BETA56A

Instrument Microphone

The Shure supercardioid dynamic microphone, BETA56A, user guide.
Version: 4.1 (2023-I)

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General Description

The Shure Beta 56® A dynamic microphone has a frequency response specifically tailored for drums and instruments. An extremely uniform supercardioid pattern provides high gain before feedback and excellent rejection of unwanted noise. An integrated, locking stand adapter, with XLR connector, simplifies mounting and adjustments.

Designed for professional sound reinforcement and studio recording, the Beta 56A features a hardened steel mesh grille, die-cast metal construction, and pneumatic shock mount system ideal for daily, rough use in performance environments.

Features

- Premier live performance microphone with Shure quality, ruggedness, and reliability
- Uniform supercardioid pick-up pattern for maximum gain before feedback and superior rejection of off-axis sound
- Tailored frequency response specifically shaped for drums, amplified instruments and horns
- Neodymium magnet for greater sensitivity and higher output
- Advanced pneumatic shock mount system that minimizes transmission of mechanical noise and vibration
- Dent-resistant, steel mesh grille and enamel coated die-cast metal construction resist wear and abuse
- Built-in stand adapter with dynamic locking system and XLR connector simplifies setup and provides greater flexibility
- Compact design reduces stage clutter

Applications

General Rules for Use

- Do not cover any part of the microphone grille with your hand, as this will adversely affect microphone performance.
- 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.
- For better gain before feedback, use fewer microphones.
- Keep the distance between microphones at least three times the distance from each microphone to its source (“three to one rule”).
- 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.

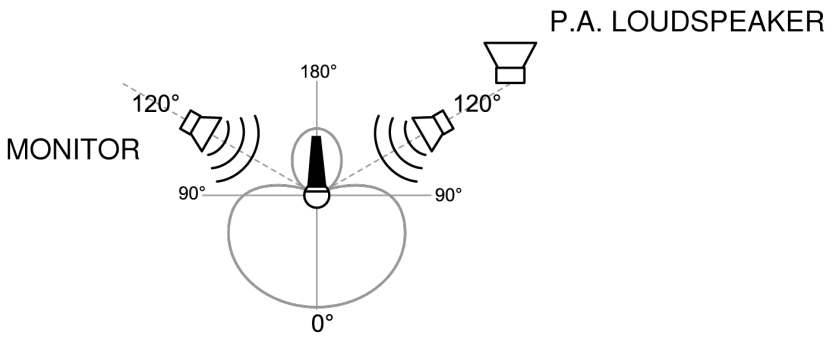
Applications and Placement

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
Tom-Toms	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.
Snare Drum	2.5 to 7.5 cm (1 to 3 in.) above rim of top head of drum. Aim mic at drum head.	Most "snap" from drumstick.
Guitar & Bass Amplifiers	2.5 cm (1 in.) from speaker, on-axis with center of speaker cone.	Sharp attack; emphasized bass.
	2.5 cm (1 in.) from speaker, at edge of speaker cone.	Sharp attack; higher frequency sound.
	15 to 30 cm (6 to 12 in.) away from speaker and on-axis with speaker cone.	Medium attack; full, balanced sound.
	60 to 90 cm (2 to 3 ft.) back from speaker, on-axis with speaker cone.	Softer attack; reduced bass.
Brass & Woodwinds	Brass: 30 to 90 cm (1 to 3 ft.) away, on-axis with bell of instrument.	Bright, clear sound.
	Woodwinds: 2.5 to 15 cm (1 to 6 in.) away, on-axis with bell of instrument.	Bright, clear sound.
	Bell of instrument 90° off-axis from front of mic.	Softer, mellow sound.

Avoiding Pickup of Unwanted Sound Sources

A supercardioid microphone has the greatest sound rejection at points 120° toward the rear of the microphone. Place the microphone so that unwanted sound sources, such as monitors and loudspeakers, are at these angles, not directly behind it. To minimize feedback and ensure optimum rejection of unwanted sound, always test microphone placement before a performance.



Recommended Loudspeaker Locations for Supercardioid Microphones

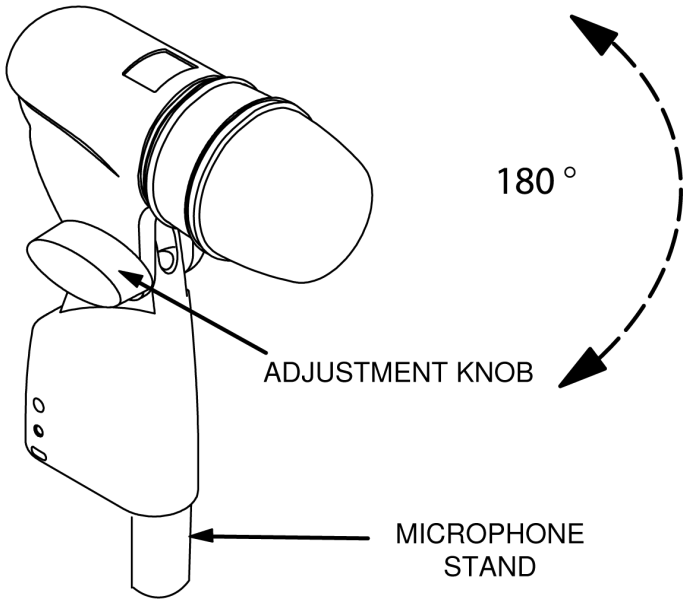
Proximity Effect

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.

