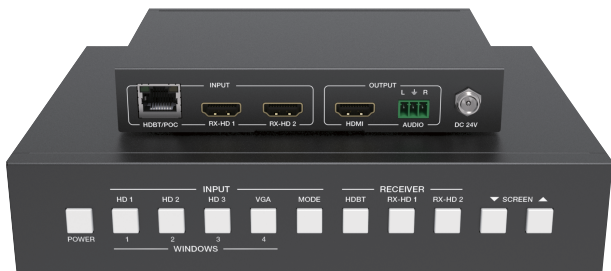# Prestel SW-P61R

HD Video/Audio Processor (100M)

USER MANUAL

Thank you for purchasing this product

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lighting strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Table of Contents

1. Introduction

HD Video/Audio Processor is a product that solves high-definition video / audio signal transmission, switch and control with integration operation. This product can switch any of these six HDMI sources to one HDMI display, and supports four sorts switch mode. It can extend HDMI / VGA HD signal, USB, network and IR control signal up to 100 meters / 329ft distances via a single CAT 5e/6 cable between transmitter and receiver, and realizes zero latency and uncompression long distance transmission from source to display device. The HDMI and VGA video resolution is up to 4K2K@30Hz and 1920×1200 @60Hz separately.

This product has flexible combination, high compatibility, good scalability. It adopts integrated design that supports HD video / audio signal input, control, transmission and system management. The product is used more convenient than others product because it can control related peripherals equipment synchronously such as display terminal switch, projector curtain, etc. to improve conference or work efficiency. The product supports front panel buttons, RS-232 and Web GUI control.

2. Features

- ☆ HDMI 1.4, HDCP 1.4 compliant
- ☆ Transmitter supports 3 HDMI inputs, 1 VGA input and with 1 analog audio input
- ☆ Receiver supports additional 2 HDMI inputs
- ☆ Supports HDMI video resolution up to 4K2K@30Hz 4:4:4 and VGA video resolution up to 1920×1200@60Hz
- ☆ Supports signal input with seamless switch
- ☆ Supports 4 sorts switch mode including Full-screen, Side-by-side and Quad-view mode
- ☆ Supports signal input automatic recognition, zero latency, uncompression
- ☆ Supports smart EDID management, satisfied automatically the best match from source to display device
- ☆ Supports HDBaseT 2.0 transmission technology, the audio / video signal extend distance up to 100 meters / 328ft via CAT 5e/6 cable

☆ Supports USB2.0 bi-directional transmission function, it can connect USB device such as smart whiteboard, touch-screen, camera, etc.
☆ Supports network access function
☆ Supports multiple control ways such as CEC, RS-232/IP, IR, Relay, etc.
☆ Supports standby automatically and wakening function for video conference system and the others control device
☆ Supports Web GUI control
☆ Supports PoC (Power over Cable) function, it means that either transmitter or receiver is powered supply by 24V/1A power adapter, the other doesn't need power supply
☆ Control is via front panel buttons, RS-232 and LAN port

3. Package Contents

① 1× HD Video / Audio Processor (Transmitter)
② 1× HD Video / Audio Processor (Receiver)
③ 1× 24V/1.5A DC Power Adapter
④ 1× IR Blaster cable (1.5 meters)
⑤ 2× 20~60KHz IR Receiver cable (1.5 meters)
⑥ 2× Mounting Ears (Receiver)
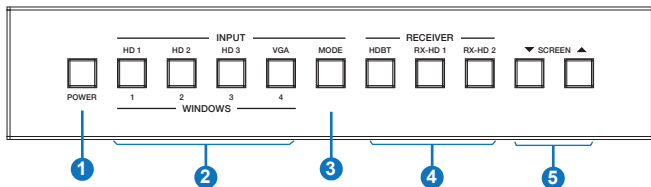⑦ 2× Mounting Ears (Transmitter)
⑧ 1× User Manual

4. Specifications

Technical	
HDMI Compliance	HDMI 1.4
HDCP Compliance	HDCP 1.4
Video Bandwidth	297MHz (10.2Gbps)
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2
Color Depth	8-bit, 10-bit, 12-bit
Video Input Resolution	HDMI: Up to 4K2K@30Hz (4:4:4)
	VGA: 640x480@60Hz ~ 1920x1200@60Hz
Video Out put Resolution	HDMI / HDBT: 3840x2160@30, 1920x1200@60, 1920x 1080@60, 1280x720@60, 1280x800@60, 1360x768@60, 1024x768@60, 1680x1050@60, Auto;
Audio Format	PCM2.0, 44.1kHz, 48kHz(24-bit)
ESD Protection	Human-body Model: ±8kV (Air-gap discharge) , ±4kV (Contact discharge)
Connections	
Transmitter	Input: 3 x HDMI [Type A, 19-pin female] 1 x VGA [DE15 female] 1 x Audio [3.5mm mini-Jack] 2 x USB [Type A, 4-pin female] Output: 1 x HDMI [Type A, 19-pin female] 1 x HD BaseT [RJ45 shielded] 1 x Audio [3-pin phoenix] 1 x USB [Type B, 4-pin female] Control: 2 x LAN [RJ45 shielded] 2 x RS-232 [3-pin phoenix] 1 x RS-232 [RJ45 shielded] 1 x IR in [3.5mm mini-Jack] 1 x IR out [3.5mm mini-Jack]

