

# **SEADA**

Showing the World

## **SD-PS-M641**

### **6x1 4K Presentation Switcher with Multi-view & HDBaseT**

**User Manual**

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Version: SD-PS-M641\_2021V1.0

## Table of Contents

1. Product Introduction.....	1
1.1. Features .....	1
1.2. Package List.....	1
2. Specification .....	2
2.1. SD-PS-M641 Switcher.....	2
2.2. HBT70PHS-RX Receiver.....	4
3. Panel Description.....	5
3.1. Switcher Front Panel .....	5
3.2. Switcher Rear Panel.....	6
3.3. Receiver Front and Rear Panel .....	7
3.4. System Connection .....	8
4. Front Panel Control.....	9
4.1. Multi-view Mode Selection .....	9
4.2. Full Screen Setting .....	9
4.3. Swap Window Setting.....	9
4.4. Window Size Setting.....	10
4.5. Video Signal Switching .....	10
4.6. Switching Status Inquiry .....	11
4.7. Audio Control .....	11
5. IR Remote Control .....	12
6. GUI Control.....	13
6.1. Control Tab .....	14
6.1.1. Video Control.....	14
6.1.2. Display Control .....	14
6.1.3. Audio Control .....	15
6.2. Multiview Tab .....	16
6.3. Display Setting Tab.....	17
6.4. Resolution Tab.....	18
6.5. CEC Tab .....	19
6.5.1. Source Control.....	19
6.5.2. Display Control .....	19
6.5.3. User-defined CEC Command .....	20

## 6x1 4K Presentation Switcher with Multi-view & HDBaseT

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6.6. EDID Tab .....	20
6.6.1. EDID Setting .....	20
6.6.2. EDID Upload .....	21
6.7. Network Tab .....	21
6.8. Tags Tab .....	22
6.9. Security Tab .....	22
6.10. Additional Tab .....	23
6.11. GUI Upgrade .....	23
7. RS232 Control .....	24
7.1. System Commands .....	24
7.2. Signal Switching Commands .....	25
7.3. Audio Setting Commands .....	26
7.4. Function Setting Commands .....	27
7.5. CEC Commands .....	31
7.6. Special Commands .....	33
8. Firmware Upgrade .....	35

# 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 with 16 preset layouts and 4 custom layouts
- Controllable via front panel buttons, GUI, IR remote, RS232 and CEC.

## 1.2. Package List

### SD-PS-M641 (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

### HBT70PHS-RX Receiver

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

## **2. Specification**

### **2.1. SD-PS-M641 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 Multi-view & HDBaseT

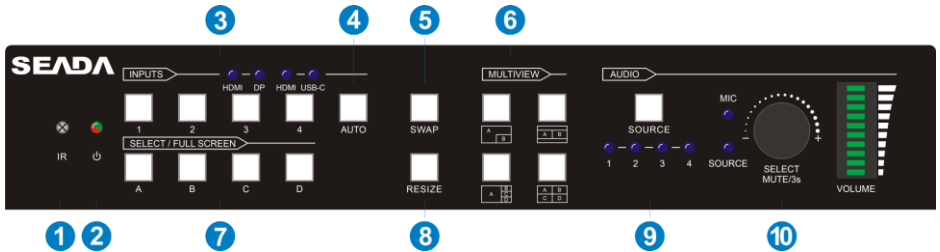
L-R Level Deviation	< 0.3dB, 1kHz sine at 0dBFS level (or max level before clipping)
Output Load Capability	1K $\Omega$ and higher (Supports 10x paralleled 10K $\Omega$ loads)
Noise Level	-80dB
<b>SPDIF Audio Output</b>	
SPDIF Out	(1) SPDIF
Audio Out Connector	(1) Toslink
Max Output level	$\pm$ 0.3dBFS
Frequency Response	20Hz ~ 20kHz, $\pm$ 1dB
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, (1) FIRMWARE, (1) RS232, (1) TCP/IP
Control Connector	(1) 5-pin terminal block, (3) 3.5mm jack, (1) Type-A USB, (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. HBT70PHS-RX Receiver**

