

ATM450

Cardioid Condenser Instrument Microphone

 **audio-technica**

artist series live sound microphones



Features

- **Uncompromising sound quality for overheads, percussion, acoustic guitar, strings and other acoustic instruments**
- **Unique side-address stick design maximizes placement options with minimal obstructions**
- **Cardioid polar pattern reduces pickup of sounds from the sides and rear, improving isolation of desired sound source**
- **Rugged all-metal design and construction for years of trouble free use**
- **Isolation clamp provides secure mounting, versatile positioning, and effective dampening of unwanted mechanical noise**
- **Integral 80 Hz high-pass filter switch and 10 dB pad switch**

Description

The ATM450 is a fixed-charge condenser microphone with a cardioid polar pattern. It is designed specifically for use on overheads, percussion, acoustic guitar, strings and other acoustic instruments in professional live-sound and studio applications.

The microphone requires 11V to 52V phantom power for operation.

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

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 AT8471 isolation clamp permits mounting on any microphone stand with $\frac{5}{8}$ "-27 threads. A windscreen and a soft protective pouch are also included.

Operation and Maintenance

The ATM450 requires 11V to 52V 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, use the end tip of a paperclip or other small pointed instrument to 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, use the end tip of a paperclip or other small pointed instrument to 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 a cardioid polar pattern with a uniform 120° angle of acceptance and a frequency response of 40 Hz to 20,000 Hz. The microphone shall operate from an external 11V to 52V DC phantom power source. It shall be capable of handling sound input levels up to 152 dB (162 dB with 10 dB pad) with a dynamic range of 127 dB. Nominal open-circuit output voltage shall be 8.9 mV at 1V, 1 Pascal. Output shall be low impedance balanced (200 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 126.9 mm (5.00") long and have a diameter of 21.0 mm (0.83"). Weight shall be 98 grams (3.5 oz). The microphone shall include an isolation clamp, a windscreen and a soft protective pouch.

The Audio-Technica ATM450 is specified.

Specifications

Element	Fixed-charge back plate, permanently polarized condenser
Polar pattern	Cardioid
Frequency response	40-20,000 Hz
Low frequency roll-off	80 Hz, 12 dB/octave
Open circuit sensitivity	-41 dB (8.9 mV) re 1V at 1 Pa
Impedance	200 ohms
Maximum input sound level	152 dB SPL, 1 kHz at 1% T.H.D.; 162 dB SPL, with 10 dB pad (nominal)
Dynamic range (typical)	127 dB, 1 kHz at Max SPL
Signal-to-noise ratio¹	69 dB, 1 kHz at 1 Pa
Phantom power requirements	11-52V DC, 3.5 mA typical
Switches	Flat, roll-off; 10 dB pad
Weight	98 g (3.5 oz)
Dimensions	126.9 mm (5.00") long, 21.0 mm (0.83") diameter
Output connector	Integral 3-pin XLRM-type
Audio-Technica case style	S11
Accessories furnished	AT8471 isolation clamp for 5/8"-27 threaded stands; 5/8"-27 to 3/8"-16 threaded adapter; windscreen; 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.

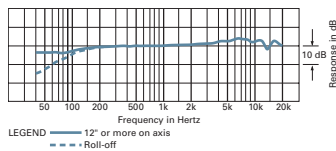
1 Pascal = 10 dynes/cm² = 10 microbars = 94 dB SPL

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

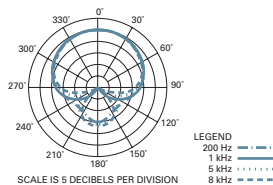
Specifications are subject to change without notice.



frequency response: 40–20,000 Hz



polar pattern



ATM230

Hypercardioid Dynamic Instrument Microphone



artist series live sound microphones



Features

- Tailored to capture sound from rack and floor toms, snare drums and other percussion instruments
- Handles very high SPL at close range
- Hypercardioid polar pattern reduces pickup of sounds from the sides and rear, improving isolation of desired sound source
- Low-profile design permits versatile placement around drum kit
- Rugged, all-metal construction ensures dependable performance in live-music and studio applications
- Integral $\frac{5}{8}$ "-27 threaded stand clamp works with included drum mount to permit mounting of mic to drum rim

Description

The ATM230 is a dynamic microphone with a hypercardioid polar pattern. It is designed specifically for musical instrument pickup in the studio and on stage.

