

# ES933/C

Engineered Sound

## CARDIOID CONDENSER HANGING MICROPHONE



- Designed for quality sound reinforcement, professional recording, television and other demanding sound pickup applications.
- Superior off-axis rejection for maximum gain before feedback.
- Furnishing with a vinyl-coated steel hanger that allows to be adjusted for correct positioning.
- Accepts interchangeable elements to permit angle of acceptance from 90° to 120°.
- Snap-on foam windscreen effectively reduces noise from wind or ventilation air currents.
- Connected power module can be powered from any external 11V to 52V phantom power supply with an XLRM-type connector.
- Enclosed in a rugged housing with a low-reflectance black finish. And also available with white housing, cable and hanger as the ES993W/C.

The ES933/C shall have a permanently-attached 15.2m miniature low-noise cable, and require 11V to 52V DC phantom power for operation.

A uniform 120° angle of acceptance provides well-balanced audio pickup. The microphone should be located forward of the front-most source, above the rear-most source, and "aimed" between them (Fig.1). Increasing the height of the mic above the sources will tend to equalize sound levels between them, but may also increase from the mic to the rear-most pickup should be no more than twice the distance to the front source, to maintain front-to-rear balance (Fig.1).

Width of pickup is approximately three times the distance to the closest performer. If additional mics are needed for wide sources, they should be positioned apart laterally at least three times the distance to front source, to avoid phase cancellation (Fig.2).

Output is low impedance balanced. The output connector mates with XLRM-type cable connectors. 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.

At integral 80 Hz high-pass filter provides easy switching from a flat frequency response to a low-end roll-off. The roll-off position reduces the pickup of low-frequency ambient noise (such as traffic, air-handling systems, etc.), room reverberation and mechanically coupled vibrations.

Avoid leaving the microphone in the open sun or in areas where temperatures exceed 43°C for extended periods. Extremely high humidity should also be avoided.

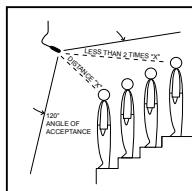


Fig.1

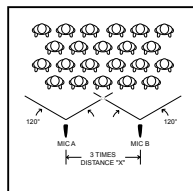
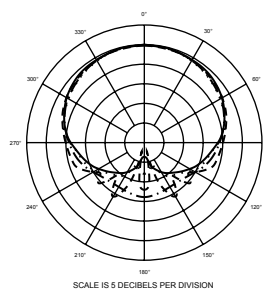


Fig.2

### SPECIFICATIONS

ELEMENT	Fixed-charge back plate permanently polarized condenser	
POLAR PATTERN	Cardioid	
FREQUENCY RESPONSE	30-20,000 Hz	
LOW-FREQUENCY ROLL-OFF	80 Hz, 12 dB/octave	
OPEN CIRCUIT SENSITIVITY	-40 dB (10.0 mV) re 1V at 1 Pa	
IMPEDANCE	250 Ω (1000 Ω without power module)	
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 1Pa	
SWITCHES	Flat response, low-roll-off	
PHANTOM POWER REQUIREMENTS	11-52V DC, 4 mA typical	
WEIGHT	Microphone	5 g
	Power Module	56 g
DIMENSIONS	Microphone	23.3 mm - long, 8.4 mm - head diameter
	Power Module	98.0 mm - long, 18.9 mm - diameter
OUTPUT CONNECTOR	Integral 3-pin XLRM-type	
CABLE	15.2m - long, 3.2 mm - diameter	
ACCESSORIES FURNISHED	AT8109 snap-on foam windscreen AT8452 steel hanger	
OPTIONAL INTERCHANGEABLE ELEMENTS	ESE-H hypercardioid (100°) ESE-ML MicroLine® (90°)	

### Polar Pattern

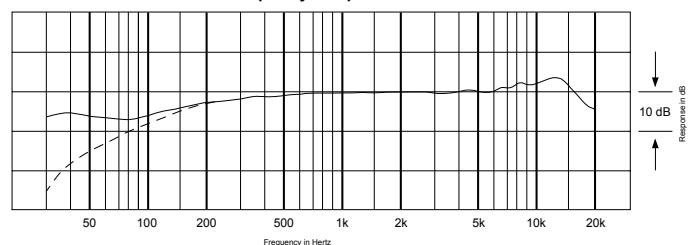


LEGEND  
 200 Hz ————  
 1 kHz ————  
 5 kHz - - - - -  
 8 kHz - - - - -

### Optional Accessories:

- AT8506 four-channel 48V phantom power supply (AC powered).
- AT8801/EU single-channel 48V phantom power supply (AC powered).

