

# User Manual

ALTIMIUM

## SCA61MV-4K

### 6x1 4K Presentation Switcher with HDBaseT



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Version: SCA61MV-4K\_2023V1.1

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## 1. Product Introduction

Thank you for selecting the 6x1 4k presentation switcher. The presentation switcher offers four HDMI, one display port and one USB-C inputs along with mirrored HDMI and HDBaseT outputs. The HDBaseT output supports PoC and can be paired with a compatible HDBaseT receiver to extend 4k@30Hz/1080P signal up to 40 meters (131ft) / 70 meters (230ft) all over a single CATx cable.

The switcher features external line audio input that can be embedded into any HDMI input, and provides microphone input for audio mixing. The presentation switcher provides multi-view functionality and supports up to 16 multi-mode layouts. The switcher features a wide range of control flexibility via front panel buttons, built-in web GUI, IR remote, RS232 and CEC.

### 1.1. Features

- 6x1 4K Presentation Switcher with HDBaseT output.
- Supports seamless and auto switching.
- HDMI 1.4 and HDCP 2.2 compliant.
- Extends HDMI signals to distance up to 40 meters at 4K and 70 meters at 1080p.
- Supports audio embedded, audio de-embedding and microphone audio mixing.
- Supports multi-view and up to 16 modes can be selected.
- Controllable via front panel buttons, GUI, IR remote, RS232 and CEC.

### 1.2. Package List

#### SCA61MV-4K (NR) Switcher

- 1x 6x1 4K Presentation Switcher
- 2x Mounting Ears with 4 Screws
- 4x Plastic Cushions
- 2x 3-pin Terminal Blocks
- 2x 5-pin Terminal Blocks
- 1x IR Remote
- 1x IR Receiver
- 1x IR Emitter
- 1x RS232 Cable (3-pin to DB9)
- 1x Power Adapter (24V DC 5A)
- 1x Power Cord
- 1x User Manual

#### TP412R-4K Receiver

- 1x HDBaseT Receiver
- 2x Mounting Ears with 4 Screws
- 4x Plastic Cushions
- 1x 3-pin Terminal Block

## 2. Specification

### 2.1. SCA61MV-4K Switcher

|                         |  |
|-------------------------|--|
| <b>Video Input</b>      |  |
| Video Input             | (4) HDMI IN (1~4), (1) DP, (1) USB-C                                     |
| Video Input Connector   | (4) Type-A female HDMI, (1) DisplayPort, (1) Type-C USB                  |
| Input Resolution        | HDMI: Up to 4K@30Hz 4:4:4  |
|                         | DP: Up to 4K@30Hz 4:4:4  |
|                         | USB-C: Up to 4K@30Hz 4:4:4   |
| <b>Video Output</b>     |  |
| Video Output            | (1) HDMI, (1) HDBaseT  |
| Video Output Connector  | (1) Type-A female HDMI, (1) RJ45   |
| Output Resolution       | HDMI: Up to 4K@30Hz 4:4:4  |
|                         | HDBaseT: Up to 4K@30Hz 4:4:4   |
| HDMI Standard           | Up to 1.4  |
| HDCP Version            | Up to 2.2  |
| <b>Audio Input</b>      |  |
| Audio Input             | (1) LINE, (1) MIC  |
| Audio Input Connector   | (2) 3-pin terminal blocks  |
| Frequency Response      | 20Hz ~ 20kHz, $\pm 3$ dB   |
| Max Input Level         | 2.0Vrms $\pm$ 0.1  |
| L-R Level Deviation     | < 0.3dB, 1kHz sine at 0dBFS level (or max level before clipping)         |
| Input Impedance         | > 10K $\Omega$   |
| LINE/MIC Audio Format   | PCM 2.0  |
| HDMI/DP Audio Format    | PCM 2.0 48K  |
| <b>L+R Audio Output</b> |  |
| Audio Output            | (1) L+R  |
| Audio Output Connector  | (1) 5-pin terminal block   |
| Frequency Response      | 20Hz ~ 20kHz, $\pm 1$ dB   |
| Max Output Level        | 2.0 $\pm$ 0.1Vrms  |
| THD+N                   | < 0.05%, 20Hz ~ 20kHz bandwidth, 1kHz sine at 0dBFS level (or max level) |
| SNR                     | > 80dB, 20Hz ~ 20kHz bandwidth   |
| Crosstalk Isolation     | < -70dB, 10kHz sine at 0dBFS level                                       |

## 6x1 4K Presentation Switcher with HDBaseT

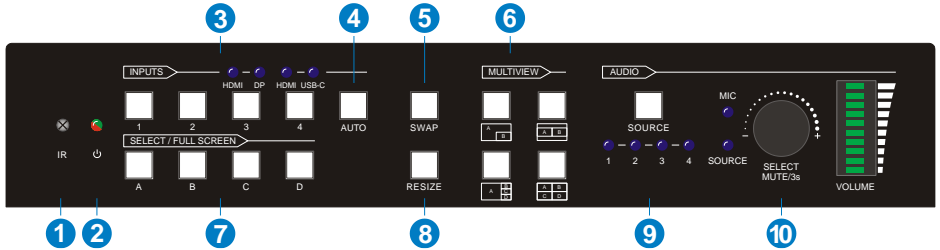
|                           |   |
|---------------------------|---|
| L-R Level Deviation       | < 0.3dB, 1kHz sine at 0dBFS level (or max level before clipping)                                |
| Output Load Capability    | 1K $\Omega$ and higher (Supports 10x paralleled 10K $\Omega$ loads)                             |
| Noise Level               | -80dB   |
| <b>SPDIF Audio Output</b> |   |
| SPDIF Out                 | (1) SPDIF   |
| Audio Out Connector       | (1) Toslink   |
| Max Output level          | $\pm 0.3$ dBFS  |
| Frequency Response        | 20Hz ~ 20kHz, $\pm 1$ dB  |
| THD+N                     | < 0.05%, 20Hz ~ 20kHz bandwidth, 1kHz sine at 0dBFS level (or max level)                        |
| Signal-to-Noise Ratio     | > 90dB, 20Hz ~ 20kHz bandwidth  |
| Crosstalk isolation       | < -70dB, 10kHz sine at 0dBFS level (or max level before clipping)                               |
| Noise                     | - 90dB  |
| Audio Format              | PCM 2.0   |
| <b>Control</b>            |   |
| Control port              | (1) CONTACT IN, (1) IR IN, (1) IR OUT, (1) IR EYE,<br>(1) FIRMWARE, (1) RS232, (1) TCP/IP       |
| Control Connector         | (1) 5-pin terminal block, (3) 3.5mm jack, (1) Type-A USB,<br>(1) 3-pin terminal block, (1) RJ45 |
| <b>General</b>            |   |
| Operation Temperature     | -5 $^{\circ}$ C ~ +55 $^{\circ}$ C  |
| Storage Temperature       | -25 $^{\circ}$ C ~ +70 $^{\circ}$ C   |
| Relative Humidity         | 10% ~ 90%   |
| External Power Supply     | Input: AC 100~240V, 50/60Hz; Output: 24V DC 5A  |
| Power Consumption         | 90w (Max)   |
| USB-C Power Charging      | 60w (Max)   |
| Dimension (W*H*D)         | 250mm x 44mm x 200mm  |
| Net Weight                | 1.6KG   |

## 2.2. TP412R-4K Receiver

| Input and Output         |  |
|--------------------------|--|
| Input                    | (1) HDBT IN  |
| Input Connector          | (1) RJ45   |
| Output                   | (1) HDMI OUT   |
| Output Connector         | (1) Type-A female HDMI   |
| Control                  | (1) IR IN, (1) IR OUT, (1) RS232   |
| Control Connector        | (2) 3.5mm jack, (1) 3-pin terminal block   |
| General                  |  |
| Maximum Video Resolution | 4K@60Hz 4:2:0, including 1080p@60Hz  |
| Transmission Mode        | HDBaseT  |
| Transmission Distance    | 1080p signal to 70m, 4K signal to 40m  |
| Bandwidth                | 10.2Gbps   |
| Video Standard           | HDMI 1.4 with HDCP 2.2   |
| Power Consumption        | 7 watts  |
| Operation Temperature    | -5°C ~ +55°C   |
| Storage Temperature      | -25°C ~ +70°C  |
| Operating Humidity       | 0% ~ 90%   |
| Power Supply             | Input Power: 24VDC 1.25A or Power over HDBaseT (PoH);<br>AC Adaptor Input Power: 100~240VAC, 50/60Hz |
| Dimension (W*H*D)        | 115mmx16.2mm x109mm  |
| Net Weight (g)           | 196g   |

### 3. Panel Description

#### 3.1. Switcher Front Panel

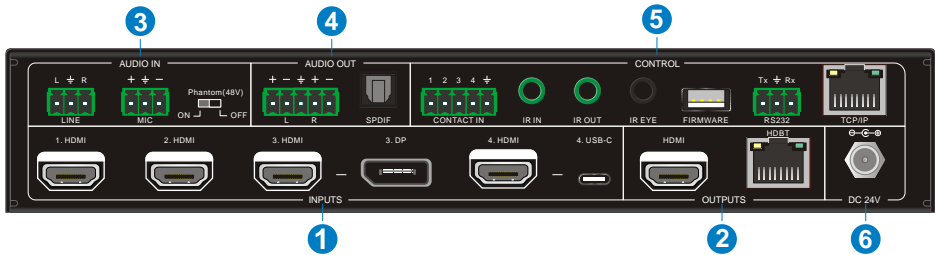


- ① **IR LED:** Built-in IR sensor, receives IR signal sent from IR remote.
- ② **POWER LED:** Illuminates red when switcher is in standby mode or illuminates green when device is powered on.
- ③ **INPUT BUTTONS (1~4):** Input source selectors.
  - HDMI/DP LED: Indicates HDMI or DP source for the third input channel.
  - HDMI/USB-C LED: Indicates HDMI or USB-C source for the fourth input channel.
- ④ **AUTO BUTTON:** Auto switching mode selector.
- ⑤ **SWAP:** Cycle swap the video source of window display in anticlockwise.
- ⑥ **MULTIVIEW:** Total four buttons for choosing Multi-view mode.
- ⑦ **SELECT/FULL SCREENS (A~B):** Four buttons for window selection and full screen setting.
- ⑧ **RESIZE:** Adjust the windows size.
- ⑨ **AUDIO SOURCE:** Select the audio source, and the correspond LED (1~4) will illuminate blue. When select the LINE audio, the button illuminates blue.
- ⑩ **VOLUME:** Variable audio control
  - Press the volume knob to select microphone or source audio control.
  - Rotate the knob to increase or decrease the volume of the selected audio.
  - Press and hold the knob at least 3 seconds to mute the selected audio, rotate the knob to unmute.

