



# ATND933aML & ATND933aWML MicroLine® Condenser Hanging Microphones with Dante™ Network Output



## Network Microphones

### Features

- Wall/ceiling plate power module with Dante™ network output permits permanent installation in standard, 2-gang electrical box and direct connection to the network via Ethernet cable
- MicroLine® polar pattern provides narrow 90° acceptance angle
- Low-profile design with low-reflectance finish for minimum visibility
- Superior off-axis rejection for maximum gain before feedback
- Logic input accepts external switch for connection to the Dante™ network
- UniGuard® RFI-shielding technology offers outstanding rejection of radio frequency interference (RFI)
- UniSteep® filter provides a steep low-frequency attenuation to minimize pickup of undesired ambient noise
- Available interchangeable elements permit angle of acceptance from 90° to 360°
- Steel hanger positions microphone over choirs, instrumental groups and theater stages
- Available in two colors: black (ATND933aML) and white (ATND933aWML)

### Description

The ATND933aML is a wide-range miniature condenser microphone with a MicroLine® (line cardioid) polar pattern. It is designed for quality sound reinforcement. The combination of small size and excellent response makes the microphone ideal for suspension over choirs, instrumental groups or theater stages.

The microphone is equipped with UniGuard® RFI-shielding technology, which offers outstanding rejection of radio frequency interference (RFI).

The microphone's MicroLine® (line cardioid) polar pattern provides a 90° angle of acceptance. Additional interchangeable elements with omnidirectional (360°), cardioid (120°) and hypercardioid (100°) pickup patterns are available.

The microphone includes a 15.2 m (50') permanently attached miniature cable. Its free end connects to the provided ATND8734a Dante-enabled wall/ceiling plate power module via a special TA3F-type connector designed to optimize RFI immunity. The power module features a removable, circular cover plate that can be painted with commercially available spray paint. The power module includes an RJ-45 output jack for easy connection to the network via CAT5e (or better) cable. Additionally, logic input screw terminals accept an external switch for connection to the Dante™ network.

The power module is equipped with an 80 Hz low-cut UniSteep® filter, three-position input gain level selector (+30 dB, +40 dB and +50 dB), and red/green LED status indicator, which can all be controlled remotely via third-party software.\* Default settings for the power module are as follows: low-cut filter off, +40 dB input gain, LEDs off.

The microphone comes equipped with a vinyl-coated steel hanger for positioning over a choir/orchestra/stage, and a two-stage foam windscreen. The microphone is

enclosed in a rugged housing with a low-reflectance black finish. It is also available with white housing, cable, hanger and windscreen as the ATND933aWML.

### Installation and Operation

A uniform 90° 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. When possible, the distance from the mic to the rear-most source 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 1.5 times the distance to the closest source. If additional mics are needed for wide sources, they should be positioned apart laterally at least 1.5 times the distance to the front source, to avoid phase cancellation (Fig. 2).

To orient the microphone in the proper direction, twist the housing slightly in its wire holder. (Clockwise rotation moves the microphone to the right; counterclockwise rotation moves it to the left.)

The provided two-stage foam windscreen simply snaps over the head of the microphone, effectively reducing noise from wind or ventilation air currents.

The power module allows for remote control of a high-pass filter to provide easy switching from a flat frequency response to a low-end roll-off. The roll-off position reduces the pickup of low-frequency ambient noise (such as traffic, air-handling systems, etc.), room reverberation and mechanically coupled vibrations. Mic gain and LED ring color may also be controlled remotely through the power module.

The power module is equipped with logic input screw terminals which can be used to trigger functions on compatible Dante-enabled devices, such as a video camera's pan/tilt or a rooms lighting preset.

The ATND8734a wall/ceiling plate power module is designed to be mounted in a standard metal U.S. 2-gang electrical box. For safety and best performance, use the electrical box only for the ATND8734a; do not include any AC power conductors.

Connect the TA3F-type connector on the microphone cable to the TB3M-type connector in the power module plate.

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.

**Note:** Audio-Technica has developed a special RFI-shielding mechanism, which is an integral part of the connectors in the Engineered Sound® line. If you remove or replace the connector, you may adversely affect the unit's RFI immunity. Audio-Technica offers a crimp tool (ATCT) and RFI shields that enable you to shorten the cable and correctly reinstall the connector while maintaining the highest level of RFI immunity.

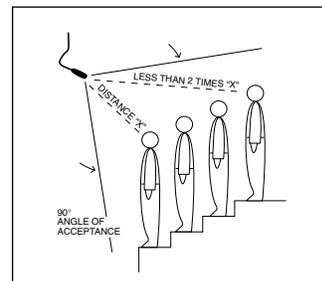


Figure 1

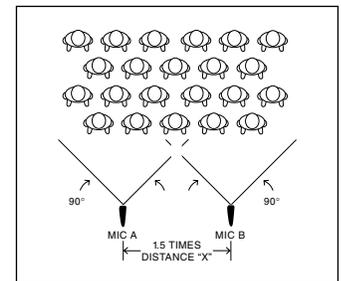


Figure 2

# ATND933aML & ATND933aWML

## Architect's and Engineer's Specifications

The microphone shall be a fixed-charge condenser designed for permanent installation or portable applications. It shall have a MicroLine® (line cardioid) polar pattern with a uniform 90° angle of acceptance 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 offer outstanding rejection of radio frequency interference (RFI).

