

Thank you for purchasing the Wouxun KG-824B portable business radio.

Your feedback makes our products better. Please share your thoughts.

[feedback@buytowayradios.com](mailto:feedback@buytowayradios.com)  
[www.buyltwowayradios.com](http://www.buyltwowayradios.com)

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The KG-824B is an electrical apparatus, as well as a generator of RF (Radio Frequency) energy, and you should exercise all safety precautions as are appropriate for this type of device.

Please read the suggestions and warnings below before using the transceiver.

- ⚠ Keep the transceiver and accessories out of the reach of children.
- ⚠ Do not disassemble the transceiver.
- ⚠ Only use the supplied battery pack and charger or genuine Wouxun branded replacements purchased from an authorized dealer. Using improper batteries and charging accessories can damage the transceiver.
- ⚠ The supplied antenna is tuned for the frequencies supported by this transceiver. Using an aftermarket antenna can damage the transceiver.
- ⚠ Do not leave the transceiver exposed to direct sunlight or in overheated areas for an extended period of time.
- ⚠ Keep the transceiver away from dusty or humid areas.

## Safety Information

- ! The transceiver should be cleaned with mild detergents and a soft brush or cloth. Avoid cleaning with aggressive chemicals.
- ! NEVER transmit without a properly connected antenna.
- ! If an abnormal odor or smoke is detected from the transceiver, power it off immediately, then remove the battery pack. Contact your dealer for further assistance.
- ! Only the carry accessories supplied with this radio (such as the belt clip) should be used. Use of other accessories may exceed RF exposure guidelines.

## Notice

- These tips are important for safe operation of your KG-824B radio and its accessories. If the transceiver does not function normally, please get in touch with your dealer immediately.
- If you use components or accessories not produced by the Wouxun Company, Wouxun will not guarantee the safety and usability of the transceiver.

### Caution

Please read this manual before using the radio, as it includes important instructions for the safe handling, use and operation of your radio.

### FCC Compliance

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.

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

## **Safety Information**

### **Radio Operation and EME Exposure**

Use only an antenna designed for use with this radio and its operating frequencies. Unauthorized modifications or attachments may damage the radio and violate FCC rules.

DO NOT hold the antenna while the radio is in use.

DO NOT attempt to use the radio with a damaged antenna.

### **FCC Licensing Information**

The Wouxun KG-824B is FCC Part 90 type accepted for use on the business band. The KG-824B operates on UHF and VHF business frequencies according to the Federal Communications Commission (FCC) Rules in the United States. As such, a business radio license is required to transmit on these frequencies. To obtain an FCC license for your business, go to the FCC's web site and complete the online application. For assistance with the FCC licensing process, visit <https://www.buytwowayradios.com/services/radio-licensing.html>.

## Feature Summary

- 16 Pre-Programmed Channels (for out-of-the-box compatibility)
- Up to 5 Watts Output Power
- 50 CTCSS Tones / 105 DCS Codes
- Dual Band UHF/VHF
- Superheterodyne Receiver
- IP55 Waterproof
- High/Low Power Selectable
- Repeater Capable
- Channel Scan
- Priority Scan
- Monitor Function
- VOX
- Narrowband Compliant
- English Voice Guide
- Low Voltage Prompt
- Transmit Overtime Prompt
- Built-in Flashlight
- Configurable Side Key
- SOS Function
- Busy Channel Lockout
- Cloning Capable
- PC Programmable

## Getting Started

### What's Included

Carefully unpack the contents of the box and be sure that you have the items in the list below. If any items are missing or damaged, please contact your dealer.