[在此处键入]



### 3.2. Switcher Rear Panel



- ① **INPUTS:** Four HDMI inputs, one DisplayPort and one USB-C input.
- ② **OUTPUTS:** One HDMI and one HDBaseT output. The HDBaseT output supports 48V PoC.
- ③ **AUDIO IN:**
  - LINE: Line audio input which can be embedded in any HDMI input.
  - MIC: Microphone input for audio mixing. Set 48V phantom power mode switch as needed: ON for Condenser microphone; OFF for Dynamic microphone.
- ④ **AUDIO OUT:**
  - L+R: Balanced analog audio output for audio de-embedding.
  - SPDIF: Digital SPDIF audio output for audio de-embedding.
- ⑤ **CONTROL:**
  - CONTACT IN: Contact external sensors, buttons and other devices for input source selection.
  - IR IN: Connects to IR receiver for IR pass-through.
  - IR OUT: Connects to IR emitter for IR pass-through.
  - IR EYE: Connects to IR receiver for local switcher control.
  - FIRMWARE: Type-A USB for firmware upgrade.
  - RS232: 3-pin terminal block for RS232 control.
  - TCP/IP: RJ45 port to control the switcher via GUI.
- ⑥ **DC 24V:** DC connector for power adapter connection.

### 3.3. Receiver Front and Rear Panel



① **LINK: HDBT Link status indicator:**

- OFF: No Link.
- GREEN: Link Successful.
- Blinking GREEN: Link abnormal.

② **HDCP: HDCP compliant indicator**

- OFF: No HDMI traffic.
- GREEN: Traffic with HDCP.
- Blinking GREEN: Traffic without HDCP.

③ **POWER LED:** Illuminates red when device is powered on.

④ **RS232:** 3-pin terminal block for RS232 control.

⑤ **IR IN:** Connects to IR receiver for IR pass-through.

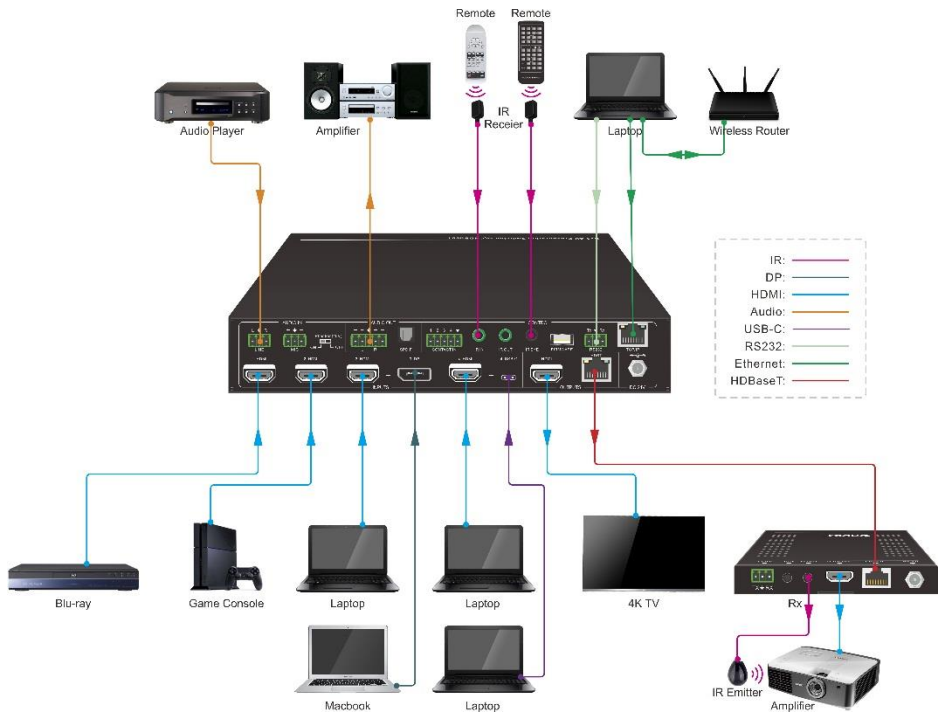
⑥ **IR OUT:** Connects to IR emitter for IR pass-through.

⑦ **HDMI Output:** Connect with HDMI display.

⑧ **HDBaseT input:** Connect to the HDBT OUT port on the transmitter via CAT5e/ CAT6a cable.

⑨ **DC 24V:** DC connector for power adapter connection.

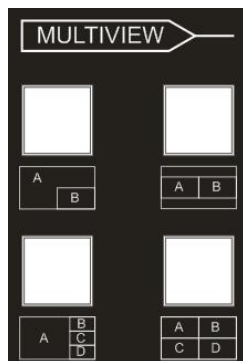
### 3.4. System Connection



## 4. Front Panel Control

### 4.1. Multi-view Mode Selection

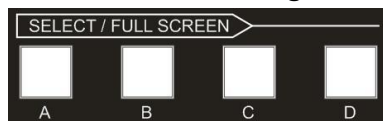
There are four multi-view modes can be selected by front panel buttons.



The factory default multi-view mode is quartered window mode, and there is a one-one correspondence between the four input sources and the four output windows: input 1 -> window A, input 2 -> window B, input 3 -> window C, input 4-> window D. The button LEDs (A~D) illuminate blue.

When switching to two-window (A&B) mode, the corresponding mode LED will illuminate blue, and the window A and B LEDs illuminate blue. The factory default correspondence between the two input sources and the two output windows is: input 1 -> window A, input 2 -> window B.

### 4.2. Full Screen Setting

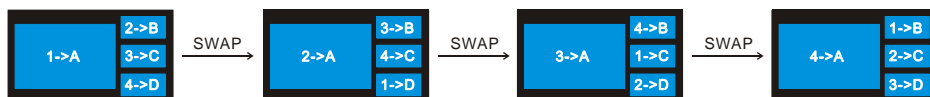


Press **Windows A~D** button to select the corresponding window to display in full-screen. Meanwhile, the corresponding input source button LED and window button A LED illuminate blue, other window buttons and previous multi-view mode button LED goes out.

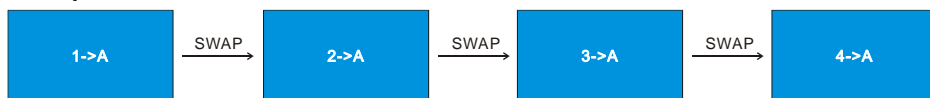
### 4.3. Swap Window Setting

Press **SWAP** button to cycle swap the video source of window display in anticlockwise, the SWAP LED lights once when press its button once.

**Example: In Multi-view Mode**



**Example: In Full Screen Mode**



#### 4.4. Window Size Setting

The window A/B/C/D size can be adjusted by repeatedly pressing the **RESIZE** button, the button LED lights once when press its button once. Please refer the GUI Multi-view Tab for more details.

##### Example: PIP (Picture in Picture)



##### Example: Bisection



##### Example: One large and three small



#### 4.5. Video Signal Switching

##### • In the Multi-view mode

Operation: Inputs# + Windows#

Example: Switch Input 1 to Windows B:

Press **INPUT 1** (The input 1 LED illuminates blue, the windows A~D LEDs flash.) →  
Press **Windows B** (The windows A, C and D LEDs go out, then input 1 and windows B LED flash three times, last, input 1 LED goes out and windows A~D LEDs illuminate blue.)

##### • In the Full Screen mode

##### 1) Manual Switching

Operation: Inputs# + Windows#

Example: Switch Input 2 to Windows A:

Press **INPUT 2** (The input 2 LED illuminates blue.) → Press **Windows A** (The input 2 and windows A LEDs illuminate blue).

##### 2) Auto Switching

Press **AUTO** button to enable or disable auto-switching mode. Note that auto switching

mode only works in full screen mode.

