

BETA 98A Instrument Microphone



General Description

The Shure Beta 98A 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 and off-axis rejection of unwanted noise. Its high sound pressure level (SPL) capability makes it useful for a variety of acoustic or amplified instruments including drums, piano, reed, wind, and strings.

Variations

- **Beta 98A/C** includes microphone, 7.6 m (25 ft) light-weight interconnect cable, preamplifier, and RK282 shockmount swivel adapter.
- **Beta 98AD/C** includes microphone, 4.6 m (15 ft) heavy-duty interconnect cable, preamplifier, and A98D microphone drum mount.

Features

- Premier live performance microphone with Shure quality, ruggedness, and reliability
- Uniform cardioid pick-up pattern for maximum gain before feedback and superior rejection of off-axis sound
- Tailored frequency response specifically shaped for drums, percussion, reeds, and horns
- Compact design reduces stage clutter
- Wide dynamic range for use in high SPL environments
- Optional A98D mount is unobtrusive, versatile, and easy to adjust
- Enamel-coated metal construction and stainless steel inner grille resist wear and abuse

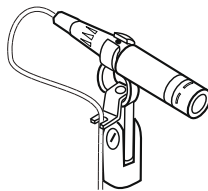
Performance Characteristics

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

Shockmount Swivel Adapter

Use the following procedures to mount the Beta 98A on the swivel adapter:

1. Connect the microphone to the adapter.
2. Thread the cable through the C-clamp and slide the connector into the C-clamp until snug.
3. To reduce wear on the cable, snap it into the stress reliever clip leaving 5 to 7 cm (2 to 3 inches) of slack on the connector side.



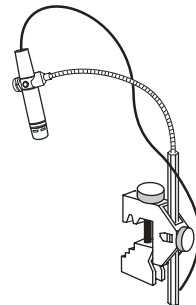
BETA 98A MOUNTED WITH SWIVEL ADAPTER

Interconnecting Cable

The supplied cable connects the BETA 98A to the preamplifier. If necessary, up to 23 m (75 ft) of cable can be used between the microphone and preamplifier without signal loss.

A98D Drum Mount

The Shure A98D mounts the Beta 98A on a drum or cymbal stand. Reference the furnished A98D guide to correctly mount the microphone.



BETA 98A MOUNTED WITH A98D

Applications and Placement

General Rules for Use

- Aim the microphone toward the desired sound source; angle unwanted sounds toward its null point.
- Use the fewest amount of microphones as practical to increase the Potential Acoustic Gain and prevent feedback.
- Follow the 3 to 1 Rule by spacing each microphone by at least three times the distance to its source to reduce Phase Cancellation.
- Place microphones as far as possible from reflective surfaces to reduce Comb Filtering.
- When using directional microphones, work closely to the microphone for extra bass response to take advantage of Proximity Effect.
- Avoid excessive handling to minimize pickup of mechanical noise and vibration.
- Do not cover any part of the microphone grille, as this will adversely affect microphone performance.
- Add a windscreen when using the microphone outdoors.

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.

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.

SPECIFICATIONS

| | | |
|---|---|----------|
| Cartridge Type | Electret Condenser | |
| Polar Pattern | Cardioid | |
| Frequency Response | 20 to 20,000 Hz | |
| Output Impedance @ 1 kHz | 179 Ω | |
| Sensitivity open circuit voltage, @ 1 kHz, typical | -48.0 dBV/Pa ^[1] (4.0 mV) | |
| Maximum SPL 1 kHz at 1% THD ^[2] | 2500 Ω load | 150.5 dB |
| | 1000 Ω load | 144.0 dB |
| Signal-to-Noise Ratio^[3] | 64 dB | |
| Dynamic Range @ 1 kHz | 2500 Ω load | 120.5 dB |
| | 1000 Ω load | 114.0 dB |
| Clipping Level 20 Hz to 20 kHz, 1% THD | 2500 Ω load | 8.0 dBV |
| | 1000 Ω load | 1.0 dBV |
| Self Noise equivalent SPL, A-weighted, typical | 30.0 dB SPL-A | |
| 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), 3.6 mA | |
| Net Weight | 12 g (0.6 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.

