

# User manual



*Wireless Speaker Microphone*



This product is designed to radiate low levels of radio energy in accordance with global government approved regulatory standards. It features Adaptive Power Output. APO automatically adjusts the RF power output in accordance with signal required. This features limits and reduces extraneous radiated radio energy. This also helps minimize battery consumption and extends battery shift life. Do not touch the antenna when operational. Keep it 1.5 cm (5/8 inch) or more away from your body to ensure exposure levels remain at or below the maximum levels.

# Table of Contents

|                                       |           |
|---------------------------------------|-----------|
| <b>Parts &amp; Functions .....</b>    | <b>4</b>  |
| <b>Carry Clip Removal.....</b>        | <b>5</b>  |
| <b>Operation Description .....</b>    | <b>6</b>  |
| <b>Basic Operation .....</b>          | <b>8</b>  |
| • Power On & Off.....                 | 8         |
| • Volume Control.....                 | 8         |
| • Transmitting/Receiving.....         | 8         |
| • Emergency (optional).....           | 8         |
| • Multiple unit operation.....        | 9         |
| • Motorcycle operation.....           | 9         |
| • Headset - Covert operation.....     | 9         |
| <b>Technical Notes.....</b>           | <b>10</b> |
| • Battery Charging .....              | 10        |
| • Replacing the battery pack .....    | 11        |
| • Re-connection .....                 | 12        |
| • Microphone adjustment.....          | 12        |
| • Antenna choice & replacement.....   | 13        |
| • Installation & Connections .....    | 14        |
| • Alternate configurations.....       | 16        |
| • Approvals, Warranty & Warnings..... | 18        |
| • Important safety and handling.....  | 20        |
| • Specifications.....                 | 23        |

## Parts and functions



**Volume up:** adjusts speaker audio louder.

**Volume down:** adjust speaker audio softer - minimum setting.

**Microphone:** talk in a normal strength voice about 3 to 5cm (2").

**PTT:** press to talk - beeps if pressed when out of range

**Emergency:** triggers host radio's emergency function. Hold down as per mobile radio's emergency button operating instructions - The unit will beep if pressed when out of range.

**Manual off/on:** hold for about 3 seconds to turn on or off. The spk mic will sound escalating or de-escalating tone to advise status.

*\*Normal configuration see Installation section for alternatives. \*\*Buy separately as needed.*

**DC charging:** place into charger to automatically re-charge.

**Headset connector:** use with associated\*\* headsets/accessories.

**Earpiece Jack:** allows private listening via 3.5mm mono earpieces.\*\* The loudspeaker is disabled when 3.5mm plug is inserted.

**Loudspeaker:** Delivers loudspeaker audio - Automatically turns off when inserted into mobile/base charger.\*

**Status light:** glows blue when connected and operational. It will flash when "out of range" or when the mobile charger unit is off.

## Carry Clip Removal

### Standard spring belt clip

This is the traditional type most users are familiar with. It allows the Spk Mic to be clipped to work vests, clothing, epaulettes, etc. For maximum performance 360° around your vehicle it is recommended that it be worn in a location that allows the antenna to protrude above your body. The antenna should always be located as that

To remove follow these three photos: Locate the metal securing tag - Press the tag away from the Spk Mic whilst sliding the clip upwards.



*Identify  
release  
tag*



*Push out  
while  
sliding  
clip up*



## Operation Description

Congratulations on choosing the revolutionary Wireless Speaker Microphone. This incredibly compact, light-weight personal accessory extends the power of the mobile radio to the palm of your hand, whether in and out of the vehicle. It stands ready to re-define mobile network design by increasing user functionality and mobility whilst dramatically improving the effectiveness of your infrastructure investment. This visionary solution provides users out of vehicle communications with the power and performance of their mobile radio.

It cuts the cord and for the first time puts the microphone and radio system access into the palm of the users hand when away from the vehicle, delivering true mobility without system compromise. Users can feel totally confident their private communications are kept securedue to the smart 64 bit/128 bit encryption (model dependent) functionality.

