

JBL® ON AIR

WEM-1

OWNER'S GUIDE



IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. 
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, or the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.
15. Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
16. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
17. The mains plug of the power supply cord shall remain readily operable.
18. Do not expose batteries to excessive heat such as sunshine, fire or the like.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

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 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 Caution: To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example – use only shielded interface cables when connecting to computer or peripheral devices.)

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

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.

THANK YOU FOR CHOOSING A JBL® PRODUCT

For more than 60 years, JBL, Inc., has been involved in every aspect of music and film recording and reproduction, from live performances to the recordings you play in your home, car or office.

You can be confident that the JBL® system you have chosen will provide every note of enjoyment that you expected – and that when you think about purchasing additional audio equipment, you will once again choose a JBL product.

Please take a moment to register your product at www.jbl.com to stay posted on the latest JBL advancements. This also facilitates a better understanding of JBL customers, allowing JBL engineers to design products that meet their needs and expectations.

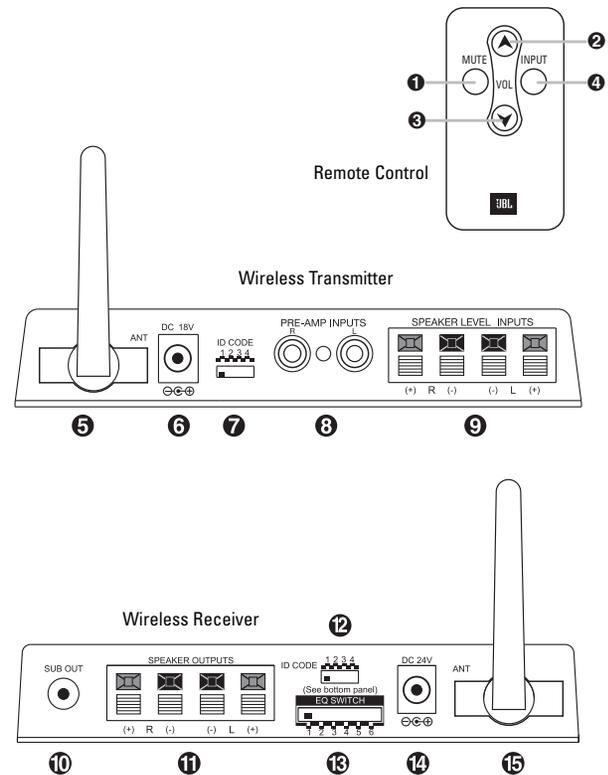
The JBL On Air WEM-1 is an advanced wireless system that allows you to enjoy your favorite music in remote locations around your home, using almost any loudspeaker. To ensure trouble-free performance, please carefully read these instructions completely before connecting or using the system.

UNPACKING THE SYSTEM

Carefully unpack the system. If you suspect damage from transit, report it immediately to your dealer and/or delivery service. Keep the shipping carton and packing materials for future use. Open the package and verify the following contents:

Included:

- 1 x Owner's manual
- 1 x USA warranty sheet
- 1 x Receiver-amplifier module
 - 1 x Power supply for receiver-amplifier
 - 1 x 120V AC power cord for receiver-amplifier power supply
 - 1 x 230V AC power cord for receiver-amplifier power supply – Shuko plug
 - 1 x 230V AC power cord for receiver-amplifier power supply – UK plug
 - 1 x Handheld remote control
 - 2 x Wall-mount brackets for receiver
 - 1 x Pedestal – to be attached on receiver's left side if receiver is to be used vertically
- 1 x Transmitter module
 - 1 x Power supply for transmitter
 - 1 x 120V AC power cord for transmitter power supply
 - 1 x 230V AC power cord for transmitter power supply – Shuko plug
 - 1 x 230V AC power cord for transmitter power supply – UK plug
 - 1 x 6' (1.8m) Audio stereo cable, RCA-RCA
 - 1 x Wall-mount bracket for transmitter
 - 2 x Panhead M3 x 4 machine screws for attaching wall-mount bracket to transmitter
 - 4 x Small, round, self-adhesive feet – to be attached on transmitter's left-side panel if transmitter is to be used vertically



CONNECTIONS

NOTES: For the sake of simplicity, throughout this manual the term “source” is used when describing connections and operation. This would apply to any device such as an A/V receiver, audio component, computer or portable music player.

