UHD-FO10-K

18Gbps HDMI over Optical Fiber Extender with Audio Extraction

USER MANUAL

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Thank you for purchasing this product

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, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the service life of your equipment.

Please Activate your warranty by registering our product through the link below - **https://www.orei.com/pages/warranty-registration**

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Introduction

The UHD-FO10-K can extend HDMI signal up to 33000 feet/10km (over single-mode fiber cable). It supports video resolution up to 4K@60Hz 4:4:4. Transmitter supports loop output, audio embedding and EDID management function. Receiver supports audio extraction. In addition, the extender supports bi-directional IR control and RS-232 signal pass-through. It can allow you to easily control the display device on the signal source side or control the signal source device on the display side when using this extender.

1. HDMI 2.0b, HDCP 2.2 and DVI 1.0 compliant.
2. Supports 18Gbps video bandwidth.
3. Video resolution up to 4K@50/60Hz 4:4:4.
4. HDMI audio formats: LPCM2/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD.
5. Supports 3D and HDR format video, does not support CEC control.
6. Transmission distance up to 33000feet/10km (over single-mode fiber cable).

*It is possible to use multi-mode fiber with these SFP modules but the distance can not be guaranteed.

7. Supports bi-directional IR control, RS-232 pass-through and EDID management for simple and convenient control.
8. Transmitter supports loop output (sharing local HD video and audio) and audio embedding function.
9. Receiver supports audio extraction.
10. Compact design for easy and flexible installation.

Package Contents

| 1.	1 × UHD-FO10-K (Transmitter)	5.	2 × 5V/1A Power Adapter
2.	1 × UHD-FO10-K (Receiver)	6.	2 × 3-pin 3.81mm Phoenix Connector
3.	1 × IR Blaster cable (1.5m)	7.	1 × User Manual
4.	1 × IR Receiver cable (1.5m)		

Specifications

Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18Gbps
Video Resolution	480i ~1080p50/60Hz, 2560x1440@24/30/50/60Hz, 4K@24/30Hz, 4K@60Hz
Color Depth	8-bit, 10-bit, 12-bit
Color Space	RGB, YCbCr 4:4:4 / 4:2:2, YUV 4:2:0
IR Frequency	20KHz-60KHz
RS-232 Baud Rate	4800-115200bps
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 33000feet/10km over single-mode fiber cable
ESD Protection	Human-body Model: ±8kV (Air-gap discharge) , ±4kV (Contact discharge)
Connection	

Transmitter	Input: 1 × HDMI IN [Type A, 19-pin Female]
	         1 × LINE IN [3.5mm Stereo Mini-jack]
	         1 × IR IN [3.5mm Stereo Mini-jack]
	         1 × RS-232 [3.81mm Phoenix Connector]
	         1 × SERVICE [Micro USB, Update Port]
	Output: 1 × HDMI OUT [Type A, 19-pin Female]
	         1 × Optical Fiber Out [LC Female]
	         1 × IR OUT [3.5mm Stereo Mini-jack]

|	

Receiver	Input: 1 × Optical Fiber In [LC Female]
	         1 × IR IN [3.5mm Stereo Mini-jack]
	         1 × SERVICE [Micro USB, Update Port]
	 Output: 1 × HDMI OUT [Type A, 19-pin Female]
	         1 × RS-232 [3.81mm Phoenix Connector]
	         1 × IR OUT [3.5mm Stereo Mini-jack]
	         1 × AUDIO OUT [3.5mm Stereo Mini-jack]

Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter / Receiver: 134mm (W) × 68mm (D) × 18mm (H)
Weight	Transmitter: 280g, Receiver: 278g
Power Consumption	Transmitter: 3.85W (Max.), Receiver: 2.7W (Max.)
Power Supply	Input: AC 100~240V 50/60Hz Output: DC 5V/1A (US/EU standards, CE/FCC/UL certified)
Operating Temperature	32~104°F / 0~40°C
Storage Temperature	-4~140°F / -20~60°C
Relative Humidity	20~90% RH (Non-condensing)

Operation Controls and Functions

Transmitter Panel
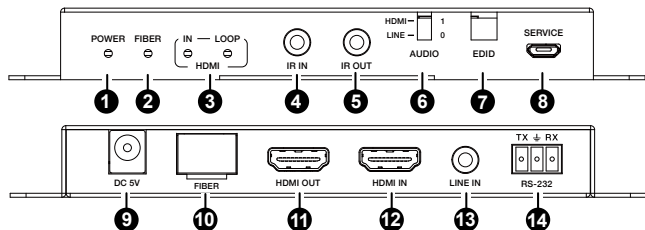
No.	Name	Function Description
1.	POWER LED	The power LED will light up when the Transmitter is powered on.
2.	FIBER LED	The optical fiber connection indicator will light up when the Transmitter and Receiver have a normal optical fiber signal connection.
3.	HDMI LED	**IN:** The HDMI signal input indicator will light up when there is a signal input on the HDMI IN port.
		LOOP: The HDMI loop output indicator will light up when the HDMI OUT port of the Transmitter outputs signals to the HDMI display device.
4.	IR IN	Connect the IR Receiver cable. The IR signal will be sent to the IR OUT port on the Receiver.
5.	IR OUT	Connect the IR Blaster cable. The IR signal will be received from the IR IN port on the Receiver.

