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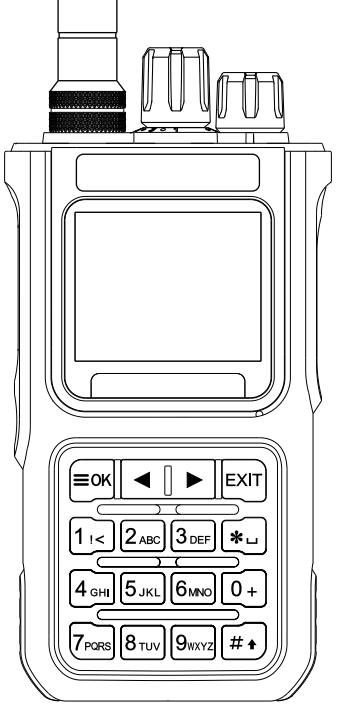
MULTI BAND HANDHELD RADIO



Tx: 144-148/420-450Mhz

USER'S MANUAL

Disclaimer

This manual has been compiled with the aim of ensuring the accuracy and completeness of its contents. However, our company assumes no responsibility for any errors or omissions that may occur. Due to continuous technological development, our company reserves the right to change product design and specifications without prior notice. This manual may not be reproduced, modified, translated, or distributed in any form without prior written authorization from our company. Third-party products and content mentioned in this manual are the property of their respective owners, and our company makes no guarantee as to their accuracy, validity, timeliness, legality, or completeness.

RF Radiation Information

This product is intended solely for professional use where RF energy radiation requirements can be met. Users must be fully aware of RF radiation hazards and take appropriate measures to comply with RF radiation limits.

RF Radiation Basics

RF (Radio Frequency) refers to electromagnetic frequencies that can radiate into space. It is a technology widely used in fields such as communications, medical, and food processing, and it generates a certain amount of RF radiation during use.

FCC Regulatory Requirements

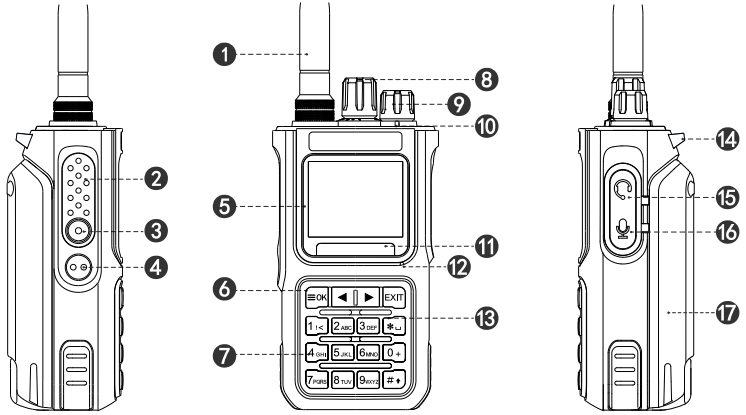
In accordance with the regulations of the Federal Communications Commission (FCC) of the United States, this product must comply with FCC RF radiation limits to be sold in the U.S. market. Manufacturers are required to inform users of important safety precautions by labeling the product, thus enhancing user awareness of radiation protection.

RF Radiation Safety

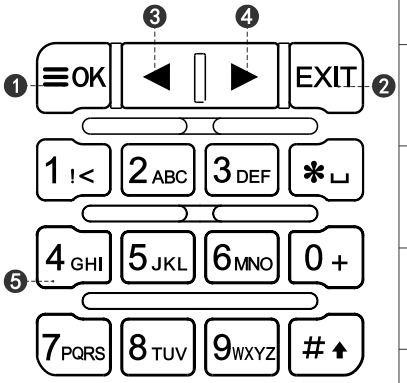
To ensure the health and well-being of users, experts from the fields of science, engineering, medicine, health, and industry, along with relevant organizations, have jointly developed RF radiation standards and guidelines, as follows:
Title 47, Part 2, Subpart J of the Code of Federal Regulations (CFR) by the Federal Communications Commission (FCC) of the United States.
ANSI (American National Standards Institute) / IEEE (Institute of Electrical and Electronics Engineers) Standard C95.1-1992.
IEEE Standard C95.1-1999.
Standards issued in 1998 by the International Commission on Non-Ionizing Radiation Protection (ICNIRP).

