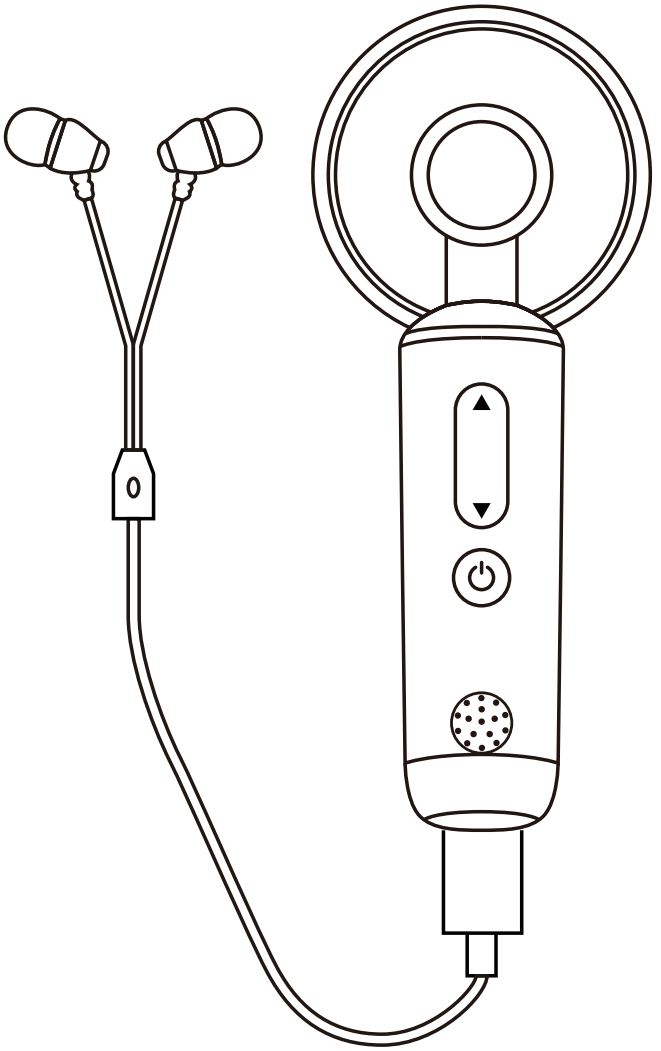
FondCircle

Electronic Stethoscope



User Manual

Model: FSC-D1

Version: 1.0.0_2505

FOREWORD

The FondCircle Electronic Stethoscope collects, filters, and amplifies the sound of a person's heart and lungs. This device is intended to assist healthcare professionals or trained users in detecting body sounds. It is not intended to diagnose, treat, cure, or prevent any disease. Always consult with a physician or qualified healthcare provider for medical advice.

FondCircle bears no liability and provides no guarantee with regard to damage (including indirect damage) arising due to this user manual not being complied with.

Please read through this user manual carefully before using the product and pay special attention to all safety precautions as well as follow them strictly.

Video Tutorials

Scan the QR code to watch the tutorial videos, which demonstrate how to use the Electronic Stethoscope safely.

Online Manual

Scan the QR code to get the manual as a PDF, which can be enlarged and viewed on your mobile device.

App Download

Scan the QR code with your phone or tablet to download the FondCircle app.

PACKAGE CONTENTS

NO.	Name	Quantity
1	Electronic Stethoscope	1
2	Wired headphone	1
3	User Manual	1
4	Quick Start Guide	1
5	USB-C Cable	1

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WARNINGS AND PRECAUTIONS

WARNINGS

- DO NOT use the device if the device is damaged. Do not touch any internal parts to avoid electric shock.
- DO NOT exceed the usage specified in this manual.
- DO NOT store the device in places with strong magnetic field and heavy humidity and dust or high temperature.
- DO NOT leave the device unattended when it is powered on to avoid the risk of fire or burns.
- DO NOT use the device by individuals with reduced physical, sensory, or mental capabilities, or those lacking experience or knowledge, unless they have received proper supervision or instruction regarding the use of the equipment to prevent harm.
- DO NOT use the device by children. Children should be supervised to ensure that they do not play with the equipment to avoid uncontrollable risks.
- Please keep the device out of reach of children to avoid the risk of swallowing or inhaling small parts.
- Water and electricity are a dangerous combination. To prevent the risk of electrocution, do not use the device in wet environments

(e.g., bathroom, near a shower, or swimming pool).

