

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

Expanding on the success and innovation of the KSM9, the KSM9HS offers a new set of polar patterns (hypercardioid and subcardioid) to provide the flexibility needed to achieve optimal results in any environment. The hypercardioid pattern delivers excellent gain before feedback and a focused low-end frequency response, while the subcardioid pattern produces an open, natural sound and further reduces the proximity effect. As a premium vocal microphone, the KSM9HS 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 KSM9HS 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 (hypercardioid and subcardioid) 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 distortion

Applications

The KSM9HS captures and controls the detailed sonic nuances of critical studio performances, while withstanding the punishment of professional live sound reinforcement.

The hypercardioid pick-up pattern provides excellent off-axis rejection and extended gain before feedback, making it an ideal choice in loud environments.

Operation

Proximity Effect

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 KSM9HS 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

Hypercardioid: Use the hypercardioid setting to avoid feedback and achieve maximum isolation in loud environments. This pickup pattern is highly direc-

- Advanced suspension shock mount system that isolates cartridge from handling and stand noise
- Subsonic filter eliminates rumble from mechanical vibration below 17 Hz
- Premium electronic components, including gold-plated internal and external connectors
- 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.

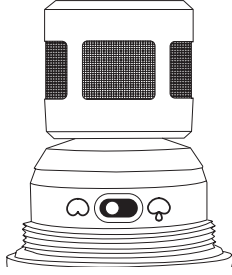
KSM9HS: Features hypercardioid and subcardioid polar patterns with a black finish.

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

The subcardioid pick-up pattern provides a wide coverage angle with subtle off axis rejection, resulting in a natural sound and minimized proximity effect. The wide coverage angle makes this pattern suitable for capturing multiple sources at once.

tional, with the greatest sensitivity occurring at the front of the microphone and maximum off-axis rejection occurring at 110 degrees toward each side.

Subcardioid: Use the subcardioid setting to capture more room characteristics and extract detail in quiet environments. This pickup pattern is directional, but much wider than the hypercardioid setting. The greatest sensitivity occurs at the front of the microphone, while maximum rejection occurs at 180 degrees toward the rear of the microphone.



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 microphone preamplifiers meet this requirement. Higher impedance results in better performance for these specifications.

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

Hypercardioid, Subcardioid (selectable)

Frequency Response

50 to 20,000 Hz

Output Impedance

145 Ω

Sensitivity

open circuit voltage, @ 1 kHz, typical

Hypercardioid	-50.5 dBV/Pa[1] (2.99 mV)
Subcardioid	-53.0 dBV/Pa[1] (2.24 mV)

Maximum SPL

1 kHz at 1% THD[2]

	2500 Ω load	1000 Ω load
Hypercardioid	150.8 dB SPL	150.9 dB SPL
Subcardioid	153.0 dB SPL	153.1 dB SPL

Signal-to-Noise Ratio[3]

Hypercardioid	73.3 dB
Subcardioid	71.3 dB

Dynamic Range

@ 1 kHz

	2500 Ω load	1000 Ω load
Hypercardioid	130.8 dB	130.1 dB
Subcardioid	131.3 dB	130.6 dB

Clipping Level

20 Hz to 20 kHz, 1% THD

2500 Ω load	1000 Ω load
7.0 dBV	6.4 dBV

Self Noise

equivalent SPL, A-weighted, typical

Hypercardioid	20.7 dB SPL-A
Subcardioid	22.7 dB SPL-A

Common Mode Rejection

20 to 80,000 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

11 to 52 V DC[4]phantom power (IEC-61938) 5.4 mA, typical

Net Weight

300 g (10.6 oz.)

