

HDMI 2.0 HDBaseT 4x2 Presentation Matrix with HDMI and USB-C inputs

Supports 100m 4K@60hz YUV4:4:4, 18Gbps

OPERATION 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, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment

CONTENT

1. Features	1
2. Package Contents	1
* Automatic input switching mode	1
3. Specifications	2
4. Panel Descriptions	3
5. Application Diagram	5
HDBT Extension:	6
HDMI Extension:	6
6. Panel Introduction	7
7. Remote Control Description	8
8. Command Control	9
9. Web Control	10
Reset Restores factory Settings	16
10. Firmware Upgrade	17
PRODUCT SERVICE	18
WARRANTY	18
MAIL-IN SERVICE	18
LIMITED WARRANTY LIMITS AND EXCLUSIONS	19

1. Features

- HDMI 2.0 4x2 HDMI & HDBaseT Presentation Matrix
- 3x HDMI inputs support 4K@60HZ 4:4:4 and downscaler from 4K to 1080P
- 1x USB-C input support 4K@30HZ, USB 2.0 data transmission & 65W power charging
- Device 1 provides 1.5A and Device 2 provides 0.9A power to the device
- HDBaseT output can transmit signal up to 100M 4K@60HzYUV 4:4:4
- Supports KVM 2.0 Extension
- Supports balanced audio extraction
- Supports HDMI audio format: Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio
- Control via Push buttons, Dual IR, RS232 and TCP/IP control
- HDCP 1.4/2.2 compliant (Output follows Input)
- With advanced EDID management
- Support POC (receiver powered by HDBaseT Matrix)

2. Package Contents

- 1). 1x Main Unit (HDBaseT Matrix with 1 Receiver)
- 2). 1x Power supply DC24V/4A
- 3). 1x Remote control
- 4). 2xIR Transmitter cables, 2x Wide-Band IR Receiver cables
- 5). 1x CD for control software & user manual
- 6). 1x USB AM to Micro 5pin cable
- 7). 4x Rack hangers

* Automatic input switching mode

Automatic switching is enabled by default. The priority is Type-C --> HDMI 1--> HDMI 2--> HDMI3
The last access signal source will automatically switch to the HDMI and HDBT output at the same time,
if the signal source is unplugged, the signal source output will be automatically switch to the next one.
Automatic input switching mode does not affect manual key switching

3. Specifications

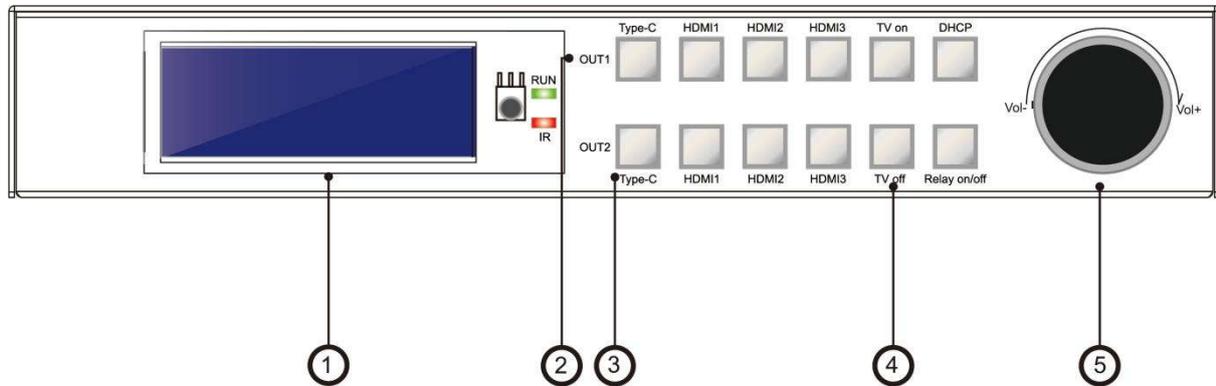
Operating Temperature Range	-5 to +40°C(23 to +104 °F)
Storage Temperature Range	- 10 to +60°C(14 to +140 °F)
Operating Humidity Range	5 to 90 % RH (no condensation)
Input Video Signal	0.5- 1.0 volts p-p
Bandwidth	18Gbps
Video Format Supported	4K@60Hz,YUV4:4:4 4k@30Hz/1080P/1080i/720P/576P/480P
HDCP Compliant	HDCP2.2 and HDCP1.4
Output Video	HDMI 2.0 (over HDBaseT and HDMI)
Audio Format Supported	PCM2.0, Dolby5. 1, DTS5. 1 digital audio
Maximum Transmission Distance	100m 4K@60hz YUV 4:4:4
Dimensions	TX: 219 L x 140W x 35H mm RX: 229 L x 103W x 25H mm
Weight	TX: 0.95kg RX: 0.55kg

Rate	I/P	Resolution	Support
60Hz /59.94Hz	P	480P / 720P / 1080P / 4K	√
	I	480i / 1080i	√
24/23Hz	P	1080P	√
	P	4K2K	√

Rate	Resolution	Support
60Hz	800×600	√
	1024×768	√
	1280×768	√
	1280×960	√
	1280×1024	√
	1680×1050	√
	1920×1080 & 1920x1200	√
	1280×720	√
	1360×768	√
	1400×1050	√

