frequency sweep, Scan, Voltage, Alarm , Scramble, Radio	Select functions according to your needs

		, Comband, Sub-frequency PTT	
30	Side Key 2 Long-Press Function	Off, Monitor, Frequency sweep, Scan, Voltage, Alarm, Scramble, Radio, Comband, Sub-frequency PTT	Select functions according to your needs
31	Power-On Display	Preset picture; Preset information; Battery voltage	The power-on interface displays a picture; The power-on interface displays set information, set through programming software; The power-on interface displays battery voltage
32	Identity Code	Off; On	No transmission of local identity code ; Transmit local identity code
33	Local Identity	Machine 1..... Machine 80	Select according to your needs: Machine 1.....Machine 80
34	Restore Factory Settings	Frequency mode; All	Only restore frequency mode ; Restore settings before leaving the factory
35	Noise Reduction Function	Off; On	No noise reduction function when off ; Turn on noise reduction function to shield all noise


			and make calls clearer.
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4.2 Basic Operations of Common Functions

4.2.1 Voice Control Transmission (VOX)

When the VOX function is enabled, you do not need to press the PTT key to transmit. It automatically transmits through the sound of normal speech, stops transmitting automatically after speaking stops, and waits for reception. In some work scenarios where users cannot free their hands to press the 【PTT】 key to call, this function can be enabled.

a. In standby mode, press the 【MENU】 key to enter the menu >> Settings >> 3 Voice control transmission >> Set VOX level.

- Enable VOX, select VOX level 1-9. The larger the value, the higher the sensitivity. The 【】 icon is displayed on the top of the screen.

- Disable VOX, select Off, and the 【】 icon disappears.

b. In standby mode, press the 【MENU】 key to enter the menu >> Settings >> 4 Voice control delay >> Set VOX delay time.

4.2.2 Dual-Frequency Monitoring

When in dual-frequency monitoring mode, the intercom can receive frequencies set on channels A or B. The operation is as follows:

In standby mode, press the 【MENU】 key to enter the menu >> Settings >> 11 Dual-frequency monitoring >> Set Off/On.

When the dual-frequency monitoring function is enabled, the icon 'D' is displayed on the first line of the screen. When the dual-frequency monitoring function is disabled, the icon 'D' on the first line of the screen disappears.

4.2.3 Working Mode (A/B Band)

Operation 1: In standby mode, press the 【MENU】 key to enter the menu >> Settings >> 15/16 A/B band working mode >> Set the desired mode.

The working mode of the intercom can be set to VFO frequency mode and channel mode. The channel mode has 3 display modes: Channel number; Frequency + Channel number; Channel name.

Operation 2: In standby mode, short-press the **【VFO/MR】** key to switch between channel mode and frequency mode.

Changing channel name: In standby mode, press the **【MENU】** key to enter the menu >> Programming >> Channel alias for editing.

4.2.4 Sidetone Switch

In standby mode, press the **【MENU】** key to enter the menu >> Settings >> 17 Sidetone switch, select the desired sidetone, and press the **【MENU】** key to confirm and return.

The local sidetones are: >> OFF: Off.

ANI-ST: Identity code sidetone is enabled during transmission.

DT+ANI: Both key and identity code sidetones are enabled during transmission.

4.2.5 Acoustic and Optical Alarm

In standby mode, press the **【MENU】** key to enter the menu >> Settings >> 21 Alarm type, select the desired type, and press the **【MENU】** key to confirm and return. There are three modes for you to set: on-site alarm, send alarm sound, and send alarm code.

Long-press the side key SK1 definition key to activate the alarm function. The speaker emits an alarm sound. Press the PTT key to exit the alarm. (The side key 1/2 short and long press functions can be manually set through the menu to select alarm definition)

4.2.6 Radio

In standby mode, short-press the SK1 side key to turn on the radio. The screen displays the radio interface and the tuning frequency.

- a. Press the **【▲/▼】** key to search for radio channels according to the preset step frequency or directly input the known radio frequency through the keyboard.
- b. Or press the **【#】** key to automatically search for radio channels.

Press the side key or 【Exit】 key again to exit the radio mode.

4.2.7 Radio Interruption

In standby mode, press the 【MENU】 key to enter the menu >> Settings >> 26 Radio interruption. Select whether to be interrupted by intercom calls while listening to FM radio.

