

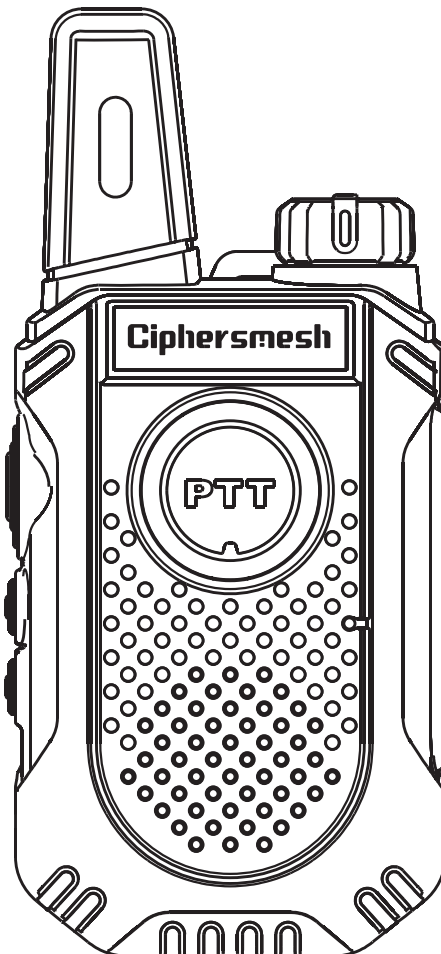
Ciphersmesh

TWO WAY RADIO

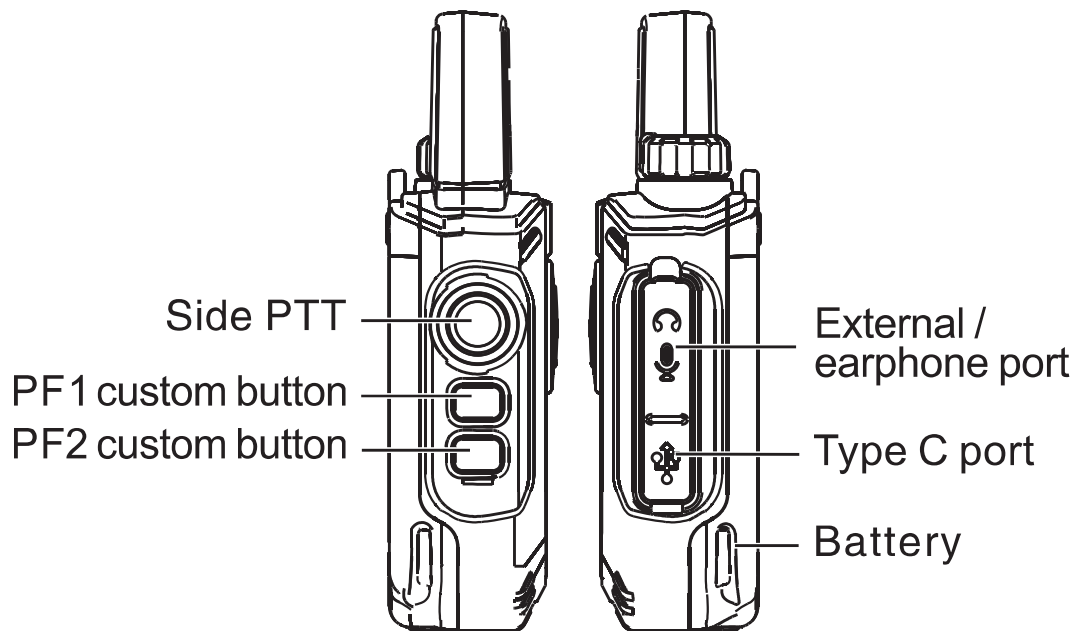
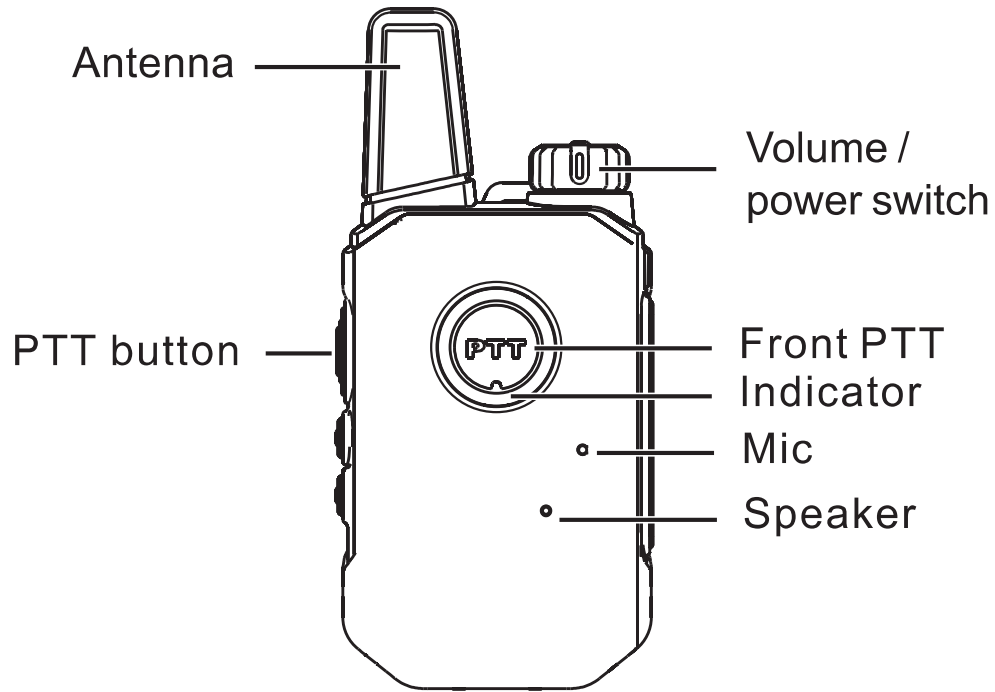
CAP302 USER GUIDE

