AT4080

audio-technica

Bidirectional 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**
- **Acoustic baffle system and extra large output transformer provide natural low-frequency response and extended dynamic range**
- **Handmade production – including ribbon corrugation, imprint and assembly**
- **Open acoustical environment of the housing assembly minimizes unwanted internal reflections**
- **Phantom-powered active electronics provide stable impedance and higher output for maximum compatibility with microphone preamplifiers**
- **Custom shock mount provides superior isolation**

Description

The AT4080 is a side-address ribbon microphone with a bidirectional polar pattern. Delivering the warmth and natural sound of a classic ribbon microphone, the AT4080 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 vocals, 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 AT4080 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 AT8449/SV shock mount provides superior isolation and permits mounting on any microphone stand with $^{5}/_{8}$"-27 threads. A dust cover and a protective carrying case are also included.

Operation & Maintenance

The AT4080 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.

A raised Audio-Technica emblem is on the front of the microphone. Position this side of the microphone toward the sound source.

In use, secure the cable to the mic stand or boom, leaving a slack loop at the mic. This will ensure the most effective shock isolation and reduce the possibility of accidentally pulling the microphone out of its mount.

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

Take care to keep foreign particles from entering the windscreen. An accumulation of foreign material in the ribbon structure and/or the windscreen's 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 a side-address ribbon microphone. It shall have a bidirectional polar pattern and a frequency response of 20 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 128 dB. Nominal open-circuit output voltage shall be 11.2 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 177.5 mm (6.99") long and have a maximum body diameter of 53.4 mm (2.10"). Weight shall be 474 g (16.7 oz). The microphone shall include a shock mount, a dust cover and a protective carrying case.

The Audio-Technica AT4080 is specified.

Specifications

Element	Ribbon
Polar pattern	Figure-of-eight
Frequency response	20-18,000 Hz
Open circuit sensitivity	–39 dB (11.2 mV) re 1V at 1 Pa
Impedance	100 ohms
Maximum input sound level	150 dB SPL, 1 kHz at 1% T.H.D.
Noise[1]	22 dB SPL
Dynamic range (typical)	128 dB, 1 kHz at Max SPL
Signal-to-noise ratio[1]	72 dB, 1 kHz at 1 Pa
Phantom power requirements	48V DC, 3.0 mA typical
Weight	474 g (16.7 oz)
Dimensions	177.5 mm (6.99") long, 53.4 mm (2.10") maximum body diameter
Output connector	Integral 3-pin XLRM-type
Audio-Technica case style	R1
Accessories furnished	AT8449/SV shock mount for $^5/_8$"-27 threaded stands; microphone dust cover; protective carrying case

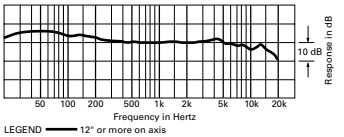
In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

1 Pascal = 10 dynes/cm^2 = 10 microbars = 94 dB SPL

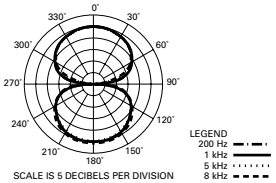
[1] Typical, A-weighted, using Audio Precision System One.

Specifications are subject to change without notice.

frequency response: 20–18,000 Hz



polar pattern



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