

Engineered Sound®

[Description]

The ES961 and ES961P are wide-range condenser microphones with unidirectional polar patterns. They are designed for surface-mounted applications such as high-quality sound reinforcement, professional recording, television and teleconferencing.

Positioning a properly designed unidirectional microphone centrally on a large, flat, unobstructed surface yields several distinct advantages. The directionality is increased by 3 dB, promoting enhanced gain before feedback and further suppression of ambient noise. Sensitivity is increased for improved signal to noise ratio. Phase distortion due to reflected sound energy from the boundary itself is eliminated.

The ES961 and ES961P require 9V to 52V DC phantom power for operation. A built-in recessed

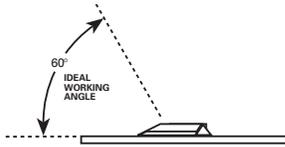
switch allows selection of flat or low-roll-off response. Enclosed in a rugged die-cast case and protected by two layers of sturdy perforated steel, each microphone has a field-replaceable element and low-reflectance black finish. The combination of heavy case and rubber non-slip bottom pad minimizes mechanical coupling of surface vibrations to the microphone. The ES961 is also available in white as the ES961W.

The ES961 is supplied with a 25' (7.6 m) output cable terminating in TA3F and XLRM-type connectors.

The ES961P has a 1/4" TRS phone plug built into its underside, allowing for quick and easy mounting and removal.

[Installation and Operation]

The symmetry and area of the mounting surface directly affect the sensitivity of the boundary microphone at low frequencies. Ideally, the mounting surface should be circular; however, square or rectangular surfaces are most often used. If the mounting surface is rectangular, the smaller dimension tends to determine low-frequency cutoff. The microphone should be centered on the surface and positioned with the front of the microphone facing the sound source along the longer dimension of the mounting surface. The sound source should not be below, or higher than 60° above, the plane of the mounting surface.



ES961 The ES961's output is low impedance balanced. The balanced signal appears across Pins 2 and 3, while the ground (shield) connection is Pin 1. Output is phased so that positive acoustic pressure produces positive voltage at Pin 2, in accordance with industry convention.

The ES961 can be mounted to a flat surface using two panhead screws 1.88" (47.8 mm) apart, in conjunction with the keyhole slots on the microphone's underside. Simply remove the small cut-out section of the rubber pad to reveal the keyhole slots and the low-frequency roll-off switch.

ES961P The ES961P's output is low impedance balanced. The balanced signal appears across the tip and ring of the 1/4" TRS plug, while the ground connection is to the plug's sleeve. Output is phased so that positive acoustic pressure produces positive voltage at the plug's tip.

The ES961P can be plugged directly into a mating 1/4" TRS jack. The jack should be installed with its top edge just flush with, or *slightly* below, the mounting surface. Because there can be some variation in the jacks used, try the mounting method on scrap material for proper fit before drilling finished cabinetry.

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]

ES961 [ES961W]

The microphone shall be a fixed-charge condenser designed for use in surface-mount boundary applications. It shall have a frequency response of 30 Hz to 20,000 Hz and a unidirectional polar pattern. It shall operate from an external 9V to 52V DC phantom power source. It shall be capable of handling sound input levels up to 130 dB with a dynamic range of 103 dB. Nominal open-circuit output voltage shall be 22.4 mV at 1 kHz, 1 Pascal. Output shall be low impedance balanced (200 ohms) from a TB3M connector.

The microphone shall include a recessed switch for low-frequency roll-off and a field-replaceable element. It shall terminate in a TB3M output connector. A 25' (7.6 m) miniature low-noise output cable with TA3F to XLRM connectors shall be supplied, as shall a soft protective pouch.

The microphone shall have a maximum width of 2.87" (73.0 mm) and a maximum length of 3.59" (91.3 mm). Weight shall be 5.1 oz (145 grams). The microphone shall be housed in a die-cast case with a two-layer perforated steel grille. The microphone's base shall have two keyhole slots for convenient mounting to a tabletop or other surface. Finish shall be low-reflectance black [white].

The Audio-Technica ES961 [ES961W] is specified.

