VLMX-0402E

4x2 HDMI 2.0 Matrix with output 4K to 1080p downscaling and display control 18Gbps

User Manual

VER 1.02

Thank you for purchasing this product

Please read these instructions carefully for optimum performance and safety before connecting, operating, or adjusting this product. Please keep this manual for future reference.

A surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shocks, lightning strikes, etc. The use of surge protection systems is highly recommended to protect and extend the life of your equipment.

Table of Contents

1. Introduction

This product is an 18G HDMI video switcher with 4 HDMI inputs and 2 scaling HDMI outputs. Each input and output support up to 4K60 444 HDMI 18G video. The outputs can be individually scaled for 1080p or HDBaseT compatibility. De-embedded audio as analog L+R and optical TosLink is available for both outputs. The Matrix Switcher can automatically control the display device using RS232, CEC, or IR when the last input signal is lost, or the first video input is detected. This switcher can be controlled from the front panel, RS232, IR, or LAN.

2. Features

- ☆ HDMI 2.0, HDCP 2.2 / HDCP 1.4, and DVI 1.0 compliant
- ☆ Four 18G HDMI 2.0 video inputs supporting up to 4K60 444 resolution
- ☆ Two 18G HDMI 2.0 video outputs supporting up to 4K60 444 resolution
- ☆ Both outputs can be individually scaled for 4K→1080p or HDBaseT mode
- ☆ Automatic RS232, CEC, and IR control of the display device power state
- ☆ Two sets of de-embedded audio analog and TosLink outputs for both outputs
- ☆ ARC decoding to the TosLink audio outputs only
- ☆ Test Pattern mode for testing output signal integrity to the display
- ☆ Built-in Web GUI for LAN control
- ☆ Four methods of control: Front panel, RS232, IR, and LAN

3. Package Contents

Qty	Item
1	4x2 HDMI 2.0 18Gbps Matrix Switcher
1	12V/1A Locking Power Adapter
1	IR Remote
2	Mounting Ears
2	IR Blaster Cables (1.5 meters)
1	20~60KHz IR Receiver Cable (1.5 meters)
5	3-pin Phoenix Connectors
1	User Manual

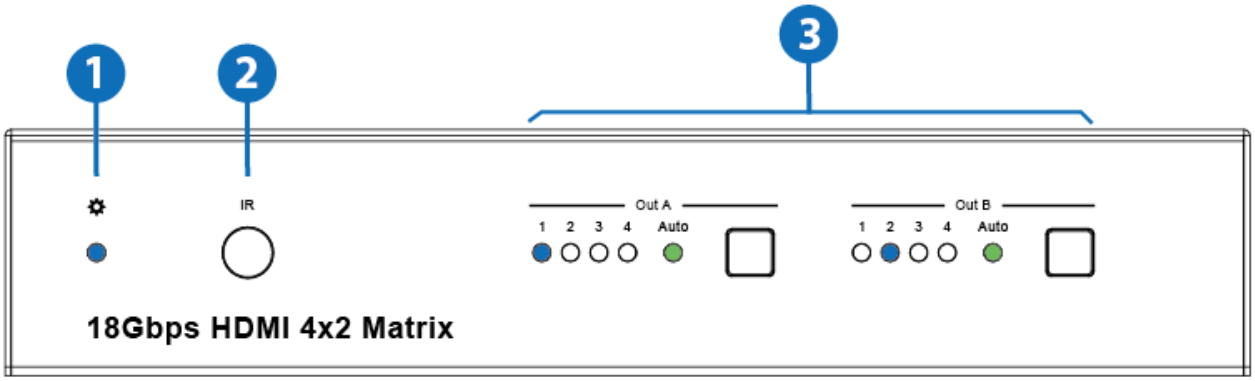
4. Specifications

Technical	
HDMI Compliance	HDMI 2.0
HDCP Compliance	HDCP 2.2 and HDCP 1.4
Video Bandwidth	18 Gbps
Video Resolution	4K2K 50/60Hz 4:4:4 4K2K 50/60Hz 4:2:0 4K2K 30Hz 4:4:4 1080p, 1080i, 720p, 720i, 480p, 480i All HDMI 3D TV formats All PC resolutions, including 1920 x 1200
3D Support	Yes
Output Scaling	4K to 1080p 4K to HDBaseT (Down-scale to no more than 10.2Gbps)
Color Space	RGB, YCbCr4:4:4, YCbCr4:2:2, YCbCr 4:2:0
Color Depth	8-bit, 10-bit, 12-bit [1080P, 4K30Hz, 4K60Hz (YCbCr 4:2:0)] 8-bit [4K60Hz (YCbCr4:4:4)]
HDMI Audio Formats	PCM2.0/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX,DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD
HDR formats	HDR10, HDR10+, Dolby Vision, HLG
L/R Audio Formats	PCM2.0CH (Note: If the ARC function is turned on, the audio port will mute.)
Optical Audio Formats	PCM2.0, Dolby Digital / Plus, DTS
Audio Frequency Response	20Hz to 20kHz, ±3dB
RS232 Control	57600, No parity, 8 data bits, 1 stop bit, No handshaking
RS232-A and	Configurable from 4800 to 115200 baud; 7 or 8 bits; none,

