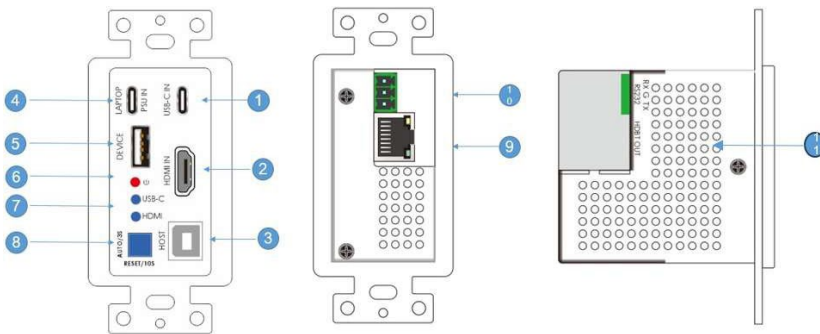


3 Features

- Extend USB-C, HDMI2.0 & USB2.0 signal over HDBT2.0.
- HDMI 2.0, 18G, 4K@60 4:4:4, HDCP 2.2 and backward compatible.
- Transmission distance of 4K@60 4:4:4 Max up to 100m (CAT6 STP cable).
- USB2.0 bandwidth rate max up to 480M/bps with the HDBT 2.0 standard on USB speed.
- USB-C supports 4K@60 4:2:0.
- USB-C charging port, Max supports 100 W PD, to charge the connected PC.
- HDMI In on Rx for BYOD devices and with Auto-sw control.
- De-embedded audio (analog and optical) at Rx.
- RS232 passes through from Tx to Rx.
- Supports Auto SW and manual mode via button.
- Support 48v PoC function (only from Rx to Tx).
- EDID & HDCP management on Dip switch.
- Support 3D, HDR10 and Dolby Vision.
- Ethernet port for USB-C or USB-B Ethernet usage and supports ethernet ON/OFF control on RX unit.
- US one-gang enclosure for Decora-style at Tx.
- Ventilation holes for heat dissipation at the back of the transmitter.
- Black or white face plates available.

