



UHD-EX165EA-K

**4K@60Hz HDMI™ Extender
(eARC, Bi-IR) - 165ft (Cat6)**

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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

The UHD-EX165EA-K is a professional-grade HDMI Extender designed to deliver high-performance HDMI™ signal extension over long distances. It transmits uncompressed 4K@60Hz video with 4:4:4 chroma sampling up to 50 meters (165 feet) using a single CAT6/6a cable, maintaining full 18Gbps bandwidth for zero-delay performance. Compliant with HDCP 2.2 standards, this extender supports advanced HDR formats including Dolby Vision, HDR10+, and HLG. It features comprehensive audio handling with dual-channel support for both high-resolution eARC audio (including Dolby Atmos and DTS:X) and ARC/SPDIF audio (Dolby/DTS 5.1) for legacy systems. With bi-directional IR control, CEC pass-through, and advanced EDID management, this extender ensures seamless integration into both home theater and professional AV installations, providing reliable, high-quality signal extension with flexible audio options.



Features & Package Contents

1. **4K@60Hz Extension up to 50m**- Transmits ultra-high-definition video up to 165 feet over a single CAT6/6a cable with minimal latency.
2. **HDCP 2.2 Compliant**- Ensures full compatibility with protected 4K content from modern sources.
3. **Dual Audio Channel Support**- Handles both high-resolution eARC audio (Dolby Atmos, DTS:X) and ARC/SPDIF audio (Dolby/DTS 5.1) for legacy systems.
4. **Advanced HDR Format Support**- Passes through Dolby Vision, HDR10, HDR10+, and HLG for superior picture quality.
5. **Bi-directional IR & CEC Control**- Enables complete remote control of source and display devices from any location.
6. **18Gbps Bandwidth**- Guarantees uncompressed, high-fidelity audio and video transmission.
7. **Advanced EDID Management**- Ensures reliable compatibility and optimal resolution negotiation between devices.

Package Contents

1.	UHD-EX165EA-K (Transmitter)	1 pcs
2.	UHD-EX165EA-K (Receiver)	1 pcs
3.	IR Blaster Cable(1.5m)	1 pcs
4.	IR Wideband Receiver Cable(1.5m)	1 pcs
5.	Mounting Ear	4pcs
6.	Machine Screw(KM3*4)	8pcs
7.	Power Adapter	2pcs
8.	User Manual	1 pcs

Specifications

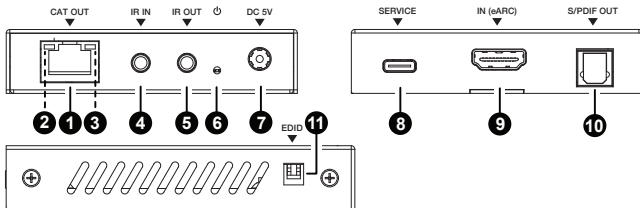
Technical	
HDMI™ Compliance	HDMI™ 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18Gbps
Video Resolution (Input & Output)	480i60, 576i50, 480p60, 576p50, 720p50/60, 1080i50/60, 1080p24/25/30/50/60, 4K2K 24/25/30, 4K2K50/60 4:2:0, 4K2K50/60 4:4:4; 640x480@60, 1024x768@60, 1280x768@60, 1280x800@60, 1280x1024@60, 1360x768@60, 1440x900@60, 1680x1050@60, 1920x1200@60RB
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2, YUV 4:2:0
Color Depth	8/10/12-bit
Audio Formats	HDMI™ eARC Audio: PCM 7.1CH 192KHz, Dolby Atmos, DTS:X ARC/SPDIF Audio: PCM 2.0, Dolby 5.1CH, DTS 5.1CH
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG
CEC	Supported
IR Level	5Vp-p
IR Frequency	Wideband 20K-60KHz
Transmission Distance	50m/164ft for 4K2K@60Hz over CAT6/6a cable
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge) & ±4kV (Contact discharge)