RS232-B	odd or even parity, and 1 or 2 stop bits.		
ESD Protection	Human-body Model：±8kV (Air-gap discharge), ±4kV (Contact discharge)		
Connections			
Input Ports	4×HDMI Type A [19-pin female]		
Output Ports	2×HDMI Type A [19-pin female] 2×L/R audio out [3-pin phoenix connector] 2×OPTICAL audio out [S/PDIF] 2×RS232 A/B [3-pin phoenix connector]		
Control port	1×LAN [RJ45] 3×RS232 [3-pin phoenix connector] 1×IR IN [3.5mm Stereo Mini jack] 2×IR OUT A/B [3.5mm Stereo Mini jack]		
Mechanical			
Housing	Metal Enclosure		
Color	Black		
Dimensions	218mm(W)×140mm(D)×43mm(H)		
Weight	1050g		
Power Supply	Input: AC100~240V 50/60Hz Output: DC12V/1A (Locking connector)		
Power Consumption	Input: AC100~240V 50/60Hz Output: DC12V/1A (Locking connector)		
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F		
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F		
Relative Humidity	20~90% RH (Non-Condensation)		
Resolution / Cable length	4K60 - Feet / Meters	4K30 - Feet / Meters	1080P60 - Feet / Meters
HDMI IN / OUT	16ft / 5M	32ft / 10M	50ft / 15M
The use of the "Premium High-Speed HDMI" cable is highly recommended.			

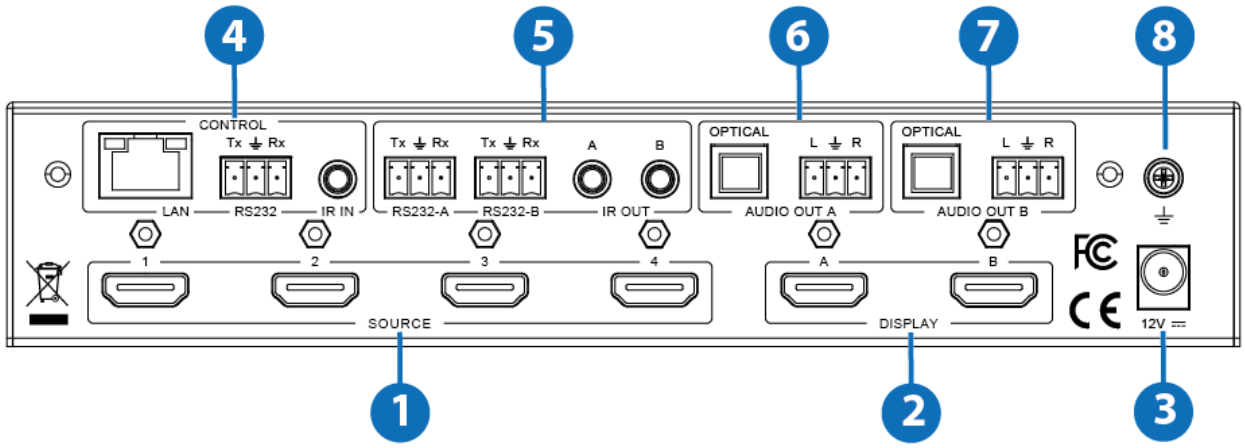
5. Operation Controls and Functions

5.1 Front Panel



Number	Name	Function description
1	Power LED	Blue LED indicates that the unit is powered. Red LED indicates that the unit is in standby mode.
2	IR Sensor	IR input for remote control of the switcher
3	Out A / Out B	LED and button for each output ■ LED 1 to LED 4: Blue LED Indicates when the input is selected for the respective output. ■ Auto LED: Green when Auto detection mode is enabled. ▪ Press to select the desired input. ▪ Press and hold for 3 seconds to toggle the Auto detection mode.

5.2 Rear Panel



Number	Name	Function description
1	SOURCE	HDMI Source inputs 1 to 4

2	DISPLAY	HDMI outputs for displays A and B.
3	12V	Plug the DC 12V/1A power supply into the unit and connect the adapter to an AC outlet.
4	CONTROL	LAN (RJ45): Control port for LAN control or accessing the built-in Web GUI.
		RS232: a 3-pin pluggable connector for RS232 control of the Matrix.
		IR IN: IR Eye input for IR control of the Matrix.
5	RS232-A / RS232-B	3-pin pluggable connectors for RS232 of the display devices.
	IR OUT A / IR OUT B	IR eye output for IR control of the display devices.
6	AUDIO OUT A	TosLink connector for optical audio from HDMI Output A
		3-pin pluggable connector for stereo audio from HDMI Output A
7	AUDIO OUT B	TosLink connector for optical audio from HDMI Output B.
		3-pin pluggable connector for stereo audio from HDMI Output B.
8	Earthing Point	Screw terminal for earthing the Matrix.

