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, stooges, 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 unidirectional microphones. Close-up voice pickup is full sounding, while suppression of background noise is significantly improved over that of full-size, stand-mounted condenser microphones.

Important new features — a mic capsule moisture barrier, a durable cable assembly and a covered stainless steel headband, which can be quickly adjusted for comfort, add to the already great performance of the ATM75. The ATM75 has been 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 magnet charge is new on the face, back plate, rather than on the moving element. This reduces moving mass, improving frequency response and transient response while reducing distortion. With the AT fixed charge "back plate" construction, a gold vaporized diaphragm just 4 microns thick (or about 0.000167" thick) 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 "pantyline" battery will provide sufficient power to the microphone. Current demands are low enough 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 2-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 (+) and (−) and toward the cap release button. The switch should remain off except when the microphone is in use. The standard carbon-zinc AA batteries will operate the microphone satisfactorily, alkaline cells are preferred for longer service life. Only "alkaline" 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 ear (see photo). The 317 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 contamination. Two open-screen foamed windstorms, one large for ultra-closeup 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 aerosol disinfectant, on-stage performing, etc., removing the foam screen, wiping off the headset with a towel and permitting it to 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 (common) connection is Pin 1. Output is phantom so that positive acoustic pressure produces positive voltage at Pin 2 in accordance with industry convention.

For balanced low-impedance inputs, ATM734 cable (or equal) is recommended. A 1/4" plug is wired to the equipment end of the ATM734 cable.

For use into a high-impedance input, use ATM734 (or equal). Plug the cable into a CP6201 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 CP6385 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

![Frequency Response Graph]

300 Hz - 12 kHz

Specifications:
- Frequency response: 300 Hz - 12 kHz
- Sensitivity: 10 mV/Pa
- Maximum SPL: 150 dB
- Impedance: 1500 ohms
- Power requirements: 9V to 52V DC
- Cable length: 4.6' (1.4 m)
- Dimensions: 2.5" x 2.5" x 6.3"
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: -61 dB (2.8 mV) re 1 V at 1 Pa*
PHANTOM BATTERY: -53 dB (2.2 mV) re 1 V at 1 Pa*

IMPEEDANCE
PHANTOM BATTERY: 200 ohms

MAXIMUM INPUT SOUND LEVEL (TYPICAL)
PHANTOM BATTERY: 132 dB SPL, 1 kHz at 1% T.H.D.
PHANTOM BATTERY: 121 dB SPL, 1 kHz at 1% T.H.D.

SIGNAL-TO-NOISE RATIO
58 dB, 1 kHz at 1 Pa*

DYNAMIC RANGE (TYPICAL)
PHANTOM BATTERY: 96 dB
PHANTOM BATTERY: 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/off-collar

WEIGHT
MICROPHONE POWER MODULE: 2.12 oz (60 grams)
HEADSET: 5.2 oz (147 grams)

Dimensions
HEADSET: 4.72" (120 mm) nominal at widest point
MICROPHONE POWER MODULE: 3.17" (50.5 mm) flexible boom, 0.80" (20.4 mm) diameter
MICROPHONE POWER MODULE: 3.27" (83.0 mm) H x 2.48" (62.0 mm) W x 0.87" (22.0 mm) D

Output connector
Integral 3-pin XLRM-type

CABLE
46" (1.4 m) long, 0.11" (2.8 mm) diameter miniature audio cable permanently attached between microphone and power module.

ACCESSORIES FURNISHED
AT81439 clothing clip; AT8139L large windscreen; AT8139S small windscreen; AT8530 power module accessory, 1 battery.

Optional Accessories:
- AT8142 replacement foam temple pads (pair).
- CP6201 line matching transformer (Lo-Z to 50,000 ohms).
- AT8314 2-conductor, shielded, vinyl jacketed, broadband-type cable with XLRM-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).

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.A., Inc. ("ATU.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 U.S.A. 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. Warranty excludes defects due to normal wear, abuse, shipping damage, or failure to use product in accordance with instructions. This warranty is valid in the event of unauthorized repair or modification. For return approval and shipping information, contact the Service Department, Audio-Technica U.S.A., Inc., 1221 Commerce Drive, Stow, OH 44224. Except to the extent prohibited 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.