INTRODUCTION

Thank you for choosing
CIPHERSMESH MODEL handheld Radio.
Please read all instructions carefully before using CAP302.



CONTROLS & BUTTON FUNCTIONS



CHECK THE PACK CONTENTS

It is recommended to check inbox items upon unboxing. If any of these items are lost or damaged, please contact your place of purchase immediately.

Inbox items:

- 2x Radio
- 2x Battery
- 2x Belt clip
- 1x Ycharging cable
- 1x User guide

GETTING STARTED

Charging The Battery

Connect Type-C charge cable to the charger tray charging port and the USB end to a standard 5V USB charging point or a 5V 1A or above USB wall adaptor. Plug the adaptor into a wall outlet. Place the radio onto the charger tray.

The charging battery charging indicator red meaning the battery is charging, blue when fully charged.

Note:

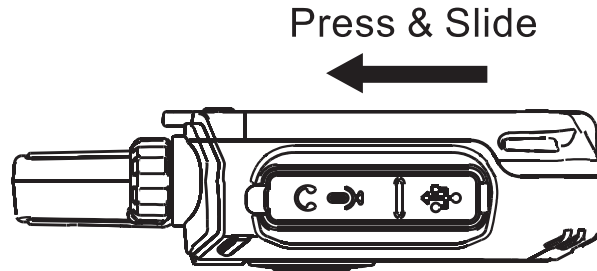
Charge only at room temperatures.

Battery may corrode over time and cause permanent damage to your radio.

Remove radio as soon it is fully charged for optimized battery life.

Installing the Battery

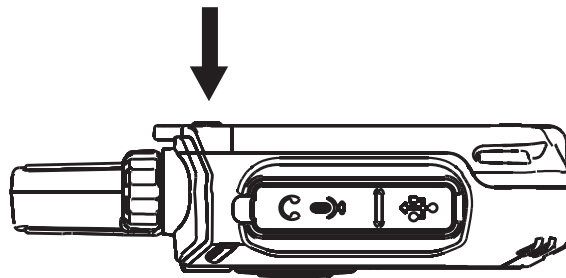
With the back of the radio is facing up, press and slide in the battery until you hear the click sound.