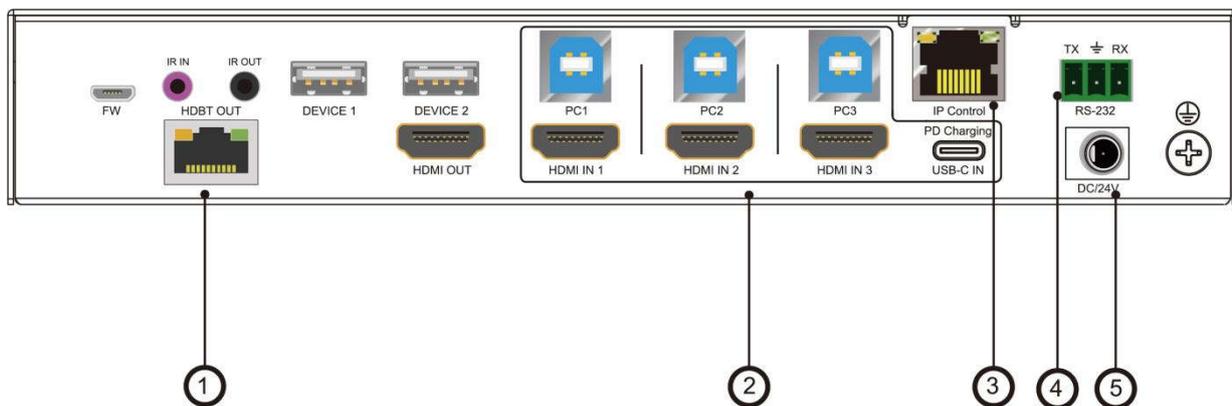
4. Panel Descriptions

Front Panel



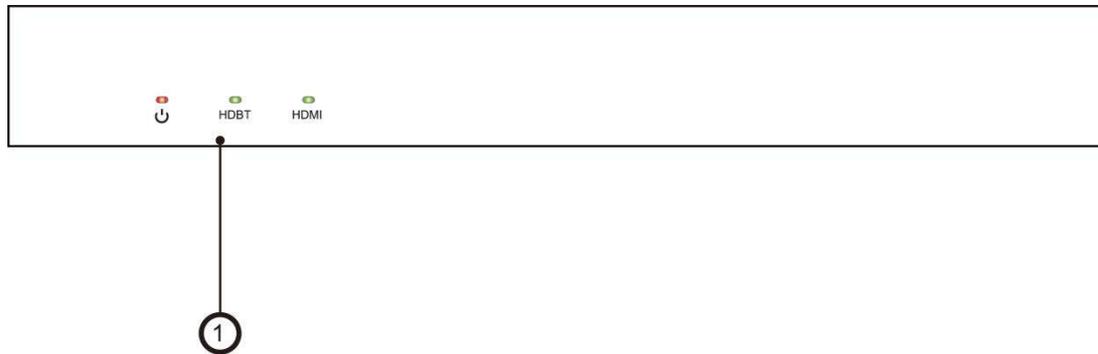
- ① LCD: Showing HDBaseT switch information
- ② Output 1 Area: Type-C, HDMI 1, HDMI 2, HDMI 3
- ③ Output 2 Area: Type-C, HDMI 1, HDMI 2, HDMI 3
- ④ Function button: TV On/Off, DHCP, Relay On/Off
- ⑤ Volume button

Rear Panel

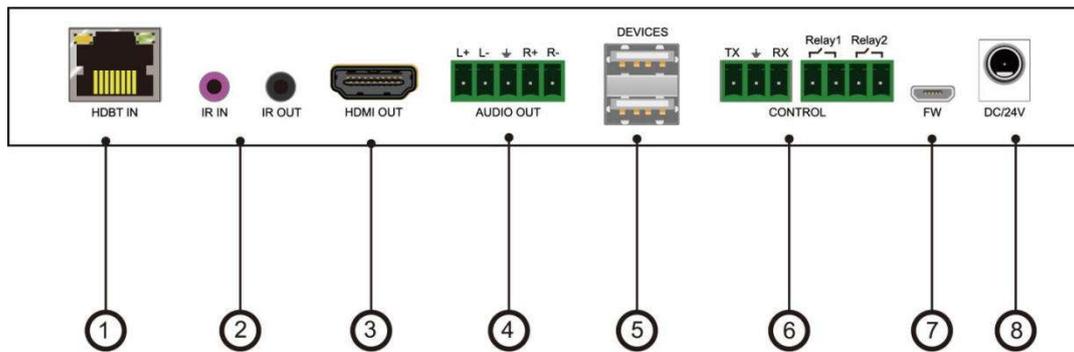


- ① Output Side: FW port & IR In / Out, Device 1 and Device 2, HDBT Out and HDMI Out
- ② Input Side: HDMI IN 1, 2, 3 with USB 3.0 B port (PC 1, 2, 3), USB-C IN
- ③ IP Control Port
- ④ RS-232 Port
- ⑤ DC 24V4A Port

Receiver Panel:



①: Power, HDBT & HDMI indicator



①: HDBT Input port

②: IR In & Out (20~60KHz)