The JBL On Air WEM-1 may be connected to your source in several ways. First, determine how you would like to use the WEM-1; then follow the setup instructions for that application.

Audio sources that can be used in this application may be an A/V receiver or audio receiver, a portable audio player, or a computer featuring a sound card. First, determine whether your source contains RCA-type preamp outputs for the front/main channels or only speaker wire outputs. On an A/V or audio receiver, the preamp outputs are usually indicated by RCA-type jacks on the back of the receiver labeled as “pre-out” (please refer to your source’s owner’s manual to confirm whether it includes preamp outputs). If your source includes these RCA-type outputs, follow the steps in Connection Option A. If your source features only speaker wire outputs, follow steps in Connection Option B. If your receiver does not feature either type of outputs for the front/main channels, it cannot be used with the WEM-1.

Connection Option A

Connecting using the preamp outputs on your source:

NOTE: Make sure the power is turned off on all components.

Step 1.

Connect the interconnect cable (included) to the left and right front/main preamp outputs, zone 2 outputs or REC outputs, and the inputs on the transmitter module ③, as shown in Figure 1.

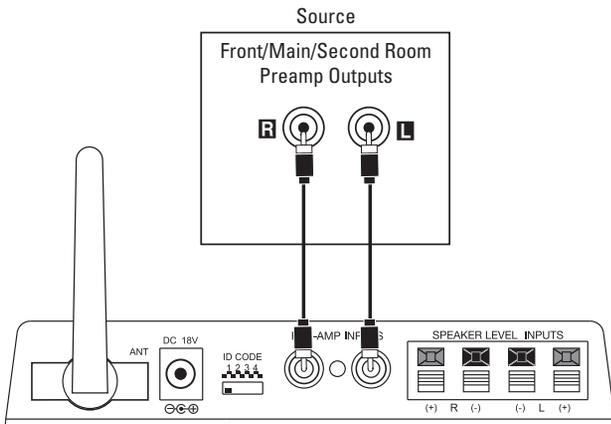


Figure 1.

Step 2.

Place the receiver module in the desired location in your home near an AC outlet, as it needs to plug into the wall.

Step 3.

Connect speaker wire (not included) to the push terminals on the receiver module ① and to the connectors on your speakers, as shown in Figure 2. Please note that speaker wire features some form of a polarity indicator to help distinguish its two conductors. Use this polarity indicator to ensure that you are connecting the positive (+) terminal on one speaker to the positive (+) terminal on the other, and the negative (-) to the negative (-).

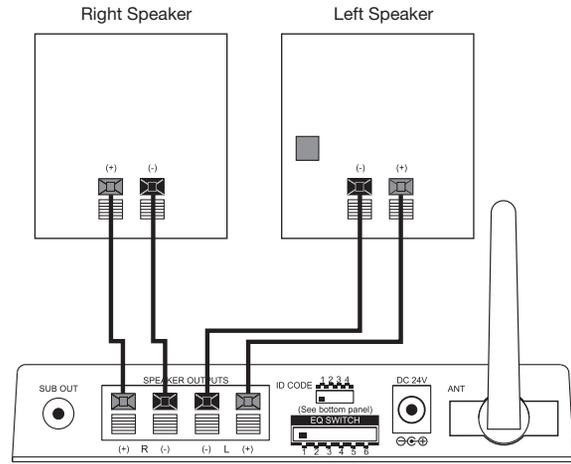


Figure 2.

Step 4.

Plug the transmitter module and receiver module into the wall outlets, using the power supply and correct power cord. Make sure the antennas ⑤ ⑥ are extended upward.

Step 5.

