KSM9

Handheld Vocal Microphone

Thank you for selecting the KSM series from Shure.

Over 90 years of audio experience has contributed to making this one of the finest microphones available.

If you have any questions not answered in this guide, please contact Shure Applications Engineering at 847-600-8440, Monday through Friday, from 8:00 am to 4:30 pm, CST. In Europe, call 49-7262-92490. In Asia, call 852-2893-4290. Our web address is www.shure.com.

General Description

Consistent with legendary Shure microphone innovation, the KSM9 is the first handheld condenser with dual diaphragms and variable polar patterns. As a premium vocal microphone, the KSM9 captures vocal subtlety with extraordinary detail to deliver clear articulation, functional flexibility and precise vocal reproduction for live performance. Transformerless, Class A preamplifier circuitry and dual, gold-layered diaphragms capture a transparent sound, revealing every nuance and subtlety in a vocal performance. The KSM9 uses an advanced suspension shock mount to virtually eliminate handling noise even in the most demanding live environments.

Features

- Dual 3/4" gold layered, low-mass Mylar® diaphragms provide superior frequency response and proximity control
- Dual polar patterns (cardioid and supercardioid) for maximum flexibility in a wide variety of performance applications
- Class A, discrete, transformerless preamplifier for transparency, extremely fast transient response and no crossover distortion, while minimizing harmonic and inter-modulation distortions
- Advanced suspension shock mount system that isolates cartridge from handling and stand noise
- Subsonic filter eliminates rumble from mechanical vibration below 17 Hz

- Integrated three-stage "pop" protection grille reduces plosives, wind, and other breath noise

Performance Characteristics

- Extremely uniform polar response
- Extended frequency response
- Minimal self-noise
- Exceptional low-frequency reproduction
- Able to withstand high SPLs
- High output level
- No crossover distortion
- Superior common-mode rejection and suppression of radio frequency interference (RFI)

Model Variations

The KSM9 series consists of two models featuring unique, switchable polar patterns and a variety of finishes.

KSM9HS: Features hypercardioid and subcardioid polar patterns with a black finish.

KSM9: Features cardioid and supercardioid polar patterns with a charcoal-gray or champagne finish.

Applications

The KSM9 is designed to capture and control the detailed sonic nuances of critical studio performance, while withstanding the punishment of professional live sound reinforcement. The frequency response of the two patterns are nearly identical, allowing performers to easily adapt to any venue.

The cardioid pick-up pattern is ideal in live performances for musicians with in-ear monitors, providing a warm, full sound. This setting provides excellent gain before feedback, with minimal off-axis coloration.

The supercardioid pick-up pattern provides maximum sound isolation and is ideal for applications in which there are high levels of ambient noise, or where multiple instruments or vocalists are close together.

Operation

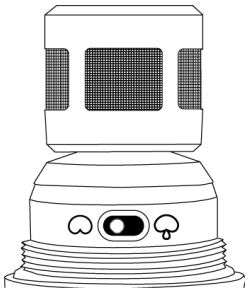
Directional microphones progressively boost bass frequencies as the microphone is placed closer to the source. This phenomenon, known as proximity effect, can be used to create a warmer, more powerful sound. However, it usually requires the vocalist to maintain a consistent distance from the microphone in order to avoid changing the low-frequency response.

The dual-diaphragm design of the KSM9 helps to control and minimize proximity effect, resulting in a more uniform low-frequency response. This allows the performer to move closer or further from the microphone with minimal changes in sound quality.

Selecting a Polar Pattern

Cardioid: Captures sound directly in front of the microphone and has the greatest rejection 180 degrees toward the rear. A cardioid pattern has a wider coverage angle, resulting in increased off-axis pickup. This is the most common pattern in studio recording and live-sound applications.

Supercardioid: Captures sound directly in front of the microphone and has the greatest sound rejection at points 120 degrees toward the rear of the microphone. A supercardioid pattern has a narrower coverage angle of 115 degrees, resulting in increased off-axis rejection. This pattern is ideal for loud environments or applications when sound sources are very close together.



Power Requirements

This microphone requires phantom power and performs best with a 48 V DC supply (IEC-61938), but it can operate with supplies as low as 11 V DC. Most modern mixers provide phantom power and require the use of a **balanced** microphone cable: XLR-to-XLR or XLR-to-TRS.

Load Impedance

Maximum SPL capability, output clipping level, and dynamic range vary with the input load impedance of the preamplifier to which the microphone is connected. Shure recommends a minimum input load impedance of 1000 Ohms. Most modern

Integral Pop Filter

The microphone grille consists of 3 separate mesh layers that act as an integral pop filter. This helps reduce wind and breath noise. Depending on the performer, an external pop-protection screen or windscreen may be necessary when close-miking vocalists.

Specifications

Cartridge Type

Electret Condenser

Polar Pattern

Cardioid, Supercardioid (selectable)

Frequency Response

50 to 20,000 Hz

Output Impedance

150 Ω

Sensitivity

open circuit voltage, @ 1 kHz, typical

−51 dBV/Pa[1] (2.8 mV)

Maximum SPL

1 kHz at 1% THD[2]

2500 Ω load	1000 Ω load
152 dB SPL	152 dB SPL

Signal-to-Noise Ratio[3]

Dynamic Range

@ 1 kHz

2500 Ω load	1000 Ω load
130 dB	130 dB

Clipping Level

20 Hz to 20 kHz, 1% THD

2500 Ω load	1000 Ω load
6.7 dBV	6 dBV

Self Noise

equivalent SPL, A-weighted, typical

22 dB SPL-A

Common Mode Rejection

10 to 100,000 Hz

≥60 dB

Connector

Three-pin professional audio (XLR), male, balanced

Polarity

Positive pressure on diaphragm produces positive voltage on pin 2 with respect to pin 3

Power Requirements

Net Weight

300 g (10.6 oz.)