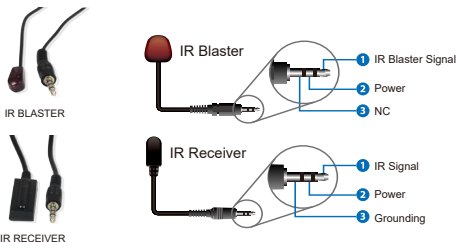| No.	Name	Function Description
6.	AUDIO switch	Switch to select audio signal source (HDMI IN or LINE IN). When there is no video signal input, audio signal can be transmitted separately.
7.	EDID DIP switch	Dial the switch to set EDID. 11: Copy Receiver HDMI OUT 10: Copy Transmitter HDMI LOOP OUT 01: 4K60_2CH 00: 1080P_2CH
8.	SERVICE port	Firmware update port.
9.	DC 5V	DC 5V/1A power input port.
10.	FIBER	Connect to the Transmitter optical fiber module, and transmit signals to the Receiver via an optical fiber cable.
11.	HDMI OUT	HDMI loop output port. Connect an HDMI display device such as TV or Projector with an HDMI cable.
12.	HDMI IN	HDMI signal input port, connect an HDMI source device such as DVD or PC with an HDMI cable.
13.	LINE IN	Audio signal input port, connected to audio source device such as MP3 Player.
14.	RS-232	RS-232 signal pass-through port for transmitting RS-232 command signals between the Transmitter and Receiver.

Operation Controls and Functions

Receiver Panel
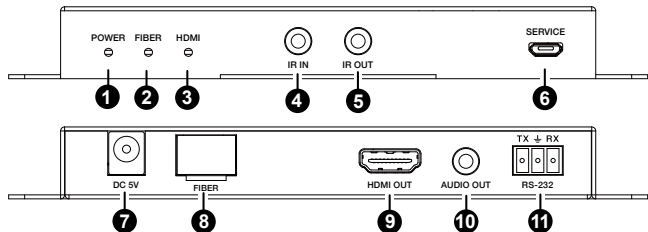
No.	Name	Function Description
1.	POWER LED	The power LED will light up when the Receiver is powered on.
2.	FIBER LED	The optical fiber connection indicator will light up when the Transmitter and Receiver have a normal optical fiber signal connection.
3.	HDMI LED	The HDMI signal output indicator will light up when the HDMI OUT port of the Receiver outputs signals to the HDMI display device.
4.	IR IN	Connect the IR Receiver cable. The IR signal will be sent to the IR OUT port on the Transmitter.
5.	IR OUT	Connect the IR Blaster cable. The IR signal will be received from the IR IN port on the Transmitter.
6.	SERVICE port	Firmware update port.
7.	DC 5V	DC 5V/1A power supply port.
8.	FIBER	Connect to the Receiver optical fiber module, and receive signals from the Transmitter via an optical fiber cable.

No.	Name	Function Description
9.	HDMI OUT	HDMI output port. Connect an 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), connected 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.

IR Pin Definition

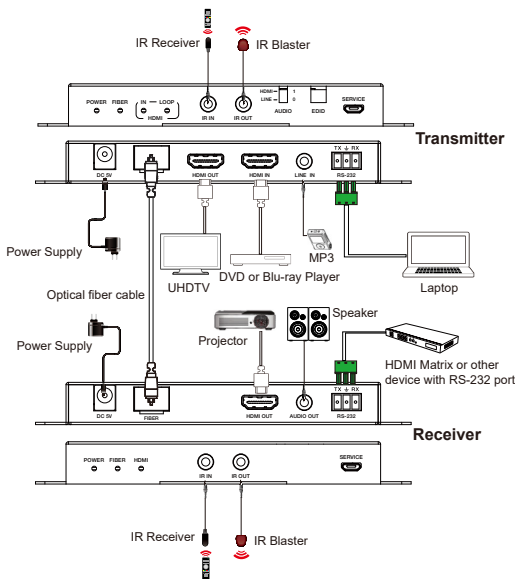IR Receiver and Blaster pin's definition as below:

IR BLASTER

IR Blaster
1 IR Blaster Signal
2 Power
3 NC

IR Receiver
1 IR Signal
2 Power
3 Grounding

IR RECEIVER

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.

Application Example

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