

# AT899 Subminiature Omnidirectional Condenser Lavalier Microphone



Broadcast & Production Microphones

## Features

- **Maximum intelligibility and clean, accurate reproduction for vocalists, lecturers, stage and television talent, and houses of worship**
- **Low-profile design (a mere 5 mm in diameter) is ideal for applications requiring minimum visibility**
- **Offers the convenience of battery or phantom power operation**
- **Rugged design and construction for reliable performance**
- **Switchable 80 Hz high-pass filter minimizes pickup of undesired low-frequency sounds**
- **Selected models offered in black and beige (-TH)**
- **Also available in wireless models (without power module) terminated for use with Audio-Technica wireless systems and many other manufacturers' wireless systems**

## Wired Description

The AT899 is a subminiature clip-on/lavalier condenser microphone with an omnidirectional polar pattern. It is designed to provide accurate reproduction for vocalists, lecturers, stage and television talent, and houses of worship.

The microphone is intended to be worn on the clothing or hidden in props for excellent yet unobtrusive sound pickup. The wide-range capability of the microphone ensures clean, accurate reproduction with high intelligibility for speakers, presenters and other performers. 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 includes a permanently attached 3 m (9.8') long, 2.0 mm (0.07") diameter, 2-conductor shielded cable. Its free end connects to the provided AT8537 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 filter) to help control undesired ambient noise.

The microphone comes equipped with a power module, a cable clip, a clothing clip base, a viper clip base, magnet clip base and plate with lanyard, three single mic holders, two double mic holders, two windscreens, two element covers and a battery. A protective carrying case is also included. All AT899 models are available with a low-reflectance black finish; selected models are available in beige.

## Operation and Maintenance

The AT899 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, unscrew the base of the power supply unit and insert one AA battery into the battery compartment, being certain to observe battery polarity as marked. Then simply screw the base shut. 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.

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 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 high-pass 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.

The included single and double mic holders are interchangeable with the included bases. To change the holders, simply remove original holder and snap in the desired one. When using the microphone in extremely close situations, slip the included open-pore foam windscreen over the mic to reduce wind noise or popping. Use the included element cover to protect the microphone element from contaminants.

**CAUTION!** To avoid possible injury, use caution when affixing the microphone viper clip to clothing. The pins are sharp and may puncture skin. For best results, ensure that pin ends rest on outside of clothing.

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 terminations for use with Audio-Technica and many other manufacturers' wireless systems. No power module or battery is included (or required) with the wireless models. The wireless models' dimensions, polar pattern and included accessories are otherwise identical to those of the AT899.

The AT899cW is also available unterminated as the AT899c.

## Cable Terminations

AT899cH, AT899cH-TH	Terminated with a screw-down 4-pin connector for use with Audio-Technica® cH-style body-pack transmitters
AT899cW, AT899cW-TH	Terminated with a locking 4-pin connector for use with Audio-Technica® cW-style body-pack transmitters
AT899cL4, AT899cL4-TH	Terminated for Sennheiser® wireless systems using Lemo connector
AT899cT4	Terminated for Shure® wireless systems using TA4F-type connector
AT899cT5, AT899cT5-TH	Terminated for Lectrosonics® wireless systems using TA5F-type connector
AT899c, AT899c-TH	Unterminated

Model numbers ending in "TH" are beige.

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# AT899

## Architect's and Engineer's Specifications

The microphone shall be a fixed-charge condenser. It shall have an omnidirectional polar pattern and a frequency response of 20 Hz to 20,000 Hz. The microphone shall operate from an external 11V to 52V DC phantom power source or, alternatively, from a 1.5V AA/UM3 battery. It shall be capable of handling sound input levels up to 138 dB (phantom) or 116 dB (battery) with a dynamic range of 108 dB (phantom) or 86 dB (battery). Nominal open-circuit output voltage shall be 7.0 mV (phantom) or 5.0 mV (battery) at 1 V, 1 Pascal. Output shall be low impedance balanced (200 ohms – phantom, 250 ohms – battery).

The microphone shall have a 3.0 m (9.8') permanently attached miniature cable terminating in a TA3F-type output connector. The output connector shall connect to a TB3M-type jack on the included power module. The power module shall contain a recessed switch to permit choice of flat response or 80 Hz low-frequency roll-off. The output of the power module shall be a 3-pin XLRM-type connector.

The microphone shall be 16.0 mm (0.63") long and have a diameter of 5.0 mm (0.20"). Weight shall be 0.5 grams (0.02 oz). The microphone shall include a power module, a cable clip, a clothing clip base, a viper clip base, a magnet clip base and plate with lanyard, three single mic holders, two double mic holders, two windscreens, two element covers, a battery and a protective carrying case. Finish shall be low-reflectance black.

