



## **VLEX-HT2150U-TR**

18Gbps HDBaseT Extender with USB 2.0 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 HDBaseT Extender can extend the HDMI signal, bi-directional IR control signal, and USB KVM signal to a distance up to 150m via a single CAT6 cable. This product converts HDMI signal to standard HDBaseT signal and transmits it through a LAN cable. It can easily control the signal source device or display device from the remote end through a bi-directional IR signal pass-through function. Video resolution up to 4K2K@60Hz YUV 4:4:4. It also supports USB 2.0 transmission and POC function.

The extender can be widely used in other fields such as video conference systems, multimedia signal broadcasting, HDMI signal extension, etc.

## 2. Features

- ☆ HDMI 2.0b and HDCP 2.2 compliant
- ☆ Support 18Gbps video bandwidth
- ☆ Support video resolution up to 4K2K@60Hz YUV 4:4:4
- ☆ The transmission distance can be extended up to 492ft / 150m at the resolution of 1080P@60Hz, or 394ft / 120m at 4K2K@60Hz 4:4:4 via a single CAT6 cable
- ☆ Support bi-directional IR signal and USB KVM signal pass-through
- ☆ Support bi-directional POC (Power over Cable) function
- ☆ Support USB 2.0 transmission
- ☆ EDID management
- ☆ Compact design for easy and flexible installation

### 3. Package Contents

- ① 1 x 18Gbps HDBaseT Extender (Transmitter)
- ② 1 x 18Gbps HDBaseT Extender (Receiver)
- ③ 1 x IR Blaster cable (1.5 meters)
- ④ 1 x IR Wideband Receiver cable (1.5 meters)
- ⑤ 4 x Mounting Ears
- ⑥ 8 x Machine Screws (KM3\*4)
- ⑦ 1 x 24V/1A Locking Power Supply
- ⑧ 1x User Manual

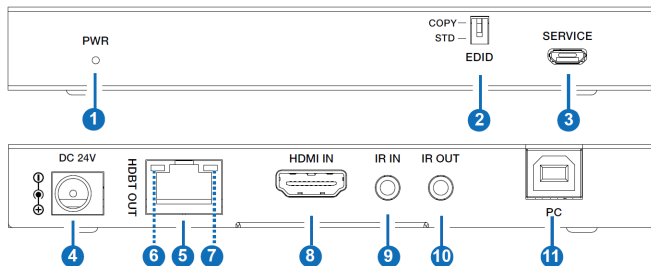
### 4. Specifications

Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18Gbps
Video Resolution	Up to 4K2K@60Hz YUV 4:4:4
USB Compliance	USB 2.0
IR Level	5Vp-p
IR Frequency	Wideband 20K-60KHz
Transmission Distance	1080P@60--150m, 4K60 --120m
Color Space	RGB 4:4:4, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
Color Depth	8-bit, 10-bit, 12-bit (1080P) 8-bit (4K60) 8-bit, 10-bit, 12-bit (4K24/30)
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG
Audio Format	LPCM 7.1CH, Dolby True HD, and DTS-HD Master
ESD Protection	Human body model — $\pm 8\text{kV}$ (Air-gap discharge) & $\pm 4\text{kV}$ (Contact discharge)

Connection	
Transmitter	Input: 1×HDMI IN [Type A, 19-pin female] 1×IR IN [3.5mm Stereo Mini-jack] 1×SERVICE [Micro-USB jack] 1×USB [USB-B, 4-pin female] Output: 1×HDBT OUT [RJ45] 1×IR OUT [3.5mm Stereo Mini jack]
Receiver	Input: 1×HDBT IN [RJ45 with light] 1×IR IN [3.5mm Stereo Mini jack] 1×SERVICE [Micro-USB jack] Output: 1×HDMI OUT [Type A, 19-pin female] 1×IR OUT [3.5mm Stereo Mini-jack] 2×USB 2.0 [USB-A, 4-pin female]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter / Receiver: 140mm (W)×65mm (D)×18mm (H)
Weight	Transmitter: 245g, Receiver: 249g
Power Supply	DC 24V/1A; Support bi-directional POC function
Power Consumption	13.2W (Max.)
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Relative Humidity	20~90% RH (non-condensing)

