

EP4R Fiber Extender



Specifications

1 Change History

File Version	Release Date	Description
V1.0.0	2024-11-28	First release

2 Introduction

The EP4R fiber extender employs advanced fiber optic technology to achieve lossless, long-distance transmission of audio and video signals via optical fiber. Unlike traditional cables, it effectively addresses limitations in length and signal degradation.

Featuring 8-bit/10-bit lossless compression technology, the EP4R ensures optimal video signal quality, providing users with a clear and detailed visual experience. Its compact design and straightforward installation offer plug-and-play convenience, eliminating the need for complex setup. This allows users to effortlessly extend audio and video signals to their desired location.

The EP4R is versatile and can be employed in various settings, including home theaters, conference systems, and monitoring centers. Suitable for both commercial and personal use, it delivers stable and reliable video transmission, making it an ideal choice for high-definition video transmission over long distances.

3 Certifications

CE, FCC, IC, KC, RCM, EAC, PSE, CB

If the product does not have the relevant certifications required by the countries or regions where it is to be sold, please contact PIXELHUE to confirm or address the problem.

Otherwise, the customer shall be responsible for the legal risks caused or PIXELHUE has the right to claim compensation.

4 Features

- Ultra-HD lossless transmission

Supports 8-bit/10-bit transmission, utilizing advanced encoding technology to optimize video signals, ensuring clear and smooth image quality during transmission.

- 8-bit 4:4:4, max 4096×2160@60Hz
- 10-bit 4:4:4, max 4096×2160@30Hz

- Long-distance transmission

Transmit video signals over long distances via optical fiber without concerns about signal degradation

- Strong anti-Interference ability

Fiber optic transmission is resistant to electromagnetic interference, ensuring stable signal transmission even in challenging electromagnetic environments.

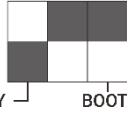
- Clear signal indicators for easy device status monitoring

- EDID passthrough for compatibility with various devices
- Input copy support
- 3D and HDR passthrough
- Zero latency video transmission
- KVM
 - Support remote control of multi-platform PC hosts via KVM roaming.
- OPT source mosaic
 - When working with a presentation switcher, it supports OPT input source mosaic.
- Simple operation, plug and play
- HDCP-encrypted video transmission
- 24/7 operation

5 Appearance

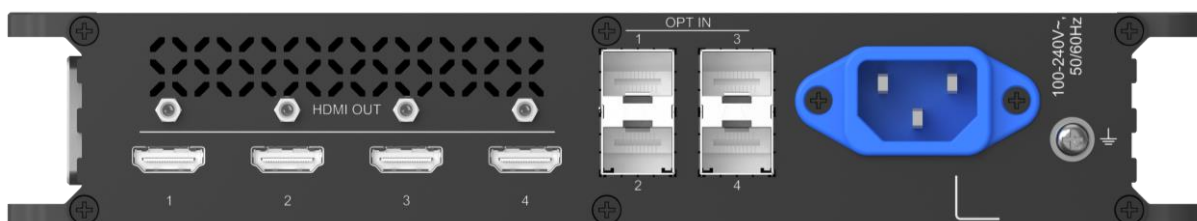
Front Panel



Area	Function
DIP switch OFF  COPY BOOT	<ul style="list-style-type: none"> • Dip switch 1: Enable or disable the input source copying function. <ul style="list-style-type: none"> – HDMI 1 or HDMI 2 output the identical content from OPT 1 and OPT 2. – HDMI 3 or HDMI 4 output the identical content from OPT 3 or OPT 4. • Dip switch 2: Reserved function • Dip switch 3: Enable or disable the BOOT mode for device update.
USB	1x USB 2.0 (type-B) Connect a keyboard or mouse for remote control.
AUDIO	1x 3.5 mm audio output Output the embedded audio from Input 1.
Power indicator PWR	1x LED indicator (red), showing power status <ul style="list-style-type: none"> • On: The device is powered on. • Off: The device is powered off.
Input indicator IN1–IN4	4x LED indicators, showing input connection status <ul style="list-style-type: none"> • Green: The input connector has input.

Area	Function
	<ul style="list-style-type: none"> • Blue: The connector port has input and is transmitting HDCP-encrypted audio and video. • Off: The input connector has no input. • Four indicators flash slowly (1 Hz/s, green): Enter the BOOT mode. • Four indicators flash quickly (2 Hz/s, green): The device update is in progress. • When the input source copying switch is turned on and the resolutions differ, the corresponding indicators for the input sources flash quickly (2 Hz/s, green).

