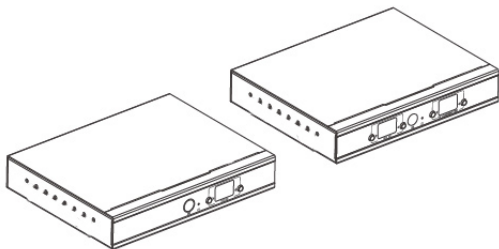




HDMI IP Extender 4K - 120m

User's Guide



Part Number:

HDExtIP4K (Kit)

HDExtIP4K-TX (Transmitter)

HDExtIP4K-RX (Receiver)

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Package Contents



Transmitter (TX) (1pc)



Receiver (RX) (1pc)



User's Manual (1pc)



IR Blaster Extension Cable (1pc)



IR Receiver Extension Cable (1pc)



Power Adapter (2pcs)



Remote control (1pc)



Wall mount brackets (4pcs)



Screws (8pcs)

Introduction

The HDMI IP Extender 4K extends high definition 4K HDMI signals up to 120m (394ft) over CAT6 cabling.

Features

- HDMI 2.0 and HDCP 2.2 compliant with 18Gbps bandwidth
- Supports IR remote control function to control the source device from long distances
- Offers scalable matrix configuration through IGMP IP networks, up to 256 total units combined (maximum of 100 transmitter units allowed), additional transmitter units (part # HDExtIP4K-TX) and receiver units (part# HDExtIP4K-RX) sold separately
- Supports up to 4K@60Hz resolution
- Allows computer software control, remote control, or push button control, to select/switch between HDMI source devices

Installation Requirements

1. HDMI source device (computer, DVD player, etc.)
2. HDMI display device (SDTV/Monitor, HDTV/Monitor, projector, etc.)
3. UTP/STP CAT5e/6 cable following IEEE-568B wiring standard

Product Layout



Figure 1: Transmitter (TX)

1. IR Window	Receives IR signals from the included remote control to set/select the channel
2. Power LED	On when Transmitter is powered on
3. TX ID	Displays the Transmitter's ID number
4. Power Jack	Connects to the included power adapter
5. Data LED	Blinks when data transmission is detected
6. RJ45 Output	Connects to the Receiver's RJ45 Input using a CAT5e/6 cable
7. Link LED	Lights up when RJ45 signal detected
8. IR Output	Connects to the IR Blaster cable
9. HDMI Input	Connects to the HDMI source device
10. Reset Button	Press the button to reset the Transmitter

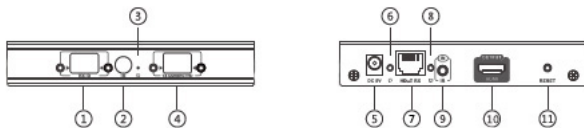


Figure 2: Receiver (RX)

1. RX ID	Displays the Receiver's ID number
2. IR Window	Receives IR signals from the included remote control to set/select the channel
3. Power LED	On when the Receiver is powered on
4. TX Connected	Displays Transmitter's ID number for device pairing
5. Power Jack	Connects to the included power adapter
6. Data LED	Blinks when data transmission is detected
7. RJ45 Input	Connects to the Transmitter's RJ45 Output using a CAT5e/6 cable
8. Link LED	Lights up when RJ45 signal detected
9. IR Input	Connects to the IR Receiver cable
10. HDMI Out	Connects to an HDMI display
11. Reset Button	Press the button to reset the Receiver

Hardware Installation

CAT Cable Wiring

We suggest both RJ-45 connectors be wired identically following T568B wiring standard for the best performance and compatibility.

Both connectors must be wired identically, to T568B standard.



Note: You may use cat5e, cat6 UTP (cat6 preferred) in conjunction with the RJ45 output; however for best performance use cat6a or cat7 (particularly in electrically noisy environments). The maximum distances & transmission performance for HDMI over RJ45 may be compromised by cable quality, patch panels, poor termination, wall plates, cable kinks and electrical interferences. Generally ensure the cat cable is solid copper core of 23AWG (avoid CCA type), in one straight run (avoid/minimise patches) and avoid close proximity to any noisy electrical sources.

