



KIRISUN ELECTRONICS (SHENZHEN) CO.,LTD



Professional Two-way Radio

PT568

FM HANDHELD TRANSCEIVER
INSTRUCTION MANUAL



Notice to the User:

- * Government laws prohibit radio communication without permission in areas dominated by the government.
- * Illegal operation is subject to punishment by fine and/or imprisonment.
- * Refer service to the well-trained professional technicians only.

Safety

It is important that user is aware of and understands hazards common to the operation of any radios.

Warning!

Turn off your radio before entering any area with a potentially explosive atmosphere (where the air contains gas, dust and smog, etc.), such as while taking on fuel, or while parking at a gasoline service station.

Precautions in Use

Please comply with the following attentions to avoid

fire, bodily injury and damage to the radio.

- * The radio is recommended to transmit for 1 minute and receive for 4 minutes. Long time transmitting or continuous working in high power mode will make the rear side of the radio generate heat.
- * Please do not disassemble or assemble the radio under any circumstances.
- * Please do not expose the radio to direct sunlight for a long time; do not place the radio near any heating devices, either.
- * Please do not put the radio in extremely dusty, moist or dabbling places; do not place it on any unstable surface, either.
- * If the radio emits smoke or strange odors, turn it off and remove the battery from the radio and contact your local authorized Kirisun dealer without delay.

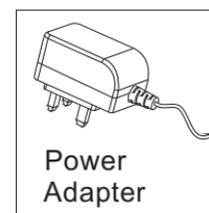
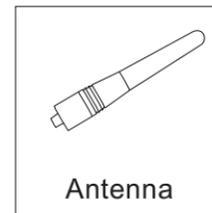
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1. Open Package Inspection

Firstly, please take the radio out of the package box carefully. We recommend checking the supplied accessories in the following table before disposing the packing material. If any article is found lost or damaged, please contact the distributor without delay.

Accessories	Quantity
Antenna	1
Battery	1
Belt Clip	1
Rapid Charger	1
Power Adapter	1
Hand Strap	1
Instruction Manual	1



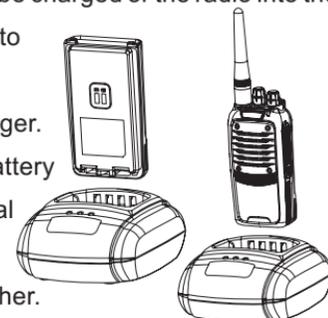
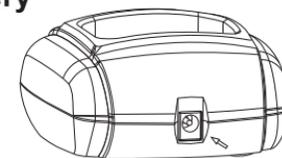
2. Preparation

2.1 Charge the battery

Insert the cable plug of the adapter into the jack at the back of the charger. Then insert the adapter into an applicable AC power output socket. The three LEDs will flash for about one second, and then the green LED will be constantly on when the charger is normal.

Insert the battery to be charged or the radio into the charger. Do remember to turn off the radio before inserting it into the charger.

Make sure that the battery and the charger terminal are fully and reliably connected with each other. When the red LED is on, the charging starts.



After about five hours of charging, the red LED will be out, and the green LED will be on, which indicates that the battery is fully charged.

Keep the battery in the charger under green LED on status for 1 to 2 hours, and then remove the battery. In doing so, the battery can reach its best performance. Then you can remove the adapter from the AC power output socket.

If the yellow LED flashes, it indicates that the charging temperature or the circuit is abnormal, and the charger is in the protected status, in which you should not charge the battery compulsorily.

Please remove the battery and cut the power of the charger.

Note:

* The radio battery has not been charged in the factory; please charge the battery before using the radio for the first time.

* Both KB-56A lithium polymer battery and KB-56B lithium polymer battery of the company are applicable to this radio.

* Charge the battery for several times for the first charging after purchase or after the radio is laid aside for a long time (longer than 2 months), so that the battery can reach its normal battery capacity. Meanwhile, please make sure to charge the battery at least once every three months.

* It is better not to recharge the battery if the battery is fully charged or the radio is not in its low battery alarm status; otherwise, the battery's service life and performance may be influenced. After the battery charging is finished, please remove it from the charger.

