



AT831b Cardioid Condenser Lavalier Microphone



Broadcast & Production

Features

- Clip-on lavalier mic provides crisp, full-sounding voice pickup
- Also excels as an instrument mic, especially for pickup of acoustic guitar with included AT8444 instrument adapter
- Excellent gain before feedback and suppression of background noise
- Cardioid polar pattern reduces pickup of sounds from the sides and rear, improving isolation of desired sound source
- Offers the convenience of battery or phantom power operation
- Rugged design and construction for reliable performance
- UniSteep® filter provides a steep low-frequency attenuation to improve sound pickup without affecting voice quality

Description

The AT831b is a miniature clip-on/lavalier condenser microphone with a cardioid polar pattern. It is designed for quality sound reinforcement, professional recording, television and other demanding sound pickup applications.

The microphone is intended to be worn on the clothing or used as an instrument mic for excellent yet unobtrusive sound pickup. The wide-range capability of the microphone ensures clean, accurate reproduction with high intelligibility for speakers and presenters as well as for instrument pickup. Its small size makes it ideal for use in applications where minimum visibility is required.

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 microphone's cardioid polar pattern provides a 120° angle of acceptance.

The microphone includes a 1.8 m (6') permanently attached miniature cable. Its free end connects to the provided AT8531 power module via a TA3F-type connector. The output of the power module is a 3-pin XLRM-type connector.

A 3-position switch in the power module permits choice of off, on/flat response or on/low-roll-off (via integral 80 Hz high-pass UniSteep® filter). The roll-off position reduces the pickup of low-frequency ambient noise.

The microphone comes equipped with a power module, a clothing clip, an instrument adapter, a windscreen, and a protective carrying case.

Operation and Maintenance

The AT831b 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, remove the cap from the top of the power module. Insert a fresh 1.5V AA battery ("+" end toward the cap release button), then reassemble the

power module. 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.

A 3-position switch in the power module permits choice of off, on/flat response, or on/low-roll-off (via integral 80 Hz high-pass UniSteep® filter). 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 UniSteep® filter, slide the switch toward the "bent" line. To turn the microphone on without engaging the UniSteep® filter, slide the switch toward the flat line.

For use as a lavalier, attach the microphone about six inches below the chin. Anticipate movements that may cause the microphone to rub against or be covered by clothing, and position the microphone to avoid it.

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.

AT831b

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Specifications

Element	Fixed-charge back plate, permanently polarized condenser
Polar pattern	Cardioid
Frequency response	40-16,000 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: -46 dB (5.0 mV) re 1V at 1 Pa
Impedance	Phantom: 200 ohms Battery: 270 ohms
Maximum input sound level	Phantom: 135 dB SPL, 1 kHz at 1% T.H.D. Battery: 121 dB SPL, 1 kHz at 1% T.H.D.
Dynamic range (typical)	Phantom: 106 dB, 1 kHz at Max SPL Battery: 92 dB, 1 kHz at Max SPL
Signal-to-noise ratio ¹	65 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	Off, on-flat, on-roll-off
Weight	Microphone: 2.8 g (0.1 oz) Power module: 139 g (4.9 oz)
Dimensions	Microphone: 25.0 mm (0.98") long, 10.2 mm (0.40") diameter Power module: 84.0 mm (3.31") H x 63.0 mm (2.48") W x 22.0 mm (0.87") D
Output connector	Power module: Integral 3-pin XLRM-type
Cable	1.8 m (6') long (permanently attached to microphone), 2.6 mm (0.10") diameter, 2-conductor, shielded cable with TA3F-type connector
Audio-Technica case style	M1
Accessories furnished	AT8531 power module; AT8419 clothing clip; AT8444 instrument adapter; AT8116 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.

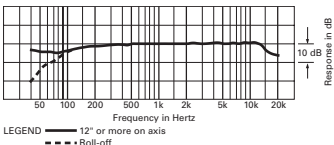
1 Pascal = 10 dynes/cm² = 10 microbars = 94 dB SPL

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

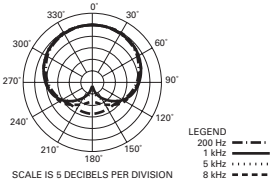
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frequency response: 40–16,000 Hz



polar pattern



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