5.3 Connecting to the Matrix

1. Connect the desired HDMI input sources.

2. Connect the desired HDMI display devices.

3. Connect any CONTROL inputs that may be required: LAN, RS232, or IR IN.

4. Connect any Display control port: RS232-A, RS232-B, IR OUT A, or IR OUT B.

5. Connect any audio devices to either the Optical or L+R outputs.

6. Connect the 12V DC PSU.

5.4 Using the Matrix

5.4.1 Power LED and Standby Mode

The Power LED provides the following indications:

Colour	**Description**

Blue	The Matrix is active and fully controllable
Red	The Matrix is in standby mode; this state can be changed by using RS232 or LAN commands or from the Web GUI interface.

5.4.2 Auto LED and Button

The green AUTO LED for both outputs A and B is lit when that channel has its Auto Detection mode active. Auto Detection mode will detect any new HDMI signals and immediately switch to the input. If the currently selected input is removed, the switcher will switch to the next available input or remain on the current input if there are no active HDMI input signals.

The change the Auto Detection mode, press and hold the button for that channel for 3 seconds until the Auto LED changes state.

5.4.3 Selecting Inputs

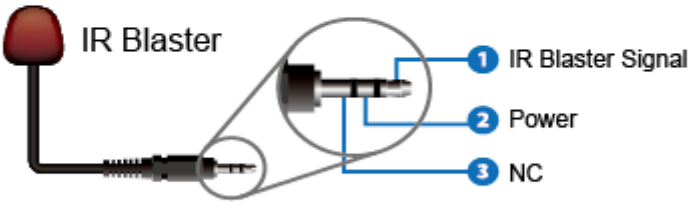
Manual Selection of the inputs is done by briefly pressing the push button repeatedly for that channel until the desired input is selected. Manual selection is always possible, irrespective of the Auto LED state. Selected inputs that have no signal will be indicated by a flashing LED.

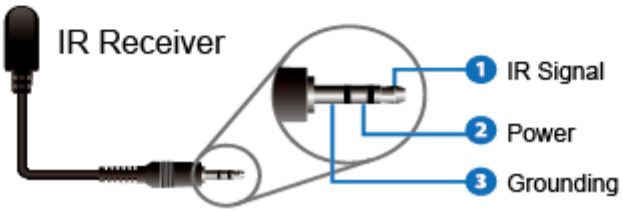
5.5 IR Pin Definition

IR Receiver and Blaster pin's definition as below:

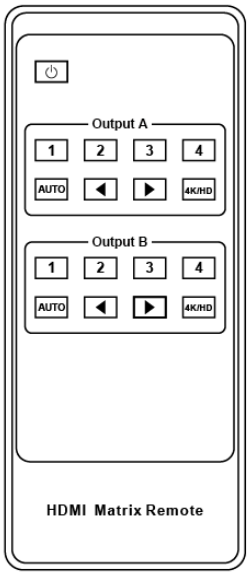
IR RECEIVER

IR BLASTER





6. IR Remote



⏻	Power on the product or set it to standby mode.
Output A / B	
1/2/3/4	Select input source signal to Out A / B port output, corresponding Out A / B LED on the front panel illuminates in blue.
◀ ▶	Select the last or next input source signal to OUT A / B port output, corresponding Out A / B LED on the front panel illuminates in blue.
AUTO	Turn on / off the AUTO function.
4K/HD	Select Out A / B 4K→1080P downscale output. For example, if the source is 4K the but TV only supports 1080P, the input resolution with 4K will downscale to 1080P the to the TV output.

7. Using the Built-In Web Interface

The Matrix has a built-in web interface to provide a means of controlling or configuring various settings. Seven pages are available, each of which will be outlined in detail in the following sections.

The seven pages are:

1. Status – Displays information about the firmware and IP settings

2. Switch – Control the video routing and enable the test pattern mode

3. Input – Displays information about the input signals and EDID settings

4. Output – Displays information about the output signals and scaler options

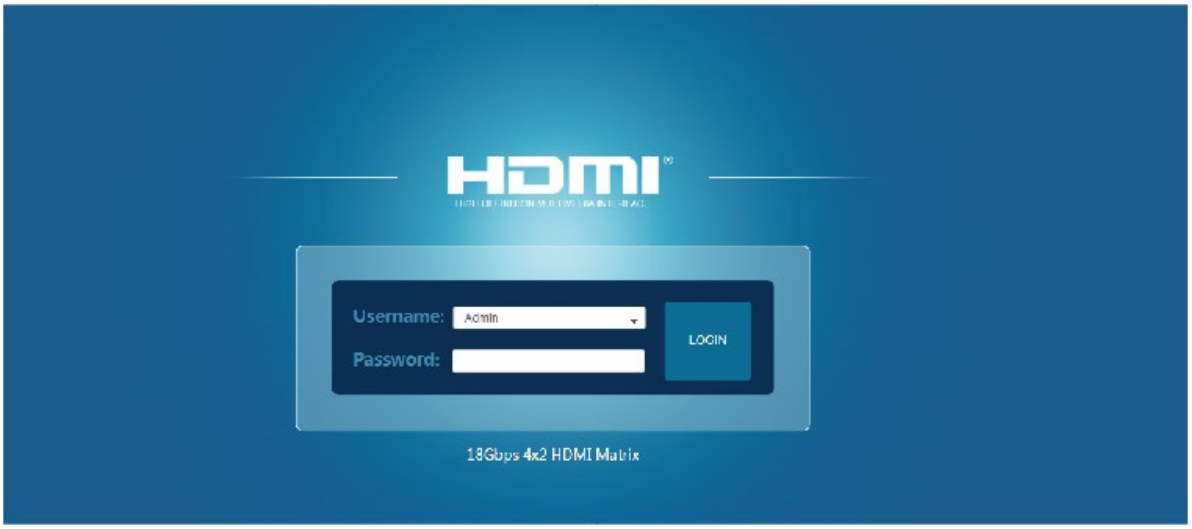
5. Network – Allows basic network setting management and log-in options

