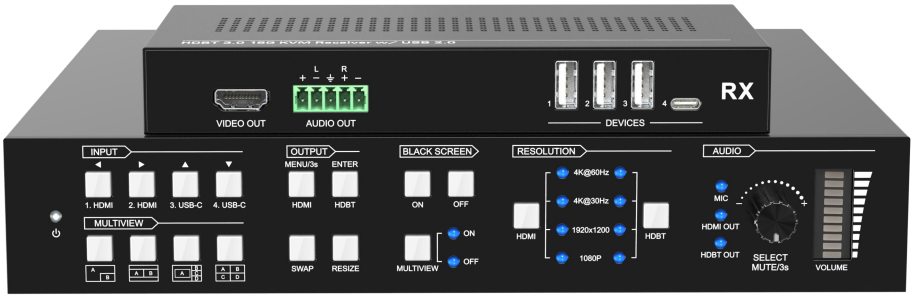
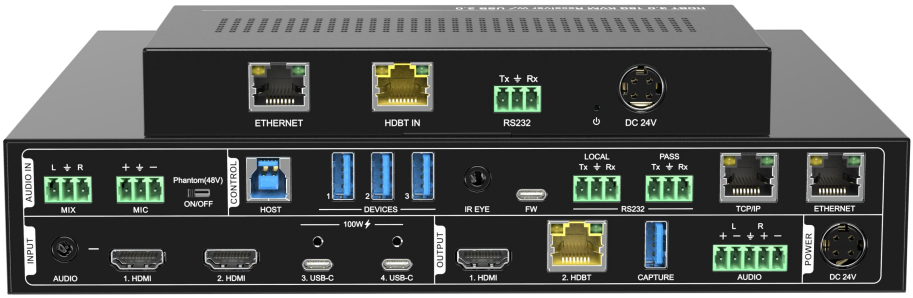
# User Manual

# MP-SC42M-KVM

## 4x2 Seamless KVM Switcher w/ Multiview and HDBT3.0






**Version: MP-SC42M-KVM_2025V1.1**

## 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 April, 2025. 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.

# Table of Contents

# 1. Product Introduction

Thank you for choosing MP-SC42M-KVM. This is an 18G seamless KVM switcher with Multiview and HDBT. It supports up to 4K@60Hz and HDCP2.2. The 4K signal can transmit up to 100m. It can be controlled via IR, Web-GUI and RS-232. It can also be controlled by pressing buttons on the front panel of transmitter. And it provides multiple LEDs and button backlight to see the current status.

## 1.1 Features

- Support HDMI 2.0b, 4K@60Hz and HDCP 2.2.
- Support USB-C external 100W charging.
- Support 4K@60Hz signal transmits up to 100m.
- Support 24V PoC to power receiver.
- Support audio embedding, de-embedding and USB capture.

## 1.2 Packing List

1 x Transmitter

1 x Power Adapter (DC 24V 6.5A)

1 x RS-232 Cable (3-pin to DB9)

1 x 5-pin Phoenix Block

1 x Remote Controller

1 x IR Receiver

2 x Transmitter Mounting Ears & 4 x Screws

3 x 3-pin Phoenix Block

4 x Transmitter Rubbery Feet

1 x Receiver

1 x 3-pin Phoenix Block

1 x 5-pin Phoenix Block

2 x Receiver Mounting Ears & 2 x Screws

4 x Receiver Rubbery Feet

1 x User Manual

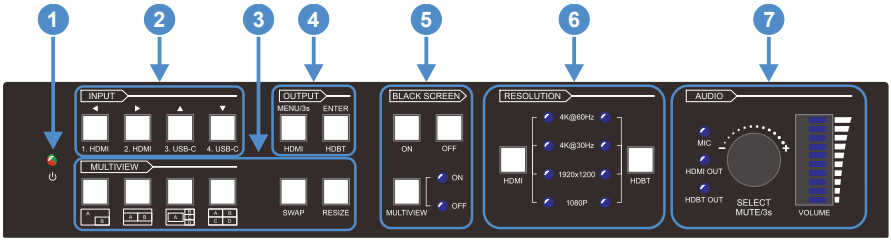
# 2. Specification

| | Transmitter | Receiver |
|---|---|---|
| **Video** | | |
| Video Input | 2 x HDMI IN<br>2 x USB-C IN | 1 x HDBT IN |
| Video Input Port | 2 x HDMI Type-A female 2.0b<br>2 x USB-C | 1 x RJ45 |
| Input Resolution | Up to 4K@60Hz | |
| Video Output | 1 x HDMI OUT<br>1 x HDBT OUT | 1 x HDMI OUT |
| Video Output Port | 1 x HDMI Type-A female 2.0b<br>1 x RJ45 | 1 x HDMI Type-A female 2.0b |
| Output Resolution | Up to 4K@60Hz | |
| HDCP Version | Up to HDCP 2.2 | |
| **Audio in** | | |
| Input Port | 2 x 3-pin phoenix block, MIX for mixed audio input, MIC for microphone input. | |
| Frequency Response | 20Hz to 20KHz, ±1dB | |
| Max Output Level | MIX: 2.0Vrms ± 0.1<br>MIC: 20mVrms ± 0.1 | |
| L-R level deviation | < 0.3 dB, 1 kHz sine at 0 dBFS level (or max level before clipping) | |
| Input Impedance | > 10k ohm | |
| **Audio out** | | |
| Output Port | 1 x 5-pin phoenix block | |
| Frequency Response | 20Hz to 20KHz, ±1dB | |
| Max Output Level | 2.0Vrms ± 0.5 dB. 2 V = 16 dB headroom above -10 dBV (316 mV) nominal consumer line level signal | |
| THD+N | < 0.05% (-3 dB, 1 kHz sine) | |
| SNR | L/R OUT: > 80dB (1kHz sine A weighted) | |
| Stereo Channel Separation | L/R OUT: < -80dB @ 1 kHz | |
| HDMI Embedded Audio Format | PCM 2.0 | |
| **Control** | | |
| Control Type | 1 x HOST<br>3 x DEVICES<br>1 x FW<br>2 x RS-232<br>1 x IR EYE<br>1 x TCP/IP<br>1 x ETHERNET | 4 x DEVICES<br>1 x ETHERNET<br>1 x RS-232 |

| | | |
|---|---|---|
| Control Port | 1 x USB-B<br>3 x USB-A<br>1 x USB-C<br>2 x 3-pin phoenix block<br>1 x 3.5mm mini jack<br>2 x RJ45 | <br>3 x USB-A<br>1 x USB-C<br>1 x RJ45<br>1 x 3-pin phoenix block |
| **General** | | |
| Operation Temperature | -5 ~ +55℃ | |
| Relative Humidity | 10% ~ 90% | |
| External Power Supply | DC 24V 6.5A | DC 24V 1.25A |
| Full Load Power Consumption | 42W | |
| USB-C Power Charging | PD 100W(Max), PD charging on '3. USB-C' port by default | |
| Dimension (W*H*D) | 250 x 44 x 226 mm | 173 x 24.5 x 95 mm |
| Net Weight | 1765g | 395g |

# 3. Panel Description

## 3.1 Transmitter

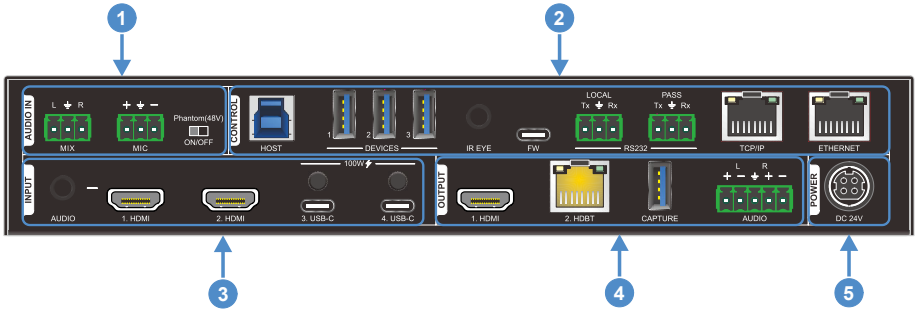



### 3.1.1 Front Panel

| No. | Name | Description |
|---|---|---|
| ① | **POWER LED** | ● **Indicator:** 1 x two-color light<br>1) Lights up green when working.<br>2) Lights up red when in standby mode.<br>3) Turns off when power is off. |
| ② | **INPUT** | ● **1. HDMI:** 1 x white button, select [1. HDMI] port as the video source.<br>● **2. HDMI:** 1 x white button, select [2. HDMI] port as the video source.<br>● **3. USB-C:** 1 x white button, select [3. USB-C] port as the video source.<br>● **4.USB-C:** 1 x white button, select [4. USB-C] port as the video source.<br>Press the button will light up the blue backlight to show the status. These four buttons in the OSD represent left, right, up and down respectively. |
| ③ | **MULTIVIEW/ SWAP/ RESIZE** | ● **MULTIVIEW:** 4 x white buttons, choose multi-view mode.<br>● **SWAP:** 1 x white button, swap windows position<br>● **RESIZE:** 1 x white button, zoom the windows<br>Press the button will light up the blue backlight to show the status. |
| ④ | **OUTPUT** | ● **HDMI:** 1 x white button,<br>1) Output via HDMI. |

| | | |
|---|---|---|
| | | 2) Press and hold it for 3s to enter OSD.<br>● **HDBT:** 1 x white button,<br>1) Output via HDBT<br>2) To enter or confirm an item on OSD |
| ⑤ | **BLACK SCREEN** | ● **ON:** 1 x white button, turn off the display.<br>● **OFF:** 1 x white button, turn on the display.<br>● **MULTIVIEW:** 2 x blue LEDs,<br>1) ON: illuminated when the device enters Multiview mode. Default mode is 4th mode (2x2).<br>2) OFF: illuminated when the device exits Multiview mode, and returns to the previous status.<br>Press the button will light up the blue backlight to show the status. |
| ⑥ | **RESOLUTION** | ● **HDMI:** 1 x white button and 4 x blue LEDs, switch HDMI source resolution<br>● **HDBT:** 1 x white button and 4 x blue LEDs, switch HDBT source resolution<br>When the target resolution is selected, the corresponding blue LEDs will light up. |
| ⑦ | **AUDIO** | ● **MIC, HDMI OUT and HDBT OUT:** 3 x blue LEDs<br>● **SELECT, MUTE/3s:** Rotary button,<br>1) Short press to switch to MIC/HDMI OUT/HDBT OUT channel, and the corresponding LED lights up.<br>2) Press and hold for three seconds to mute the current channel.<br>3) Counter-clockwise rotation to decrease the volume, clockwise rotation to increase the volume.<br>***Note:*** *When adjusting the volume of HDMI source and HDBT source, switch the audio source of TX 5-pin Phoenix output to HDMI Out/HDBT Out via rotary button.*<br>● **VOLUME:** Blue bar LEDs. Display the current volume of the corresponding channel |