Using the Stand Adapter

The integrated stand adapter resists slipping when struck or bumped, yet permits adjustments without loosening the knob.

1. Thread the microphone onto the stand.
2. **Before tightening the adjustment knob,** adjust the stand height and position as necessary.
3. Tighten the adjustment knob to lock the microphone in place. Do NOT use tools or overtighten



ADJUSTABLE, LOCKING STAND ADAPTER

Specifications

Type

Dynamic (moving coil)

Frequency Response

50 to 16,000 Hz

Polar Pattern

Supercardioid

Output Impedance

290 Ω

Sensitivity

at 1kHz,open circuit voltage

-51 dBV/Pa(2.8 mV) [1]

Polarity

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

Weight

0.468 kg (1.6 lbs)

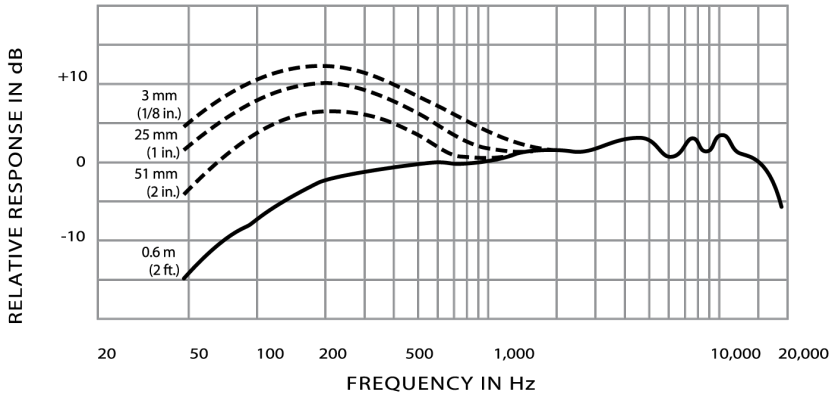
Connector

Three-pin professional audio (XLR), male, balanced

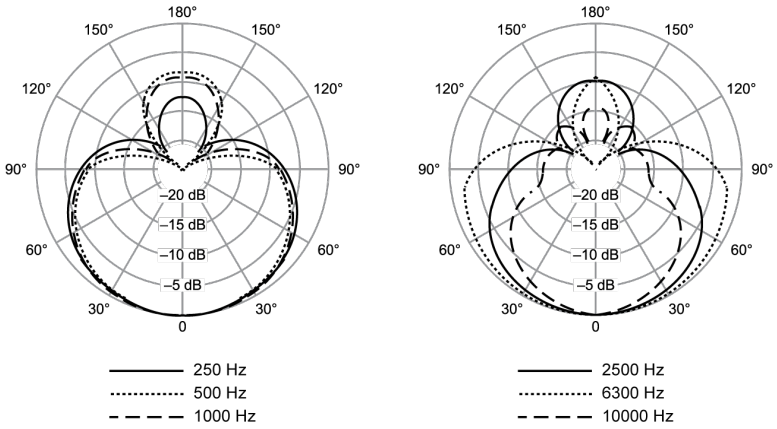
Housing

Silver blue enamel-painted die cast metal with hardened, matte-finished steel mesh grille

[1] 1 Pa=94 dB SPL



Typical Frequency Response



Typical Polar Pattern

Accessories

Furnished Accessories

5/8" to 3/8" (Euro) Threaded Adapter	95A2050
Zippered Carrying Bag	95A2314

Optional Accessories

Gray Foam Windscreen for all 515 Series, BETA56A and BETA57A	A1WS
25 foot (7.5m) Triple-Flex® Microphone XLR Cable with Switchcraft connectors	C25E
25 foot (7.5m) Triple-Flex Microphone XLR Cable with chrome connectors	C25F

Replacement Parts

Cartridge for BETA56, BETA56A, and BETA57A	R174
Grille for BETA56A and BETA57A	RK320
Plug (Connector) Assembly	90J1984

Certifications

CE Notice

Hereby, Shure Incorporated declares that this product with CE Marking has been determined to be in compliance with European Union requirements.

The full text of the EU declaration of conformity is available at the following site: https://www.shure.com/en-EU/support/declarations-of-conformity.

UKCA Notice

Hereby, Shure Incorporated declares that this product with UKCA Marking has been determined to be in compliance with UKCA requirements.

The full text of the UK declaration of conformity is available at the following site: https://www.shure.com/en-GB/support/declarations-of-conformity.

This product meets the Essential Requirements of all relevant European directives and is eligible for CE marking.