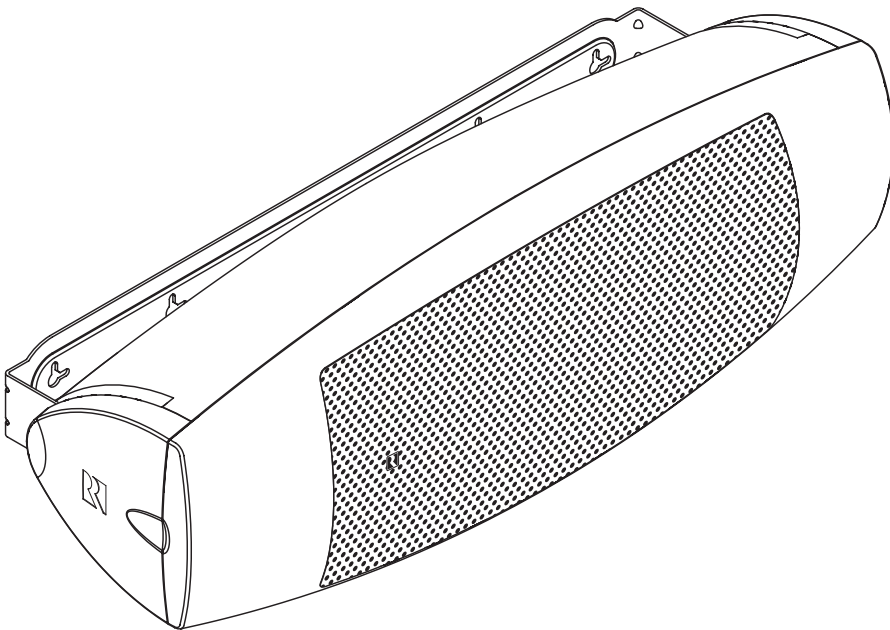




Ratio[®] RM691

High-Efficiency Indoor/Outdoor Loudspeaker

Instruction Manual



R INTRODUCTION

Product Description

The Russound RM691 High-Efficiency Indoor/Outdoor Loudspeaker is designed to provide high acoustic output with low amplifier power. This makes it perfectly suited for use in outdoor areas with low-powered amplified keypads and volume controls.

Low-mass driver materials and state-of-the-art engineering allow this speaker to produce higher sound pressure levels than ordinary outdoor speakers without sacrificing sound quality.

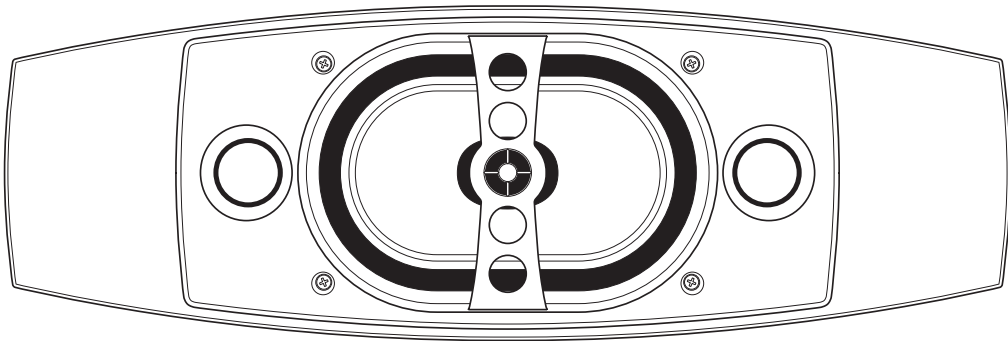
When ordinary speakers are used with low-powered amplified keypads, they have limited output, since they are designed to handle higher power levels from other types of amplifiers. Because of its high efficiency, the RM691 plays more loudly than conventional speakers when used with amplified keypads.

The RM691 and its mounting bracket are easy to install. Once the bracket is installed, the speaker slips into slots

on the bracket so you don't have to hold the speaker in place while securing it. The bracket and speaker have knurls for secure alignment to the desired angle.