### 3.1.2 Rear Panel




| No. | Name | Description |
|---|---|---|
| ① | **AUDIO IN** | ● **MIX:** 1 x 3-pin phoenix block, input mix audio.<br>● **MIC:** 1 x 3-pin phoenix block, input microphone audio.<br>● **Phantom switch:** 1 x DIP switch, turn ON/ OFF the 48V Phantom power supply for [MIC]. 48V is specifically for condenser microphone. |
| ② | **CONTROL** | ● **HOST:** 1 x USB-B, connect the host device.<br>● **DEVICES:** 3 x USB-A, connect keyboard, mouse, microphone, printer, camera and other equipment.<br>● **IR EYE:** 1 x 3.5mm jack, connect the IR receiver to control transmitter.<br>● **FW:** 1 x USB-C, upgrade the firmware.<br>● **RS232:** 2 x 3-pin phoenix block,<br>1) LOCAL used to control transmitter and update MCU.<br>2) PASS used to RS-232 pass-through.<br>● **TCP/IP:** 1 x RJ45, through GUI to control transmitter.<br>● **ETHERNET:** 1 x RJ45, 1000Mbps, network pass-through. |
| ③ | **INPUT** | ● **AUDIO:** 1 x 3.5mm jack, for audio input.<br>● **HDMI:** 2 x HDMI 2.0b, [1. HDMI] and [2. HDMI]. For video input.<br>● **USB-C:** 2 x USB-C, [3. USB-C] and [4. USB-C]. For video input and powering the source device.<br>***Note:*** *Only [3. USB-C] provides power by default. Change power mode through GUI or RS-232 commands.* |

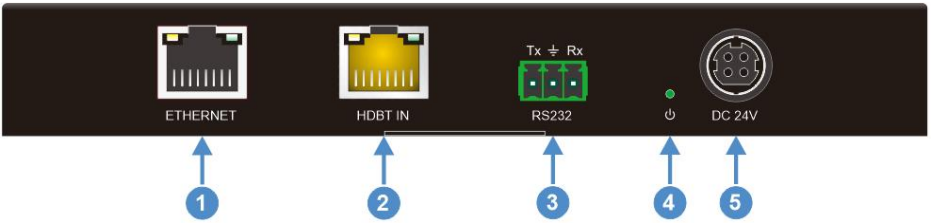
| | | |
|---|---|---|
| ④ | **OUTPUT** | ● **1. HDMI:** 1 x HDMI 2.0b, output signal.<br>● **2. HDBT:** 1 x RJ45, connect to the receiver.<br>***Note:*** *The yellow LED is on when the signal with HDCP is transmitted. The yellow LED is flashing when the signal without HDCP is transmitted. The green LED is on when TX and RX are connected.*<br>● **CAPTURE:** 1 x USB-A, connect to the PC. The device will capture the video of the [1. HDMI] output, and send it to the PC via this port.<br>● **AUDIO:** 1 x 5-pin phoenix block. Default HDMI output is de-embedded. Or switch to HDBT de-embedded output via command. |
| ⑤ | **POWER** | 1 x 4-pin aviation power connector, DC 24V 6.5A power supply. |

## 3.2 Receiver

### 3.2.1 Front Panel


| No. | Name | Description |
|---|---|---|
| ① | **VIDEO OUT** | 1 x HDMI 2.0b, for video output. |
| ② | **AUDIO OUT** | 1 x 5-pin phoenix block, for audio output, two channels. |
| ③ | **DEVICES** | 3 x USB-A, 1 x USB-C, connect keyboard, mouse, microphone, printer, camera and other equipment. |

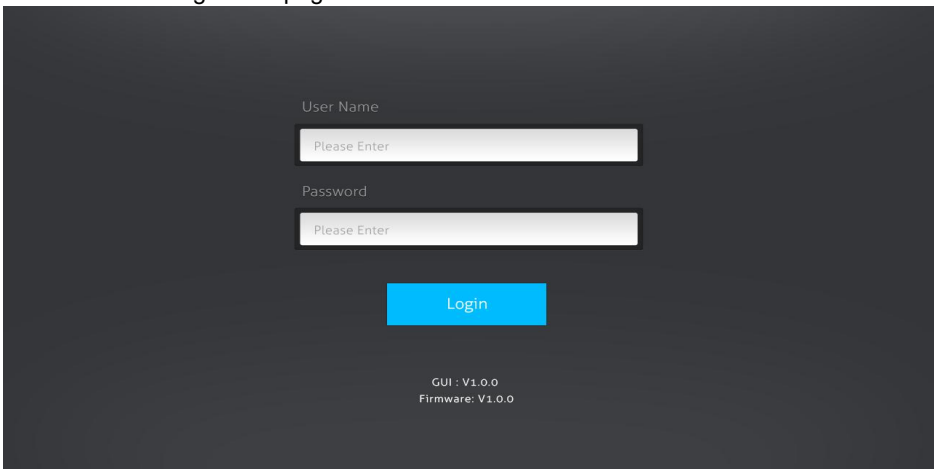
### 3.2.2 Rear Panel



| No. | Name | Description |
|---|---|---|
| ① | **ETHERNET** | 1 x RJ45, network pass-through transmission. |
| ② | **HDBT IN** | 1 x RJ45, connect to the transmitter.<br>***Note:*** *The yellow LED illuminates when the video contains HDCP content. And it flashes when there is no HDCP content. The green LED illuminates when TX and RX are properly connected.* |
| ③ | **RS232** | 1 x 3-pin phoenix block, RS-232 passthrough transmission. |
| ④ | **POWER LED** | 1 x green LED, illuminate on when device is working. |
| ⑤ | **DC 24V** | Connect to DC 24V 1.25A power adapter. |

# 4. GUI Control

The MP-SC42M-KVM can be controlled via TCP/IP.
Type the IP address of the MP-SC42M-KVM in the internet browser of your PC, and it will enter below log-in webpage.




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

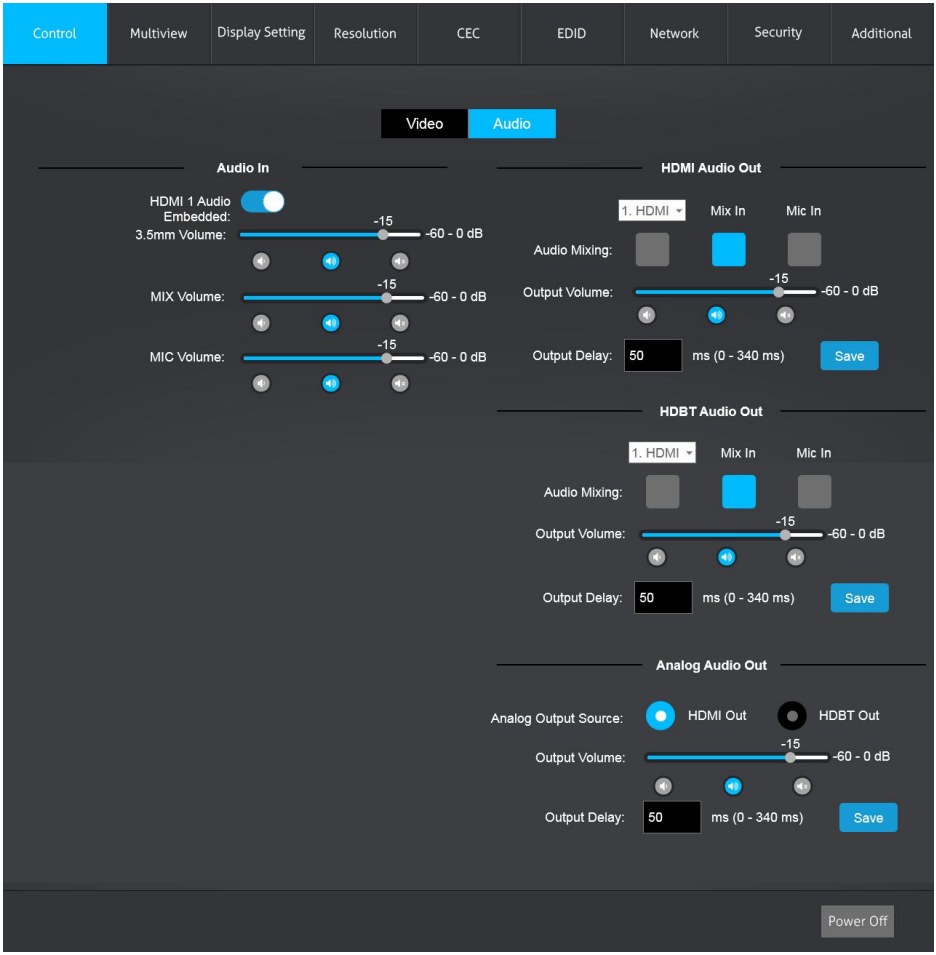
**Username: admin**
**Password: admin**

## 4.1 Control


### 4.1.1 Video

- Choose the input and output channel.
- After choosing multi-view layout, adjust the output layout in the display.

