



**DESCRIPTION**

The ES961RC is a wide-range condenser microphone with cardioid polar pattern. It is designed for surface-mounted applications such as high-quality sound reinforcement, conferencing, professional recording, and other demanding sound pickup situations.

The microphone features an ultra-quiet electronic touch switch, programmable external contact closure and LED indicator. The electronic touch switch can be set to any of three operating modes: "touch-on/touch-off," "touch-to-talk" and "touch-to-mute". The microphone's external contact closure capability permits control of remote devices. The contact closure can also be configured to operate independently of the microphone

element for applications that require a constant signal from the microphone element. A recessed switch on the bottom of the microphone allows selection of local or remote operation. (In remote operation, the LED and electronic touch switch operate independently of the microphone.) A third position on this switch enables the LED to be controlled from an external source.

The ES961RC is equipped with UniGuard® RFI-shielding technology, which offers outstanding rejection of radio frequency interference (RFI).

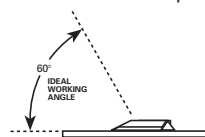
The microphone's cardioid polar pattern provides a 120° angle of acceptance (cardioid in hemisphere above mounting surface). Additional interchangeable elements with hypercardioid and omnidirectional pickup patterns are available.

The ES961RC is supplied with a 25' (7.6 m) output cable. The cable terminates in a TA5F-type connector at the microphone end. The equipment end is unterminated stripped and tinned pigtails. This allows the installer flexibility in interfacing with a variety of equipment. The microphone is equipped with Audio-Technica's unique PivotPoint® rotating output connector that allows the cable to exit from either the rear or the bottom of the microphone without the need for tools or disassembly.

The ES961RC can be powered from any 11V to 52V DC phantom power source. A recessed switch 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's heavy die-cast case and non-slip silicon foam bottom pads minimize coupling of surface vibration to the microphone. The ES961RC is equipped with a low-reflectance black finish.

**INSTALLATION AND OPERATION**

The ES961RC requires 11-5V DC phantom power to operate.



The microphone should be placed on a flat, unobstructed mounting surface, with the front of the microphone facing the sound source. The sound source should not be below, or higher than 60° above, the plane of the mounting surface.

The electronics in the microphone can take up to 30 seconds to stabilize after power is applied; during this start-up period, some sonic disturbances may be heard upon switching if the system is "live."

The ES961RC features a touch-sensitive on/off switch, indicator LED and external contact closure ability for controlling remote devices. The touch switch can be configured for touch-on/touch-off, momentary on ("press to talk"), or momentary off ("press to mute"). Slide the switch marked "SW. FUNCTION" (located on the bottom of the microphone) to the appropriate mode. The indicator LED and external contact closure follow the operation of the touch switch, when in the local mode.

For applications that require the microphone to remain active or always "on," regardless of the touch switch setting, a "Local/Remote/ LED Remote" control function is provided.

- When the switch marked "CONTROL" (located on the bottom of the microphone) is in the "Local" position, the touch switch controls the microphone's audio output, LED status and contact closure internally.
- When the "CONTROL" switch is in the "Remote" position, the microphone's audio output remains active or "on" all the time. The touch switch controls only the LED and contact closure.
- When the "CONTROL" switch is in the "LED remote" position, it allows remote control of the LED, for accurate depiction of the microphone's live status. The LED will remain "on" when driven logic high or open, and "off" when driven logic low or connected to ground. The microphone's audio output remains active or "on" all the time, and the contact closure follows the configuration of the touch switch

\*Refer to the table below for switch/LED/closure states.

**CONTROL Switch in "Local" Position**

SW Setting	Microphone Audio	LED	External Contact Closure
TOUCH ON/OFF	Follows touch-sensitive switch	Follows touch-sensitive switch	Follows touch-sensitive switch
MOM. ON	"On" when switch is pressed	"On" when switch is pressed	Closed when switch is pressed
MOM. OFF	"Off" when switch is pressed	"Off" when switch is pressed	Open when switch is pressed

**CONTROL Switch in "Remote" Position**

SW Setting	Microphone Audio	LED	External Contact Closure
TOUCH ON/OFF	Always "On"	Follows touch-sensitive switch	Follows touch-sensitive switch
MOM. ON	Always "On"	"On" when switch is pressed	Closed when switch is pressed
MOM. OFF	Always "On"	"Off" when switch is pressed	Open when switch is pressed

**CONTROL Switch in "LED Remote" Position**

SW Setting	Microphone Audio	LED	External Contact Closure
TOUCH ON/OFF	Always "On"	Remotely controlled	Follows touch-sensitive switch
MOM. ON	Always "On"	Remotely controlled	Closed when switch is pressed
MOM. OFF	Always "On"	Remotely controlled	Open when switch is pressed

Output is low impedance balanced. The signal appears across the red and yellow wires; audio ground is the shield connection. Output is phased so that positive acoustic pressure produces positive voltage on the yellow wire. The small-diameter black and blue wires are the contact closure. The white wire is the external LED control.

