

ORION CSH65

ORION Cobalt CSH65 Slim 6.5 Inch Mid-Range Bullet Loudspeakers

Model: CSH65

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1. INTRODUCTION

Thank you for choosing ORION Cobalt CSH65 Slim 6.5 inch Mid-Range Bullet Loudspeakers. These speakers are designed to deliver powerful and clear mid-range audio performance in a shallow-mount design, suitable for various car audio installations. This manual provides essential information for the correct installation, operation, and care of your new loudspeakers. Please read it thoroughly before installation and retain it for future reference.



Image 1: ORION Cobalt CSH65 Slim 6.5 inch Mid-Range Bullet Loudspeaker, front view.

2. SAFETY INFORMATION

Always observe the following safety precautions during installation and operation:

- Disconnect the vehicle's negative battery terminal before beginning any electrical work to prevent short circuits.
- Ensure all wiring is properly insulated to prevent electrical shorts and damage to components.
- Mount speakers securely to prevent them from becoming loose during vehicle operation, which could cause injury or damage.
- Avoid installing speakers in locations that obstruct vehicle safety features or driver visibility.
- Do not operate the audio system at excessively high volumes for prolonged periods, as this can cause hearing damage.
- If you are unsure about any part of the installation process, consult a professional car audio installer.

3. PRODUCT FEATURES

The ORION Cobalt CSH65 loudspeakers offer the following key features:

- **Slim 6.5 inch Mid-Range Design:** Engineered for powerful sound in shallow-mount applications, ideal for tight installations.
- **High Power Handling:** Rated at 800W Max Power and 200W RMS for clear and loud audio output.
- **Durable Construction:** Features a 1.5 inch high-temperature voice coil, 21 oz magnet, and high-strength paper cone with cloth edge for clarity and longevity.
- **Optimized Sensitivity:** 91 dB sensitivity ensures efficient sound production.
- **Compact Mounting:** A shallow mounting depth of only 2.17 inches allows for versatile installation in custom doors, rear decks, and other compact spaces.

4. PACKAGE CONTENTS

Please check the package for the following items:

- ORION Cobalt CSH65 Slim 6.5 inch Mid-Range Bullet Loudspeakers (Pair)
- Mounting Hardware (screws, clips)
- Instruction Manual (this document)

If any items are missing or damaged, please contact your retailer or ORION customer support.

5. SETUP AND INSTALLATION

5.1 Mounting

The CSH65 speakers feature a shallow-mount design for flexible installation. Ensure the chosen mounting location has sufficient depth and diameter clearance.

- **Mounting Depth:** 2.17 inches (55.1 mm)
- **Mounting Diameter:** 6.34 inches (161 mm)
- **Overall Diameter:** 6.69 inches (170 mm)

Use the provided mounting hardware to secure the speakers firmly. Avoid over-tightening screws, which can damage the speaker frame.

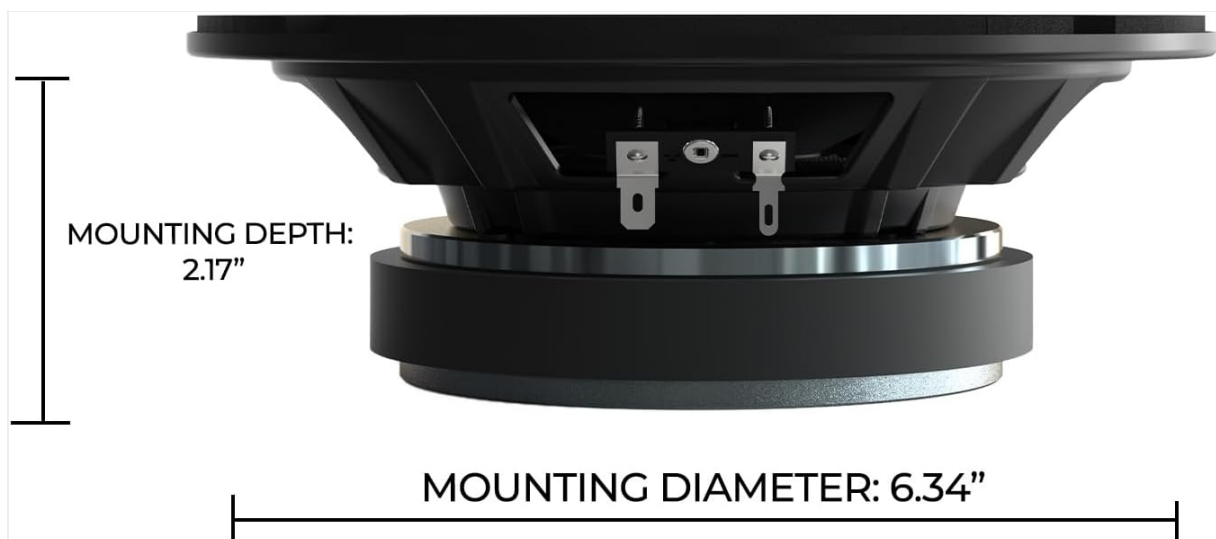


Image 2: Mounting depth and diameter measurements for the ORION Cobalt CSH65 speaker.