6. System – Serial baud rate, test pattern set, and firmware update

7. Control – Auto Power Control Settings and Commands

Note that these seven pages are only accessible in **Admin** mode; only the Status and Switch pages are available when User mode is used.

To access the web interface, enter the IP address of the Matrix into the address bar of any web browser. If the IP address is not known, use the RS232 commands are given in the Network Settings section **"r IP address!"** to discover the IP address of the Matrix or set the product to factory default status and IP address reset to default 192.168.1.100. After entering the IP address, the following log-in screen will appear:



Select the Username from the list and enter the password. The default passwords are:

Username	**User**	**Admin**
Password	**user**	**admin**

After entering the log-in details, click the LOG-IN button and the following The status page will appear.

■ Status Page

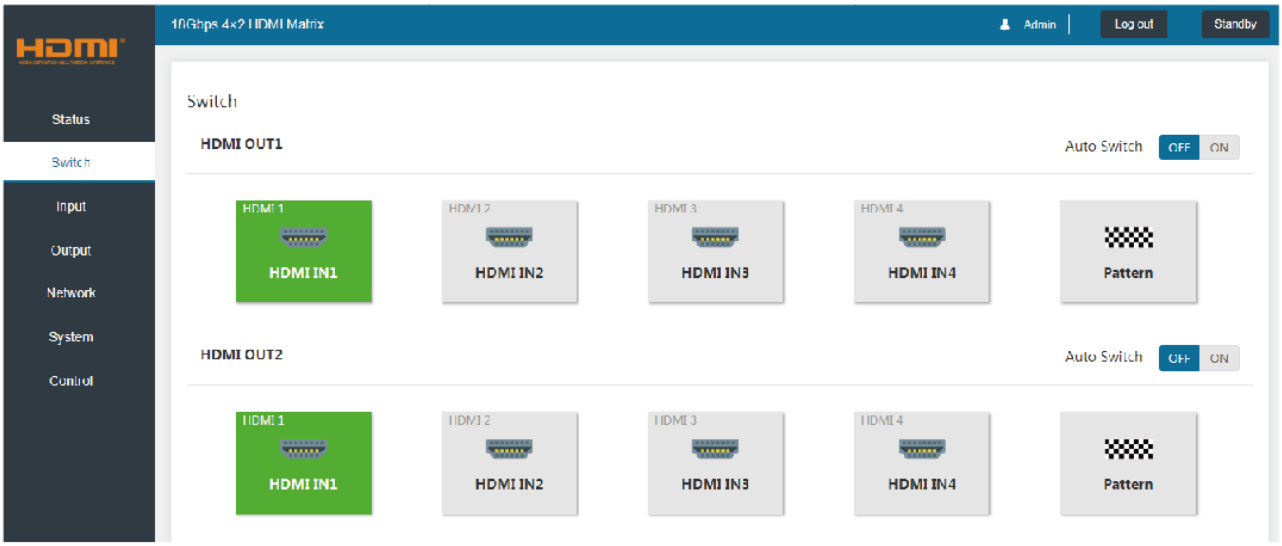
The Status page provides basic information about the product Model name, the installed firmware versions, and the network settings. This page is visible in both User and Admin modes.

The buttons at the top right of the web interface are always available and provide the following functions:

- The Log out button will disconnect the current user from the session and display the log-in screen.
- The Power On button changes the power status of the Matrix between On and Stand-by mode.