<b>Input and Output</b>	
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
<b>General</b>	
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); AC Adaptor Input Power: 100~240VAC, 50/60Hz
Dimension (W*H*D)	115mmx16.2mm x109mm
Net Weight (g)	196g

### 3. Panel Description

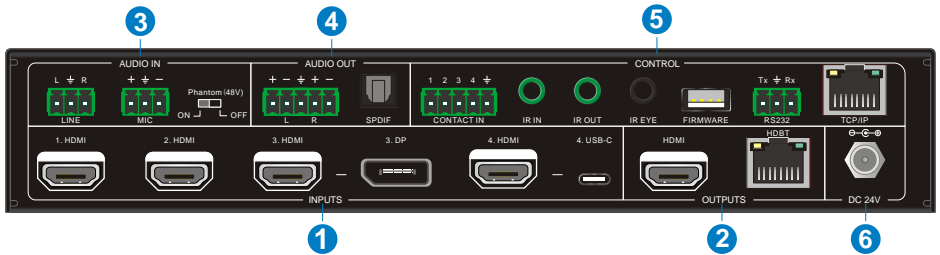
#### 3.1. Switcher Front Panel



- 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.



## 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.

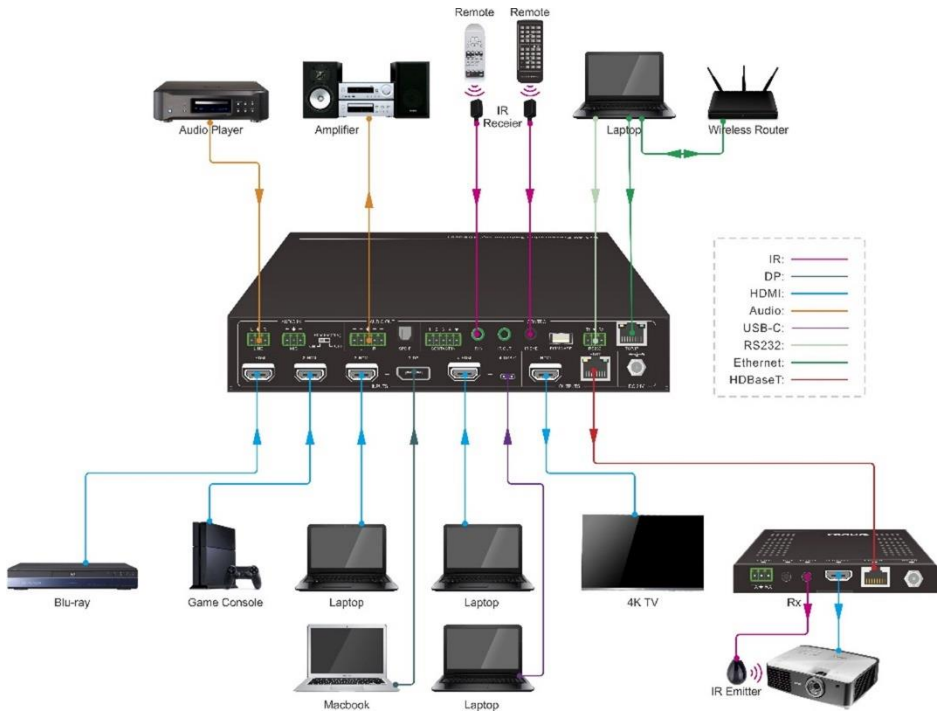
⑥ **IR OUT:** Connects to IR emitter for IR pass-through.

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.

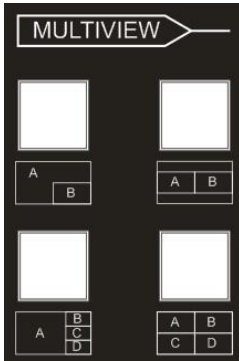
### 3.4. System Connection



## 4. Front Panel Control

### 4.1. Multi-view Mode Selection

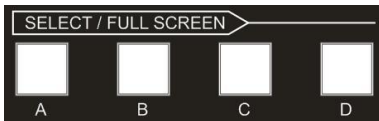
There are four multi-view modes can be selected by front panel buttons.



