

## Versa™ UCS2100 Collaboration Switcher Kit

UCS2100T



UCS2100R



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## Notices

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## Preface

Read this user manual carefully before using the product. Pictures shown in this manual are for reference only. Different models and specifications are subject to real product.

This manual is only for operation instruction, please contact the local distributor for maintenance assistance. The functions described in this version were updated by November 2022. In the constant effort to improve the product, we reserve the right to make functions or parameters changes without notice or obligation. Please refer to the dealers for the latest details.

## FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.



## SAFETY PRECAUTIONS

To ensure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

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# 1. Product Introduction

Versa UCS2100 Collaboration Switcher Kit is an 18 GBPS switcher kit. It supports up to 4K/60/4:4:4, HDR 10 and Dolby Vision, HDCP 2.2. It also supports uncompressed transmission of 18 GBPS signals with a distance of up to 100 m. At the same time, it can be connected to KVM equipment, which is very suitable for equipment connection and signal transmission in conference rooms. The switcher kit also supports RS-232 and CEC control and bidirectional 48 V Power-Over-Cable

## 1.1 Features

- Automatically detects HDMI and USB-C sources, such as dedicated in-room PC and BYOM laptop, and offers the flexibility for users to access the same set of in-room AV peripherals, such as cameras and audio devices.
- Supports up to 4K 60 Hz 4:4:4 resolution, HDCP 2.2, HDR 10 and Dolby Vision.
- Bi-Directional HDBaseT 3.0, allows the remote peripherals to be placed at a distance of up to 100 meters and provides 48 V PoE.
- USB-C input supports up to 100 W charging.
- USB Device Port Control: Auto/On/Off.
- Ethernet ports provide network passthrough between the transmitter and receiver unit.
- The transmitter unit provides simultaneous 1 x HDMI output and 1 x HDBaseT output.
- Supports automatic source detection & switching.
- Controllable via RS-232, TCP/IP, or front panel buttons.
- Multiple USB ports on both the transmitter and receiver for connecting a camera, audio device, mouse, and keyboard.

## 1.2 Packing List

1 x Versa UCS2100T  
1 x Versa UCS2100R  
1 x 24 VDC 5 A power adapter  
1 x QR-code card for the Quick Start Guide (QSG)  
5 x 3-pin terminal block  
2 x 5-pin terminal block  
1 x 3-pin to DB9 RS-232 cable  
4 x hangers  
6 x screws  
8 x foot pads  
1 x 1mtr USB-C to C 10Gbps cable  
[www.clearone.com](http://www.clearone.com)

## 1.3 Warranty information

We provide 2 year limited warranty starting from date of purchase.



**Note:** Please contact your distributor immediately if any damage or defect in the components is found.

## 2. Specification

Item No.	Function	Description	
		Transmitter	Receiver
	Video		
1	Video Input	(1) HDMI IN, (1) USB-C IN	(1) HDBT IN
2	Input Resolution	HDMI: Up to 4K @ 60 Hz 4:4:4 HDR 10, Dolby Vision	Up to 4K @ 60 Hz 4:2:0
		USB-C: Up to 4K @ 60 Hz 4:4:4	
3	Video Output	(1) HDMI OUT (1) HDBT OUT	(1) HDMI
4	Video Output Connector	(2) HDMI Type-A Receptacles	(1) HDMI Type-A Receptacles
5	Output Resolution	HDMI: Up to 4K @ 60 Hz 4:4:4 HDR 10, Dolby Vision	Up to 4K @ 60 Hz 4:4:4 HDR 10, Dolby Vision
		HDBT: Up to 4K @ 60 Hz 4:2:0	
6	HDMI Standard	Up to HDMI 2.0 b	Up to HDMI 2.0 b
7	HDCP Version	Up to HDCP 2.2	Up to HDCP 2.2
Audio			
8	HDMI Embedded Audio Format	LPCM 7.1 audio, Dolby Atmos®, Dolby® TrueHD, Dolby Digital® Plus, DTS:X™, and DTS-HD® Master Audio™ pass-through.	
9	Audio Output Connector	(1) 5-pin terminal block	(1) 5-pin terminal block
10	Frequency Response	20 Hz – 20 KHz, ±3 dB	
11	Max Output Level	0.88 Vrms ± 0.5 dB. 2 V = 16 dB headroom above -10 dBV (316 mV) nominal consumer line level signal	
		SPDIF: ± 0.05 dBFS	
12	THD+N	< 0.05% (-80 dB), 20 Hz – 20 kHz bandwidth, 1 kHz sine at 0 dBFS level (or max level)	
13	SNR	> 80 dB, 20 Hz – 20 kHz bandwidth	
		SPDIF: > 90 dB, 20 Hz – 20 kHz bandwidth	
14	Crosstalk Isolation	< -80 dB, 10 kHz sine at 0 dBFS level (or max level before clipping)	
15	L-R Level Deviation	< 0.3 dB, 1 kHz sine at 0 dBFS level (or max level before clipping)	
16	Output Load Capability	1 k ohm and higher	

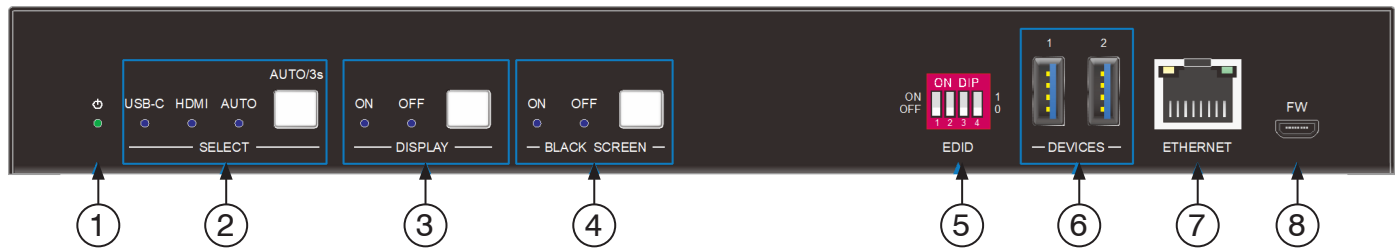
Item No.	Function	Description	
		<b>Transmitter</b>	<b>Receiver</b>
<b>Control</b>			
<b>General</b>			
17	Operation Temperature	-5 – +55 °C	
18	Storage Temperature	-25 – +70 °C	
19	Relative Humidity	10% – 90%	
20	External Power Supply	Input: AC 100 – 240 V, 50/60 Hz; Output: 24 VDC 5 A.	
21	Power Consumption	120 W (Max)	
22	USB-C Power Charging	100 W (Max)	
23	Dimension (W*H*D)	265 W x 32 H x 150 D mm	173 W x 24.5 H x 95 D mm
24	Net Weight	1020 g	410 g