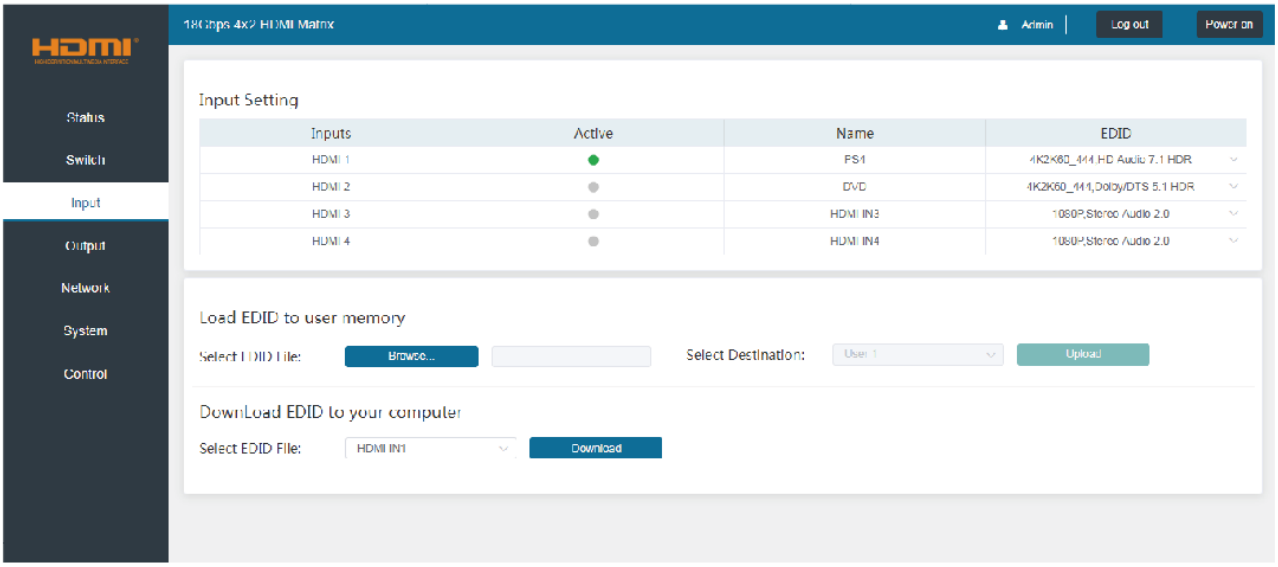
Switch page

The Switch page allows selection of the inputs sources, set the Auto Switch mode and to enable the test pattern mode.



Input page

The Input page provides information about which inputs are connected and have a signal present. The inputs can be given more meaningful names if desired. The EDID column includes a list of EDID options for each input.



The following EDID options are available in any of the EDID drop-down lists:

1080P, Stereo Audio 2.0

1080P, Dolby/DTS 5.1

1080P, HD Audio 7.1

1080I, Stereo Audio 2.0

1080I, Dolby/DTS 5.1

1080I, HD Audio 7.1

3D, Stereo Audio 2.0

3D, Dolby/DTS 5.1

3D, HD Audio 7.1

4K2K30_444, Stereo Audio 2.0

4K2K 30Hz_444 Dolby/DTS 5.1

4K2K 30Hz_444 HD Audio 7.1

4K2K 60Hz_420 Stereo Audio 2.0

4K2K 60Hz_420 Dolby/DTS 5.1

4K2K 60Hz_420 HD Audio 7.1

4K2K 60Hz_444 Stereo Audio 2.0

4K2K 60Hz_444 Dolby/DTS 5.1

4K2K 60Hz_444 HD Audio 7.1

4K2K60_444,Stereo Audio 2.0 HDR

4K2K60_444,Dolby/DTS 5.1 HDR

4K2K60_444,HD Audio 2.0 HDR

USER1

USER2

Copy from OUT 1

Copy from OUT 2

Note that **User 1** and **User 2** are global EDID memories only. Any inputs that is set to one of these memories will always use the same EDID data from **User 1** or **User 2,** respectively.

This page also provides a means of sending a binary EDID image file to either **User 1** or **User 2** EDID memories:

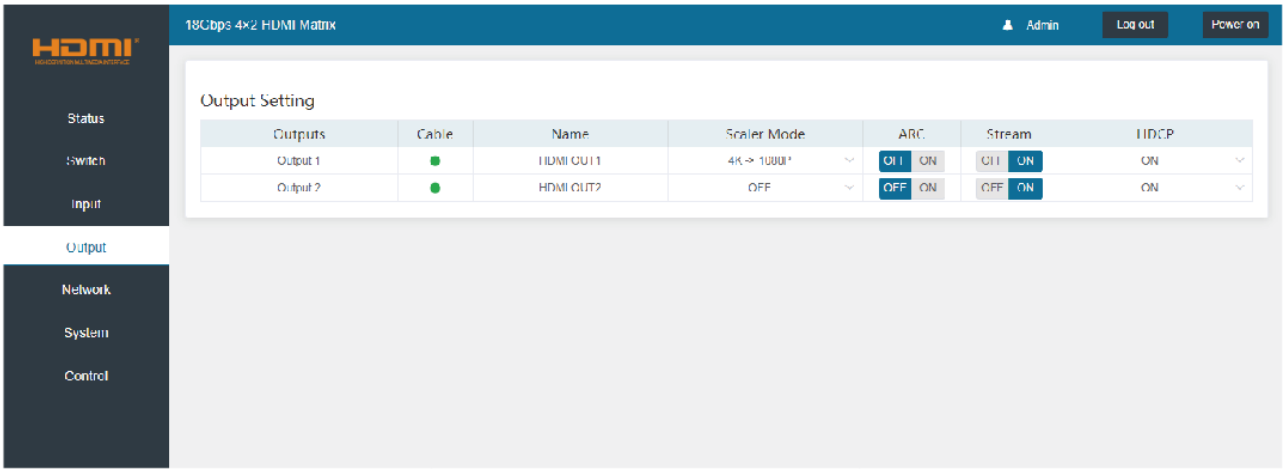
1. Select the binary EDID image file on your PC by clicking the **Browse** button.
2. Select either **User 1** or **User 2** from the drop-down list.
3. Click the Upload button.

The EDID data from any input or the **User 1** and **User 2** locations can be read and stored on your PC.

