

J-Tech Digital JTECH-4K-EX-HDBaset

J-Tech Digital 4K HDBaseT HDMI Extender User Manual

Model: JTECH-4K-EX-HDBaset

1. INTRODUCTION

The J-Tech Digital 4K HDBaseT HDMI Extender is designed to transmit high-definition video and audio signals over long distances using a single Cat5e/6 Ethernet cable. This extender supports resolutions up to 4K@60Hz (4:2:0) and 1080P, offering reliable signal extension for various applications.

1.1 Package Contents

Please verify that all items listed below are included in your package:

- 1x Transmitter Unit
- 1x Receiver Unit
- 2x IR Tx Cables
- 2x IR Rx Cables
- 1x Power Adapter (DC 12V)
- 1x User Manual
- 2x Phoenix Connectors (for RS232)

Packing List



1x Transmitter



1x Receiver



2x IR Tx Cables



2x IR Rx Cables



1x Power Adapter



1x User Manual



2x Phoenix Connectors

Image: Contents of the J-Tech Digital 4K HDBaseT HDMI Extender package, including the transmitter, receiver, IR cables, power adapter, user manual, and Phoenix connectors.

2. KEY FEATURES

- **Extended Transmission Range:** Extends 1080P signals up to 230 feet (70 meters) and 4K@60Hz (4:2:0) signals up to 130 feet (40 meters) over a single Cat5e/6 UTP cable. Supports 1080P 3D.
- **Uncompressed HDBaseT Technology:** Ensures video is transmitted without compression, maintaining high quality.
- **4K Ultra HD Support:** Compatible with 60Hz@4K, 1080P, 1080P 3D, 1080I, 720P, 576P, 576I, 480P, 480I resolutions.
- **Wide Digital Audio Compatibility:** Supports LPCM, DTS HD, and Dolby TrueHD audio formats.
- **HDCP Compliance:** Fully compliant with HDCP 2.2 / 1.4, ensuring compatibility with copy-protected content.
- **Industrial Level Reliability:** Built with an embedded chipset and ESD protection, tested for robust performance in various demanding environments.

- **Dual IR (30-50 KHz) Bi-Directional Function:** Allows IR signal extension from source to receiver or from transmitter to receiver, enabling control of devices from either end.
- **RS232 Port:** Includes a Phoenix RS232 Port for firmware updates or transmission of RS232 control signals.
- **Power over Cable (PoC):** Only the transmitter unit requires a power adapter; the receiver unit receives power via the Ethernet cable, simplifying installation.



Image: The J-Tech Digital 4K HDBaseT HDMI Extender units, showing the transmitter and receiver modules.

4K HDBaseT Extender



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Image: Detailed dimensions of the J-Tech Digital 4K HDBaseT HDMI Extender transmitter unit.

3. SETUP AND INSTALLATION

Follow these steps to set up your J-Tech Digital 4K HDBaseT HDMI Extender:

- 1. Connect HDMI Source to Transmitter:** Use a high-quality HDMI cable to connect your HDMI source device (e.g., PC, game console, media player) to the HDMI IN port on the Transmitter unit.
- 2. Connect HDMI Display to Receiver:** Use a high-quality HDMI cable to connect your HDMI display device (e.g., TV, monitor, projector) to the HDMI OUT port on the Receiver unit.
- 3. Connect Transmitter and Receiver via Ethernet:** Connect the HDBaseT Out port on the Transmitter unit to the HDBaseT In port on the Receiver unit using a single Cat5e/6 UTP Ethernet cable. For optimal performance, a solid copper Ethernet cable is recommended.
- 4. Connect IR Cables (Optional):**
 - For controlling the source device from the display location: Connect an IR Tx cable to the IR Out port on the Receiver unit and place the IR emitter near the IR sensor of your source device.

- For controlling the display from the source location: Connect an IR Rx cable to the IR In port on the Transmitter unit and place the IR receiver in a location where it can receive signals from your remote control.

- 5. Connect Power:** Connect the included 12V DC power adapter to the Power port on the Transmitter unit. Since the system supports Power over Cable (PoC), the Receiver unit will draw power from the Transmitter via the Ethernet cable and does not require a separate power supply.
- 6. Power On Devices:** Power on your HDMI source device and display device. The extender units will automatically establish a connection.

