



USB3-EX2H330R-K

**USB 3.2 Extender (Dual
HDMI™) - 330ft (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):

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

Introduction & Features

Introduction

USB3-EX2H330R-K is a professional-grade solution designed to extend both high-speed USB 3.2 Gen 1 signals and HDMI™ video up to 100m (328ft) over a single Cat6a cable. Featuring advanced connectivity and simplified installation, this system provides seamless long-distance transmission for a wide range of USB devices and high-definition video sources.

The transmitter offers two selectable USB-C host ports, and two USB-A device ports, while the receiver provides two USB-C and two USB-A device ports, along with dual HDMI™ output ports supporting resolutions up to 4K@60Hz and a dedicated audio de-embedding output. Auto-switching and manual switching modes are available for the USB-C host ports, offering enhanced flexibility for connected devices.

Bi-directional 24V PoC (Power over Cable) simplifies installation by requiring power at only one end, and RS-232 pass-through ensures convenient system integration. Ideal for conference rooms, classrooms, industrial applications, and commercial AV setups, this extender delivers reliable, high-performance USB and HDMI™ signal extension in a compact and efficient form factor.

Features

1. **USB 3.2 Gen 1 and USB 2.0 Compatible** – Supports high-speed data transmission up to 5Gbps for both modern and legacy USB devices.
2. **USB Signal Extension up to 100m/328ft** – Reliable long-distance transmission over a single Cat6a cable.
3. **Dual HDMI™ Output Ports** – Supports video resolutions up to 4K@60Hz (HDMI™ 2.0b), providing high-quality Ultra HD video output.

Features & Package Contents

4. **Downstream USB Ports with USB 3.2 Gen 1 Support** – Ensures fast and stable performance for connected USB peripherals.
5. **Selectable Dual USB-C Host Ports** – Allows for easy source selection with both automatic and manual switching options.
6. **Audio De-embedding Output** – Provides convenient audio extraction for connection to sound systems or amplifiers.
7. **RS-232 Pass-through and Serial Control** – Enables seamless integration with third-party control systems.
8. **Bi-directional 24V PoC (Power over Cable)** – Only one power connection is required at either the transmitter or receiver, simplifying installation.
9. **Wide Device Compatibility** – Supports webcams, PTZ cameras, keyboard, mouse, USB microphones, printers, scanners, touch panel displays, and other USB devices.
10. **Compact, Reliable Design** – Engineered for professional AV environments where long-distance signal extension and installation flexibility are required.

Package Contents

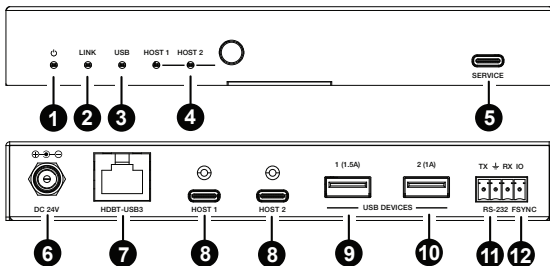
1.	USB3-EX2H330R-K Transmitter	1pcs
2.	USB3-EX2H330R-K Receiver	1pcs
3.	4pin-3.5mm Phoenix Connector	2pcs
4.	Mounting Ear	4pcs
5.	Machine Screw (KM3*4)	8pcs
6.	Power Adapter	1pcs
7.	User Manual	1pcs

Specifications

Technical	
USB Protocol	USB 3.2 Gen1
Transmission Rate	Up to 5Gbps
Transmission Distance	100m/328ft over CAT6a (F/FTP) cable
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge) , ±4kV (Contact discharge)
Connections	
Transmitter	Input: 2 × USB HOST [USB-C, 24pin female] Output: 1 × HDBT-USB3 [RJ45, female] 2 × USB Devices [USB-A, 9pin female] Control: 1 × SERVICE [USB-C, update port]
Receiver	Input: 1 × HDBT-USB3 [RJ45, female] Output: 2 × USB Devices [USB-A, 9pin female] 2 × USB Devices [USB-C, 24pin female] 2 × HDMI [Type A, 19pin female] 1 × AUDIO [3.5mm stereo mini jack] Control: 1 × SERVICE [USB-C, update port]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter: L: 160mm / 6.29in W: 95mm / 3.74in H: 23mm / 0.90in Receiver: L: 180mm / 7.08in W: 95mm / 3.74in H: 23mm / 0.90in
Weight	Transmitter: 380g / 13.40oz, Receiver: 447g / 15.76oz
Power Supply	Input: AC 100~240V 50/60Hz Output: DC 24V/3.75A (US/EU standards, CE/FCC/UL certified)
Power Consumption	67.89W (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