RF Radiation Control and Operating Instructions

To ensure optimal performance and compliance with the radiation limits for occupational or controlled environments as specified in the standards, the transmission time should not exceed a duty cycle of 50% (i.e., a maximum of 50% transmission time). Adhere to the following instructions:RF energy radiation is only generated during transmission (talking), not during receiving (listening) or standby mode.
Maintain a minimum distance of 2.5 centimeters between the device and the body during transmission.



Number	Name	Number	Name	Number	Name	Number	Name	Number	Name
❶	Antenna	❷	PTT Button	❸	PF2	❹	PF3	❺	Screen
❻	Function Keypad	❼	Numeric Keypad	❽	Channel Knob	❾	Power Knob	❿	Indicator Light
⓫	Microphone	⓬	Speaker	⓭	Lanyard Hole	⓮	Headphone Jack	⓯	Microphone Jack
⓰	Polymer Battery								



Number	Key name	Function
❶	【OK】	Menu selection/confirmation button
❷	【EXIT】	Exit/clear button Clears input information in input mode Switches between A/B bands in standby mode
❸	【Up】	Switches options Long press (more than 2 seconds) to fast forward Changes scan direction in scan mode
❹	【Down】	Switches options Long press (more than 2 seconds) to rewind Changes scan direction in scan mode
❺	【Numeric Keypad】	In standby mode: Used to set working frequency in frequency mode Used to switch channel numbers in channel mode In transmission mode: Pressing a number key transmits the corresponding DTMF code

Interface Icon Descriptions

Icon	Description
CT	Analog Sub-audio Tone Indicator.This symbol indicates that the current sub-audio tone is an analog tone. When this symbol appears during transmission, it signifies that an analog sub-audio signal is being transmitted.
DCS	Digital Sub-audio Tone Indicator. This symbol indicates that the current sub-audio tone is a digital tone. When this symbol appears during transmission, it signifies that a digital sub-audio signal is being transmitted.
H	High Power Indicator. This symbol indicates that the current transmission power is set to high.
M	Medium Power Indicator. This symbol indicates that the current transmission power is set to medium.
L	Low Power Indicator. This symbol indicates that the current transmission power is set to low.
N	Narrowband Mode Indicator. This symbol appears when the channel is operating in narrowband mode.
W	Wideband Mode Indicator. This symbol appears when the channel is operating in wideband mode.
+	Frequency Mode (+ Frequency Offset) This symbol appears in frequency mode, indicating that the transmission frequency is the reception frequency plus a frequency offset.
−	Frequency Mode (- Frequency Offset) This symbol appears in frequency mode, indicating that the transmission frequency is the reception frequency minus a frequency offset.
R	Frequency/Channel Mode Inverted Frequency. This symbol appears when the reception and transmission frequencies are inverted in frequency or channel mode.
T	Simplex Mode. In simplex mode, the reception and transmission frequencies are adjusted to be the same.
SC	SC (Encryption) Indicator. The appearance of "SC" indicates that the encryption function is enabled.

Interface Icon Descriptions

Icon	Description
AM	AM Modulation Indicator: Displays this symbol to indicate that the current frequency is in AM modulation mode.
SCR	Scrambler Function: Indicates that the scrambler function is active.
VOX	VOX (Voice-Operated Transmission): Indicates that the VOX function is enabled. Transmission starts when the microphone's sound pressure level reaches the set threshold.
DW	Dual Standby: Indicates that the dual-band standby function is set and active, allowing simultaneous monitoring of the two frequency points displayed on the screen.
MO	Monitor Function Enabled: Indicates that the monitor function is enabled.
♪	Side Tone Enabled: Indicates that the side tone function is active, producing a tone sound when transmitting DTMF.
🔒	Keypad Lock: Appears when the keypad is locked. Long press the # key to unlock.
RSSI	Signal Strength: Indicates the strength of the received signal.
A B	A/B Band: Indicates whether the A band or B band is active.
VOL	Transmit Audio Volume: Indicates the volume level of the transmitted audio.
🔋	Battery Status: Displays the remaining battery power. When the battery is nearly depleted, the outer frame of this symbol flashes, and transmission is prohibited. When the outer frame is green, the device is in super power-saving mode.

Main Frequency Selection

Standby Screen: Press the EXIT key to select the main frequency. A frequency highlighted in blue indicates it is the main frequency, while those without blue are secondary frequencies.

PTT Function

When operating on the A segment, press the PTT key to transmit on the A segment frequency.
When operating on the B segment, press the PTT key to transmit on the B segment frequency.

