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
Business inquiry: services@avaccess.com
Technical problems: support@avaccess.com
**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.
# Table of Contents

Overview .......................................................................................................................... 1
- Package Contents ....................................................................................................... 3
- Panel .......................................................................................................................... 4

EDID Management ....................................................................................................... 8

Installation Instructions .............................................................................................. 9

Specification ................................................................................................................ 10

Warranty ...................................................................................................................... 14
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.

- Via Cat 6/6a/7 cables, 4Kx2K@60Hz output up to 100m, 1080P@60Hz up to 100m
- Via Cat 5e cable, 4Kx2K@60Hz output up to 90m, 1080P@60Hz up to 100m
- 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
Overview

- High-speed USB 2.0, up to 480Mbps, pass through over HDBaseT up to 100m
- 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:

- 1 x Transmitter 4KEX100-KVM
- 1 x Receiver 4KEX100-KVM
- 1x 12 VDC 2A Power Supply
- 2 x Phoenix Male Connector (3.5 mm, 3 pins)
- 2 x Mounting Brackets (Pair)
- 1 x User Manual
Panel

Transmitter

Overview

Front Panel

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power LED</td>
<td><strong>ON:</strong> The transmitter is powered on.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>OFF:</strong> The transmitter is powered off.</td>
</tr>
<tr>
<td>2</td>
<td>Status LED</td>
<td><strong>Flashing Slowly:</strong> The transmitter is working properly.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>OFF:</strong> The transmitter is not working properly.</td>
</tr>
<tr>
<td>3</td>
<td>Link LED</td>
<td><strong>ON:</strong> HDBT Link is normal</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>OFF:</strong> No HDBT Link</td>
</tr>
</tbody>
</table>
**Rear Panel**

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

www.avaccess.com
# Overview

## Receiver

### Front Panel

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
</table>
| 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                      |
### Overview

#### Rear Panel

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

Please use the DIP Switch for EDID management:

<table>
<thead>
<tr>
<th>DIP Switch</th>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDID Copy (Default)</td>
<td>DOWN</td>
<td>DOWN</td>
<td></td>
</tr>
<tr>
<td>3840 x 2160P@30Hz 2CH</td>
<td>DOWN</td>
<td>UP</td>
<td>RESERVED</td>
</tr>
<tr>
<td>1920 x 1080P@60Hz 2CH</td>
<td>UP</td>
<td>DOWN</td>
<td></td>
</tr>
<tr>
<td>1920 x 1200@60Hz 2CH</td>
<td>UP</td>
<td>UP</td>
<td></td>
</tr>
</tbody>
</table>

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

Note:

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

## Transmitter

<table>
<thead>
<tr>
<th>Video</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>1 x HDMI</td>
</tr>
<tr>
<td>Input Signal Type</td>
<td>HDMI 1.4 with 4K</td>
</tr>
<tr>
<td>Input Resolution Support</td>
<td>4096x2160@24/25/30/50/60Hz, 3840x2160@24/25/30/50/60Hz, 1080P, 1080I, 720P, 576p, 576i, 480p</td>
</tr>
<tr>
<td>Input Video Level</td>
<td>0.5-1.0 V p-p</td>
</tr>
<tr>
<td>Input DDC Signal</td>
<td>5V p-p</td>
</tr>
<tr>
<td>Maximum Pixel Clock</td>
<td>297MHz</td>
</tr>
<tr>
<td>Output</td>
<td>1 x HDBT</td>
</tr>
<tr>
<td>Output Signal Type</td>
<td>HDBT 2.0</td>
</tr>
<tr>
<td>Output Resolution Support</td>
<td>4096x2160@24/25/30/50/60Hz, 3840x2160@24/25/30/50/60Hz, 1080P, 1080I, 720P, 576p, 576i, 480p</td>
</tr>
<tr>
<td>Video Impedance</td>
<td>100 Ω</td>
</tr>
<tr>
<td>Transmission distance</td>
<td>Cat 5e: 3840x2160: max. 90m; 1080P: max. 100m; Cat 6/6a/7: 3840x2160: max. 100m; 1080P: max. 100m</td>
</tr>
</tbody>
</table>

## Audio

<table>
<thead>
<tr>
<th>Audio</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio input</td>
<td>3.5mm Mini jack, stereo</td>
</tr>
<tr>
<td>Audio output</td>
<td>3.5mm Mini jack, stereo</td>
</tr>
</tbody>
</table>