An integral 80 Hz high-pass filter provides easy switching from a flat frequency response to a low-end roll-off. To reduce the pickup of low-frequency ambient noise, slide the "Low Cut" switch to toward the "bent" line.

The ES961RC can be mounted to a flat surface using two panhead screws 2.26" (57.4 mm) apart, in conjunction with the keyhole slots on the microphone underside.

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.

**NOTE:** Audio-Technica has developed a special RFI-shielding mechanism that is an integral part of the connectors in the Engineered Sound line. If you remove or incorrectly replace the connector, you may adversely affect the unit's RFI immunity. Audio-Technica offers a crimp tool (ATCT) and RFI shields for TA3F-type, TA5F-type and XLRM-type connectors that enable you to shorten the cable and correctly reinstall the connector while maintaining the highest level of RFI immunity.

**NOTE:** Placing any object on a surface (such as a conference table) before its finish is fully cured may result in damage to the finish.

## ARCHITECTS AND ENGINEERS SPECIFICATIONS

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 cardioid polar pattern. It shall operate from an external 11V to 52V DC phantom power source. The microphone's element shall be field replaceable; optional interchangeable elements for hypercardioid and omnidirectional polar patterns shall be available.

The microphone shall be capable of handling sound input levels up to 130 dB with a dynamic range of 104 dB. Nominal open-circuit output voltage shall be 19.9 mV at 1 kHz, 1 Pascal. Output shall be low impedance balanced (200 ohms). A recessed "Low Cut" switch shall be provided to tailor the low frequency response to minimize pickup of unwanted sounds.

The microphone shall offer outstanding rejection of radio frequency interference (RFI). The microphone shall be RoHS compliant.

The microphone shall be equipped with an integral rotating output connector that allows the cable to exit from either the rear or the bottom of the microphone without the need to disassemble the microphone or use tools to change the cable exit location.

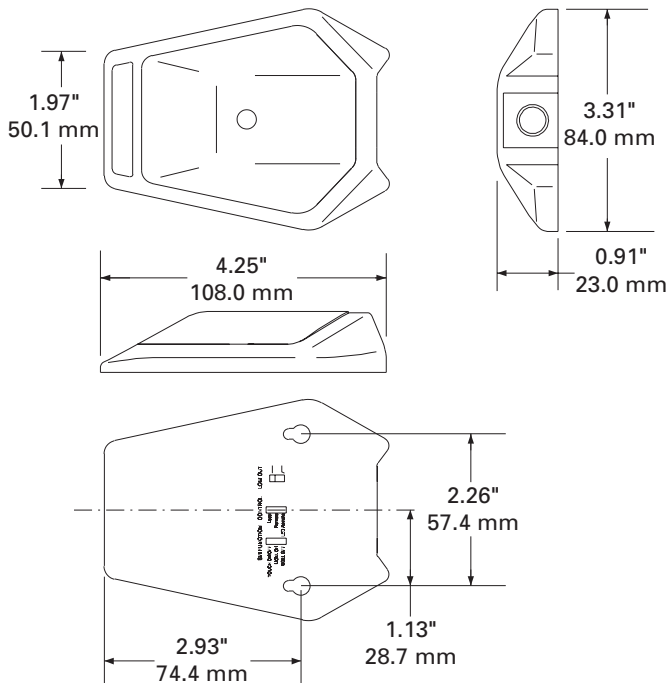
The microphone shall feature a touch-sensitive on/off switch, indicator LED and an external contact closure output for controlling remote devices. The user shall be able to configure the touch switch for touch on/touch-off, momentary on, or momentary off.