DO NOT let water run into the appliance.

- Check if the voltage indicated on the device corresponds to the local mains voltage before you connect the device to avoid risk of electrocution or permanent damage to the device.
- If the wall socket used to power the device has poor connection, the plug of the device may become hot. Make sure you plug the equipment into a properly installed wall socket to avoid the risk of fire and burns.
- Misuse of this product may result in damage, malfunction, or reduced performance.
- If the stethoscope sound characteristics change significantly, please contact the supplier.
- The device uses a built-in rechargeable lithium battery. Do not attempt to disassemble the device or replace the battery with a different model, as this could lead to safety hazards such as overheating, explosion, or fire.
- The device has been tested for resistance to electromagnetic interference (EMI & ESD). However, it may be susceptible to interference from stray electromagnetic fields. If you hear strange sounds, change your location or stay away from possible sources of interference, such as cell phones or wireless devices.

- DO NOT use near active HF surgical device and the RF shielded room of an ME system for magnetic resonance imaging, where the intensity of EM disturbances is high.
- Use of this device adjacent to or stacked with other device should be avoided because it could result in improper operation. If such use is necessary, this device and the other device should be observed to verify that they are operating normally.
- Use of accessories, transducers, and cables other than those specified or provided by the manufacturer of this device could result in increased electromagnetic emissions or decreased electromagnetic immunity of this device and result in improper operation.
- Portable RF communications device (including peripherals such as antenna cables and external antennas) should be used no closer than 12 in (30 cm) to any part of the device, including cables specified by the manufacturer. Otherwise, degradation of the performance of this device could result.

SAFETY PRECAUTIONS

1. Contraindications

Auscultation should not be performed in the presence of wounds or abrasions. Not everyone is suitable to use the Electronic

Stethoscope. This device is not intended for use by individuals with decreased physical, sensory, or mental abilities, or lacking experience and knowledge, unless they have received supervision or guidance regarding its use. Please refer to the following information in detail before using the device.

2. Electrical and Fire Safety

- The intended operator of this device is a trained professional or a lay user under supervision.
- DO NOT disassemble, repair and refit the device without presence of a professional personnel as this may cause damage, malfunction or personal injury.
- If there are signs of damage to device functions, it is not allowed to use, please timely contact agents or after-sales service units. After-service is provided by an authorized service spot.
- If needed, circuit diagrams, component part lists, descriptions, calibration instructions can be provided by manufacture to assist to service personnel in parts repair.
- Any unauthorized modification is prohibited, which may lead to unacceptable risk.
- DO NOT use if the device is damaged or broken.
- DO NOT use near bathtubs, showers, basins or other vessels containing water.

- The device should not be used if it is exposed to water. Please send it back to the manufacturer for overhaul to determine whether it can be repaired and reused. If it is immersed in water under the condition of electricity, please unplug the power before contacting the device to ensure your safety.
- DO NOT carry out maintenance during use.
- This device is not intended for use by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the device to avoid causing personal injury.
- This device is not intended for use by children.
- Children should be supervised to ensure that they do not play with the device to avoid uncontrollable risks.
- Check if the voltage indicated on the device corresponds to the local mains voltage before you connect the device to avoid risk of electrocution or permanent damage to the device.
- If the wall socket used to power the device has poor connections, the plug of the device becomes hot.
- Make sure you plug the device into a properly installed wall socket to avoid the risk of fire and burns.
- DO NOT subject the device to heavy shocks and hit to avoid

risk of damage to the device.

- DO NOT store the device and its accessories in a humid environment for a long time; otherwise, the performance of the device may be adversely affected.
- The device can work from the lowest storage temperature to the normal temperature only after it has been left for 30 minutes.
- The device can work from the highest storage temperature to the normal temperature only after it has been left for 30 minutes.

3. Precautions

- The device is intended for a single user.
- Professional skills and training are not required for the usage. Please check the user manual before use.
- Avoid use or storage the device in high temperature, high humidity or dusty environments.
- Avoid excessive pressure on any part of the device.

