



KSM137

Instrument Microphone

The Shure cardioid condenser microphone, KSM137, user guide.
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KSM137

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General Description

The KSM137 is a premium, end-address, condenser microphone with a cardioid polar pattern engineered for highly critical studio recording and live sound productions. Its class A, discrete, transformerless preamplifier provides extremely transparent sound capture, and a three position switchable pad and low-cut filter allows for handling of extremely high sound pressure levels (SPL) and controlled bass response. Versatile, durable, and precise, the KSM137 is an outstanding microphone for both live and studio applications.

Features

- A highly consistent cardioid polar pattern
- Ultra-thin, 2.5 μm 24-karat gold-layered, low-mass Mylar[®] diaphragm for superior transient response
- Class A, discrete, transformerless preamplifier for transparency, extremely fast transient response, no crossover distortion, and minimal harmonic and inter-modulation distortion
- Premium electronic components, including gold-plated internal and external connectors
- Subsonic filter eliminates low frequency rumble (less than 17 Hz) caused by mechanical vibration
- Three-position attenuation switch (0 dB, 15 dB, and 25 dB) for handling extremely high SPLs
- Three-position low-frequency filter switch reduces stand vibration noise and counteracts proximity effect

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

This microphone can be purchased as a stereo pair (KSM137/SL STEREO). In addition to the standard accessories, the stereo pair includes a stereo stand adapter (A27M) for mounting two microphones on one stand.

Applications

- Brass and woodwind instruments
- Orchestras, choirs, and wind ensembles
- Overhead miking of drums and percussion instruments
- Close-miking of acoustic instruments such as piano, guitar, violins, drums, and percussion
- Low-frequency instruments such as double bass and kick drum
- Electric guitar and bass amplifiers
- Vocals and speech
- Room ambience

Note: Sound quality is strongly affected by microphone location and room acoustics. To achieve the best overall sound for a particular application, it may be necessary to experiment with microphone placement and room treatments.

Power Requirements

This microphone requires phantom power and performs best with a 48 Vdc supply (IEC-61938). However, it will operate with slightly decreased headroom and sensitivity with supplies as low as 11 Vdc.

Most modern mixers provide phantom power. You must use a **balanced** microphone cable: XLR-to-XLR.

Mounting the Microphone

Use the supplied microphone mount with floor or boom stands. Visit www.shure.com for more mounting options:

- To reduce the pickup of unwanted low-frequency mechanical vibrations, use an isolating shock mount.
- For stereo applications, use the optional Shure A27M Stereo Microphone Adapter.

Selecting Low-Frequency Response

A three-position switch on the back of the microphone lets you adjust the low-frequency response. Use the low-frequency filter to reduce wind noise, room noise, or proximity effect.



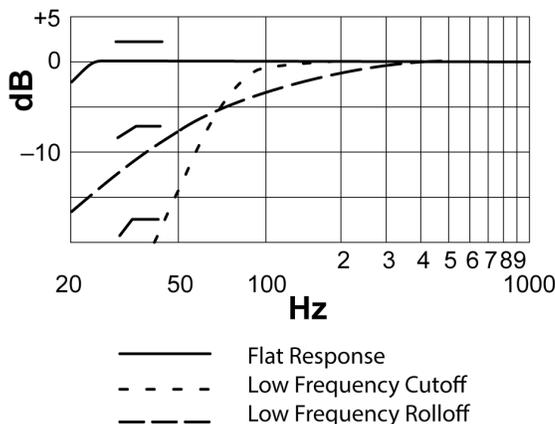
Flat response. Provides the most natural sound in most applications.



Low frequency cutoff. Provides an 18 dB-per-octave cutoff at 80 Hz. Helps eliminate floor rumble and low-frequency room noise from heating and air conditioning systems. This setting may also be used to compensate for proximity effect or to reduce low frequencies that make an instrument sound dull or muddy.



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



Setting Attenuation

The attenuation switch lets you reduce the signal level without altering the frequency response. This can prevent extremely loud sounds from overloading the microphone circuitry.

0 dB For "quiet" to "normal" sound levels.

-15 dB For use with extremely loud sound sources such as drums, horns, or loud guitar cabinets.

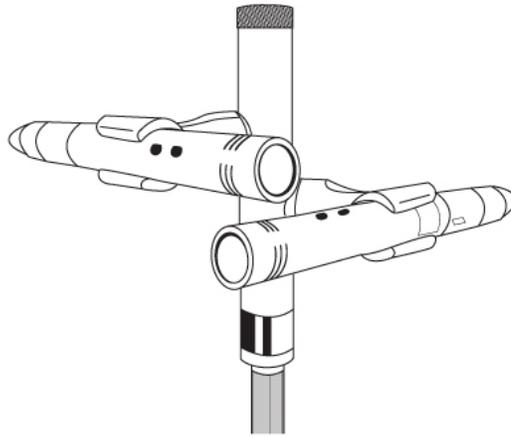
-25 dB For use with in close proximity (less than 10 cm) to extremely loud sound sources such as drums, horns, or loud guitar cabinets.

Load Impedance

Maximum SPL capability, output clipping level, and dynamic range vary with the input load impedance of the preamplifier to which you connect the microphone. Shure recommends a minimum input load impedance of 1000 Ω . Most modern microphone preamplifiers meet this requirement. Higher impedance results in better performance for these specifications.

