

# ES964 Boundary Microphone Array



Engineered Sound

## Features

- Hypercardioid and cardioid polar patterns can be formed 360 degrees around the microphone when used with the ATDM Series Digital SmartMixer® or compatible mixers
- Multiple and simultaneous pickup patterns can be made to suit the seating positions of conference participants
- Three Mute touch switches provide convenient microphone control for everyone in the meeting
- Touch On/Touch Off, Touch to Talk, and Touch to Mute function switches, along with Local, Remote, and LED Remote control settings, allow users to configure the microphone for various environments and applications
- Microphone ON/OFF status is indicated by seven LED colors that can be changed to match your branding or call environment
- LED ring visible from any direction
- Compatible with 20 to 52 V DC phantom power supplies
- Proprietary shielding technology that protects the audio signals from radio frequency interference (RFI)
- Low-profile, space-saving design: 88 mm (3.5") diameter, 22 mm (0.87") height
- Fixable to the table with a dedicated 20 mm (0.79") jig in a 30 mm (1.2") diameter hole, or with general-purpose M3 screws
- Includes cables (RJ45 breakout cables x 2) necessary for connecting to a mixer; two standard RJ45 cables are required separately for transporting audio and control signals

## Description

The ES964 is a compact boundary microphone array that is simple to install and provides clear audio for multi-person conference environments. This microphone is designed for small-group online conferences, and for businesses that are considering installation or expansion of shared or permanent conference spaces. With its low-profile design, the microphone takes up minimal space on a tabletop, but still captures clear, natural sound for online calls.

The ES964 has one omnidirectional capsule and two bidirectional capsules that can be matrixed into discrete directions and varying polar patterns. Designed to work with compatible mixers such as the ATDM-0604a or ATDM-1012, or with an open-architecture DSP, the microphone will provide 360-degree hypercardioid and cardioid polar patterns around the microphone for simultaneous pickup of all participants seated at the table.

Three touch-sensitive talk switches, positioned to be accessible to multiple meeting participants, enable users to mute audio or trigger a logic point.

The LED ring also provides immediate indication of the microphone's ON/OFF/MUTE status and can be customized using seven different colors to match the design of a company's brand or office space.

## Installation and Operation

The ES964 requires 20V to 52V phantom power for operation.

Output is low impedance (Lo-Z), balanced type. Signals are output to MIC 1–3 and LED/CLOSURE control via the Euroblock connectors of the two included RJ45 breakout cables, which are connected to the microphone's permanently attached cable with commercially available STP cables (not included). Audio grounding is achieved with a shielded connection.

The microphone should be mounted on a flat, unobstructed surface by drilling a 30 mm (1.2") diameter hole and using the included table mount adapter, or by securing the microphone with two M3 screws. The sound source should not be below the plane of the mounting surface.

When installing two or more microphones, they should be placed at least 1.7 m (5.6') apart (for the hypercardioid (Normal) setting) so that the coverages of each microphone do not overlap.

Depending on microphone configuration, each of the three talk switches will mute/unmute the microphone locally or send operation information to an external control device. The mute operation of the talk switch can be set by adjusting the SW. FUNCTION and CONTROL switches on the bottom of the microphone. The three modes of the SW. FUNCTION are "TOUCH ON/OFF", "MOM. ON", or "MOM. OFF". These functions are executed locally by the microphone when it is operating in the "LOCAL" control setting. In the "REMOTE" control setting, the microphone always remains on; pressing the talk switch causes the LED ring to light appropriately while sending operation information to the external control device (via the CLOSURE terminal), which ultimately controls muting/unmuting. In the "LED REMOTE" control setting, the microphone likewise remains on, but pressing the talk switch transmits both muting and LED operation information to the external control device.

The MIC ON and MIC OFF colors for the LED ring can be set by adjusting the appropriate dials on the bottom of the microphone.

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.

## Architect's and Engineer's Specifications

The tabletop boundary microphone array shall consist of one omnidirectional microphone (O), one bidirectional microphone (L) positioned horizontally at 240°, and a bidirectional microphone (R) positioned horizontally at 120°, all of which can be matrixed into discrete directions and varying polar patterns. Each capsule shall have a frequency response of 20 Hz to 15,000 Hz and be capable of handling sound input levels up to 136.5 dB (1 kHz THD 1%). When used with compatible mixers, the microphone shall be capable of providing 360-degree hypercardioid and cardioid polar patterns around the microphone for simultaneous pickup of all participants seated at the table.

