

# AT4081

## Bidirectional Active Ribbon Microphone

40 series microphones



### Features

- **Smooth, warm and natural sound with precise, articulate detail to meet the critical requirements of today's recording, broadcast and sound reinforcement professionals**
- **Groundbreaking Audio-Technica ribbon design with 18 patents pending**
- **Proprietary MicroLinear™ ribbon imprint for superior durability and freedom from lateral flexing and distortion**
- **Innovative dual ribbon construction for increased sensitivity**
- **Extremely powerful N50 rare-earth neodymium magnets for high output level**
- **Ultra-fine mesh helps protect against ribbon damage from wind and plosives**
- **Classic bidirectional (figure-of-eight) polar pattern picks up sounds equally from the front and back of the element**
- **High-SPL capability for exceptionally versatile performance**
- **Extended frequency response for natural audio reproduction**
- **Handmade production – including ribbon corrugation, imprint and assembly**
- **Low-profile stick design maximizes placement options**
- **Phantom-powered active electronics provide stable impedance and higher output for maximum compatibility with microphone preamplifiers**

### Description

The AT4081 is a side-address active ribbon microphone with a bidirectional polar pattern. Delivering the warmth and natural sound of a classic ribbon microphone, the AT4081 offers a robust build for long-lasting performance and high gain for easy use with microphone preamplifiers.

With 18 patents pending, Audio-Technica's innovative ribbon transducer advances the evolution of ribbon microphone technology, combining remarkable durability and high-SPL capability with smooth, rich audio quality. The microphone is recommended for horns, strings, acoustic instruments, drum overheads, orchestras, ensembles and guitar cabinets. It excels in recording studios as well as in live-sound settings.

A significant breakthrough in ribbon cartridge design, Audio-Technica's patent-pending MicroLinear™ ribbon imprint minimizes ribbon distortion for durable performance and accurate reproduction of the sound source.

While the application of phantom power was prohibited for old-school ribbon microphones, Audio-Technica's AT4081 requires 48V phantom power for operation. The phantom power is used—not for the microphone's dynamic ribbon transducer—but for its active electronics, which bring its output to near condenser microphone level. This high-

output and stable impedance make the microphone easy to integrate with microphone preamplifiers.

The bidirectional polar pattern of the microphone makes it equally sensitive to sounds originating in front and back of the element.

The output of the microphone is a 3-pin XLRM-type connector.

The microphone is enclosed in a rugged housing. The included AT8471 isolation clamp provides superior isolation and permits mounting on any microphone stand with  $\frac{5}{8}$ "-27 threads. A windscreens and a protective carrying case are also included.

### Operation & Maintenance

The AT4081 requires 48V 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 Audio-Technica emblem is on the front of the microphone. Position this side of the microphone toward the sound source.

Note: While Audio-Technica ribbon microphones designed for superior durability, we recommend the following precautions when dealing with ribbon microphones: do not blow directly into the ribbon assembly; use the supplied windscreens for up-close vocal use.

Take care to keep foreign particles from entering the windscreens. An accumulation of foreign material in the ribbon structure and/or the windscreens' mesh surface, can degrade performance. 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.

### Architect's and Engineer's Specifications

The microphone shall be an active ribbon microphone with a side-address stick design. It shall have a bidirectional polar pattern and a frequency response of 30 Hz to 18,000 Hz. The microphone shall operate from an external 48V DC phantom power source. It shall be capable of handling sound input levels up to 150 dB with a dynamic range of 125 dB. Nominal open-circuit output voltage shall be 7.9 mV at 1V, 1 Pascal. Output shall be low impedance balanced (100 ohms).

The output of the microphone shall be a 3-pin XLRM-type connector.

The microphone shall be 155.0 mm (6.10") long and have a body diameter of 21.0 mm (0.83"). Weight shall be 152 g (5.4 oz). The microphone shall include an isolation clamp, a windscreens and a protective carrying case.

The Audio-Technica AT4081 is specified.

## Specifications

<b>Element</b>	Ribbon
<b>Polar pattern</b>	Figure-of-eight
<b>Frequency response</b>	30-18,000 Hz
<b>Open circuit sensitivity</b>	-42 dB (7.9 mV) re 1V at 1 Pa
<b>Impedance</b>	100 ohms
<b>Maximum input sound level</b>	150 dB SPL, 1 kHz at 1% T.H.D.
<b>Noise<sup>1</sup></b>	25 dB SPL
<b>Dynamic range (typical)</b>	125 dB, 1 kHz at Max SPL
<b>Signal-to-noise ratio<sup>1</sup></b>	69 dB, 1 kHz at 1 Pa
<b>Phantom power requirements</b>	48 V DC, 3.0 mA typical
<b>Weight</b>	152 g (5.4 oz)
<b>Dimensions</b>	155.0 mm (6.10") long, 21.0 mm (0.83") maximum body diameter
<b>Output connector</b>	Integral 3-pin XLRM-type
<b>Audio-Technica case style</b>	S13
<b>Accessories furnished</b>	AT8471 isolation clamp for 5/8"-27 threaded stands; 5/8"-27 to 3/8"-16 threaded adapter; 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.

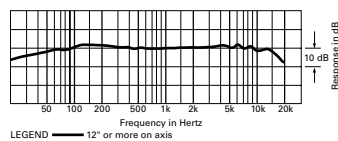
1 Pascal = 10 dynes/cm<sup>2</sup> = 10 microbars = 94 dB SPL

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

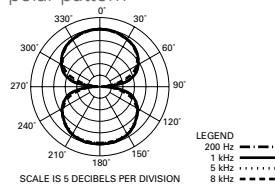
Specifications are subject to change without notice.



frequency response: 30–18,000 Hz



polar pattern



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