AT4060

audio-technica

Cardioid Vacuum Tube Condenser Side-Address Microphone

40 series studio microphones

Features

- **Vintage tube sound with the versatile performance necessary for the most demanding studio applications**
- **Hand-selected tubes are individually tested and aged to maintain peak performance**
- **Regulated and heavily filtered heater current prevents noise contamination of audio signal chain**
- **Wide dynamic range, low self-noise and high max SPL capability**
- **Large coupling transformer provides superior low-frequency linearity**
- **Dual-diaphragm capsule design maintains precise polar pattern definition across the full frequency range of the microphone**
- **The 2-micron-thick, vapor-deposited gold diaphragms undergo a five-step aging process so that the optimum characteristics achieved remain constant over years of use**
- **Precision-machined, nickel-plated brass, acoustic element baffle provides enhanced element stability and optimal sensitivity**
- **Custom shock mount provides superior isolation**

Description

The AT4060 is a large-diaphragm side-address vacuum tube condenser microphone with a cardioid polar pattern. It is designed for use in the most demanding studio applications.

Each hand-selected tube is individually aged and tested, then employed in a uniquely configured circuit for enhanced tube performance. Specially tuned elements improve dynamic range and the ability to handle high SPLs without sacrificing high-frequency characteristics. Floating-construction mounting of the elements provides isolation from noise and vibration.

The microphone operates in conjunction with the included power supply, which has low-impedance output and a ground-lift switch.

The cardioid polar pattern of the microphone is more sensitive to sound originating directly in front of the element, making it useful in controlling feedback, reducing pickup of unwanted sounds and providing isolation between performers.

The microphone includes a 10 m (32.8') output cable terminating in 6-pin XLR-type connectors for use between microphone and power supply.

The microphone is enclosed in a rugged housing. The included AT8447 shock mount provides superior isolation and permits mounting on any microphone stand with 5/8"-27 threads. A power supply, an AC power cable, rack-mount adapters for power supply and a protective carrying case are also included.

Operation & Maintenance

The AT4060 does not require phantom power but operates in conjunction with the included power supply. The power supply has low-impedance balanced output (3-pin XLRM-type connector) and a ground-lift switch, which allows removal of hum caused by ground loops. 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.

The microphone includes an AT8447 shock mount to provide mechanical isolation and secure mounting. This effective shock mount fits 5/8"-27 threaded stands. To use, slide the microphone into the shock mount basket and tighten the thumb screw to secure the microphone.

To set up the microphone with the power supply:

1) Make certain the power supply is turned off.
2) Plug the included 6-pin cable (female connector) into the microphone; then plug the other end of the cable (male connector) into the power supply.
3) Connect the output of the power supply into your mixer or other audio interface (using your 3-pin XLR-XLR cable — not included). Do not turn on the phantom power.
4) Plug the included IEC power cord into an AC wall outlet.
5) Turn on the power supply.

Important: Always turn the power supply off when connecting or disconnecting any cables.

As with any sophisticated vacuum tube equipment, the AT4060 requires a period of warm-up time before use. Allow at least 15 minutes after switching on the power supply for the unit's electronics to stabilize.

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.

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 vacuum tube condenser. It shall have a cardioid polar pattern with a uniform 120° angle of acceptance and a frequency response of 20 Hz to 20,000 Hz. The microphone shall operate from an external power supply (included) capable of operating from 120V AC. It shall be capable of handling sound input levels up to 150 dB with a dynamic range of 131 dB. Nominal open-circuit output voltage shall be 19.9 mV at 1 V, 1 Pascal. Output shall be low impedance balanced (200 ohms).

The output of the microphone shall be a 6-pin XLRM-type connector. A 10 m (32.8') cable with 6-pin XLR-type connectors shall be supplied for connection between the microphone and the included power supply. The output of the power supply shall be a 3-pin XLRM-type connector.

The microphone shall be 210.0 mm (8.27") long and have a maximum body diameter of 53.4 mm (2.10"). Weight shall be 640 g (22.6 oz). The

microphone shall include a power supply, a shock mount, an AC power cable, rack-mount adapters for the power supply and a protective carrying case.

The Audio-Technica AT4060 is specified.

Specifications

Element	Externally polarized (DC bias) condenser
Polar pattern	Cardioid
Frequency response	20-20,000 Hz
Open circuit sensitivity	–34 dB (19.9 mV) re 1V at 1 Pa
Impedance	200 ohms
Maximum input sound level	150 dB SPL, 1 kHz at 1% T.H.D.; 149 dB SPL, 1 kHz at 0.5% T.H.D.
Noise[1]	19 dB SPL
Dynamic range (typical)	131 dB, 1 kHz at Max SPL
Signal-to-noise ratio[1]	75 dB, 1 kHz at 1 Pa
Phantom power requirements	AT8560 power supply (120V AC)
Weight	Microphone: 640 g (22.6 oz) Power supply: 1.9 kg (4.19 lbs)
Dimensions	Microphone: 210.0 mm (8.27") long, 53.4 mm (2.10") maximum body diameter Power supply: 210.0 mm (8.27") W x 225.0 mm (8.86") D x 44.0 mm (1.73") H
Output connector	3-pin XLRM-type (on power supply)
Cables	10 m (32.8') cable with 6 pin XLR-type connectors for use between microphone and power supply; AC power supply cable
Accessories furnished	AT8560 power supply; AT8447 shock mount for $^5/_8$"-27 threaded stands; rack-mount adapters for power supply; protective mic carrying case

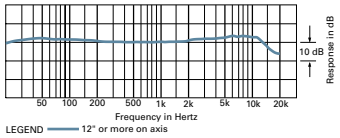
In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

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

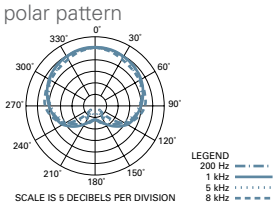
[1] Typical, A-weighted, using Audio Precision System One.

Specifications are subject to change without notice.

frequency response: 20–20,000 Hz



polar pattern



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