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- › [Sundown Audio](#) /
- › [Sundown Audio SA-15 V.2 D4 Subwoofer User Manual](#)

## Sundown Audio SA-15 V.2 D4

# Sundown Audio SA-15 V.2 D4 Subwoofer User Manual

Model: SA-15 V.2 D4

## PRODUCT OVERVIEW

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The Sundown Audio SA-15 V.2 D4 is a high-performance 15-inch subwoofer designed for car audio systems. It features a dual 4-ohm voice coil configuration and is rated for 1000W RMS power handling. This subwoofer is engineered to deliver deep, impactful bass reproduction.



Figure 1: Front angle view of the Sundown Audio SA-15 V.2 D4 subwoofer, showcasing its cone and surround.

## SETUP AND INSTALLATION

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Proper installation is crucial for optimal performance and longevity of your subwoofer. Please follow these guidelines carefully.

## What's Included

- 1 x Sundown Audio SA-15 V.2 D4 Subwoofer

Ensure all components are present and undamaged before proceeding with installation.

## Enclosure Recommendations

The performance of your subwoofer is highly dependent on the enclosure it is installed in. Refer to the following recommended enclosure specifications:

- **Sealed Enclosure:** 2.0 ft<sup>3</sup>
- **Ported Enclosure:** 3.5 ft<sup>3</sup> tuned to 35 Hz (F3 of approximately 28 Hz)

For custom enclosures, consider the following dimensions:

- **Mounting Depth:** 8.66 inches
- **Cutout Diameter:** 14.02 inches
- **Magnet Diameter:** 7.80 inches



Figure 2: Top view of the SA-15 V.2 D4 subwoofer, showing the cone and surround from above.

## Wiring Connections

The SA-15 V.2 D4 features dual 4-ohm voice coils. Proper wiring is essential to match the subwoofer's impedance to your amplifier's capabilities. Consult your amplifier's manual for compatible impedance loads.

Common wiring configurations for dual 4-ohm voice coils include:

- **Parallel Wiring:** Connect both voice coils in parallel for a 2-ohm total impedance.
- **Series Wiring:** Connect both voice coils in series for an 8-ohm total impedance.



Figure 3: Close-up of the subwoofer's spring-loaded terminals, showing positive and negative connections for each voice coil. Ensure all connections are secure and free from short circuits. Use appropriate gauge speaker wire for your power levels.

## OPERATING GUIDELINES

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To ensure the best performance and longevity of your Sundown Audio SA-15 V.2 D4 subwoofer, adhere to the following operating guidelines:

- **Amplifier Matching:** Use an amplifier capable of delivering 1000W RMS at the chosen impedance (2-ohm or 8-ohm). Avoid underpowering or overpowering the subwoofer, as both can lead to damage.
- **Gain Setting:** Set the amplifier gain correctly to prevent clipping. Use an oscilloscope or a distortion detector for precise gain setting.
- **Crossover Settings:** Utilize a low-pass filter (LPF) on your amplifier or head unit to send only low frequencies to the subwoofer. A typical LPF setting for a 15-inch subwoofer might be between 60Hz and 80Hz.
- **Subsonic Filter:** Employ a subsonic filter (high-pass filter for the subwoofer channel) to protect the subwoofer from playing frequencies below its resonant frequency ( $F_s$ ). For this model,  $F_s$  is 36.84 Hz; a subsonic filter set around 25-30 Hz is recommended for ported enclosures.
- **Break-in Period:** Allow a break-in period of several hours of moderate listening before pushing the subwoofer to its limits. This allows the suspension components to loosen up.



Figure 4: Rear view of the SA-15 V.2 D4 subwoofer, highlighting the robust magnet assembly and frame.

## MAINTENANCE

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The Sundown Audio SA-15 V.2 D4 subwoofer is built for durability, but proper care can extend its lifespan and maintain performance.

- **Cleaning:** Periodically wipe down the cone and surround with a soft, dry cloth to remove dust and debris. Avoid using harsh chemicals or excessive moisture.
- **Inspection:** Regularly inspect the speaker terminals, cone, surround, and spider for any signs of damage, tears, or loose connections.
- **Environmental Factors:** Protect the subwoofer from extreme temperatures, direct sunlight, and excessive moisture.
- **Secure Mounting:** Ensure the subwoofer remains securely mounted in its enclosure to prevent vibrations and potential damage.

## TROUBLESHOOTING

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If you encounter issues with your Sundown Audio SA-15 V.2 D4 subwoofer, refer to the following common problems and solutions:

### No Sound from Subwoofer

- **Check Power:** Ensure the amplifier powering the subwoofer is receiving power and is turned on.
- **Check Signal:** Verify that the amplifier is receiving an audio signal from the head unit or source.
- **Check Connections:** Inspect all wiring connections from the amplifier to the subwoofer terminals for looseness or shorts.
- **Amplifier Protection Mode:** If the amplifier is in protection mode, refer to its manual for troubleshooting steps.

### Distorted or Unclear Bass

- **Gain Setting:** The amplifier gain may be set too high, causing clipping. Reduce the gain until distortion is eliminated.

- **Crossover Settings:** Incorrect low-pass filter settings can cause distortion. Adjust the LPF to ensure only appropriate frequencies are sent to the subwoofer.
- **Enclosure Issues:** An improperly sized or constructed enclosure can lead to poor sound quality. Verify the enclosure meets recommended specifications.
- **Damaged Subwoofer:** Inspect the subwoofer cone, surround, and voice coil for any physical damage.

### Subwoofer Overheating

- **Impedance Mismatch:** Ensure the subwoofer's impedance (after wiring) matches the amplifier's stable load.
- **Underpowering/Overpowering:** Both can cause overheating. Ensure the amplifier's RMS output is appropriate for the subwoofer's RMS rating.
- **Ventilation:** Ensure the amplifier has adequate ventilation.

## SPECIFICATIONS

Feature	Specification
Model Name	SA-15 V.2 D4
Speaker Type	Subwoofer
Subwoofer Diameter	15 Inches
Speaker Maximum Output Power	1000 Watts RMS
RE (ohms)	3.89
Fs (Hz)	36.84
Qes	0.58
Qms	5.10
Qts	0.52
Le (mH @ 1kHz)	3.63
BL	24.47
Mms	388.97
Cms	47.99
Sensitivity (@1w/1m)	88.22 dB
Mounting Depth	8.66 inches
Cutout Diameter	14.02 inches
Magnet Diameter	7.80 inches
Material	Paper, Aluminum
Item Weight	34 Pounds
Recommended Uses	For Car Audio Systems

## WARRANTY AND SUPPORT

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The Sundown Audio SA-15 V.2 D4 subwoofer comes with a **Limited Warranty**. For specific terms and conditions of the warranty, please refer to the documentation provided with your purchase or contact Sundown Audio directly. For technical support, warranty claims, or any other inquiries, please contact Sundown Audio customer service. Contact information can typically be found on the manufacturer's official website or on your purchase receipt. It is recommended to keep your proof of purchase for warranty purposes.