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› [Alpine SWS-12D4 12-inch Dual-Voice-Coil 4-Ohm Subwoofer Instruction Manual](#)

Alpine SWS-12D4

Alpine SWS-12D4 12-inch Dual-Voice-Coil 4-Ohm Subwoofer Instruction Manual

Model: SWS-12D4

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1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your Alpine SWS-12D4 12-inch Dual-Voice-Coil 4-Ohm Subwoofer. Please read this manual thoroughly before attempting installation or operation to ensure proper use and optimal performance. Retain this manual for future reference.



Figure 1: Alpine SWS-12D4 12-inch Subwoofer. This image shows a side view of the subwoofer, highlighting its cone and the robust magnet structure.

2. SAFETY INFORMATION

Always observe the following safety precautions during installation and operation:

- **Professional Installation Recommended:** For optimal performance and safety, professional installation by an authorized Alpine dealer is highly recommended.
- **Power Disconnection:** Before starting any installation, disconnect the negative terminal of your vehicle's battery to prevent electrical shorts and damage.
- **Wiring:** Ensure all wiring is correctly connected and insulated to prevent short circuits and potential fire hazards. Use appropriate gauge wire for power and speaker connections.
- **Mounting:** Securely mount the subwoofer to prevent it from becoming a projectile in the event of a sudden stop or collision.
- **Ventilation:** Ensure adequate ventilation around the subwoofer and amplifier to prevent overheating.
- **Volume Levels:** Prolonged exposure to high volume levels can cause hearing damage. Adjust volume to a comfortable level.
- **Liquid Exposure:** Do not expose the subwoofer to moisture or liquids.

3. SETUP AND INSTALLATION

3.1 Enclosure Requirements

The Alpine SWS-12D4 subwoofer is designed to perform optimally in a sealed or ported enclosure. Refer to the subwoofer's technical specifications or Alpine's official website for recommended enclosure volumes and port dimensions. An improperly sized enclosure can negatively impact sound quality and subwoofer longevity.

3.2 Mounting the Subwoofer

The SWS-12D4 is designed for flush mounting. Ensure the mounting surface is rigid and capable of supporting the subwoofer's weight. Cut a circular opening in the enclosure baffle that matches the subwoofer's cutout diameter. Secure the subwoofer using appropriate screws, ensuring an airtight seal between the subwoofer frame and the enclosure.

3.3 Wiring Configurations

The SWS-12D4 features a Dual-Voice-Coil (DVC) design with two 4-ohm voice coils. This allows for flexible wiring options to match your amplifier's impedance requirements. Common configurations include:

- **Parallel Wiring (2 Ohms):** Connect the positive terminals of both voice coils together, and the negative terminals of both voice coils together. Then connect the combined positive to the amplifier's positive output and the combined negative to the amplifier's negative output. This results in a 2-ohm load.
- **Series Wiring (8 Ohms):** Connect the positive terminal of one voice coil to the negative terminal of the other voice coil. Then connect the remaining positive terminal to the amplifier's positive output and the remaining negative terminal to the amplifier's negative output. This results in an 8-ohm load.

Always verify your amplifier's stable impedance range before wiring. Incorrect impedance can damage your amplifier or subwoofer.



Figure 2: Rear view of the Alpine SWS-12D4 subwoofer. This image displays the dual voice coil terminals, essential for understanding wiring configurations.

4. OPERATING THE SUBWOOFER

4.1 Initial Power-Up and Break-In

After installation, perform an initial power-up at a low volume. Gradually increase the volume to ensure all connections are secure and the subwoofer is functioning correctly. A break-in period of several hours at moderate listening levels is recommended to allow the subwoofer's suspension components to loosen and achieve optimal performance.

4.2 Amplifier Settings

Proper amplifier settings are crucial for sound quality and subwoofer longevity. Adjust the following on your amplifier:

- **Gain:** Set the amplifier gain to match the output voltage of your head unit. Do not use the gain control as a volume knob; it should be set to prevent clipping.
- **Low-Pass Filter (LPF):** Set the LPF to filter out high frequencies, typically between 60 Hz and 100 Hz, allowing only bass frequencies to reach the subwoofer.
- **Subsonic Filter:** If available, set the subsonic filter to protect the subwoofer from playing frequencies below its resonant frequency, which can cause damage.
- **Bass Boost:** Use bass boost sparingly, if at all. Excessive bass boost can lead to clipping and damage the subwoofer.



Figure 3: Top view of the Alpine SWS-12D4 subwoofer. This image shows the cone and surround, which are critical for sound reproduction and require careful handling.

5. MAINTENANCE

The Alpine SWS-12D4 subwoofer requires minimal maintenance. Follow these guidelines to ensure its longevity:

- **Cleaning:** Periodically wipe the subwoofer 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 and wiring for corrosion or loose connections. Ensure the mounting screws are tight.
- **Environmental Protection:** Protect the subwoofer from extreme temperatures, direct sunlight, and moisture.

6. TROUBLESHOOTING

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

Problem	Possible Cause	Solution
No Sound	<ul style="list-style-type: none"> Loose or incorrect wiring Amplifier not powered on Blown fuse Damaged subwoofer voice coil 	<ul style="list-style-type: none"> Check all speaker and power connections. Verify amplifier power and remote turn-on. Inspect and replace any blown fuses in the amplifier or power distribution block. Test subwoofer with a multimeter for continuity. If open, replace subwoofer.
Distorted Sound	<ul style="list-style-type: none"> Amplifier gain set too high (clipping) Incorrect LPF setting Damaged subwoofer Poor enclosure design 	<ul style="list-style-type: none"> Reduce amplifier gain. Adjust LPF to recommended range (60-100 Hz). Inspect subwoofer cone and surround for damage. Consult Alpine specifications for proper enclosure volume.
Weak Bass Output	<ul style="list-style-type: none"> Incorrect wiring impedance Amplifier underpowered Phase issues 	<ul style="list-style-type: none"> Verify wiring matches amplifier's optimal impedance. Ensure amplifier provides sufficient RMS power for the subwoofer. Check phase setting on amplifier or head unit.

If problems persist, contact an authorized Alpine service center or your dealer for assistance.

7. SPECIFICATIONS

Feature	Description
Model Number	SWS-12D4
Speaker Type	Subwoofer
Subwoofer Diameter	12 Inches
Voice Coil Configuration	Dual Voice Coil (DVC)
Nominal Impedance	4 Ohms per voice coil (can be wired to 2 Ohms or 8 Ohms total)
Peak Power Handling	1500 Watts
Mounting Type	Flush Mount
Item Weight	14 Pounds
Manufacturer	Alpine
GTIN / UPC	793276011848

8. WARRANTY AND SUPPORT

8.1 Warranty Information

Alpine products are designed and manufactured to the highest quality standards. This product is covered by a limited warranty. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit

the official Alpine website. Keep your purchase receipt as proof of purchase for warranty claims.

8.2 Customer Support

If you require technical assistance, have questions about your product, or need to arrange for service, please contact Alpine customer support. Contact information can typically be found on the Alpine website or in the documentation provided with your product.

Alpine Official Website: www.alpine-usa.com



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