



## AT803b MINIATURE OMNIDIRECTIONAL CONDENSER MICROPHONE

### Description

The AT803b is a miniature condenser microphone intended to be worn on the clothing of performers for excellent yet unobtrusive sound pickup. The wide-range capability of the AT803b ensures clean, accurate reproduction with high intelligibility for lecturers, singers, stage and TV performers.

Audio-Technica design engineers have utilized the newest low-mass technology in the quest for superior performance. The charge is now on the fixed back plate, rather than the moving element. With A-T fixed-charge "back plate" construction, a gold-vaporized diaphragm just 4 microns thick (about 0.000157") can be used. This reduces moving mass, thus improving frequency response and transient response while reducing distortion.

The AT803b can be powered from an external 9V to 52V DC phantom supply or from an AA/UM3 1.5V battery (supplied). Current demands are so low that an alkaline battery will provide about 1200 hours of continuous 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 off, on/flat response, or on/low-roll-off. An AT8417 clothing clip and AT8116 windscreen are provided. 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). For longest battery life, the switch should remain off except when the microphone is in use. 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 9V to 52V DC.

When the microphone is used, the power module may be clipped to clothing, placed on the floor, or concealed under an object. Excess cable may be coiled and stowed out of sight, leaving some slack for the performer's movement.

An open-pore foam windscreen simply slips over the head of the microphone to reduce wind noise or "popping" when used extra close. The microphone can be attached to clothing using the clip provided.

Output is low impedance balanced. The XLRM-type output connector mates with XLRF-type cable connectors. 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 the environment, 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 in areas where temperatures exceed 110° F (43° C) for long periods of time. Extremely high humidity should also be avoided.

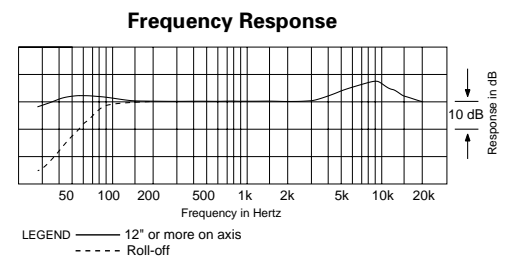
### Architects and Engineers Specifications

The microphone shall be a miniature fixed-charge condenser with an omnidirectional polar pattern and a frequency response of 30 Hz to 20,000 Hz. It shall be capable of operating from an external 9V to 52V DC phantom power source or, alternatively, from a 1.5V AA/UM3 battery. Nominal open-circuit output voltage shall be 5.6 mV (phantom) or 5.0 mV (battery) at 1kHz, 1 Pascal. Output with the included power module shall be low impedance balanced (200 ohms-phantom, 270 ohms-battery).

The microphone shall have a 6' (1.8 m) cable permanently attached to a 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.

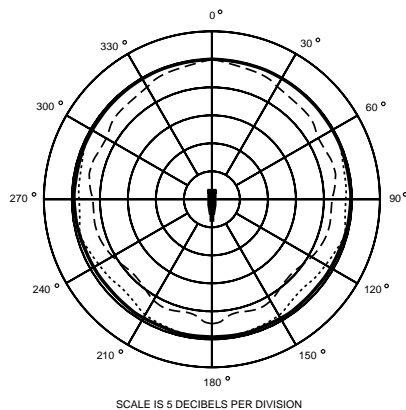
The microphone shall be 0.81" (20.5 mm) long and 0.39" (10.0 mm) in diameter. The microphone weight shall be 0.09 oz (2.5 grams) and finish shall be low-reflectance black.

The Audio-Technica AT803b is specified.



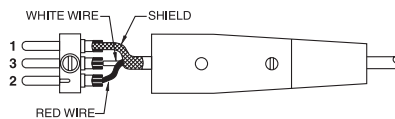
# AT803b

## Polar Pattern

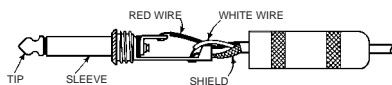


LEGEND  
 200 Hz — Same as 1 kHz  
 1 kHz - - - -  
 5 kHz ······  
 8 kHz - · - · -

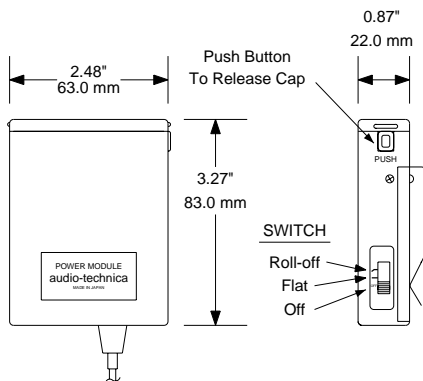
## XLRM-Type Plug Wiring Low Impedance Balanced



