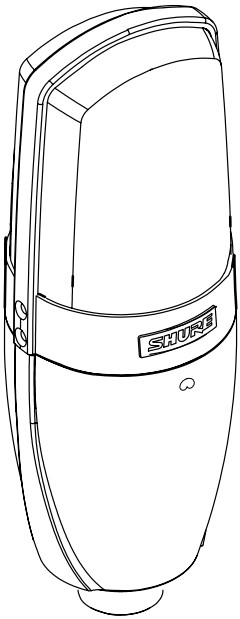
SHURE®

KSM27

User Guide



English

SHURE INCORPORATED

KSM27 CARDIOID CONDENSER MICROPHONE

Thank you for selecting the KSM27

Over 75 years of audio experience has contributed to making the KSM27 one of the finest microphones available.

If you have any questions not answered in this booklet, please contact Shure Applications Engineering at 847-866-2525, 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.

GENERAL DESCRIPTION

The Shure® KSM27 is a side-address condenser microphone with a cardioid polar pattern. Designed for studio use, but rugged enough for live applications, the KSM27 has an externally biased, 1-inch diaphragm, extremely low self-noise, and an extended frequency response specially tailored for vocal tracking and instrument recording.

FEATURES

- *Cardioid polar pattern – the most commonly used pattern for both studio and live applications*
- *1 inch, externally biased, ultra-thin, 2.5 µm, 24 Karat gold-layered, low mass, Mylar® diaphragm provides superior transient response*
- *Class A, discrete, transformerless preamplifier for transparency, extremely fast transient response and no crossover distortion, while minimizing harmonic and intermodulation distortions*
- *Premium electronic components and gold-plated internal and external connectors*
- *Subsonic filter eliminates rumble from mechanical vibration below 17 Hz*
- *Switchable 15 dB pad for handling extremely high sound pressure levels (SPLs)*
- *3-position switchable low-frequency filter helps reduce unwanted background noise or counteract proximity effect*
- *Integrated three-stage "pop" protection grille reduces plosives and other breath noise*
- *Internal shock mount reduces handling and stand noise*

PERFORMANCE CHARACTERISTICS

- *Extended frequency response*
- *Low self noise*
- *Exceptional low-frequency reproduction*
- *High output level*
- *High input SPL capability*
- *No crossover distortion*
- *Extremely uniform polar response*
- *Superior common mode rejection and suppression of radio frequency interference*

APPLICATIONS

The KSM27 provides superior results in any application requiring a high quality microphone. Some typical applications are listed below.

- Voice-solo, background, voice-over or broadcasting
- Acoustic instruments such as piano, guitar, drums, percussion, strings
- Electric instruments such as guitar and bass
- Wind instruments – brass and woodwind
- Low-frequency instruments such as double bass, electric bass, kick drum
- Overhead miking for drums or percussion
- Ensembles – choral or orchestral
- Room ambience pick-up – guitar amplifier or drums

Note: Both the acoustic environment and microphone placement strongly affect the sound obtained from miking a source, especially with a high-resolution microphone like the KSM27. You may need to experiment with microphone placement and room treatments to achieve the best overall sound for each application.

OPERATING THE KSM27

Mounting

Use the shock mount to secure the KSM27 to a floor or boom stand by threading the shock mount onto the microphone stand and inserting/threading the microphone into the shock mount.

Power

The KSM27 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 supplies as low as 11 Vdc. Most modern mixers provide phantom power. Phantom power can only be transmitted to the KSM27 through a cable terminated with XLR connectors at each end.

Positioning the Microphone

The front of the KSM27 is marked by the SHURE logo. See Figure 1. Position this side of the microphone toward the sound source to be recorded. The rear of the microphone is marked by the logo, the low-frequency filter switch and the 15dB attenuation switch.

Cardioid. Picks up sounds directly in front of the microphone and is least sensitive to those in back. Cardioid is the most commonly used polar pattern in studio recording and live-sound applications. See Figure 5.

