AT4053b

audio-technica

Hypercardioid Condenser End-Address Microphone

40 series studio microphones

Features

- **Specially engineered to meet the most critical acoustic requirements of professional recording, broadcast and sound reinforcement**
- **Direct-coupled, balanced output results in a clean signal even under high-output conditions**
- **Transformerless circuitry virtually eliminates low-frequency distortion and provides superior correlation of high-speed transients**
- **Hypercardioid polar pattern provides maximum feedback rejection and isolation of desired sound source**
- **Rugged turned-brass microphone housing for enduring dependability**
- **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 AT4053b is an externally polarized (DC bias) condenser microphone with a hypercardioid polar pattern. It is designed to meet the most critical acoustic requirements of professional recording, broadcast and sound reinforcement.

The AT4053b consists of two modular subassemblies: an AT4900b-48 body and an AT4053b-EL head capsule (both available separately). Additional interchangeable capsules with omnidirectional (AT4049b-EL) and cardioid (AT4051b-EL) pickup patterns are available.

The microphone requires 48V phantom power for operation.

The hypercardioid 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.

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 AT8405a stand clamp permits mounting on any microphone stand with $^{5}/_{8}$"-27 threads. A windscreen and a protective carrying case are also included.

Operation and Maintenance

The AT4053b 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.

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 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.

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.

Specifications

Element	Externally polarized (DC bias) condenser
Polar pattern	Hypercardioid
Frequency response	20-20,000 Hz
Low frequency roll-off	80 Hz, 12 dB/octave
Open circuit sensitivity	–34 dB (19.9 mV) re 1V at 1 Pa
Impedance	50 ohms
Maximum input sound level	145 dB SPL, 1 kHz at 1% T.H.D. 155 dB SPL, with 10 dB pad (nominal)
Noise[1]	16 dB SPL
Dynamic range (typical)	129 dB, 1 kHz at Max SPL
Signal-to-noise ratio[1]	78 dB, 1 kHz at 1 Pa
Phantom power requirements	48V DC, 4.8 mA typical
Switches	Flat, roll-off; 10 dB pad (nominal)
Weight	129 g (4.5 oz)
Dimensions	155.0 mm (6.10") long, 21.0 mm (0.83") diameter
Output connector	Integral 3-pin XLRM-type
Optional interchangeable capsules	AT4049b-EL (omnidirectional) AT4051b-EL (cardioid)
Audio-Technica case style	S1
Accessories furnished	AT8405a stand clamp for $^{5}/_{8}$"-27 threaded stands; AT8159 windscreen; protective carrying case

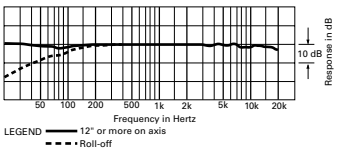
In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

1 Pascal = 10 dynes/cm^2 = 10 microbars = 94 dB SPL

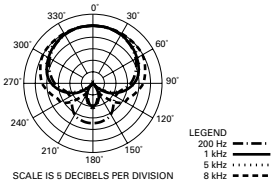
[1] Typical, A-weighted, using Audio Precision System One.

Specifications are subject to change without notice.

frequency response: 20–20,000 Hz



polar pattern



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