Installing Belt Clip

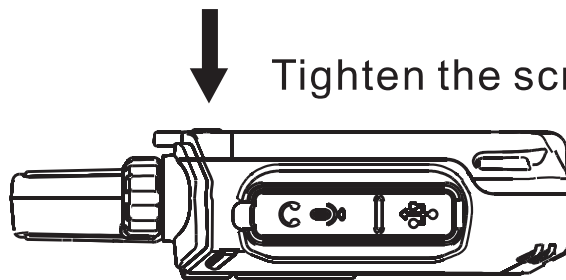
Step 1

To attach



Step 2

Tighten the screws



To attach: Place the belt clip as shown in picture & tighten the screws.

Low Battery Alert

If the battery level becomes low, the device will voice prompted low battery. Recharge the radio immediately to continue using the radio.

Battery Save

The radio has a circuit that is specifically designed to reduce power consumption and significantly prolong the battery life. If there is no transmission or receive call within 60 seconds, the radio automatically enters Battery Save mode. The radio is still able to receive transmissions in this mode.

Power on/off & volume adjustment

To power on, turn the knob clockwise until you hear a 'click' sound. Repeat steps to power off the radio.

To adjust volume, turn the knob clockwise to increase the volume accordingly. Repeat steps to decrease the volume.

Monitor

The Monitor function allows you to receive weak signals on the current channel. Press & hold PF1 button to enter monitor mode. Release PF1 button to exit monitor mode.

Scanning

Use scan to monitor channels for transmissions or to locate someone in your group who has accidentally changed channels.

Press & hold PF2 to enter scanning mode, front PTT LED ring emits green light in pulses. Repeat step to exit scanning mode.

Talking/Transmitting

Note: To communicate, all radios in the group must be set to the same channel and same CTCSS/DCS subcode if it is set.

To talk, press and hold the [PTT] button.
Hold the radio 3~7cm away from your mouth when speaking. The transmitting indicator will show red. Once finish speaking, release the PTT button to stop transmission.

Note: Do not press the [PTT] button when others are talking. The communication is interrupted.

Listening/ Receiving

The radio speaker receives signal automatically if radio is set to the same channel and subcode as the transmitting radio. Ensure the speaker volume is set to an appropriate level.

FUNCTIONS INTRODUCTION

Radio Password Setting

Note: Password need to have 6 characters include any combination of upper- and lower-case letters and numbers (0-9). Use the designed Type-C programming cable for programming radio.

1. To add a new password, enter a 6-character password in the [Change Password] field and write it to the radio.
2. If a password has already been set, enter the password in the [R/W Password] field to read and write to the radio.
3. To change the password, enter the existing password in the [R/W Password] field and the new password in the [Change Password] field, then write it to the radio. The password will be updated to the new password.
4. To remove the password, enter the current password in both the [R/W Password] and [Change Password] fields, then write it to the radio to remove the password.

Time Out Timer (TOT)

To prevent accidental transmissions and save battery life, the radio will stop transmitting and emit beep tone if you press PTT for continuous 60 seconds. You may customize the TOT setting through programming software.

Voice Operated Transmission (VOX)

Transmission is initiated by speaking into the microphone of the radio instead of pushing the PTT key.

You may customize the VOX setting through programming software.

Note: VOX levels– OFF by default, from 1 (low sensitivity) to 9 (high sensitivity).

CTCSS (Continuous Tone Coded Squelch System) /DCS (Digital Coded Squelch) Subcode

CTCSS is a function that allows a group to talk to each other without hearing other users on the same channel. There are 50 CTCSS Codes in the list.

DCS is a digital extension of CTCSS. It provides 208 extra, digitally coded, squelch codes that follow the 50 CTCSS codes.

You can change the CTCSS/ DCS subcode through the programming software.

Transmission (TX) Power

In some countries, set different powers are allowed for different channels. Use high power for more reliable communications and only use low power when transmission is not far away from each other's and want to prolong the battery life. You can select TX Power through the programming software.

Beep Tone

A short tone that indicate the button is press. You can enable or disable the beep tone through the programming software with select None for voice annunciation.

English Voice Announcement

The device by default is English Voice Announcement.

TROUBLESHOOTING

1. Unable to power on radio. Please fully charge the radio with supplied power adapter and try again.
2. Receiving low volume. Short press [UP] button to increase the volume.
3. No receiving. Please make sure radio are set to the same channel and CTCSS/ DCS subcode and within radio coverage.