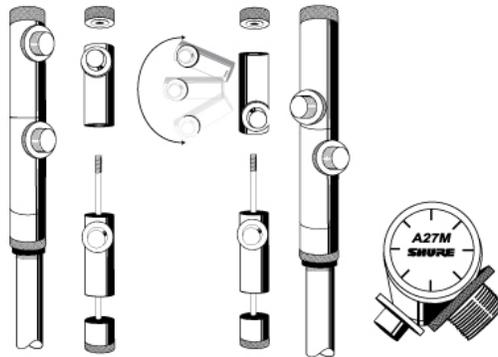
Stereo Pair Stand Adapter

Stereo microphone techniques give depth and spatial placement to sound sources for broadcasting, recording, or sound reinforcement applications. The Shure A27M allows you to mount two microphones on a single stand with a wide range of angles and vertical separations for a variety of coincident and closely-spaced stereo configurations.



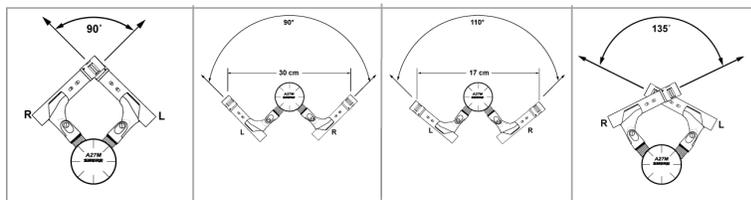
Installation

1. Adjust the vertical separation as shown.
2. Mount on a stand and attach microphones using 5/8"-27 thread stand adapters.
3. Adjust the microphone angle using the knurled knob. Use the 45 degree reference marks at the top of the knob to set the desired angle.



Stereo Techniques

The following table displays the most common stereo techniques. Keep in mind that microphone technique is largely a matter of personal taste; there is no one "correct" microphone position. For more information, search "Stereo Techniques" at www.shure.com (www.shure.com/stereo-tech).



Specifications

Cartridge Type

Electret Condenser

Polar Pattern

Cardioid

Frequency Response

20 to 20,000 Hz

Output Impedance

150 Ω

Sensitivity

open circuit voltage, @ 1 kHz, typical

-37 dBV/Pa[1] (14.1 mV)

Maximum SPL

1 kHz at 1% THD[2]

PAD ON	5000 Ω load	170 dB
	2500 Ω load	164 dB
	1000 Ω load	159 dB
PAD OFF	5000 Ω load	145 dB
	2500 Ω load	139 dB
	1000 Ω load	134 dB

Signal-to-Noise Ratio[3]

80 dB

Dynamic Range

@ 1 kHz

5000 Ω load	131 dB
2500 Ω load	125 dB

1000 Ω load	120 dB
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Clipping Level

20 Hz to 20 kHz, 1% THD

5000 Ω load	15 dBV
2500 Ω load	9 dBV
1000 Ω load	3 dBV

Self Noise

equivalent SPL, A-weighted, typical

14 dB SPL-A

Common Mode Rejection

10 to 100,000 kHz

≥ 50 dB

Attenuator Switch

0 , -15 , -25 dB

Low-Frequency Filter Switch

Flat, -6 dB/octave below 115 Hz, or -18 dB/octave below 80 Hz

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

11–52 V DC[4] phantom power (IEC-61938)

4.7 mA, maximum

Net Weight

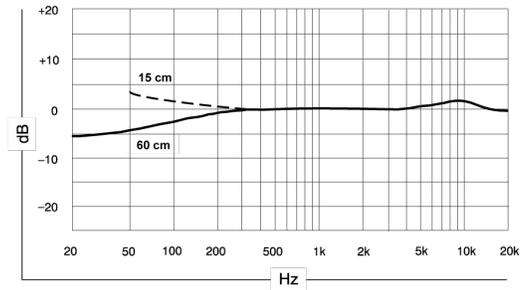
100 g (3.5 oz.)

[1] 1 Pa=94 dB SPL

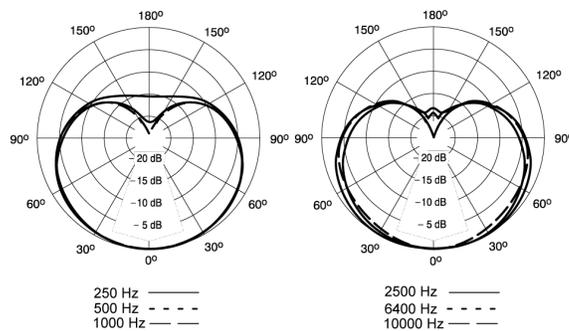
[2]THD of microphone preamplifier when applied input signal level is equivalent to cartridge output at specified SPL

[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.



Typical Frequency Response



Typical Polar Patterns



Overall Dimensions

Accessories

Furnished Accessories

Carrying Case for two KSM137 or KSM141 microphones and A27M stereo bar	A100C
Foam Windscreen for KSM141 and KSM137	A100WS

Microphone Clip for AMS26, BETA181, KSM137, KSM141, MX412, MX418, MX412S, MX418S, MX412SE, MX418SE, SM62, SM63, SM63L, SM63LB, SM81, VP64, VP64A, VP64AL and standard microphone stands	A57F
Stereo Microphone Adapter	A27M

Optional Accessories

Isolation Mount/Swivel Adapter for KSM109, KSM137, KSM141, SM63, SM81, SM94 and VP64	A53M
Popper Stopper® Pop Filter with Metal Gooseneck and Microphone Stand Clamp	PS-6

Note: KSM137/SL stereo only.

Certifications

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: www.shure.com/europe/compliance

Authorized European representative:

Shure Europe GmbH

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