UHD-EXB230AR-K

**18Gbps HDBaseT
Extender (70m) with ARC**

*Follow us on Youtube
and Facebook*

USER MANUAL

www.orei.com

Table of Contents

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.

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

Or
Chat Live on www.orei.com
Send us an instant message now. Our Technical Support Team will respond momentarily. Available during live support hours.

Introduction

This 18Gbps HDBaseT Extender can extend HDMI signal, bi-directional IR control signal, ARC signal and RS-232 control signal to a distance up to 70m / 230ft via a single CAT5e/6 cable. This product converts HDMI signal to standard HDBaseT signal and transmits it through LAN cable. It can easily control signal source device or display device from the remote end through bi-directional IR signal pass-through function. Video resolution up to 4K2K@60Hz. It supports ARC and POC function. The extender can be widely used in other fields such as video conference system, multimedia signal broadcasting, HDMI signal extension, etc.

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 70m / 230ft via a single CAT5e/6 cable
5. Support bi-directional IR and RS-232 control signal pass-through
6. Support ARC function, audio formats support Dolby 5.1, DTS 5.1, PCM2.0, etc.
7. Advanced EDID management
8. Support POC (Power over Cable) function
9. Compact design for easy and flexible installation

Package Contents

1.	18Gbps HDBaseT Extender (Transmitter)	1pcs
2.	18Gbps HDBaseT Extender (Receiver)	1pcs
3.	IR Blaster cable (1.5 meters)	1pcs
4.	IR Wideband Receiver cable (1.5 meters)	1pcs
5.	3pin-3.81mm Phoenix Connectors (male)	2pcs
6.	Mounting Ears	4pcs
7.	Machine Screws	8pcs
8.	24V/1A Locking Power Adapter	1pcs
9.	User Manual	1pcs

| 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
IR Level	5Vp-p
IR Frequency	Wideband 20K-60KHz
Transmission Distance	70m via a single CAT5e/6 cable
Color Depth	8-bit, 10-bit, 12-bit (1080P) 8-bit (4K60) 8-bit, 10-bit, 12-bit (4K24/30)
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG
Audio Formats	**HDMI:** LPCM 7.1CH, Dolby True HD, and DTS-HD Master **Optical:** Dolby 5.1, DTS 5.1, PCM 2.0
Connection	

Transmitter	Input: 1×HDMI IN [TypeA, 19-pin female]
	Output: 1×HDBT OUT [RJ45]
	           1×SPDIF OUT
	Control: 1×RS-232 [3pin-3.81mm Phoenix connector]
	          1×SERVICE [Micro-USB jack]
	          1×IR IN [3.5mm Stereo Mini-jack]
	          1×IR OUT [3.5mm Stereo Mini-jack]

Specifications

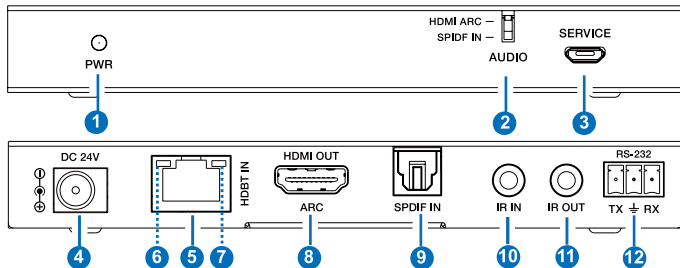| Receiver | Input: 1×HDBT IN [RJ45] |
	1×SPDIF IN
	Output: 1×HDMI OUT [TypeA, 19-pin female]
	Control: 1×RS-232 [3pin-3.81mm Phoenix connector]
	1×SERVICE [Micro-USB jack]
	1×IR IN [3.5mm Stereo Mini-jack]
	1×IR OUT [3.5mm Stereo Mini-jack]
Mechanical	
Housing	Metal Enclosure
Silkscreen Color	Black
Dimensions	Transmitter / Receiver:140mm (W)×65mm (D)×18mm (H)
Weight	Transmitter: 235 g, Receiver: 239 g
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)	9.6W (Max)
Power Supply	DC 24V/1A;
	Support bi-directional POC function

Operation Controls and Functions

Transmitter Panel
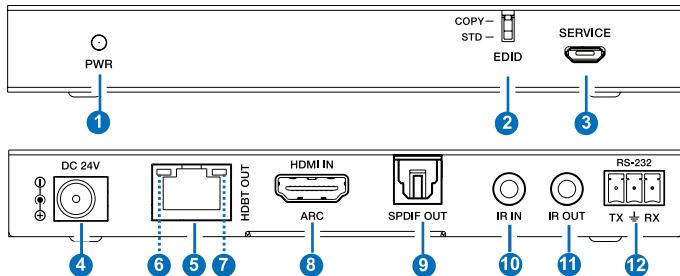
No.	Name	Function Description
1.	POWER LED	The red LED is on when the Transmitter is powered on.
2.	EDID DIP switch	Used for audio EDID setting (dial to COPY by default). COPY: Copy the EDID of the HDMI OUT port of Receiver. STD: Default 1080P 2CH
3.	SERVICE	Firmware update port.
4.	DC 24V	DC 24V/1A power input port. Note that the extender supports POC function, it means that either Transmitter or Receiver is connected to 24V/1A power supply, the other doesn't need power supply.
5.	HDBT OUT	RJ45 connector for connecting the HDBT IN port of the Receiver with CAT5e/6 cable.

Operation Controls and Functions

No.	Name	Function Description
6.	Link Signal Indicator (Green)	• Illuminating: Transmitter and Receiver are in good connection status. • Flashing: Transmitter and Receiver are in poor connection status. • Dark: Transmitter and Receiver are not connected.
7.	Data Signal Indicator (Orange)	• Illuminating: HDMI signal with HDCP. • Flashing: HDMI signal without HDCP. • Dark: No HDMI signal.
8.	HDMI IN	HDMI signal input port. Connect to HDMI source device with HDMI cable.
9.	SPDIF OUT	Optical fiber audio signal output port.
10.	IR IN	Connect to IR receiver cable, the IR receive signal will emit to the IR OUT port of the Receiver.
11.	IR OUT	Connect to IR blaster cable, the IR emit signal is from the IR IN port of the Receiver.
12.	RS-232	3-pin Phoenix connector for RS-232 command transmission. The RS-232 command will pass-through between the Transmitter and Receiver.

Receiver Panel

No.	Name	Function Description
1	Power LED	The red LED is on when the Transmitter is powered on.
2.	AUDIO DIP switch	▪ When the HDMI IN port is connected to a signal source device with ARC function (e.g. Amplifier or Soundbar), the ARC function of the Extender is enable: **Swicth to "HDMI ARC"** : the audio returned from the HDMI OUT port of Receiver will be output through the HDMI IN port and SPDIF OUT port of the Transmitter. **Swicth to "SPDIF IN"** : the audio returned from the SPDIF IN port of Receiver will be output through the HDMI IN port and SPDIF OUT port of the Transmitter. ▪ When the HDMI IN port is connected to a common signal source device, the ARC function of the Extender is disable, the audio from the SPDIF IN port of the Receiver will be output through the SPDIF OUT port the Transmitter.

| No.	Name	Function Description
3	SERVICE	Firmware update port.
4	DC 24V	DC 24V/1A power input port. Note that the extender supports POC function, it means that either Transmitter or Receiver is connected to 24V/1A power supply, the other doesn't need power supply.
5	HDBT IN	RJ45 connector for connecting the HDBT OUT port of Transmitter with CAT6/6a cable.
6.	Link Signal Indicator (Green)	▪ Illuminating: Transmitter and Receiver are in good connection status. ▪ Flashing: Transmitter and Receiver are in poor connection status. ▪ Dark: Transmitter and Receiver are not connected.
7.	Data Signal Indicator (Orange)	▪ Illuminating: HDMI signal with HDCP. ▪ Flashing: HDMI signal without HDCP. ▪ Dark: No HDMI signal.
8.	HDMI OUT	HDMI signal output port. Connect to HDMI display devices with HDMI cable.
9.	SPDIF IN	Optical fiber audio signal input port.
10.	IR IN	Connect to the IR receiver cable. The IR signal will send to the IR OUT port of the Transmitter.
11.	IR OUT	Connect to IR blaster cable, the IR emit signal is from the IR IN port of the Transmitter.
12.	RS-232	3-pin Phoenix connector for RS-232 command transmission. The RS-232 command will pass-through between the Transmitter and Receiver.

IR Receiver and Blaster pin's definition is as below:

IR RECEIVER   IR BLASTER

IR Blaster
1 IR Blaster Signal
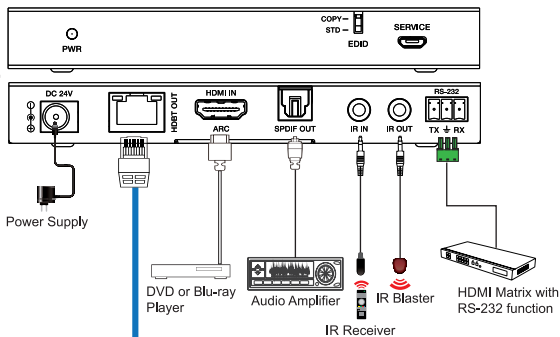2 Power
3 NC

IR Receiver
1 IR Signal
2 Power
3 Grounding
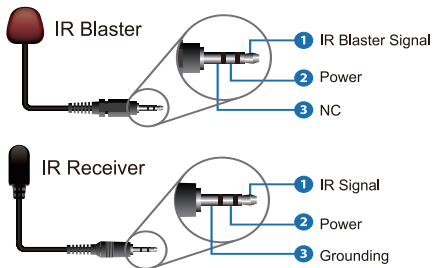
Note:
When the angle between the IR receiver and the remote control is ± 45 °, the transmission distance is 0-5 meters;
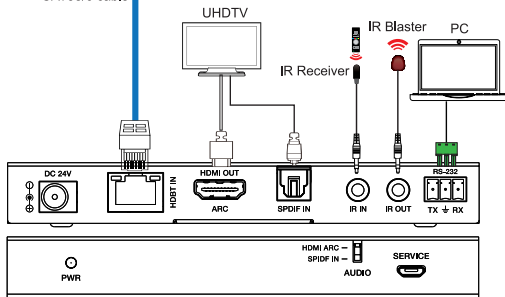When the angle between the IR receiver and the remote control is ± 90 °, the transmission distance is 0-8 meters.

Application Example

Transmitter

COPY –
STD –
EDID
SERVICE
PWR

DC 24V · HDBT OUT · HDMI IN · ARC · SPDIF OUT · IR IN · IR OUT · RS-232 · TX ÷ RX

Power Supply

DVD or Blu-ray Player

Audio Amplifier

IR Receiver · IR Blaster

HDMI Matrix with RS-232 function

CAT5e/6 cable

UHDTV

IR Blaster · PC

IR Receiver

DC 24V · HDBT IN · HDMI OUT · ARC · SPDIF IN · IR IN · IR OUT · RS-232 · TX ÷ RX

Receiver

HDMI ARC –
SPIDF IN –
AUDIO
SERVICE
PWR

OREI

18Gbps HDBaseT Extender (70m) with ARC

www.orei.com

© 2022