



VLEX-HT2150A-TR

1080p 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.

Table of Contents

1. Introduction.....	1
2. Features.....	1
3. Package Contents.....	1
4. Specifications.....	2
5. Operation Controls and Functions.	3
5.1 Transmitter Panel.	3
5.2 Receiver Panel.	5
5.3 IR Pin Definition.....	6
6. Audio Processing Logics.....	7
7. Application Example.....	9

1. Introduction

This HDBaseT Extender can extend HDMI signals from signal sources to display devices via CAT 5e/6 cable with a distance up to 150m/ 492ft and video resolution up to 1080P@60Hz YUV4:4:4. It supports bi-directional IR control, RS-232 control, EDID management, audio embedment (TX), and audio dis-embedment (RX). The transmitter supports HDMI signal loop out. Equipped with a powerful chip, the extender can continuously deliver stable work for 24 hours with low power consumption. It is easy to use, plug and play, which is widely applied in scenarios such as video conferences, out-doors big-screen demonstrations, and home theater.

2. Features

- ☆ HDMI 1.3 and HDCP 1.4 compliant
- ☆ Video resolution is up to 1080P@60Hz
- ☆ The transmission distance via a single CAT 5e/6 cable is up to 150m/492ft
- ☆ Support bi-directional IR control, RS-232 control, and EDID management
- ☆ Support audio embedment and dis-embedment
- ☆ Support bi-directional PoC (Power over Cable) function
- ☆ Compact design for easy and flexible installation

3. Package Contents

- ① 1 x 1080P HDBaseT Extender (Transmitter)
- ② 1 x 1080P HDBaseT Extender (Receiver)
- ③ 1 x IR Blaster Cable (1.5 meters)
- ④ 1 x IR Receiver Cable (1.5 meters)
- ⑤ 2 x 3-pin Phoenix Connector
- ⑥ 4 x Mounting Ear
- ⑦ 8 x Machine Screw (KM3*4)
- ⑧ 1 x 24V/1A Locking Power Adapter
- ⑨ 1 x User Manual

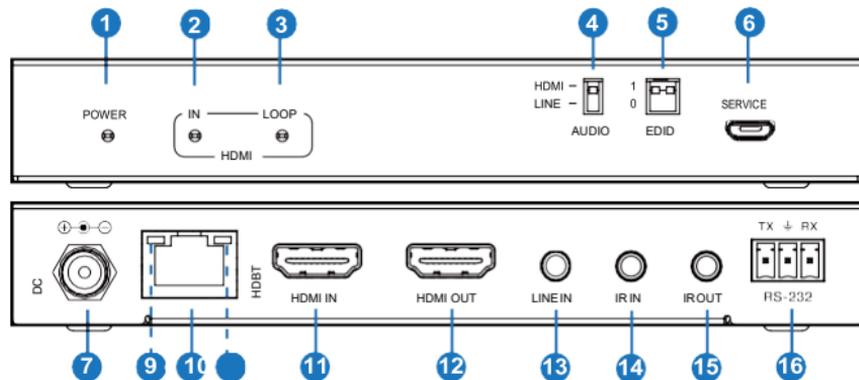
4. Specifications

Technical	
HDMI Compliance	HDMI 1.3
HDCP Compliance	HDCP 1.4
Video Bandwidth	6.75Gbps
Video Resolution	480i ~1080p50/60Hz; Up to1200P@60Hz
Color Depth	8-bit (1080P60Hz)
Color Space	RGB, YCbCr 4:4:4 / 4:2:2
HDMI Audio Formats	LPCM 2/5.1/7.1CH, Dolby Digital, DTS 5.1, Dolby Digital+, Dolby TrueHD, DTS-HD Master Audio, Dolby Atmos, DTS:X
Extension Distance	150m/492ft at 1080P@60
Connection	
Transmitter	Input: 1×HDMI IN [TypeA 19-pin female] 1×LINE IN [3.5mm Stereo Mini-jack] Output: 1×HDBT OUT [RJ45 8-pin female] 1×HDMI OUT [TypeA 19-pin female] Control: 1×AUDIO DIP Switch [1 pin] 1×EDID DIP Switch [2-pin] 1×IR IN [3.5mm Stereo Mini-jack] 1×IR OUT [3.5mm Stereo Mini-jack] 1×RS-232 [Phoenix jack] 1×Service [Micro-USB jack]
Receiver	Input: 1×HDBT IN [RJ45 8-pin female] Output: 1×HDMI OUT [TypeA 19-pin female] 1×AUDIO OUT [3.5mm Stereo Mini-jack] Control: 1×RS-232 [Phoenix jack] 1×SERVICE [Micro-USB jack] 1×IR IN [3.5mm Stereo Mini-jack] 1×IR OUT [3.5mm Stereo Mini-jack]

Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	TX/ RX:146.7mm (W)×71.5mm (D)×21mm (H)
Weight	Transmitter: 287g, Receiver: 294g
Power Supply	Input: AC100~240V 50/60Hz Output: DC 24V/1A (Locking connector)
Power Consumption	8.4W (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-condensation)

5. Operation Controls and Functions

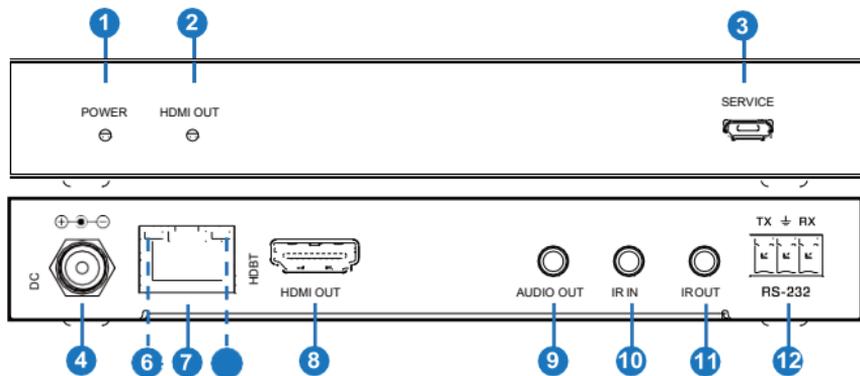
5.1 Transmitter Panel



No.	Name	Function Description
1	Power LED	When the transmitter is powered on, the red light will be on.
2	IN LED	The green light will be on when the transmitter connects with a source signal.
3	LOOP LED	The green light will be on when the transmitter connects with a display.
4	AUDIO DIP SWITCH	1-PIN AUDIO DIP switch, used for setting the audio mode. HDMI: By turning to HDMI, the output audio on both transmitter and Receiver will be the one from the HDMI IN port. LINE IN: By turning to LINE, the output audio on both transmitter and Receiver will be the one from the LINE IN port.
5	EDID DIP SWITCH	2-PIN EDID DIP switch, used for setting the output video/ audio, which is set as follows. 00: 1920*1080P60 LPCM2.0 01: 1920*1200P60 LPCM2.0 10: COPY TX LOOP OUT 11: COPY RX HDMI OUT
6	SERVICE	Firmware update port.
7	DC 24V	DC 24V/1A power input port. <i>Note that the extender supports a bi-directional POC function, which means either the transmitter or the receiver connects to a 24V/1A power supply; the other doesn't need to be plugged into a powered socket to be powered via the CAT 5e/6 cable.</i>
8	HDBT OUT	RJ45 connector, connecting to the HDBT IN port of the receiver with a CAT5e/6 cable.
9	Connection Signal Indicator lamp (Green)	<ul style="list-style-type: none"> ▪ Illuminating: Transmitter and Receiver are in good connection status. ▪ Flashing: The transmitter and Receiver are in poor connection status. ▪ Dark: The transmitter and Receiver are not connected.
10	Data Signal Indicator lamp (Orange)	<ul style="list-style-type: none"> ▪ Illuminating: HDMI signal with HDCP. ▪ Flashing: HDMI signal without HDCP. ▪ Dark: No HDMI signal.
11	HDMI IN	HDMI signal input port connects a source device, such as a TV box or DVD player.
12	HDMI OUT	HDMI signal loop out port, connecting to a display device, such as a TV.