■ Output page

The Output page provides information about the signal status of the outputs.

The outputs can also be assigned meaningful names if desired.



The scaler mode menu provides the following options:

Off	No scaling.
4K→1080P	Downscale to 1080p, if needed.
HDBT Mode	Downscale to no more than 10.2Gbps for HDBaseT compliance.
Auto	Scale to match the display requirements.

The **ARC** buttons enable or disable the ARC decoding to the analog audio outputs.

The **Stream** buttons enable or disable the output signal for the respective output.

The **HDCP** buttons enable or disable HDCP at the respective HDMI output.

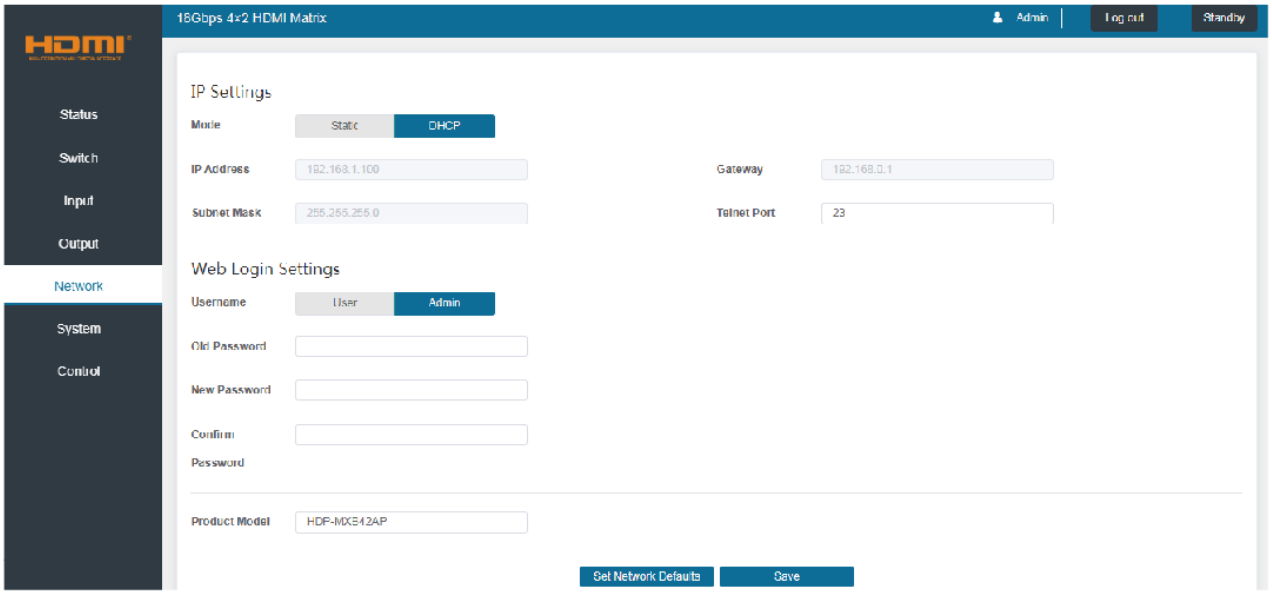
■ Network page

The Network page allows the configuration of the network settings. Note that

the IP address boxes are only accessible when the **Mode** button is set to **Static.**

The log-in passwords can be changed s on this page.

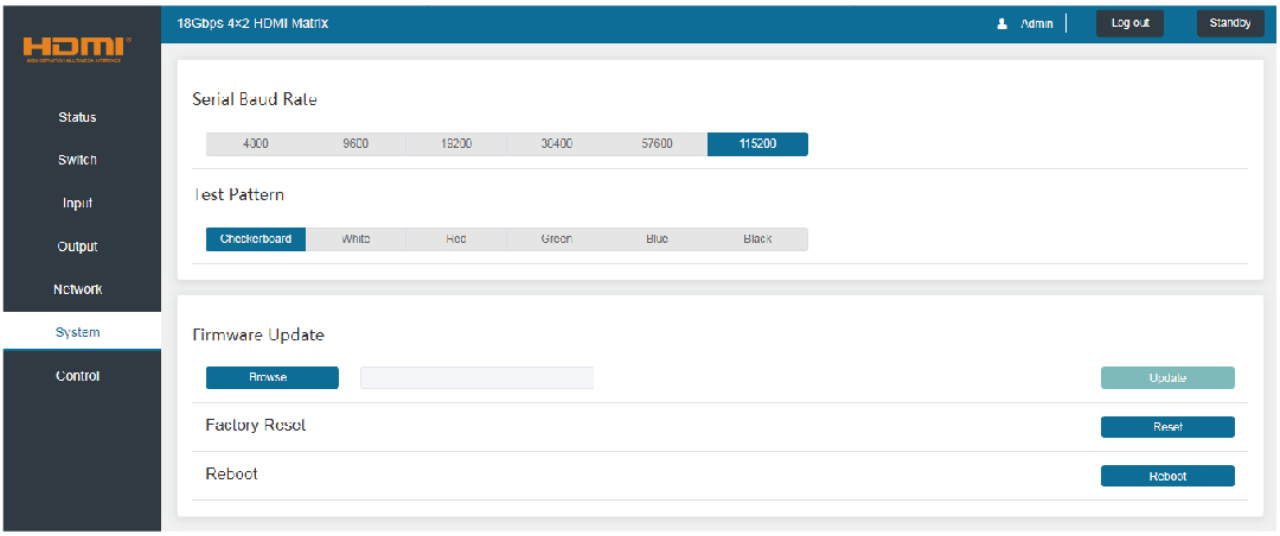
Note that any changes to this page will require the new details into the web browser and/or the log-in screen.