Transceiver



High gain antenna



Li-ion battelpack



Intelligent charger



Belt clip

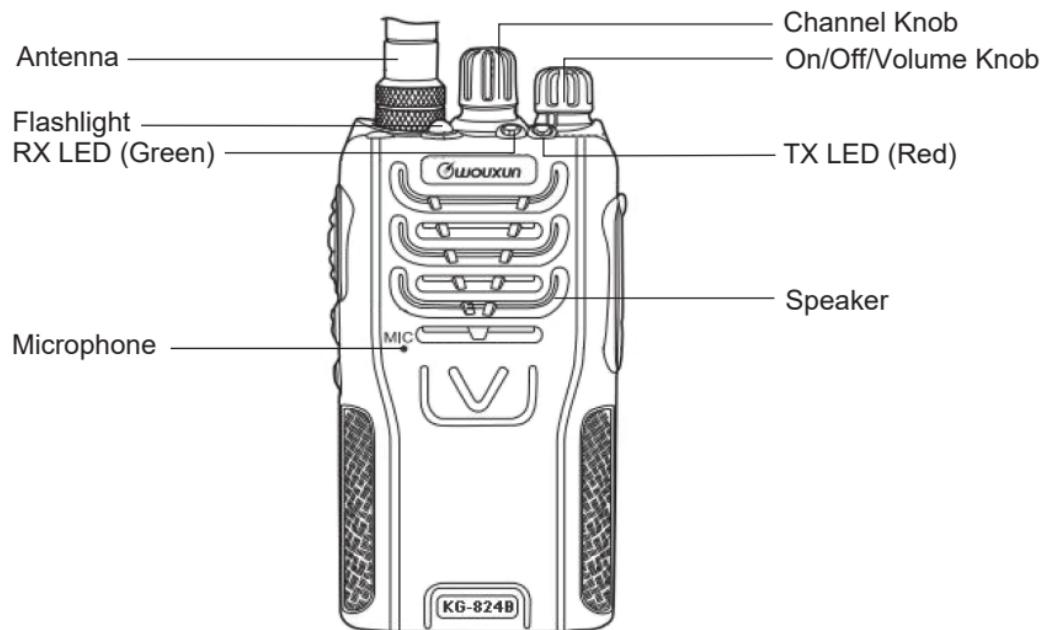


Handstrap



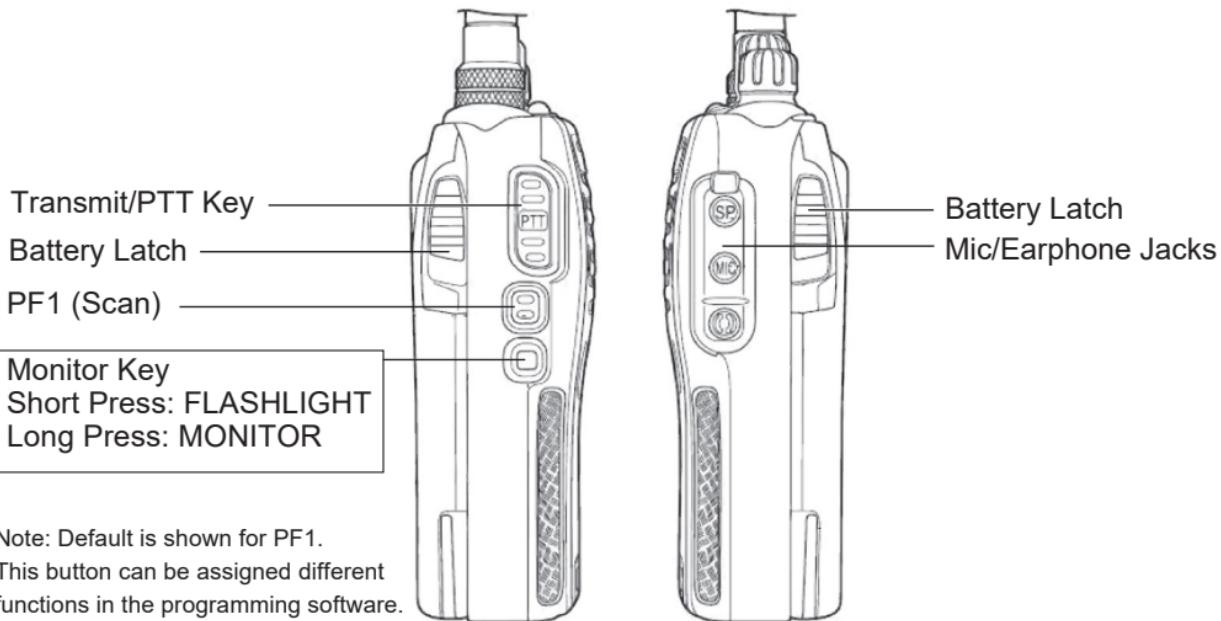
User's manual

## Front Panel Guide



## Getting Started

### Right / Left Side Guide



## Dust and Water Protection

The KG-824B is water resistant to IP55 standards. It is dust resistant and rated to withstand mild ingress of solid objects. It can withstand direct jets of water projected by a nozzle (6.3 mm) against the enclosure for a limited period. **This radio is dust and water resistant only while the battery is properly installed and locked in place with no gaps and all ports are completely sealed with their port covers. Use of a headset or other accessory will negate the dust and water resistant features of this radio.** Do not attempt to operate this radio if it has been submerged in water.