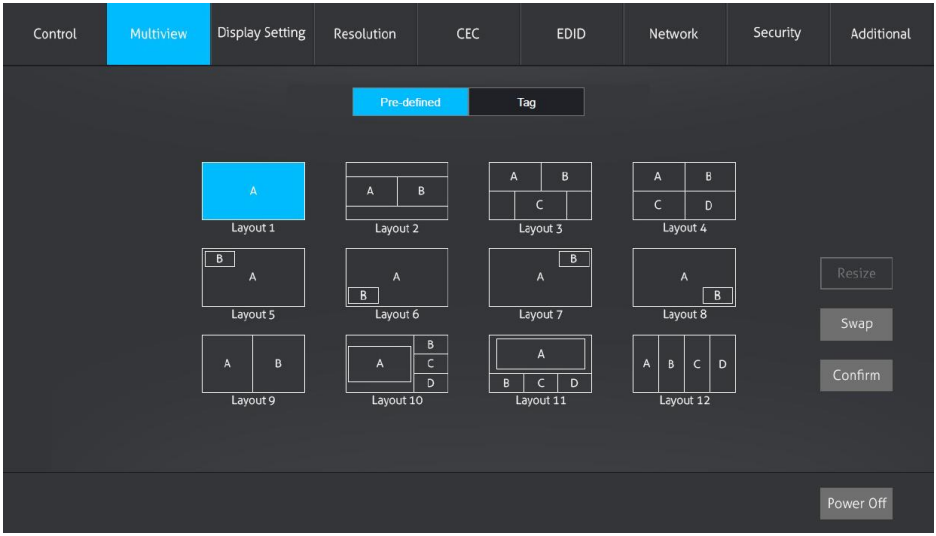
### 4.1.2 Audio




- Adjust input audio volume, output audio volume and others.

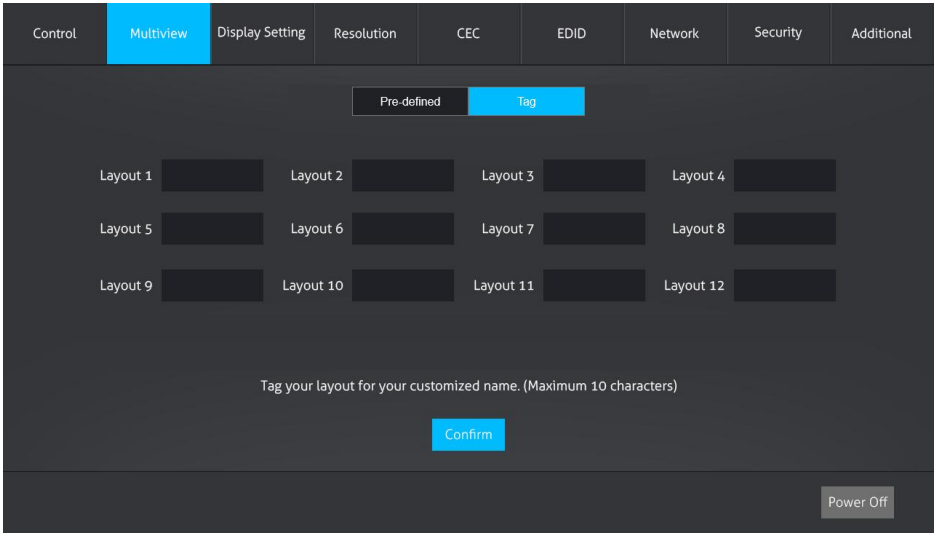
## 4.2 Multiview

### 4.2.1 Pre-defined

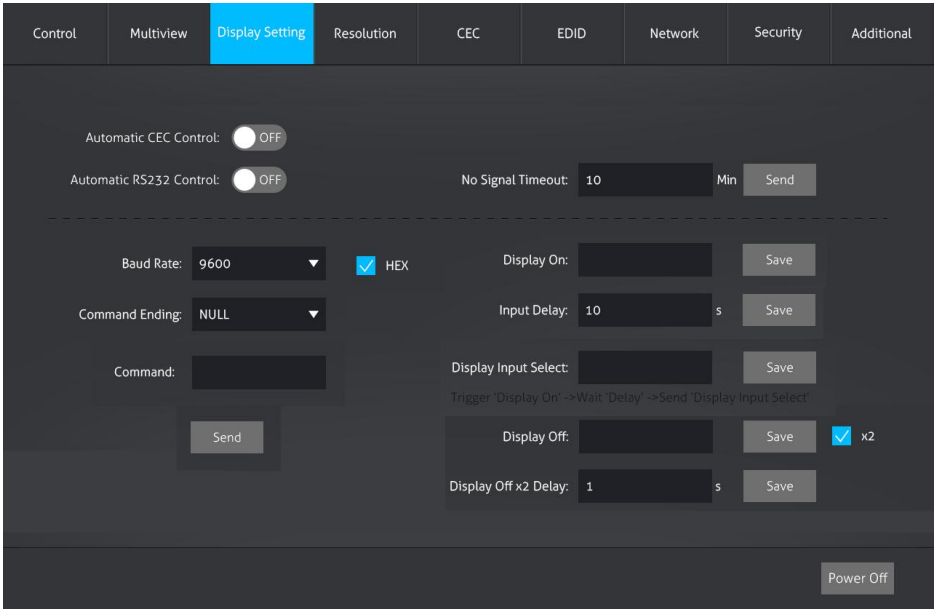



- Choose the multi-view layout.

### 4.2.2 Tag



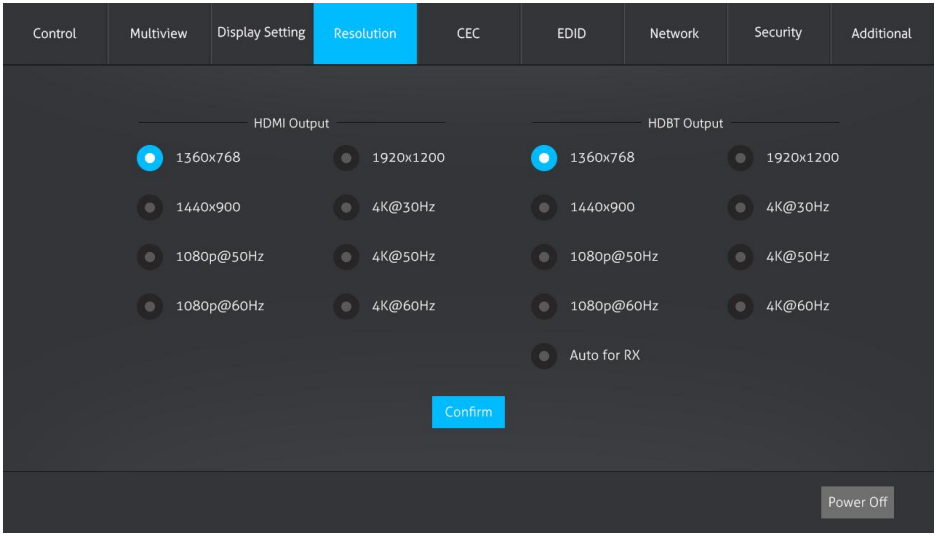

- Name the multi-view layout.




## 4.3 Display Setting

- Modify the display setting.

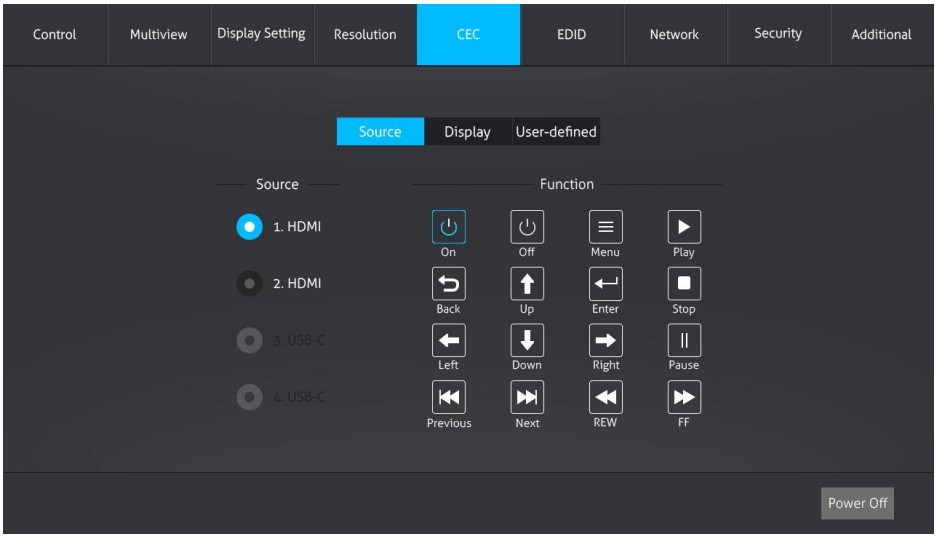
## 4.4 Resolution



- Select resolution for HDMI output and HDBT output.

