

ES943C

Cardioid Condenser Lavalier Microphone



engineered sound® microphones



Features

- **Clip-on lavalier mic provides accurate reproduction with high intelligibility for speakers, singers and other performers**
- **Small size provides excellent yet unobtrusive sound pickup**
- **Superior off-axis rejection for maximum gain before feedback**
- **Cardioid polar pattern reduces pickup of sounds from the sides and rear, improving isolation of desired sound source**
- **UniGuard® RFI-shielding technology offers outstanding rejection of radio frequency interference (RFI)**
- **Rugged design and construction for reliable performance**
- **UniSteep® filter provides a steep low-frequency attenuation to improve sound pickup without affecting voice quality**
- **Available interchangeable elements permit angle of acceptance from 100° to 360°**

Description

The ES943C is a clip-on/lavalier condenser microphone with a cardioid polar pattern. It is designed for quality sound reinforcement, professional recording, television and other demanding sound pickup applications.

The microphone is intended to be worn on the clothing or hidden in props for excellent yet unobtrusive sound pickup. The wide-range capability of the microphone ensures clean, accurate reproduction with high intelligibility for speakers, presenters and other performers. Its small size makes it ideal for use in applications where minimum visibility is required.

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

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

The microphone includes a 1.4 m (55") permanently attached miniature cable. Its free end connects to the provided AT8538 power module via a special TA3F-type connector designed to optimize RFI immunity. The output of the power module is a 3-pin XLRM-type connector.

A recessed switch in the power module permits choice of flat response or low-frequency roll-off (via integral 80 Hz high-pass UniSteep® filter) to help control undesired ambient noise.

The microphone comes equipped with a power module, a clothing clip, a windscreen and a belt clip.

Operation and Maintenance

The ES943C 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.

To avoid phase cancellation and poor sound, all mic cables must be wired consistently: Pin 1-to-Pin 1, etc.

An integral 80 Hz high-pass UniSteep® filter provides easy switching from a flat frequency response to a low-end roll-off. The roll-off position reduces the microphone's sensitivity to popping in close vocal use. It also reduces the pickup of low-frequency ambient noise (such as traffic, air-handling systems, etc.), room reverberation and mechanically coupled vibrations. To engage the UniSteep® filter, use the end tip of a paperclip or other small pointed instrument to slide the switch toward the "bent" line.

For use as a lavalier, attach the microphone about six inches below the chin. Anticipate movements that may cause the microphone to rub against or be covered by clothing, and position the microphone to avoid it.

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 microphone shall be a fixed charge condenser. It shall have a cardioid polar pattern with a uniform 120° 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. 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 138 dB with a dynamic range of 109 dB. Nominal open-circuit output voltage shall be 10.0 mV at 1V, 1 Pascal. Output shall be low impedance balanced (250 ohms).

The microphone shall have a 1.4 m (55") permanently attached 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 power module shall contain a recessed switch to permit choice of flat response or 80 Hz low-frequency roll-off. The output of the power module shall be a 3-pin XLRM-type connector.

The microphone shall be 27.5 mm (1.08") long and have a diameter of 8.4 mm (0.33"). Weight shall be 5.5 grams (0.2 oz). The microphone shall include a power module, a clothing clip, a windscreen and a belt clip. Finish shall be low-reflectance black.

The Audio-Technica ES943C is specified.

Specifications

Element	Fixed-charge back plate, permanently polarized condenser
Polar pattern	Cardioid
Frequency response	30-20,000 Hz
Low frequency roll-off	80 Hz, 18 dB/octave
Open circuit sensitivity	-40 dB (10.0 mV) re 1V at 1 Pa
Impedance	250 ohms
Maximum input sound level	138 dB SPL, 1 kHz at 1% T.H.D.
Dynamic range (typical)	109 dB, 1 kHz at Max SPL
Signal-to-noise ratio	65 dB, 1 kHz at 1 Pa
Phantom power requirements	11-52V DC, 2 mA typical
Switch	Flat, roll-off
Weight	Microphone: 5.5 g (0.2 oz) Power module: 81 g (2.9 oz)
Dimensions	Microphone: 27.5 mm (1.08") long, 8.4 mm (0.33") head diameter Power module: 92.9 mm (3.66") long, 18.9 mm (0.74") diameter
Output connector	Power module: Integral 3-pin XLRM-type
Cable	1.4 m (55") long (permanently attached to microphone), 2.2 mm (0.09") diameter, 2-conductor shielded cable, terminated with TA3F-type connector
Optional interchangeable elements	ESE-O omnidirectional (360°) ESE-H hypercardioid (100°)
Audio-Technica case style	M28
Accessories furnished	AT8538 power module; AT8460 clothing clip; AT8110 foam windscreen; belt clip

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

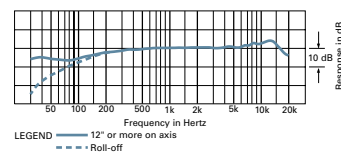
1 Pascal = 10 dynes/cm² = 10 microbars = 94 dB SPL

¹ Typical, A-weighted, using Audio Precision System One.

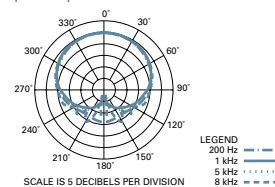
Specifications are subject to change without notice.



frequency response: 30–20,000 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

©2010 Audio-Technica U.S., Inc. audio-technica.com

0001-0186-01