- The radio charger is NOT dust or waterproof.
- Charge the radio only under dry conditions.
- DO NOT charge the radio when it is wet.
- DO NOT expose the radio and charger to wet environments when charging.

# Installing and Removing the Battery

The lithium-ion battery pack included with the radio is not fully charged out of the box. It is recommended to charge it before using the radio for the first time.

## Installing the Battery

To install the Lithium-ion battery pack:

1. Be sure the radio is off.
2. Slide the battery pack down the back of the radio until the three tabs on the bottom of the battery slide into the slots at the bottom of the radio.
3. Push forward on the top of the battery until it is securely locked in place on both sides.

## Removing the Battery

To remove the battery pack:

1. With your thumb and forefinger, slide down the latches on each side of the battery near the top of the battery pack simultaneously
2. While holding down the latches, pull the battery pack away from the radio.

## Charging the Battery

The KG-824B includes an intelligent desktop charger. It can charge the battery pack with or without the radio attached.

1. Insert the AC plug into an available 100~240v outlet. The LED light on the charger base will flash red for 2-3 seconds. This indicates the charger is in standby mode.
2. Insert the battery or radio with the battery attached into the charger. The LED light on the charger will turn red to indicate the battery is charging.
3. When the LED light on the charger turns green, charging is complete.

### Note

- When a completely drained battery is first inserted into the charger, the charger will switch to trickle charge mode and the LED will flash red continuously.
- After 10-20 minutes the charger will switch to normal charging mode and the light will turn solid red. The LED will turn green when charging is complete.

## Antenna Information

The KG-824B includes an antenna with an SMA female connector that is tuned for the frequency range of your radio. Aftermarket antennas may be used, provided they are tuned for this frequency range.

Warning: To avoid injury, DO NOT attempt to operate your radio if the antenna is damaged or defective.

DO NOT attempt to operate your radio without an antenna connected to the radio.

Transmitting without an antenna or a correctly tuned antenna directly and properly connected to the radio may damage the radio and void the warranty.

## Installing the Belt Clip

The belt clip attaches to the back of the battery pack on the radio. To install the belt clip, simply slide it down onto the back of the battery until it snaps in place. To remove the belt clip, depress the lock release on the back of the belt clip, and while holding it down, slide the belt clip up and away from the battery.

### Introducing the KG-824B

The KG-824B is a dual band UHF and VHF radio designed for businesses and organizations that need a simple analog business radio without complicated preconfiguration. Right out of the box, this radio is configured to allow you to transmit on 16 pre-loaded UHF channels for instant compatibility with many other popular UHF business radios. This radio can also be customized for your licensed frequency(ies) on the UHF and VHF business bands. Your dealer can custom program your KG-824B with your business frequencies and assign them to these 16 channels.

Read this chapter to learn the basics of using your new KG-824B radio, such as selecting a channel, transmitting and receiving, and scanning.

### Power On/Off and Adjusting Volume

Rotate the volume knob clockwise to power on the radio. To power off the radio, rotate the volume knob counter-clockwise until a click is felt.

To adjust the volume, use the volume knob when the radio is powered on. Turning the knob clockwise increases the volume, counter-clockwise decreases it.

# Your First Transmit

## Selecting a Channel

When you power on your KG-824B for the first time, the radio will emit a few short tones and will be ready to transmit and receive on the current channel. Turn the Channel Knob to navigate through the available channels for your licensed frequency(ies).

Be sure the channel you choose is the same channel and frequency that everyone else in your group is using.

## Transmitting and Receiving

With a channel selected, the radio is actively “listening” for an incoming signal on that channel. When a signal is detected, the transmission will be heard through the radio’s speaker.

To transmit, first be sure the channel is clear and then hold the radio a few inches from your mouth. Hold down the PTT button on the side while talking and release the PTT when finished.

## Operation

For best performance and clarity of transmission, position the radio upright with the front of the radio facing you, hold it several inches away from your mouth and speak directly into the microphone during transmission.

## Channels and Privacy Codes

### Channels

The KG-824B is pre-configured with 16 default UHF business frequencies out of the box, but can be custom programmed by your dealer with your own business frequencies and save them to these channels. This radio can transmit and receive on business frequencies in the UHF and VHF band.

### Privacy Codes

The KG-824B supports 50 CTCSS tones and 105 DCS codes, for a total of 155 privacy tones and codes. To successfully communicate between your stations or members of your group, all the connecting radios must be using the same channel and privacy (CTCSS or DCS) code.

