

18Gbps HDMI over HDBaseT Extender with Bi-directional IR (150M)



User Manual



Thank you for purchasing this product

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please retain this manual for future reference.

Surge protection device recommended

This JTD-614 contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Table of Contents

1. Introduction.....	1
2. Features.....	1
3. Package Contents.....	2
4. Specifications.....	2
5. Operation Controls and Functions.....	4
5.1 Transmitter Panel.....	4
5.2 Receiver Panel.....	5
5.3 IR Pin Definition.....	6
6. Application Example.....	8

1. Introduction

This 18Gbps HDMI Extender transmitter receiver set lets you "extend" the distance between your HDMI source and display devices by up to 492ft./ 150m via a single Cat 5e/6 Ethernet cable. Integrated HDBaseT technology maintains signal stability and quality, reducing signal loss and latency.

HDMI 2.2 and HDCP 1.4 compliant, this HDMI extender set supports a wide range of video resolutions (up to 4Kx2K@50/60Hz 4:4:4) and HD audio formats (including LPCM 2.0, Dolby Digital, Dolby TrueHD, Dolby Digital Plus, and DTS). RS-232 port and bi-directional IR controls let you easily operate your connected devices. A HDMI out port on the transmitter lets you add a second, local, HDMI display to the mix.

Easy to set up, and useful for a wide range of home, office, school, and retail applications - perfect for any situation where you need to send a HDMI signal from a HDMI source to a HDMI display that's located outside the transmission range of HDMI cables.

2. Features

- ☆ HDCP 2.2 / HDCP 1.4 and DVI 1.0 compliant
- ☆ Supports 18Gbps video bandwidth
- ☆ The maximum extended transmission distance via a single Cat5e/6 cable:
 - 394 feet / 120 meters for 4K2K signal;
 - 492 feet / 150 meters for 1080P signal
- ☆ Supports one HDMI loop output on the transmitter
- ☆ Sends de-embedded audio signal to analog stereo output on receiver
- ☆ With bi-directional IR, RS-232 and CEC pass-through
- ☆ HDR, HDR10+, Dolby Vision and HLG functions supported
- ☆ Supports PoC (Power over Cable) function
- ☆ Compact design for easy set-up and installation

3. Package Contents

Qty	Item
1	18Gbps HDMI over HDBaseT Extender (Transmitter)
1	18Gbps HDMI over HDBaseT Extender (Receiver)
1	IR Blaster cable (1.5 meters)
1	20~60KHz IR Receiver cable (1.5 meters)
4	Mounting Ears
2	3-pin Phoenix connectors
1	24V/1A Locking Power adapter
1	User Manual

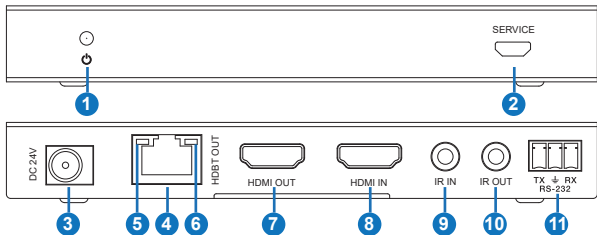
4. Specifications

Technical	
HDCP Compliance	HDCP 2.2 / HDCP 1.4
Video Bandwidth	18Gbps
Video Resolution	4K2K 50/60Hz 4:4:4 4K2K 50/60Hz 4:2:2 4K2K 50/60Hz 4:2:0 4K2K 30Hz 4:4:4 1080p, 1080i, 720p, 720i, 480p, 480i All HDMI 3D TV formats All PC resolutions including 1920 x 1200
Color Space	RGB / YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
Color Depth	8/10/12-bit (1080P60Hz, 4K30Hz, 4K60Hz YCbCr 4:2:2/4:2:0) 8-bit (4K60Hz 4:4:4)
HDMI Audio Formats	LPCM 2.0/2.1/5.1/6.1/7.1, Dolby Digital, Dolby TrueHD, Dolby Digital Plus(DD+), DTS-ES, DTS HD Master, DTS HD-HRA, DTS-X
L/R Audio Formats	PCM 2.0
ESD Protection	Human body model — ±8kV (Air-gap discharge) & ±4kV (Contact discharge)

Connection			
Transmitter	Input: 1x HDMI Type A [19-pin female] Outputs: 1x HDMI Type A [19-pin female] 1x HDBT OUT [RJ45, 8-pin female] Controls: 1x IR IN [3.5mm Stereo Mini-jack] 1x IR OUT [3.5mm Stereo Mini-jack] 1x RS-232 [Phoenix jack] 1x SERVICE [Mini-USB, Update port]		
Receiver	Input: 1x HDBT IN [RJ45, 8-pin female] Outputs: 1x HDMI Type A [19-pin female] 1x AUDIO OUT [3.5mm Stereo Mini-jack] Controls: 1x IR IN [3.5mm Stereo Mini-jack] 1x IR OUT [3.5mm Stereo Mini-jack] 1x RS-232 [Phoenix jack] 1x SERVICE [Mini-USB, Update port]		
Mechanical			
Housing	Metal Enclosure		
Color	Black		
Dimensions	Transmitter / Receiver: 140mm [W] x 65mm [D] x 18mm [H]		
Weight	Transmitter: 160g, Receiver: 155g		
Power Supply	Input: AC 100 - 240V 50/60Hz Output: DC 24V/1A (Locking connector)		
Power Consumption	9.36 W		
Operating Temperature	32 - 104°F / 0 - 40°C		
Storage Temperature	-4 - 140°F / -20 - 60°C		
Relative Humidity	20 - 90% RH (no condensation)		
Resolution / Distance			
4K2K	394ft / 120M		
1080P	492ft / 150M		
Resolution / Cable Length	4K60 - Feet / Meters	4K30 - Feet / Meters	1080P60 - Feet / Meters
HDMI IN / OUT	16ft / 5M	32ft / 10M	50ft / 15M
The use of "Premium High Speed HDMI" cable is highly recommended.			