The Wireless Speaker Microphone uniquely incorporates "hard wire coding" connection protocol that eliminates any possibility of outside intrusion between the unit and your vehicle's mobile.

It unleashes the power of your mobile radio allowing wireless communication with a fixed mounted or vehicle radio: 60, 150, 300 metres or more\*. Now users can communicate with enhanced clear audio, with the power and range of their mobile radio, while not being tied to the vehicle allowing the user to be truly mobile in every operational environment.

Finally, if you go out of range, the blue LED will flash and the unit will sound a warning tone if you press the PTT or optional Emergency button, so you will know to move back into your communication zone or, to be simply aware. This ability to now communicate whilst outside your vehicle is a great assistance to enhancing a safer and more secure work environment for everyone who carries a Wireless Speaker Microphone.

# How it works

Existing radio system



Mobile base/charger connects to your mobile radio in your vehicle (or office) - It passes all voice traffic and alert tones to and from your Wireless Speaker Microphone



Communication zone

**60m.... 150m.... 300m....**

*\*Range is always dependent on the local terrain and communications environment. A variety of antenna configurations are available to enhance in-building penetration or, simply to extend the overall communication zone around your vehicle. Ask your dealer which antenna best suits your specific application.*

## Basic Operation

### Power On & Off

Usually the unit will be installed such that it powers off & on in synchronization with the host mobile radio or by a manual switch fitted by your installation mechanic. You can manually turn off the mobile charger by pressing the front orange button for 3 seconds and the blue LED will extinguish. You can do the same on the Wireless Speaker Microphone by pressing the lower grey button. The speaker mic will sound a de-escalating tone. To power On, do the same, releasing the button once the LED lights. The speaker mic will sound an escalating tone. The blue LED on both units will flash momentarily and then go solid once they're connected.

### Volume Control

When you first activate the unit you should first ensure your mobile radio's volume is set to a comfortable listening level. You may then adjust the Wireless Speaker Microphone volume by pressing the right top button to increase or the left to decrease. There are 5 listening levels. The minimum level is not zero but is designed so you can still quietly hear radio traffic.

### Transmitting/Receiving

Use like any two way radio i.e. press the large grey PTT button to talk and release to listen. Speak with a normal voice about 3-5cm (2") from the microphone port. Note: if you walk out of range the blue status LED will flash. If you then push the PTT an alert tone will sound to let you know your call is not getting through. Depending on your location, you may find you need to walk back about 10 meters (yards) to re-connect. Blue status light will glow solid. The unit features a 3.5mm earpiece jack allowing use of a huge variety of personalized earpieces. Plugging in an earpiece disables the internal loudspeaker for added privacy.

### Emergency

If enabled, the emergency button can be used to trigger and reset the emergency function in your suitably equipped mobile radio. The time you hold the button is the time your mobile radio sees the emergency command. So if your mobile radio requires you to hold the radios front panel emergency button for 2 seconds, then you should hold the Wireless Speaker Microphone emergency button for 2 seconds.



## Multiple Unit Operation

Up to three Wireless Speaker Microphones may be connected to one radio device by use of the optional Interface box accessory. Operation is identical to single user operation with the added benefit that, each party also hears each other talk when they transmit. This functionality is ideal for police: where two officers are assigned to a patrol van, or ambulance: where up to 3 paramedics can communicate at a scene as well as with their control room. It is also ideal for office use allowing up to 3 personnel to access a local base or control station or remote control console while moving around a building, shop or warehouse.

Note: communication between users is always routed back through their respective chargers and not direct between units. Ask your dealer for more information on this unique and valuable capability.