ES961P

The microphone shall be a fixed-charge condenser designed for use in surface-mount boundary applications. It shall have a frequency response of 30 Hz to 20,000 Hz and a unidirectional polar pattern. It shall operate from an external 9V to 52V DC phantom power source. It shall be capable of handling sound input levels up to 130 dB with a dynamic range of 103 dB. Nominal open-circuit output voltage shall be 22.4 mV at 1 kHz, 1 Pascal. Output shall be low impedance balanced (200 ohms).

The microphone shall include a recessed switch for low-frequency roll-off and a field-replaceable element. It shall have a 1/4" TRS phone plug exiting the microphones base, permanently mounted at a right angle, to serve as output connector.

The microphone shall have a maximum width of 2.87" (73.0 mm) and a maximum length of 3.59" (91.3 mm). Weight shall be 5.2 oz (148 grams). The microphone shall be housed in a die-cast case with a two-layer perforated steel grille. Finish shall be low-reflectance black. A soft protective pouch shall be supplied.

The Audio-Technica ES961P is specified.

[ES961 Unidirectional Condenser Boundary Microphone]



[ES961P Unidirectional Condenser Boundary Microphone]



audio-technica®

[ES96I and ES96IP Specifications†]

Element	Fixed-charge back plate permanently polarized condenser (field-replaceable)
Polar Pattern	Half-cardioid (cardioid in hemisphere above mounting surface)
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 Ratio¹	67 dB, 1 kHz at 1 Pa [‡]
Switch	Flat response, low-roll-off
Phantom Power Requirements	9-52V DC, 2 mA typical
Weight	
ES96I	5.1 oz (145 grams)
ES96IP	5.2 oz (148 grams)

Dimensions	3.59" (91.3 mm) maximum length 2.87" (73.0 mm) maximum width
Output Connector	ES96I TB3M ES96IP 1/4" (6.3 mm) TRS plug
Cable	ES96I 25' (7.6 m) long, 0.13" (3.2 mm) diameter cable terminating in TA3F and XLRM-type connectors ES96IP None
Accessory Furnished	Soft protective pouch

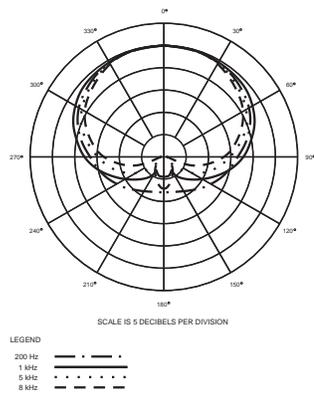
† In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

[‡] 1 Pascal = 10 dynes/cm² = 10 microbars = 94 dB SPL

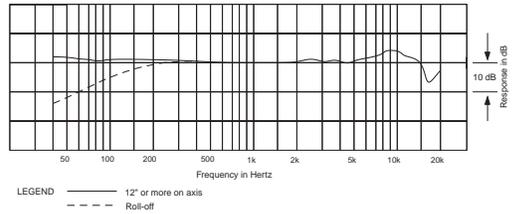
¹ Typical, A-weighted, using Audio Precision System One.

Specifications are subject to change without notice.

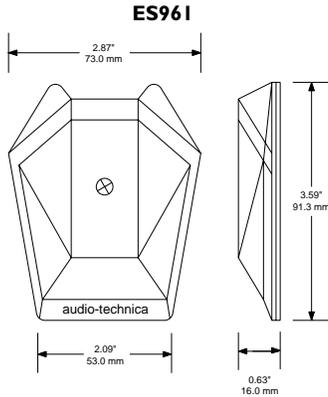
[Polar Pattern]



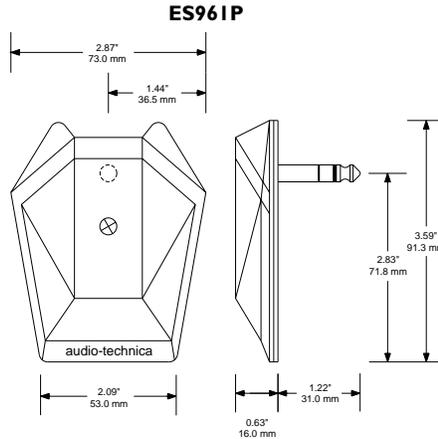
[Frequency Response]



[Dimensions]



[Dimensions]



[Visit our Web site at www.audio-technica.com]

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.



Audio-Technica U.S., Inc.
 1221 Commerce Drive, Stow, Ohio 44224