③: HDMI Output

④: Audio Out: Max support PCM 2.0

** HDMI Audio output supports PCM 7.1, 192KHz

⑤: Devices port for K/M

⑥: Control port including RS232 and Relay port

⑦: FW: Updating Port

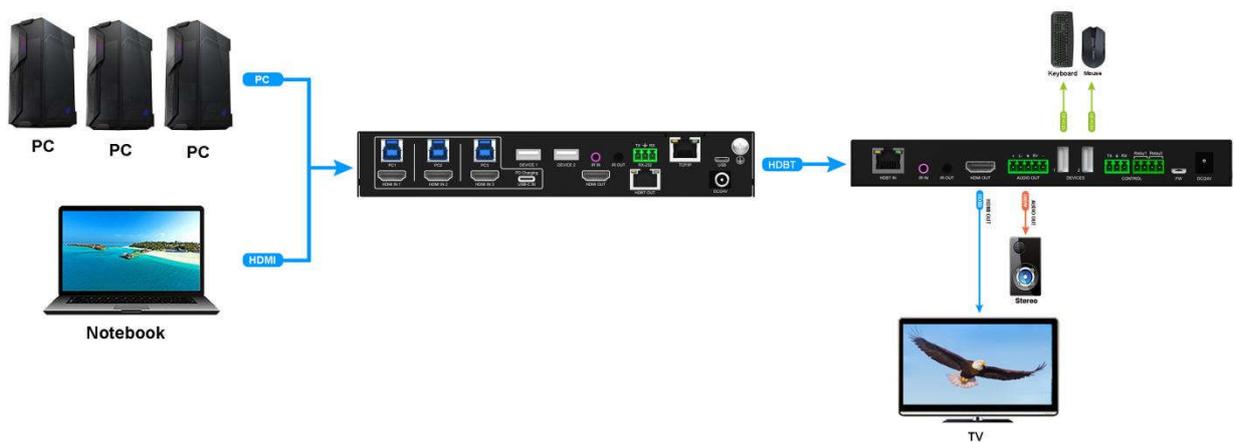
⑧: DC 24V Port

5. Application Diagram

Matrix Mode:



KVM Mode:



HDBT Extension:

1080P60Hz (YUV444)

1m	5m	30m	40m	50m	65m	70m	100m
√	√	√	√	√	√	√	√

4K2K60Hz (YUV444) - 8bit - HDR

5m	30m	40m	50m	65m	70m	100m
√	√	√	√	√	√	√

HDMI Extension:

1080P60Hz (YUV444)

Output \ Input	Input			
	5m	8m	10m	15m
5m	√	√	√	×
8m	√	√	√	√
10m	√	√	√	√
15m	×	×	×	×

4K2K24Hz444 (YUV444)

Output \ Input	Input			
	5m	8m	10m	15m
5m	√	√	√	×
8m	√	√	√	√
10m	√	√	√	×
15m	×	×	×	×

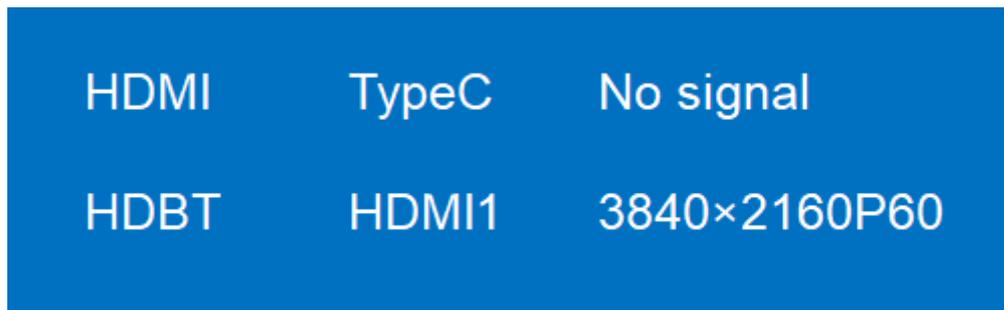
4K2K60Hz (YUV444) - 8bit - HDR

Output \ Input	Input			
	5m	8m	10m	15m
5m	√	√	√	×
8m	√	√	√	√
10m	√	√	√	√
15m	×	√	√	√

6. Panel Introduction

1) LCD main interface used to display the input status corresponding to the output, when there is a display resolution on the right side, it shows a signal source access, if there is no resolution signal source input, it will display No signal.

Enter the menu interface, It will automatically return to the main interface and reduce the brightness after 30 seconds without other operations

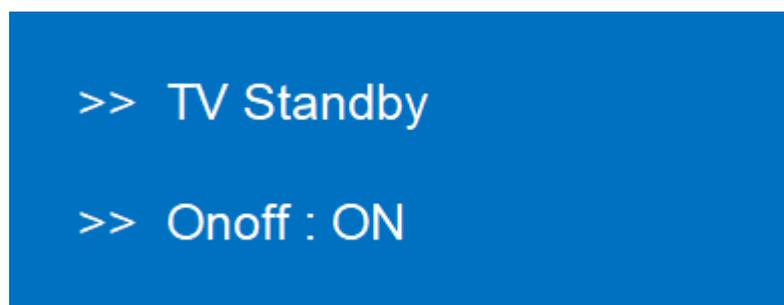


Operation:

Press shortly the Type-C, HDMI1, HDMI2, HDMI3 buttons to switch directly the source directly

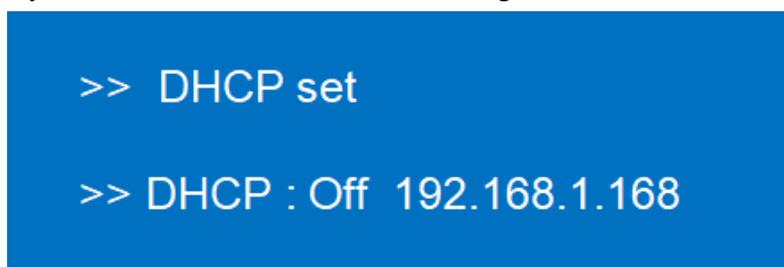
2) TV Standby:

Operation: Press "TV On / Off" button to turn on or turn off the display

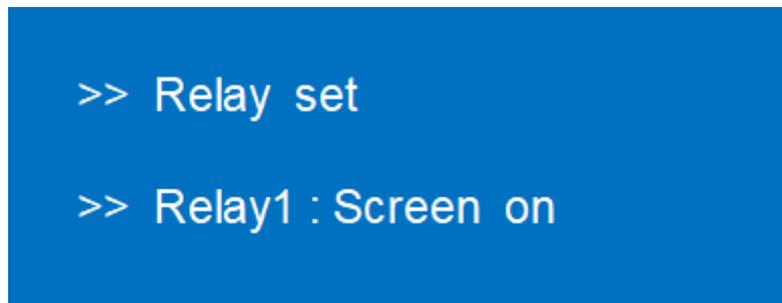


3) DHCP Set: By default Static IP address: 192.168.1.168, After opening DHCP, HDBaseT Switch will automatically distribute IP addresses based on the router. If there is no router, IP address will be default.

Operation: Press shortly "DHCP" button, LCD shows On. Press again, LCD shows Off.



4) Relay Set: Can control the Relay device on / off



4) Analog out vol set: Analog sound range:0-20 (Default set to 10)

Operation: Press“Analog”button, when the font background is white, rotate vol button to control the sound, decreasing to the left and increasing to the right.



7. Remote Control Description



- ①: Stand by
- ②: Relay: On / Off button
- ③: HDMI 1~4: HDMI Output button
- ④: HDBT 1~4: HDBT Output button
- ⑤: All output: HDMI & HDBT Switch button
- ⑥: +: Volume increase
- ⑦: -: Volume decrease
- ⑧: HDMI & HDBT Switch button
- ⑨: F1&F2: (N/A)

8. Command Control

Control software operation:

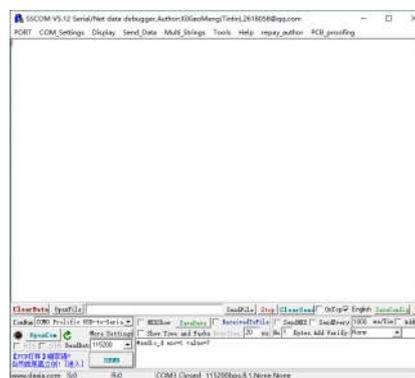
The serial control software is illustrated with SSCOM5.12.1 as an example.



Basic Settings:

Double-click the software in the installation package to run specifically and install the RS232 software on the computer.

Enter the main interface of the software, as shown in the figure below.



Please use USB to RS232 cable connect PC and device, open RS232 software.

In the parameter configuration area, select the serial number that the serial port connect with PC, and set the baud rate of the communication protocol:

115200 (default), data bits: 8. Stop bits: 1, Parity: None

user can input the instruction in the command input area and control the machine or remote receiver.



Instructions:

- 1). All commands start from “#”, “%d” parameters No.
- 2). The “_” in the commands cannot omit.

***More detail please check the command list**

Operation:

1. HDBT Output select HDMI input1: #video_d out1 source=1
2. Turn off all outputs: #video_d out255 onoff=0
3. Set the Analog audio extraction volume to be 5: #audio_d out0 dec_volume=5

9. Web Control

9.1 Enter Web and Control

1. Change the IP address of your PC.

1). Connect the Ethernet port of HDBaseT switch to the Ethernet port on PC by a straight pin to pin cable with RJ45 connectors.

2). Configure your PC as follows:

① Click **Start > Control Panel > Network and Sharing Center**.

② Click **Change Adapter Settings**.

③ Highlight the network adapter you want to use to connect to the device and click **Change settings of this connection**.

3). The local Area connection properties window for Network selection appears as below.

4). Click the Highlight **Internet Protocol Version 4 (TCP/IPv4)**.

5). Click **Properties**.

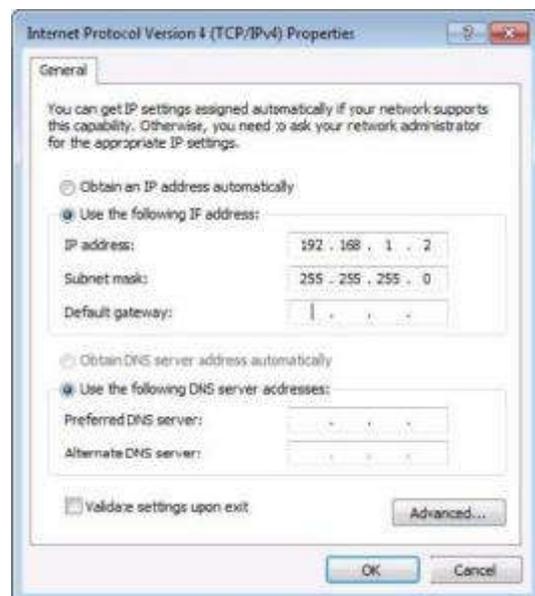
6). Select **Use the following IP Address** for static IP addressing and fill in the details.

For TCP/IPv4 you can use any IP address in the range 192.168.1.1 to 192.168.1.255 (excluding 192.168.1.168).

7). Click **OK**.