- On: When listening to FM radio, incoming calls will be interrupted. Calls have priority.
- Off: When listening to FM radio, you will continue to listen to the radio without being interrupted even if there is an intercom call.

4.2.8 Repeater Activation Audio

The intercom works in duplex mode. Even if it is in the channel locked state, you can transmit the repeater activation audio through the following operations.

Turn on the intercom, press and hold the 【PTT】 key, then press the SK2 key to transmit 1750Hz audio to activate the dormant repeater.

Repeater activation audio setting path: Press the 【MENU】 key to enter the menu >> Settings > > 23 Repeater activation audio. There are 4 types of audio available: 1000Hz, 1450Hz, 1750Hz, 2100Hz.

4.2.9 Restore Factory Settings

- Frequency mode VFO: Allows resetting all settings in frequency mode (does not reset channels and intercom settings) to restore to the initial state.
- All ALL: Allows resetting intercom settings, channel information, and all settings in VFO mode to restore to the initial state.

Note: The intercom can only be reset if the "Allow reset" option is checked through CPS programming.

4.3 Operation of Featured Functions

4.3.1 One-Key Frequency Pairing Function

a. In standby mode, long-press the 【MENU】 key to enable one-key frequency pairing, enter the frequency sweep interface, select the receiving frequency band (VHF/UHF) by pressing the 【▲/▼】

key. When a signal is received, the current frequency of the other party can be decoded. If the current frequency has superimposed sub-audio, it will also be displayed on the screen. Press the **【MENU】** key to complete frequency pairing, or press the **【Exit】** key to cancel and exit.

b. Or press the side key SK1 frequency sweep definition key to enable frequency pairing, with the same operation as step a. (The side key 1/2 short and long press functions can be manually set through the menu to select frequency sweep function definition)

4.3.2 Aviation Reception

Reception (transmit restricted) and scanning can be performed on the aviation frequency band (AM) 108-136MHz.

4.0 channel locked state, you can transmit the repeater activation audio through the following operations.

Turn on the intercom, press and hold the 【PTT】 key, then press the SK2 key to transmit 1750Hz audio to activate the dormant repeater.

Repeater activation audio setting path: Press the 【MENU】 key to enter the menu >> Settings > > 23 Repeater activation audio. There are 4 types of audio available: 1000Hz, 1450Hz, 1750Hz, 2100Hz.

4.2.9 Restore Factory Settings

- Frequency mode VFO: Allows resetting all settings in frequency mode (does not reset channels and intercom settings) to restore to the initial state.
- All ALL: Allows resetting intercom settings, channel information, and all settings in VFO mode to restore to the initial state.

Note: The intercom can only be reset if the "Allow reset" option is checked through CPS programming.

4.3 Operation of Featured Functions

4.3.1 One-Key Frequency Pairing Function

- In standby mode, long-press the 【MENU】 key to enable one-key frequency pairing, enter the frequency sweep interface, select the receiving frequency band (VHF/UHF) by pressing the 【↑ / ↓】 key. When a signal is received, the current frequency of the other party can be decoded. If the current frequency has superimposed sub-audio, it will also be displayed on the screen. Press the 【MENU】 key to complete frequency pairing, or press the 【Exit】 key to cancel and exit.
- Or press the side key SK1 frequency sweep definition key to enable frequency pairing, with the same operation as step a. (The side key 1/2 short and long press functions can be manually set through the menu to select frequency sweep function definition)

4.3.2 Aviation Reception

Reception (transmit restricted) and scanning can be performed on the aviation frequency band (AM) 108-136MHz.