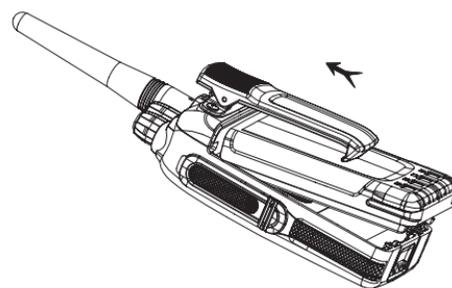
* When the radio enters the low battery alarm status, please recharge the battery before reusing it. Do not turn on the radio compulsorily; otherwise, the service life and performance of the battery may be influenced.

* KB-56A/KB-56B battery is provided with an internal protective circuit. When the battery power is too low, the battery will cut the power supply automatically. If it is charged on the charger now, the red LED will not be on immediately. After about 1 to 5 minutes, the charging indicator will turn normal.

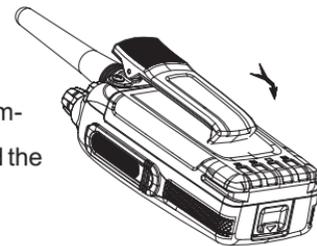
2.2 Install/Remove the battery

Install the battery:

Align the two protrusions at the upper end of the battery to the slots at the upper end of the shell of the radio and insert them.

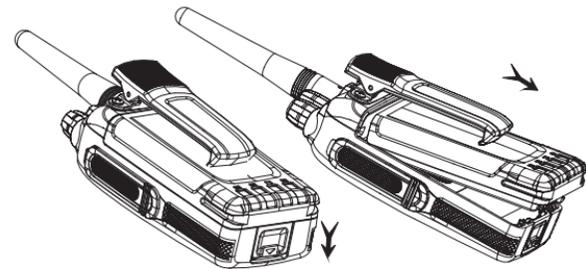


Press the lower end of the battery down until the latch of the radio completely bounces out, and the battery is locked.



Remove the battery:

To remove the battery, please push the latch at the lower end of the radio forward, the lower part of the battery will bounce up automatically. Then, loose the belt clip slightly and remove the battery.



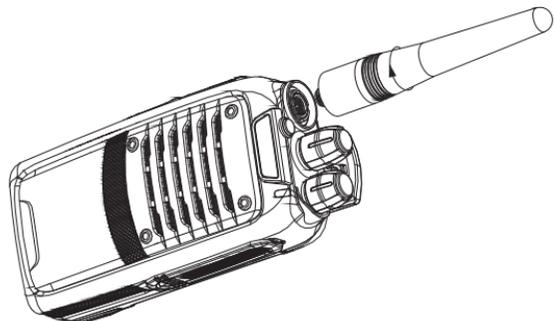
Note:

Please avoid short circuit of the battery terminals and do not throw the battery into fire.

Do not tear down the shell of the battery by yourself.

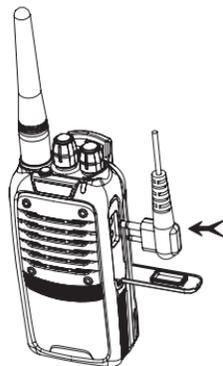
2.3 Install the antenna

Hold the base of the antenna and turn the antenna clockwise into the connector on the top of the radio until the antenna is fastened.



2.4 Install external speaker/MIC

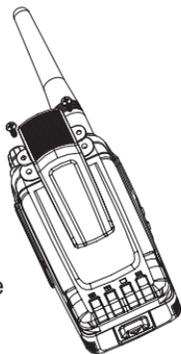
Open the cover of the jack for external speaker or microphone, and then insert the plug of the external speaker or microphone into the jack on the radio.



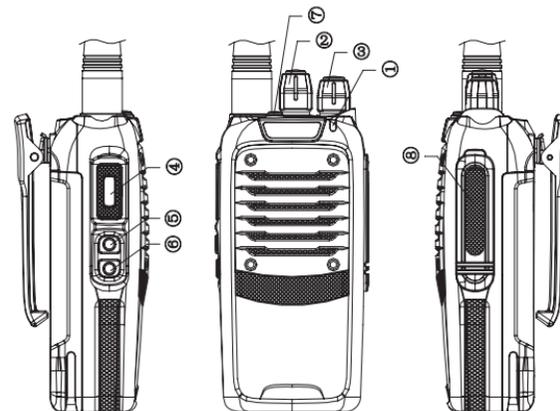
2.5 Install the belt clip

Align the two holes on the upper part of the belt clip to the screw holes at the back shell of the radio, and then fix the belt clip to the radio with two 2.5×8.0 screws.