## Motorcycle Operation

The Wireless Speaker Microphone is especially suitable for motorcycle use. Models fitted with a 6 pin Hirose industrial connector allow easy connection to a helmet microphone and dual ear-piece fit out. Making use of the handlebar PTT input, a bike can be configured so that, when the rider is on the bike and presses the handle bar PTT, their headset microphone audio is sent out over the radio. Off the bike but still wearing the helmet, they can press the Wireless Speaker Microphone PTT to talk, or finally, if they remove their helmet, they can unplug the Hirose connector and use the speaker microphone like standard.

## Headset or Covert Operation

The 6 pin Hirose industrial connector also allows use of a variety of heavy duty and lightweight headsets and *application specific* audio accessories to enhance your communications capability. Use either the headset/accessory's integral PTT or use the speaker mic PTT to transmit. The internal speaker is immediately disabled when a headset is plugged in.

The small size of the unit may allow for its selective use in covert applications. The remote monitor PTT function means someone else can enable "listening" without the covert operative having to touch anything. As audio is duplex (bidirectional) you can also talk to them at the same time. A 128 bit version is also available to ensure high levels of voice security.

# Technical Notes

## Battery - Charging



The Wireless Speaker Microphone should be charged overnight before initial use. Thereafter it may be left in the charger unit between calls, or may be worn all day and placed back at the end of the work day. The unit is designed to provide about 10-12 hours operation between charges. If the unit does start to go flat a short beep will sound about once every 2 minutes. You should then re-charge the unit as soon as practicable, A fully discharged battery will typically recharge in less than 5 hours or less if only partially discharged. The battery will re-charge even if the mobile charger unit has been turned off. The microphone's blue status light will indicate charging mode.

*Simply place into pocket.*

*NB: do not allow debris to fill the pocket and prevent the microphone from making contact with the charging pins.*



Li-POL

*Please recycle thoughtfully*



## Replacing the battery pack

Like all re-chargeable products, periodic replacement of the internal battery is required. The Wireless Speaker Microphone features a 1200mA Lithium Polymer battery to provide typically 10-12 hours operation when used with a busy radio channel.

To maximize the life of a Lithium battery its is better to keep it topped up by returning it to the charger often rather than waiting for it to first go flat - which was the case with older nickel based batteries. Typically you can expect to get about **400-500** full re-charge cycles before the battery will require replacement.

When you notice the sounding a **small chirp**, it indicates the battery is nearly flat and should be re-charged. When you notice this occurring far more often than usual, it may mean it is time for the battery to be replaced. the process is simple and should only take your radio service supplier about 5 minutes to replace and test. Replacement of the battery should be **ONLY** undertaken by a qualified service technician so as to ensure no damage occurs to internal circuitry and to ensure the housing's weatherproof integrity is not compromised.

The replacement battery part number is:

**XSMB-C12: 1200mA Lithium Polymer battery pack**

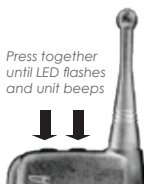
After replacement, the Wireless Speaker Microphone **must** be first placed back into the mobile charger and will initially need to be charged for 12 hours prior to commencement of use. Depending on the situation it may also need to be "re-connected" to the mobile charging unit)

## Re-connection

Each Wireless Speaker Microphone is uniquely connected to a specific mobile charger. This ensures that all communications between the two units are secure and cannot be compromised or interfered with by a third party. In the event of a Wireless Speaker Microphone being lost, it can be permanently disconnected from the mobile charger by connecting with a new replacement unit.

**How to re-connect:** hold the speaker mic while pressing both the blue up and down volume controls until the blue LED flashes and the speaker mic beeps. (About 8 secs.)

Now place the speaker mic back into the mobile charger. After a few seconds the speaker mic will sound a confirmation two tone and the blue LED on both units will glow solid to indicate connection is complete.



## Microphone adjustment

*Qualified service personnel only!*

The Wireless Speaker Microphone system is usually factory set for standard audio levels required to provide satisfactory mobile radio transmit voice levels. Should the volume be too soft or loud and distorted, it may require re-adjustment to set the correct level for your installation.



