HDMI 2.0 ARC Extender over HDBT

4KEX70-ARC-H2



User Manual

AV Access

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Introduction

Overview

4KEX70-ARC-H2 is an HDBaseT Extender. It supports 4K@60 4:4:4 with HDR and HDCP 2.2 compliant, offers the distribution of uncompressed UHD video, audio, power, and IR together up to 40m/131ft over a single Cat X cable. By the DIP switch of Audio Output on the receiver, it's able to configure the ARC channel feed by TV (with ARC support), or auxiliary S/PDIF Input port. It also supports bi-directional IR pass-through, which enables users controlling the display at transmitter side or control the source at receiver side. This suit also provides an HDMI audio de-embedding with phoenix analog connector. Its proprietary two-way PoC technology, with LED indication for visual power supply to units and signal status to show established connection between connected devices.

Features

- 4K/UHD capability @60 Hz with 4:4:4 Chroma sampling, plus support for HDR formats.
- HDCP 2.2 compliant.
- Supports HD signal transmission up to 60 meters (1080p) and 35 meters (4K@60Hz YUV 4:4:4) via a single Cat 5e/6 cable.
- Supports HD signal transmission up to 70 meters (1080p) and 40 meters (4K@60Hz YUV 4:4:4) via a single Cat 6a/7 cable.
- Visual Lossless Compression enables 4K@60 HDR extension over HDBaseT.
- Receiver to transmitter audio return via ARC or digital coax pathway.
- HDMI audio de-embedding with phoenix analog connector.
- Extends RS232, IR control signals.
- Support nonstandard bi-directional PoC power supply.

Package Contents

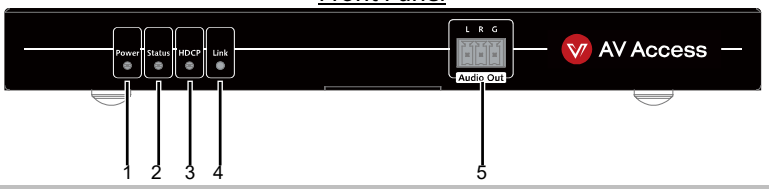
Before you start the installation of the product, please check the package contents:

- Transmitter x 1
- Receiver x 1
- Power Adapter (DC 12V 3A) x 1
- IR Emitter x 1
- IR Receiver (30 KHz ~ 50 KHz) x 1
- Mounting Brackets (with Screws) x 4
- User Manual x 1

Panel

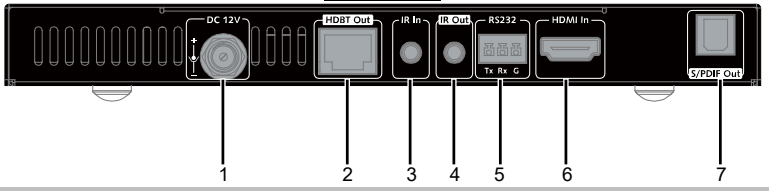
Transmitter

Front Panel



No.	Name	Description
1	POWER LED	**ON:** The transmitter is powered on. **OFF:** The transmitter is powered off.
2	STATUS LED	**Flashing Slowly:** The transmitter is working properly. **OFF:** The transmitter is not working properly.
3	HDCP LED	**ON:** HDCP content is being transmitted. **Blinking:** Non-HDCP content is being transmitted. **OFF:** No HDMI signal.
4	LINK LED	**ON**: HDBT link is normal. **OFF:** No HDBT link or link error.
5	Audio Out	HDMI audio de-embedding, connect to audio system like AV receiver.

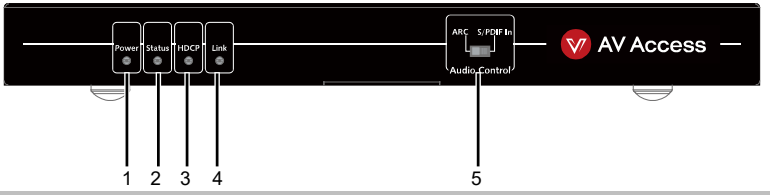
Rear Panel



No.	Name	Description
1	DC 12V	Connect to the power supply provided.
2	HDBT Out	Connect to HDBT IN port of receiver.
3	IR In	Connect to IR receiver.
4	IR Out	Connect to IR emitter.
5	RS232	Connect to control system for RS232 Passing Trough.
6	HDMI In	Connect to an HDMI source.
7	S/PDIF Out	Connect to audio system like AV receiver.