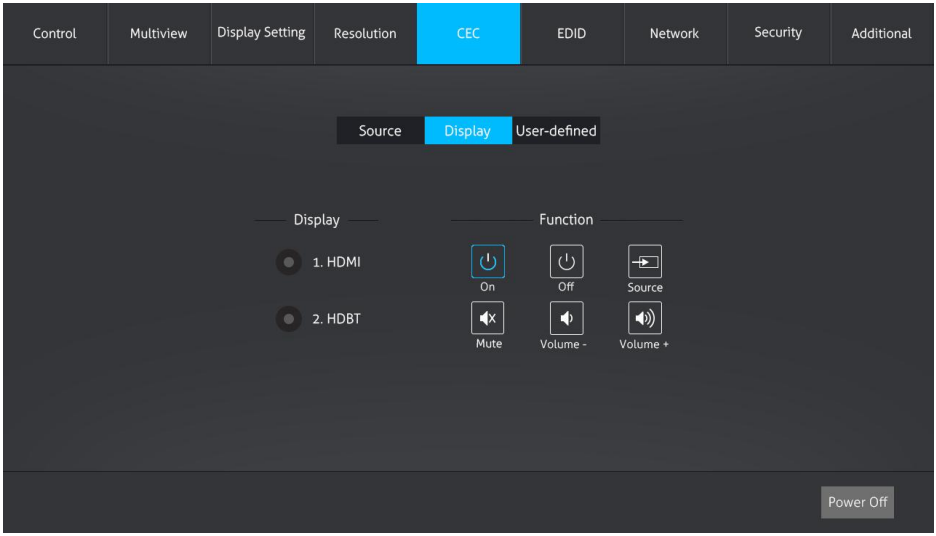
## 4.5 CEC

### 4.5.1 Source



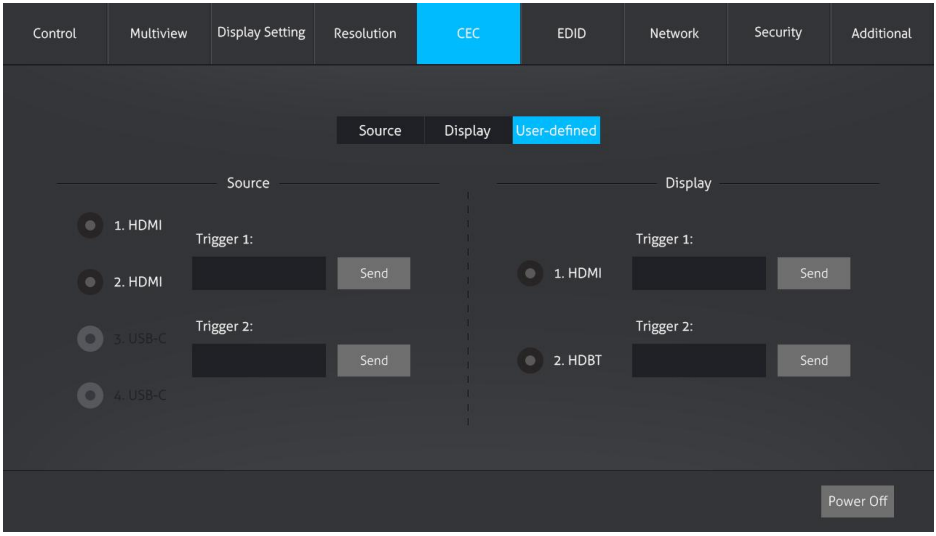

- Select and control the video source.

### 4.5.2 Display



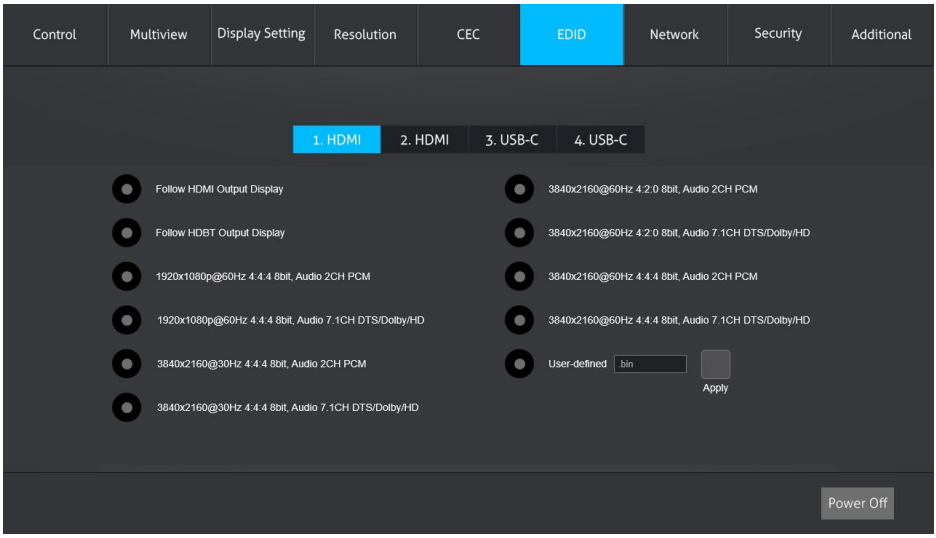
- Control the display.

### 4.5.3 User-defined




- Name the source and display.

## 4.6 EDID




- Users can flexibly adjust the output resolution with the following options: match the native output resolution of the display, select a preset optional resolution, or

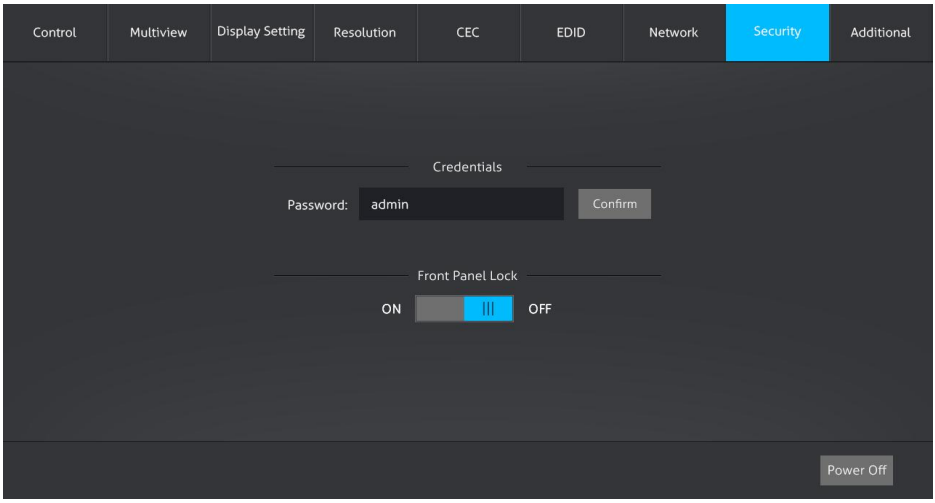
customize a personalized resolution.


## 4.7 Network

- DHCP: Automatically settings.
- Static IP: Requires manual settings, settings are shown below:

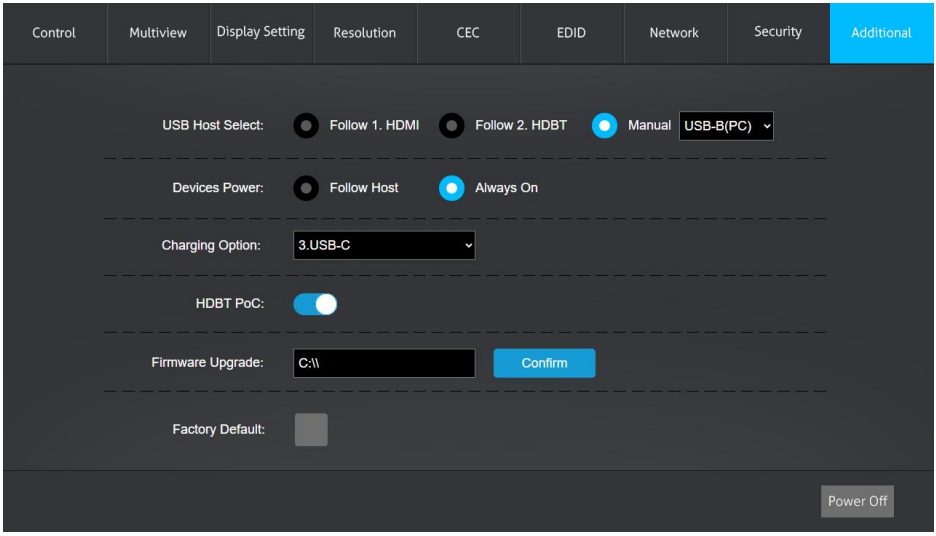
IP Address: 192.168.0.178
Subnet Mask: 255.255.255.0
Gateway: 192.168.0.1

## 4.8 Security




- Change password and lock the front panel to prevent accidental touch.

## 4.9 Additional




- **USB Host Select:** When selecting a USB host, users have three options: select 1. HDMI as host, select 2. HDBT as host and customize host.
- **Devices Power:** There are two options for powering USB devices: accurately turning on power when a host is detected or always providing stable power support to USB devices.
- **Charging Option:** 5 charging modes are available.

**1. [OFF]** represents the USB-C port is not powered.

**2. [Prior X. USB-C]** represents when both USB-C ports are connected, **X. USB-C** is given priority for power supply.

**3. [X. USB-C]** represents only **X. USB-C** port can power.

***Note:*** *X represents 3 or 4.*

- Powered via HDBT, firmware upgrade and using factory default settings.

# 5. RS-232 Control

## 5.1 RS-232 Control Software

- **Installation:** Copy the control software file to the control PC
- **Uninstallation:** Delete all the control software files in corresponding file path.