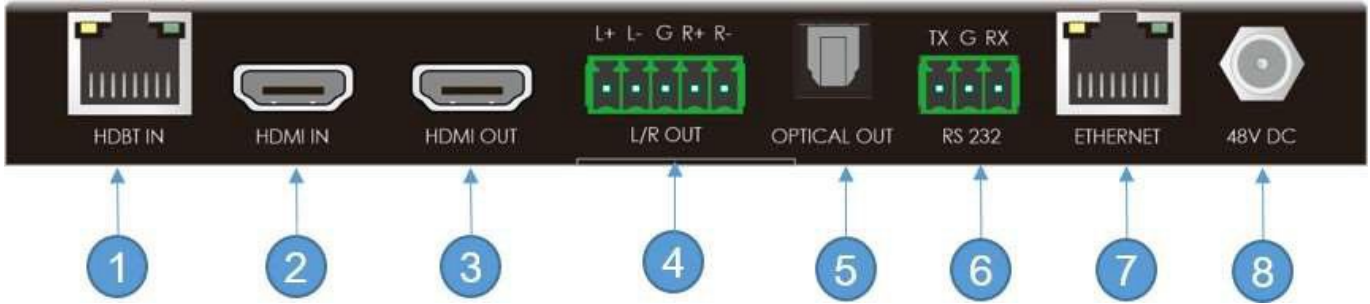
4 Operation Controls and Functions

4.1 Transmitter Panel:

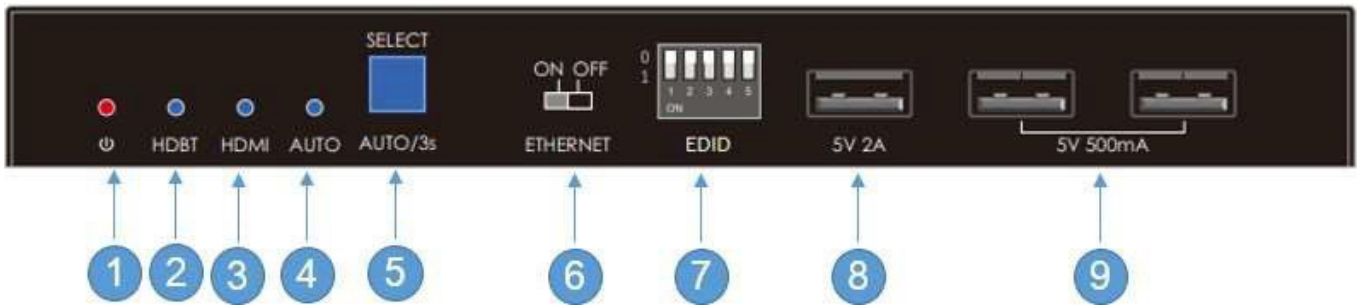


| Front Panel | | |
|-------------|----------------------------|---|
| No. | Name & Description | Remark |
| 1 | USB-C Port | USB-C Port (DP Alt Mode), connect to USB-C source |
| 2 | HDMI Port | HDMI Port, connect to HDMI source |
| 3 | USB-B Host | USB-B Host Port, connect to PC USB host |
| 4 | USB-C Port | USB-C Port, connect to an extra USB-C Charger, to charge the connected device |
| 5 | USB-A Port | Connect to USB devices, with 5V,1A |
| 6 | Power LED Indicator | The LED indicator will illuminate in green when the product is powered on, and red when the product is on standby |
| 7 | USB-C & HDMI LED Indicator | 1: When USB-C input is selected, the LED will illuminate green 2: When HDMI input is selected, the LED will illuminate green |
| 8 | Source Button | 1: On manual mode, press to choose HDMI or USB-C for input source 2: Press 3 seconds, enters the Auto-sw mode or back to manual switch mode 3: Press for 10 seconds, for factory reset |
| 9 | HDBaseT Output Port | Connect to Receiver's HDBaseT input port via a Cat6 STP cable |
| 10 | RS232 Port | 1: Connect to receiver's RS232 port, for RS232 pass through transmit 2: Control the transmitter's sources selection |
| 11 | Ventilation pole | For heat dissipation |

4.2 Receiver's Panel



| Rear Panel | | |
|------------|--------------------|---|
| No. | Name & Description | Remark |
| 1 | HDBaseT Input Port | Connect from the transmitter's HDBaseT output port via a Cat6 STP cable |
| 2 | HDMI IN Port | Connect to a BYOD or HDMI source device |
| 3 | HDMI OUT Port | HDMI output port, to connect to a display monitor or projector |
| 4 | Analogy Audio | De-embedded audio on 5 pin-phenix connectors |
| 5 | Digital Audio | De-embedded audio on optical port |
| 6 | RS232 port | Connect to transmitter's RS232 port, for RS232 pass through |
| 7 | Ethernet Port | Connect to LAN switch to get Ethernet for USB-C or USB-B on Tx |
| 8 | Power Supply | Connect to the supplied 24V PSU for power (RX powers TX only over HDBT power) |



| Rear Panel | | |
|------------|---------------------------|---|
| No. | Name & Description | Remark |
| 1 | Power LED indicator | The LED indicator will illuminate in green when the product is powered on, and red when the product is on standby |
| 2 | HDBT Source LED indicator | When HDBT source is selected, it will illuminate blue |
| 3 | HDMI Source LED indicator | When HDMI source is selected, it will illuminate blue |
| 4 | Auto SW LED indicator | When receiver is entered into Auto SW mode, it will illuminate blue |
| 5 | Button control | 1: On manual mode, press to choose HDBT or HDMI for input source 2: Press 3 seconds, enters the Auto-sw mode or back to manual switch mode |
| 6 | DIP Switch | Enable or disable Ethernet |
| 7 | EDID DIP Switch | EDID or HDCP management |
| 8 | USB-A Port | Connect USB devices, 5V, 2A, such as speakerphone, USB Microphones etc. |
| 9 | USB-A Port | Connect USB devices, 5V, 500mA, such as USB speakerphones, USB camera or USB Microphones etc. |