Receiver	Input:	2 x HDMI [Type A, 19-pin female]
		1 x HD BaseT [RJ45 shielded]
		2 x USB [Type A, 4-pin female]
	Output:	1 x HDMI [Type A, 19-pin female]
		1 x AUDIO [3-pin phoenix]
	Control:	1 x LAN [RJ45 shielded]
		1 x RS-232 [3-pin phoenix]
		1 x RELAY [3-pin phoenix]
		1 x IR IN [3.5mm mini-Jack]
		1 x IR OUT [3.5mm mini-Jack]

Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter: 160mm [W] x 215mm [D] x 44mm [H] Receiver: 98mm [W] x 144mm [D] x 25mm [H]
Weight	Transmitter:1.15Kg, Receiver: 420g
Power Supply	Input: AC100~240V 50/60Hz Output: DC 24V/1A (US/EU standard, CE/FCC/ULcertified)
Power Consumption	18 W
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Relative Humidity	20~90% RH (non-condensing)

Resolution / Distance (Cable Length)	**4K30Hz - Meters**	**1080P60Hz - Meters**
CAT 5e/6	328ft / 100M	328ft / 100M
HDMI IN / OUT	10M	15M
The use of "Premium High Speed HDMI" cable is highly recommended.		

5. Operation Controls and Functions

5.1 Transmitter Panel

☆ Front Panel

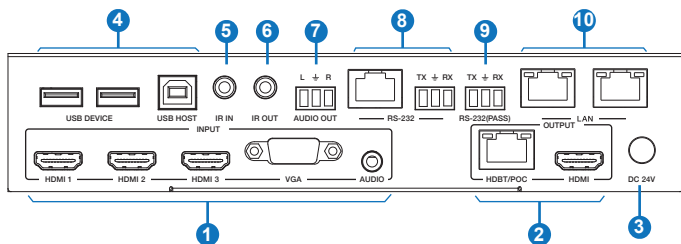| Number	Name	Function description
1	POWER button	When the product is connected power supply, the button lamp illuminates in blue, and the button lamp is off in standby mode. **Note:** Through the power button for controlling power on or standby, simultaneously you need to use Web GUI setting to send corresponding power on or standby command to transmitter.
2	INPUT button	■ **Full-screen mode:** Press MODE button to select full-screen mode. Then press HD1/HD2/HD3/VGA button to select input source to output, corresponding button lamp is on; ■ **Side-by-side:** Press MODE button to select side-by-side mode. The HD1 and HD2 button lamp are always on, and the HD1 and HD2 button correspond to window 1 and window 2. You can select HD1/HD2/HD3/VGA input source to Window 1 and Window 2 output by front-panel button (eg: You want to select VGA source to Window 1, you need to continuously press HD1 button.) or Web GUI. ■ **Quad view mode:** Press MODE button to select quad view mode. The HD1, HD2, HD3 and VGA button lamp are always on, and the HD1, HD2, HD3 and VGA button correspond to window 1, window 2, window 3 and window 4. You can select HD1/HD2/HD3/VGA input source to Window 1 / Window 2 / Window 3 / Window 4 output by front-panel button (eg: You want to select VGA source to Window 1, you need to continuously press HD1 button.) or Web GUI. **Note:** Press see the following "The example about button lamp" description.

3	MODE button	■ Select HDMI/HDBT output full-screen/side-by-side/quad view display mode. ■ Long press MODE button is up to 3 seconds, the upper right corner of screen will display current IP address and serial baudrate information. The information will automatically quit after 5 seconds.
4	RECEIVER button	Select HDBT/RX-HD 1/RX-HD 2 input source to receiver output, corresponding button lamp is on; ■ **HDBT:** The signal for the HDMI output port of receiver is the same as the HDMI output port of transmitter. ■ **RX-HD 1:** The signal for the HDMI output port of receiver is from RX-HD 1 input source of receiver. ■ **RX-HD 2:** The signal for the HDMI output port of receiver is from RX-HD 2 input source of receiver. **Note:** Please see the following "The example about button lamp" description.
5	SCREEN button	The SCREEN button controls the RELAY output port of receiver. Normally, it controls projector curtain lift up or down function. The button lamp will flicker when you press a SCREEN button, the flicker time of the button lamp can be set by Web GUI.

The example about button lamp:

	full-screen mode TX HDMI: HD2 RX HDMI: HD2
	full-screen mode TX HDMI: HD2 RX HDMI: RX-HD1

|	
	side-by-side mode: TX HDMI: side-by-side RX HDMI: side-by-side
	quad view mode: TX HDMI: quad view RX HDMI: quad view
	quad view and full-screen mode: TX HDMI: quad view RX HDMI: RX-HD2

☆ Rear Panel

Number	Name	Function description
1	INPUT	**HDMI 1~3:** HDMI input port, connect to HDMI source device such as PC or PS4 player with an HDMI cable.
		VGA / AUDIO: VGA input port with embedding analog audio input, connect to VGA source device such as desktop computer.