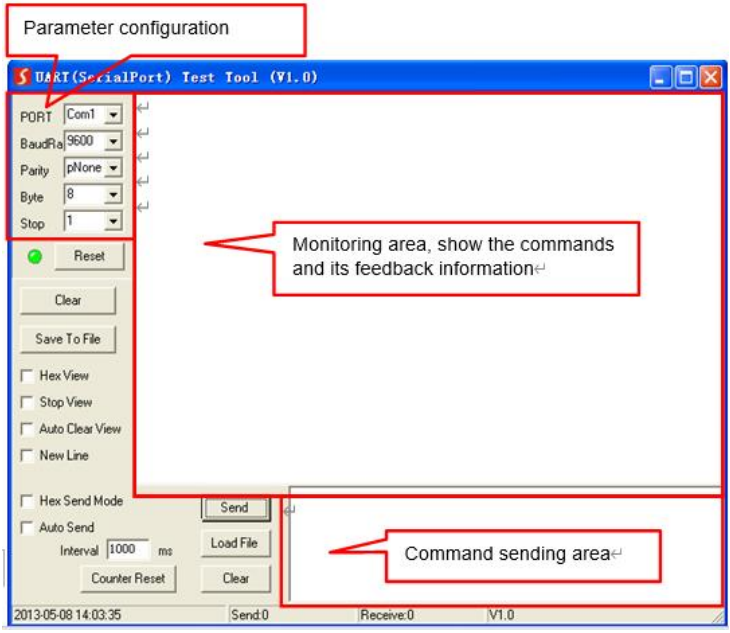
Basic Setting:

Connect the switcher kit with all input devices and output devices needed, then to connect it with a PC which is installed with RS-232 control software. Double-click the software icon to run this software.

Here takes the software **CommWatch.exe** as example:


The main view is shown as below:

Please set the parameters of COM number, bound rate, data bit, stop bit and the parity bit correctly, and then you are able to send command in command sending area.



## 5.2 RS-232 Command

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

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

### 5.2.1 System Control

| Command | Description | Example & Feedback |
|---|---|---|
| **PowerON.** | Turn on power | PowerON.<br>&<br>Power ON! |
| **PowerOFF.** | Turn off power | PowerOFF.<br>&<br>Power OFF! |
| **/*Name.** | Check the name | /*Name.<br>&<br>MP-SC42M-KVM |
| **/*Type.** | Check the model | /*Type.<br>&<br>4x2 Seamless KVM Switcher w/ Multiview and HDBT3.0 |
| **/^Version.** | Check software version | /^Version.<br>&<br>FW Version: V1.0.0a<br>GUI Version:V1.0.0a<br>CPLD Version: V1.0.1 |
| **RST.** | Restore Factory | RST.<br>&<br>Factory Default! |
| **Lock.** | Turn on front panel lock | Lock.<br>&<br>Front Panel Locked! |
| **Unlock.** | Turn off front panel lock | Unlock.<br>&<br>Front Panel UnLock! |
| **GetGuiIP.** | Check GUI IP | GetGuiIP.<br>&<br>GUI_IP:192.168.0.178! |
| **SetGuiIP_DHCPON.** | Set GUI dynamic DHCP | SetGuiIP_DHCPON.<br>&<br>GUI IP DHCP ON! |
| **SetGuiIP_DHCPOFF: xxx.xxx.xxx.xxx.** | Set GUI static DHCP + set IP | SetGuiIP_DHCPOFF:192.168.0.178.<br>&<br>GUI IP DHCP OFF!SetGuiIP:192.168.0.178! |
| **SetGui_Subnet:xxx. xxx.xxx.xxx.** | Set GUI subnet mask | SetGui_Subnet:255.255.255.0.<br>&<br>SetGui Subnet Mask:255.255.255.0! |
| **SetGui_Gateway:xxx .xxx.xxx.xxx.** | Set the GUI Gateway | SetGui_Gateway:192.168.0.1.<br>&<br>SetGui Gateway:192.168.0.1! |

| | | |
|---|---|---|
| **Baudratexxxxxx.** | Set the local serial port baud rate<br>Baud Rate:<br>115200/ 57600/ 38400/ 19200/ 9600/ 4800/ 2400 | Baudrate115200.<br>&<br>Set Local RS232 Baudrate Is 115200! |
| **CECAUTO:[xx].** | Turn on/off CEC automatic control power on/off (POWERON/OFF status)<br>[xx] takes values from 00 to 01, where 00 means off and 01 means on | CECAUTO:00.<br>&<br>Auto CEC Set To OFF! |
| **RS232RCMON/OFF.** | Turn on/off 232 remote local control, and turn the machine on and off (POWERON/OFF, send saved data to the remote RS232 | RS232RCMON.<br>&<br>RS232 Remote 01 Control MCU ON! |
| **PHDBT[xx]:ON.** | HDBT power supply is on, [xx] takes the value 01, 01 represents HDBT01 port | PHDBT01:ON.<br>&<br>HDBT 01 Power ON! |
| **PHDBT[xx]:OFF.** | HDBT power supply is off, [xx] takes the value 01, 01 represents HDBT01 port | PHDBT01:OFF.<br>&<br>HDBT 01 Power OFF! |
| **STA.** | Check status | STA.<br>&<br>GUI Or RS232 Query Status…… |
| **STA_POUT.** | Query the 5V status of the output port | STA_POUT.<br>&<br>Turn ON Output 01!<br>Turn ON Output 02! |
| **STA_PHDBT.** | Query the output HDBT power supply status | STA_PHDBT.<br>&<br>HDBT Power ON! |
| **STA_TEMP.** | Query the motherboard temperature | STA_TEMP.<br>&<br>The Board Temperature is 56 Dgrees Celcius! |
| **STA_IN.** | Query the 5V access status of the input port | STA_IN.<br>&<br>IN 01 02 03 04<br>LINK Y N Y Y<br>IN 01 02 03 04<br>TMDS Y N Y Y |
| **STA_OUT.** | Query the output connection HPD status | STA_OUT.<br>&<br>OUT 1 2<br>LINK Y Y |
| **STA_VIDEO.** | Query the input source of the output port | STA_VIDEO.<br>&<br>HDMI Out Resolution 1920x1080p60!<br>HDBT Out Resolution 1920x1080p60!<br>Output 01 Switch To 01!<br>Output 02 Switch To 01!<br>Output 03 Switch To 03!<br>Output 04 Switch To 04! |

| | | |
|---|---|---|
| **STA_HDCP.** | Query the current HDCP mode used by all output ports. | STA_HDCP.<br>&<br>OUT 01 HDCP MAT Display!<br>OUT 02 HDCP MAT Display! |
| **STA_USB.** | Query USB status | STA_USB.<br>&<br>USB Host Switching Mode is User Mode!<br>USB Host Sellect USB-B!<br>USB Device Power Mode is Follow Host Mode! |
| **PresetSta[xx].** | Scene query, [xx] represents the scene number, the value is 01-09, the same applies below. | PresetSta01.<br>&<br>Preset 01 Sta:<br>Out 01 In 01!<br>Out 02 In 01!<br>Out 03 In 01!<br>Out 04 In 01! |
| **PresetSave[xx].** | Scene Saving | PresetSave01.<br>&<br>Preset 01 Save Success!<br>Preset 01 Sta:<br>Out 01 In 01!<br>Out 02 In 01!<br>Out 03 In 01!<br>Out 04 In 01! |
| **PresetRecall[xx].** | Scene call | PresetRecall02.<br>&<br>Preset 02 Recall:<br>Output 01 Switch To In 02!<br>Output 02 Switch To In 02!<br>Output 03 Switch To In 02!<br>Output 04 Switch To In 02! |
| **@OUT[xx].** | Turn on the HDMI 5V output port. [xx] takes values from 00 to 02, 00 represents all outputs, 01 to 02 represents outputs 1 to 2 | @OUT00.<br>&<br>Turn ON Output 01!<br>Turn ON Output 02! |
| **$OUT[xx].** | Turn off the HDMI 5V output port. [xx] takes values 00-02, 00 represents all outputs, 01-02 represents outputs 1-2 | $OUT00.<br>&<br>Turn OFF Output 01!<br>Turn OFF Output 02! |
| **TVON.** | TV CEC turn on | TVON.<br>&<br>CEC_TV_POWON! |
| **TVOFF.** | TV CEC turn off | TVOFF.<br>&<br>CEC_TV_POWOFF! |
| **TVVOL+.** | TV CEC volume increase | TVVOL+.<br>&<br>CEC_TV_VOLUP! |
| **TVVOL-.** | TV CEC volume decrease | TVVOL-.<br>&<br>CEC_TV_VOLDOWN! |