SYMBOLS

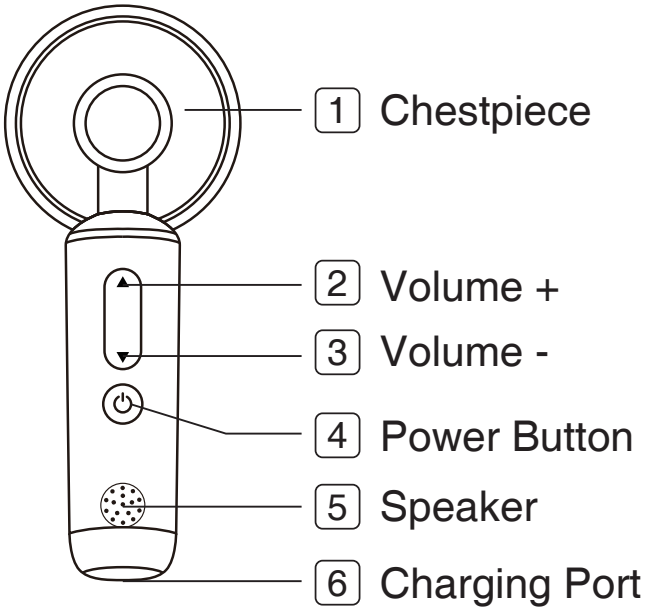
Symbol	Description
	The symbol indicates that the product should not be discarded as unsorted waste but must be sent to separate collection facilities for recovery and recycling.
	Keep dry
	Manufacturer
	Date of manufacture
	Refer to instruction manual/booklet Note: The background color of the symbol is blue.
	Symbol for "TYPE BF APPLIED PART"
	Class II ME equipment
	Caution: Indicates that caution is necessary when operating the device or control close to where the symbol is placed, or that the current situation needs operator awareness or operator action in order to avoid undesirable consequences.
IP22	Ingress protection rating
LOT	Batch code
SN	Symbol for "SERIAL NUMBER"
MR	MR Unsafe To identify an item which poses unacceptable risks to the patient, medical staff or other persons within the MR environment.
	Symbol for "RECYCLE"
FC	The device complies with the electromagnetic interference (EMI) limits set by the FCC.

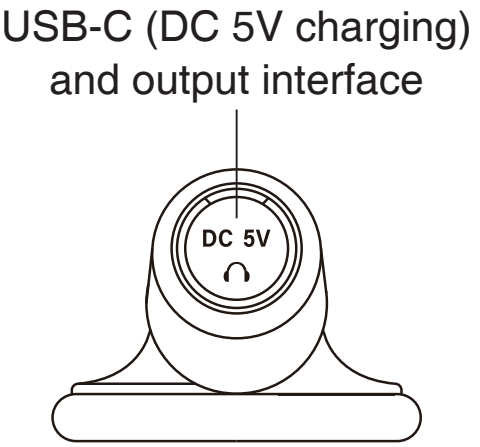
FEATURES

- Bluetooth Connectivity: Supports pairing with smartphones via Bluetooth for seamless wireless connection.
- Dual Listening Modes: Equipped with heart sound mode and lung sound mode, suitable for precise heart and lung auscultation.
- Mobile App Compatibility: Compatible with iOS and Android platforms, enhancing functionality through a dedicated app.
- Adjustable Volume: Built-in volume control allows flexible adjustment based on environmental needs.
- Audio Recording and Playback: Enables audio recording during auscultation via the app, with convenient playback and storage options.
- Speaker Output: Integrated speaker allows sound playback after Bluetooth pairing, meeting diverse usage scenarios.
- Modern Charging Interface: Features a USB-C charging port for fast and efficient charging.

PRODUCT DESCRIPTION

STRUCTURE





No.	Name	Description
1	Chestpiece	Place the chestpiece (black silicone surface) firmly against the chest or lung area during auscultation.
2	Volume +	Press to increase the volume.
3	Volume -	Press to decrease the volume.
4	Power Button	• Long press to power ON/OFF the device. • Short press after power-on to switch between Heart Sound Mode and Lung Sound Mode.
5	Speaker	Connect to a mobile phone to play auscultation sounds through the speaker.
6	Charging Port	• USB-C charging port. • Also used to connect headphones for auscultation.

OPERATION PRINCIPLE

- An electronic stethoscope utilizes the piezoelectric effect to convert sound into an electrical signal.
- When sound waves collide with a diaphragm, it vibrates, causing compression or expansion of the piezoelectric material, resulting in the generation of voltage on the material. The signal is then processed by amplifiers and filtering circuits to be converted into a clear and distinguishable electrical signal, which can be output through headphones.

