



audio-technica®

ARTIST SERIES MICROPHONES

ATM23HE Hi-ENERGY® DYNAMIC INSTRUMENT MICROPHONE

Description

The ATM23HE is a wide-range moving coil dynamic microphone with a hypercardioid pickup pattern. It features a Hi-ENERGY® neodymium magnet with almi-chromate magnet coating. The low-mass voice coil, which is wound with copper-coated aluminum wire, provides maximum sensitivity by allowing the greatest number of turns within the Hi-ENERGY gap. This combination of magnet and voice coil ensures excellent transient response coupled with high efficiency.

The ATM23HE was designed primarily as a snare drum microphone for use by professional musicians in high-quality live-sound reinforcement applications. Low-profile design permits versatile placement around drum kit hardware. Response is tailored to provide natural reproduction when used by instrumental performers at very short distances. The microphone combines excellent performance characteristics and unusual dependability to deliver superior results on snare, as well as other highly dynamic instruments such as stand and rack toms, piano and electric guitar/bass cabinets.

The hypercardioid (unidirectional) polar pattern of the ATM23HE is more sensitive to sound originating directly in front of the element than to sounds coming from the sides or rear. This allows the ATM23HE to focus on the desired sound location, such as the sweet spot of a drum head. Unidirectional microphones are useful in controlling feedback, reducing pickup of unwanted sounds and providing isolation between sound sources during performance.

When used ultra-close, the ATM23HE provides proximity effect (extra bass boost) which can be used to achieve a fuller sound, or to further reduce feedback or unwanted noise in conjunction with equalization of the microphone input.

The ATM23HE is enclosed in a rugged housing

with a multi-level steel grille and low-reflectance finish. An internal shock mount provides effective isolation of the microphone element from handling and cable noise. Output is via a three-pin professional connector. The integral microphone clamp permits mounting on any microphone stand with 5/8"-27 threads.

Operation and Maintenance

Output is low impedance balanced. The XLRM-type output connector mates with XLRF-type cable connectors. The balanced signal appears across Pins 2 and 3, while the ground (shield) connection is Pin 1. Output is phased so that positive acoustic pressure produces positive voltage at Pin 2 in accordance with industry convention.

For balanced low-impedance inputs, AT8314 cable (or equal) is recommended. An accompanying drawing shows the wiring used at the equipment end of this cable. Note that other manufacturers may employ other color codes for cable conductors. Regardless of color code, it is important that both ends of each cable are wired consistently, with the shield always connected to Pin 1, Pin 2 connected to Pin 2, and Pin 3 to Pin 3. This will ensure that all microphones are electrically in phase and reduce problems of uneven response and sound cancellation when two microphones are used close to each other.

For unbalanced low-impedance inputs, AT8312 cable (or equal) is recommended. A 1/4" phone plug is wired to the equipment end of the AT8312 cable.

For a high impedance input, use AT8314 cable (or equal). Plug this cable into a CP8201 line matching transformer which has an integral 1/4" phone plug for connecting directly to the Hi-Z amplifier input. Locating the transformer at the equipment input minimizes pickup of noise and hum, typical problems experienced with long high-impedance lines.

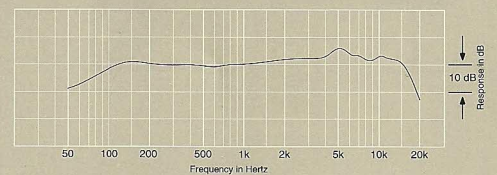


Use of the CP8305 Hi-Z transformer cable is also recommended.

The high sensitivity of the ATM23HE assures useful output and an excellent match to most mixer, tape recorder and amplifier inputs. It will provide undistorted output even in very intense sound fields. In some cases, however, an attenuator such as the Audio-Technica AT8202 may be required between the microphone and preamplifier to avoid overloading sensitive input stages.

While every effort has been made to provide an extremely rugged microphone, reasonable care should be taken to avoid abuse. The microphone can withstand a wide range of temperature and humidity without damage. Take care to keep foreign particles from entering the windscreen. If the microphone is exposed to an environment with small iron or steel filings (on a workbench, for example) these fine metal particles can accumulate on the diaphragm, reducing low-frequency response. Excessive accumulation of dirt on the windscreen will reduce high-frequency response.

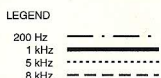
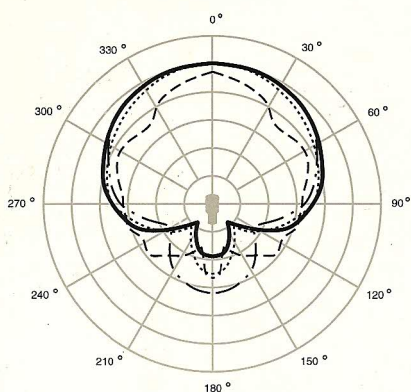
Frequency Response



LEGEND ——— 12" or more on axis

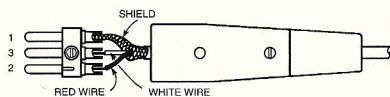
ATM23HE

Polar Pattern

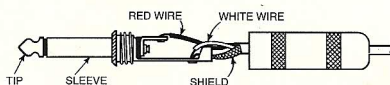


SCALE IS 5 DECIBELS PER DIVISION

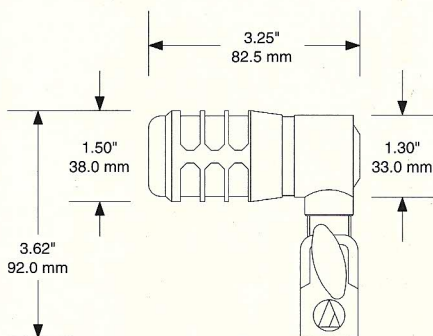
XLRM-Type Plug Wiring Low Impedance Balanced



1/4" Phone Plug Wiring Low Impedance Unbalanced



Dimensions



ATM23HE SPECIFICATIONS†

ELEMENT	Moving Coil Dynamic
POLAR PATTERN	Hypercardioid
FREQUENCY RESPONSE	70-16,000 Hz
OPEN CIRCUIT SENSITIVITY	-53 dB (2.2 mV) re 1V at 1 Pa*
IMPEDANCE	600 ohms
WEIGHT	10.6 oz (300 grams)
DIMENSIONS	3.25" (82.5 mm) long, 1.50" (38.0 mm) head diameter
OUTPUT CONNECTOR	Integral 3-pin XLRM-type
ACCESSORIES FURNISHED	Integral stand clamp, soft protective pouch

† 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

Optional Accessories:

- AT8120 large foam windscreen.
- CP8201 line matching transformer (Lo-Z to 50,000 ohms).
- AT8202 adjustable in-line attenuator for use with balanced Lo-Z microphones.
- CP8305 16.5' (5 m), 2-conductor, shielded, vinyl-jacketed, broadcast-type cable with XLR-type connector at microphone end and Lo- to Hi-Z transformer with 1/4" phone plug at output end.
- AT8312 2-conductor, shielded, vinyl-jacketed, broadcast-type cable with XLR-type connector at microphone end, 1/4" phone plug at equipment end. Available in 10', 20' & 25' lengths.
- AT8314 2-conductor, shielded, vinyl-jacketed, broadcast-type cable with XLR-type connector at microphone end, XLRM-type connector at equipment end. Available in 10', 20', 25', 30', 50' & 100' lengths.

One-Year Limited Warranty

Audio-Technica microphones and accessories purchased in the U.S.A. are warranted for one year from date of purchase by Audio-Technica U.S., Inc. (A.T.U.S.) to be free of defects in materials and workmanship. In event of such defect, product will be repaired promptly without charge or, at our option, replaced with a new product of equal or superior value if delivered to A.T.U.S. or an Authorized Service Center, prepaid, together with the sales slip or other proof of purchase date. **Prior approval from A.T.U.S. is required for return.** This warranty excludes defects due to normal wear, abuse, shipping damage, or failure to use product in accordance with instructions. This warranty is void in the event of unauthorized repair or modification.

For return approval and shipping information, contact the Service Department, Audio-Technica U.S., Inc., 1221 Commerce Drive, Stow, Ohio 44224.

Except to the extent precluded by applicable state law, **A.T.U.S. will have no liability for any consequential, incidental, or special damages; any warranty of merchantability or fitness for particular purpose expires when this warranty expires.**

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Outside the U.S.A., please contact your local dealer for warranty details.



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