| | | |
|---|---|---|
| **TVMUTE.** | TV CEC mute | TVMUTE.<br>&<br>CEC_TV_VOLMUTE/UNMUTE! |
| **CEC[I/O][AA][BB][CC][DD].** | I/O: The capital letter I/O indicates the input or output port, AA, BB, CC, DD are all hexadecimal data;<br>AA: indicates the port number. Input is 01-02, output is 01-02, FF indicates all;<br>BB: indicates the device type (TV: 40, 20, 80, disc player 04, 04, etc.);<br>CC: indicates the CEC function category (for example, 44 indicates the remote control function)<br>DD: indicates the specific data under the function (for example: 41, represents the volume increase of the remote control code). This can send combined data such as two or three groups, or not send according to the instruction requirements, up to 9 groups; | CECI0204444A.(Disc player out of the warehouse)<br>CECO024004.(TV on)<br>CECO024036.(TV standby)<br>&<br>CEC Input 02 Send Success!<br>CEC Output 02 Send Success!<br>CEC Output 02 Send Success! |
| **AUTOSTANDBYON.** | System automatic standby start | AUTOSTANDBYON.<br>&<br>Set Standby Mode ON! |
| **AUTOSTANDBYOFF.** | System automatic standby shutdown | AUTOSTANDBYOFF.<br>&<br>Set Standby Mode OFF! |
| **AUTOSTANDBYDLY:[xx].** | Set the system standby delay time when no input is detected, in minutes, [xx] ranges from 1 to 200. The default is 10 minutes. | AUTOSTANDBYDLY:10.<br>&<br>Set Standby Mode Delay To 10 mins! |
| **USBCCHARGEMODE:[xx].** | Set the USB-C charging mode, [xx] value 00-04<br>00: Charging all off<br>01: Charging priority USB-C3<br>02: Charging priority USB-C4<br>03: Charging only USB-C3<br>04: Charging only USB-C4 | USBCCHARGEMODE:00.<br>&<br>USB-C Charge Mode is All OFF! |
| **SETCOLORSPACE:[xx],[yy].** | Set the video signal color space,<br>[xx] takes values from 00-01, 00 represents HDMI, 01 represents HDBT<br>[yy] takes values from 00-03<br>00: YUV420 01: YUV422<br>02: YUV444 03: RGB | SETCOLORSPACE:00,00.<br>&<br>HDMI Video Color Space Mode is YUV420! |
| **SETCOLORDEPTH:[xx],[yy].** | Set the video signal color depth,<br>[xx] value is 00-01, 00 represents HDMI, 01 represents HDBT<br>[yy] value is 00-02<br>00: 8bit<br>01: 10bit<br>02: 12bit | SETCOLORDEPTH:00,00.<br>&<br>HDMI Video Color Depth Mode is 8bit! |
| **3.5MMEMBEDHDMION/OFF.** | Set 3.5mm audio input embedded HDMIIN 1 mode<br>ON: 3.5mm embedded HDMI | 3.5MMEMBEDHDMION.<br>&<br>3.5mm Audio Embeded HDMI |

| | | |
|---|---|---|
| | OFF: 3.5mm not embedded HDMI | Mode:ON!<br>Mixer of HDMI Audio Mix<br>0111(HDMI,3.5mm,MIC,LINE)!<br>Mixer of HDBT Audio Mix<br>0111(HDMI,3.5mm,MIC,LINE)!<br>Mixer of Analog Audio Mix<br>0111(HDMI,3.5mm,MIC,LINE)! |

### 5.2.2 Source Control

| Command | Description | Command & Feedback Example |
|---|---|---|
| **/+[x]/[yy]/[mm]:[zzz].** | Send data to the remote end<br>[x] represents 1--2400; 2--4800; 3--9600; 4--19200; 5--38400; 6--57600; 7--115200;<br>[yy]: 00 represents local, 01 represents HDBT output port<br>[mm]: takes values of a and h, where a represents ASCII and h represents HEX format<br>[zzz]: represents the data sent Maximum 48 bits | /+3/00/a:[zzz]<br>&<br>XXX |
| **RS232ON**<br>**[a]:[b]:[c]:[zzz].** | The first time entering the POWON state, data is automatically sent to the remote end<br>[a] indicates which group of data is saved, with values of 01-02, 1 represents the data of Display On, and 2 represents the data of Display Input Select<br>[b] represents the format of the saved data, with values of a and h, a represents the ASCII format, and h represents the HEX format<br>[c] represents 1--2400; 2--4800; 3--9600; 4--19200; 5--38400; 6--57600; 7--115200;<br>zzz represents the data to be saved, with a maximum of 48 bits | RS232ON 01:a:3:123456.<br>&<br>When the remote end is in POWERON state, send: 123456, local end: Remote Display On Data Save Success! |
| **RS232OFF**<br>**[a]:[b]:[zzz].** | The first time entering the POWOFF state, data is automatically sent to the remote end.<br>[a] represents the format of the saved data, with values of a and h. a represents the ASCII format and h represents the HEX format.<br>[b] represents 1--2400; 2--4800; 3--9600; 4--19200; 5--38400; 6--57600; 7--115200;<br>[zzz] represents the data to be saved, with a maximum of 48 bits | RS232OFF a:3:123456.<br>&<br>When the remote end is in POWEROFF state, send: 123456, local end: Remote Display Off Data Save Success! |

| | | |
|---|---|---|
| **RS232INPUTDLY[x].** | When entering the POWON state for the first time, data is automatically sent to the remote end. The interval between the Display On data and the Display Input Select data<br>[xx] ranges from 01 to 180s | RS232INPUTDLY01.<br>&<br>Remote Input Delay 1s Save Success! |
| **RS232RPTDLY[x].** | The first time the POWOFF state is entered, data is automatically sent to the remote end. The interval for repeating the Display Off data transmission<br>[xx] ranges from 01 to 10s | RS232RPTDLY01.<br>&<br>Remote Display Off x2 Delay 1s Save Success! |
| **RS232RPT[x].** | Setting the number of repetitions of data automatically sent when entering POWEROFF state<br>[x] takes a value of 01-02, indicating the number of repetitions | RS232RPT01.<br>&<br>Remote Display Off Send Single OK! |
| **OUT[xx]:[YY].** | OUT selects the input source.<br>[xx] takes values from 00 to 04,<br>00 means all outputs, 01 means output 1, 02 means output 2, 03 means output 3, 04 means output 4.<br>[YY] takes values from 01 to 04,<br>01 means input 1, 02 means input 2, 03 means input 3, 04 means input 4. | OUT01:01.<br>&<br>Output 01 Switch To In 01! |
| **MV[xx]SIZE[yy].** | MultiView layout function settings,<br>[xx] takes values 01-12, representing 12 layouts<br>[yy] takes values 00-05, different layouts have different adjustable sizes, when yy has no parameters, the size remains unchanged<br>When xx is 1, 3, 4, 12, yy has only one fixed size 0<br>When xx is 2, 5, 6, 7, 8, yy has five adjustable sizes 0-4<br>When xx is 9, yy has two adjustable sizes 0-1<br>When xx is 10, 11, yy has six adjustable sizes 0-5 | MV04SIZE00.<br>&<br>MultiView Layout Mode 04 Size 00! |
| **MV[xx]ON/OFF.** | MultiView switch function setting, [xx] value HDMI HDBT, represents 2 output ports | MVHDMION.<br>&<br>HDMI Out MultiView ON! |
| **MVRESIZE.** | MultiView sets the size of the current layout. If MultiView is off, the command is invalid. | MVRESIZE.<br>&<br>MultiView Layout Mode XX Size XX! |
| **MVSWAP.** | MultiView exchanges the signal source of the current small window. If MultiView is off, the command is invalid. | MVSWAP.<br>&<br>Output XX Switch To XX! |

| | | |
|---|---|---|
| **[xx]BLACKON/OFF.** | Black screen function setting<br>[xx] value HDMI HDBT, represents 2 output ports | HDMIBLACKON.<br>&<br>HDMI Out Black ON! |
| **[xx]RES[YY].** | Resolution setting<br>[xx] value is HDMI HDBT, representing 2 output ports<br>[yy] value is 0-199, representing 200 resolutions | HDMIRES73.<br>&<br>HDMI Out Resolution 1920x1080p60! |
| **USBPMODE:[xx].** | TX USB Device external power supply mode setting<br>[xx] value 00-01<br>00: means always on<br>01: means follow HOST | USBPMODE:00.<br>&<br>USB Device Power Mode is Always ON Mode! |
| **USBSWMODE:[xx].** | USB HOST switch mode setting<br>[xx] value 00-02<br>00: manual switch<br>01: follow HDMI OUT video switch<br>02: follow HDBT OUT video switch | USBSWMODE:00.<br>&<br>USB Host Switching Mode is User Mode! |
| **USBSEL:[xx].** | USB HOST switch selection, HOST switch mode needs to be set to manual switch mode<br>Default manual switch mode, default switch to USB-B<br>[xx] value 01-03<br>01: Indicates HOST selects USB-B<br>02: Indicates HOST selects USBC-01<br>03: Indicates HOST selects USBC-02 | USBSEL:01.<br>&<br>USB Host Select: USB-B! |
| **HDMIOUTMIX:[xxxx].** | [xxxx] takes values from 0000 to 1111, 1 represents mixed, 0 represents unmixed, the order is (HDMI, 3.5MM, MIC, LINE) | HDMIOUTMIX:1011.<br>&<br>Mixer of HDMI Audio Mix 1011(HDMI,3.5mm,MIC,LINE)! |
| **HDBTOUTMIX:[xxxx].** | [xxxx] takes values from 0000 to 1111, 1 represents mixed, 0 represents unmixed, the order is (HDMI, 3.5MM, MIC, LINE) | HDBTOUTMIX:1011.<br>&<br>Mixer of HDBT Audio Mix 1011(HDMI,3.5mm,MIC,LINE)! |
| **ANALOGOUTMIX:[xxxx].** | [xxxx] takes values from 0000 to 1111, 1 represents mixed, 0 represents unmixed, the order is (HDMI, 3.5MM, MIC, LINE) | ANALOGOUTMIX:1011.<br>&<br>Mixer of Analog Audio Mix 1011(HDMI,3.5mm,MIC,LINE)! |
| **AUDIOMODE:[xx].** | Set the audio output to follow the input mode. [xx] takes values from 00 to 01. 00 means not to follow, and 01 means to follow. | AUDIOMODE:01.<br>&<br>HDMI In Audio Mode is Follow Mode! |
| **HDMIOUTHDMI:[xx].** | [xx] takes a value of 01-04, and sets the HDMI source of the HDMI Out mix to HDMI1-4 | HDMIOUTHDMI:01<br>&<br>Mixer of HDMI SRC Switch to HDMI In 04! |
| **HDBTOUTHDMI:[xx].** | [xx] Value 01-04, set the HDMI source of HDBT Out mixing to HDMI1-4 | HDBTOUTHDMI:01.<br>&<br>Mixer of HDBT SRC Switch to HDMI In 01! |
| **ANALOGSELECT:[x** | Analog OUT HDMI source selection, [xx] value 00-01, 00 | ANALOGSELECT:00.<br>& |

