

TSI UD7099

TSI UD7099 Digital UHF Wireless Handheld Microphone User Manual

Model: UD7099

1. INTRODUCTION

Thank you for choosing the TSI UD7099 Digital UHF Wireless Handheld Microphone system. This manual provides essential information for the correct installation, operation, and maintenance of your new wireless microphone system. Please read this manual thoroughly before use to ensure optimal performance and longevity of the product. Keep this manual for future reference.

2. PRODUCT OVERVIEW

The TSI UD7099 is a high-performance digital UHF wireless microphone system designed for reliable reception and transmission. It operates within the UHF frequency range of 620 to 698 MHz, offering 100 pre-adjusted channels. Key features include automatic frequency scanning, infrared synchronization, and versatile audio outputs (XLR and P10).

Key Features:

- Operating Frequency: UHF 620 to 698 MHz
- Crystal-synthesized oscillator for stable performance
- Stability: 20 PPM
- Sensitivity: ≤ 5 dB μ V (S/N ≥ 20 dB)
- Max. Frequency Deviation: 50Hz
- Automatic frequency scanning
- Infrared synchronization
- XLR and P10 audio outputs



Figure 2.1: Front and rear view of the TSI UD7099 receiver unit, showing controls, display, antennas, and audio outputs.



Figure 2.2: The TSI UD7099 handheld microphone, featuring a supercardioid dynamic capsule.

3. SETUP

3.1 Unpacking and Inspection

Carefully unpack all components and verify that all items are present and undamaged. The package should contain the receiver unit, handheld microphone(s), power adapter, audio cable, and antennas.

3.2 Receiver Placement and Connections

1. **Positioning:** Place the receiver unit on a stable, flat surface, away from sources of electromagnetic interference (e.g., computers, Wi-Fi routers). Ensure adequate ventilation.
2. **Antennas:** Connect the two included antennas to the ANT connectors on the rear of the receiver. Position them vertically for optimal signal reception.
3. **Power:** Connect the DC 12V power adapter to the DC INPUT jack on the receiver and then plug it into a suitable power outlet.
4. **Audio Output:** Connect the receiver to your mixer, amplifier, or sound system using either the balanced

XLR output (SAIDA BALANCEADA) or the unbalanced P10 (1/4-inch) output (SAIDA P10). Use appropriate cables for your setup.

3.3 Microphone Battery Installation

1. Unscrew the lower part of the microphone handle to access the battery compartment.
2. Insert two AA 1.5V alkaline batteries (recommended) into the compartment, observing the correct polarity (+/-).
3. Screw the handle back on securely.



Figure 3.1: Close-up of the microphone display, showing battery indicator and channel information.

4. OPERATING

4.1 Powering On/Off

1. **Receiver:** Press the POWER button on the front panel of the receiver to turn it on. The display will illuminate.
2. **Microphone:** Press and hold the power button on the microphone handle until the display illuminates.

4.2 Frequency Synchronization

The UD7099 system uses infrared (IR) synchronization to pair the microphone with the receiver.

1. Ensure both the receiver and microphone are powered on.
2. On the receiver, use the channel selection buttons (usually UP/DOWN arrows) to select a desired channel. Alternatively, press the ACT button to initiate automatic frequency scanning to find a clear channel.
3. Once a channel is selected on the receiver, align the IR window on the microphone (usually near the display) with the IR sensor on the receiver (labeled IR).
4. Press the SYNC or IR button on the receiver (if available, otherwise the ACT button might initiate sync after scan). The microphone display will flash, indicating successful synchronization. The receiver's RF LEVEL indicator should show signal strength.

4.3 Volume Control

Adjust the VOLUME knob on the receiver's front panel to control the output level of the microphone. Fine-tune the volume on your connected mixer or amplifier.