■ System page

The system page allows the setting of the control RS232 port baud rate and changing the test pattern output.

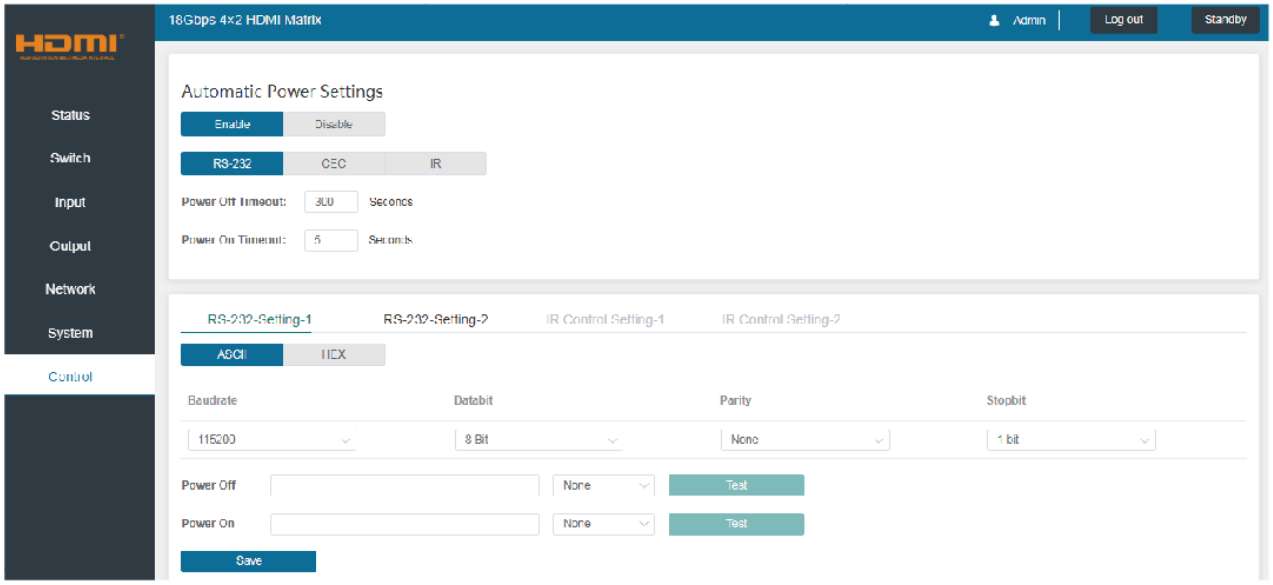
This page is also used to install new firmware updates, restore the factory default settings and reboot the Matrix.



Control page

The Control page is used to set the RS232 or IR display device power on/off commands for the Automatic Power Switching mode. When this mode is enabled, the display power off and power on commands will be sent from RS232-A/RS232-B or IR-A/IR-B outputs after the defined Power Off Timeout and Power On Timeout values, respectively.

The Control page has three modes: **RS232, CEC,** and **IR**. Power On and Power Off commands can only be entered for the **RS232** and **IR** modes. The **CEC** mode power on and power off commands are provided by default and cannot be changed. Only use **CEC** mode with displays that support CEC commands.



- RS232 Setting 1 and RS232 Setting 2

Select the desired tab and configure the RS232 port settings to match the display device requirements. Select ASCII or HEX for the command format and enter the Power Off and Power On commands with the appropriate command termination mode: None, CR, LR, or CRLF.

If the display device is connected to the respective RS232-A or RS232-B port, use the Test buttons to confirm that the command is correct. Once the command is valid, use the Save button to store those commands in the Matrix.

Note that ASCII commands can use any ASCII character, but the HEX command must use hexadecimal notation using hexadecimal value pairs separated by spaces.

- IR Setting 1 and IR Setting 2

This page requires that the IR commands are available in plain text files using the CCF IR code format.

1. Select the desired IR Control Setting tab.

2. Click the Load button to load the respective IR command. If the display device only supports a power toggle IR command, then use the same file for both the Power On and Power Off modes.

3. Use the Test button to confirm that the command functions.

4. Click the Save button to save both IR commands to the Matrix.

8. ASCII control command

The Matrix also supports ASCII control. You need a Ran-232 phoenix connector male head to an RS-232 female head with DB9 serial cable and an RS-232 male head with DB9 to USB male head serial cable. The phoenix connector male head is connected to the RS-232 port of the Matrix, and the USB head of the serial cable has connected to a PC. Open any Serial Command tools on PC, such as "Docklight," sends commands to control the Matrix. Please see the following connection diagram.

