

# AT4049

## OMNIDIRECTIONAL CAPACITOR MICROPHONE



### Description

The AT4049 is a transformerless externally-polarized capacitor studio microphone. A precision omnidirectional transducer, it has been specially engineered to meet the most critical acoustic requirements of professional recording and broadcast.

The AT4049 features a smooth, flat frequency response over its extended 20-20,000 Hz range. The omnidirectional head capsule may be easily removed, stored and replaced with an optional cardioid or hypercardioid capsule to meet the needs of the widest range of miking applications.

The balanced output is direct-coupled, resulting in a clean signal even under high-output conditions. The microphone is totally free of the distortion associated with conventional transformer-coupled outputs. Its fast response to transients contributes to the open, transparent reproduction of even the most troublesome of instruments and sound effects.

The AT4049 combines the benefits of exceptionally low self-noise with very high output. Equally important, it handles very high sound pressure levels with ease—up to 142 dB SPL while producing no greater than 1% T.H.D. The AT4049 may be used with confidence in a wide variety of miking applications even under the stringent demands of modern digital recording systems.

An integral 80 Hz hi-pass filter provides easy switching from a flat frequency response to a low-end roll-off. The hi-pass switch is recessed to prevent accidental activation. The hi-pass position reduces the microphone's sensitivity to "popping" in close vocal use and to handling noise. It also attenuates unwanted low-frequency ambient noise (i.e. traffic, air-handling systems, etc.) and room reverberation. Use of the supplied foam windscreen helps reduce wind and "popping" noise.

A rugged microphone, the AT4049 housing is constructed of turned brass, rather than thin-wall aluminum. Its surface is plated in black chrome for durability and low reflectivity.

The AT4049 will operate in conjunction with any remote "phantom" or "simplex" power source supplying 48 volts DC, such as the AC-powered Audio-Technica CP8506 that can accommodate up to four microphones. The phantom voltage not only powers the microphone's impedance converter, but is stepped-up to a higher voltage internally to polarize the capacitor element.

### Modular Expansion Capability

The AT4049 consists of two modular subassemblies which are threaded together: the AT4900-48 handle containing the microphone's electronics, and the AT4049-ELE capacitor head capsule.

The versatility of the AT4049 may be increased through the addition of optional accessory head capsules. The AT4051-ELE capsule provides the advantages of a smooth, wide-response cardioid pattern. The AT4053-ELE hypercardioid element offers excellent side rejection for increased working distance, and a highly uniform polar pattern that virtually eliminates off-axis coloration.

A compartmentalized protective carrying case accommodates the microphone, stand adapter, windscreen, and two optional head capsules.

### Architects and Engineers Specifications

The microphone shall have a frequency response of 20 to 20,000 Hz. Its capacitor element shall be of a DC bias design and shall obtain its polarizing voltage and impedance-converter power from an external 48V DC ( $\pm 12V$ ) phantom power source. The microphone shall have an omnidirectional polar pattern. The element shall be interchangeable with optional capsules offering cardioid or hypercardioid polar patterns.

Nominal open-circuit output voltage shall be 19.9 mV at 1 kHz, 1 Pascal. The microphone shall have an output impedance of 250 ohms and output shall be transformerless balanced. The microphone shall accept a 142 dB SPL at 1 kHz while producing no greater than 1% T.H.D.

The microphone shall have a length of 6.10" (155.0 mm), a diameter of 0.83" (21.0 mm), and a weight of 4.4 oz (125 g). The microphone housing shall be turned brass with a low-reflectance black chrome finish.

The Audio-Technica AT4049 is specified.