5 Specification

| HDMI Input | <ol style="list-style-type: none"> 1. HDMI 2.0, supports resolution up to 4K@60Hz 4:4:4, HDR 10 and Dolby Vision. 2. Supports up to LPCM 7.1, Dolby® TrueHD, Dolby Digital® Plus, and DTS-HD® Master Audio™ . | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|--|--------------|-----------|------------------|--------|--|------------|---------|--------------|-----------|-------------|----|------|-------|---------|------------------|----|------|-------|---------|------------------|----|------|-------|---------|------------------|----|------|-------|---------|------------------|----|------|-------|---------|------------------|----|------|-------|---------|------------------|----|------|-------|---------|------------------|----|------|-------|---------|------------------|----|------|-------|---------|------------------|----|------|-------|---------|------------------|
| USB-C | <ol style="list-style-type: none"> 1. Supports up to 4K UHD 60Hz 4:2:0. 2. Supports charging Max up to 100W PD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HDMI Output | <ol style="list-style-type: none"> 1. HDMI V2.0, supports resolution up to 4K@60Hz 4:4:4, HDR 10 and Dolby Vision. 2. Supports up to PCM 7.1, Dolby® TrueHD, Dolby Digital® Plus, and DTS-HD® Master Audio™ . <p>3. Downscaling</p> <table border="1"> <thead> <tr> <th colspan="3">Input</th> <th colspan="2">Output</th> </tr> <tr> <th>Resolution</th> <th>Refresh</th> <th>Colour Space</th> <th>Downscale</th> <th>1080p Specs</th> </tr> </thead> <tbody> <tr> <td>4K</td> <td>60Hz</td> <td>4:4:4</td> <td>Support</td> <td>1080p@60Hz 4:4:4</td> </tr> <tr> <td>4K</td> <td>50Hz</td> <td>4:4:4</td> <td>Support</td> <td>1080p@50Hz 4:4:4</td> </tr> <tr> <td>4K</td> <td>30Hz</td> <td>4:4:4</td> <td>Support</td> <td>1080p@30Hz 4:4:4</td> </tr> <tr> <td>4K</td> <td>25Hz</td> <td>4:4:4</td> <td>Support</td> <td>1080p@25Hz 4:4:4</td> </tr> <tr> <td>4K</td> <td>24Hz</td> <td>4:4:4</td> <td>Support</td> <td>1080p@24Hz 4:4:4</td> </tr> <tr> <td>4K</td> <td>60Hz</td> <td>4:2:0</td> <td>Support</td> <td>1080p@60Hz 4:4:4</td> </tr> <tr> <td>4K</td> <td>50Hz</td> <td>4:2:0</td> <td>Support</td> <td>1080p@50Hz 4:4:4</td> </tr> <tr> <td>4K</td> <td>30Hz</td> <td>4:2:0</td> <td>Support</td> <td>1080p@30Hz 4:4:4</td> </tr> <tr> <td>4K</td> <td>25Hz</td> <td>4:2:0</td> <td>Support</td> <td>1080p@25Hz 4:4:4</td> </tr> <tr> <td>4K</td> <td>24Hz</td> <td>4:2:0</td> <td>Support</td> <td>1080p@24Hz 4:4:4</td> </tr> </tbody> </table> | Input | | | Output | | Resolution | Refresh | Colour Space | Downscale | 1080p Specs | 4K | 60Hz | 4:4:4 | Support | 1080p@60Hz 4:4:4 | 4K | 50Hz | 4:4:4 | Support | 1080p@50Hz 4:4:4 | 4K | 30Hz | 4:4:4 | Support | 1080p@30Hz 4:4:4 | 4K | 25Hz | 4:4:4 | Support | 1080p@25Hz 4:4:4 | 4K | 24Hz | 4:4:4 | Support | 1080p@24Hz 4:4:4 | 4K | 60Hz | 4:2:0 | Support | 1080p@60Hz 4:4:4 | 4K | 50Hz | 4:2:0 | Support | 1080p@50Hz 4:4:4 | 4K | 30Hz | 4:2:0 | Support | 1080p@30Hz 4:4:4 | 4K | 25Hz | 4:2:0 | Support | 1080p@25Hz 4:4:4 | 4K | 24Hz | 4:2:0 | Support | 1080p@24Hz 4:4:4 |