## 3. Panel Description

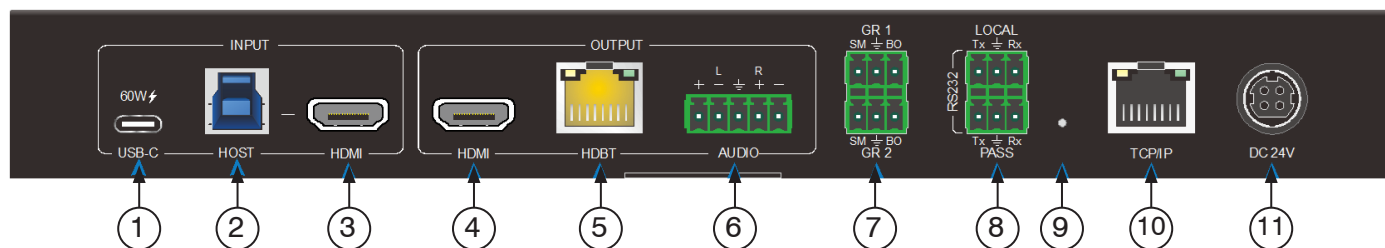
### 3.1 Transmitter

#### Front Panel



No	Name	Description
1	Power LED	1 x green indicator light, the light is on when power is present.
2	SELECT	<ul style="list-style-type: none"> <li>1 x white non-backlit button, 3 x blue indicator lights</li> <li>Click the button to select the input source (HDMI or USB-C), press and hold for 3 seconds to enter or exit automatic switching mode.</li> </ul>
3	DISPLAY	<ul style="list-style-type: none"> <li>1 x white non-backlit button, 2 x blue indicator lights</li> <li>Press the button to send the DISPLAY ON/OFF CEC and RS-232 commands to the displays connected to the transmitter (TX) unit and the receiver (RX) unit.</li> <li>When the CEC command control includes TX, the front panel button indicator will flash three times</li> <li>When CEC only controls RX, the CEC button indicator light switches synchronously</li> <li>When the CEC command controls TX/RX at the same time, the buttons on the front panel switch synchronously and the indicator light flashes three times.</li> </ul>
4	BLACK SCREEN	<ul style="list-style-type: none"> <li>1 x white non-luminous button, 2 x blue indicator lights</li> <li>Press the button to enter or exit the output black screen</li> </ul>
5	EDID	1 x 4-pin DIP switch for EDID management
6	DEVICES	2 x USB-A 3.0, connect keyboard, mouse, audio conferencing system, network adapter, printer, and other equipment
7	ETHERNET	1 x RJ45, used for network passthrough transmission to the receiver unit
8	FW	1 x Micro-USB, 1 x Micro USB, for future use

## Rear Panel



No	Name	Description
1	USB-C	<ul style="list-style-type: none"> <li>1 x USB-C 3.0 input, supports external 100 W charging, connect to the host laptop.</li> <li>Video is supported when connected to the host computer's USB-C port. If connected to the host computer's USB Type-A port, video is not supported.</li> </ul>
2	HOST	<ul style="list-style-type: none"> <li>1 x USB-B 3.0, connect to HOST devices such as laptops, connect to the host computer.</li> <li>Video is not supported through this USB port. You must connect the computer to the HDMI Input for video when using this USB port.</li> <li>The HDMI Input is used in combination with the USB HOST port.</li> </ul>
3	HDMI IN	<ul style="list-style-type: none"> <li>1 x HDMI input, connect to HOST devices such as laptops, connect to the host computer</li> <li>The HDMI Input is used in combination with the USB HOST port.</li> </ul>
4	HDMI OUT	1 x HDMI Output, contains video from either the HDMI Input or USB-C Input, whichever is selected.
5	HDBT	1 x HDBT output, the green light is always on when the signal is with HDCP, flashes when the input signal is without HDCP, the yellow light is always on after the TX and RX are connected.
6	AUDIO	1 x 5-pin balanced audio output, HDMI de-embedding, contains the audio that is being sent to the HDMI Output.
7	Control	GR1: Corresponds to the USB-C Input GR2: Corresponds to the HOST/HDMI Input SM: Switch to the corresponding source BO: Print a black screen to all outputs.
8	RS-232	LOCAL: Connect local devices for bidirectional communication with the transmitter PASS: Bidirectional passthrough transmission with the receiver's RS-232 port
9	Button	For future use
10	TCP/IP	1 x RJ45, TCP/IP control, connect to the local network for configuration via the web gui and for control using text commands.

No	Name	Description
11	DC 24 V	Connect the provided 24 VDC 5 A power adapter to either the transmitter's or receiver's power input. If the power adapter is connected to the transmitter, then the receiver will be powered over the CAT 6 cable.

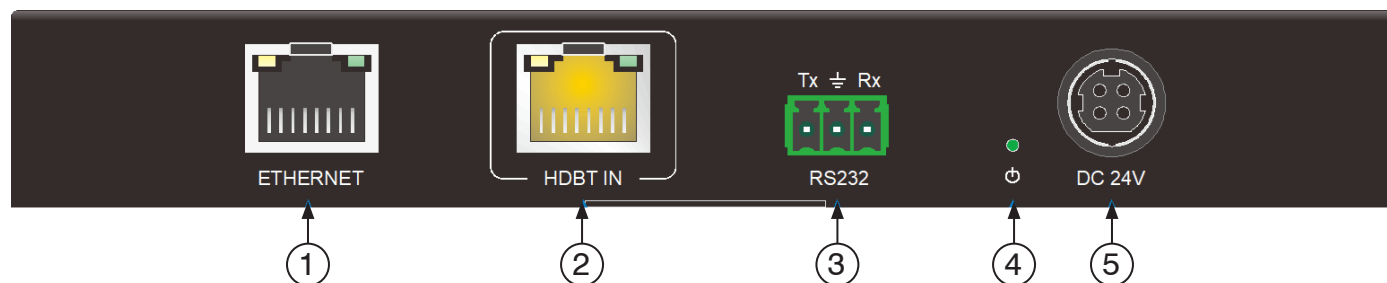
3.2 Receiver

Front Panel



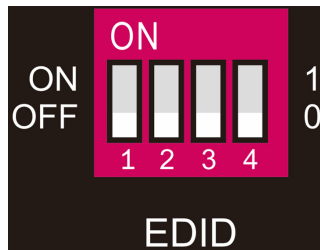
No	Name	Description
1	OUTPUT	<ul style="list-style-type: none"><li>1 x HDMI output</li><li>1 x 5-pin balanced audio output, provides de-embedded audio from the HDMI output</li></ul>
2	DEVICES	3 x USB-A 2.0, 1 x USB-C, connect keyboard, mouse, audio conferencing system, network adapter, printer, and other equipmen

## Rear Panel



No	Name	Description
1	ETHERNET	1 x HDMI output;
2	HDBT IN	1 x RJ45 interface, the green light is always on when the signal is with HDCP, flashes when the input signal is without HDCP, the yellow light is always on after the TX and RX are connected.
3	RS-232	1 x 3-pin phoenix head, Bidirectional passthrough with the transmitter's RS-232 port
4	Power LED	1 x green indicator light, the light is on when power is present.
5	DC 24 V	Connect the provided 24 VDC 5 A power adapter to either the transmitter's or receiver's power input. If the power adapter is connected to the receiver, then the transmitter will be powered over the CAT 6 cable.

## 4. EDID Management



To ensure the attached display gets the best picture and audio results, the EDID (Extended Display Identification Data) DIP switch can be set according to the table below.