Channel Mode / Frequency Mode Switching

When operating on the A segment, press the PTT key to transmit on the A segment frequency.
When operating on the B segment, press the PTT key to transmit on the B segment frequency.

PF2, PF3 Side Key Functions

Configure side key functions via programming software, including: radio reception, power switching, monitoring, scanning, frequency scanning, flashlight, SOS.

Keypad Lock / Unlock

Standby Screen: Long press the # key to lock or unlock the keypad.

Dual Watch Function

Enable dual watch function via Menu → 07 → Dual Watch. After enabling, you can monitor both the main and secondary frequencies without switching the main frequency.

Voice Control Function

Menu → 04 → Voice Control Settings: Enable the voice control function, which allows the device to automatically enter transmission mode when the microphone detects a sufficiently loud sound. The voice control level can be set through the menu. To ensure continuous voice-activated transmission, the voice control delay time also needs to be set.

Voice Control Delay

Menu → 37 → Voice Control Settings: Set the duration for which the voice control detection remains active.

FM Radio

Assign the side key function to the radio. The radio frequency band supports 65-76/76-108 MHz. Operation: In radio mode, use the MENU key to switch radio frequency bands. Set the radio frequency directly using the numeric keypad. Short press the # key to enable the auto search function.

Frequency Scanning Function

Assign the side key function to frequency scanning, which detects the transmitter carrier frequency and sub-audio frequency information and displays it on the screen. After detecting the carrier frequency, press the MENU key to save the scanned frequency to the designated channel list. The frequency scanning function only supports 136-174/400-520 MHz bands.

SOS Function

Assign the side key function to the Alarm key.
Menu → 45 → Alarm Settings: The SOS function supports three modes: local alarm, transmit alarm tone, and transmit alarm code.
Local Alarm: The device emits an alarm tone without transmitting the signal.
Transmit Alarm Tone: The device transmits the alarm tone signal.
Transmit Alarm Code: The device transmits the alarm code signal.

Emergency Flashlight & Strobe Light

Assign the side key function to the Flashlight key to turn on/switch between different lighting modes/turn off.

Scanning Function

Assign the side key function to the Scan key, supporting both channel list scanning and frequency step scanning. The scanning mode is set via Menu → 22 → Scan Mode Settings.
Supports three scanning methods:
Time: After detecting a carrier signal, the scan will resume if no action is taken within 5 seconds.
Carrier: The scan stops when a carrier signal is detected and resumes 5 seconds after the carrier signal disappears.
Search: The scan stops when a carrier signal is detected.
Operation:
Channel Mode: Scan the channels in the channel list (channels need to be added for scanning during startup).
Frequency Mode: Scan by step frequency.

PTT-ID Function

Transmit identity codes or call codes via DTMF. There are 15 sets of call codes, configurable through "Programming Software → Edit → DTMF". Each signal or A/B band can independently select the call code group to be sent. Configure identity code parameters via "Programming Software → Edit → DTMF → Local ID Code". There are three transmission methods:
Send on Press: After pressing the PTT, the call code/identity code is sent first, followed by the voice signal.
Send on Release: After releasing the PTT, the call code/identity code is sent, then the transmission ends.
Send Both: The call code/identity code is sent both when the PTT is pressed and released.
Note: Since the identity code operation is independent of the call code, if there is a conflict between the identity code and the call code settings, the identity code will be sent.

Menu Function List

No	Function	Secondary menu	Setting instructions
0	SQL	0,···,9	The lower the squelch level, the easier it is to interfere,the higher the level, the worse the sensitivity, and the setting should be moderate
1	STEP	2.50K 5.00K 6.25K 10.00K 12.50K 20.00K 25.00K 50.00K	In the frequency mode, press the up and down keys to change the step value of the frequency
2	TXP	HIGH	High Power Transmitting
		Middle	Middle Power Transmitting
		LOW	Low Power Transmitting
3	SAVE	OFF	Off Battery Saving
		1	Off Battery Saving
		2	Normal Saving
		3	Super Saving
4	VOX	OFF	Turn off VOX function, transmitting without PTT pressing.
		1,2,···,9	Activate the sound pressure intensity of voice control, level 1 is the most sensitive.
5	W/N	WIDE	Wide mode
		NARROW	Narrow mode

