



R103

10" REFERENCE THREE-WAY IN-CEILING SPEAKER

OWNER'S MANUAL



Introduction

Thank you for choosing the OSD BLACK R103. The R103 is a 10" reference three-way in-ceiling speaker built for installations where a ceiling speaker has to do more than fill in a few overhead effects — dedicated home theater, ceiling-mounted left/center/right, behind-screen placement, and whole-home systems where the ceiling speakers are the main speakers.

A 10" carbon fiber woofer, a 2" aluminum dome midrange, and a 1" pivoting titanium dome tweeter each cover their own band through a built-in crossover network, so the R103 keeps voices clear and effects placed while still producing real low end — 52 Hz – 22 kHz (0 dB), extending to 24 Hz at –10 dB, half space. Treble and bass contour switches let you match the speaker to the room after it is in the ceiling, and the pivoting tweeter aims the highs toward the listening area.

Read this manual completely before installing. Installation requires cutting a hole in your ceiling, and the time spent planning placement is the most valuable part of the job.

Why R103

What sets the R103 apart from an ordinary in-ceiling speaker.

A true three-way design, not a two-way with a bigger woofer

The 10" woofer, 2" aluminum dome midrange, and 1" titanium dome tweeter each handle their own band through a built-in crossover, so dialogue and detail come from drivers built for those frequencies instead of from a woofer being asked to do everything.

Ten inches of bass in the ceiling

A 10" carbon fiber cone with a thermoplastic rubber surround moves enough air that music and movies have weight on their own — 52 Hz – 22 kHz (0 dB), with useful output to 24 Hz at –10 dB, half space — and it still blends cleanly with a subwoofer when you cross it over at 80 Hz.

Aim the highs where people actually sit

The titanium dome tweeter pivots, so you can steer the top end toward the listening area when the speaker cannot be mounted directly overhead — the usual reality in an existing ceiling with joists and ducts where they are.

Tune it to the room, twice

Two three-position contour switches on the front baffle adjust treble and bass separately, reachable with the grille off after the speaker is installed, so a bright room or a boomy one can be corrected without touching the receiver.

Keeps up with a real system

Rated at 125 watts RMS and 200 watts peak with 90 dB sensitivity into 8 ohms, the R103 plays loudly enough to stay level with floorstanding or in-wall mains rather than thinning out when a soundtrack gets busy.

One speaker for three jobs

The same speaker works as a ceiling-mounted left, center, or right channel, as a behind-screen channel, or as an overhead height channel — which means one model can cover a whole room instead of mixing families.

Disappears into the ceiling

The trimless grille sits nearly flush with the ceiling and can be painted to match before installation, so the R103 draws no attention in a finished room or a dedicated theater.

Important Safety Instructions

1. Read these instructions completely and keep them for future reference.
2. Turn the amplifier or receiver OFF and unplug it before making any speaker connections.
3. Never connect speaker terminals to an AC power source, a wall outlet, or any line-voltage wiring.
4. Before cutting, confirm that there is no electrical wiring, plumbing, ductwork, or structural framing behind the mounting area.
5. Wear safety eyewear and gloves when cutting, drilling, or working overhead.
6. All in-ceiling wiring must comply with local building and electrical codes. In many jurisdictions, speaker cable run through a ceiling or plenum must be rated for that use (CL2, CL3, or plenum rated).
7. Do not install the speaker where it will be exposed to rain, splashing water, or sustained moisture. This is an indoor product.
8. Refer all servicing to qualified service personnel. There are no user-serviceable parts inside the speaker.

Additional Safety Information

- Support the speaker by hand until the mounting clamps are fully tightened. A 10" speaker is heavy enough to cause injury or damage if it drops.
- Confirm that the ceiling material can carry the weight of the speaker before installing. Damaged, sagging, or water-stained drywall must be repaired first.
- Do not touch the tweeter dome or the exposed cone material at any time. Damage caused by handling is not covered by the warranty.
- Do not exceed the power rating given in the specifications. Sustained clipping from an underpowered amplifier driven hard damages speakers more often than too much clean power does.
- If you paint the grille, do so before installation and do not clog the perforations — paint bridging the holes changes how the speaker sounds.