DIP Switch	Description
0000	Learn the display EDID in the default mode: read the EDID of the TX HDMI output and RX HDMI output, and output the EDID with the lower resolution of the two, if you can't learn it, then use the built-in 1920 x 1080 @ 60 8 bit Stereo
0001	1920 x 1080 @ 60 8 bit High Definition Audio
0010	3840 x 2160 @ 60 Hz Deep Color Stereo Audio
0011	3840 x 2160 @ 30 Hz 8bit Stereo Audio
0100	3840 x 2160 @ 30 Hz Deep Color High Definition Audio
0101	3840 x 2160 @ 60 Hz 4:2:0 Deep Color Stereo Audio
0110	3840 x 2160 @ 60 Hz Deep Color High Definition Audio
0111	3840 x 2160 @ 60 Hz Deep Color HDR LPCM 6 CH
1011	Custom EDID1
1100	Custom EDID2
1101	Custom EDID3
1110	Custom EDID4
1111	EDID management

## 5. GUI Control

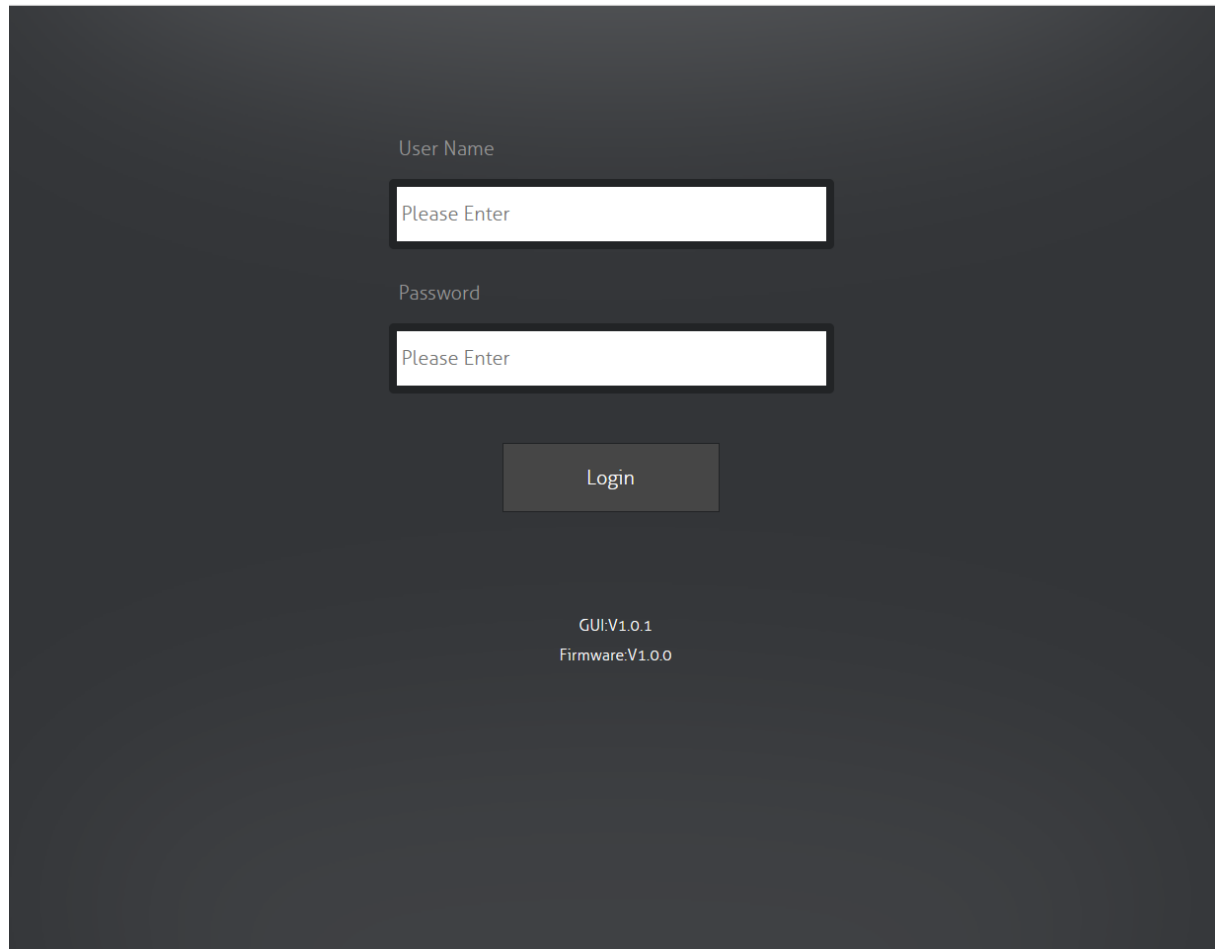
The Versa UCS2100 collaboration switcher kit can be controlled via TCP/IP. The default IP settings are:

IP Address:192.168.0.178

Subnet Mask:255.255.255.0

Gateway:192.168.0.1

Please type the IP Address on the control PC in the internet browser, and it will enter the below log-in webpage



User Name

Please Enter

Password

Please Enter

Login

GUI:V1.0.1  
Firmware:V1.0.0

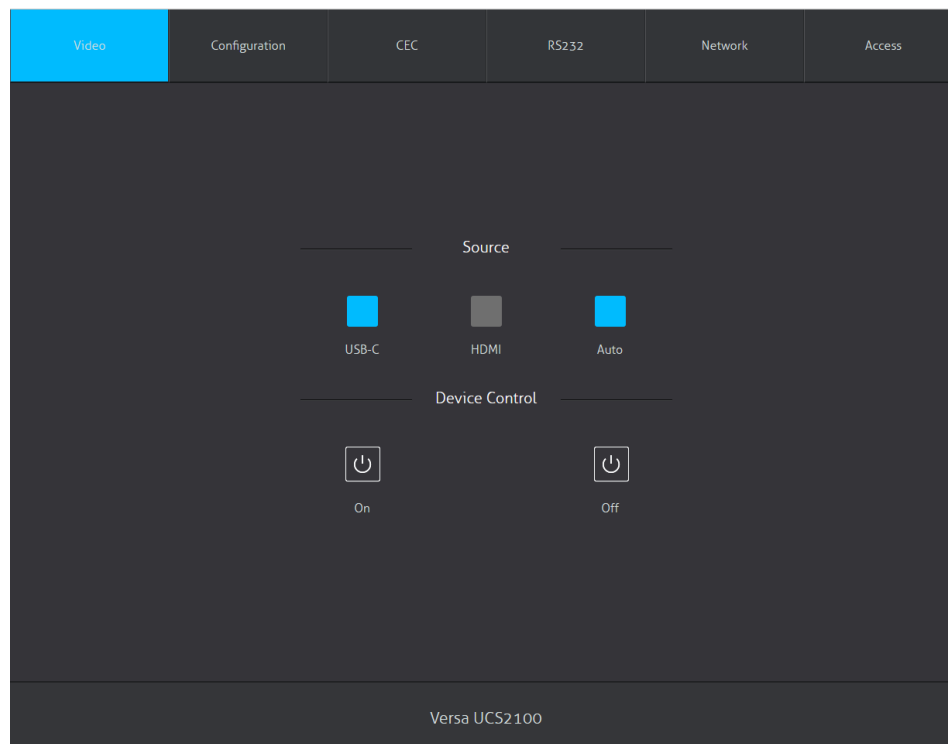
**Username: admin**

**Password: admin**

Please type the username and the password, and then click **LOGIN**.

