

DUAL BAND

Transceiver

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USER'S MANUAL

NOTICE

The regulations of the people's Republic of China on radio administration stipulates that units and individuals that set up and use radio transmitting equipment within the territory of the people's republic of China must go to the corresponding radio administration institution to apply for the establishment of a station and obtain a radio station license before they can use it.

To the user:

Thank you for choosing our FM vhe/uhe wireless interphone. This walkie talkie has novel design, reasonable and beautiful process structure and stable performance,it is designed to meet the needs of users for walkie talkies with convenient operation and excellent performance. In order to make you fully understand the performance of this machine, please read this manual carefully before use.

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Inform users

- The use of this wireless interphone must comply with the laws and regulations of the local government. Improper use will violate the law, and will be subject to sanctions and even imprisonment.
- The maintenance and adjustment of this walkie talkie is only authorized to the maintenance personnel with contract authorization. To avoid problems caused by electromagnetic interference or electromagnetic compatibility, please turn off the walkie talkie in places with the sign of "please turn off the walkie talkie", such as hospitals and other health care and medical places. When taking the plane, please turn off the interphone when the crew requires it to be turned off.
- In the car with air bag, do not put the interphone in the area that may be involved in air bag deployment.
- Please turn off the interphone before entering the flammable and explosive environment
- Don't keep firing for too long. The walkie talkie may overheat and burn people, or even damage the walkie talkie.
- Do not use interphone with damaged antenna. The damaged antenna may cause slight burnsif it contacts the skin.
- Do not expose the interphone to direct sunlight for a long time or place it near the heating device.
- If you wear a portable walkie talkie on your body, please make sure that the antenna is at least 5cm away from your body when the walkie talkie is transmitting.
- If you find any peculiar smell or smoke on the interphone, please turn off the power immediately and contact the nearest authorized dealer.

Product test

- Welcom metothe walkie-talkie. Before use, you are advised to:
- Please check the packaging box of this product for any signs of damage first.
 - Please carefully open the packing box and confirm whether there are any itemsl isted in the following table in the box. If you find any loss or damage of the product and its accessories during handling, please contact the dealer immediately.

Accessories

Parts	Number
Walkie talkie	1
Antenna	1
Lithium battery pack	1
Chager	1
Hang rope	1
Instruction Manual	1
Clip	1

Note: For more information about optional accessories, please contact the dealer

Major function

- ◆ Support radio reception (87-108MHz)
- ◆ Support AM reception in aviation frequency band (108-136MHz).
- ◆ Support full-band transmission and reception (136-560MHz)
- ◆ Double waiting function, which can wait for two channels at the same time.
- ◆ Double PTT key function
- ◆ Large capacity channel storage, 2 × 250 memory channels
- ◆ A/B channel group functions operate independently.
- ◆ Convenient and quick menu operation mode
- ◆ CTCSS/DCS coding and decoding function, which supports the full transmission of sub-tones.
- ◆ DTMF signaling dialing
- ◆ DTMF signaling ANI
- ◆ DTMF signaling selective call (individual call, group call, full call)
- ◆ 2-tone &5-tone signaling dialing
- ◆ 2-tone &5-tone signaling ANI
- ◆ 2-tone &5-tone signaling selective call (individual call, group call, full call)
- ◆ Remote remote killing and activation function
- ◆ Launch 1750Hz
- ◆ A variety of stepping frequencies
- ◆ Differential frequency setting
- ◆ Scrambling function, and the scrambling frequency can be selected at will, so as to encrypt your call.
- ◆ companding function, which can make the sound quality of interphone clear and noiseless.

Major function

- ◆ Frequency hopping function, which allows you to only receive legitimate calls.
- ◆ The anti-cracking function of digital mode can improve communication security.
- ◆ Fast frequency measurement function, which can quickly talk with 99% of other walkie-talkies onthe market.
- ◆ A variety of scanning methods
- ◆ Emergency alarm function
- ◆ Voice noise reduction function
- ◆ Customizable Multifunctional Keys
- ◆ VOX voice control function
- ◆ Chinese and English voice number reporting function
- ◆ With three reset functions, it can quickly return to the factory settings.
- ◆ Humanized voice broadcast function, which can broadcast battery power, etc.
- ◆ You can customize the boot welcome.
- ◆ A variety of boot tones make your walkie-talkie unique.
- ◆ It has the functions of individual call, group call and full call to meet various call requirements.
- ◆ With interphone alias display function, the receiving interphone can identify and display the caller.
- ◆ Fast team-building function, which can quickly synchronize multiple walkie-talkies in one channel, bringing convenience to multi-person team travel
- ◆ Large screen dot matrix LCD display
- ◆ Recording function
- ◆ The boot interface can be customized, which brings users a more personalized and pleasant experience.

