



# SM57

## Instrument Microphone

Shure SM57 frequency response, specs, polar pattern, sensitivity, and more. Addresses proper microphone placement, and how to avoid unwanted sound.

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# SM57

## Instrument Microphone

### General Description

The Shure SM57 unidirectional dynamic microphone is exceptional for musical instrument pickup or for vocals. With its bright, clean sound and carefully contoured presence rise, the SM57 is ideal for live sound reinforcement and recording. It has an extremely effective cardioid pickup pattern which isolates the main sound source while minimizing background noise. In the studio, it is excellent for recording drums, guitar, and woodwinds. For musical instruments or vocals, the SM57 is a consistent choice of professional performers.

### Placement

#### General Rules for Use

- Aim the microphone toward the desired sound source (such as the talker, singer, or instrument) and away from unwanted sources.
- Place the microphone as close as practical to the desired sound source.
- Work close to the microphone for extra bass response.
- Use only one microphone to pick up a single sound source.
- Use the fewest number of microphones as practical.
- Keep the distance between microphones at least three times the distance from each microphone to its source.
- Place microphones as far as possible from reflective surfaces.
- Add a windscreen when using the microphone outdoors.
- Avoid excessive handling to minimize pickup of mechanical noise and vibration.
- Do not cover any part of the microphone grille with your hand, as this will adversely affect microphone performance.

**Note:** The grille on top of the microphone should rotate freely. This is part of the design and does *not* mean the grille is broken. In certain applications (such as close-miking drums) an audible rattle might occur. A windscreen or a very small piece of foam wedged under the grille can eliminate this problem, but do not apply tape or otherwise cover or block the grille vents, as this disrupts the directionality of the microphone. Please visit the Shure website for more information.

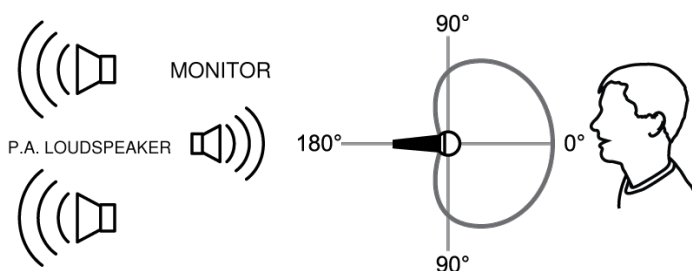
The following table lists the most common applications and placement techniques. Keep in mind that microphone technique is largely a matter of personal taste; there is no one "correct" microphone position.

APPLICATION	SUGGESTED MICROPHONE PLACEMENT	TONE QUALITY
<b>Tom-Toms</b>	One mic on each tom, or between each pair of toms, 2.5 to 7.5 cm (1 to 3 in.) above drum heads. Aim each microphone at top drum heads. On double head toms, you can also remove bottom head and place a mic inside pointing up toward top drum head.	Medium attack; full, balanced sound.
<b>Snare Drum</b>	2.5 to 7.5 cm (1 to 3 in.) above rim of top head of drum. Aim mic at drum head. If desired, place a second mic just below rim of bottom head.	Most "snap" from drumstick. More "snare" sound.

APPLICATION	SUGGESTED MICROPHONE PLACEMENT	TONE QUALITY
<b>Guitar &amp; Bass Amplifiers</b>	2.5 cm (1 in.) from speaker, on-axis with center of speaker cone.	Sharp attack; emphasized bass.
	<b>2.5 cm (1 in.) from speaker, at edge of speaker cone.</b>	Sharp attack; higher frequency sound.
	<b>15 to 30 cm (6 to 12 in.) away from speaker and on-axis with speaker cone.</b>	Medium attack; full, balanced sound.
	<b>60 to 90 cm (2 to 3 ft.) back from speaker, on-axis with speaker cone.</b>	Softer attack; reduced bass.
<b>Vocals</b>	Lips less than 15 cm (6 in.) away or touching the windscreen, on axis to microphone.	Robust sound, emphasized bass, maximum isolation from other sources.

## Avoiding Pickup of Unwanted Sound Sources

Place the microphone so that unwanted sound sources, such as monitors and loudspeakers, are directly behind it. To minimize feedback and ensure optimum rejection of unwanted sound, always test microphone placement before a performance.



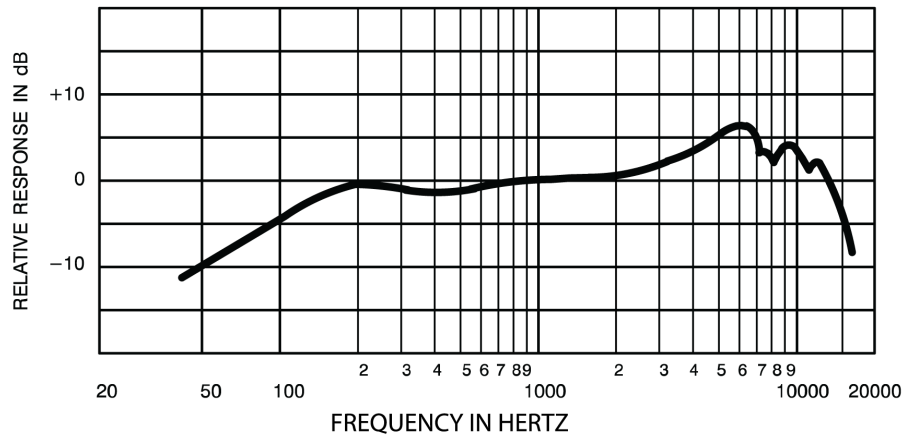
**Recommended Loudspeaker Locations for Cardioid Microphones**

## Proximity Effect

Unidirectional (cardioid) microphones progressively boost bass frequencies by 6 to 10 dB below 100 Hz when the microphone is at a distance of about 6 mm (1/4 in.) from the sound source. This phenomenon, known as proximity effect, can be used to create a warmer, more powerful sound. To prevent explosive low frequency sound during close-up use, the bass response gradually rolls off. This provides greater control and helps the user take advantage of proximity effect.

