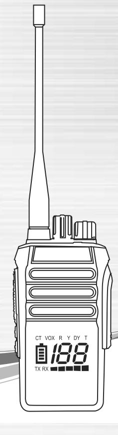
FM TRANSCEIVER

使用说明书



■FCC Compliance Statements:
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.
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

This radio complies with IEEE and ICNIRP exposure limits for general population/uncontrolled RF exposure environment at operating duty factors of up to 50% and is authorized by the FCC for general population/uncontrolled use only. An appropriate warning label is affixed to all units. In order to comply with RF exposure requirements, a minimum distance of 2.5 cm must be maintained when held-to-face, and body-worn operations are restricted to the approved original accessories (belt clip), a minimum distance of 0 cm. Do not use this device when antenna shows obvious damages.

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

■Licensing Information
Use our radio in USA is subject to the rules & regulations of FCC. Changes or modifications not expressly approved by our may void the user authority granted by the FCC to operate this radio and should not be made. To comply with FCC requirements, transmitter adjustments should be made only by or under the supervision of a person certified as technically qualified to perform transmitter maintenance and repairs in the private land mobile and fixed services as certified by an organization representative of the user of those services. Replacement of any transmitter component (crystal, semiconductor, etc) not authorized by the FCC equipment authorization for this radio could violate FCC rules.

Note: Use of this radio outside the country where it was intended to be distributed is subject to government regulations and may be prohibited.

Important: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device.

When the channel is not busy and no operation is performed for 10 seconds, the battery saving function is turned on.
When receiving a signal or performing an operation, the battery saving function is turned off.

Analog Subaudio (QT)/Digital Subaudio (DQT):
This walkie talkie can be optionally equipped with 50 groups of standard analog sub audio modules. In addition, non-standard sub audio within the input range of 30.0~260Hz (53-57 deducted) can be added with the Numeric keypad, and 105 groups of digital sub audio can be added. In addition, non-standard digital sub audio within the input range of D000~D777 can be added with the Numeric keypad (which can be set through computer programming software).
Some channels may have preset QT/DQT signal numbers. The QT/DQT signal is a sub audible signal tone that allows you to ignore (not listen to) calls from third parties using the same channel.
When you receive a QT/DQT signal that is different from the setting on your walkie talkie, you will not hear this signal. Similarly, the signal you transmit can only be heard by the other party whose QT/DQT signal is the same as the QT/DQT signal set on your walkie talkie.
Note: Although using a signal with QT/DQT sub audio can prevent you from listening to unwanted calls, it does not mean that your call is confidential.

Write frequency encryption function:
This device has a write frequency encryption function, which can protect your frequency and sub audio data from others, and also protect your and customer information. The specific settings can be set through the write frequency software.

基本操作

开关电源：
 1、开机：按顺时针方向旋动“电源/音量开关”控制旋钮打开对讲机电源，同时听到“哒”
一声，听到一串悦耳的提示音，然后再播报当前对应的频道。
 2、关机：按逆时针方向旋动“电源/音量开关”控制旋钮，直到听到“哒”一声后表示
已经关闭该对讲机电源。

音量调整：
按顺时针方向旋动“电源/音量开关”控制旋钮增大音量；按逆时针方向旋动“电源/音量开关”控制旋钮则减小音量。

频道选择：
旋动频道开关选择您所要使用的频道，若您将本机的语音报号功能开启了的话，本机将用语音播报当前对应的频道。
（注：本机用的旋钮开关为360度旋钮，顺时针时：
1--199->1-199->……；逆时针时：199—1->199—1->……）。
键功能说明：
测键1：【PTT】发射
测键2：【MONI】按下监听
测键 3：【WARN】短按扫描，长按远程报警

对讲：
按住[PTT]键发射指示灯亮，并以正常的音调讲话，通话完毕后松开[PTT]键，本机将转为接收。讲话时请保持嘴和对讲机距离3至8cm。

本机电脑写频软件用：8930，用带MAX232集成的写频器。

显示功能：
　本机带有LED显示。显示当前所处信道号（1-199）、显示当前电量、显示所处信道是否开启扰频/压扩/跳频/模拟亚音/数字亚音等等。同时本机带有透显时间设定机制，您可通过写频软件设置屏显时间，

共有关/5秒/10秒/15秒/20秒/25秒/开六种方式选择，当您的选择是5秒/10秒/15秒/20秒/25秒中的一种，表示自动调节的显示方式，您5秒/10秒/15秒/20秒/25秒内无任何操作情况下，显示会自动关闭，直到有操作或者有接收情况下会再次自动开启显示。

