4K KVM Extender over Fiber

4KIP500F-KVM



User Manual

AV Access

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Introduction

Overview

This product is a 4K KVM Extender set. It extends 4K video and USB 2.0 signals along long distance with zero latency, ideal for the professional A/V scenarios where UHD displays and real-time interactions are required.

Features

- Transmits 4K video along unlimited distance over 1G network via 1Gbps multimode SFP module.
- Supports video resolutions up to 4K@30Hz.
- Zero latency.
- Supports HDCP 1.4.
- USB 2.0 over IP support.
- Built-in USB 2.0 hub.
- Supports limited EDID copy.
- Supports multichannel audio up to PCM 7.1ch, DTS-HD Master and Dolby TrueHD.
- Plug-and-play with zero configuration.
- 4-Pin DIP switch allows for up to 16 extender sets to work in the same network.

Package Contents

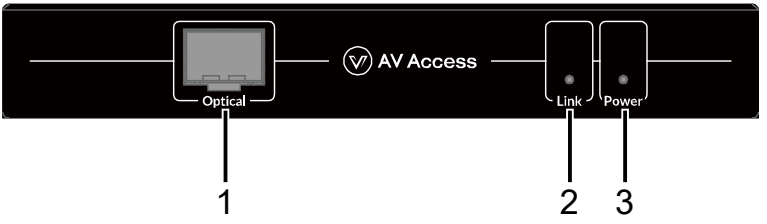
Before you start the installation of the product, please check the package contents:

- Transmitter x 1
- Receiver x 1
- Power Supply (DC 12 V 1A) x 2
- 1Gbps 850nm MM SFP Module x 2
- USB 2.0 Type-B to Type-A Cable (1.5m) x 1
- Mounting Brackets (with Mounting Screws) x 4
- User Manual x 1

Panel

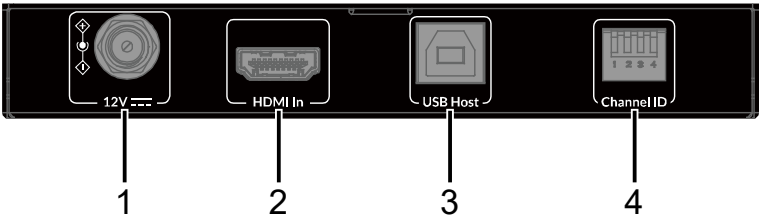
Transmitter

Front Panel



#	Name	Description
1	Optical	Connect to a receiver or a switch for media stream output via a duplex OM4 multimode fiber optic cable.
2	Link LED	• On: The transmitter is paired with a receiver successfully. • Off: The transmitter is not paired with a receiver.
3	Power LED	• On: The transmitter is powered on. • Off: The transmitter is powered off.

Rear Panel



#	Name	Description
1	DC 12V	Connect to the DC 12V 1A power adapter provided.
2	HDMI In	Connect to an HDMI source.
3	USB Host	Connect the type A to type B USB cable between this port and the USB port of a desktop or a laptop. This port is USB 2.0 compliant.
4	Channel ID	This DIP switch consists of four manual switches, which are used to route the transmitter to the receiver based on their positions. For more information, see the "**Using DIP Switch to Perform Routing**" chapter. Note: • By default, each individual switch is in the up position.

#	Name	Description
		• If you change the positions of the DIP switches on the transmitter and/or the receiver, you must restart the device for setting changes to take effect.

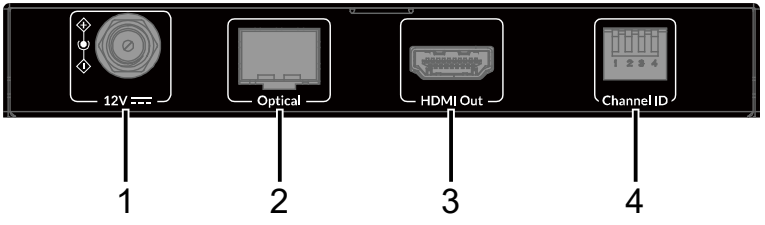
Receiver

Front Panel



#	Name	Description
1	USB Device	Connect to USB devices e.g. a keyboard, a mouse and a USB flash drive, etc.
2	Link LED	• **On**: The receiver is paired with a transmitter successfully. • **Off**: The receiver is not paired with a transmitter.
3	Power LED	• **On**: The receiver is powered on. • **Off**: The receiver is powered off.

