User Manual

MAT.HDMP42T-4K

4x2 Matrix Switcher

Version: MAT.HDMP42T-4K_2020V1.0

Table of Contents

1. Product Introduction

Thank you for your purchase of the professional 4x2 matrix switcher! The switcher is a four-input by two-output matrix switcher with two HDBaseT inputs, two HDMI inputs and two HDBaseT + HDMI outputs. The switcher transmits 4K video to distances up to 131 feet (40 meters) and 1080p video to distances up to 230 feet (70 meters) over a single CATx cable. The HDBaseT inputs and outputs support 48V Power over Cable (PoC) feature, allowing the compatible transmitters and receivers to draw their power from the matrix over the CATx cable.

The matrix supports downscaling so a 4K video input can automatically be down scaled to a 1080p output when connecting a display that only supports resolution up to 1080p. Moreover, the matrix switcher features comprehensive EDID management and advanced HDCP handing to ensure maximum functionality with a wide range of video sources. The switcher offers IR, RS232 and TCP/IP control options.

1.1 Features

- 4x2 matrix switcher with HDBaseT inputs and outputs.
- Fully compliant with the HDMI V2.0 and HDCP 2.2.
- Supports video resolution up to 4K@60Hz 4:4:4, HDR10, Dolby Vision.
- Supports auto-switching.
- Features two mirrored HDMI outputs for two HDBaseT outputs, and all outputs support 4K to 1080p down-scaling.
- HDBaseT inputs and outputs support 48V PoC, allowing the transmitters and receivers to draw their power from the matrix switcher over CATx cables.
- Visually lossless video de-compression and compression for HDMI signals transmission up to 40m at 4K and 70m at 1080p on HDBaseT inputs and outputs.
- Supports Stereo + SPDIF audio outputs for audio de-embedding.
- Controllable via front panel buttons, RS232, IR and TCP/IP (built-in GUI).

1.2 Package List

- 1x MUH42T-H2 4x2 matrix switcher
- 4x Plastic Cushions
- 1x IR Receiver
- 1x Power Adaptor (24V DC 5A)
- 2x Mounting Ears with 4 Screws
- 1x RS232 Cable (3-pin to DB9)
- 1x IR Remote
- 1x User Manual

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

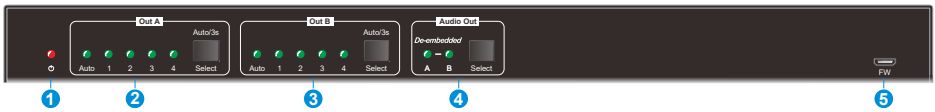
2. Specification

Video Input	
Input	(2) HDBaseT, (2) HDMI
Input Connector	(2) RJ45, (2) Type-A female HDMI
HDMI Input Resolution	Up to 4K@60Hz 4:4:4, HDR10, Dolby Vision
HDBaseT Input Resolution	Up to 4K@60Hz 4:2:0
Video Output	
Output	(2) HDBaseT, (2) HDMI
Output Connector	(2) RJ45, (2) Type-A female HDMI
HDMI Output Resolution	Up to 4K@60Hz 4:4:4, HDR10, Dolby Vision Supports 4K to 1080p down-scaling.
HDBaseT Output Resolution	Up to 4K@60Hz 4:2:0. Supports 4K to 1080p down-scaling.
HDMI Audio Signal	LPCM 7.1 audio, Dolby Atmos®, Dolby® TrueHD, Dolby Digital® Plus, DTS:X™, and DTS-HD® Master Audio™ pass-through.
Audio Output	
Output	(1) Stereo analog audio, (1) SPDIF audio
Output Connector	(1) 3.5mm jack, (1) Toslink connector
Analog L+R Audio Format	PCM 2CH
Digital SPDIF Audio Format	PCM, Dolby Digital, DTS, DTS-HD
Max Output Level	**Stereo:** 2.0Vrms ± 0.5dB. 2V = 16dB headroom above -10dBV (316mV) nominal consumer line level signal. **SPDIF:** ±0.05dBFS
Frequency Response	20Hz to 20kHz, ±1dB
THD+N	< 0.05%, 20Hz to 20kHz bandwidth, 1kHz sine at 0dBFS level (or max level)
SNR	**Stereo:** >80dB, 20Hz to 20kHz bandwidth **SPDIF:** > 90dB, 20Hz to 20kHz bandwidth
Crosstalk Isolation	**Stereo:** < -80dB, 10kHz sine at 0dBFS level (or max level before clipping) **SPDIF:** < -70dB, 10KHz sine at 0dBFS level (or max level before clipping).
L-R Level Deviation	**Stereo:** < 0.05dB, 1kHz sine at 0dBFS level (or max level before clipping)
Output Load Capability	**Stereo:** 1KΩ and higher (Supports 10x paralleled 10KΩ loads).
Noise Level	**Stereo:** -80dB. **SPDIF:** -90dB

Control Part	
Control port	(1) FW, (1) RS232, (1) IR EYE, (1) TCP/IP
Control Connector	(1) Micro-USB, (1) 3-pin terminal block, (1) 3.5mm jack, (1) RJ45
General	
HDMI Version	2.0
HDCP Version	2.2
Transmission Mode	HDBaseT
Transmission Distance	1080p ≤ 230 feet (70 meters), 4K@60Hz ≤ 131 feet (40 meters)
Bandwidth	18Gbps
Operation Temperature	-5 to +55℃ (+23° to +131°F)
Storage Temperature	-25 to +70℃ (-13° to +158°F)
Relative Humidity	10% to 90%, Non-condensing
External Power Supply	Input: 100 to 240V AC, 50/60Hz; Output: 24V DC 5A
Power Consumption	45W (Max)
Dimension (W*H*D)	300mm x 25mm x 220mm
Net Weight	1.6kg

3. Panel Description

3.1 Front Panel



① **Power LED:** Illuminates solid red when the device is powered on.

② **Out A:**

- **Auto LED:** Illuminates green in auto switching mode.
- **1-4:** Four input LEDs, one of which illuminates green to indicate which source is selected for output A.
- **Select/Auto/3s:** Press the button repeatedly to cycle through the four video inputs. Press and hold the button for 3 seconds to enter or exit auto switching mode.

③ **Out B:**

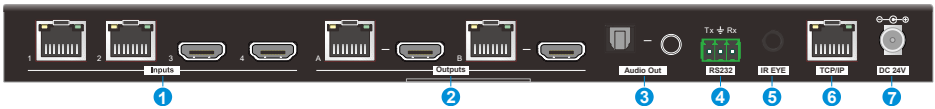
- **Auto LED:** Illuminates green in auto switching mode.
- **1-4:** Four input LEDs, one of which illuminates green to indicate which source is selected for output B.
- **Select/Auto/3s:** Press the button repeatedly to cycle through the four video inputs. Press and hold the button for 3 seconds to enter or exit auto switching mode.

④ **Audio Out:**

- **A/B LED:** Two audio source LEDs, one of which illuminates green to indicate which audio source is selected for stereo and SPDIF audio outputs.
- **Select:** Press the button repeatedly to cycle through the two audio sources for audio de-embedding.

⑤ **FW:** Micro-USB port for firmware upgrade.

3.2 Rear Panel



① **Inputs:**

- **1~2:** Connects to compatible HDBaseT transmitters.
- **3~4:** Connects to HDMI source devices.

② **Outputs:**

- **HDBaseT Outputs:** Connects to compatible HDBaseT receivers.
- **HDMI Outputs:** Connects to HDMI display devices.

③ **Audio Out:** Connects to audio player for audio de-embedding from HDBT output A or B.

④ **RS232:** Connects to a control device (e.g. PC) or a third-party device for RS232 control. Please refer to ***8. RS232 Control*** for more details.

