

## BovBox WL081

# BovBox WL081 Wireless HDMI Transmitter and Receiver Instruction Manual

Model: WL081 | Brand: BovBox

## 1. INTRODUCTION AND OVERVIEW

The BovBox WL081 Wireless HDMI Transmitter and Receiver kit provides a reliable solution for extending HDMI signals wirelessly up to 1312 feet (400 meters). This system supports 1080P Full HD resolution at 60Hz, features dual-band 2.4G/5G connectivity, and offers ultra-low latency of 0.05 seconds, making it suitable for various applications including home entertainment, business presentations, and video production. The kit also includes an HDMI loop-out port on the transmitter and supports IR remote control for source device management.

This manual provides detailed instructions for setting up, operating, and maintaining your BovBox WL081 Wireless HDMI system.



Figure 1: Typical setup of the BovBox WL081 Wireless HDMI Transmitter and Receiver.

## 2. PRODUCT FEATURES

- **Plug & Play Operation:** The transmitter and receiver are pre-paired from the factory, requiring no complex setup or software installation.
- **Extended Range:** Transmits HDMI signals wirelessly up to 1312 feet (400 meters) in line-of-sight conditions.
- **High-Definition Video:** Supports 1080p@60Hz Full HD resolution for crisp and clear picture quality.
- **Ultra-Low Latency:** Achieves a latency of less than 0.05 seconds, ideal for real-time applications like gaming and live streaming.
- **Dual-Band Connectivity:** Utilizes both 2.4G and 5G frequencies for stable and efficient transmission.
- **HDMI Loop-Out:** The transmitter unit includes an HDMI loop-out port, allowing a local display for monitoring the source content.
- **IR Remote Control:** Supports IR pass-through, enabling control of the source device from the receiver location.
- **Multi-Receiver Support:** One transmitter (TX) can connect to up to five receivers (RXs), allowing distribution to multiple displays. Note: Transmission distance may be shortened with increased receivers.
- **Wide Compatibility:** Compatible with most HDMI output devices such as laptops, PCs, cameras, DVDs, DSLRs, set-top boxes, and streaming devices (Netflix, YouTube, Hulu, Amazon Prime Video).



Figure 2: Detailed view of the transmitter and receiver ports and key features.

## 3. SETUP INSTRUCTIONS

Follow these steps to set up your BovBox WL081 Wireless HDMI system:

1. **Power On Units:** Connect the provided USB-C power cables to both the transmitter (TX) and receiver (RX) units. Ensure they are powered by a 5V/2A power source. The indicator light will turn on.
2. **Connect Transmitter to Source:** Connect one end of an HDMI cable to the HDMI output port of your source device (e.g., laptop, camera, game console). Connect the other end of this HDMI cable to the **HDMI IN** port on the BovBox TX unit.
3. **Connect Receiver to Display:** Connect one end of an HDMI cable to the **HDMI OUT1** port on the BovBox RX unit. Connect the other end of this HDMI cable to the HDMI input port of your display device (e.g., TV, projector, monitor).
4. **Verify Connection:** After connecting both units and ensuring they are powered on, wait a few seconds.

The 'LINK' indicator light on both the TX and RX units will flash, indicating successful pairing and signal transmission.

5. **Optional: HDMI Loop-Out:** If you wish to monitor the source content locally, connect an additional HDMI cable from the **LOOP OUT** port on the TX unit to a local display.
6. **Optional: IR Remote Control:** Connect the IR emitter cable to the IR port on the TX unit and position the emitter head near the IR sensor of your source device. Connect the IR receiver cable to the IR port on the RX unit and position the receiver head where your remote control will be used.

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*Video 1: This video demonstrates the step-by-step pairing process for the BovBox WL081 Wireless HDMI Transmitter and Receiver, including connecting power and HDMI cables to achieve a successful link.*



*Figure 3: Diagram showing a 1-to-5 multi-receiver setup and how transmission distance is affected.*

## 4. OPERATING INSTRUCTIONS

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Once the setup is complete and the TX and RX units are successfully linked (indicated by flashing 'LINK' lights), the system operates automatically. The video and audio signal from your source device will be transmitted wirelessly to the connected display(s).

- **Power On/Off:** Simply connect or disconnect the USB-C power cables to power the units on or off.
- **Source Selection:** Ensure your display device is set to the correct HDMI input where the receiver is connected.
- **IR Control:** If the IR cables are connected, point your source device's remote control towards the IR receiver connected to the RX unit. The signal will be relayed to the source device, allowing you to control it remotely.
- **Multi-Receiver Usage:** If using multiple receivers, ensure all receivers are powered on and within range of the transmitter. Each receiver will display the same content as the primary display connected to the transmitter's loop-out (if used).

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*Video 2: This video illustrates the plug-and-play functionality of the BovBox Wireless HDMI Transmitter, demonstrating that no app or Wi-Fi is needed for operation.*



Figure 4: Illustration of the IR Extend Function for remote control of source devices.

## 5. ADVANCED FEATURES

### 5.1 Multi-Receiver Support (1 TX to 5 RXs)

The BovBox WL081 system allows one transmitter to broadcast to up to five receivers simultaneously. This is ideal for distributing content to multiple screens in different locations. When adding new receivers, they must be paired with the transmitter initially. Note that increasing the number of receivers may slightly reduce the maximum wireless transmission distance.

*Video 3: This video demonstrates the capability of the Wireless HDMI extender to support up to 5 receivers from a single transmitter.*

### 5.2 HDMI Loop-Out

The transmitter unit is equipped with an HDMI loop-out port. This allows you to connect a local display directly to the transmitter, enabling you to view the source content simultaneously at the source location while it is also being transmitted wirelessly to the receiver(s).

**Support 1TX to 5RXs**

- 1 TX to 1RX Transmission Distance: 1312FT / 400M
- 1 TX to 2RX Transmission Distance: 820FT / 250M
- 1 TX to 3RX Transmission Distance: 590FT / 180M
- 1 TX to 4RX Transmission Distance: 492FT / 150M
- 1 TX to 5RX Transmission Distance: 328FT / 100M

**Noted** Add each new RX, the new RX need to be paired with TX at the first time.

Figure 5: HDMI Loop Out feature for local monitoring.

### 5.3 Application Scenarios

The versatility of the BovBox WL081 makes it suitable for a wide range of applications:

- **Home Entertainment:** Stream movies, TV shows, or games from your media player or console to any TV in your home without running long HDMI cables.
- **Business Presentations:** Project presentations wirelessly from a laptop to a projector or large screen in conference rooms.
- **Video Production:** Monitor camera feeds remotely on set with low latency.
- **Education:** Share content from a computer to multiple displays in classrooms or lecture halls.
- **Events & Live Broadcasting:** Ideal for weddings, church projections, outdoor photography, and live streaming events.



Figure 6: Wireless HDMI integration with an ATEM video switcher for professional use.

## 6. MAINTENANCE

To ensure optimal performance and longevity of your BovBox WL081 Wireless HDMI system, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the units. Avoid using liquid cleaners or aerosols, which may damage the components.
- **Storage:** When not in use for extended periods, store the units in a cool, dry place away from direct sunlight and extreme temperatures.
- **Cable Management:** Ensure all cables are connected securely and are not bent or kinked excessively to prevent damage.
- **Ventilation:** Do not block the ventilation holes on the units to prevent overheating.

## 7. TROUBLESHOOTING

If you encounter issues with your BovBox WL081 system, refer to the following troubleshooting tips:

Problem	Possible Cause	Solution
No signal on display	Units not powered on; Incorrect HDMI input selected; TX/RX not paired; Out of range; HDMI cable issues.	Ensure both TX and RX are powered (indicator lights on). Select correct HDMI input on display. Check if 'LINK' lights are flashing (re-pair if necessary). Reduce distance between TX and RX. Test HDMI cables.

Problem	Possible Cause	Solution
Poor video quality/intermittent signal	Interference; Obstructions; Weak signal; Distance too great.	Minimize obstructions (walls, furniture) between TX and RX. Reduce distance. Avoid placing units near other wireless devices (routers, microwaves). Ensure antennas are properly oriented.
IR remote not working	IR cables not connected correctly; IR emitter/receiver misaligned.	Ensure IR emitter is directly facing the source device's IR sensor. Ensure IR receiver is positioned to receive signals from your remote. Check cable connections.
Units overheating	Poor ventilation.	Ensure units are placed in a well-ventilated area. Do not cover the units.

## 8. SPECIFICATIONS

Feature	Detail
Model Name	WL081
Brand	BovBox
Connectivity Technology	HDMI
Connector Type	HDMI
Resolution	1080p@60Hz
Wireless Frequency	2.4G & 5G Dual Band
Transmission Range	Up to 1312ft (400m) line-of-sight
Latency	0.05s
Multi-Receiver Support	1 Transmitter to up to 5 Receivers
Special Features	HDMI Loop-Out, IR Remote Control, Plug & Play
Power Input	5V/2A (USB-C)
Product Dimensions	6 x 3 x 10 inches
Item Weight	1.3 pounds

## 9. WARRANTY AND SUPPORT

BovBox products are designed for reliability and performance. For warranty information, technical support, or service inquiries, please refer to the contact information provided with your product packaging or visit the official BovBox website. Please retain your proof of purchase for warranty claims.

