





## Thank You For Purchasing This Product

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

## Surge Protection Device Recommended

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

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## 1. Introduction

This HDMI Video Extender can extend HDMI signals up to 10 Km (33,000 feet) over a single-mode fiber cable. It supports video resolutions up to 4K@60Hz 4:4:4. The Transmitter supports local video loop output, audio embedding, and EDID management functions. The Receiver supports audio extraction. Additionally, the Extender supports bidirectional IR control and RS-232 signal pass-through. This allows you to easily control the display device from the signal source side or control the signal source device from the display side when using this Extender.

## 2. Features

- HDMI 2.0b, HDCP 2.2 and DVI 1.0 compliant
- Supports 18Gbps video bandwidth
- Supports video resolutions up to 4K@60Hz 4:4:4
- HDMI audio formats: LPCM 2/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby TrueHD, DTS, DTSEX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD
- Supports 3D and HDR format video, does not support CEC control
- Transmission distance up to 33000 feet/10 km using SFP+ Single LC optical transceiver (over single-mode fiber cable). It is possible to use multi-mode fiber with the SFP module, but the distance cannot be guaranteed.
- Supports bidirectional IR control, RS-232 pass-through and EDID management for simple and convenient control
- Transmitter supports local video loop-out (sharing local HD video and audio) and audio embedding functionality
- Receiver supports audio extracting output functionality
- Compact design for easy and flexible installation



### 3. Package Contents

- ① 1 × 18Gbps HDMI over Optical Fiber Extender (Transmitter)
- ② 1 × 18Gbps HDMI over Optical Fiber Extender (Receiver)
- ③ 1 × IR Blaster cable (1.5m)
- ④ 1 × IR Receiver cable (1.5m)
- ⑤ 2 × 5V/1A Power Adapter
- ⑥ 2 × 3-pin 3.81mm Phoenix connector
- ⑦ 1 × User Manual

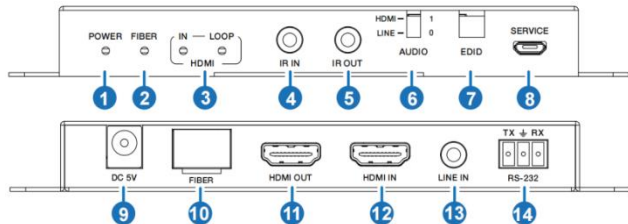
### 4. Specifications

Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18Gbps
Video Resolution	480i ~ 1080p50/60Hz, 4K@24/30Hz, 4K@60Hz
Color Space	RGB, YCbCr 4:4:4 / 4:2:2, YUV 4:2:0
Color Depth	8-bit, 10-bit, 12-bit
HDMI Audio Formats	LPCM 2/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD
Transmission Distance	Up to 33000 feet/10 km using SFP+ Single LC Optical Transceiver over single-mode fiber cable
IR Frequency	20KHz to 60KHz
RS-232 Baud Rate	4800 to 115200bps
ESD Protection	Human body model — ±8kV (air-gap discharge) and ±4kV (contact discharge)

<b>Connections</b>	
Transmitter	Input: 1 x HDMI IN [Type A, 19-pin female] 1 x LINE IN [3.5mm Stereo Mini-jack] 1 x IR IN [3.5mm Stereo Mini-jack] 1 x RS-232 [3.81mm Phoenix connector] 1 x SERVICE [Micro-USB, Update port]  Output: 1 x HDMI OUT [Type A, 19-pin female] 1 x IR OUT [3.5mm Stereo Mini-jack]  Network: 1 x Optical SM Fiber [LC female]
Receiver	Input: 1 x IR IN [3.5mm Stereo Mini-jack] 1 x SERVICE [Micro USB, Update port]  Output: 1 x HDMI OUT [Type A, 19-pin female] 1 x RS-232 [3.81mm Phoenix connector] 1 x IR OUT [3.5mm Stereo Mini-jack] 1 x AUDIO OUT [3.5mm Stereo Mini-jack]  Network: 1 x Optical SM Fiber [LC female]
<b>Mechanical and Environmental</b>	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter / Receiver: 134mm [W] x 68mm [D] x 18mm [H]
Weight	Transmitter: 280g, Receiver: 278g
Power Supply	Input: AC 100 - 240V 50/60Hz Output: DC 5V/1A (US/EU standards, CE/FCC/UL certified)
Power Consumption	Transmitter: 3.85W (Max.), Receiver: 2.7W (Max.)
Operating Temperature	32 to 104°F / 0 to 40°C
Storage Temperature	-4 to 140°F / -20 to 60°C
Relative Humidity	20 to 90% RH (non-condensing)