Make sure the ID Code setting on the transmitter ⑦ is set to the same setting as that on the receiver ②. See page 5 for more information on ID codes. If necessary, configure your receiver to activate the preamp level outputs for the main/front channels (consult your source’s owner’s manual for specific instructions).

When connected properly, the LED on the front of the receiver should be red when first plugged in. When a button on the remote is pressed, the LED should flash green until the transmitter and receiver “lock in.” It will then also light in solid green. This LED will light in orange if the local input on the receiver is selected (see page 5 under “Local Input” for more details).

Connection Option B

Connecting using the speaker-level outputs from your receiver:

NOTE: Make sure power is turned off on all components.

Step 1.

Connect the speaker wire to the receiver’s speaker outputs and the inputs on the transmitter module ④, as shown in Figure 3.

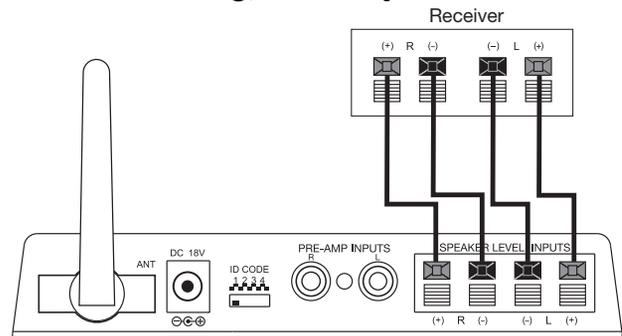


Figure 3.

Step 2.

Place the receiver module in the desired location in your home near an AC outlet, as it needs to plug into the wall.

Step 3.

Connect the speaker wire to the push terminals on the receiver module ① and the terminals on the rear of your speakers, as shown in Figure 4. Please note that the speaker wire features a polarity indicator to help distinguish its two conductors. Use this polarity indicator to ensure that you are connecting the positive (+) terminal on one speaker to the positive (+) terminal on the other, and the negative (-) to the negative (-).

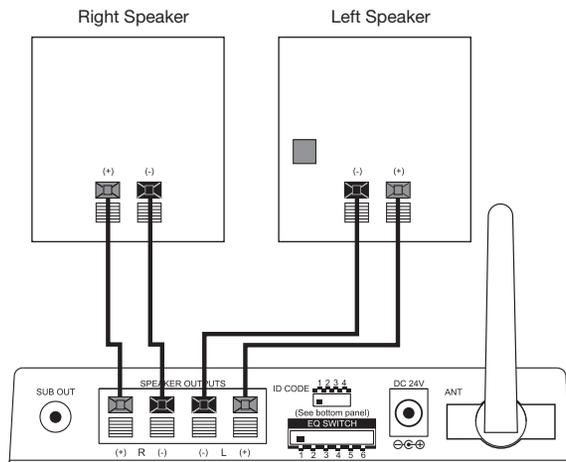


Figure 4.

Step 4.

Plug the transmitter module and receiver module into the wall outlets, using the correct power supplies and power cords. Make sure the antennas ⑤ ⑬ are extended upward.

Make sure the ID Code setting on the transmitter ⑦ is set to the same setting as that on the receiver ⑫. See the “ID Codes” section for more information on ID codes. When connected properly, the LED on the front of the receiver should be red when first plugged in. When a button on the remote is pressed, the LED should flash green until the transmitter and receiver “lock in.” It will then light in solid green. This LED will light orange if the local input on the receiver is selected (see the “Local Input” section for more details).

Adjusting the Volume

Depending on the type of connection and the specific source that you are using, the volume setting on your audio receiver may affect the sound output level of your WEM-1. To check whether the output from your source is volume-dependent, turn the volume level on your audio receiver to approximately halfway. Turn on your WEM-1 transmitter and receiver modules. Once the LED on the receiver module lights in solid green, indicating that RF lock has been achieved, verify that there is sound output from the speakers. Then increase and decrease the volume control on your receiver and observe whether this affects the sound output from your speakers. If it does not, then the volume control on your source unit can be set at any position that you may desire, as it does not affect the performance of the WEM-1. If changing the volume setting on your source does affect the output from the WEM-1, then you will need to always keep your source’s volume control at about halfway up with audio receivers or A/V receivers. From this point on, you will use the remote control included with the WEM-1 to adjust Volume ② and ③.