Using a radio systems analyser to monitor the radio channel adjust the internal trim pot so as to achieve maximum permitted voice deviation within minimum voice clipping (distortion). See photo for access point

## Antenna choice & replacement

In the event of a damaged or lost antenna, only original replacements should be used so as to not compromise the units type approval certification.

The antenna on the speaker microphone is a unity gain ground independent antenna to ensure the maximum multi-directional range. The mobile charger provides a reverse polarity sma female antenna connector.

The XRMA multipolarity antenna provides enhanced coverage when mounted on an unobstructed area of a vehicle's roof and should be connected via the supplied low loss coax cable. Additionally, use of approved bidirectional amplifier (BDA) may also be installed using a 3 metre (10') length of RG58A to further enhance in-building coverage from your vehicle. Only qualified radio service personnel should install a BDA so as to ensure the effective radiation level remain in full compliance with regulatory requirements in your country of operation.

*The following accessories are available from your Wireless Speaker Microphone supplier:*

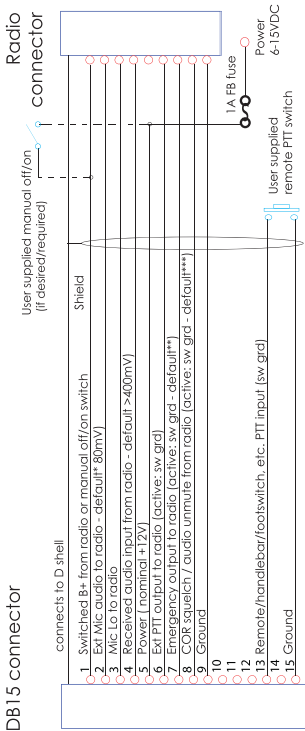
**XSMA** - replacement speaker mic antenna

**XRMA** - Unity gain, bracket mount, multi-polarity antenna with 5 metre (17') low loss LMR200 coax and unfitted RP SMA male connector.

**XBDA** - 12dB gain bidirectional amplifier with 3 metre (10') RG58A coax tail and 1 metre (39") DC power cable.

# Mobile Charger DB15 connector Wiring diagram

## DB15 connector



\* Mic audio can be increased to >400mV via VR1 trim pot - use hole in base of mobile charger.

\*\* Emergency output can be changed to "active high" by swapping solder jumpers SP1 & SP2.

\*\*\* COR/Squelch/unmute can be changed to "active high" by removing solder jumper SP3.

## Installation & Connections

- 1. Switched B+:** Used to automatically turn on/off Wireless Speaker Microphone if connected to host radio switched B+ output, if not, the user should supply manual on/off switch. Note: internal speaker microphone battery will still charge when the unit is turned off.
- 2. External Mic Audio:** Audio from the Wireless Microphone that is to be transmitted over the host mobile radios transmitter. It is factory set for 80mV RMS.
- 3. Radio Mic Lo:** This is microphone audio ground.
- 4. Receive Audio:** Receive audio from the host mobile radio that you wish to be sent to the Wireless Microphone. Ideally it should be sourced pre-volume control but can be post as long as the host mobile radio's speaker audio has been sent for comfortable listening in the vehicle.
- 5. Power:** connected via a 1 amp in-line fuse preferably direct to a vehicle's 12V battery but can be any voltage from about 6-15VDC. The current consumption is typically 60mA with peak current of 420mA.
- 6. Ext. PTT:** Switched ground output designed to cause the host mobile radio to transmit.
- 7. Emergency:** Output intended to connect to the host mobile radio's emergency input. It is normally provides an active switched ground but can be jumpered to be active open circuit/high. The time held low (or high) is the exact time that the user presses their Emergency button. This output could be used for other functions such as to trigger the panic function of a car alarm system, providing it is correctly "buffered" so as to not cause damage to the mobile charger.
- 8. COR/squelch/audio unmute:** Input designed to monitor the receive status of the host mobile radio. Ideally, it is driven by an "audio unmute" command in the host mobile. i.e. when the radio's speaker unmutes to pass audio then the COR input should toggle in sync.