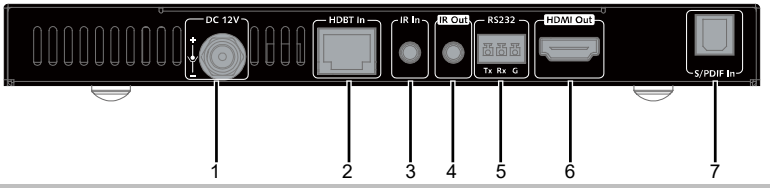
Receiver

Front Panel



No.	Name	Description
1	Power LED	**ON:** The receiver is powered on. **OFF:** The receiver is powered off.
2	Status LED	**Flashing Slowly:** The receiver is working properly. **OFF:** The receiver is not working properly.
3	HDCP LED	**ON:** HDCP-protected content is being transmitted. **Flashing Quickly:** Non-HDCP content is being transmitted. **OFF:** No HDMI signal.
4	Link LED	**ON**: HDBT link is normal. **OFF:** No HDBT link or link error.
5	Audio Control	**ARC**, configure ARC channel feed by TV **S/PDIF In**, configure auxiliary S/PDIF input, pass optical audio from RX to TX unit.

Rear Panel



No.	Name	Description
1	DC 12V	12V DC power input.
2	HDBT In	Connect to HDBT OUT port of transmitter.
3	IR In	Connect to IR receiver.
4	IR Out	Connect to IR emitter.
5	RS232	Connect to control system for RS232 Passing Trough.
6	HDMI Out	Connect to an HDMI display.
7	S/PDIF In	Connect to audio system on S/PDIF IN mode.

Installation and Application

Brackets Installation

Note: Before installation, please ensure the device is disconnected from the power source.

1. Remove the four screws that secure the side panels to the transmitter/receiver (see figure 1).
2. Position and install the mounting brackets with the four mounting screws provided (see figure 2).

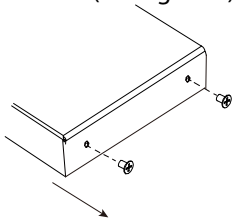


Figure 1

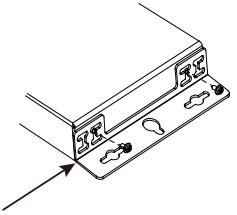
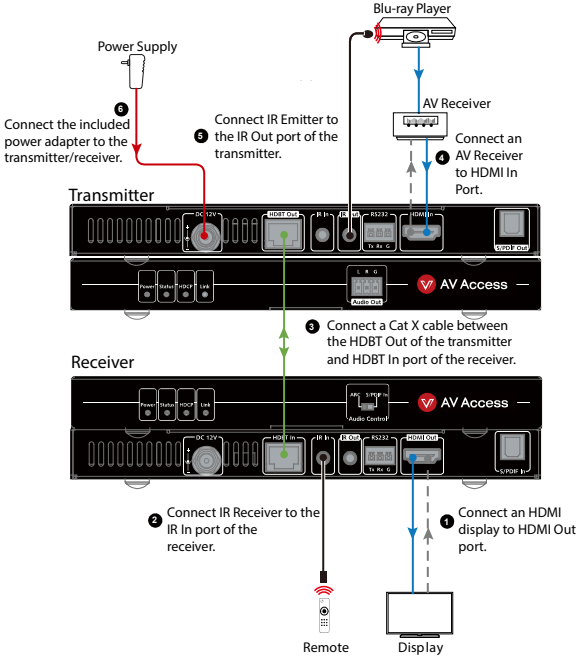


Figure 2

3. Mount and secure the transmitter/receiver to a surface or a suitable location with the mounting screws.

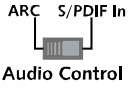
Application



Note: Slide the "Audio Control" DIP switch to "ARC" mode. Detail information, please refer to "Audio DIP Switch Control" section.

Audio DIP Switch Control

The Extender features an Audio DIP Switch that can be used to control audio output.



ARC Mode

Note: When you want to configure ARC channel feed by TV:
Ensure AV System and TV support ARC function and CEC should be open.