Features

- 10" carbon fiber woofer with thermoplastic rubber (TPR) surround
- 2" aluminum dome midrange
- 1" pivoting titanium dome tweeter
- Built-in three-way crossover network
- Frequency response 52 Hz – 22 kHz (0 dB) · 24 Hz – 22 kHz (–10 dB, half space)
- Two three-position contour switches — treble and bass — on the front baffle
- Quick-turn mounting system; no rough-in bracket or back box required
- Trimless, paintable grille that sits nearly flush with the ceiling
- 8-ohm nominal impedance, compatible with standard home theater receivers and distributed audio amplifiers
- Cutout template included

Before You Begin

Tools You Will Need

- Pencil, tape measure, and stud finder
- Drywall saw or rotary cutting tool
- Drill
- Phillips screwdriver
- Wire cutter and stripper
- Utility knife and sandpaper
- Safety eyewear and gloves

Speaker Wire Gauge

Use two-conductor speaker cable rated for in-wall or in-ceiling use, sized for the length of the run:

Run length	Recommended gauge
Up to 10 ft	18 AWG minimum
10 to 50 ft	16 AWG
50 to 100 ft	14 AWG

Clearance Behind the Ceiling

The R103 needs 5.9" of mounting depth, measured from the back of the faceplate to the T-yoke, plus room for the speaker cable behind it. Check the depth of the joist bay before you cut — this is the most common reason a 10" ceiling speaker will not fit an existing ceiling.

Placement

Plan placement carefully. Installation requires cutting the ceiling, and moving a speaker afterward means patching and repainting.

- Separate a stereo pair by 6 to 10 feet, and keep both speakers the same distance from the primary listening position.
- For left, center, and right channels, place the speakers across the front of the room in line with the screen, spaced evenly.
- For overhead height channels, place the speakers slightly in front of and behind the main listening position rather than directly overhead, and use the pivoting tweeter to aim them toward the seats.
- Keep the speaker at least 6" from a wall or a ceiling joist so the frame has room to clamp.
- If you intend to paint the grille to match the ceiling, do it before installation and allow it to dry fully.

Installation

1. Check Behind the Ceiling

This is the most important step of the installation. If you are not certain what is behind the mounting area, cut a small inspection hole at the center of the marked location first and check for wiring, pipes, ducts, and framing before cutting the full opening.

2. Mark and Cut the Opening

- Hold the included cutout template against the ceiling at the marked location and trace around it. The opening is 12.4" in diameter.
- Cut along the traced line with a drywall saw or rotary tool, supporting the cut piece so it does not fall.
- Sand the cut edge smooth so the frame seats flat against the ceiling.
- Pull the speaker cable through the opening, leaving 12" to 18" of slack to work with.

3. Connect the Speaker

With the amplifier or receiver switched off and unplugged, strip about 1/4" of insulation from each conductor — no more, so no bare wire can touch the opposite terminal. Connect the positive amplifier output to the speaker's positive (+, red) terminal and the negative output to the negative (–, black) terminal.

Observe polarity on every speaker in the system. A pair wired out of phase will sound thin, and the bass will largely cancel.

4. Mount the Speaker

- Fold the mounting clamps flat against the frame and lift the speaker into the opening, supporting its weight by hand.
- Turn each of the mounting screws on the front of the baffle slowly clockwise. The clamps rotate out behind the ceiling and draw up against the back of the drywall.
- Tighten the screws evenly, a few turns at a time in rotation, until the frame is snug against the ceiling. Do not overtighten — the clamps will crush or crack the drywall.
- Press the grille into place. It is held by friction and seats nearly flush with the ceiling.

Adjusting the Sound

Contour Switches

Two three-position switches on the front baffle let you match the speaker to the room. Remove the grille to reach them. Each switch provides -3 dB, flat, or +3 dB — the treble switch over the high frequencies, the bass switch over the low.

Start with both switches flat. Reduce treble in a hard, reflective room with tile or glass; increase it in a room with heavy carpet, drapes, and soft furniture. Adjust bass to taste, or reduce it where the speaker sits close to a wall.

Pivoting Tweeter

The tweeter leaves the factory centered in the neutral position, which gives the smoothest response. To aim the high frequencies toward the listening area, carefully press the edge of the tweeter baffle in the direction you want the sound to go.

Never touch the tweeter dome while adjusting it. Contact with the dome can permanently damage the driver and is not covered by the warranty.

Care & Cleaning

- Vacuum the grille gently with a soft brush attachment. Do not press on the grille while cleaning.
- Do not spray any liquid, cleaner, or polish onto the speaker or grille.
- Remove the grille before painting the ceiling, and mask the opening so overspray does not reach the drivers.