CHANNEL & FREQUENCIES

Channel	Frequency	Sub Code	Power
1	462.5625	67.0	2W
2	462.5875	111.8	2W
3	462.6125	127.3	2W
4	462.6375	131.8	2W
5	462.6625	136.5	2W
6	462.6875	141.3	2W
7	462.7125	146.2	2W
8	467.5625	D243N	0.5W
9	467.5875	D032N	0.5W
10	467.6125	D047N	0.5W
11	467.6375	D051N	0.5W
12	467.6625	D053N	0.5W
13	467.6875	D065N	0.5W
14	467.7125	D116N	0.5W
15	462.5500	123.0	2W
16	462.5750	D743I	2W

Note: Power refers to the maximum allowable power for each channel under FRS rules for the USA. This power specification is defined by the FCC and does not reflect the power specification of the radio.

CTCSS & DCS Code

CTCSS (50 Numbers)				
67	69.3	71.9	74.4	77
79.7	82.5	85.4	88.5	91.5
94.8	97.4	100	103.5	107.2
110.9	114.8	118.8	123	127.3
131.8	136.5	141.3	146.2	151.4
156.7	159.8	162.2	165.5	167.9
171.3	173.8	177.3	179.9	183.5
186.2	189.9	192.8	196.6	199.5
203.5	206.5	210.7	218.1	225.7
229.1	233.6	241.8	250.3	254.1
DCS (208 Numbers)				
D023N	D025N	D026N	D031N	D032N
D036N	D043N	D047N	D051N	D053N
D054N	D065N	D071N	D072N	D073N
D074N	D114N	D115N	D116N	D122N
D125N	D131N	D132N	D134N	D143N
D145N	D152N	D155N	D156N	D162N
D165N	D172N	D174N	D205N	D212N
D223N	D225N	D226N	D243N	D244N
D245N	D246N	D251N	D252N	D255N
D261N	D263N	D265N	D266N	D271N
D274N	D306N	D311N	D315N	D325N
D331N	D332N	D343N	D346N	D351N
D356N	D364N	D365N	D371N	D411N
D412N	D413N	D423N	D431N	D432N
D445N	D446N	D452N	D454N	D455N
D462N	D464N	D465N	D466N	D503N
D506N	D516N	D523N	D526N	D532N
D546N	D565N	D606N	D612N	D624N
D627N	D631N	D632N	D654N	D662N
D664N	D703N	D712N	D723N	D731N

DCS (208 Numbers)

D732N	D734N	D743N	D754N	D023I
D025I	D026I	D031I	D032I	D036I
D043I	D047I	D051I	D053I	D054I
D065I	D071I	D072I	D073I	D074I
D114I	D115I	D116I	D122I	D125I
D131I	D132I	D134I	D143I	D145I
D152I	D155I	D156I	D162I	D165I
D172I	D174I	D205I	D212I	D223I
D225I	D226I	D243I	D244I	D245I
D246I	D251I	D252I	D255I	D261I
D263I	D265I	D266I	D271I	D274I
D306I	D311I	D315I	D325I	D331I
D332I	D343I	D346I	D351I	D356I
D364I	D365I	D371I	D411I	D412I
D413I	D423I	D431I	D432I	D445I
D446I	D452I	D454I	D455I	D462I
D464I	D465I	D466I	D503I	D506I
D516I	D523I	D526I	D532I	D546I
D565I	D606I	D612I	D624I	D627I
D631I	D632I	D654I	D662I	D664I
D703I	D712I	D723I	D731I	D732I
D734I	D743I	D754I		

GENERAL INFORMATION & SAFETY

ATTENTION:

Before using this radio, read this guide which contains important operating instructions for safety and RF energy awareness and control for compliance with applicable standards and regulations. .

For other information please refer to product details, brochures, user manuals and approved accessories lists from www.ciphersmesh.com.

- User instructions should accompany the radio when transferred to other users.
- Do not use this radio if the operational requirements described herein are not met.

This radio uses electromagnetic energy in the radio frequency (RF) spectrum to provide communications between two or more users over a distance. RF energy, which when used improperly, can cause biological damage.