When using the WEM-1 to power surround speakers in a home theater system:

In this application, the output level of your WEM-1 will not only be dependent on the volume setting of your A/V source; it will also need to be properly adjusted after installation and before use in order to be able to work correctly with the other speakers in your multichannel surround system. To adjust the output level, turn your A/V source on, set your A/V source’s volume control about a third of the way up, and activate the speaker-level-adjustment test tone. Make sure that the WEM-1 transmitter and receiver are on, both of the speakers are connected, and there is RF lock (i.e., the LED on the receiver is solid green). Using the remote control ② and ③, adjust the volume level of the WEM-1 until its output level is balanced with the rest of the speakers in your surround system. From this point on, you will not be using the WEM-1 remote control for volume settings. You will be increasing and decreasing the output level for the entire surround sound system using your A/V source’s volume control. Please note that the WEM-1 will retain its volume setting when it is in standby, so there is no need to set its volume level every time the system is turned on.

Local Input

The JBL On Air WEM-1 receiver module also includes a local input on the front of the receiver module. This input allows you to hook up a portable audio player directly to the WEM-1, wherever you may happen to be. For example, you could have the system connected to your audio receiver, listening to a local FM station, and then hook up your portable music player to the local input, switching between the two different sources.

To connect a portable audio player to the receiver module, simply connect the preamp-out, line-out or headphone jack to the line-in on the front of the receiver module using a 1/8-inch mini-jack – 1/8-inch mini-jack cable (not included).

To switch between the two sources, push the Input button ④ on the remote control.

ID Codes

In the unlikely event that you experience interference when operating the system, or if you have more than one set of WEM-1 transmitters and receivers in operation, you may change the channel in which the system operates. On both the transmitter and receiver modules, there is a four-position ID Code selector ⑦ ⑫. Simply set each of the selectors to one of the other positions. The transmitter and receiver must be set to the same position in order for the system to function correctly. You can also set up a maximum of two receiver modules to be receiving from the same transmitter by setting the channel selector on the transmitter and the receiver to the same channel. Please note that the two receiver modules need to be at least 10’ (3m) apart, or reception and operating range in one or both units may be degraded.

EQ Switch

The WEM-1 offers a choice of EQ positions for use with select JBL speakers. This circuit optimizes the performance of the system when connected to the loudspeakers indicated. If your specific loudspeaker is not listed below, simply set the EQ Switch ⑬ to position 1.

EQ Position	Loudspeaker Model
1	No EQ; use with any loudspeaker not listed below
2	JBL CSB5
3	JBL CST55
4	JBL CS600 satellites
5	JBL CS400 satellites
6	JBL Control NOW™, JBL Control® Monitor

Auto On/Standby

The JBL On Air WEM-1 will automatically enter the Standby mode after approximately 10 minutes, when no signal is detected from your system. The WEM-1 will then power on instantly when a signal is detected. When Mute ❶ is engaged, auto turn-off is deactivated.

LED Color	Transmitter Module	Receiver Module
Green	Transmitter and receiver module are communicating (RF lock)	Transmitter and receiver module are communicating (RF lock)
Blinking Green (Slow)	Transmitter and receiver are not communicating (no RF lock)	Transmitter and receiver are not communicating (no RF lock)
Blinking Green (Fast)	Not applicable	Receiving IR command from remote control*
Red	Standby (no signal being received)	Standby (no signal being received)
Orange	Not applicable	Local input is selected
Blinking Orange (Slow)	Not applicable	System muted (when local input is selected)
Blinking Orange (Fast)	Not applicable	Receiving IR command from remote control* (when local input is selected)

* Blinking stops when unit reaches minimum or maximum volume setting

Subwoofer Output

The JBL On Air WEM-1 includes a subwoofer output ❶ on the receiver module. This output allows you to feed the low-frequency sounds to a separate powered subwoofer. A powered subwoofer will deliver deeper bass response than is possible with speakers alone.