Accessories and Parts

Furnished Accessories

| | |
|--|---------|
| Zippered Carrying Bag | 95A2314 |
| In-Line Preamplifier (1 piece) | RPM626 |
| Snap-fit Windscreen | 95A2064 |
| Shock-Mount Swivel Adapter (BETA 98A/C) | RK282 |
| 7.6 m (25 ft.) light-weight cable (BETA 98A/C) | 95A2398 |
| Beta 98 Drum Mount (BETA 98AD/C) | A98D |
| 4.6 m (15 ft.) Heavy-Duty Cable (BETA 98AD/C) | C98D |

Optional Accessories

| | |
|----------------------------|---------|
| Metal Locking Windscreen | A412MWS |
| Universal Microphone Mount | A75M |

Replacement Parts

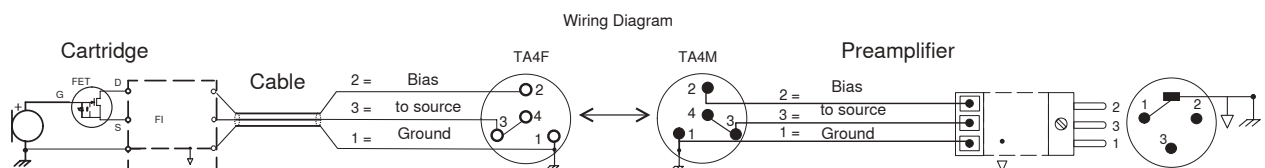
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| Cardioid Cartridge | RPM98A/C |
| 98A Replacement Housing | RPM98A-HT |
| Clamp Assembly (A98D) | RPM618 |
| Snap-Fit Windscreen (4 per package) | RK183WS |

CERTIFICATION

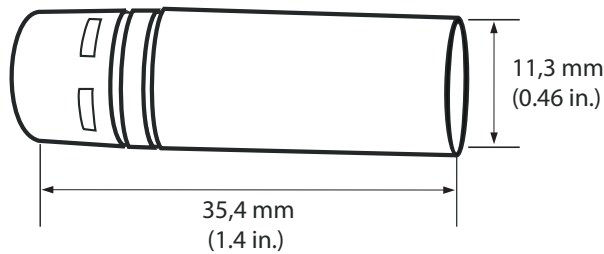
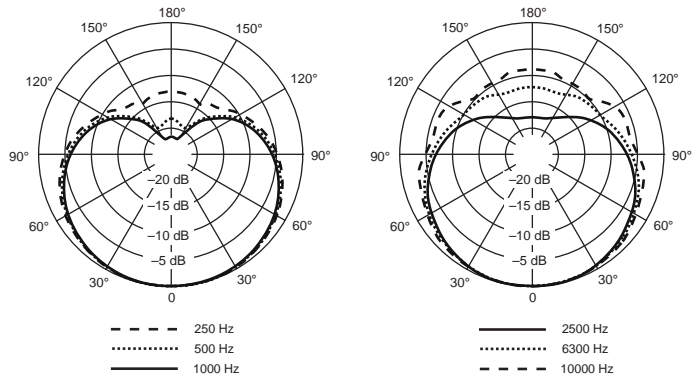
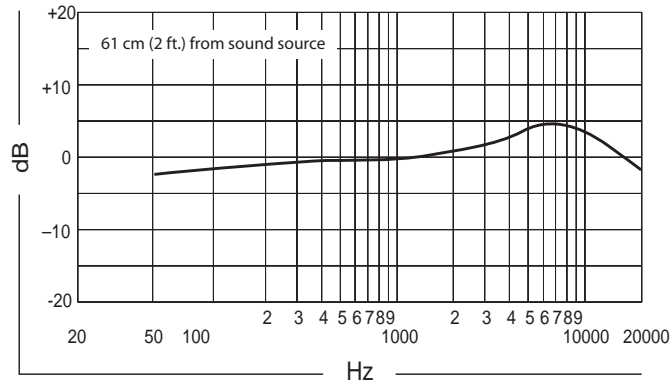
Eligible to bear CE Marking. Conforms to European EMC Directive 2004/108/EC. Meets Harmonized Standards EN55103-1:1996 and EN55103-2:1996, for residential (E1) and light industrial (E2) environments.

The Declaration of Conformity can be obtained from:

Authorized European representative:
Shure Europe GmbH
Headquarters Europe, Middle East & Africa
Department: EMEA Approval
Wannenacker Str. 28
D-74078 Heilbronn, Germany
Phone: +49 7131 72 14 0
Fax: +49 7131 72 14 14
Email: EMEAsupport@shure.de



Beta 98A



SHURE®

United States, Canada, Latin America, Caribbean:

Shure Incorporated
5800 West Touhy Avenue
Niles, IL 60714-4608 USA

Phone: 847-600-2000
Fax: 847-600-1212 (USA)
Fax: 847-600-6446
Email: info@shure.com

Europe, Middle East, Africa:

Shure Europe GmbH
Wannenäckerstr. 28,
74078 Heilbronn, Germany

Phone: 49-7131-72140
Fax: 49-7131-721414
Email: info@shure.de

Asia, Pacific:

Shure Asia Limited
22/F, 625 King's Road
North Point, Island East
Hong Kong

Phone: 852-2893-4290
Fax: 852-2893-4055
Email: info@shure.com.hk