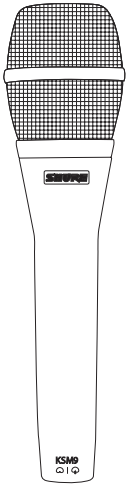
User Guide
Guide de l'Utilisateur
Bedienungsanleitung
Guía del Usuario
Guida dell'Utilizzatore
ユーザーガイド

KSM9



27B3192 (Rev. 1)

Printed in U.S.A.

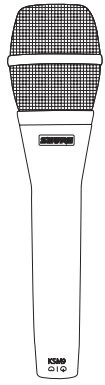
SHURE INCORPORATED

KSM9 HANDHELD CONDENSER MICROPHONE

Thank you for selecting the KSM9

Over 80 years of audio experience has contributed to making the KSM9 one of the finest microphones available.

If you have any questions not answered in this booklet, please contact Shure Applications Engineering at 847-600-8440, Monday through Friday, from 8:00 am to 4:30 pm, CST. In Europe, call 49-7131-72140. Our web address is www.shure.com.



KSM9

GENERAL DESCRIPTION

The Shure KSM9 is a dual-pattern (cardioid and supercardioid) handheld condenser microphone. Designed expressly for live vocal performance applications, the KSM9 removes the boundary between the studio and stage, offering the finest and clearest performance on modern high-end touring systems. The large dual diaphragm provides consistent polar response across the entire frequency range, for higher gain-before-feedback and minimal proximity effect for clear vocal reproduction.

FEATURES

- *Dual 3/4" gold layered, low mass Mylar® diaphragms provide superior frequency response.*
- *Dual polar patterns (cardioid and supercardioid) for maximum flexibility in a wide variety of performance applications.*
- *Class A, discrete, transformerless preamplifier provides transparent, extremely fast transient response with no crossover distortion and minimal harmonic and intermodulation distortion.*
- *Advanced suspension shock mount system that isolates cartridge from handling and stand noise.*
- *Premium electronic components, including gold-plated internal and external connectors.*
- *Three-stage grille reduces "pop" and breath noise.*

PERFORMANCE CHARACTERISTICS

- *Smooth, pronounced high-end response*
- *Upper mid-range sounds accurate and articulate without sounding harsh*
- *Reduced proximity effect*
- *Focused low-end response*

MODEL VARIATIONS

Wired Models	*Description*
KSM9/SL	*Dual-Pattern (Cardioid/Supercardioid) Handheld Vocal Microphone, Champagne*
KSM9/CG	*Dual-Pattern (Cardioid/Supercardioid) Handheld Vocal Microphone, Charcoal Gray*

APPLICATION AND PLACEMENT

The KSM9 provides superior sound in any application that demands reference quality audio. The KSM9 is the ideal microphone for touring musicians, regardless of venue.

The frequency response of the two patterns on the KSM9 sound nearly identical, making it possible to choose a pattern most suitable for a given application. The cardioid pick-up pattern provides excellent sound isolation and gain before feed-back with minimal off-axis coloration. The narrower 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 to each other.

General Rules for Microphone Use

1. Mute all microphone channels prior to plugging or unplugging XLR cables, switching polar patterns, applying pads, high pass filters or applying phantom power.
2. Aim the microphone toward the desired sound source and away from unwanted sources.
3. Place the microphone as close as is practical to the desired sound source.
4. Keep the distance between microphones at least three times the distance from each source to its microphone.
5. Place microphones as far as possible from reflective surfaces.
6. Use the fewest number of microphones as is practical.
7. If necessary, add a windscreen when using the microphone outdoors.
8. Do not cover any part of the grille with your hand.

USING THE KSM9

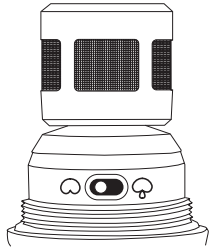
Proximity Effect

In general, unidirectional microphones progressively boost bass frequencies up to 10 to 15 dB (at 100 Hz) as the microphone approaches 6 mm (1/4 in.) from the sound source. This phenomenon, known as *proximity effect*, delivers a warmer, more powerful sound. Unfortunately, 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, however, provides vocalists with more consistent low-end response when adjusting microphone distance during performances. And the gradual, low-frequency roll-off of the KSM9 minimizes the distorted or "boomy" sound that typically results from very close proximity.

Wind Noise

The KSM9 has an integral wind and pop filter which provides excellent protection against most wind and breath noise. An optional foam windscreen is available for use in conditions such as high winds or close proximity to a "problem" vocalist.



TWO POSITION SWITCH

FIGURE 1

Cardioid. Is most sensitive to sounds directly in front of the microphone and is least sensitive to those in back. Cardioid is the most commonly used pattern in live sound applications. Its slightly wider pick-up pattern is more forgiving at picking up off-axis sound. See Figure 3.

Supercardioid. The narrower pattern provides greater rejection of off-axis sound and maximum gain before feedback. The supercardioid pattern is ideal for use in loud environments or applications in which sound sources are very close to each other. See Figure 5.

Phantom Power

The KSM9 requires phantom power and performs optimally with a 48 Vdc supply (IEC-268-15/DIN 45 596). However, it will operate with slightly decreased headroom and sensitivity with power supplies as low as 11 Vdc.