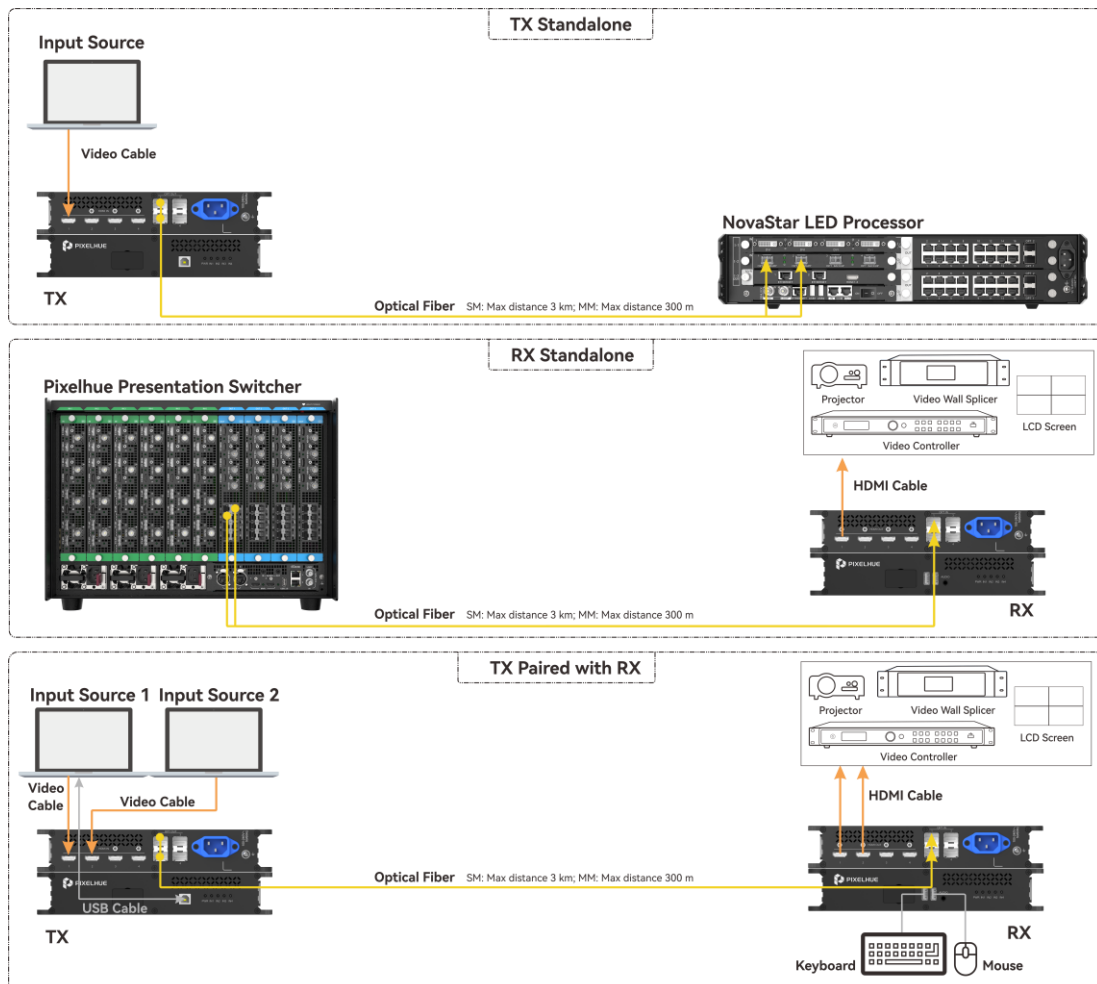
Rear Panel



Connector		Description
OPT IN	OPT	<p>4x 10.3125G optical ports</p> <ul style="list-style-type: none"> • Standalone: Max resolution per port: 3840×2160@30Hz • Paired: Max resolution per port: 3840×2160@60Hz • Single connector width range: 800 to 8192 pixels • Single connector height range: 600 to 7680 pixels • Max bit depth: 10-bit, compatible with 8-bit • Color space/sampling rate: RGB 4:4:4, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0 • Support embedded audio input with sampling rates of 48 kHz. • Support HDR and 3D video passthrough. • Support passthrough of both interlaced and progressive signals. • HDCP 2.2 compliant, compatible with HDCP 1.4 • In SM (single-mode) transmission, max distance 3 km; recommended module: EOLP-1396-10-I. • In MM (multi-mode) transmission, max distance 300 m; recommended module: EOLP-8596-02-I. • Dual-core LC fiber optic cables must be used to ensure stable signal transmission and system reliability. <p>Note</p> <p>25G optical modules are not supported.</p> <p>The product includes 4x EOLP-1396-10-I SM modules. Please use recommended modules for replacements when necessary.</p>
HDMI OUT	HDMI	<p>4x HDMI 2.0</p> <ul style="list-style-type: none"> • Max input resolution per connector: 3840×2160@60Hz

Connector	Description
	<ul style="list-style-type: none"> Single connector width range: 800 to 8192 pixels Single connector height range: 600 to 7680 pixels Max bit depth: 10-bit, compatible with 8-bit Color space/sampling rate: RGB 4:4:4, YCbCr 4:4:4, YCbCr 4:2:2 Support YCbCr 4:2:0 when the input resolution is 3840×2160@30Hz. Support embedded audio input with sampling rates of 48 kHz. Support HDR and 3D video passthrough. Support passthrough of both interlaced and progressive signals. HDCP 2.2 compliant, compatible with HDCP 1.4
Power	-