These tones and codes can be enabled and configured through the user programming software.

### Channel Scan

The KG-824B has a channel scan feature, which is assigned to the [PF1] key by default. To activate Channel Scan, press the [PF1] key and you should hear “Scan Begin”. The radio will scan each channel for activity, starting from the current channel.

To stop the scan, press the [PF1] or Monitor key and you should hear “Scan Stop”. Pressing the PTT button or turning the channel knob will also stop the scan. Refer to Scan Mode (page ) for more information on the types of scans available.

### Priority Channel Scan

The KG-824B supports Priority Channel Scanning. With this feature a priority channel can be specified that is scanned much more frequently than other channels. This helps prevent missing all or part of a transmission when you are primarily concerned with a single channel.

## Operation

Priority Channel Scanning works by scanning your priority channel in between all other channels. For example, if your priority channel is 3 the radio would scan your channel list in the following order:

1 ▶ 3 ▶ 2 ▶ 3 ▶ 3 ▶ 3 ▶ 4 ▶ 3 ▶ 5 ▶ 3 ▶ ...

Priority Channel Scan can be set and activated with the user programming software.

## Programmable Features

### Scan Mode

The KG-824B has three scan mode settings as described below.

TO: When a signal is detected, scanning stops. Scan will pause to wait for further activity and will then resume if no operation is carried out within 5 seconds. Pressing PTT will transmit on the currently selected channel.

CO: When a signal is detected, scanning stops and resumes immediately after the signal is lost. Pressing PTT will transmit on the currently selected channel.

**SE:** When a signal is detected, scanning stops. Pressing PTT will transmit on the channel where the signal was detected.

The default setting is CO. These scan mode options can only be configured and modified using the programming software.

### VOX

The VOX function allows you to transmit without pressing the PTT key. When active, VOX will detect that you are speaking into the microphone and then automatically begin transmitting. VOX is disabled by default. It can be activated and configured using the programming software.

### Squelch Level

The squelch function mutes the speaker when no signal is detected. Adjusting the squelch sensitivity allows you to control the strength of the signal required in order to unmute the speaker. Selecting a lower number will allow weaker signals to be heard, higher numbers require stronger signals. Selecting [0] will unmute the speaker at all times. Squelch is set to (3) by default. It can be adjusted through the programming

software.

### Transmit Overtime Timer

When the transmission time exceeds the time set by the Transmit Overtime Timer, the unit will emit an error prompt and stop transmitting. The KG-824B is set to time out the transmission after 60 seconds. It can be disabled or adjusted from 15 seconds to 600 seconds in 15 second increments through the programming software.

### Timeout Timer Alert

The Transmit Overtime Alarm warns when the Transmit Overtime Timer is about to be exceeded. The red TX indicator LED on top of the radio flashes to indicate an alarm. The alarm indicates the amount of time prior to the Transmit Overtime Timer expiring that the warning will begin. The alert is set to 5 seconds by default. It can be set to a maximum time limit of 10 seconds through the programming software.

### Beep Tone

The KG-824B will emit an audio prompt to alert the operator of a key press. It is en-

abled by default and can be disabled through the programming software.

### Roger Beep

The KG-824B can produce an audible roger beep prompt during transmission. This feature is disabled by default. It can be configured in the programming software to one of the following settings:

BOT: Sets the roger beep prompt at the beginning of transmission

EOT: Sets the roger beep at the end of transmission

BOTH: Sets the roger beep at the beginning and end of transmission

### Low Battery Alert

The BATTERY CHECK function uses the LED on the top of the radio to indicate the current battery status and notify you when battery power is low. It is on by default, but can be disabled using the programming software.

4 Green Flashes - Fully charged

3 Green Flashes - 70% charged

## Operation

2 Green Flashes - 30% charged

1 Green Flash - 10% charged

Red LED Flashes - Near depletion, with insufficient power to transmit.

Note: power percentages are approximate.

## Battery Save

The KG-824B has a Battery Save mode to conserve battery life and maximize uptime. When the radio is in standby and no incoming signal is detected for ten seconds, the radio will momentarily shut down the receiver to conserve battery power. The radio will then begin to cycle the receiver on and off at intervals to check for an incoming signal. Once a signal is detected, the radio will exit Battery Save mode and return to normal operation.

Battery Save mode is on by default, but can be disabled using the programming software.

## Call

The KG-824B allows you to send the Call ID. It can be set and activated using the

programming software.