INTENDED USE

The FondCircle Electronic Stethoscope collects, filters, and amplifies the sound of a person's heart and lungs. It is intended for use by professional users in clinical environments or by lay users in non-clinical environments. It is not intended for self-diagnosis.

HOW TO USE

PREPARATION BEFORE USE

1. App

Before using the stethoscope, download and install the FondCircle® app. Always use the latest version of the app. You can download it from Google Play or the App Store.

2. Stethoscope

- Before using the device for the first time, it needs to be charged for at least one hour.
- When the device is fully charged, it can be operated and used normally. The power adapter and the device is considered as ME system.

INDICATOR LIGHT GUIDE

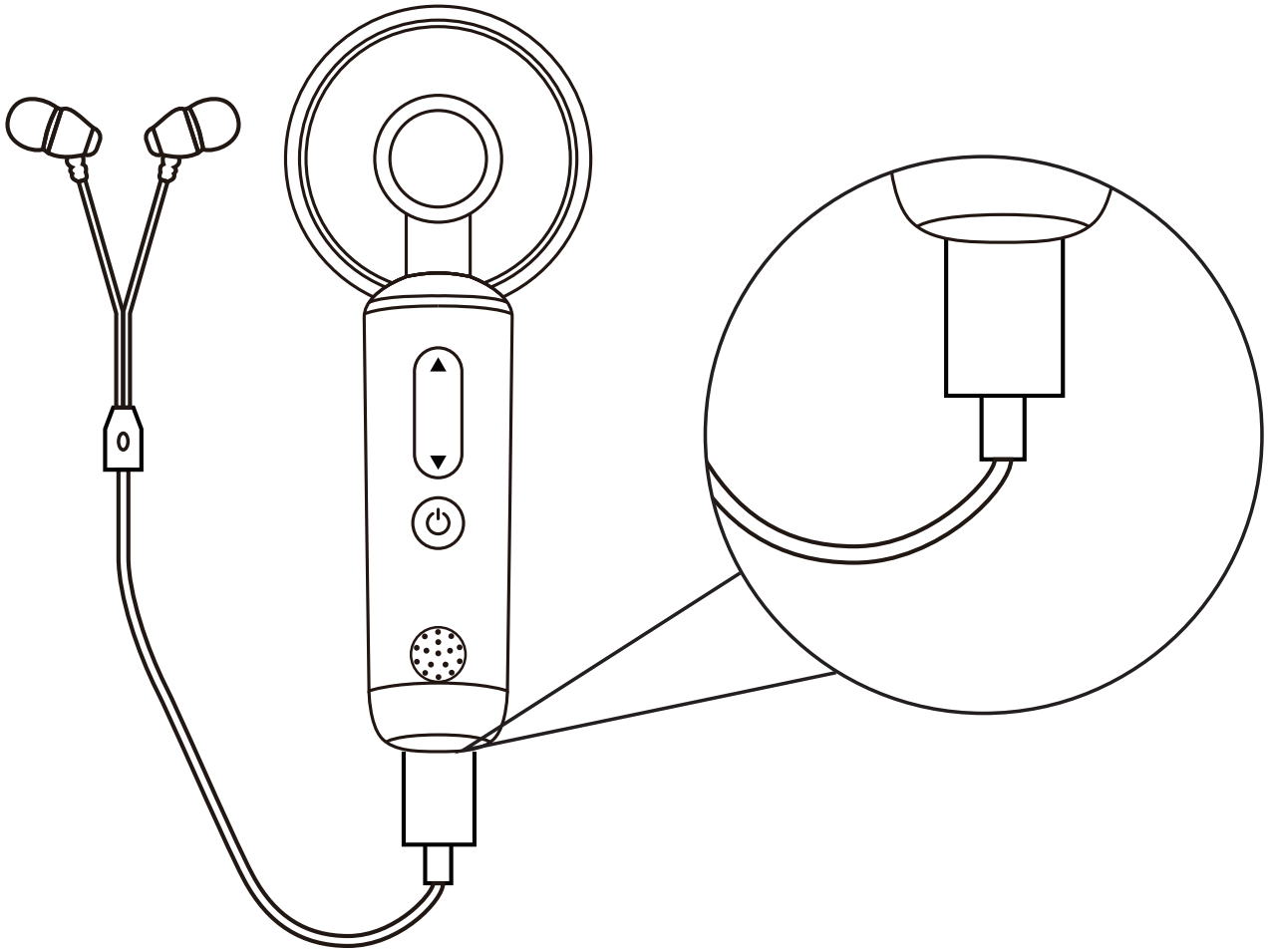
Operation	Mode/Status	Indicator Light
Long Press Power Button	Power ON (Default Mode)	Purple–Heart Sound Mode
Short Press Power Button	Switch to Lung Sound Mode	Blue–Lung Sound Mode
Short Press Again	Switch Back to Heart Sound Mode	Purple–Heart Sound Mode
Long Press Power Button	Power OFF	Light Off
Charging While ON	In Heart Sound Mode	Light Purple → Purple when full
	In Lung Sound Mode	Light Blue → Blue when full
Charging While OFF	/	White → Light off when full

