Shure SM7B

Shure SM7B Vocal Dynamic Studio Microphone

Instruction Manual

Overview

The Shure SM7B is a highly versatile vocal dynamic microphone designed for professional audio applications, including studio recording, home recording, podcasting, broadcasting, gaming, and streaming. It features a smooth, flat, wide-range frequency response for exceptionally clean and natural reproduction of both music and speech. Engineered with excellent shielding against electromagnetic hum and a rugged construction, the SM7B ensures stable and reliable performance in various environments.

Key Features

- **Versatile Application:** Ideal for studio recording, home recording, podcasting, broadcasting, gaming, and streaming.
- **Smooth, Flat, Wide-Range Frequency Response:** Delivers exceptionally clean and natural reproduction of music and speech.
- **Superior Electromagnetic Shielding:** Effectively defeats hum from computer monitors and other studio equipment.
- **Classic Cardioid Polar Pattern:** Designed to reject off-axis audio, capturing sound with minimum coloration.
- **Air Suspension Shock Isolation:** Eliminates mechanical noise for clear audio.
- **Built-in Pop Filter:** Reduces breathiness and plosives.
- **Professional XLR Connection:** Ensures high-quality audio signal transfer.
- **Bass Rolloff and Mid-Range Emphasis (Presence Boost) Controls:** Allows for tailored sound shaping with a graphic display of response setting.
- **Rugged Construction:** Durable design for long-lasting reliability.
- **Detachable Close-Talk Windscreen (A7WS):** Included for close-miking applications.

Package Contents

The Shure SM7B package includes the following items:

- Shure SM7B Vocal Dynamic Microphone
- One A7WS Detachable Windscreen (for close-talk applications)

- One RPM602 Switch Cover Plate
- Locking Yoke Mount



Image: The Shure SM7B microphone, its box, the detachable A7WS windscreen, and the RPM602 switch cover plate.

Setup

Mounting

The Shure SM7B is designed for mounting on a microphone stand or boom arm. Its improved bracket design offers greater stability, ensuring the microphone remains securely in place during use. Ensure your chosen stand or arm can support the microphone's weight of 2.7 pounds for optimal stability.



Image: The Shure SM7B microphone shown mounted on a stand, highlighting its robust design.

Connectivity

The SM7B connects via a professional XLR cable. It does NOT require phantom power and is not affected if phantom power is present on its mixer input. However, some third-party external pre-amps commonly used with the SM7B DO require phantom power to operate. At least 60dB of gain is recommended to achieve the iconic warm and balanced tone associated with the SM7B.



Image: The Shure SM7B microphone with an XLR cable connected to its base, ready for audio input.

Adjustments

The microphone's mounting bracket allows for easy adjustment of its angle and position. This flexibility ensures optimal placement for capturing sound, whether for vocals, instruments, or other audio sources. The design allows for smooth movement to achieve the desired height and orientation.


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Image: A person using the Shure SM7B microphone in a podcasting setup, demonstrating its typical use and adjustable positioning.

Operation

Sound Characteristics

The SM7B's dynamic cartridge provides a smooth, flat, and wide-range frequency response (50 Hz to 20,000 Hz), making it suitable for various audio applications. Its advanced electromagnetic shielding minimizes hum from electronic devices, ensuring a clean signal. The cardioid polar pattern effectively rejects off-axis sounds, focusing on the desired audio source.