Introduction to Keyboard

Long/Short Key Settings
Users can set the side key 2 to different functions of long press or short press according to their needs.
Note: You can set the long key time through the frequency writing software, which defaults to 2.0 seconds.
If you press these programming keys for a longer time than the set long key time, it is a long key; Otherwise, it is a short key.

NO.	Set Project	Function Description
0	Nothing	Undefined button function, invalid button
1	Mute Cancellation	Press the key programmed as the mute cancel function to turn on noise mute; Press the key again to exit this function.
2	Instantaneous noise cancellation	Press and hold the key programmed as the momentary mute cancel function to turn on noise mute, and when released, turn off mute. The short button does not have this function.
3	Voice control	Voice control enable key. By speaking, you can start the transmission operation and transmit the sound without pressing the PTT button. Stop talking, and the launch will also stop
4	Power level	Adjust and switch the transmission power of the walkie talkie to switch between high and low power.
5	Scanning	Scan enable key. By using this key, scan each channel number in the scan queue one by one. Scanning is a listening method used to hear calls from all channels
6	End of emission sound	Turn on/off the prompt tone at the end of transmission
7	Screen display switch	Turn on/off screen display
8	Battery level display	Broadcast current battery high/medium/low
9	Emergency alarm	When dealing with an emergency or seeking help when trapped, pressing the button programmed as an alarm function can emit a harsh alarm sound. To stop the alarm sound, press the PTT button.
10	Report channel number	Report the current channel number
11	Switch Channel Group Pointing	Can switch the direction of channel group A/B

Basic mode

- ◆ **VFO mode (frequency mode)**
 - Press the (Exit) key to switch and select.
 - In this mode, you can press the (UP/DOWN) key to change the usage frequency.
- ◆ **MR mode (frequency channel mode)**
 - Press the (Exit) key to switch and select.
 - In this mode, you can press the (UP/DOWN) key to change the channel number (stored frequency and related data).
 - You must program at least one memory channel, otherwise you cannot enter this mode.
- ◆ **CH mode (channel mode)**
 - Press the (Exit) key to switch and select.
 - In this mode, you can press the (UP/DOWN) key to change the channel number (stored frequency and related data).
 - You must program at least one memory channel, otherwise you cannot enter this mode.

LCD display screen

- ◆ **Channel parameters**
 - H/L: High and low power
 - W/N: Wide and narrow band
 - CT/DT: analog sub tone/digital sub tone
 - V: Voice control
 - S: Scrambling frequency
 - C: Compression expansion
 - +/-: Positive/negative differential frequency
 - R: Inverted frequency
 - 001: Local body code, default to 001
 - D0: The group to which this machine belongs, defaults to 0 groups
- ◆ **System parameters**
 -  : Battery indicator

Basic operation

Powering on
If you need to turn on the computer, please turn the (power switch/volume) knob clockwise until you hear a "click" sound. If you need to turn off the computer, turn this knob counterclockwise until you hear a "click" sound.

Modulation
After turning on the computer, rotate the (power on/off/volume) knob clockwise to increase the volume, and counterclockwise to decrease the volume.

Frequency/channel mode switching
Short press the  keyboard keys to switch between frequency/channel modes.

Menu settings

Menu Usage

- ◆ The menu contains settings for various software functions of the walkie talkie, and you can change the settings in the menu to meet your needs.
- ◆ Press the [Menu] key to enter the menu system.
 - You can select the menu item you want to use by pressing the [UP/DOWN] key.
 - Press the [Menu] key to enter menu settings.
 - You can press the [UP/DOWN] key to select the settings, then press the [Menu] key to complete the settings, and return to the menu system.
 - Press the [Exit] key to exit the menu system and return to the original working mode.
 - If there is no operation after 10 seconds, the walkie talkie will automatically return to its original working mode.