EARPHONE INSTALLATION

- **Inserting the Earphones**
  Align the plug with the jack and insert it gently until you hear or feel a click. The device will switch to earphone mode automatically.

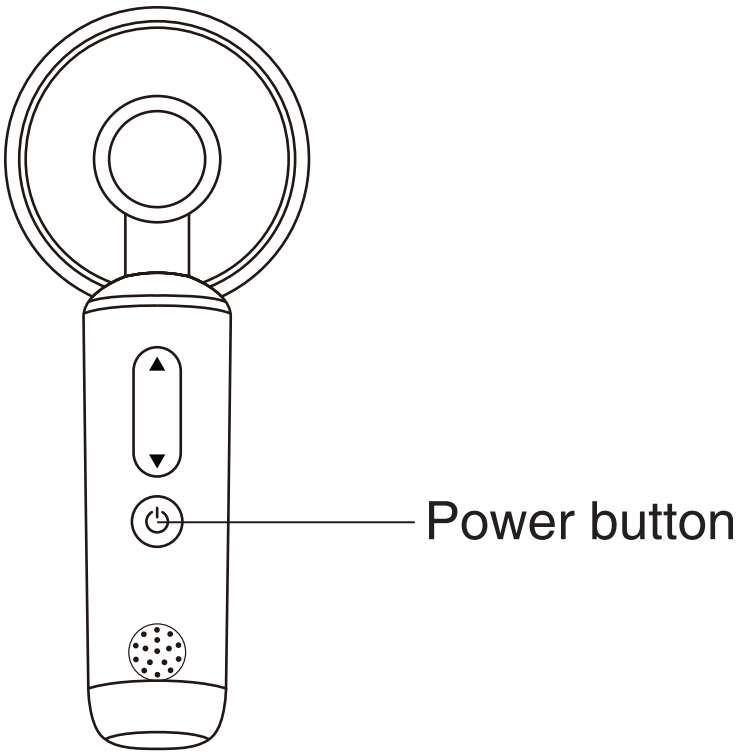
- **Removing the Earphones**
  Hold the plug (not the cable) and pull it out gently to avoid damage.

  Note: Pulling on the cable may cause damage. Always handle by the plug.



INSTRUCTIONS FOR USE

- **Power on:** Long press the power button to turn on the device. It will enter Heart Sound Mode by default and the indicator light will start to light up purple.
- **Power off:** Long press the power button to turn off the device. The indicator light will turn off.