一键破频破码功能
本机带有一键破频破码功能，匹配市面上大部分模拟对讲机。
操作方式：
步骤一：
在任意信道长按住PTT键（发射键）开机，直到有‘滴滴滴’三声悦耳提示音，并且伴随有红绿两个指示灯交替闪烁，松开PTT键，表示此时本机已经进入 “测频模式1阶段”下。

步骤二：
在“测频模式1阶段”下，您若需要更改测频信道，可通过转动旋钮开关切换信道，确定好信道后，自动进入“测频模式2阶段”。

步骤三：
进入“测频模式2阶段表示测频正式开始，用目标对讲机持续发射，到听到‘哒’一声并且伴有红灯闪烁两下表示测频完成,自动存储测出频点到当前信道，此时本机可和目标对讲机对讲。

注意：
1、在上述步骤三完成后，您若想测其他信道，请切换到目标信道进行即可。
2、在上述步骤三完成后，您若想再测试一遍该信道，则直接按下MONI键重测即可。

语音报号功能的开启、关闭和中英文切换：
本机具有语音报号功能，方便您在夜间或暗处操作时快速知道您所用的对讲机所处的当前信道。此功能可以通过电脑编程软件写频来实现。

Frequency hopping function
Each channel can be set with frequency hopping on/off. Can achieve intercom encryption, preventing other models from receiving your intercom, thus keeping your communication confidential.
(Note: If you select "Jump A" in the "Special Subtone" column, the other party needs to use the same "Jump A" setting as this machine to talk back).
(Note: If you select "Jump frequency B" in the "Special sub tone" column, the other party needs to use the same "Jump frequency B" setting as this machine to talk back).
(Note: "CTCSS/DCS encoding" and "CTCSS/DCS decoding" are analog sub tone/digital sub tone/none, as long as "on" is selected in the "frequency hopping" column, it means that the frequency hopping function is enabled.)
When selecting anti burst frequency hopping, be sure to turn off learning frequency hopping and select on frequency hopping

DCS ending method
Among the optional functions, there is a DCS ending mode selection (regular and special), which is usually a digital ending of 134.4HZ
Special 55.0HZ (most machines on the market have DCS endings of these two types)

High and low power switching
Each channel is individually set with high and low power. You can directly set the transmission power of each channel to high or low
When you need a long call distance, you can set it to high power. When you need a close call distance, you can set it to low power to increase continuous usage time.

Battery saving:
If the dealer activates this function, the battery saving function can reduce battery consumption when no signal is received or no operation is performed (no button pressed, no channel switch rotated).

a difference of 15 seconds). If you continuously transmit until the timeout timer you set, the walkie talkie will stop transmitting and emit a long alarm sound. To stop the warning tone, release the 【PTT】 switch. Press the 【PTT】 switch again to resume transmission.

voice control
This device has voice control function, and when voice is detected, the walkie talkie automatically switches to transmission mode.
The specific operation is as follows:
This function is achieved through computer programming software frequency writing. When the voice control function is checked, it indicates that the voice control is on. If the voice control function is not checked, it indicates that the voice control is off. The gain level and delay time of VOX need to be adjusted through computer programming software frequency writing.
Note: The higher the gain level of VOX, the lower the volume required for sound control (the gain level of VOX can be selected in levels 1-9)
The higher the delay time of VOX voice control, the longer the exit time of VOX voice control (the delay time of VOX voice control can be selected as 0.5/1/1.5/2/2.5/3S)

Disturbance and companding function
Each channel can be set with optional functions for scrambling/companding, and scrambling can be done at different levels.
The scrambling function can achieve voice encryption, so that users without this function will not be able to receive your real voice, thus keeping your communication confidential. When two walkie talkies need to encrypt calls, the optional function is to select scrambling, and the scrambling level is the same.
The compression function can effectively compress the transmitted set signal and then transmit it to the other end, and then expand the signal at the receiving end, thereby maximizing the system signal-to-noise ratio, greatly reducing environmental background noise, and improving the sound quality at the receiving end.

