

**walkie-talkie**  
**USER'S MANUAL**

**Attention!**

**Before using this radio, refer to the important operating instructions for safe usage and RF energy awareness and control for compliance with applicable Standards and Regulations.**

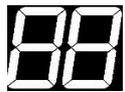
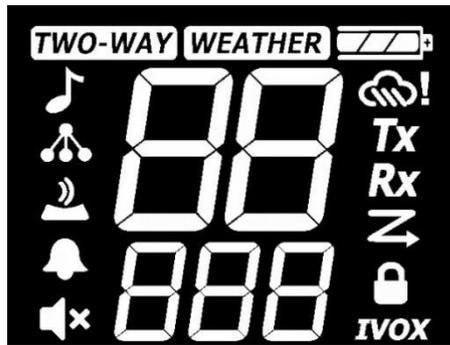
**Package Contents**

Name of Product	1 Pack	2 Packs
Radio	1	2
Battery	1	2
Type-C USB Charge Cable	1	1
User's Manual	1	1

**Control Buttons**

- 1) Antenna
- 2) Accessory Port
- 3) Screen
- 4) Menu/Lock
- 5) Scroll
- 6) 20 Optional call tones
- 7) Scan/Monitor
- 8) Microphone
- 9) Speaker
- 10) Type-C USB Charging Port
- 11) PTT Button
- 12) Easy Pairing Button

## LCD Display Screen Guide



Chanel [1-22]



Sub-Code [1-121]



Call Tone [Off, 1-20]



Keypad Tone



Roger Tone [On/Off]



Speaker Volume



Easy Pairing



IVOX [Off, L1, L2, L3]



Battery Indicators [3 Battery Levels]



Weather Alert



Status [Transmit]



Status [Receive]



Scan Indicator



Keypad Lock



Walkie-talkie Mode



Weather Forecast Mode

# 1. Getting Started

## Instructions for Installing and Removing the Battery

Each radio can use 1 NiMH rechargeable battery pack. When the battery is low it will beep and you can choose to recharge or replace the battery pack.

### Installing the Batteries

1. Turn the radio off.
2. With the back of the radio facing you, open the battery cover and insert the NiMH battery.
3. Close the battery cover.

### Removing the Batteries

1. Turn the radio off.
2. With the back of the radio facing you, open the battery cover.
3. Remove the NiMH battery pack by pulling the ribbon attached to the radio, then close the battery cover.

## Radio Battery Meter and Low Battery Alert

	Indicates that the battery is saturated with charge, and this icon indicates that it is flashing when charging at power on.
	When the battery is low, the low battery symbol will flash. In this case, please charge the battery pack or replace the alkaline battery immediately.

## Using the Type-C USB Charger

The type-C USB charger is a handy port that allows you to conveniently charge your NiMH battery pack.

1. Make sure your radio is turned OFF.
2. Plug the type-c USB cable into the type-C USB charging port on your radio. Connect the other end of the type-C USB charger to wall power outlet.
3. An empty battery will be fully charged in 14 hours.
4. The battery meter on LCD will move to indicate the battery is charging.

**Note: It is recommended that it is best to charge in the off state, because if you try to radio operation while charging, there may be some abnormalities in the battery power almost empty state.**

## Removing the Belt Clip

Use a PH1 screwdriver to remove the screws(M2\*5) on both sides of the back clip.

# 2. Quit Start Guide

- 1) **Install the battery:** Open the battery cover and insert the battery.
- 2) **Turn on the radio:** Hold down the **【Power】** button  for about 3s to turn the radio on, a beep sound will be played to confirm.
- 3) **Set the channel and subsonic code:** Press the **【Menu】** button once, the channel is flashing, then press the up or down button to set the channel. Quickly press the **【Menu】** once again, the subsonic code is flashing, press the up or down button to set the code. Then press the **【PTT】** button to confirm your setting, for example 8, CTCSS 12.
- 4) **Push to talk(PTT):** Press and hold the **【PTT】** button until you finish speaking, then release the **【PTT】** button.