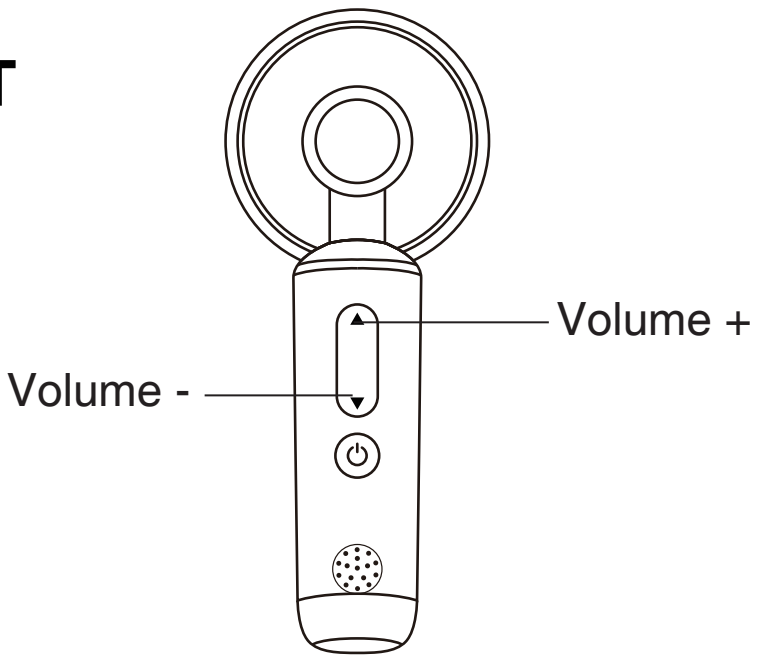
BLUETOOTH CONNECTION PROCEDURE

- **App Auto-Connect to the Stethoscope**
  When the stethoscope is powered on, open the app and navigate to the auscultation page. The app will automatically search for and connect to the FSC-D1-Stethoscope (BLE) for pairing.

- **First-Time Bluetooth Pairing**
  During the initial pairing, users need to manually pair the FSC-D1-Stethoscope in the Bluetooth settings of their smartphone.
- **Successful Connection**
  The app and the stethoscope will successfully establish a connection.
- **Automatic Pairing for Future Use**
  After the first pairing, the app will automatically connect to the stethoscope each time it is used without requiring manual pairing again.
- **Connection Process Complete**
  The connection process is now complete and the device is ready for use.

VOLUME ADJUSTMENT

- Press the volume up button ▲ to increase the volume.
- Press the volume down button ▼ to decrease the volume.



CHARGING METHOD

- Use a power adapter with a DC 5V 1A or 5V 2A output.
- Connect the USB-C end of the included USB cable to the device, then plug the other end into a compatible power adapter. Insert the adapter into a wall socket.
- The indicator light turns white while charging. A full charge takes approximately 1.5 hours.
- Unplug the charging cable before using the device.

Note: A USB-C cable is included. A power adapter is not included—use a compatible adapter (DC 5V 1A or 2A).

STARTING THE MEASUREMENT

- **Power On the Device**

  - Press and hold the power button to turn on the device. The device will automatically enter Heart Sound Mode, indicated by a purple LED light.

- **Connect and Wear the Headphones**

  - Insert the headphones into the designated port and put them on.

- **Select the Appropriate Auscultation Mode**

- Heart Sound Mode: Use this mode to listen to heart sounds.
- Lung Sound Mode: Use this mode to listen to lung sounds.

- **Perform the Auscultation**

  - Gently place the stethoscope head on the desired auscultation area:

  For Heart Sound Mode: Position the stethoscope on the chest near the heart.

  For Lung Sound Mode: Place the stethoscope on the back or chest to listen to lung function.

  - You should hear the heartbeat or breathing sounds through the headphones.

- **Precautions During Measurement**

  - Ensure the stethoscope head is in full contact with the skin to avoid external noise interference.

  - Perform auscultation in a quiet environment for the best sound clarity.

  - Avoid excessive pressure on the stethoscope head, as it may distort the sound.

  - If using the Lung Sound Mode, instruct the patient to take deep breaths for better analysis.

• Keep the headphones properly positioned for clear and accurate audio reception.

• Do not use the device near strong electromagnetic fields, as it may affect performance.

• If abnormal sounds or malfunctions occur, restart the device and try again.

CARE AND CLEANING

CLEANING

- Proper use of the stethoscope in accordance with the contents of this manual and regular cleaning and maintenance will help to extend the continuous acoustic performance of the stethoscope.
- Before cleaning, the device must be powered off and unplugged to allow the device to cool.
- The stethoscope should be cleaned between each use. Use a cotton pad dipped in 75% alcohol to gently wipe the dirt from the surface of the stethoscope. After cleaning, let the water or moisture blow dry/evaporate naturally in a dry and ventilated environment before turning on and using.
- Never wash the device or its accessories under running water or in a dishwasher.

- Do not use steel wool, abrasive cleaners (toothpaste, etc.) or corrosive liquids (gasoline, motor oil, acetone, etc.) to clean the device.
- Make sure that water does not get into the stethoscope.