When in auto mode, the switcher will switch according to the following rules:

- *The switcher will switch to the available active inputs with the priority: 1-HDMI > 2-HDMI > 3-HDMI > 3-DP > 4-HDMI > 4-USB-C. When input source and output window are connected, the corresponding LEDs illuminate blue.*
- *New input: The switcher will automatically select the new input once detecting a new input.*
- *Reboot: If power is restored to the switcher, it will automatically reconnect the input before powered off.*
- *In auto mode, the input source also can be switched by the manual switching steps, but not exit auto mode.*
- *When full screen mode is switched into multi-view mode, the auto mode will not exit.*

### 4.6. Switching Status Inquiry

**In the Multi-view mode** (Window A, B, C and D LED illuminate blue).

Operation: Windows#

Example: Press and hold **Windows B** button at least 3 seconds (Window A, C and D LED go out, and then the corresponding input source LED will illuminate blue). After 3 seconds, Window A, B, C and D LED illuminate blue.

### 4.7. Audio Control



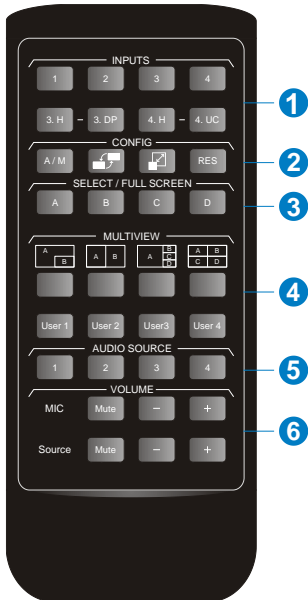
By default, the HDMI and HDBT output audio follows the video source in the full screen mode, but in the Multi-view mode, the output audio is from the 1-HDMI input. The audio source can be changed by pressing the **SOURCE** button.

Press the volume knob to select microphone or source audio control. Rotate the knob to increase or decrease the volume of the selected audio. Press and hold the knob at least 3 seconds to mute the selected audio, rotate the knob to unmute.

## 5. IR Remote Control

The switch provides IR EYE port for IR receiver connection, and then it can be control by the below IR remote.

**Note:** There is no long pressing function on this IR remote, and its button functions are the same as the front panel buttons.



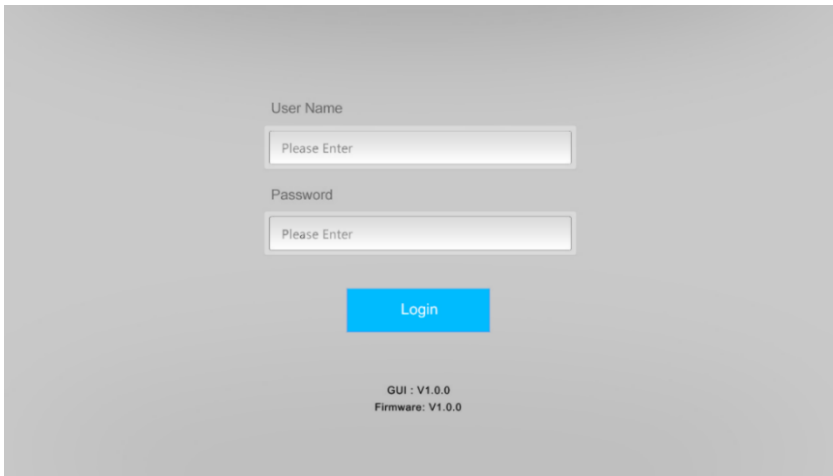
- ① **INPUTS:** Six buttons for input source selection.
- ② **CONFIG:**
  - A/M button for auto-switching mode setting.
  - SWAP button for cycle swap the video source of window display.
  - RESIZE button for window size adjustment.
  - RES button for output resolution selection.
- ③ **SELECT/FULL SCREEN:** A~D buttons for output window selection and full screen setting.
- ④ **MULTIVIEW:** Four buttons for built-in multiview mode selection and four buttons for user-defined mode selection. The user-defined multiview modes can be set via GUI.
- ⑤ **AUDIO SOURCE:** Four buttons for audio source selection.
- ⑥ **VOLUME:**
  - Microphone audio: Mute, volume up and volume down.
  - Source audio: Mute, volume up and volume down.

## 6. GUI Control

The switcher can be controlled via TCP/IP. The default IP settings are:

IP Address: 192.168.0.178  
Subnet Mask: 255.255.255.0

Type **192.168.0.178** in the internet browser, it will enter the below log-in webpage:



User Name

Please Enter

Password

Please Enter

Login

GUI : V1.0.0  
Firmware: V1.0.0

**Username:** admin

**Password:** admin

Type the user name and password, and then click **Login** to enter the section for video switching.



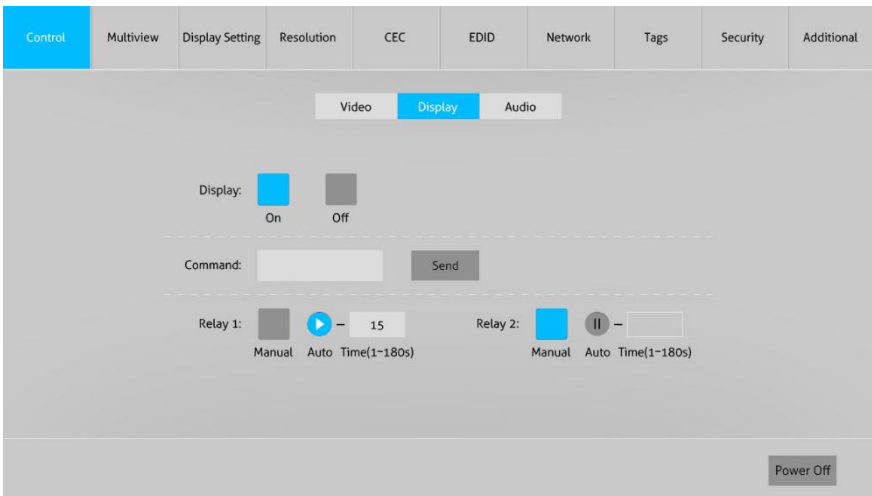
## 6.1. Control Tab

### 6.1.1. Video Control



- The source selection buttons, Auto button and window A~D buttons are same as the buttons of front panel button. Please find [4.5 Video Signal Switching](#) for more details.
- Click “Power Off” to enter system standby mode.

### 6.1.2. Display Control

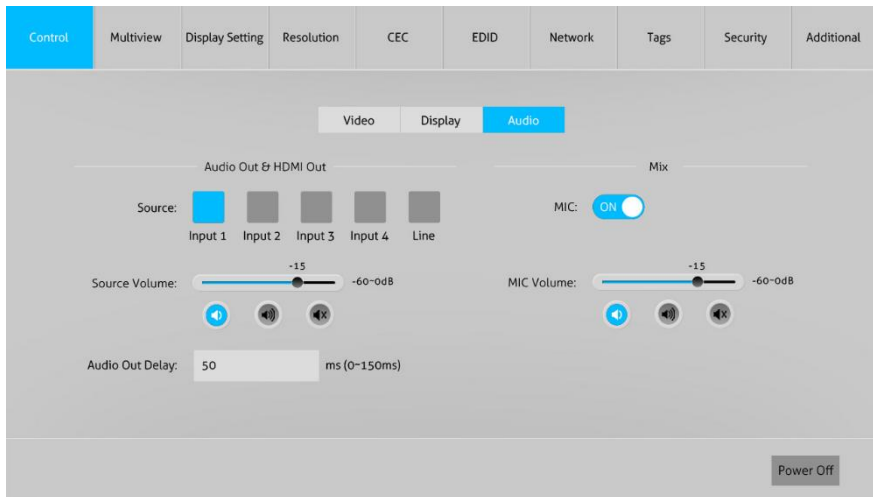


- **Display:** Click “On” or “Off” to power on or off the display device.

## 6x1 4K Presentation Switcher with HDBaseT

- **Command:** Type command in this box to be send to control the display device, and then click “Send”.
- **Relay 1~2:** The function is for projection screen control, and the HDBaseT receiver which is connected to the switcher needs to have two relay ports. Click “Manual”, the projection screen starts to roll up or drop down, and then click “Manual” again to stop process. After setting the auto stop time, click “Auto”, the projection screen starts to roll up or drop down until the auto stop time is up.