### Transmit Power

This function sets the transmit power of the radio. The KG-824B has two power options: Low (2W) and High (up to 5W). Wattage is approximate. It is preset to High on all channels by default, but can be programmed for each channel individually using the programming software.

### Monitor Key Functions

#### Flashlight

The KG-824B has a built-in LED flashlight at the top of the radio. It can be turned on and off with a short press of the lower side key.

#### Monitor

The MONITOR function opens squelch on the current channel. This is useful when listening for weak transmissions. It can be turned on and off with a long press of the

## Operation

lower side key.

### Programmable Key Functions

The KG-824B has a programmable key called [PF1]. The [PF1] key is located on the left side of the radio below the PTT key. Default functions are pre-programmed into this key out of the box. It can also be disabled or re-assigned via the programming software.

PF1 Key	Functions	Description
Default	SCAN	Channel Scan (page 21)
	SOS-CH	SOS function (page 28)
	UNDEF	Key not assigned

### SOS

The radio can transmit an SOS alarm to other stations on the same channel. When SOS is activated, the radio will emit an oscillating alarm. After 5 seconds, the radio will

transmit the alarm to other radios on the same channel. It is disabled by default, but can be assigned to the [PF1] key through the programming software.

## Wireclone Function

The KG-824B can be cloned radio-to-radio using an optional wireclone cable.

To clone the radios, turn off both radios and connect the wireclone cable to them. Turn the target radio on, then press and hold the MONITOR key on the source radio while turning it on. The red LED of the source radio will flash as the data is copied from the source to the target radio. The Green LED of the target radio will flash as the data is received.

The LED indicators of each radio will stop flashing and both radios will go into stand-by when cloning is complete.

## Troubleshooting

Before assuming your KG-824B is defective, please check the following list of possible problems and solutions.

Problem	Solution
Receive indicator is on but no sound is heard.	<ul style="list-style-type: none"><li>■ Check volume level.</li><li>■ Disable CTCSS/DCS or be sure setting matches incoming transmission.</li><li>■ Check squelch settings.</li></ul>
Unwanted interference is being received	<ul style="list-style-type: none"><li>■ Enable CTCSS or DCS tone to filter out unwanted transmissions.</li><li>■ Use a different channel</li></ul>
Transceiver transmits without PTT being pressed	Check if the VOX hands-free mode is active. If intentionally using VOX mode, adjust the sensitivity level.
Cannot power on	<ul style="list-style-type: none"><li>■ Check that the battery pack is attached correctly.</li><li>■ Check that the battery pack is fully charged.</li></ul>

### Problem

### Solution

Battery life lower than expected

- Be sure the charger indicates the battery is fully charged.
- The battery pack capacity will naturally diminish over a number of charge cycles. This is the case with all lithium batteries.

## Technical Information

### Specifications

<b>Entire Radio</b>	
Frequency Range	137-174 MHz (VHF) / 420-512 MHz (UHF)
Memory Channels	16
Transmit Power	VHF: 5W / UHF: 4W
Work Temperature	-30°C~+60°C / -22°F~140°F
Frequency Stability	±2.5 PPM
Operating Voltage	7.4VDC
Receive Sensitivity	< 0.2 µV
Modulation	F3E(FM)
Size	4.76 × 2.40 × 1.47 (in) / 121 × 61 × 37.5 (mm)
Weight	8.04oz / 228g
Dust/Waterproof	IP55

## Standard CTCSS and DCS Tones

The following is a list of the standard CTCSS and DCS tones supported by the KG-824B. Many radios display a number instead of a specific tone. The number to the left of the tone matches what is used by some manufacturers.

CTCSS									
1	67.0	11	94.8	21	131.8	31	171.3	41	203.5
2	69.3	12	97.4	22	136.5	32	173.8	42	206.5
3	71.9	13	100.0	23	141.3	33	177.3	43	210.7
4	74.4	14	103.5	24	146.2	34	179.9	44	218.1
5	77.0	15	107.2	25	151.4	35	183.5	45	225.7
6	79.7	16	110.9	26	156.7	36	186.2	46	229.1
7	82.5	17	114.8	27	159.8	37	189.9	47	233.6
8	85.4	18	118.8	28	162.2	38	192.8	48	241.8
9	88.5	19	123.0	29	165.5	39	196.6	49	250.3
10	91.5	20	127.3	30	167.9	40	199.5	50	254.1

## Technical Information

DCS codes ending in *N* are positive. Negative DCS codes end in *I*. The KG-824B includes 105 positive and 105 negative codes.

