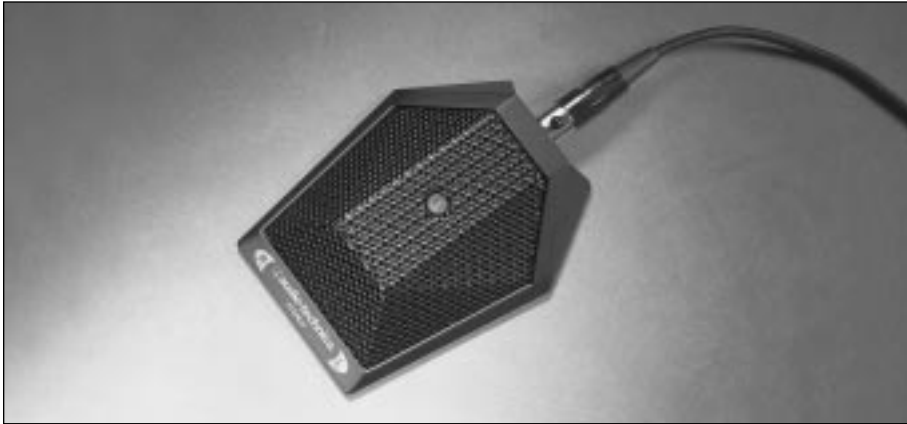


SPECIAL PURPOSE MICROPHONES



AT849 STEREO CONDENSER BOUNDARY MICROPHONE

Description

The AT849, an X/Y stereo condenser boundary microphone with full mono compatibility, is intended primarily for surface-mount applications in broadcast, professional recording and sound reinforcement. The AT849 provides full, natural stereo ambience in a rugged, compact design.

Equipped with a pair of wide-range, optimally-positioned miniature condenser cardioid elements, the AT849 provides the spacial impact and realism of a live sound field, while simultaneously remaining full and uniform when operating in mono (L+R). Consistently natural-sounding response is maintained over an arc of approximately 220°, and the L+R mono polar pattern is virtually free of lobes and comb effects. Frequency response is smooth and peak-free over an extended 30 Hz to 20,000 Hz range, with uniform polar response vs. frequency.

The AT849 requires 9V to 52V DC phantom power on each channel for operation. A built-in 2-position switch allows selection of flat or low-roll-off response. Enclosed in a rugged die-cast case and protected by two layers of sturdy perforated steel, the AT849 is finished in low-reflectance black. The combination of heavy case and rubber non-slip bottom pad minimizes mechanical coupling of surface vibrations to the microphone.

The included 25' (7.6 m) shielded cable features a five-pin TA5F input connector and two standard three-pin XLRM-type output connectors. A soft pouch is provided to hold and protect the microphone when not in use.

Installation and Operation

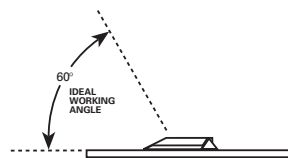
The two stereo outputs are low impedance balanced. The balanced signals appear across Pins 2 and 3 of the TB5M output connector for the left channel and Pins 4 and 5 for the right channel. The ground (shield) connection for both channels is Pin 1. Output is phased so that positive acoustic pressure produces positive voltage at Pins 2 and 4, in accordance with industry convention.

The 3-pin XLRM connectors for the left and right channels are marked with gray and red bands, respectively. The balanced output signals appear across Pins 2 and 3, while the ground (shield) connections are Pin 1.

Outputs are phased so that positive acoustic pressure produces positive voltage at Pin 2.

By locating the AT849 near the sound source, the stereo image width will be enhanced, but the room ambience will be decreased. Conversely, as the mic position recedes from the sound source, a narrower left/right stereo image will be achieved and more of the "room sound" will be noted. Experimentation with placement will provide operators with the "feel" for where to position the AT849 for the best overall effect.

The symmetry and area of the mounting surface directly affect the sensitivity of the boundary microphone at low frequencies, as well as the overall stereo balance and image. Ideally, the mounting surface should be circular; however, square or rectangular surfaces are most often used. If the mounting surface is rectangular, the smaller dimension tends to determine low-frequency cutoff. The microphone should be centered on the surface and positioned with the front of the microphone facing the sound source along the longer dimension of the mounting surface. The sound source should not be below, or higher than 60° above, the plane of the mounting surface.



The AT849 can be mounted to a flat surface using two panhead screws in conjunction with the keyhole slots on the microphone's underside. Simply remove the small cut-out section of the rubber pad to reveal the keyhole slots and the low-frequency roll-off switch.

The high sensitivity of the AT849 assures useful output under most circumstances, and it is designed to provide a distortion-free signal even in very intense sound fields. In some cases, however, an attenuator such as the Audio-Technica AT8202 may be required between each microphone output and its preamplifier to avoid overloading sensitive input stages.

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.

Architects and Engineers Specifications

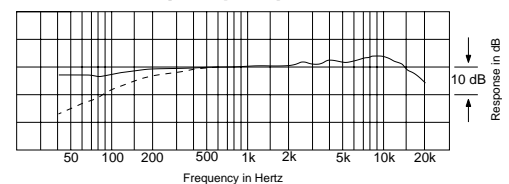
The microphone shall be a boundary design with two fixed-charge condenser cardioid elements in an X/Y stereo configuration. The stereo angle shall be 110°. The frequency response shall be 30 Hz to 20,000 Hz, and the microphone shall have a switch for selection of flat or low-roll-off response.