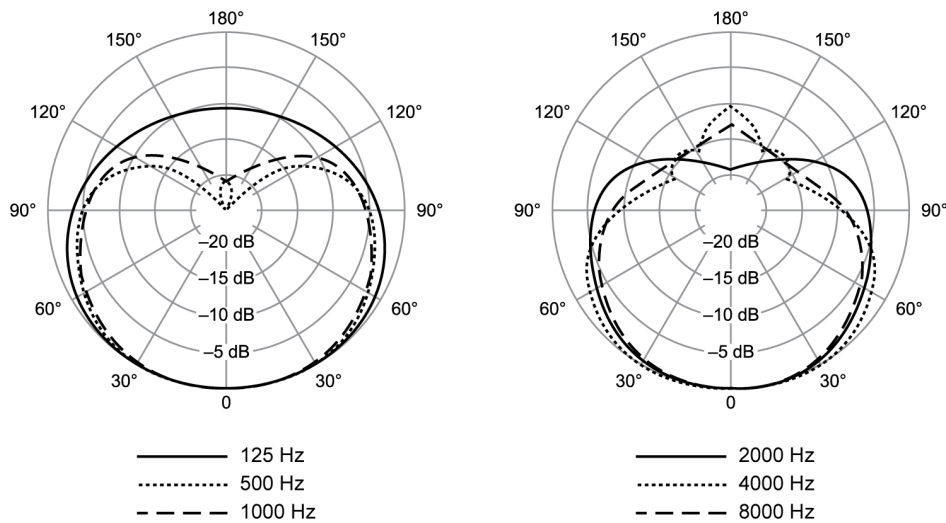
## Frequency Response

The Shure SM57 frequency response is 40 to 15,000 Hz. Typical frequency response curve for the SM57:



## Polar Patterns

The SM57 has a cardioid polar pattern.



## Specifications

### Type

Dynamic (moving coil)

### Frequency Response

40 to 15,000 Hz

### Polar Pattern

Cardioid

## Output Impedance

310  $\Omega$

## Sensitivity

(@ 1 kHz, open circuit voltage)

-56.0 dBV/Pa[1] (1.6 mV)

## Polarity

Positive pressure on diaphragm produces positive voltage on pin 2 with respect to pin 3

## Net Weight

0.284 kg (0.625 lbs)

## Connector

Three-pin professional audio (XLR), male

## Housing

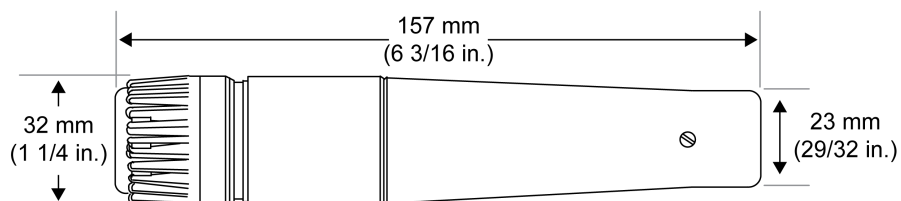
Dark gray, enamel-painted, die-cast steel with a polycarbonate grille and a stainless steel screen.

[1] 1 Pa=94 dB SPL

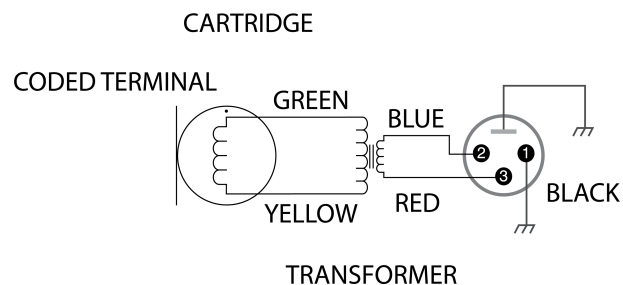
## Diagrams

Dimension and internal connection diagrams for the SM57.

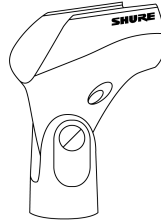
## Dimensions



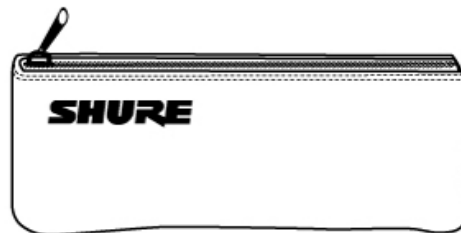
## Internal Connections



# Accessories



Microphone Clip



Zippered Carrying Bag

## Furnished Accessories

Microphone Clip for SM58, SM57, SM87A, BETA87A, BETA87C, PGA57, PGA58, PGA48, PGA81	A25D
Carrying/Storage Bag	95A2313

## Optional Accessories

Gray Locking Foam Windscreen for 545 Series, SM57	A2WS-GRA
Desk Stand	S37A
Shock Stopper <sup>®</sup> Isolation Mount	A55M
Over/Under Dual Mount for two microphones: SM57, BETA57A or 545 Series microphones	A26M
25 foot (7.5m) Triple-Flex <sup>®</sup> Microphone XLR Cable with Switchcraft connectors	C25E
25 foot (7.5m) Triple-Flex Microphone XLR Cable with chrome connectors	C25F

## Replacement Parts

<b>Grille for Shure SM57 and 545SD</b>	RK244G
<b>Cartridge for SM56 and SM57</b>	R57

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## 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](http://www.shure.com/europe/compliance)

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