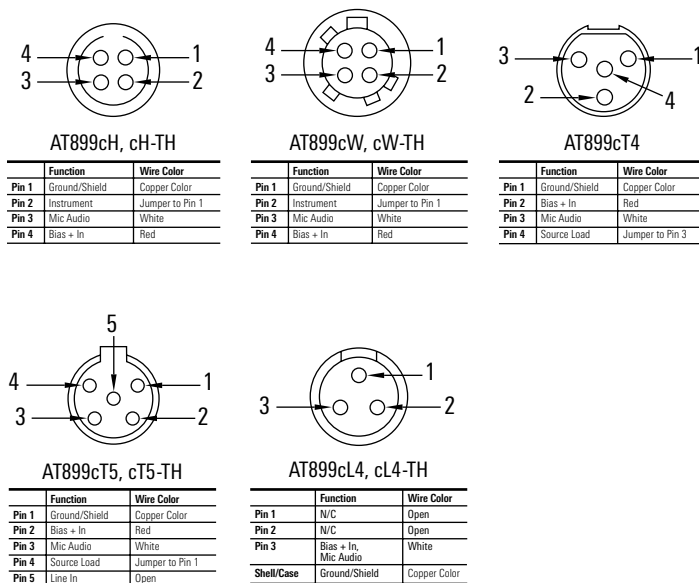
The microphone shall also be available with a 1.4 m (55") permanently attached miniature cable terminated for use with Audio-Technica body-pack transmitters and a variety of other manufacturers' wireless systems. The wireless models' dimensions, polar pattern and included accessories (excluding power module and battery) shall be identical to those of the wired model. Finish shall be low-reflectance black (selected models available in beige). The microphone shall also be available unterminated.

The Audio-Technica AT899 is specified.

The Audio-Technica AT899cW [AT899cW-TH]; AT899cH [AT899cH-TH]; AT899cL4 [AT899cL4-TH]; AT899cT4; AT899cT5 [AT899cT5-TH] (wireless version) is specified.

The Audio-Technica [AT899c]; [AT899c-TH] (unterminated) is specified.

## Wireless Termination Diagrams



## Specifications\*

Element	Fixed-charge back plate, permanently polarized condenser
Polar pattern	Omnidirectional
Frequency response	20-20,000 Hz
Low frequency roll-off	80 Hz, 12 dB/octave (power module)
Open circuit sensitivity	Phantom: -43 dB (7.0 mV) re 1V at 1 Pa Battery: -46 dB (5.0 mV) re 1V at 1 Pa
Impedance	Phantom: 200 ohms Battery: 250 ohms
Maximum input sound level	Phantom: 138 dB SPL, 1 kHz at 1% T.H.D. Battery: 116 dB SPL, 1 kHz at 1% T.H.D.
Dynamic range (typical)	Phantom: 108 dB, 1 kHz at Max SPL Battery: 86 dB, 1 kHz at Max SPL
Signal-to-noise ratio <sup>1</sup>	64 dB, 1 kHz at 1 Pa
Phantom power requirements	11-52V DC, 2 mA typical
Element power requirements	2.5-11V DC (0.1 mA current consumption typical at 5V DC)
Battery type	1.5V AA/UM3
Battery current / life	0.4 mA / 1200 hours typical (alkaline)
Switch	Flat, roll-off (power module)
Weight	Microphone: 0.5 g (0.02 oz) Power module: 102 g (3.6 oz)
Dimensions	Microphone: 16.0 mm (0.63") long, 5.0 mm (0.20") diameter Power module: 145.0 mm (5.71") long, 21.0 mm (0.83") diameter
Output connector	Power module: Integral 3-pin XLRM-type
Cable	3.0 m (9.8') long (wired) 1.4 m (55") long (wireless)
Audio-Technica case style	M29
Accessories furnished	AT8537 power module; AT8439 cable clip; clothing clip base; viper clip base; magnet clip base and plate with lanyard; three single mic holders; two double mic holders; two element covers; two windscreens; 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

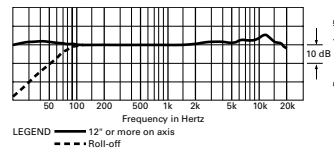
\*Measured using AT8537 power module

<sup>1</sup> Typical, A-weighted, using Audio Precision System One.

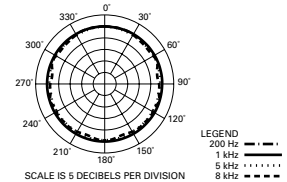
Specifications are subject to change without notice.



frequency response: 20–20,000 Hz



polar pattern



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0001-0180-03