



UHD12-EX115-K

**18Gbps HDMI 1x2 Splitter
Over CAT6 Up To 115ft**

USER MANUAL

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Table of Contents

Introduction	04
Features	05
Package Contents	05
Specifications	06
Operation Controls and Functions	08
EDID Mode	12
ASCII Commands	13
Application Example	18

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 recommended

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.

Registration Page

Please Activate your warranty by registering our product through the link below - 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.

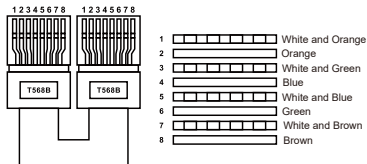
OREI Live Technical Support Hours

US team (US/Canada/Mexico): Monday-Friday, 9 a.m. - 6 p.m. Central Time **Support Email** - info@orei.com |

Support Number - 877-290-5530

Caution

The product requires the use of UTP connectors. Please use direct interconnection method and not cross connect.



Direct Interconnection Method

Introduction

The UHD12-EX115-K can distribute 1 HDMI source signal to 2 display devices up to 115ft, with video resolution up to 4K@50/60Hz 4:4:4. It features an HDMI loop output and 2 CAT outputs. The HDMI signal can be extended up to 115ft/35m at the resolution of 4K@60Hz, or 164ft/50m at 4K@30Hz, or 197ft/60m at 1080P@60Hz via a single CAT6/6a/7 cable. The product features one-way IR control to control the source from the Receiver(s) end. Coax and L/R outputs on the Transmitter for audio extraction. Advanced EDID management through dip switches on the Transmitter.



Features & Package Contents

1. HDMI 2.0b, HDCP 2.2 and HDCP 1.x compliant
2. 18Gbps video bandwidth
3. Video resolution up to 4K@60Hz 4:4:4
4. HDR, HDR10+, HLG and Dolby vision support
5. 7.1CH HD audio pass-through on the HDMI outputs
6. Coax and L/R audio de-embedded output on the Transmitter
7. Extend the signal up to 115ft/35m at the resolution of 4K@60Hz, 164ft/50m at 4K@30Hz, 197ft/60m at 1080P@60Hz via a single CAT6/6a/7 cable.
8. HDMI loop output to connect a display near the source.
9. One-way IR to control source equipment from the RX side
10. Advanced EDID management
11. Features One-way POC (Power Over Cable); meaning power supply is only required at the Transmitter end.

Package Contents

1.	UHD12-EX115-K (Transmitter)	1 pcs
2.	Receiver Unit	2 pcs
3.	IR Blaster Cable (1.5m)	1 pcs
4.	IR Receiver Cable (1.5m)	2 pcs
5.	12V/1A DC Locking Power Adapter	1 pcs
6.	User Manual	1 pcs

Specifications

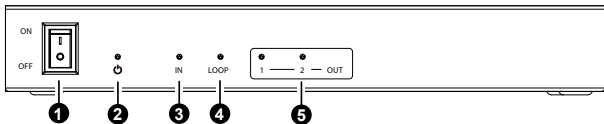
Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2/1.x
Video Bandwidth	594MHz/18Gbps
Video Resolution	480i ~1080P@50/60Hz, 2K@24/30/60Hz, 4K@24/30/60Hz
Color Depth	8-bit, 10-bit, 12-bit (1080p@60Hz) 8-bit (4K & 2K@60Hz YUV4:4:4) 8-bit, 10-bit, 12-bit (4K & 2K@60Hz YCbCr 4:2:2/4:2:0)
Color Space	RGB, YCbCr 4:4:4 / 4:2:2, YUV 4:2:0
HDR	HDR10, HDR10+, HLG, Dolby Vision
HDMI Audio Formats	LPCM, Dolby Digital/Plus/EX, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio
Coaxial Audio Formats	LPCM 2.0, LPCM 5.1, Dolby Digital 2/5.1CH
Analog Audio Formats	PCM 2.0CH
Extended Distance	115ft/35m at 4K@60Hz (600M Bandwidth) 164ft/50m at 4K@30Hz (300M Bandwidth) 197ft/60m at 1080P@60Hz (148.5M Bandwidth)
ESD Protection	Human body model—±8kV (Air-gap discharge) & ±4kV (Contact discharge)