Impedance

A minimum load impedance of 800 ohms should be used for maximum signal handling and minimum distortion. The impedance may be as low as 150 ohms, but a reduction in output level and output clipping level will result.

SPECIFICATIONS

Cartridge Type	Condenser (Electret Biased)	
Frequency Response	50 to 20,000 Hz (See Figures 2, 4)	
Output Impedance	150 Ω (actual)	
Phantom Power	48 Vdc ± 4 Vdc (IEC-268-15/DIN 45 596), positive pins 2 and 3	
Current Drain	5.2 mA typical at 48 Vdc	
Common Mode Rejection	>60 dB, 50 Hz to 20 kHz	
Polarity	Positive pressure on front diaphragm produces positive voltage on output pin 2 relative to pin 3	
Directional Polar Patterns	Cardioid (See Figure 3)	Supercardioid (See Figure 5)
Sensitivity (typical; at 1000 Hz; 1 Pa = 94 dB SPL)	-51 dBV/Pa	
Self-noise (typical, equivalent SPL; A-weighted, IEC 651)	22 dB	
Maximum SPL @ 1000 Hz 2500 Ω load 1000 Ω load	 152 dB 152 dB	
Output Clipping Level* 2500 Ω load 1000 Ω load	 6.7 dBV 6.0 dBV	
Dynamic Range 2500 Ω load 1000 Ω load	 130 dB 130 dB	
Signal to Noise ratio**	72 dB	
Dimensions and Weight	49 mm (1 15/16 in.) maximum body diameter, 191 mm (7.5 in.) long; 300 grams (10.6 oz). See Figure 6.	

*100 Hz to 20 kHz;THD < 1%.

**S/N ratio is difference between 94 dB SPL and equivalent SPL of self-noise A-weighted.

CARDIOID RESPONSE GRAPHS

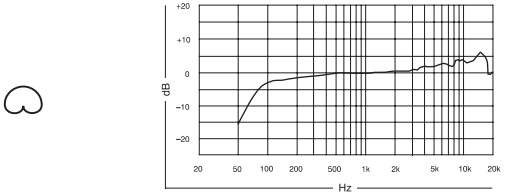


FIGURE 2. TYPICAL CARDIOID FREQUENCY RESPONSE

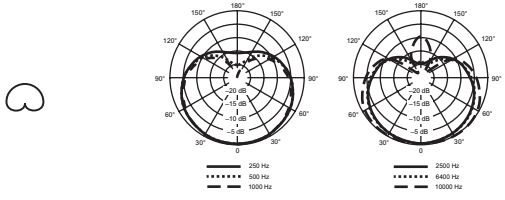


FIGURE 3. TYPICAL CARDIOID POLAR PATTERN

SUPERCARDIOID RESPONSE GRAPHS

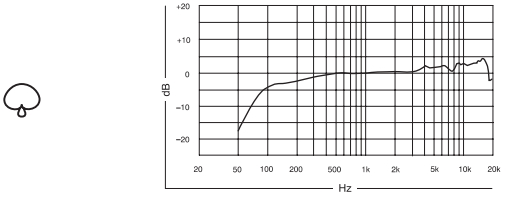


FIGURE 4. TYPICAL SUPERCARDIOID FREQUENCY RESPONSE

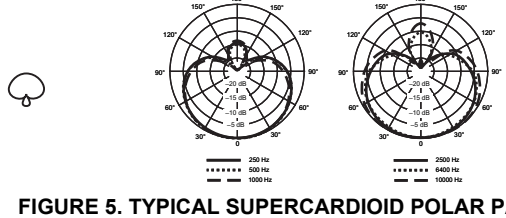


FIGURE 5. TYPICAL SUPERCARDIOID POLAR PATTERN

DIMENSIONS

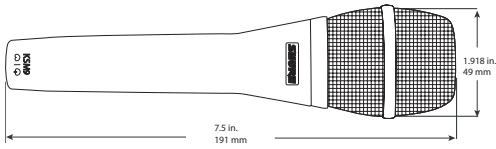


FIGURE 6

CERTIFICATION

Eligible to bear CE Marking; Conforms to European EMC directive 89/336/EEC. Meets applicable tests and performance criteria found in European Professional Audio Products EMC Standard EN 55103 (1996); Part 1 (emissions) and part 2 (immunity). The KSM9 is intended for use in environments E1 (residential) and E2 (Light Industrial) as defined in European standard EN 55103. EMC conformance is based on the use of shielded interconnecting cable.

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FURNISHED ACCESSORIES

Aluminum Carrying Case for KSM9 . . . . . .A9SC
Stand Adapter A25E

OPTIONAL ACCESSORIES

Foam Windscreen A85WS

REPLACEMENT PARTS

KSM9 Grille, Champagne RPM260
KSM9 Grille, Charcoal. RPM262
Cartridge for KSM9 . . . . . RPM160
KSM9 Switch Circuit Board Assembly RPM462
KSM9 Preamp Circuit Board Assembly RPM460

SERVICE

For additional microphone service or parts information, please contact the Shure Service Department at 1-800-516-2525. Outside the United States, please contact your Authorized Shure Service Center.

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