

## Dayton Audio DMPC-10

# Dayton Audio DMPC-10 10uF 250V Polypropylene Capacitor User Manual

## 1. PRODUCT OVERVIEW

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The Dayton Audio DMPC-10 is a high-quality 10 microfarad (uF) polypropylene capacitor designed for use in loudspeaker crossover networks. This component is engineered to provide reliable performance and precise frequency filtering in audio applications. It features a 250 VDC rating and a 5% tolerance, ensuring stable operation and accurate sound reproduction.



Image 1.1: The Dayton Audio DMPC-10 10uF 250V Polypropylene Capacitor. This image shows the cylindrical component with its leads, ready for integration into an audio circuit.

### Key Features:

- **Capacitance:** 10 microfarad (uF)
- **Voltage Rating:** 250 VDC
- **Tolerance:** 5%
- **Material:** High purity metallized polypropylene
- **Application:** Specially designed for loudspeaker crossovers
- **Current Capacity:** High current capacity for optimal audio signal transfer

## 2. SAFETY INFORMATION

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Always observe proper safety precautions when working with electronic components and electrical circuits. Incorrect handling or installation can lead to component damage or personal injury.

- **Power Disconnection:** Ensure all power to the audio system is disconnected before attempting any installation or modification.
- **Static Discharge:** Handle components by their body, not their leads, and take measures to prevent

electrostatic discharge (ESD) which can damage sensitive electronics.

- **Soldering Safety:** If soldering is required, use appropriate ventilation and protective eyewear.
- **Professional Assistance:** If you are unfamiliar with electronic circuit work, consult a qualified technician.

### 3. INSTALLATION

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The DMPC-10 capacitor is intended for integration into passive loudspeaker crossover networks. Its primary function is to filter specific frequency ranges, directing them to the appropriate speaker drivers (e.g., tweeters, mid-range speakers).

#### General Installation Steps:

1. **Circuit Identification:** Refer to your speaker crossover schematic to identify the correct placement for the 10uF capacitor. Capacitors are typically used in series with a tweeter for a high-pass filter or in parallel with a woofer for a low-pass filter, or as part of more complex filter designs.
2. **Lead Preparation:** Carefully bend the capacitor leads to fit the designated points on the crossover board or terminal strip. Avoid sharp bends at the base of the capacitor body.
3. **Connection:** Solder the capacitor leads securely to the appropriate connection points. Ensure strong, clean solder joints. While polypropylene capacitors are non-polarized, good soldering practices are essential.
4. **Secure Placement:** Ensure the capacitor is physically secure within the speaker enclosure to prevent vibration-induced damage or noise.



Image 3.1: Testing leads connected to a speaker. This illustrates a common setup for testing speaker components, which may be part of a crossover installation process.

### 4. OPERATING PRINCIPLES

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Once correctly installed in a speaker crossover network, the Dayton Audio DMPC-10 capacitor operates passively. Its function is to block direct current (DC) and allow alternating current (AC) to pass, with its impedance varying inversely with frequency. In a high-pass filter, it allows higher frequencies to pass to a tweeter while attenuating lower frequencies. In a low-pass filter (when used with an inductor), it helps to block higher frequencies from a woofer.

The 10uF capacitance value, combined with other components in the crossover, determines the specific crossover frequency and slope, ensuring that each speaker driver receives the optimal frequency range for its design.

### 5. MAINTENANCE

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The Dayton Audio DMPC-10 polypropylene capacitor is a passive electronic component and requires no routine maintenance. Its robust construction ensures long-term stability and performance under normal

operating conditions.

## Care and Storage:

- **Environmental Conditions:** Avoid exposing the capacitor to extreme temperatures, high humidity, or corrosive environments.
- **Physical Damage:** Protect the capacitor from physical impact or excessive mechanical stress on its leads.
- **Cleaning:** If cleaning is necessary, use a dry, soft cloth. Do not use liquid cleaners or solvents.

## 6. TROUBLESHOOTING

If you experience issues with your audio system after installing or replacing a capacitor, consider the following troubleshooting steps:

- **No Sound from Driver:** Check all connections to the capacitor and the speaker driver. Ensure solder joints are solid and there are no breaks in the wiring.
- **Distorted Sound:** Verify that the correct capacitor value was used according to your crossover design. An incorrect value can lead to improper frequency filtering and distortion.
- **Incorrect Frequency Response:** Double-check the crossover schematic and ensure the capacitor is installed in the correct orientation and position within the circuit.
- **Component Damage:** Visually inspect the capacitor for any signs of physical damage, such as bulging, leaks, or burnt marks, although these are rare for polypropylene types.



Image 6.1: Dayton Audio DATS LA with testing leads hooked up. Specialized audio testing equipment can be used to diagnose issues with speaker drivers and crossover components.

## 7. SPECIFICATIONS

Specification	Value
Capacitance	10 Microfarad (uF)
Operating Voltage	250 Volts DC
Capacitance Tolerance	5%
Material Type	Polypropylene
Shape	Round
Mounting Type	Through-Hole Mount
Upper Temperature Rating	105 Degrees Celsius
Item Weight	4.54 g
Brand	Dayton Audio
Manufacturer	Dayton Audio
Model Number	DMPC-10

Specification	Value
UPC	844632013805

## 8. WARRANTY INFORMATION

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Dayton Audio products are manufactured to high standards and are typically covered by a manufacturer's warranty against defects in materials and workmanship. For specific warranty terms, duration, and claim procedures, please refer to the documentation provided with your purchase or visit the official Dayton Audio website.

Retain your proof of purchase for any warranty claims.

## 9. CUSTOMER SUPPORT

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For technical assistance, product inquiries, or support regarding the Dayton Audio DMPC-10 capacitor, please contact Dayton Audio directly.

- **Official Website:** Visit the [Dayton Audio Store on Amazon](#) or their main corporate website for contact information, FAQs, and additional resources.
- **Seller Support:** If purchased from a third-party seller, you may also contact them for assistance related to your order.