## 5.1 Video Tab

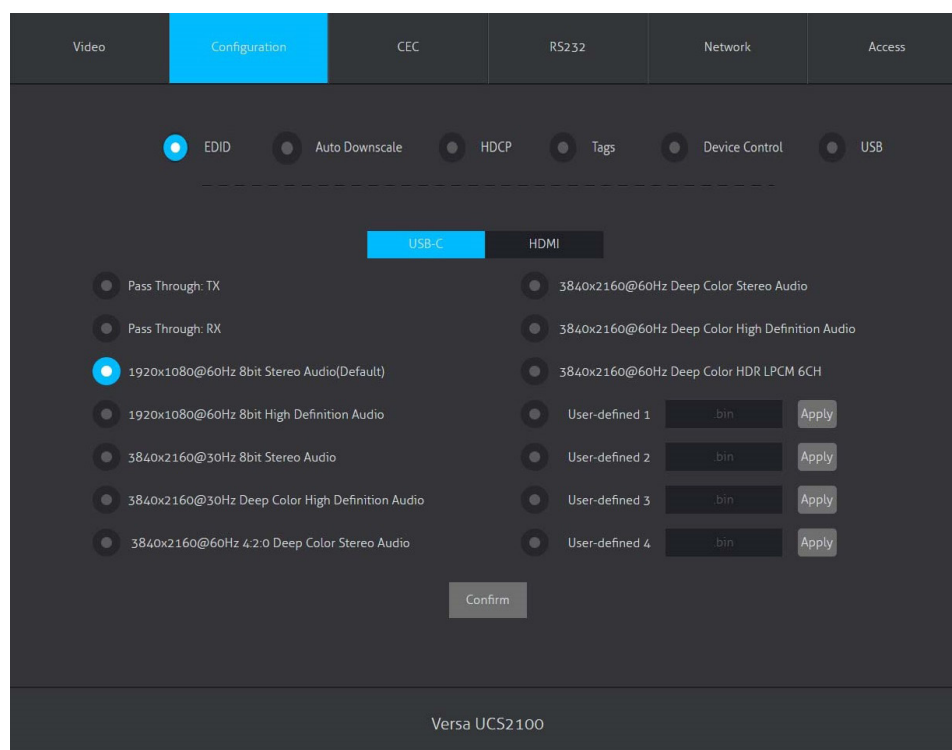
- Choose the HDMI, USB-C or Auto source according to actual usage.



## 5.2 Configuration Tab

### 5.2.1 Video Tab

- Choose the desired EDID format or define the appropriate EDID format.



## 5.2.2 Auto Downscale

- Enable or disable the auto Downscale in TX or RX output

The screenshot shows the 'Configuration' menu of the Versa UCS2100. The 'Auto Downscale' option is selected with a blue dot. Below it, there are two rows of settings: 'Tx Output' and 'Rx Output'. Each row has two radio buttons: 'Enable' (selected with a blue dot) and 'Disable' (unselected with a white dot). A 'Confirm' button is located at the bottom of the menu.

	Enable	Disable
Tx Output	<input checked="" type="radio"/>	<input type="radio"/>
Rx Output	<input checked="" type="radio"/>	<input type="radio"/>

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## 5.2.3 HDCP

- Choose whether HDCP follows the source or the display. The HDCP for transmitter unit and the receiver unit can be configured individually.

The screenshot shows the 'Configuration' menu of the Versa UCS2100. The 'HDCP' option is selected with a blue dot. Below it, there are two rows of settings: 'Tx Output Follow' and 'Rx Output Follow'. Each row has two radio buttons: 'Source' (unselected with a white dot) and 'Display' (selected with a blue dot). A 'Confirm' button is located at the bottom of the menu.

	Source	Display
Tx Output Follow	<input type="radio"/>	<input checked="" type="radio"/>
Rx Output Follow	<input type="radio"/>	<input checked="" type="radio"/>

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## 5.2.4 Tags

- The names of the input and output channels can be customized. Type in new labels and click Confirm to save the changes.

The screenshot shows the 'Configuration' menu of the Versa UCS2100. The 'Tags' option is selected with a blue radio button. Below the menu, there are two columns: 'Input' and 'Output'. Under 'Input', there are two rows: 'USB-C' and 'HDMI', each with a text input field containing the same label. Under 'Output', there are two rows: 'Tx Output' and 'Rx Output', each with a text input field containing the same label. A 'Confirm' button is located at the bottom center of the configuration area. The footer of the screen displays 'Versa UCS2100'.

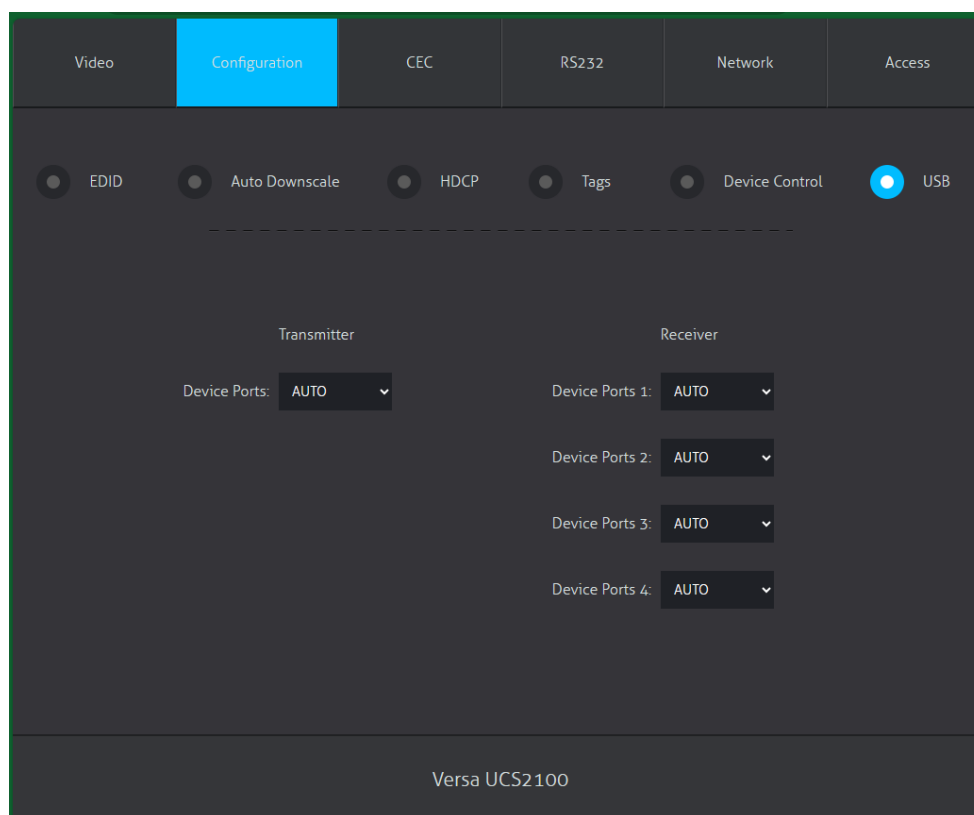
## 5.2.5 Device Control

- Choose and enter the device control, then click confirm to change the device control.

The screenshot shows the 'Configuration' menu of the Versa UCS2100. The 'Device Control' option is selected with a blue radio button. Below the menu, there are two radio buttons: 'ASCII' (selected) and 'HEX'. Below these are several settings: 'Baud Rate' set to '9600', 'Command Ending' set to 'NULL', 'Device Control On' with an empty text field, 'Device Control Off' with an empty text field, and 'Off Delay (0-180s)' set to '60'. A 'Confirm' button is located at the bottom center of the configuration area. The footer of the screen displays 'Versa UCS2100'.

