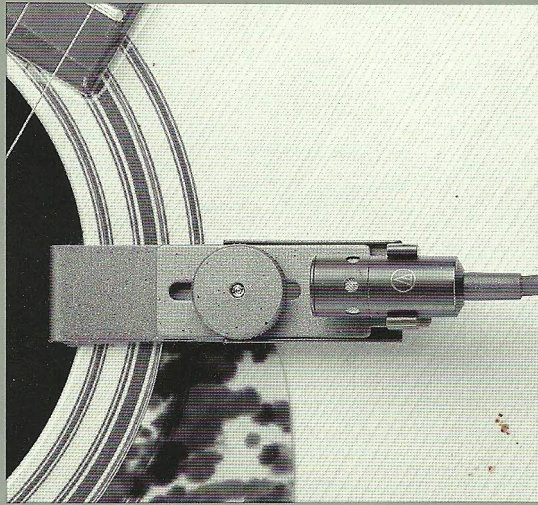
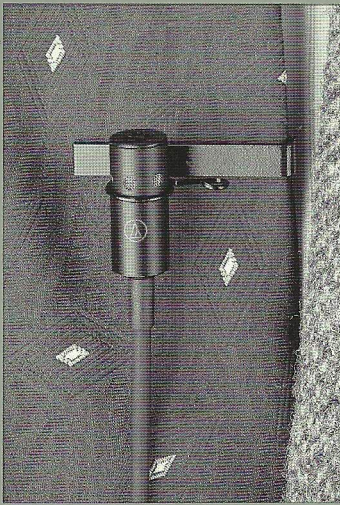


# 800 SERIES MICROPHONES



## AT831b MINIATURE CARDIOID CONDENSER MICROPHONE

### Description

The Model AT831b is a miniature condenser microphone with a cardioid polar pattern. It was designed for use by professional musicians, especially for pickup of acoustic guitar, and for hands-free applications in sound reinforcement systems. The AT831b provides improved gain before feedback that normally cannot be achieved with miniature omnidirectional microphones. Close-up voice and instrument pickup are crisp and clean, yet full sounding, while suppression of background-noise is significantly improved over that of stand-mounted full-size cardioid microphones.

Audio-Technica design engineers have utilized the newest low-mass fixed-charge condenser technology in the quest for superior performance. The charge is now on the fixed back plate, rather than the moving element. With the A-T "back plate" construction, a gold-vaporized diaphragm just 2 microns thick (about 0.000079") can be used. This reduces moving mass, improving frequency response and transient response while reducing distortion, and eliminates the high voltage external power supply of earlier condenser designs. The AT831b can be powered from an external 5V to 52V DC phantom supply or from an AA/UM3 1.5 volt battery (supplied). Current demands are low, and an alkaline battery should provide about 1000 hours of intermittent use.

The microphone element is enclosed in a rugged housing with low-reflectance finish. Internal construction is designed to minimize handling and clothing noise. A 6' (1.8 m) cable is provided between the microphone and power module. A built-in 3-position switch on the power module allows selection of battery off, battery on/flat response, or battery on/low-roll-off. In the phantom power mode the battery is bypassed, while selection of flat and roll-off is still available via the switch. A clothing clip and guitar adapter are provided, as well as an accessory windscreen. The microphone is well protected by a specially designed carrying case.

### Operation and Maintenance

To install the battery, remove the cap from the top of the power module. Insert the battery, being certain to observe battery polarity as marked (+ end toward the cap release button). The switch controls both battery and microphone output (except in phantom power mode), and should remain off except when the microphone is in use for longest life. While standard carbon-zinc AA batteries will operate the microphone satisfactorily, alkaline or mercury cells are preferred for longer service life. Only "leakproof" batteries should be used. The battery does not have to be in place to use in phantom power mode. Phantom power requires 5V to 52V DC.

The microphone may be worn on the person or attached to a musical instrument. If used with an instrument, it may be attached by means of the tie clip or the special instrument adapter provided. The microphone can be clipped to a tie, lapel, or dress using the clasp provided. The power module may be worn on the belt, utilizing the belt clip, or located in any convenient place. An open-pore foam windscreen simply slips over the head of the microphone to reduce wind noise or "popping" when used extra close.

Output is balanced, low impedance via a 3-pin XLRM-type connector. The balanced signal appears across Pins 2 and 3, while the ground (shield) connection is Pin 1. Output is phased so that positive acoustic pressure produces positive voltage at Pin 2 in accordance with industry convention.

While a modern condenser microphone is not unduly sensitive to humidity, temperature extremes can be harmful. Exposure to high temperatures can result in gradual and permanent reduction of the output level. Avoid leaving the microphone in the open sun or areas where the temperature exceeds 110°F (43°C) for appreciable periods of time. Extremely high humidity should also be avoided.

### Architects and Engineers Specifications

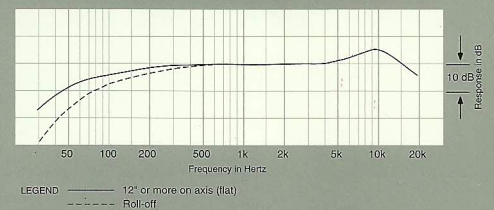
The microphone shall be a fixed-charge condenser with a cardioid polar pattern and a frequency response of 40 Hz to 20,000 Hz. It shall be capable of operating from an external 5V to 52V DC phantom power source or, alternatively, from an AA/UM3 1.5 volt battery. Output with power module shall be low impedance balanced (200 ohms). Nominal open-circuit output voltage shall be 5.6 mV at 1 kHz/1 Pascal.

The microphone shall have a permanently attached 6' (1.8 m) miniature cable between the microphone and power module. The power module shall house the battery and contain an off/on/low roll-off switch. The power module shall terminate in a 3-pin XLRM-type connector.

The microphone shall be mountable in an included instrument adapter or clothing clip. The microphone shall be 25.0 mm (0.98") long with a diameter of 10.0 mm (0.39"). The microphone weight shall be 2.8 grams (0.1 oz.). Finish shall be low-reflectance matte.

The Audio-Technica AT831b is specified.

### Frequency Response



LEGEND ——— 12" or more on axis (flat)  
----- Roll-off



