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AV Access

4KEX100-DP-KVM

DP KVM Extender Over HDBase-T



[User Manual](#)

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Contact Us

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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 device (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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Instruction

Overview

The 4KEX100-DP-KVM extender is a 100m 4K DisplayPort over HDBT extender with USB 2.0 and audio pass-through. It offers the distribution of uncompressed 4K@30Hz UHD video, audio, power, RS232 and USB 2.0 together up to 100m/328ft over a single Cat X cable.

With USB 2.0 pass-through, it allows users to control or monitor a remote server from a harsh environment, or operate a physically inaccessible PC, server or workstation remotely. Bi-directional audio pass-through allows for audio distribution in both directions.

With 48V PoE integrated inside, a single power adapter connected to the transmitter powers both units. Its 12V power adapter is secured with a screw-on connector to prevent the power being accidentally disconnected. LED indicators for power supply to units and signal status show established connection between connected devices.

- Slim appearance and space saving.
- One-way PoE, transmitter supplies the power for receiver.
- Via Cat 6a/7 cable, 4Kx2K@30Hz or 1080P@60Hz output up to 100m.
- Via Cat 5e/6 cable, 4Kx2K@30Hz output up to 90m, 1080P@60Hz up to 100m.
- DP 1.2 supported, up to 4k@30Hz and HDCP 1.4 compliance.
- Supports Bi-directional stereo audio, RS232 and EDID pass through over HDBaseT.
- USB 2.0 pass through over HDBaseT, with USB-HOST built in transmitter and

USB-DEVICE built in receiver.

- All connectors in one side for easy installation.

Package Contents

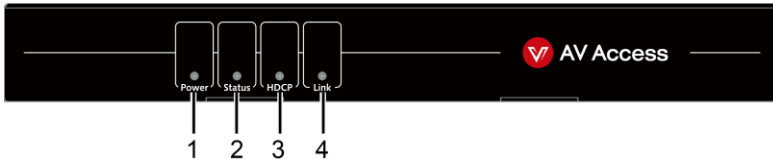
Before you start the installation of the product, please check the package contents:

- Transmitter 4KEX100-DP-KVM x 1
- Receiver 4KEX100-DP-KVM x 1
- Power Adapter (DC 12V 2A) x 1
- Phoenix Male Connector (3.5mm 3 Pin) x 2
- USB 2.0 Type-B to Type-A Cable (L=1.5m) x 1
- Mounting Bracket (with Mounting Screws) x 4
- User Manual x 1

Panel

Front Panel

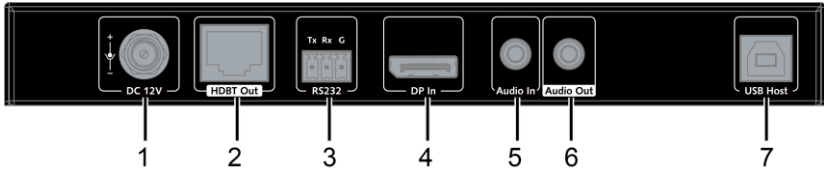
Transmitter/Receiver



No.	Name	Description
1	Power LED (Red)	On: The device is powered on. Off: The device is powered off.
2	Status LED (Green)	Blinking: The device is working properly. Off: The device is not working properly.
3	HDCP LED (Blue)	On: Audio and video signal is HDCP protected. Blinking: Audio and video signal is not HDCP protected. Off: No Audio and video signal.
4	Link LED (Green)	On: Link to receiver has been established. Off/Blinking: Connection exceptions exist between the transmitter and the receiver.

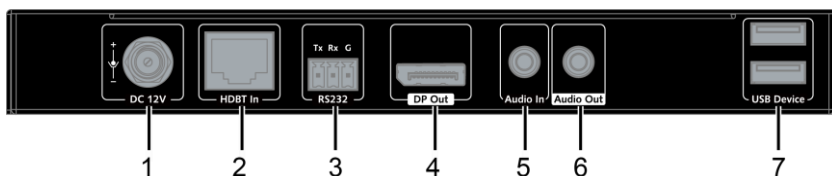
Rear Panel

Transmitter



No.	Name	Description
1	DC 12V	Connects to the DC 12V power adapter provided. Note: Only one power adapter is needed at transmitter side.
2	HDBT Out	Connects to the receiver via a Cat X cable.
3	RS232	RS232 pass-through.
4	DP In	Connects to a DisplayPort source.
5	Audio In	Connects to an audio source device such as PC.
6	Audio Out	Connects to an audio device such as earphone, amplifier.
7	USB Host	Connects to device to be controlled such as server, computer etc.