## 5.2.6 USB

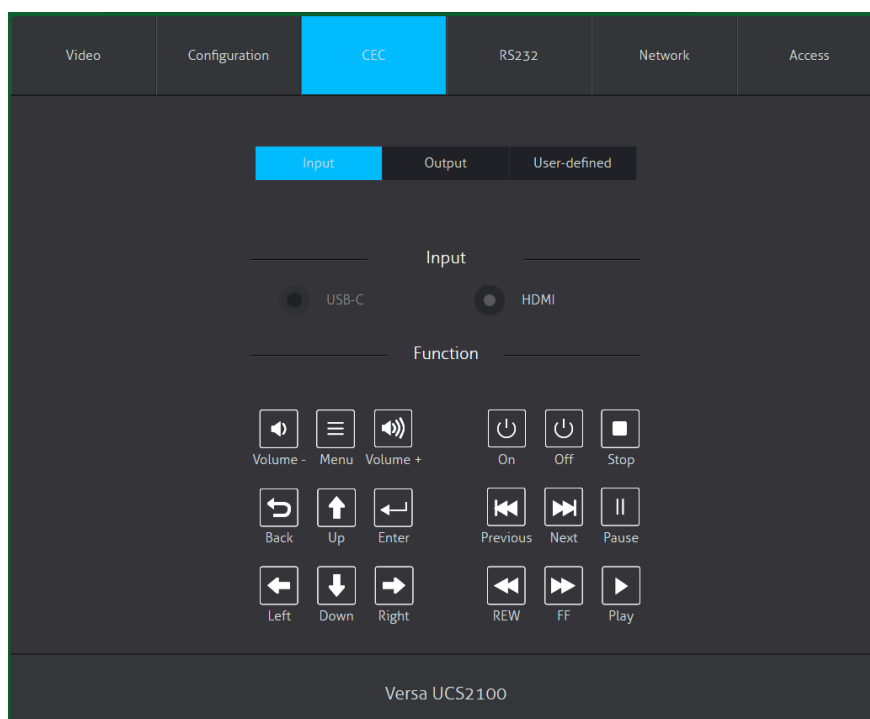
- This screen allows you to control when a USB Device Port is enabled.
- On the Transmitter, all USB Ports are controlled together.
- On the Receiver, each USB Ports is controlled individually.
- Settings
  - » Auto: The USB Port is enabled when the selected host USB input is connected to a computer.
  - » On: The USB Port is always enabled even if the selected host USB input is not connected to a computer.
  - » Off: The USB Port is always disabled even if the selected host USB input is connected to a computer.



## 5.3 CEC Tab

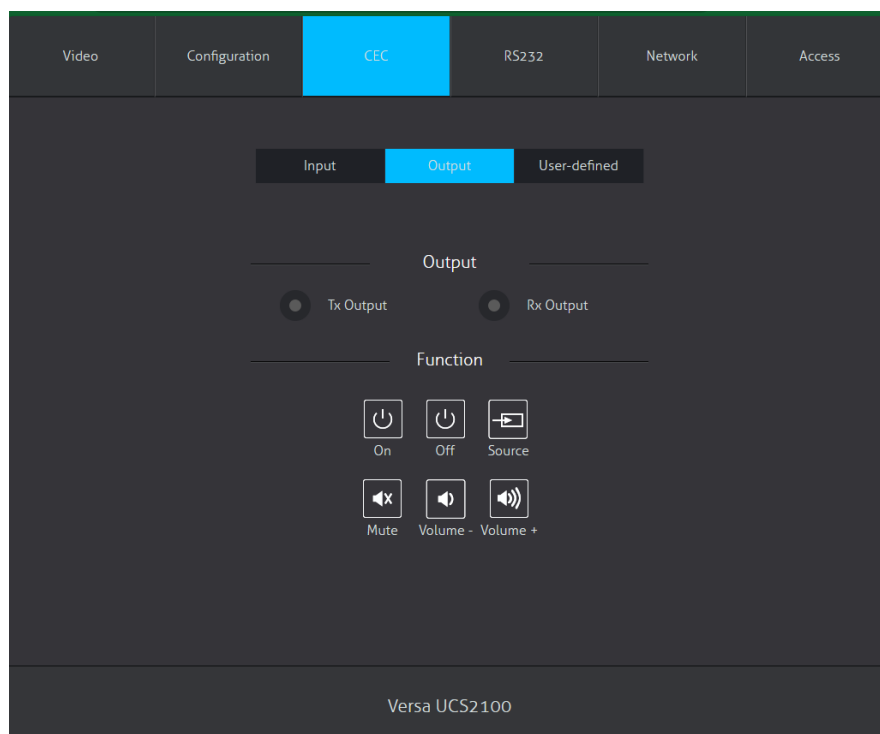
### 5.3.1 Input

- Click on any button to send the associated CEC command to the device attached to the HDMI input. CEC is an acronym for Consumer Electronics Control and provides control of devices through the HDMI cable. Commands can also be initiated through RS-232 or TCP/IP.



### 5.3.2 Output

- Click on any button to send the associated CEC command to the display attached to the HDMI Output. CEC is an acronym for Consumer Electronics Control and provides control of devices through the HDMI cable. Commands can also be initiated through RS-232 or TCP/IP.



### 5.3.3 User-Defined

- Define the Trigger of input and output.

The screenshot shows the 'CEC' configuration tab with the 'User-defined' sub-tab selected. Under the 'Input' section, 'HDMI' is selected with a radio button. Below it, 'Trigger 1' and 'Trigger 2' each have a text input field and a 'Send' button. Under the 'Output' section, 'Tx Output' is selected with a radio button. Below it, 'Trigger 1' has a text input field and a 'Send' button. The bottom of the screen displays 'Versa UCS2100'.

### 5.4 RS-232 Tab

- Baud Rate: Supports 9600, 19200, 38400, 57600, 115200
- Command Ending: NULL, CR, LF or CR+LF can be chosen.
- Command: Type a command into the box and press confirm. The contents in the box will be sent out the RS-232 port of both the transmitter and receiver.

The screenshot shows the 'RS232' configuration tab. At the top, 'ASCII' is selected with a radio button, and 'HEX' is unselected. Below this, 'Baud Rate' is set to '9600' in a dropdown menu. 'Command Ending' is set to 'NULL' in a dropdown menu. There is a text input field for 'Command:'. At the bottom, there are 'Confirm' and 'Cancel' buttons. The bottom of the screen displays 'Versa UCS2100'.

## 5.5 Network Tab

- Static IP or Dynamic Host Configuration Protocol (DHCP).
- Modify the static IP Address, Subnet Mask, and Gateway.

The screenshot shows the 'Network' tab selected in the top navigation bar. The interface displays the MAC Address as 40-D6-3C-71-C7-29. Below this, there are two radio buttons for 'DHCP' and 'Static IP'. The 'Static IP' radio button is selected. Under the 'Static IP' section, there are three input fields: 'IP Address' with the value 10.101.27.72, 'Subnet Mask' with the value 255.255.255.0, and 'Gateway' with the value 10.101.27.1. A 'Confirm' button is located below these fields. At the bottom of the interface, the text 'Versa UCS2100' is displayed.

## 5.6 Access Tab

- Modify the login password
- Choose the firmware upgrade file and click confirm to upgrade the firmware
- Lock or unlock the front panel buttons.