Specifications

Connection	
Transmitter	
Input	1 × HDMI IN [Type A, 19-pin female] 1 × SERVICE [Micro USB, Update port]
Output	1 × HDMI LOOP OUT [Type A, 19-pin female] 2 × CAT OUTPUT [RJ45, 8-pin female] 1 × IR OUT [3.5mm Stereo Mini-jack] 1 × COAX AUDIO OUT [RCA] 1 × L/R AUDIO OUT [3.5mm Stereo Mini-jack]
Receiver	
Input	1 × CAT INPUT [RJ45, 8-pin female] 1 × SERVICE [Micro USB, Update port] 1 × IR IN [3.5mm Stereo Mini-jack]
Output	1 × HDMI OUT [Type A, 19-pin female]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter: 175mm (L) × 100mm (W) × 25mm (H) Receiver: 88mm (L) × 61mm (W) × 18mm (H)
Weight	Transmitter: 485g/17.11oz Receiver: 155g/5.46oz
Power Consumption	8.28W (Max)
Power Supply	Input: AC 100-240V 50/60Hz, Output: DC 12V/1A (US/EU standards, CE/FCC/UL certified)

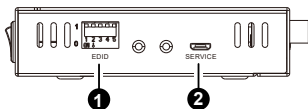
Operation Controls and Functions

Transmitter: Front Panel



No.	Name	Function Description
1.	Power switch	Press this switch to power on/off the device.
2.	Power LED	When the device is powered on, the red power LED will turn on.
3.	IN LED	When an active source device is connected to the HDMI IN port, the green LED will turn on.
4.	LOOP LED	When a display is connected to the HDMI LOOP OUT port, the green LED will turn on.
5.	OUT LED (1-2)	When CAT OUTPUT 1/2 port is connected to the CAT IN port of the receiver, the corresponding green LED will turn on.

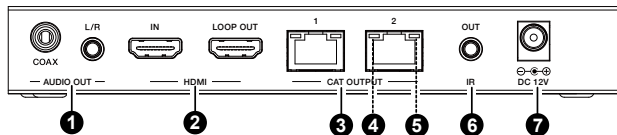
Transmitter: Side Panel



No.	Name	Function Description
1.	EDID DIAL switch	Used to set EDID mode. Please refer to "EDID Mode (Page 12)" for details.
2.	SERVICE port	Used for firmware update or serial port command control. Please refer to "ASCII Commands (Page 13)" for details.

Operation Controls and Functions

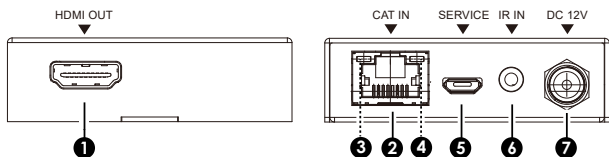
Transmitter: Rear Panel



No.	Name	Function Description
1.	AUDIO OUT (COAX, L/R)	Coaxial/analog audio output port; connect an amplifier or speaker for audio.
2.	HDMI port	IN: HDMI input port; connect an HDMI source device such as DVD Player or set-top box with an HDMI cable. LOOP OUT: HDMI loop output port; connect an HDMI display such as TV or Monitor with an HDMI cable.
3.	CAT OUTPUT port (1-2)	Connect to the CAT IN port of the Receiver with a CAT cable.
4.	Link Signal Indicator (Green)	<ul style="list-style-type: none">• Illuminating: Transmitter and receiver are connected.• Dark: Transmitter and receiver are not connected.
5.	Data Signal Indicator (Orange)	<ul style="list-style-type: none">• Illuminating: HDMI signal with HDCP.• Flashing: HDMI signal without HDCP.• Dark: No HDMI signal.
6.	IR OUT	Connect the IR Blaster cable to transmit IR signal received from the Receiver.
7.	DC 12V	Plug the DC 12V power supply into the unit and connect the adapter to an AC outlet. (Note: The transmitter can power the receiver via the CAT cable.)

Operation Controls and Functions

CAT Receiver



No.	Name	Function Description
1.	HDMI OUT	HDMI output port; connect an HDMI display such as TV or Projector with an HDMI cable.
2.	CAT IN	Connect to the CAT OUTPUT port on the Transmitter with a CAT cable.
3.	Power Indicator (Green)	When the Receiver is powered on, the power indicator will turn on.
4.	Data Signal Indicator (Orange)	<ul style="list-style-type: none">• Illuminating: HDMI signal with HDCP.• Flashing: HDMI signal without HDCP.• Dark: No HDMI signal.
5.	SERVICE port	Used for firmware update.
6.	IR IN	Connect the IR Receiver cable. The IR signal will be sent to the IR OUT port of the transmitter.
7.	DC 12V	Plug a DC 12V/1A power supply into the unit and connect the adapter to an AC outlet. (Note: The Receiver can be powered by the Transmitter via the CAT cable, so a separate power supply is not required.)

Operation Controls and Functions

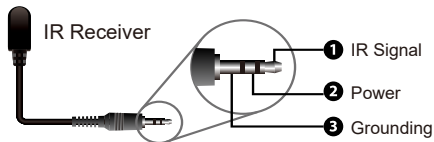
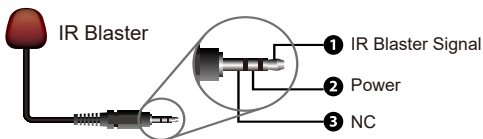
IR Pin Definition



IR Receiver



IR Blaster



Note: When the angle between the IR receiver and the remote control is $\pm 45^\circ$, the transmission distance is 0-5 meters; when the angle between the IR receiver and the remote control is $\pm 90^\circ$, the transmission distance is 0-8 meters.

EDID Mode

The defined EDID setting list of the product is shown below.

1 means "UP" and 0 means "DOWN"

EDID Mode	EDID Description	EDID Mode	EDID Description
11111	1080P, Stereo 2.0	01111	4K/2K60Hz_444, Dolby/DTS 5.1
11110	1080P, Dolby/DTS 5.1	01110	4K/2K60Hz_444, HD Audio 7.1
11101	1080P, HD Audio 7.1	01101	4K/2K60Hz_444, Stereo 2.0 HDR
11100	1080I, Stereo 2.0	01100	4K/2K60Hz_444, Dolby/DTS 5.1 HDR
11011	1080I, Dolby/DTS 5.1	01011	4K/2K60Hz_444, HD Audio 7.1 HDR
11010	1080I, HD Audio 7.1	01010	COPY_FROM_LOOP OUT
11001	1080P 3D, Stereo 2.0	01001	COPY_FROM_CAT OUT1
11000	1080P 3D, Dolby/DTS 5.1	01000	COPY_FROM_CAT OUT2
10111	1080P 3D, HD Audio 7.1	00111	1080P, Stereo 2.0
10110	4K/2K30Hz_444, Stereo 2.0	00110	1080P, Stereo 2.0
10101	4K/2K30Hz_444, Dolby/DTS 5.1	00101	1080P, Stereo 2.0
10100	4K/2K30Hz_444, HD Audio 7.1	00100	1080P, Stereo 2.0
10011	4K/2K60Hz_420, Stereo Audio 2.0	00011	1080P, Stereo 2.0
10010	4K/2K60Hz_420, Dolby/DTS 5.1	00010	1080P, Stereo 2.0
10001	4K/2K60Hz_420, HD Audio 7.1	00001	1080P, Stereo 2.0
10000	4K/2K60Hz_444, Stereo 2.0	00000	PC control mode

ASCII Commands

The product also supports ASCII command control. Connect the SERVICE port of the product to a PC with an USB cable. Then, open a Serial Command tool on PC to send ASCII commands to control the product.

The ASCII commands list is as below.

ASCII Commands				
Serial port protocol. Baud rate: 115200 (default), Data bits: 8bit, Stop bits:1; Check bit: 0				
x - Parameter 1; y - Parameter 2; ! - Delimiter				
Command Code	Function Description	Example	Feedback	Default
Power				
s power z!	Power on/off the device.z=0-1 (z=0 power off, z=1 power on)	s power 1!	Power on System Initializing... Initialization Finished! FW version x.xx.xx	power on
r power!	Get current power state	r power!	power on/power off	
s reboot!	Reboot the device	s reboot!	reboot	

ASCII Commands

Command Code	Function Description	Example	Feedback	Default
System Setting				
help!	List all commands	help!		
r type!	Get device model	r type!	UHD12-EX115-K	
r status!	Get device current status	r status!	Get the unit all status: power, in/out connection, edid mode	
r fw version!	Get Firmware version	r fw version!	MCU BOOT: Vx.xx.xx MCU APP: Vx.xx.xx	
r link in!	Get the connection status of the input port	r link in!	HDMI IN: connect	
r link out y!	Get the connection status of the y output port, y=0-2 (0=all, 1-2=CAT 1-2)	r link out 1!	CAT OUT1: connect	
r link loop out y!	Get the connection status of the y loop output port, y=1	r link loop out 1!	HDMI LOOP OUT: r link loop out 1! connect	
s reset!	Reset to factory defaults	s reset!	Reset to factory defaults System Initializing... Initialization Finished! FW version x.xx.xx	

ASCII Commands

Command Code	Function Description	Example	Feedback	Default
Output Setting				
s hdmi stream z!	Set hdmi loop output stream on/off z=0~1 (0:disable,1:enable)	s hdmi stream 1 !	Enable hdmi loop out stream Disable hdmi loop out stream	enable
s cat y stream z!	Set cat output y stream on/off, y=0~2 (0=all), z=0~1 (0:disable,1:enable)	s cat 1 stream 1 ! s cat 0 stream 1 !	Enable cat output 1 stream Disable cat output 1 stream Enable cat all outputs stream Disable cat all outputs stream	enable
r hdmi stream!	Get hdmi loop out stream status	r hdmi stream!	Enable hdmi loop output stream	
r cat y stream!	Get cat output y stream status, y=0~2 (0=all)	r cat 1 stream!	Enable cat output 1 stream	
s hdmi hdcp z!	set hdmi loop output port hdcp status, z=0~1 (0=disable, 1=enable)	s hdmi hdcp 1 !	hdmi loop out hdcp on	all hdmi out hdcp active
r hdmi hdcp!	Get HDCP status of loop out	r hdmi hdcp!	hdmi loop out hdcp on	
s cat y hdcp z!	set cat output y port hdcp status y=0~2 (0=all), z=0~1 (1=on, 0=off)	s cat 1 hdcp 1 !	cat out 1 hdcp on	all cat out hdcp active
r cat y hdcp!	Get HDCP status of cat out y, y=0~2 (0=all)	r cat 1 hdcp!	cat out 1 hdcp on	

