

Neumann TLM 102

Neumann TLM 102 Large-Diaphragm Condenser Microphone User Manual

Model: TLM 102 | Brand: Neumann

1. PRODUCT OVERVIEW

The Neumann TLM 102 is a compact large-diaphragm condenser microphone designed for studio applications. It features a cardioid polar pattern and is capable of handling high sound pressure levels, making it suitable for recording various sound sources, including vocals, speech, acoustic instruments, percussion, and amplifiers. The microphone incorporates a transformerless circuit for minimal self-noise and a clear, uncolored sound reproduction.

Key characteristics include a slight presence boost above 6 kHz, which enhances vocal clarity in a mix, and an exceptionally fast transient response for accurate capture of acoustic instruments. An integrated pop screen helps to suppress plosive sounds during vocal recordings. The microphone's capsule is elastically suspended to reduce handling and structure-borne noise.



Image 1: The Neumann TLM 102 Large-Diaphragm Condenser Microphone in satin nickel finish.

2. SETUP

To set up your Neumann TLM 102 microphone, follow these steps:

- Unpack Components:** Carefully remove the TLM 102 microphone and the included stand mount from its packaging.
- Attach Stand Mount:** Securely screw the stand mount onto a microphone stand. Ensure the stand is stable and capable of supporting the microphone's weight.
- Mount Microphone:** Insert the TLM 102 into the stand mount. The microphone should fit snugly.
- Connect XLR Cable:** Connect a standard 3-pin XLR microphone cable to the XLR output at the base of the TLM 102. Connect the other end of the XLR cable to an audio interface, mixer, or preamplifier that provides 48V phantom power.

5. **Activate Phantom Power:** Ensure that 48V phantom power is activated on your audio interface, mixer, or preamplifier. The TLM 102 requires phantom power to operate.



Image 2: The Neumann TLM 102 microphone shown with an optional shock mount for enhanced isolation.

3. OPERATING INSTRUCTIONS

The TLM 102 is a versatile microphone suitable for various recording scenarios. Consider the following for optimal performance:

- **Microphone Placement:** Due to its cardioid polar pattern, the TLM 102 is most sensitive to sounds directly in front of it and rejects sounds from the sides and rear. Position the microphone with the Neumann logo facing the sound source.
- **Proximity Effect:** Like all directional microphones, the TLM 102 exhibits a proximity effect, where bass frequencies are accentuated when the microphone is close to the sound source. Experiment with distance to achieve the desired tonal balance.
- **Gain Staging:** Adjust the gain on your preamplifier to achieve a healthy signal level without clipping. The TLM 102 has a high maximum SPL (144 dB), allowing it to handle loud sources without distortion.
- **Pop Filter:** The integrated pop screen helps reduce plosives. For very close vocal work, an external pop filter may provide additional protection.
- **Recording Environment:** While the cardioid pattern offers some rejection of off-axis sound, recording in an acoustically treated environment will yield the best results.



Image 3: The TLM 102 microphone capturing the sound of an acoustic guitar.



Image 4: The TLM 102 microphone used for recording drums, demonstrating its high SPL capability.

4. MAINTENANCE

Proper care will ensure the longevity and performance of your TLM 102 microphone:

- **Cleaning:** Use a soft, dry cloth to wipe the microphone body. Avoid using liquid cleaners or solvents, as these can damage the finish or internal components. Do not attempt to clean the grille or capsule directly.
- **Storage:** When not in use, store the microphone in its original packaging or a protective case to shield it from dust, moisture, and physical damage.
- **Environmental Conditions:** Avoid exposing the microphone to extreme temperatures, high humidity, or direct sunlight.

5. TROUBLESHOOTING

If you encounter issues with your TLM 102, consider the following:

- **No Sound Output:**

- Ensure 48V phantom power is activated on your audio interface/preamplifier.
- Check all XLR cable connections for proper seating and integrity.
- Verify that the input gain on your preamplifier is set appropriately.
- Test with a different XLR cable or input channel if available.

- **Distorted Sound:**

- Reduce the input gain on your preamplifier. The microphone may be receiving too strong a signal.
- Ensure the sound source is not excessively loud for the microphone's capabilities (though the TLM 102 has a high SPL rating).

