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4KEX300-F

HDMI2.0 Extender over Fiber



[User Manual](#)



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## **Important Safety Instructions**

- Do not expose this device to rain, moisture, dripping or splashing. No objects filled with liquids, such as vases, shall be placed on the device.
- Do not install or place this unit in a bookcase, built-in cabinet, or in another confined space. Ensure the unit is well ventilated.
- To prevent risk of electric shock or fire hazard due to overheating, do not obstruct the unit's ventilation openings with newspapers, tablecloths, curtains, or similar items.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other devices (including amplifiers) that produce heat.
- Do not place sources of naked flames, such as lighted candles, on the unit.
- Clean this device only with dry cloth.
- Unplug this device during lightning storms or when unused for long periods of time.
- Protect the power cord from being walked on or pinched, particularly at plugs.
- Only use attachments/accessories specified by the manufacturer.
- Refer all servicing to qualified service personnel.

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# Introduction

## Overview

4KEX300-F is a slim HDMI transmitter receiver set. It supports resolutions up to 4K@60Hz 4:4:4 8bit and HDCP 2.2, transporting HDMI signals up to 1000ft/300m over a duplex OM3 multi-mode optical fiber cable.

4KEX300-F supports bi-directional IR/RS232 pass through via DIP Switch settings, enabling users to control the source or display devices at either the transmitter or receiver side with ease.

The transmitter and receiver are easy to install. They are space saving and offer ideal solutions for homes, offices, digital entertainment centers, control centers, conference rooms, schools and corporate training environments, etc.

## Features

- Supports resolutions up to 4K@60Hz 4:4:4 8bit and HDCP 2.2
- Supports HDR (High Dynamic Range) format
- Transmission distance up to 1000ft/300m via a duplex OM3 optical fiber cable
- Supports bi-directional IR/RS232 pass through via DIP Switch settings
- Multi-channel PCM, Dolby and DTS HD audio supported up to 7.1
- Slim profile, space saving and easy-to-install

## Package Contents

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

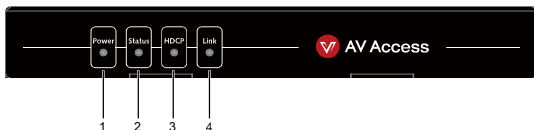
- Transmitter 4KEX300-F x 1
- Receiver 4KEX300-F x 1
- 10Gbps 850nm MM SFP+ Module x 2
- Power Supply (DC 12V 0.5A) x 2
- IR Emitter x 1
- Broadband IR Receiver (30-50 KHz) x 1
- Phoenix Male Connector (3.5mm, 3 Pins) x 2
- Mounting Bracket x 4
- User Manual x 1



# Panel

## Front Panel

Transmitter/Receiver

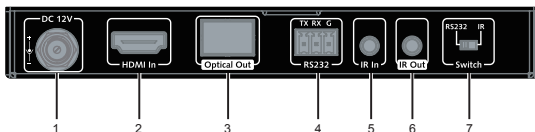


| No. | Name       | Description  |
|-----|------------|--|
| 1   | Power LED  | <b>On:</b> The device is powered on.<br><b>Off:</b> The device is powered off.   |
| 2   | Status LED | <b>Blinking:</b> The device is working properly.<br><b>Off:</b> The device is not working properly.  |
| 3   | HDCP LED   | <b>On:</b> HDCP protected content is being transmitted.<br><b>Blinking:</b> Non-HDCP protected content is being transmitted.<br><b>Off:</b> No content is being transmitted. |
| 4   | Link LED   | <b>On:</b> The link between transmitter and receiver is normal.<br><b>Blinking:</b> The link between transmitter and receiver is abnormal.<br><b>Off:</b> No link            |