No.	Name	Function Description
13	LINE IN	Analog audio signal input port.
14	IR IN	IR input port for receiving the signal of the IR remote.
15	IR OUT	IR output port to control the source device. This IR output signal is from the IR IN port of the receiver.
16	RS-232	3-pin Phoenix connector for RS-232 command transmission. The RS-232 command will pass through from transmitter to receiver or receiver to transmitter.

5.2 Receiver Panel



No.	Name	Function Description
1	Power LED	When the receiver is powered on, the red light will be on.
2	The green light will be on when the receiver connects to a display	The green light will be on when the receiver connects to a display
3	SERVICE	Firmware update port.

No.	Name	Function Description
4	DC 24V	DC 24V/1A power input port. <i>Note that the extender supports a bi-directional POC function, which means either the transmitter or the receiver connects to a 24V/1A power supply; the other doesn't need to be plugged into a power socket to be powered via the CAT 5e/6 cable.</i>
5	HDBT IN	RJ45 connector used for connecting the HDBT OUT port of transmitter with a CAT 5e/6 cable.
6	Connection Signal Indicator lamp (Green)	<ul style="list-style-type: none"> ▪ Illuminating: Transmitter and Receiver are in good connection status. ▪ Flashing: The transmitter and Receiver are in poor connection status. ▪ Dark: The transmitter and Receiver are not connected.
7	Data Signal Indicator lamp (Orange)	<ul style="list-style-type: none"> ▪ Illuminating: HDMI signal with HDCP. ▪ Flashing: HDMI signal without HDCP. ▪ Dark: No HDMI signal.
8	HDMI OUT	HDMI signal output port, connecting to a display device.
9	AUDIO OUT	Audio signal output port, connecting to Speaker or Amplifier.
10	IR IN	IR input port for receiving the signal of the IR remote.
11	IR OUT	IR output port to control the display device. This IR output signal is the rom IR IN port of the transmitter.
12	RS-232	3-pin Phoenix connector for RS-232 command transmission. The RS-232 command will pass through from transmitter to receiver or receiver to transmitter.

5.3 IR Pin Definition

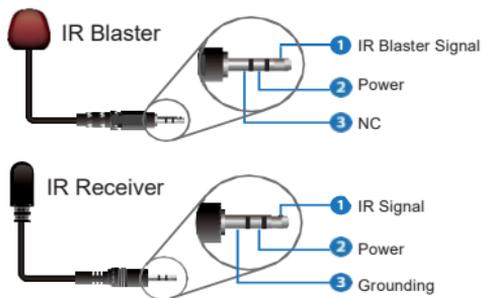
IR Receiver and Blaster pin's definition as below:



IR RECEIVER



IR BLASTER



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.