DCS														
1	D023N	16	D074N	31	D165N	46	D261N	61	D356N	76	D462N	91	D627N	
2	D025N	17	D114N	32	D172N	47	D263N	62	D364N	77	D464N	92	D631N	
3	D026N	18	D115N	33	D174N	48	D265N	63	D365N	78	D465N	93	D632N	
4	D031N	19	D116N	34	D205N	49	D266N	64	D371N	79	D466N	94	D645N	
5	D032N	20	D122N	35	D212N	50	D271N	65	D411N	80	D503N	95	D654N	
6	D036N	21	D125N	36	D223N	51	D274N	66	D412N	81	D506N	96	D662N	
7	D043N	22	D131N	37	D225N	52	D306N	67	D413N	82	D516N	97	D664N	
8	D047N	23	D132N	38	D226N	53	D311N	68	D423N	83	D523N	98	D703N	
9	D051N	24	D134N	39	D243N	54	D315N	69	D431N	84	D526N	99	D712N	
10	D053N	25	D143N	40	D244N	55	D325N	70	D432N	85	D532N	100	D723N	
11	D054N	26	D145N	41	D245N	56	D331N	71	D445N	86	D546N	101	D731N	
12	D065N	27	D152N	42	D246N	57	D332N	72	D446N	87	D565N	102	D732N	
13	D071N	28	D155N	43	D251N	58	D343N	73	D452N	88	D606N	103	D734N	
14	D072N	29	D156N	44	D252N	59	D346N	74	D454N	89	D612N	104	D743N	
15	D073N	30	D162N	45	D255N	60	D351N	75	D455N	90	D624N	105	D754N	

### Default Frequencies

The following channels are pre-programmed to default business frequencies.

Channel	Frequency	CTCSS Tone	Channel	Frequency	CTCSS Tone
CH-001	464.5000	67.0	CH-009	464.5500	179.9
CH-002	464.5000	77.0	CH-010	464.5500	OFF
CH-003	464.5000	88.5	CH-011	461.3625	74.4
CH-004	464.5000	179.9	CH-012	462.4875	79.7
CH-005	464.5000	OFF	CH-013	462.5375	85.4
CH-006	464.5500	67.0	CH-014	462.0375	91.5
CH-007	464.5500	82.5	CH-015	464.0875	97.4
CH-008	464.5500	94.8	CH-016	464.1375	103.5

Contact your dealer for custom programming and configuration options.

## Optional Accessories



Six-way charger



1300mAh Li-ion battypack



"AA" battypack



Eliminator



Car charger



Programming software



USB programming cable



Wireclone cable



Headset



Speaker/Mic



Leather case



Antenna adapter

Shop Wouxun Accessories:

[www.buytwowayradios.com/accessories/by-radio-brand/wouxun-radio-accessories.html](http://www.buytwowayradios.com/accessories/by-radio-brand/wouxun-radio-accessories.html)

We warrant this product against defects in material and workmanship as follows:

Radio and its original primary components for a period of one (1) year from date of purchase.

Accessories (including battery, charger, belt clip, antenna and adapter) for a period of six (6) months from date of purchase.

This warranty is limited to the repair and replacement of the defective components and is not valid if the radio has been tampered with, misused, abused, used with unapproved accessories, subjected to unauthorized disassembly, unauthorized repair, replacement of unauthorized parts, unavoidable conditions, human destruction, water damage or environmental damage. This warranty is void if the serial number is defaced or altered.

If service, repair or replacement is required within the warranty period, such repair or replacement will be made free of charge by the dealer through whom the equipment was purchased. If the owner requires any service or repair from any dealer through whom the equipment was not purchased, the cost of repair must be made by the owner.

This warranty is valid for the original purchaser or owner of the product and is not

## Limited Warranty

transferable.

THIS LIMITED WARRANTY IS THE ENTIRE WARRANTY FOR THIS PRODUCT AND IS IN LIEU OF ALL OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THIS WARRANTY DOES NOT COVER OR PROVIDE FOR THE REIMBURSEMENT OR PAYMENT OF ANY DAMAGES, INCLUDING INCIDENTAL OR CONSEQUENTIAL DAMAGES RELATED TO THE USE OF THIS PRODUCT. Some states do not allow this exclusion or limitation of damages so the above limitation or exclusion may not apply to you. This warranty is valid only within the United States of America.

Note: Product features, specifications and warranty terms are subject to revision by the manufacturer without notice. We are not responsible for unintentional errors or omissions on product packaging.

Version: KG-824B-2408-V2