BETA 87C®
CARDIOID CONDENSER MICROPHONE

OVERVIEW
The Shure BETA 87C is a high output condenser microphone that provides touring professionals with studio-quality sound. Vocalists who use in-ear monitor systems such as the Shure PSM® Personal Monitor System will appreciate how effectively the BETA 87C rejects ambient sound from the rear of the microphone.

The BETA 87C maintains its cardioid pattern throughout its frequency range, ensuring maximum isolation from other sound sources and high gain before feedback. Its warm, natural sound is the result of an exceptionally smooth frequency response that includes a slight presence rise. A controlled low–frequency roll-off compensates for proximity effect and prevents the “boomy” sound often associated with close-up use.

The BETA 87C is an excellent choice for professional studio recording, yet it is built to withstand the rigors of touring. It maintains its performance characteristics even at sound pressure levels as high as 139 dB SPL. Plus, the cartridge is protected by a proven shock mount system. A hardened steel mesh grille with a built-in pop filter provides added protection.

FEATURES
- Smooth, wide frequency response with slight presence rise
- Cardioid polar pattern for maximum isolation
- Minimal off-axis tone coloration
- Superior gain before feedback.
- Low-frequency roll-off compensates for proximity effect
- Wide dynamic range (117 dB)
- Low distortion characteristics
- Very low susceptibility to RFI and electromagnetic hum
- Advanced cartridge shock-mount system absorbs mechanical shocks and reduces handling noise
- Built-in pop filter reduces wind and breath sounds
- Shure ruggedness and reliability for years of trouble-free performance

SPECIFICATIONS

Transducer Type
Condenser (electret bias)

Frequency Response
50 to 20,000 Hz

Polar Pattern
cardioid

TYPICAL FREQUENCY RESPONSE

TYPICAL POLAR PATTERN
**MODEL BETA 87C CONDENSER MICROPHONE**

**Specification Sheet**

### Output Impedance
Rated at 150 ohms (100 ohms actual ±20%)
Recommended minimum load impedance: 800 ohms

### Sensitivity
(at 1,000 Hz)
Open Circuit Voltage: –51 dBV/Pa (2 mV)

### Output Clipping Level
1000 ohm Load at 1,000 Hz: –6 dBV (0.5 V)

### Maximum SPL
139 dB at 1,000 Hz (0.25% THD, 1000 ohm load)

### Self-Noise
22 dB typical, A-weighted
24 dB typical, weighted per DIN 45 405
(equivalent sound pressure level; measured with true rms voltmeter)

### Dynamic Range
117 dB (maximum SPL to A-weighted noise level)

### Hum Sensitivity
–5 dB equivalent SPL, maximum, in a 1 mOe field (60 Hz)

### Signal-to-Noise Ratio
72 dB at 94 dB SPL (IEC 651)*

*S/N ratio is difference between 94 dB SPL and equivalent SPL of self-noise A-weighted.

### Polarity
Positive pressure on diaphragm produces positive voltage on pin 2 relative to pin 3 of the output connector. See Figure 4.

### Power
Phantom Supply Requirement: 11 to 52 Vdc, positive at both pins 2 and 3
Current Drain: 1.0 to 1.2 mA

### Connector
Three-pin (XLR) professional audio

### Case
Aluminum construction with painted blue metallic finish, and hardened steel grille with nickel satin chrome plating

### Dimensions
See Figure 5

### Net Weight
Net: 207 grams (7.6 oz)
Packaged: 565 grams (1.24 lbs)

### Environmental Conditions
Operating: –18° to 60° C (0° to 135° F) (relative humidity <90%)
Storage: –29° to 74° C (–20° to 165° F) (relative humidity <80%)

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**BETA 87C BLOCK DIAGRAM**

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**FURNISHED ACCESSORIES**
Swivel Adapter: A25D
Carrying/Storage Bag: 26A13

**REPLACEMENT PARTS**
Grille: RK312
Replacement Amplifier Assembly: 90KF2600

**OPTIONAL ACCESSORIES**
Phantom Power Supply: PS1A
Windscreen: A85WS
Isolation Mount: A53M, A53HM
7.6 m (25 ft.) Cable: C25F