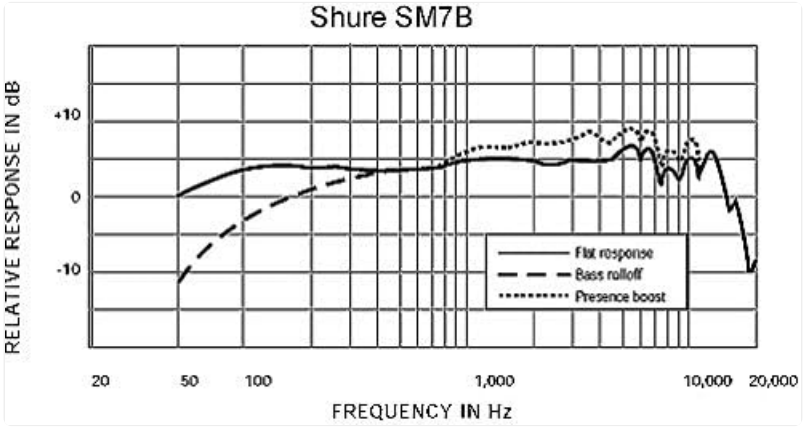


Image: A graph illustrating the frequency response of the Shure SM7B, showing its flat response, bass rolloff, and presence boost curves.



Image: A cutaway view of the Shure SM7B microphone, highlighting its internal electromagnetic shielding designed to reduce interference.

On-Mic Controls

The SM7B features switchable bass rolloff and mid-range emphasis (presence boost) controls on the microphone body. These controls allow users to tailor the microphone's frequency response to suit different voices or instruments, providing flexibility for various recording scenarios.



Image: A close-up of the Shure SM7B microphone's rear, showing the switches for bass rolloff and presence boost, allowing for sound customization.

Windscreen Usage

The included A7WS detachable windscreen is designed for close-talk applications, effectively reducing plosive sounds and breath noise. This is particularly useful for vocal recordings and broadcasting where close proximity to the microphone is desired for warm, intimate vocals.



Image: The Shure SM7B microphone with the larger A7WS windscreen attached, designed for close-talk applications to minimize plosives.

Maintenance

To ensure the longevity and optimal performance of your Shure SM7B microphone, regular maintenance is recommended:

- **Cleaning the Exterior:** Use a soft, dry cloth to wipe down the microphone body. Avoid using harsh chemicals or abrasive materials.
- **Cleaning the Windscreen:** The foam windscreen can be gently removed and hand-washed with mild soap and water. Allow it to air dry completely before reattaching.
- **Storage:** When not in use, store the microphone in a protective case or a clean, dry environment to prevent dust accumulation and physical damage.

Troubleshooting

If you encounter issues with your Shure SM7B, refer to the table below for common problems and their solutions:

Problem	Possible Cause	Solution
Low Output Level	Insufficient gain from pre-amp/interface.	Increase gain on your audio interface or pre-amp (at least 60dB recommended). Consider an in-line pre-amp if needed.
Background Hum/Noise	Electromagnetic interference from nearby electronics (monitors, power supplies).	Ensure proper grounding. Move microphone away from sources of electromagnetic interference. Check XLR cable for damage.
Muffled Sound / Excessive Plosives	Incorrect microphone positioning or missing/improper windscreen.	Ensure you are speaking directly into the front of the microphone. Use the A7WS close-talk windscreen. Adjust distance from microphone.
Microphone Not Stable on Stand	Stand/boom arm not rated for microphone weight or loose mounting.	Use a sturdy microphone stand or boom arm capable of supporting 2.7 pounds. Ensure all mounting screws are tightened.

Technical Specifications

Specification	Value
Model Name	SM7B
Microphone Form Factor	Dynamic
Polar Pattern	Unidirectional (Cardioid)
Connectivity Technology	XLR
Minimum Frequency Response	50 Hz
Maximum Frequency Response	20,000 Hz
Impedance	150 Ohm
Signal-to-Noise Ratio	60 dB
Item Weight	2.7 Pounds
Product Dimensions (L x W x H)	13.5 x 7 x 4.5 inches
Material	Metal
Color	Charcoal Gray

Warranty and Support

For detailed information regarding your Shure SM7B microphone, including comprehensive user guides and warranty details, please refer to the official documents:

- User Guide (PDF): Download User Guide
- User Manual (PDF): Download User Manual
- Warranty (PDF): Download Warranty Information

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Example: How do I reset this device or fix this error?

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