All Ciphersmesh two-way radios are designed, manufactured, and tested to ensure they meet government-established RF exposure levels. In addition, manufacturers also recommend specific operating instructions to users of two-way radios. These instructions are important because they inform users of RF energy exposure and provide simple procedures on how to control it.

For more information on what RF energy exposure is and how to control your exposure to assure compliance with established RF exposure limits, please refer to the following websites: <http://www.who.int/en/>

Unauthorized modification and adjustment

Unauthorized changes or modifications to the radio may void the user's authority granted by the local government radio management departments to operate this radio. To comply with the corresponding 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 local government radio management departments equipment authorization for this radio could violate the rules.

RF Energy Exposure Awareness and Control Information and Operational Instructions for General Population and Uncontrolled Environment Use

For more information on what RF energy exposure is, see the following websites:

- <https://www.fcc.gov/>
- <http://www.who.int/peh-emf/project/en/>

FCC Requirements:

For licensed radio are applicable:

This radio complies with Part 15 of the FCC rules per the condition that this radio does not cause harmful interference.

Other radios are applicable:

This radio complies with Part 15 of the FCC Rules per the following conditions:

- This radio may not cause harmful interference.
- This radio must accept any interference received, including interference that may cause undesired operation.
- (Only applicable to home) This equipment has been tested and found to comply with the limits for a Class B digital radio, 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.

Hand-held Mode (If applicable)

- Hold the radio in a vertical position with the microphone (and other parts of the radio including the antenna) at least 2.5 cm (one inch) away from the lips or nose.
- The antenna should be kept away from the eyes. Keeping the radio at a proper distance is important as RF exposure decreases with increasing distance from the antenna.

Licensing Information

USA (FCC)

According to FCC Part 95, FRS devices do not require a license. Changes or modifications not expressly approved by Ciphersmesh 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 & may be prohibited.

Avoid Choking Hazard



- Warning: This radio is not a toy and may contain small and removable parts. Not for children under 3 years old.

Radio Operating Conditions

To reduce the risk of injury, follow these guidelines when using the radio:

- Turn off your radio before removing (installing) a battery or accessory or when charging battery.
- Turn off your radio when you are in potentially hazardous environments such as near electrical blasting caps, in a blasting area, or in explosive atmospheres (flammable gas, dust particles, metallic powders, grain powders, etc.)
- Turn off your radio while taking on fuel or while parked at gasoline service stations.
- Turn off your radio in any facility where posted notices instruct you to do so. Hospitals or health care facilities (Pacemakers, Hearing Aids and Other Medical radios) may be using equipment that is sensitive to external RF energy.
- Turn off your radio when on board an aircraft. Any use of a radio must be in accordance with applicable regulations per airline crew instructions.

Hearing Safety

Warning: To reduce the risk of hearing damage, follow these guidelines when using the radio:

- Use the lowest volume necessary to do your job and turn up the volume only if you are in noisy surroundings.
- Turn down the volume before adding a headset or earpiece and limit the amount of time you use headsets or earpieces at high volume.
- When using the radio without a headset or earpiece, do not place the radio's speaker directly against your ear.
- Be careful with the earphone as excessive sound pressure from earphones and headphones can cause hearing loss.
- Note that exposure to loud noises from any source for extended periods of time may temporarily or permanently affect your hearing. The louder the radio's volume, the less time is required before your hearing could be affected. Hearing damage from loud noise is sometimes undetectable at first and can have a cumulative effect.

Medical radios

If you use a personal medical radio, such as a pacemaker or hearing aid, it is recommended that you consult the manufacturer of your radio to determine if it is adequately shielded from RF energy. Your physician may be able to assist you in obtaining this information.

Avoid Injury



Warning: To reduce the risk of injury, follow these guidelines when using the radio:

- Do not use any portable radio that has a damaged antenna. If a damaged antenna comes into contact with the skin when the radio is in use, a minor burn can result.



- When handling batteries, exercise care to avoid short-circuiting the battery by keeping conductive materials such as jewelry, keys, or chains away from the exposed terminals. If a short circuit occurs, the battery may become hot and cause bodily injury such as burns. Store spare batteries securely and keep them out of reach of children. If you think batteries might have been swallowed or placed inside any part of the body, seek immediate medical attention. Dispose of used batteries immediately and safely.
- When the transceiver is used for long transmissions, the radiator and chassis will become hot.