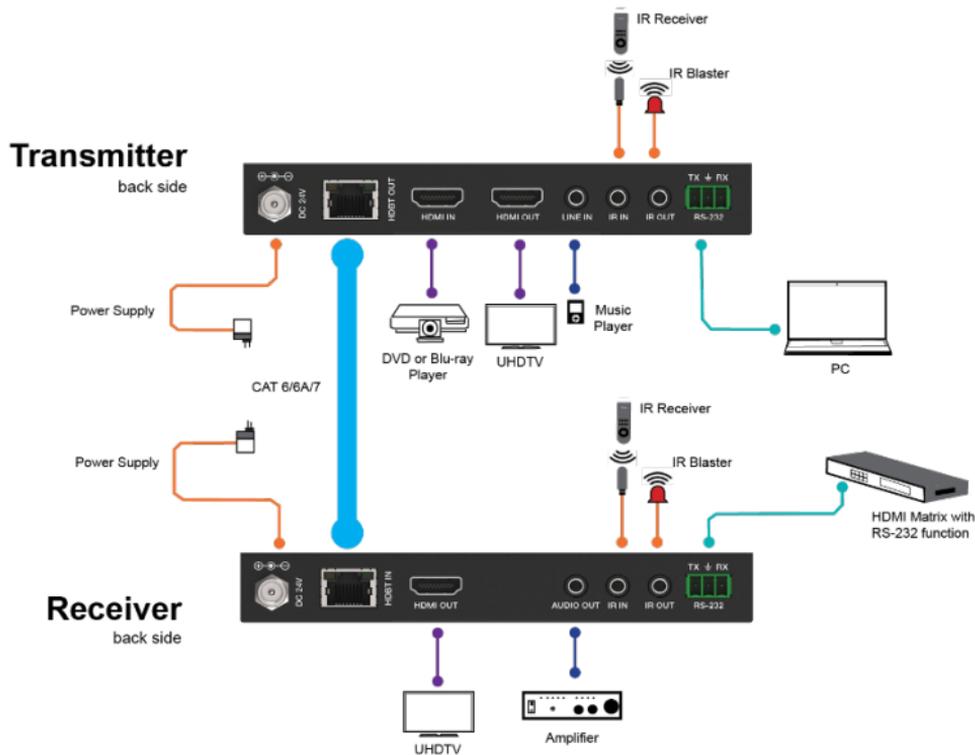
6. Audio Processing Logics

The extender provides two audio input modes, the digital (HDMI IN) and the analog (LINE IN). The processing logic is set as follows:

LINE IN	When the TX LINE IN The port connects to an audio source device,	TX's HDMI IN port connects to a source device,	TX's HDMI LOOP-OUT port connects to a display device,	then, the display device outputs video from the source device and audio from the LINE IN port.
			RX's HDMI OUT port connects to a display device,	then, the display device outputs video from the source device and audio from the LINE IN port.
			RX's AUDIO OUT port connects to a speaker,	then, the speaker outputs audio from the LINE IN port.
		TX's HDMI IN port does not connect to any source devices,	TX's HDMI LOOP-OUT It connects to a display device,	then, the display device outputs a black screen with audio from the LINE IN port.
			RX's HDMI OUT port connects to a display device,	then, the display device outputs a black screen with audio from the LINE IN port.
			RX's AUDIO OUT port connects to a speaker,	then, the speaker outputs the audio from the LINE IN port.

LINE IN	When the TX LINE IN The port does not connect to any audio source devices,	TX's HDMI IN port connects to a source device,	TX's HDMI LOOP-OUT port links to a display device,	then, the display device only outputs video from the source a device without any sounds.
			RX's HDMI OUT port connects to a display device,	then, the display device only outputs video from the source device without any sounds.
			RX's AUDIO OUT port connects to a speaker,	then, the speaker does not play any sounds.
		TX's HDMI IN port does not connect to any source devices,	TX's HDMI LOOP-OUT port connects to a display device,	then, the display device shows a black screen with no sounds.
			RX's HDMI OUT port connects to a display device,	then, the display device shows a black screen with no sounds.
			RX's AUDIO OUT port connects to a speaker,	then, the speaker does not play any sounds.
HDMI IN	When the TX LINE IN The port connects to an audio source device,	TX's HDMI IN port connects to a source device,	TX's HDMI LOOP-OUT port links to a display device,	then, the display device outputs video and audio both from the source device.
			RX's HDMI OUT port connects to a display device,	then, the display device outputs video and audio from the source device.
			RX's AUDIO OUT port connects to a speaker,	then, the speaker outputs audio from the HDMI IN port.
		TX's HDMI IN port does not connect to any source devices,	TX's HDMI LOOP-OUT port links to a display device,	then, the display device shows no signal input.
			RX's HDMI OUT port connects to a display device,	then, the display device shows no signal input.
			RX's AUDIO OUT port connects to a speaker,	then, the speaker does not play any sounds.
	When the TX LINE IN The port does not connect to any audio source devices,	TX's HDMI IN port connects to a source device,	TX's HDMI LOOP-OUT port links to a display device,	then, the display device outputs video and audio both from the source device.
			RX's HDMI OUT port connects to a display device,	then, the display device outputs video and audio from the source device.
			RX's AUDIO OUT port connects to a speaker,	then, the speaker outputs audio from the HDMI IN port.
		TX's HDMI IN port does not connect to any source devices,	TX's HDMI LOOP-OUT port links to a display device,	then, the display device shows no signal input.
			RX's HDMI OUT port connects to a display device,	then, the display device shows no signal input.
			RX's AUDIO OUT port connects to a speaker,	then, the speaker does not play any sounds.

7. Application Example





HDMI and HDMI High-Definition Multimedia interface and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.