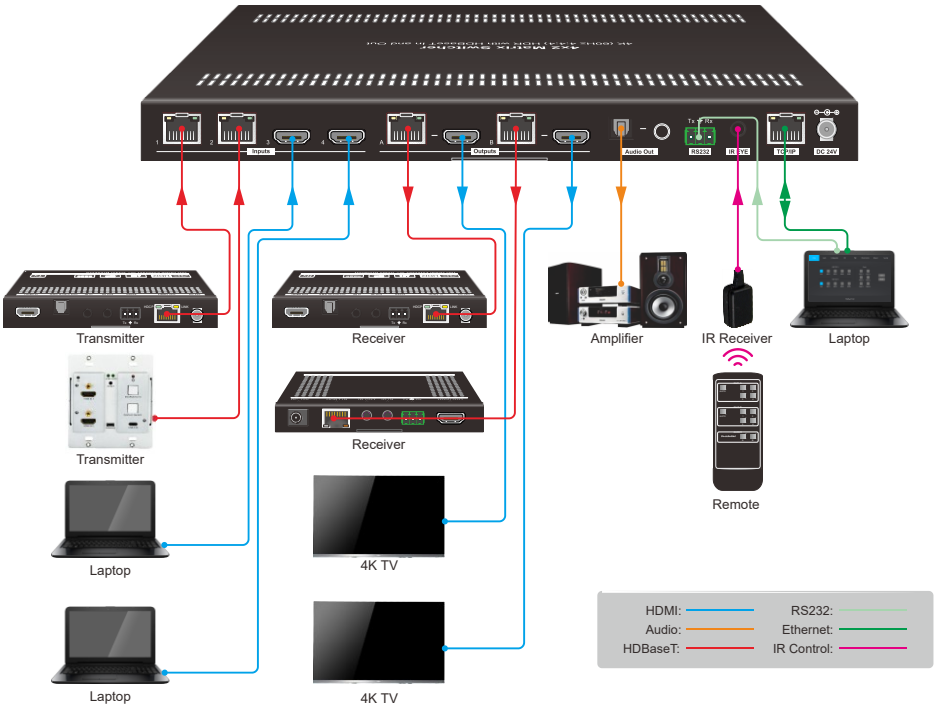
⑤ **IR EYE:** Connects to IR receiver to control the switcher by the IR remote. Please refer to ***7. IR Remote Control*** for more details.

⑥ **TCP/IP:** Connects to the control device (e.g. PC) to control the switcher by Web GUI. Please refer to ***6. GUI Control*** for more details.

⑦ **DC 24V:** DC connector for the power adapter connection.

4. System Connection

The following diagram illustrates typical input and output connections that can be utilized with this matrix switcher:



5. Button Control

5.1 Manual Switching

When the switcher is in manual switching mode, the **Auto** button LED goes out. Please follow the below steps to switch input source to output channel.

1) Press **Select** button at **Out A** block to select input source for HDBaseT + HDMI output A, and the corresponding source LED turns green.
2) Press **Select** button at **Out B** block to select input source for HDBaseT + HDMI output B, and the corresponding source LED turns green.

5.2 Auto Switching

Press and hold **Select** button at least 3 seconds at **Out A** block to enable auto switching mode for output A, and then the **Auto** LED will turn green.

Press and hold **Select** button at least 3 seconds at **Out B** block to enable auto switching mode for output B, and then the **Auto** LED will turn green.

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

- *The switcher will switch to the first available active input starting at input 1 to 4.*
- *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.*
- *Source removed: When an active source is removed, the switcher will switch to the first available active input starting at HDMI input 1.*
- *Detection method: TMDS or 5V (The default is 5V and it can be selected by RS232 commands).*
- *The current input source can be switched by **Select** button on front panel, IR remote and RS232 commands, and the switcher doesn't exit the auto switching mode.*

***Note:** In auto switching mode, press and hold the **Select** button at least 3 seconds to enable manual switching mode, but the input source will not be switched.*

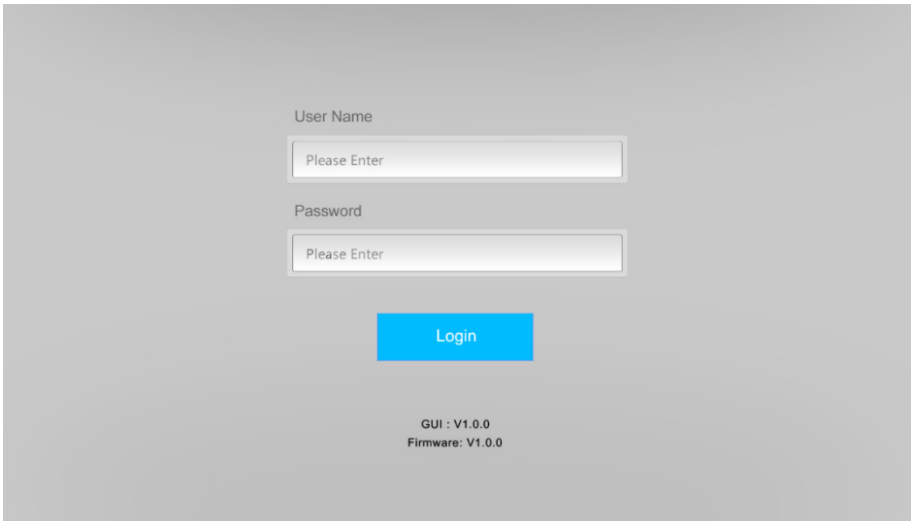
6. GUI Control

The switcher can also 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:

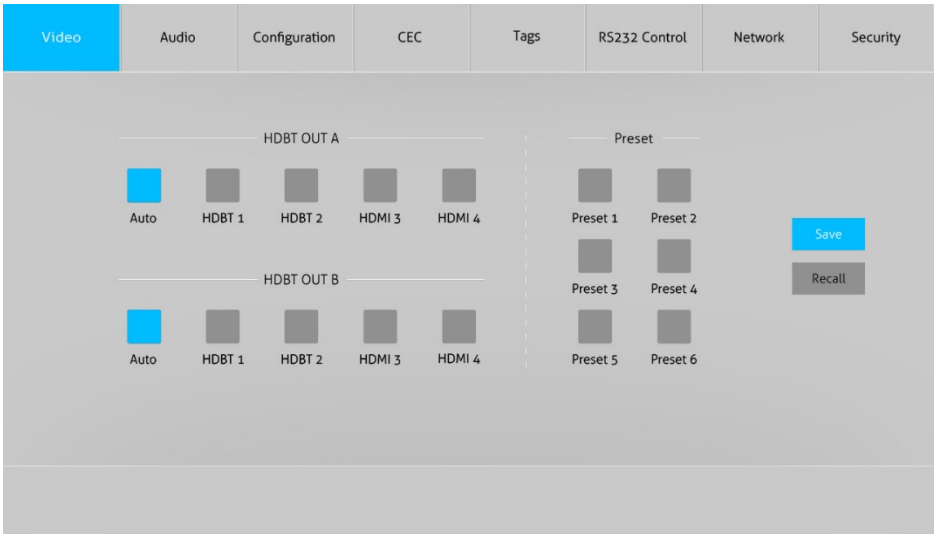


Username: admin

Password: admin

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

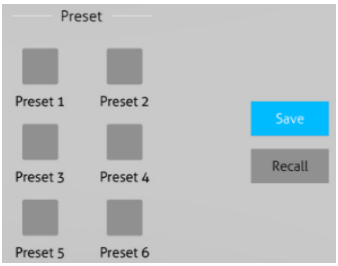
6.1 Video Tab



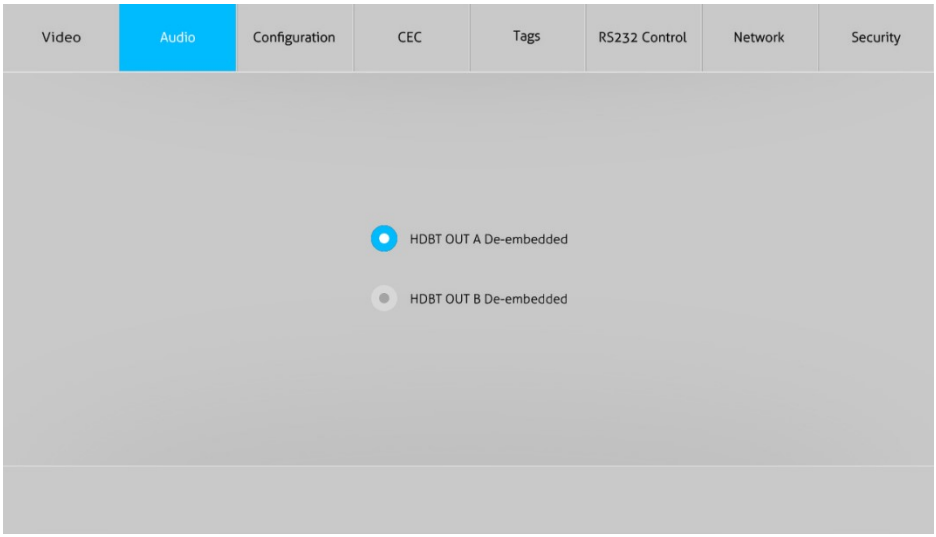
- **HDBT OUT A:** Select input source 1~4 for output A. Click **Auto** to enable auto switching mode for output A.
- **HDBT OUT B:** Select input source 1~4 for output B. Click **Auto** to enable auto switching mode for output B.