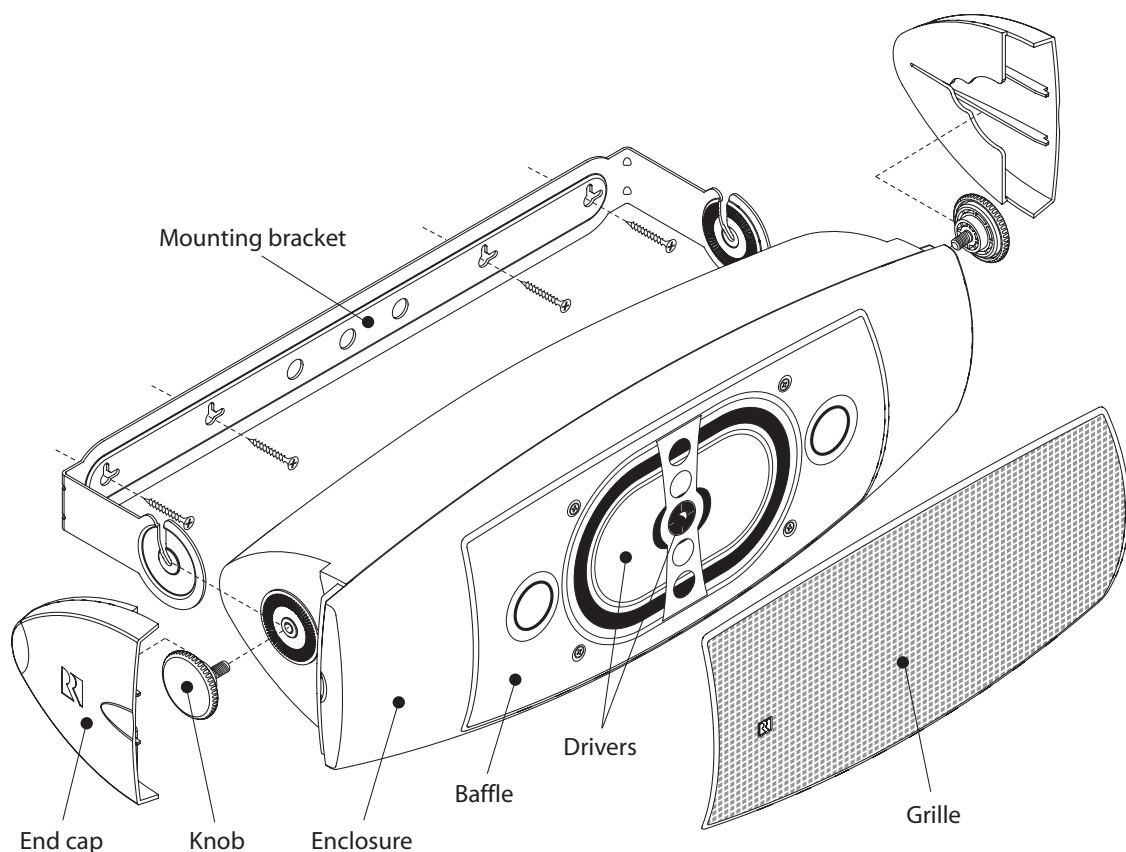
Designed and built to withstand the rigors of outdoor environments, the RM691 will provide years of trouble-free service. It will work in a wide range of temperatures and be unaffected by extremes of humidity. The only consideration when installing the speaker outdoors is to angle it slightly downward when mounting it in the horizontal position to keep rain from entering the ports.

A corrosion-resistant aluminum grille couples with the speaker's rugged environmental design to assure durability in any kind of weather. Adding to its versatility, the speaker can also be mounted indoors on walls, posts, or joists—wherever it's impractical to install in-wall or in-ceiling speakers.



Caution

The RM691 is for use only with amplified keypads and volume controls, or amplifiers with a power output of up to 20 watts per channel. Do not use the RM691 with receivers or amplifiers rated at more than 20 watts per channel.



RM691 speaker assembly

Painting the Speaker

The speaker mounting bracket, enclosure, end caps, and grille can be painted. If you paint the speaker, be sure not to get paint on the speaker drivers. Also be sure to minimize paint buildup so as not to clog the grille holes.

1. Gently pull off the speaker grille, making sure not to distort it.
2. Mask the speaker terminals and baffle (the area on the front of the enclosure that houses the drivers).
3. Paint the bracket, enclosure, end caps, and grille separately. Spraying is ideal, but if you can't spray the paint, a roller with a short or medium nap will work better than a brush. Apply one or two light coats.
4. While the paint is still wet, clear any clogged holes in the grille with bursts of compressed air.
5. After the paint has thoroughly dried, remove the masking. Gently press the grille back into place on the speaker, using even pressure around the edge.