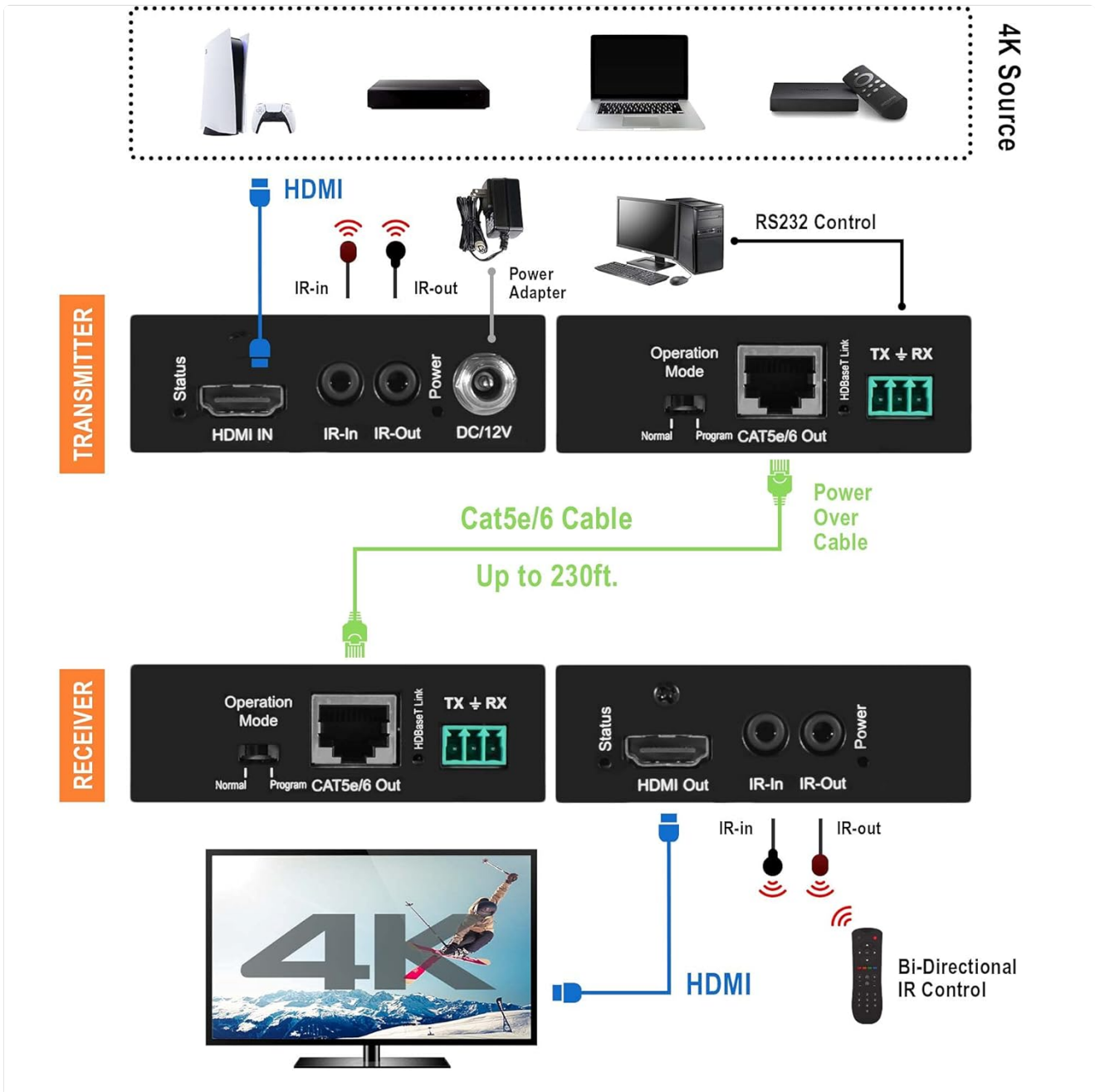
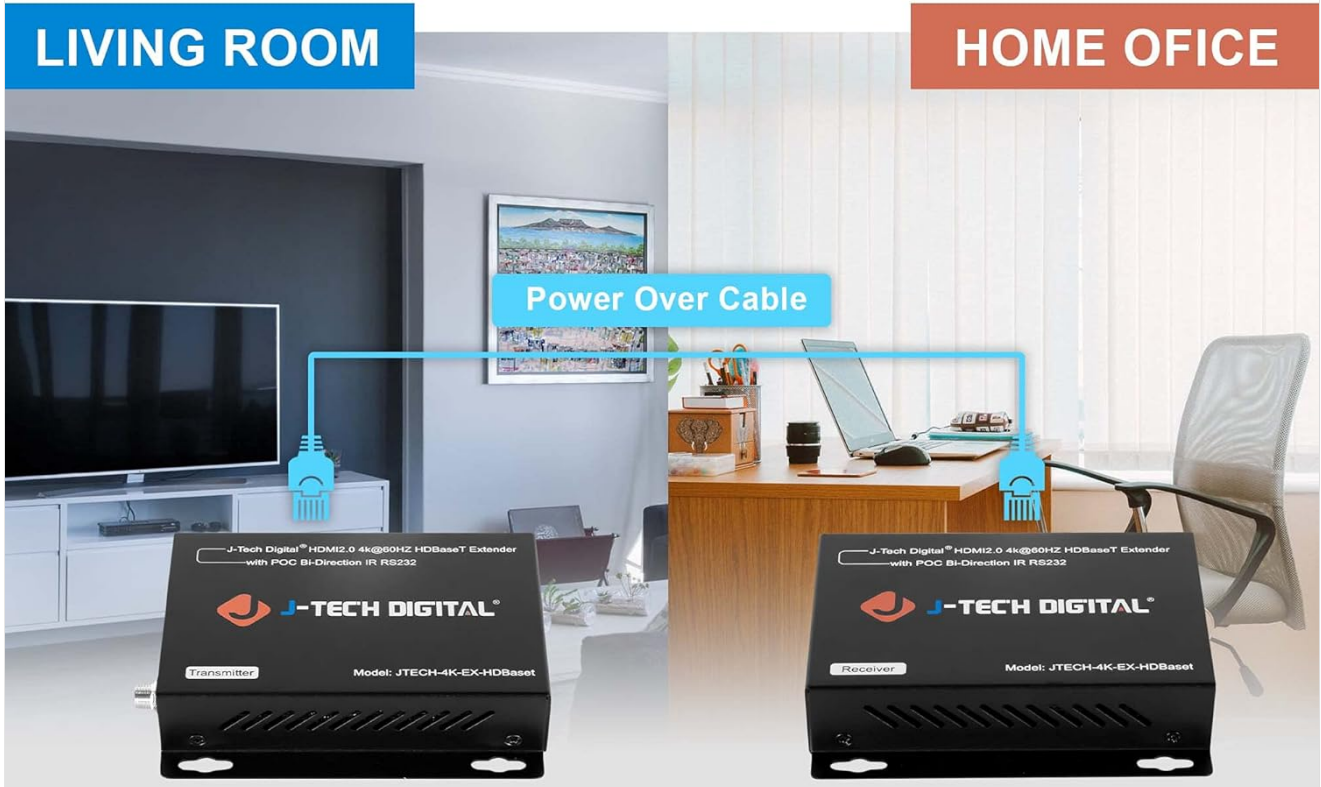


