



# OREI EX230-KVM HDMI Over Ethernet Extender Balun User Manual

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**EX230-KVM HDMI Over Ethernet Extender Balun**



**UHD-EX230-KVM 18Gbps HDMI  
Extender (70m) with KVM USER MANUAL**

**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 ecommended**

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 – [www.orei.com/register](http://www.orei.com/register)

**Technical Support**

**Need Help?**

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**

US team (US/Canada/Mexico): Monday-Friday, 9 a.m. – 6 p.m. Central Time

Support Email – [info@orei.com](mailto:info@orei.com) | Support Number – 877-290-5530 Or

Chat Live on [www.orei.com](http://www.orei.com)

Send us an instant message now. Our Technical Support Team will respond momentarily. Available during live support hours.

**Introduction**

This 18Gbps HDMI Extender can extend HDMI HD signal to a distance up to 230ft / 70m via a single CAT6/6a cable, which can achieve zero-delay, uncompressed long-distance transmission between the transmitter and receiver. Video resolution is up to 4K2K@60Hz. The Extender supports KVM signal pass-through, which can remote control source device at display device. It supports EDID copy pass-through function between the source device and display device. It supports POC function. This Extender can be widely used in multi-media conference halls, TV teaching and large-screen displays.



## Features

1. HDMI2.0b and HDCP 2.2 compliant
2. Support 18Gbps video bandwidth
3. Support video resolution up to 4K2K@60Hz RGB/YCBCR 4:4:4
4. The transmission distance can be extended up to 230ft / 70m via a single CAT6/6a cable
5. Support HDR, HDR10, HDR10+, Dolby Vision, HLG
6. Audio formats: LPCM 2.0/2.1/5.1/6.1/7.1, Dolby Digital, Dolby TrueHD, Dolby Digital Plus(DD+)
7. Support 3.5mm analog audio de-embedding, audio is output through the L/R OUT port of the receiver
8. EDID copy pass-through function between the source device and display device
9. Support bi-directional POC (Power over Cable) function
10. With USB KVM pass-through function, USB1.1 compliant, support remote-control by keyboard and mouse
11. Compact design for easy and flexible installation

## Package Contents

1	18Gbps HDMI Extender (Transmitter)	1pcs
2	18Gbps HDBaseT Extender (Receiver)	1pcs
3	USB-A to USB-B Cable (1.5 meters)	1pcs
4	Mounting Ears	4pcs
5	Machine Screws (KM3*4)	8pcs
6	12V/1A Locking Power Adapter	1pcs
7	User Manual	1pcs

## Specifications

### Technical

HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18Gbps
Video Resolution	Up to 4K2K@60Hz RGB/YCBCR 4:4:4
Transmission Distance	4K2K@60Hz 4:4:4–70m, 1080P–70m (CAT6 cable)
Color Depth	8/10/12bit
Color Space	RGB 4:4:4, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG
Audio Formats	LPCM 2.0/2.1/5.1/6.1/7.1, Dolby Digital, Dolby TrueHD, Dolby Digital Plus(DD+)

## Connection

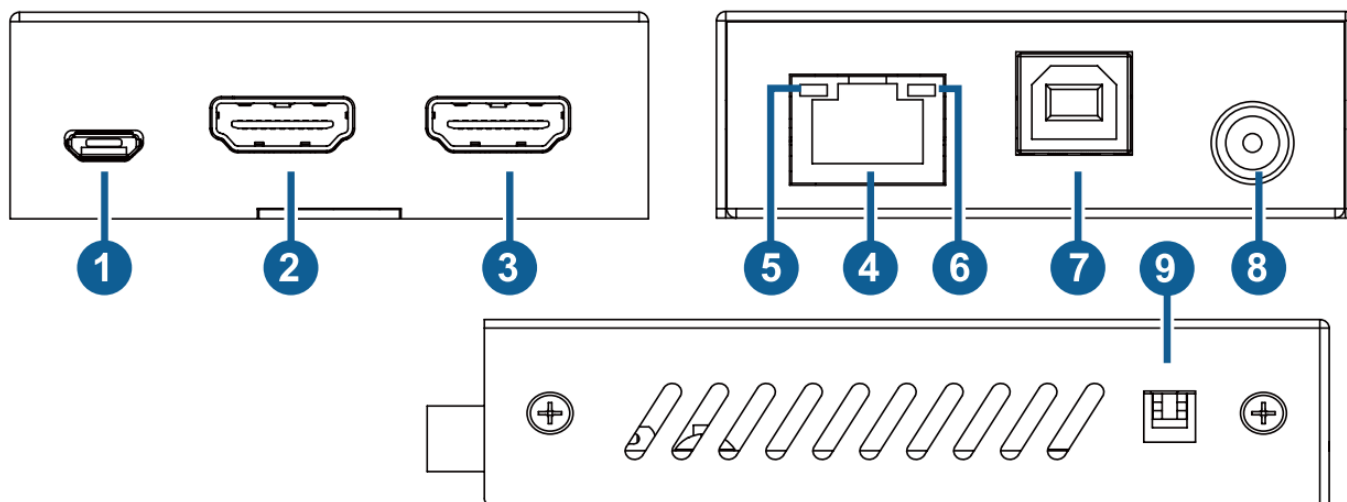
Transmitter	Input: 1 × HDMI IN [TypeA, 19-pin female] Output: 1 × HDMI OUT [TypeA, 19-pin female] 1 × CAT OUT [RJ45] Control: 1 × SERVICE [Micro-USB jack] 1 × USB port [Type-B jack]
Receiver	Input: 1 × CAT IN [RJ45] Output: 1 × HDMI OUT [TypeA, 19-pin female] 1 × L/R OUT [3.5mm Stereo Mini-jack] Control: 1 × SERVICE [Micro-USB jack] 2 × USB port [Type-A jack]