Menu Table

NO.	Display Characters	Secondary menu display characters	Secondary menu setting instructions
0	Local name	/	Can choose the name of the local machine User names can be pre-set in the frequency writing software
1	Local Information	Version information, ultimately changed to time	
2	Embedding information	SN:12345678	
3	Transmission power	Low power/high power	Low power transmission/high power transmission
4	wide and narrow bands	Narrowband/Broadband	Choose narrowband/broadband
5	Voice control switch	Close/Open	Turn off/on voice control
6	Voice control level	Close/1// ten	Set voice gain threshold

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Menu settings

NO.	Display Characters	Secondary menu display characters	Secondary menu setting instructions
7	Scrambling frequency	Close/Open	Turn off/on scrambling
8	Compression expansion	Close/Open	Close/Open Expansion
9	Subtone decoding	Close// CTC-254.1 DCS-D023N/.../DCS-D754I	Press the [*] key to select: Close, CTCSS, DCSN, DCSI; Press the [#] key to switch between DCS forward and reverse codes;Close// CTC-254.1 Press the [▲]/[▼] keys: select the group you need; Press the [0-9] key to directly input the sub audio you want
10	Subsonic encoding	Close// CTC-254.1 DCS-D023N/.../DCS-D754I	
11	Step frequency	0.05KHz/.../500K	
12	Differential frequency direction	nothing	The transmission frequency is equal to the receiving frequency
		Negative differential frequency	The transmission frequency is equal to the current frequency minus the difference frequency
		Positive and negative frequency	The transmission frequency is equal to the current frequency plus the difference frequency
13	Differential frequency	0.000-450.000MHz	The difference in frequency between transmission and reception
14	Inversion frequency	Close/Open	Reverse frequency off/on
15	Channel storage	/	Press the [▲]/[▼] keys: Select the channel number and press the menu key to confirm storage
16	Channel deletion	/	Press the [▲]/[▼] keys: Select the channel number and press the menu key to confirm deletion
17	Channel name	Close/Open	Turn off/on channel name display

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Menu settings

NO.	Display Characters	Secondary menu display characters	Secondary menu setting instructions
18	Scanning	/	Scan start, if not in frequency mode, at least 2 channels are required to start scanning
19	Scan switching	Delete/Add	Delete/Add Scan Channel
20	Side key 3 short press	Close/Mute Cancel/	Can set the short press function of side key 3
21	Side key 3 long press	Close/Mute Cancel/	Can set the long press function of side key 3
22	Lock key mode	Manual Automatic 5 seconds//30 seconds Automatic 5 seconds//30 seconds	Manually locking the keyboard Lock the keyboard after setting the time without saving the locked state Lock the keyboard after setting the time and save the locked status
23	Team launch	/	Enter the fast team launch function
24	Team up to receive	/	Enter the fast team reception function
25	Channel generation	/	Press the PTT key to power on, and then enter this menu to randomly generate 16 channels, which can be sent to members of the same group through the fast teaming function
26	Frequency measurement function	/	Enter the regular frequency measurement function
27	Special frequency measurement	/	Enter special frequency measurement mode
28	Signaling type	Nothing Dual tone multi frequency 2-tone/5-tone10	/

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Menu settings

NO.	Display Characters	Secondary menu display characters	Secondary menu setting instructions
29	PTTId settings	Close/Launch Start/Launch End/Both	PTTId settings can be performed
30	ID code	Close/Open	When opened, you can select the received signaling code
31	Digital services	Close/Open	Open digital services to enable individual, group, and full calling functions
32	Call type	Individual call/group call/full call mode	You can choose the appropriate call mode according to the situation
33	Member selection	/	Members can be selected for single calling, and user names can be pre-set in the frequency writing software You can select a group for group calling
34	Bank select	/	You can pre-set the group name in the frequency writing software
35	Radio	Turn off/FM frequency modulation/ AM amplitude modulation	Turn off/FM frequency modulation/AM amplitude modulation
36	Vibration function	Close/Open	Close/Open
37	Prompt sound	Close/Open	Turn off/on prompt sound
38	Backlight	Turn off and on Automatic for 5, 10, 20, 30, and 60 seconds	/
39	Display Image	Display startup image	Startup screen
		Display voltage	Display voltage volts
		display information	Display set information