## 5. Operation Controls and Functions

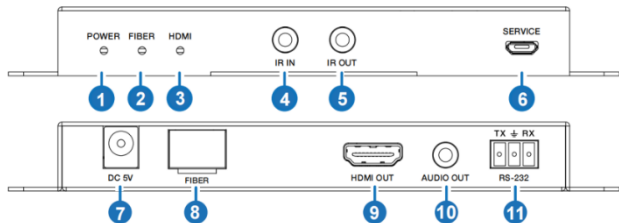
### 5.1 Transmitter Panel



No	Label	Function Descriptions
1	POWER LED	The Power indicator is always on when the Transmitter is powered on.
2	FIBER LED	The optical Fiber connection indicator is always on when the Transmitter and Receiver establish a normal optical fiber signal connection.
3	HDMI LED	<b>IN:</b> The HDMI signal input indicator is always on when there is signal input on the HDMI IN port. <b>LOOP:</b> The HDMI loop output indicator is always on when the HDMI OUT port of the Transmitter outputs signals to the HDMI display device.
4	IR IN	Connects to IR Receiver cable. The IR signal will send to the IR OUT port of the Receiver.
5	IR OUT	Connects to IR Blaster cable. The IR signal is from the IR IN port of the Receiver.
6	AUDIO Switch	Switch to select audio signal source (HDMI IN or LINE IN). When there is no video signals input, audio signals can be transmitted separately.
7	EDID DIP Switch	Dial the switch to set EDID. <b>11:</b> Copy RX HDMI OUT <b>10:</b> Copy TX HDMI LOOP OUT <b>01:</b> 4K60_2CH <b>00:</b> 1080P_2CH
8	SERVICE Port	Firmware update port.
9	DC 5V	DC 5V/1A power input port.
10	FIBER	Connects the Transmitter optical fiber module and transmits signals to the Receiver via an optical fiber cable.

11	HDMI OUT	HDMI signal loop output port, connects to HDMI display device such as TV or Projector with an HDMI cable.
12	HDMI IN	HDMI signal input port, connects to HDMI source device such as DVD or PC with an HDMI cable.
13	LINE IN	Audio signal input port, connects to audio source device such as MP3.
14	RS-232	RS-232 signal pass-through port for transmitting RS-232 command signals between the Transmitter and Receiver.

## 5.2 Receiver Panel

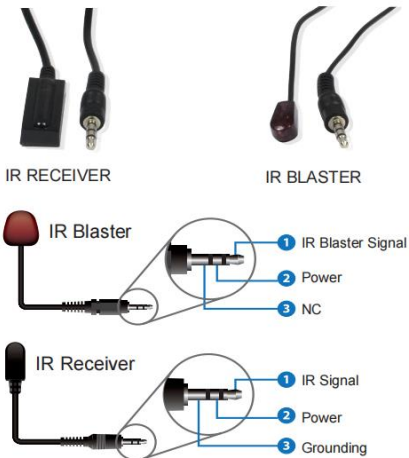


No	Label	Function Descriptions
1	POWER LED	The Power indicator is always on when the Receiver is powered on.
2	FIBER LED	The optical Fiber connection indicator is always on when the Transmitter and Receiver establish a normal optical fiber signal connection.
3	HDMI LED	The HDMI signal output indicator is always on when the HDMI OUT port of the Receiver outputs signals to the HDMI display device.
4	IR IN	Connects to IR Receiver cable. The IR signal will send to the IR OUT port of the Transmitter.
5	IR OUT	Connects to IR Blaster cable. The IR signal is from the IR IN port of the Transmitter.
6	SERVICE Port	Firmware update port.
7	DC 5V	DC 5V/1A power supply port
8	FIBER	Connects the Receiver optical fiber module and receives signals from the Transmitter via an optical fiber cable.
9	HDMI OUT	HDMI signal output port, connects to HDMI display device such as HDTV or Projector with an HDMI cable.
10	AUDIO OUT	Audio signal extracting output port (extract the HDMI OUT audio signal), connects to audio output device such as amplifier or speaker.
11	RS-232	RS-232 signal pass-through port for transmitting RS-232 command signals between the Transmitter and Receiver.



### 5.3 IR Pin Definition

IR Receiver and Blaster pin's definition as below:

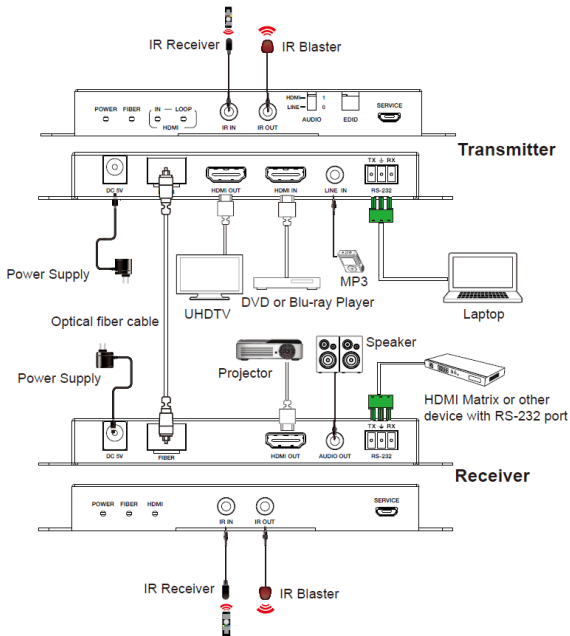


### 5.4 Optical Fiber Module



- ① SFP-BL32TG-10DC is the optical fiber module of the Transmitter.
- ② SFP-BL23TG-10DC is the optical fiber module of the Receiver.

## 6. Application Example





### **Limited Warranty**

IN NO EVENT SHALL THE DIRECT VENDOR'S LIABILITY FOR DIRECT OR INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS, LOSS OF BUSINESS, OR FINANCIAL LOSS CAUSED BY THE USE OF THE PRODUCT EXCEED THE PRICE PAID FOR THE PRODUCT.

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