Rear Panel



#	Name	Description
1	DC 12V	Connect to the DC 12V 1A power adapter provided.
2	Optical	Connect to a transmitter or a switch for media stream input via a duplex OM4 multimode fiber optic cable.
3	HDMI Out	Connect to an HDMI display.
4	Channel ID	This DIP switch consists of four manual switches, which are used to route the transmitter to the receiver based on their positions. For more

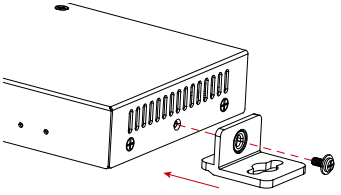
#	Name	Description
		information, see "**Using DIP Switch to Perform Routing**". Note: • By default, each individual switch is in the up position. • If you change the positions of the DIP switches on the transmitter and/or the receiver, you must restart the device for setting changes to take effect.

Installation and Application

Brackets Installation

Note: Before installation, make sure both devices are disconnected from the power source.

1. Attach the mounting brackets to the panels of both sides using the screws (one on each side) provided in the package.

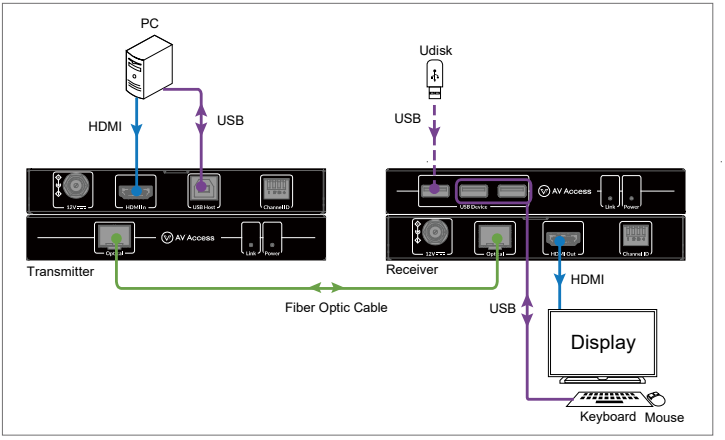


2. Screw the brackets to the position as required (screws in this step are not included in the package).

Application

Application 1: Connect between Transmitter and Receiver Directly

The transmitter and receiver could be connected to each other directly with a duplex OM4 fiber optic cable, extending HDMI and USB signals over a long distance up to 550m/1804ft.

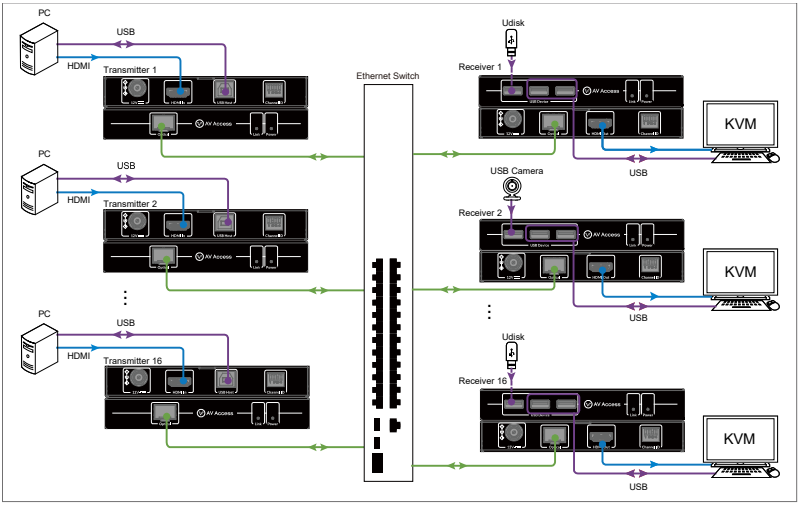


Application 2: Connect Transmitter and Receiver through an Ethernet Switch

The transmitter and receiver could be connected through one or more network switches. With the 4-Pin DIP switch built-in, up to 16 sets of transmitter and receiver in the same network without specific VLAN settings could extend HDMI and USB signals to an unlimited distance.

Note:

- The length of each HDMI cable shall not exceed 15m/49ft.
- One transmitter can only be paired with one receiver in the same network, i.e., only one set DIP switch of one transmitter and one receiver can be set to the same position.