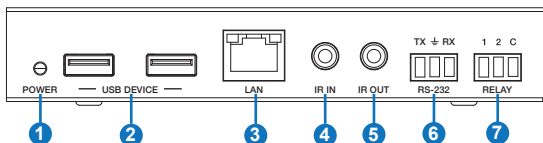| 2	OUTPUT	**HDBT/POC:** The HDBT port is connected HDBT port of receiver by CAT 5e/6 cable. It extends distance up to 100 meters between transmitter and receiver, and the HDBT port supports PoC function simultaneously.
		HDMI: HDMI output port, connect to HDMI display device such as TV or projector with an HDMI cable.
3	DC 24V	Plug DC 24V/1A power supply into the unit and connect the adapter to an AC outlet. (**Note:** The product supports PoC function, it means that either transmitter or receiver is powered supply by 24V/1A power adapter, the other doesn't need power supply.)
4	USB DEVICE	Connect to USB deivce such as key board or mouse, ect.
	USB HOST	Connect to computer or laptop.
5	IR IN	Connect to IR receiver cable. The IR signal will send to the IR OUT port of receiver.
6	IR OUT	Connect to IR blaster cable. The IR signal is from the IR IN port of receiver.
7	AUDIO OUT	Connect to audio output device such as speaker. The audio output signal can be selected by Web GUI or API command.
8	RS-232	Connect to a PC or control system by 3-pin phoenix connector to control the product.
9	RS-232 (PASS)	RS-232 serial channel. When the RS-232 setting is selected "PASS-THROUGH" option on the Control page of Web GUI. This RS-232 port and the RS-232 port of receiver is formed as pass-through channel. Otherwise, this RS-232 port is a control port to control the product.
10	LAN	■ Connect to a PC to visit the Web GUI control page. ■ 10/100M network switch function. ■ Reserved for video stream nerwork interface function.

5.2 Receiver Panel

☆ Front Panel
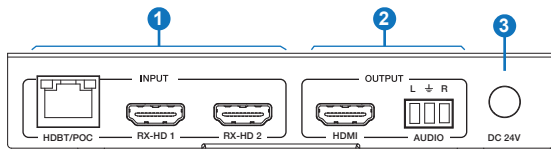
| Number	Name	Function description
1	INPUT	**HDBT/POC port:** The port is connected the HDBT/POC port of transmitter via a CAT 5e/6 cable, and extends distance up to 100 meters / 328ft between transmitter and receiver. **Note:** The HDMI output port of transmitter and receiver will output the same signal when the HDBT port is selected by Web GUI, API or on the front panel of transmitter.
		RX-HD 1/2: HDMI input port, connect to HDMI source device such as DVD or PS4 with an HDMI cable.
2	OUTPUT	**HDMI:** HDMI output port, connect to HDMI display device such as TV or projector with an HDMI cable.
		AUDIO: Analog audio output port, connect to audio output device such as speaker. **Note:** This audio port is the same as audio signal for the HDMI output port.
3	DC 24V	Plug DC 24V/1A power supply into the unit and connect the adapter to AC outlet. (**Note:** The product supports PoC function, it means that either transmitter or receiver is powered supply by 24V/1A power adapter, the other doesn't need power supply.)

☆ Rear Panel

Number	Name	Function description
1	POWER LED	Power LED indicator. The red LED will illuminate when the product is connected power supply.
2	USB DEVICE	Connect to USB device such as USB camera.
3	LAN	■ Connect to a PC to visit the Web GUI control page. ■ 10/100M network switch function. ■ Reserved for video stream nerwork interface function.
4	IR IN	Connect to IR receiver cable. The IR signal will send to the IR OUT port of transmitter.
5	IR OUT	Connect to IR blaster cable. The IR signal is from the IR IN port of transmitter.
6	RS-232	RS-232 serial channel. When the RS-232 setting is selected "PASS-THROUGH" option on the Control page of Web GUI. This RS-232 port and the RS-232 (pass-through) port of transmitter is formed as pass-through channel. Otherwise, this RS-232 port is a control port to control the product.
7	RELAY	Connect to projector curtain.

6. Display Mode

This product supports four sorts display mode including full-screen, side-by-side, quad view 1 and quad view 2. Please see figure 1 display mode.
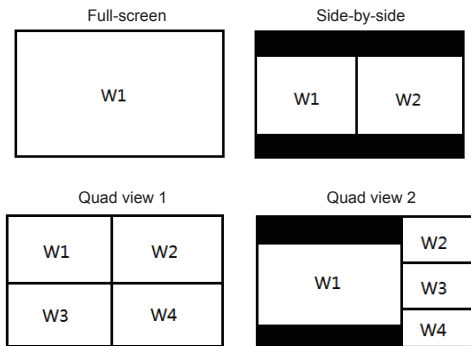
Figure 1: Display mode

You can select display mode and input source about each of these windows via the front panel button, Web GUI or API command.

