



MOTOROLA

Bluetooth™ Wireless Remote Speaker Microphone (RSM)

Model HMN3158



Accessories

6880309K15-0



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SAFETY AND GENERAL INFORMATION

IMPORTANT INFORMATION ON SAFE AND EFFICIENT OPERATION.

READ THIS INFORMATION BEFORE USING YOUR RADIO.

Users are not permitted to make changes or modify the device in any way. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the device. See 47 CFR Sec. 15.21.

This device complies with Part 15 of the U.S. 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. See 47 CFR Sec. 15.19(3).

ELECTROMAGNETIC INTERFERENCE/ COMPATIBILITY

NOTE: Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed or otherwise configured for electromagnetic compatibility.

Facilities

To avoid electromagnetic interference and/or compatibility conflicts, turn off your device in any facility where posted notices instruct you to do so. Hospitals or health care facilities may be using equipment that is sensitive to external RF energy.

Aircraft

When instructed to do so, turn off your device when on board an aircraft. Any use of your device must be in accordance with applicable regulations per airline crew instructions.

Medical Devices

Pacemakers

The Health Industry Manufacturers Association recommends that a minimum separation of 6 inches (15 centimeters) be maintained between a

wireless device and a pacemaker. These recommendations are consistent with the independent research by, and recommendations of, Wireless Technology Research.

Persons with pacemakers should:

- ALWAYS keep the wireless device more than 6 inches (15 centimeters) from their pacemaker when the device is turned ON.
- not carry the device in the breast pocket.
- use the ear opposite the pacemaker to minimize the potential for interference.
- turn the device OFF immediately if you have any reason to suspect that interference is taking place.

Hearing Aids

Some digital wireless radios may interfere with some hearing aids. In the event of such interference, you may want to consult your hearing aid manufacturer to discuss alternatives.

Other Medical Devices

If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from RF energy. Your physician may be able to assist you in obtaining this information.

BLUETOOTH WIRELESS TECHNOLOGY OVERVIEW

At Motorola we believe that easy portable communication is the key to creating a safer environment. That's why we designed this exciting new two-way communication device called the *Bluetooth* Wireless Remote Speaker Microphone (RSM). The RSM represents another breakthrough in applying *Bluetooth* wireless technology by Motorola. The receiver and microphone are built into a lightweight wireless speaker microphone that provides a convenient means of communicating by having a speaker, a microphone, and a PTT button in a single hand-held or clip-on accessory *unattached* to your radio.

This wireless RSM uses a new protocol based on state-of-the-art *Bluetooth* technology specifications, which result in simplifying the use of your radio. *Bluetooth* technology is an open standard, connecting wireless devices within a short range. The range for this particular RSM is approximately 30 feet in ideal line-of-sight conditions. It is important to be aware that the specific *Bluetooth* technology was designed and engineered for use between your RSM and *Bluetooth* capable radio. This *Bluetooth* RSM will not operate with other non-Motorola two-way radio *Bluetooth* products.

We're confident that once you try the *Bluetooth* wireless RSM, you'll wonder how you survived with all those attachment wires in the first place!

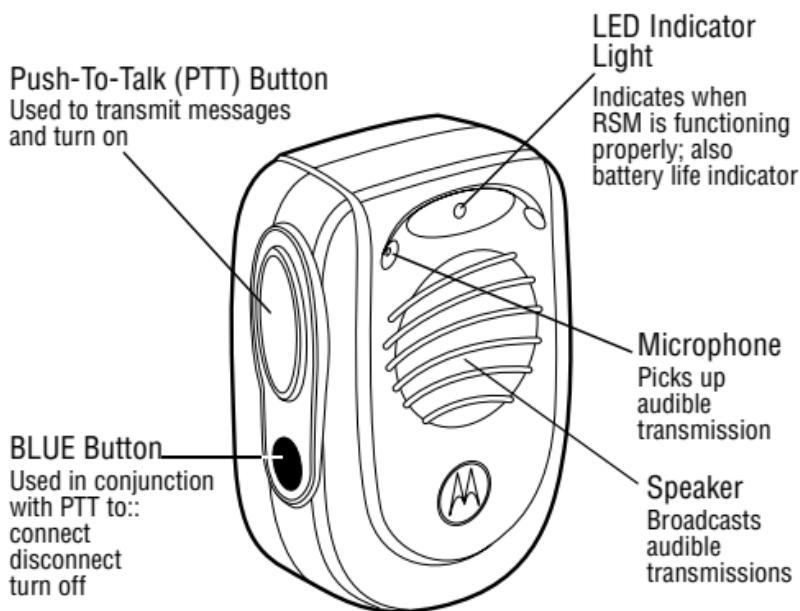


Figure 1. Remote Speaker Microphone

GETTING STARTED

Installing Your Batteries

Included with your RSM are three (3) AA alkaline batteries. These must be installed for the RSM to work. To do this, follow these steps:

1. Remove the battery cover by inserting a coin or other thin object into the screw slot (See Figure 2). Turn the screw counter-clockwise.
2. Install three (3) AA batteries in the correct position.
3. Place the battery cover back onto the RSM and turn the battery cover screw clockwise until it is tight.