What's in the Box

- One R103 in-ceiling speaker with grille installed
- Cutout template
- Safety & Quick Reference card — scan its QR code for this owner's manual

Troubleshooting

Symptom	What to check
No sound from one speaker	Check that the amplifier channel is on and not muted. Check both conductors at the amplifier and at the speaker. Swap the amplifier channels: if the fault follows the channel, the problem is the amplifier or the cable, not the speaker.
Thin sound, almost no bass	One speaker is wired out of phase. Confirm positive to positive and negative to negative at both ends of every run.
Dull or muffled highs	Set the treble contour switch to flat or +3 dB. Aim the pivoting tweeter toward the listening area. Confirm that the grille perforations are not clogged with paint.
Harsh or bright sound	Set the treble contour switch to -3 dB. Hard floors, bare walls, and glass all add brightness.
Buzzing or rattling at higher volume	The frame is not tightened evenly — retighten the mounting screws in rotation. Something in the ceiling is vibrating against the speaker or the cable. The amplifier is clipping. Reduce volume.
Speaker will not clamp tight	The ceiling material is thicker or thinner than the clamps allow, or the opening was cut oversize. Confirm that the opening is 12.4" and that the drywall is sound.
Grille does not sit flush	The frame is not pulled fully up against the ceiling, or the cut edge was not sanded smooth. Loosen, reseal, and retighten.

When to Contact Support

Contact OSD if a driver is visibly damaged out of the carton, if a speaker produces no sound after you have confirmed the amplifier and cabling on another channel, or if any part of the mounting hardware is missing or will not tighten.

- Technical support: support@osdaudio.com
- Returns and RMA: rma@osdaudio.com

Have the model number (R103), your dealer, and the date of purchase ready. Proof of purchase is required for any warranty claim.

Specifications

Specification	R103
Model	R103 (BK-R103)
Type	10" reference three-way in-ceiling speaker
Woofers	10" carbon fiber cone with thermoplastic rubber (TPR) surround
Midrange	2" aluminum dome
Tweeter	1" pivoting titanium dome
Crossover	Built-in three-way network
Frequency response (0 dB)	52 Hz – 22 kHz
Frequency response (–10 dB, half space)	24 Hz – 22 kHz
Power handling	125 W RMS / 200 W peak
Sensitivity	90 dB
Impedance	8 ohms nominal
Treble contour	Three-position: –3 dB / flat / +3 dB
Bass contour	Three-position: –3 dB / flat / +3 dB
Overall diameter (with grille)	14.06" (357 mm)
Cutout diameter	12.4" (315 mm)
Mounting depth	5.9" (150 mm), measured from the back of the faceplate to the T-yoke
Weight	14.7 lb (6.7 kg)
Warranty	Limited lifetime

Frequency response is stated two ways: the 0 dB band and the –10 dB half-space extension. Mounting depth is measured from the back of the faceplate to the T-yoke. All specifications and dimensions are subject to change without notice.

Compliance



This product complies with the applicable European Union directives.

Limited Lifetime Warranty

All OSD BLACK speaker products carry a Limited Lifetime Warranty against defects in materials and workmanship. Proof of purchase must accompany all claims. Under this warranty OSD will repair or replace any defective part and correct any defect in workmanship without charge for parts or labor, or may replace a returned speaker with a product of equal value and performance. Where a replacement requires modification to the mounting, that modification is not OSD's responsibility.

For this warranty to apply, the product must be installed and used according to these written instructions. Repairs, if required, must be performed by OSD. The product must be returned to OSD at the owner's expense and with prior written authorization. To obtain a Returned Merchandise Authorization (RMA) number, email rma@osdaudio.com, then ship the product with a note describing the service required. Pack the speaker in a corrugated carton with at least 3" of resilient material on all sides to protect it in transit.

OSD sells only through authorized dealers and distributors so that customers receive proper support and service. Any product purchased from an unauthorized dealer or other source, including retailers, mail-order dealers, and online sellers not authorized by OSD, will not be honored or serviced under this warranty, and any such sale voids the warranty on that product.

This Warranty Does Not Cover

- Accidental damage or shipping damage.
- Damage caused by abuse, misuse, negligence, or improper installation or operation.
- Any product that has been altered or modified.
- Any product whose serial number or identifying decal has been altered, defaced, or removed.
- Normal wear and maintenance.
- Damage to components caused by the application of excessive power. Where damage results from excessive power, repairs will be made on the basis of the retail value of parts and labor.