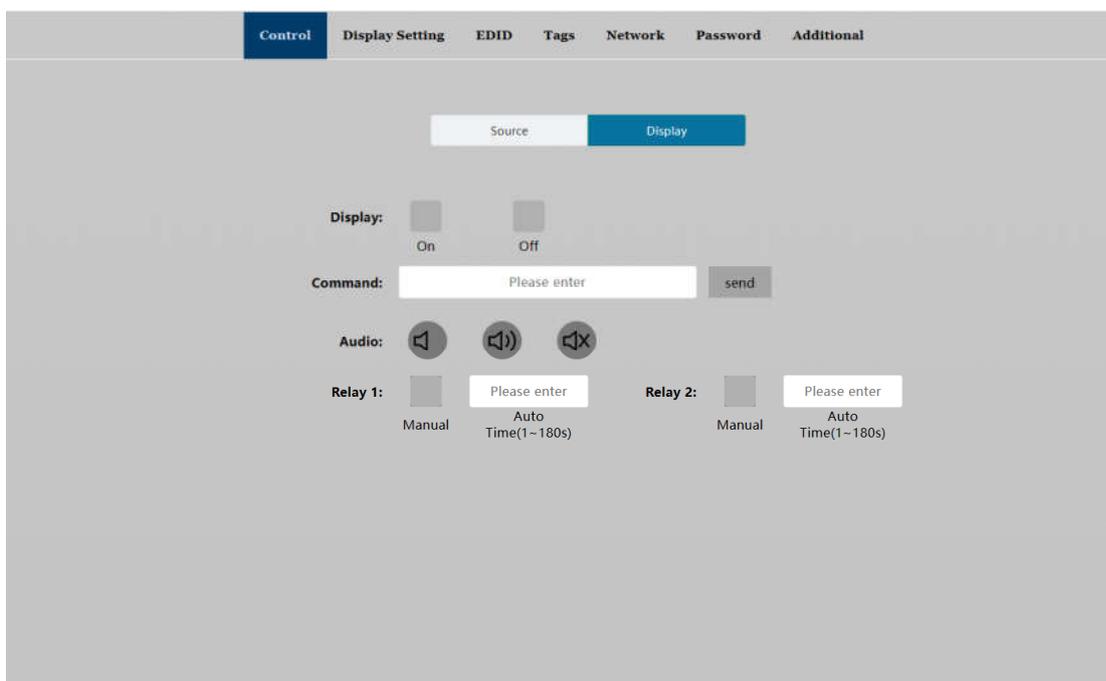
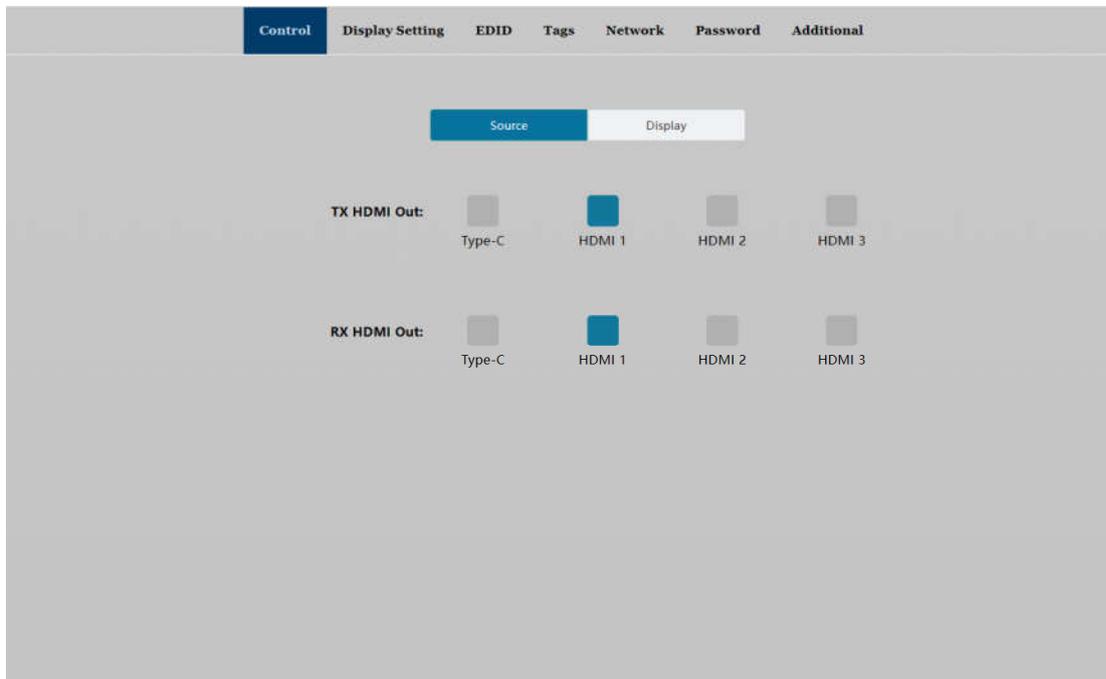
8). Click **Close**.

