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› Demeras 7812+UPC1237 Speaker Relay Module Instruction Manual

Demeras Demerasd3evop1m9b

Demeras 7812+UPC1237 Speaker Relay Module Instruction Manual

Model: Demerasd3evop1m9b

INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the Demeras 7812+UPC1237 Speaker Relay Module. This module is designed to protect speakers from various electrical issues, ensuring longevity and optimal performance of your audio system.

Key features include start-up delay, DC protection, and resistance to power failure and impact. The module utilizes the UPC1237 as its core device and OMRON high-current relays for reliable operation.

SAFETY INFORMATION

Please read and understand all safety instructions before installing or operating the module. Failure to do so may result in damage to the device, connected equipment, or personal injury.

- Ensure all power is disconnected from the audio system before making any connections to the relay module.
- This module operates with AC voltages between 12V and 24V. Verify your power supply matches these requirements.
- Avoid touching exposed circuit board components when the module is powered.
- Installation should be performed by individuals familiar with electronic circuits and wiring practices.
- Do not expose the module to moisture, extreme temperatures, or corrosive environments.

PRODUCT OVERVIEW

The Demeras Speaker Relay Module is a compact, high-precision circuit board designed for speaker protection. It features a double-sided tinned PCB and robust OMRON relays.

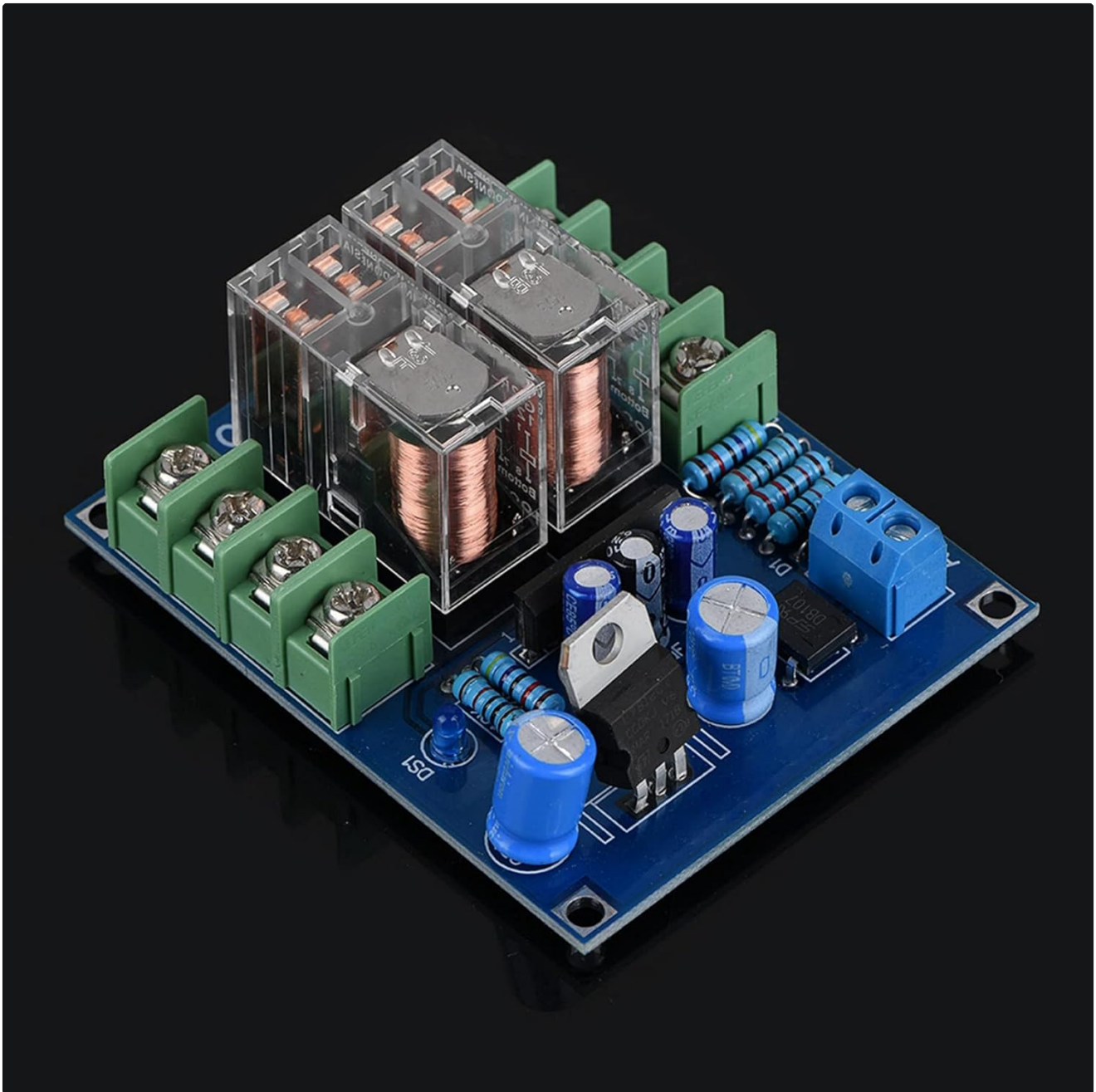


Figure 1: Top-down view of the Demeras Speaker Relay Module, showing the two OMRON relays, capacitors, resistors, and terminal blocks.

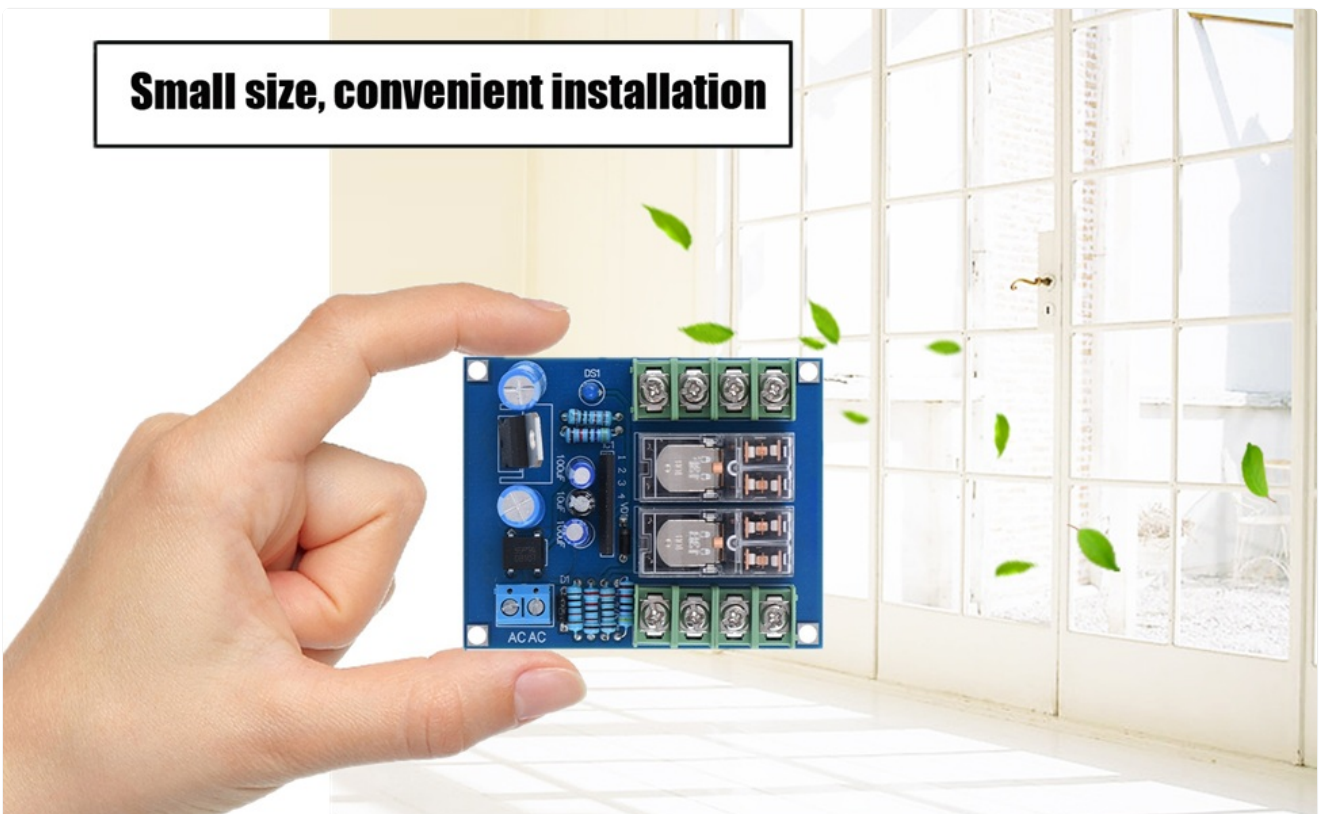


Outstanding performance

**The best performance
UPC1237 core equipment**

**Start-up delay DC protection
power failure and shock resistance**

Figure 2: The module highlighting its outstanding performance features, including the UPC1237 core, start-up delay, DC protection, and resistance to power failure and shock.