Specification

Transmitter

Technical	
Input/Output	1 x HDMI IN (19-pin female HDMI Type-A), 1 x USB HOST (female USB Type-B), 1 x 4-Pin DIP Switch, 1 x DC 12V connector, 1 x Optical (1Gbps MM SFP module)
Input Signal Type	HDMI 1.4b
Input Resolutions Supported	640x480[8], 800x600[8,10], 1024x768[8,10], 1280x720[6,7,8,9,10], 1280x768[8,10], 1280x800[8,10], 1280x960[8,10], 1280x1024[8,10], 1360x768[8], 1366x768[8], 1440x900[8,10], 1600x900[8], 1600x1200[8], 1680x1050[8,10], 1920x1080[1,2,3,4,5,6,7,8,9,10], 1920x1200[8], 3840x2160P[2,3,5], 4096x2160P[2,3,5] 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 100 Hz, 10 = at 120 Hz
Input Audio Format Supported	PCM 2.0/2.1/5.1/7.1, Dolby Digital 5.1ch, Dolby Digital Plus, Dolby TrueHD, DTS 5.1ch, DTS-HD High Resolution Audio, DTS-HD Master Audio
Output Signal Type	Compressed IP streams
Maximum Data Rate	9 Gbps
Maximum Pixel Clock	300 MHz

Technical	
Fiber Optic Connector Type	LC to LC
Fiber Optic Type	Duplex Multi-mode 850nm OM4 Fiber
Maximum Transmission Distance	550m/1804ft

General	
Operating Temperature	0 to 45°C (32 to 113 °F)
Storage Temperature	-20 to 70°C (-4 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 1A
Power Consumption	2W (Max)
Unit Dimensions (W x H x D)	140mm x 21mm x 80mm / 5.51'' x 0.83'' x 3.15''
Unit Net Weight (without accessories)	0.25kg/0.55lb

Receiver

Technical	
Input/Output	1 x Optical (1Gbps MM SFP module), 1 x HDMI OUT (19-pin female HDMI Type-A), 3 x USB DEVICE (female USB Type-A), 1 x 4-Pin DIP Switch, 1 x DC 12V connector
Output Signal Type	HDMI 1.4b
Output Resolutions Supported	640x480[8], 800x600[8,10], 1024x768[8,10], 1280x720[6,7,8,9,10], 1280x768[8,10], 1280x800[8,10], 1280x960[8,10], 1280x1024[8,10], 1360x768[8], 1366x768[8], 1440x900[8,10], 1600x900[8], 1600x1200[8],1680x1050[8,10], 1920x1080[1,2,3,4,5,6,7,8,9,10], 1920x1200[8], 3840x2160P[2,3,5], 4096x2160P[2,3,5] 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 100 Hz, 10 = at 120 Hz
Output Audio Format Supported	PCM 2.0/2.1/5.1/7.1, Dolby Digital 5.1ch, Dolby Digital Plus, Dolby TrueHD, DTS 5.1ch, DTS-HD High Resolution Audio, DTS-HD Master Audio
Maximum Data Rate	9 Gbps
Maximum Pixel Clock	300 MHz
Fiber Optic Connector Type	LC to LC

Technical	
Fiber Optic Type	Duplex Multi-mode 850nm OM4 Fiber
Transmission Distance	550m/1804ft
USB Consumption	Recommended no more than 0.5A per USB port

General	
Operating Temperature	0 to 45°C (32 to 113 °F)
Storage Temperature	-20 to 70°C (-4 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 1A
Power Consumption	Max: 1.6W (USB Consumption not included)
Unit Dimensions (W x H x D)	140mm x 21mm x 80mm / 5.51'' x 0.83'' x 3.15''
Unit Net Weight (without accessories)	0.25kg/0.55lb

Using DIP Switch to Perform Routing

To route the signal from a transmitter to a receiver, toggle the DIP Switch on the transmitter to the same position as the DIP Switch on the receiver. If you want to pair the receiver with another transmitter, change the Switch's settings on the receiver as same as that on the transmitter.

Note:

- You must reboot the transmitter and receiver for the Switch's setting changes to take effect.
- Only the DIP Switches of one transmitter and one receiver can be set to the same position in a network, i.e. a maximum of 16 sets of extenders are able to work in the same network.

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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