NOTE: Be careful to place the AA batteries in their correct polarity indicated positions (+ positive, - negative).

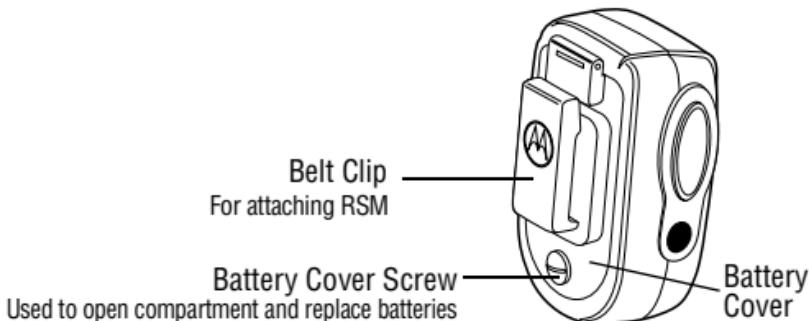
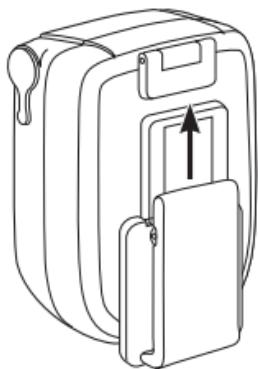


Figure 2.

Attaching and Removing the Belt Clip

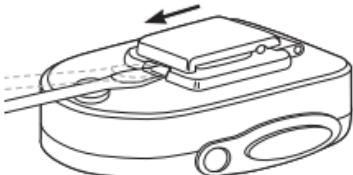
To Attach

1. Locate the grooved rails on the back of the RSM.
2. Align the mounting rails of the belt clip with the grooved rails on the back of the RSM. Slide the belt clip up the grooved rails until it clicks into place.



To Remove

1. Locate the belt clip release tab at the bottom of the belt clip.
2. Insert a small screwdriver between the release tab and the back surface of the RSM.
3. Slide the belt clip down and off the RSM.



Wearing Your RSM

For optimum performance from your RSM, use it within 30 feet of your radio or attach it using the belt clip (See Figure 2). Wearing your RSM on different locations of your body may result in varying reception. Adjust the RSM accordingly to attain maximum reception quality.

Turning ON Your RSM

Press and hold the RSM PTT button to turn it ON.

- The RSM LED lights GREEN for one second, indicating successful power-up.
- An audio alert tone sounds.

Establishing the Bluetooth Wireless Connection

Following these simple steps establishes a new connection when your RSM and radio are first tuned on:

1. Turn ON your *Bluetooth* capable radio. (Refer to your radio or Radio *Bluetooth* Adapter (RBA) manual).
2. Turn ON the RSM.
3. Place the RSM next to the radio. (For best results keep both within a few inches of each other.)
 - The RSM LED lights GREEN for one second then flashes ORANGE until a connection is established. If a connection has not been established, the LED flashes RED.
 - Once the RSM and radio have connected, the RSM LED lights GREEN for one second then flashes GREEN every 5 seconds.
 - Once a connection is established, an audio alert tone sounds.

Connection Verification

You may want to verify the connection before you start communicating.

Press and hold the radio adapter BLUE button, then press the RSM PTT button.

- The RSM and radio adapter LEDs light solid for the duration of the RSM PTT press. If this does not happen, the connection was not established and the connection process will have to be repeated.

NOTE: The color of the RSM LED corresponds to the battery life color scheme. Refer to “Low Battery Alert” on page 16.

Lost Link

If the connection is lost at any time, an audio alert tone sounds and the the RSM LED lights RED for one second then flashes ORANGE until the connection is re-established. If a connection has not been re-established within 30 seconds the LED flashes RED.

NOTE: The RSM can only make a connection with one *Bluetooth* capable radio at a time.

Turning OFF Your RSM

You can turn off your RSM to save battery power without losing memory with the connection to the radio. The next time the RSM is turned on, the connection re-establishes at a faster rate than compared with the initial connection.

1. Press *both* the RSM BLUE and PTT buttons for more than 3 seconds until an audio alert tone sounds.
 - The RSM LED flashes RED for one second.
 - The RSM powers down.

NOTE: The RSM turns off within 3 minutes if no connection is re-established and no buttons are pressed.

Disconnecting the Bluetooth Wireless Connection

You can disconnect and re-establish the connection when both the RSM and radio are still on.