Use the 6 numbered buttons under preset area to save and load layout presets.

- To save a given layout, first click one of the numbered buttons, then click the **Save** button.
- To load a previously saved layout, first click one of the numbered buttons, then click the **Recall** button.



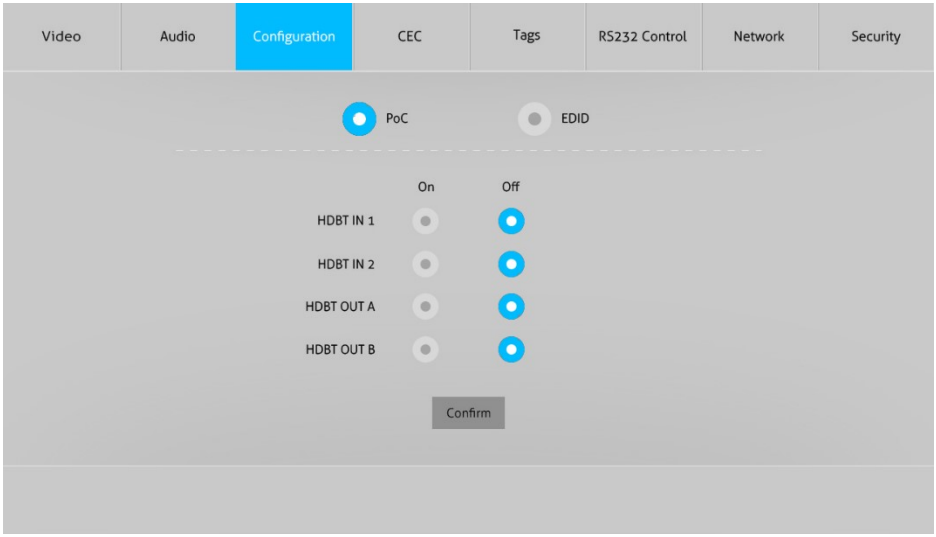
6.2 Audio Tab



- Select HDBT OUT A de-embedded audio, HDBT OUT B de-embedded audio for SPDIF + Stereo audio outputs.

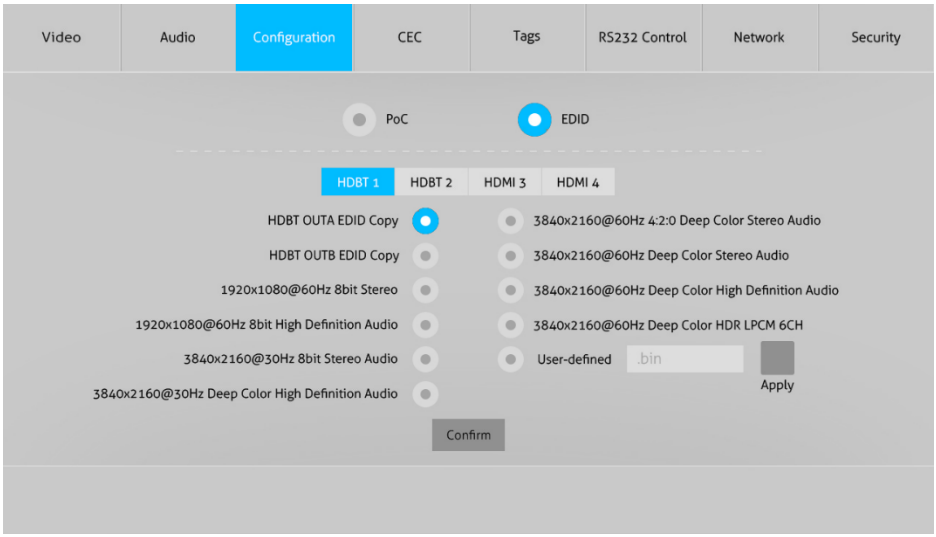
6.3 Configuration Tab

6.3.1 PoC Setting



- Turn on/off PoC for HDBT input 1~2 and HDBT output A~B.

6.3.2 EDID Setting



- Select a compatible built-in EDID for the selected input source, and then click Confirm to save setting.
- Upload user-defined EDID by the below steps:

  1) Prepare the EDID file (.bin) on the control PC.
  2) Select the **User-defined**.
  3) Click the box 

, and then select the EDID file (.bin) according the tooltip.
  4) Click **Apply** to upload the user-defined EDID.
  5) If invoke the user-defined EDID, select it and then click **Confirm**.

6.4 CEC Tab

If the input source devices, output devices support CEC, they can be controlled via the following CEC interface.

1) Source Device Control

- Select one or several input source devices to be controlled, and then press function buttons.

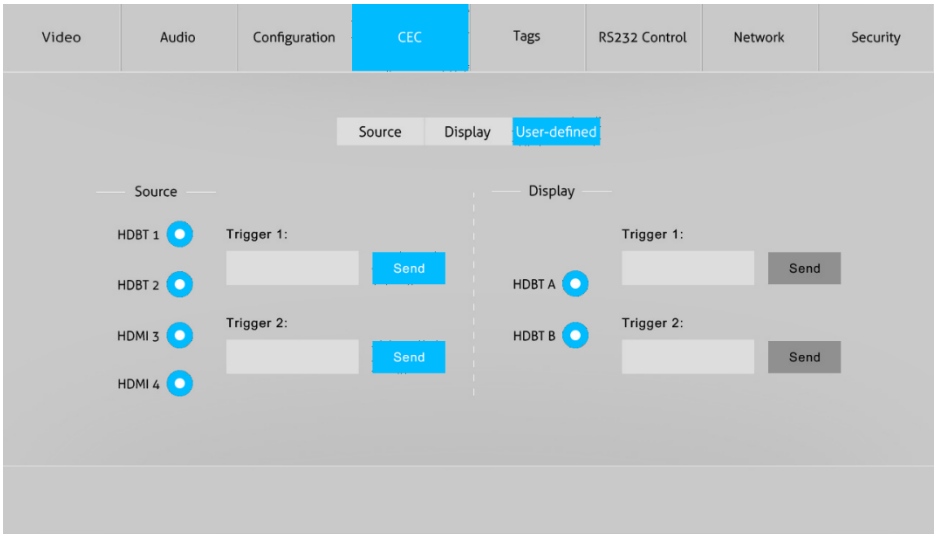
2) Display Device Control

- Select one or several output devices to be controlled, and then press function buttons.

Note: *The CEC standard is mainly formulated by TV manufacturers, and is mainly compatible with its TVs and Blu-ray Players, and may not be compatible with the source devices of other manufacturers, such as various set top boxes, Apple TV, etc.*

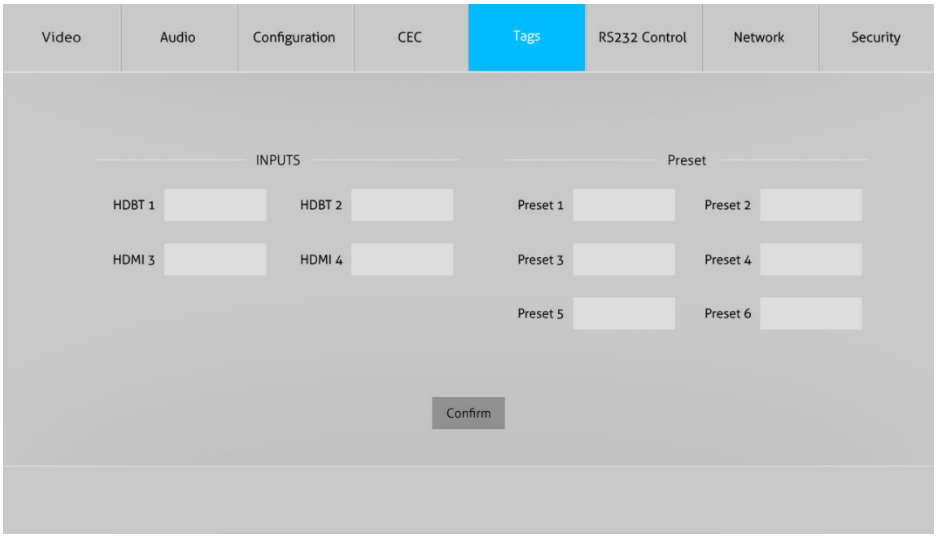
3) User-defined Control

The switcher also provides user-defined CEC functions, the CEC command can be edited and saved in the Trigger box.