4.3.3 Weather Alert Function

There are two modes: alarm enabled and alarm disabled.

a. Weather forecast not enabled

1. Press the **【MENU】** key to enter the menu and select the weather alert function option.
2. Press the **【▲/▼】** key to set the weather forecast switch to "On", then press the **【Exit】** key to return to the main interface.
3. Long-press the **【Exit】** key for 2 seconds to enable the weather forecast mode. The main interface displays the default weather forecast channel in white font: WX-01.
4. The terminal can only select the desired weather channel for reception via the **【▲/▼】** key (10 channels: WX-01~WX-10) and cannot transmit or receive calls with external regular frequency bands
5. Long-press the **【#】** key for 2 seconds to enable weather channel scanning.
6. Press the **【PTT】** key or **【Exit】** key to end and return to the regular channel on the main monitoring interface.

b. Weather alert enabled

1. Press the **【MENU】** key to enter the menu and select the weather alert function option.
2. Press the **【▲/▼】** key to set both the weather forecast and weather alert switches to "On", then press the **【Exit】** key to return to the main interface.
3. Long-press the **【Exit】** key for 2 seconds to enable the weather forecast mode. The main interface displays the default weather forecast channel in white font on the sub-frequency band: WX-01.
4. In monitoring mode, the main frequency band of the terminal can normally transmit and receive calls, while the sub-frequency band for weather forecasts remains in monitoring state.
5. When receiving an alert signal from an external weather station, the terminal enters alert mode: the indicator light turns on, an alarm sound is emitted, and the weather forecast is received.
6. Press the **【PTT】** key or **【Exit】** key to end and return to the regular channel on the main monitoring interface.

In weather forecast mode, short-press the **【MENU】** key to enable or disable the weather alert function.

The weather forecast frequency bands are as follows:

Channel No.	RX Freq.(MHz)	Channel No.	RX Freq.(MHz)
WX-01	162.5500	WX-07	162.5250
WX-02	162.4000	WX-08	161.6500
WX-03	162.4750	WX-09	161.7750
WX-04	162.4250	WX-10	161.7500
WX-05	162.4500	WX-11	162.000
WX-06	162.5000		

5. Programming and Scanning

5.1 Programming

You can manually edit, modify, add, or delete settings for the current channel in the VFO/MR mode.

5.1.0.1 Channel Alias

- In standby mode, press the **【MENU】** key to enter the menu >> Programming >> Channel alias.
- The current alias is displayed. Press the **【Exit】** key to delete characters one by one forward . Switch the input method via the **【#】** key to edit the intercom alias. c. After completing the alias editing, press the **【MENU】** key. The screen displays "Setting successful" and returns to the previous menu.
- The current alias is displayed. Press the **【Exit】** key to delete characters one by one forward . Switch the input method via the **【#】** key to edit the intercom alias. c. After completing the alias editing, press the **【MENU】** key. The screen displays "Setting successful" and returns to the previous menu.
- After completing the alias editing, press the **【MENU】** key. The screen displays "Setting successful" and returns to the previous menu.

Note: The channel name is only valid for editing the current channel in channel mode. The channel name can be edited with a maximum of 10 bytes. The built-in input method supports 4 input modes : Chinese Pinyin, uppercase letters, lowercase letters, and numbers.

5.1.0.2 Receive Frequency

Set the receive frequency for the current channel. This setting is valid for the current channel. a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Receive frequency. b. The current receive frequency is displayed. Enter the corresponding receive frequency using the numeric keys. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Receive frequency. b. The current receive frequency is displayed. Enter the corresponding receive frequency using the numeric keys. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

b. The current receive frequency is displayed. Enter the corresponding receive frequency using the numeric keys. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

5.1.0.3 Transmit Frequency

Set the transmit frequency for the current channel. This setting is valid for the current channel. a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Transmit frequency . b. The current transmit frequency is displayed. Enter the corresponding transmit frequency using the numeric keys. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Transmit frequency. b. The current transmit frequency is displayed. Enter the corresponding transmit frequency using the numeric keys. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

b. The current transmit frequency is displayed. Enter the corresponding transmit frequency using the numeric keys. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

5.1.0.4 Receive Sub-audio

a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Receive sub-audio. b. Press the 【↑/↓】 key to select the desired sub-audio. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

b. Press the 【↑/↓】 key to select the desired sub-audio. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

There are 50 groups of standard analog sub-audios, ranging from 67-254.1Hz. OFF: Disabled. There are 105 groups of standard digital sub-audio forward codes and 105 groups of reverse codes, ranging from D023N-D754I.

There are 105 groups of standard digital sub-audio forward codes and 105 groups of reverse codes ranging from D023N-D754I.

