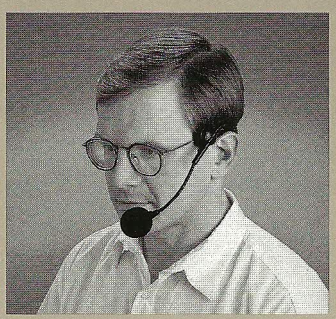
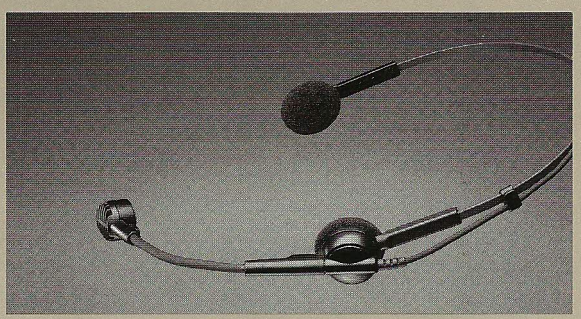
audio-technica®

ARTIST SERIES MICROPHONES

ATM75

HEADWORN CARDIOID CONDENSER MICROPHONE





Description

The ATM75 is a small condenser microphone with a cardioid polar pattern, mounted in a headworn support system. It has been designed for use by performing musicians, sportscasters and others who require professional-quality vocal pickup with hands-free operation. The unidirectional ATM75 provides improved gain before feedback that normally cannot be achieved with miniature omnidirectional microphones. Close-up voice pickup is full sounding, while suppression of background noise is significantly improved over that of full-size, stand-mounted cardioid microphones.

Important new features — a mic capsule moisture barrier, a durable cable assembly and a covered stainless steel headband, which can be gently flexed to adjust for a comfortable, stable fit around the back of any head — offer improved reliability under adverse operating conditions. Internal construction is designed to minimize noise from motion and contact.

Audio-Technica engineers have utilized the newest low-mass technology in the quest for superior performance. The permanent charge is now on the fixed back plate, rather than on the moving element. This reduces moving mass, improving frequency response and transient response while reducing distortion. With the A-T fixed charge "back plate" construction, a gold-vaporized diaphragm just 4 microns thick (or about 0.000157") can be used. The result is remarkable stability of performance.

The ATM75 will accommodate any external phantom power source supplying from 9V to 52V DC. If, however, remote powering is not available, a common AA "penlight" battery will provide sufficient power to the microphone. Current demands are so low that a premium battery will provide thousands of hours of intermittent service.

A 4.6' (1.4 m) cable is provided between the microphone and power module. A built-in 3-position switch on the power module allows selection of power off, power on/flat response, or power on/low roll-off. Both battery and phantom power are controlled by the switch.

Operation and Maintenance

If remote power is not available, install a battery before attempting operation. Remove the cap from the top of the power module. Insert the battery, being certain to observe battery polarity as indicated (+ end toward the cap release button). The switch should remain off except when the microphone is in use. While standard carbon-zinc AA batteries will operate the microphone satisfactorily, alkaline cells are preferred for longer service life. Only "leakproof" batteries should be used, and they should be removed for long-term microphone storage. The battery does not have to be in place to use in phantom power mode. Phantom power requires 9V to 52V DC.

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 (see photo). The 3.17" flexible mic boom is pivot-mounted to the headband, allowing the user to orient the assembly so that the microphone descends from either the left or right side. Both headband and mic boom have a moisture-proof protective coating to guard against deterioration. Two open-pore foam windscreens, one large for ultra-close use and one small, are included, either of which simply slips over the head of the microphone to reduce wind noise and "popping." The cable should remain clipped to the headband, with some slack at the boom connection. The power module may be worn on the belt (utilizing the belt clip) or located in any convenient place.

After use in high-moisture applications, such as aerobics instruction, on-stage performing, etc., removing the foam screen, wiping off the headset with a towel and permitting it to air-dry will help maintain the ATM75's excellent performance. (Do not store in a closed space, such as a plastic bag, until all moisture has evaporated.)

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.

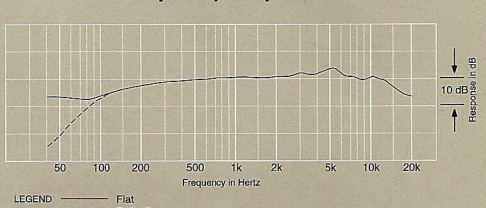
For balanced low-impedance inputs, AT8314 cable (or equal) is recommended. An accompanying drawing shows the wiring used at the equipment end of this cable. Note that other manufacturers may employ other color codes for cable conductors. Regardless of color code, it is important that both ends of each 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 use into 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 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.

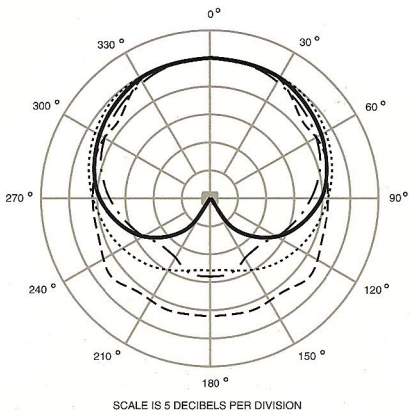
While a modern condenser microphone is not unduly sensitive to the environment, temperature extremes can be harmful. Exposure to high temperatures can result in gradual and permanent reduction of the output level. Avoid leaving the microphone in the open sun or areas where the temperature exceeds 110° F (43° C) for appreciable periods of time. Extremely high humidity should also be avoided if possible.

Frequency Response



ATM75

Polar Pattern

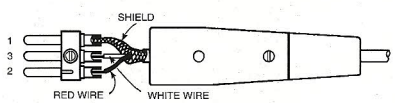


SCALE IS 5 DECIBELS PER DIVISION

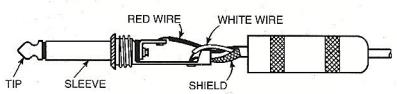
LEGEND

200 Hz
1 kHz
5 kHz
8 kHz

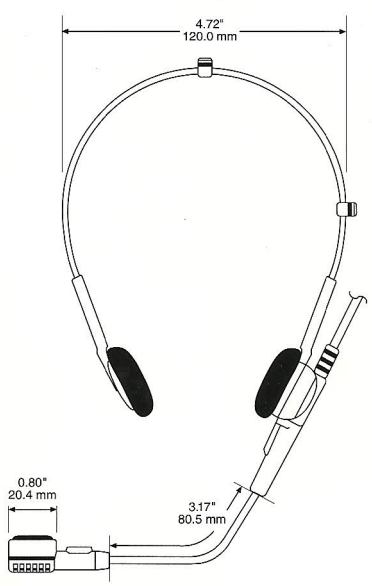
XLRM-Type Plug Wiring
Low Impedance Balanced



1/4" Phone Plug Wiring
Low Impedance Unbalanced



Dimensions



ATM75 SPECIFICATIONS†

ELEMENT		Fixed-charge back plate permanently polarized condenser
POLAR PATTERN		Cardioid (Unidirectional)
FREQUENCY RESPONSE		60-15,000 Hz
LOW CUT		80 Hz, 18 dB/Octave
OPEN CIRCUIT SENSITIVITY	PHANTOM BATTERY	–51 dB (2.8 mV) re 1V at 1 Pa* –53 dB (2.2 mV) re 1V at 1 Pa*
IMPEDANCE	PHANTOM BATTERY	200 ohms 270 ohms
MAXIMUM INPUT SOUND LEVEL (TYPICAL)	PHANTOM BATTERY	132 dB SPL, 1 kHz at 1% T.H.D. 121 dB SPL, 1 kHz at 1% T.H.D.
SIGNAL-TO-NOISE RATIO[1]		58 dB, 1 kHz at 1 Pa*
DYNAMIC RANGE (TYPICAL)	PHANTOM BATTERY	96 dB 85 dB
PHANTOM POWER REQUIREMENTS		9-52V DC, 2 mA typical
BATTERY TYPE		Use only "leakproof" AA/UM3 1.5V battery
BATTERY CURRENT		0.4 mA typical
BATTERY LIFE		2,000 hours, premium battery, continuous use
SWITCH		off/on-flat/on-roll-off
WEIGHT	MICROPHONE POWER MODULE	2.12 oz (60 grams) 5.2 oz (147 grams)
DIMENSIONS	HEADSET MICROPHONE POWER MODULE	4.72" (120 mm) nominal at widest point 3.17" (80.5 mm) flexible boom 0.80" (20.4 mm) diameter 3.27" (83.0 mm) H x 2.48" (63.0 mm) W x 0.87" (22.0 mm) D
OUTPUT CONNECTOR		Integral 3-pin XLRM-type
CABLE		4.6' (1.4 m) long, 0.11" (2.8 mm) diameter miniature audio cable permanently attached between microphone and power module.
ACCESSORIES FURNISHED		AT8439 clothing clip; AT8139L large windscreen; AT8139S small windscreen; AT8530 power module (attached); battery.

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

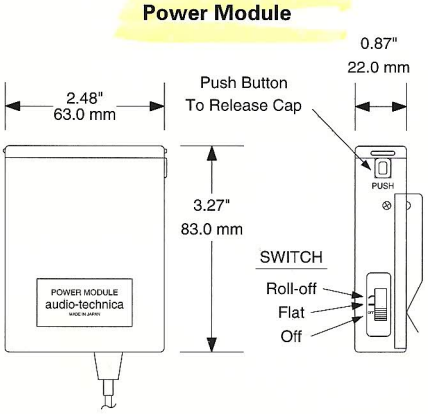
* 1 Pascal = 10 dynes/cm² = 10 microbars = 94 dB SPL

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

Optional Accessories:

- AT8142 replacement foam temple pads (pair).
- CP8201 line matching transformer (Lo-Z to 50,000 ohms).
- AT8314 2-conductor, shielded, vinyl jacketed, broadcast-type cable with XLRF-type connector at microphone end, XLRM-type connector at equipment end. Available in 10', 20', 25', 30', 50' & 100' lengths.
- CP8506 4-channel 48V phantom power supply (AC powered).
- CP8508 single-channel 24V phantom power supply (AC powered).

Power Module



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.

audio-technica.

Audio-Technica U.S., Inc., 1221 Commerce Drive, Stow, Ohio 44224

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