Prewiring

Run a separate 2-conductor stranded copper speaker cable of at least 16 AWG (1.5 mm) from the amplified keypad or amplifier to each speaker. Be sure to use cable with the appropriate fire resistance rating for the application. Check the local building code for specific requirements. Russound offers 2- and 4-conductor speaker cables with a Class 3 fire rating for in-wall installation.

When running a speaker cable parallel to an AC power cable, keep them at least 12 inches (30 cm) apart to minimize electromagnetic interference. If the speaker cables must cross AC wiring, cross them at right angles.

Leave about 2 feet (0.6 m) of cable at each end for connecting to the speakers and keypad or amplifier. Label the cables so you will know which cable connects to each keypad or amplifier output channel.

INSTALLATION

Installing the Mounting Bracket

The RM691 can be installed horizontally or vertically. For a horizontal installation, install the mounting bracket with its end slots at the top. Also, when installing the speaker outdoors in the horizontal position, locate the mounting bracket high enough so the front of the speaker will point down toward the listening area.

Note: The bracket must be securely attached to the mounting surface. For an exterior plywood wall with siding, use rust-resistant screws long enough to penetrate the siding and plywood. For a standard interior hollow wall, we recommend screwing the bracket to the wall studs whenever possible. If the speaker must be mounted between studs, use a minimum of two hollow-wall anchors to secure the bracket. For a masonry wall, use suitable anchors.

Installation on wood

1. Using the mounting bracket as a template, mark the locations of the mounting screws.
2. Drill pilot holes for the screws.
3. For an exterior wall, apply a ring of caulk or sealant around each pilot hole.
4. Screw the bracket to the wall or other surface.

Attaching the Speaker

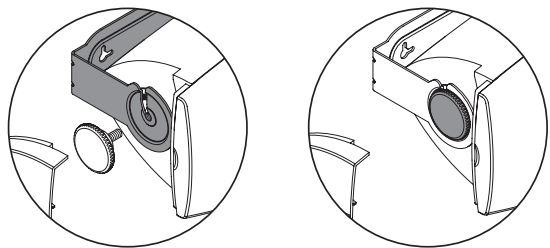
1. Thread the knobs halfway into the ends of the speaker, leaving about 1/4 inch (6 mm) of their threads exposed.
2. Slip the knob threads into the slots in the mounting bracket.
3. Rotate the speaker so you have access to the terminals.

Installation on a hollow wall

1. Once you have determined roughly where to mount the speakers, use a stud finder to locate the wall studs and mark their location.
2. Using the mounting bracket as a template, mark the mounting screw locations.
3. If you are attaching the bracket to studs, use a small drill to make pilot holes for the mounting screws. If you are using hollow-wall anchors, use a drill of the size recommended by the anchor manufacturer.
4. Screw the mounting bracket to the wall studs with the screws provided, or secure the wall anchors in the wall and attach the bracket to them.

Installation on masonry

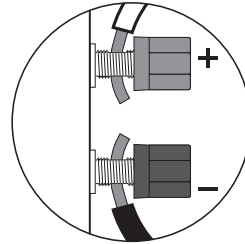
1. Obtain masonry anchors suitable for the type of wall material.
2. Using the mounting bracket as a template, mark the locations of the mounting screws.
3. Use a masonry drill to make pilot holes for the anchors.
4. Insert the anchors into the pilot holes and attach the mounting bracket with screws.



Connecting the Speaker

1. Strip 1 to 2 inches (2.5 to 5 cm) off the end of the cable jacket. Then strip ½ inch (1.3 cm) of insulation off each wire.
2. Twist the wire strands together so there are no strands separated from the bundle.
3. Connect the wires to the speaker terminals, being sure to observe proper polarity. For standard speaker cable with red and black wires, connect the red wire to the red positive (+) terminal and the black wire to the black negative (-) terminal.
4. Check to make sure there are no stray strands of wire outside the terminals. If there are, remove the wire, twist the strands together, and reconnect the wire to the terminal.

Note: Some speaker cables may have other ways of designating polarity. For example, cable with a clear jacket usually has a copper-colored wire for positive and a silver-colored wire for negative. In a cable with white and black wires, the white is positive and the black is negative. Cable with both wires the same color may have grooves, ribs, or stripes on the positive wire.

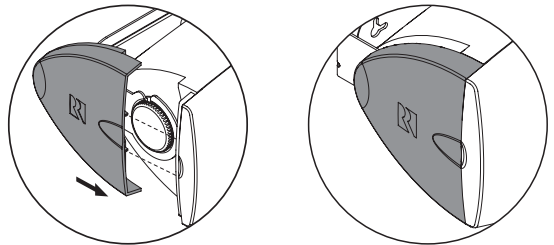


Final Assembly

1. Rotate the speaker to the desired angle.

Note: If you are installing the speaker outdoors in the horizontal position, rotate it so the front points down toward the listening area. Avoid pointing the speaker upward to keep rain from entering the ports.