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

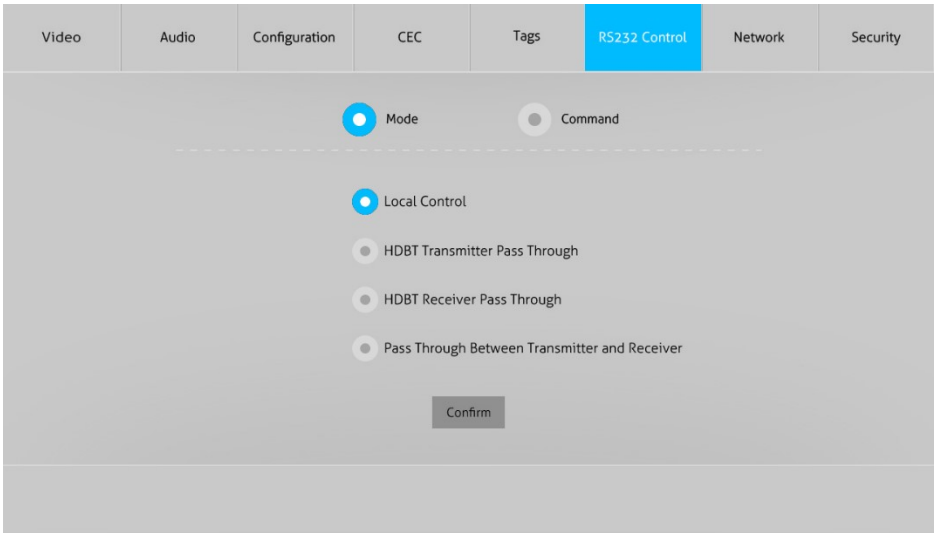
6.5 Tags Tab



- **INPUTS:** Modify the label of input sources.
- **Preset:** Modify the label of presets.

6.6 RS232 Tab

1) RS232 Mode



Select the RS232 mode in this tab.

- **Local Control:** The RS232 port of the switcher is used to connect control device (e.g. PC) to control the switcher.
- **HDBT Transmitter Pass Through:** Establish RS232 pass-through communication between the switcher and the HDBaseT transmitter.
- **HDBT Receiver Pass Through:** Establish RS232 pass-through communication between the switcher and the HDBaseT receiver.
- **Pass Through Between Transmitter and Receiver:** Establish RS232 pass-through communication between the HDBaseT transmitter and HDBaseT receiver.

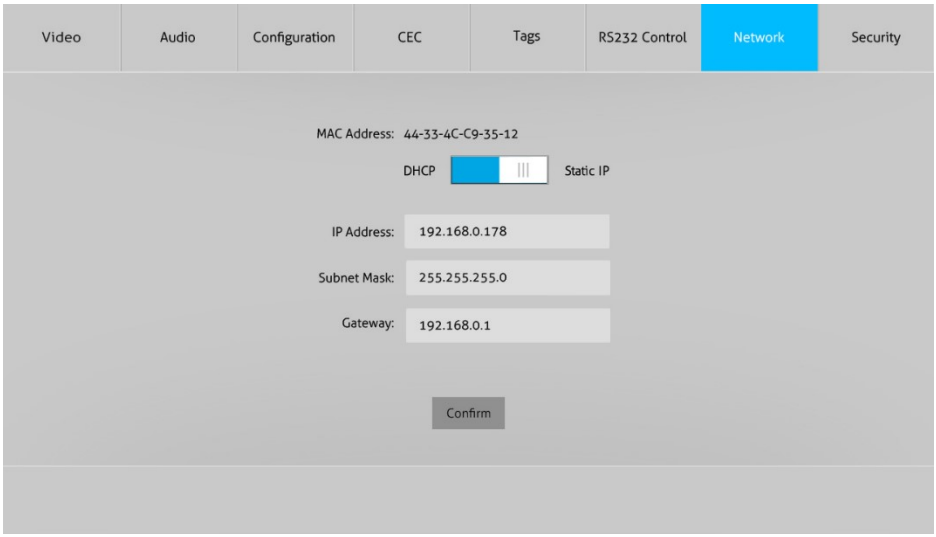
2) RS232 Mode

- Select command sending port.
  - ✓ ***Local:*** *Send RS232 commands to control the local third-party which is connected to the RS232 port of the switcher.*
  - ✓ ***HDBT In 1:*** *Send RS232 commands to control the far-end third-party which is connected to the RS232 port of HDBaseT transmitter. The transmitter is connected to the HDBT input 1 port.*
  - ✓ ***HDBT In 2:*** *Send RS232 commands to control the far-end third-party which is connected to the RS232 port of HDBaseT transmitter. The transmitter is connected to the HDBT input 2 port.*
  - ✓ ***HDBT Out 1:*** *Send RS232 commands to control the far-end third-party (e.g. projector) which is connected to the RS232 port of HDBaseT receiver. The receiver is connected to the HDBT output 1 port.*
  - ✓ ***HDBT Out 2:*** *Send RS232 commands to control the far-end third-party (e.g. projector) which is connected to the RS232 port of HDBaseT receiver. The receiver is connected to the HDBT output 2 port.*
- Set command format to **HEX** or **ASCII**.
- **Baud Rate:** Supports 2400, 4800, 9600, 19200, 38400, 57600 or 115200.
- **Command Ending:** NULL, CR, LF or CR+LF can be chosen.
- **Command:** Type command in this textbox, and then click **Send** to control the third-

party device.

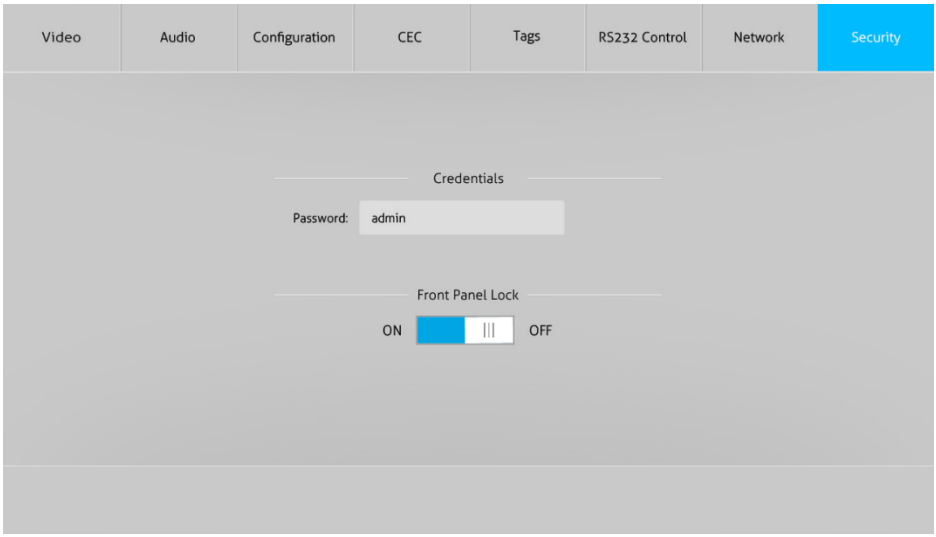
- **Trigger On:** Type Power On command in this box to turn on the third-party device.
- **Trigger Off:** Type Power Off command in this box to turn off the third-party device.

6.7 Network Tab



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

6.8 Security Tab

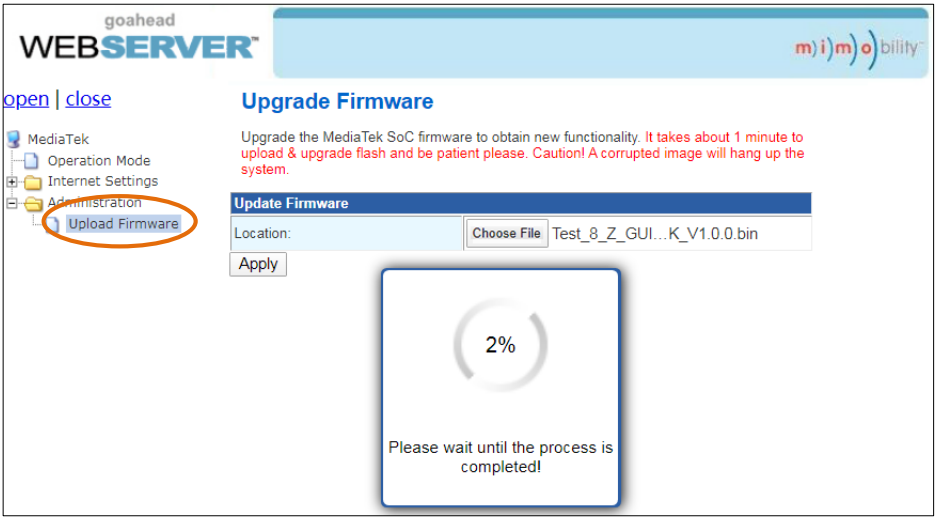


- Modify the login password.
- Lock or unlocking front panel buttons.

6.9 GUI Upgrade

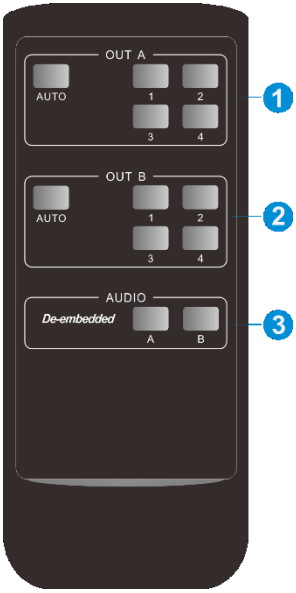
Please visit at http://192.168.0.178:100 for GUI online upgrade.

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, and then click **Upload Firmware**, select the desired update file and press **Apply**, it will start upgrading then.



7. IR Remote Control

Connect IR receiver to the **IR EYE** port, the switcher can be controlled by the following IR remote.



① **1-4:** Press 1-4 button to select corresponding input source for output A.

AUTO: Press the button to enable auto switching mode for output A.

② **1-4:** Press 1-4 button to select corresponding input source for output B.

AUTO: Press the button to enable auto switching mode for output B.

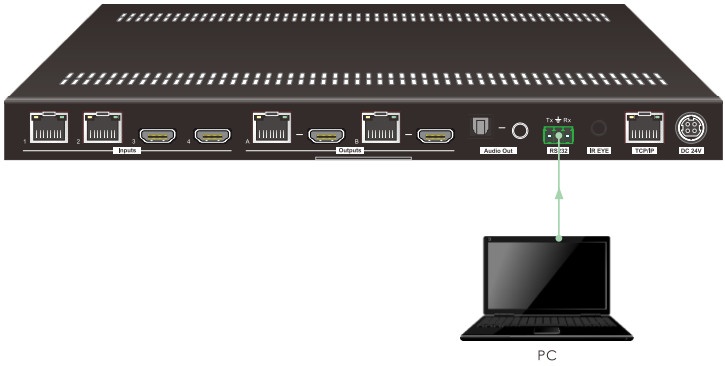
③ **De-embedded:** Press A or B button to select output A or output B de-embedded audio source for SPDIF + Stereo audio output.

8. RS232 Control

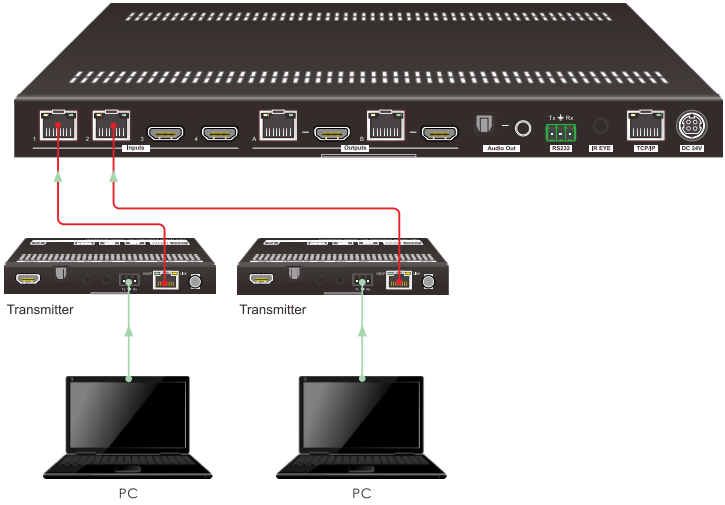
8.1 RS232 Control Connection

8.1.1 Control the Matrix Switcher

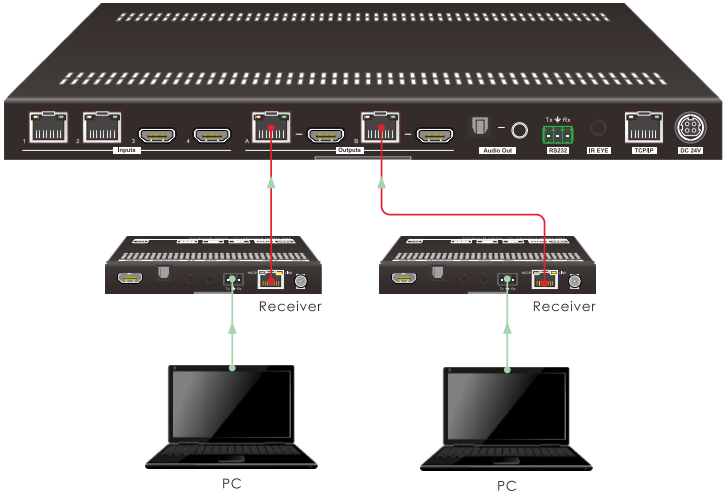
1) To control the matrix switcher from a local PC, the 3-pin to DB9 RS232 cable is used to connect between the matrix and PC. The connection diagram is shown as below:



2) To control the matrix switcher from remote transmitter location, please connect one or two PCs to the RS232 ports of HDBaseT transmitters with the 3-pin to DB9 RS232 cables. The matrix switcher can be controlled by any one of PCs, the connection diagram is shown as below:

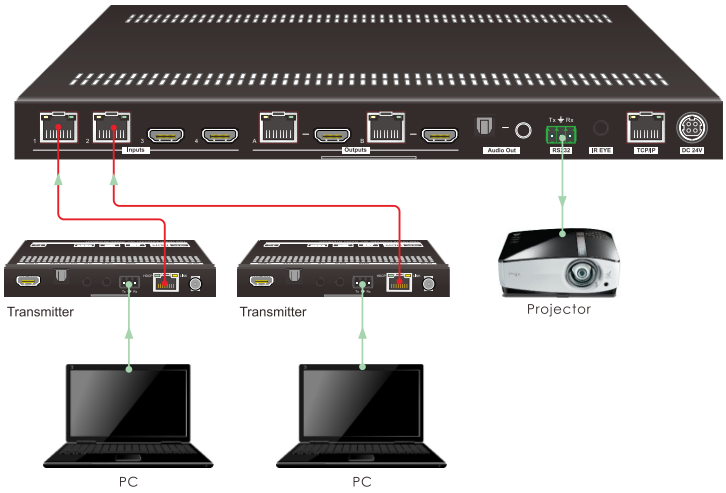


3) To control the matrix switcher from remote receiver location, please connect one or two PCs to the RS232 ports of HDBaseT receivers with the 3-pin to DB9 RS232 cables. The matrix switcher can be controlled by any one of PCs, the connection diagram is shown as below:

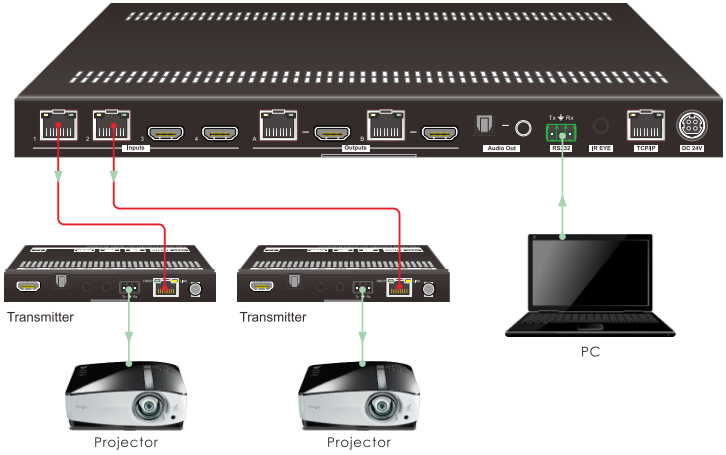


8.1.2 RS232 Pass-through Between Matrix Switcher and Transmitter

1) To control local third-party device from transmitter location, first determine which HDBaseT transmitter is connected to. Next, connect a PC to the RS232 port of HDBaseT transmitter, then connect a third-party device (e.g. projector) to the RS232 port of matrix switcher, the connection diagram is shown as below:

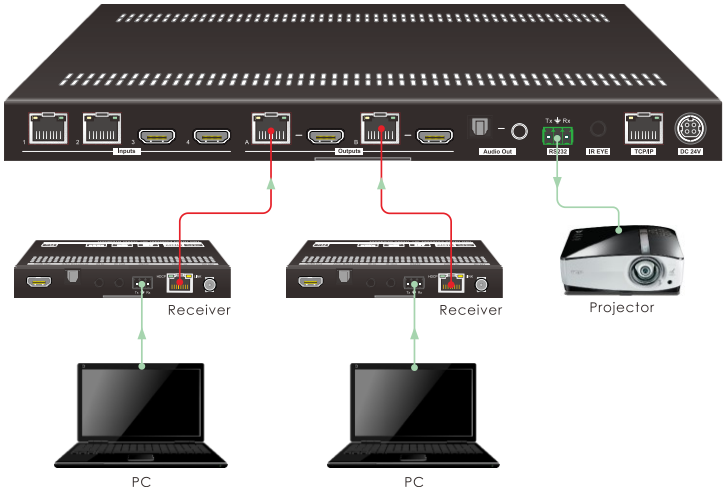


2) To control remote third-party device from matrix switcher location, first determine which HDBaseT transmitter is connected to. Next, connect a third-party device (e.g. projector) to the RS232 port of HDBaseT transmitter, then connect a PC to the RS232 port of matrix switcher, the connection diagram is shown as below:

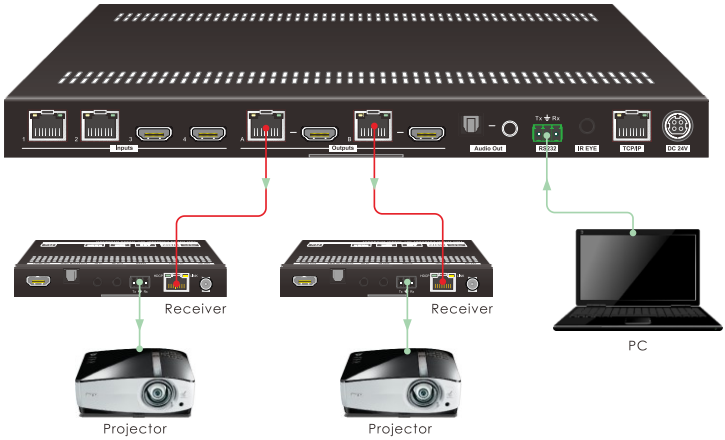


8.1.3 RS232 Pass-through Between Matrix Switcher and Receiver

1) To control local third-party device from remote receiver location, first determine which HDBaseT receiver is connected to. Next, connect a PC to the RS232 port of HDBaseT receiver, then connect a third-party device (e.g. projector) to the RS232 port of matrix switcher, the connection diagram is shown as below:

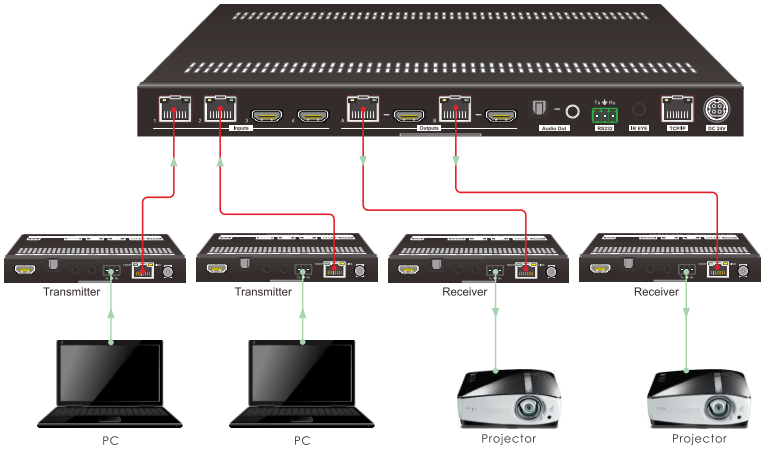


2) To control remote third-party device from local matrix switcher location, first determine which HDBaseT receiver is connected to. Next, connect a PC to the RS232 port of matrix switcher, then connect a third-party device (e.g. projector) to the RS232 port of HDBaseT receiver, the connection diagram is shown as below:

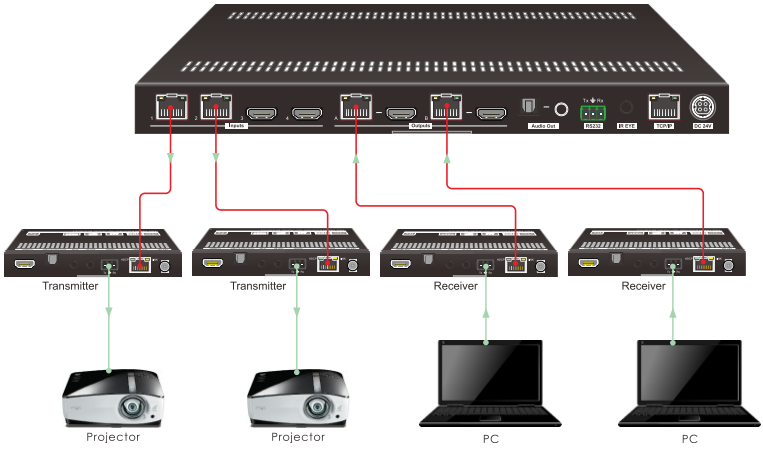


8.1.4 RS232 Pass-through Between Transmitter and Receiver

1) To control third-party device from transmitter location, first determine which HDBaseT receiver is connected to. Next, connect a third-party device (e.g. projector) to the RS232 port of HDBaseT receiver, then connect a PC to the RS232 port of HDBaseT transmitter, the connection diagram is shown as below:



2) To control third-party device from receiver location, first determine which HDBaseT transmitter is connected to. Next, connect a third-party device (e.g. projector) to the RS232 port of HDBaseT transmitter, then connect a PC to the RS232 port of HDBaseT receiver, the connection diagram is shown as below:



8.2 RS232 Commands

After set all needed input and output devices according to the RS232 connection diagram, please install the RS232 control software (e.g. docklight) into the control PC to send RS232 command.

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.
When controlling the switcher, the serial port settings for all RS232 commands is:

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

The matrix switcher can be controlled by sending the following RS232 commands, and the command ending is "<CR><LF>".

8.2.1 System Setting

Command	Description	Command Example and Feedback
>SetPowerOn [param1]	Enter/ exit standby mode. [param1] = En, Dis En - Power on. Dis - Standy mode.	>SetPowerOn En >SetPowerOn Dis <PowerOn False <PowerOn True
>GetFirmwareVersion	Get the firmware version.	<V1.0.0
>SetFactoryReset	Reset to factory default.	<FactoryReset_True
>SetReboot	Device reboot.	<Reboot_True
>GetStatus	Get system working status.	…
>SetRS232Baudrate [param1]	Set the serial baud rate of matrix switcher to [param1]. [param1] = 1~7 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 6 - 4800 7 - 2400	>SetRS232Baudrate 3 <RS232Baudrate 9600
>GetRS232Baudrate	Get the baud rate of switcher.	<RS232Baudrate 9600
>SetKeyboardLock [param1]	Lock/unlock front panel buttons. [param1] = En, Dis En - Lock Dis - Unlock	>SetKeyboardLock En >SetKeyboardLock Dis <KeyboardLock True <KeyboardLock False
>GetKeyboardLock	Get the front panel locking status.	<KeyboardLock True <KeyboardLock False
>SetSignalDet [param1]	Set the input signal detection method. [param1] = 5V, TMDS.	>SetSignalDet TMDS >SetSignalDet 5V

Command	Description	Command Example and Feedback
		<SignalDetMode TMDS <SignalDetMode 5V
>GetSignalDet	Get the input signal detection method.	<SignalDetMode TMDS <SignalDetMode 5V
>Set5VSource [param1]	In auto switching mode, set the detection method of HDBT inputs to detect the signal of transmitter to ensure different transmitters can be used. [param1] = HW, FW. HW - Hardware detection. FW - Firmware detection.	>Set5VSource HW >Set5VSource FW
		<HDBTIN5VSourceFrom HW <HDBTIN5VSourceFrom FW
>Get5VSource	Get the detection method of HDBT inputs to detect the signal of transmitter to ensure different transmitters can be used.	<HDBTIN5VSourceFrom HW <HDBTIN5VSourceFrom FW
>SetDownScaler [param1] [param2]	Set the down-scaling function of output [param1]. [param1] = OutA, OutB. [param1] = Null, all outputs. [param2] = En, Dis. En - Enable down-scaling function. Dis - Disable down-scaling function.	>SetDownScaler En >SetDownScaler Dis
		<DownScaler True <DownScaler False
>GetDownScaler [param1]	Get the down-scaling function setting status of output [param1]. [param1] = OutA, OutB. [param1] = Null, all outputs.	>GetDownScaler
		<DownScaler True <DownScaler False
>SetDhcp [param1]	Enable/disable DHCP (Dynamic Host Configuration Protocol). [param1] = En, Dis. En - Enable DHCP. Dis - Disable DHCP.	>SetDhcp En >SetDhcp Dis
		<Dhcp True <Dhcp False
>GetDhcp	Get DHCP status.	<Dhcp True <Dhcp False
>SetIpAddr [param1].[param2].[param3].[param4]	Set GUI IP. [param1] = 0 ~ 255. [param2] = 0 ~ 255. [param3] = 0 ~ 255. [param4] = 0 ~ 255.	>SetIpAddr 192.168.0.178
		<SetIpAddr 192.168.0.178

Command	Description	Command Example and Feedback
>GetIpAddr	Get GUI IP.	<SetIpAddr 192.168.0.178
>SetSubnetMask [param1].[param2].[param3].[param4]	Set the subnet mask address of the GUI. [param1] = 0 ~ 255. [param2] = 0 ~ 255. [param3] = 0 ~ 255. [param4] = 0 ~ 255.	>SetSubnetMask 255.255.255.0 <SetSubnetMask 255.255.255.0
>GetSubnetMask	Get the subnet mask address of the GUI.	<SetSubnetMask 255.255.255.0
>SetGateWay [param1].[param2].[param3].[param4]	Set the gateway address of the GUI. [param1] = 0 ~ 255. [param2] = 0 ~ 255. [param3] = 0 ~ 255. [param4] = 0 ~ 255.	>SetGateWay 192.168.0.1 <SetGateWay 192.168.0.1
>GetGateWay	Get the gateway address of the GUI.	<SetGateWay 192.168.0.1
>SetPoCOut [param1] [param2]	Turn on/off PoC. [param1] = IN1, IN2, OutA, OutB, Null. IN1 - HDBT input 1. IN2 - HDBT input 2. OutA - HDBT output A. OutB - HDBT output B. Null - all HDBT inputs and outputs. [param2] = En, Dis En - Turn on PoC. Dis - Turn off PoC.	>SetPoCOut Dis >SetPoCOut En >SetPoCOut IN1 Dis >SetPoCOut IN1 En >SetPoCOut IN2 Dis >SetPoCOut IN2 En >SetPoCOut OutA Dis >SetPoCOut OutA En >SetPoCOut OutB Dis >SetPoCOut OutB En <PoCOut IN1 Off <PoCOut IN1 On <PoCOut IN2 Off <PoCOut IN2 On <PoCOut OutA Off <PoCOut OutA On <PoCOut OutB Off <PoCOut OutB On
>GetPoCOut [param1]	Get PoC setting status. [param1] = IN1, IN2, OutA, OutB, Null. IN1 - HDBT input 1. IN2 - HDBT input 2. OutA - HDBT output A.	>GetPoCOut >GetPoCOut IN1 >GetPoCOut IN2 >GetPoCOut OutA >GetPoCOut OutB

Command	Description	Command Example and Feedback
	OutB - HDBT output B. Null - all HDBT inputs and outputs.	<PoCOut IN1 Off <PoCOut IN1 On <PoCOut IN2 Off <PoCOut IN2 On <PoCOut OutA Off <PoCOut OutA On <PoCOut OutB Off <PoCOut OutB On

8.2.2 Signal Switching

Command	Description	Command Example and Response
>SetAV [param1] [param2]	Switch video input [param2] to video output [param1]. [param1] = OutA, OutB. [param1] = Null, all outputs. [param2] = H1, H2, H3, H4 H1 - HDBT input 1. H2 - HDBT input 2. H3 - HDMI input 3. H4 - HDMI input 4.	>SetAV H1 >SetAV OutA H1 >SetAV OutB H1
		<AV OutA H1 <AV OutB H1
>GetAV [param1]	Get input source for output [param1]. [param1] = OutA, OutB. [param1] = Null, all outputs.	>GetAV >GetAV OutA >GetAV OutB
		<AV OutA H1 <AV OutB H1
>SetAutoSwitch [param1] [param2]	Enable/disable auto switching mode for output[param1]. [param1] = OutA, OutB. [param1] = Null, all outputs. [param2] = En, Dis En - Enable Dis - Disable	>SetAutoSwitch En >SetAutoSwitch Dis >SetAutoSwitch OutA En >SetAutoSwitch OutA Dis >SetAutoSwitch OutB En >SetAutoSwitch OutB Dis
		<AutoSwitch OutA Enable <AutoSwitch OutA Disable <AutoSwitch OutB Enable <AutoSwitch OutB Disable
		>GetAutoSwitch

Command	Description	Command Example and Response
>GetAutoSwitch [param1]	Get the auto switching mode setting of output[param1]. [param1] = OutA, OutB. [param1] = Null, all outputs.	>GetAutoSwitch OutA >GetAutoSwitch OutB
		<AutoSwitch OutA Enable <AutoSwitch OutA Disable <AutoSwitch OutB Enable <AutoSwitch OutB Disable
>SaveScreenMode [param1]	Store the current switching status to present [param1]. [param1] = 1~6.	>SaveScreenMode 1
		<CallScreenMode 1
>RecallScreenMode [param1]	Recall present [param1]. [param1] = 1~6.	>RecallScreenMode 2
		<CallScreenMode 2
>ClearScreenMode [param1]	Clear present [param1]. [param1] = 1~6.	>ClearScreenMode 2
		<ClearScreenMode 2

8.2.3 Audio Setting

Command	Description	Command Example and Response
>SetAudioSrc [param1]	Set the audio source of SPDIF + Stereo audio outputs. [param1] = OutA, OutB OutA - Audio de-embedding from output A. OutB - Audio de-embedding from output B.	>SetAudioSrc OutA >SetAudioSrc OutB
		<AudioSrc OutA De-embedded <AudioSrc OutB De-embedded
>SetSpdif [param1]	Mute/unmute the SPDIF audio output. [param1] = Mute, Unmute	>SetSpdif Mute >SetSpdif Unmute
		<Spdif Mute <Spdif UnMute
>SetIis [param1]	Mute/unmute the Stereo (I2S) audio output. [param1] = Mute, Unmute	>SetIis Mute >SetIis Unmute
		<Iis Mute <Iis UnMute
>GetAudioSta	Get audio output status.	<AudioSrc OutA De-embedded <AudioSrc OutB De-embedded <Spdif Mute

Command	Description	Command Example and Response
		<Spdif UnMute <Iis Mute <Iis UnMute

8.2.4 HDCP and EDID Setting

Command	Description	Command Example and Response
>SetHdcpOutput [param1] [param2]	Set the HDCP mode of output. [param1] = OutA, OutB. [param1] = Null, all outputs. [param2] = Active, Passive, Off. ● Active - HDCP 1.4 ● Passive - Follows the HDCP of input signal, supports up to HDCP 2.2. ● Off - No HDCP content.	>SetHdcpOutput Active >SetHdcpOutput Passive >SetHdcpOutput Off <HdcpOutput Active <HdcpOutput Passive <HdcpOutput Off
>GetHdcpOutput	Get HDCP setting status of output.	<HdcpOutput Active <HdcpOutput Passive <HdcpOutput Off
>SetUpdateEdid [param1]	Upload a user-defined EDID. The EDID can be saved for invoking at any time. When the command applied, system prompts to upload the EDID file (.bin). Operation will be cancelled in 10 seconds. [param1] = 1, 2. 1 - Upload user-defined EDID 1. 2 - Upload user-defined EDID 2.	>SetUpdateEdid 1 <User 1 EDID Ready Please Send EDID Data Within 10 Seconds