Menu Function List

6	ABR	ON	Background light is always on.
		5s/10s...3min	Time between the background light ON to automatically OFF.
7	DW	OFF	Double guard close
		ON	Double guard open
8	BEEP PROMPT	OFF	Turn off operation prompt
		ON	Turn on operation prompt
9	TOT	OFF	The number is from 30 to 480s, and the maximum time for PTT transmission is indicated in 30s steps.
		15S,···,75S	
10	MEMCH	001,···,256	Indicate the channel number to be stored while store channel. If 'CH' in front of number means this channel already has a channel parameter.
11	DELCH	001,···,256	Delete the channel parameters of the specified channel. If there is no CH-means that the channel has no parameters and the operation is invalid.
12	R-CTCSS	OFF	None CTCSS
		67.0Hz, ···, 254.1Hz	Standard CTCSS. Input standard or nonstandard CTCSS via keypad.
13	R-DCS	OFF	None DCS
		D023N, ···D754I	Standard DCS
14	T-CTCSS	OFF	None CTCSS
		67.0Hz,···, 254.1Hz	Standard CTCSS. Input standard or nonstandard CTCSS via keypad.

Menu Function List

15	T-DCS	OFF	None DCS
		D023N…D754I	Standard DCS
16	VOICEPRI	OFF	Our company's special encryption method prevents eavesdropping or frequency interference by others.
		Encryption 1	
		Encryption 2	
		Encryption 3	
17	CH-NAME	COMMOM NAME LIST	You can use the programming software to write your desired channel names in Chinese to facilitate your work needs.
18	ROGER	OFF	Turn Off
		BEEP	Turn On
		TONE1200	TONE1200
19	VOICE	OFF	Turn off voice prompt
		ON	Turn on voice prompt
20	LANGUAGE	ENGLISH	English
		CHINESE	Chinese
21	BCL	OFF	OFF
		ON	ON
22	SC-REV	TO	Time scanning, the walkie-talkie pauses scanning when it detects a signal, and after staying stopped for about 5 seconds, the walkie-talkie will continue scanning even if the signal is still there.
		CO	Carrier scanning, the two-way radio pauses scanning when a channel is detected and keeps it on the same frequency until the signal disappears. There is a 2 second delay between the disappearance of the signal and the resumption of scanning to allow time for the response to begin transmission.

Menu Function List

		SE	Search scanning, the walkie-talkie exits scanning when it detects a signal and stays at this frequency.
23	PF2	1.Weather Forecast 2.Alarm3.Radio 4.Transmit Power 5.Scan 6.Frequency Sweep	Select the corresponding function and short press PF2 to use it as a shortcut key for easier operation.
24	PF2 LONG PRESS	1.Radio 2.Scan 3.Transmit Power 4.Frequency Sweep 5.Weather Forecast 6.Flashlight7.Alarm	Select the corresponding function and long press PF2 to use it as a shortcut key for easier operation.
25	PF3	1.Radio 2.Scan 3.Transmit Power 4.Frequency Sweep 5.Weather Forecast 6.Flashlight7.Alarm	Select the corresponding function and short press PF3 to use it as a shortcut key for easier operation.
26	OFFSET	00.00 0….9 9.995	In frequency mode, the difference between the transmitting and receiving frequencies.
27	SFT-D	OFF	In frequency mode, turn off the difference between the transmitting and receiving frequencies.
		+	In frequency mode, the TX frequency=RX frequency plus frequency difference.
		–	In frequency mode, the TX frequency=RX frequency minus frequency difference.

28	POWER ON MSG	LOGO	Photo
		VOL TAGE	Battery voltage
29	S-CODE DTMF	1,2.3...15	
30	DTMF CODE	OFF	Turn off
		BOT	Press PTT to transmitting DTMF
		EOT	Release PTT to transmitting DTMF
		BOTH	BOTH
31	DTMFST	OFF	No DTMF prompt when press key to transmitting DTMF
		DT-ST	DTMF prompt when press key to transmitting DTMF
		ANI-ST	DTMF prompt when automatically transmitting DTM
		DT+ANI	DTMF prompt when automatically transmitting DTMF and press key to transmitting DTMF
32	AUTOLOCK	OFF	Turn off auto keypad look
		5S、10S、15S	Turn on the keypad timing automatic lock function
33	SCAN ADD	Delete	
		ADD	
34	TONE	1000hz,1450hz, 1750hz,2100hz	
35	PTT-LT	0,100,..., 1000Ms	Delay time before automatic DTMF transmitting(Unit Ms)
36	MENU EXIT TIME	5,10,...,60sec	Control the time of menu automatically exit
37	VOX DELAY	0.5sec...2.0sec	

