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› Audio-Technica AT4050 Multi-Pattern Condenser Microphone User Manual

Audio-Technica AT4050

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INTRODUCTION

The Audio-Technica AT4050 is a multi-pattern condenser microphone designed for critical studio and live sound applications. It features a large dual-diaphragm capsule, offering three switchable polar patterns: omnidirectional, cardioid, and figure-of-eight. This microphone is engineered to deliver transparent high and mid-range frequencies balanced with rich low-end qualities, making it suitable for a wide range of recording tasks, including vocals, instruments, and overheads.

Key features include a 2-micron-thick, vapor-deposited gold diaphragm that undergoes a five-step aging process for consistent performance, transformerless circuitry to minimize low-frequency distortion and enhance transient response, and state-of-the-art surface-mount electronics for reliability.

PACKAGE CONTENTS

Verify that all the following items are included in your AT4050 package:

- AT4050 Multi-Pattern Condenser Microphone
- AT8449 Shock Mount
- Microphone Dust Cover
- Protective Carrying Case



Image: The Audio-Technica AT4050 Multi-Pattern Condenser Microphone.

SETUP

Mounting the Microphone

The AT4050 microphone is designed to be used with the included AT8449 shock mount. This mount helps to isolate the microphone from vibrations and mechanical noise. To install the microphone:

1. Carefully align the base of the AT4050 microphone with the opening in the AT8449 shock mount.
2. Gently push the microphone into the shock mount until it is securely seated. Ensure the elastic bands are properly positioned around the microphone body.
3. Attach the shock mount to a standard microphone stand using its threaded adapter.



Image: The AT4050 microphone securely mounted in its AT8449 shock mount.

Connecting to Audio Equipment

The AT4050 requires 48V phantom power for operation. Connect the microphone to an XLR input on your audio interface, mixer, or preamplifier using a balanced XLR cable. Ensure phantom power is enabled on your connected device.



Image: The AT4050 microphone in a typical studio recording setup with a pop filter.

OPERATING INSTRUCTIONS

The AT4050 features switches on its body to adjust polar patterns, engage a 10 dB pad, and activate a low-cut filter.



Image: Close-up of the AT4050 microphone body, showing the switches for polar pattern, pad, and low-cut filter.

Polar Patterns

The AT4050 offers three switchable polar patterns, allowing versatility in various recording environments:

- **Cardioid:** Most sensitive to sound from the front, rejecting sound from the sides and rear. Ideal for isolating a sound source, such as a vocalist or instrument.
- **Omnidirectional:** Equally sensitive to sound from all directions. Useful for capturing room ambiance, group vocals, or multiple instruments simultaneously.
- **Figure-of-Eight:** Equally sensitive to sound from the front and rear, rejecting sound from the sides. Suitable for recording two vocalists facing each other, or for specific stereo miking techniques.

10 dB Pad

The 10 dB pad switch reduces the microphone's output level by 10 decibels. Engage this switch when recording very loud sound sources (e.g., close-miked guitar cabinets, drums) to prevent input overload and distortion in your preamplifier.

80 Hz Low-Cut Filter

The 80 Hz low-cut filter attenuates frequencies below 80 Hz. This can be used to reduce unwanted low-frequency noise such as rumble from air conditioning, traffic, or stage vibrations, improving clarity in recordings.

MAINTENANCE

Proper care ensures the longevity and optimal performance of your AT4050 microphone:

- **Cleaning:** Use a soft, dry cloth to clean the microphone body. Avoid using harsh chemicals or abrasive materials. Do not attempt to clean the microphone grille or capsule directly.
- **Storage:** When not in use, store the microphone in its provided dust cover and protective carrying case. This protects it from dust, moisture, and physical damage.
- **Environment:** Avoid exposing the microphone to extreme temperatures, high humidity, or direct sunlight.



Image: The included microphone dust cover for protection.



Image: The protective carrying case for safe transport and storage.

TROUBLESHOOTING

- **No Sound:** Ensure the microphone is correctly connected via an XLR cable and that 48V phantom power is enabled on your audio interface or mixer. Check all cable connections.
- **Distorted Sound:** If the sound is distorted, especially with loud sources, engage the 10 dB pad switch on the microphone. Also, check the input gain levels on your audio interface or mixer to ensure they are not set too high.
- **Excessive Low-Frequency Noise:** If you experience unwanted rumble or low-end buildup, activate the 80 Hz low-cut filter switch on the microphone.
- **Difficulty with Shock Mount:** The AT8449 shock mount requires careful placement. Ensure the microphone is aligned properly and gently guided into the elastic suspension. Avoid forcing the microphone, which could damage the mount or microphone.

SPECIFICATIONS

Feature	Specification
Element	Condenser
Polar Pattern	Cardioid, Omni, Figure-of-eight
Frequency Response	20 - 18,000 Hz
Open Circuit Sensitivity	-36 dB (15.8 mV), re 1V at 1 Pa
Impedance	100 ohms
Maximum Input Sound Level	149 dB SPL, 1 kHz at 1% T.H.D.

Signal to Noise Ratio	77 dB, 1 kHz at 1 Pa
Dynamic Range (Typical)	132 dB, 1 kHz at Max. SPL
Phantom Power Requirements	48V (+/- 4V)
Low Frequency Roll Off	80 Hz, 12 dB per octave
Switches	Polar pattern; 10 dB pad; roll-off
Weight	18 ounces (0.51 kg)
Output Connector	Integral 3-pin XLRM-type

WARRANTY AND SUPPORT

Warranty Information

The Audio-Technica AT4050 Multi-Pattern Condenser Microphone comes with a 5-year warranty on parts and labor. Please retain your proof of purchase for warranty claims.

Customer Support

For further assistance, technical support, or warranty service, please visit the official Audio-Technica website or contact their customer service department. Contact information can typically be found on the Audio-Technica website or in the product packaging.