



AT831R 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
- Rugged design and construction for reliable performance
- UniSteep® filter provides a steep low-frequency attenuation to improve sound pickup without affecting voice quality
- Also available in wireless models (without power module) terminated for use with all Audio-Technica wireless systems and many other manufacturers' wireless systems

AT831R Description

The AT831R 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 for operation.

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

The microphone includes a 4 m (13.1') permanently attached miniature cable. Its free end connects to the provided AT8538 power module via a TA3F-type connector. The output of the power module is a 3-pin XLRM-type connector.

A recessed switch in the power module permits choice of flat response or low-frequency roll-off (via integral 80 Hz high-pass UniSteep® filter) to help control undesired 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 AT831R requires 11V to 52V 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 UniSteep® filter provides easy switching from a flat frequency response to a low-end roll-off. 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, use the end tip of a paperclip or other small pointed instrument to slide the switch toward the "bent" 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.

Wireless Models Description

The microphone is also available in a variety of wireless models, including the AT831cH. The AT831cH includes a 1.4 m (55") permanently attached miniature cable terminated with a screw-down 4-pin connector for use with Audio-Technica cH-style body-pack transmitters. Models are also available in a variety of terminations for use with many other manufacturers' wireless systems. No power module is included (or required) with the wireless models. The wireless models' dimensions and polar pattern are otherwise identical to those of the AT831R.

The AT831cW is also available unterminated as the AT831c.

The AT831R is also available with the AT8531 power module offering battery/phantom operation as the AT831b.

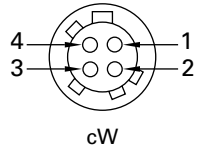
Cable Terminations

AT831cH	Terminated with a screw-down 4-pin connector for use with Audio-Technica® cH-style body-pack transmitters
AT831cW	Terminated with a locking 4-pin connector for use with Audio-Technica® cW-style body-pack transmitters
AT831cT4	Terminated for Shure® wireless systems using TA4F-type connector
AT831cT5	Terminated for Lectrosanics® wireless systems using TA5F-type connector
AT831c	Unterminated

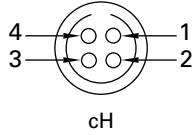
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AT831R

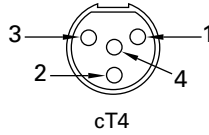
Wireless Termination Diagrams



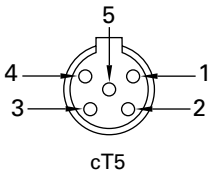
Function	Wire Color
Pin 1 Ground/Shield	Green
Pin 2 Instrument	Jumper to Pin 1
Pin 3 Mic Audio	Copper Color
Pin 4 Bias + In	Red



Function	Wire Color
Pin 1 Ground/Shield	Green
Pin 2 Instrument	Jumper to Pin 1
Pin 3 Mic Audio	Copper Color
Pin 4 Bias + In	Red



Function	Wire Color
Pin 1 Ground/Shield	Green
Pin 2 Bias + In	Red
Pin 3 Mic Audio	Copper Color
Pin 4 Source Load	Jumper to Pin 3



Function	Wire Color
Pin 1 Ground/Shield	Green
Pin 2 Bias + In	Red
Pin 3 Mic Audio	Copper Color
Pin 4 Source Load	Jumper to Pin 1
Pin 5 Line In	Open

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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	-42 dB (7.9 mV) re 1V at 1 Pa
Impedance	250 ohms
Maximum input sound level	141 dB SPL, 1 kHz at 1% T.H.D.
Dynamic range (typical)	112 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
Element power requirements	1.5-8V DC (0.15 mA current consumption typical)
Switch	Flat, roll-off
Weight	Microphone: 2.8 g (0.1 oz) Power module: 81 g (2.9 oz)
Dimensions	Microphone: 25.0 mm (0.98") long, 10.2 mm (0.40") diameter Power module: 92.9 mm (3.66") long, 18.9 mm (0.74") diameter
Output connector	Power module: Integral 3-pin XLRM-type
Cable	4.0 m (13.1') long wired, 1.4 m (55") long wireless
Audio-Technica case style	M1
Accessories furnished	AT8538 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

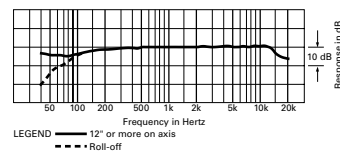
*Measured using AT8538 power module

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

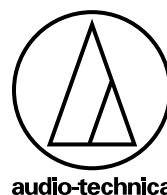
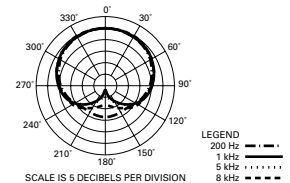
Specifications are subject to change without notice.



frequency response: 40–16,000 Hz



polar pattern



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