Alternatively, it could be driven by the radio's unsquelch command that factors in reception of required correct CTCSS tones, etc. Internal jumpering caters for active low or high inputs.

**9. Ground:** DC ground connection.

**13. Remote PTT:** This provides a remote alternative to transmit Wireless Speaker Microphone audio via the host mobile radio. You may choose to connect to a motorbike handle bar PTT, a hidden palm or footswitch, a wireless PTT device, or even to an output from the host mobile equipped to provide remote radio monitoring of the Wireless Speaker Microphones users audio. In such remote monitoring cases, use of the remote PTT input causes the sensitivity of the Wireless Speaker Microphone to be greatly increased, so a control room operator can more easily monitor the health or safety of the user. There is no increased audio gain when a headset is connected to the base of the Wireless Microphone.

**15. Ground:** Additional DC ground connection.

## Alternate Configurations

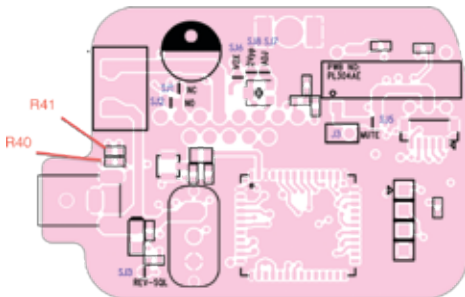
Some alternate configurations are available by internal jumpering of the mobile charger unit. These are provided to typically allow compatibility with different mobile radio types.

***Re-configuration of these jumpers should only be undertaken by qualified radio service personnel.***

*To access, first remove the rear mounting plate. Next remove the 4 screws to access internal PCB. Take extreme care when handling the PCB to prevent damage by electrostatic discharge (ESD) or to internal wiring. Re-assemble carefully remembering to re-insert the belt clip securing spring.*



## Mobile Charger PCB layout



### Install Jumper configuration:

SJ1 Default Out

-Fit for for N/C emergency trigger

SJ2 Default In

-Remove for N/C emergency trigger

SJ3 Default In

-Remove for active Hi radio COR

SJ4

-Future use

SJ5 Default In

-Remove for special applications

SJ6 Default In

-Remove for Vox disable

SJ7 Default Out

-Fit for adjustable Rx audio in

SJ8 Default In

-Remove for adjustable Rx audio in

R40 Default not fitted

-Fit 0 ohm\* for DC shift COR detect

R41 Default fitted

-Remove for DC shift COR detect

\* or as appropriate

J3 default In

-Remove to prevent the wireless mic turning off when placed inside the mobile charger. This option is generally recommended only when the host radio has no internal or external speaker. Removing J3, may cause the re-charge time to increase significantly on a very busy radio channel.

# Type Acceptance

## RADIO AND TELEVISION INTERFERENCE

The equipment described in this manual generates, uses, and radiates radio-frequency energy. If it is not installed and used correctly—it may cause interference with radio and television reception.

### CE DECLARATION

This equipment has been tested and found to comply with the following harmonised European Norms:

•EN300328 (radio and telecommunications terminal equipment)  
•EN55024 (electromagnetic immunity) •EN55022 Class B (electromagnetic emissions) •EN 60950 (electrical safety) •EN301489 (electromagnetic compatibility and radio spectrum matters) Based on the results of these tests, Wireless Corporation declares that the above mentioned devices conform to Article 10.1 of the European Council Directive 89/336/EEC, and their amendment Directive 93/68/EEC, and to the Directive 1999/5/EC and indicates this conformity by the CE-sign on each device. The device must be installed and operated in strict accordance with the instructions given in this user manual. Any changes or modifications to this product that were not specifically authorised will invalidate this declaration.

### FCC NOTICE

This equipment 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.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of 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.