(Default IP Address: 192.168.1.168; MASK: 255.255.255.0; Gateway: 192.168.1.1)



Control interface:

Including Source switching and Display controlling



Display Setting:

RS232 description:

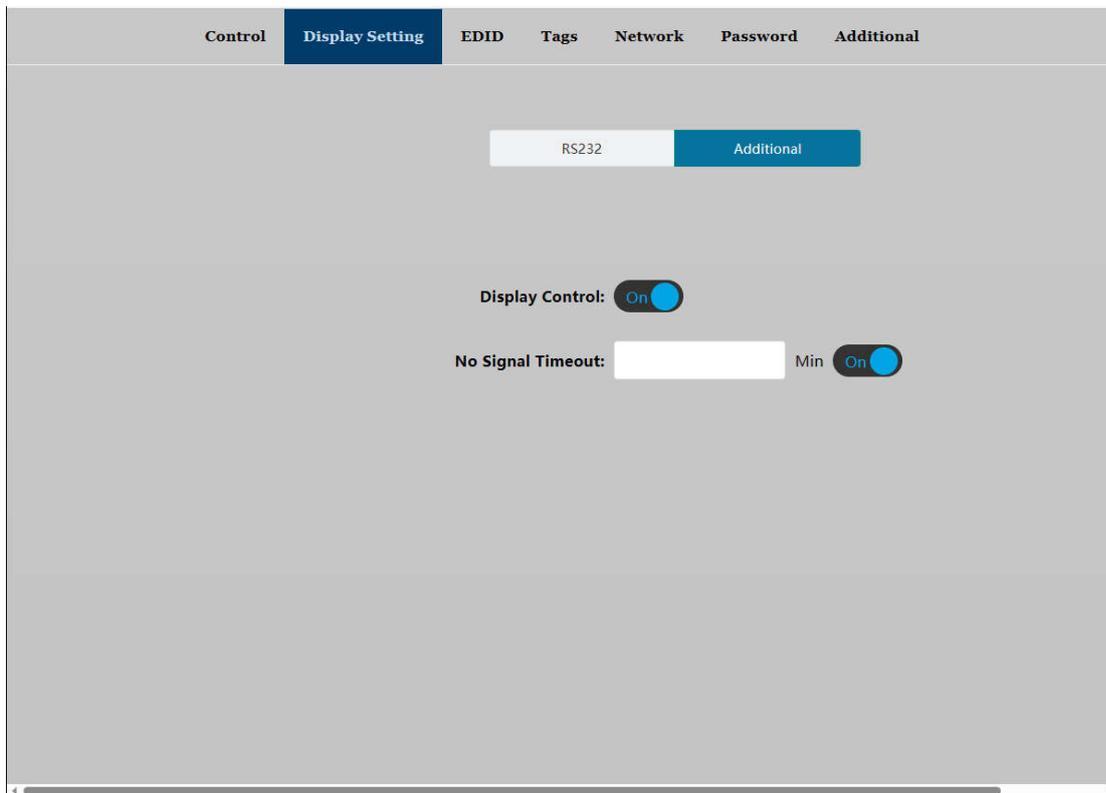
Enter the custom commands and send to the RX RS232 port to control the device

- 1) Default Baud rate: 115200, supports: 2400、4800、9600、19200、38400、57600、115200
- 2) Command ending drop down box support: NULL, CR, LF & CR+LF options
- 3) Display on: Typing the RS232 command to turn on the display
- 4) Input delay: Range: 1~100
- 5) Display input select: After turning the Display On, RS232 get the commands after the delay.
- 6) Display off: Typing the RS232 command to turn off the device. x2 means turn off twice (Supports to set the delay time)
- 7) Display off x2 delay: Typing RS232 commands to set the delay time between the two setting
- 8) Volume + & -: Typing the RS232 command to turn on Volume control

Additional:

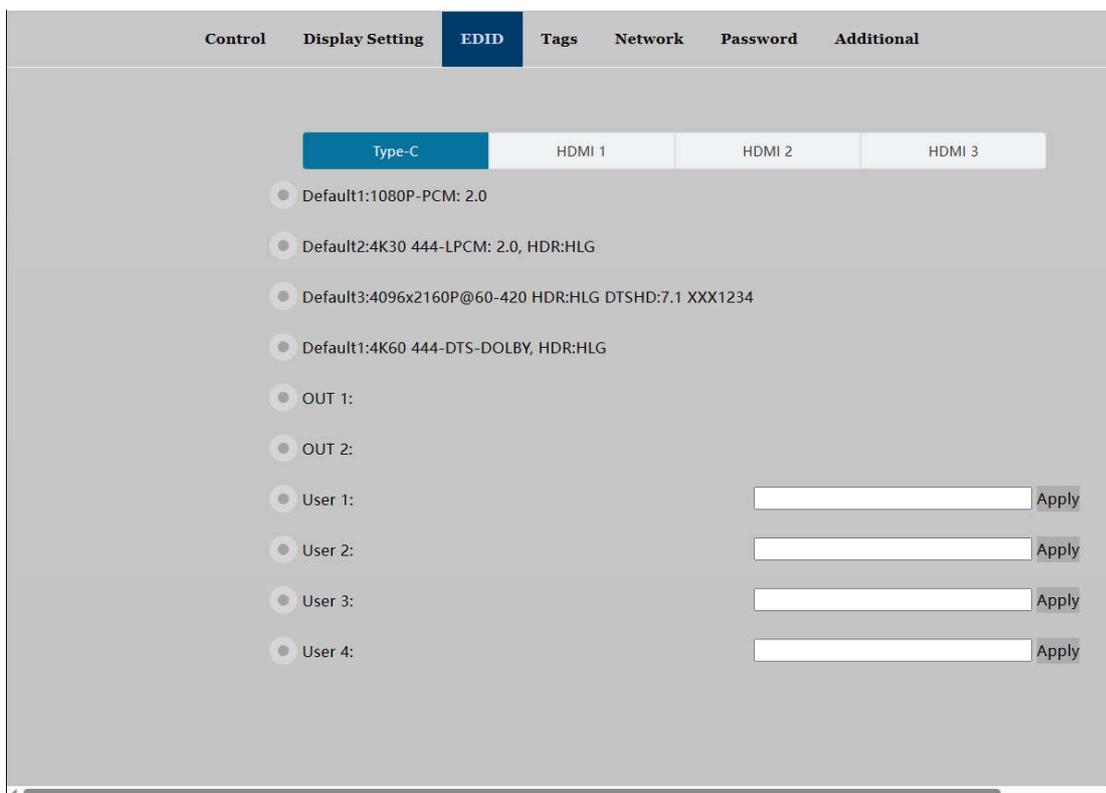
Display control: CEC and RS232 control are enabled after turning ON

No signal timeout: Set the automatic power off time (when there is no signal).