| | | |
|---|---|---|
| **x].** | represents the same as HDMI, 01 represents the same as HDBT | Mixer of Analog SRC Switch to HDMI Follow HDMI Out! |

| | | |
|---|---|---|
| **HDMIOUTDELAY:[xx x].** | Set the HDMI output audio delay, [xxx] value range is 0-340, unit is ms. | HDMIOUTDELAY:0.<br>&<br>HDMI Out Delay 0 ms! |
| **HDBTOUTDELAY:[xx x].** | Set the HDBT output audio delay, [xxx] value range is 0-340, unit is ms. | HDBTOUTHDMI:01.<br>&<br>Mixer of HDBT SRC Switch to HDMI In 01! |
| **ANALOGOUTDELAY :[xxx].** | Set Analog output audio delay, [xxx] value range is 0-340, unit is ms. | ANALOGOUTDELAY:0.<br>&<br>Analog Out Delay 0 ms! |
| **HDMIOUTVOLUME:[ xx].** | [xx] value -60-0 Set HDMI OUT volume to xx | HDMIOUTVOLUME:-60.<br>&<br>Volume of HDMI Out -60 dB! |
| **HDMIOUTVOLUME[x x].** | [xx] Value:<br>+: represents volume increase<br>-: represents volume decrease<br>MUTE: represents mute<br>UMMUTE: represents unmute | HDMIOUTVOLUME+.<br>HDMIOUTVOLUME-.<br>HDMIOUTVOLUMEMUTE.<br>HDMIOUTVOLUMEUNMUTE.<br>&<br>Volume of HDMI Out XX dB!<br>Volume of HDMI Out XX dB!<br>Volume of HDMI Out Mute!<br>Volume of HDMI Out UnMute! |
| **HDBTOUTVOLUME:[ xx].** | [xx] value -60-0 Set the HDBT OUT volume to xx | HDBTOUTVOLUME:-60.<br>&<br>Volume of HDBT Out -60 dB! |
| **HDBTOUTVOLUME[ xx].** | [xx] Value:<br>+: represents volume increase<br>-: represents volume decrease<br>MUTE: represents mute<br>UNMUTE: represents unmute | HDBTOUTVOLUME+.<br>HDBTOUTVOLUME-.<br>HDBTOUTVOLUMEMUTE.<br>HDBTOUTVOLUMEUNMUTE.<br>&<br>Volume of HDBT Out XX dB!<br>Volume of HDBT Out XX dB!<br>Volume of HDBT Out Mute!<br>Volume of HDBT Out UnMute! |
| **ANALOGOUTVOLU ME:[xx].** | [xx] value -60-0 Set the ANALOG OUT volume to xx | ANALOGOUTVOLUME:-60.<br>&<br>Volume of Analog Out -60 dB! |
| **ANALOGOUTVOLU ME[xx].** | [xx] Value:<br>+: represents volume increase<br>-: represents volume decrease<br>MUTE: represents mute<br>UNMUTE: represents unmute | ANALOGOUTVOLUME+.<br>ANALOGOUTVOLUME-.<br>ANALOGOUTVOLUMEMUTE.<br>ANALOGOUTVOLUMEUNMUTE.<br>&<br>Volume of Analog Out XX dB!<br>Volume of Analog Out XX dB!<br>Volume of Analog Out Mute!<br>Volume of Analog Out UnMute! |
| **HDMIINVOLUME:[xx** | Set the volume of four HDMI inputs at the same time (LINE, MIC, | HDMIINVOLUME:-60.<br>& |

| | | |
|---|---|---|
| **].** | 3.5MM mixing are not set), [xx] takes the value -60-0. Set the HDMI IN volume to xx | Volume of HDMI In -60 dB! |
| **HDMIINVOLUME[xx].** | Set the volume of four HDMI inputs at the same time (LINE, MIC, 3.5MM mixing is not set), [xx] value:<br>+: represents volume increase<br>-: represents volume reduction<br>MUTE: represents mute<br>UNMUTE: represents unmute | HDMIINVOLUME+.<br>HDMIINVOLUME-.<br>HDMIINVOLUMEMUTE.<br>HDMIINVOLUMEUNMUTE.<br>&<br>Volume of HDMI In XX dB!<br>Volume of HDMI In XX dB!<br>Volume of HDMI In Mute!<br>Volume of HDMI In UnMute! |
| **HDBTINVOLUME:[xx].** | Set the volume of four HDMI inputs at the same time (LINE, MIC, 3.5MM mixing are not set) [xx] value -60-0 Set the HDBT IN volume to xx | HDBTINVOLUME:-60.<br>&<br>Volume of HDBT In -60 dB! |
| **HDBTINVOLUME[xx].** | Set the volume of four HDMI inputs at the same time (LINE, MIC, 3.5MM mixing is not set) [xx] Value:<br>+: represents volume increase<br>-: represents volume reduction<br>MUTE: represents mute<br>UNMUTE: represents unmute | HDBTINVOLUME+.<br>HDBTINVOLUME-.<br>HDBTINVOLUMEMUTE.<br>HDBTINVOLUMEUNMUTE.<br>&<br>Volume of HDBT In XX dB!<br>Volume of HDBT In XX dB!<br>Volume of HDBT In Mute!<br>Volume of HDBT In UnMute! |
| **3.5MMINVOLUME:[xx].** | [xx] value -60-0 Set HDMI OUT volume to xx | 3.5MMINVOLUME:-60.<br>&<br>Volume of 3.5mm In -60 dB! |
| **3.5MMINVOLUME[xx].** | [xx] Value:<br>+: represents volume increase<br>-: represents volume decrease<br>MUTE: represents mute<br>UNMUTE: represents unmute | 3.5MMINVOLUME+.<br>3.5MMINVOLUME-.<br>3.5MMINVOLUMEMUTE.<br>3.5MMINVOLUMEUNMUTE.<br>&<br>Volume of 3.5mm In XX dB!<br>Volume of 3.5mm In XX dB!<br>Volume of 3.5mm In Mute!<br>Volume of 3.5mm In UnMute! |
| **MICINVOLUME:[xx].** | [xx] value -60-0 Set HDMI OUT volume to xx | MICINVOLUME:-60.<br>&<br>Volume of MIC In -60 dB! |
| **MICINVOLUME[xx].** | [xx] Value:<br>+: represents volume increase<br>-: represents volume decrease<br>MUTE: represents mute<br>UNMUTE: represents unmute | MICINVOLUME+.<br>MICINVOLUME-.<br>MICINVOLUMEMUTE.<br>MICINVOLUMEUNMUTE.<br>&<br>Volume of MIC In XX dB!<br>Volume of MIC In XX dB!<br>Volume of MIC In Mute!<br>Volume of MIC In UnMute! |
| **LINEINVOLUME:[xx].** | [xx] value -60-0 Set HDMI OUT volume to xx | LINEINVOLUME:-60.<br>&<br>Volume of LINE iN -60 dB! |

| | | |
|---|---|---|
| **LINEINVOLUME[xx].** | [xx] Value:<br>+: represents volume increase<br>-: represents volume decrease<br>MUTE: represents mute<br>UNMUTE: represents unmute | LINEINVOLUME+.<br>MINEINVOLUME-.<br>LINEINVOLUMEMUTE.<br>LINEINVOLUMEUNMUTE.<br>&<br>Volume of LINE In XX dB!<br>Volume of LINE In XX dB!<br>Volume of LINE In Mute!<br>Volume of LINE In UnMute! |
| **HDCP[xx]ON.** | Force the output HDCP setting to HDCP1.4.<br>[xx] takes values from 00 to 02, 00 represents all outputs, and 01 to 02 represents outputs 1 to 2 | HDCP00ON.<br>&<br>OUT 01 HDCP ON! |
| **HDCP[xx]MAT.(default value)** | The output HDCP follows the display screen. If the input has HDCP, the output follows the display screen. If the input does not have HDCP, the output does not have HDCP.<br>[xx] takes values from 00 to 02, 00 means all outputs, and 01 to 02 means outputs 1 to 2 | HDCP01MAT.<br>&<br>OUT 01 HDCP MAT Display! |
| **HDCP[xx]BYP.** | The output HDCP follows the input. Input HDCP1.4, output HDCP1.4; input HDCP2.2, output HDCP2.2; input without HDCP, output without HDCP.<br>[xx] takes values 00-02, 00 means all outputs, 01-02 means outputs 1-2 | HDCP01BYP.<br>&<br>OUT 01 HDCP BYPASS! |
| **EDIDUpgrade[xx].** | Upgrade EDID data through serial port.<br>After receiving the command, the machine will prompt to send EDID file. The file format is .bin. (To ensure normal data reception, try to disconnect all HDBaseT before sending the command)<br>1.[xx] indicates input port, with values of 00-04 and U.<br>[xx]=00-04 indicates direct update of EDID serial port upload to the corresponding input port, 00 indicates operation on all input ports, 01-04 indicates input 01-04,<br>2.[xx]=U indicates serial port upload to custom built-in EDID (can be saved in the machine and called at any time). There is only one built-in custom EDID. This command will not change the port's EDID. You need to call the built-in EDID again after the upload is successful to update the port's EDID. | EDIDUpgrade01. EDIDUpgradeU.<br>&<br>Input XX/User Define EDID Upgrade OK By RS232 Or GUI! |