5. Operation Controls and Functions

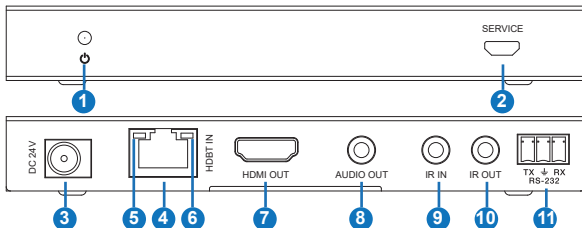
5.1 Transmitter Panel



No.	Name	Function Description
1	Power LED	Red LED indicates that the transmitter is powered on.
2	SERVICE port	Firmware update port.
3	DC 24V	DC 24V/1A power supply input port. <i>Note that the extender supports PoC function, it means that either transmitter or receiver is powered on by 24V/1A power adapter, the other one doesn't need power supply.</i>
4	HDBT OUT	RJ45 connector for connecting the HDBT IN port of receiver with a CAT 5e/6 cable.
5	Connection Signal Indicator lamp	<ul style="list-style-type: none">▪ Illuminating: Transmitter and Receiver are in good connection status.▪ Flashing: Transmitter and Receiver are in poor connection status.▪ Dark: Transmitter and Receiver are not connected.
6	Data Signal Indicator lamp	<ul style="list-style-type: none">▪ Illuminating: HDMI signal with HDCP.▪ Flashing: HDMI signal without HDCP.▪ Dark: No HDMI signal.
7	HDMI OUT	HDMI loop output for display.
8	HDMI IN	HDMI source input.
9	IR IN	IR input port for receiving the signal of IR remote.
10	IR OUT	IR output port for control of source device. This IR output signal is from the IR IN port of receiver.

11	RS-232	3-pin Phoenix connector for RS-232 command transmission. The RS-232 command will pass-through from transmitter to receiver or from receiver to transmitter.
----	--------	---

5.2 Receiver Panel



No.	Name	Function Description
1	Power LED	Red LED indicates that the receiver is powered on.
2	SERVICE port	Firmware update port.
3	DC 24V	DC 24V/1A power supply input port. <i>Note that the extender supports PoC function, it means that either transmitter or receiver is powered on by 24V/1A power adapter, the other one doesn't need power supply.</i>
4	HDBT IN	RJ45 connector for connecting the HDBT OUT port of transmitter with a CAT 5e/6 cable.
5	Connection Signal Indicator lamp	<ul style="list-style-type: none"> ▪ Illuminating: Transmitter and Receiver are in good connection status. ▪ Flashing: Transmitter and Receiver are in poor connection status. ▪ Dark: Transmitter and Receiver are not connected.
6	Data Signal Indicator	<ul style="list-style-type: none"> ▪ Illuminating: HDMI signal with HDCP. ▪ Flashing: HDMI signal without HDCP. ▪ Dark: No HDMI signal.
7	HDMI OUT	HDMI output for display.
8	AUDIO OUT	3.5mm stereo connector for analog audio output.

9	IR IN	IR input port for receiving the signal of IR remote.
10	IR OUT	IR output port for control of display device. This IR output signal is from the IR IN port of transmitter.
11	RS-232	3-pin Phoenix connector for RS-232 command transmission. The RS-232 command will pass-through from transmitter to receiver or from receiver to transmitter.

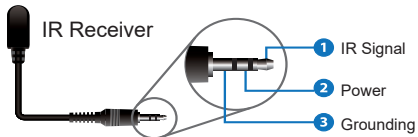
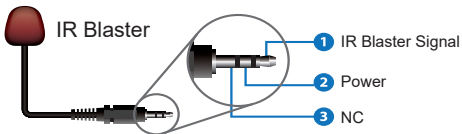
5.3 IR Pin Diagrams



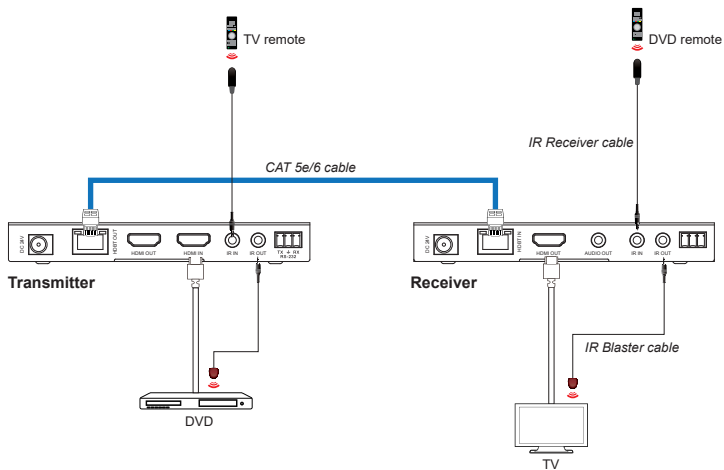
IR RECEIVER



IR BLASTER



Bi-directional IR control system diagram:



Note: When the angle between the IR receiver and the remote control is $\pm 45^\circ$, the transmission distance is 0-5 meters; when the angle between the IR receiver and the remote control is $\pm 90^\circ$, the transmission distance is 0-8 meters.

6. Transmitter/Receiver Connection and Set Up Diagram:

