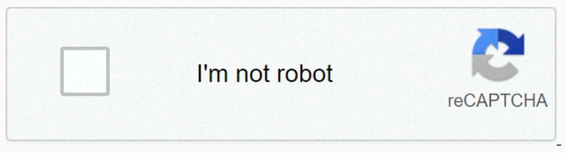

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Shure beta 87a wireless microphone manual

The Shure Beta 87C vocal microphone is precision-engineered to deliver an extremely smooth, extended high-end frequency response in a cardioid condenser design. The warm, natural sound creates an ideal environment for personal monitoring with excellent rear rejection. An advanced, cartridge shock mount system, hardened steel-mesh grille, and superior build quality withstand the rigors of daily touring and sound reinforcement. Premier live performance microphone with Shure quality, ruggedness, and reliability Uniform cardioid pick-up pattern for maximum gain before feedback and excellent rejection of off-axis sound Smooth, wide frequency response with slight presence rise and controlled proximity effect tailored for vocals Advanced cartridge shock mount system absorbs mechanical shock and minimizes handling noise Very low susceptibility to RF and electromagnetic hum Dent-resistant steel mesh grille and enamel coated metal alloy construction resist wear and abuse Effective built-in pop filter reduces undesirable wind and breath noise 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. 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 Vocals Lips less than 15 cm (6 in.) away or touching the windscreen, on axis to microphone. Robust sound, emphasized bass, maximum isolation from other sources. 15 to 60 cm (6 in. to 2 ft.) away from mouth, just above nose height. Natural sound, reduced bass. 20 to 60 cm (8 in. to 2 ft.) away from mouth, slightly off to one side. Natural sound, reduced bass and minimal “s” sounds. 90 cm to 1.8 m (3 to 6 ft.) away. Thinner, distant sound; noticeable levels of ambient noise. Place the microphone so that unwanted sound sources, such as monitors and loudspeakers, are directly behind it. To minimize feedback and ensure optimum rejection of unwanted sound, always test microphone placement before a performance. Recommended Loudspeaker Locations for Cardioid Microphones 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. 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. Electret Condenser Frequency Response 50 to 16,000 Hz Polar Pattern Cardioid Output Impedance EIA rated at150 Ω(100 Ωactual) Sensitivity at 1kHz,open circuit voltage -51 dBV/Pa(2 mV)[1] Maximum SPL 1 kHz at 1% THD,1 kΩ load 139 dB Signal-to-Noise Ratio 70.5 dB[2] Dynamic Range at 1kHz,1 kΩ load 117 dB Clipping Level 1 kHz at 0.25% THD,1 kΩ load -6 dBV(0.5 V) Self Noise typical,equivalent SPL,A-weighted 22 dB Hum Pickup typical, at 60 Hz, equivalent SPL/mOe -5 dB Polarity Positive pressure on diaphragm produces positive voltage on pin 2 with respect to pin 3 Weight Packaged 0.565 kg(1.24 lbs) Net 0.207 kg(0.475 lbs) Connector Three-pin professional audio (XLR), male, balanced Housing Aluminum construction with painted blue metallic finish, and hardened steel grille with nickel satin chrome plating Power Requirements 11 to 52 V DCphantom power(1.2 mA) [1] 1 Pa=94 dB SPL [2] S/N ratio is difference between 94 dB SPL and equivalent SPL of self noise, A-weighted Overall Dimensions Typical Frequency Response Typical Polar Pattern BLOCK DIAGRAM Microphone Clip for SM58, SM57, SM87A, Beta 87A, Beta 87C, PGA57, PGA58, PGA48, PGA81 A25D Zippered Carrying Bag 95A2314 Shock Stopper® Isolation Mount A55HM Black Foam Windscreen for KSM8, SM85, SM86, SM87A, Beta 87A, and Beta 87C A85WS 25 foot (7.5m) Triple-Flex® Microphone XLR Cable with chrome connectors C25F Grille for Wired and Wireless Beta87, Beta87A and Beta87C RK312 Cartridge for BETA 87 and BETA 87A R193 Plug (Connector) Assembly 90J1984 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 Jakob-Dieffenbacher-Str. 12 75031 Eppingen, Germany Phone: 49-7262-92 49 0 Fax: 49-7262-92 49 11 4 Email: info@shure.de BETA 87A The Shure Model BETA 87A is a premium quality supercar- dioid hand-held electret condenser vocal microphone with ex- ceptionally smooth frequency response and high sound pres- sure level (SPL) capability. Used for professional sound reinforcement, broadcasting, and studio recording applica- tions, the BETA 87A combines superb performance with the ruggedness needed for touring and field production. The BETA 87A features a controlled low-frequency roll-off that compensates for proximity effect and prevents the "boomy" sound often associated with close pick-up. The characteristic Shure presence rise brightens the upper midrange. The tight supercardioid pattern, with null points at approximately 125 , provides maximum isolation from other vocalists or instruments while offering minimal off-axis coloration. The BETA 87A oper- ates on phantom power. Smooth frequency response with gradual presence rise Highly consistent supercardioid polar pattern provides superior gain-before-feedback. Electronic low-frequency roll-off compensates for proximity effect Wide dynamic range (117 dB) and low distortion character- istics Very low susceptibility to RFI and electromagnetic hum Advanced cartridge shock-mount system absorbs mechan- ical shocks and reduces handling noise Built-in pop filter reduces undesirable wind and breath sounds Reliability for years of trouble-free performance 1998, Shure Brothers Incorporated 27A2965 (RF) Shure Brothers Incorporated 222 Hartrey Avenue Evanston IL 60202-3696 U.S.A. Model BETA 87A User's Guide Some of the most common applications and placement tech- niques are listed in the following table. Keep in mind that micro- phone technique is largely a matter of personal taste—there is no one "correct" microphone position. SUGGESTED MICROPHONE PLACEMENT Lips less than 6 inches (15 cm) away or touching the windscreen, on axis to microphone. 6 inches to 2 feet (15 to 60 cm) away from mouth, just above nose height. 8 inches to 2 feet (20 to 60 cm) away from mouth, slightly off to one side. 3 to 6 feet (90 cm to 1.8 m) away. 1. Aim the microphone toward the desired sound source and at a 125 angle away from unwanted sources.

Don't place un- wanted sound sources directly to the rear of the microphone since supercardioid microphones, such as the BETA 87A, have a narrow pick up range at about 180 . Refer to Figure 1. 2. Place the microphone as close as practical to the desired sound source. Refer to the table above. 3. Use only one microphone for each sound source. 4. Keep the distance between microphones at least three times the distance from each source to its microphone. 5. Place microphones as far as possible from reflective sur- faces. 6. Work close to the microphone for extra bass response. 7. Use the fewest number of microphones as is practical.

8. Add a windscreen when using the microphone outdoors. 9. Avoid excessive handling to minimize pick up of mechanical noise and vibration. 10. Do not cover any part of the grille with your hand. o 180 o o 125 125 o o 90 90 180 o 0 CORRECT POSITIONING UNWANTED SOUND SOURCES TONE QUALITY Robust sound, emphasized bass, maximum isolation from other sources. Natural sound, reduced bass. Natural sound, reduced bass and minimal "s" sounds. Thinner, distant sound; notice- able levels of ambient noise. o 180 o 90 o o 0 90 o o 125 o 90 o 0 CORRECT INCORRECT FIGURE 1 Printed in U.S.A. o 90