PRODUCT MAINTENANCE METHODS

- Keep the device dry. Do not immerse the device or any of its parts in water to avoid the risk of electric shock.
- In order to avoid damage or loss of the device and its accessories, store the device and accessories in the box after each use, and be sure to clean the device before storing.
- If the device is not used for a long time, store it in a dry, dark and cool place. It is recommended to charge the battery once every three months to prevent damage caused by excessive discharge of the battery.
- Avoid contact or impact with hard objects to prevent damage to the device.

BATTERY SAFETY INFORMATION

- This device contains a built-in rechargeable lithium-ion battery. Use only the specified charging cable and power adapter (5V⎓1A/2A).

- Do not attempt to replace the battery yourself. Contact the manufacturer or authorized service center for support.
- Do not expose the device or battery to fire, heat sources, or temperatures above 45°C (113°F).
- Avoid short-circuiting the battery terminals. Do not insert any foreign objects into the charging port.
- Do not expose the device to water or excessive humidity. This may result in electric shock or damage to the battery.
- If the battery appears swollen, leaking, or damaged, stop using the device immediately and contact customer support.
- Dispose of the battery in accordance with local laws and regulations. Do not throw it in household trash or incinerate.
- Only use the device in ambient temperatures between 5°C and 40°C during operation and between 5°C and 40°C during storage.

ERRORS AND TROUBLESHOOTING

Below summarizes the most common problems you could encounter with the device. If you are unable to solve the proble with the information below, please contact your local distributor:

Problem	Possible Reason	Solution
Failed to power on	The battery is low and cannot be turned on	Charge for more than 1 hour and then turn on
	Battery performance failure	Return to factory for battery replacement
No sound	Volume is too low	Turn up the volume
Accidental interference (murmur)	Electromagnetic interference murmur	Change locations
	Unable to switch modes	Reboot the device
	Dust, lint, threads, or damp environmental conditions	Clean the stethoscope after powering it off and let the water or moisture blow dry/evaporate naturally in a dry, ventilated environment.

TECHNICAL SPECIFICATIONS

Product Name	Electronic Stethoscope
Product Model	FSC-D1
Product Size	116.2x47.3x29.5 mm
Wired Headphones Length	120 mm
Signal Input Method	MEMS Microphone
Frequency Response Range	Heart Sound Mode: 30-500 Hz Lung Sound Mode: 50-1000 Hz
Power Source	Rechargeable Lithium-ion Battery
Data Transfer to Compatible Devices	Mobile Phones and Tablets
Wireless Technology	Bluetooth®
Software Version	0725
Operating Conditions	Operating Temperature: 5-40°C Humidity: <80% RH Atmospheric Pressure: 86-106 kPa
Storage and Transportation Conditions	Temperature: 5°-40°C Humidity: <80% RH Relative Pressure: 86-106 kPa
Service Life	5 Years
Internal Li-ion Polymer Battery	3.7V DC 380mAh

STORAGE AND TRANSPORT CONDITIONS

- The product should be stored in a clean room that is protected from light, rodents, fire, insects, ventilation, and no corrosive gas.
- Storage temperature range: 5-40°C, relative humidity range: <80%.
- The product should be protected from heavy pressure, direct sunlight and rain when transporting.
- To extend the life of your stethoscope, avoid extreme heat, cold, solvents and oils.
- If you plan to use the stethoscope below 0°F (-18°C) you should use a lithium battery to insure proper function.
- Failure to follow care and maintenance recommendations could result in damage to the internal components of the FondCircle Electronic Stethoscope. Internal damage could cause malfunction of the product, ranging from a slight decrease in auditory response to complete failure of the product.
- If you experience any problems with the electronic stethoscope, do not attempt to repair it yourself. Please notify our Customer Service Representatives for directions on shipping and receiving.

DISPOSAL

To minimize health and environmental risks and ensure proper recycling, this product should be disposed of at a designated collection facility for waste electrical and electronic equipment, in accordance with local environmental regulations.

EMC STATEMENT

Electronic stethoscope conforms to the relevant requirements in IEC 60601-1-2.
Electronic stethoscope needs special precautions regarding EMC and need to be installed and put into service according to the EMC information provided in the accompanying document.
Guidance and manufacturer's statement can be seen in the appendix.