38	RP-STE	OFF	When the sender releases the PTT key, the machine enters receiving mode. Due to the repeater's delay, this can result in momentary noise from receiving the instant signal sent by the repeater. Adjust this menu item appropriately to eliminate noise when using a repeater. If you need this noise to confirm that the repeater is working, set this menu item to OFF.
		1,2,3.4.5....10S	
39	RPT-RL	OFF	While relaying signals through a repeater, to confirm that the repeater has relayed your signal, use the repeater's transmission delay time to let your machine confirm the signal has been relayed. This menu item is used to adjust the length of time this noise occurs. If you do not need this noise, please set it to OFF.
		1,2,3,4,5....10S	
40	MDF-A	FREQ	A band displays as frequency in channel mode
		CH	A band displays as channel in channel mode
		NAME	A band displays as channel name in channel mode
41	MDF-B	FREQ	B band displays as frequency in channel mode
		CH	B band displays as channel in channel mode
		NAME	B band displays as channel name in channel mode
42	TX-A/B	OFF	In dual standby mode, transmitting current frequency band
		A	In dual standby mode, press PTT to transmitting A band for cross-band TX/RX
		B	In dual standby mode, press PTT to transmitting B band for cross-band TX/RX

Menu Function List

43	STE	OFF	After releasing the PTT, the radio will send a turn-off code to suppress the instant noise of the receiver.
		ON	After releasing the PTT, the radio will send a turn-off code to suppress the instant noise of the receiver.
44	AL-MOD	ON SITE	On-site Emergency
		SEND SOUND	Send emergency voice
		SEND CODE	Send emergency code
45	SCRAMBLE	OFF	
		ON	
46	RESET	VFO	Menu back to factory setting
		ALL	Menu and channel back to factory setting
47	VERSION	Software version	V0.06
		Hardware version	V1.00

Charging Instructions

1.Dock Charging (Optional): Insert the battery pack or the radio with the battery pack into the charging dock. Ensure proper contact with the charging terminals of the dock.
2.Type-C Charging: Connect the provided charging cable to the power adapter and plug the power adapter into an AC power outlet. Insert the charging cable into the Type-C interface of the main unit's battery.
3.When the device is charging, the red indicator light indicates charging in progress. The green indicator light indicates charging is complete.

Cleaning and Maintenance

To ensure optimal performance and extend the lifespan of this product, please follow the guidelines below for daily maintenance and cleaning.

Daily Maintenance:
1.Do not pierce or scratch the product with hard objects.
2.Do not store the product in environments containing chemical corrosive substances.
3.Do not carry or use the product by pulling the earphone cable.
4.When not using the earphone jack, cover the interface with the protective cap.

Cleaning Procedure:
Before cleaning, please power off the device and remove the battery:
1.Regularly use a dry, clean, lint-free cloth or a soft brush to remove dust from the product surface and charging terminals.
2.If the buttons or casing become dirty, use a neutral detergent and a non-woven cloth for cleaning. Do not use detergents, alcohol, sprays, or petroleum-based chemicals as they may damage the surface casing.
3.After cleaning, ensure the product is completely dry before use.

Product Warranty Card

Sales Information	Dealer (Valid with Stamp):
	Contact Number:
	Address:
Product Information	Product Model:
	Serial Number:
	Purchase Date:
User Information	User Name:
	Contact Number:
	Address:

This warranty card serves as an important proof for the end user to enjoy warranty services. It must be stamped and filled out completely by an authorized dealer to be valid. Please keep it safe.

Warranty Terms

The warranty period for this product starts from the date of sale (based on the date on the sales invoice). The main unit is covered for 12 months, and the battery and charging accessories are covered for 6 months. The following cases will require paid repair services during the warranty period:

1.Failure to present this warranty card and the purchase invoice.
2.This card shows signs of alteration or does not match the product.
3.Defects and damages caused by using this product under non-standard conditions.
4.Defects and damages caused by misuse, accidents, water ingress, or negligence.
5.Defects and damages resulting from improper testing, operation, repair, installation, modification, or adjustment.
6.Defects and damages caused by unauthorized repairs or disassembly.
7.Defects and damages caused by force majeure.
8.Normal wear and tear from regular use.

FCC compliance statement

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.

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

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.