

User's Manual

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Professional FM Transceiver

Basic operations

Led indicator

It lights red when transmitting, and lights green when receiving.

Channel-selecting knob

Rotate it to select channel 1-16, clockwise rotation to increase, counter-clockwise rotation to decrease. An alert tone will sound when an empty channel is selected.

Power/Volume knob

Rotate it by clockwise to power on the radio. To turn off the radio, rotate it by counter-clockwise until a click sound is heard, VOL control by rotating.

PTT switch

Press PTT switch and then talk to the microphone, the indicator light turns red, if the channel does not have transmitting frequency, a "Du Du" tone sounds, and indicator light turns red. Release PTT switch to receive. It lights green when there is signal.

M key is moni key

Monitoring: monitor your selected channel if anyone in the call, if no signal is loud "Rustle" sound.

Squelch level

Adjust the squelch level by rotating the squelch knob. If the squelch level is too low, the sound will be higher,

and the corresponding communication range will be further, but the anti-interference capacity will be weaker. The default setting of squelch level is 5, you can adjust it through the menu "Squelch level" of the "Optional features" in the software, level 0 to 9 can be selected. 0 is the lowest level.

Time out timer (TOT)

The purpose of TOT is to prevent any radio from talking in one channel for too long, and to prevent the radio from being damaged due to continuous transmission. If the transmitting time exceeds the TOT pre-set time, the radio will stop transmission and an alert tone sounds. Release PTT switch to stop the alert tone, the radio resume to receiving mode.

Scan On/Off

When the radio is set as scan via software, rotate the channel-selecting knob to channel 16, it will start scanning. It will scan all scannable channels from channel 1 to 16. you can define as channel added or deleted in software.

When there is signal in the scanning channel, it stops in the channel for talk.

Note: a. The radio will stay in the channel which has signal, and 15 seconds after the signal disappears, it will continue scanning.

b. It can not scan when there is less than 2 scannable channels.

Non-standard CTCSS code programmable

You can pro

a. Set non-standard CTCSS code on channels, you can choose 67.0-254.1Hz for CTCSS frequency.

b. The non-standard CTCSS code should set on the same channel.

English/Chinese voice prompt

Voice prompt Off, radio will not issue a prompt. Select Chinese, then open the Chinese "prompt" function, select English, then open the English "prompt" function.

VOX

Speak to the microphone in normal voice to transmit directly, no need to press PTT switch. Turn VOX on/off through programming software.

1) When VOX is on in your working channel.

- Speak to the microphone directly, it will transmit automatically.
- The radio stops transmitting when there is no voice, and waits for receiving.

2) When a headset with a microphone is used.

- When VOX is on, you should VOX gain for the radio to identify voice volume.
- If microphone is too sensitive, the noise around radio will start transmitting.
- If microphone is not sensitive, the radio can not collect your voice. Please adjust VOX level well to guarantee smooth communications.

Note: When turn on VOX and VOX gain is in high and sensitive level, if connect mic/speaker

Battery save function

The batter capacity will be saved when this function is turned on via program software.

It means radio does not save battery when there is not a tick

It means radio save battery when there is a tick.

Low battery prompt

Note: Low voltage: when the voltage falls below a certain level, if select prompt off, every 15s issued a "DeDe" voice prompt; if select prompt on, "Please replace the battery." If you choose Chinese or English speech, press and hold the PTT button or VOX are all invalid and issued a "please change battery" voice prompt, and loud "Di" sound until PTT release or end VOX.

Busy channel lockout(BCLO)

If you set busy channel lockout, press PTT after receiving a signal, prohibiting transmit, and issue "Di" sound until PTT release.

High/low power selective

The default setting is high power, you can select "High/low power" through the menu "power" in the software.

Narrow bandwidth selective (12.5KHz)

The default setting is narrow band

QT/DQT

You can select the QT/DQT via program software. When a channel has QT/DQT, the speaker will be turned on when it receives the same QT/DQT. If there is transmitted signal with different QT/DQT in the same channel, the speaker will not open and indicator light turns green.

Scrambler

When the radio is allowed the scrambler function, and press the key, TX voice will be sent out with scrambler, other radio only received the signal when its scrambler also turns on.

ANC (Activate Noise Cancelling) function

Audio sound active control is a signal-processing methodology that reduces the effective sound amplitude to improve signal-to-noise ratio (SNR) so that unwanted noise is less perceptible. The ANC methodology is also called audio noise reduction (ANR). ANC or ANR is based on coherent acoustics that accurately replicate the original sound field in all its forms. This radio equipped with the ANC (Active Noise canceling)function , can help you hear clear in the noisy environment.

