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Dayton Audio ND90-4

Dayton Audio ND90-4 3-1/2 inch Aluminum Cone Full-Range Neo Driver Instruction Manual

INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of your Dayton Audio ND90-4 3-1/2 inch Aluminum Cone Full-Range Neo Driver. Please read these instructions carefully before proceeding with installation to ensure optimal performance and longevity of the product.

PRODUCT OVERVIEW

The Dayton Audio ND90-4 is a compact 3-1/2 inch full-range driver featuring an aluminum cone and a Neo-Balanced motor structure. It is designed for applications requiring broad frequency response and high excursion capability from a small form factor. This driver is suitable for compact audio systems and can be paired with matching ND series passive radiators for enhanced low-frequency output.

Key Features:

- Full-range frequency response from 80 Hz to 15 kHz.
- Durable rubber-edged aluminum alloy cone.
- Large excursion capability with 4 mm Xmax and 20 mm peak.
- Self-shielded Neo-Balanced motor structure.
- 3/4 inch 4-layer underhung voice coil with polyimide former.



Figure 1: Front view of the Dayton Audio ND90-4 driver, highlighting the aluminum cone and rubber surround.



Figure 2: Rear view of the Dayton Audio ND90-4 driver, displaying the Neo-Balanced motor structure and clearly marked positive (+) and negative (-) speaker terminals.



Figure 3: Side profile of the Dayton Audio ND90-4 driver, showing the cone, surround, and overall depth.

SETUP AND INSTALLATION

Proper installation is crucial for the performance and safety of your driver. It is recommended that installation be performed by individuals with experience in audio system setup.

Enclosure Design:

- The ND90-4 is designed for compact enclosures. Consult speaker design software or resources for optimal enclosure volume and porting (if applicable) to match your desired frequency response.
- Ensure the enclosure is rigid and sealed properly to prevent air leaks, which can degrade sound quality.

Mounting:

- The driver features a flush mount design. Cut a circular opening in your enclosure that matches the driver's mounting diameter.
- Secure the driver using appropriate screws through the mounting holes on the frame. Do not overtighten, as this can warp the frame or damage the driver.
- Ensure a good seal between the driver frame and the enclosure baffle using a gasket or sealant if necessary.

Wiring:

- Connect speaker wires to the terminals on the back of the driver. The positive (+) terminal is typically marked with a red dot or a plus sign, and the negative (-) terminal with a black dot or a minus sign.
- Maintain correct polarity throughout your audio system (positive to positive, negative to negative) to ensure all drivers move in phase. Incorrect polarity can lead to poor bass response and imaging.
- Use appropriate gauge speaker wire for your amplifier's power output and cable length to minimize power loss.

OPERATING INSTRUCTIONS

Once installed, the ND90-4 driver operates as part of your audio system. Follow these general guidelines for optimal performance:

- **Amplifier Matching:** Ensure your amplifier's power output is within the recommended range for the driver to prevent damage from underpowering (clipping) or overpowering.
- **Crossover Settings:** If using a crossover, set it appropriately to direct the correct frequency range to the full-range driver. While it is a full-range driver, a high-pass filter can protect it from extreme low frequencies, especially at high volumes.
- **Volume Control:** Avoid operating the system at excessively high volumes for extended periods, which can cause distortion and potential driver damage. Listen for signs of distortion and reduce volume if heard.
- **Break-in Period:** New drivers may require a break-in period of several hours of moderate use to achieve their full performance potential.

MAINTENANCE

The Dayton Audio ND90-4 driver requires minimal maintenance. Adhere to the following for long-term reliability:

- **Cleaning:** Gently wipe the cone and surround with a soft, dry cloth to remove dust. Avoid using liquids or harsh chemicals, which can damage the cone material or surround.
- **Environmental Conditions:** Keep the driver away from direct sunlight, extreme temperatures, and high humidity. These conditions can degrade materials over time.
- **Physical Protection:** Protect the driver from physical impact or punctures, especially the cone and dust cap, which are delicate.

TROUBLESHOOTING

If you encounter issues with your ND90-4 driver, consider the following common troubleshooting steps:

- **No Sound:**
 - Check all wiring connections from the amplifier to the driver for secure contact and correct polarity.
 - Verify that the amplifier is powered on and functioning correctly.
 - Ensure the audio source is active and sending a signal.
- **Distorted Sound:**
 - Reduce the volume level. Distortion often occurs when the amplifier or driver is overdriven.
 - Check for loose connections or damaged speaker wire.
 - Inspect the driver cone and surround for any physical damage.
 - Review crossover settings if applicable; incorrect settings can cause distortion.
- **Weak Bass:**
 - Confirm correct wiring polarity for all drivers in the system. Out-of-phase drivers will cancel bass frequencies.
 - Ensure the enclosure is properly sealed and free of leaks.
 - Verify that the enclosure volume is appropriate for the driver.
- **Intermittent Sound:**
 - Check for loose speaker wire connections at both the driver and amplifier ends.
 - Inspect speaker wire for breaks or frayed strands.

If these steps do not resolve the issue, contact Dayton Audio customer support for further assistance.

SPECIFICATIONS

Detailed technical specifications for the Dayton Audio ND90-4 driver:

Feature	Specification
Model Name	ND90-4
Speaker Type	Full-Range
Material	Aluminum Cone
Impedance	4 Ohms
Speaker Size	3.5 Inches (Woofer Diameter)
Frequency Response	80 Hz to 15 kHz
Mounting Type	Flush Mount
Product Dimensions	2.39"D x 4.07"W x 4.07"H
Item Weight	0.53 Pounds (approx. 8.5 ounces)
Special Feature	Durable, High-Excursion Design
Recommended Uses	For Compact Spaces or Compact Audio Systems
Manufacturer	Dayton Audio
Item Model Number	PS-SFR043
UPC	844632081064

WARRANTY AND SUPPORT

The Dayton Audio ND90-4 driver comes with a limited warranty. For specific terms and conditions of the warranty, please refer to the documentation included with your purchase or visit the official Dayton Audio website.

For technical support, product inquiries, or warranty claims, please contact Dayton Audio customer service through their official website or the contact information provided with your product. When contacting support, please have your product model number (ND90-4 or PS-SFR043) and purchase details readily available.

You can find more information and support resources on the [Dayton Audio Store on Amazon](#).

