audio-technica AT4022 Omnidirectional Condenser End Address Microphone Owner's Manual

audio-technica AT4022 Omnidirectional Condenser End Address Microphone

Contents

Features

- Specially engineered to meet the most critical acoustic requirements of professional recording, broadcast and sound reinforcement.
- Low self noise perfectly suited for the most sophisticated recording equipment.
- Low-mass diaphragm improves transient response, increases response bandwidth and reduces handling and mechanical noise transfer.
- Omnidirectional polar pattern provides maximum ambient pickup.
- Rugged design and construction for reliable performance.
- Integral 80 Hz high-pass filter switch and 10 dB pad switch.
- State-of-the-art design and manufacturing techniques ensure compliance with A-T's stringent consistency and reliability standards.

Description

The AT4022 is a fixed-charge condenser microphone with an omnidirectional polar pattern. It is designed to meet the demands of critical studio and live applications.

The microphone requires 48V phantom power for operation.

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

The microphone is equipped with a switchable 10 dB pad and a switch that permits choice of flat response or low-frequency roll-off (via integral 80 Hz high-pass filter).

The microphone is enclosed in a rugged housing. The included AT8405a stand clamp permits mounting on any microphone stand with 5 /8″-27 threads. A windscreen and a protective carrying case are also included.

Operation and Maintenance

The AT4022 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 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 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, slide the switch toward the “bent” line.

The microphone is also equipped with a switchable 10 dB pad that lowers the microphone’s sensitivity, thus providing higher SPL capability for flexible use with a wide range of users and system configurations. To engage the 10 dB pad, slide the switch toward the -10 position.

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 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 48V DC phantom power source. It shall be capable of handling sound input levels up to 146 dB (156 dB with 10 dB pad) with a dynamic range of 133 dB.

Nominal open-circuit output voltage shall be 19.9 mV at 1V, 1 Pascal.

Output shall be low impedance balanced (250 ohms).

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

The microphone shall be equipped with a switchable 10 dB pad and a switch that permits choice of flat response or 80 Hz low-frequency roll-off.

The microphone shall be 144.0 mm (5.67″) long and have a diameter of 21.0 mm (0.83″). Weight shall be 124 grams (4.4 oz). The microphone shall include a stand clamp, a windscreen and a protective carrying case.

The Audio-Technica AT4022 is specified.

Specifications

Element	Fixed-charge back plate, permanently polarized condenser
Polar pattern	Omnidirectional
Frequency response	20-20,000 Hz
Low frequency roll-off	80 Hz, 18 dB/octave
Open circuit sensitivity	–34 dB (19.9 mV) re 1V at 1 Pa
Impedance	250 ohms
Maximum input sound level	146 dB SPL, 1 kHz at 1% T.H.D.; 156 dB SPL, with 10 dB pad (nominal)
Noise1	13 dB SPL
Dynamic range (typical)	133 dB, 1 kHz at Max SPL
Signal-to-noise ratio1	81 dB, 1 kHz at 1 Pa
Phantom power requirements	48V DC, 3.0 mA typical
Switches	Flat, roll-off; 10 dB pad (nominal)
Weight	124 g (4.4 oz)
Dimensions	144.0 mm (5.67″) long, 21.0 mm (0.83″) diameter
Output connector	Integral 3-pin XLRM-type
Audio-Technica case style	S1
Accessories furnished	AT8405a stand clamp for 5 /8″-27 threaded stands; AT8159 windscreen; pro tective carrying case

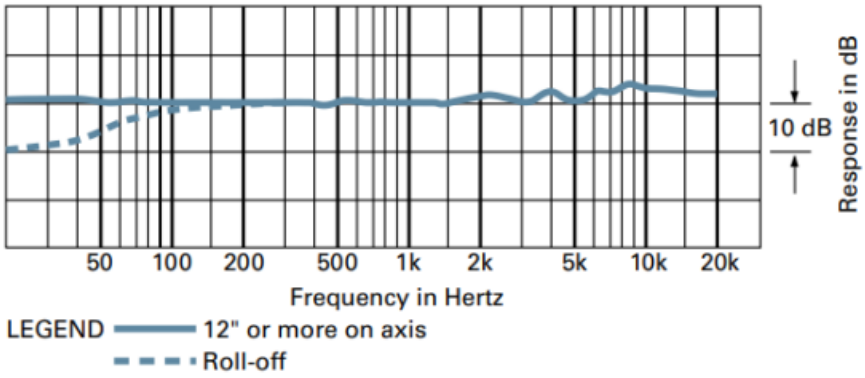
In the interest of standards development, A.T.U.S.
offers full details on its test methods to other industry professionals on request.

1 Pascal = 10 dynes/cm2 = 10 microbars = 94 dB SPL

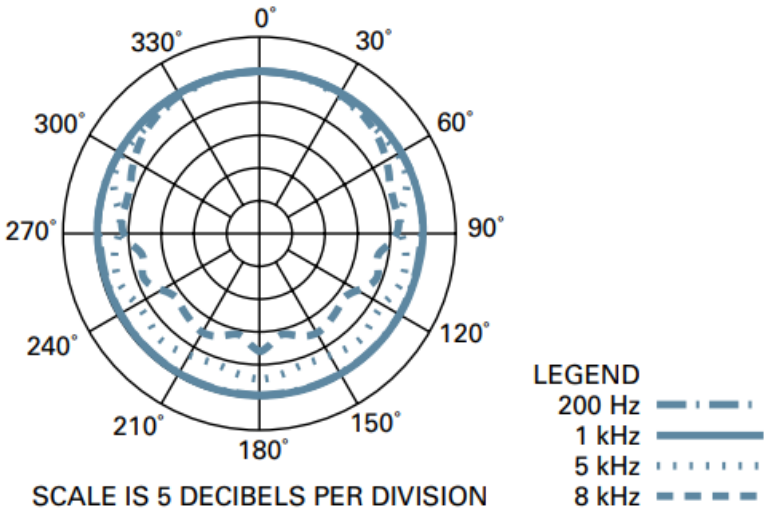
1 Typical, A-weighted, using Audio Precision System One.

Specifications are subject to change without notice.

frequency response: 20– 20,000 Hz



polar pattern



Customer Support

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Documents / Resources

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References

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- **User Manual**