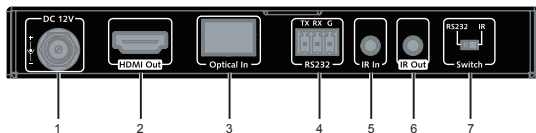
## Rear Panel

### Transmitter



| No. | Name        | Description  |
|-----|-------------|--|
| 1   | DC 12V      | DC 12V power input   |
| 2   | HDMI In     | Connect to an HDMI source device.  |
| 3   | Optical Out | Connect to the Optical In port of the receiver via a duplex OM3 multimode optical fiber cable.                       |
| 4   | RS232       | For RS232 pass through   |
| 5   | IR In       | Connect to the supplied IR receiver. Secure the IR receiver with adhesive.   |
| 6   | IR Out      | Connect to the supplied IR emitter. Secure the IR emitter on the IR receiving sensor of source device with adhesive. |
| 7   | Switch      | Switch to RS232 or IR mode.<br><b>RS232:</b> For RS232 pass through<br><b>IR:</b> For IR pass through                |

## Receiver

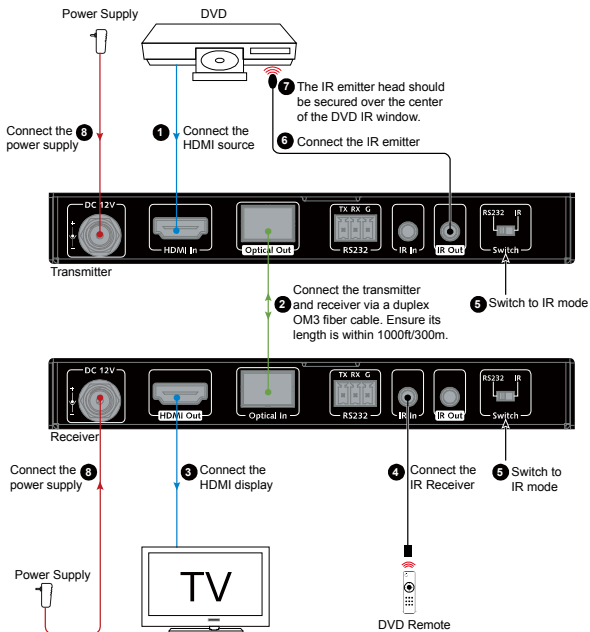


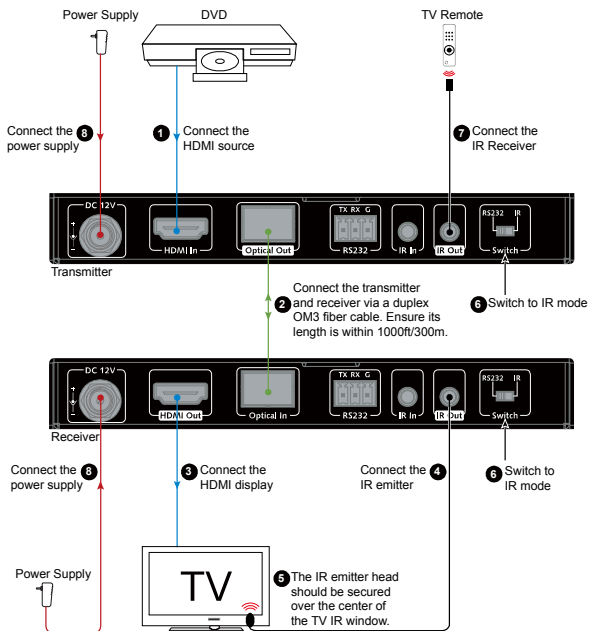
| No. | Name       | Description   |
|-----|------------|---|
| 1   | DC 12V     | DC 12V power input  |
| 2   | HDMI Out   | Connect to an HDMI display device.  |
| 3   | Optical In | Connect to the Optical Out port of the transmitter via a duplex OM3 multi-mode optical fiber cable.                   |
| 4   | RS232      | For RS232 pass through  |
| 5   | IR In      | Connect to the supplied IR receiver. Secure the IR receiver with adhesive.  |
| 6   | IR Out     | Connect to the supplied IR emitter. Secure the IR emitter on the IR receiving sensor of display device with adhesive. |
| 7   | Switch     | Switch to RS232 or IR mode.<br><b>RS232:</b> For RS232 pass through<br><b>IR:</b> For IR pass through                 |

# Installation Instructions

The product package includes one IR emitter and one IR receiver. Please refer to the following two applied installations.