■ Full-screen: Switch HD1/HD2/HD3/VGA input source separately, corresponding LED indicator on the front panel illuminates.

■ Side-by side: Switch HD1/HD2/HD3/VGA input source to window 1 and window 2 output. The HD1 and HD2 LED indicator on the front panel always illuminate.

■ Quad view: The quad view has two display modes (Quad view 1 and Quad view 2). Switch HD1/HD2/HD3/VGA input source to window 1, window 2, window 3 and window 4 output. The HD1, HD2, HD3 and VGA LED indicator on the front panel always illuminate.

Note: If an window is selected no signal input source, the window will display factory default no signal view. But you can replace the factory default no signal view via Web GUI setting. The analog audio output of transmitter follows Window 1 by default.

7. Web GUI User Guide

This product can be controlled by Web GUI. You have to know current IP address to connect Web GUI. The default IP address is 192.168.1.254. You can get current IP address of the product through pressing MODE button on the front panel up to 3 seconds, and the upper right corner of the HDMI output display device will display the product current IP address information. After displaying 5 seconds, the information will automatically quit. The Web GUI operation method is shown as below.

Step 1: The LAN port of transmitter or receiver is directly connected the netport of a PC. Please see the following connection diagram.
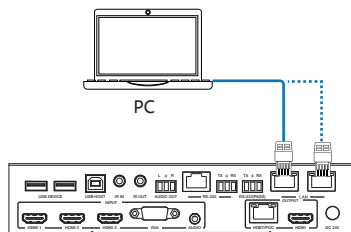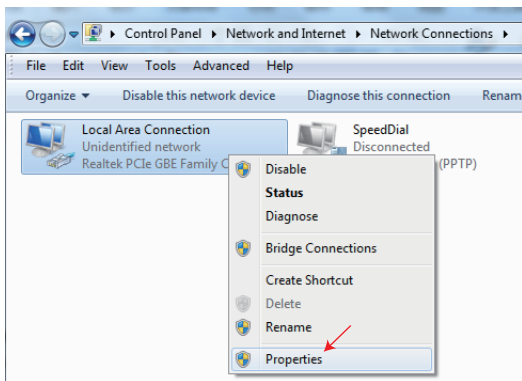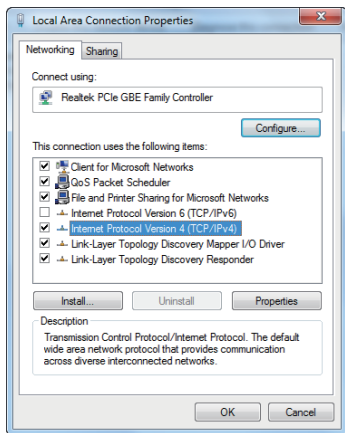

Figure 2: Web GUI connection diagram of transmitter
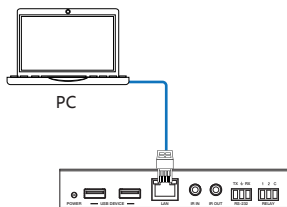
**Figure 3:** Web GUI connection diagram of receiver

Step 2: On the PC, go to **Control Panel** > **Network and Internet** > **Network Connections** > **Local Area Connections**, right click on it, choose **Propertiers.**

Double click Internet Protocol Version 4 (TCP/IPv4).

Choose "Use the following IP address". For instance, input 192.168.1.200 as your PC's IP address, 255.255.255.0 as Subnet mask, and then click on OK, click on OK again.
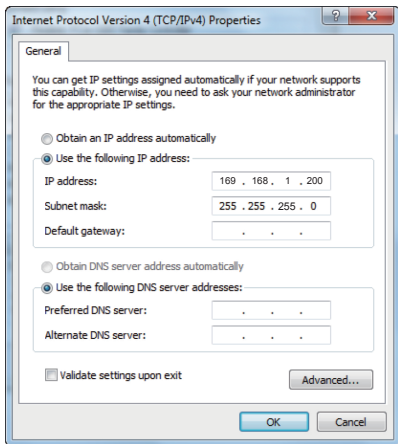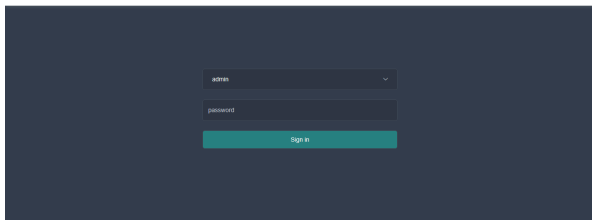

Notice: The IP address of the PC and product should be in the same network segment. As the product's IP address is 192.168.1.254, the computer's IP should be set 192.168.1.X (X contains 1~255 except 254).

Step 3: Input the product's IP address into your brower on the PC to enter Web GUI page.

Then the login page will appear.