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

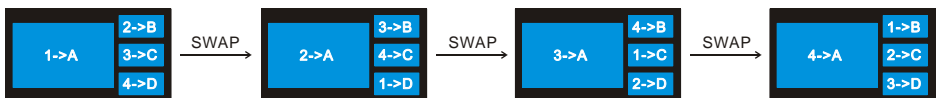


Press **Windows A~D** button to select the corresponding window to display in full-screen. Meanwhile, the corresponding input source button LED and window button A LED illuminate blue, other window buttons and previous multi-view mode button LED goes out.

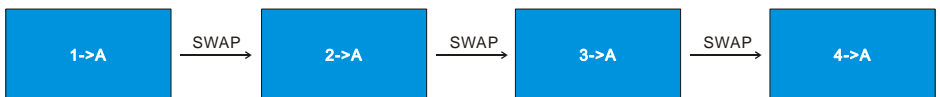
### 4.3. Swap Window Setting

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**



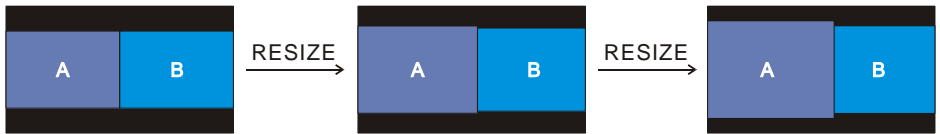
#### 4.4. Window Size Setting

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



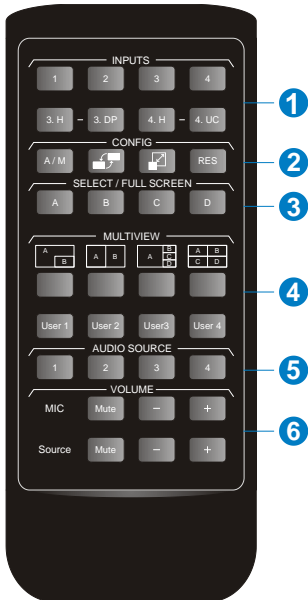
By default, the HDMI and HDBT output audio follows the video source in the full screen mode, but in the Multi-view mode, the output audio is from the 1-HDMI input. The audio source can be changed by pressing the **SOURCE** button.

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.



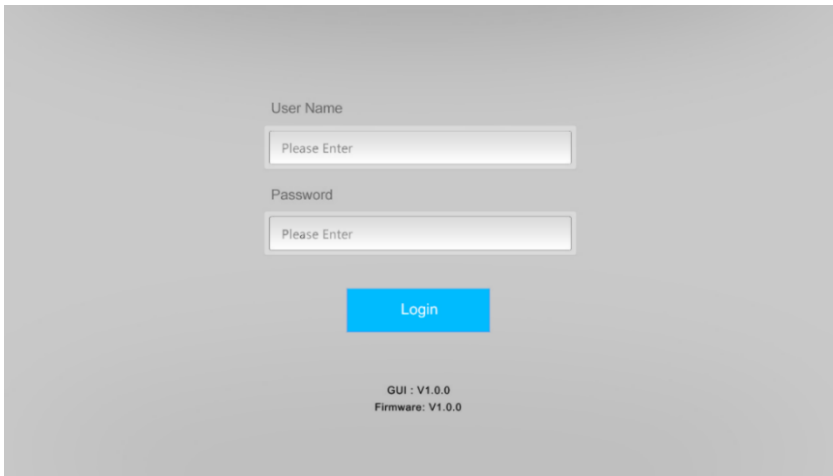
- ① **INPUTS:** Six buttons for input source selection.
- ② **CONFIG:**
  - A/M button for auto-switching mode setting.
  - SWAP button for cycle swap the video source of window display.
  - RESIZE button for window size adjution.
  - RES button for output resolution selection.
- ③ **SELECT/FULL SCREEN:** 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:



**Username:** admin

**Password:** admin

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



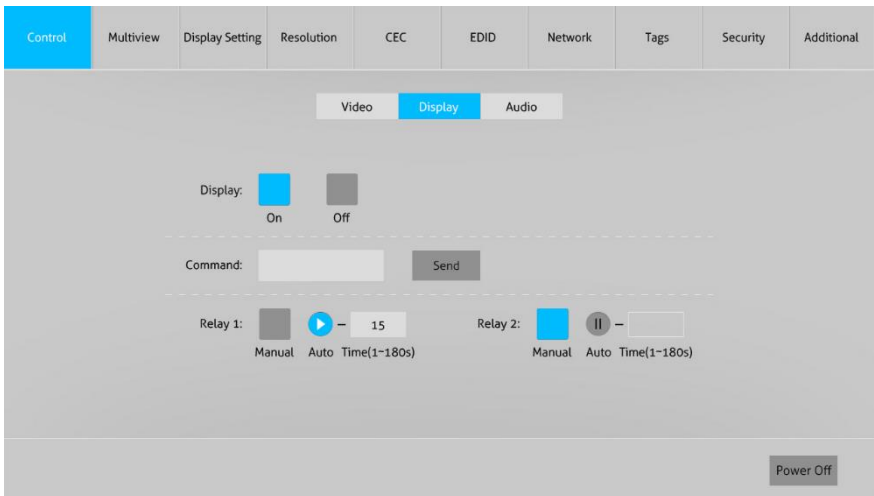
## 6.1. Control Tab

### 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

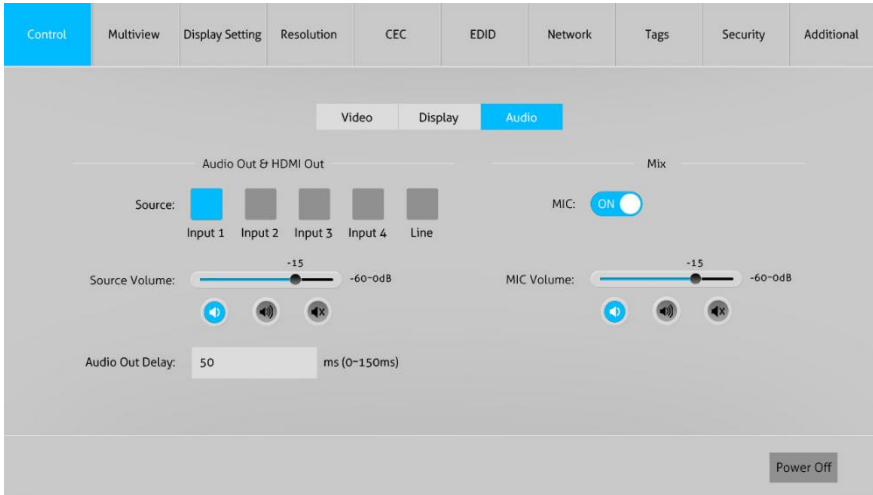


- **Display:** Click “On” or “Off” to power on or off the display device.

## 6x1 4K Presentation Switcher with Multi-view & 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.

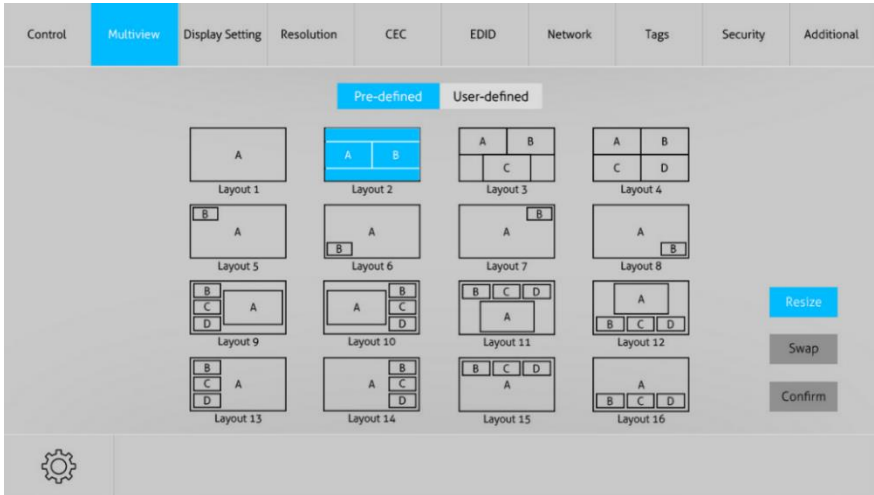
### 6.1.3. Audio Control



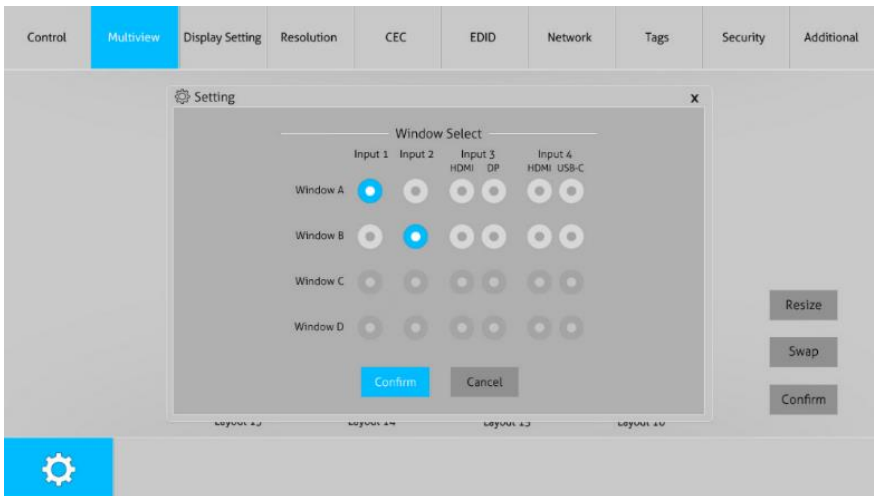
- **Source:** Select audio source for audio outputs, HDMI and HDBaseT outputs.
- **Source Volume:** Volume bar, volume up, volume down and mute buttons for source audio control.
- **Audio Out Delay:** Set the delay time of audio output to 0~150ms.
- **MIC:** Turn on or off microphone input.
- **MIC Volume:**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

	None	Input 1	Input 2	Input 3 HDMI DP	Input 4 HDMI USB-C	Start Position(0-100)	End Position(0-100)
Window A	<input type="radio"/>	<input checked="" 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"/>	[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"/>	[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"/>	[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.

