

# ES947 & ES947W

## Cardioid Condenser Boundary Microphones



### Features

- Mounts unobtrusively in table-tops, ceilings and wall panels
- Low-profile element provides uniform cardioid polar pattern with 120° acceptance angle
- UniGuard® RFI-shielding technology offers outstanding rejection of radio frequency interference (RFI)
- Self-contained electronics eliminate the need for external power module
- Rugged all-metal case with a two-layer steel mesh grille
- Isolators provide mechanical dampening of mounting-surface vibration
- Available in two colors: black (ES947) and white (ES947W)

### Description

The ES947 is a wide-range condenser microphone with a cardioid polar pattern. It is designed for unobtrusive table, ceiling or panel-mounted use in high-quality sound reinforcement, conferencing, professional recording, television and other demanding sound pickup applications.

The microphone requires 11V to 52V phantom power for operation.

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

The output of the microphone is a 3-pin XLRM-type connector.

The microphone's cardioid polar pattern provides a 120° angle of acceptance (cardioid in hemisphere above mounting surface).

Isolators are included with the microphone for optional mechanical isolation from the mounting surface. The microphone is enclosed in a heavy-duty die-cast case and protected by a two-layer steel mesh grille. The low-profile housing has a low-reflectance black finish. The microphone is also available in white as the ES947W.

### Installation and Operation

The ES947 requires 11V to 52V phantom power for operation.

Output is low impedance (Lo-Z) balanced. The signal appears across Pins 2 and 3; Pin 1 is ground (shield). Output phase is "Pin 2 hot"—positive acoustic pressure produces positive voltage at Pin 2.

The microphone should be installed on a flat, unobstructed mounting surface. The small-diameter capsule near the boundary eliminates phase distortion and delivers clear, high-output performance.

To mount the microphone in a ceiling or table top without the isolators, a

20.5 mm ( $^{13}/_{16}$ " ) diameter hole is required. To mount the microphone with the isolators, a 23.5 mm ( $^{15}/_{16}$ " ) hole is required. Place the isolators on either side of the hole to achieve mechanical isolation from the mounting surface.

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.

### Architect's and Engineer's Specifications

The microphone shall be a fixed-charge condenser designed for use in table, ceiling or panel-mount boundary applications. It shall have a cardioid polar pattern with a uniform 120° angle of acceptance (cardioid in hemisphere above mounting surface) and a frequency response of 40 Hz to 12,000 Hz. The microphone shall operate from an external 11V to 52V DC phantom power source. It shall be capable of handling sound input levels up to 142 dB with a dynamic range of 113 dB. Nominal open circuit output voltage shall be 7.9 mV at 1 V, 1 Pascal. Output shall be low impedance balanced (200 ohms). It shall offer outstanding rejection of radio frequency interference (RFI).

The microphone shall incorporate self-contained electronics, eliminating the need for an external power module. The output of the microphone shall be a 3-pin XLRM-type connector.

The microphone shall have a maximum diameter of 30.0 mm (1.18") and an overall length of 69.0 mm (2.72"). Weight shall be 64 grams (2.3 oz). The microphone shall be housed in an all-metal case with a two-layer steel mesh grille. Finish shall be low-reflectance black [white]. The microphone shall include resilient isolators for reduction of mechanical noise transfer from the mounting surface.

The Audio-Technica ES947 [ES947W] is specified.

# ES947 & ES947W

## Specifications

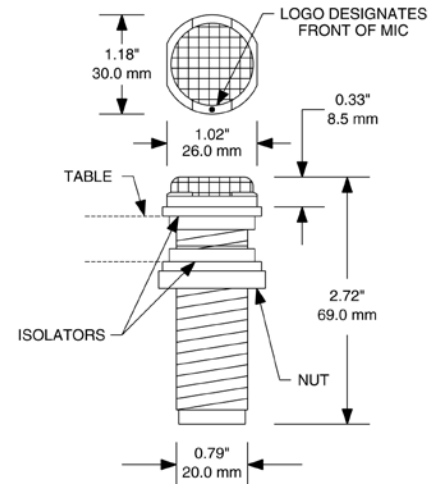
<b>Element</b>	Fixed-charge back plate, permanently polarized condenser
<b>Polar pattern</b>	Half-cardioid (cardioid in hemisphere above mounting surface)
<b>Frequency response</b>	40-12,000 Hz
<b>Open circuit sensitivity</b>	-42 dB (7.9 mV) re 1V at 1 Pa
<b>Impedance</b>	200 ohms
<b>Maximum input sound level</b>	142 dB SPL, 1 kHz at 1% T.H.D.
<b>Dynamic range (typical)</b>	113 dB, 1 kHz at Max SPL
<b>Signal-to-noise ratio<sup>1</sup></b>	65 dB, 1 kHz at 1 Pa
<b>Phantom power requirements</b>	11-52V DC, 2 mA typical
<b>Weight</b>	64 g (2.3 oz)
<b>Dimensions</b>	69.0 mm (2.72") long, 30.0 mm (1.18") diameter
<b>Output connector</b>	Integral 3-pin XLRM-type
<b>Accessories furnished</b>	One pair isolators

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

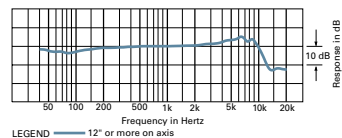
1 Pascal = 10 dynes/cm<sup>2</sup> = 10 microbars = 94 dB SPL

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

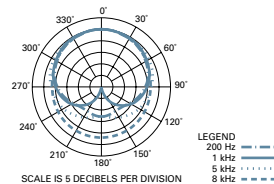
Specifications are subject to change without notice.



frequency response: 40–12,000 Hz



polar pattern



 **audio-technica**

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