1. Press *both* the RSM BLUE and PTT buttons for less than 3 seconds.
 - The RSM LED flashes RED, indicating the connection is broken.
 - An audio alert tone sounds.
2. To re-establish the connection while both the RSM and radio are still on, place the RSM within a few inches of the radio. Press *both* the radio adapter's BLUE and PTT buttons, then immediately press *both* the RSM's BLUE and PTT buttons.

LED Indicators

The RSM LED is “Dual Functional” and indicates power/connection status and battery life during transmit and receive.

RSM LED Indicator	Power Connection Status	Battery Indicator
GREEN	Solid GREEN for 1 second, indicates successful RSM power-up, or...	Battery life is greater than approximately 10 hours.
	Solid GREEN for 1 second, indicates successful connection with an accessory, or...	
	Solid GREEN for duration of the PTT button press or when receiving, indicates the RSM is functioning correctly.	
Flashing GREEN	Flashes GREEN every few seconds when connected to the radio and no reception or transmission is taking place.	
ORANGE	Solid ORANGE for duration of the PTT button press or when receiving, indicates the RSM is functioning correctly.	Battery life is approximately between 10 and 2 hours.
Flashing ORANGE	Flashes ORANGE every few seconds, indicates the RSM is attempting to connect or reconnect to the accessory.	
RED	Solid RED for 1 second followed by flashing orange; indicates that connection is lost and is attempting to reconnect to the accessory, or...	Battery life is less than approximately 2 hours.
	Solid RED for 1 second, indicates when the RSM is powered down, or...	
	Solid RED for duration of the PTT button press or when receiving, indicates the RSM is functioning correctly.	
Flashing RED	Flashes RED every few seconds, indicates connection is lost or intentionally disconnected and has not been re-established with the radio.	

OPERATION

Operational Range

For optimum performance from your RSM, use it within 30 feet of your *Bluetooth* wireless capable radio. This range will vary depending on environmental conditions.

Receiving

Once the RSM is connected to your radio, the radio speaker mutes and the audio is heard only from the speaker in the RSM.

- While receiving, the RSM LED remains lit for the duration of the received reception. The color of the LED corresponds to the battery life color scheme. Refer to “Low Battery Alert” on page 16.

Transmitting

The Push-To-Talk (PTT) button on *either* the RSM, the radio adapter, or the radio initiate transmission. Depending upon your radio, there can be different PTT buttons to press. Pressing any one of these buttons determines which microphone is active.

NOTE: Pressing the RSM or radio adapter PTT button activates only the microphone in the RSM.

NOTE: Pressing the radio PTT button activates only the microphone in the radio.

- While transmitting, the RSM LED lights solid for the duration of the PTT button press. The color of the LED corresponds to the battery life color scheme. Refer to “Low Battery Alert” on page 16.

Volume Control

There is no volume control on this RSM. The volume must be controlled using the radio's volume control.

Earphone Jack

Your RSM includes a 3.5mm unthreaded earphone jack to receive audio discretely. Once the earphone is connected to your RSM, the RSM speaker mutes and the audio is heard through the earphone.

Motorola earphones can be purchased separately for use in the earphone jack.



BATTERY

Low Battery Alert

The RSM battery life is indicated by the color of the RSM LED when ***the PTT button is pressed*** to transmit or when the RSM is receiving a transmission.

RSM LED Color	Audio Alert	Approximate RSM Battery Life
GREEN	None	10 hours or more
ORANGE	"Chirp" every 30 minutes	2 to 10 hours
RED	"Chirp" every 5 minutes	2 hours or less

It is recommended to replace the batteries within 2 hours of when the RSM LED first turns a solid RED.

NOTES: When the LED light turns a solid ORANGE an audible alert signals every 30 minutes.

When the LED light turns a solid RED an audible alert signals every 5 minutes to remind you to replace your batteries.

To ensure proper functioning of the RSM battery meter, use only three AA alkaline or lithium disulfide disposable batteries. The battery life meter may not work accurately with rechargeable batteries.

Battery Life

Your RSM is shipped with three AA Alkaline batteries and provides approximately 60 hours of use at a 5/5/90 duty cycle (5% receive / 5% transmit / 90% standby). The longer you receive and/or transmit above these levels, you will experience less battery life and will require to change the batteries more frequently.

Battery Replacement Options

Alkaline, Nickel Cadmium (Ni-Cd), and Nickel-Metal Hydride (Ni-MH) rechargeable batteries can be used safely, however, the RSM was specifically designed for alkaline batteries and optimal performance is achieved using these.

To increase the usage time between battery changes it is recommended to use lithium disulfide (LiFeS_2) Primary (disposable) AA batteries. Using lithium disulfide disposable batteries can provide up to 10-20% more usage time between battery replacement depending upon the environmental conditions.

