SHURE Publications

BETA98AMP

Miniature Cardioid Drum Microphone

General Description

The Shure Beta 98AMP is a compact, high-output, condenser microphone for professional sound reinforcement and studio recording. An extremely uniform cardioid polar pattern provides excellent gain before feedback, off-axis rejection of unwanted noise, and performance in high sound pressure level (SPL) environments.

The Beta 98AMP features an integrated preamplifier with XLR connection, a flexible gooseneck, and is packaged with the A75M Universal Microphone Mount accessory for precision adjustments and minimal stage clutter. For use with drums, percussion, and other fixed-placement applications.

Variations

- **Beta 98AMP/C:** Beta 98AMP microphone furnished with the A75M Universal Microphone Mount.
- **Beta 98AMP/C-3PK:** includes three Beta 98AMP microphones and three A75M Universal Microphone Mounts.

Performance Characteristics

- Exceptional low-frequency reproduction
- Extremely high SPL handling
- High output level
- No crossover distortion

Features

- Premier live performance microphone with Shure quality, ruggedness, and reliability

- Tailored frequency response shaped for drums and percussion
- Wide dynamic range for use in high SPL environments
- Compact design and integrated preamp reduce stage clutter and ease setup
- Flexible gooseneck for precise placement and easy adjustments
- Enamel coated metal construction and stainless steel inner grille resist wear and abuse

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

Suggested Microphone Placement
Tone Quality
Tom-Toms
One mic on each tom or between a pair of toms, 2.5 to 7.5 cm (1 to 3 in.) above drum heads.
Medium attack; full, balanced sound.
Remove bottom head and place a mic inside pointing up toward top drum head.
Maximum isolation; 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.
Cymbals
Close-mike with A75M mount, avoiding range of cymbal movement.
Maximum isolation; bright, with plenty of attack.

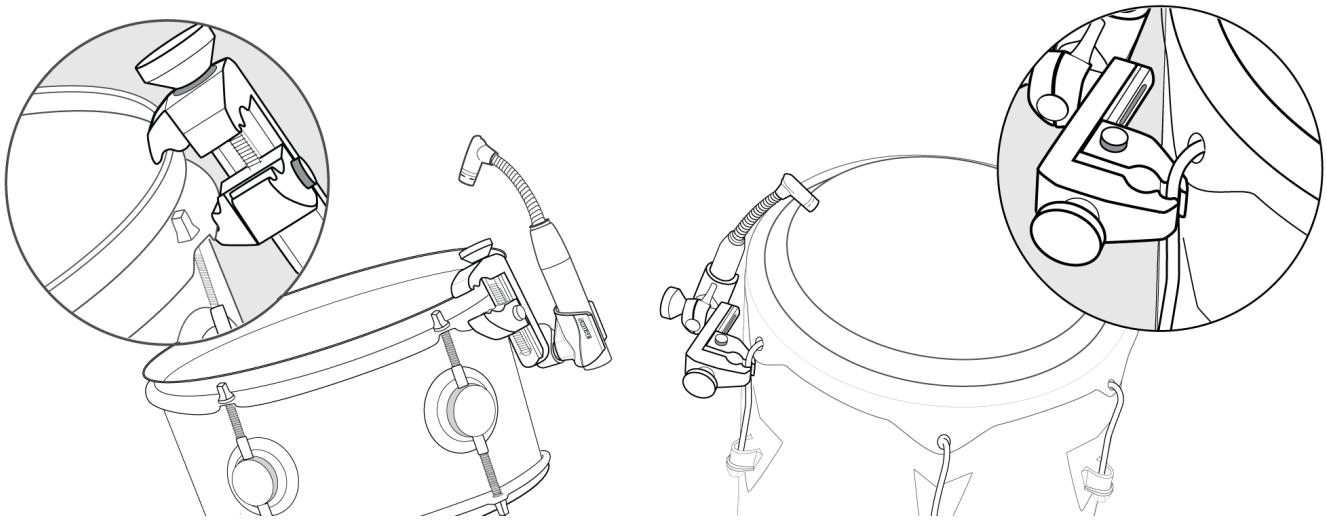
Before each use, make sure the cartridge is tightly secured on the microphone, as vibration and accidental hits with drumsticks may loosen it, resulting in signal loss.

Positioning the Microphone

Excessive twisting or forcing the gooseneck into extreme positions can permanently damage the microphone.

A75M Universal Microphone Mount

The Shure A75M mounts the Beta 98AMP on a variety of surfaces and instrument hardware. Reference the furnished A75M guide to correctly mount the microphone.



BETA 98AMP MOUNTED WITH A75M

Load Impedance

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

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 or XLR-to-TRS.