4.4 Microphone Usage

The UD7099 microphone features a supercardioid polar pattern, which is highly directional. For best results, hold the microphone with the grille pointed directly at the sound source. This pattern helps to reject sounds from the sides and rear, reducing feedback and background noise.

5. MAINTENANCE

5.1 Cleaning

Wipe the receiver and microphone with a soft, dry cloth. Do not use abrasive cleaners, solvents, or harsh chemicals, as these can damage the finish and internal components. For the microphone grille, a soft brush can be used to remove debris.

5.2 Battery Replacement

Replace the microphone batteries when the low battery indicator appears on the microphone display or when audio quality degrades. Always use fresh AA 1.5V alkaline batteries for optimal performance. Remove batteries if the microphone will not be used for an extended period to prevent leakage.

5.3 Storage

Store the system in a cool, dry place, away from direct sunlight, extreme temperatures, and high humidity. Disconnect all cables and remove batteries from the microphone before long-term storage.

6. TROUBLESHOOTING

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
No sound from microphone	Microphone or receiver not powered on Microphone not synchronized Low or dead batteries in microphone Receiver volume too low Audio cable disconnected or faulty	Ensure both units are powered on Perform IR synchronization (Section 4.2) Replace batteries Increase receiver volume Check and reconnect audio cables
Interference or static noise	Other wireless devices on the same frequency Too far from receiver Obstructions between microphone and receiver	Use automatic frequency scanning to find a clear channel Reduce distance between microphone and receiver Ensure clear line of sight; avoid metal objects
Low audio output	Receiver volume too low Microphone batteries low Input level on mixer/amplifier too low	Increase receiver volume Replace microphone batteries Adjust input gain on external audio equipment
Microphone display not working	Dead batteries Microphone not powered on	Replace batteries Press and hold power button to turn on microphone

7. SPECIFICATIONS

7.1 Receiver Specifications

- **Operating Frequency:** UHF 620 to 698 MHz
- **Oscillator:** Crystal-synthesized
- **Stability:** 20 PPM
- **Sensitivity:** $\leq 5 \text{ dB } \mu\text{V}$ ($\text{S/N} \geq 20 \text{ dB}$)
- **Max. Frequency Deviation:** 50Hz
- **Signal-to-Noise Ratio:** $> 98 \text{ dB}$
- **Total Harmonic Distortion (T.H.D.):** $< 0.5\% @ 1\text{kHz}$
- **Image Rejection:** 80 dB typical
- **Spurious Rejection:** 80 dB typical
- **Frequency Response:** 50 Hz to 16 kHz
- **Power Supply:** DC, 0.3A, 12V DC
- **Output Impedance:** 600Ω
- **Connectivity Technology:** XLR (for balanced output)
- **Item Dimensions:** 38 x 33 x 8 centimeters
- **Item Weight:** 1.42 Kilograms

7.2 Microphone Specifications

- **Operating Frequency:** UHF 620 to 698 MHz
- **Spurious Emission:** $< 40\text{dB}$ (with carrier)

- **Power Supply:** AA 1.5V x 2 alkaline batteries (recommended)
- **Polar Pattern:** Supercardioid
- **Capsule:** Dynamic
- **Microphone Format:** Handheld
- **Power Source:** Battery Powered

7.3 General Information

- **Brand:** TSI
- **Model:** UD7099
- **Recommended Uses:** Karaoke
- **Compatible Devices:** Camera (Note: XLR output can be connected to cameras with appropriate adapters)
- **Connector Type:** Wireless

8. WARRANTY AND SUPPORT

This product is manufactured by TSI. For specific warranty details, please refer to the documentation included with your purchase or contact your retailer. Extended warranty options may be available for purchase, such as 12-month or 24-month coverage against failures and defects.

In case of issues not covered by the troubleshooting section, or for further assistance, please contact the authorized TSI service center or your point of purchase. Please retain your proof of purchase for warranty claims.

Return Policy: A return policy of 7 days for refund/replacement may apply, depending on the retailer's terms.