## Mechanical

Housing	Metal Enclosure
Silkscreen Color	Black
Dimensions	Transmitter / Receiver: 90mm (W)×68mm (D)×22mm (H)
Weight	Transmitter: 170g, Receiver: 169g
Operating Temperature	32 – 104°F / 0 – 40°C
Storage Temperature	-4 – 140°F / -20 – 60°C
Relative Humidity	20~90% RH (Non-condensing)
Power Consumption (Max)	4.2W (Max)
Power Supply	DC 12V/1A; Support bi-directional POC function

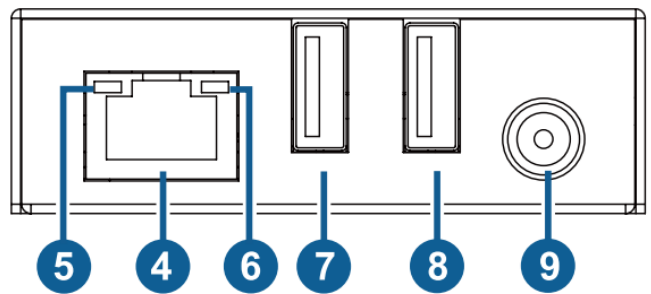
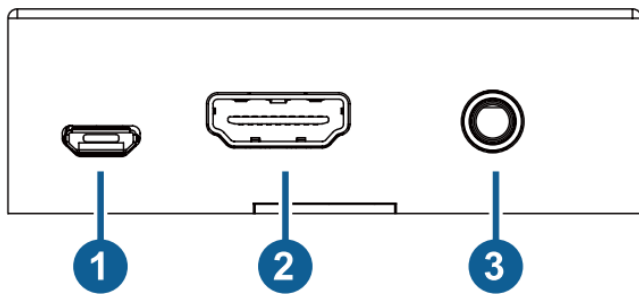
## Operation Controls and Functions

### Transmitter Panel



No.	Name	Function Description
1	SERVICE	Firmware update port.
2	HDMI OUT	HDMI signal loop output port. Connect to HDMI display devices with HDMI cable.
3	HDMI IN	HDMI signal input port. Connect to HDMI source device with HDMI cable.
4	CAT OUT	RJ45 connector for connecting the CAT IN port of the Receiver with CAT6/6a cable.
5	Data Signal Indicator (Yellow)	<ul style="list-style-type: none"> <li>▪ Illuminating: HDMI signal with HDCP.</li> <li>▪ Flashing: HDMI signal without HDCP.</li> <li>▪ Dark: No HDMI signal.</li> </ul>
6	Link Signal Indicator (Green)	<ul style="list-style-type: none"> <li>▪ Illuminating: Transmitter and Receiver are in good connection status.</li> <li>▪ Flashing: Transmitter and Receiver are in poor connection status.</li> <li>▪ Dark: Transmitter and Receiver are not connected.</li> </ul>
7	PC	Connect to PC. The computer can be accessed and controlled remotely through the USB port of the receiver (KVM function).
8	DC 12V	DC 12V/1A power input port. Note that the extender supports POC function, it means that either Transmitter or Receiver is connected to 12V/1A power supply, the other doesn't need power supply.
9	EDID DIP switch	Use the DIP switch to set EDID. (Switching to the upper end indicates 1; switching to the lower end indicates 0.) 11 – EDID information is copied from the display at the RX. 10 – EDID is preset to 4K@60Hz 2.0CH 01 – EDID is preset to 1080p 2.0CH 00 – EDID information is copied from the HDMI OUT at the TX.