Select the Username from the list and enter the password. The default
passwords are:

Username	Password
User	user
Admin	admin

■ The function page of the username "Admin" is shown as below:

Status page

The Status page provides basic information about the product Model name,
the installed firmware versions and the network settings. This page is visible
in both User and Admin modes.

The buttons at the top right of the web interface are always available and provide the following functions:

- Clicking the Log out button will disconnect the current user.
- The Power On button changes the power status between On and Stand-by mode.
- The admin displays current login username.

Main Page

Transmitter:

• Full-screen:

• Side-by-Side:
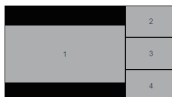
• Quad view 1:

• Quad view 2:

● **Window 1 / Window 2 / Window 3 / Window 4:** Display Full-screen / Side-by-Side / Quad view 1 / Quad view 2 mode and select HDMI1/HDMI2/ HDMI3/VGA input source to window 1 / window 2 / window 3 / window 4.

● **Audio Source:** Select the AUDIO OUT port on the rear panel of the transmitter output audio source including Default, HDMI1, HDMI2, HDMI3 and VGA. The Default means that the output audio source follows Window 1.

● **Auto switch:** Detect input signal source.

Auto detect input signal of transmitter. The AUTO function is turned on:

  ▪ If a new active input source is connected, it will directly jump to the new active input source.
  ▪ If an active input source is pulled out, it will jump to the next active input port. The order is HD1->HD2->HD3->VGA.
  ▪ When this product is powered off or rebooted and these input signal sources have not been changed. Then this product is powered on again, and it will remember input signal sources before power off and reboot. If this product can not detect input source before, it will follow the order HD1->HD2->HD3->VGA to detect.

Auto detect input signal of receiver. The AUTO function is turned on:

a) Full-screen mode:
- ▪ A new active input source is inserted when this product is working, it will directly jump to the new active input source.
- ▪ A active input source is pulled out when this product is working, it will detect all input signal sources and order is HD1->HD2->HD3->VGA-> RX-HD1->RX-HD2.
- ▪ When this product is powered off or rebooted and these input signal sources have not been changed. Then this product is powered on again, and it will remember input signal sources before power off and reboot. If this product can not detect input source before, it will follow the order HD1->HD2->HD3->VGA->RX-HD1->RX-HD2 to detect.

a) Side-by-side or quad view mode:
- ▪ The auto function is only detect RX-HD1 and RX-HD2 input source. A new active input active is inserted when this product is working, it will directly jump to the new active input source.
- ▪ A active input source is pulled out when this product is working, it will follow the order RX-HD1->RX-HD2->HDBT to detect.
- ▪ When this product is powered off or rebooted and these input signal sources have not been changed. Then this product is powered on again, and it will remember input signal sources before power off and reboot. If this product can not detect input source before, it will follow the order RX-HD1->RX-HD2->HDBT to detect.

Receiver

● **Source:** Select input source to the HDMI output port of receiver to output. The default is selected HDBT source.

Setting page
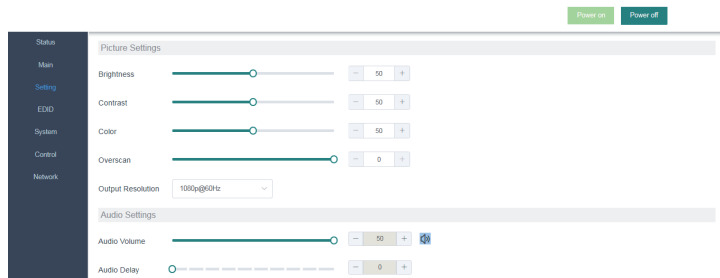
● **Brightness:** Adjust output signal brightness. The range is from 0 to 100, and default is 50.

● **Contrast:** Adjust output signal contrast. The range is from 0 to 100, and default is 50.

● **Color:** Adjust output signal color. The range is from 0 to 100, and default is 50.

● **Overscan:** Adjust output picture overscan. The range is from -10 to 0, and default is 0. The value 0 means that output picture is 100%.

● **Output Resolution:** Select output resolution. The resolution has 3840x2160 @30Hz, 1920x1200@60Hz, 1080p60Hz, 1080p50, 1280x800@60Hz, 720p 60Hz, 720p50Hz,1024x768@60Hz, Native (The Native means that compare transmitter with receiver output resolution, and then transmitter and receiver will output the best resolution simultaneously).

● **Audio Volumn:** Adjust output volumn for HDMI output port and analog audio output port of transmitter. The range is form 0 to 50 (The value 50 means that the volumn outputs 0 dB. Each level will adjust -1 dB.). Clicking the 🔊 icon will switch to mute or unmute output.

● **Audio Delay:** Adjust audio output delay time for HDMI output port and analog audio output port of transmitter. The total has 10 level, each level will adjust 20ms. The maximun delay is up to 200ms, and the default value is 0 ms.

EDID page

● **Input Name / EDID:** Modify input source device alias name and select EDID to input source device. The EDID option has 4K2K30_2CH, 1080P_2CH, Copy Receiver HDMI out, Copy Transmitter HDMI out, USER1 Memroy, USER2 Memory, USER3 Memory.