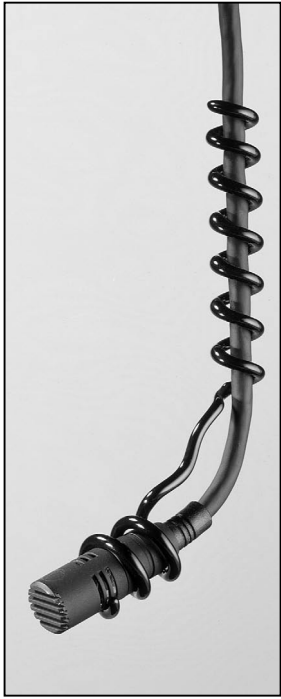
### Frequency Response



LEGEND ———— 12° or more on axis  
 - - - - - Roll-off

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## 心形指向性 悬挂式 专业型电容话筒



- 设计于高质量收音、专业录音、电视广播、会议等高要求的收音应用。
- 良好的隔音设计，在最大增益时仍能避免啸叫声的出现。
- 附有悬挂弹簧，可将收音头固定调校到任何正确位置。
- 更换式的收音头设计，可选配适合的收音头配合实际的应用，收音角度由90°至120°。
- 附有双层式防风海棉罩，可减低在讲话时收到其他风声的情况出现。
- 连接到11V至52V话筒前置放大器供电组件，话筒接线端为标准的3针卡农公头XLRM。
- 话筒本身为黑色涂层，另有白色的ES933W/C型号。

ES933/C 接上长度为15.2m的低噪声连接线，并以直流11V至52V幻象供电工作。

配置为心形指向，收音角度为120°。话筒安装时，应先决定最前及最后的声源位置，而话筒应瞄准两者之间的中央位置(图1)，然后提升话筒高度，使前后声源趋向平衡；但却可能会增加背景噪音声及回声，所以调校话筒时，应避免最后的声源距离长于最前声源的两倍(图1)，以维持前后平衡。

而与其他话筒的宽度距离，应以最前声源的大致三倍距离为最佳设定(图2)，这样做既可覆盖每点声源，又可避免话筒的相位互相抵消情况出现。

低阻抗的平衡音频输出，音频信号以卡农公头的2号及3号针脚输出，而1号针脚则为地线(屏蔽)连接。输出相位将以正相位电平设于2号针脚上。

内置高质量高通滤波电路，可轻易由平直的频率响应，开启为于80 Hz以下衰减的收音效果，应高通滤波器可低收音环境中低频噪声(如外间汽车引擎声，空调系统的风声等)，房间中的回声及机械性的震动声。

把话筒暴露于高温中可能导致输出电平逐渐及永久性减弱，应避免将话筒留在日晒的地方或长时间置于温度超过43°C的地方，而极高湿度也应避免。

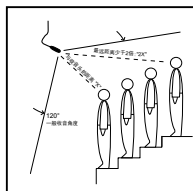


图1

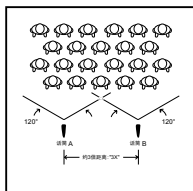
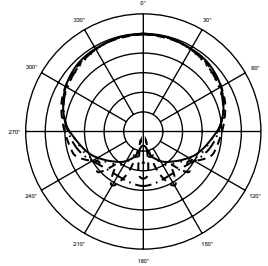


图2

### 技术指标

收音头	固定充电背板， 静电型电容式	
指向特性	心形单指向性	
频率响应	30-20,000 Hz	
高通滤波	80 Hz, 12 dB/octave	
开通灵敏度	-40 dB (10.0 mV) 以 1V 于 1 Pa	
输出阻抗	250 欧姆 (不带供电模组1000 欧姆)	
最大承受声压	138 dB 声压, 1 kHz 于 1% T.H.D.	
动态范围 (典型)	109 dB, 1 kHz 于最高声压	
讯噪比	65 dB, 1 kHz 于 1Pa	
开关	平直, 高通滤波	
幻象供电	直流 11-52V DC, 耗电 4 mA 典型	
重量	话筒	5 克
	供电模组	56 克
外形尺寸	话筒	23.3 mm - 长, 8.4 mm - 收音头直径
	供电模组	98.0 mm - 长, 18.9 mm - 直径
输出连接器	内置式3针卡农公头	
连接线	15.2 m - 长, 3.2 mm - 直径	
附属品	AT8109 双层式防风海棉罩 AT8452 悬挂弹簧	
可转换收音头	ESE-H 超心形指向 (100°) ESE-ML MicroLine®超指向性 (90°)	

### 指向特性



### 选择配件:

- AT8506 四通通48V幻象供电器 (交流供电)。
- AT8801/EU 单通道48V幻象供电器 (交流供电)。

### 频率特性

