



— Simplify your life —
AV Access

4KEX100-KVM

4K HDBaseT Extender 100m with USB2.0



User Manual

Disclaimers

The information in this manual has been carefully checked and is believed to be accurate. AV Access Technology Limited assumes no responsibility for any infringements of patents or other rights of third parties which may result from its use.

AV Access Technology Limited assumes no responsibility for any inaccuracies that may be contained in this document. AV Access Technology Limited also makes no commitment to update or to keep current the information contained in this document.

AV Access Technology Limited reserves the right to make improvements to this document and/or product at any time and without notice.

Copyright

Copy, Reproduce, Distribute and/or Edit of this document or part of it as well as utilization of its contents and communication thereof to others without express authorization are prohibited. Offenders will be held liable for payment of damages. All rights created by patent grant or registration of a utility model or design patent are reserved. Copyright ©2016 AV Access Technology Limited All rights reserved.

Trademarks Notice

All products or service names mentioned in this document may be trademarks of the companies with which they are associated.

Contact Us

Email: info@avaccess.com

Important Safety Instructions

- Do not expose this apparatus to rain, moisture, dripping or splashing. No objects filled with liquids, such as vases, shall be placed on the apparatus.
- 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 apparatus (including amplifiers) that produce heat.
- Do not place sources of naked flames, such as lighted candles, on the unit.
- Clean this apparatus only with dry cloth.
- Unplug this apparatus 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.

Table of Contents

Introduction.....	2
Overview	2
Features	2
Package Contents.....	3
Panel.....	4
Transmitter	4
Receiver	6
Installation and Application	8
Installation	8
Application	8
EDID Management	10
Specification	11
Transmitter	11
Receiver	12
Warranty	14

Introduction

Overview

4KEX100-KVM is a 100m 4K HDBaseT 2.0 Extender which offers the distribution of uncompressed 4K@60Hz UHD video, Analog Stereo, power, RS232 and USB 2.0 up to 100m/330ft over a single Cat6 or above cable.

With USB 2.0 pass-through and USB Host connector in TX, and USB Device connectors in RX, it provides remote source PC control with keyboard and mouse, interactive display operation, data transmission and USB streaming over distances up to 100m. Additional features include Bi-directional 3.5mm stereo pass through.

With 48V PoH integrated inside, the extender needs only one power supply connected to TX to power both units. Its 12V power supply is secured with a screw-on connector to prevent the power from being accidentally disconnected. It has LED indicators for visual power supply to units and signal status to show established connection between connected devices.

Features

- Via Cat 6/6a/7 cables, 4Kx2K@60Hz output up to 100m/330ft, 1080P@60Hz up to 100m/330ft
- Via Cat 5e cable, 4Kx2K@60Hz output up to 90m/300ft, 1080P@60Hz up to 100m/330ft
- HDMI 1.4 with 4k@60Hz (chroma sub-sampling 4:2:0 8-bit only) and HDBT 2.0 compliance
- One-way POH, TX (PSE) with PSU to power both TX and RX (PD)

- USB 2.0 pass through, USB-Host connector built in TX and 4 x USB-Device connector built in RX
- High-speed USB 2.0, up to 480Mbps, pass through over HDBaseT up to 100m/330ft
- Bi-directional Analog Stereo, and RS232 pass-through over HDBaseT
- Independent DIP switch for EDID management
- Does not support HDCP

Package Contents

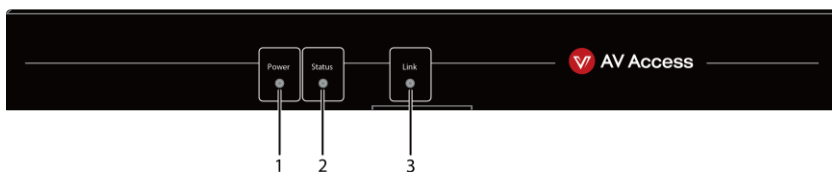
Before you start the installation of the product, please check the package contents:

- Transmitter 4KEX100-KVM x 1
- Receiver 4KEX100-KVM x 1
- 12 VDC 2A Power Supply x 1
- Phoenix Male Connector (3.5 mm, 3 pins) x 2
- USB 2.0 Type-B to Type-A Cable (L=1.5m) x 1
- Mounting Brackets (Pair, with Screws) x 2
- User Manual x 1

Panel

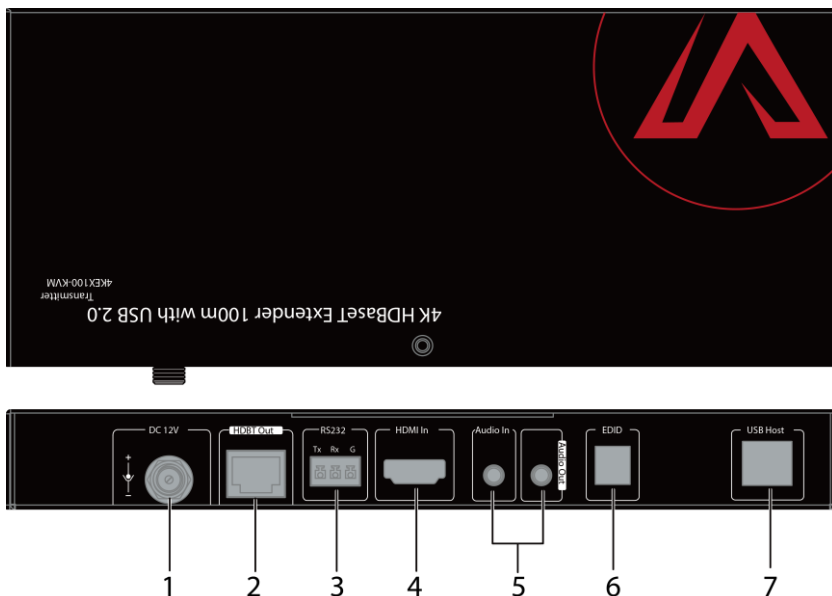
Transmitter

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	Link LED	ON: HDBT Link is normal. OFF: No HDBT Link.

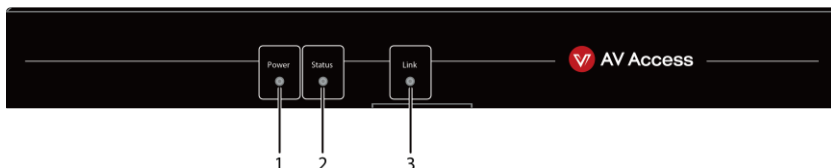
Rear Panel



No.	Name	Description
1	DC 12V	12V DC power input, threaded port for standard or locking connection.
2	HDBT OUT	Connects to HDBT IN port of receiver.
3	RS232	RS232 pass through.
4	HDMI IN	Connects to an HDMI source.
5	AUDIO	Input: connects to audio devices. Output: connects to audio devices.
6	EDID	DIP Switch for EDID Management.
7	USB HOST	Connects to USB-HOST device, such as PC.