One to One Configuration

1. Power off all devices including your HDMI source and HDMI display(s).
2. Connect your HDMI source device to the Transmitter's HDMI Input connector with an HDMI cable (HDMI cable not included).

3. Optional: Connect the IR Blaster Cable to the Transmitter's IR Output port. Face the eye towards your HDMI source device's IR window. This connection is needed only if you need to control your HDMI source from the remote location.
4. Plug your CAT5e/6 cable between the Transmitter's RJ45 Output and Receiver's RJ45 Input.
5. Connect your HDMI display to the Receiver's HDMI output connector with a HDMI cable (HDMI cable not included).
6. Optional: Connect the IR Receiver Cable to the Receiver's IR Input port. This connection is needed only if you need to control your HDMI source device from the remote location.
7. Plug the included power adapters into the Transmitter's and Receiver's power jacks, then plug both power adapters into a reliable power source.
8. Power on all connected devices.
9. The HDMI extender is ready for use.

Network Configuration

Dedicated IGMP Gigabit Ethernet switches are recommended for the best performance and reliability.

When connecting to an existing LAN environment, it's recommended to configure a VLAN dedicated to these transmitter(s) and receiver(s) to avoid traffic collision with other networking devices.

The Transmitter's and Receiver's default IP address is 192.168.1.238 and 192.168.1.239 respectively. If your existing network is DHCP enabled, the transmitter(s) and receiver(s) will be assigned with IP addresses automatically when connected and turned on. Press the reset button on each transmitter and receiver if an IP address is not assigned automatically.

1. Power off all devices.
2. Connect your HDMI source device to the Transmitter's HDMI Input connector with an HDMI cable (HDMI cable not included).

3. Optional: Connect a HDMI display to the Transmitter's HDMI out connector with an HDMI cable (HDMI cable not included) for local monitoring of the HDMI signal.
4. Optional: Connect the IR Blaster Extension Cable to the Transmitter's IR output port. Face the eye towards your HDMI source device's IR window. This connection is needed only if you need to control your HDMI source from the remote location.
5. Optional: Connect a HDMI display to the Transmitter's HDMI out connector with an HDMI cable (HDMI cable not included) for local monitoring of the HDMI signal.
6. Optional: Connect the IR Blaster Cable to the Transmitter's IR Output port. Face the eye towards your HDMI source device's IR window. This connection is needed only if you need to control your HDMI source from the remote location.
7. Plug your CAT5e/6 cable between the Transmitter's RJ45 Output and a switch or router on your IP network.

8. Connect your HDMI display to the Receiver's HDMI output connector with a HDMI cable (HDMI cable not included).
9. Optional: Connect the IR Receiver Cable to the Receiver's IR Input port. This connection is needed only if you need to control your HDMI source device from the remote location.
10. Plug your CAT5e/6 cable between the Receiver's RJ45 Input and a switch or router on your IP network.
11. Plug the included power adapters into the Transmitter's and Receiver's power jacks, then plug both power adapters into a reliable power source.
12. Power on all connected devices.
13. The HDMI extender is ready for use.

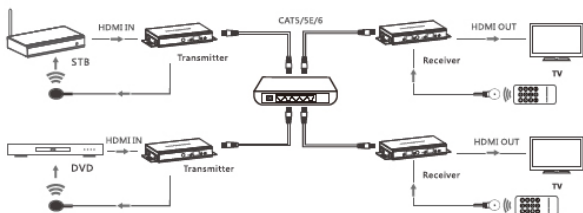
Connection Diagram

One to One Configuration



Network Configuration

Maximum 256 combined units, limited to 100 transmitter units.



Resetting to Default IP Address

The Transmitter's default IP address is 192.168.1.238, the Receiver's default IP address is 192.168.1.239. If you need to reset the units to the default IP address simply disconnect the TX or RX unit from the IP network, then quickly press the Reset button. Wait several seconds and power off and on the units.