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

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

The microphone is enclosed in a rugged housing and is outfitted with an integral $\frac{5}{8}$ "-27 threaded stand clamp. The included AT8665 drum mount screws into the stand clamp to permit mounting of the ATM230 to the rim of a drum. A soft protective pouch is also included.

Operation and Maintenance

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.

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.

Take care to keep foreign particles from entering the windscreen. An accumulation of iron or steel filings on the diaphragm, and/or foreign material in the windscreen's mesh surface, can degrade performance.

Architect's and Engineer's Specifications

The microphone shall be a moving coil dynamic. It shall have a hypercardioid polar pattern with a uniform 100° angle of acceptance and a frequency response of 30 Hz to 12,000 Hz. Nominal open-circuit output voltage shall be 2.2 mV at 1V, 1 Pascal. Output shall be low impedance balanced (600 ohms).

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

The microphone shall be 82.5 mm (3.2") long and have a maximum diameter of 38.0 mm (1.5"). Weight shall be 292 g (10.3 oz). The microphone shall include a stand clamp, drum mount and a soft protective pouch.

The Audio-Technica ATM230 is specified.

Specifications

Element	Dynamic
Polar pattern	Hypercardioid
Frequency response	30-12,000 Hz
Open circuit sensitivity	-54 dB (1.9 mV) re 1V at 1 Pa
Impedance	600 ohms
Weight	292 g (10.3 oz)
Dimensions	82.5 mm (3.2") long, 38.0 mm (1.5") maximum diameter
Output connector	Integral 3-pin XLRM-type
Audio-Technica case style	R2
Accessories furnished	AT8665 drum mount for $\frac{5}{8}$ "-27 threaded adapter; $\frac{5}{8}$ "-27 to $\frac{3}{8}$ "-16 threaded adapter; 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.

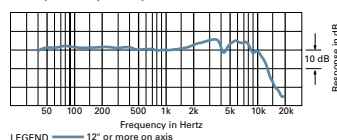
1 Pascal = 10 dynes/cm² = 10 microbars = 94 dB SPL

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

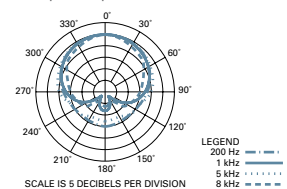
Specifications are subject to change without notice.



frequency response: 30–12,000 Hz



polar pattern



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ATM250

artist series live sound microphones

Hypercardioid Dynamic Instrument Microphone



Features

- Frequency response tailored for kick drum, percussion, brass and other highly dynamic instruments
- Ideal for voiceovers, the ATM250 offers very full sound on close-up vocals and dialogue
- Handles very high SPL at close range
- Big, warm low-frequency response with excellent presence
- Hi-ENERGY® neodymium magnet for improved output and transient response
- Hypercardioid polar pattern provides maximum feedback rejection and isolation of desired sound source
- Rugged all-metal design and construction for years of trouble-free use
- Corrosion-resistant contacts from gold-plated XLRM-type connector
- Isolation clamp provides secure mounting, versatile positioning and effective dampening of unwanted mechanical noise

Description

The ATM250 is a dynamic microphone with a hypercardioid polar pattern. It is designed specifically for musical instrument pickup in the studio and on stage.

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

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

The microphone is enclosed in a rugged housing. The included AT8471 isolation clamp permits mounting on any microphone stand with $\frac{5}{8}$ "-27 threads. A soft protective pouch is also included.

Operation and Maintenance

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.

Take care to keep foreign particles from entering the windscreen. An accumulation of iron or steel filings on the diaphragm, and/or foreign material in the windscreen's mesh surface, can degrade performance.

Architect's and Engineer's Specifications

The microphone shall be a moving coil dynamic. It shall have a hypercardioid polar pattern with a uniform 100° angle of acceptance and a frequency response of 40 Hz to 15,000 Hz. Nominal open-circuit output voltage shall be 1.9 mV at 1V, 1 Pascal. Output shall be low impedance balanced (600 ohms).

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

The microphone shall be 127.5 mm (5.02") long and have a diameter of 55.0 mm (2.17"). Weight shall be 252 grams (8.9 oz). The microphone shall include an isolation clamp and a soft protective pouch.

The Audio-Technica ATM250 is specified.

Specifications

Element	Dynamic
Polar pattern	Hypercardioid
Frequency response	40-15,000 Hz
Open circuit sensitivity	-54 dB (1.9 mV) re 1V at 1 Pa
Impedance	600 ohms
Weight	252 g (8.9 oz)
Dimensions	127.5 mm (5.02") long, 55.0 mm (2.17") diameter
Output connector	Integral 3-pin XLRM-type
Audio-Technica case style	R9
Accessories furnished	AT8471 isolation clamp for $\frac{5}{8}$ "-27 threaded stands; $\frac{5}{8}$ "-27 to $\frac{3}{8}$ "-16 threaded adapter; soft protective pouch

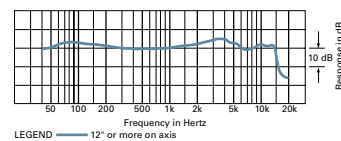
In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

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

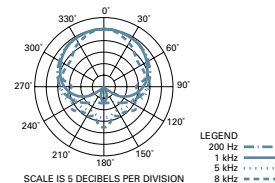
Specifications are subject to change without notice.



frequency response: 40–15,000 Hz



polar pattern



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ATM650

Hypercardioid Dynamic Instrument Microphone

 audio-technica

artist series live sound microphones



Features

- **Tailored response for musical instrument pickup—guitar cabinets, snare and other percussion**
- **Hi-ENERGY® neodymium magnet for improved output and transient response**
- **Special dual-wall floating construction reduces handling noise and assures consistent performance from mic to mic**
- **Hypercardioid polar pattern provides maximum feedback rejection and isolation of desired sound source**
- **Multi-stage flat-grille design is engineered to enable easy placement as close as possible to sound source**
- **Rugged all-metal design and construction for years of trouble-free use**
- **Corrosion-resistant contacts from gold-plated XLRM-type connector**
- **Quiet-Flex™ stand clamp provides silent, flexible microphone positioning**

Description

The ATM650 is a dynamic microphone with a hypercardioid polar pattern. It is designed specifically for musical instrument pickup in the studio and on stage.

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

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

The microphone is enclosed in a rugged housing with a multi-stage flat-grille design. The included AT8470 Quiet-Flex™ stand clamp permits mounting on any microphone stand with $\frac{5}{8}$ "-27 threads. A soft protective pouch is also included.

Operation and Maintenance

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.

When using the microphone in settings with a stage monitor speaker, the speaker should be located 135° off axis (45° off the rear of the microphone). This placement, in conjunction with the microphone's uniform hypercardioid pickup pattern, will virtually eliminate the possibility of undesired audio feedback.

Take care to keep foreign particles from entering the windscreen. An accumulation of iron or steel filings on the diaphragm, and/or foreign material in the windscreen's mesh surface, can degrade performance.

Note: Remove the rubber sleeve at the base of the microphone handle to use the AT8471 isolation stand clamp (not included) for more secure, permanent installation.

Architect's and Engineer's Specifications

The microphone shall be a moving coil dynamic designed for handheld or stand use. It shall have a hypercardioid polar pattern with a uniform 100° angle of acceptance and a frequency response of 80 Hz to 17,000 Hz. Nominal open-circuit output voltage shall be 1.5 mV at 1V, 1 Pascal. Output shall be low impedance balanced (300 ohms).

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

The microphone shall be 164.2 mm (6.46") long and have a head diameter of 38.8 mm (1.53"). Weight shall be 279 grams (9.8 oz). The microphone shall include a stand clamp and a soft protective pouch.

The Audio-Technica ATM650 is specified.

ATM650

Specifications

Element	Dynamic
Polar pattern	Hypercardioid
Frequency response	80-17,000 Hz
Open circuit sensitivity	-56 dB (1.5 mV) re 1V at 1 Pa
Impedance	300 ohms
Weight	279 g (9.8 oz)
Dimensions	164.2 mm (6.46") long, 38.8 mm (1.53") head diameter
Output connector	Integral 3-pin XLRM-type
Audio-Technica case style	T5
Accessories furnished	AT8470 Quiet-Flex™ stand clamp for 5/8"-27 threaded stands; 5/8"-27 to 3/8"-16 threaded adapter; soft protective pouch

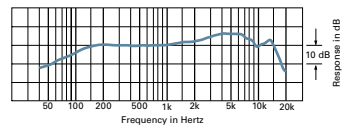
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1 Pascal = 10 dynes/cm² = 10 microbars = 94 dB SPL

Specifications are subject to change without notice.

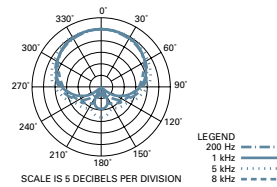


frequency response: 80–17,000 Hz



LEGEND — 12° or more on axis

polar pattern



SCALE IS 5 DECIBELS PER DIVISION



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