Type

Electret Condenser

Frequency Response

20 to 20,000 Hz

Polar Pattern

Cardioid

Output Impedance

150 Ω

Sensitivity

at 1kHz, open circuit voltage, typical

-50.5 dBV/Pa(2.5 mV)[1]

Maximum SPL

1 kHz at 1% THD[2]

2500 Ω load
157.5 dB SPL
1000 Ω load
153.0 dB SPL

Signal-To-Noise Ratio[3]

63 dB

Dynamic Range

at 1kHz

2500 Ω load
126.5 dB

Clipping Level

at 1 kHz,at 1% THD

2500 Ω load
12.5 dBV
1000 Ω load
7.5 dBV

Self Noise

equivalent SPL,A-weighted,typical

31.0 dB SPL-A

Common Mode Rejection

10 Hz to 100 kHz

≥60 dB

Power Requirements

11–52 V DCphantom power[4], 5.5 mA

Polarity

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

Net Weight

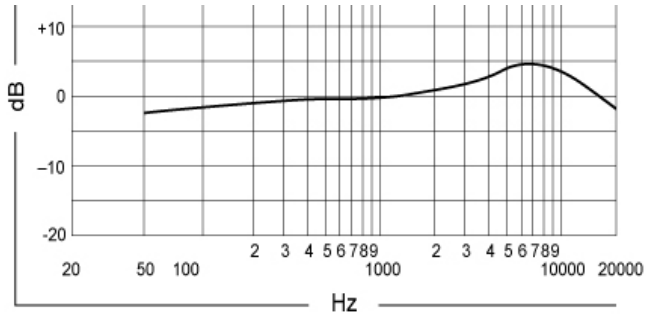
130 g(4.6oz.)

[1] 1 Pa=94 dB SPL

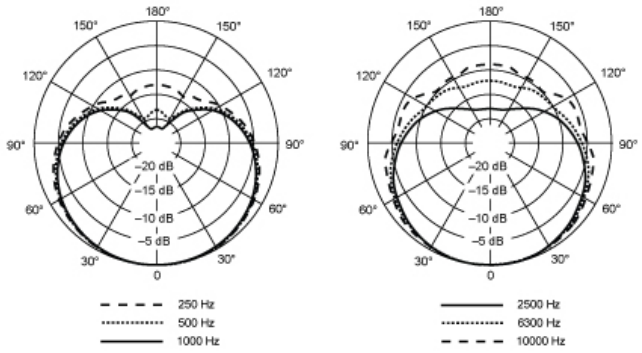
[2] THD of microphone preamplifier when applied input signal level is equivalent to cartridge output at specified SPL

[3] S/N ratio is the difference between 94 dB SPL and equivalent SPL of self-noise, A-weighted

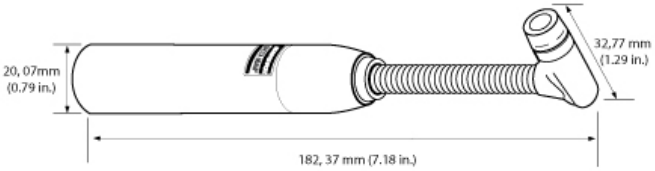
[4] All specifications measured with a 48 Vdc phantom power supply. The microphone operates at lower voltages, but with slightly decreased headroom and sensitivity



Typical Frequency Response



Typical Polar Patterns



Overall Dimensions

Accessories

Furnished Accessories

Universal Microphone Mount with Large and Small Clip Adapters and Universal Threaded Adapter Post
A75M

A75-57F
Zippered Carrying Bag
95A2314
Snap-fit Windscreen
95A2064

Optional Accessories

Black Snap-Fit Foam Windscreens (4) for Beta 98, Beta 98A, Beta 98/S, Beta 98D/S, Beta 98H/C, MX183, MX184, MX185, MX202, WH30, WL183, WL184 and WL185
RK183WS
Black Locking Metal Windscreen forMicroflex® Gooseneck Microphones
A412MWS
Microphone Clip for AMS26, Beta 181, KSM137, KSM141, MX412, MX418, MX412S, MX418S, MX412SE, MX418SE, SM62, SM63, SM63L, SM63LB, SM81, VP64, VP64A, VP64AL and standard microphone stands
A57F
25 foot (7.5m) Triple-Flex® Microphone XLR Cable with Switchcraft connectors
C25E
A75M Large Mic Clip
A75-25D
A75M Universal Microphone Adapter
A75-UMA

Isolation Mount/Swivel Adapter for K3M109, K3M137, K3M141, SM63, SM81, SM94 and VP64
A53M

Replacement Parts

Cardioid Cartridge
RPM98A/C

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

Headquarters Europe, Middle East & Africa

Department: EMEA Approval

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