The microphone array shall operate from an external 20-52V DC, 19.8 mA (total for all channels) phantom power source. Output shall be low impedance balanced (100 ohms). The output connectors shall be Euroblock connectors.

The microphone shall be equipped with three touch-sensitive talk switches capable of muting/unmuting the microphone locally or sending operation information to an external control device. The microphone shall also be equipped with an LED indicator ring, likewise controlled locally or remotely. Switches and dials on the bottom of the microphone shall allow users to set talk switch function, local/remote control, and LED color.

The microphone shall have a maximum body diameter of 88 mm (3.5") and a maximum height of 22 mm (0.9"). The microphone shall be equipped with a permanently attached cable with dual outputs for MIC 1–3 and LED/CLOSURE control. Two RJ45 breakout cables shall be included to connect to a mixer, along with a table mount adapter and hardware.

The Audio-Technica ES964 is specified.

Specifications

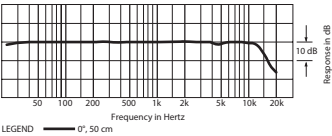
|                                    |                                                                                                                                                               |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Element                            | Fixed-charge back plate, permanently polarized condenser                                                                                                      |
| Polar pattern                      | Adjustable: Cardioid (Wide) /Hypercardioid (Normal)                                                                                                           |
| Frequency response                 | 20 to 15,000 Hz                                                                                                                                               |
| Open circuit sensitivity           | Wide: -33dBV (22.4mV) (0dB=1V/Pa, 1kHz)<br>Normal: -35dBV (17.8mV) (0dB=1V/Pa, 1kHz)                                                                          |
| Impedance                          | 100 ohms                                                                                                                                                      |
| Maximum input sound level          | Wide/Normal: 136.5dB SPL (1kHz THD1%)                                                                                                                         |
| Signal-to-noise ratio <sup>1</sup> | Wide: 68.5dB (1kHz at 1Pa, A characteristic)<br>Normal: 67.5dB (1kHz at 1Pa, A characteristic)                                                                |
| Switch                             | SW.FUNCTION: TOUCH ON/OFF, MOM.ON, MOM.OFF<br>CONTROL: LOCAL, REMOTE, LED REMOTE                                                                              |
| Phantom power requirements         | DC 20 to 52V, 19.8mA (total for all channels)                                                                                                                 |
| Contact Closure                    | Closure input voltage: -0.5 to 5.5V<br>Maximum allowable power: 200 mW<br>On-resistance: 100 ohms                                                             |
| LED control                        | Active High (+5V DC) TTL compatible<br>Active low voltage: 1.2 V or lower<br>Maximum allowable input voltage: -0.5 to 5.5V<br>Maximum allowable power: 200 mW |
| Weight                             | Microphone: 364g (12.8 oz)                                                                                                                                    |
| Dimensions (Microphone)            | Maximum body diameter: 88 mm (3.5")<br>Height: 22 mm (0.9")                                                                                                   |
| Output connector                   | Euroblock connector                                                                                                                                           |
| Accessories furnished              | - RJ45 breakout cable × 2<br>- Table mount adapter<br>- Retaining nut<br>- Isolator<br>- Table mount adapter mounting screw × 3                               |

1 Pascal = 10 dynes/cm<sup>2</sup> = 10 microbars = 94 dB SPL  
For product improvement, the product is subject to modification without notice.

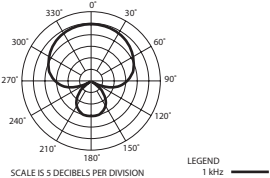


Hypercardioid (Normal)

frequency response: 20-16,000 Hz

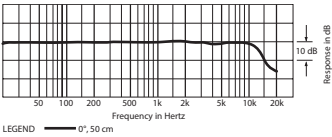


polar pattern



Cardioid (Wide)

frequency response: 20-16,000 Hz



polar pattern