Specifications

Connection	
Transmitter	Input: 1× eARC [HDMI™ Type A, 19-pin female] Output: 1× Optical [S/PDIF] 1× CAT [RJ45] Control: 1× SERVICE [USB-C, upgrade port] 1× IR IN [3.5mm stereo jack] 1× IR OUT [3.5mm stereo jack]
Receiver	Input: 1× Optical [S/PDIF] 1× CAT [RJ45] Output: 1× eARC [HDMI™ Type A, 19-pin female] Control: 1× SERVICE [USB-C, upgrade port] 1× IR IN [3.5mm stereo jack] 1× IR OUT [3.5mm stereo jack]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter / Receiver: L: 97mm / 3.82in W: 82mm / 3.23in H: 18mm / 0.71in
Weight	Transmitter: 199g / 7.02oz; Receiver: 196g / 6.91oz
Power Supply	DC 5V/2A
Power Consumption	Transmitter: 4.75W (Max); Receiver: 3.5W (Max)
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Operating Humidity	20%-80% relative humidity, non-condensing
Storage Humidity	10%-90% relative humidity, non-condensing

Operation Controls and Functions

Transmitter Panel

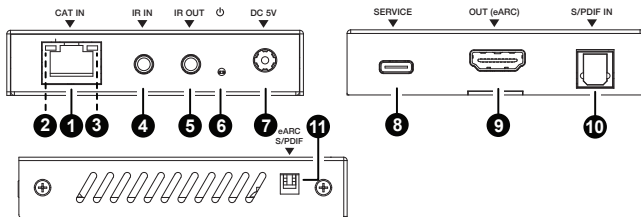


No.	Name	Function Description
1.	CAT OUT	Connect a CAT 6/7 cable. The other end connects to the Receiver.
2.	Link Status Indicator (Green)	- Light on: Connection established successfully. - Light off: Connection not established.
3.	Signal Indicator (Yellow)	- Light on: HDMI signal transmitting with HDCP. - Light flashing: HDMI signal transmitting without HDCP. - Light off: HDMI signal not transmitting.
4.	IR IN	Connect the included IR Receiver cable.
5.	IR OUT	Connect the included IR Blaster cable.
6.	Power LED	The green LED will light up when Transmitter is powered on.
7.	DC 5V	Connect the included power adapter.
8.	SERVICE	Used for firmware upgrade.
9.	IN (eARC)	Connect an ARC/eARC supporting AVR or AMP. The port supports ARC/eARC return from the Receiver.
10.	S/PDIF OUT	Connect an audio device such as soundbar, AVR, etc.

Operation Controls and Functions

No.	Name	Function Description
11.	EDID DIP switch	Change EDID settings. Up is 1 and down is 0. [DIP]=11: Copy EDID from RX HDMI output (factory default) [DIP]=10: 4K60, 2.0CH [DIP]=01: 4K60, 5.1CH [DIP]=00: Copy video from RX HDMI output and audio from TX S/PDIF OUT.

Receiver Panel



No.	Name	Function Description
1.	CAT IN	Connect a CAT 6/7 cable. The other end connects to the Transmitter.
2.	Link Status Indicator (Green)	- Light on: Connection established successfully. - Light off: Connection not established.
3.	Signal Indicator (Yellow)	- Light on: HDMI signal transmitting with HDCP. - Light flashing: HDMI signal transmitting without HDCP. - Light off: HDMI signal not transmitting.
4.	IR IN	Connect the included IR Receiver cable.
5.	IR OUT	Connect the included IR Blaster cable.

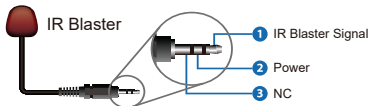
IR Pin Definition

No.	Name	Function Description
6.	Power LED	The green LED will light up when Receiver is powered on.
7.	DC 5V	Connect the included power adapter.
8.	SERVICE	Used for firmware upgrade.
9.	OUT (eARC)	Connect an ARC/eARC supporting TV. The port supports ARC/eARC return to the Transmitter.
10.	S/PDIF IN	Connect to the S/PDIF output on the TV. This is used to extract audio from the TV if it does not have ARC/eARC.
11.	eARC S/PDIF dial switch	Switch between eARC and S/PDIF modes. Switch to x1: the eARC mode is enabled. Switch to x0: the S/PDIF mode is enabled. "x" is the first number, and it can be any of 0/1.

