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› DD Audio 15" Redline PSW Series Subwoofer D2 User Manual

DD Audio RL-PSW15a

DD Audio 15" Redline PSW Series Subwoofer D2 User Manual

Model: RL-PSW15a

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of your DD Audio 15" Redline PSW Series Subwoofer D2. The Redline PSW Series is engineered to deliver powerful bass and high performance, embodying DD Audio's commitment to sound quality and durability. Please read this manual thoroughly before installation and use to ensure optimal performance and longevity of your subwoofer.

2. PRODUCT FEATURES

The DD Audio Redline PSW Series Subwoofers are designed with advanced features to enhance your audio experience:

- **High Power Handling:** Capable of handling 400-700 watts RMS, with a peak power of 2100 watts, ensuring robust and impactful bass reproduction.
- **EROM Surround Technology:** Features DD AUDIO's Extended Range Of Motion (EROM) surround, allowing for high excursion and maximizing cone surface area for greater air displacement.
- **Optimized Voice Coil Travel:** Extended pole pieces and bumped back plates enable the voice coils to safely travel through their full excursion range without mechanical bottoming.
- **Durable Construction:** Built with treated composite pulp cones, high-temperature D2 or D4 voice coils, a vented stamped steel frame, and secure push terminals.
- **Woven Tinsel Leads:** Ensures reliable electrical connection to the voice coil, even under extreme excursion.

3. WHAT'S IN THE BOX

Upon opening the product packaging, you should find the following item:

- 1 x DD Audio 15" Redline PSW Series Subwoofer D2 (Model: RL-PSW15a)

4. SPECIFICATIONS

Detailed technical specifications for the 15" Redline PSW Series Subwoofer D2 (RL-PSW15a):

Parameter	Value
Speaker Size	15 Inches
Watts RMS	400-700 W
Watts Peak	2100 W
Impedance	D2 / D4 (Dual 2 Ohm / Dual 4 Ohm)
Voice Coil Diameter (VCD)	3 Inches
Piston Diameter	13 Inches
Fs (Resonance Frequency)	29 Hz
Qms (Mechanical Q)	6.205
Qes (Electrical Q)	0.89
Qts (Total Q)	0.778
Vas (Equivalent Volume)	93.91 Liters
dB SPL (Sensitivity)	89 dB
Xmech (Mechanical Excursion)	30 mm
Xmax (Linear Excursion)	14 mm
Frame OD (Outer Diameter)	15.02 Inches
Frame OD w/Gasket	14.04 Inches
Mounting Diameter	13.89 Inches
Mounting Depth	7.32 Inches
Motor Diameter	6.69 Inches
Motor Depth	2.59 Inches
Magnet Weight	115 Oz
Woofer Displacement	0.1 CuFt
Recommended Ported Enclosure Volume	3.0 - 5.0 CuFt
Product Dimensions (Overall)	7.32"D x 16"W x 9"H
Color	Black
Is Waterproof	No
UPC	655471726371
Item Model Number	RL-PSW15a

5. SETUP AND INSTALLATION

Proper installation is crucial for the performance and longevity of your subwoofer. It is highly recommended that installation be performed by a qualified car audio professional.

5.1 Enclosure Requirements

The 15" Redline PSW Series Subwoofer is designed for use in a ported enclosure. Refer to the specifications section for recommended enclosure volumes (3.0 - 5.0 CuFt). The enclosure should be robustly constructed to prevent rattles and air leaks, which can degrade sound quality and damage the subwoofer.

5.2 Mounting

Ensure the mounting surface is flat and strong enough to support the subwoofer's weight. Use appropriate fasteners to secure the subwoofer firmly to the enclosure. The mounting diameter required is 13.89 inches, and the mounting depth is 7.32 inches.



Figure 1: Front view of the DD Audio 15" Redline PSW Series Subwoofer.



Figure 2: Angled view of the DD Audio 15" Redline PSW Series Subwoofer.

5.3 Wiring and Impedance

The subwoofer is available with Dual 2 Ohm (D2) or Dual 4 Ohm (D4) voice coil options. It is critical to match the subwoofer's impedance to your amplifier's stable operating impedance. Incorrect wiring or impedance mismatch can lead to amplifier damage or poor performance. Consult your amplifier's manual for compatible load impedances. Use high-quality speaker wire of appropriate gauge for the power levels and cable length. Ensure all connections are secure and free from shorts. The subwoofer features push terminals for easy and reliable wire connection.



Figure 3: Rear view of the DD Audio 15" Redline PSW Series Subwoofer, showing the basket and magnet assembly.



Figure 4: Close-up of the subwoofer's basket and magnet assembly.

6. OPERATION

6.1 Break-in Period

Allow a break-in period of approximately 20-30 hours of normal listening before pushing the subwoofer to its limits. This allows the suspension components (surround and spider) to loosen up and reach their optimal compliance, improving overall performance and longevity.

6.2 Amplifier Gain Setting

Set your amplifier's gain control carefully. The gain control is not a volume knob; it adjusts the input sensitivity of the amplifier. Setting it too high can lead to clipping, which is a major cause of subwoofer damage. Use a multimeter or oscilloscope to set the gain properly, or have it professionally set.

6.3 Crossover and Subsonic Filter

Utilize your amplifier's low-pass filter (LPF) to ensure only low frequencies are sent to the subwoofer. A typical LPF setting for a subwoofer is between 60Hz and 100Hz. Additionally, engage a subsonic filter (high-pass filter for the subwoofer) to protect the subwoofer from playing frequencies below its resonant frequency (F_s : 29 Hz), which can cause excessive excursion and damage.

7. MAINTENANCE

The DD Audio Redline PSW Subwoofer requires minimal maintenance to ensure long-term 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, as the subwoofer is not waterproof.
- **Inspection:** Regularly inspect the speaker terminals and wiring for any signs of corrosion, loose connections, or fraying. Ensure the mounting screws remain tight.
- **Environment:** Protect the subwoofer from direct sunlight, extreme temperatures, and moisture.

8. TROUBLESHOOTING

If you experience issues with your subwoofer, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
No Sound from Subwoofer	• Loose or disconnected wiring • Amplifier not powered on or in protect mode • Incorrect input signal to amplifier • Subwoofer damaged	• Check all power, ground, remote, and speaker connections. • Verify amplifier power and status indicators. • Ensure RCA cables are connected and source unit is sending signal. • Test subwoofer with a known good amplifier or replace if necessary.
Distorted or Unclear Bass	• Amplifier gain set too high (clipping) • Incorrect crossover settings • Poor enclosure design or air leaks • Subwoofer over-excursion	• Reduce amplifier gain. • Adjust LPF and engage subsonic filter. • Inspect enclosure for integrity; seal any leaks. • Reduce volume or check amplifier power vs. subwoofer rating.

Problem	Possible Cause	Solution
Subwoofer Overheating	• Amplifier clipping • Impedance mismatch • Insufficient ventilation	• Re-set amplifier gain. • Verify correct impedance wiring for your amplifier. • Ensure adequate airflow around the amplifier and subwoofer.

If problems persist after attempting these solutions, please contact DD Audio customer support or a certified car audio technician.

9. WARRANTY AND SUPPORT

The DD Audio 15" Redline PSW Series Subwoofer D2 comes with a **Limited Warranty**. Specific terms and conditions of the warranty are subject to the policies of DD Audio and the retailer from whom the product was purchased. Please retain your proof of purchase for warranty claims.

For technical support, warranty inquiries, or service, please contact DD Audio directly through their official website or customer service channels. Provide your product model number (RL-PSW15a) and proof of purchase when seeking support.