IR User Guide

IR Extension Cables

The IR Blaster cable should be plugged into the IR Out port of the Transmitter and the IR Receiver cable should be plugged into the IR In port of the Receiver. The emitter of the IR Blaster cable should be placed as close to the IR receiver window of the source device.

Remote Control

Use the included remote control to set/select the TX ID on the Transmitter and the TX connected ID on the Receiver for device pairing.

Device ID Control User Guide

Push Button Control

Press the left or right button control to change the Device ID and Connection ID to the desired number. To connect to the desired HDMI source device, set the Receiver's TX Connected ID to match the Transmitter's TX ID for successful device pairing.

Computer Control User Guide

The **HDbitt E-Matrix Control Center** application is compatible with Windows only. Download it from www.hdbitt.com/download-matrix.

1. Connect your Windows computer to the Ethernet network.

2. For non-DHCP networks:

Change your computer's IP address to 192.168.1.xxx (xxx can be 0 to 255, excluding 238 & 239), the same subnet as your TX and RX unit.

For DHCP enabled networks:

Enable DHCP on your computer and connect it to the network. (Note: If DHCP is enabled simply plug into your network)

3. Open the application downloaded earlier, the interface is displayed, see Figure 1.

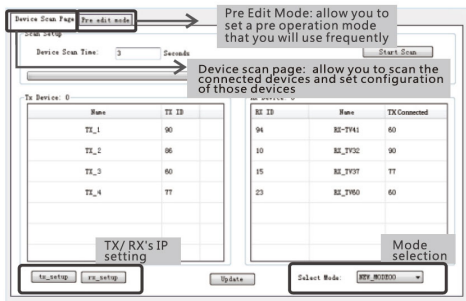


Figure 1

Note: If the Matrix Control Center application is not working properly. Close and restart it to clear the previous settings.

IP Setting

The Transmitter's default IP address is 192.168.1.238, the Receiver's default IP address is 192.168.1.239. There is no need to change the IP address even when multiple transmitters and/or receivers are connected to your IP network simultaneously. However, if a change is needed follow the steps below. **Note:** The examples show TX unit settings, the steps for RX unit are the same.

1. Click Tx_setup, see Figure 2.

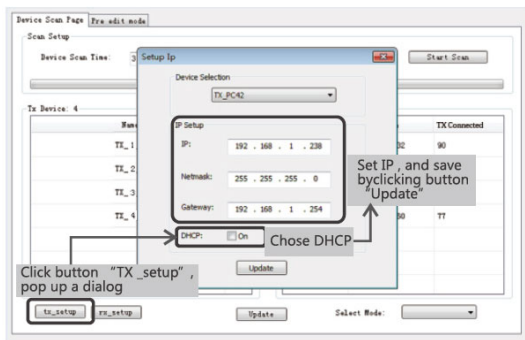


Figure 2

2. Enter the desired IP address, click Update to save the changes.

Device Name

Use this section to change the device name.

1. Click Start Scan to open the editing window, see Figure 3.

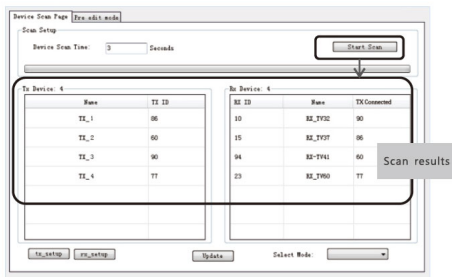


Figure 3

2. Double click on a TX unit to update, then click OK to save the changes, see Figure 4.

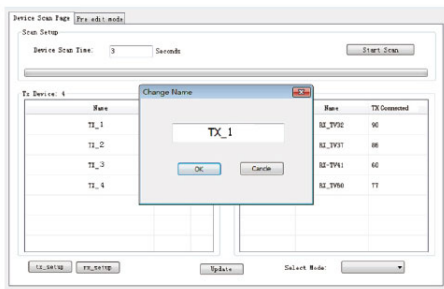


Figure 4

Device ID

1. Click on TX ID of the device you want to change, select an available ID from the drop down box, see Figure 5.
2. Click Update to save the changes.

