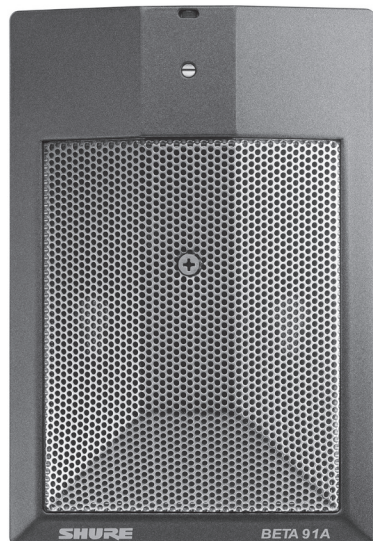


### BETA 91A Instrument Microphone



#### General Description

The Shure Beta 91A is designed for use with kick drums, piano and other traditional low frequency applications. An updated microphone capsule is tailored for bass-heavy environments to produce a powerful low frequency response, and a new design integrates the preamplifier and XLR connection for easy setup and minimal stage clutter. The Beta 91A combines superior attack and punch for studio-quality sound, even at extremely high sound pressure levels (SPLs).

#### Features

- Premier live performance microphone with Shure quality, ruggedness, and reliability
- Uniform half-cardioid polar pattern (in the hemisphere above mounting surface) for maximum gain before feedback and rejection of off-axis sound
- Tailored frequency response for kick drums and bass-heavy instruments
- Wide dynamic range for use in high SPL environments
- Two-position contour switch enhances attack and clarity
- Integrated preamp and XLR connector reduce stage clutter and provide a quick, secure setup
- Low profile design requires no external mounting hardware
- Steel grille and die-cast metal construction resist wear and abuse

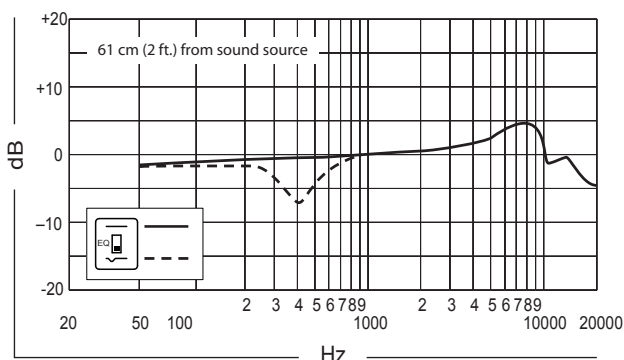
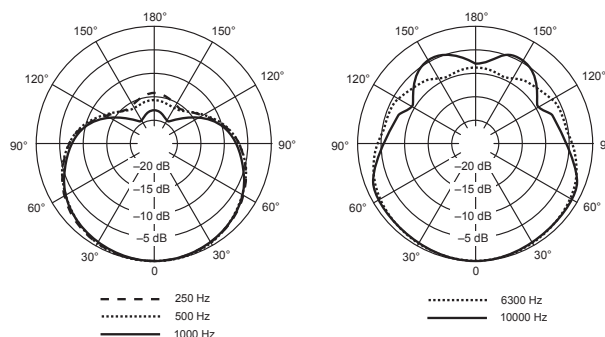
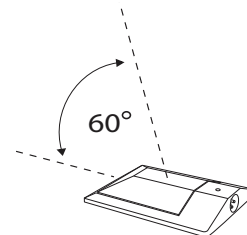
#### Performance Characteristics

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

#### Applications and Placement

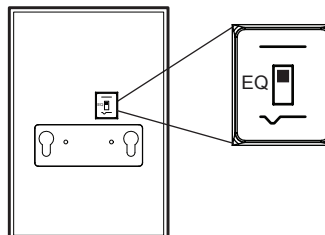
##### Half-cardioid Polar Pattern

Boundary microphones pick up sound in a cardioid polar pattern in the hemisphere above the mounting surface. Keep sound sources within the 60 degree range above this surface.



#### Contour Switch

A two-position switch on the bottom of the microphone lets you selectively filter the low-mid frequency response without additional tools. Use this filter to enhance the attack and clarity of bass-heavy instruments.



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

**Low-Mid Scoop:** This setting tailors the microphone's frequency response to provide a strong 'punch' in the low frequencies, and plenty of attack in the higher frequencies.

#### Mounting the Microphone

For long-term installation, mount the Beta 91A to a surface using the mounting holes on the bottom of microphone.

## 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  $\Omega$ . 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

<b>Cartridge Type</b>	Electret Condenser	
<b>Polar Pattern</b>	Half-cardioid (cardioid in hemisphere above mounting surface)	
<b>Frequency Response</b>	20 to 20,000 Hz	
<b>Output Impedance</b> @ 1 kHz	146 $\Omega$	
<b>Sensitivity</b> open circuit voltage, @ 1 kHz, typical	-48.5 dBV/Pa <sup>[1]</sup> (3.8 mV)	
<b>Maximum SPL</b> 1 kHz at 1% THD <sup>[2]</sup>	2500 $\Omega$ load	155 dB
	1000 $\Omega$ load	151 dB
<b>Signal-to-Noise Ratio</b> <sup>[3]</sup>	64.5 dB	
<b>Dynamic Range</b> @ 1 kHz	2500 $\Omega$ load	125.5 dB
	1000 $\Omega$ load	121.5 dB
<b>Clipping Level</b> 20 Hz to 20 kHz, 1% THD	2500 $\Omega$ load	12.5 dBV
	1000 $\Omega$ load	7.5 dBV
<b>Self Noise</b> equivalent SPL, A-weighted, typical	29.5 dB SPL-A	
<b>Common Mode Rejection</b> 20 Hz to 200 kHz	$\geq 55$ dB	
<b>Frequency Contour Switch</b>	7 dB of attenuation centered at 400 kHz	
<b>Connector</b>	Three-pin professional audio (XLR), male, balanced	
<b>Polarity</b>	Positive pressure on diaphragm produces positive voltage on pin 2 with respect to pin 3	
<b>Power Requirements</b>	11–52 V DC <sup>[4]</sup> phantom power (IEC-61938), 5.4 mA	
<b>Net Weight</b>	470 g (16.6 oz.)	

<sup>[1]</sup> 1 Pa=94 dB SPL

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

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

<sup>[4]</sup> 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

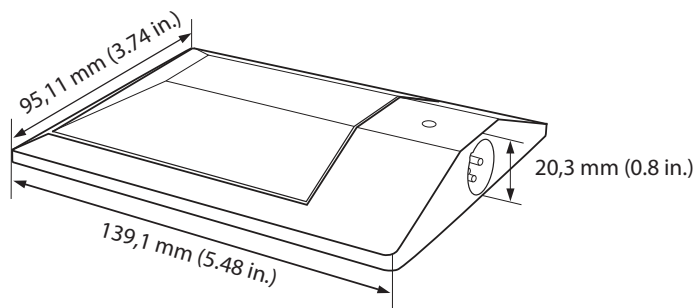
Zippered Carrying Bag	95A2314
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### Optional Accessories

7.6 m (25 ft.) Cable	C25E
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### Replacement Parts

Cardioid Cartridge	RPM98A/C
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Dimensions

## 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:

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