

# AT4033/CL

## Cardioid Condenser Side-Address Microphone

40 series studio microphones



### Features

- **Specially engineered to meet the most critical acoustic requirements of professional recording, broadcast and sound reinforcement**
- **Transformer less circuitry virtually eliminates low-frequency distortion and provides superior correlation of the high-speed transients**
- **2-micron thick, vapor-deposited gold diaphragm undergoes a five step aging process so that the optimum characteristics achieved remain constant over years of use**
- **Floating-construction capsule assembly provides isolation from noise and vibration**
- **Precision-machined, nickel-plated brass, acoustic element baffle provides enhanced element stability and optimal sensitivity**
- **Open acoustical environment of the symmetrical housing assembly minimizes unwanted internal reflections**
- **Custom shock mount provides superior isolation**
- **Integral 80 Hz high-pass filter switch and 10 dB pad switch**
- **State-of-the-art design and manufacturing techniques ensure compliance with A-T's stringent consistency and reliability standards**

### Description

The AT4033/CL is a side-address fixed-charge condenser microphone with a cardioid polar pattern. It is designed to meet the most critical acoustic requirements of professional recording, broadcast and sound reinforcement.

The microphone requires 48V phantom power for operation.

The cardioid polar pattern of the microphone is more sensitive to sound originating directly in front of the element, making it useful in controlling feedback, reducing pickup of unwanted sounds and providing isolation between performers.

The output of the microphone is a 3-pin XLRM-type connector.

The microphone is equipped with a switchable 10 dB pad and a switch that permits choice of flat response or low-frequency roll-off (via integral 80 Hz high-pass filter).

The microphone is enclosed in a rugged housing. The included AT8449 shock mount provides superior isolation and permits mounting on any microphone stand with  $\frac{5}{8}$ "-27 threads. A dust cover and a protective carrying case are also included.

### Operation and Maintenance

The AT4033/CL requires 48V phantom power for operation.

Output is low impedance (Lo-Z) balanced. The signal appears across Pins 2 and 3; Pin 1 is ground (shield). Output phase is "Pin 2 hot"—positive acoustic pressure produces positive voltage at Pin 2.

To avoid phase cancellation and poor sound, all mic cables must be wired consistently: Pin 1-to-Pin 1, etc.

A raised Audio-Technica emblem is on the front of the microphone. Position this side of the microphone toward the sound source.

An integral 80 Hz high-pass filter provides easy switching from a flat frequency response to a low-end roll-off. The roll-off position reduces the microphone's sensitivity to popping in close vocal use. It also reduces the pickup of low-frequency ambient noise (such as traffic, air-handling systems, etc.), room reverberation and mechanically coupled vibrations. To engage the high-pass filter, slide the switch toward the "bent" line.

The microphone is also equipped with a switchable 10 dB pad that lowers the microphone's sensitivity, thus providing higher SPL capability for flexible use with a wide range of users and system configurations. To engage the 10 dB pad, slide the switch toward the -10 position.

In use, secure the cable to the mic stand or boom, leaving a slack loop at the mic. This will ensure the most effective shock isolation and reduce the possibility of accidentally pulling the microphone out of its mount.

Avoid leaving the microphone in the open sun or in areas where temperatures exceed 110° F (43° C) for extended periods. Extremely high humidity should also be avoided.

### Architect's and Engineer's Specifications

The microphone shall be a side-address fixed-charge condenser. It shall have a cardioid polar pattern with a uniform 120° angle of acceptance and a frequency response of 30 Hz to 20,000 Hz. The microphone shall operate from an external 48V DC phantom power source. It shall be capable of handling sound input levels up to 145 dB (155 dB with 10 dB pad) with a dynamic range of 128 dB. Nominal open-circuit output voltage shall be 25.1 mV at 1V, 1 Pascal. Output shall be low impedance balanced (100 ohms).

The output of the microphone shall be a 3-pin XLRM-type connector.

The microphone shall be equipped with a switchable 10 dB pad and a switch that permits choice of flat response or 80 Hz low-frequency roll-off.

The microphone shall be 170.0 mm (6.69") long and have a maximum body diameter of 53.4 mm (2.10"). Weight shall be 380 grams (13.4 oz). The microphone shall include a shock mount, a dust cover and a protective carrying case.

The Audio-Technica AT4033/CL is specified.

### Specifications

<b>Element</b>	Fixed-charge back plate, permanently polarized condenser
<b>Polar pattern</b>	Cardioid
<b>Frequency response</b>	30-20,000 Hz
<b>Low frequency roll-off</b>	80 Hz, 12 dB/octave
<b>Open circuit sensitivity</b>	-32 dB (25.1 mV) re 1V at 1 Pa
<b>Impedance</b>	100 ohms
<b>Maximum input sound level</b>	145 dB SPL, 1 kHz at 1% T.H.D.; 155 dB SPL, with 10 dB pad (nominal)
<b>Noise<sup>1</sup></b>	17 dB SPL
<b>Dynamic range (typical)</b>	128 dB, 1 kHz at Max SPL
<b>Signal-to-noise ratio<sup>1</sup></b>	77 dB, 1 kHz at 1 Pa
<b>Phantom power requirements</b>	48V DC, 3.2 mA typical
<b>Switches</b>	Flat, roll-off; 10 dB pad (nominal)
<b>Weight</b>	380 g (13.4 oz)
<b>Dimensions</b>	170.0 mm (6.69") long, 53.4 mm (2.10") maximum body diameter
<b>Output connector</b>	Integral 3-pin XLRM-type
<b>Audio-Technica case style</b>	R1
<b>Accessories furnished</b>	AT8449 shock mount for 5/8"-27 threaded stands; microphone dust cover; protective carrying case

In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

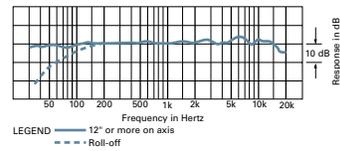
1 Pascal = 10 dynes/cm<sup>2</sup> = 10 microbars = 94 dB SPL

<sup>1</sup> Typical, A-weighted, using Audio Precision System One.

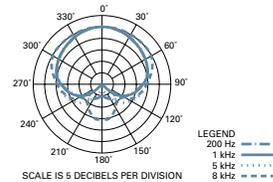
Specifications are subject to change without notice.



frequency response: 30–20,000 Hz



polar pattern



 **audio-technica**

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