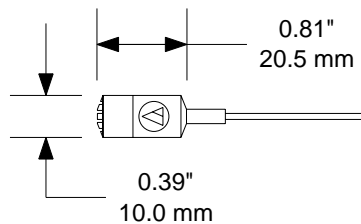
## 1/4" Phone Plug Wiring Low Impedance Unbalanced



## AT8530 Power Module Dimensions



## Dimensions



## AT803b SPECIFICATIONS†

<b>ELEMENT</b>	Fixed-charge back plate permanently polarized condenser	
<b>POLAR PATTERN</b>	Omnidirectional	
<b>FREQUENCY RESPONSE</b>	30-20,000 Hz	
<b>LOW-FREQUENCY ROLL-OFF</b>	80 Hz, 18 dB/octave	
<b>OPEN CIRCUIT SENSITIVITY</b>	PHANTOM BATTERY	-45 dB (5.6 mV) re 1V at 1 Pa* -46 dB (5.0 mV) re 1V at 1 Pa*
<b>IMPEDANCE</b>	PHANTOM BATTERY	200 ohms 270 ohms
<b>MAXIMUM INPUT SOUND LEVEL</b>	PHANTOM BATTERY	135 dB SPL, 1 kHz at 1% T.H.D. 121 dB SPL, 1 kHz at 1% T.H.D.
<b>DYNAMIC RANGE (TYPICAL)</b>	PHANTOM BATTERY	106 dB, 1 kHz at Max SPL 92 dB, 1 kHz at Max SPL
<b>SIGNAL-TO-NOISE RATIO<sup>1</sup></b>	65 dB, 1 kHz at 1 Pa*	
<b>SWITCH</b>	Off, on-flat, on-roll-off	
<b>BATTERY TYPE</b>	Use only "leakproof" AA/UM3 1.5V battery	
<b>BATTERY CURRENT</b>	0.4 mA typical	
<b>BATTERY LIFE</b>	1200 hours (alkaline battery)	
<b>PHANTOM POWER REQUIREMENTS</b>	9-52V DC, 2 mA typical	
<b>WEIGHT (LESS CABLE AND ACCESSORIES)</b>		
<b>MICROPHONE</b>	0.09 oz (2.5 grams)	
<b>POWER MODULE</b>	5.2 oz (147 grams)	
<b>DIMENSIONS</b>		
<b>MICROPHONE</b>	0.81" (20.5 mm) long, 0.39" (10.0 mm) diameter	
<b>POWER MODULE</b>	3.27" (83.0 mm) H x 2.48" (63.0 mm) W x 0.87" (22.0 mm) D, not including clip	
<b>OUTPUT CONNECTOR (POWER MODULE)</b>	Integral 3-pin XLRM-type	
<b>CABLE</b>	Integral 6' (1.8 m), permanently attached between microphone and power module	
<b>ACCESSORIES FURNISHED</b>	AT8417 clothing clip; AT8530 power module; AT8116 windscreen; battery; 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.

## Optional Accessories:

- CP8201 line matching transformer (Lo-Z to 50,000 ohms).
- AT8202 adjustable in-line attenuator for use with balanced Lo-Z microphones.
- AT8314 2-conductor, shielded, vinyl-jacketed, broadcast-type cable with XLR-type connector at microphone end, XLRM-type connector at equipment end. Available in 10', 20', 25', 30', 50' & 100' lengths.
- AT8412 double clothing clip.
- AT8414 tie tac.
- CP8506 four-channel 48V phantom power supply (AC powered).
- AT8801 single-channel 48V phantom power supply (AC powered).

## One-Year Limited Warranty

Audio-Technica microphones and accessories purchased in the U.S.A. are warranted for one year from date of purchase by Audio-Technica U.S., Inc. (A.T.U.S.) to be free of defects in materials and workmanship. In event of such defect, product will be repaired promptly without charge or, at our option, replaced with a new product of equal or superior value if delivered to A.T.U.S. or an Authorized Service Center, prepaid, together with the sales slip or other proof of purchase date. **Prior approval from A.T.U.S. is required for return.** This warranty excludes defects due to normal wear, abuse, shipping damage, or failure to use product in accordance with instructions. This warranty is void in the event of unauthorized repair or modification.

**For return approval and shipping information,** contact the Service Department, Audio-Technica U.S., Inc., 1221 Commerce Drive, Stow, Ohio 44224.

Except to the extent precluded by applicable state law, **A.T.U.S. will have no liability for any consequential, incidental, or special damages; any warranty of merchantability or fitness for particular purpose expires when this warranty expires.**

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Outside the U.S.A., please contact your local dealer for warranty details.



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