8K HDBT HDMI Extender 40m

8KEX40-Pro



User Manual

AV Access

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Introduction

Overview

This product is a cost-effective, slim transmitter and receiver kit with HDCP 2.3 compatibility. It supports resolutions up to 8K@60Hz 4:2:0, 8K@30Hz 4:4:4, and 4K@120Hz, allowing 8K and 4K video signals to be extended up to 131ft/40m over a Cat 6a/7 cable.

Features

- Supports HDMI 2.1 with resolutions up to 8K@60Hz 4:2:0, 8K@30Hz 4:4:4 and 4K@120Hz.
- HDCP 2.3 compliant.
- Supports HDR10.
- Transmits 8K & 4K video up to 115ft/35m and 1080P video up to 197ft/60m over a single Cat 5e/6 cable.
- Transmits 8K & 4K video up to 131ft/40m and 1080P video up to 230ft/70m over a single Cat 6a/7 cable.
- Provides one de-embedding audio output.
- Includes a DIP switch on each for RS-232 mode, HDCP and EDID configurations (HDCP & EDID apply to the transmitter only).
- Supports bidirectional PoC, allowing a single power adapter at the transmitter or receiver to power both units.
- Supports bidirectional IR and RS-232 passthrough.

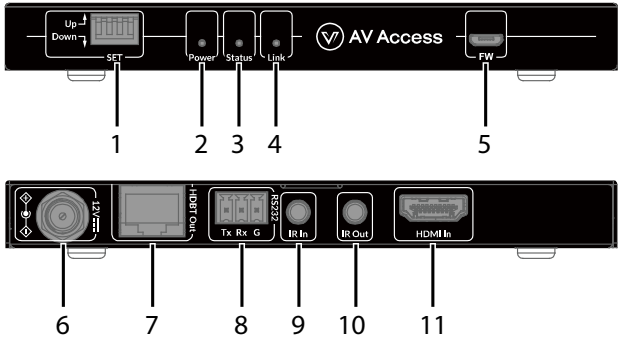
Package Contents

Before you start the installation of the product, please check the package contents:

- Extender Set x 1
- Power Adapter (DC 12V 2A) x 1
- 3.5mm 3-pin Phoenix Male Connectors x 2
- 3.5mm 5-pin Phoenix Male Connector x 1
- IR Emitter x 1
- Broadband IR Receiver (30–50 kHz) x 1
- Mounting Brackets (with Screws) x 8
- User Manual x 1

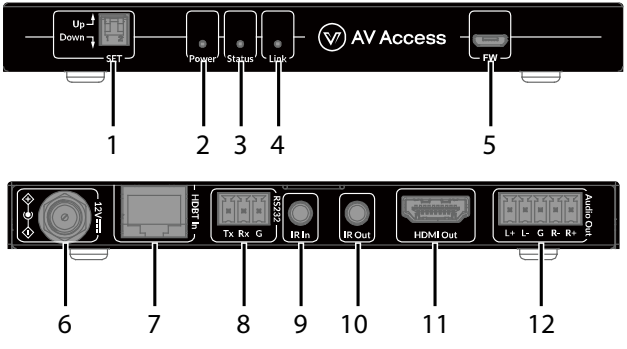
Panel

Transmitter



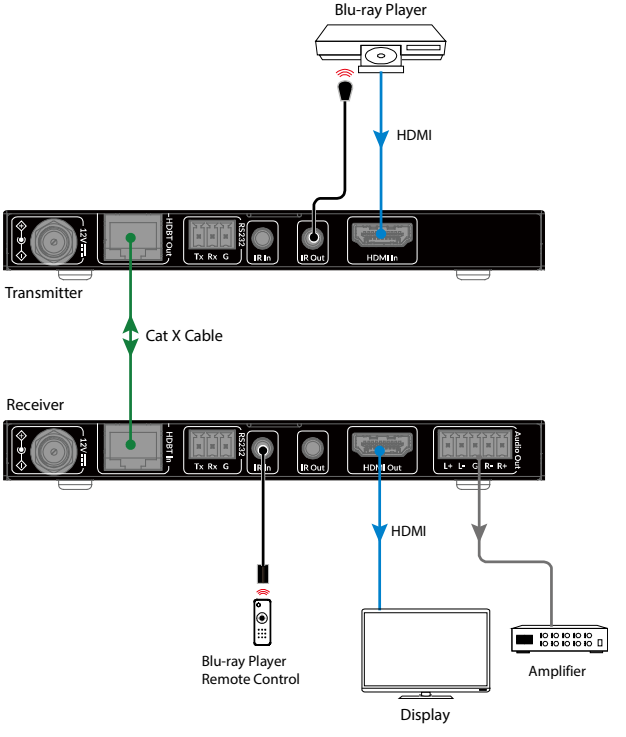
#	Name	Description
1	SET	4-pin switch for RS-232, HDCP and EDID settings. For more information, refer to the DIP Switch Settings section.
2	Power LED	**On/Off**: Indicates whether the device is powered on.
3	Status LED	• **Blinking**: The device is working properly. • **Off**: The device is not working properly.
4	Link LED	• **On**: The link between the transmitter and receiver is normal. • **Blinking/Off**: Link error or no link.
5	FW	Micro USB port. Connect to a PC for firmware update.
6	12V	Connect to the included power adapter. **Note:** Connecting the power adapter to the transmitter or receiver can power both units through bidirectional PoC.
7	HDBT Out	Connect to the HDBT IN port of the receiver.
8	RS232	Connect to an RS-232 device for RS-232 data passthrough or to a PC for HDBT firmware update (available only when pin 1 of the **SET** switch is set to the "down" position).
9	IR In	Connect to the IR receiver provided.
10	IR Out	Connect to the IR emitter provided.
11	HDMI IN	Connect to an HDMI source device.

Receiver



#	Name	Description
1	SET	2-pin switch for RS-232 settings. For more information, refer to the DIP Switch Settings section.
2	Power LED	**On/Off**: Indicates whether the device is powered on.
3	Status LED	• **Blinking**: The device is working properly. • **Off**: The device is not working properly.
4	Link LED	• **On**: The link between the transmitter and receiver is normal. • **Blinking/Off**: Link error or no link.
5	FW	Micro USB port. Connect to a PC for firmware update.
6	12V	Connect to the included power adapter. **Note:** Connecting the power adapter to the transmitter or receiver can power both units through bidirectional PoC.
7	HDBT In	Connect to the HDBT Out port of the transmitter.
8	RS232	Connect to an RS-232 device for RS-232 data passthrough or to a PC for HDBT firmware update (available only when pin 1 of the SET switch is set to the "down" position).
9	IR In	Connect to the IR receiver provided.
10	IR Out	Connect to the IR emitter provided.
11	HDMI Out	Connect to an HDMI display device.
12	Audio Out	Connect to an audio receiver for de-embedded balanced analog audio output.

Application



DIP Switch Settings

Transmitter

The 4-pin SET switch on the transmitter configures RS-232 mode, input HDCP, and input EDID. By default, pins 1 to 4 are set to the "Up" position.

Function	DIP Switch Position			
	1	2	3	4
RS232 Passthrough **(Default)**	Up	—	—	—
RS232 for HDBT Firmware Update	Down	—	—	—
Input HDCP on **(Default)**	—	Up	—	—
Input HDCP off	—	Down	—	—
Copy EDID **(Default)**	—	—	Up	Up
Use 4K@60 PCM 2CH as EDID	—	—	Up	Down
Use 4K@30 PCM 2CH as EDID	—	—	Down	Up
Use 1080P@60 PCM 2CH as EDID	—	—	Down	Down

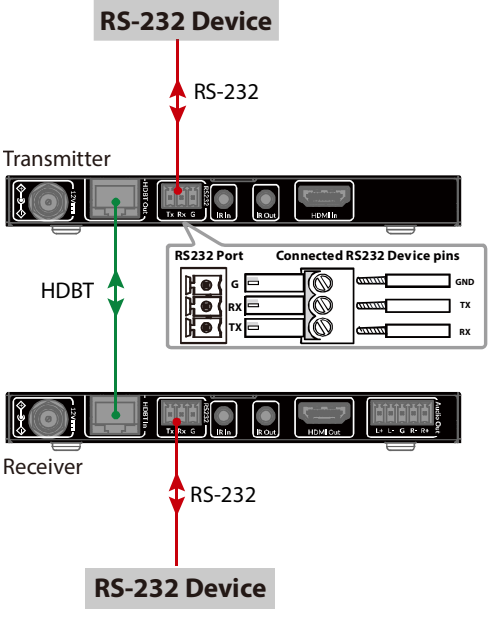
Receiver

The 2-pin SET switch on the receiver configures the RS-232 mode. By default, pin 1 is set to the "Up" position. pin 2 is reserved.

Function	DIP Switch Position	
	1	2
RS232 Passthrough **(Default)**	Up	—
RS232 for HDBT Firmware Update	Down	—

RS-232 Operation

The RS232 ports support bi-directional passthrough, allowing RS232 data to pass between the transmitter and receiver. Before operation, ensure that pin 1 of the SET switches on both units is set to the "Up" position.



Specifications

Technical	
I/O Signal Type	HDMI 2.1, HDCP 2.3
Input/Output Resolutions	**VESA:** 800 x 600[6], 1024 x 768[6], 1280 x 768[6], 1280 x 800[6], 1280 x 960[6], 1280 x 1024[6], 1360 x 768[6], 1366 x 768[6], 1440 x 900[6], 1600 x 900[6], 1600 x 1200[6], 1680 x 1050[6], 1920 x 1200[6], 2048 x 1152[6], 2560 x 1440[6], 5120 x 1440[6], 5120 x 2160[6], 5120 x 2880[6] **HDTV:** 1280 x 720P[5,6,7,8], 1920 x 1080P[5,6,7,8,9,10,11], 3840 x 2160P[1,2,3,4,5,6,7,8], 4096 x 2160P[1,2,3,4,5,6,7,8], 7680 x 4320P[1,2,3,4,5,6] 1 = at 24 (23.98) Hz, 2 = at 25 Hz, 3 = at 30 (29.97) Hz, 4 = at 48 Hz, 5 = at 50 Hz, 6 = 60 (59.94) Hz, 7 = at 100Hz, 8 = at 120Hz, 9 = at 144Hz, 10 = at 165Hz, 11 = at 240Hz **Note:** 7680 x 4320P@48Hz/50Hz/60Hz supports only YCbCr 4:2:0.
Maximum Data Rate	HDMI: 40Gbps
Audio Formats	• **HDMI In/Out**: Supports multichannel audio up to PCM 7.1, including PCM 2.0/5.1/7.1ch, Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS 5.1, DTS-HD Master Audio and DTS:X • **Audio Out**: PCM 2.0ch

General	
Operating Temperature	0°C to 45°C (32°F to 113°F)
Storage Temperature	-20°C to 70°C (-4°F to 158°F)
Humidity	10% to 90%, non-condensing
ESD Protection	Human-body Model: ±8kV (Air-gap discharge) / ±4kV (Contact discharge)
Power Supply	DC 12V 2A
Power Consumption	11.4W (Max, per pair via PoC)
Device Dimensions (W x H x D)	5.51" × 0.60" × 3.55" (140mm × 15.3mm × 90.2mm) per unit
Product Weight	0.59lb (0.27kg) per unit

Transmission Distance

Note: A T568B straight-through Category cable is recommended.

Cable Type	Range	Supported Video
Cat 5e/6	197ft/60m	1080P@60Hz
	115ft/35m	4K@60Hz, 8K@60Hz 4:2:0
Cat 6a/7	230ft/70m	1080P@60Hz
	131ft/40m	4K@60Hz, 8K@60Hz 4:2:0
HDMI	Input/Output: 33ft/10m	4K@30Hz, 1080P@60Hz
	Input: 33ft/10m Output: 16ft/5m	4K@60Hz
	Input/Output: 10ft/3m	8K@60Hz 4:2:0

Troubleshooting

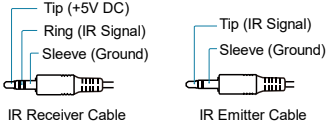
1. **Why is there no power to the device?**
   - Ensure the device is powered on.
   - Use the power adapter included in the package.

2. **Why is there no picture, or is the video flickering?**
   - Make sure all devices are powered on and all cables are properly connected and of good quality.
   - Check that cable lengths are within the recommended range (see Specifications chapter).
   - Verify that all LED indicators are functioning normally.
   - Connect the source directly to the display to verify they can function properly.
   - Confirm that the input resolution is supported by the device.

3. **Why is the IR signal weak or not working?**
   - Confirm that the devices support IR control (not Bluetooth/Wi-Fi).
   - Use the IR cables provided in the package and connect them correctly according to the diagram in Application chapter.
   - Pay attention to the control angle and distance:

IR Cable	IR Emitter	IR Receiver
Suggested Angle	0°	0°
Distance (Max)	30cm	8m

   - When using third-party devices, ensure they follow the pin definition provided below.



Warranty

Products are backed by a limited 1-year parts and labor warranty. For the following cases AV Access shall charge for the service(s) claimed for the product if the product is still remediable and the warranty card becomes unenforceable or inapplicable.

1. The original serial number (specified by AV Access) labeled on the product has been removed, erased, replaced, defaced or is illegible.
2. The warranty has expired.
3. The defects are caused by the fact that the product is repaired, dismantled or altered by anyone that is not from an AV Access authorized service partner. The defects are caused by the fact that the product is used or handled improperly, roughly or not as instructed in the applicable User Guide.
4. The defects are caused by any force majeure including but not limited to accidents, fire, earthquake, lightning, tsunami and war.
5. The service, configuration and gifts promised by salesman only but not covered by normal contract.
6. AV Access preserves the right for interpretation of these cases above and to make changes to them at any time without notice.

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General Enquiry: sales@avaccess.com
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