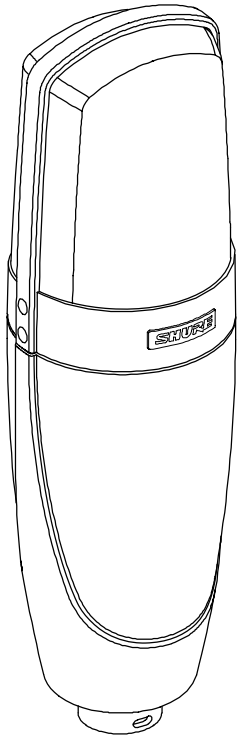
SHURE®

KSM32

User Guide



SHURE®

SHURE Incorporated Web Address: http://www.shure.com
222 Hartrey Avenue, Evanston, IL 60202–3696, U.S.A.
Phone: 847-866–2200 Fax: 847-866-2279
In Europe, Phone: 49-7131-72140 Fax: 49-7131-721414
In Asia, Phone: 852-2893-4290 Fax: 852-2893-4055
Elsewhere, Phone: 847-866–2200 Fax: 847-866-2585

27A3044 (TK)

CE Printed in U.S.A.

SHURE INCORPORATED
KSM32 CARDIOID CONDENSER MICROPHONE

Thank you for selecting the KSM32 cardioid condenser microphone.

Over 70 years of microphone manufacturing experience has contributed to making the KSM32 one of the finest condenser microphones available.

If you have any questions not answered in this booklet, please contact Shure Applications at 847-866–2200, 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® KSM32 is a side-address, cardioid condenser microphone for highly critical studio recording and live sound productions. It offers an extended frequency response for an open, natural sounding reproduction of the original sound source.

FEATURES

- *Class A, transformerless preamplifier circuitry eliminates cross-over distortion for improved linearity across the full frequency range*
- *Embossed, high-compliance diaphragm provides extended low frequency response*
- *Ultra-thin, 2.5 m, gold-layered, low mass, Mylar® diaphragm for excellent transient response*
- *15 dB attenuation switch for handling extremely high sound pressure levels (SPL)*
- *Switchable low-frequency filter provides greater flexibility to reduce background noise or to counteract proximity effect*
- *Integrated three-stage pop protection grille reduces "pop" and other breath noise*
- *Internal shock mount reduces transmission of handling noise*

PERFORMANCE CHARACTERISTICS

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

MODEL VARIATIONS

The **KSM32/SL** has a champagne-colored finish and comes with the following accessories:

- Locking aluminum carrying case
- ShureLock™ elastic-suspension shock mount
- ShureLock™ swivel mount
- Protective velveteen pouch

The **KSM32/CG** has a non-reflective, charcoal-gray finish for situations where less microphone visibility is prefered, such as live sound and stage production. It comes with the following accessories:

- ShureLock™ swivel mount
- Padded, zippered carrying bag

APPLICATIONS

Some typical applications for the KSM32 are listed below. Microphone use, however, is largely a matter of personal taste. The KSM32 may be used for a variety of applications other than those listed.

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

Both the acoustic environment and microphone placement have significant effects on the sound obtained when miking a source. You may need to experiment with these variables to achieve the best overall sound for each application.

OPERATION

Position the microphone so that the side marked “Shure”—the side opposite the switches—faces the sound source.

Power

The KSM32 requires phantom power. Optimal performance will be achieved when using a 48 Vdc supply (IEC-268-15/DIN 45 596). The microphone operates with supplies as low as 11 Vdc.

Mounting

The ShureLock swivel mount and elastic shock mount provide a secure means of fastening the microphone to a floor or boom stand. When using the swivel mount, the internal shock mount provides good isolation. For greater reduction of noise from external vibrations, use the elastic shock mount.

It is important when mounting the microphone that the threaded, knurled locking grip on the shock mount or swivel mount is screwed securely onto the threads at the base of the microphone. Do not overtighten.

Integral Pop Filter

The KSM32 has an integral pop filter which provides excellent protection against most wind and breath noise. An external pop protection screen may be necessary when close-miking vocalists. The use of a low frequency cutoff filter may also be effective.

Selecting Low-Frequency Response

A three-position switch on the back of the KSM32 allows you to adjust the low-frequency response of the microphone. The low-frequency filter settings can be used to compensate for wind noise, room noise or proximity effect.

 Flat response. Use this setting for any application where you desire the most natural reproduction of the source. The microphone will reproduce ultra-low frequencies, and the ShureLock elastic-suspension shock mount may be required to reduce mechanical vibrations transmitted through the microphone stand.

 **Low-frequency cutoff.** Provides 18 dB-per-octave cutoff at 80 Hz. Helps eliminate stage rumble or other low-frequency room noise such as that coming from heating, ventilation, or cooling (HVAC) systems. It may also be used to compensate for proximity effect or to reduce the low frequencies that can make an instrument sound dull or “muddy.”

 **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 the low frequencies that can make an instrument sound dull or muddy.

Setting Attenuation

The attenuation switch on the back of the KSM32 reduces the signal level from the cartridge by 15 dB without altering the frequency response. This can prevent extremely high SPL from overloading the microphone. To activate attenuation, move the switch to the "–15 dB" position.