**Note: For more information about the operation and functions of the intercom, you can check below.**

## 3. Basic Operation of Radio

### Turning your Radio On and Off

Press and hold the **【Power/Mode】** button to turn the radio On/Off.

The display screen then shows the current channel, code and all features that are enabled. And the radio is now in Two-Way mode.

### Setting the Volume

Press and hold **【SCAN/MON】** for three seconds to monitor the current radio volume.

- 1) In standby or receiving state, the first time you press the buttons of [+] or [-], the volume currently in use is displayed on the radio LCD.
- 2) After that, press the buttons of [+] or [-] to increase or decrease the volume of the radio. 0-7 levels of volume can be adjusted.
- 3) When you press the button of [-] to reduce the volume to level 0, the mute icon is displayed on the radio LCD, and the speaker sound is turned off.

**Note: Do not hold the radio close to your ear. If the volume is set to an uncomfortable level, it could hurt your ear.**

### Transmitting(Talking) and Receiving(Listening)

To communicate, all radios in your group must be set to the same channel and sub-sound code.

1. With the radio in TWO-WAY mode, press and hold the PTT button to transmit (talk). When transmitting, the icon **** is displayed on the LCD and the icon **** display is flashing.
2. When you finish speaking, release the [PTT] button and you can receive the sound of the other person's speech. While receiving, the icon **** is displayed on the LCD and the icon ****

display is flashing.

**Note: For maximum clarity, hold the radio one inch away from your mouth and speak directly into the microphone. Do not cover the microphone while talking.**

## **Talk Range**

Regarding the maximum radio communication distance, it depends on the environment in which it is used.

### **Effective Radio Distance:**

Top/mid/base ranges (mile)

Top= Peak to Valley (25mile)

Mid= Sea Level (5mile)

Base= City Streets (1mile)

## **Monitor Function(Button)**

In standby mode, press and hold the button of **【SCAN/MON】** about 3 seconds to monitor the current volume, and you can hear the "rustling" squelch sound from the speaker.

In receiving mode, press and hold the button of **【SCAN/MON】** about 3 seconds to monitor the call sound received on the currently used channel and sub-sound code.

## **Push-to-Talk Timeout Timer**

The radio emits a continuous warning tone and stops transmitting if you press the PTT button for 60 continuous seconds.

## **LCD Backlight**

Pressing any button (Except the [PTT] button) will automatically light up the LCD backlight, and the backlight will stay on for 10 seconds.

## **Automatic Power-Saving Mode**

The radio has a unique feature to extend the battery life. If there is no call or voice received within 1 second, the radio will automatically enter power saving mode. In this mode the radio can still receive messages.

## **Mode Button**

By pressing **【Power/Mode】** button, the user will be seamlessly switching between TWO-WAY and WEATHER mode.

When radio is in TWO-WAY mode, **TWO-WAY** will be shown. When radio is in WEATHER mode, **WEATHER** will be shown. Corresponding setting and information will be shown on the LCD.

## 4.Menu Options

### Selecting the Channel

The radio has 22 channels. The channel is the frequency that the radio uses to transmit.

Channels and Frequencies Chart					
Channel	Frequency	Description	Channel	Frequency	Description
1	462.5625 MHz	GMRS/FRS	12	467.6625 MHz	FRS
2	462.5875 MHz	GMRS/FRS	13	467.6875 MHz	FRS
3	462.6125 MHz	GMRS/FRS	14	467.7125 MHz	FRS
4	462.6375 MHz	GMRS/FRS	15	462.5500 MHz	GMRS
5	462.6625 MHz	GMRS/FRS	16	462.5750 MHz	GMRS
6	462.6875 MHz	GMRS/FRS	17	462.6000 MHz	GMRS
7	462.7125 MHz	GMRS/FRS	18	462.6250 MHz	GMRS
8	467.5625 MHz	FRS	19	462.6500 MHz	GMRS
9	467.5875 MHz	FRS	20	462.6750 MHz	GMRS
10	467.6125 MHz	FRS	21	462.7000 MHz	GMRS
11	467.6375 MHz	FRS	22	462.7250 MHz	GMRS

1. When the radio is in TWO-WAY mode, press **【Menu/Lock】** until the channel number starts to flash.
2. Press **【+】** or **【-】** to select the channel you want to set. Long press and hold the **【+】** or **【-】** button, the channel number will be scrolled quickly and you can select the channel number up or down continuously.
3. Press the **【PTT】** button to save the channel setting or press the **【Menu/Lock】** button to jump to the next menu setting .