2. Tighten the knobs on both ends.
3. Slip the end caps onto the ends of the speaker, from the rear toward the front.



Rotating the Logo Badge

The logo badge is permanently attached to the grille, but can be rotated to accommodate both vertical and horizontal speaker orientations. To rotate the badge, simply pull it straight away from the grille and turn it.



INSTALLATION

Connecting the Amplified Keypad or Amplifier

1. Make sure the keypad or amplifier is turned off.
2. Strip 1 to 2 inches (2.5 to 5 cm) off the end of each cable's jacket. Then strip just enough insulation off each wire to allow inserting the wires fully into the keypad's or amplifier's speaker terminals.
3. Twist the wire strands together so there are no strands separated from the bundle.
4. Connect the wires to the speaker terminals, being sure to observe proper polarity.
5. Check to make sure there are no stray strands of wire outside the terminals. If there are, remove the wire, twist the strands together, and reconnect the wire to the terminal.

Taking Care of Your Speakers

Your speakers are made of durable materials that need very little care. All we recommend is an occasional wiping with a soft, damp cloth. Do not use any harsh detergents, chemical solvents, or abrasive materials on your speakers. Also, do not spray water or other liquids into the grilles.

Specifications

Loudspeaker type: Passive two-way, single input, multipurpose surface-mount

Enclosure: Dual-ported, calcium-carbonate-filled ABS

Low-frequency driver: 6" × 9" (15.2 × 22.9 cm) polypropylene cone

High-frequency driver: ½" (13 mm) polyetherimide dome

Frequency response: 85 Hz – 20 kHz ±3 dB

Frequency range: 76 Hz – 20 kHz -6/+3 dB

Nominal impedance: 8 ohms

Sensitivity: 94 dBSPL (2.83 V @ 1 m)

Recommended amplifier power: 3–20 watts RMS

Terminals: Nickel-plated binding posts with ½" (13 mm) hex nuts

Enclosure dimensions: 23.6" W × 7.9" H × 8.0" D (60.0 × 20.1 × 20.3 cm) in horizontal orientation

Mounting depth: 8.5" (21.6 cm) at 0° rotation

9.25" (23.5 cm) at 45° rotation

8.0" (20.3 cm) at 90° rotation

Weight: 11.3 lb (5.13 kg)

Finish: White or black

Warranty

The Russound RM691 Loudspeaker has a five-year warranty against defects in materials and workmanship. During the warranty period, Russound will replace any defective part and correct any defect in workmanship without charge for either parts or labor.

Russound may replace returned speakers with a product of equal value and performance. In such cases, some modifications to the mounting may be necessary and are not Russound's responsibility.

For this warranty to apply, the speaker must be installed and used according to its written instructions. If repairs are necessary, they must be performed by Russound. The speaker must be returned to Russound at the owner's expense and with prior written permission. Proof of purchase must accompany all claims. Accidental damage and shipping damage are not considered defects, nor is damage resulting from abuse or from servicing performed by an agency or person not specifically authorized in writing by Russound.

This warranty does not cover:

- Damage caused by abuse, accident, misuse, negligence, or improper operation or installation.
- Products that have been altered or modified.
- Any product whose identifying number or serial number has been altered, defaced, or removed.
- Normal wear and maintenance.

Damage to or destruction of components due to application of excessive power voids the warranty on those parts. In these cases, repairs will be made on the basis of the retail value of the parts and labor. To return for repairs, the speaker must be shipped to Russound at the owner's expense, along with a note explaining the nature of service required. Be sure to pack the speaker in a corrugated container with at least 3 inches of resilient material to protect the speaker from damage in transit.

Before returning a speaker for repair, call Russound at 603.659.5170 for a Return Authorization number. Write the RA number on the shipping label and ship to: Russound, ATTN: Service, 5 Forbes Road, Newmarket NH 03857.

Russound sells products only through authorized Dealers and Distributors to ensure that customers obtain proper support and service. Any Russound product purchased from an unauthorized dealer or source, including retailers, mail order sellers and online sellers will not be honored or serviced under existing Russound warranty policy. Any sale of products by an unauthorized source or other manner not authorized by Russound shall void the warranty on the applicable product.



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