You can determine whether the equipment is causing interference by disconnecting power. If the interference stops, it was probably caused by the equipment. If the equipment does cause interference to radio or television reception, you may be able to correct the interference by using one or more of the following measures:

- Rotate the television or radio's antenna until the interference stops.
- Move the Wireless Microphone further away from the television or radio.

If necessary, consult your two way radio dealer or an experienced radio/television technician for help. Changes or modifications to this product not authorized by the manufacturer could void the FCC Certification and negate your authority to operate the product.

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

### IMPORTANT NOTE:

To comply with the FCC RF exposure compliance requirements, no change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.

## Warranty

The manufacturer warrants each new product sold to be free from defects in material and workmanship under normal use and service. The obligation and liability under this warranty is limited to the repair or replacement at its factory, at the option of the manufacturer, of any such product which proves defective within the quoted warranty period, twelve (12) months for the products after delivery, and is found to be defective in material and workmanship by inspection. Products of warranty consideration shall be returned with all transportation charges prepaid to the manufacturer, or our nominated local service supplier in shipping containers which are adequate to prevent loss or damage in shipment. The manufacturer, will pay the return carriage costs for the products. Products repaired or replaced under this warranty are warranted for the unexpired portion of the original warranty. This warranty is invalid if the factory-applied serial number, date code label, or product label has been altered or removed from this product. The manufacturer shall not be obligated or liable under the warranty for apparent defects which examination discloses are due to tampering, misuse, neglect, improper storage, acts of nature, physical abuse, normal wear and all cases where the products are disassembled by other than authorised service representatives. In addition, the manufacturer shall not be obligated or liable under this warranty unless the date of delivery to the first end user shall be within one (1) month from the date of delivery to the original purchaser, if different from the first end user, and further provided that written notice of any defect shall be given to the manufacturer within thirty (30) days from the date such defect is first discovered. In no event will the manufacturer accept consequential damages for products supplied and are then found to have become defective.

## Headset use warning

Headsets and earpieces used with this product are capable of delivering sounds at loud volumes. Exposure to such sounds can result in permanent hearing loss damage. The volume level may vary based on conditions such as host radios volume settings and the environment. Please read the following safety guidelines below prior to using a headset or earpiece:

1. Prior to using this product follow these steps:
  - Before putting on the headset, turn the volume control to its lowest level,
  - Put the headset on, and then slowly adjust the volume control to a comfortable level.
2. During the use of this product:
  - Keep the volume at the lowest level possible and avoid using the headset in noisy environments where you may be inclined to turn up the volume;
  - If increased volume is necessary, adjust the volume control slowly.
  - If you experience discomfort or ringing in your ears, immediately discontinue using the headset and consult a physician.

With continued use at high volume, your ears may become accustomed to the sound level, which may result in permanent damage to your hearing without any noticeable discomfort. Using a headset while operating a motor vehicle, motorcycle, watercraft may be dangerous, and is illegal in some jurisdictions. Check your local regulations and laws.

## Important Safety and Handling Information

To avoid injury, read all operating instructions and the following safety information before using the Wireless Speaker Microphone.



**WARNING:** Failure to follow these safety instructions could result in fire, electric shock, or other injury or damage to the unit or other property.

Read all safety instructions for any products and accessories before using with the unit. The Manufacturer is not responsible for the operation of, or any damage caused by, third-party accessories or their compliance with safety and regulatory standards.

### **Exposure to Radio Frequency Energy:**

The unit transmits and receives radio frequency (RF) energy through its antennas. The antennas are located at the top edge of the unit. The Wireless Speaker Microphone is designed and manufactured to comply with the limits for exposure to RF energy set by international regulatory agencies, including the FCC of the United States, IC of Canada, MIC of Japan, and the Counsel of the European Union, among others. The unit has been tested and meets the FCC, IC, and European Union RF exposure guidelines for 802.15 operation. To ensure exposure levels remain at or below the maximum safe levels, when carrying the unit, always keep the antenna 10mm (2/5 inch) or more away from your body. ONLY use the Wireless Speaker Microphone with the manufacturer's supplied clothing clip or a non-metallic holder that ensures the antenna remains greater than 10mm (2/5 inch) from your body at all times.

