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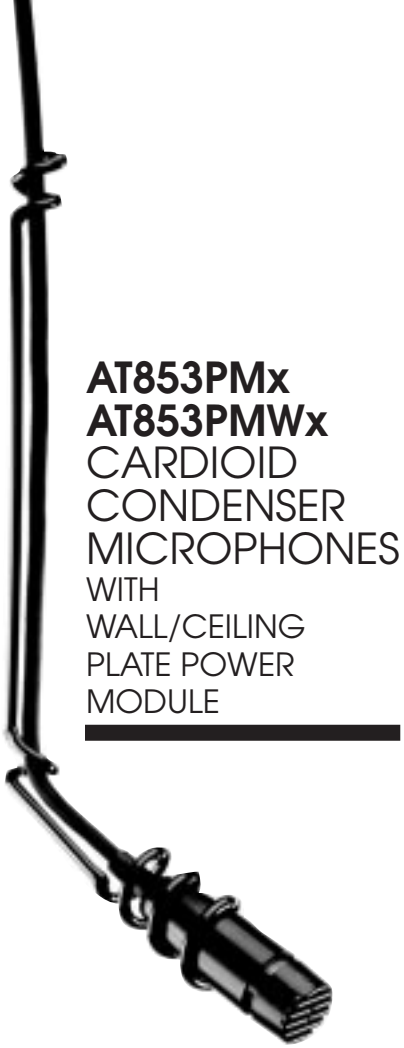
AT853PMx
AT853PMWx
CARDIOID CONDENSER MICROPHONES WITH WALL/CEILING PLATE POWER MODULE



Description

The AT853PMx is a wide-range miniature condenser microphone with a cardioid (unidirectional) polar pattern. It has been designed for use in high-quality sound reinforcement, professional recording, television, and other demanding sound pickup applications. The AT853PMx is furnished with a vinyl-coated steel hanger that allows it to be positioned inconspicuously over a choir, orchestra, stage, etc., for very low-profile situations.

Supplied as a cardioid, the AT853PMx easily accepts interchangeable elements to permit selection of angle of acceptance from 100° to 360°. The following optional elements are available from an authorized Audio-Technica dealer or the A-T service department: AT853H-ELE hypercardioid, AT853O-ELE omnidirectional, AT853SC-ELE subcardioid.

The AT853PMx features a 25' (7.6 m) permanently-attached miniature cable that may be cut to any length and connected to screw terminals on the AT8534(A) wall/ceiling plate power module provided. The power module features a white-finished standard electrical cover plate for easy, secure installation. Output is low impedance balanced via screw terminals. The AT853PMx requires power from an external 9V to 52V DC phantom power supply.

The microphone element is enclosed in a rugged housing with a low-reflectance black finish. The microphone is also available in white as the AT853PMWx, with a white-finished microphone housing, windscreen, cable and steel hanger, for applications where the microphone must be hung against a light background.

Installation and Operation

The combination of small size and excellent response makes the AT853PMx ideal for suspension over choirs, instrumental groups or theater stages. A uniform 120° angle of acceptance provides well-balanced audio pickup. The microphone should be located forward of the front-most source, above the rear-most source, and "aimed" between them (Fig. 1). Increasing the height of the mic above the sources will tend to equalize sound levels between them, but may also increase background/reverberant sound pickup. Whenever possible, the distance from the mic to the rear-most pickup should be no more than twice the distance to the front source, to maintain front-to-rear balance (Fig. 1).

Width of pickup is approximately three times the distance to the closest performer. If additional mics are needed for wide sources, they should not be closer together laterally than three times the distance to the front source, to avoid phase cancellation (Fig. 2).

To orient in the proper direction, twist the microphone housing *slightly* in its wire holder (clockwise rotation moves the microphone to the right; counterclockwise rotation moves it to the left). The foam windscreen slips over the head of the microphone, effectively reducing noise from wind or ventilation air currents.

The AT8534(A) wall/ceiling plate power module is designed to be mounted in a standard single-gang electrical box. For safety and best performance, use the electrical box *only* for the AT8534(A); do not include any AC power conductors. (Also route the mic cable as far away from AC power cables as possible.)

Feed the small cable from the mic through the strain relief on the power module plate. Tie a loose knot in the cable at the desired length and push it down gently into the recess in the back of the strain relief to secure the microphone. Cut excess cable, strip the mic cable wires and attach them to their respective input terminals (Fig. 3 on the back of this sheet). Screw-terminal output connections of the AT8534(A) are the same as those of an XLR-type plug: shield to Terminal 1, balanced signal and phantom power to Terminals 2 and 3. Output is phased so that positive acoustic pressure produces positive voltage at Terminal 2, in accordance with industry convention. *Do not connect the output cable shield to the box.* Double-check to make certain that all input and output leads have no bare wires or loose strands that could touch each other, the circuit board or the electrical box. Then attach the power module plate to the electrical box.

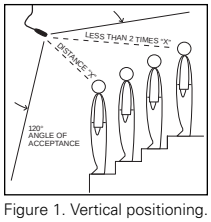


Figure 1. Vertical positioning.

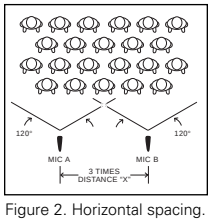


Figure 2. Horizontal spacing.

The AT853PMx offers a low-roll-off filter. As supplied, the AT8534(A) power module is wired for flat response. To enable the low-roll-off filter, clip the jumper wire "JW" (Fig. 3) on the circuit board of the AT8534(A). Low roll-off is useful in reducing room rumble, low-frequency air movement noise, and low-frequency vibration.