● **Load EDID to User memory:** Upload EDID *.bin file format to User 1, User 2 or User 3.

● **Download EDID to your computer:** Download INPUT-HDMI 1 / INPUT-HDMI 2 / INPUT-HDMI 3 / INPUT-RX-HDMI 1 / INPUT-RX-HDMI2 EDID as file preserve.

System page

● **Series baud rate:** Select the serial port baud of transmitter. The default value is 19200.

● **Sleep Timer:** Select sleep time after no signal input for transmitter and receiver. The default will enter sleep mode if no signal input within 10 seconds.

● **Boot Logo Update:** Upload boot and no signal input picture.The default is loaded *.jpg format picture. Clicking the "Update" button will upload picture and display progress simultaneously. The product will automatically reboot when the upload is finished.

● **SOC Update:** Update software program. Clicking the "Update" button will update software and display progress simultaneously. The product will automatically reboot when the update is finished.

● **Factory Reset:** Reset to factory default status.

● **Reboot:** Reboot the product.

Control page

This control page is used for controlling projector curtain lift up or down and switching display device on/off.

● **Auto Power Settings**
  ◆ Disable: No commands are sent.
  ◆ Sync_Detected: After the product is powered on, when detecting have input source signal, you can send power on command to display device through CEC RS-232/IR control. You can also control projector curtain lift up through RELAY control. When detecting have no input source signal, you can send power off command to display device through CEC /RS-232/IR. You can also control projector curtain lift down through RELAY control.

- Switch on/off: After the product is powered on, you can send power on command to display device through CEC/RS-232/IR control. You can also control projector curtain lift up through RELAY control. After the product is in standby mode, you can send power off command to display device through CEC/RS-232/IR control. You can also control projector curtain lift down through RELAY control.
- RS-232 / CEC / IR: Send the command way of power on/off.
- Power off timeout: Set the time of Power Off command send and click "Save" button to save. The range is from 0 to 1000s. The default sends power off command after delay 300 seconds.
- Power On Timeout: Set the time of Power On command send and click "Save" button to save. The range is from 0 to 1000s. The default sends power on command after delay 5 seconds.
- **RS-232 Setting:** Select send command format about HEX or ASCII and set the baudrate, databit, parity and stopbit value for the RS-232 port of receiver.
  - Power off: Input the command you need to send. After the product standby, it can automatically send the command after set time of according to Power Off Timeout. If the command is HEX format, the byte must be a even format.
  - Power on: Input the command you need to send. After the product boot, it can automatically send the command after set time of according to Power On Timeout. If the command is HEX format, the byte must be a even format.
  - Test the command you need to send.
  - Click the "Save" button to save command.
Note: When you select "PASS-THROUGH" option, the RS-232 (PASS) port of transmitter and the RS-232 port of receiver is formed a pass-through channel.
- **IR control setting**
  - Display Name: Input an IR alias name.
  - Power Off: At first, the IR function need to study the command of power off. IR receiver cable and IR blaster cable is insert to IR port. When the product is working, click the "Study" button, and then will display "study...". Using the IR remote sends power off command to IR receiver head, and then will display "Success" if the command studies success and display "Fail" means that the study is failure.Finally, the power off command has finished study and click the "Save" button to save.

- Power On: The Power On command has similar to operation method for Power Off.

- **Relay control:**
  - Disable: No commands are sent.
  - Enable: The commands are sent.
  - Screen On: Set the time of the button lamp flicker on the front panel of transmitter when the projecter curtain is lifting up.
  - Screen Off: Set the time of the button lamp flicker on the front panel of transmitter when the projecter curtain is lifting down.
  - Test the command you need to send.
  - Click the "Save" button to save command.

Network page

- **IP Settings:**
  - Static: When you select Static mode, you can manually set IP adress, Subnet Mask and Gateway address. Then click "Save" button to save information.
  - DHCP: Obtian automatically IP adress, Subnet Mask and Gateway address.
  - HTTP Port: Set http port value. The default value is 80.
  - Telnet Port: Set telnet port value. The default value is 23.

● **Web Login Settings**
Modify password function. After you selected username, please input correct old password. Then input a new password and a confirm password (The confirm password means you need to input the new password again.). Finally, click "Save" button to save information.

Note: ▪ The new password can not an empty.

    ▪ The new password can not the same as the old password.

● **Find Your Device:** Clicking the "SHOW ME" button, all lights on the front panel of transmitter will flicker, clicking "HIDE ME" button again, these lights on the front panel of transmitter will normally display.

● **Set Network Defaults:** Click the "Set Network Default" button to reset all network configuration to factory default setting.

● **Product Model:** Modify the product model. The model will display on the Status page.

● **Hostname:** Modify the product hostname. The hostname will display on the Status page.

■ When you use the username "user" login, the function page has only Status and Main page. The Status and Main page has the same as function for the status and Main page of the username "admin".