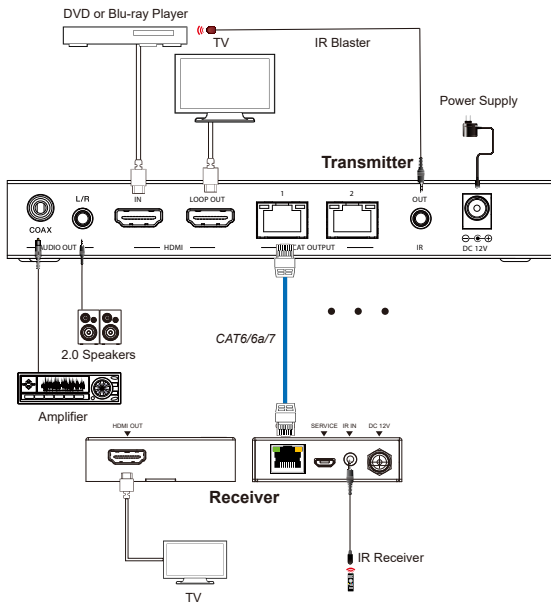
ASCII Commands

Command Code	Function Description	Example	Feedback	Default
Output Setting				
s cat y dsc mode z!	set cat output y port dsc mode status y=0~2 (0=all), z=1~3 (1=Cat cable distance normal Mode, 2=Cat cable distance 35M Mode, 3=Cat cable distance 70M Mode)	s cat 1 dsc mode 2!	cat out 1 dsc mode 2	Cat cable distance 35M Mode (35M)
r cat y dsc mode!	Get dsc mode of cat out y, y=0~2 (0=all)	r cat 1 dsc mode!	cat out 1 dsc mode 2	
s audio mute 1!	set audio output port mute status (1-mute, 0-umute)	s audio mute 1!	s audio mute 1	s audio unmute (0)
r audio mute!	Get audio output mute status	r audio mute!	audio mute 1	
EDID Setting				
s edid user1 00 FF FF FF FF ...!	Set user1 EDID data	s edid user1 00 ff ff ff ff ... !	user1 EDID data: 00 FF FF ...	
r edid user1!	Get user1 EDID data	r edid user1!	user1 EDID data : 00 FF FF FF FF FF FF 00	
r edid in!	Get EDID status of the input	r edid in!	input EDID: 4K2K60_444,Stereo Audio 2.0	
r edid in data!	Get the EDID data of the hdmi input	r edid in data!	EDID data : 00 FF FF FF FF FF FF 00	

ASCII Commands

Command Code	Function Description	Example	Feedback	Default
EDID Setting				
s edid in from z!	Set input EDID from default EDID z, z=1-24 1. 1080p,Stereo Audio 2.0 2. 1080p,Dolby/DTS 5.1 3. 1080p,HD Audio 7.1 4. 1080i,Stereo Audio 2.0 5. 1080i,Dolby/DTS 5.1 6. 1080i,HD Audio 7.1 7. 3D,Stereo Audio 2.0 8. 3D,Dolby/DTS 5.1 9. 3D,HD Audio 7.1 10. 4K2K30_444,Stereo Audio 2.0 11. K2K30_444,Dolby/DTS 5.1 12. 4K2K30_444,HD Audio 7.1 13. 4K2K60_420,Stereo Audio 2.0 14. K2K60_420,Dolby/DTS 5.1 15. 4K2K60_420,HD Audio 7.1 16. 4K2K60_444,Stereo Audio 2.0 17. K2K60_444,Dolby/DTS 5.1 18. 4K2K60_444,HD Audio 7.1 19. 4K2K60_444,Stereo Audio 2.0 HDR 20. 4K2K60_444,Dolby/ DTS 5.1 HDR 21. 4K2K60_444,HD Audio 7.1 HDR 22. copy from hdmi loop out 23. copy from cat output 1 24. copy from cat output 2	s edid in from !	input EDID:1080p, Stereo Audio 2.0 Please toggle EDID dip switch to 00000!	1080p, Stereo Audio 2.0

Application Example



HDMI[™]
HIGH-DEFINITION MULTIMEDIA INTERFACE

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