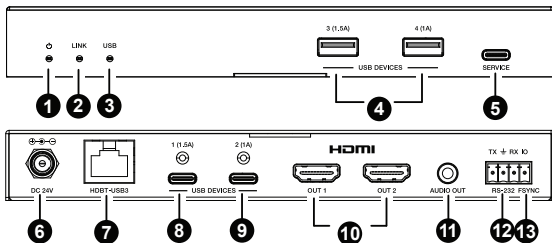


No.	Name	Function Description
1.	POWER LED	The LED will light up when the Transmitter is powered on.
2.	LINK LED	Connection signal indicator. ▪ On: Transmitter and Receiver are connected and linked. ▪ Off: Transmitter and Receiver are not connected.
3.	USB LED	USB signal indicator. ▪ On: USB 3.0 signal is detected. ▪ Blinking: USB 2.0 signal is detected. ▪ Off: USB signal is not detected.
4.	HOST switch button & LED	The button is used to switch between HOST 1 and HOST 2. When HOST 1/2 is selected, the corresponding LED will light up.
5.	SERVICE	Firmware update port, supporting API commands.
6.	DC 24V	Connect the included power adapter.
7.	HDBT-USB3	Connect a CAT 6/7 cable. The other end connects to the Receiver.

Operation Controls and Functions

No.	Name	Function Description
8.	USB HOST1/2	Connect to a USB port on a computer or laptop.
9.	USB DEVICES 1	Connect a USB peripheral such as keyboard, mouse, USB drive, webcam, etc. The port provides 5V/1.5A power.
10.	USB DEVICES 2	Connect a USB peripheral such as keyboard, mouse, USB drive, webcam, etc. The port provides 5V/1A power.
11.	RS-232	Connect to a Laptop or PC to send RS-232 commands.
12.	FSYNC	Pass-through sync port (0-5V) that lets you send a trigger or sync signal from the Transmitter to the Receiver. Use it to connect external devices (e.g., cameras, controllers, lighting) that need to stay synchronized on both ends.

Receiver Panel



Operation Controls and Functions

No.	Name	Function Description
1.	POWER LED	The LED will light up when the Receiver is powered on.
2.	LINK LED	Connection signal indicator. ▪ On: Transmitter and Receiver are connected and linked. ▪ Off: Transmitter and Receiver are not connected.
3.	USB LED	USB signal indicator. ▪ On: USB 3.0 signal is detected. ▪ Blinking: USB 2.0 signal is detected. ▪ Off: USB signal is not detected.
4.	USB DEVICE 3/4	Connect a USB peripheral such as keyboard, mouse, USB drive, webcam, etc. The port provides 5V/1.5A power.
5.	SERVICE	Firmware update port, supporting API commands.
6.	DC 24V	Connect the included power adapter.
7.	HDBT-USB3	Connect a CAT 6/7 cable. The other end connects to the Transmitter.
8.	USB DEVICES 1	Connect a USB peripheral such as keyboard, mouse, USB drive, webcam, etc. The port provides 5V/1.5A power.
9.	USB DEVICES 2	Connect a USB peripheral such as keyboard, mouse, USB drive, webcam, etc. The port provides 5V/1A power.
10.	HDMI OUT1/2	Connect a display device such as TV, Monitor, etc.
11.	AUDIO OUT	Connect an audio device with a 3.5mm input such as headphones, soundbars, etc.
12.	RS-232	Connect to a Laptop or PC to send RS-232 commands.
13.	FSYNC	Pass-through sync port (0-5V) that lets you send a trigger or sync signal from the Transmitter to the Receiver. Use it to connect external devices (e.g., cameras, controllers, lighting) that need to stay synchronized on both ends.

RS-232 Commands

The product also supports RS-232 commands control. Connect the RS-232 port of the product to a PC with a 3-pin phoenix connector cable and an RS-232 to USB cable. Then, open a Serial Command tool on PC to send RS-232 commands to control the product. The RS-232 command list is shown below.

ASCII Commands				
1. Service port (USB-C virtual RS-232) communication protocol (Internal debug) Baud rate: 115200(Fixed) Data bit: 8 Stop bit: 1 Parity bit: none The end mark of command is "<CR><LF>" Note: Service port supports command line operations				
2. Phoenix RS-232 port communication protocol (Connect to control system) Baud rate: 4800~115200(Configurable) Data bit: 8 Stop bit: 1 Parity bit: none The end mark of command is "<CR><LF>"				
Command	Function Description	Example	Feedback	Default
System Setting				
?	Get the list of all commands	?		
help	Get the list of all commands	help		
get fw version	Get firmware version	get fw version	TX FW 1.0.0 RX FW 1.0.0	
set reboot	Reboot the device	set reboot	Reboot... System Initializing... Initialization Finished! TX FW 1.0.0	
set reset	Reset to factory defaults	set reset	Sure to RESET to default settings? Type "Yes" after next prompt to confirm...	
get status	Get system status	get status	Please refer to the note at the end of the list.	