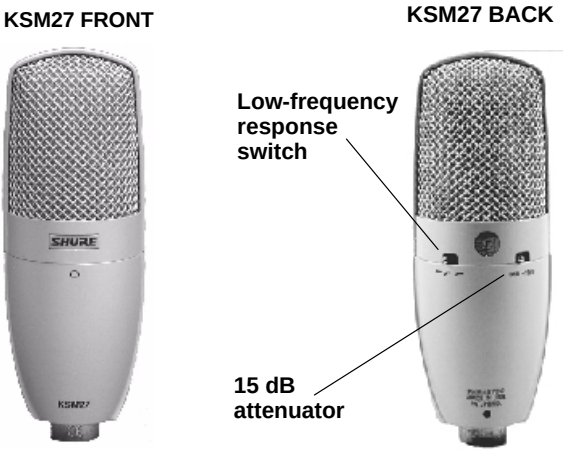


FIGURE 1. KSM27 Front and Back

Selecting Low-Frequency Response

A three-position switch on the back of the KSM27 allows you to adjust the low-frequency response of the microphone, as shown in Figure 1. The low-frequency filter settings can be used to reduce wind noise, room noise or proximity effect.

Flat response. Use this setting when you desire the most natural reproduction of the source. Since the microphone will reproduce ultra-low frequencies, the rubber isolated shock mount should be used to reduce low-frequency mechanical vibrations transmitted through the microphone stand.

Low-frequency cutoff. Provides an 18 dB-per-octave cutoff at 80 Hz. Helps eliminate floor rumble or low-frequency room noise from heating, ventilation, or cooling (HVAC) systems. Like the low–frequency rolloff, the cutoff setting may also be used to compensate for proximity effect or to reduce low frequencies that make an instrument sound dull or muddy.

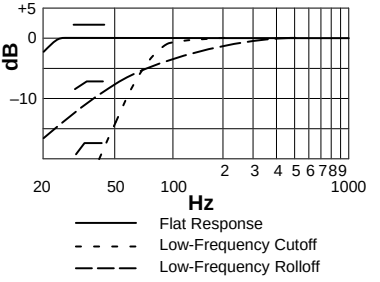


Figure 2. Low Frequency Responses

Low-frequency rolloff. Provides a 6dB-per-octave rolloff filter at 115Hz. Use this setting with vocals or instruments to compensate for proximity effect or to reduce low frequencies that could make an instrument sound dull or muddy.

Setting Attenuation

The attenuation switch on the back of the KSM27 reduces the signal level from the cartridge by 15 dB without altering the frequency response. This can prevent extremely high SPLs (ie. close miked drums and guitar cabinets) from overloading the microphone. To activate attenuation, move the switch to the "-15 dB" position.

0 dB – Use this switch for "quiet" to "normal" sound levels.

-**15 dB** – This switch position should be used when in close proximity with extremely loud sound sources such as kick drum, snare drum, or loud guitar cabinets.

Integral Pop Filter

The KSM27 grille consists of 3 separate mesh layers that act as an integral pop filter which helps reduce wind and breath noise. Depending on the performer, an external pop-protection screen or windscreen may be necessary when close-miking vocalists. (See Figure 3) The low-frequency cutoff filter may also be effective.

FIGURE 3. PS–6 Popper Stopper™ Pop Filter

(shown here with the KSM44)

Load Impedance

A load impedance of at least 1000 Ω is recommended. When used with typical modern microphone preamplifiers (rated at about 2500 Ω), the KSM27 provides higher maximum SPL capability and out put clipping level. WIth the –15 dB pad engaged, the KSM27 can handle up to 153 dB SPL and output +15 dBV into a 2500 Ω or greater load.