Small size, convenient installation

Figure 3: The compact size of the module, demonstrating its convenient installation in various setups.

Key Components:

- **UPC1237 Core Device:** Provides excellent performance for speaker protection.
- **OMRON High-Current Relays:** Ensures reliable switching and protection.
- **7812 Voltage Stabilizer:** Regulates power supply for stable operation.

- **High-Precision CNC Double-Sided Tinned Circuit Board:** Offers durability and ease of installation.

SPECIFICATIONS

Feature	Specification
Brand	Demeras
Model Number	Demerasd3evop1m9b
Power Supply Range	AC 12V to AC 24V
Core Device	UPC1237
Relay Type	OMRON High-Current Relay
Voltage Stabilization	7812
Mounting Type	PCB Mount
Connector Type	Screw Terminal
Contact Material	Silver
Contact Type	Normally Open
Operation Mode	Automatic
Product Dimensions	2.76 x 2.17 x 1.18 inches (70 x 57 x 30 mm approx.)
Item Weight	4.3 ounces

SETUP

The Demeras Speaker Relay Module is designed for straightforward integration into existing audio amplifier circuits. Follow these steps for proper connection:

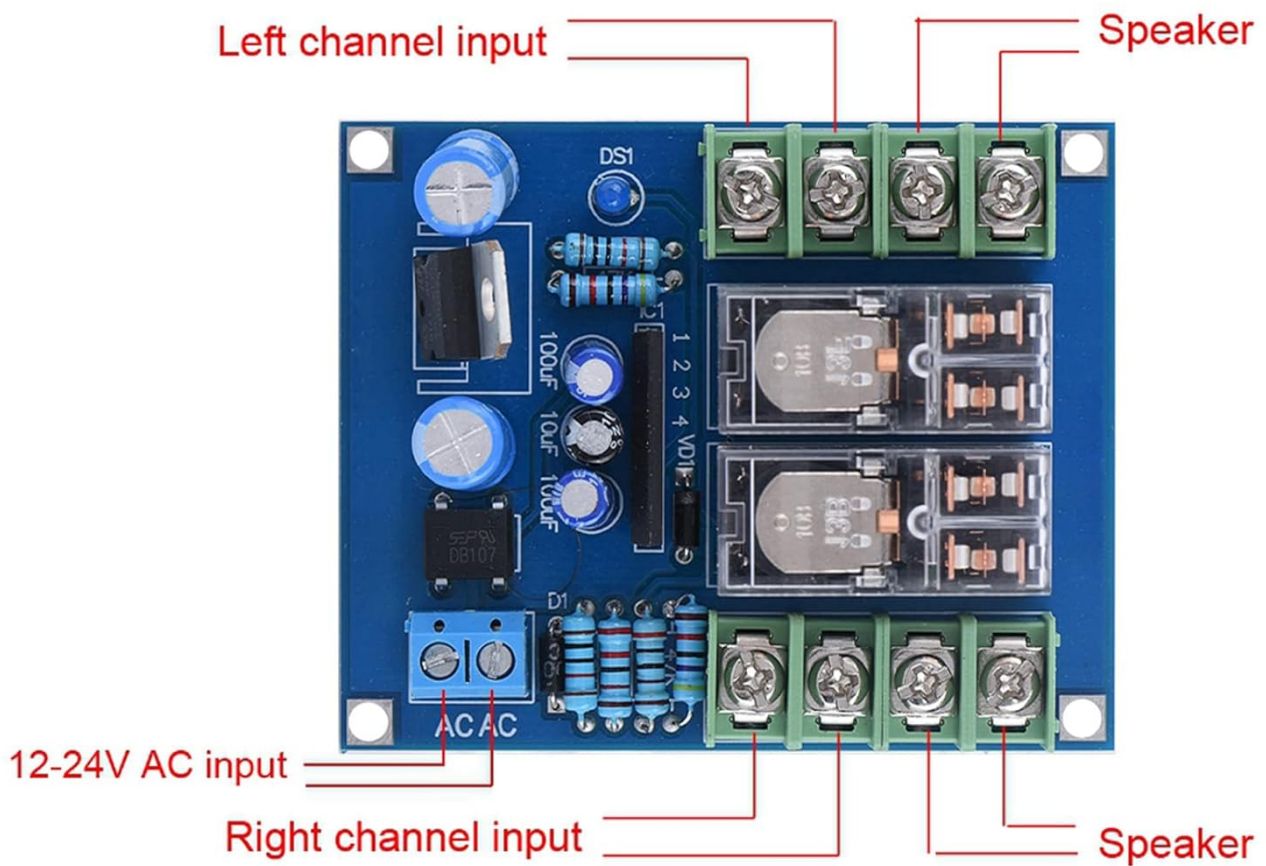


Figure 4: Connection diagram for the Demeras Speaker Relay Module, showing AC input, left/right channel inputs, and speaker outputs.

1. **Power Supply Connection:** Connect an AC power source (12V to 24V) to the "ACAC" screw terminals on the module. Ensure the power supply is stable and within the specified voltage range.
2. **Audio Input Connection:**
 - Connect the left channel audio output from your amplifier to the "Left channel input" screw terminals.
 - Connect the right channel audio output from your amplifier to the "Right channel input" screw terminals.
3. **Speaker Output Connection:**
 - Connect your left speaker to the "Speaker" screw terminals corresponding to the left channel.
 - Connect your right speaker to the "Speaker" screw terminals corresponding to the right channel.
4. **Verify Connections:** Double-check all wiring to ensure correct polarity and secure connections before applying power. Loose connections can lead to malfunction or damage.

The module is designed for easy installation and typically requires no debugging once correctly wired.

OPERATING INSTRUCTIONS

Once the Demeras Speaker Relay Module is correctly installed and powered, its operation is automatic:

- **Start-up Delay:** Upon power-up, the module introduces a brief delay before connecting the speakers. This prevents the "pop" sound often heard when an amplifier is first turned on, protecting your speakers from sudden transients.
- **DC Protection:** The module continuously monitors for DC voltage at the amplifier's output. If a significant DC voltage is detected (indicating an amplifier fault), the relays will quickly disconnect the speakers to prevent damage.