Long press the side key 1, you will hear: DI, it means the ANC is on

Long press the side key 1, you will hear: DI-DI, it means the ANC is off

Specification

General

Channel Capacity	16 channels
Operating Voltage	7.4VDC
Operating Temperature	0℃ ~+40℃
Antenna	High gain antenna
Antenna Impedance	50Ω
Mode of operation	Simplex or semi-duplex

Transmitter

Modulation Type	11KF Φ 3E
Spurious Radiation	≤7.5μV
Modulated noise	<-40dB
Modulation distortion	<5%
Frequency stability	5ppm
Max Fr. Deviation	≤ ± 5KHz
Audio response(300-3000Hz)	+6.5~ -14dB
Adjacent CH. Power	≥65dB

Intermediate

Receiver

Sensitivity	≤0.2μV
Occupied bandwidth	≤16KHz
Selectivity	≥65dB
Intermediation	≥55dB
Audio Output	> 1W
Audio Distortion	≤5%
Frequency Stability	5ppm
current	55mA(when standby);150mA(when working)
Audio response(300-3000Hz)	+7~ -12.5dB

Note: Specification will be revised without notice due to technical improvement. Thank you.

Trouble shooting guide

<i>Troubles</i>	<i>Solution</i>
No Electrical Source	• The battery has been exhausted. Replace or recharge the battery. • The battery is installed incorrectly. Remove it and install again.
The operating time becomes short, even the battery is fully charged.	• Replace the battery.
Not able to communicate with the transceivers of the same group.	• Confirm the QT/DQT is the same. • The distance is outside of range.
The voice of another group can be heard.	• Change all QT/DQT of the group.
Other radios can not receive the TX signals or receive signals in a low volume.	• Switch the volume knob to the highest level • The microphone may be damaged, send it to the local dealer for check.
Noise is always heard.	• The distance is outside of range. Turn on the radio in nearer range and

Warranty card

Note:

1. This warranty card is only applicable to two-way radio of the above-listed model and serial number.
2. The warranty card is an important document for the end-user to enjoy warranty service, please keep it well.
3. The warranty card shall be filled and chopped by the dealer, or it is invalid.

Customer's name: _____ Gender: _____

Add and postal code: _____

Customer's Tel: _____

Model: _____

Serial number: _____

Purchasing date: _____

Invoice No.: _____

Dealer: _____ Stamp: _____

Add and postal code of the dealer: _____

Contact Tel: _____

Thank you for buying our two-way radios, we will do our best to provide you with a stable, clear and efficient wireless communication services. In order for you to enjoy a better quality warranty service, please focus on the following information:

The products warranty period begins from the purchasing date, if product failure under normal use within warranty period occurs, according to the contents of this warranty, (the radio is guaranteed for 12 months, accessories 6 months), please carry the warranty card originals and purchase invoice to our designated authorized warranty repair station for warranty service.

The following situations occur during warranty period will be implemented in paid service:

- (1) Failure to produce the warranty card
- (2) The card has altered traces or inconsistent with the product
- (3) Defect or damage caused by abnormal or non-normal use
- (4) Defect or damage caused by misuse, accident, water or negligence
- (5) Defect or damage caused by improper testing, operation, maintenance, installation, disassembly or adjustment
- (6) Defect or damage caused by unauthorized repair or disassembly
- (7) Defect or damage caused by force majeure
- (8) Wear and tear under normal use

When you are in need of repair, please send the radio, warranty card and purchase invoice to our designated authorized warranty repair station. The cost of shipping should be borne by the user.

Maintenance record

Carry-in date			
Completion date			
Fault description			
Maintenance staff numbers			
Maintenance personnel No.			
Signature			

This warranty card to be kept by the user, no replenishment if lost

FCC STATEMENTS WARNING AND COMPLIANCE STATEMENT:

Attention:

This radio complies with IEEE and ICNIRP exposure limits for General Population/controlled Environments RF exposure environment at operating duty factors of up to 50% and is authorized by the FCC for General Population 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.

This product is compliance to FCC RF Exposure requirements and refers to FCC website <https://apps.fcc.gov/oetcf/eas/reports/GenericSearch.cfm> search for FCC ID: POD-ANG2 to gain further information include SAR Values.

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

FCC STATEMENTS WARNING AND 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.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

Our radio generates RF electromagnetic energy during transmit mode. This radio is designed for and classified as "Occupational Use Only", meaning it must be used only during the course of employment by individuals aware of the hazards, and the ways To Minimize Such hazards.

This radio is NOT intended for use by the "General Population" in an uncontrolled environment. This radio has been tested and complies with the FCC RF exposure limits for "Occupational Use Only".

In addition, our radio complies with the following Standards and Guidelines with regard to RF energy and electromagnetic energy levels and evaluation of such levels for exposure to humans:

---IEEE Std. 1528:2013 and KDB447498, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.

---American National Standards Institute (C95.1-1992), IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

---American National Standards Institute (C95.3-1992), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields-RF and Microwave.

The information listed above provides the user with the information needed to make him or her aware of RF exposure, and what to do to assure that this radio operates with the FCC RF exposure limits of this radio.

Electromagnetic Interference/Compatibility

During transmissions, The radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so.

DO NOT operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, aircraft, and blasting sites.

Occupational/Controlled Use

The radio transmitter is used in situations in which persons are exposed as consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure.

FCC PART 15.21 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 FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. Verification of harmful interference by this equipment to radio or television reception can be determined by turning it off and then 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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device complies with Part 15 of the FCC Rules.

Licensing Information

Use of the 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. Your radio is set up to transmit a regulated signal on an assigned frequency. It is against the law to alter or adjust the settings inside the radio to exceed those limitations. Any adjustments to your radio must be made by qualified technicians.