To connect a powered subwoofer to the receiver module, simply connect the Sub Out ❶ on the receiver module to the line-in on the rear of the powered subwoofer, using a 1/8-inch stereo mini-jack/RCA cable (not included). Please note that this output is full-range and not filtered or low-passed. Make sure that your powered subwoofer features a low-pass crossover network and that this crossover is indeed selected. Do not use the LFE input on a powered subwoofer, as it is not filtered and you will be hearing a lot of undesirable higher-frequency information from your subwoofer.

A Word About Wireless Products

The JBL On Air WEM-1 utilizes advanced wireless transceivers operating in the 2.4GHz frequency band. This is the same frequency band that is used for wireless home networks and high-quality cordless phones. It also allows the transmission of high-performance, full-spectrum sound to remote locations, wirelessly.

Like all wireless devices, the WEM-1 wireless speaker's operating range may vary, depending upon variables such as building construction methods and materials, atmospheric conditions and other sources of interference. Please consult your JBL dealer or distributor, or visit www.jbl.com, for further information or assistance.

Wall-Mounting

Adjustable wall brackets are included for the transmitter and receiver modules. The included brackets are for wall-mounting only; they are not to be used for ceiling-mounting. Ceiling-mounting of the WEM-1 transmitter and/or speakers is not recommended, regardless of bracket used.

Wall-Mounting the Transmitter Module

Caution

The customer is responsible for proper selection and use of mounting hardware (available through hardware stores), to properly and safely wall-mount the module.

Step 1.

Insert the two M3 x 4 machine screws through the wall bracket and into the rear of the transmitter module, as shown in Figure 5.

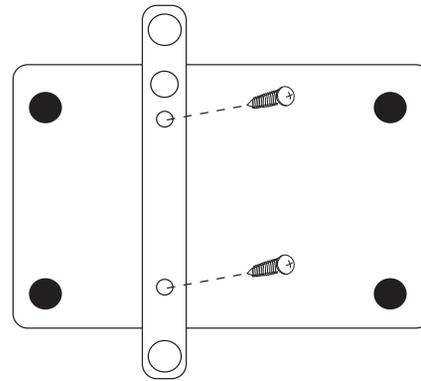


Figure 5.

Step 2.

Attach the transmitter module with wall bracket to the wall, using two suitable screws (and wall anchors, if necessary).

Wall-Mounting the Receiver Module

CAUTION:

The customer is responsible for proper selection and use of mounting hardware (available through hardware stores), to properly and safely wall-mount the module.

Step 1.

Turn receiver module over and remove all four corner screws, as shown in Figure 6.

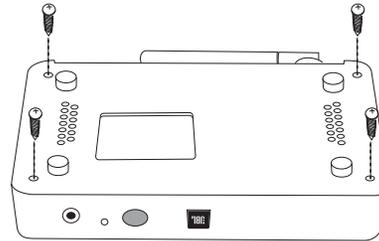


Figure 6.

Step 2.

Attach the wall bracket to the left and right side, as shown in Figure 7.

Step 3.

Reattach the four screws removed in Step 1 through the brackets into the receiver module, as shown in Figure 7.

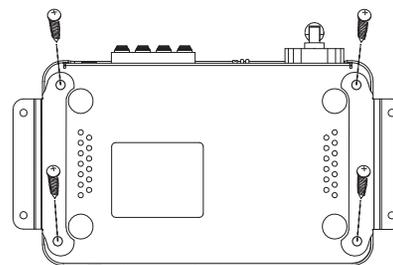


Figure 7.

Step 4.

Attach the receiver module with wall bracket to the wall, using four suitable screws (and wall anchors, if necessary).

Vertically Stand-Mounting the Receiver Module

Step 1.

Remove the corner screws located on the left side of the receiver module when viewed from the bottom, looking at the front, as shown in Figure 8.