低电量警告:
低电量警告在电池需要充电或更换时出现提醒。
如果电量不足时使用对讲机，每隔15秒钟会响起中文语音提示“请充电”，英文语音提示“Please Changer”，若语音报号功能关闭则提示“嘀、嘀、嘀”三声，并且LED指示灯闪烁红光，提示用户请换电池组或为之充电。

超时定时器（TOT）（可以通过电脑写频软件设置开/关此功能)
超时定时器的作用在于防止一个人过久地使用一个信道。
超时定时器的时间可以通过写频软件设置（可以为15秒、30秒到600秒；每级相差15秒），如果你连续发射到你所设置的超时定时器的时间，对讲机将停止发射同时长发出警告音。要停止警告音，放开【PTT】开关。再次按下【PTT】开关便可恢复发射。

声控功能
本机有声控功能,当检测到语音时,对讲机自动切换到发射模式。
具体操作如下:此功能通过电脑编程软件写频来实现.打钩声控功能时表示声控开,没有打钩声控功能表示声控关，VOX的增益电平和VOX声控延迟时间需要通过电脑编程软件写频来调整。
注：VOX的增益电平等级越高声控所需的音量越低(VOX的增益电平可以1-9级选择）
VOX声控延迟时间越大声控退出的时间越长(VOX声控延迟时间可0.5/1/1.5/2/2.5/3S选择）

扰频压扩功能
每个信道可设置可选功能扰频/压扩，扰频可选扰频级别。
扰频功能可实现语音加密，使没有此功能的用户将无法接收到您的真实语音，从而使您的通信得到保密，两台对讲机需要加密通话时，可选功能选扰频，扰频级别一致即可。
压扩功能可将所传输的部分设定信号有效地压缩后再传输到另一端，在接收端信号再进行扩展，从而最大限度地提高系统信噪比，大大地降低环境背景噪音，提高接受端的声音质量。

跳频功能
每个信道可设置跳频开/关。可实现对讲加密，使其他款型机子无法接收到您的对讲，从而使您的通信得到保密。
（注：若“特殊亚音”栏选“跳频A”，对方需要使用本款机子一样设置“跳频A”方可对讲）。
（注：若“特殊亚音”栏选“跳频B”，对方需要使用本款机子一样设置“跳频B”方可对讲）。
（注：“CTCSS/DCS编码”“CTCSS/DCS解码”为模拟亚音/数字亚音/无，只要“跳频”栏选“开”则都表示跳频功能开启)
选择防破跳频的时候，一定要关闭学习跳频，跳频选择开

DCS尾音方式
 在可选功能中有个DCS尾音方式选择（常规和特殊）常规为数字尾音134.4HZ
 特殊为55.0HZ（市面上大部分机器的DCS尾音都是这两种)

高低功率切换
每个信道单独设置高低功率，您可以通过写频软件直接设置每个信道发射功率高或低，当您需要通话距离远可设置为高功率，当您需要的通话距离近则可设置为低功率，增加连续使用时间。

电池省电：
如果经销商启动了该功能，在未收到信号或未进行操作（没有按键按下、没有信道开关旋转）时，电池省电功能可以降低电量消耗。
当信道不忙以及未进行任何操作10秒钟时，电池省电功能打开。
当收到信号或进行操作时，电池省电功能关闭。

模拟亚音频（QT）／数字亚音频（DQT）：
本对讲机可选装50组标准模拟亚音频模块另外增加可以用数字键盘输入范围为30.0~260Hz(扣除53-57)以内的非标亚音频和105组数字亚音频另外增加可以用数字键盘输入范围为D000~D777以内的非标数字亚音（可通过电脑编程软件进行设置）。

continue to transmit until a "da" sound is heard and accompanied by a red light flashing twice, indicating that the frequency measurement is completed. The measured frequency points will be automatically stored in the current channel, and at this time, the machine can communicate with the target walkie talkie.

Attention:
1. After completing step three above, if you want to test other channels, please switch to the target channel for testing.
2. After completing step three above, if you want to test the channel again, simply press the MONI button to retest.

The activation, deactivation, and switching between Chinese andEnglish of the voice number reporting function:
This device has a voice number reporting function, making it convenient for you to quickly know the current channel of the walkie talkie you are using during night or dark operation. This function can be achieved by writing frequency through computer programming software.

Low battery warning:
Low battery warning appears when the battery needs to be charged or replaced.
If the intercom is used when the battery is low, the Chinese voice prompt "Please Charge" will sound every 15 seconds, and the English voice prompt "Please Change" will sound. If the voice number reporting function is turned off, the prompt "Di, Di, Di" will sound three times, and the LED indicator light will flash red, reminding the user to replace the battery pack or charge it.