## Control

<table>
<thead>
<tr>
<th>Control</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Control method</td>
<td>1x RS232, 1x USB-Host;</td>
</tr>
</tbody>
</table>
### General

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>0°C to 45°C (32°F to 113°F)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-20°C to 70°C (-4°F to 158°F)</td>
</tr>
<tr>
<td>Humidity</td>
<td>10% to 90%, non-condensing</td>
</tr>
</tbody>
</table>
| 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)          |
| 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                 | 0.44kg                                                                  |
| Certification                  | CE, FCC, RoHS                                                           |

### Receiver

#### Video

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>1 x HDBT</td>
</tr>
<tr>
<td>Input Signal Type</td>
<td>HDBT 2.0</td>
</tr>
<tr>
<td>Input Resolution Support</td>
<td>4096x2160@24/25/30/50/60Hz, 3840x2160@24/25/30/50/60Hz, 1080P, 1080i, 720P, 576p, 576i, 480p</td>
</tr>
<tr>
<td>Input Video Level</td>
<td>0.5-1.0 V p-p</td>
</tr>
<tr>
<td>Input DDC Signal</td>
<td>5V p-p</td>
</tr>
<tr>
<td>Maximum Pixel Clock</td>
<td>297MHz</td>
</tr>
</tbody>
</table>
## Specification

### Video

<table>
<thead>
<tr>
<th>Output</th>
<th>1 x HDMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Signal Type</td>
<td>HDMI 1.4 with 4K</td>
</tr>
<tr>
<td>Output Resolution Support</td>
<td>4096x2160@24/25/30/50/60Hz, 3840x2160@24/25/30/50/60Hz, 1080P, 1080I, 720P, 576p, 576i, 480p</td>
</tr>
<tr>
<td>Video Impedance</td>
<td>100 Ω</td>
</tr>
</tbody>
</table>

### Audio

<table>
<thead>
<tr>
<th>Audio input</th>
<th>3.5mm Mini jack, stereo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio output</td>
<td>3.5mm Mini jack, stereo</td>
</tr>
</tbody>
</table>

### Control

<table>
<thead>
<tr>
<th>Control method</th>
<th>1x RS232, 4x USB Device</th>
</tr>
</thead>
</table>

### General

<table>
<thead>
<tr>
<th>Operating Temperature</th>
<th>0°C to 45°C (32°F to 113°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Temperature</td>
<td>-20°C to 70°C (-4°F to 158°F)</td>
</tr>
<tr>
<td>Humidity</td>
<td>10% to 90%, non-condensing</td>
</tr>
<tr>
<td>ESD Protection</td>
<td>Human-body Model: ±8kV(Air-gap discharge)/±4kV(Contact discharge)</td>
</tr>
<tr>
<td>Surge Protection</td>
<td>Voltage: ±1 kV (Ten times respectively for the positive and negative voltage)</td>
</tr>
<tr>
<td>Electrical Fast Transient/Burst</td>
<td>Data communication cord: 1 kV</td>
</tr>
<tr>
<td></td>
<td>Power cord : 2 kV</td>
</tr>
<tr>
<td>Power Supply</td>
<td>DC 12V 2A</td>
</tr>
<tr>
<td>Power Consumption (Maximum)</td>
<td>≤12 W (pair)</td>
</tr>
<tr>
<td>Device Dimensions (W x H x D)</td>
<td>210mm x 25mm x 90.2mm / 8.27” x 0.98” x 3.55”</td>
</tr>
</tbody>
</table>
### General

<table>
<thead>
<tr>
<th>Product Weight</th>
<th>0.46kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certification</td>
<td>CE, FCC, RoHS</td>
</tr>
</tbody>
</table>

### Cable Specifications

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

<table>
<thead>
<tr>
<th>Cable Type</th>
<th>Range</th>
<th>Supported Video</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat5e</td>
<td>100m</td>
<td>Up to 1080p@60Hz, 36bit (data rates lower than 5.3 Gbps or below 225 MHz TMDS clock)</td>
</tr>
<tr>
<td></td>
<td>90m</td>
<td>1080p@60Hz, 48bit</td>
</tr>
<tr>
<td>Cat6/Cat6a/Cat7</td>
<td>100m</td>
<td>1080p@60Hz 3D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4K2K/30Hz/4:4:4 and 4K2K/60Hz/4:2:0 video formats</td>
</tr>
</tbody>
</table>
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 reserves 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.