ATM73a

audio-technica

Cardioid Condenser Headworn Microphone

artist series live sound microphones

Features

- **Ideal for drummers, keyboard players, guitarists or anyone requiring hands-free operation**
- **Comfortable, unobtrusive headband design with side-of-mouth pickup**
- **Belt-mounted power module operates on battery or phantom power**
- **Cardioid polar pattern reduces pickup of sounds from the sides and rear, improving isolation of desired sound source**
- **Rugged design and construction for reliable performance**
- **Switchable 80 Hz high-pass filter minimizes pickup of undesired low-frequency sounds**
- **Also available in two additional versions (without power module)**
  ATM73cW — cable terminated for A-T UniPak® wireless systems
  ATM73ac — unterminated cable

ATM73a Description

The ATM73a is a headworn condenser microphone with a cardioid polar pattern. It is designed for use by performing musicians and others who require professional-quality vocal pickup with hands-free operation.

The microphone requires 11V to 52V phantom power or a 1.5V AA battery for operation. A battery need not be in place for phantom power operation.

The microphone's cardioid polar pattern provides a 120° angle of acceptance.

The microphone includes a 1.4 m (4.6') permanently attached miniature cable. Its free end connects to the provided AT8531 power module via a TA3F-type connector. The output of the power module is a 3-pin XLRM-type connector.

A 3-position switch in the power module permits choice of off, on/flat response or on/low-roll-off (via integral 80 Hz high-pass filter). The roll-off position reduces the pickup of low-frequency ambient noise.

The microphone comes equipped with a power module, two windscreens and a battery.

ATM73cW Description

The microphone is also available in a wireless model, the ATM73cW. The ATM73cW includes a 1.4 m (55") permanently attached miniature cable terminated with a locking 4-pin connector for use with Audio-Technica UniPak® body-pack transmitters. No power module or battery is included (or required) with the ATM73cW. The ATM73cW dimensions, polar pattern, and included windscreens are otherwise identical to those of the ATM73a.

The ATM73cW is also available unterminated as the ATM73ac.

Operation and Maintenance

The ATM73a requires 11V to 52V phantom power or a 1.5V AA battery for operation. A battery need not be in place for phantom power operation.

To install the battery, remove the cap from the top of the power module. Insert a fresh 1.5V AA battery ("+" end toward the cap release button), then reassemble the power module. For longest battery life, the switch should remain off except when the microphone is in use. Alkaline batteries are recommended for longest life. Remove the battery during long-term storage.

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.

A 3-position switch in the power module permits choice of off, on/flat response, or on/low-roll-off (via integral 80 Hz high-pass filter). 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. To turn the microphone on without engaging the high-pass filter, slide the switch toward the flat line.

For maximum stability and minimum visibility, the headband should be worn around the back of the head, with each cushioned support pad resting on the temple in front of the ear. The cable should remain clipped to the headband, with some slack at the boom connection. The headset is designed so the microphone descends from the left support pad.

After use in high-moisture applications, such as aerobics instruction, on-stage performing, etc., remove the foam screen, wipe off the headset with a towel and permit them to air-dry. (Do not store in a closed space, such as a plastic bag, until all moisture has evaporated.)

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 designed for headworn use. It shall have a cardioid polar pattern with a uniform 120° angle of acceptance and a frequency response of 40 Hz to 15,000 Hz. The microphone shall operate from an external 11V to 52V DC phantom power source or, alternatively, from a 1.5V AA/UM3 battery. It shall be capable of handling sound input levels up to 146 dB (phantom) or 132 dB (battery) with a dynamic range of 111 dB (phantom) or 97 dB (battery). Nominal open-circuit output voltage shall be 1.7 mV (phantom) or 1.5 mV (battery) at 1 V, 1 Pascal. Output shall be low impedance balanced (200 ohms – phantom, 270 ohms – battery).

The microphone shall have a 1.4 m (4.6') permanently attached miniature cable, terminating in a TA3F-type output connector. The output connector shall connect to a TB3M-type jack on the included power module. The power module shall house the battery, and shall contain a switch that permits choice of off, on/flat response or on/low-roll-off (80 Hz). The output of the power module shall be a 3-pin XLRM-type connector.

The microphone shall be a headworn design with an element diameter of 10.0 mm (0.39"). Weight shall be 31 grams (1.1 oz). The microphone shall include a power module, two windscreens and a battery.

The microphone shall also be available in a wireless model with a

1.4 m (55") permanently attached miniature cable terminated with a locking 4-pin connector for use with Audio-Technica UniPak® body-pack transmitters. No power module or battery shall be required or included with the wireless model. The wireless model dimensions, polar pattern and included windscreens shall be identical to those of the wired model. The wireless model shall also be available unterminated.

The Audio-Technica ATM73a [ATM73cW-wireless]; [ATM73ac-unterminated] is specified.

Specifications

Element	Fixed-charge back plate, permanently polarized condenser
Polar pattern	Cardioid
Frequency response	40-15,000 Hz
Low frequency roll-off	80 Hz, 18 dB/octave
Open circuit sensitivity	Phantom:–55 dB (1.7 mV) re 1V at 1 Pa Battery: –56 dB (1.5 mV) re 1V at 1 Pa
Impedance	Phantom: 200 ohms Battery: 270 ohms
Maximum input sound level	Phantom: 146 dB SPL, 1 kHz at 1% T.H.D. Battery: 132 dB SPL, 1 kHz at 1% T.H.D.
Dynamic range (typical)	Phantom: 111 dB, 1 kHz at Max SPL Battery: 97 dB, 1 kHz at Max SPL
Signal-to-noise ratio[1]	59 dB, 1 kHz at 1 Pa
Phantom power requirements	11-52V DC, 2 mA typical
Battery type	1.5V AA/UM3
Battery current / life	0.4 mA / 1200 hours typical (alkaline)
Switch	Off, on-flat, on-roll-off
Weight	Microphone: 31 g (1.1 oz) Power module: 139 g (4.9 oz)
Dimensions	Microphone: 10.0 mm (0.39") diameter Power module: 84.0 mm (3.31") H x 63.0 mm (2.48") W x 22.0 mm (0.87") D Headset: 165.0 mm (6.49") nominal at widest point, 67.0 mm (2.64") flexible boom
Output connector	Power module: Integral 3-pin XLRM-type
Cable	1.4 m (4.6') long (permanently attached to microphone), 2.6 mm (0.10") diameter, 2-conductor shielded cable with TA3F-type connector
Audio-Technica case style	M5
Accessories furnished	AT8531 power module; AT8128 windscreen; AT8125 windscreen; battery

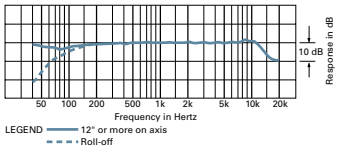
In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

1 Pascal = 10 dynes/cm^2 = 10 microbars = 94 dB SPL

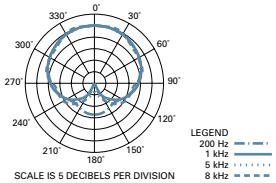
[1] Typical, A-weighted, using Audio Precision System One.

Specifications are subject to change without notice.

frequency response: 40–15,000 Hz



polar pattern



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