- Connect AV System and TV through ARC- enabled HDMI Ports of transmitter and receiver.
- Connect the transmitter and receiver. Switch the DIP switch to ARC mode.
- Set CEC function of TV to on.
- Switch the AV System to ARC channel.
- The audio signal of TV through HDMI OUT port will be transmitted to the AV System connected to HDMI IN Port of transmitter. (Figure 1)

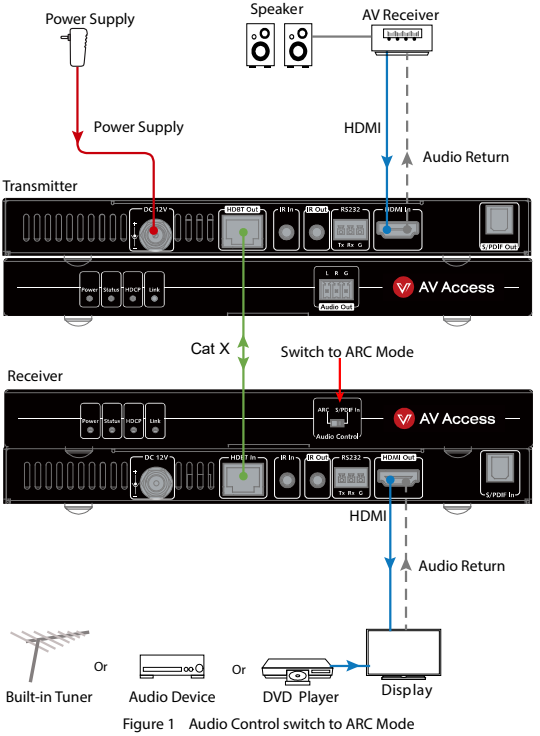


Figure 1 Audio Control switch to ARC Mode

S/PDIF IN Mode

When you configure the auxiliary S/PDIF input, please switch it to S/PDIF IN mode and connect an audio system to the S/PDIF IN port of receiver, and an Audio System such as an AV Receiver to S/PDIF OUT port of transmitter. Audio signal from S/PDIF IN port will pass through to S/PDIF OUT port. (Figure 2)

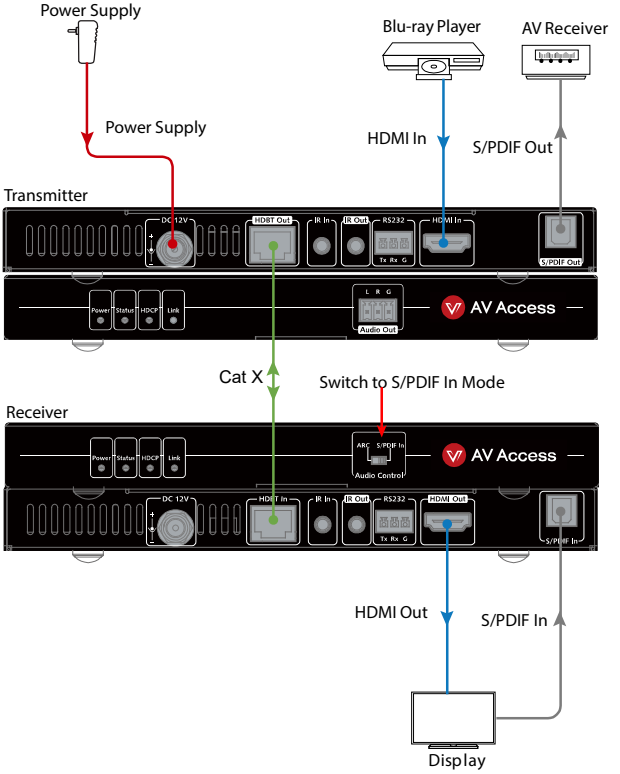
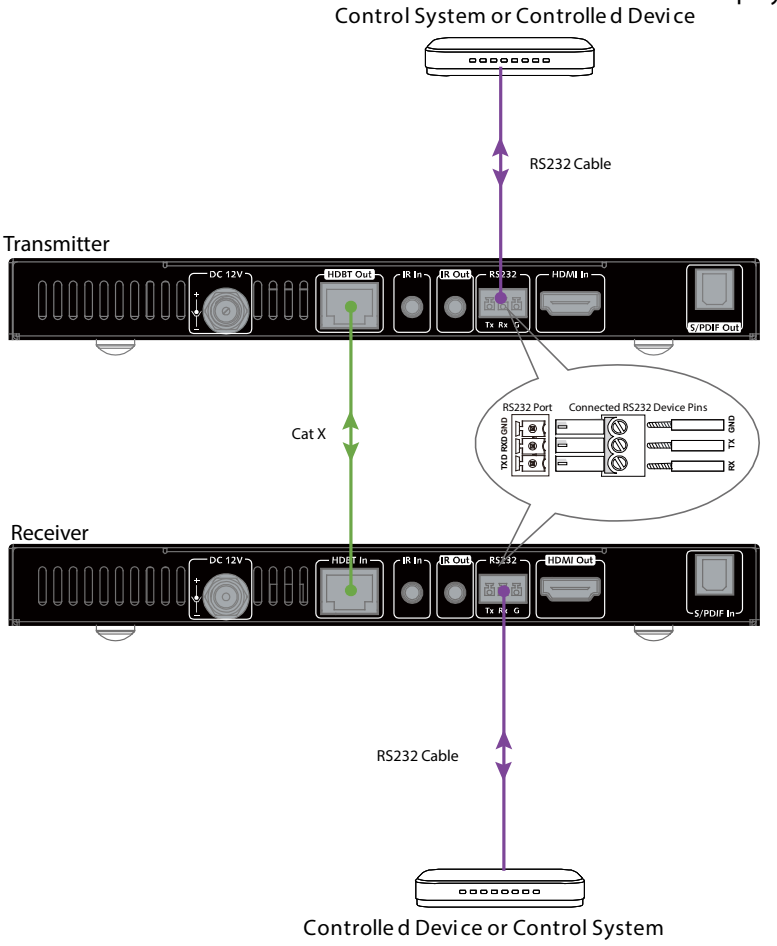