### Selecting the Subsonic Code

The assignment of subsonic codes reduces mutual interference between radios, but radios with different subsonic codes cannot talk to each other. The radio has 121 subsonic codes.

Codes 1-38 are standard analog codes that appear on other FRS/GMRS radios. Codes 39-121 are additional digital codes added for superior interference protection. 0 is the off position, no analog or digital codes are enabled.

#### To set the code for a channel:

1. When the radio is in TWO-WAY mode, press the **【 Menu/Lock 】** button twice or press the **【 Menu/Lock 】** button once in the channel setting menu will enter the subsonic code selection menu, and the current subsonic code is flashing.

2. Press the **【+】** or **【-】** button to set the subsonic code you want. Press and hold the **【+】** or **【-】** button, the subsonic code will be scrolled rapidly, you can select it up or down continuously.
3. Press the **【PTT】** button to save the current setting and exit the menu. Or you can press the **【Menu/Lock】** button to jump to the next menu setting.

CTCSS Code (Hz) Chart					
Code No.	Tone Frequency(Hz)	Code No.	Tone Frequency(Hz)	Code No.	Tone Frequency(Hz)
0	off	13	103.5	26	162.2
1	67.0	14	107.2	27	167.9
2	71.9	15	110.9	28	173.8
3	74.4	16	114.8	29	179.9
4	77.0	17	118.8	30	186.2
5	79.7	18	123.0	31	192.8
6	82.5	19	127.3	32	203.5
7	85.4	20	131.8	33	210.7
8	88.5	21	136.5	34	218.1
9	91.5	22	141.3	35	225.7
10	94.8	23	146.2	36	233.6
11	97.4	24	151.4	37	241.8
12	100.0	25	156.7	38	250.3

DCS Code Chart											
Code No.	Code	Code No.	Code	Code No.	Code	Code No.	Code	Code No.	Code	Code No.	Code
39	023	53	114	67	174	81	315	95	445	109	631
40	025	54	115	68	205	82	331	96	464	110	632
41	026	55	114	69	223	83	343	97	465	111	654
42	031	56	125	70	226	84	346	98	466	112	662
43	032	57	131	71	243	85	351	99	503	113	664
44	043	58	132	72	244	86	364	100	506	114	703
45	047	59	134	73	245	87	365	101	516	115	712
46	051	60	143	74	251	88	371	102	532	116	723
47	054	61	152	75	261	89	411	103	546	117	731
48	065	62	155	76	263	90	412	104	565	118	732
49	071	63	156	77	265	91	413	105	606	119	734
50	072	64	162	78	271	92	423	106	612	120	743
51	073	65	166	79	306	93	431	107	624	121	754
52	074	66	172	80	311	94	432	108	627		

## Setting and Sending Call Tones

Your radio can transmit different call tones to other radios in your group so you can alert them that you want to talk. Your radio has 20 call tones from which to choose.

## Selecting the call tone

1. When the radio is in TWO-WAY mode, press the **【Menu/Lock】** button three times or press the **【Menu/Lock】** button once in the subsonic code setting menu will enter the call tone selection menu, and the current call tone number is flashing.
2. Press the **【+】** or **【-】** button to select the type of call tone you want to set. Each tone can be heard on the speaker when you select it. Press and hold the **【+】** or **【-】** button, the call tone number will be displayed in a quick scroll, and you can select it continuously up or down.
3. Press the **【PTT】** button to save the current setting and exit the menu, or press the **【Menu/Lock】** button to jump to the next menu setting.