Loose the fixing screws to remove the belt clip.



3. Radio Overview



1. LED indicator

Solid red — The radio is transmitting.

Solid green — The radio is receiving.

Blinking red — The radio is in low battery.

2. Channel selector knob

Rotate the knob to select channels 1-16.

3. Power/Volume control knob

Rotate the Power/Volume control knob clockwise until you hear a click to turn on the radio, and counterclockwise until you hear a click to turn it off.

If the radio is on, turn the Power/Volume control knob clockwise or counterclockwise to adjust the volume.

4. PTT (Push-to-talk) button

Press and hold the PTT button and talk to the microphone, your voice can be sent to the recipient. Release the PTT button to listen.

5. Side button 1 (programmable button)

6. Side button 2 (programmable button)

7. Top button (programmable button)

Note: Only top button can be set as Emergency Alarm button.

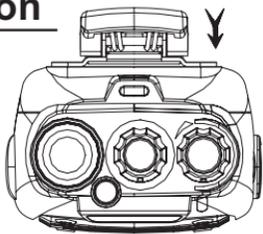
8. Speaker/MIC jack

External speaker and microphone can be connected to the radio through this jack.

4. Basic Operation

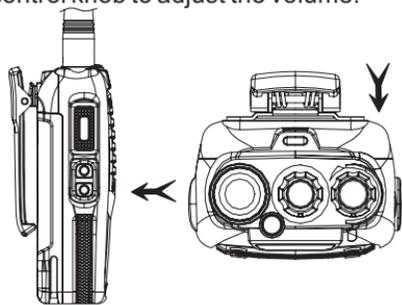
① Powering up the radio

Rotate the Power/Volume control knob clockwise to turn on the radio. If the dealer has set the alert tone, a sound of "Bee" will be heard.



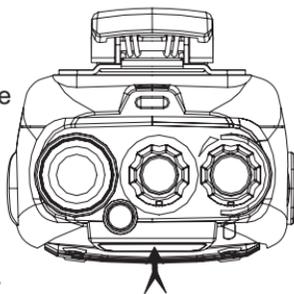
② Adjusting the volume

Press the preprogrammed "Squelch Off" button to hear background noise. Then rotate the Power/Volume control knob to adjust the volume.



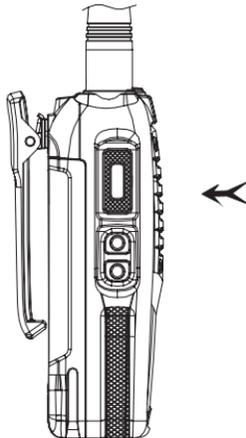
③ Selecting a channel

Rotate the channel selector knob to select the required channel. When correct signals are received, you can hear sounds from the speaker.



④ Transmitting

Press and hold the PTT button and speak to the microphone in normal voice to send a call. Please keep the microphone 5 to 10 cm from your mouth.



⑤ Receiving

Release the button, the radio will return to the receiving status. The dealer may have programmed CTCSS/DCS signaling in your radio. On the channels with CTCSS/DCS signaling programmed, you can only hear calls from other radio with the same CTCSS/DCS.

5. Functions of Programmable Buttons

The dealer can assign one of the following auxiliary functions to the top button, side button 1 or side button 2.

NO.	Function	Description
0	None	No function is assigned.
1	Voice Announcement Selection	Press the preprogrammed "Voice Announcement Selection" button to switch the language and mode

NO.	Function	Description
		of voice announcement, meanwhile, the current channel number can be heard.
2	Talkaround	When the preprogrammed "Talkaround" button is pressed, the transmitting frequency will be the same with the receiving frequency if the radio transmits again.
3	Lone Worker	Press the preprogrammed "Lone Worker" button to enable/disable the lone worker function.
4	Emergency Alarm	Press the preprogrammed "Emergency Alarm" button to make alarm tone according to the setting of the programming software or send your ID or background sound to your partner or the system.