5.1.0.5 Transmit Sub-audio

a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Transmit sub-audio. b. Press the 【↑/↓】 key to select the desired sub-audio. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

b. Press the 【↑/↓】 key to select the desired sub-audio. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

There are 50 groups of standard analog sub-audios, ranging from 67-254.1Hz. OFF: Disabled. There are 105 groups of standard digital sub-audio forward codes and 105 groups of reverse codes, ranging from D023N-D754I.

There are 105 groups of standard digital sub-audio forward codes and 105 groups of reverse codes , ranging from D023N-D754I.

5.1.0.6 Channel Bandwidth

Set the bandwidth for analog channels: Wideband (25.0KHz), medium band (20.0KHz), or narrowband (12.5KHz).

Wideband (25.0KHz), medium band (20.0KHz), or narrowband (12.5KHz).

5.1.0.7 Transmit Power

Allows you to set the transmit power of the intercom on this channel:

- High power: "Hi" icon displayed on the screen.
- Medium power: "Mi" icon displayed on the screen.
- Low power: "Lo" icon displayed on the screen.

Note: Press the 【#】 key to switch between high and low power.

5.1.0.8 Busy Lock

a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Busy lock. b. Press the 【▲/▼】 key to select "On" or "Off". c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

b. Press the 【▲/▼】 key to select "On" or "Off". c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

5.1.0.9 Signaling Code

a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Signaling code.

b. Press the 【▲/▼】 key to select the desired signaling code (signaling codes 1-15). c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns

to the previous menu.

b. Press the **【▲/▼】** key to select the desired signaling code (signaling codes 1-15). c. After making changes, press the **【MENU】** key to confirm. The screen displays "Setting successful" and returns to the previous menu.

c. After making changes, press the **【MENU】** key to confirm. The screen displays "Setting successful" and returns to the previous menu.

5.1.1.0 ID Transmission Mode

a. In standby mode, press the **【MENU】** key to enter the menu >> Programming >> Transmission mode. b. Press the **【▲/▼】** key to select the desired ID transmission mode. c. After making changes, press the **【MENU】** key to confirm. The screen displays "Setting successful" and returns to the previous menu.

b. Press the **【▲/▼】** key to select the desired ID transmission mode. c. After making changes, press the **【MENU】** key to confirm. The screen displays "Setting successful" and returns to the previous menu.

c. After making changes, press the **【MENU】** key to confirm. The screen displays "Setting successful" and returns to the previous menu.

There are 3 types of identity code transmission for this device: Begin-of-Transmission (BOT), End-of-Transmission (EOT), and Both (BOTH).

5.1.1.1 Companding

a. In standby mode, press the **【MENU】** key to enter the menu >> Programming >> Companding. b. Press the **【▲/▼】** key to select "On" or "Off". c. After making changes, press the **【MENU】** key to confirm. The screen displays "Setting successful" and returns to the previous menu.

b. Press the **【▲/▼】** key to select "On" or "Off". c. After making changes, press the **【MENU】** key to confirm. The screen displays "Setting successful" and returns to the previous menu.

c. After making changes, press the **【MENU】** key to confirm. The screen displays "Setting successful" and returns to the previous menu.

The companding function can be quickly enabled for the current channel by manually setting the short/long press functions of side keys 1/2 through the menu to define the companding function.

5.1.1.2 Channel Scan Addition

- a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Channel scan addition. b. Press the 【▲/▼】 key to enable or disable the scan status of the current channel. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.
- b. Press the 【▲/▼】 key to enable or disable the scan status of the current channel. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.
- c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

5.1.1.3 Voice Scramble

The scramble function is a voice inversion function that enables private communication by scrambling voice signals. When enabled, the "SC" icon is displayed on the screen. a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Voice scramble. b. The current scramble status is displayed. Press the 【▲/▼】 key to select the desired voice scramble. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

- a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Voice scramble . b. The current scramble status is displayed. Press the 【▲/▼】 key to select the desired voice scramble. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.
- b. The current scramble status is displayed. Press the 【▲/▼】 key to select the desired voice scramble. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.
- c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

The scramble function can be quickly enabled for the current channel by manually setting the short /long press functions of side keys 1/2 through the menu to define the scramble function.

5.1.1.4 Frequency Offset

- a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Frequency offset. b. The current offset value is displayed. Enter the corresponding receive frequency using the numeric keys. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

b. The current offset value is displayed. Enter the corresponding receive frequency using the numeric keys. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

Note: The frequency offset range of this device is 0-99.99MHz.