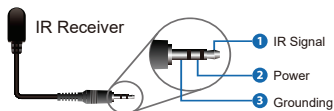
IR Pin Definition



IR BLASTER

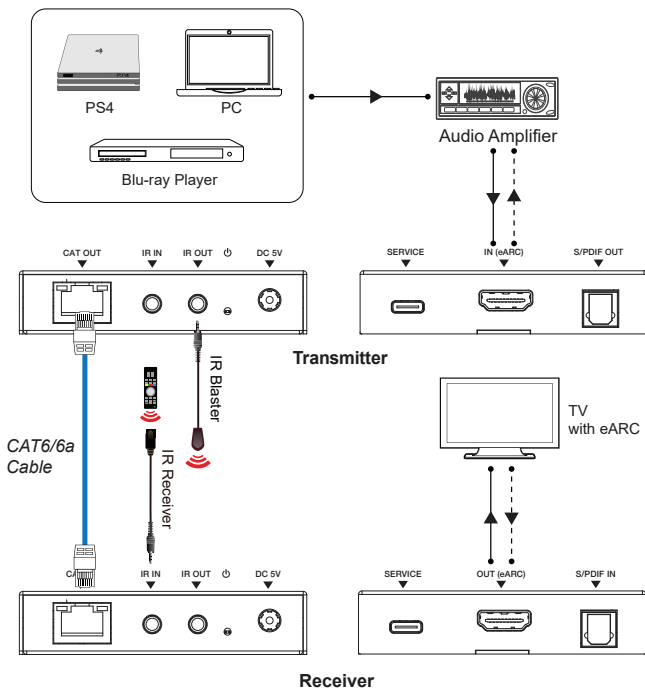


IR RECEIVER



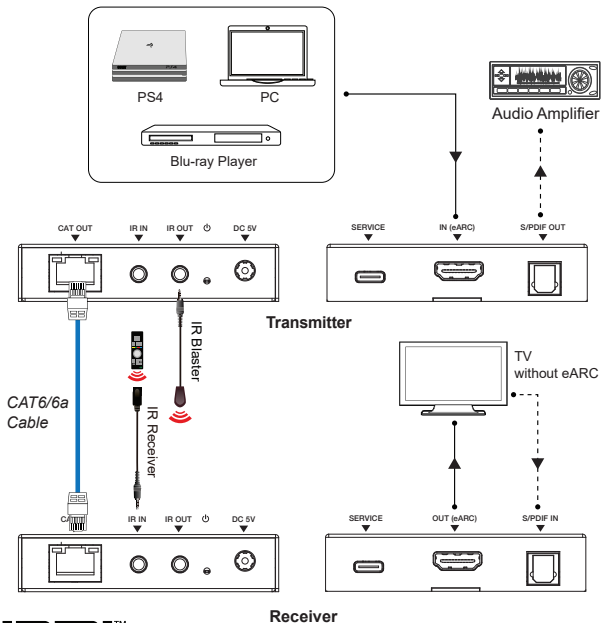
Application Example

1. eARC Mode



Application Example

2. S/PDIF Mode



HDMITM
HIGH-DEFINITION MULTIMEDIA INTERFACE

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FAQs & Troubleshooting

1. ARC/eARC audio not working

- Make sure ARC/eARC is enabled in the TV and the AVR/Soundbar settings.
- Enable eARC mode by changing the dip switch on the Receiver to 01 or 11.
- Try changing the audio format to a compatible one in the TV settings
- Make sure to use HDMI 2.1 cables.

NOTE: The eARC AVR connects to the Transmitter end and the eARC TV to the Receiver end.

2. No video output on the display

- Try lowering the video resolution from the source.
- Check the status the of the Yellow light on the CAT ports on both ends. If it doesn't light up on one or both ends, the CAT cable could be the issue.
- Try changing the HDMI cables.

Still have some questions?

Please feel free to contact us at: info@orei.com. OR Fill out the form on the 'Contact Us' page on the website.

Our team will be more than happy to help you.

OREI Live Technical Support Hours

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