SPECIAL PURPOSE MICROPHONES

Description
The AT849, an XY 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 Pin 2. 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.

Architects and Engineers Specifications
The microphone shall be a boundary design with two fixed-charge condenser cardioid elements in an XY 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.

Audio-Technica

SPECIAL PURPOSE MICROPHONES
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 T85M

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

Stere0
Polar Pattern

LEGEND
LEFT
1 kHz
0
30'
0°
120°
330°
90°
270°
60°
150°
240°
300°
60°
210°
240°
300°
60°
210°

SCALE IS 5 DECIBELS PER DIVISION

Dimensions

Final position,
front edge of mic

Screw-mount Template
(Actual Size)

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).

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.

Outside the U.S.A., please contact your local dealer for
warranty details.