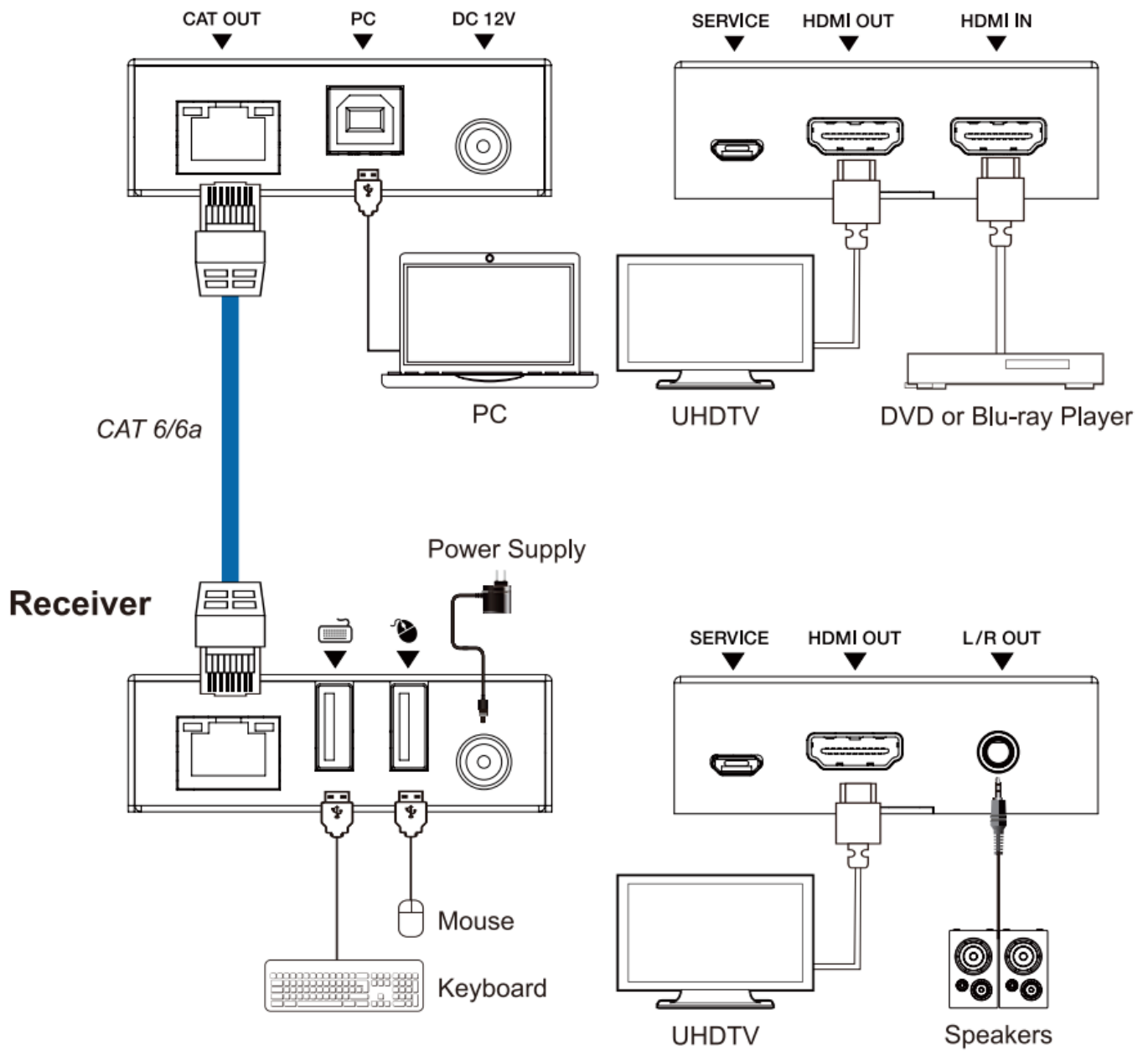
## Receiver Panel



No.	Name	Function Description
1	SERVICE	Firmware update port.
2	HDMI OUT	HDMI signal output port. Connect to HDMI display devices with HDMI cable.
3	L/R OUT	Analog audio output port, used for audio de-embedding output.
4	CAT IN	RJ45 connector for connecting the CAT OUT port of the Transmitter with CAT6/6a cable.
5	Data Signal Indicator (Yellow)	<ul style="list-style-type: none"> <li>▪ Illuminating: HDMI signal with HDCP.</li> <li>▪ Flashing: HDMI signal without HDCP.</li> <li>▪ Dark: No HDMI signal.</li> </ul>
6	Link Signal Indicator (Green)	<ul style="list-style-type: none"> <li>▪ Illuminating: Transmitter and Receiver are in good connection status.</li> <li>▪ Flashing: Transmitter and Receiver are in poor connection status.</li> <li>▪ Dark: Transmitter and Receiver are not connected.</li> </ul>
7	Keyboard port	Connect to the keyboard.
8	Mouse port	Connect to the mouse.
9	DC 12V	DC 12V/1A power input port. Note that the extender supports POC function, it means that either Transmitter or Receiver is connected to 12V/1A power supply, the other doesn't need power supply.

## Application Example

### Transmitter



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<https://www.youtube.com/channel/UCadsKVcb>  
[www.orei.com](http://www.orei.com)



18Gbps HDMI  
 Extender (70m) with KVM

## Documents / Resources



[OREI EX230-KVM HDMI Over Ethernet Extender Balun](#) [pdf] User Manual  
EX230-KVM HDMI Over Ethernet Extender Balun, EX230-KVM, HDMI Over Ethernet Extender Balun, Ethernet Extender Balun, Extender Balun, Balun

## References

- [OREI | Pro AV Solutions & Audio Video HDMI Accessories – OREI.COM](#)
- [OREI | Warranty Registration Form - OREI – OREI.COM](#)
- [User Manual](#)