NO.	Function	Description
5	Emergency Alarm Off	Press the preprogrammed "Emergency Alarm Off" button to quit the Emergency Alarm Mode.
6	Scan	Press the preprogrammed "Scan" button to enable/disable the system scan function.
7	Nuisance Delete (temporary)	If the scan function of the radio is enabled, and the radio stays at the noise channel, press the preprogrammed "Nuisance Delete" button to delete the noise channel temporarily.
8	High/Low Power Switch	Press the preprogrammed "High/Low Power Switch" button to switch between high and low transmitting power of the radio.
9	Momentary Monitor	Press and hold the preprogrammed "Momentary Monitor" button to disable CTCSS, DCS signaling, and release the button to resume normal operation.
10	Monitor	Press the preprogrammed "Monitor" button to disable CTCSS, DCS signaling, and you can receive signals that cannot be heard under normal operation. Press it again to resume normal operation.
11	Momentary Squelch Off	Press and hold the preprogrammed "Momentary Squelch Off" button to open squelch; release it to resume normal operation.
12	Squelch Off	Press the preprogrammed "Squelch Off" button to open squelch. Press it again to resume operation.
13	Lone Worker Reset	If Lone Worker function is enabled, press the preprogrammed "Lone Worker Reset" button to reset the lone worker timer, and the timer starts again.

6. Auxiliary function

6.1 Time-Out Timer (TOT)

1) TOT Function

a) TOT timer is provided to prevent the user from talking too long and occupying the channel for a long time, and to avoid too long continuous transmission of the radio.

b) Set the time limit for continuous transmission of the radio. When the transmission time exceeds the preset time limit, the radio will make alarm and stop transmission.

2) TOT Rekey Time

a) Set the time period in which the radio is prohibited to transmit after the transmission time exceeds the preset time limit.

b) During the period in which the radio is prohibited to transmit, if the PTT button is pressed, an alert tone will be sounded, and the transmission is prohibited.

3) TOT Pre-alert

a) The radio will alarm in advance before the transmission is stopped by the timer.

b) After the pre-alert tone, if the transmission time exceeds the preset time limit, the timer will act.

4) TOT Reset Time

a) The time period from the releasing of the PTT button to the reset of the timer.

b) If the release time of the PTT button is shorter than the TOT reset time, the timer will continue to countdown.

6.2 Battery Saving

The dealer can set the power saving mode of the battery.

If this function is enabled, and the radio receives no signal or no operation has been performed for ten seconds, the radio will enter Battery Saving Mode. If the radio receives signals or the user operates the radio,

the radio will automatically exit the Battery Saving Mode.

There are four modes of battery saving: 1:1, 1:2, 1:4 and Off.

Battery saving function can reduce power consumption of the battery.

6.3 Low Battery Alarm

If the battery voltage is too low, the indicator will flash. During the transmission process, if the battery reaches the preset low limit, the red indicator will flash. If the battery is extremely low, the radio is not capable of transmitting signals.

6.4 Voice Announcement

This function can be enabled or disabled by the dealer. There are two languages available: Chinese and English.

If change the channel by channel selector knob, the radio will announce the number of the selected channel after the selection is finished.

6.5 CTCSS/DCS

The dealer may have programmed CTCSS or DCS signals on channels of the radio. Through this, other irrelevant calls using the same channel can be ignored. If a channel has set CTCSS or DCS signals, the radio will open squelch only when receiving correct CTCSS or DCS signals. Similarly, only radios with the CTCSS/DCS signals conforming to that of your radio can receive your signal.

Note:

* It seems that once you use CTCSS/DCS, you can have your own channel. However, if other radios have set the same CTCSS/DCS signals with your radio, they can still hear your calling.

* If the decoding requirement is strict and it requires long decoding time, please set the battery saving mode as "Off" or "1:1".

6.6 Talkaround

In the communication network, you can expand communication range through a repeater. If the radio is out of the communication range, you can connect with other radios through "Talkaround" mode.

Press the preprogrammed "Talkaround" button to switch between "Talkaround" mode and "Repeater" mode.

6.7 Scan

In order to receive signals from many different channels, the radio can be programmed to scan these channels.

6.7.1 Enable/Disable the scan function

a) Press the preprogrammed "Scan" button to enter the scan mode. During the scan process, the radio will scan channels in the scan list until signals are found. Then the radio will stay at the channel with signals until the signals disappear. If the time delay between signal disappearance and scan resumption is set, the radio will stay at the current channel even if it receives signals during the time delay.

b) Priority Scan:

You can select one channel in the scan list as the priority channel, which has the highest priority during the scan. The radio will scan a non-priority channel first, then the priority channel, and then the next non-priority channel, and then the priority channel again, and the scan goes on like this. If the priority channel and the look back time are set for the current scan list, when the radio is receiving signals on a non-priority channel, and the

scanning is paused, the radio will check the priority channel at the preset intervals. If there are signals in the priority channel, it will stay at the priority channel; if there is no signal, it will return to the original channel.

c) The revert channel (Tx channel) during the scan can be designated by the dealer. There are following options available:

Scan start channel: The radio will transmit signals on the channel for which the scan list applies.

