Dayton Audio DATS V3

Dayton Audio DATS V3 User Manual

Computer Based Speaker & Audio Component Test System

Introduction

The Dayton Audio DATS V3 is a sophisticated computer-based test system engineered for accurate measurement and analysis of loudspeakers and various audio components. This system provides a comprehensive suite of tools for professionals and enthusiasts alike, enabling precise characterization of audio transducers and passive components.
Key features include a robust aluminum housing, detachable test leads, and an integrated precision calibration resistor. Its design incorporates tighter tolerances on internal components for superior measurement precision and increased output capability to ensure a cleaner signal relative to the noise floor. The DATS V3 also offers a unique Linearity Test function, allowing for comparison of parameters and impedance plots across different drive levels. For convenience and space-saving, optional under-desk mounting brackets are provided.



Figure 1: Front view of the Dayton Audio DATS V3 unit, showing input/output terminals.

Setup

Before operating the DATS V3, ensure proper setup of the hardware and software components.

Hardware Connection

1. **Connect to Computer:** Use the provided USB cable to connect the DATS V3 unit to an available USB port on your computer. The USB port is located on the rear of the unit.



Figure 2: Rear view of the DATS V3, highlighting the USB connection port.

2. **Connect Test Leads:** Attach the red and black test leads (alligator clips) to the corresponding red and black banana plug terminals on the front of the DATS V3 unit.



Figure 3: Included USB cable and test leads for the DATS V3.

3. **Connect Device Under Test (DUT):** Connect the alligator clips of the test leads to the terminals of the speaker or audio component you wish to test. Ensure a secure connection.