RS-232 Commands

Command	Function Description	Example	Feedback	Default
set key on/off	Set front panel key on/off	set key on set key off	Set key on Set key off	on
get key	Get front panel key on/off status	get key	Key on	
set baud x	Set RS-232 baud rate to x bps x=1: 4800 x=2: 9600 x=3: 19200 x=4: 38400 x=5: 57600 x=6: 115200	set baud 6	Set baud rate 115200	115200
get baud	Get RS-232 baud rate	get baud	Baud rate 115200	
set input x	Set USB host input port (x=1-2) x=1: USB host 1 (USBC) x=2: USB host 2 (USBC)	set input 1	Set input USB host 1	1
get input	Get USB host input port	get input	Input USB host 1	
get usb5v x	Get USB host input port 5V (x=0-2) x=0: all USB host inputs x=1: USB host 1 (USBC) x=2: USB host 2 (USBC)	get usb5v 0	USB host 1: 5V USB host 2: none	
set autoswitch x	Set auto-switching on/off (USB 5V detection) x=On, Off	set autoswitch on	Set autoswitch on	on
get autoswitch	Get auto-switching status	get autoswitch	Autoswitch on	

RS-232 Commands

Command	Function Description	Example	Feedback	Default
set tx usbd x power y	Set TX USB device ports (x=0~2) power to (y=0~2) x=0: TX all USB device ports x=1: TX USB device 1 (USBA) x=2: TX USB device 2 (USBA) y=0: Force power off y=1: Follow USB host power y=2: Force power on	set tx usbd 0 power 1	Set TX all USB device ports power follow USB host power	1
get tx usbd x power	Get TX USB device ports (x=0~2) power status x=0: TX all USB device ports x=1: TX USB device 1 (USBA) x=2: TX USB device 2 (USBA)	get tx usbd 0 power	TX all USB device ports power follow USB host power	
set rx usbd x power y	Set RX USB device ports (x=0~4) power to (y=0~2) x=0: RX all USB device ports x=1: RX USB device 1 (USBC) x=2: RX USB device 2 (USBC) x=3: RX USB device 3 (USBA) x=4: RX USB device 4 (USBA) y=0: Force power off y=1: Follow USB host power y=2: Force power on	set rx usbd 0 power 1	Set RX all USB device ports power follow USB host power	1
get rx usbd x power	Get RX USB device ports (x=0~4) power status x=0: RX all USB device ports x=1: RX USB device 1 (USBC) x=2: RX USB device 2 (USBC) x=3: RX USB device 3 (USBA) x=4: RX USB device 4 (USBA)	get rx usbd 0 power	RX all USB device ports power follow USB host power	
set hdbt update	Set service port to HDBT UART for FW update	set hdbt update	Hdbt update	

Note: The feedback of the command of "get status" is as follow.

Status Info 2-Port USB 3.2 Gen 1 Extender

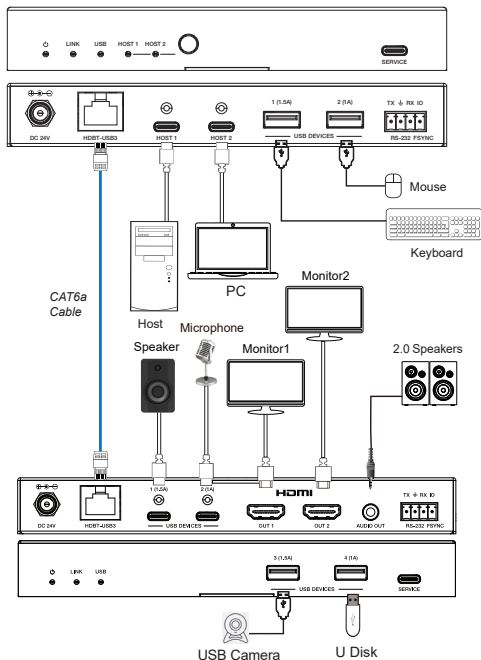
TX FW 1.0.0 RX FW 1.0.0

Source	Key	Baud	AutoSwitch
01	On	115200	On

In/Out	Host_1	Host_2	HDMI_Out1	HDMI_Out2
Cable	Disconnected	Connected	Connected	Connected

Output	USB_Power
TX_01	Follow_Input
TX_02	Follow_Input
RX_01	Follow_Input
RX_02	Follow_Input
RX_03	Follow_Input
RX_04	Follow_Input

Application Example



HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE

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FAQs & Troubleshooting

1. What kind of USB devices can I connect with this extender?

You can connect USB drives, webcams, etc. Basically any USB device that you want to access remotely.

2. Can I access my security cameras through this device?

Yes, if you have security cameras in your home or office or factory that work over USB, you can access them through this device.

3. The device is not working.

- Check if the connections are made correctly.
- Try changing the CAT cable.
- Use a different USB port on the PC or Laptop.
- If you have connected a high power drawing device like hard drive or SSD, try unplugging it and see if it works.

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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Support Email - info@orei.com | **Support Number** - 877-290-5530



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