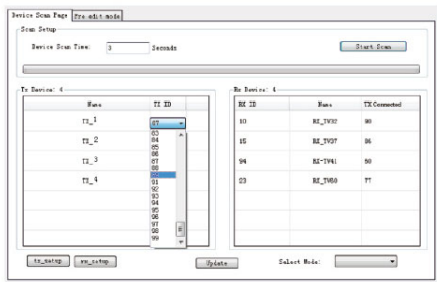
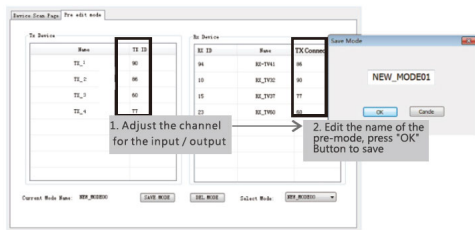


Figure 5

Operating Modes

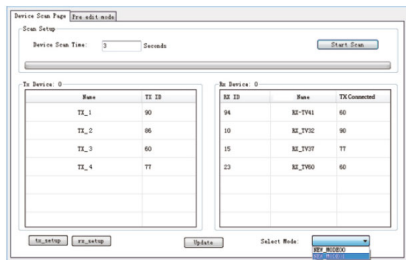
An operating mode is a group of input and output devices allowing easy selection of desired viewing outcome quickly and stress free.

1. Click on Pre edit mode tab.
2. Select the input and output IDs.
3. Enter a name for the operating mode, then press OK to save.



Operating Mode Selection

1. Click on Select Mode.
2. Choose the desired operating mode.



Wireless Control APP

Requires connecting a Wireless Router/Access point to the dedicated LAN.

1. Download the "MatrixControl Lite" wireless APP for Android or Apple from www.hdbitt.com/download-matrix.
2. Connect your DHCP enabled Wireless Router/Access point to your dedicated LAN.
3. Log into your Wireless Router/Access point.
4. Open the Matrix Control Lite App.
5. Press Scan to display the TX and RX units. It may take a few moments for the screen to refresh.

Device Scan Time:

Tx Device:

Name	TX ID

scan

Rx Device:

RX ID	Name	TX Connected

Note: If the TX and RX units are not detected after pressing Scan several times, press the Reset button on all TX and RX units and press Scan again.

FAQ & Solutions

If the extender is not working properly, please press the reset button on both the transmitter and receiver. Doing this will usually solve any problems.

Q1: The TV displays "Waiting for connection":

A1: 1) Please check the power supply of both transmitter and receiver is connected and powered on.

2) Please check the Receiver's TX Connected ID matches the Transmitter's TX ID.

3) Please make sure all of the Transmitter's TX IDs are different.

Q2: TV displays "Please check the transmitter input signal":

A2: 1) Check HDMI source signal input. Connect the HDMI source directly to the display to verify the signal output.

2) Check the HDMI cable connection or use a different HDMI cable.

Q3: The remote display is not stable:

A3: 1) Please make sure the switch/router and LAN are IGMP compliant and functioning.

Specifications

Item	Specifications
Compliance	HDMI 2.0 & HDCP 2.2
Matrix Configuration	256 units combined, limited to 100 Transmitters (TX)
Network Bandwidth	18Gbps
Protocol	HDBiT
Compression	H.264
Latency	<200ms
Resolution	1080p@60Hz / 4K@60Hz
Audio Support	PCM
TMDS Signal	0.7 - 1.2Vp-p
DDC Signal	5Vp-p(TTL)
HDMI Cable Length	5 meters Input & Output (max)
Transmission Distance	120 meters
IR Frequency Range	20KHz-60KHz
Operating Temperature	32° - 122° F (0° - 50° C)
Power Adapter	Output: 5VDC/3A
Power Consumption	TX: 7W / RX: <10W
Product Dimensions	5.5" (L) x 3.3" (W) x 0.94" (H)
Weight	TX: 0.57 lbs / RX: 0.55 lbs
Color	Black

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