| Input | | | Output | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Resolution | Refresh | Colour Space | Downscale | 1080p Specs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4K | 60Hz | 4:4:4 | Support | 1080p@60Hz 4:4:4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4K | 50Hz | 4:4:4 | Support | 1080p@50Hz 4:4:4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4K | 30Hz | 4:4:4 | Support | 1080p@30Hz 4:4:4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4K | 25Hz | 4:4:4 | Support | 1080p@25Hz 4:4:4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4K | 24Hz | 4:4:4 | Support | 1080p@24Hz 4:4:4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4K | 60Hz | 4:2:0 | Support | 1080p@60Hz 4:4:4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4K | 50Hz | 4:2:0 | Support | 1080p@50Hz 4:4:4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4K | 30Hz | 4:2:0 | Support | 1080p@30Hz 4:4:4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4K | 25Hz | 4:2:0 | Support | 1080p@25Hz 4:4:4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4K | 24Hz | 4:2:0 | Support | 1080p@24Hz 4:4:4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Distance | 4K@60 444 at 10m for Cat 6 and Upwards UTP cable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HDCP Management | <ol style="list-style-type: none"> 1. Input: HDCP 2.2 and 1.4 compliant. Output: Manageable (Default follows the display). 2. Follow the source. 3. Follow the display. For example: it will output HDCP 1.4 when source is HDCP 2.2 when connect to HDCP 1.4 display. It will not turn off HDCP if display does not support HDCP. <p>Note: will provide one hidden command to turn on/off.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Audio Output | <ol style="list-style-type: none"> 1: 5 Pin-phoenix balanced audio output 2: Optical output | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| USB2.0 | <ol style="list-style-type: none"> 1: Max up to 480Mbps source dependent 2: x1 HOST Port on Tx & USB-A (5V, 1A) device port on Tx 3: 1x USB-A (5V, 2A), 1x USB-A (5V, 500Ma), 1x USB-A either for device or firmware upgrade (5V, 500Ma) on RX | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RS232 | <ol style="list-style-type: none"> 1. To control the sources switching and the default baud rate is 9600. 2. Works with Rx, for RS232 pass through | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CEC | Supports CEC pass through (only from HDMI IN from Tx to HDMI OUT on Rx) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EDID Management | <ol style="list-style-type: none"> 1. Copy the display's EDID. 2. Use the built-in EDID (16 EDID in total) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ethernet Port | <ol style="list-style-type: none"> 1. USB-C or USB-B can access to Ethernet 2. ON/OFF control according to the actual requirements | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Firmware | The firmware can be updated by RS232 or USB-A on Rx | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