## Applied installation 1:

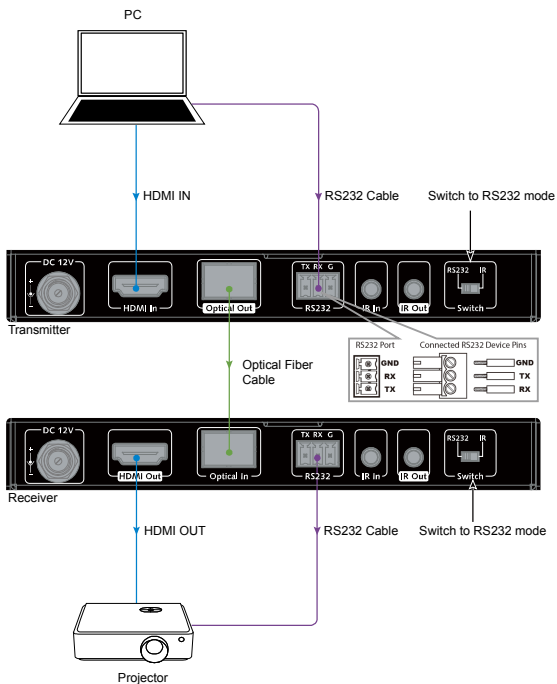


**Applied installation 2:****Application 2: Control the display at source location****Note:**

- The source may be any HDMI source device such as an Apple TV, STB, Xbox, DVD player, etc.
- The display may be any HDMI display device such as a TV, projector, LED/LCD display, video wall, interactive whiteboard, etc.

# RS232 Pass Through

The RS232 ports provide a channel to pass through protocol commands to control third party devices such as your source or display. Switch the panel DIP Switch to RS232, and then connect RS232-enabled devices (such as a computer and a projector) to the transmitter and receiver respectively via RS232 cables. Please refer to the following pin definition of RS232 during your installation.



# Specification

| Technical                         |  |
|-----------------------------------|--|
| Video Signal Type                 | HDMI 2.0 with HDCP 2.2   |
| Input/Output Resolution Supported | 800x600 <sup>8</sup> , 1024x768 <sup>8</sup> , 1280x768 <sup>8</sup> , 1280x800 <sup>8</sup> ,<br>1280x960 <sup>8</sup> , 1280x1024 <sup>8</sup> , 1360x768 <sup>8</sup> , 1366x768 <sup>8</sup> ,<br>1440x900 <sup>8</sup> , 1600x900 <sup>8</sup> , 1600x1200 <sup>8</sup> , 1680x1050 <sup>8</sup> ,<br>1920x1080 <sup>8</sup> , 1920x1200 <sup>8</sup> , 3840x2160P <sup>2,3,5,6,8</sup> ,<br>4096x2160P <sup>2,3,5,6,8</sup><br><br>1 = at 23.98 Hz, 2 = at 24 Hz, 3 = at 25 Hz,<br>4 = at 29.97 Hz, 5 = at 30 Hz, 6 = at 50 Hz,<br>7 = at 59.94 Hz, 8 = at 60 Hz |
| Audio Format                      | Stereo, PCM2.0/5.1/7.1, Dolby TrueHD and DTS HD Master Audio   |
| Fiber Type                        | Duplex Multi-mode 850nm OM3 Fiber  |
| Fiber Connector Type              | LC to LC   |
| Maximum Data Rate                 | 18 Gbps  |
| 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)/<br>±4kV(Contact discharge)  |
| Surge Protection                  | Voltage: ±1 kV   |

|                                  |   |
|----------------------------------|---|
| Power Consumption<br>(Maximum)   | Transmitter: 3.9W<br>Receiver: 3.5W                       |
| Device Dimensions<br>(W x H x D) | 5.91" x 0.79" x 2.93"<br>(150 mm x 20 mm x 74.4 mm)       |
| Product Net Weight               | Transmitter: 0.66lb (0.30kg)<br>Receiver: 0.66lb (0.30kg) |