5.1.1.5 Frequency Offset Direction

a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Frequency offset direction. b. The current offset status is displayed. Press the 【▲/▼】 key to select the desired frequency offset direction. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

b. The current offset status is displayed. Press the 【▲/▼】 key to select the desired frequency offset direction. c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

Note: A positive offset direction (+) means the transmit frequency is higher than the receive frequency; a negative offset direction (-) means the transmit frequency is lower than the receive frequency.

5.1.1.6 Channel Storage

In channel mode, you can copy the current channel and save it as a new channel. The operation is as follows: a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Channel storage. b. Press the 【▲/▼】 key to select an unused channel sequence marked "CH—", such as "CH-005"; Channels without the "CH—" prefix indicate no data and can be stored directly. c. Press the 【MENU】 key to store to this channel and return to the previous menu.

a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Channel storage. b. Press the 【▲/▼】 key to select an unused channel sequence marked "CH—", such as "CH-005"; Channels without the "CH—" prefix indicate no data and can be stored directly. c. Press the 【MENU】 key to store to this channel and return to the previous menu.

b. Press the 【▲/▼】 key to select an unused channel sequence marked "CH—", such as "CH-005"; Channels without the "CH—" prefix indicate no data and can be stored directly. c. Press the 【MENU】 key to store to this channel and return to the previous menu.

Channels without the "CH—" prefix indicate no data and can be stored directly. c. Press the 【MENU】 key to store to this channel and return to the previous menu.

c. Press the 【MENU】 key to store to this channel and return to the previous menu.

5.1.1.7 Channel Deletion

You may want to delete a channel due to incorrect settings or other changes. The operation is as follows: a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Channel deletion. b. Press the 【▲/▼】 key to select a channel sequence with "CH-", such as "CH-005";

a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Channel deletion. b. Press the 【▲/▼】 key to select a channel sequence with "CH-", such as "CH-005";

b. Press the 【▲/▼】 key to select a channel sequence with "CH-", such as "CH-005";

- Channels with the "CH—" prefix indicate stored channel parameters and can be deleted.
- Channels without the "CH—" prefix indicate no data, no need for deletion, and can be stored directly. c. Press the 【MENU】 key to store to this channel and return to the previous menu.

c. Press the 【MENU】 key to store to this channel and return to the previous menu.

5.1.1.8 Frequency Hopping (Valid under sub-audio signaling)

a. In standby mode, press the 【MENU】 key to enter the menu >> Programming >> Frequency hopping. b. Press the 【▲/▼】 key or rotate the channel knob clockwise/counterclockwise to select "On" or "Off". c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

b. Press the 【▲/▼】 key or rotate the channel knob clockwise/counterclockwise to select "On" or "Off". c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

c. After making changes, press the 【MENU】 key to confirm. The screen displays "Setting successful" and returns to the previous menu.

5.2 Scanning

Channel Scanning

In channel mode, long-press the **【#】** key or short-press the side key **【SK】** (custom scan function switch) to enable scanning. The intercom scans among added channels. When an active channel is detected, it automatically stays on that channel until it becomes idle. Scanning resumes 5 seconds after the channel is idle.

When staying on an active channel, press and hold the **【PTT】** key to initiate a callback.

Press the **【#】** key again to exit scanning or disable scanning via the side key **【SK】** (custom scan function switch).

- Channel scan addition path: In standby mode, press the **【MENU】** key to enter the menu >> Programming >> 12 Channel scan addition.

5.2.1 Scanning Modes

- Time (TO): Scanning stops when a signal is detected and resumes after staying on the channel for 5 seconds.
- Carrier (CO): Scanning stops when a signal is detected and resumes 2 seconds after the signal disappears.
- Search (SE): Scanning stops when a signal is detected and terminates.

5.2.2 Scan Sub-audio Detection

- Off: No sub-audio detection required during scanning.
- On: Sub-audio detection required during scanning.

5.2.3 Scan Hang Time

Dwell time on active scans: 0.5-10.0(S), step 0.5S, default: 2.0(s).