Scan start channel + Current channel: If the scan is paused, the radio will transmit on the current communication channel. Otherwise, it will transmit on the channel for which the scan list applies.

Priority channel: The radio will transmit on the preset priority channel.

Priority channel + Current channel: If the scan is paused, the radio will transmit signals on the current communication channel. Otherwise, the radio will

transmit on the priority channel.

Last Rx channel: The radio will transmit on the last Rx channel of the scan list.

Last Tx channel + Current channel: If the scan is paused, the radio will transmit on the current communication channel. Otherwise, the radio will transmit on the last Tx channel of the scan list.

6.7.2 Nuisance delete

If a channel continually generates unwanted noise or interference, the preprogrammed "Nuisance Delete" button can be pressed to remove the channel from the current scan list temporarily.

Note:

* The priority channel and the last channel in the scan list cannot be deleted.

* Quit the scan mode and enter it again, the deleted channel will be added to the scan list again.

6.8 Lone Worker

If lone worker function is enabled, press the preprogrammed "Lone Worker" button to enter Lone Worker Mode. Then the lone worker timer is started. If the preset lone worker time expires, the radio will make alert tone. If the preset remind time expires, the radio will enter Emergency Mode and give out emergency alarm.

In the Lone Worker Mode, press the preprogrammed "Lone Worker" button again to quit Lone Worker Mode.

In the Lone Worker Mode, press the preprogrammed "Lone Worker Reset" button (if a button is designated as the lone worker timer reset button) or any button (if any button is designated as the lone worker timer reset button) to restart the lone worker timer.

6.9 Emergency Alarm

Press the preprogrammed "Emergency Alarm" button (the pressing time should be longer than the

debounce time of the emergency alarm switch) to enter the Emergency Alarm Mode. You can choose to make the preset alarm tone or send the background sound to your partner or the system.

In the Emergency Alarm Mode, press the preprogrammed "Emergency Alarm Off" button to quit the Emergency Alarm Mode, disable or stop sending the alarm tone, and the radio will resume normal operation.

7. Wired Clone Mode

If the wired clone function is enabled, the radio will not quit automatically after entering the Wired Clone Mode. To return to normal user mode, the user needs to restart the radio.

The operating steps go as follows:

1. Press and hold side button 2 while turning on the radio to enter Clone Mode. If the wired clone function is disabled, the radio will enter User Mode.

2. Connect the slave radio with the master radio by a clone cable. Then turn on the slave radio.

3. Press side button 1 of the master radio, the cloning starts. During the data transmission process, the master radio will light up red, and the slave radio will light up green. When the cloning is finished, the red LED of the master radio will be off, and the slave radio will restart automatically.

4. You can continue to clone data according to step 3.
Note: The wired clone function can be enabled or disabled by the PC programming software. Once the wired clone function is disabled, the radio cannot enter Wired Clone Mode.

8. Troubleshooting Guide

No.	Problem	Causes and Solutions
1	Power on failure	A. The battery and the radio are not reliably connected

No.	Problem	Causes and Solutions
		Please reinstall the battery. B. The protective tube of the power supply is burnt out. Please change it. C. The power switch is in failure. Please change it. D. The battery is out of power, please recharge it or change it. E. The CPU is broken, please change it.
2	Phase lock loop unlocked (Beeping)	A. The channel frequency setting is out of range, please reset the channel data. B. The crystal oscillator of phase lock loop is broken, please change it. C. The oscillating tube is broken, please change it. D. The phase lock loop IC is broken,

No.	Problem	Causes and Solutions
		please change it.
3	No talkback	A. The frequencies of the two radios are not the same. Please select a channel which has the same frequency with that of the other radio. B. The CTCSS/DCS signals of the two radios are not the same. Please reset it. C. The radio is out of effective communication range.
4	No Rx signals	A. The antenna is in poor contact. Please fasten the antenna head. B. The HF amplifying tube is broken please change it. C. The squelch level is so high that the squelch cannot be opened. Please reset the squelch level.

