

Technical Pro WM301

Technical Pro WM301 Professional VHF Wireless Microphone System User Manual

Model: WM301

1. INTRODUCTION

The Technical Pro WM301 is a professional VHF wireless microphone system designed for various audio applications, including conference meetings, showroom presentations, DJ performances, live stage settings, and studio use. This system provides reliable wireless audio transmission, offering freedom of movement without the constraints of cables.

This manual provides detailed instructions for the proper setup, operation, and maintenance of your WM301 system to ensure optimal performance and longevity.

2. KEY FEATURES

- Professional VHF Wireless Microphone System with two handheld microphones and a receiver.
- Dual signal VHF high band for stable transmission.
- Microphones feature a Dynamic Cardioid polar pattern, designed to minimize ambient noise pickup.
- Digital sound processing for clear audio.
- Outputs include Mixed XLR (balanced) and 1/4" for versatile connectivity.
- Frequency stability of $\pm 0.005\%$ and a frequency response of 40Hz-20kHz.
- Signal-to-noise ratio of 93dB and total harmonic distortion less than 0.5%.
- Audio dynamic range of 90dB.
- Effective service area of up to 165 feet (approximately 50 meters).
- Handheld microphones with LCD display showing frequency and channel information.
- Receiver features individual volume controls for each channel.
- Rack-mountable design for professional installations.

3. PACKAGE CONTENTS

Verify that all items are present and in good condition upon unpacking:

- 1x WM301 Wireless Receiver Unit
- 2x Handheld Wireless Microphones

- Power Adapter for Receiver
- Audio Cable (e.g., 1/4" to 1/4" or XLR)
- Rack Mountable Hardware (if applicable)
- User Manual (this document)

4. SAFETY INFORMATION

Please read and follow these safety guidelines to prevent damage to the unit and ensure user safety:

- Do not expose the unit to rain or moisture.
- Do not open the casing; there are no user-serviceable parts inside. Refer all servicing to qualified personnel.
- Ensure proper ventilation around the receiver unit.
- Use only the provided power adapter.
- Keep microphones away from water and extreme temperatures.
- Dispose of batteries responsibly according to local regulations.

5. SETUP GUIDE

Follow these steps to set up your WM301 wireless microphone system:

5.1 Receiver Placement and Connections

1. **Placement:** Position the receiver unit on a stable, flat surface, or install it into a standard audio rack using the provided rack-mountable hardware. Ensure adequate space for ventilation.
2. **Antenna Connection:** Screw the two telescopic antennas firmly into the antenna jacks on the rear of the receiver. Extend them fully and position them vertically for optimal signal reception.
3. **Audio Output:** Connect the receiver's audio output to your mixer, amplifier, or sound system. You can use either the balanced XLR output or the 1/4" unbalanced output, depending on your equipment.
 - *XLR Output:* For professional balanced connections, offering better noise rejection over long cable runs.
 - *1/4" Output:* For standard unbalanced connections.
4. **Power Connection:** Connect the provided power adapter to the DC input on the receiver and then plug it into a suitable power outlet. Do not power on the unit yet.

5.2 Microphone Preparation

1. **Battery Installation:** Unscrew the bottom part of each handheld microphone to reveal the battery compartment. Insert the required batteries (typically AA, refer to microphone markings) ensuring correct polarity (+/-).
2. **Power On/Off:** Locate the power switch on each microphone. Ensure they are in the OFF position during initial setup.



Figure 1: Technical Pro WM301 Wireless Microphone System. The image displays the receiver unit with two extended antennas, and two handheld microphones resting on top. The receiver's front panel shows volume knobs, AF/RF indicators, and a digital display indicating "CHANNEL A 258.7 MHz" and "CHANNEL B 233.7 MHz". Each microphone also has a small LCD screen displaying channel and frequency information.

6. OPERATING INSTRUCTIONS

Once the system is set up, follow these steps for operation:

6.1 Powering On the System

1. **Receiver Power:** Turn on the power switch on the front panel of the WM301 receiver. The display should illuminate.
2. **Microphone Power:** Turn on the power switch on each handheld microphone. The microphone's LCD display should light up, indicating its channel and frequency.
3. **Volume Adjustment:** Start with the VOLUME A and VOLUME B knobs on the receiver set to a low level. Adjust the volume on your connected mixer or amplifier first, then fine-tune the individual microphone volumes on the receiver.

6.2 Channel Synchronization (if applicable)

The WM301 system typically comes pre-synchronized. If you need to change channels or re-sync, consult the specific instructions for your model, usually involving a scan or IR sync function. The LCD displays on both the receiver and microphones will show the active frequencies (e.g., 258.7 MHz, 233.7 MHz).

6.3 Using the Microphones

- Hold the microphone approximately 2-6 inches (5-15 cm) from your mouth for optimal sound pickup.

- The uni-directional (cardioid) polar pattern helps to focus on the sound source directly in front of the microphone, reducing background noise.
- Monitor the AF (Audio Frequency) and RF (Radio Frequency) indicators on the receiver. The RF indicator should be lit when the microphone is on and within range. The AF indicator will light up when audio is being received.
- Maintain line-of-sight between the microphones and the receiver whenever possible to ensure the best signal quality and range.

6.4 Powering Off the System

1. Turn off each handheld microphone first.
2. Turn off the power switch on the WM301 receiver.
3. Unplug the power adapter from the wall outlet if the system will not be used for an extended period.

7. MAINTENANCE

Proper maintenance ensures the longevity and performance of your WM301 system:

- **Cleaning:** Use a soft, dry cloth to clean the receiver and microphones. Do not use liquid cleaners or abrasive materials.
- **Battery Replacement:** Replace microphone batteries when the low battery indicator appears on the microphone's display or when audio quality degrades. Always replace both batteries in a microphone at the same time.
- **Storage:** When not in use, store the system in a cool, dry place, away from direct sunlight and extreme temperatures. Remove batteries from microphones if storing for extended periods to prevent leakage.
- **Antennas:** Handle antennas carefully to avoid bending or breaking.

8. TROUBLESHOOTING

Refer to this section for common issues and their solutions:

Problem	Possible Cause	Solution
No sound from microphone.	<ul style="list-style-type: none"> ◦ Microphone or receiver not powered on. ◦ Low or dead microphone batteries. ◦ Receiver volume too low. ◦ Audio cable disconnected or faulty. ◦ Microphone out of range. ◦ Incorrect channel synchronization. 	<ul style="list-style-type: none"> ◦ Ensure both microphone and receiver are powered on. ◦ Replace microphone batteries. ◦ Increase receiver volume and/or mixer/amplifier volume. ◦ Check and re-connect audio cables; try a different cable. ◦ Move microphone closer to the receiver. ◦ Verify microphone and receiver are on the same channel.
Interference or static.	<ul style="list-style-type: none"> ◦ Other wireless devices operating on similar frequencies. ◦ Obstructions between microphone and receiver. ◦ Antennas not properly positioned. 	<ul style="list-style-type: none"> ◦ Move away from other wireless devices (Wi-Fi routers, other wireless mics). ◦ Ensure clear line-of-sight. ◦ Adjust receiver antennas for optimal reception. ◦ If possible, try a different operating frequency (refer to advanced settings if available).

Problem	Possible Cause	Solution
Short operating range.	<ul style="list-style-type: none"> Obstructions or signal interference. Low microphone batteries. Antennas not fully extended or positioned. 	<ul style="list-style-type: none"> Ensure clear line-of-sight. Replace microphone batteries. Fully extend and properly position receiver antennas.

9. SPECIFICATIONS

Parameter	Value
Model	WM301
System Type	Professional VHF Wireless Microphone System
Microphone Type	Handheld Dynamic
Polar Pattern	Cardioid
Frequency Band	Dual VHF High Band
Frequency Stability	±0.005%
Modulation Mode	FM
Maximum Deviation Range	±25kHz with limiting compressor
Frequency Response	40Hz-20kHz
Signal to Noise Ratio (S/N)	93dB
Total Harmonic Distortion (THD)	<0.5%
Audio Dynamic Range	90dB
Service Area	165 ft (approx. 50 meters)
Receiver Outputs	Mixed XLR (balanced), 1/4"
Power Source (Microphones)	Battery Powered
Item Weight	2.38 pounds (system)
Package Dimensions	15.51 x 12 x 3.39 inches
Compatible Devices	Personal Computer (via audio interface), Mixers, Amplifiers
Connector Type	XLR Connector, 1/4" Jack

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or visit the

official Technical Pro website. Keep your proof of purchase for warranty claims.

For further assistance, you may contact Technical Pro customer service through their official channels. Details can typically be found on the manufacturer's website or on the product packaging.

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Related Documents - WM301

 <p>Technical Pro Hybrid Amplifier User Manual (H1502UrBT, H2502UrBT, H3502UrBT) Comprehensive user manual for the Technical Pro H1502UrBT, H2502UrBT, and H3502UrBT Professional Hybrid Amplifiers. This guide covers front panel controls, rear panel connections, remote operation, audio sources, speaker setup, Bluetooth connectivity, microphone usage, and safety precautions.</p>
 <p>Technical Pro POWER60 2U Professional 2CH Power Amplifier - Specifications & Overview Detailed overview and specifications for the Technical Pro POWER60 2U Professional 2CH Power Amplifier, featuring 6000 watts peak power, XLR/1/4"/RCA inputs, and robust construction.</p>
 <p>Technical Pro MM2000BT Professional Karaoke Amplifier User Manual User manual for the Technical Pro MM2000BT Professional Karaoke Amplifier with USB & SD Card & Bluetooth Inputs. This guide covers front panel and rear panel connections, operation, and troubleshooting.</p>
 <p>PORT12 VHF & PORT15 VHF Portable PA Systems User Manual Comprehensive user manual for PORT12 VHF and PORT15 VHF portable PA systems, covering safety instructions, features, operation, and technical specifications. Learn how to use and maintain your portable sound system safely.</p>
 <p>Phenyx Pro PTV-1 VHF Dual Wireless Microphone System Owner's Manual Owner's manual for the Phenyx Pro PTV-1 VHF Dual Wireless Microphone System, detailing system description, specifications, operating instructions, and troubleshooting.</p>
 <p>ICON DynaMic 7B Professional Broadcast Microphone User Manual Comprehensive user manual for the ICON DynaMic 7B professional broadcast microphone, detailing its features, setup, operation, specifications, and service information for optimal audio performance.</p>