Safety Operation



- Warning: To reduce the risk of electrical shock or fire, follow these guidelines when using the charger:
 - Use the charger only in dry locations/conditions and avoid using it outdoors or in moist environments.
 - Do not disassemble the charger or operate it if it has been broken or damaged in any way.
 - Pull by the plug rather than the cord when disconnecting the charger.
 - Unplug the charger from the AC outlet before attempting any maintenance or cleaning.
 - Contact Ciphersmesh for assistance regarding repairs and service.
 - The adapter shall be installed near the equipment and shall be easily accessible.

For Vehicle With Air Bags



- Do not place a portable radio in the area over an airbag or in the airbag deployment area. The radio may be propelled with great force and cause serious injury to occupants of the vehicle when the airbag inflates.
- Refer to vehicle manufacturer's manual prior to place the electronic radio to avoid interference with air bag wiring.

Blasting Caps and Blasting Areas



Warning: To avoid possible interference with blasting operations, turn off your radio when you are near electrical blasting caps, in a blasting area, or in areas posted: "Turn off two-way radio." Obey all signs and instructions.

Approved Accessories



- This radio meets the RF exposure guidelines when used with the Ciphersmesh accessories supplied or designated for the product. Use of other accessories may not ensure compliance with the RF exposure guidelines and may violate regulations.
- For a list of approved accessories for your radio model, visit the following website:
<http://www.ciphersmesh.com>

Warranty

IMPORTANT:

Terms of Warranty:

This warranty extends only to original retail purchaser and is not transferable. Ciphersmesh Sdn. Bhd. warrants that the two-way radio ("Product") and the Ciphersmesh branded or certified accessories sold for use with these Product ("Accessories") will be free from defects in materials and craftsmanship for the duration of the warranty period under normal consumer usage, subjected to the limitations and exclusions set out below.

Warranty Period:

This limited warranty is the exclusive remedy of a consumer and applies as follows to new Products and Accessories and purchased by consumers in country of purchase and will expire, as indicated below, from the date of original sale.

- Radio - 12 months
- Accessories- 6 months

Exclusions From Warranty Coverage:

Normal wear and tear: Routine maintenance, repair, or replacement of items due to regular usage.

Any defects or damage caused by improper handling, accidents, negligence, exposure to liquids, extreme conditions, or using the radio for purposes it wasn't intended for.

Damage resulting from using accessories or radios not certified by Ciphersmesh.

Issues arising from unauthorized attempts at servicing, altering, or modifying the radio.

Any changes made to the radio's serial numbers, seals, or components that are not authorized by Ciphersmesh.

Problems arising from the use of communication services or signals in conjunction with the radio that you subscribe to or utilize.

Procedure for Obtaining Warranty Service:

Depending on the country in which the Product was first purchased, if you believe that your Product does not conform with this warranty, you should deliver the Product, together with satisfactory evidence of your original purchase (such as a legible copy of the sales docket) to Ciphersmesh. Please refer to the Ciphersmesh website for address details. You should contact Ciphersmesh regarding any compensation that may be payable for your expenses incurred in making a warranty claim. Prior to delivery, we recommend that you make a backup copy of any phone numbers, images or other data stored on your Product, in case it is lost or damaged during warranty service.

Warranty Card	
Model Number	
Serial Number	
Purchase Date	
Dealer	
Tel	
User Name	
Tel	
Country	
Address	
Postcode	
Email	

Remarks:

1. This guarantee card should be kept by the user, no replacement if lost.
2. The user can get warranty and after-sales service as below:
 - Contact the seller where you buy.
 - www.ciphersmesh.com
3. radio warranty 12 months, accessories 6 months. For more details, please visit www.ciphersmesh.com.
4. For warranty service, you will need to provide a receipt proof of purchase from the actual seller for verification

Exclusions from Warranty Coverage:

1. Accidental damage.
2. Misuse or abuse of the radio or as a result of unauthorized alterations or repairs.
3. If the serial number has been altered, defaced, or removed.



FC



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Version: A