The microphone shall have a nominal open-circuit output voltage of 8.9 mV at 1 kHz, 1 Pascal. It shall have an output impedance of 200 ohms and output shall be balanced. It shall be powered from an external 9V to 52V DC phantom power source. The microphone shall accept a 137 dB SPL at 1 kHz while producing no greater than 1% T.H.D.

The microphone shall include a 25' (7.6 m) shielded cable with a five-pin TA5F input connector and two standard three-pin XLRM-type output connectors. The microphone shall have a maximum width of 2.87" (73.0 mm) and a maximum length of 3.62" (92.0 mm). Weight shall be 5.3 oz (151 grams). The microphone shall be housed in a die-cast case with a two-layer perforated steel grille. Finish shall be low-reflectance black.

The Audio-Technica AT849 is specified.

Frequency Response

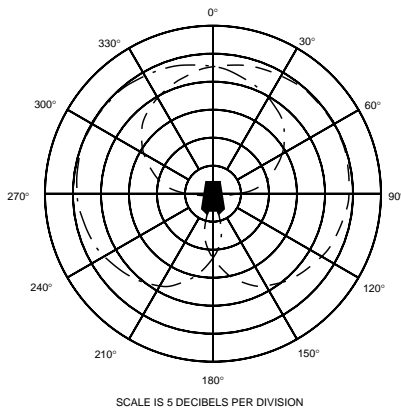


LEGEND ——— 12° or more on axis (flat)
----- Roll-off



AT849

Stereo Polar Pattern



AT849 SPECIFICATIONS†

ELEMENTS	Fixed-charge back plate permanently polarized condenser
POLAR PATTERN	X/Y stereo
FREQUENCY RESPONSE	30-20,000 Hz
LOW-FREQUENCY ROLL-OFF	150 Hz, 6 dB/octave
OPEN CIRCUIT SENSITIVITY	-40 dB (10.0 mV) re 1V at 1 Pa*
CHANNEL BALANCE	≤ 2.5 dB
IMPEDANCE	200 ohms balanced
MAXIMUM INPUT SOUND LEVEL	137 dB SPL, 1 kHz at 1% T.H.D.
SIGNAL-TO-NOISE RATIO†	67 dB, 1 kHz at 1 Pa*
DYNAMIC RANGE (TYPICAL)	110 dB, 1 kHz at Max SPL
PHANTOM POWER REQUIREMENTS	9-52V DC, 2 mA typical (each channel)
SWITCH	Flat response, low-roll-off
WEIGHT (LESS CABLE AND ACCESSORIES)	5.3 oz (149 grams)
DIMENSIONS	3.62" (92.0 mm) maximum length, 2.87" (73.0 mm) maximum body width
OUTPUT CONNECTOR	Integral 5-pin TB5M
CABLE	25' (7.6 m) long, shielded, vinyl-jacketed, stereo cable with 5-pin TA5F connector at microphone end, two 3-pin XLRM-type connectors at output end
ACCESSORY FURNISHED	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.

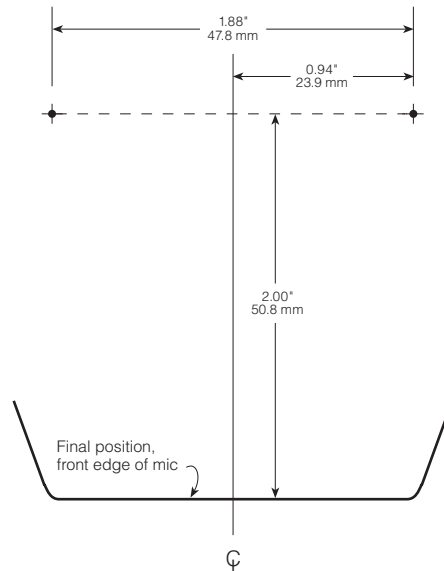
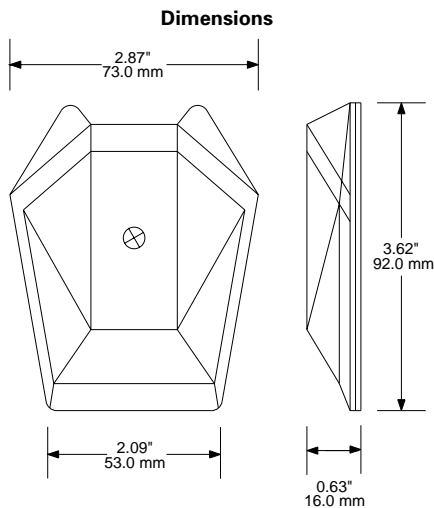
* 1 Pascal = 10 dynes/cm² = 10 microbars = 94 dB SPL

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

Optional Accessories:

- AT8202 adjustable in-line attenuator for use with balanced Lo-Z microphones.
- CP8506 four-channel 48V phantom power supply (AC powered).
- AT8801 single-channel 48V phantom power supply (AC powered).

Screw-mount Template (Actual Size)



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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