The screenshot shows the 'Access' tab selected in the top navigation bar. The interface displays three sections: 'Password', 'Firmware Upgrade', and 'Front Panel Lock'. The 'Password' section has an input field with the value 'admin' and a 'Confirm' button. The 'Firmware Upgrade' section has an input field with the value 'C:\' and a 'Confirm' button. The 'Front Panel Lock' section has a toggle switch with 'ON' and 'OFF' labels, and the switch is currently in the 'ON' position. At the bottom of the interface, the text 'Versa UCS2100' is displayed.

## 6. RS-232 control

### 6.1 RS-232 Command

**Communication protocol:** RS-232 Communication Protocol

Baud rate: 9600 Data bit: 8 Stop bit: 1 Parity bit: none

#### 6.1.1 System control

Command	Description	Command & Feedback Example
<b>PHDBTON</b>	HDBT OUT POC power on	HDBT 01 Power ON!
<b>PHDBTOFF</b>	HDBT OUT POC power off	HDBT 01 Power OFF!
<b>HDMIA</b>	Auto-switch mode on	HDMI Out Switch Auto Mode!
<b>HDMIM</b>	Manual-switch mode on	HDMI Out Switch Manual Mode!
<b>HDMI[x]</b>	HDMI input source selection.  x = 1 & 2  1 – Type-C  2 – HDMI	HDMI Out Switch To 01!  HDMI Out Switch To 01!
<b>POWON</b>	Turn off standby mode	Power ON!
<b>POWOFF</b>	Turn on standby mode	Power OFF!
<b>SIGNALTRG[xx]MODE</b>	When setting the detection mode xx=1, it is 5 V detection, and when it is 2, it is TMDS detection	Set Trigger Mode To 5 V.
<b>SIGNALTRGSTA</b>	Query the method of signal detection (TMDS or 5 V)	Get Trigger Mode Is 5 V.
<b>RST</b>	Restore Factory	Factory Default!
<b>Lock</b>	Turn on front panel lock	Front Panel Locked!
<b>Unlock</b>	Turn off front panel lock	Front Panel UnLock!

Command	Description	Command & Feedback Example
<b>STA</b>	Status query	<p>Versa UCS2100 collaboration switcher kit</p> <p>V1.0.0</p> <p>PWON!</p> <p>HDBT 01 Power ON!</p> <p>HDMI OUT 01 Down Scale OFF!</p> <p>HDMI OUT 02 Down Scale OFF!</p> <p>HDMI Out Switch Auto Mode!</p> <p>Get Trigger Mode Is 5V.</p> <p>System Unlock!</p> <p>Baudrate 9600!</p> <p>GUI_IP:192.168.0.200!</p> <p>HDMI Out Switch To 02!</p> <p>Set Output Black Screen ON!</p> <p>IN 1 2</p> <p>LINK Y Y</p> <p>OUT 1 2</p> <p>LINK Y Y</p> <p>Input 1 EDID From 1 User Define EDID!</p> <p>Input 2 EDID From 1 Internal EDID!</p> <p>OUT 01 HDCP MAT DISPLAY!</p> <p>OUT 02 HDCP MAT DISPLAY!</p> <p>Set POFF Delay To 600 Second(s)!</p>
<b>RS-232 ONSAVE:[Y], [xxx]</b>	Save the display terminal boot command sent when the input is detected. Y is the baud rate, 1--2400; 2--4800; 3--9600; 4--19200; 5--38400; 6-57600; 7 --115200; xxx is the command data	Save PON Command:YYYYY, Baudrate Is 9600!

Command	Description	Command & Feedback Example
<b>RS-232 OFFSAVE:[Y],[xxx]</b>	Save the display terminal shutdown command sent when no input is detected. Y is the baud rate, 1--2400; 2--4800; 3--9600; 4--19200; 5--38400; 6--57600; 7--115200; xxx is the command data	Save POFF Command:TTTTTT.,Baudrate Is 9600!
<b>RS-232 DLYOUT[xx]:[yy]</b>	Set the delayed sending time of the display terminal shutdown command sent when no input is detected, the default is 10 minutes, 600 S	Set POFF Delay To 10 Second(s)!
<b>RS232ONOUT:z:a:b</b>	Define Device Control command when USB C cable is plugged in and video is enabled.  z: a = ASCII, h = Hex  a: 1=2400, 2=4800, 3=9600, 4=19200, 5=38400, 6=57600, 7=115200  b: RS232 command (in ASCII or Hex)	RS232ONOUT:a:3:test  [SUCCESS]RS232ONOUT Command On:a:3:test
<b>RS232ONOUT:z:a:b</b>	Define Device Control command when USB C cable is un-plugged.  z: a = ASCII, h = Hex  a: 1=2400, 2=4800, 3=9600, 4=19200, 5=38400, 6=57600, 7=115200  b: RS232 command (in ASCII or Hex)	RS232OFFOUT:a:3:offtest  [SUCCESS]RS232OFFOUT Command Off:a:3:offtest
<b>RS232ONOUT</b>	Manually trigger the On command. This is the same as clicking the On button in the Device Control section of the Video tab in the GUI.	RS232ONOUT  ON
<b>RS232OFFOUT</b>	Manually trigger the Off command. This is the same as clicking the Off button in the Device Control section of the Video tab in the GUI.	RS232ONOUT  OFF



Command	Description	Command & Feedback Example
<b>RS232OFFDLYOUT:x</b>	Delays the Off command being sent after the USB C cable is unplugged.  x = 0 to 180 (in seconds)	RS232OFFDLYOUT:20  Set RS232OFFOUT Command Delay To 20 Second(s)!
<b>TVON</b>	Turn on TV by CEC control	CEC_TV_POWON!  CEC Output 01 Send Success. CEC Output 02 Send Success.
<b>TVOFF</b>	Turn off TV by CEC control	CEC_TV_POWOFF!  CEC Output 01 Send Success. CEC Output 02 Send Success.
<b>TVVOL+</b>	TV volume plus by CEC control	CEC_TV_VOLUP!  CEC Output 01 Send Success. CEC Output 02 Send Success.
<b>TVVOL-</b>	TV volume down by CEC control	CEC_TV_VOLDOWN!  CEC Output 01 Send Success. CEC Output 02 Send Success.
<b>TVMUTE</b>	TV mute by CEC control	CEC_TV_VOLMUTE/UNMUTE!  CEC Output 01 Send Success. CEC Output 02 Send Success.
<b>HDCP[x]PAS</b>	The output HDCP follows the input.  [x] The value is 0-2 or 00-02, and 0 means all outputs.	OUT 01 HDCP PASSIVE! OUT 02 HDCP PASSIVE!
<b>HDCP[x]MAT</b>	HDCP output follow the display  [x] Value 0-2 or 00-02, 0 means all output	OUT 01 HDCP MAT Display! OUT 02 HDCP MAT Display!
<b>HDCP[x]ON</b>	Forced to open the output HDCP, output HDCP1.4.	OUT 01 HDCP ON!
	[x] Value 0-2 or 00-02, 0 means all output	OUT 02 HDCP ON!
<b>HDCP[x]OFF</b>	Forcibly close the output HDCP.	OUT 01 HDCP OFF!
	[x] Value 0-2 or 00-02, 0 means all output	OUT 02 HDCP OFF!

### 6.1.2 Source control

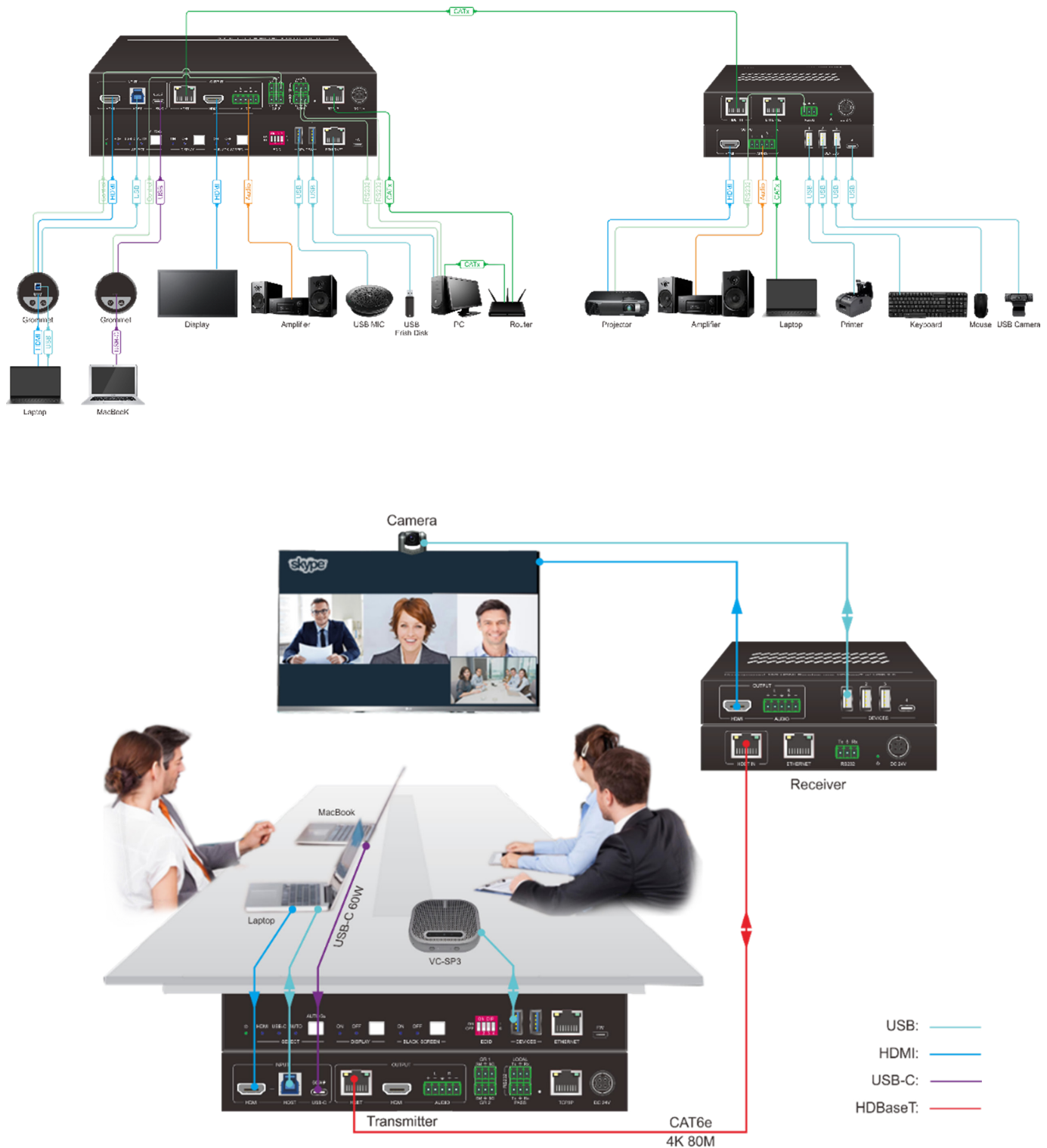
Command	Description	Command & Feedback Example
<b>DS[x]ON</b>	Turn on the DOWN SCALE of the HDMI output. (Compatible with [X]/[XX])  [x] Value 0-2 or 00-02, 0 means all output	HDMI OUT 01 Down Scale ON! HDMI OUT 02 Down Scale ON!
<b>DS[x]OFF</b>	Turn off the DOWN SCALE of the HDMI output. (Compatible with [X]/[XX])  [x] Value 0-2 or 00-02, 0 means all output	HDMI OUT 01 Down Scale OFF! HDMI OUT 02 Down Scale OFF!
<b>STA_IN</b>	Source connection status	IN 1 2  LINK N N
<b>/+ [X]/[YY]:XXX</b>	RS-232 sends commands to control peripheral devices.  [YY]The value is 00 or 01;  [X] is 1--2400; 2--4800; 3--9600; 4--19200; 5--38400; 6-57600; 7--115200	123456
<b>@ OUT[xx]</b>	Turn on the HDMI 5 V of the output port.  [xx] The value 00-01,00 means all outputs	Set Output Black Screen ON!
<b>\$OUT[xx]</b>	Turn off the HDMI 5 V of the output port.  [xx] The value 00-01,00 means all outputs.	Set Output Black Screen OFF!
<b>GETGUIIP</b>	Query GUI IP	GUI_IP:192.168.0.173!
<b>SetGuiIP_DHCPON</b>	Dynamic DHCP	GUI IP DHCP ON!
<b>SetGuiIP_DHCPOFF:xxx.xxx.x.xxx</b>	Static DHCP+set IP (default is 192.168.0.178)	GUI IP DHCP OFF!SETGUIIP:192.168.0.123!