8. API Control Command

This product also supports ASCII control. Connection method as below. Open any of a Serial Command tool on PC such as "Docklight" to send command to control the product.
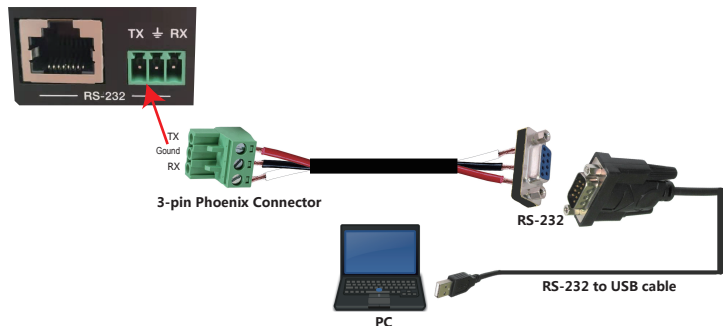
Figure 6: 3-pin phoenix connector to USB

The ASCII list of the product is shown as below:

ASCII Command		
Serial protocal: Baud rate: 115200, Data bits: 8bit, Stop bits:1, Check bit: None		
RS-232 Command	**Function description**	**Feedback**
System setting		
help!	Get the lists of all commands	
r model!	Get device model	
r fw version!	Get Firmware version	FW version x.xx
r status!	Get device current status	Get the unit all status: model,fw version,hostname, ip,subnet,gateway,MAC
s reset!	Reset to factory defaults	Reset to factory defaults System Initializing... Initialization Finished!
s power x!	power on/off the device, x=0 power off x=1 power on	Power on System Initializing... Initialization Finished!
r power!	get current power state	power on /power off
s reboot!	reboot the device	Reboot…System Initializing... Initialization Finished!
show me x!	show/hide me (panel led blink) x=0~1 x=0 normal, x=1 blink led	hide me
Transmitter Settings		
s auto switch x!	Set input auto switching function on/off, x=0 off, x=1 on	auto switching on
r auto switch!	Get auto switching function staus	auto switching on
s mv mode x!	Set Transmitter HDMI/HDBT ouptut multi-view mode x=1~4, x=1 Full screen, x=2 Side-by-side, x=3 Quad view mode1, x=4 Quad view-mode 2,	Mulit-View mode 1
r mv mode!	Get Transmitter HDMI/HDBT output multi-view mode	Mulit-View mode 1
s in x av tx win y!	Set input x to TX output window y , x=1~5 y=1~4 x=1 HDMI 1, x=2 HDMI 2, x=3 HDMI 3, x=4 VGA, x=5 STREAM y=1 Window 1, y=2 Window 2, y=3 Window 3, y=4 Window 4	input 1-> window 1
r tx out!	Get Transmitter HDMI/HDBT output av status	Mulit-View mode 4 : input 1-> window 1 input 2-> window 2 input 3-> window 3 input 4-> window 4
s tx out hdcp x!	Set Transmitter HDMI output hdcp, x=0 Off, x=1 On	TX HDMI hdcp status: On
r tx out hdcp!	Get Transmitter HDMI output hdcp status	TX HDMI hdcp status: On

s tx out res x!	Set Transmitter HDMI output resolution x=0~8 x=0 3840x2160@30Hz, x=1 1920x1200@60Hz, x=2 1080p60Hz, x=3 1080p50, x=4 1280x800@60Hz, x=5 720p60Hz, x=6 720p50Hz, x=7 1024x768@60Hz, x=8 Native	TX HDMI resolution: 3840x2160@30Hz
r tx out res!	Get Transmitter HDMI output resolution	TX HDMI resolution: 3840x2160@30Hz
s tx out stream x !	Set Transmitter HDMI output stream on/off x=0~1 x=0 disable, x=1 enable	Enable TX HDMI out stream
r tx out stream!	Get Transmitter HDMI output stream status	Disable TX HDMI out stream
s aspect x!	Set Transmitter HDMI output aspect x=1~2 x=1 16:9, x=2 4:3	TX HDMI aspect: 16:9
r aspect!	Get Transmitter HDMI/HDBT output aspect	TX HDMI aspect: 16:9
s overscan x!	Set Transmitter HDMI/HDBT output overscan size x=-10~0	overscan size: 0
r overscan!	Get Transmitter HDMI/HDBT output overscan size	overscan size: 0
s contrast x!	Set Transmitter HDMI/HDBT output contrast x=0~100	contrast : 50
r contrast!	Get Transmitter HDMI/HDBT output contrast	contrast : 50
s brightness x!	Set Transmitter HDMI/HDBT output brightness x=0~100	brightness : 50
r brightness!	Get Transmitter HDMI/HDBT output brightness	brightness : 50
s color x!	Set Transmitter HDMI/HDBT output color x=0~100	color : 50
r color!	Get Transmitter HDMI/HDBT output color	color : 50
s audio route x!	Set Transmitter HDMI/analog audio output routing x=0~4 x=0 defult(follow the windows 1 source audio) x=1 HDMI 1 embedded audio x=2 HDMI 2 embedded audio x=3 HDMI 3 embedded audio x=4 VGA external audio	audio out: follow the windows 1 source audio
r audio route!	Get Transmitter HDMI/analog audio output routing	audio out: follow the windows 1 source audio
s volume x!	Set Transmitter output volume level x=0~50 +,-	volume: 50
r volume!	Get Transmitter HDMI/analog output volume level	volume: 50
s audio delay x!	Set Transmitter HDMI/analog output audio delay time x=0~10 x=0 delay 0ms, x=1 delay 20ms x=2 delay 40ms, x=3 delay 60ms ….. X=9 delay 180ms, x=10 delay 200ms	audio delay: 0ms