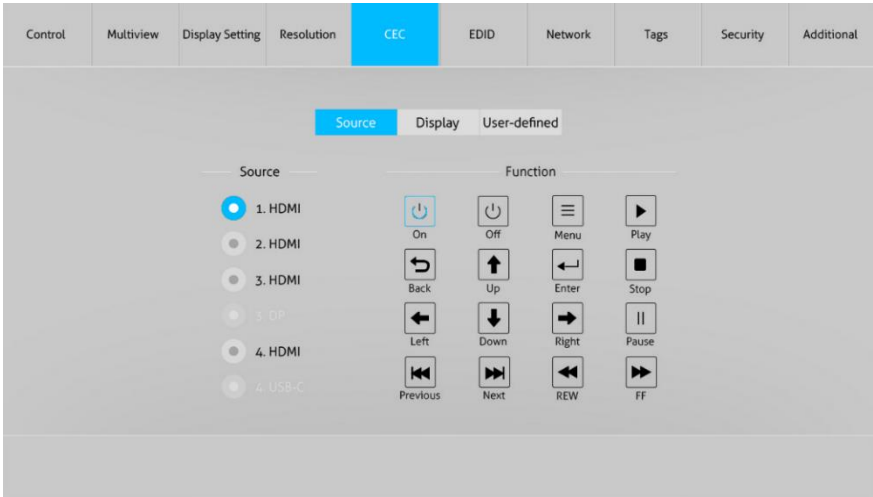
## 6.3. Display Setting Tab

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



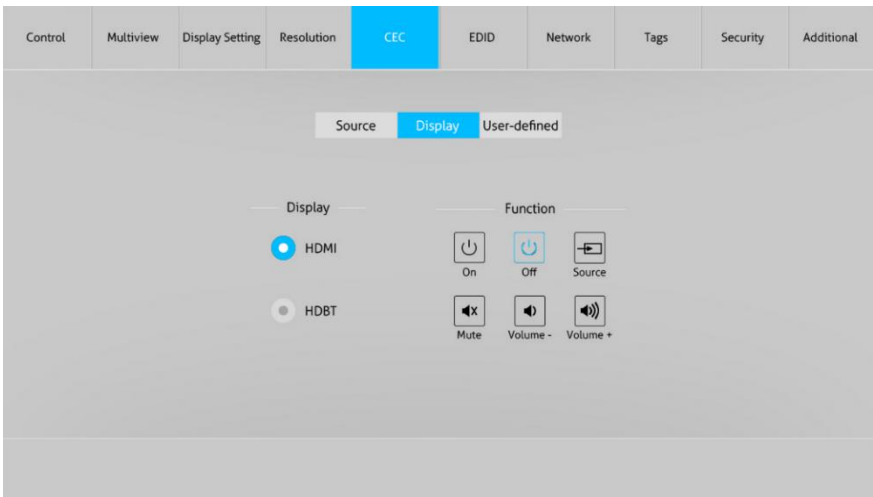
## 6.5. CEC Tab

### 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.

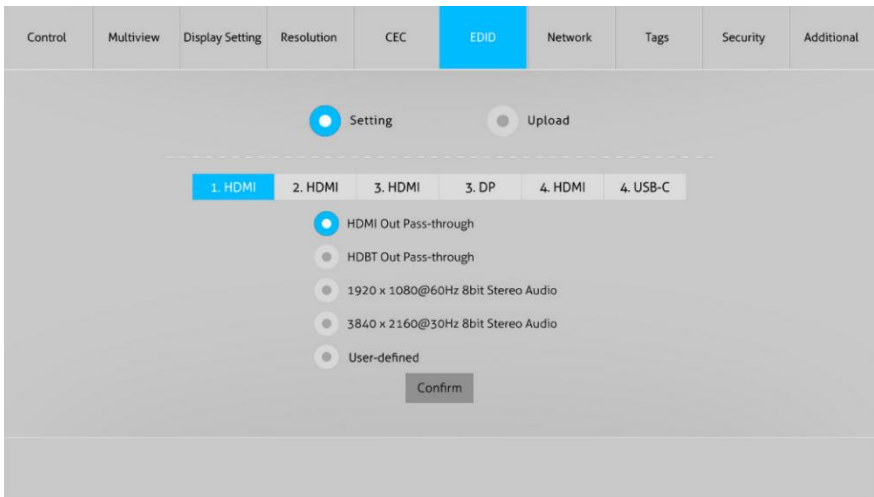
## 6.5.3. User-defined CEC Command



- 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.

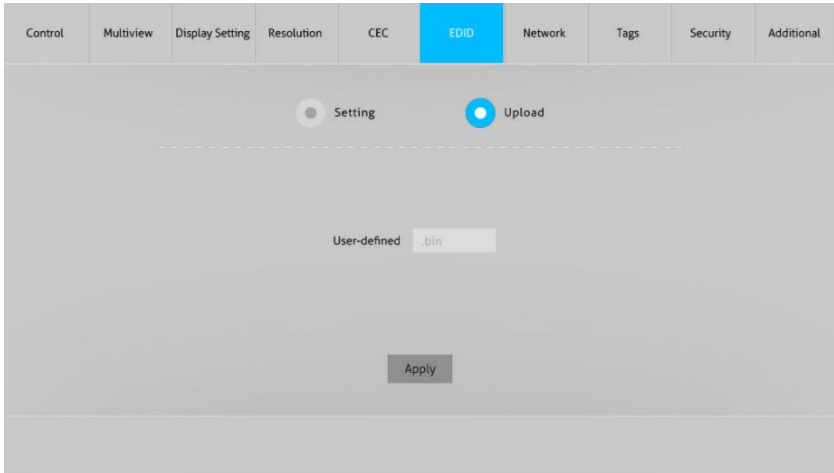
## 6.6. EDID Tab

### 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

The screenshot shows the 'Tags' configuration tab. At the top, there is a navigation bar with tabs: Control, Multiview, Display Setting, Resolution, CEC, EDID, Network, Tags (highlighted in blue), Security, and Additional. The main content area contains a grid of 16 layout labels, each with an adjacent input field for modification. The labels are arranged in four rows and four columns: Row 1: Layout 1, Layout 2, Layout 3, Layout 4; Row 2: Layout 5, Layout 6, Layout 7, Layout 8; Row 3: Layout 9, Layout 10, Layout 11, Layout 12; Row 4: Layout 13, Layout 14, Layout 15, Layout 16. Below the grid, there are four 'User Layout' labels (User Layout 1 to User Layout 4) with corresponding input fields. A blue 'Confirm' button is centered at the bottom of the configuration area.

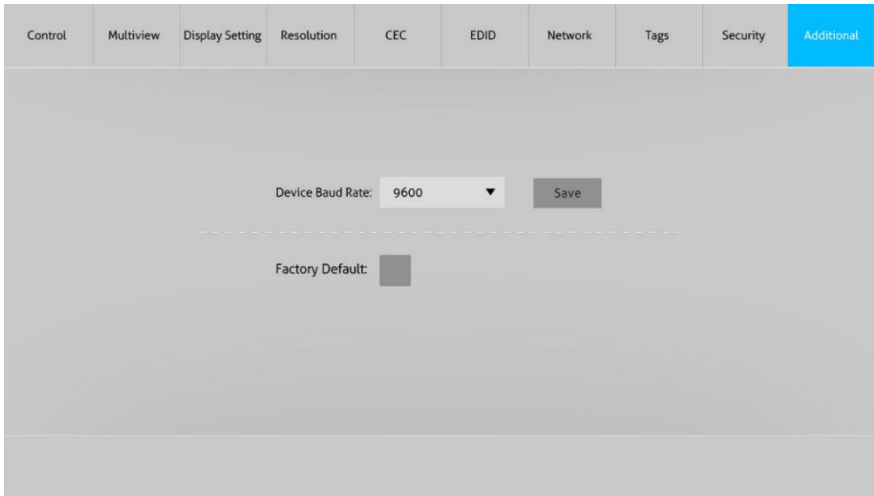
- Modify the multiview layout labels.

## 6.9. Security Tab

The screenshot shows the 'Security' configuration tab. At the top, there is a navigation bar with tabs: Control, Multiview, Display Setting, Resolution, CEC, EDID, Network, Tags, Security (highlighted in blue), and Additional. The main content area is divided into two sections. The first section, titled 'Credentials', contains a 'Password:' label followed by an input field containing the text 'admin' and a blue 'Confirm' button. The second section, titled 'Front Panel Lock', contains a toggle switch. The switch is currently in the 'ON' position, indicated by a blue bar with three vertical lines. The 'OFF' position is indicated by a grey bar.

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

## 6.10. Additional Tab

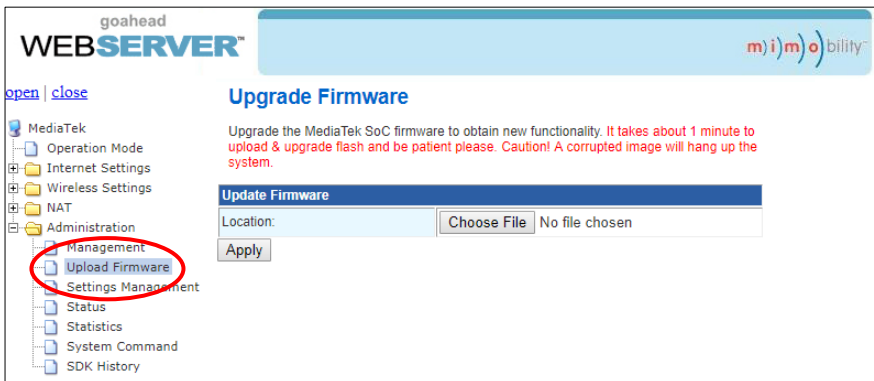


- Set the baud rate of switcher and restore the switcher to factory default setting.

## 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. [Param] = Any command. [Param] = Null (All commands)	>SetHelp SetAV <Select the input source >SetAV InParam,OutParam InParam = 1~6 1 - HDMI 1 2 - HDMI 2 3 - HDMI 3

## 6x1 4K Presentation Switcher with Multi-view & HDBaseT

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

### 7.2. Signal Switching Commands

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

## 6x1 4K Presentation Switcher with Multi-view & HDBaseT

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

### 7.3. Audio Setting Commands

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

## 6x1 4K Presentation Switcher with Multi-view & HDBaseT

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

### 7.4. Function Setting Commands

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

## 6x1 4K Presentation Switcher with Multi-view & HDBaseT

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

## 6x1 4K Presentation Switcher with Multi-view & HDBaseT

Command	Description	Command Example and Feedback
<b>&gt;GetInPortEdid [Param]</b>	Get the EDID of input source. [Param] = 1 ~ 6 1 - HDMI 1 2 - HDMI 2 3 - HDMI 3 4 - DP 3 5 - HDMI 4 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. <SetUpdateEdid_True/False / <Time out to send edid
<b>&gt;SetMvMode [Param]</b>	Set multiview mode. [Param] = 1 ~ 20 1 - 1 WINDOWS Full 2 - 2 WINDOWS PBP 3 - 3 WINDOWS 2U1D 4 - 4 WINDOWS SAME SIZE (Default) 5 - 2 WINDOWS PIP LU 6 - 2 WINDOWS PIP LD 7 - 2 WINDOWS PIP RU 8 - 2 WINDOWS PIP RD 9 - 4 WINDOWS PBP 3L1R 10 - 4 WINDOWS PBP 1L3R 11 - 4 WINDOWS PBP 3U1D 12 - 4 WINDOWS PBP 1U3D 13 - 4 WINDOWS PIP 1F3L 14 - 4 WINDOWS PIP 1F3R 15 - 4 WINDOWS PIP 1F3U 16 - 4 WINDOWS PIP 1F3D 17 - USER CONFIG 1 18 - USER CONFIG 2 19 - USER CONFIG 3 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 OUT A B C D IN 2 5 1 3 <AudioSource 1
<b>&gt;SetResizeWin</b>	Resize display windows.	<ResizeWin



## 6x1 4K Presentation Switcher with Multi-view & HDBaseT

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

## 6x1 4K Presentation Switcher with Multi-view & HDBaseT

Command	Description	Command Example and Feedback
>SetInputMsgDelayTime [Param]	Set the delay time of sending Display Input Select command. [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 EN - Power on Dis - Power off	>SetDisplayOn EN >SetDisplayOn Dis
		<DisplayOn True <DisplayOn False
>SetHdbtPOCon [Param]	Enable or disable PoC. [Param] = EN, Dis EN - Enable (Default) 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 1 - HDMI 1 2 - HDMI 2 3 - HDMI 3 4 - HDMI 4	>SetCecSrcMenu 1
		<CecSrcMenu 1
>SetCecSrcUp [Param]	Send CEC UP command to source device. [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

## 6x1 4K Presentation Switcher with Multi-view & HDBaseT

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

## 7.6. Special Commands

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

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

## 6x1 4K Presentation Switcher with Multi-view & HDBaseT

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