Time Out Timer (TOT) (This function can be set on/off through computer frequency writing software)
The function of a timeout timer is to prevent a person from using a channel for too long.
The time of the timeout timer can be set through the frequency writing software (which can be 15 seconds, 30 seconds to 600 seconds; each level has

Display function:
This machine is equipped with LED display. Display the current channel number (1-199), display the current battery level, display whether the channel is enabled for scrambling/companding/frequency hopping/analog sub tone/digital sub tone, and so on.
At the same time, this machine has a transparent display time setting mechanism, which allows you to set the screen display time through frequency writing software. There are six options for selecting/5 seconds/10 seconds/15 seconds/20 seconds/25 seconds/on. When you choose one of the 5 seconds/10 seconds/15 seconds/20 seconds/25 seconds, it indicates an automatic adjustment of the display mode. If there is no operation within 5 seconds/10 seconds/15 seconds/20 seconds/25 seconds, the display will automatically turn off, Until there is an operation or reception, the display will automatically turn on again.

One click frequency and code breaking function
This device has a one click frequency and code breaking function, which matches most analog walkie talkies on the market.
Operation method:
Step 1:
Press and hold the PTT key (transmit key) for any channel to turn on the device until there are three pleasant prompts of 'Didi Di', accompanied by alternating red and green indicator lights. Release the PTT key, indicating that the device has entered the 'frequency measurement mode stage 1'.

Step 2:
In "Frequency Measurement Mode Phase 1", if you need to change the frequency measurement channel, you can switch the channel by turning the knob switch. After determining the channel, it will automatically enter "Frequency Measurement Mode Phase 2".

Step 3:
Entering the "Frequency Measurement Mode 2" stage indicates that the frequency measurement has officially started. The target walkie talkie will

某些信道可能具备预设QT/DQT信号码。QT/DQT信号是次可听信号音，它能使您可以忽视（不听）使用相同信道的第三者的呼叫。
当您接收到不同于您的对讲机上设定QT/DQT信号时，您不会听到这个信号。同样，您发射的信号仅可被QT/DQT信号相同于您对讲机设定的QT/DQT信号的对方收听到。
注：虽然使用设有QT/DQT亚音频的信号可使您免于收听不想听到的呼叫，但它并不意味着您的呼叫是秘密的。
写频加密功能：
本机具有写频加密功能，可以保护您的频率和亚音频数据不被别人知道，同时也可以保护您和客户的资料，具体设置可以通过写频软件来设置。

WARNING: If you wear a radio on your body, ensure the radio and its antenna are at least 2.5 centimeters away from your body when transmitting.

Notice:
Use the two way radio in the environment with the temperature between 0-40℃,otherwise,it may damage your two way radio .
It can be operating under 2000m.
Hereby, Our declare that the radio equipment type two way radio is compliance with Directive 2014/53/EU.
For Adapter: Shall be installed near the equipment and shall be easily accessible.
For Battery: Risk of explosion battery is replaced by an incorrect type, dispose of used batteries according to the instructions.
For this device,Head SAR and Body SAR was performed with the device configured in the positions according to EN62209-2:2010, and face-up SAR was performed with the device 25mm from the phantom,and Body SAR was performed with the device 0mm from the phantom. Body SAR was also performed with the headset and belt clip attached and without.

Switching power supply:
1. Power on: Turn the "Power/Volume Switch" control knob clockwise to turn on the intercom power, and at the same time hear "da"
With one sound, hear a series of pleasant prompts, and then broadcast the current corresponding channel.
2. Shutdown: Turn the "Power/Volume Switch" control knob counterclock-wise until you hear a "da" sound, indicating
The intercom power has been turned off.

Volume adjustment:
Rotate the "Power/Volume Switch" control knob clockwise to increase the volume; Turn the "Power/Volume Switch" control knob counterclockwise to decrease the volume.

Channel selection:
Turn the channel switch to select the channel you want to use. If you turn on the voice number reporting function of this device, it will use voice to broadcast the current corresponding channel.
(Note: The knob switch used in this machine is a 360 degree knob. When clockwise: 1-199->1-199->...; when counterclockwise: 199-1->199-1->...).
Key function description:
Test key 1: 【PTT】 emission
Test key 2: 【MONI】 Press to listen
Test key 3: 【WARN】 Short press scan, long press remote alarm

Intercom:
Press and hold the [PTT] button to emit the indicator light and speak in a normal tone. After the call is completed, release the [PTT] button and the unit will switch to receiving. Please maintain a distance of 3 to 8cm between your mouth and the walkie talkie when speaking.

The frequency writing software for this computer is 8930, and a frequency writer with MAX232 integration is used.