## Sending Selected Call Tones

1. When the radio is in TWO-WAY mode, press the **【CALL】** button to send a selected call tone. The call tone will be automatically sent to other radios with the same channel and subsonic code set for a fixed length of time.
2. The call tone will be stopped when the **【PTT】** key is pressed.
3. If the call tone is set to OFF, pressing the **【CALL】** button will sound a failure tone.

## IVOX Setting

### Hands-Free Use Without Accessories (IVOX)

The radio can transmit through the function of IVOX zone without the use of headset accessories. Once is turned on, the radio detects your voice and transmits when you speak into the internal microphone.

1. When the radio is in TWO-WAY mode, press the **【Menu/Lock】** button four times, or press the **【Menu/Lock】** button once in the call tone setting menu, it will enter the selection menu of IVOX, and the current setting is flashing.
2. Press the **【+】** or **【-】** button to select the IVOX level (OFF, L1-L3) you want to set.
3. Press the **【PTT】** button to save the current setting and exit the menu, or press the **【Menu/Lock】** button to jump to the next menu setting.

## Keypad Tones Setting

You may enable or disable the speaker key tones. You will hear the key tone each time a button is pushed (EXCEPT for the **【PTT】** and **【CALL】** buttons).

1. When the radio is in TWO-WAY mode, press the **【Menu/Lock】** button five times, or press the **【Menu/Lock】** button once in the sound level setting menu will enter the selection menu of the key tone, and the current setting is flashing.
2. Press **【+】** or **【-】** key to select ON or OFF, when select ON, the speaker will hear a "BEEP" sound and the icon  will be displayed on the LCD when exit the standby interface. When selected to OFF, the speaker does not beep and the icon  disappears when exiting the standby interface.

3. Press the **【PTT】** button to save the current setting and exit the menu, or press the **【Menu/Lock】** button to jump to the next menu setting.

## End-of-call tone

The end-of-call tone is a sound sent to indicate that the other party has finished transmitting. When the end-of-call tone is on, the speaker can also hear the end-of-transmission tone when the radio ends. However, if the key prompt is set to off, the end-of-transmission tone will not be heard on the speaker of the radio.

1. When the radio is in TWO-WAY mode, press the **【Menu/Lock】** button six times, or press the **【Menu/Lock】** button once for the selection menu of the key tone, it will enter the selection menu of the end-of-call tone, while the current setting is flashing.
2. Press the **【+】** or **【-】** button to select ON or OFF, when selected to ON, the speaker will hear end-of-call tone and the icon  will be displayed on the LCD when exiting the standby interface.

When selected to OFF, the speaker hears wrap around tone and the icon  disappears when exiting the standby interface.

3. Press the **【PTT】** button to save the current setting to exit the menu or press the **【Menu/Lock】** button to exit the menu setting directly.

## Keyboard Lock

The keypad lock function is to avoid accidental changes to the radio settings

1. Long press and hold the **【Menu/Lock】** button until the icon  appears to enter the keyboard lock state.
2. Long press and hold the **【Menu/Lock】** button until the icon  disappears to exit the keyboard lock state.

Note: In the keypad lock state, except for pressing the **【PTT】** and **【CALL】** key, a key failure tone will be issued when pressing any key. But long press and hold the **【Power/Mode】** key to turn off the radio, long press and hold the **【Scan/Mon】** key to enter the monitoring state.

## Channel Scanning

Start the scanning function of the radio to scan the channels of valid signals, you can easily scan 22 channels.

### Start Scanning:

1. When the radio is in standby mode, press the **【Scan/Mon】** key to enter scanning mode, the

channel number will be displayed in upward increment or downward decrement, and the icon  will be displayed on the LCD.

2. When an active channel is detected, the radio will automatically pause receiving signals on this channel until this signal disappears. After waiting 5 seconds for the signal to disappear, the radio will continue scanning.
3. Press the **【PTT】** key during scanning, the radio will stop transmitting on the channel that started into scanning. If a valid signal is detected when stopping to receive press the **【PTT】** key, the radio will transmit on the current channel. After releasing the **【PTT】** key and waiting for 5 seconds, the radio will continue scanning.
4. Then press the **【Scan/Mon】** key to exit the scan to return to the standby mode of the radio.