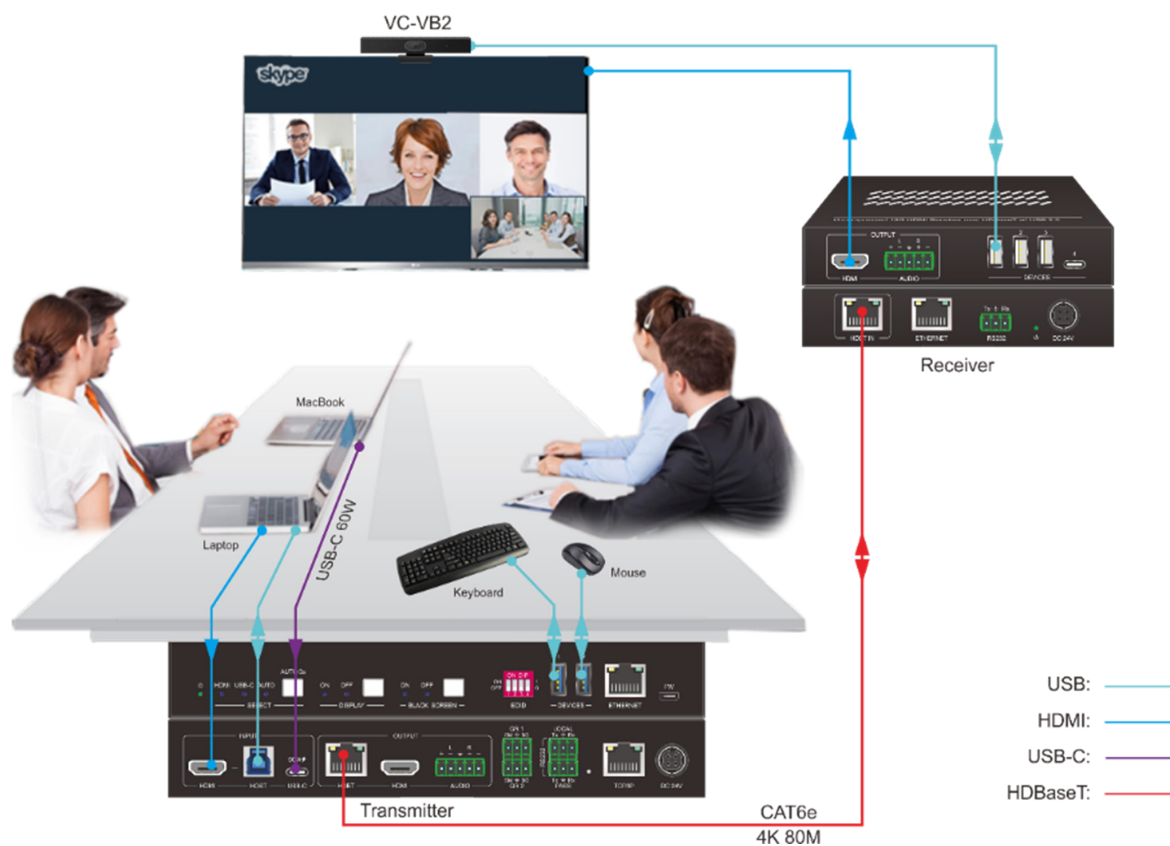
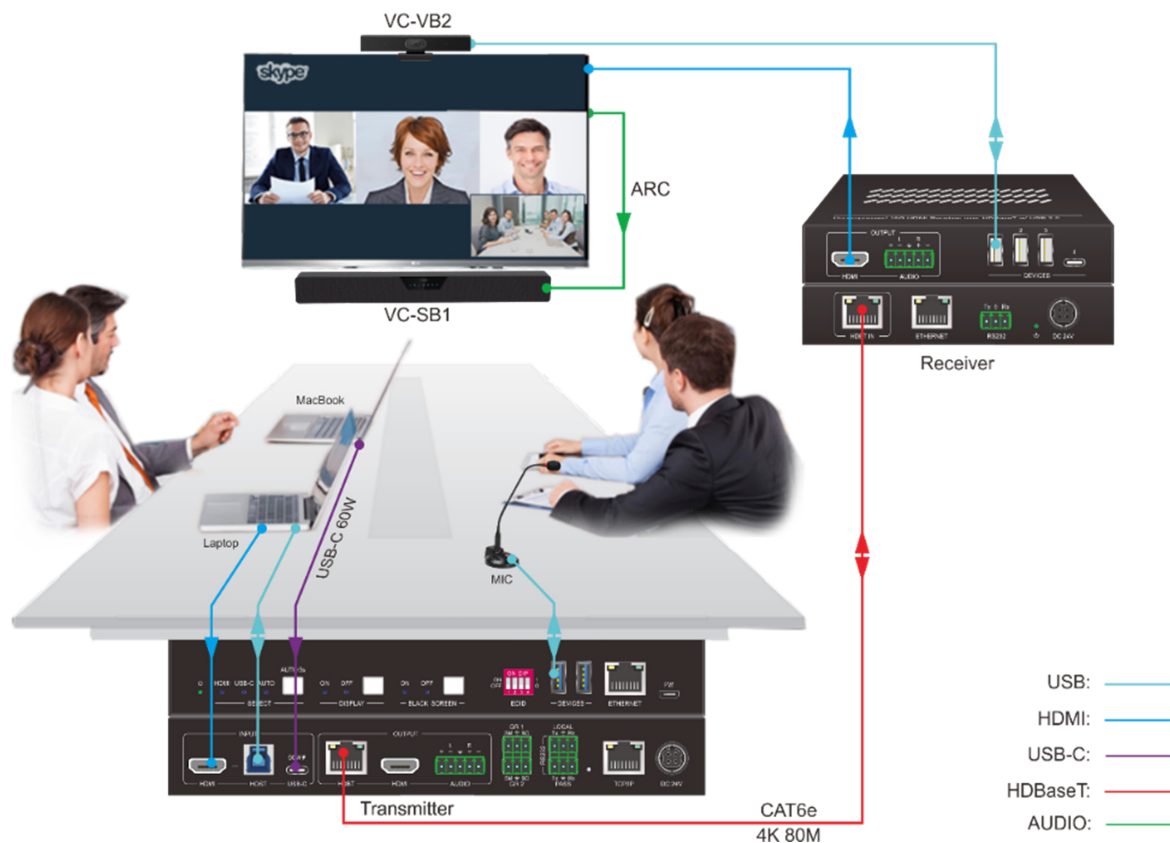
Command	Description	Command & Feedback Example
<b>EDIDUpgrade[xx]</b>	<p>The serial port upgrades EDID data.</p> <p>1. [xx] represents the input port, the value is 00-02 and U. [xx]=00-02 means to customize the EDID of the corresponding input port (EDID is switched to the custom EDID after customization, and will not be saved in the machine), 00 means to operate on all input ports, 01-02 Means input 01-02,</p> <p>2. [xx]=U1 - U4 means custom built-in EDID (can be saved in the machine and recalled at any time), only one built-in EDID can be customized, and the current EDID still used after the customization is completed will not switch to the customized EDID.</p> <p>After receiving the instruction, the machine will prompt to send the EDID file. The file format must be .bin within 10s (in order to ensure normal data reception, all HDBT must be disconnected before sending the instruction)</p>	Input XX/User Define EDID Upgrade OK By RS-232 Or GUI!
<b>EDID/[xx]/[yy]</b>	<p>The input port xx uses the built-in EDID numbered yy.</p> <p>[xx] represents the input port, the value 00-02, 00 represents all input ports, 01-02 separately represents input 1-2;</p> <p>[yy] represents the built-in EDID number, the value is 01-12, 01-08 represents the built-in EDID that cannot be customized, and 09-12 represents the customized EDID</p>	Input 02 EDID Upgrade OK By 01 Internal EDID!

Command	Description	Command & Feedback Example
<b>EDIDM[x]B[y]</b>	<p>The input port learns the EDID of the output port.</p> <p>[X] represents the output port number, [X] takes the value 1-2 (or 01-02 Note: 01-02 must be used in conjunction with 00-02 below), 1-2 represents output 1-2.1 represents output 1, 2 represents Output 2.</p> <p>[y] represents the input port, the value is 0-2 (00-02), 0 represents all input ports, and 1-2 separates represents input 1-2;</p>	Input 01 EDID Upgrade OK By 02 EXT EDID!
<b>Baudrate[XXX]</b>	Set control baud rate. [XXX] Support 115200, 57600, 38400, 19200, 9600	Set Local RS-232 Baudrate Is 9600!
<b>CEC[I/O][AA][BB][CC][DD]</b>	<p>I/O: means input or output port, AA, BB, CC, DD are all hexadecimal data;</p> <p>AA: indicates the port number, the input is 01-02, the output is 01-02, and FF means all;</p> <p>BB: Indicates the device type (TV: 40, 20, 80, disc player 04, 08, etc.);</p> <p>CC: indicates the CEC function category (for example, 44 indicates the remote control function)</p> <p>DD: indicates the specific data under the function (for example: 41, representing the volume plus), this can send combined data such as two or three groups, or not, up to 9 groups;</p>	<p>CEC Input 01 Send Success!</p> <p>CEC Output 01 Send Success!</p> <p>CEC Output 01 Send Success!</p>

## 7. System Connection

The following diagram illustrates typical input and output connections that can be utilized with the Distribution Amplifier:





## 8. Panel Drawing