0 1 2 3

⁰ [1] 1 Pa=94 dB SPL

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

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

³ [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

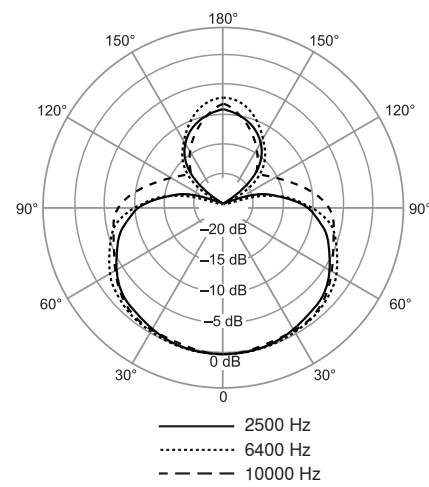
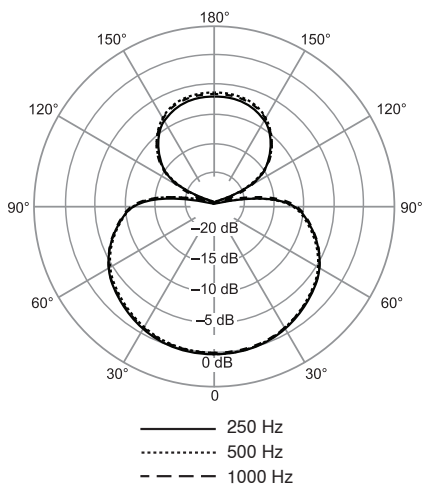
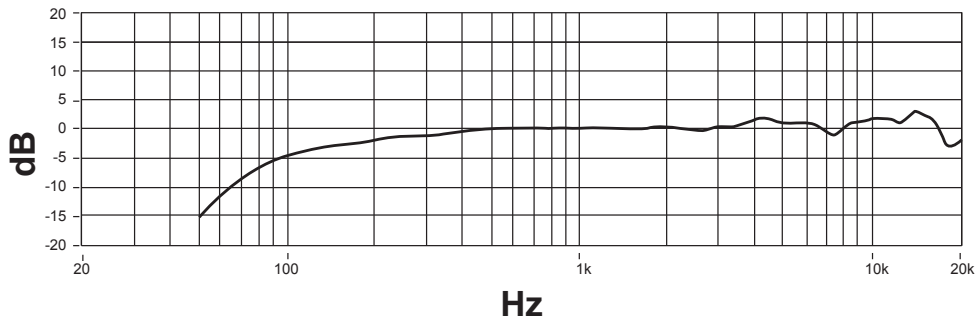
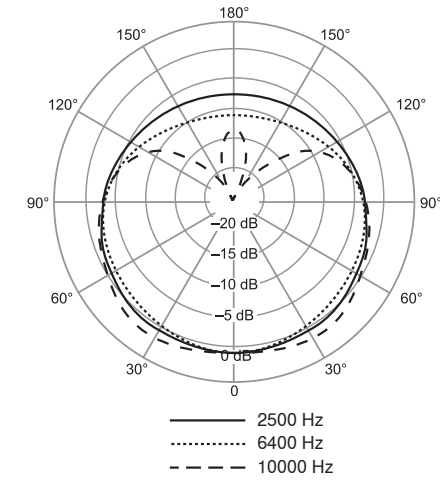
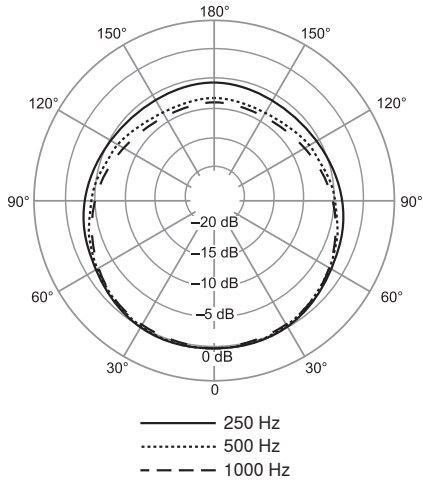
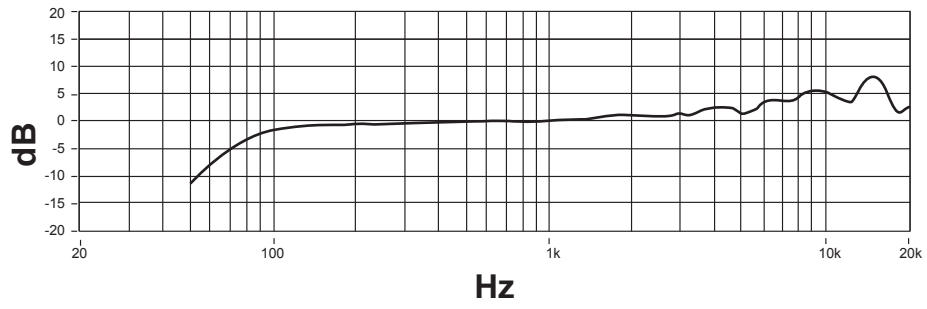
Optional Accessories

Foam Windscreen	A85WS
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Replacement Parts

Grille, Black	RPM264
KSM9HS Cartridge	RPM162
Switch Circuit Board Assembly	RPM462
Preamp Circuit Board Assembly	RPM460





Certifications

Meets essential requirements of all applicable European Directives.

Eligible for CE marking.

The CE Declaration of Conformity can be obtained from:

www.shure.com/europe/compliance

Authorized European representative:

Shure Europe GmbH

Headquarters Europe, Middle East & Africa

Department: EMEA Approval

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