**Cable Specifications:**

| Cable Type    | Range                                 | Supported Video    |
|---------------|---------------------------------------|--------------------|
| HDMI          | Input/Output: 49ft (15m)              | 1080P@60Hz         |
|               | Input/Output: 33ft (10m)              | 4K@30Hz            |
|               | Input: 10ft (3m)<br>Output: 16ft (5m) | 4K@60Hz 4:4:4 8bit |
| Optical Fiber | 1000ft (300m)                         | 4K@60Hz 4:4:4 8bit |

# Trouble Shooting

## Steps of Regular Troubleshooting Routine

1. **Power:** Please make sure all devices are powered on (the source, extender set and display).
2. **Indicator:** Please make sure LED indicators of the transmitter and receiver are normal according to user manual.
3. **Devices:** Please make sure picture can be shown normally when connecting source to display devices directly.
4. **Cable:** Plug in and out the HDMI/fiber cable or try another HDMI/fiber cable. Please make sure the specific cable length is within the transmission range listed in below table based on different resolutions.

| Resolution and Transmission Range |        |                        |           |
|-----------------------------------|--------|------------------------|-----------|
| Resolution<br>Cable               | 1080P  | 4K@60 420<br>4K@30 444 | 4K@60 444 |
| HDMI IN                           | 49ft   | 33ft                   | 10ft      |
| HDMI OUT                          | 49ft   | 33ft                   | 16ft      |
| Optical Fiber                     | 1000ft |                        |           |

5. **Compatibility:** Please test other source and display devices to determine if it is a compatibility issue.

## Typical Questions

1. **How to deal with video flash or cut off during the installation?**
  - Power indicator should be solid on and status indicator should be blinking. If not, please check if the power adapter is well connected.
  - Link indicator should be solid on. If it is blinking or off, it is likely a problem with your optical fiber cable. Please change to a qualified cable





and ensure the cable length is within 1000ft/300m.

- HDCP indicator should be solid on or blinking. If it is off, it means no signal pass through. Please check if the HDMI cables are well connected to the source and display, and the optical fiber cable that connects transmitter to receiver is normal. Try a better HDMI cable or fiber cable.

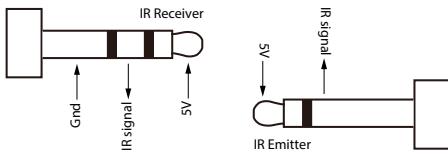
## 2. How to deal with a weak or not working IR signal?

- Make sure the IR cables are correctly installed according to the Installation Instruction diagram above.
- Check if the IR emitter head is secured over the center of the device IR receiver window. The best position may vary depending on the device. Please refer to the device user manual. If the signal is weak, please try to adjust the position.
- Pay attention to the control angle and distance as below. The control signal will be better when your controller is pointed at the IR receiver head directly.

| Enabled Angle | 0°         | 30°(Horizontal) | 15°(Vertical) |
|---------------|------------|-----------------|---------------|
| Distance      | 26ft (Max) | 15ft (Max)      | 10ft (Max)    |

## 3. How can I make the IR work with third party control device?

- Please make sure the third party device follows our pin definition as below:



- You can purchase an AV Access universal IR cable that will be compliant with any third party device (Amazon ASIN: "B01MYX46IC").

# Warranty

Products are backed by a limited 3-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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