| | | |
|---|---|---|
| **EDIDMInit.** | Restore EDID of all input ports to default values | EDIDMInit.<br>&<br>All Input EDID Set Default! |
| **EDID/[xx]/[yy].** | Input port xx uses the built-in EDID numbered yy.<br>[xx] indicates the input port, with values ranging from 00-04, 00 indicating all input ports, and 01-04 indicating inputs 1-4 separately;<br>[yy] indicates the built-in EDID number, with values ranging from 01-09, 01-08 indicating fixed built-in EDID, and 09 indicating custom EDID | EDID/03/01.<br>&<br>Input 03 EDID Upgrade OK By 01 Internal EDID! |
| **EDIDGOUT[XX].** | Read the EDID of the HDMI output port and print it out. [XX] represents the output port number. [xx] ranges from 00 to 02, 00 represents all outputs, and 01 to 02 represents outputs 1 to 2. | EDIDGOUT01.<br>&<br>EDIDGOUT01+ Program…… |
| **EDIDM[xx]B[yy].** | The input port learns the EDID of the output port.<br>[xx] takes values from 00-02, 00 represents all outputs, 01-02 represents outputs 1-2<br>[yy] represents the input port, takes values from 00-04, 00 represents all input ports, 01-04 separately represents inputs 1-4; | EDIDM04B01.<br>&<br>Input 01 EDID Upgrade OK By 04 EXT EDID! |
| **EDIDSTA[xx].** | Query the status of the input port using EDID.<br>[xx] indicates the input port number, with a value of 00-04, 00 indicates all input ports, 01 indicates input port 1, 02 indicates input port 2, 03 indicates input port 3, and 04 indicates D input port 4.<br>Note: 1. The factory default EDID is used before the custom EDID is uploaded; | EDIDSTA00.<br>&<br>Input 01 EDID From 01 Internal EDID!<br>Input 02 EDID From 01 Internal EDID!<br>Input 03 EDID From 01 Internal EDID!<br>Input 04 EDID From 01 Internal EDID! |

# 6. Firmware Upgrade

## 6.1 Transmitter

### 6.1.1 Via GUI

In the GUI, click the **Additional**. Firmware Upgrade as shown below.


Click the **C:** to select the new version firmware file, and then click the **Confirm** to start upgrade. Waiting until the success feedback and then repower the transmitter.

### 6.1.2 Via RS-232 Port

Please follow the below steps to upgrade MCU firmware by the transmitter RS-232 local control port:

1. Connect the RS-232 port on the rear panel of the transmitter to the computer with a RS-232 cable, and power on the machine.
2. Turn on the **stm32_upgrade.exe** upgrade tool on the computer.
3. Select the correct serial port number and set the baud rate to 9600.
4. Click the **Connect** and reboot the transmitter.
5. The **Connect** turns green to indicate that it is connected, and turns to red to indicate that the connection is not successful.
6. Click the **OpenFile** to load the new version firmware file.
7. Click the **Upgrade** to start the upgrade.
8. After the flash is successful, it will display "Flash Success!" and the **Upgrade** will turn green.
9. Finally, restart the device and the firmware upgrade done.

## 6.2 Receiver

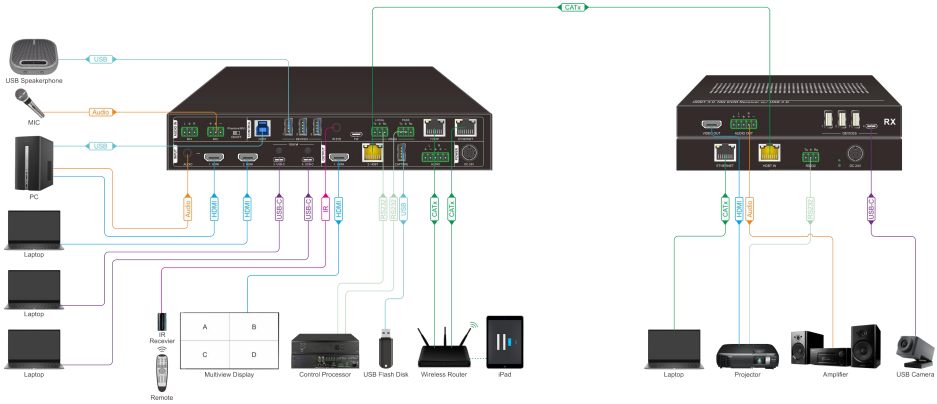
Please follow the below steps to upgrade receiver MCU firmware by **FW** port of the transmitter:

1. Connect USB-A to PC and USB-C to the **FW** port of transmitter.
2. Open the burning software **ValUE**.
3. Click **Add** to add receiver firmware and transmitter firmware.
4. Click **Execute** to burn the firmware.
5. After the burning is completed, click **Reset** and the firmware upgrade done.

# 7. System Connection

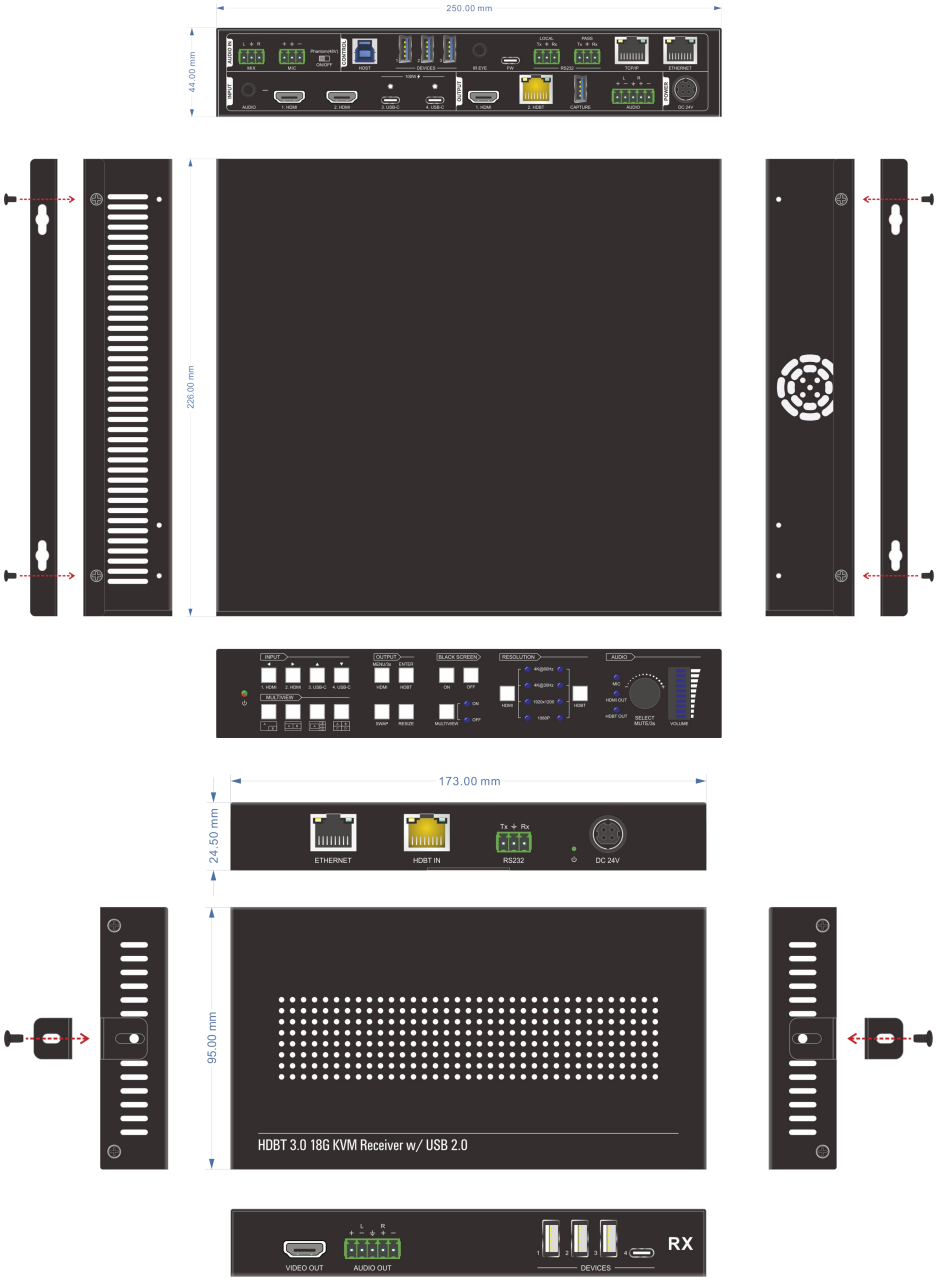
The following diagram illustrates typical input and output connections that can be utilized with the Distribution Amplifier:

## 7.1 System Diagram




## 7.2 Application Diagram

# 8. Panel Drawing



# 9. Customer Service

The return of a product to our Customer Service implies the full agreement of the terms and conditions hereinafter. There terms and conditions may be changed without prior notice.

**1) Warranty**

The limited warranty period of the product is fixed three years.

**2) Scope**

These terms and conditions of Customer Service apply to the customer service provided for the products or any other items sold by authorized distributor only.

**3) Warranty Exclusions:**

1) Warranty expiration.
2) Factory applied serial number has been altered or removed from the product.
3) Damage, deterioration or malfunction caused by:
   - Normal wear and tear.
   - Use of supplies or parts not meeting our specifications.
   - No certificate or invoice as the proof of warranty.
   - The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
   - Damage caused by force majeure.
   - Servicing not authorized by distributor.
   - Any other causes which do not relate to a product defect.

**4) Documentation:**

Customer Service will accept defective product(s) in the scope of warranty coverage at the sole condition that the defeat has been clearly defined, and upon reception of the documents or copy of invoice, indicating the date of purchase, the type of product, the serial number, and the name of distributor.

**Remarks**: For further assistance or solutions, please contact your local distributor.