### Scanning Function:

1. During the scanning process, press the **【+】** or **【-】** button to change the direction of channel number scrolling.
2. If a valid signal is detected to stop receiving, long press and hold the **【+】** or **【-】** key to temporarily remove the current signal from the scan list. However, when the scan enters again, the channel can automatically return to the scan list.
3. The channel (Home Channel) that started into the scan cannot be temporarily deleted.

## Weather Forecast Function

When the radio is in TWO-WAY mode, press the [Power/Mode] button to switch to weather forecast mode.

### Weather Channel

1. When the radio is in WEATHER mode, press the **【Menu/Lock】** button will enter Weather Channel selection menu, the current Weather Channel Number is flashing.
2. Press the **【+】** or **【-】** button to select the weather channel you want to listen to. CH01-CH11 can be selected.
3. If the currently selected station detects a valid weather forecast signal, it will listen to the current signal. If no signal is detected, the speaker will hear a "rustling" squelch sound.
4. Press the **【PTT】** button to save the current settings and exit the Weather Alert menu or press the **【Menu/Lock】** button to jump to the Weather Alert settings menu.

### Weather Channels and Frequencies

Weather Channel	Frequency	Weather Channel	Frequency
WX1	162.550 MHz	WX7	162.525 MHz
WX2	162.400 MHz	WX8	161.650 MHz
WX3	162.475 MHz	WX9	161.775 MHz
WX4	162.425 MHz	WX10	161.750 MHz
WX5	162.450 MHz	WX11	162.000 MHz
WX6	162.500 MHz		

### Weather Alert Setting

1. When the intercom is in WEATHER mode, press the **【Menu/Lock】** key twice to enter the Weather Alert setting menu, the current Weather Alert setting is flashing and the icon  is

displayed.

2. Press the **【+】** or **【-】** key to select the Weather Alert setting as ON or OFF.
3. Press **【PTT】** key to save the current setting to exit the weather forecast menu, or press **【Menu/Lock】** key to exit.
4. When Weather Alert is set to ON, if a valid Weather Alert 1050HZ signal is detected in the area where the intercom is used, the radio speaker will hear a 1050HZ tone.
5. When Weather Alert is set to ON, even if the radio is in TWO-WAY mode, if a valid Weather Alert 1050HZ signal is detected, it will automatically switch to WEATHER mode and the speaker will hear a 1050HZ tone.

## **Cloning Function**

### **Slave Mode of Cloning**

The slave mode of cloning is used to receive the clone information from the master mode, and configure the received valid channel and sub-tone information to achieve the purpose of fast and master mode machine with the same frequency and sub-tone.

1. Press and hold the **【Pair】** key for 3 seconds, and release the key when you see the icon  start blinking. At this time, the intercom enters the clone slave mode, waiting to receive the signal from the master mode, while the icon  is flashing.
2. Press **【PTT】** key to exit clone slave mode, or 3 minutes timeout to exit clone slave mode, other keys in slave mode are invalid.

### **Master Mode of Cloning**

The cloned master mode is used to transmit the current channel and sub-tone to the slave mode radios for fast pairing purposes.

Press and hold the **【Pair】** key for 5 seconds, until you see the icon , channel and sub-tone code start to flash rapidly, then release the key. At this time, the intercom enters the clone master mode, while the icon  and the channel and sub-tone code flash rapidly for 3S and then exit. Exit the clone master mode after the launch. All keys are invalid during this period.

## 5. Safety and General Information

### FCC Statement

walkie-talkie 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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

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

### Specific Absorption Rate (SAR) information:

walkie-talkie meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. FCC RF Exposure Information and Statement the SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Device types: walkie-talkie has also been tested against this SAR limit.

This device was tested for typical body-worn operations with the back of the walkie-talkie kept 0mm body-worn Side and 25mm Front of face Side. To maintain compliance with FCC RF exposure requirements, use accessories that maintain 0mm body-worn Side and 25mm Front of face Side separation distance between the user's body and the back of the walkie-talkie. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.

## **ISED Statement**

English: This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

The digital apparatus complies with Canadian CAN ICES-3 (B)/NMB-3(B).