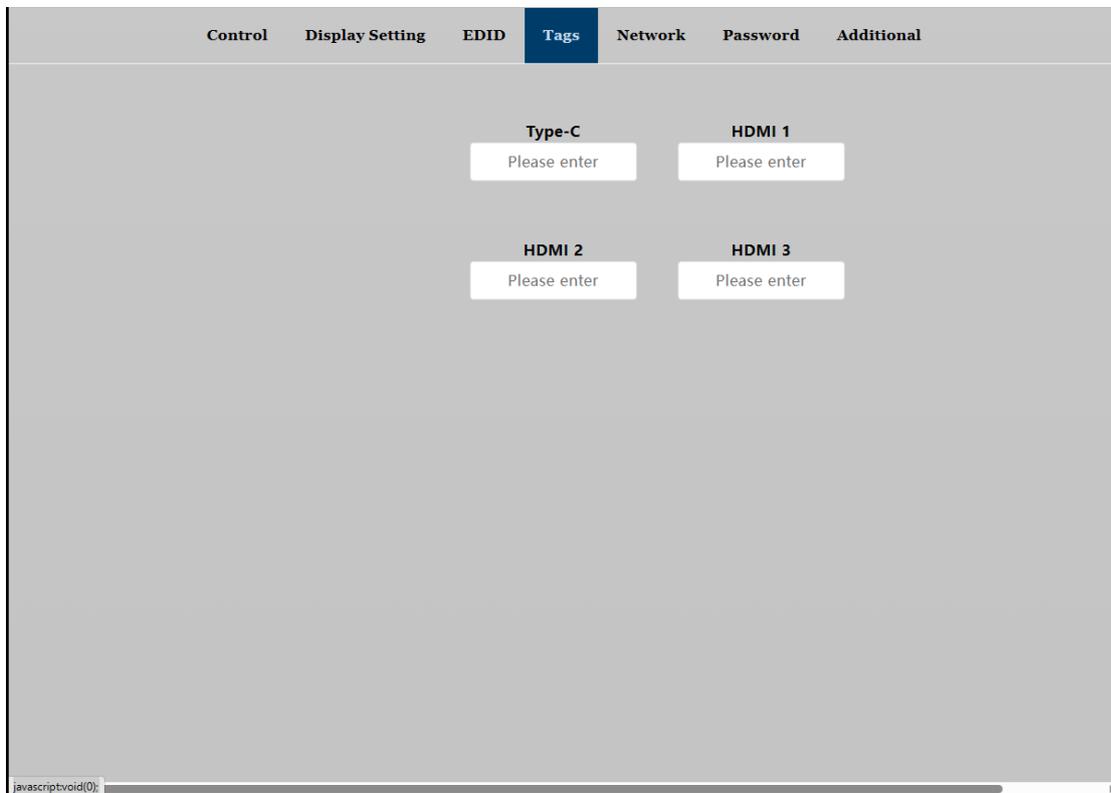
EDID Interface:

* User EDID documents format need to be bin format

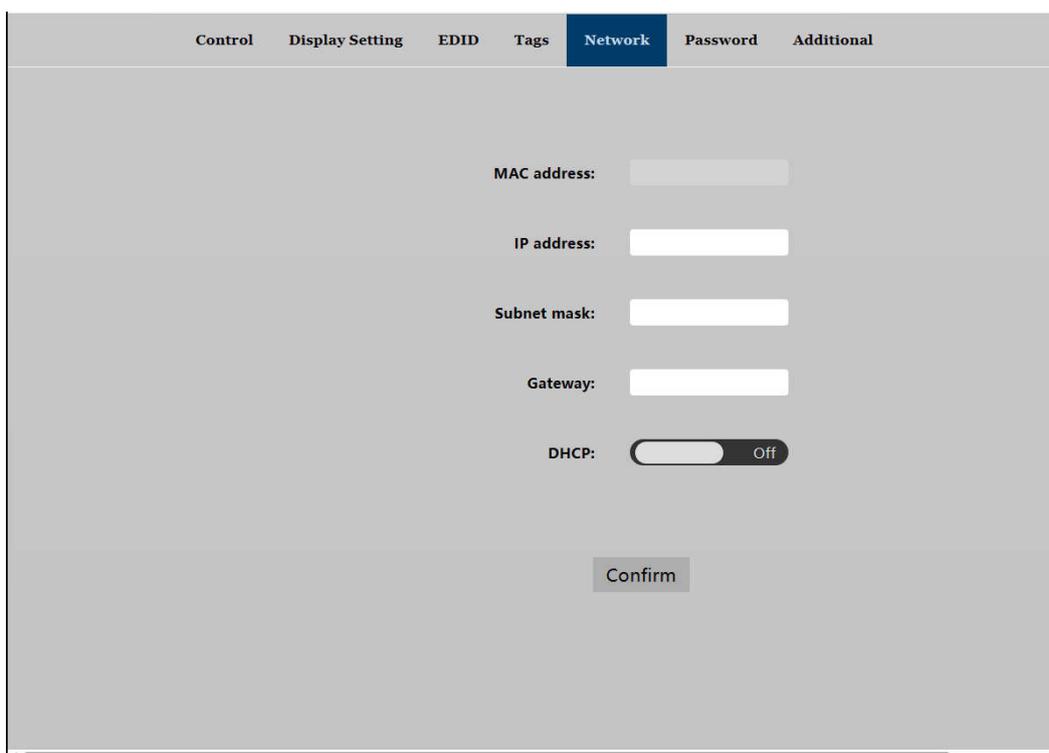


Tags Interface:

Change the name of the Ports



Network Interface:



Password Interface:

Device default setting:

USER NAME: admin

Password: admin

The screenshot shows a web interface with a top navigation bar containing the following tabs: Control, Display Setting, EDID, Tags, Network, Password (highlighted in dark blue), and Additional. The main content area is light gray and contains two input fields: "User Name :" followed by a white text box, and "New Password :" followed by a white text box. Below these fields is a gray "Confirm" button.

Additional Interface:

*Device default baud rate: 115200

The screenshot shows a web interface with a top navigation bar containing the following tabs: Control, Display Setting, EDID, Tags, Network, Password, and Additional (highlighted in dark blue). The main content area is light gray and contains a "Device Baud Rate:" label next to a dropdown menu showing "4800". Below this are three labels with corresponding checkboxes: "Factory Default:", "Power off:", and "Reboot:". At the bottom right of the interface is a blue "Power On" button.

Reset Restores factory Settings

1) Video: HDMI 1 input, automatic switch on

2) Audio: analog audio output volume 10

3) Network parameters:

Static IP address: 192.168.1.168

Sub net: 255.255.255.000

Gateway: 192.168.1.1

Port: TCP5000, UDP4500, Telnet23

Web GUI and Telnet login account:

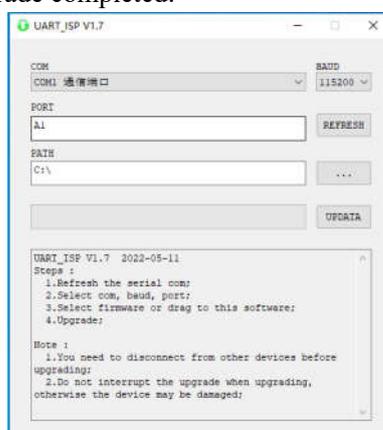
user: admin; password: admin

MAC address: 46-58-4E-1X-XX-XX

10. Firmware Upgrade

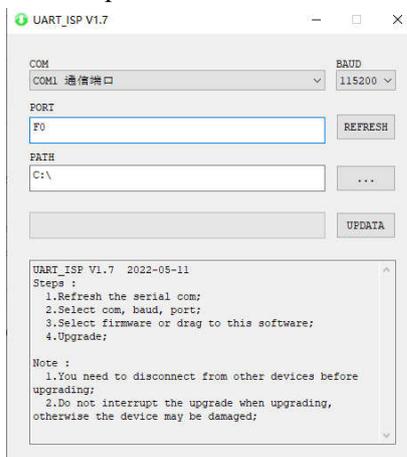
10.1 MCU Upgrade

- 1). The user should use the CD in color-box, read and install software “UART_ISP_V1.7.exe”on PC;
- 2). Connect unit to PC with USB cable from micro USB port, click “UART_ISP_V1.7.exe”software, REFRESH and choose correct COM port that connect to product, and baud rate 115200(default). The baud rate setting is consistent with the host baud rate.
- 3). Type in “A1” in PORT and choose update program file in PATH, then click UPDATA wait for update until it prompt “Succeed” information and upgrade completed:



10.2 Web Upgrade

- 1).Connect unit to PC with USB cable from micro USB port, click “UART_ISP_V1.7.exe”software, REFRESH and choose correct COM port that connect to product, and baud rate 115200(default). The baud rate setting is consistent with the host baud rate.
- 2).Type in “F0” in PORT and choose update program in PATH, then click UPDATA wait for update until it prompt “Succeed” information and upgrade completed:



PRODUCT SERVICE

(1) Damage requiring service:

The unit should be serviced by qualified service personnel if:

- (a) The DC power supply cord or AC adaptor has been damaged;
- (b) Objects or liquids have gotten into the unit;
- (c) The unit has been exposed to rain;
- (d) The unit does not operate normally or exhibits a marked change in performance; The unit has been dropped or the cabinet damaged.

(2) Servicing Personnel: Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.

(3) Replacement parts: When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other Hazards.

(4) Safety check: After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

WARRANTY

If your product does not work properly because of a defect in materials or workmanship, our Company (referred to as "the warrantor") will, for the length of the period indicated as below, **(Parts(2)Year, Labor(90) Days)** which starts with the date of original purchase ("Limited Warranty period"), at its option either(a) repair your product with new or refurbished parts, or (b) replace it with a new of a refurbished product. The decision to repair or replace will be made by the warrantor.

During the "Labor" Limited Warranty period there will be no charge for labor.

During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

MAIL-IN SERVICE

When shipping the unit carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone and/or email address where you can be reached.

LIMITED WARRANTY LIMITS AND EXCLUSIONS

1). This Limited Warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage.

The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, miss adjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service center or other Authorized Servicer, or damage that is attributable to acts of God.

2). THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the service, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive, but are for illustration only.)

3). PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY