

## 1.1 Turn on/off the radio

**Turn on the radio:** When the radio is off, turn the [Power/Volume] switch clockwise. After the radio makes a "click", the power of the radio is turned on. The screen displays the model of the radio. After a few seconds, the radio emits a beep.

**Turn off the radio:** When the radio is turned on, turn the [Power/Volume] switch counterclockwise until the radio makes a "click" and the information displayed on the screen disappears, that is, turn off the power of the radio.

## 1.2 Volume adjustment

When the radio is turned on, turn the [Power/Volume] switch to adjust the volume and the screen will indicate the current volume level through the progress bar.

Turn clockwise to increase the volume;  
counterclockwise to decrease the volume.

### 1.3 Split screen display



In standby mode, press the left and right arrows to switch the standby display

1, The user's name or call sign is displayed in single standby.

2, Display the last contact information received.

Such as the name or call sign of the other party plus location information and location direction. (2,756 m)

3, Display a list of recently received contact information.

Press the key to select the list of information to be viewed.

Press [Select] key to enter to view the detailed location information and location direction of the other party when communicating. Press up/down arrows to scroll page.

(only the latest 10 lists to be displayed, it will disappear when is turned off, and will not be saved)

#### 1.4 Main and sub channel switching

In standby mode, press and hold the [Back key] to switch between the main and sub-channels, and the channel with large fonts displayed on the screen is the currently operable channel (main channel).

#### 1.5 VFO/Channel switching

In standby mode, press and hold the \* key to switch between VFO and channel.

## 1.6 Set the VFO frequency

※ Set the VFO frequency of the radio through the keyboard:

When the radio is in VFO mode, you can input the frequency of the main channel through the number keys, if you want to input

For 434.62500MHz, just input **【4】 【3】 【4】 【6】 【2】 【5】 【0】 【0】** .

Press \* key to set step frequency, press # key to switch AM/FM

※ Adjust the VFO frequency/channel by the up and down arrow buttons:

When the radio is in VFO mode, click the up and down arrows to adjust the frequency/channel by increasing/decreasing the step value. Up adjustments increase frequency values/channels, and down adjustments decrease frequency values/channels.

## 1.7 Storage frequency

In VFO mode, enter the frequency you want through the number keyboard, such as

438.500, press OK to confirm, press the menu "save to channel", select a blank channel to save.

### 1.8 saving frequencies with CTCSS/DCS

In VFO mode, input the frequency you want through the number keyboard, such as 438.500, press OK to confirm, Open the radio setting menu, enter the transmit TX/RX subtone menu, select the required subtone frequency, press OK to exit, press the menu "save to channel", select a blank channel to save.

### 1.9 Edit channel

Open the channel list menu, click Edit, edit the channel content, and save it

### 1.10 Frequency Scanning

Open the frequency scan menu, input the start frequency that you want, \* key to switch the input frequency step, # key to switch the scan step, press the left and right arrows to start scanning, left to scan the frequency up, and right to scan the frequency down

### 1.11 Tone Scanning

Set the frequency to be scanned on the standby page, open the Tone scan menu, it starts working.

### 1.12 Bulk air copy

Turn on the radios to be programmed one by one, switch the menu to “receive channels”, open the programmed radio and switch the menu to “send channel”, when each radio to be programmed is displayed as completed, the frequency of the current list will be copied to another radios.

## 2.0 Signaling Settings

**ID:** Please input your call sign or your ID

**Allow Check:** Allow your partner to send instructions to check your current location, and your location will be feedback to the partner's device.

**Signaling Preamble :** When sending signaling, add a preset code to make the end tone sound more rounded

**Send Message:** Send text message to partners

**Call:** When the receiving device receives the CALL command, the radio will ring, please enter the ID to be searched

**Check:**When the receiving device receives the CHECK command, the radio will feed back the current location, This requires the receiver ALLOW CHECK to be effective, enter the ID to be searched

**Nearby People:** This option sends the CHECK command at the current frequency, and all radios of the same frequency will feedback their current position option please after receiving the command.This option requires the receiver ALLOW CHECK to be effective

### **3.0 ,APRS settings**

**Call Sign:** Please input your Call Sign

**Path:**Choose the path for APRS

### **3.1 Digital Mode**

**Enable:** Turn On/Off the digital mode.

**Share Location:** Set the transmission time of the shared location. When the sharing time is turned off and Enable is turned on, it means that only data is received at this

time.

**Digital Channel :** The channel currently used for data transmission

**Format:**

**APRS:**When using APRS protocol for transmission, the call sign must be obtained in advance before it can be used.

**BSS:** Use our own BSS protocol, suitable for people who have not obtained a call sign.

**Digital Mute:** The radio does not make data transmission sounds when transmitting data.

## **Programmable Buttons    Description**

**Programmable Buttons, different shortcut operations can be realized through programming. [PF1] key/[PF2] key, this function can only be operated through APP,**

Default setting

P1 short press:FM Radio

long press:Sub-PTT

P2 short press :power level

Long Press :Squelch Open Toggle



Some button states will restrict each other, so after setting, please confirm that all functions are available.

Disable	No Function
Alarm	According to the current frequency, the alarm warning will be issued, and the speaker of this equipment will also issue an alarm sound
Alarm&Mute	According to the current frequency, the alarm warning will be issued, and the speaker of this equipment will be mute
Toggle Scan	In standby mode, press the button programmed as " Toggle Scan " to quickly turn on/off the scanning function.

Toggle Talk Around	In standby mode, press the button programmed as "Toggle Talk Around" to quickly switch between the talk-around mode and the repeater mode.
Toggle Radio TX Enable	In standby mode, press the button programmed as "Toggle Radio TX Enable" to quickly limit the transmission or enable the transmission function.
Transmit Power Switch	In standby mode, press the button programmed as "Transmit Power Switch" to select ultra-high power, high power, or low power.
Radio Switch	In standby mode, press the button programmed as "Radio Switch" to quickly turn on/off the radio function.

Prev Channel	In standby mode, press the button programmed as "previous channel" to quickly switch to the previous channel
Next Channel	In standby mode, press the button programmed as "next channel" to quickly switch to the next channel
Prev Channel Group	In standby mode, press the button programmed as "Prev Channel Group" to quickly switch to previous Channel Group
Next Channel Group	In standby mode, press the button programmed as "Next Channel Group" to quickly switch to Next Channel Group
T-CALL	Transmit 1750Hz Tone
Main-PTT	Press the key programmed as "Main PTT"

	in standby mode to quickly transmit the main channel.
Sub-PTT	Press the key programmed as "Sub PTT" in standby mode to quickly transmit the Sub channel.

## Two Way Radio Menu List

Channel	the up and down buttons to switch the AB Band, and the left and right buttons to switch channels
Signaling	<p>Send Message; Call; Check; Nearby People (For details, please click the APP settings page) .</p> <p>Note: Sending message is sending a paragraph of text, Call and Check need input username to do it. Nearby people will use the current frequency to transmit a search code. If the device with the same function receives this code, it will feedback their location information back.</p>

Radio Settings	Dual Watch; Scan; Talk Around; Power; TX Subtone; RX Subtone; Offset; Channel Group; Squelch Level; TX Time Limit; Tail Elimination; PTT Follow; PTT Release
General Settings	Connection; Signaling Settings; APRS Settings, Digital Mode; Sound Settings; Display Settings; Reset Settings; Restore Factory Settings
NOAA	WX Scan; WX Channel; WX Alert; WX Monitor
Sync Settings	Send Channels; Receive Channels
Frequency Scan	* key to switch the step of the input frequency, # key to switch the scanning step
Tone Scanning	Enter and start working
GPS status	Click the menu button to switch the positioning system or turn off the positioning system
compass	Calibrate the compass with a figure-of-eight rotation
Status	Firmware Version, battery information
Pairing	Select pairing, the red and green lights flash alternately, and enter the pairing mode

FM Radio	enter FM radio mode
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## Technical SPECIFICATIONS

General	
Frequency Ranges:	Tx 144-146MHz & 420-450MHz FM Rx 136-174/400-520&AM Rx 108-136Mhz
Channel Steps:	2.5KHz/5KHz/6.25 KHz/ 10KHz/12.5 KHz/25 KHz/50 KHz/100 KHz
channel bandwidth	12.5/25 kHz
Frequency Stability:	±2.5ppm
number of channels	6*30
battery voltage	7.4V
battery capacity	2600 mAh
Operating temperature	0℃To+40℃
Size	56(W)x125(H)x39(D) (mm) (not include antenna)
Weight	Radio Body: 158g, Battery: 120g
Antenna Impedance:	50Ω

Receiver	
Sensitivity:(12dB SINAD)	0.16uV
adjacent channel selectivity	≥68dB
Intermodulation Immunity	≥65dB
Spurious Response Immunity	≥65dB
Audio distortion	≤3%
audio output power	2W
Transmitter	
RF output power	≤5W
adjacent channel power suppression	≤-68dB
Clutter and Harmonics	≤-60dB
FM noise	45 dB
FM distortion	≤3%

### Regulations and Safety Warnings

We declare that the radio is compliance with radio equipment directive (RED)

## **FCC Licensing Information**

This device complies with Part 97 and 15B of the Federal Communications Commission (FCC) Rules. Operation is subject to the condition that that this device does not cause harmful interference. The radio operates on radio frequencies that are regulated by the Federal Communications Commission (FCC). To transmit on these frequencies, you are required to have a license issued by the FCC. To obtain forms, call the FCC forms hotline at: 1-800-418-3676 or go to <http://www.fcc.gov> For questions concerning commercial licensing, contact the FCC at 1-888-CALL-FCC(1-888-225-5322). Before filling out your application, you must decide which frequency you can operate on.

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



## **FCC Regulatory Conformance**

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.

The grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

Replacement of any transmitter component (crystal, semiconductor, etc) not authorized by the FCC equipment authorization for this radio could violate FCC rules.

## **FCC Warning Statement**

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.

### **Compliance with RF Exposure Standards**

The radio complies with the following RF energy exposure standards and guidelines:

- United States Federal Communications Commission, Code of Federal Regulations; 47 CFR § 1.1307, 1.1310 and 2.1093.
- American National Standards Institute (ANSI)/ Institute of Electrical and Electronic Engineers (IEEE) C95.1:2005;Canada RSS102 Issue 5 March 2015.
- Institute of Electrical and Electronic Engineers (IEEE) C95.1:2005 Edition