



## **VLEX-HT2150-TR**

18Gbps HDBaseT Extender 150m



**User Manual**

**VER 1.0**

# Thank you for purchasing this product

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

## A surge protection device is recommended.

This product contains sensitive electrical components that electrical spikes may damage, surges, electric shocks, lightning strikes, etc. The use of surge protection systems is highly recommended to protect and extend the life of your equipment.

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## 1. Introduction

This 18Gbps HDMI Extender can extend high-definition video/audio signal, RS-232, and bi-directional IR. The distance is up to 492ft / 150 meters between the transmitter and receiver via a single CAT cable. It supports resolutions up to 4K2K@60Hz 4:4:4, 18Gbps, and HDCP 2.2. One HDMI loop port is available for output. The extender also supports de-embedded audio for L/R audio output. In addition, the extender is equipped with a two-way IR pass-through, which allows for source and display control.

This HDMI extender includes two units: a transmitter unit and a receiver unit. The transmitter unit is responsible for capturing the HDMI input signal and carrying the sign via one cost-effective Cat5e/6 cable and transmitting/emitting IR control signals. The receiver unit is responsible for receiving the HDMI signal and transmitting/emitting the IR control signal.

The extender offers the most convenient solution for HDMI extension via a single Cat5e/6 with long-distance capability and is the perfect solution for any application.

## 2. Features

- ☆ HDCP 2.2 / HDCP 1.4 and DVI 1.0 compliant
- ☆ Support 18Gbps video bandwidth
- ☆ The maximum extended transmission distance via a single Cat5e/6 cable:  
394ft / 120 meters for 4K2K signal  
492ft / 150 meters for 1080P signal
- ☆ Support one HDMI loop output on the transmitter
- ☆ Extract audio to analog stereo output on the 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 and flexible 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 Ear
2	3-pin Phoenix connector
1	24V/1A Locking Power adapter
1	User Manual

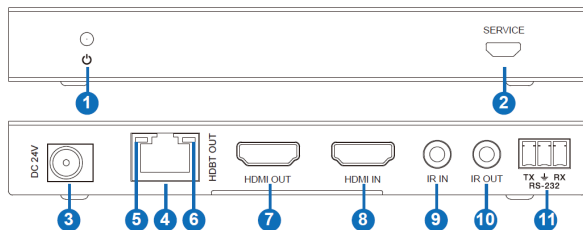
### 4. Specifications

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)

<b>Connection</b>			
Transmitter	Inputs: 1x HDMI Type A [19-pin female] Outputs: 1x HDMI Type A [19-pin female] 1x HDBT OUT [RJ45, 8-pin female] Control: 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	Inputs: 1x HDBT IN [RJ45, 8-pin female] Outputs: 1x HDMI Type A [19-pin female] 1x AUDIO OUT [3.5mm Stereo Mini-jack] Control: 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]		
<b>Mechanical</b>			
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)		
<b>Resolution / Distance</b>			
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 a "Premium High-Speed HDMI" cable is highly recommended.			

## 5. Operation Controls and Functions

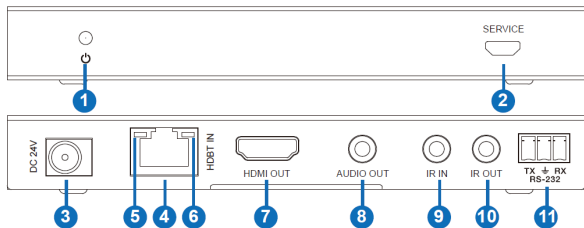
### 5.1 Transmitter Panel



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 the PoC function, which means that a 24V/1A power adapter powers on either transmitter or receiver, and the other doesn't need a 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"><li>▪ Illuminating: Transmitter and Receiver are in good connection status.</li><li>▪ Flashing: Transmitter and Receiver are in poor connection status.</li><li>▪ Dark: The transmitter and Receiver are not connected.</li></ul>
6	Data Signal Indicator lamp	<ul style="list-style-type: none"><li>▪ Illuminating: HDMI signal with HDCP.</li><li>▪ Flashing: HDMI signal without HDCP.</li><li>▪ Dark: No HDMI signal.</li></ul>
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 the IR remote.
10	IR OUT	IR output port for control of source device. This IR output signal is from the IR IN port of the 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.
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## 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 the PoC function, which means that a 24V/1A power adapter powers on either transmitter or receiver, and the other doesn't need a 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"> <li>▪ Illuminating: Transmitter and Receiver are in good connection status.</li> <li>▪ Flashing: Transmitter and Receiver are in poor connection status.</li> <li>▪ Dark: The transmitter and Receiver are not connected.</li> </ul>
6	Data Signal Indicator	<ul style="list-style-type: none"> <li>▪ Illuminating: HDMI signal with HDCP.</li> <li>▪ Flashing: HDMI signal without HDCP.</li> <li>▪ Dark: No HDMI signal.</li> </ul>
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 the IR remote.
10	IR OUT	IR output port for control of display device. This IR output signal is from the IR IN port of the 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 Definition

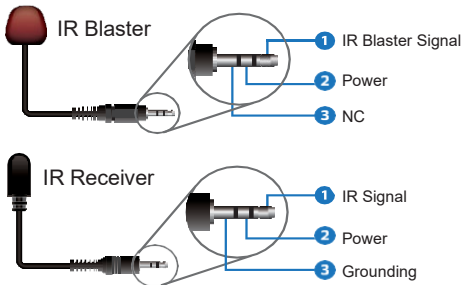
IR Receiver and Blaster pin's definition is as below:



IR RECEIVER

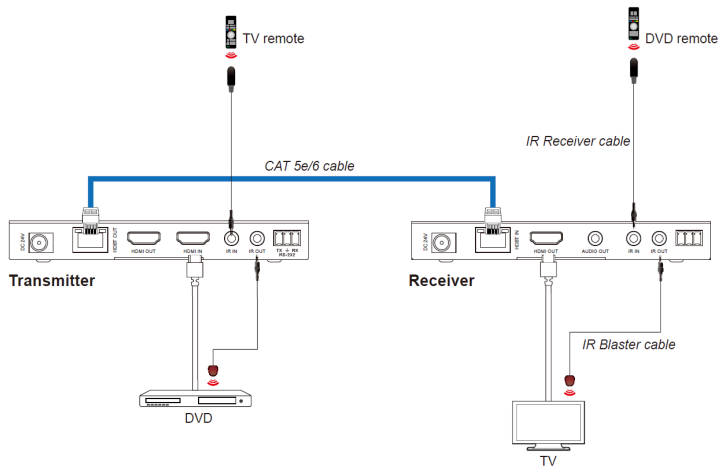


IR BLASTER





The following is an IR system diagram about the IR cable use method.



*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. Application Example