Image: A detailed diagram illustrating the connection setup for the J-Tech Digital 4K HDBaseT HDMI Extender, showing HDMI, Ethernet, IR, and power connections between source, transmitter, receiver, and display.

Transfer your HDMI signal to a different room via uncompressed HDBaseT technology.



Performance rating		Type of CAT 5/6 cable	
Material	Shielding	CAT5e	CAT6
Pure Copper	Unshielded(UTP)	★ ★ ★ ★	★ ★ ★ ★ ★
	Shielded(STP)	★ ★ ★	★ ★ ★ ★
Non - Copper	Unshielded(UTP)	★ ★	★ ★
	Shielded(STP)	★	★ ★
Termination		Please use EIA/TIA-568-B termination (T568B) at any time	

Image: An example setup showing the J-Tech Digital 4K HDBaseT HDMI Extender connecting a source in a home office to a display in a living room, highlighting the Power over Cable feature.

4. OPERATING INSTRUCTIONS

The J-Tech Digital 4K HDBaseT HDMI Extender is designed for simple plug-and-play operation. Once all connections are made and power is supplied, the system should automatically detect and transmit the HDMI signal.

4.1 Signal Transmission

The extender will automatically transmit the HDMI signal from the source connected to the Transmitter to the display connected to the Receiver. No additional configuration is typically required for standard video and audio transmission.