Figure 2 Audio Control switch to S/PDIF Mode

Operate with RS232

According to the bi-direction RS232 pass through function, you can use two RS232 control systems for serial communication by connecting to the devices via serial cables in order to control the source device or the display.



Specification

Technical	
Input	1 x HDMI, 1 x HDBT
Input Signal Type	HDMI with HDCP 2.2
Input/Output Resolution Supported	800x600[8], 1024x768[8], 1280x768[8], 1280x800[8], 1280x960[8], 1280x1024[8], 1360x768[8], 1366x768[8], 1440x900[8], 1600x900[8], 1600x1200[8], 1680x1050[8], 1920x1080[8], 1920x1200[8], 3840x2160[2,3,5,6,8], 4096x2160[2,3,5,6,8] 1 = at 23.98 Hz, 2 = at 24 Hz, 3 = at 25 Hz, 4 = at 29.97 Hz, 5 = at 30 Hz, 6 = at 50 Hz, 7 = at 59.94 Hz, 8 = at 60 Hz, 9 = at 75 Hz;
Audio Format Supported	HDMI: Fully supports audio formats in HDMI 2.0 specification, including PCM, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio, DTS:X S/PDIF: PCM 2.0, Dolby Digital, DTS 5.1
Maximum Data Rate	18Gbps

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	±8kV (Air-gap discharge)/ ±4kV (Contact discharge)
Surge Protection	Voltage: ±1 kV
Power Consumption (Max)	Receiver is powered by transmitter: 18.72W Transmitter is powered by receiver: 18.96W Transmitter and receiver are powered separately: Transmitter: 8.4W Receiver: 6.6W
Device Dimension (W x H x D)	Transmitter/Receiver: 195mm x 21mm x 94.8mm/7.68" x 0.83" x 3.73"
Product Weight	Transmitter/Receiver: 0.4kg/0.88lb

Transmission Distance

Note: We recommend the use of T568B straight-through category cables.

Cable Type	Range	Supported Video
Cat 5e/6	35m/115ft	4K@60Hz 4:4:4
	60m/197ft	1080P@60Hz
Cat 6a/7	40m/131ft	4K@60Hz 4:4:4
	70m/197ft	1080P@60Hz
HDMI	Input/Output: 15m/49ft	1080p@60Hz
	Input/Output: 10m/33ft	4K@30Hz 4:4:4
	Input/Output: 5m/16ft	4K@60Hz 4:4:4

Warranty

Products are backed by a limited 1-year parts and labor warranty. For the following cases AV Access Technology Limited 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 Technology Limited) 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 Technology Limited 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 Technology Limited preserves the right for interpretation of these cases above and to make changes to them at any time without notice.

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