While a modern condenser microphone is not unduly sensitive to the environment, temperature extremes can be harmful. Avoid leaving the microphone in the open sun or in areas where temperatures exceed 110° F (43° C) for long periods of time. Extremely high humidity should also be avoided.

Architects and Engineers Specifications

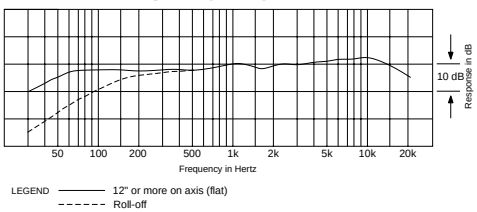
The microphone shall be a fixed-charge condenser with a cardioid polar pattern and a frequency response of 30 Hz to 20,000 Hz. It shall be capable of accepting optional interchangeable elements for additional polar patterns. It shall operate from an external 9V to 52V DC phantom power source. Nominal open-circuit output shall be 22.4 mV at 1 kHz, 1 Pascal. Output with the wall/ceiling plate power module shall be low impedance balanced (200 ohms).

The microphone shall have a permanently-attached 25' (7.6 m) miniature cable with a pigtail output. The pigtail output shall connect to screw terminals on the power module. Output connections on the power module shall be screw terminals.

The microphone shall be mountable in an included steel hanger that allows permanent overhead installation for pickup of dialogue, orchestras, choirs, and other large groups. The microphone shall be 1.39" (35.2 mm) long with a head diameter of 0.47" (12.0 mm). The microphone weight shall be 0.4 oz. (10 grams) without cable. The microphone case, cable and steel hanger shall be black [white].

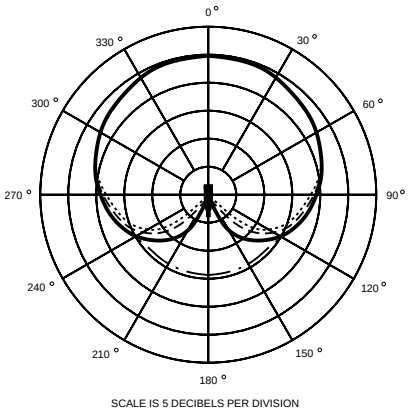
The Audio-Technica AT853PMx [AT853PMWx.] is specified.

Frequency Response



AT853PMx
AT853PMWx

Polar Pattern



AT853PMx/AT853PMWx SPECIFICATIONS†

ELEMENT		Fixed-charge back plate permanently polarized condenser
POLAR PATTERN		Cardioid (Unidirectional)
FREQUENCY RESPONSE		30-20,000 Hz
LOW-FREQUENCY ROLL-OFF		150 Hz, 6 dB/octave
OPEN CIRCUIT SENSITIVITY		–33 dB (22.4 mV) re 1V at 1 Pa*
IMPEDANCE		200 ohms
MAXIMUM INPUT SOUND LEVEL		130 dB SPL, 1 kHz at 1% T.H.D.
DYNAMIC RANGE (TYPICAL)		103 dB, 1 kHz at Max SPL
SIGNAL-TO-NOISE RATIO[1]		67 dB, 1 kHz at 1 Pa*
PHANTOM POWER REQUIREMENTS		9-52V DC, 2 mA typical
WEIGHT		
	MICROPHONE	0.4 oz (10 grams)
	POWER MODULE	3.4 oz (96 grams)
DIMENSIONS		
	MICROPHONE	1.39" (35.2 mm) long, 0.47" (12.0 mm) head dia.
	POWER MODULE	2.80" (71.0 mm) W x 4.55" (115.5 mm) H x 1.42" (36.0 mm) D
OUTPUT CONNECTOR (POWER MODULE)		Screw terminals
CABLE		25' (7.6 m) long (permanently attached to microphone), 0.13" (3.2 mm) diameter, 2-conductor, shielded cable with a pigtail output
ACCESSORIES FURNISHED	(AT853PMx)	AT8102 two-stage foam windscreen; AT8451 steel hanger
	(AT853PMWx)	AT8102WH two-stage foam windscreen; AT8451WH steel hanger
	(BOTH)	AT8534(A) wall/ceiling plate power module
OPTIONAL INTERCHANGEABLE ELEMENTS		AT853H-ELE hypercardioid (100°) AT853O-ELE omnidirectional (360°) AT853SC-ELE subcardioid (170°)

† 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.

AT8534(A) Power Module

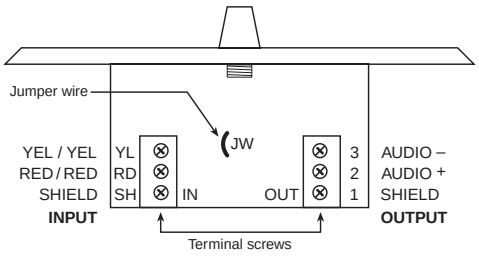
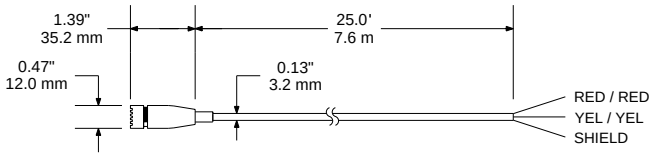


Figure 3. Screw terminal connections and jumper wire location.

Optional Accessories:

- AT8438 stand adapter.
- AT8601 desk stand for use in conjunction with AT8438 stand adapter.
- CP8506 four-channel 48V phantom power supply (AC powered).
- AT8801 single-channel 48V phantom power supply (AC powered).

Dimensions



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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Audio-Technica U.S., Inc., 1221 Commerce Drive, Stow, Ohio 44224
Audio-Technica Limited, Old Lane, Leeds LS11 8AG England

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