- **Excessive Noise/Hum:**

- Check for ground loops in your audio system.
- Ensure all cables are properly shielded and not running parallel to power cables.
- Verify that the recording environment is free from electromagnetic interference.

6. SPECIFICATIONS

Feature	Specification
Acoustical Operating Principle	Pressure gradient transducer
Directional Pattern	Cardioid
Frequency Range	20 Hz - 20 kHz
Sensitivity at 1 kHz into 1 k Ω	11 mV/Pa
Rated Impedance	50 Ω
Rated Load Impedance	1 k Ω
Equivalent Noise Level, CCIR	21 dB
Equivalent Noise Level, A-weighted	12 dB-A
Signal-to-Noise Ratio, CCIR (rel. 94 dB SPL)	73 dB
Signal-to-Noise Ratio, A-weighted (rel. 94 dB SPL)	82 dB
Maximum SPL for THD 0.5%	144 dB
Maximum Output Voltage	13 dBu
Supply Voltage (P48, IEC 61938)	48 V \pm 4 V
Current Consumption (P48, IEC 61938)	3.5 mA
Matching Connectors	XLR 3F
Weight	Approx. 210 g (0.46 lbs)

Feature	Specification
Diameter	52 mm (2.05 inches)
Length	116 mm (4.57 inches)
Material	Aluminum
Color	Satin Nickel
Model Number	008626
UPC	615104086265

7. WHAT'S IN THE BOX

The Neumann TLM 102 package includes:

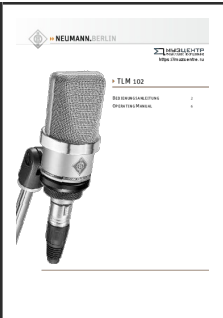

- Neumann TLM 102 Large-Diaphragm Condenser Microphone
- Stand Mount





8. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact Neumann customer service or visit the official Neumann website. Retain your proof of purchase for warranty claims.

Official Neumann Website: www.neumann.com

Related Documents - TLM 102

	<p>Neumann TLM 102 Microphone Operating Manual</p> <p>Operating manual for the Neumann TLM 102 condenser studio microphone, covering setup, operation, troubleshooting, and technical specifications.</p>
	<p>Neumann MT 48 Audio Interface: A Brief Introduction</p> <p>Comprehensive guide to the Neumann MT 48 audio interface, covering setup, features, mixer functions, advanced settings, and connectivity for professional audio production.</p>

 <p>NEUMANN, BERLIN</p> <p>KH 120 II KH 150 Two-Way Active Loudspeakers Instruction Manual</p>	<p>Neumann KH 120 II & KH 150 Studio Monitors: Instruction Manual</p> <p>Comprehensive instruction manual for Neumann KH 120 II and KH 150 two-way active studio monitors. Learn about setup, configuration, operation, and troubleshooting for these high-fidelity loudspeakers.</p>
 <p>NEUMANN, BERLIN</p> <p>KH 120 A KH 120 D Active Near-Field Loudspeakers Bedienungsanleitung</p>	<p>Neumann KH 120 A/D Bedienungsanleitung</p> <p>Offizielle Bedienungsanleitung für die Neumann KH 120 A und KH 120 D Aktiv-Nahfeldmonitore. Enthält Anleitungen zur Installation, Bedienung, akustischen Anpassung und technische Daten.</p>
 <p>NEUMANN, BERLIN</p> <p>KH 750 DSP / KH 805 II Active Subwoofers Instruction Manual</p>	<p>Neumann KH 750 DSP / KH 805 II Active Subwoofer Instruction Manual</p> <p>Comprehensive instruction manual for the Neumann KH 750 DSP and KH 805 II active subwoofers, covering setup, connection, configuration, calibration, and technical specifications for professional audio applications.</p>
 <p>NEUMANN, BERLIN</p> <p>KH 120 II AES67 KH 150 AES67 Two-Way Active Loudspeakers Instruction Manual</p>	<p>Neumann KH 120 II AES67 and KH 150 AES67 Instruction Manual</p> <p>Comprehensive instruction manual for Neumann KH 120 II AES67 and KH 150 AES67 two-way active studio monitors. Covers setup, connection, configuration, AES67/DANTE networking, operation, maintenance, and troubleshooting.</p>