### **Potentially Explosive Atmospheres:**

Turn off the unit when in any area with a potentially explosive atmosphere. Do not charge, and obey all signs and instructions. Sparks in such areas could cause an explosion or fire, resulting in serious injury or even death.

Areas with a potentially explosive atmosphere are often, but not always, marked clearly. Potential areas may include: fueling areas (such as gas stations); below deck on boats; fuel or chemical transfer or storage facilities; vehicles using liquefied petroleum gas (such as propane or butane); areas where the air contains chemicals or particles (such as grain, dust, or metal powders); and any other area where you would normally be advised to turn off your vehicle engine.

### **Radio Frequency Interference:**

Radio frequency emissions from electronic equipment can negatively affect the operation of other electronic equipment, causing them to malfunction. Although the Wireless Speaker Microphone is designed, tested, and manufactured to comply with regulations governing radio frequency emission in countries such as the United States, Canada, the European Union, and Japan, the wireless transmitters and electrical circuits in the unit may cause interference in other electronic equipment. Therefore, please take the following precautions:

i/Aircraft: Use of the Wireless Speaker Microphone may be prohibited while traveling in aircraft.

ii/Vehicles: Radio frequency emissions from the unit may affect electronic systems in motor vehicles. Check with the manufacturer or its representative regarding your vehicle.

iii/Pacemakers: The Health Industry Manufacturers Association recommends that a minimum separation of 15 cm (6 inches) be maintained between a handheld wireless phone and a pacemaker to avoid potential interference with the pacemaker. Persons with pacemakers:

a/ Should always keep the Wireless Speaker Microphone more than 15 cm (6 inches) from the pacemaker when turned on

b/ Should not carry it in a breast pocket

c/ Should use the ear opposite the pacemaker to minimize the potential for interference. If you have any reason to suspect that interference is taking place, turn it off immediately.

iv/ Hearing Aids: The Wireless Speaker Microphone may interfere with some hearing aids. If you experience interference, consult the hearing aid manufacturer or your physician for alternatives or remedies.

v/ Other Medical Devices: If you use any other personal medical device, consult the device manufacturer or your physician to determine if it is adequately shielded from radio frequency emissions from the unit.

vi/Health Care Facilities: Hospitals and health care facilities may use equipment that is particularly sensitive to external radio frequency emissions. Turn the unit off when staff or posted signs instruct you to do so.

vii/Blasting Areas and Posted Facilities: To avoid interfering with blasting operations, turn off the Wireless Speaker Microphone when in a "blasting area" or in areas posted "Turn off two-way radio." Obey all signs and instructions.

#### Repairing or Modifications:

Never attempt to repair or modify the Wireless Speaker Microphone yourself. The unit does not contain any user-serviceable parts, except (where applicable). Disassembling, including the removal of external screws and back cover, may cause damage that is not covered under the warranty. If the unit has been submerged in water, punctured, or subjected to a severe fall, do not use it until you take it to an Authorized Service Provider. Service should only be provided by the Manufacturer or an Authorized Service Provider. If you have questions or for service information, contact the Manufacturer or an Authorized Service Provider.

#### Battery Replacement:

Do not attempt to replace the rechargeable battery in the unit yourself. The battery should be replaced only by the Manufacturer or the Authorized Service Provider.

#### Charging:

To charge the unit, use only the mobile or desktop charger. When using the desktop charger, make sure the plug pack is connected before you plug it into a power outlet. Do not connect or disconnect the AC/DC plug pack with wet hands.

The AC/DC plug pack may become warm during normal use. Always allow adequate ventilation around the AC/DC plug pack and use care when handling. Unplug the AC/DC plug pack if any of the following conditions exist:

- 1/ The power cord or plug has become frayed or damaged.
- 2/ The adapter is exposed to rain, liquid, or excessive moisture.
- 3/ The adapter case has become damaged.
- 4/ You suspect the adapter needs service or repair.
- 5/ You want to clean the adapter.