5.2.4 VFO Scan Range

In frequency mode, you can set the VFO scan range, scan recovery method, and step frequency. The VFO scan range refers to the start and end frequencies of the scan.

In VFO mode, you can freely edit and set the frequency range for V-band (136-220MHz) or U-band (300-560MHz). Input is invalid outside this range or in channel mode.

Example: To set the V-band 136-174 frequency range for scanning, follow these steps: a. In standby mode, press the **【MENU】** key to enter the menu >> Scan >> 4 VFO scan range.

b. Press the **【MENU】** key to confirm the scan range (V-band). c. Enter 1-3-6-1-7-4 using the numeric keypad, then press the **【MENU】** key to confirm,

a. In standby mode, press the **【MENU】** key to enter the menu >> Scan >> 4 VFO scan range. b. Press the **【MENU】** key to confirm the scan range (V-band). c. Enter 1-3-6-1-7-4 using the numeric keypad, then press the **【MENU】** key to confirm,

b. Press the **【MENU】** key to confirm the scan range (V-band). c. Enter 1-3-6-1-7-4 using the numeric keypad, then press the **【MENU】** key to confirm,

c. Enter 1-3-6-1-7-4 using the numeric keypad, then press the **【MENU】** key to confirm,

save, and return.

The same operation applies to editing the U-band scan range.

5.2.5 Priority Scan Channel

Set a specific channel or the current channel as the priority scan channel, which has a 50% chance of being scanned. The operation is as follows:

- a. In standby mode, press the **【MENU】** key to enter the menu >> Scan >> Priority scan channel.
- b. Use the **【▲/▼】** key to select a channel as the priority channel, confirm, and exit.
- c. Long-press the **【#】** key or short-press the side key **【SK】** (custom scan function switch) to start scanning. The set priority scan channel has a 50% chance of being scanned.

5.2.6-7 Channel Scan Group A / Group B

Scan group settings allow the intercom to group channels with written data and specify the group for channel scanning, so that only channels in that group are scanned during scanning.

Scan groups include: All (all channels) and 1-10 scan groups (grouped channels are customized via programming software).

In standby mode, press the **【MENU】** key to enter the menu >> Scan >> Channel scan group A or group B, select the desired group, confirm, and start scanning.

Note: Channel scan group A can only be implemented in area A, and channel scan group B can only be implemented in area B.

5.2.8 VFO Scanning

In VFO mode, enter a known frequency via the keypad, long-press the **【#】** key or short-press the side key **【SK】** (custom scan function switch) to start frequency scanning. The intercom scans at the preset step frequency, and the LCD screen changes according to the preset step frequency. When an active frequency is detected, it automatically stays on that frequency until it becomes idle. Scanning resumes 5 seconds after the frequency is idle.

When staying on an active frequency, press and hold the **【PTT】** key to initiate a callback.

Press the **【#】** key again to exit scanning or disable scanning via the side key **【SK】** (custom scan function switch).

- During frequency scanning, press the **【↑/↓】** key to change the scanning direction in step frequency increments or decrements.

6. GPS Positioning System (Optional)

If your intercom hardware supports the positioning function, you can set the GPS switch, view positioning information, and set the GPS time zone in the GPS positioning system menu. The operation is as follows:

- In standby mode, press the **【MENU】** key to enter the menu >> Positioning system.
- Press the **【MENU】** key to enter the positioning switch and select "On".
- View location information: After receiving the positioning information, you will see the location information, including time, longitude, latitude, altitude, speed, and number of satellites.

Note: The positioning function needs to be used in an unobstructed environment such as outdoors or by a window.

Obtaining the Other Party's Coordinate Information and Distance Measurement

- In standby mode, short-press the EXIT key to enter the GPS information interface.
- Press the **【▲/▼】** key to select the desired designated GPS selective call group.
- Press the **【PTT】** key to transmit. If the ID matches the other party successfully, the screen of this device will display the parsed coordinate and distance measurement information of the other party after a few seconds: longitude, latitude, distance, speed, direction, and time. As shown in the right figure below.



[Tidak dapat diagram pengukuran jarak koordinat]



[dapat diagram pengukuran jarak koordinat]

(Latitude: ---, Longitude: ---, Distance: ---, Azimuth: ---, Not obtained!) (Latitude:24.926715N, Longitude:118.470258E, Distance:0.006KM, Azimuth:165)

Note: The selective call codes on the selective call group information of both parties must be preset by the programming software. The selective call code consists of 1-6 digits, with a total of 20 groups

When obtaining the other party's coordinate information, the other party's identity ID must be consistent with the selective call code. This function is set by the dealer.

7. Bluetooth Function (Optional)

If your intercom hardware supports the Bluetooth function, select "On" in the Bluetooth menu to enable the Bluetooth function, and the screen will display the enable icon (a dedicated Bluetooth intercom headset is required).

8. Noise Reduction Function (Optional)

If your intercom hardware supports the noise reduction function, press the 【MENU】 key to enter the menu >> Settings >> 35 Noise reduction function, and select "On" or "Off". When enabled, the screen displays the enable icon, which suppresses background noise during calls to make the call clearer. When disabled, no icon is displayed on the screen.

TYPE-C Charging Function

Open the headphone cover and insert the TYPE-C charging cable to charge the device. When charging, the blue light on the top of the intercom is on, and the battery icon on the LCD screen flashes. When fully charged, the blue light turns off, and the battery icon on the LCD screen shows full capacity. Note: Please turn off the intercom when charging.

7. Maintenance and Cleaning

To ensure the product performs well and extends its service life, please familiarize yourself with the following content for daily maintenance and cleaning.

Maintenance

- Do not puncture or scratch the product with hard objects.

- Do not store the product in an environment containing substances that corrode electronic circuits
- Do not carry or use the product by lifting the antenna or headphone cable.
- When accessories are not in use, please cover the accessory interface cover.

Cleaning

- Regularly use a clean, dry, lint-free cloth or brush to remove dust and dirt from the terminal surface and battery contacts.
- The keys, control knobs, and casing of the terminal are prone to getting dirty. They can be cleaned with a neutral detergent and non-woven fabric. Do not use chemical agents such as detergents, alcohol, sprays, or petroleum preparations for cleaning to avoid damage to the product surface and casing.
- After cleaning, ensure the terminal is completely dry before use.

Note: Before cleaning, turn off the device and remove the battery.

8. Main Technical Indicators

Overall	Frequency Range	Frequency Range	Full band: 136-520MHz; AM: 108-136MHz; FM: 65-108MHz
	Channel Capacity	Channel Capacity	999
	Channel Spacing	Channel Spacing	12.5kHz / 20kHz / 25kHz
	Input Voltage	Input Voltage	7.4 VDC \pm 10%
	Battery (Standard Configuration)	Battery (Standard Configuration)	High-capacity battery
	Battery Life (5-5-90, High Power Transmission)	Battery Life (5-5-90, High Power Transmission)	About 18 Hours
	Current	Standby	\leq 85mA

		Receive	≤ 350 mA
		Transmit	≤ 1.8 A @ high power , 650 mA @ low power
	Frequency Stability	Frequency Stability	± 2.5 ppm
	Operating Temperature	Operating Temperature	-30°C to +60°C
	Antenna Impedance	Antenna Impedance	50 Ω
Transmit Section	Transmit Output Power	Transmit Output Power	High power/Medium power/Low power
	Modulation Mode	Modulation Mode	16K0F3E@25KHz, 11K0F3E@12.5KHz
	Spurious Emission	Spurious Emission	-36dBm<1GHz, -30dBm>1GHz
	FM Signal-to-Noise Ratio	FM Signal-to-Noise Ratio	≥ -45 dB@25KHz, ≥ -40 dB @12.5KHz
	Audio Distortion	Audio Distortion	$\leq 5\%$
	Modulation Limit	Modulation Limit	± 5.0 KHz@25 KHz, ± 2.5 KHz@12.5 KHz
	Adjacent Channel Power	Adjacent Channel Power	≤ -70 dB @ 25KHz, ≤ -60 dB @ 12.5KHz
	Audio Response (30 0-3000Hz)	Audio Response (30 0-3000Hz)	+1~3dB
Receive Section	Receive Sensitivity	Receive Sensitivity	0.25 μ V (12dB SINAD)
	Adjacent Channel Selectivity	Adjacent Channel Selectivity	≥ 60 dB@25KHz, ≥ 55 dB@12.5KHz
	Intermodulation Immunity	Intermodulation Immunity	≥ 60 dB@25KHz, ≥ 55 dB@12.5KHz