ULTRA HD RESOLUTION



LONG RANGE TRANSMISSION

Transmission distance reaches up to 230ft (70m) at 1080P and up to 130ft (40m) at 4K



Image: A visual representation of the J-Tech Digital 4K HDBaseT HDMI Extender supporting Ultra HD resolution, demonstrating clear image quality over distance.

4.2 IR Control

The bi-directional IR pass-through feature allows you to control your source device from the display location or your display device from the source location. Ensure the IR Tx and IR Rx cables are correctly positioned for effective signal transmission.

4.3 RS232 Control

The RS232 port can be used for advanced control or firmware updates. Consult the specific RS232 control protocols for your devices if you intend to use this feature.

Video: An official product video from J-Tech Digital, Inc. demonstrating the capabilities of the HDMI2.0 HDBaseT Extender, including its signal transmission and features.

5. MAINTENANCE

To ensure the longevity and optimal performance of your J-Tech Digital 4K HDBaseT HDMI Extender, please observe the following maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the units. Avoid using liquid or aerosol cleaners, as they may damage the device.
- **Ventilation:** Ensure adequate ventilation around the units. While designed for reliability, the units may become warm during operation. Do not block ventilation openings.
- **Cable Management:** Handle HDMI and Ethernet cables with care. Avoid sharp bends or excessive pulling, which can damage the cables and affect signal integrity.
- **Environmental Conditions:** Store and operate the device in a cool, dry environment, away from direct sunlight, heat sources, and excessive moisture.

6. TROUBLESHOOTING

If you encounter issues with your J-Tech Digital 4K HDBaseT HDMI Extender, please refer to the following common troubleshooting steps:

- **No Video/Audio Output:**
 - Verify that the power adapter is securely connected to the Transmitter unit and that the power indicator light is on.
 - Check all HDMI and Ethernet cable connections. Ensure they are firmly seated in their respective ports.
 - Confirm that the HDMI source device is powered on and outputting a signal.
 - Ensure the display device is set to the correct HDMI input.
 - Test with shorter, known-good HDMI cables directly connected to the source and display to rule out cable issues.
 - Reduce the resolution of the source device to see if a signal is established.
- **Intermittent Signal or Flickering:**
 - Ensure you are using a high-quality Cat5e/6 UTP Ethernet cable, preferably solid copper, and that it is properly terminated (EIA/TIA-568B).
 - Check the length of your Ethernet cable. Exceeding the maximum recommended distances (230ft for 1080P, 130ft for 4K) can cause signal degradation.
 - Verify that there are no strong electromagnetic interferences near the Ethernet cable run.
 - Ensure both the source and display devices are HDCP compliant.
- **IR Control Not Working:**
 - Ensure the IR Tx (emitter) and IR Rx (receiver) cables are correctly plugged into the corresponding ports on the Transmitter and Receiver units.
 - Verify that the IR emitter is directly aligned with the IR sensor of the device you wish to control.
 - Check for any obstructions between the remote control and the IR receiver.

7. SPECIFICATIONS

Feature	Description
Model Number	JTECH-4K-EX-HDBaset

HDMI Version	HDMI 1.4
HDCP Compliance	HDCP 2.2 / 1.4
Supported Resolutions	4K@60Hz (4:2:0), 1080P, 1080P 3D, 1080I, 720P, 576P, 576I, 480P, 480I
Transmission Distance (1080P)	Up to 230 feet (70 meters) over Cat5e/6
Transmission Distance (4K@60Hz)	Up to 130 feet (40 meters) over Cat5e/6
Audio Formats	LPCM, DTS HD, Dolby TrueHD
IR Frequency	30-50 KHz (Bi-Directional)
Control Ports	RS232 (Phoenix Connector)
Power Supply	DC 12V (Transmitter only, PoC to Receiver)
Product Dimensions	4.1 x 2.8 x 1 inches (approx.)
Manufacturer	J-Tech Digital
Country of Origin	China

8. WARRANTY AND SUPPORT

J-Tech Digital products are designed for reliability and performance. For specific warranty information, please refer to the documentation provided with your purchase or visit the official J-Tech Digital website.

For technical support, troubleshooting assistance, or any inquiries regarding your J-Tech Digital 4K HDBaseT HDMI Extender, please contact J-Tech Digital customer support. You can also refer to the official user manual PDF for more detailed information:

[Download Official User Manual \(PDF\)](#)