5.2 Wiring

These speakers have a 4 Ohm impedance and connect via standard speaker wire. Ensure correct polarity

(+ to + and - to -) when connecting to your amplifier or head unit. Incorrect polarity can lead to reduced sound quality and phase issues.

- Connect the positive (+) terminal of the speaker to the positive (+) output of your amplifier.
- Connect the negative (-) terminal of the speaker to the negative (-) output of your amplifier.
- Use appropriate gauge speaker wire for your power levels to minimize signal loss.

5.3 Crossover Settings

For optimal performance and speaker protection, it is recommended to use a high-pass filter (HPF) on your amplifier or external crossover. Set the high-pass crossover frequency at approximately **275 Hz**. This will prevent low-frequency signals from reaching the mid-range speakers, improving clarity and preventing potential damage.

6. OPERATION

Once properly installed and wired, your ORION Cobalt CSH65 speakers are ready for operation. These speakers are designed to reproduce mid-range frequencies with high fidelity.

- **Power Handling:** The speakers can handle up to 800W Max Power and 200W RMS. Ensure your amplifier's output matches these specifications to avoid underpowering or overpowering, both of which can cause damage.
- **Sensitivity:** With a sensitivity of 94.1 dB/w/m, these speakers are efficient at converting amplifier power into sound.
- **Frequency Response:** The operational frequency range is 81 Hz - 15 kHz. When used with a high-pass filter at 275 Hz, they will focus on their intended mid-range performance.
- Adjust your amplifier's gain settings carefully to prevent distortion. Start with low gain and gradually increase until desired volume is reached without audible distortion.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your speakers.

- **Cleaning:** Use a soft, dry cloth to gently wipe dust and debris from the speaker cones and frames. Avoid using harsh chemicals or abrasive cleaners.
- **Inspection:** Periodically check all wiring connections to ensure they are secure and free from corrosion. Inspect the speaker surrounds and cones for any signs of damage.
- **Environment:** While durable, avoid exposing speakers to excessive moisture or extreme temperatures.

8. TROUBLESHOOTING

If you experience issues with your speakers, refer to the following common problems and solutions:

- **No Sound:**
 - Check all wiring connections for proper contact and polarity.
 - Verify the amplifier is powered on and functioning correctly.
 - Ensure the head unit is sending an audio signal.
- **Distorted Sound:**

- Reduce the volume level on your head unit or amplifier.
 - Check amplifier gain settings; they may be set too high.
 - Ensure the high-pass filter is correctly set (recommended 275 Hz).
 - Inspect speaker cones and surrounds for physical damage.
- **Weak or Uneven Sound:**
 - Check speaker wiring for correct polarity on both speakers.
 - Verify balance and fader settings on your head unit.

If problems persist after attempting these solutions, consult a professional car audio technician.

9. SPECIFICATIONS

Feature	Specification
Brand	ORION
Model Number	CSH65
Speaker Type	Midrange
Speaker Size	6.5 Inches
Maximum Output Power	800 Watts
RMS Power	200 Watts
Impedance	4 Ohms
Frequency Response	81 Hz - 15 kHz
Sensitivity	94.1 dB/w/m
Mounting Depth	2.17 Inches
Mounting Diameter	6.34 Inches
Overall Diameter	6.69 Inches
Voice Coil	1.5 Inch High Temperature
Magnet Structure	21 oz magnet / 23 oz magnet structure
Cone Material	High Strength Paper with Cloth Edge
Connectivity Technology	Speaker Wire
Item Weight	5 Pounds (Pair)

10. WARRANTY & SUPPORT

10.1 Limited Warranty

ORION products are covered by a limited warranty against defects in materials and workmanship under normal use. The duration and terms of the warranty may vary by region and product. Please retain your

proof of purchase for warranty claims. For specific warranty details, refer to the warranty card included with your product or visit the official ORION website.

10.2 Customer Support

For technical assistance, installation questions, or warranty inquiries, please contact ORION customer support. Contact information can typically be found on the ORION website or on your product packaging.