



UHD-FO10-KVM

**4K@60Hz HDMI™ Extender
(Loop) - 10km (Fiber-Optic)**

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USER MANUAL

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Thank you for purchasing this product

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

Important Safety Note – Surge Protection Recommended

This product contains sensitive electronic components that may be damaged by electrical spikes, surges, lightning strikes, or static discharge. To protect and extend the service life of your equipment, we strongly recommend using a surge protection device.

Warranty Registration

Activate your warranty by registering your product at:

→ www.orei.com/register

Need Technical Support? We're Here to Help.

Our experienced Technical Support Team is available to answer your questions, offer expert advice, and help troubleshoot any issues to keep your project on track—on time and on budget.

Live Support Hours (US/Canada/Mexico):

 Monday-Friday | 9:00 a.m. – 5:00 p.m. Central Time

Contact Us:

 Email: info@orei.com

 Phone: 877-290-5530

 Chat Live: www.orei.com

Send us an instant message—our team typically responds within moments during live support hours.

Introduction

UHD-FO10-KVM is a high-performance signal transmission solution designed for ultra-long-distance AV applications. Utilizing single-mode fiber optic technology, it transmits uncompressed HDMI™ signals up to 10km with exceptional stability and clarity.

Supporting video resolutions up to 4K@60Hz 4:4:4, it delivers vivid, high-definition visuals without signal loss. The extender features loop output on the transmitter side for local monitoring and audio de-embedding on the receiver side for flexible audio system integration. It also supports USB 1.1 keyboard and mouse transmission, enabling convenient device control from the Receiver end.

With its robust, compact design, and automatic EDID management, this extender offers a reliable, feature-rich solution ideal for commercial installations, control centers, and high-end AV environments.



1. **HDCP 2.2 Compliant** – Ensures compatibility with modern content protection standards.
2. **Video Resolutions up to 4K@60Hz 4:4:4** – Delivers uncompressed, ultra-high-definition video with vibrant color depth and clarity.
3. **18Gbps Video Bandwidth** – Provides high-speed data transfer for flawless AV signal transmission.
4. **Ultra-Long-Distance Transmission** – Extends HDMI™ signals up to 10km over single-mode fiber cable. Multi-mode fiber supported with SFP modules for distances up to 300m (OM4).
5. **3D Video Support** – Compatible with 3D content for immersive viewing experience.
6. **HDR10+, Dolby Vision & HLG Pass-through** – Maintains compatibility with advanced high dynamic range formats for lifelike visuals.
7. **Wide Audio Support** – Supports LPCM 2/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby TrueHD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, and DSD for high-fidelity sound.
8. **Loop Output on Transmitter** – Allows connection of a local display for convenient on-site monitoring.
9. **Audio De-embedding on Receiver** – Provides separate audio output for flexible audio system integration.
10. **USB 1.1 Keyboard/Mouse Transmission** – Enables remote control of source device such as a Computer from the Receiver side.
11. **Automatic EDID Management** – Ensures proper display configuration and stable signal handshakes.
12. **Compact, Lightweight Design** – Ideal for discreet mounting and flexible installation in professional AV environments

Package Contents & Specifications

Package Contents

1.	UHD-FO10-KVM (Transmitter)	1pcs
2.	UHD-FO10-KVM (Receiver)	1pcs
3.	USB Cable (Type A to Type B, 1.5m)	1pcs
4.	Mounting Ear	4pcs
5.	Machine Screw	8pcs
6.	Power Adapter	2pcs
7.	User Manual	1pcs

Specifications

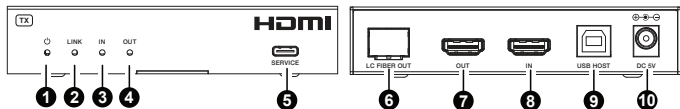
Technical	
HDMI™ Compliance	HDMI™ 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18Gbps
Input & Output Video Resolution	4096x2160p60, 4096x2160p50, 3840x2160p60, 3840x2160p50, 3840x2160p30, 3840x2160p25, 1920x1200p60RB, 1920x1080p60, 1920x1080p50, 1360x768p60, 1280x800p60, 1280x720p60, 1280x720p50, 1024x768p60
Color Space	RGB, YCbCr_4:4:4, YCbCr_4:2:2, YCbCr_4:2:0
Color Depth	8-bit, 10-bit, 12-bit
Audio Formats	LPCM 2/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTSEX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD

Specifications

Technical	
HDR	HDR10, HDR10+, Dolby Vision, HLG
Fiber Optic	10G SFP+ module
Transmission Distance	Up to 10km over single-mode fiber cable Up to 300m over multi-mode OM4 fiber cable
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge) & ±4kV (Contact discharge)
Connection	
Transmitter	Input: 1× HDMI™ [Type A, 19-pin female] Output: 1× HDMI™ [Type A, 19-pin female] 1× LC FIBER OUT [LC female] Control: 1× USB Host [Type B, female] 1× SERVICE [USB-C, update port]
Receiver	Input: 1× LC FIBER IN [LC female] Output: 1× HDMI™ [Type A, 19-pin female] 1× 3.5mm [Stereo audio jack] Control: 1× SERVICE [USB-C, update port] 2× USB Device [Type A, female]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter / Receiver: L: 120mm / 4.72in W: 78mm / 3.07in H: 24.5mm / 0.96in
Weight	Transmitter: 260g / 9.17oz; Receiver: 256g / 9.03oz
Power Consumption	Transmitter: 3.85W (Max); Receiver: 3.3W (Max)
Power Supply	Input: AC 100 - 240V 50/60Hz Output: DC 5V/2A
Operating Temperature	32~104°F / 0~40°C
Storage Temperature	-4~140°F / -20~60°C
Operating Humidity	20%~80% relative humidity, non-condensing
Storage Humidity	10%~90% relative humidity, non-condensing

Operation Controls and Functions

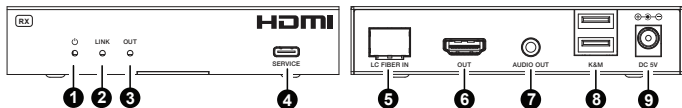
Transmitter



No.	Name	Function Description
1.	POWER LED	The red LED lights up when the transmitter is powered on.
2.	LINK LED	The green LED lights up when the Transmitter and Receiver have a connection with normal optical fiber signal.
3.	IN LED	The green LED lights up when a source signal is detected on the HDMI IN port.
4.	OUT LED	The green LED lights up when a display device is connected to the HDMI OUT port.
5.	SERVICE	Firmware update port.
6.	LC FIBER OUT	Connect a single-mode/multi-mode fiber optic cable. The other end connects to the Receiver.
7.	HDMI OUT	Connect a display device such as a TV, Monitor, etc.
8.	HDMI IN	Connect a media source device such as DVD player, Streaming device, etc
9.	USB HOST	Connect a PC or Laptop through its USB port.
10.	DC 5V	Connect the included power adapter.

Operation Controls and Functions

Receiver

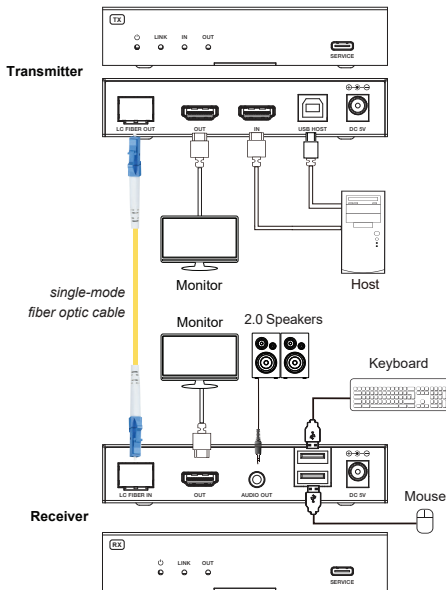


No.	Name	Function Description
1.	POWER LED	The red LED lights up when the receiver is powered on.
2.	LINK LED	The green LED lights up when the transmitter and receiver have a connection with normal optical fiber signal.
3.	OUT LED	The green LED lights up when a display device is connected to the HDMI OUT port.
4.	SERVICE	Firmware update port.
5.	LC FIBER IN	Connect a single-mode/multi-mode fiber optic cable. The other end connects to the Transmitter.
6.	HDMI OUT	Connect a display device such as a TV, Monitor, etc.
7.	AUDIO OUT	Connect an audio device such as headphone, soundbar, etc.
8.	K&M	Connect a USB peripheral like Keyboard, and Mouse.
9.	DC 5V	Connect the included power adapter.

EDID Setting:

When both the HDMI Loop Out on the Transmitter and the HDMI Output on the Receiver are connected to displays, the system automatically compares both displays' EDIDs and uses the one with the lower capability to ensure compatibility. If only one display is connected, it will use that display's EDID.

Application Example



HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE

The terms 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.

FAQ & Troubleshooting

1. Can I use a multi-mode fiber optic with this unit instead of single-mode?

- Multi-mode (OM4) cable can be used as well but the transmission distance would drop to 300m/1000feet

2. No video signal OR flickering output.

- Check HDMI and fiber optic cable connections.
 - Use a single-mode fiber cable
- Test with a shorter fiber run to rule out cable damage.
 - Try a lower resolution from the media source.
- Check if the HDMI output on the Transmitter also has the same issue.

3. Does it support USB devices other than keyboard and mouse?

No. It only supports USB 1.1 HID devices (keyboard and mouse) for remote control. USB storage or other peripherals are not supported.

Still have some questions?

Our experienced Technical Support Team is here for you to answer your questions, give technical advice or help troubleshoot your project to get you installed on time and on budget. Call, email or chat with us now.

OREI Live Technical Support Hours

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