6 EDID & HDCP

| EDID Setting | | | | | |
|--------------|------------------------|-------|-------|-------|-------|
| # | JUMPER | DIP-1 | DIP-2 | DIP-3 | DIP-4 |
| 1 | EDID COPY (See NOTE 1) | 0 | 0 | 0 | 0 |
| 2 | 1080P_2CH(PCM) | 1 | 0 | 0 | 0 |
| 3 | 1080P_5.1CH | 0 | 1 | 0 | 0 |
| 4 | 1080P_7.1CH | 1 | 1 | 0 | 0 |
| 5 | 4K30Hz_3D_2CH(PCM) | 0 | 0 | 1 | 0 |
| 6 | 4K30Hz_3D_5.1CH | 1 | 0 | 1 | 0 |
| 7 | 4K30Hz_3D_7.1CH | 0 | 1 | 1 | 0 |
| 8 | 4K60Hz(Y420)_3D_7.1CH | 1 | 1 | 1 | 0 |
| 9 | 4K60Hz_3D_2CH(PCM) | 0 | 0 | 0 | 1 |
| 10 | 4K60Hz_3D_5.1CH | 1 | 0 | 0 | 1 |
| 11 | 4K60Hz_3D_7.1CH | 0 | 1 | 0 | 1 |
| 12 | 1080I_2CH | 1 | 1 | 0 | 1 |
| 13 | 1080I_6CH | 0 | 0 | 1 | 1 |
| 14 | 4K60Hz_3D_2CH(PCM)_HDR | 1 | 0 | 1 | 1 |
| 15 | 4K60Hz_3D_5.1CH_HDR | 0 | 1 | 1 | 1 |
| 16 | 4K60Hz_3D_7.1CH_HDR | 1 | 1 | 1 | 1 |

| HDCP SETTING | | | |
|--------------|----------------|-------|----------------------------|
| # | | DIP-5 | |
| 1 | DEBUG MODE ON | 1 | Remove the HDCP on outputs |
| 2 | DEBUG MODE OFF | 0 | HDCP pass through |

7 RS232 Commands

| SYSTEM SETUP | | |
|-----------------------|---|-----------------|
| s addr xx! | Set System Address to xx {xx={00-99}(00=Single)} | |
| help! | Lists all commands | |
| r status! | Get device current status | |
| s reset! | Reset to factory defaults | |
| r fw version! | Get Firmware version | |
| r addr! | Get System Address | |
| r type! | Query matrix model | |
| Output SETUP | | |
| s in x av out y! | Set input x to output y, x=1~2, y=0~1(0=all) | |
| s hdmi y hdcp z! | Set hdmi output y port hdcp status, y=0~1(0=all), z=0~1(0=follow sink,1=follow source) | Only TX Support |
| s hdmi y auto en/dis! | Set hdmi output y auto mode enable/disable, y=0~1(0=all) | |
| r vs out y! | Get output y video route, y=0~1(0=all) | |
| r hdmi y auto! | Get hdmi output y auto mode status, y=0~1(0=all) | |
| r hdcp out y! | Get the hdcp status of the y output port, y=0~1(0=all) | Only TX Support |
| r edid data hdmi y! | Get the EDID data of the hdmi output y port, y=0~1(0=all) | |
| INPUT SETUP | | |
| s in x edid y! | Set input x edid y(x={1-2}(HDBT,HDMI)), y={0~15} 0:EDID_BYPASS 1:1080P_2D_2CH 2:1080P_2D_6CH 3:1080P_2D_8CH 4:4K30Hz_3D_2CH 5:4K30Hz_3D_6CH 6:4K30Hz_3D_8CH 7:4K60Hz_Y420_3D_8CH 8:4K30Hz_3D_2CH_HDR 9:4K30Hz_3D_6CH_HDR 10:4K30Hz_3D_8CH_HDR 11:1080I_2CH 12:1080I_6CH 13:4K60Hz_3D_2CH_HDR 14:4K60Hz_3D_6CH_HDR 15:4K60Hz_3D_8CH_HDR | |
| s in x tp poe y! | Set in x poe mode, x=1~2,y=0~1(0=Auto,1=Force) | Only TX Support |
| r sig sta in x! | Get input x signal status x=1~2 | |
| r tp poe in x! | Get in x Poe Mode Status x=1~2 | Only TX Support |

8 Application Example

