AT8033

audio-technica

Cardioid Condenser Microphone

broadcast & production microphones

Features

- **All-purpose condenser microphone ideal for audio acquisition in the studio and on stage; use for interviews, acoustic guitar, percussion, overheads, group vocals and more**
- **Low-mass diaphragm ensures minimum distortion**
- **High SPL capability and wide frequency response**
- **Cardioid polar pattern reduces pickup of sounds from the sides and rear, improving isolation of desired sound source**
- **Switchable 80 Hz high-pass filter minimizes pickup of undesired low-frequency sounds**
- **Offers the convenience of battery or phantom power operation**

Description

The AT8033 is an all-purpose condenser microphone ideal for general audio acquisition including interviews, acoustic guitar, percussion, overheads, vocals and more.

The microphone requires 11V to 52V phantom power or a 1.5V AA battery for operation. A battery need not be in place for phantom power operation.

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

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

A switch permits choice of flat response or low-frequency roll-off (via integral 80 Hz high-pass filter) to help control undesired ambient noise.

The microphone is enclosed in a rugged housing. The included AT8405a stand clamp permits mounting on any microphone stand with $^{5}/_{8}$"-27 threads. A windscreen, a battery and a soft protective pouch are also included.

Operation and Maintenance

The AT8033 requires 11V to 52V phantom power or a 1.5V AA battery for operation. A battery need not be in place for phantom power operation.

To install the battery, unscrew the lower section of the microphone body, just below the nameplate. Insert a fresh 1.5V AA battery in the handle compartment ("+" end up), then reassemble the microphone. For longest battery life, the switch should remain off except when the microphone is in use. Alkaline batteries are recommended for longest life. Remove the battery during long-term storage.

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.

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 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 high sensitivity of the microphone assures useful output and an excellent match to most input sources. In some cases, however, an attenuator may be required between the microphone and preamplifier to avoid overloading sensitive input stages.

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.

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Specifications

Element	Fixed-charge back plate, permanently polarized condenser
Polar pattern	Cardioid
Frequency response	30-20,000 Hz
Low frequency roll-off	80 Hz, 18 dB/octave
Open circuit sensitivity	Phantom: –44 dB (6.3 mV) re 1V at 1 Pa Battery: –45 dB (5.6 mV) re 1V at 1 Pa
Impedance	Phantom: 250 ohms Battery: 300 ohms
Maximum input sound level	Phantom: 137 dB SPL, 1 kHz at 1% T.H.D. Battery: 123 dB SPL, 1 kHz at 1% T.H.D.
Dynamic range (typical)	Phantom: 113 dB, 1 kHz at Max SPL Battery: 99 dB, 1 kHz at Max SPL
Signal-to-noise ratio[1]	70 dB, 1 kHz at 1 Pa
Phantom power requirements	11-52V DC, 2 mA typical
Battery type	1.5V AA/UM3
Battery current / life	0.4 mA / 1200 hours typical (alkaline)
Switch	Flat, roll-off
Weight	159 g (5.6 oz)
Dimensions	194.2 mm (7.65") long, 26.0 mm (1.02") head diameter
Output connector	Integral 3-pin XLRM-type
Audio-Technica case style	S4
Accessories furnished	AT8405a stand clamp for $^5/_8$"-27 threaded stands; $^5/_8$"-27 to $^3/_8$"-16 threaded adapter; AT8136 windscreen; battery; soft protective pouch

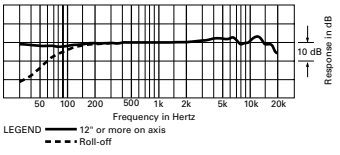
In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

1 Pascal = 10 dynes/cm2 = 10 microbars = 94 dB SPL

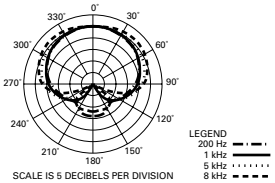
[1] Typical, A-weighted, using Audio Precision System One.

Specifications are subject to change without notice.

frequency response: 30–20,000 Hz



polar pattern



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