	Conducted Spurious Emission	Conducted Spurious Emission	$\leq -57\text{dB}@25\text{KHz}$, $\leq -30\text{dB}@12.5\text{KHz}$
	FM Signal-to-Noise Ratio	FM Signal-to-Noise Ratio	$\geq 45\text{dB}@25\text{KHz}$, $\geq 40\text{dB}@12.5\text{KHz}$
	Audio Output Power	Audio Output Power	1W @16ohms
	Audio Distortion	Audio Distortion	$\leq 5\%$
	Audio Response (30 0-3000Hz)	Audio Response (30 0-3000Hz)	+1~-3dB

Note: All specifications are subject to change without notice or liability.

Appendix: Maintenance and Troubleshooting

Fault Description	Cause Analysis	Solution
Cannot power on	The battery may not be installed correctly	Reinstall
	The battery may be exhausted	Charge or replace the battery
	Poor contact due to dirty or damaged battery contacts	Clean the battery contacts
Cannot pair frequencies (frequency sweep)	Too far distance	Shorten the pairing distance appropriately
	Cannot scan with sub-audio signaling	Check if frequency hopping is enabled and disable it
	Cannot receive frequency signaling	Select the matching VHF /UHF reception via the navigation key
Cannot obtain GPS distance measurement information	Incorrect identity selective call code	Recheck if the selective call code is set correctly
		Enable GPS positioning

	The other party's GPS is not positioned or enabled	
Other calls or noise in the channel	Interference from co-frequency users	Change to a new frequency or adjust the squelch level
	No signaling set	Set signaling for all intercoms to prevent co-frequency interference, and all handheld terminals must have their signaling settings changed simultaneously

If the above methods fail to solve your problem, or if you encounter other faults, please contact your local dealer for further technical support and assistance.

Disclaimer

Every effort has been made to ensure the accuracy and completeness of this manual, but the company shall not be liable for any errors or omissions. Due to continuous technological development, the company reserves the right to modify product design and specifications without notice. Without the company's prior written authorization, this manual shall not be copied, modified, translated, or distributed in any form. Third-party products and content mentioned in this manual are owned by third parties, and our company does not guarantee their accuracy, validity, timeliness, legality, or completeness.

Maintenance Record / Warranty Card

Dear Intercom User:

Thank you for purchasing this intercom. We will strive to provide you with stable, clear, and efficient wireless communication services. To help you better enjoy our quality warranty service, please pay attention to the following information!

- This product's warranty period starts from the date of purchase. During the warranty period, faults occurring under normal use can be covered by this warranty clause (12-month free warranty for the main unit, 6-month free warranty for accessories (battery, charger)).
- Present the original warranty card and purchase invoice at the designated authorized service center to enjoy the warranty service.

During the warranty period, the following situations will require paid maintenance services:

- (1) Failure to present this warranty card and purchase invoice;
- (2) This card has altered traces or does not match the product;
- (3) Defects or damage caused by using the product under abnormal or non-standard conditions;
- (4) Defects or damage caused by incorrect use, accidents, water ingress, or negligence;
- (5) Defects or damage caused by incorrect testing, operation, maintenance, installation, modification, or adjustment;
- (6) Defects or damage caused by unauthorized maintenance or disassembly;
- (7) Defects or damage caused by force majeure;
- (8) Wear and tear under normal use.

For maintenance, please mail or bring the intercom, this warranty card, and the purchase invoice to the company's designated authorized service center. The user shall bear the transportation responsibility.

Repair Date	Completion Date
Fault Description	Remarks
Customer Name	Gender: Male/Female
Customer Address and Postcode	Contact Phone
Product Model	Product Serial Number
Purchase Date	Repairer
Invoice Number	Employee ID
Sales Store	Sales Store Seal
Store Address and Postcode	Store Contact Phone
Store Handler	

Notes: 1. This warranty card is only applicable to the intercom of the above-listed model and serial number

2. This warranty card is an important certificate for the end user to enjoy warranty services. Please keep it properly.
3. This warranty card is valid only after being fully filled out by the seller and stamped with the sales seal.
4. This warranty card will not be reissued if lost.