In situations where the high output capability of the KSM32 might overload the microphone preamplifier of a console or mixer, use an attenuation switch (pad) in the mixer or an external inline attenuator such as the Shure A15AS.

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 KSM32 provides higher maximum SPL capability and output clipping level. The KSM32 can handle up to 160 dB SPL, and output +15 dBV into a 5500 Ω or greater load with microphone attenuation.

SPECIFICATIONS

Cartridge Type
Permanently-biased condenser

Frequency Response
20 Hz to 20 kHz (see Figure 1)

Directional Pattern
Cardioid (see Figure 2)

Sensitivity (at 1000 Hz)
Open Circuit Voltage . . . . . –36 dBV/Pa (16 mV) typical
(1 Pa = 94 dB SPL)

Self Noise (equivalent SPL)
13 dB typical, A-weighted (IEC 651)

Total Harmonic Distortion (20 Hz to 20 kHz , 2500 Ω load)
< 0.08%* for a 120 dB equivalent SPL input

Maximum SPL (20 Hz to 20 kHz, THD < 1%*)
2500 Ω Load . . . . . 139 dB (154 dB w/ attenuation)
1000 Ω Load . . . . . 133 dB (148 dB w/ attenuation)

Output Clipping Level (20 Hz to 20 kHz, THD < 1%*)
2500 Ω Load . . . . . +9 dBV (2.82 V rms)
1000 Ω Load . . . . . +3 dBV (1.41 V rms)

Dynamic Range (20 Hz to 20 kHz, 2500 Ω load)
126 dB (maximum SPL minus A-weighted noise level)

Signal-to-Noise Ratio
81 dB (IEC 651)**

Output Impedance
150 Ω (actual)

Attenuation Switch
0 or –15 dB

Low Frequency Response Switch
Flat, –6 dB/octave below 115 Hz, –18 dB/octave below 80 Hz

Power
Phantom Power . . . . . 48 Vdc ± 4 Vdc (IEC-268-15/DIN 45 596), positive pins 2 and 3
Current Drain . . . . . 4.65 mA typical at 48 Vdc

Common Mode Rejection Ratio (CMRR)
≥ 50 dB, 20 Hz to 20 kHz

Connector
Gold plated, three-pin (XLR) professional audio

Polarity
Positive pressure on diaphragm produces positive voltage on pin 2 relative to pin 3

Dimensions
55.9 mm (2.20 in.) maximum body diameter, 187 mm (7.37 in.) long.

Net Weight
490 grams (17.3 oz)

---

*THD of the microphone preamplifier when applied input signal is equivalent to the cartridge output at specified SPL.
**S/N ratio is difference between 94 dB SPL and equivalent SPL of self-noise A-weighted.

CERTIFICATION

Eligible to bear CE Marking. Conforms to European EMC Directive 89/336/EEC. Meets applicable tests and performance criteria in European Standard EN55103 (1996) parts 1 and 2, for residential (E1) and light industrial (E2) environments.

FURNISHED ACCESSORIES

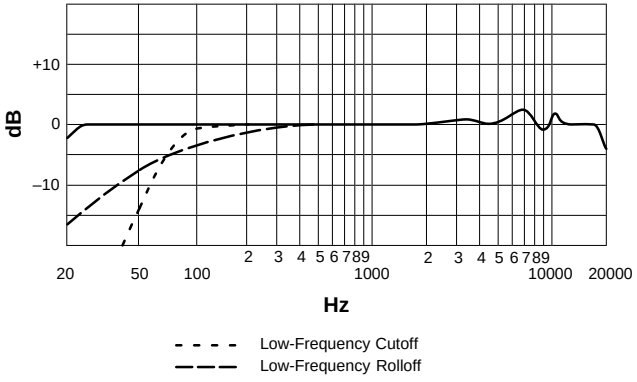
ShureLock™ Elastic Shock Mount (SL model only) A32SM
ShureLock™ Swivel Adapter A32M
Aluminum Carrying Case (SL model only) A32SC
Padded, Zippered Carrying Bag (CG model only) A32ZB
Protective Velveteen Pouch (SL model only) A32VB

REPLACEMENT PARTS

Suspension Shock Mount Elastic Cords (set of two) RK373

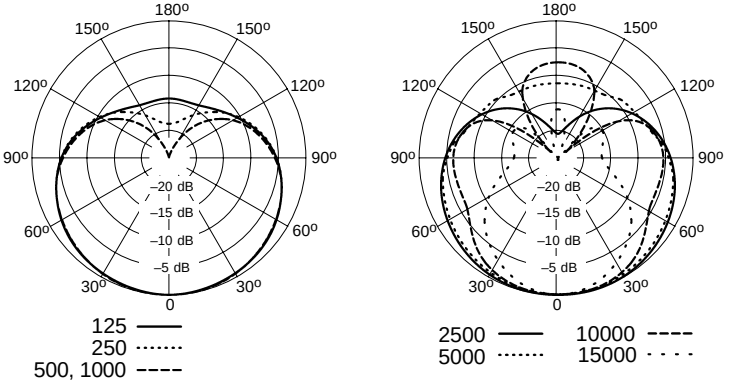
SERVICE

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.



TYPICAL FREQUENCY RESPONSE
(Measured 0.6 m (2 ft) from a spherical sound source, free-field conditions)

Figure 1



TYPICAL POLAR PATTERN

Figure 2