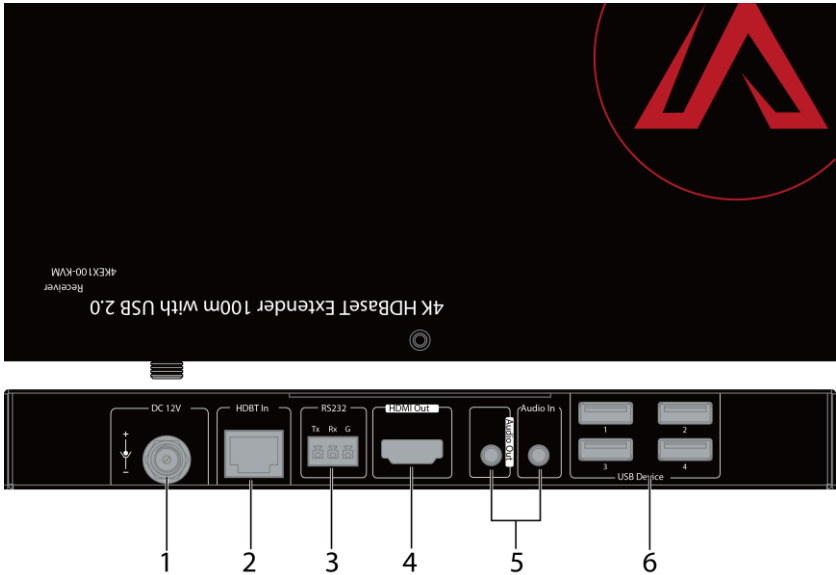
Receiver

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	Link LED	ON: HDBT Link is normal. OFF: No HDBT Link.

Rear Panel



No.	Name	Description
1	DC 12V	12V DC power input, threaded port for standard or locking connection.
2	HDBT IN	Connects to HDBT OUT port of transmitter.
3	RS232	RS232 pass through.
4	HDMI OUT	Connects to an HDMI Sink.
5	AUDIO	Input: connects to audio devices. Output: connects to audio devices.
6	USB DEVICE	Connects to USB device such as keyboard, mouse, USB camera.

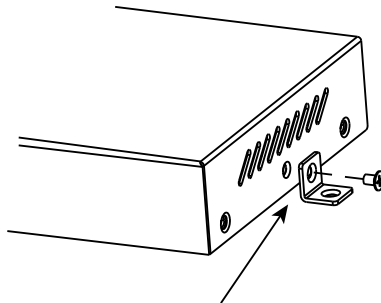
Installation and Application

Installation

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

Steps to install the device in a suitable location:

1. Attach the installation bracket to the enclosure using the screws provided in the package separately.
2. The bracket is attached to the enclosure as shown.



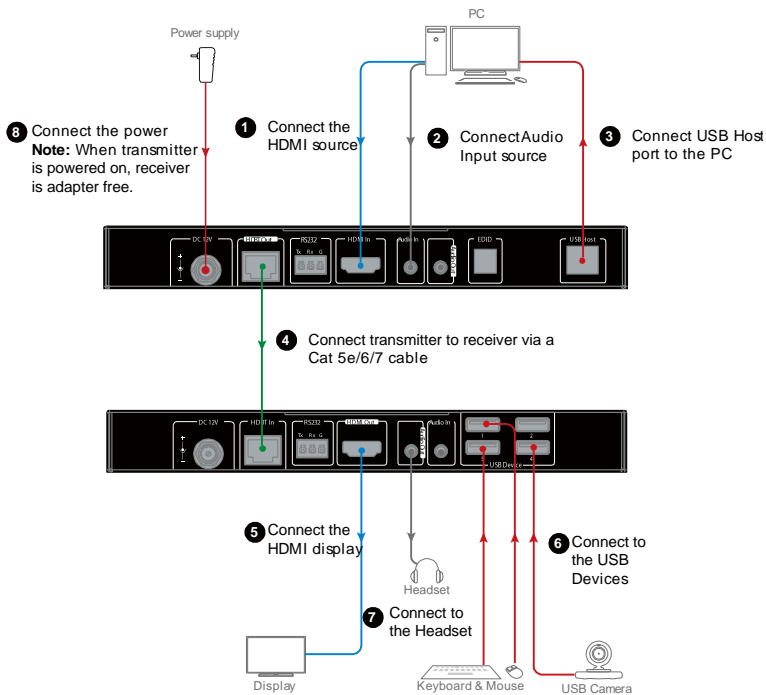
3. Repeat steps from 1 to 2 for the other side of the unit.
4. Mount the device on a flat and solid surface with the screws (provided by others).
5. Repeat steps from 1 to 4 to install the receiver.

Application

Note:

- Disconnect all power supplies of all devices before installation.
- During the installation, connect or disconnect the cables gently.