Appendix A: EMC information

Guidance and Manufacturer's Declaration – Electromagnetic Emissions	
Emissions Test	Compliance
RF Emissions CISPR 11	Group 1
RF Emissions CISPR 11	Class B
Harmonic Emissions IEC 61000-3-2	Class A
Voltage Fluctuations/Flicker Emissions IEC 61000-3-3	Complies

Electromagnetic Immunity

Guidance and Manufacturer's Declaration – Electromagnetic Immunity		
Immunity Test	**IEC 60601-1-2 Test Level**	**Compliance Level**
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ± 15 kV air
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines	±2 kV for powersupply lines
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 0.5 kV line(s) to line(s)	± 1 kV line(s) to line(s) ± 0.5 kV line(s) to line(s)
Voltage dips, short interruptions and voltage variations on power supply input lines EC 61000-4-11	0 % U_T; 0.5 cycle at 0°, 45°, 90° 135°,180°, 225° 270°, 315° 0 % U_T; 1 cycle 70 % U_T; 25/30 cycle	0 % U_T; 0.5 cycle at 0°, 45°, 90° 135°,180°, 225° 270°, 315° 0 % U_T; 1 cycle 70 % U_T; 25/30 cycle
Power frequency magnetic field IEC 61000-4-8	30 A/m 50Hz/60Hz	30 A/m 50Hz/60Hz
Conducted RF IEC61000-4-6	3 V r.m.s. 150 kHz to 80 MHz 6 V r.m.s. 150 kHz to 80 MHz	3 V r.m.s. 150 kHz to 80 MHz 6 V r.m.s. 150 kHz to 80 MHz
Radiated RF IEC61000-4-3	10 V/m 80 MHz – 2,7 GHz 80 % AM at 1 kHz	10 V/m 80 MHz – 2,7 GHz 80 % AM at 1 kHz
NOTE: UT is the a.c. mains voltage prior to application of the test level.		

Electromagnetic Immunity

Guidance and Manufacturer's Declaration – Immunity to Proximity Fields from RF Wireless Communications Equipment					
Immunity Test	**IEC60601 Test Level**				**Compliance Level**
	Test Frequency	**Modulation**	**Maximum Power**	**Immunity Level**	
Radiated RF IEC 61000-4-3	385 MHz	*Pulse Modulation: 18Hz	1.8 W	27 V/m	27 V/m
	450 MHz	*FM+ 5Hz deviation: 1kHz sine	2 W	28 V/m	28 V/m
	710 MHz 745 MHz 780 MHz	**Pulse Modulation: 217Hz	0.2 W	9 V/m	9 V/m
	810 MHz 870 MHz 930 MHz	**Pulse Modulation: 18Hz	2 W	28 V/m	28 V/m
	1720 MHz 1845 MHz 1970 MHz	**Pulse Modulation: 217Hz	2 W	28 V/m	28 V/m
Radiated RF IEC 61000-4-3	2450 MHz	**Pulse Modulation: 217Hz	2 W	28 V/m	28 V/m
	5240 MHz 5500 MHz 5785 MHz	**Pulse Modulation: 217Hz	0.2 W	9 V/m	9 V/m

Note: As an alternative to FM modulation, 50% pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.
Note: The carrier shall be modulated using a 50% duty cycle square wave signal.

FCC COMPLIANCE STATEMENT

FCC ID: 2BMIHFSC-D1

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. 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.

IMPORTANT NOTE:

Note: This equipment 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.

FCC Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

WARRANTY AND CUSTOMER SUPPORT

Warranty

The device is covered by a 12-month warranty from the date of purchase, subject to the following terms and conditions.

The warranty does not cover:
The batteries, packaging, or any other consumables.

Damage resulting from improper use, including but not limited to:

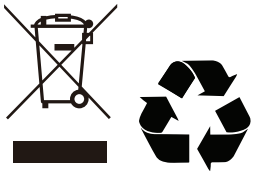
- Unauthorized disassembly or modification of the device.
- Accidental dropping or impact during use or transportation.
- Failure to follow the instructions provided in the user manual.

To claim warranty service, users must provide proof of purchase and comply with the terms outlined in the user manual.

Customer Support:

Email: support@fondcircle.com

Tel: 1-877-899-7770 (US)
(Mon-Fri, 8:00 AM-5:00 PM PST)

Web: www.fondcircle.com

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