Receiver



No.	Name	Description
1	DC 12V	Connects to the DC 12V power adapter provided. Note: Only one power adapter is needed at transmitter side.
2	HDBT In	Connects to the transmitter via a Cat X cable.
3	RS232	RS232 pass-through.
4	DP Out	Connects to a DisplayPort display.
5	Audio In	Connects to an audio source such as PC.
6	Audio Out	Connects to an audio device such as earphone, amplifier.
7	USB Device	Connects to USB devices such as mouse, keyboard, USB disk etc.

Installation and Application

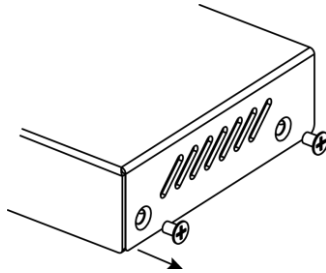
Brackets Installation

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

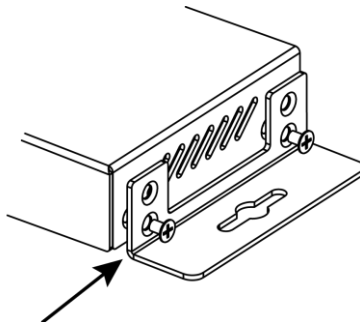
In order to keep elegant appearance, we design to share screws with the product chassis, please refer to the below steps to install.

Steps to install the device in a suitable location

1. Remove the screws on the side panel of the transmitter.

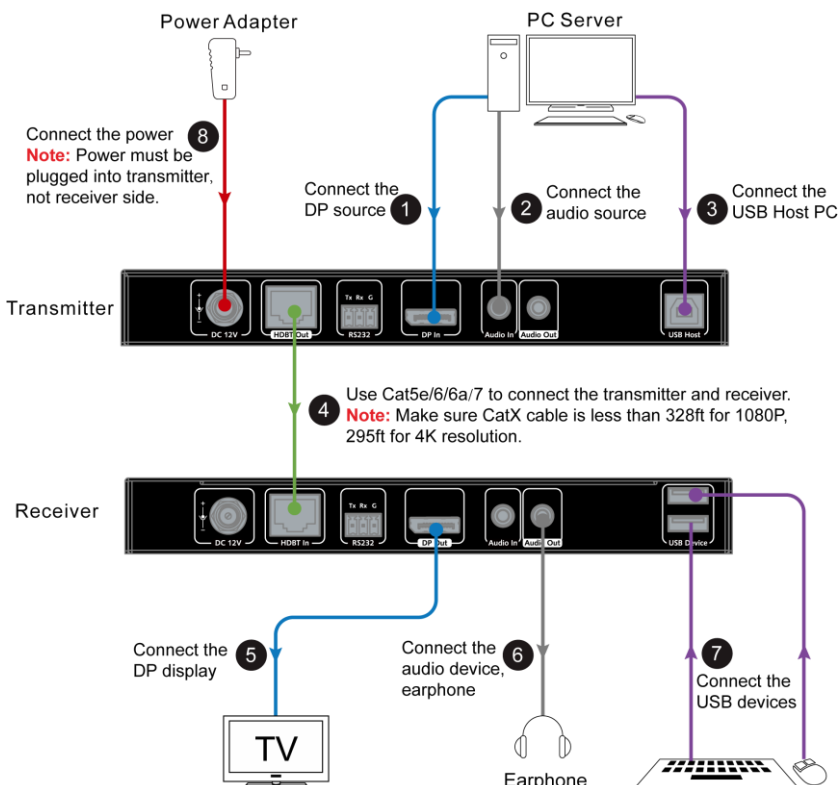


2. Position and install the mounting bracket using the screws provided.



3. Repeat steps 1-2 for the other side of the unit.
4. Mounting to a surface or any right place by using the mounting screws to affix the units.
5. Repeat steps from 1 to 4 to install the receiver.

Application



Specification

Technical	
Video Signal Type	DP1.2 with HDCP1.4
Audio Format	L/R channel PCM 2.0
Input/Output Resolution Support	640x480 ⁸ , 800x600 ⁸ , 1024x768 ⁸ , 1280x720 ⁸ , 1280x768 ⁸ , 1280x800 ⁸ , 1280x960 ⁸ , 1280x1024 ⁸ , 1360x768 ⁸ , 1366x768 ⁸ , 1440x900 ⁸ , 1600x900 ⁸ , 1600x1200 ⁸ , 1680x1050 ⁸ , 1920x1200 ⁸ , 1920x1200 ⁸ , 2560x1440 ⁸ , 2560x1600 ⁸ , 3840x2160P ⁵ , 1920x1080 ⁹ Note: 5 = at 30 Hz, 8 = at 60 Hz, 9 = 120Hz
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 (Maximum)	≤14.2W (Pair)
DP Cable length	5m (Max)
Device Dimensions (W x H x D)	200 mm × 25 mm ×100 mm 7.91" x 0.99" x 3.95"
Product Weight	Transmitter: 0.5kg/1.10lb Receiver: 0.5kg/1.10lb

Transmission Distance:

Note: AV Access recommends the use of T568B straight-through Category cables.

