

# AT4050/CM5

## MULTI-PATTERN CAPACITOR MICROPHONE



### Description

The AT4050/CM5 is a transformerless, multiple-pattern studio microphone designed for use in the most demanding applications. It utilizes dual gold-plated, aged, "large-diaphragm" capacitor elements for extended frequency response. The microphone polar pattern can be switched for cardioid, omnidirectional or figure-of-eight operation. This, coupled with low-noise transformerless electronics, makes this microphone ideal for the most critical digital recordings. The dynamic range of the AT4050/CM5 is 132 dB without the built-in attenuator and it accepts up to 149 dB SPL without capsule or electronic-system distortion above 1% T.H.D.

The AT4050/CM5 is the culmination of extensive field evaluations in studio environments with resultant significant advances in microphone performance factors. The AT4050/CM5's low-noise circuitry is symmetrical and transformerless, resulting in exceptional transient response and clean output signals, 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. To ensure optimum performance, floating-construction elements provide isolation from noise and vibration.

The AT4050/CM5 combines the benefits of exceptionally low self-noise with very high output. Equally important, it handles very high sound pressure levels with ease. The AT4050/CM5 may be used with confidence in a wide variety of miking applications, even under the stringent demands of modern digital recording systems. A switchable 10 dB (nominal) pad is built-in, increasing the SPL capabilities to 159 dB.

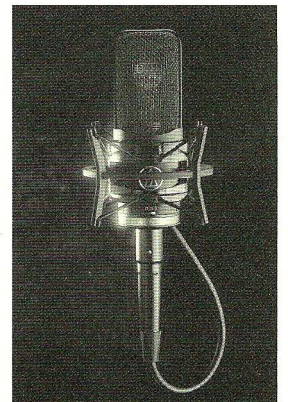
An integral 80 Hz hi-pass filter provides easy switching from a flat frequency response to a low-end roll-off. The hi-pass switch is recessed to prevent accidental activation. The hi-pass position reduces the microphone's sensitivity to "popping" in close vocal use, and handling noise. It reduces the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

The AT4050/CM5 incorporates two specially-contoured large diaphragms that allow undistorted reproduction of high sound pressure level signals at all frequencies. The 2-micron-thick vapor-deposited gold diaphragm provides accurate reproduction of even the most subtle sounds, especially high-frequency signals not easily reproduced by conventional large-diaphragm condenser transducers. For a warm, true-to-life quality, the dual, large-diaphragm design provides remarkable low-frequency performance in all the polar pattern settings.

Every AT4050/CM5 diaphragm is aged through five different steps to assure the optimum characteristics achieved will remain constant over years of use. The symmetrical housing assembly surrounding the microphone capsule and its open acoustical environment allow the off-axis response to be ideally suited for studio work where natural reproduction of off-axis sound is of paramount importance.

The AT4050/CM5 will operate in conjunction with any remote "phantom" or "simplex" power source supplying 48 volts DC, such as the AC powered Audio-Technica CP8506, a 48-volt supply that can power up to four microphones.

The AT4050/CM5 includes an AT8441 shock mount, packed separately. This effective shock mount fits 5/8"-27 threaded stands. A stand clamp without shock mount, the AT8430, is available as an optional accessory.



AT4050/CM5 with included AT8441 shock mount

### Architects and Engineers Specifications

The microphone shall be a multiple-pattern capacitor with a frequency response of 20 Hz to 20,000 Hz. Polar pattern shall be switchable to cardioid, omnidirectional or figure-of-eight. It shall operate from an external 48V DC ( $\pm 4V$ ) phantom power source. The dual elements shall be internally shock mounted.

Nominal open-circuit output voltage shall be 15.8 mV at 1 kHz, 1 Pascal. The microphone shall have an output impedance of 100 ohms and output shall be transformerless balanced. The microphone shall accept a 149 dB SPL at 1 kHz while producing no greater than 1% T.H.D.

The microphone shall have a length of 7.40" (188.0 mm), a maximum body diameter of 2.10" (53.4 mm), and a weight of 16.9 oz (480 grams). Finish shall be matte black. A separate shock mount shall be included.

The Audio-Technica AT4050/CM5 is specified.