[1] 1 Pa=94 dB SPL

[2]THD of microphone preamplifier when applied input signal level is equivalent to cartridge output at specified SPL

[3]S/N ratio is the difference between 94 dB SPL and equivalent SPL of self noise, A-weighted

[4]All specifications measured with a 48 Vdc phantom power supply. The microphone operates at lower voltages, but with slightly decreased headroom and sensitivity.

Accessories and Parts

Furnished Accessories

Carrying Case
AK9C
Microphone Clip
A25E

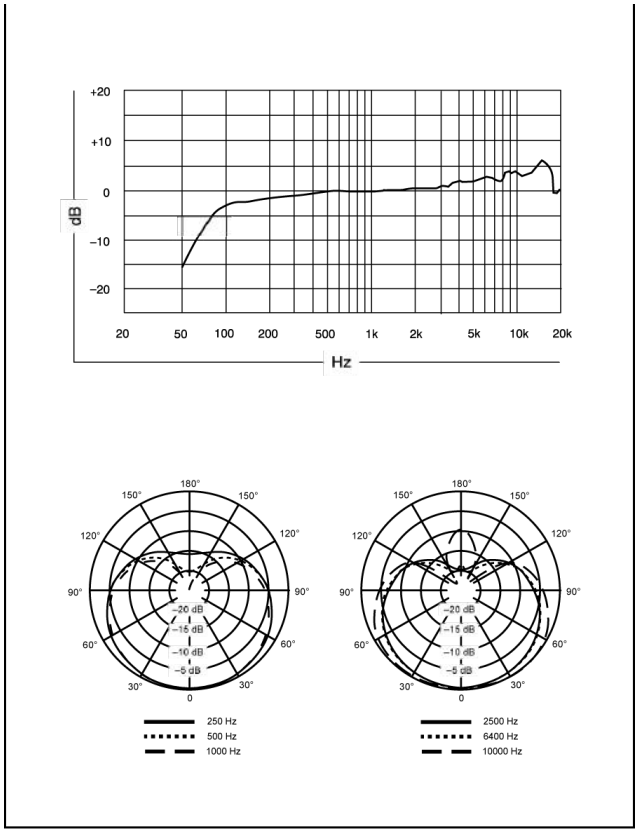
Optional Accessories

Foam Windscreen
A85WS

Replacement Parts

Grille, Champagne
RPM260
Grille, Charcoal
RPM262
KSM9 Cartridge

Switch Circuit Board Assembly
RPM462
Preamp Circuit Board Assembly
RPM460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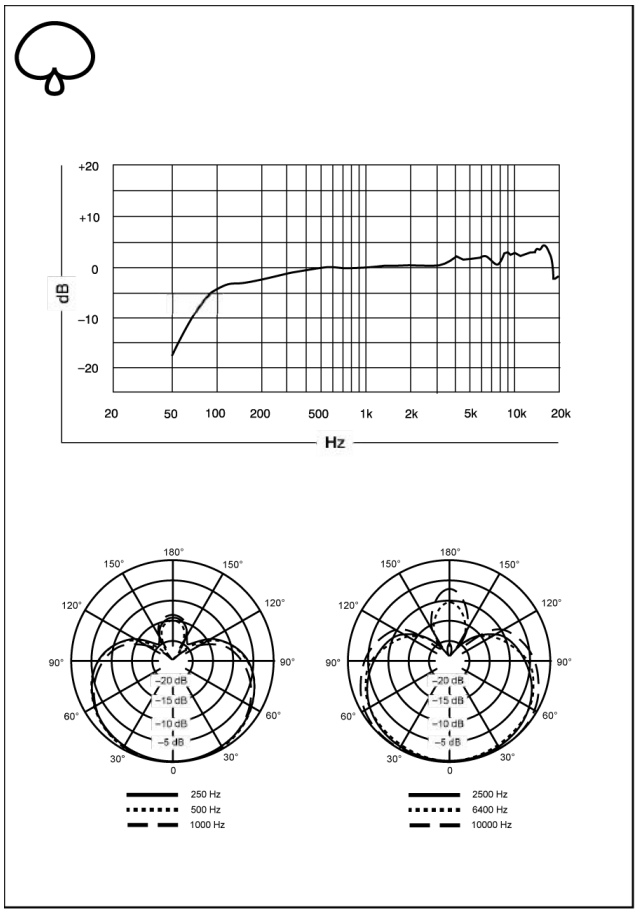
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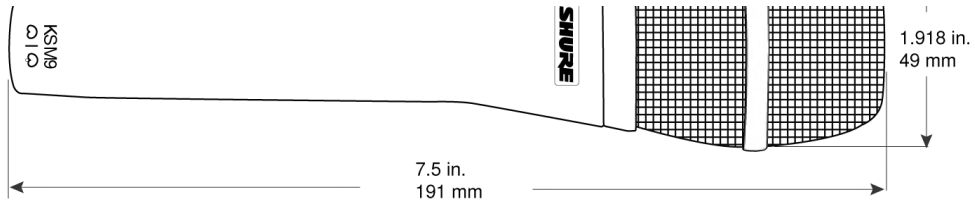

Certifications

Note: Testing is based on the use of supplied and recommended cable types. The use of other than shielded (screened) cable types may degrade EMC performance.

This product meets the Essential Requirements of all relevant European directives and is eligible for CE marking.

The CE Declaration of Conformity can be obtained from Shure Incorporated or any of its European representatives. For contact information please visit www.shure.com

The CE Declaration of Conformity can be obtained from:
www.shure.com/europe/compliance

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