- **Power Failure and Impact Resistance:** The robust design and OMRON relays provide protection against power fluctuations and impacts, ensuring stable operation and speaker safety.

The module operates silently and automatically, requiring no user intervention during normal use.

MAINTENANCE

The Demeras Speaker Relay Module is designed for long-term, maintenance-free operation. However, following these general guidelines can help ensure its longevity:

- **Keep Clean:** Periodically inspect the module for dust accumulation. If necessary, gently clean with a soft, dry brush or compressed air. Ensure power is disconnected before cleaning.
- **Environmental Conditions:** Operate the module within a stable environment, avoiding excessive heat, cold, humidity, or direct sunlight.
- **Secure Connections:** Occasionally check that all screw terminal connections remain tight and secure.

TROUBLESHOOTING

If you encounter issues with your Demeras Speaker Relay Module, consider the following:

- **No Sound or Delayed Connection:**
 - Verify that the power supply (AC 12V-24V) is correctly connected and active.
 - Check all audio input and speaker output connections for proper wiring and secure contact.
 - Ensure the amplifier is functioning correctly and outputting an audio signal.
- **Immediate Speaker Connection (No Delay) or Turn-on Pop:**
 - The module is designed to provide a start-up delay. If speakers connect immediately upon power-up, or you hear a "pop" sound, this may indicate an issue with specific capacitor values on the board.
 - Some versions of this board may ship with incorrect capacitor values (e.g., 47uF, 15uF, 47uF instead of the specified 100uF, 50uF, 100uF for the three black capacitors in the center). Replacing these with the correct values (100uF or greater for the delay capacitor) can resolve the issue and provide the intended delay. This modification should only be performed by experienced electronics technicians.
- **Speakers Disconnect Unexpectedly:**
 - This is typically a sign that the DC protection circuit has activated. Check your amplifier for any faults that might be causing DC voltage at its output.
 - Ensure the audio signal is clean and free from excessive low-frequency noise that could falsely trigger the protection.

WARRANTY AND SUPPORT

Demeras is committed to providing high-quality products and customer satisfaction. If you have any questions regarding the installation, operation, or performance of your Speaker Relay Module, please contact our customer service. We are

available to provide assistance and solutions to ensure you have a positive experience with our product.
Please refer to your purchase documentation for specific warranty terms and contact information.