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Menu settings

NO.	Display Characters	Secondary menu display characters	Secondary menu setting instructions
40	Waiting light	Close/Open	Turn off/on the waiting lights
41	Power saving mode	Close	Power saving shutdown
		1-1/.../1-5	1-1: Less power saving, 1-5: More power saving, but longer standby delay
42	Channel group pointing	Group A/Group B	Channel groups can be selected
43	Working mode A	Full frequency mode	Display the VFO frequency modulation mode of group A
		Channel frequency mode	Display the channel number and frequency pattern of Group A
		Channel mode	Display the channel mode of CH - * in group A
44	Working mode B	Full frequency mode	Display VFO frequency modulation mode for group B
		Channel frequency mode	Display the channel number and frequency pattern of Group B
		Channel mode	Display the channel mode of CH - ** for group B
45	Priority transmission channel	Close	Turn off priority launch
		Automatic	Automatic selection of launch group
		Group A	Launch in Group A
		Group B	Launch in Group B
46	Launch time limit	Close	There is no limited launch time
		15 seconds// 270 seconds	If the launch exceeds the time limit, the walkie talkie will automatically turn off the launch

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Menu settings

NO.	Display Characters	Secondary menu display characters	Secondary menu setting instructions
47	Squelch level	Level 0-10	Adjust between 0 and 10 levels, the higher the level, the deeper the noise reduction
48	Power on prompt sound	Turn off/prompt tone 1// Chord 3	Select startup prompt sound
49	End sound	Close/Open	Close/Open End Sound
50	Number selection	Close/Chinese/English	Selection of Signal Sound
51	Dual guard switch	Close/Open	Dual standby off/on
52	Call tone	Closed/1.2.3.4.5.6.7.8.9.10	Select Close/1.2.3.4.5.6.7.8.9.10
53	Display type	Night mode	Turn on night mode
		Daytime mode	Turn on daytime mode
54	language	English/Chinese	Select display interface language
55	Reset	Parameter reset	Set the parameters of the mode and restore the full frequency to the factory settings
		Channel clearing	Delete all storage channels
		Restore factory settings	Restore parameters to the last write frequency

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Sometimes you may just receive a call from a specific person, and CTCSS/DCS can prevent you from receiving call signals from others using the same frequency. You can select 50 sets of commonly used CTCSS and 105 sets of DCS

CTCSS standard frequency table

50 CTCSS frequencies (Hz)							
67.0	85.4	107.2	136.5	165.5	186.2	210.7	254.1
69.3	88.5	110.9	141.3	167.9	189.9	218.1	
71.9	91.5	114.8	146.2	171.3	192.8	225.7	
74.4	94.8	118.8	151.4	173.8	196.6	229.1	
77.0	97.4	123.0	156.7	177.3	199.5	233.6	
79.7	100.0	127.3	159.8	179.9	203.5	241.8	
82.5	103.5	131.8	162.2	183.5	206.5	250.3	

Number of DCS standard groups

105 sets of DCS codes									
023	065	132	205	255	331	413	465	612	723
025	071	134	212	261	332	423	466	624	731
026	072	143	223	263	343	431	503	627	732
031	073	145	225	265	346	432	506	631	734
032	074	152	226	266	351	445	516	632	743
036	114	155	243	271	356	446	523	645	754
043	115	156	244	274	364	452	526	654	
047	116	162	245	306	365	454	532	662	
051	122	165	246	311	371	455	546	664	
053	125	172	251	315	411	462	565	703	
054	131	174	252	325	412	464	606	712	

DTMF signaling

DTMF(Dual Tone Multi Frequency), dual tone multi frequency, consists of a high frequency group and alow frequency group, each of which contains four frequencies. A high-frequency signal and a low-frequencysignal are superimposed to form a combined signal, which represents a number. DTMF signaling has 16 codes. Using DTMF signaling, you can choose to call the corresponding interphone.

- DTMF is selected as the signaling type in the channel information.

Signal Type	Signal Dec	Signal Enc	PTT ID	Speaker Unmute	Ctd.
DTMF	16	16	Off	QT/DQT	

- Set up coding, decoding and dialing list in DTMF service to meet customer requirements.



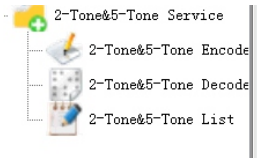
Nine 2-tone &5-tone signaling

The 2-tone &5-tone function encodes and decodes audio with multiple different frequencies, allowing users to trigger operations and realize selective calls by sending specific 2-tone &5-tone codes. This is very useful in situations that require rapid response, coordination and emergency communication, such as alarm, scheduling and emergency response

- Choose 2-tone &5-tone signaling as the signaling type in the channel information.