Command	Description	Command Example and Response
>SetEdidMode [param1] [param2]	Set the EDID of input. [param1] = H1, H2, H3, H4, Null H1 - HDBT input 1. H2 - HDBT input 2. H3 - HDMI input 3. H4 - HDMI input 4. Null - All inputs. [param2] = 1~12 1 - HDBT OUTA EDID Copy 2 - HDBT OUTB EDID Copy 3 - 1920x1080@60Hz 8bit Stereo 4 - 1920x1080 8bit High Definition Audio 5 - 3840x2160@30Hz 8bit Stereo Audio 6 - 3840x2160@30Hz Deep Color High Definition Audio 7 - 3840x2160@60Hz 4:2:0 Deep Color Stereo Audio 8 - 3840x2160@60Hz Deep Color Stereo Audio 9 - 3840x2160@60Hz Deep Color High Definition Audio 10 - 3840x2160@60Hz Deep Color HDR LPCM 6CH 11 - user-defined EDID 1 12 - user-defined EDID 2	>SetEdidMode 8 >SetEdidMode H1 8 >SetEdidMode H2 8 >SetEdidMode H3 8 >SetEdidMode H4 8 <EDIDMode H1 8 <EDIDMode H2 8 <EDIDMode H3 8 <EDIDMode H4 8
>GetEdidMode [param1]	Get the EDID of input. [param1] = H1, H2, H3, H4, Null H1 - HDBT input 1. H2 - HDBT input 2. H3 - HDMI input 3. H4 - HDMI input 4. Null - All inputs.	>GetEdidMode >GetEdidMode H1 >GetEdidMode H2 >GetEdidMode H3 >GetEdidMode H4 <EDIDMode H1 8 <EDIDMode H2 8 <EDIDMode H3 8 <EDIDMode H4 8

8.2.5 Third-party Device Control

Command	Description	Command Example
>SetSrcCecControl [param1] [param2]	Send CEC command to control source device. [param1] = H1, H2, H3, H4, Null H1 - HDBT input 1. H2 - HDBT input 2. H3 - HDMI input 3. H4 - HDMI input 4. Null - All inputs. [param2] = 1~18 1 - Volume- 2 - Menu 3 - Volume+ 4 - Back 5 - Up 6 – Enter 7 - Left 8 – Down 9 - Right 10 – On 11 - Off 12 - Stop 13 - Previous 14 – Next 15 - Pause 16 – REW 17 - FF 18 - Play	>SetSrcCecControl H1 1 >SetSrcCecControl H2 1 >SetSrcCecControl H3 1 >SetSrcCecControl H4 1 <SourceCECCommand H1 1 <SourceCECCommand H2 1 <SourceCECCommand H3 1 <SourceCECCommand H4 1
>SetDisCecControl [param1] [param2]	Send CEC command to control display device. [param1] = OutA, OutB. [param1] = Null, all outputs. [param2] = 1~6 1 - On 2 - Off 3 - Source 4 - Mute 5 - Volume- 6 - Volume+	>SetDisCecControl OutA 1 >SetDisCecControl OutB 1 <DisplayCECCommand OutA 1 <DisplayCECCommand OutB 1
>SetUserCecControl [param1] [param2]	Customize CEC command to control source or display device. [param1] = 1~6 1 - HDBT input 1. 2 - HDBT input 2. 3 - HDMI input 3. 4 - HDMI input 4. 5 - HDBT output A. 6 - HDBT output B. [param2] = XX:XX.....(HEX)	>SetUserCecControl 5 40:36 <UserCECCommand 1 XX:XX…...

Command	Description	Command Example
>SetRS232Mode [param1]	Set the RS232 mode. [param1] = 1~4 1 - Local Control. 2 - HDBT Transmitter Pass Through 3 - HDBT Receiver Pass Through 4 - Pass Through Between Transmitter and Receiver. ***Note:*** *The RS232 mode can be set by GUI RS232 tab.*	>SetRS232Mode 1 >SetRS232Mode 2 >SetRS232Mode 3 >SetRS232Mode 4 <RS232Mode 1 <RS232Mode 2 <RS232Mode 3 <RS232Mode 4
>GetRS232Mode	Get the RS232 control mode.	<RS232Mode 2
>SetOn_[param1]_ [param2]:[param3]	When the switcher is powered on, it automatically sends the saved RS232 command to control the far-end third-party devices. [param1] = A, H. A - ASCII command format. H - HEX command format. [param2] = 1~7 (Baud rate) 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 6 - 4800 7 - 2400 [param3] = ASCII string or HEX string. (e.g. The string is used to turn on display device) ***Note:*** *The command does not need command ending "<CR><LF>".*	>SetOn_A_1:abc123 <SetOn_Ascii (Baud)115200 abc123
>SetOff_[param1]_ [param2]_[param3]: [param4]	When the switcher is powered off, it automatically sends the saved RS232 command to control the far-end third-party devices. [param1] = A, H. A - ASCII command format. H - HEX command format. [param2] = 1~7 (Baud rate) 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 6 - 4800 7 - 2400 [param3] = 1, 2 1 - Send the RS232 string once.	>SetOff_A_1_2:abc123 SetOff_Ascii (Baud)115200 (Repeat)2 abc123

Command	Description	Command Example
	2 - Send the RS232 string two times. [param4] = ASCII string or HEX string. (e.g. The string is used to turn off display device) ***Note:*** *The command does not need command ending "<CR><LF>".*	
>SetOffRptDly [param1]	When the above Off RS232 command is set to be repeated 2 times, the interval between the two commands can be set by this command. [param1] = 300-10000 (ms)	>SetOffRptDly 300 <OffRptDly 300
>GetOffRptDly	Get the sending interval between two Off RS232 commands.	<OffRptDly 300
>Send_A_[param1]_ [param2]:[param3]	Send ASCII command to the desired RS232 port. [param1] = 1~5 1 - Local 2 - HDBT input 1 3 - HDBT input 2 4 - HDBT output A. 5 - HDBT output B. [param2] = 1~7 (Baud rate) 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 6 - 4800 7 - 2400 [param3] = ASCII string. ***Note:*** *The command does not need command ending "<CR><LF>".*	>Send_A_1_1:abc123 …
>Send_H_[param1]_ [param2]:[param3]	Send HEX command to the desired RS232 port. [param1] = 1~5 1 - Local 2 - HDBT input 1 3 - HDBT input 2 4 - HDBT output A. 5 - HDBT output B. [param2] = 1~7 (Baud rate) 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 6 - 4800 7 - 2400	>Send_H_1_1:31 32 33 …

Command	Description	Command Example
	[param3] = HEX string ***Note:*** *The command does not need command ending "<CR><LF>".*	
>SetDisplayOn [param1] [param2]	Turn on/off the display devices by simultaneously sending CEC command and the saved RS232 command. [param1] = OutA, OutB. [param1] = Null, all outputs. [param2] = En, Dis En - Turn on display devices. Dis - Turn off display devices.	>SetDisplayOn En >SetDisplayOn Dis >SetDisplayOn OutA En >SetDisplayOn OutA Dis >SetDisplayOn OutB En >SetDisplayOn OutB Dis
		<Display OutA Off <Display OutA On <Display OutB Off <Display OutB On

9. Firmware Upgrade

Please follow the steps below to upgrade the firmware by the **FW** port on the front panel:

1) Prepare the latest upgrade file (.bin) and rename it as “FW_MERG.bin”.
2) Connect the switcher to the PC with USB to Micro USB cable, and then power on the switcher. The PC will automatically detect a U-disk named of “BOOTDISK”.
3) Double-click the U-disk, a file named of “READY.TXT” would be shown.
4) Directly copy the latest upgrade file (.bin) to the “BOOTDISK” U-disk.
5) Reopen the U-disk to check the filename “READY.TXT” whether automatically becomes “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 USB to Micro USB cable after firmware upgrade, and reboot the switcher.