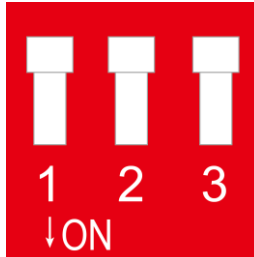
Installation and Application



Note:

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

EDID Management



Please use the DIP Switch for EDID management:

DIP Switch	Position 1	Position 2	Position 3
EDID Copy (Default)	DOWN	DOWN	RESERVED
3840 x 2160P@30Hz 2CH	DOWN	UP	
1920 x 1080P@60Hz 2CH	UP	DOWN	
1920 x 1200@60Hz 2CH	UP	UP	

Note: If EDID copy failed, it will use 1080p/2ch as EDID for input.

Specification

Transmitter

Video	
Input Signal Type	HDMI 1.4 with 4K
Input Resolution Support	4096x2160@24/25/30/50/60Hz, 3840x2160@24/25/30/50/60Hz, 1920x1080/120Hz, 1080P, 1080I, 720P, 576p, 576i, 480p
Maximum Pixel Clock	297MHz
Output Signal Type	HDBT 2.0
Output Resolution Support	4096x2160@24/25/30/50/60Hz, 3840x2160@24/25/30/50/60Hz, 1920x1080/120Hz, 1080P, 1080I, 720P, 576p, 576i, 480p
Audio	
Audio input	3.5mm Mini jack, stereo
Audio output	3.5mm Mini jack, stereo
Control	
Control method	1x RS232, 1x USB-Host;
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)
Surge Protection	Voltage: ±1 kV (Ten times respectively for the positive and negative voltage)
Electrical Fast	Data communication cord: 1 kV

Transient/Burst	Power cord: 2 kV
Power Supply	DC 12V 2A
Power Consumption (Maximum)	≤12 W (pair)
Device Dimensions (W x H x D)	210mm x 25mm x 90.2mm / 8.27" x 0.98" x 3.55"
Product Weight	0.44kg/0.97lb

Receiver

Video	
Input Signal Type	HDBT 2.0
Input Resolution Support	4096x2160@24/25/30/50/60Hz, 3840x2160@24/25/30/50/60Hz, 1920x1080/120Hz, 1080P, 1080I, 720P, 576p, 576i, 480p
Maximum Pixel Clock	297MHz
Video	
Output Signal Type	HDMI 1.4 with 4K
Output Resolution Support	4096x2160@24/25/30/50/60Hz, 3840x2160@24/25/30/50/60Hz, 1920x1080/120Hz, 1080P, 1080I, 720P, 576p, 576i, 480p
Audio	
Audio input	3.5mm Mini jack, stereo
Audio output	3.5mm Mini jack, stereo
Control	
Control method	1x RS232, 4x USB Device
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)
Surge Protection	Voltage: ±1 kV (Ten times respectively for the positive and negative voltage)
Electrical Fast Transient/Burst	Data communication cord: 1 kV Power cord: 2 kV
Power Supply	DC 12V 2A
Power Consumption (Maximum)	≤12 W (pair)
Device Dimensions (W x H x D)	210mm x 25mm x 90.2mm / 8.27" x 0.98" x 3.55"
Product Weight	0.46kg/1.01lb

Transmission Distance

Note: AV Access recommends use of straight-through Category cables wired to T568B standard.

Cable Type	Range	Supported Video
Cat 5e	100m/330ft	1080p@60Hz
	90m/300ft	1080p@60Hz
Cat 6/6a/7	100m/330ft	1080p@60Hz 3D 4K@30Hz 4:4:4 8bit 4K@60Hz 4:2:0 8bit
HDMI	Input/Output: 15m/50ft	1080P@60Hz
	Input: 10m/33ft Output: 15m/50ft	4K@30Hz 4:4:4 8bit 4K@60Hz 4:2:0 8bit

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.

Thank you for choosing products from AV Access.



AV Access — *Simplify your life* —

AV Access Technology Limited

V1.0.5