#### Road Safely:

Use while driving a vehicle or riding a motorbike may be distracting. If you find using the Wireless Speaker Microphone disruptive or distracting while driving or riding, pull off the road and park before making or answering a call. Use of the Wireless Speaker Microphone alone or with headphones (even if used only in one ear) while driving or riding is not recommended and is illegal in some countries. Consider using a compatible hands-free device. Use of a hands-free device may be required in some areas. Check and obey the laws and regulations regarding the use of mobile devices like the Wireless Speaker Microphone in the areas where you drive or ride.

#### Vehicles Equipped with Air Bags:

An air bag inflates with great force. Do not store the Wireless Speaker Microphone or any of its accessories in the area over the air bag or in the air bag deployment area.

#### Carrying and handling:

The unit contains sensitive components. Do not drop, disassemble, microwave, burn, paint, or insert foreign objects. Do not use the unit if it has been damaged—for example, if it is cracked, punctured, or damaged by water.

#### Keeping Clean:

Clean the Wireless Speaker Microphone and mobile charger immediately should they come into contact with any contaminants that may cause malfunction—e.g, ink, oils, dirt, food and drinks. To clean, turn off (press and hold the On/Off button) and remove all cables. Then use a slightly damp soft cloth. Don't use solvents, turpentine window cleaners, or abrasive household cleaners to clean the unit.

#### Connectors and Press buttons:

Never force a connector into a port or apply excessive pressure to a button, because this may cause damage that is not covered under the warranty. If the connector and port don't join with reasonable ease, they probably don't match. Check for obstructions and make sure that the connector matches the port and that you have positioned the connector correctly in relation to the port.

#### Accessories Performance:

Not all Hirose 6 pin accessories are fully compatible with the unit.

Under some conditions, certain accessories may affect the wireless performance. Reorienting or relocating the Wireless Speaker Microphone and the connected accessory may improve wireless performance.

#### Acceptable Temperatures:

The unit is designed to be operated in temperatures normally between -10° and 45°C (14° to 113°F) and stored in temperatures between -20° and 50°C (-4° to 122°F). Lower or higher temperature conditions might temporarily shorten battery life or cause the unit to temporarily stop working properly. Leaving the Wireless Speaker Microphone in a parked vehicle in direct sunlight might cause it to exceed these storage or operating temperature ranges. Avoid dramatic changes in temperature or humidity when using it as condensation may form on or within the unit. When you're using the Wireless Speaker Microphone or charging the battery, it is normal for it to get warm.

## Specifications

The equipment has been designed to meet the following global specifications:

|                         |   |
|-------------------------|---|
| Dimensions:             | 88x28x63mm (spk mic) 80x80x60 (chgr)<br>3.46x1.1x2.48" (spk mic) 3.15x3.15x2.36" (chgr) |
| Weight:                 | 149 grams (spk mic) 125 grams (chgr)  |
| Frequency:              | 2.40-2.48GHz FH Spread Spectrum   |
| Protocol:               | 802.15 based  |
| RF Power:               | <100mW  |
| RF Connectors:          | RP SMA Female   |
| Rated audio/distortion: | >250mW @ 6% THD   |
| Operating Voltage:      | 3.7VDC  |
| Operating Temperature:  | -10°C to +45°C (extreme -20°C to +50°C)<br>14°F to +113°F (extreme -4°C to +122°F)      |
| Shock & Vibration:      | Mil Std 810 C/D/E/F   |
| Humidity/Rain/Dust:     | IEC529, IP55 (spk mic only)   |
| Type acceptance:        | CE, FCC,  |

**FCC ID:** I7OBT-24H / I7OBT-24D

**CE** 0681 **ⓘ**

*Subject to change or improvement without notice*

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