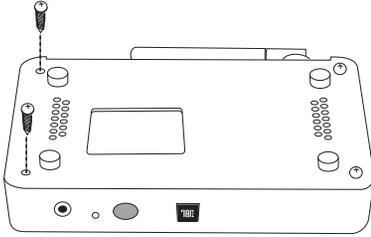


Figure 8.

Step 2.

Rest the receiver module on top of the stand and reattach the two screws that were removed in Step 1 through the holes in the stand into the bottom of the receiver module, as shown in Figure 9.

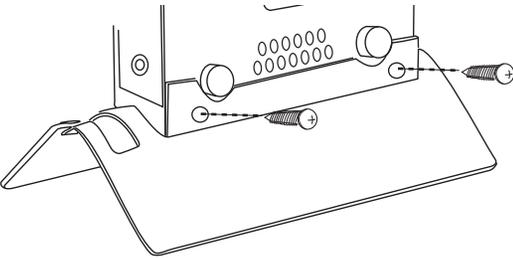


Figure 9.

Step 3.

Rotate the JBL logo 90° by gently pulling it out and turning it.

Vertically Mounting the Transmitter Module

Step 1.

Attach the four included self-adhesive rubber feet in the recesses on the side of the transmitter module.

Step 2.

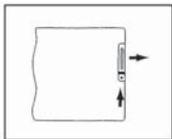
Rotate the JBL logo to a vertical orientation.

Remote Control Battery Replacement

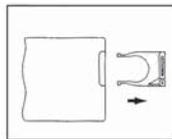
CAUTION:

When replacing the lithium battery in the remote, make sure that the replacement battery is inserted in correct polarity. Place the battery so that its positive (+) side faces up with the tray held so that the surface with the dot and/or with a (+) mark next to the part number is facing up.

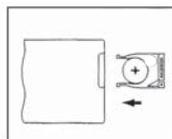
Remote control battery installation



Push small tab toward battery slot.



Pull battery drawer out.



Insert new battery with "+" side up, and slide battery drawer back into remote.

CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE (CR2025).

WARNING: DO NOT EXPOSE BATTERIES TO EXCESSIVE HEAT SUCH AS DIRECT SUNLIGHT, FIRE OR THE LIKE.

Dispose of dead batteries in accordance with local regulations.

MAINTENANCE AND SERVICE

All wiring connections should be inspected and cleaned or remade periodically. The frequency of maintenance depends on the metals involved in the connections, atmospheric conditions and other factors, but once per year is the minimum.

In the event that your system ever needs service, contact your local JBL dealer or distributor, or visit www.jbl.com for a service center near you.

SPECIFICATIONS

Frequency Range: (+0dB, -1dB)	20Hz – 20kHz
Amplifier Output:	50 Watts per channel
Signal-to-Noise Ratio:	80dBA
Operating Range:	Up to 70' (22m), depending upon conditions
RF Operating Frequency:	2.4GHz
Power Requirement:	100V – 240V AC, 50/60Hz
Dimensions	
Transmitter Module: (H x W x D)	1-1/8" x 6" x 3-7/8" (29mm x 154mm x 98mm) 3-3/4" (95mm) high with antenna extended
Receiver Module: (H x W x D)	1-1/8" x 6-3/16" x 4-5/8" (29mm x 158mm x 116mm) 3-3/4" (95mm) high with antenna extended
Weight	
Transmitter Module:	0.6 lb (0.3kg)
Receiver Module:	0.9 lb (0.4kg)

Features, specifications and appearance are subject to change without notice.

Declaration of Conformity



We, Harman Consumer Group, Inc.
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72500 Château du Loir
France

declare in own responsibility that the product described in this owner's manual is in compliance with technical standards:

EN 55013:2001+A1:2003

EN 55020:2002+A1:2003

EN 61000-3-2:2000

EN 61000-3-3:1995+A1:2001

EN 60065:2002

Laurent Rault
Harman Consumer Group, Inc.
Château du Loir, France 10/08



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