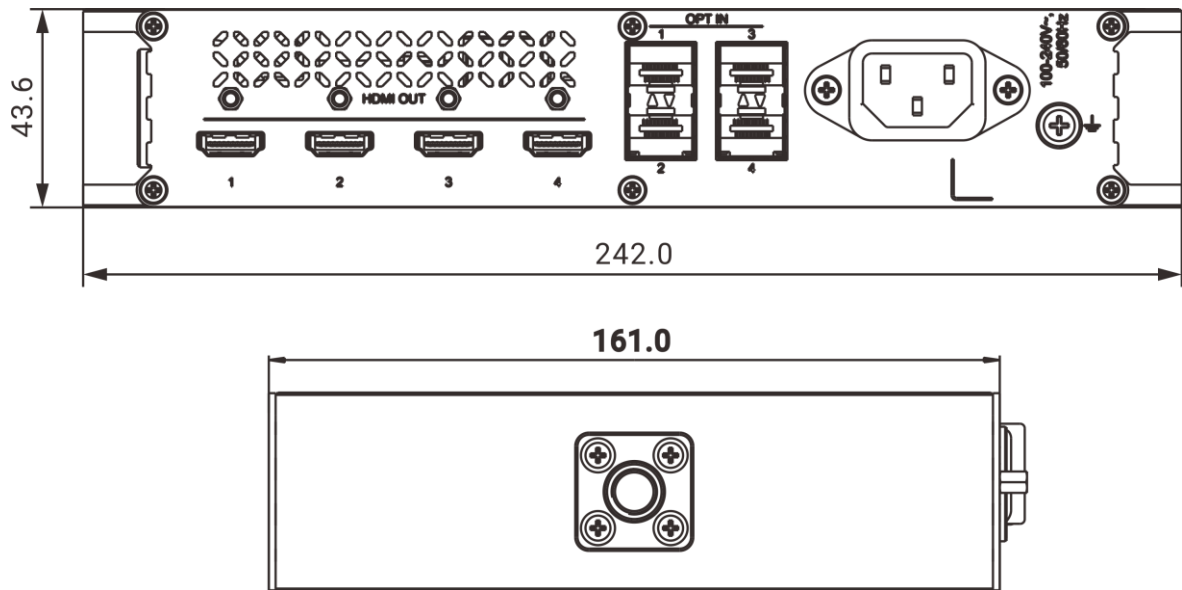
6 Applications



Note

When the EP4R is connected with Pixelhue Q8 presentation switcher in standalone use, 2 or 4 optical fiber cables must be connected for OPT source mosaic.

7 Dimensions

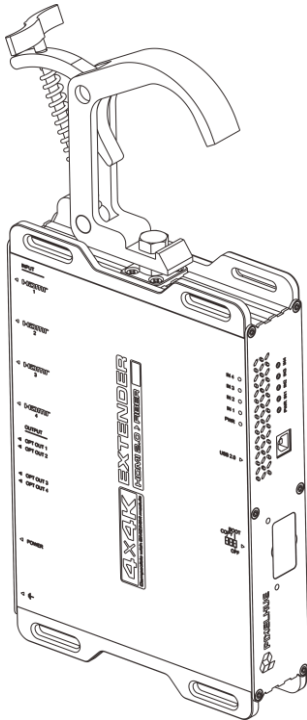


Tolerance: ± 0.3 Unit: mm

8 Installation and Use

C-Clamp Installation

Mount the device with a c-clamp.



Desktop Use

Place the device on a stable desktop.

Note

For the specific installation dimensions, please contact PIXELHUE technical support.

9 Specifications

Electrical Specifications	Power	100–240V~, 50/60Hz
	Max power consumption	17 W
Operating Environment	Temperature	0°C to +45°C
	Humidity	5% RH to 85% RH, non-condensing
Storage Environment	Temperature	–20°C to +60°C
	Humidity	5% RH to 95% RH, non-condensing
Physical Specifications	Dimensions	242.0 mm × 43.6 mm × 161.0 mm
Noise Level (Typical at 25°C/77°F)		35 dB (A)
Packing Information	Accessories	1x Power adapter 4x OPT modules 1x HDMI cable 1x Certificate of Approval 1x Safety Manual
	Net weight	1.5 kg
	Gross weight	1.8 kg
	Packing size	310 mm × 325 mm × 102 mm

10 Input Specifications

Input Connector	Bit Depth		Max Resolution
OPT	8-bit	RGB4:4:4	8192×1080@60Hz 4096×2160@60Hz
		YCbCr4:4:4	
		YCbCr4:2:2	
		YCbCr4:2:0	4096×2160@60Hz
	10-bit	RGB4:4:4	4096×2160@30Hz 3600×2160@60Hz
		YCbCr4:4:4	
		YCbCr4:2:2	
		YCbCr4:2:0	4096×2160@60Hz
	12-bit	-	Not supported

11 Notes and Cautions

FCC Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Others

This is Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

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| [Technical support](mailto:service@pixelhue.com)
| service@pixelhue.com