Cable Type	Range	Supported Video
CAT5e/CAT6	100m/328ft	1080p@60Hz 36bpp
	90m/295ft	1080p@60Hz 48bpp 1080p@60Hz 3D 3840 x 2160@30Hz 4:4:4
CAT6a/CAT7	100m/328ft	1080p@60Hz 48bit 1080p@60Hz 3D 3840 x 2160@30Hz 4:4:4

Trouble Shooting

Five Steps of Regular Troubleshooting Routine

- 1 **Power:** Please make sure all devices are powered on (source, extender, and display devices).
- 2 **Indicator:** Please make sure LED indicators on transmitter and receiver are normal according to user manual.
- 3 **Devices:** Please make sure pictures can be shown normally when connecting source to display devices directly.
- 4 **Cable:** Plug in and out DP/Cat X cable or try another DP/Cat X cable.
 - Cat 5e/6/6a/7 cable is recommended, please do not use Cat 5 cable.
 - Please make sure Cat X cable is less than 328ft for 1080P, 295ft for 4K resolution.
 - Please make sure the two connectors of the Cat X cable are same standard (EIA/TIA 568B).
- 5 **Compatibility:**
 - Please test the source and display devices to determine whether there are compatibility issues.
 - 4KEX100-DP-KVM supports up to 4K@30Hz 4:4:4 8bit. When both DP source and display devices support 4K@60Hz 4:4:4 8bit, display device will not output signal (Even though all the LEDs of extender are normal). Please set the source resolution to 4K@30Hz 4:4:4 8bit or ask help from Source Device Supplier.

Typical questions

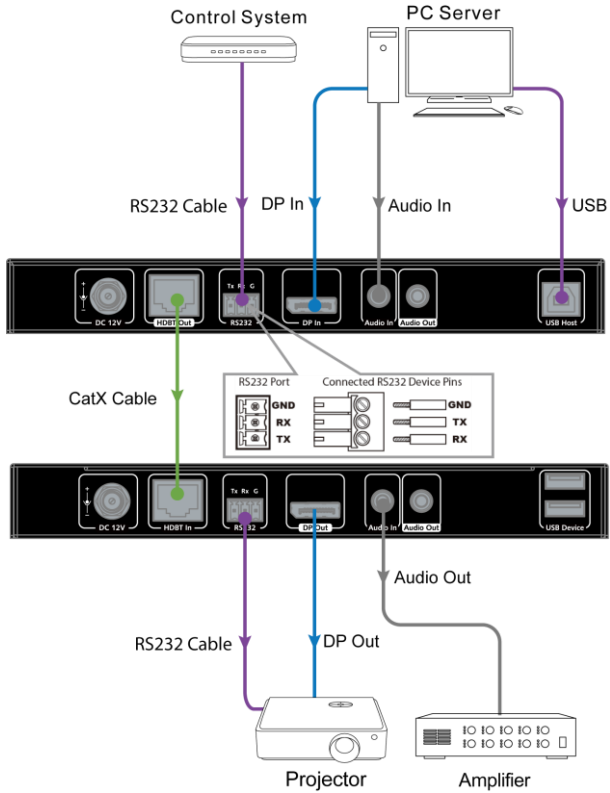
1. How to deal with video flash or cut off during installation?

- 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 Ethernet cable. Please change to a qualified cable (Cat 5e/6/6a/7, EIA/TIA 568B) and make sure the cable length is within the maximum distance (328ft for 1080p, 295ft for 4K).
- HDCP indicator should be solid on or blinking. If it is off, it means no signal pass through. Please check if the DP cables are well connected to the source and display. Try to change to a better DP cable. Also, make sure that your source and display are under 4K@30Hz 4:4:4 8bit.
- Please try to install the DP display card device to your computer.

2. How to use the RS232 port in the extender?

The RS232 port provides a channel to pass through protocol commands to control third party devices such as your source or display. RS232 uses the three pins that are labeled transmitter, receiver and GND. Connect a host computer or control system to the RS232 connector. Please refer to the following pin definition of RS232 during your installation.

Trouble Shooting



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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V1.0.3