No.	Problem	Causes and Solutions
		D. The mixer tube is broken, please change it. E. The FM processing IC is broken, please change it.
5	The red LED (Tx) lights up, but no sound is heard	A. The power module is broken, so there is no power output. Please change it. B. The microphone is broken, please change it.
6	The green LED (Rx) lights up, but no sound is heard.	A. The speaker is broken, please change it. B. the audio amplifier is broken, please change it.

9. Major Specifications

General Specification	Pt568
Frequency	136-174MHz, VHF 400-450MHz, UHF 420-470MHz. UHF
Channel number	16
Channel spacing	25kHz(wideband)/ 12.5kHz(narrowband)
Dimension(L×W×H)	111mm×52.5mm×33.5mm
Weight	249g(including battery and antenna)
Operating temperature	-25℃~+55℃
Receiving sensitivity	√0.28μV
Frequency stability	2.5ppm
Tx power	4W (UHF), 5W(VHF)
Max. frequency deviation	±2.5KHz(narrowband)/ ±5KHz(wideband)
Max. audio power	∧1000mW
Power supply	DC7.4V

10. FCC Notice



Your KIRISUN 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, your KIRISUN radio complies with the following Standards and Guidelines with regard to RF energy and electromagnetic energy levels and evalu-

ation of such levels for exposure to humans:

FCC OET Bulletin 65 Edition 97-01 Supplement C, 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 above-mentioned accessories are authorized for use with this product. Use of accessories other than those (listed in the instruction) specified may result in RF exposure levels exceeding the FCC requirements for wireless RF exposure.



To ensure that your exposure to RF electromagnetic energy is within the FCC allowable limits for occupational use, always adhere to the following

guidelines

DO NOT operate the radio without a proper antenna attached, as this may damage the radio and may also cause you to exceed FCC RF exposure limits. A proper antenna is the antenna supplied with this radio by the manufacturer or antenna specifically authorized by the manufacturer for use with this radio.

DO NOT transmit for more than 50% of total radio use time (“50% duty cycle”). Transmitting more than 50% of the time can cause FCC RF exposure compliance requirements to be exceeded. The radio is transmitting when the “TX indicator” lights red. You can cause the radio to transmit by pressing

the “PTT” switch.

ALWAYS keep the antenna at least 2.5 cm (1 inch) away from the body when transmitting and only use the KIRISUN belt-clip which is listed in instructions when attaching the radio to your belt, etc., to ensure FCC RF exposure compliance requirements are not exceeded. To provide the recipients of your transmission the best sound quality, hold the antenna at least 5 cm (2 inches) from your mouth, and slightly off to one side.

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, your KIRISUN 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.

IMPORTANT

READ ALL INSTRUCTIONS carefully and completely before using the transceiver

SAVE THIS INSTRUCTION MANUAL- This instruction manual contains important operating instructions for the Two-Way Radio

EXPLICIT DEFINITIONS

WORD	DEFINITION
WARNING	Personal injury, fire hazard or electric shock may occur.
CAUTION	Equipment damage may occur.
NOTE	If disregarded, inconvenience only. No risk of personal injury, fire or electric shock.

OPERATING NOTES

When transmitting with a portable radio, hold the radio in a vertical position with its microphone 5 to 10 cm (2 to 4 inches) away from your mouth. Keep the antenna at least 2.5 cm (1 inch) from your head and body.

If you wear a portable two-way radio on your body, ensure that the antenna is at least 2.5 centimeters (1 inch) from your body when transmitting.

PRECAUTIONS WARNING!

NEVER hold the transceiver so that the antenna is very close to, or touching exposed parts of the body, esp-

pecially the face or eyes, while transmitting. The transceiver will perform best if the microphone is 5 to 10 cm (2 to 4 inches) away from the lips and the transceiver is vertical.

WARNING!

NEVER operate the transceiver with a headset or other audio accessories at high volume levels.

CAUTION!

NEVER short the terminals of the battery pack.

NEVER connect the transceiver to a power source other than the Battery listed above. Such a connection will ruin the transceiver.

DO NOT push the PTT when not actually desiring to transmit.

AVOID using or placing the transceiver in direct sunlight or in areas with temperatures below -30°C (-22°F) or above $+60^{\circ}\text{C}$ ($+140^{\circ}\text{F}$).

DO NOT modify the transceiver for any reason.