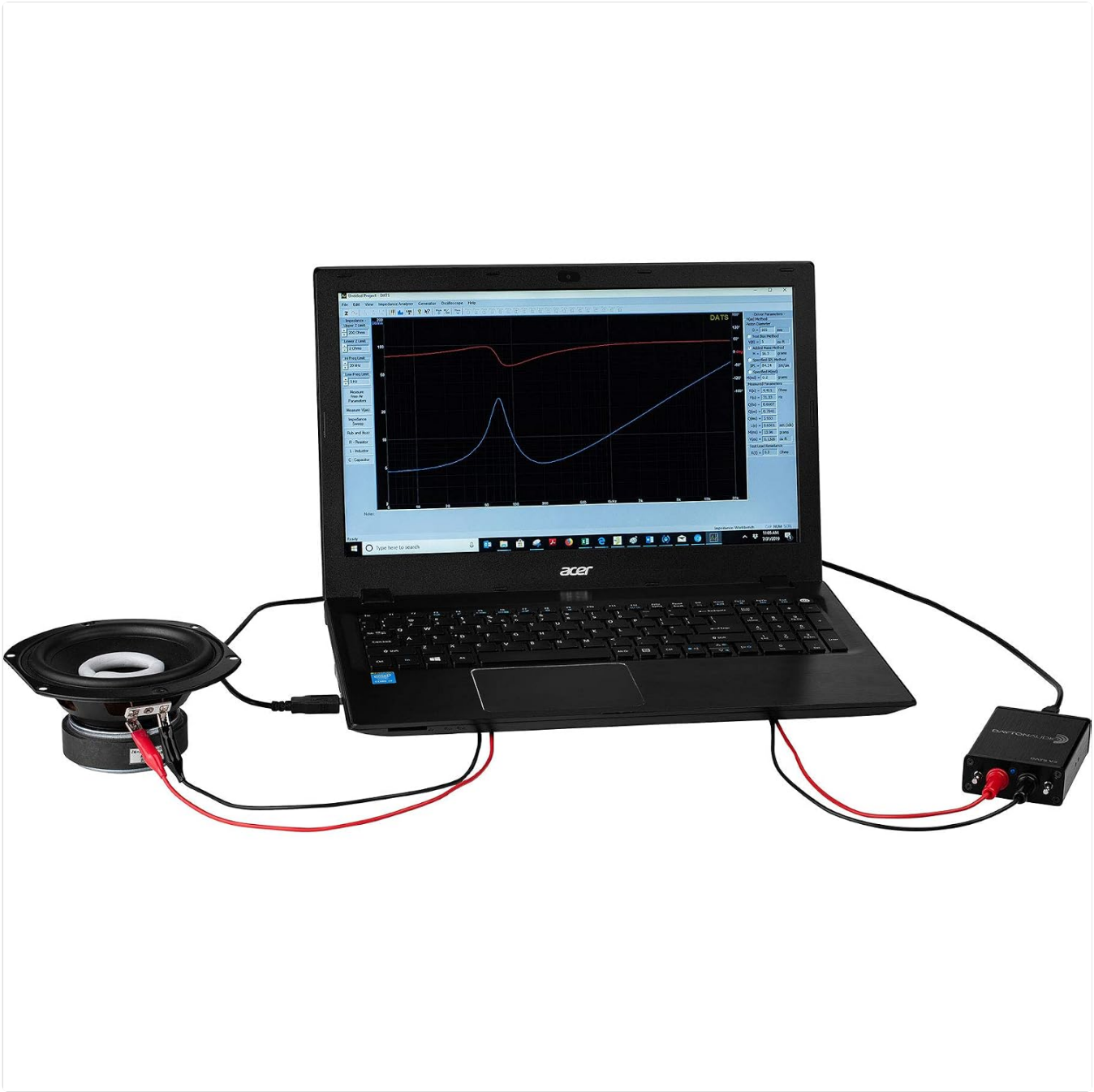


Figure 4: DATS V3 connected to a laptop and a speaker for testing.

Software Installation

The DATS V3 requires dedicated software for operation. Please follow the instructions provided in the Quick Start Guide included in your product packaging or visit the official Dayton Audio website to download the latest software and drivers. Ensure your operating system is compatible with the software requirements.

Operating Instructions

Once the hardware is connected and software is installed, you can begin performing measurements.

Performing an Impedance Sweep

1. **Launch Software:** Open the DATS V3 software application on your computer.
2. **Calibration:** Before any measurement, perform a system calibration using the built-in precision calibration resistor. Follow the on-screen prompts within the software for accurate calibration.
3. **Select Measurement Type:** Choose "Impedance Sweep" from the available measurement options in the software interface.

4. **Start Measurement:** Initiate the impedance sweep. The software will generate a test signal through the DATS V3 unit to the connected DUT, and the results will be displayed graphically on your screen.
5. **Analyze Results:** The software will present an impedance curve, allowing you to identify key parameters such as resonant frequency (Fs), nominal impedance, and other Thiele-Small parameters. You can interact with the graph to pinpoint specific values.

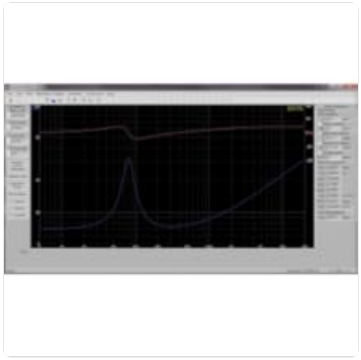


Figure 5: Screenshot of the DATS V3 software displaying an impedance curve for a speaker.

Linearity Test

The DATS Linearity Test allows for comparing parameters and impedance plots at multiple drive levels. This is crucial for understanding how a speaker's performance changes with varying power inputs. Consult the software's help documentation for detailed steps on performing this advanced test.

Maintenance

The Dayton Audio DATS V3 is designed for durability and requires minimal maintenance. To ensure its longevity and accurate performance:

- Keep the unit clean and free from dust and debris. Use a soft, dry cloth for cleaning.
- Store the unit in a cool, dry place when not in use.
- Handle the test leads and connectors with care to prevent damage.
- Avoid exposing the unit to extreme temperatures or moisture.

Troubleshooting

If you encounter issues with your DATS V3, consider the following common troubleshooting steps:

- **No Connection Detected:**
  - Ensure the USB cable is securely connected to both the DATS V3 and your computer.
  - Verify that the DATS V3 software is correctly installed and running.
  - Check your computer's Device Manager to confirm the DATS V3 drivers are installed and recognized.
  - Try a different USB port on your computer.
- **Inaccurate Readings:**
  - Perform a calibration within the DATS V3 software.
  - Ensure the test leads are securely connected to both the DATS V3 and the DUT.
  - Check for any damage to the test leads or connectors.
  - Verify that the DUT is properly connected and functioning.
- **Software Issues:**
  - Restart the DATS V3 software.

- Restart your computer.
- Check the Dayton Audio website for software updates or known issues.

For persistent issues, refer to the comprehensive help documentation within the DATS V3 software or contact Dayton Audio customer support.

Specifications

Feature	Specification
Product Dimensions	6.54 x 4.57 x 2.48 inches
Item Weight	12.8 ounces (0.8 Pounds)
Item Model Number	DATS V3
Manufacturer	Dayton Audio
Power Source	Corded Electric (USB powered)
Color	Black
Housing	Rugged aluminum housing
Calibration	Built-in precision calibration resistor
Measurements	Tighter tolerances for precise measurements, increased output capability
Tests	DATS Linearity Test for comparing parameters and impedance plots at multiple drive levels
Mounting	Optional under-desk mounting brackets included

Warranty and Support

For information regarding product warranty, technical support, and service, please refer to the official Dayton Audio website or contact their customer service department. Keep your purchase receipt as proof of purchase for any warranty claims.
Online Resources: Visit daytonaudio.com for software downloads, FAQs, and additional product information.

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Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question