Signal Type	Signal Dec	Signal Enc	PTT ID	Speaker Unmute
2-Tone&5-Tone	16	16	Off	QT/DQT

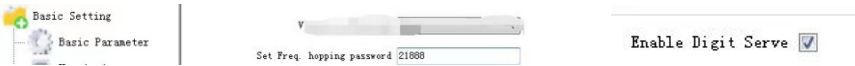
- Set the coding, decoding and dialing list in the 2-tone &5-tone service to meet the needs of customers.



Ten-digit anti-cracking

Using the digital anti-cracking function, we can realize the anti-cracking function and avoid receiving illegal signals.

- Digital mode selection in channel information is enabled.



- Only the same digital codes can communicate with each other, the range is 1-49999, and the default value is 1688.

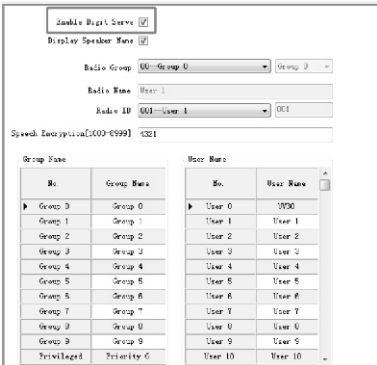
Digital Services

By utilizing the digital service function, it is possible to display the alias of the walkie talkie, and the target walkie talkie can display the name of the calling initiator

The selection of digital services in channel information is

CH	Tr Freq	Rx Freq	QT/DTF Ref	CT/DRF Ref	Power	V/M	Scan	SQL	Prs	Scramble	Scr Freq	Grouped	Engage	Radio	Signal	CH Name	Dig Serve	Extra Code
1-00A	400.35000	400.35000	None	None	High	Flts	Yes	0dB	Prs	On	0-3100	Yes	0dB	On	Disable		Yes	

- In digital configuration, check to enable digital services and display speaker names
- Group to which this device belongs: Only those set to the same group can communicate with each other
- Local name: After setting, the receiver can display the name of the calling party
- Password for voice encryption: 0001-8999 can be set, and only the same password can be used for intercom



Quick Teaming

When a user initiates a teaming launch on the walkie talkie and other users enter the fast teaming receiver, multiple walkie talkie devices can be quickly synchronized on the same channel, bringing significant convenience when traveling in groups of multiple people.

Quick teaming operation method

Receiver

- 1. Enter the menu 'Team up to receive'.
- 2. Press the (Menu) key to enter team reception, and the interface will display "Quick Team Receiver".

Transmitter

- 1. Enter the menu 'Team Launch'.
- 2. Press the (Menu) key to enter Team Launch, and the interface will display "Quick Team Launcher".
- 3. At this point, the communication mode of rapid teaming will enter, which will take about 2 minutes.

Frequency meter function

This machine has a frequency measurement and decoding function, which can be used to quickly communicate with other walkie talkies and operate the frequency measurement instrument function.

- 1. Enter the menu "Frequency measurement function".
- 2. Press the (Menu) key to enter, and the screen will display "Frequency measurement in progress".
- 3. Press and hold the PTT button of the tested intercom to emit, and then approach the local unit.
- 4. When the frequency measurement is completed, a successful frequency measurement will be announced, and the screen will display the frequency and store it in the channel.
- 5. You can press the (UP/DOWN) key to switch channels and enter the next frequency measurement.
- 6. Press the (Exit) key to exit the frequency measurement function and return to the original working mode.

Technical specifications

Overall part

frequency range	136-174MHz/406.1-470MHz
Rated voltage	DC7.4V (battery)
Memory Channel	199 channels
Antenna configuration	Inductive antenna
Antenna impedance	50Ω
Working mode	Same frequency or different frequency simplex
Grounding method	negative electrode

Launch section

Output power	
Modulation method	frequency modulation
Maximum	< ±5KHz
Residual	≤-60dB
Pre emphasis	6dB per Octave band
Emission current	≤1200mA

Receiving part

sensitivity	< 0.16uV(25dB SINAD)
Silence sensitivity	< 0.2uV
Intermodulation Rejection	50dB
Audio power	≥300mW
Receiving current	≤100mA
Silent waiting	20mA

- The above specifications are for reference only, subject to the actual machine!

Technical specifications

● FCC Warning Statement

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

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

SAR statement

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. The SAR limit set by the FCC is 8W/Kg. For body-worn operation, this device has been tested and meets the FCC RF exposure guidelines for use with an accessory that contains no metal and positions the device a minimum of 0mm from the body. The Face-held test distance is 25mm.