## 5. Operation Controls and Functions

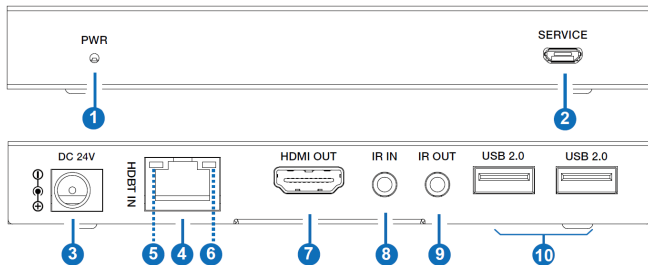
### 5.1 Transmitter Panel



No.	Name	Function Description
1	PWR LED	The red LED is on when the Transmitter is powered on.
2	EDID DIP switch	Used for audio EDID setting (dial to COPY by default). COPY: Copy the EDID of the HDMI OUT port of the Receiver. STD: Default 1080P 2CH
3	SERVICE	Firmware update port.
4	DC 24V	DC 24V/1A power input port. <i>Note that the extender supports the POC function, which means that either Transmitter or Receiver is connected to a 24V/1A power supply; the other doesn't need a power supply.</i>
5	HDBT OUT	HDBT output port, connecting to the HDBT IN port of the Receiver with CAT6 cable.
6	Link Signal Indicator (Green)	<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>
7	Data Signal Indicator (Yellow)	<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>
8	HDMI IN	HDMI signal input port, connecting to HDMI source device such as DVD play or Set Top Box.

No.	Name	Function Description
9	IR IN	Connecting to the IR receiver cable, the IR receive signal will emit to the IR OUT port of the Receiver.
10	IR OUT	Connect to IR blaster cable; the IR emit signal is from the IR IN port of the Receiver.
11	PC	USB-B port, connecting to PC.

## 5.2 Receiver Panel

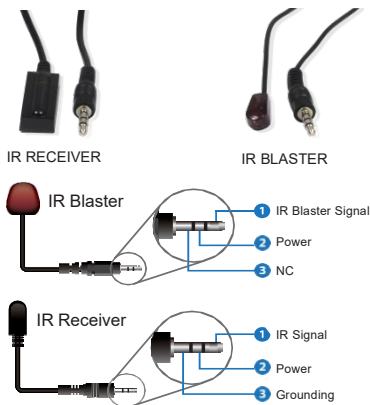


No.	Name	Function Description
1	Power LED	The power LED is on when the Receiver is powered on.
2	SERVICE	Firmware update port.
3	DC 24V	DC 24V/1A power input port. <i>Note that the extender supports the POC function, which means that either Transmitter or Receiver is connected to a 24V/1A power supply; the other doesn't need a power supply.</i>
4	HDBT IN	HDBT input port, connecting to the HDBT OUT port of the Transmitter with CAT6 cable.
5	Link Signal Indicator (Green)	<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>

No.	Name	Function Description
6	Data Signal Indicator (Yellow)	<ul style="list-style-type: none"> <li>▪ Illuminate HDMI signal with HDCP.</li> <li>▪ Flash: HDMI signal without HDCP.</li> <li>▪ Dark: No HDMI signal.</li> </ul>
7	HDMI OUT	HDMI signal output port, connecting to HDMI display devices such as TV or monitor.
8	IR IN	Connect to the IR receiver cable. The IR signal will send to the IR OUT port of the Transmitter.
9	IR OUT	Connect to the IR blaster cable; the IR signal is from IR IN port of the Transmitter.
10	USB 2.0 ports	Two USB-A ports connect to USB 2.0 devices. (The maximum output current of a single USB 2.0 port is 500mA, exceeding which will not work.)

### 5.3 IR Pin Definition

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



#### Note:

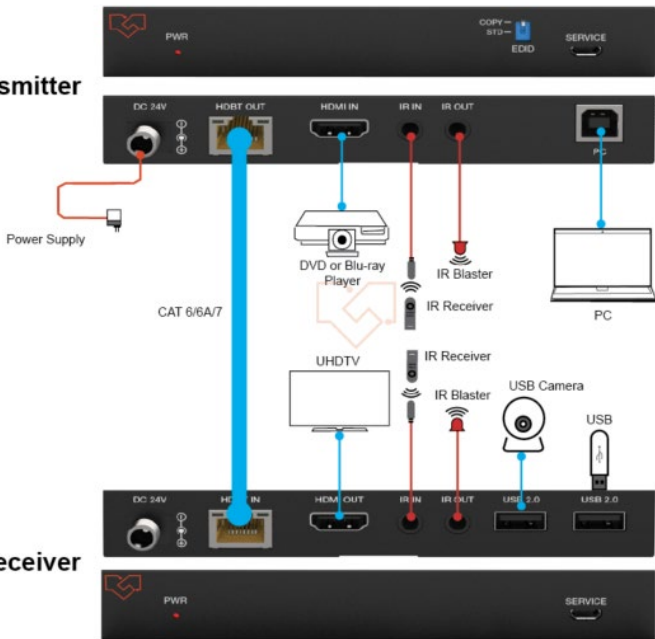
When the angle between the IR receiver and the remote control is  $\pm 45^\circ$ , the transmission distance is 0-5 meters.

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

### Transmitter



### Receiver



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