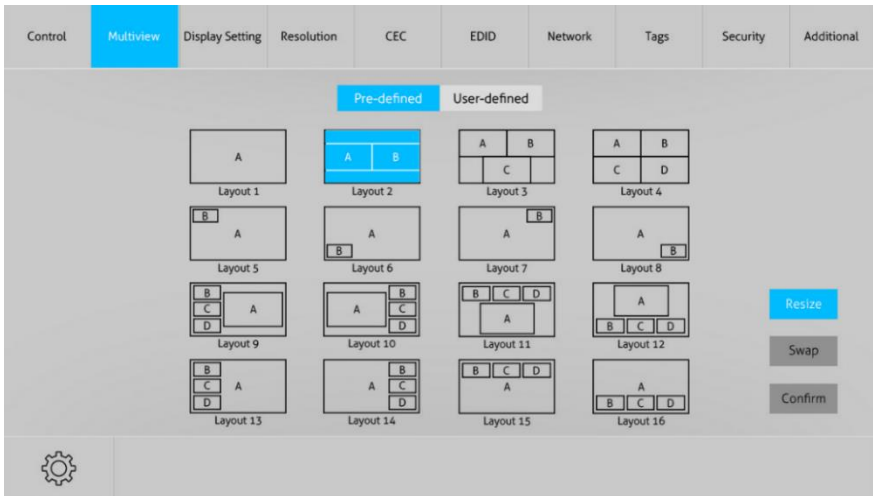
### 6.1.3. Audio Control



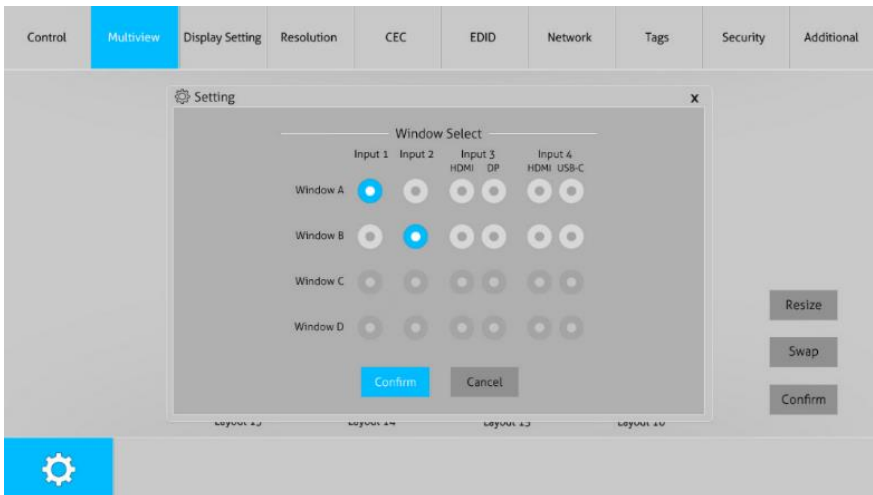
- **Source:** Select audio source for audio outputs, HDMI and HDBaseT outputs.
- **Source Volume:** Volume bar, volume up, volume down and mute buttons for source audio control.
- **Audio Out Delay:** Set the delay time of audio output to 0~150ms.
- **MIC:** Turn on or off microphone input.
- **MIC Volume:** Volume bar, volume up, volume down and mute buttons for microphone audio control.

## 6.2. Multiview Tab

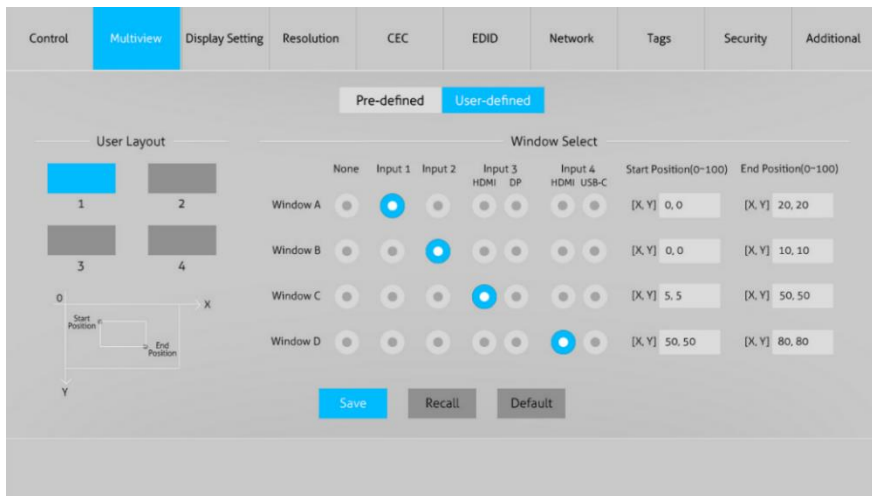
### 1) Pre-defined



- Up to 16 multi-view modes can be selected.
- **RESIZE:** Click the button to adjust the window size. Note that only Layout 2, Layout 5~Layout 8, Layout 9~Layout 12 can be adjusted window size.
- **SWAP:** Click the button to cycle swap the video source of window display in anticlockwise.
- Click gear icon to enter the below interface to select input source for each window.



## 2) User-defined

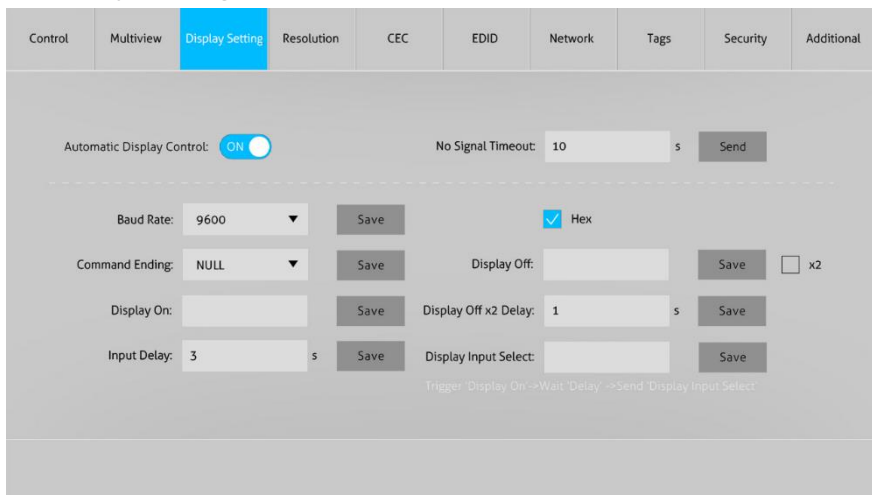


The interface shows the 'User-defined' tab for configuring the presentation switcher. It includes a 'User Layout' section with a 2x2 grid of windows (1, 2, 3, 4) and a coordinate system (X, Y) with 'Start Position' and 'End Position' labels. The 'Window Select' section allows selecting input sources for each window. The inputs are: None, Input 1, Input 2, Input 3 (HDMI), Input 4 (HDMI), DP, and USB-C. The start and end positions are defined by X and Y coordinates (0-100). The 'Save', 'Recall', and 'Default' buttons are at the bottom.

| Window   | None                  | Input 1                          | Input 2                          | Input 3 (HDMI)                   | Input 4 (HDMI)                   | DP                    | USB-C                 | Start Position (X, Y) | End Position (X, Y) |
|----------|-----------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------|-----------------------|-----------------------|---------------------|
| Window A | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/>            | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | [X, Y] 0, 0           | [X, Y] 20, 20       |
| Window B | <input type="radio"/> | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | [X, Y] 0, 0           | [X, Y] 10, 10       |
| Window C | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/>            | <input type="radio"/> | <input type="radio"/> | [X, Y] 5, 5           | [X, Y] 50, 50       |
| Window D | <input type="radio"/> | <input type="radio"/>            | <input type="radio"/>            | <input type="radio"/>            | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | [X, Y] 50, 50         | [X, Y] 80, 80       |

- **User Layout:** Select the user-defined layout number 1~4.
- **Window Select:** Select the input source for each window, and then adjust window size by setting start position and end position. Click “Save” to save the user-defined layout.

## 6.3. Display Setting Tab



The interface shows the 'Display Setting' tab for configuring the presentation switcher. It includes an 'Automatic Display Control' section with a toggle switch (ON) and a 'No Signal Timeout' field (10 s). The 'Baud Rate' is set to 9600. The 'Command Ending' is set to NULL. The 'Display On' and 'Input Delay' fields are set to 3 s. The 'Display Off' and 'Display Off x2 Delay' fields are set to 1 s. The 'Display Input Select' field is set to Hex. The 'Save' button is at the bottom.

Automatic Display Control: ☒ ON

No Signal Timeout: 10 s

Baud Rate: 9600

Command Ending: NULL

Display On:

Input Delay: 3 s

Display Off:

Display Off x2 Delay: 1 s

Display Input Select: ☒ Hex

Trigger: Display On -> Wait Delay -> Send -> Display Input Select

- **Automatic Display Control:** Enable or disable the function to automatically control display device.

## 6x1 4K Presentation Switcher with HDBaseT

- **No Signal Timeout:** Set the auto power off time that the display device will automatically power off after no signal is detected and the setting time is up.
- **Baud Rate:** Supports 9600, 19200, 38400, 57600 or 115200.
- **Command Format:** The default command format is ASCII, and **HEX** can be selected.
- **Command Ending:** NULL, CR, LF or CR+LF can be chosen.
- **Display Off:** Type RS232 command to turn off display device, and then click "Save". Select "x2" to send the command two times.
- **Display Offx2 Delay:** Set the delay time of sending the Display Off command again, and then click "Save".
- **Display On:** Type RS232 command to turn on display, and then click "Save".
- **Input Delay:** Set the delay time in seconds between the "Display On" and "Display Input Select" commands.
- **Display Input Select:** Type the RS232 command to select the current input source of switcher for the display device.
- Trigger: "Display On" -> Wait "Delay" -> Send "Display Input Select".

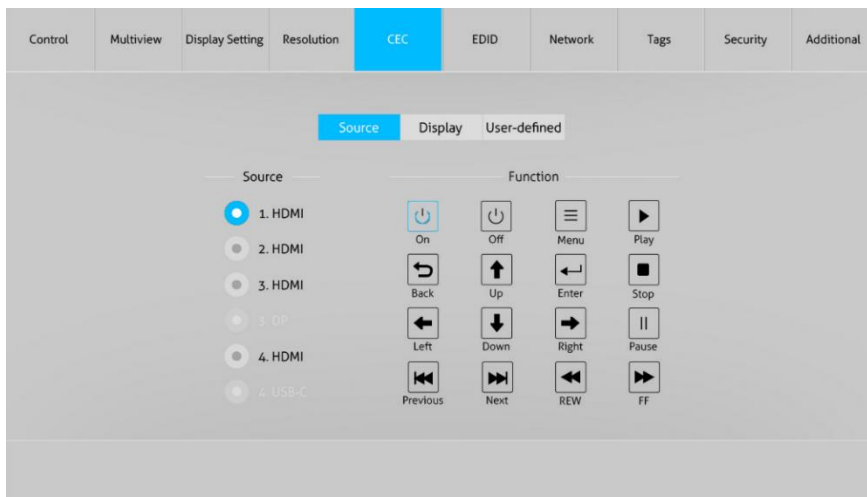
### 6.4. Resolution Tab

| Control  | Multiview | Display Setting | Resolution | CEC | EDID | Network | Tags | Security | Additional |
|--|-----------|-----------------|------------|-----|------|---------|------|----------|------------|
| <div> <input checked="" type="radio"/> 4K@30Hz           <input type="radio"/> 1360 x 768         </div> <div> <input type="radio"/> 1920 x 1200           <input type="radio"/> 1024 x 768         </div> <div> <input type="radio"/> 1080P           <input type="radio"/> 720P         </div> <div> <input type="radio"/> 1600 x 1200           <input type="radio"/> Auto for Rx         </div> <div>Confirm</div> |           |                 |            |     |      |         |      |          |            |

- Select the output resolution for HDMI and HDBaseT outputs.
- Select "Auto for Rx" that the output resolution follows the display device.

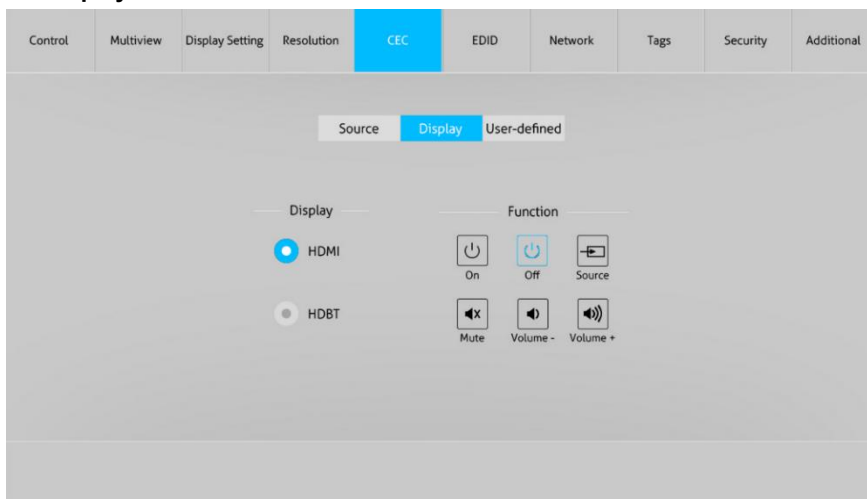
## 6.5. CEC Tab

### 6.5.1. Source Control



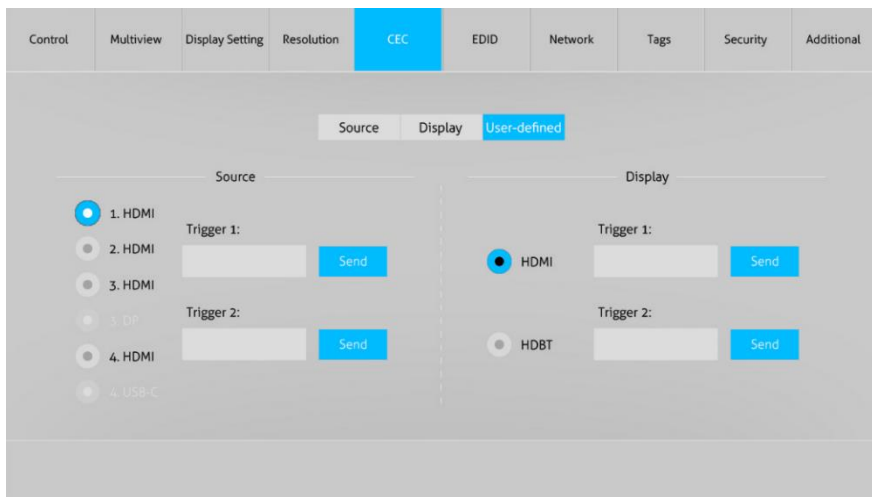
- Select the HDMI input source which needs to be control, and then click function buttons.

### 6.5.2. Display Control



- Select the output display device which needs to be control, and then click function buttons.

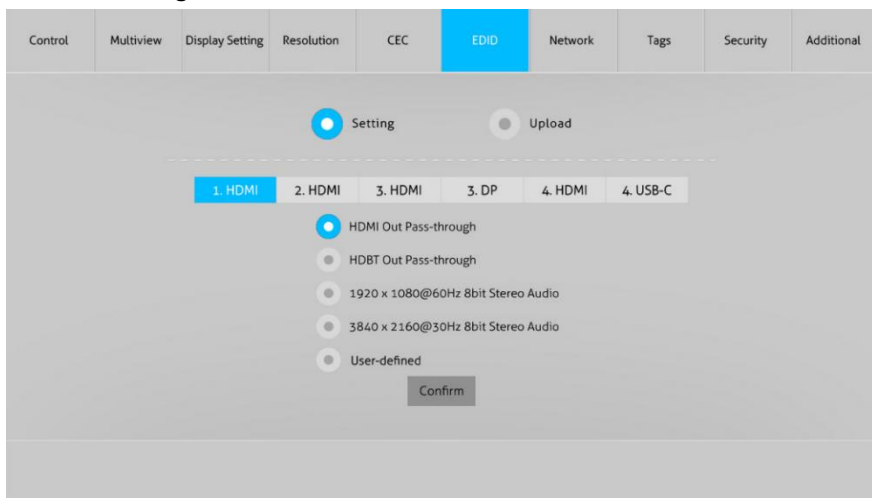
## 6.5.3. User-defined CEC Command



- Select input source or display device, and then type CEC command in the corresponding Trigger 1 or Trigger 2 box to be sent to control the selected device.

## 6.6. EDID Tab

### 6.6.1. EDID Setting



- Select the compatible built-in EDID for the selected input source.

## 6.6.2. EDID Upload

- Upload user-defined EDID by the below steps:  
 Step 1: Prepare the EDID file (.bin) on the control PC.  
 Step 2: Click the user-defined box, and then select the EDID file (.bin).  
 Step 3: Click “Apply” to upload the user-defined EDID.

## 6.7. Network Tab

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



## 6.8. Tags Tab

| Control                                | Multiview            | Display Setting | Resolution           | CEC           | EDID                 | Network       | Tags                 | Security | Additional |
|--|----------------------|-----------------|----------------------|---------------|----------------------|---------------|----------------------|----------|------------|
| Layout 1                               | <input type="text"/> | Layout 2        | <input type="text"/> | Layout 3      | <input type="text"/> | Layout 4      | <input type="text"/> |          |            |
| Layout 5                               | <input type="text"/> | Layout 6        | <input type="text"/> | Layout 7      | <input type="text"/> | Layout 8      | <input type="text"/> |          |            |
| Layout 9                               | <input type="text"/> | Layout 10       | <input type="text"/> | Layout 11     | <input type="text"/> | Layout 12     | <input type="text"/> |          |            |
| Layout 13                              | <input type="text"/> | Layout 14       | <input type="text"/> | Layout 15     | <input type="text"/> | Layout 16     | <input type="text"/> |          |            |
| User Layout 1                          | <input type="text"/> | User Layout 2   | <input type="text"/> | User Layout 3 | <input type="text"/> | User Layout 4 | <input type="text"/> |          |            |
| <input type="button" value="Confirm"/> |                      |                 |                      |               |                      |               |                      |          |            |

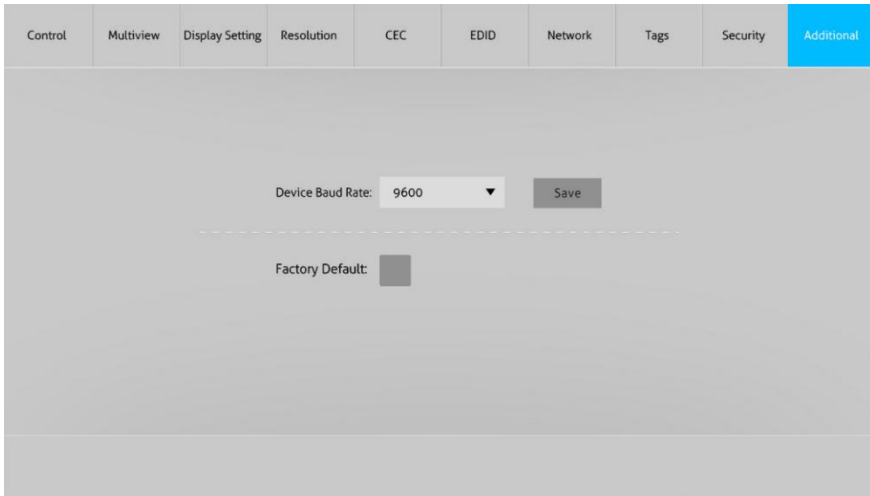
- Modify the multiview layout labels.

## 6.9. Security Tab

| Control   | Multiview | Display Setting | Resolution | CEC | EDID | Network | Tags | Security | Additional |
|---|-----------|-----------------|------------|-----|------|---------|------|----------|------------|
| <div>Credentials</div> <div>             Password: <input type="text" value="admin"/> <input type="button" value="Confirm"/> </div> |           |                 |            |     |      |         |      |          |            |
| <div>Front Panel Lock</div> <div>             ON <input checked="" type="checkbox"/> OFF           </div>                           |           |                 |            |     |      |         |      |          |            |

- Modify the login password.
- Lock or unlock the front panel buttons.

## 6.10. Additional Tab

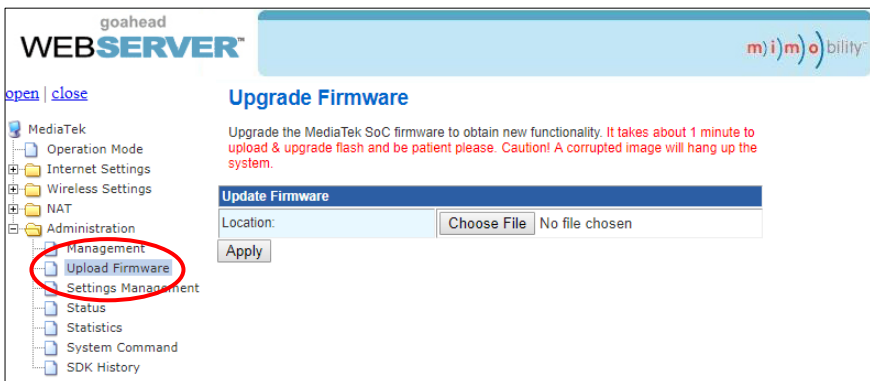


- Set the baud rate of switcher and restore the switcher to factory default setting.

## 6.11. GUI Upgrade

Please visit at <http://192.168.0.178:100> for GUI online upgrade.

Type the username and password (the same as the GUI log-in setting, modified password will be available only after rebooting) to login the configuration interface. After that, click “Administration” in the source menu to get to “Upload Firmware” as shown below:



Select the desired update file and press “Apply”, it will start upgrading then.

**Note:** Please don't do anything during the upgrade process to avoid upgrade failure.

## 7. RS232 Control

The RS232 port of switcher has two control methods.

- 1) Local control: Connect the RS232 port to control device (e.g.PC) to control the switcher by RS232 commands.
- 2) Display device control: The RS232 port is used with the RS232 port of far-end HDBaseT receiver to control the display device (e.g. Projector).

### RS232 Commands:

The command lists are used to control the switcher. The RS232 control software (e.g. docklight) needs to be installed on the control PC to send RS232 commands.

After installing the RS232 control software, 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.

Baud rate: 9600

Data bit: 8

Stop bit: 1

Parity bit: none

### Note:

- All commands needs to be ended with "<CR><LF>".
- In the commands, "[ " and " ] " are symbols for easy reading and do not need to be typed in actual operation.
- Type the command carefully, it is case-sensitive.

### 7.1. System Commands

| Command             | Description   | Command Example and Feedback  |
|---------------------|---|---|
| >GetFirewareVersion | Get the firmware version.   | <V1.0.0   |
| >SetFactoryReset    | Factory Default   | <FactoryReset_True  |
| >SetReboot          | System reboot.  | <Reboot_EN  |
| >SetHelp [Param]    | Get the command details.<br>[Param] = Any command.<br>[Param] = Null (All commands) | >SetHelp SetAV  |
|                     |   | <Select the input source<br>>SetAV<br>InParam,OutParam<br>InParam = 1~6<br>1 - HDMI 1<br>2 - HDMI 2<br>3 - HDMI 3 |

| Command                     | Description   | Command Example and Feedback  |
|-----------------------------|---|---|
|                             |   | 4 - DP 3<br>5 - HDMI 4<br>6 - TYPE-C 4<br>OutParam = A ~ D(NO<br>THIS PARAMETER TO<br>SET TO A)   |
| >GetIpAddress               | Get the IP to access GUI.   | <IpAddress:<br>192.168.0.178<br><SubNetMask:<br>255.255.255.0<br><GateWay: 192.168.0.1            |
| >SetKeyboardLock<br>[Param] | Lock/unlock the front panel buttons.<br>[Param] = EN,Dis<br>EN - Lock<br>Dis - Unlock (Default)   | >SetKeyboardLock EN<br>>SetKeyboardLock Dis<br><KeyboardLock True<br><KeyboardLock False          |
|                             |   |   |
| >GetKeyboardLock            | Get the front buttons locking status.   | <KeyboardLock True  |
| >SetPowerOn [Param]         | Enter/exit standby mode<br>[Param] = EN,Dis<br>EN - Exit standby (Default)<br>Dis – Enter standby | >SetPowerOn EN<br>>SetPowerOn Dis<br><PowerOn True<br><PowerOn False                              |
|                             |   |   |
| >GetPowerOn                 | Get the system standby status.  | <PowerOn True   |
| >GetStatus                  | Get the system status.  | <V1.0.0<br><Video<br>OUT A B C D<br>IN 1 2 3 5<br><AudioSource 1<br><OutputResolution 8<br>... .. |

## 7.2. Signal Switching Commands

| Command                        | Description  | Command Example and Feedback |
|--------------------------------|--|------------------------------|
| >SetAV<br>[InParam],[OutParam] | Switch input source to output window.<br>[InParam] = 1 ~ 6<br>1 - HDMI 1<br>2 - HDMI 2<br>3 - HDMI 3 | >SetAV 3<br>>SetAV 1,A       |

| Command                | Description  | Command Example and Feedback   |
|------------------------|--|--|
|                        | 4 - DP 3<br>5 - HDMI 4<br>6 - USB-C 4<br><b>[OutParam]</b> = A ~ D (No this parameter when switching input source to window A) | <AV 3,A<br><AV 1,A   |
| >GetAV [OutParam]      | Get the input source of window [OutParam].<br>[OutParam] = A~D (No this parameter when get input sources of all windows)       | >GetAV<br>>GetAV A   |
|                        |  | <Video<br>OUT A B C D<br>IN 1 2 3 4<br><AudioSource 1<br><Video 1, A |
| >SetAutoSwitch [Param] | Enable/disable auto switching mode.<br>[Param] = EN,Dis<br>EN - Enable (Default)<br>Dis - Disable                              | >SetAutoSwitch EN<br>>SetAutoSwitch Dis                              |
|                        |  | <AutoSwitch True<br><AutoSwitch False                                |
| >GetAutoSwitch         | Get the auto switching status.   | <AutoSwitch True   |
| >SetInput3Type [Param] | Select the input source for the third input channel. [Param] = H,Dp<br>H - HDMI input<br>Dp - DP input                         | >SetInput3Type H   |
|                        |  | <Input3Type H  |
| >GetInput3Type         | Get the input source of the third input channel.   | <Input3Type H  |
| >SetInput4Type         | Select the input source for the fourth input channel. [Param] = H, C<br>H - HDMI input<br>C – USB-C input                      | >SetInput4Type H   |
|                        |  | <Input4Type H  |
| >GetInput4Type         | Get the input source for the fourth input channel.   | <Input4Type H  |

### 7.3. Audio Setting Commands

| Command                  | Description  | Command Example and Feedback                |
|--------------------------|--|---|
| >SetMicAudioMute [Param] | Mute/Unmute microphone audio.<br>[Param] = EN, Dis<br>EN - Mute.<br>Dis - Unmute (Default) | >SetMicAudioMute EN<br>>SetMicAudioMute Dis |
|                          |  | <MicAudioMute True<br><MicAudioMute False   |
| >GetMicAudioMute         | Get the microphone audio mute status   | <MicAudioMute False                         |
| >SetMicVOL [Param]       | Set the microphone audio volume to [Param]. [Param] = 0~60 (Default: 60)                   | >SetMicVOL 6                                |
|                          |  | <MicVOL 6                                   |
| >GetMicVOL               | Get the microphone audio volume.   | <MicVOL 6                                   |

| Command                         | Description  | Command Example and Feedback   |
|---------------------------------|--|--|
| >SetSourceAudioMute [Param]     | Mute/Unmute source audio.<br>[Param] = EN, Dis<br>EN - Mute.<br>Dis - Unmute (Default)   | >SetSourceAudioMute EN   |
|                                 |  | >SetSourceAudioMute Dis<br><SourceAudioMute True<br><SourceAudioMute False |
| >GetSourceAudioMute             | Get the source audio mute status   | <SourceAudioMute True  |
| >SetSourceVOL [Param]           | Set the source audio volume to [Param].<br>[Param] = 0~60 (Default: 60)  | >SetSourceVOL 6  |
|                                 |  | <SourceVOL 6   |
| >GetSourceVOL                   | Get the source audio volume.   | <SourceVOL 60  |
| >SetAudioSource [Param]         | Set the source audio of output to [Param].<br>[Param] = 1~5.<br>1 – HDMI 1 (Default)<br>2 – HDMI 2<br>3 – HDMI/DP 3<br>4 – HDMI/USB-C 4<br>5 – LINE IN | >SetAudioSource 2  |
|                                 |  | <AudioSource 2   |
| >GetAudioSource                 | Get the source audio of output.  | <AudioSource 1   |
| >SetAudioMix [Param]            | Enable/Disable audio mixing.<br>[Param] = EN, Dis<br>EN - Enable (Default)<br>Dis - Disable  | >SetAudioMix EN  |
|                                 |  | <AudioMix True   |
| >GetAudioMix                    | Get audio mixing status.   | <AudioMix True   |
| >SetFullModeAudioSwitch [Param] | Set whether the audio follows video switching in full screen mode.<br>[Param] = EN, Dis<br>EN - Enable (Default)<br>Dis - Disable                      | >SetFullModeAudioSwitch EN   |
|                                 |  | <FullModeAudioSwitch True  |
| >GetFullModeAudioSwitch         | Get whether the audio follows video switching in full screen mode.   | <FullModeAudioSwitch True  |
| >SetAudioDelay [Param]          | Set the delay time of audio output to [Param]. [Param] = 0 ~ 170 (ms) (Default: 0).  | >SetAudioDelay 20  |
|                                 |  | <AudioDelay 20   |
| >GetAudioDelay                  | Get the delay time of audio output.  | <AudioDelay 20   |

## 7.4. Function Setting Commands

| Command                   | Description   | Command Example and Feedback |
|---------------------------|---|------------------------------|
| >SetRS232Baudrate [Param] | Set the baud rate of RS232 port to [Param].<br>[Param] = 1 ~ 5<br>1 - 115200<br>2 - 57600 | >SetRS232Baudrate 5          |
|                           |   | <RS232Baudrate 5             |

| Command                             | Description  | Command Example and Feedback          |
|-------------------------------------|--|---------------------------------------|
|                                     | 3 - 38400<br>4 - 19200<br>5 - 9600 (Default)   |                                       |
| >GetRS232Baudrate                   | Get the baud rate of RS232 port.   | <RS232Baudrate 5                      |
| >SetOutputResolution<br>[Param]     | Set the output resolution to [Param].<br>[Param] = 1 ~ 8<br>1 - 1024x768@60Hz<br>2 - 1280x720@60Hz<br>3 - 1360x768@60Hz<br>4 - 1600x1200@60Hz<br>5 - 1920x1080@60Hz<br>6 - 1920x1200@60Hz<br>7 - 3840x2160@30Hz (Default)<br>8 - AUTO  | >SetOutputResolution 4                |
|                                     |  | <OutputResolution 4                   |
| >GetOutputResolution                | Get the output resolution.   | <OutputResolution 4                   |
| >GetInputResolution<br>[Param]      | Get the input resolution. [Param] = 1~4.<br>1 - HDMI 1<br>2 - HDMI 2<br>3 - HDMI/DP 3<br>4 - HDMI/USB-C 4  | >GetInputResolution 1                 |
|                                     |  | <InputResolution: 1<br>1920x1080 60Hz |
| >SetHdcpHdmiOutput<br>[Param]       | Set the HDCP mode of output port<br>[Param] = 1 ~ 3<br>1 - HDCP 1.4 (Default)<br>2 - HDCP 2.2<br>3 - OFF   | >SetHdcpHdmiOutput 1                  |
|                                     |  | <HdcpHdmiOutput 1                     |
| >GetHdcpHdmiOutput                  | Get the HDCP mode of output port.  | <HdcpHdmiOutput 1                     |
| >SetInPortEdid<br>[Param1],[Param2] | Set the EDID of input source.<br>[Param1] = 1 ~ 6<br>1 - HDMI 1<br>2 - HDMI 2<br>3 - HDMI 3<br>4 - DP 3<br>5 - HDMI 4<br>6 - USB-C 4<br>[Param2] = 1 ~ 5<br>1 - 1920x1080 60HZ PCM 2CH<br>2 - 3840x2160 30HZ PCM 2CH (Default)<br>3 - BYPASS HDMI<br>4 - BYPASS HDBT<br>5 - USER | >SetInPortEdid 1,1                    |
|                                     |  | <InPortEdid 1,1                       |

| Command                          | Description  | Command Example and Feedback  |
|----------------------------------|--|---|
| <b>&gt;GetInPortEdid [Param]</b> | Get the EDID of input source.<br>[Param] = 1 ~ 6<br>1 - HDMI 1<br>2 - HDMI 2<br>3 - HDMI 3<br>4 - DP 3<br>5 - HDMI 4<br>6 - USB-C 4  | >GetInPortEdid 1  |
|                                  |  | <InPortEdid 1,1   |
| <b>&gt;SetUpdateEdid_EN</b>      | Upload the user-defined EDID.  | <User edid ready,Please send edid data in 10s.<br><SetUpdateEdid_True/Fal se<br>/<br><Time out to send edid |
| <b>&gt;SetMvMode [Param]</b>     | Set multiview mode.<br>[Param] = 1 ~ 20<br>1 - 1 WINDOWS Full<br>2 - 2 WINDOWS PBP<br>3 - 3 WINDOWS 2U1D<br>4 - 4 WINDOWS SAME SIZE (Default)<br>5 - 2 WINDOWS PIP LU<br>6 - 2 WINDOWS PIP LD<br>7 - 2 WINDOWS PIP RU<br>8 - 2 WINDOWS PIP RD<br>9 - 4 WINDOWS PBP 3L1R<br>10 - 4 WINDOWS PBP 1L3R<br>11 - 4 WINDOWS PBP 3U1D<br>12 - 4 WINDOWS PBP 1U3D<br>13 - 4 WINDOWS PIP 1F3L<br>14 - 4 WINDOWS PIP 1F3R<br>15 - 4 WINDOWS PIP 1F3U<br>16 - 4 WINDOWS PIP 1F3D<br>17 - USER CONFIG 1<br>18 - USER CONFIG 2<br>19 - USER CONFIG 3<br>20 - USER CONFIG 4 | >SetMvMode 1  |
|                                  |  | <MvMode 1   |
| <b>&gt;GetMvMode</b>             | Get multiview mode   | <MvMode 1   |
| <b>&gt;SetSwapSrouce</b>         | Swap input source of window.   | <Video<br>OUT A B C D<br>IN 2 5 1 3<br><AudioSource 1   |
| <b>&gt;SetResizeWin</b>          | Resize display windows.  | <ResizeWin  |



| Command                          | Description   | Command Example and Feedback |
|----------------------------------|---|------------------------------|
| >SetAutoCec [Param]              | Set whether to automatically send CEC commands after signal detection.<br>[Param] = EN, Dis<br>EN - Enable (Default)<br>Dis - Disable   | >SetAutoCec EN               |
|                                  |   | <AutoCec True                |
| >GetAutoCec                      | Get whether to automatically send CEC commands after signal detection.  | <AutoCec True                |
| >SetAutoCommand [Param]          | Set whether to automatically send RS232 commands after signal detection.<br>[Param] = EN, Dis<br>EN - Enable (Default)<br>Dis - Disable | >SetAutoCommand EN           |
|                                  |   | <AutoCommand True            |
| >GetAutoCommand                  | Get whether to automatically send RS232 commands after signal detection.  | <AutoCommand True            |
| >SetAutoStandby [Param]          | Enable/disable auto standby after no signal detection. [Param] = EN, Dis<br>EN - Enable<br>Dis - Disable (Default)                      | >SetAutoStandby EN           |
|                                  |   | <AutoStandby True            |
| >GetAutoStandby                  | Get auto standby setting status.  | <AutoStandby True            |
| >SetAutoRelay [Param]            | Enable/Disable auto power off function of relay. [Param] = EN, Dis<br>EN - Enable<br>Dis - Disable (Default)                            | >SetAutoRelay EN             |
|                                  |   | <AutoRelay True              |
| >GetAutoRelay                    | Get auto power off setting status of relay.   | <AutoRelay True              |
| >SetPanelCEC [Param]             | Set the delay time to send CEC, RS232 and standby commands after removing input signal removed.<br>[Param] = 0~1800 (s) (Default: 600s) | >SetPanelCEC 9               |
|                                  |   | <PanelCEC 9                  |
| >GetPanelCEC                     | Get the delay time to send CEC, RS232 and standby commands after removing input signal removed.   | <PanelCEC 9                  |
| >SetOffMsgLoopCnt [Param]        | Set the number of times of sending Display Off command. [Param] = 1 ~ 2 (Default: 1)  | >SetOffMsgLoopCnt 1          |
|                                  |   | <OffMsgLoopCnt 1             |
| >GetOffMsgLoopCnt                | Get the number of times of sending Display Off command.   | <OffMsgLoopCnt 1             |
| >SetOffMsgLoopDelay Time [Param] | Set the delay time of sending Display Off command.<br>[Param] = 5 ~ 100 (1=100ms) (Default: 10)   | >SetOffMsgLoopDelayTime 5    |
|                                  |   | <OffMsgLoopDelayTime 5       |
| >GetOffMsgLoopDelay Time         | Get the delay time of sending Display Off command.  | <OffMsgLoopDelayTime 5       |

| Command                       | Description  | Command Example and Feedback          |
|-------------------------------|--|---------------------------------------|
| >SetInputMsgDelayTime [Param] | Set the delay time of sending Display Input Select command.<br>[Param] = 1 ~ 100 (s) (Default: 3)                                      | >SetInputMsgDelayTime 10              |
|                               |  | <InputMsgDelayTime 10                 |
| >GetInputMsgDelayTime         | Get the delay time of sending Display Input Select command.  | <InputMsgDelayTime 10                 |
| >SetDisplayOn [Param]         | Power on/off the display device. (Send RS232 and CEC commands at the same time). [Param] = EN, Dis<br>EN - Power on<br>Dis - Power off | >SetDisplayOn EN<br>>SetDisplayOn Dis |
|                               |  | <DisplayOn True<br><DisplayOn False   |
| >SetHdbtPOCon [Param]         | Enable or disable PoC.<br>[Param] = EN, Dis<br>EN - Enable (Default)<br>Dis - Disable  | >SetHdbtPOCon EN                      |
|                               |  | <HdbtPOCon True                       |
| >GetHdbtPOCon                 | Get PoC status.  | <HdbtPOCon True                       |

## 7.5. CEC Commands

| Command                 | Description   | Command Example and Feedback |
|-------------------------|---|------------------------------|
| >SetCecSrcMenu [Param]  | Send CEC MENU command to source device. [Param] = 1 ~ 4<br>1 - HDMI 1<br>2 - HDMI 2<br>3 - HDMI 3<br>4 - HDMI 4 | >SetCecSrcMenu 1             |
|                         |   | <CecSrcMenu 1                |
| >SetCecSrcUp [Param]    | Send CEC UP command to source device.<br>[Param] = 1 ~ 4 (HDMI 1~4)   | >SetCecSrcUp 1               |
|                         |   | <CecSrcUp 1                  |
| >SetCecSrcDown [Param]  | Send CEC DOWN command to source device. [Param] = 1 ~ 4 (HDMI 1~4)  | >SetCecSrcDown 1             |
|                         |   | <CecSrcDown 1                |
| >SetCecSrcLeft [Param]  | Send CEC LEFT command to source device. [Param] = 1 ~ 4 (HDMI 1~4)  | >SetCecSrcLeft 1             |
|                         |   | <CecSrcLeft 1                |
| >SetCecSrcRight [Param] | Send CEC RIGHT command to source device. [Param] = 1 ~ 4 (HDMI 1~4)   | >SetCecSrcRight 1            |
|                         |   | <CecSrcRight 1               |
| >SetCecSrcBack [Param]  | Send CEC BACK command to source device. [Param] = 1 ~ 4 (HDMI 1~4)  | >SetCecSrcBack 1             |
|                         |   | <CecSrcBack 1                |
| >SetCecSrcEnter [Param] | Send CEC ENTER command to source device. [Param] = 1 ~ 4 (HDMI 1~4)   | >SetCecSrcEnter 1            |
|                         |   | <CecSrcEnter 1               |
|                         |   | >SetCecSrcOn 1               |

| Command                          | Description   | Command Example and Feedback                    |
|----------------------------------|---|---|
| >SetCecSrcOn<br>[Param]          | Send CEC ON command to source device.<br>[Param] = 1 ~ 4 (HDMI 1~4)                     | <CecSrcOn 1                                     |
| >SetCecSrcOff<br>[Param]         | Send CEC OFF command to source device.<br>[Param] = 1 ~ 4 (HDMI 1~4)                    | >SetCecSrcOff 1<br><CecSrcOff 1                 |
| >SetCecSrcStop<br>[Param]        | Send CEC STOP command to source device. [Param] = 1 ~ 4 (HDMI 1~4)                      | >SetCecSrcStop 1<br><CecSrcStop 1               |
| >SetCecSrcPlay<br>[Param]        | Send CEC PLAY command to source device. [Param] = 1 ~ 4 (HDMI 1~4)                      | >SetCecSrcPlay 1<br><CecSrcPlay 1               |
| >SetCecSrcPause<br>[Param]       | Send CEC PAUSE command to source device. [Param] = 1 ~ 4 (HDMI 1~4)                     | >SetCecSrcPause 1<br><CecSrcPause 1             |
| >SetCecSrcPrev<br>[Param]        | Send CEC PREV command to source device. [Param] = 1 ~ 4 (HDMI 1~4)                      | >SetCecSrcPrev 1<br><CecSrcPrev 1               |
| >SetCecSrcNext<br>[Param]        | Send CEC NEXT command to source device. [Param] = 1 ~ 4 (HDMI 1~4)                      | >SetCecSrcNext 1<br><CecSrcNext 1               |
| >SetCecSrcRewind<br>[Param]      | Send CEC REWIND command to source device. [Param] = 1 ~ 4 (HDMI 1~4)                    | >SetCecSrcRewind 1<br><CecSrcRewind 1           |
| >SetCecSrcFastForward<br>[Param] | Send CEC Fast-forward command to source device. [Param] = 1 ~ 4 (HDMI 1~4)              | >SetCecSrcFastForward 1<br><CecSrcFastForward 1 |
| >SetCecDisplayOn<br>[Param]      | Send CEC ON command to display device.<br>[Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)          | >SetCecDisplayOn 1<br><CecDisplayOn 1           |
| >SetCecDisplayOff<br>[Param]     | Send CEC OFF command to display device.<br>[Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)         | >SetCecDisplayOff 1<br><CecDisplayOff 1         |
| >SetCecDisplaySource<br>[Param]  | Send CEC SOURCE command to display device. [Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)         | >SetCecDisplaySource 1<br><CecDisplaySource 1   |
| >SetCecDisplayMute<br>[Param]    | Send CEC MUTE command to display device. [Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)           | >SetCecDisplayMute 1<br><CecDisplayMute 1       |
| >SetCecDisplayVol+<br>[Param]    | Send CEC VOLUME UP command to display device.<br>[Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)   | >SetCecDisplayVol+ 1<br><CecDisplayVol+ 1       |
| >SetCecDisplayVol-<br>[Param]    | Send CEC VOLUME DOWN command to display device.<br>[Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT) | >SetCecDisplayVol- 1<br><CecDisplayVol- 1       |

## 7.6. Special Commands

**Note:** The below commands don't need ending mark.

| Command                               | Description   | Command Example and Feedback                                     |
|---------------------------------------|---|--|
| >SetDisplayInputSendChar_[Param]:XXXX | Set the ASCII "Display Input Select" command "XXXX" to be sent to display device when power on the switcher.<br>[Param] = 1~5 (Baud rate of RS232 port)<br>1 - 115200<br>2 - 57600<br>3 - 38400<br>4 - 19200<br>5 - 9600<br>XXXX= ASCII data to be sent (Up to 48 characters).        | >SetDisplayInputSendChar_5:1234567                               |
|                                       |   | <Baudrate: 9600<br><Display input select to send:1234567         |
| >SetDisplayInputSendHex_[Param]:XX XX | Set the HEX "Display Input Select" command "XX XX" to be sent to display device when power on the switcher.<br>[Param] = 1~5 (Baud rate of RS232 port)<br>1 - 115200<br>2 - 57600<br>3 - 38400<br>4 - 19200<br>5 - 9600<br>XX XX= HEX data to be sent (X = 0~9, A~F and up to 20 XX). | >SetDisplayInputSendHex_5:30 31 32 33                            |
|                                       |   | <Baudrate: 9600<br><Display input select to send HEX:30 31 32 33 |
| >SetPowerOnSendChar_[Param]:XXXX      | Set the ASCII "Power On" command "XXXX" to be sent to display device when power on the switcher.<br>[Param] = 1~5 (Baud rate of RS232 port)<br>1 - 115200<br>2 - 57600<br>3 - 38400<br>4 - 19200<br>5 - 9600<br>XXXX= ASCII data to be sent (Up to 48 characters).                    | >SetPowerOnSendChar_5:1234567                                    |
|                                       |   | <Baudrate: 9600<br><Power on to send:1234567                     |
| >SetPowerOnSendHex_[Param]:XX XX      | Set the HEX "Power On" command "XX XX" to be sent to display device when power on the switcher.<br>[Param] = 1~5 (Baud rate of RS232 port)<br>1 - 115200  | >SetPowerOnSendHex_5:30 31 32 33                                 |

| Command                        | Description  | Command Example and Feedback                               |
|--------------------------------|--|--|
|                                | 2 - 57600<br>3 - 38400<br>4 - 19200<br>5 - 9600<br>XX XX= HEX data to be sent (X = 0~9, A~F and up to 20 XX).  | <Baudrate: 9600<br><Power on to send<br>HEX:30 31 32 33    |
| >SetSleepSendChar_[Param]:XXXX | Set the ASCII "Power Off" command "XXXX" to be sent to display device when the switcher enter standby mode.<br>[Param] = 1~5 (Baud rate of RS232 port)<br>1 - 115200<br>2 - 57600<br>3 - 38400<br>4 - 19200<br>5 - 9600<br>XXXX= ASCII data to be sent (Up to 48 characters).        | >SetSleepSendChar_5:ABCDEF                                 |
|                                |  | <Baudrate: 9600<br><Enter sleep to send:ABCDEFG            |
| >SetSleepSendHex_[Param]:XX XX | Set the HEX "Power Off" command "XX XX" to be sent to display device when the switcher enter standby mode.<br>[Param] = 1~5 (Baud rate of RS232 port)<br>1 - 115200<br>2 - 57600<br>3 - 38400<br>4 - 19200<br>5 - 9600<br>XX XX= HEX data to be sent (X = 0~9, A~F and up to 20 XX). | >SetSleepSendHex_5:41 42 43 44                             |
|                                |  | <Baudrate: 9600<br><Enter sleep to send<br>HEX:41 42 43 44 |

## **8. Firmware Upgrade**

- 1) Prepare the latest upgrade file (.bin) and rename it as "FW\_MV bin" on PC.
- 2) Power off the switcher and connect the **FIRMWARE** port of switcher to the PC with type-A USB cable.
- 3) Power on the switcher and then the PC will automatically detect a U-disk named of "BOOTDISK".
- 4) Directly copy the latest upgrade file (.bin) to the "BOOTDISK" U-disk.
- 5) Reopen the U-disk to check whether there is a filename "SUCCESS.TXT", if yes, the firmware was updated successfully, otherwise, the firmware updating is fail, the name of upgrade file (.bin) should be confirmed again, and then follow the above steps to update again.
- 6) Remove the type-A USB cable after firmware upgrade.
- 7) After firmware upgrade, the switcher should be restored to factory default by sending command.