s mute x!	Set Transmitter output audio mute x=0~1 x=0 unmute, x=1 mute	audio unmute
r mute!	Get Transmitter HDMI/analog output audio mute	audio mute
r audio delay!	Get Transmitter output audio delay time	audio delay: 0ms
Receiver Setting		
s in z av rx!	Set input x to Receiver HDMI out , x=1~3 x=1 HDBT IN, x=2 RX-HDMI 1, x=3 RX-HDMI 2	HDBT in-> Receiver HDMI out
r rx out!	Get Receiver HDMI output av status	HDBT in-> Receiver HDMI out
s rx out hdcp x!	Set Receiver HDMI output hdcp on/off x=0~1 x=0 off, x=1 on	RX HDMI hdcp status:On
r rx out hdcp!	Get Receiver HDMI output hdcp status	RX HDMI hdcp status:On
s rx out stream x !	Set Receiver HDMI output stream on/off x=0~1 x=0 disable, x=1 enable	Enable RX HDMI out stream
r rx out stream!	Get Receiver HDMI output stream status	Disable RX HDMI out stream
EDID Setting		
s edid in x from z!	Set input x EDID from z, x=0~5(0=all),z=1~7 x=0 all hdmi input, x=1 HDMI 1, x=2 HDMI 2 x=3 HDMI 3, x=4 RX-HDMI1, x=5 RX-HDMI2 z=1 4K2K30_2CH, z=2 1080P_2CH z=3 Copy Receiver HDMI out z=4 Copy Transmitter HDMI out z=5 USER1, z=6 USER2, z=7 USER3	
r edid in x!	Get EDID status of the input x , x=0~5 x=0 all hdmi input, x=1 HDMI 1 x=2 HDMI 2, x=3 HDMI 3, x=4 RX-HDMI1 x=5 RX-HDMI2	HDMI 1 EDID: 4K2K30_2CH HDMI 2 EDID: 4K2K30_2CH HDMI 3 EDID: 4K2K30_2CH RX-HDMI 1 EDID: 4K2K30_2CH RX-HDMI 2 EDID: 4K2K30_2CH
r edid z data!	Get edid data z=1~7 z=1 4K2K30_2CH, z=2 1080P_2CH z=3 Copy Receiver HDMI out z=4 Copy Transmitter HDMI out z=5 USER1, z=6 USER2 z=7 USER3	00FFFFFFFFFFFF00...
Network setting		
r ipconfig!	Get the Current IP Configauration	IP Mode: Static IP: 192.168.1.254 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 TCP/IP port: 23 Mac address: 00:1C:91:03:80:01

r mac addr!	Get network MAC address	Mac address: 00:1C:91:03:80:01
s ip mode z!	Set network IP mode to static IP or DHCP,z=0~1 z=0 Static IP z=1 DHCP	Set IP mode:Static IP Please use "s net reboot!" command or repower device to apply new config!
r ip mode!	Get network IP mode	IP mode: Static
s ip addr xxx. xxx.xxx.xxx!	Set network IP address	Set IP address:192.168.1.254 Please use "s net reboot!" command or repower device to apply new config! DHCP on, Device can't config static address, set DHCP off first.
r ip addr!	Get network IP address	IP address:192.168.1.254
s subnet xxx. xxx.xxx.xxx!	Set network subnet mask	Set subnet Mask:255.255.255.0 Please use "s net reboot!" command or repower device to apply new config! DHCP on, Device can't config subnet mask, set DHCP off first.
r subnet!	Get network subnet mask	Subnet Mask:255.255.255.0
s gateway xxx. xxx.xxx.xxx!	Set network gateway	Set gateway:192.168.1.1 Please use "s net reboot!" command or repower device to apply new config! DHCP on, Device can't config gateway, set DHCP off first.
r gateway!	Get network gateway	Gateway:192.168.1.1
s tcp/ip port x!	Set network TCP/IP port (x=1~65535)	Set tcp/ip port:8000
r tcp/ip port!	Get network TCP/IP port	tcp/ip port:8000
s telnet port x!	Set network telnet port(x=1~65535)	Set telnet port:23
r telnet port!	Get network telnet port	telnet port:23
s net reboot!	Reboot network modules	Network reboot… IP Mode: Static IP: 192.168.1.254 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 Mac address: 00:1C:91:03:80:01

Note: You can send 'RS232 command' to control the product via Serial Command tool. The 'Function description' explains function about the command. The "Feedback" displays whether the command sends success or not and feedback the information you need to.

9. Application Example