French: Cet appareil contient des émetteurs/récepteurs exempts de licence qui sont conformes aux RSS exemptés de licence d'Innovation, Sciences et Développement économique Canada.

L'exploitation est soumise aux deux conditions suivantes :

- (1) Cet appareil ne doit pas provoquer d'interférences.
- (2) Cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.

L'appareil numérique du ciem conforme canadien peut - 3 (b) / nmb - 3 (b).

This device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS 102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

cet appareil est conforme à l'exemption des limites d'évaluation courante dans la section 2.5 du cnr - 102 et conformité avec rss 102 de l'exposition aux rf, les utilisateurs peuvent obtenir des données canadiennes sur l'exposition aux champs rf et la conformité.

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment.

Cet équipement est conforme aux limites d'exposition aux rayonnements du Canada établies pour un environnement non contrôlé.

Specific Absorption Rate (SAR) information:

walkie-talkie meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. ISED RF Exposure Information and Statement the SAR limit of Canada (ISED) is 1.6 W/kg averaged over one gram of tissue. Device types: walkie-talkie has also been tested against this SAR limit. This device was tested for typical body-worn operations with the back of walkie-talkie kept 0mm body-worn Side and 25mm Front of face Side. To maintain compliance with ISED RF exposure requirements, use accessories that maintain 0mm body-worn Side and 25mm Front of face Side separation distance between the user's body and the back of walkie-talkie. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with ISED RF exposure requirements, and should be avoided.

## **Informations sur le débit d'absorption spécifique (DAS):**

talkie-walkie répond aux exigences du gouvernement en matière d'exposition aux ondes radio. Les lignes directrices sont basées sur des normes élaborées par des organisations scientifiques

indépendantes à travers une évaluation périodique et approfondie des études scientifiques. Les normes comprennent une marge de sécurité substantielle conçue pour assurer la sécurité de toutes les personnes, quel que soit leur âge ou leur état de santé. Information et déclaration d'ISDE sur l'exposition aux RF la limite DAS du Canada (ISDE) est de 1,6 W / kg en moyenne sur un gramme de tissu. Types d'appareils: la tablette a également été testée par rapport à cette limite SAR. Cet appareil a été testé pour des opérations typiques portées sur le corps avec le dos de la talkie-walkie gardé à 0mm sur le côté du corps et 25mm devant le côté du visage du corps. Pour maintenir la conformité avec les exigences d'exposition RF d'ISDE, utilisez des accessoires qui maintiennent une distance de séparation de 0mm sur le côté du corps et 25mm devant le côté du visage entre le corps de l'utilisateur et l'arrière de la tablette. L'utilisation de clips de ceinture, d'étuis et d'accessoires similaires ne doit pas contenir de composants métalliques dans son assemblage. L'utilisation d'accessoires qui ne satisfont pas à ces exigences peut ne pas être conforme aux exigences d'exposition aux RF d'ISDE et doit être évitée.

## **6. Warranty**

### **Warranty Policy**

Consumers will receive a 12-month warranty on the product main unit and USB charging cable, a 6-month warranty on the rechargeable battery, and a 3-month warranty on the antenna and headset from the date of purchase (subject to a valid purchase product invoice and valid warranty card). Within seven days from the purchase period, the product is not man-made damage performance failure, you can choose to return and exchange the product.

### **What is NOT covered by the warranty**

Defects or damage resulting from use of the product in other than its normal and customary manner or by not following the instructions in the user manual.

Defects or damage from misuse, accident or neglect.

Defects of damage from improper testing, operation, maintenance, adjustment, or any alteration or modification of any kind.

Breakage or damage to aeriels unless caused directly by defects in material or workmanship.

Products disassembled or repaired in such a manner as to adversely affect performance or prevent adequate inspection and testing to verify any warranty claim.

Defects or damage due to range.

Defects or damage due to moisture, liquid or spills.

All plastic surfaces and all other externally exposed parts that are scratched or damaged due to normal use.

Periodic maintenance and repair replacement of parts due to normal usage, wear and tear.