A three-position "Local/Remote/LED Remote" control function switch shall be provided on the microphone. In the "Local" position, the microphone shall function as a standard switch-controlled microphone with muting taking place at the microphone. In the "Remote" position, the microphone shall become disengaged from the switching circuit and shall always remain on, providing audio output regardless of the actions of the touch-sensitive on/off switch (thus allowing the switch to control external mute circuits as used with Acoustic Echo Cancellers and other equipment). A third position of this switch shall isolate the LED indicator so that it can be triggered by an external device or tally circuit.

The microphone shall terminate in a TB5M-type output connector. A 25' (7.6 m) miniature low-noise output cable with a TA5F-type connector at microphone end, shall be supplied. The output end of the cable shall have stripped and tinned color-coded leads for connections.

The microphone shall have a maximum width of 3.31" (84.0 mm) and a maximum length of 4.25" (108.0 mm). Weight shall be 9.4 oz (266 grams). The microphone shall be housed in a die-cast case with a perforated steel grille. The microphone's base shall have two keyhole slots for mounting to a tabletop or other surface. Finish shall be low-reflectance black. A soft protective pouch shall be provided with the microphone.

The Audio-Technica ES961RC is specified.



## ES961RC SPECIFICATIONS\*

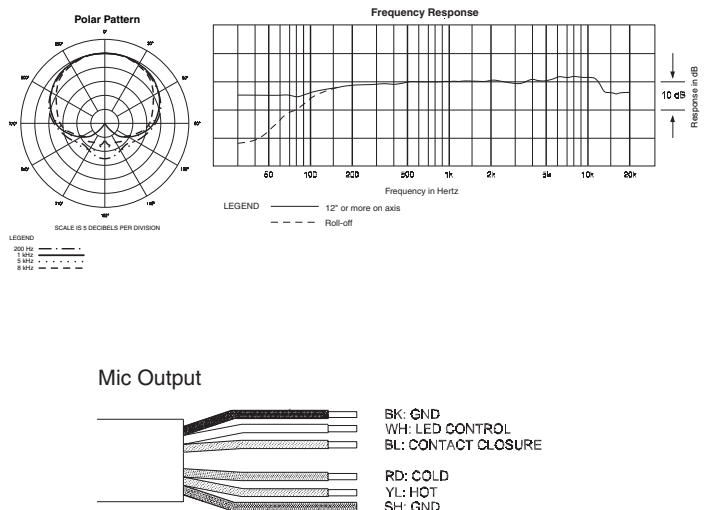
<b>ELEMENT</b>	Fixed-charge back plate permanently polarized condenser
<b>POLAR PATTERN</b>	Half-cardioid (cardioid in hemisphere above mounting surface)
<b>FREQUENCY RESPONSE</b>	30-20,000 Hz
<b>LOW FREQUENCY ROLL-OFF</b>	80 Hz, 18 dB/octave
<b>OPEN CIRCUIT SENSITIVITY</b>	-34 dB (19.9 mV) re 1V at 1 Pa*
<b>IMPEDANCE</b>	200 ohms
<b>MAXIMUM INPUT SOUND LEVEL</b>	130 dB SPL, 1 kHz at 1% T.H.D.
<b>DYNAMIC RANGE (typical)</b>	104 dB, 1 kHz at Max SPL
<b>SIGNAL-TO-NOISE RATIO<sup>†</sup></b>	68 dB, 1 kHz at 1 Pa*
<b>PHANTOM POWER REQUIREMENTS</b>	11-52V DC, 4 mA typical
<b>SWITCHES</b>	Touch-sensitive control: on/off; Switch function: touch on/off, momentary on, momentary off; Control: local, remote, LED remote; Flat, roll-off
<b>WEIGHT</b>	266 g (9.4 oz)
<b>DIMENSIONS</b>	108.0 mm (4.25") long, 84.0 mm (3.31") maximum width, 23.0 mm (0.91") height
<b>OUTPUT CONNECTOR</b>	TB5M-type
<b>CABLE</b>	7.6 m (25.0') long, 3.2 mm (0.13") diameter, 5-conductor shielded cable (2 conductors under shield; 3 control wires outside shield); TA5F-type connector at microphone end, output end stripped and tinned for connection to electronic device
<b>OPTIONAL INTERCHANGEABLE ELEMENTS</b>	UE-O omnidirectional (360°); UE-H hypercardioid (100°)
<b>ACCESSORY FURNISHED</b>	Soft protective pouch

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

Specifications are subject to change without notice.



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