SPECIFICATIONS

Cartridge Type	Externally Biased Condenser
Frequency Response	20–20,000 Hz
Output Impedance	150 Ω (actual)
Attenuation Switch	0 or 15dB attenuation
Low Frequency response switch	flat; –6 db/octave below 115 Hz; –18 dB/octave below 80 Hz
Phantom Power	48 Vdc± 4 Vdc (IEC–268–15/DIN 45 596), positive pins 2 and 3
Current Drain	5.4mA typical at 48 Vdc
Common Mode Rejection	≥ 50 dB, 20 Hz to 20 kHz
Polarity	Positive pressure on diaphragm produces positive voltage on output pin 2 relative to pin 3
Dimensions and Weight	55.9 mm (2.20 in.) maximum body diameter, 156 mm (6.15 in.) long; 642 grams (22.6 oz.) (see fig. 6)
Directional Polar Pattern	Cardioid
Sensitivity (typical, at 1000 Hz; 1Pa = 94 dB SPL)	–37 dBV/Pa
Self–noise (typical, equivalent SPL; A–weighted (IEC 651))	14 dB
Maximum SPL* 2500 Ω load (Attenuator on) 1000 Ω load	138 (153) dB 133 (148) dB
Output Clipping Level* 2500 Ω load 1000 Ω load	7 dBV 1 dBV
Dynamic Range 2500 Ω load 1000 Ω load	124 dB 119 dB
Signal to Noise ratio	81 dB

*20 Hz to 20 kHz;THD < 1%. THD of the microphone preamplifier when applied input signal is equivalent to the cartridge output at specified SPL.

RESPONSE GRAPHS

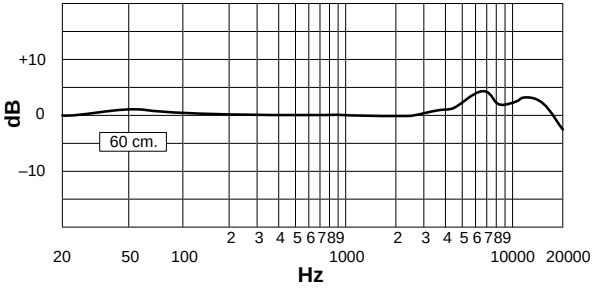


FIGURE 4. TYPICAL FREQUENCY RESPONSE

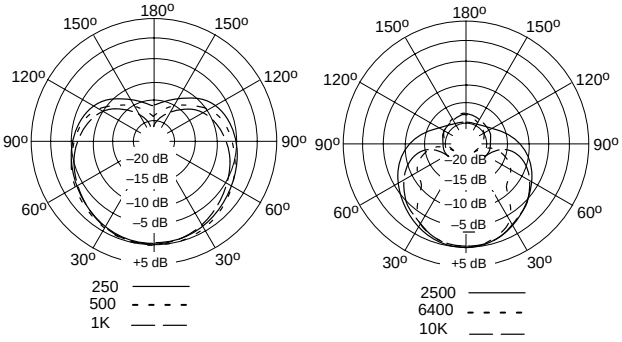


FIGURE 5. TYPICAL POLAR PATTERNS

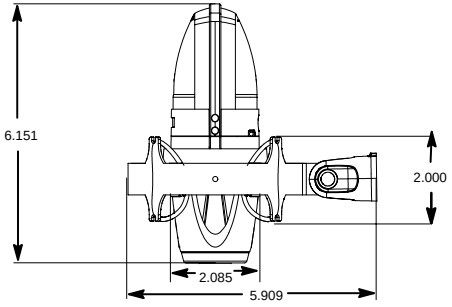
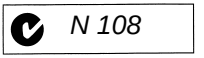


FIGURE 6. DIMENSIONS

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 KSM27 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.



FURNISHED ACCESSORIES

ShureLock™ Rubber Isolated Shock Mount A27SM
Protective Velveteen Pouch A27VB

OPTIONAL ACCESSORIES

ShureLock™ Black Swivel Adapter A32M
Aluminum Carrying Case A32SC
Windscreen A32WS
Popper Stopper™ Pop Screen PS–6
Padded, Zippered Carrying Bag A32ZB

REPLACEMENT PARTS

Rubber Rings for Shock Mount (contains four) RPM642
Replacement Foam for Carrying Case 29A2284

SERVICE

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

SHURE®

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