Secondary (rechargeable) AA batteries can also be used with your RSM, however, these provide less usage time between battery replacement compared to disposable batteries. Using rechargeable batteries has the advantage of not

having to purchase as many disposable batteries and is better for the environment.

TEMPERATURE EFFECTS ON YOUR RSM

Your RSM can be used in most environments. However, some batteries work better in specific climates. Alkaline, Alkaline rechargeable and Ni-Cd/Ni-MH batteries can typically be used between -4° F and $+130^{\circ}$ F. Lithium disulfide batteries, however, will provide better performance at lower temperatures down to -40° F.

REPLACEMENT PARTS LIST FOR HMN5138

Description	Motorola Part Number
RSM Replacement Parts Manual	6880309K93
Earphone Jack Dust Cover	38-85835M01
Button Switch	40-80523Z01
Battery Cover Screw (1)	03-80475E01
Front Housing Kit	RLN4946
Back Housing Kit	RLN4947

ACCESSORIES

Optional RSM Accessories	Motorola Part Number
Shoulder Clip	42-05823V01
Single Earbud w/Black Cable	RLN4941
Single Earbud w/Clear Flex Cable	RLN4885
Flexible Ear Receiver	WADN4190

BATTERY REPLACEMENTS

Suggested Battery Replacement Options	Motorola Part Number
One (1) Lithium AA Battery	60-80376E88
Package of Three (3) Alkaline AA Batteries	01-85894M01
Package of Four (4) Alkaline AA Batteries	60-80390B60
Package of 48 Motorola Alkaline AA Batteries	60-80384K75
Package of 620 Alkaline AA Batteries	60-60934A01
Package of 1000 Motorola Alkaline AA Batteries	60-80384F16

SERVICE AND SUPPORT

The RSM is not repairable. If there is a problem with the unit after the warranty period, please order a replacement unit or replacement parts. To order replacement parts or for warranty information, contact Motorola Americas Accessories Aftermarket Division (AAD) at: 1-800-422-4210 or 847-538-8023.

WARRANTY

The RSM is covered under the standard Motorola one (1) year limited warranty.

Refer to your Motorola dealer for detailed information on your RSM standard warranty.

DISASSEMBLING AND REASSEMBLING THE RSM

Disassembling the RSM before the one (1) year limited warranty has expired will void the warranty.

Disassembling

1. Remove the battery cover by inserting a coin or other thin object into the screw slot (See Figure 2). Turn the screw counter-clockwise.
2. Remove the batteries.
3. Remove the two screws in the battery compartment using a T8 Torx® driver.
4. Gently pull the front and back housings apart.
5. Gently pry the main board up from the housing using a small flat bladed screwdriver. Refer to Figure 3 for placement of screwdriver.
6. Lift the main board by gently grasping the antenna and pivoting the board out of the housing.

Reassembling

NOTE: When inserting the board into the housing, make sure that the switches do not push the rubber actuators out of place and that both are properly aligned to one another, as shown in Figure 3

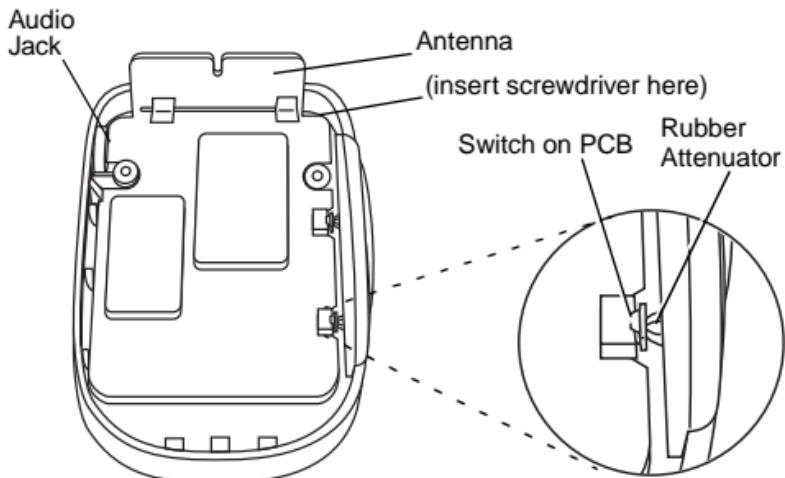


Figure 3.

1. Insert the main board into the housing, placing the audio jack into the housing first. Push the board into the housing until it is properly seated. Refer to Figure 3.
2. Align the three tabs of the front housing into three slots the back housing.
3. Pivot the front and back housings together.
4. Make sure all rubber gaskets are properly seated.

NOTE: Make sure that the rubber gasket on the back housing makes proper contact with the front housing when fitting both housings together.

5. Replace the two screws in the battery compartment using a T8 Torx driver and torque to 4.0 in.-lbs.
6. Replace the batteries.
7. Close the battery cover and turn the screw clockwise until it is tight.

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