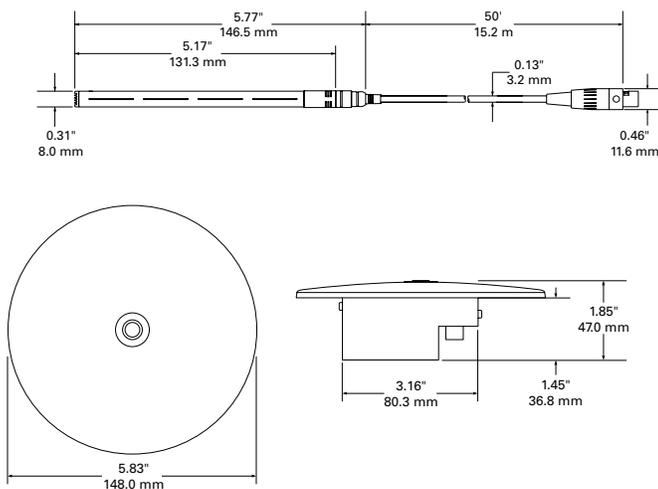
The microphone shall have a permanently attached 15.2 m (50') miniature cable terminating in a special TA3F-type output connector designed to optimize RFI immunity. The output connector shall connect to a TB3M-type jack on the included power module. The output connection on the power module shall be an RJ-45 terminal using standard network protocol. Logic input screw terminals shall be provided to accept commercially available external switches. The power module shall be capable of driving a Dante audio flow. The plate power module shall be designed to mount in a standard 2-gang metal electrical box for ceiling or wall mounting. The power module shall contain an 80 Hz "low cut" switch to tailor the low-frequency response and minimize pickup of unwanted sounds; it shall be selectable remotely via third-party software.\* There shall also be three gain levels (+30 dB, +40 dB, and +50 dB), selectable remotely via third-party software. The power module shall include a red/green LED ring, controllable via third-party software, and a removable, circular face plate that can be painted with commercially available spray paint.

An adjustable steel wire hanger shall be provided for suspended installations. The steel wire hanger shall attach to the microphone body and allow for the positioning of the microphone without the need for tools. A two-stage foam windscreen shall also be included.

The microphone shall be a hanging design, with an overall length of 146.5 mm (5.77") and a head diameter of 8.0 mm (0.31"). Weight shall be 9.5 grams (0.3 oz) without cable. The microphone, cable and steel hanger shall be black [white].

The Audio-Technica ATND933aML [ATND933aWML] is specified.

\* For a list of compatible third-party software consult the "About Network Audio" page at Audio-Technica.com.



## Specifications

Element	Fixed-charge back plate, permanently polarized condenser
Polar pattern	MicroLine® (line cardioid)
Frequency response	30-20,000 Hz
Low frequency roll-off	80 Hz, 18 dB/octave
Maximum input levels	-15 dBu @ +30 dB gain -25 dBu @ +40 dB gain -35 dBu @ +50 dB gain
Signal-to-noise ratio <sup>1</sup>	73 dB, 1 kHz at 1 Pa
Weight	Microphone: 9.5 g (0.3 oz) Power module: 330 g (11.6 oz)
Dimensions	Microphone: 146.5 mm (5.77") long, 8.0 mm (0.31") head diameter Power module: 148.0 mm (5.83") diameter x 47.0 mm (1.85") depth
Output connector	Power module: RJ-45
Dante network	Physical level: standard Ethernet Connector: single RJ45 Cable quality: Shielded CAT5 or CAT6 recommended Transmission speed: 100 Mbps
Optional interchangeable elements	ESE-O omnidirectional (360°) ESE-C cardioid (120°) ESE-H hypercardioid (100°)
Audio-Technica case style	M14
Accessories furnished	ATND933aML ATND8734a wall/ceiling plate power module with Dante™ network output; AT8138 two-stage foam windscreen; AT8452 steel hanger ATND933aWML ATND8734a wall/ceiling plate power module with Dante™ network output; AT8138(WH) two-stage foam windscreen; AT8452(WH) steel hanger

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

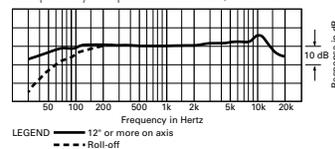
1 Pascal = 10 dynes/cm<sup>2</sup> = 10 microbars = 94 dB SPL

<sup>1</sup> Typical, A-weighted, using Audio Precision System One.

Specifications are subject to change without notice.

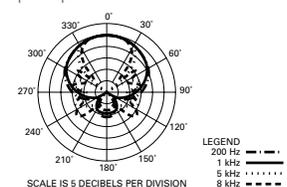


frequency response: 30–20,000 Hz



LEGEND — 12° or more on axis  
--- Roll-off

polar pattern



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