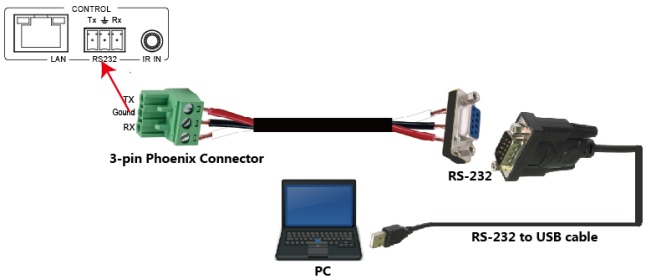


Figure 1: 3-pin phoenix connector to USB

Important:

1. All messages sent to the Matrix must be terminated with an exclamation mark (!). Any carriage return that is present after the end of the command will be ignored.
2. All spaces shown in the commands are required.
3. A CR/LF sequence terminates all response messages.
4. When all four inputs are requested by the same command, the response will report each input on a separate line.
5. When both outputs are requested by the same command, the response will report each output on a separate line.

The ASCII list of the product is shown below.

ASCII Command		
Serial port protocol: Baud rate：115200 (default), Data bits: 8bit, Stop bits:1, Check bit: 0 TCP/IP protocol port: 8000. The x, y, z, and XXX are parameters.		
RS-232 Command	**Function description**	**Feedback**
System Setting		
r type!	Get device model	HDP-MXB42AP
r status!	Get the device's current status	Get the unit all status: power, in/out connection, video/audio crosspoint, edit, scaler,HDCP, network status
r fw version!	Get Firmware version	MCU BOOT: V1.00.01 MCU APP: V1.10.05
r link in x!	Get the connection status of the x input port， x=0~4(0=all)	HDMI IN1: connect
r link out y!	Get the connection status of the y output port, y=0~2(0=all)	HDMI OUT1: connect
s reset!	Reset to factory defaults	Reset to factory defaults System Initializing... Initialization Finished!
s power z!	power on/off the device,z=0~1(z=0 power off, z=1 power on)	Power on System Initializing...

		Initialization Finished! power off
r power!	get the current power state	power on /power off
s reboot!	reboot the device	Reboot… System Initializing... Initialization Finished!
Output Setting		
s in x av out y!	Set input x to output y，x=1~4，y=0~2(0=all)	input 1 -> output 2
r av out y!	Get output y signal status y=0~2(0=all)	input 1 -> output 1 input 2 -> output 2
s HDMI y stream z!	Set HDMI output y stream on/off, y=0~2(0=all) z=0~1(0:disable,1:enable)	Enable HDMI out1 stream Disable HDMI out1 stream
r HDMI y stream!	Get HDMI output y stream status, y=0~2(0=all)	Enable HDMI out1 stream
s HDMI y scaler z!	Set HDMI output y port output mode, y=0~2(0=all), z=1~4(1=off,2=4K->1080p,3=hdbt mode, 4=Auto)	HDMI output 1 set to bypass mode
r HDMI y scaler!	Get HDMI output y port output mode y=0~2(0=all)	HDMI output 1 set to bypass mode
s HDMI y HDCP z!	set HDMI output y port HDCP status y=0~2(0=all) z=0~1(1=on,0=off)	HDMI out 1 HDCP on
r HDMI y hdcp!	Get HDCP status of HDMI out y, y=0~2(0=all)	HDMI out 1 HDCP active
s HDMI y pattern z!	Set HDMI output y test pattern on/off.y=0~2(0=all, 1=OUT 1,2=OUT 2) z=0~1 (0=off ,1=on)	HDMI output 1 test pattern on
r HDMI y pattern!	Get HDMI output y test pattern on/off status. y=0~2(0=all 1=OUT 1, 2=OUT 2)	HDMI output 1 test pattern on

s pattern mode z!	Set test patterns type. z=1~6 (1- Checkerboard 2-White 3-Red 4-Green 5-Blue 6-Black)	set pattern White!
r pattern mode!	Get test pattern mode.	set pattern White!
EDID Setting		
s did in x from z!	Set input x EDID from default EDID z, x=0~4(0=all),z=1~25 1=1080p,Stereo Audio 2.0 2=1080p,Dolby/DTS 5.1 3=1080p,HD Audio 7.1 4=1080i,Stereo Audio 2.0 5=1080i,Dolby/DTS 5.1 6=1080i,HD Audio 7.1 7=3D,Stereo Audio 2.0 8=3D,Dolby/DTS 5.1 9=3D, HD Audio 7.1 10=4K2K30_444,Stereo Audio 2.0 11=4K2K30_444,Dolby/DTS 5.1 12=4K2K30_444,HD Audio 7.1 13=4K2K60_420,Stereo Audio 2.0 14=4K2K60_420,Dolby/DTS 5.1 15=4K2K60_420,HD Audio 7.1 16=4K2K60_444,Stereo Audio 2.0 17=4K2K60_444,Dolby/DTS 5.1 18=4K2K60_444,HD Audio 7.1 19=4K2K60_444,Stereo Audio 2.0 HDR 20=4K2K60_444,Dolby/DTS 5.1 HDR 21=4K2K60_444, HD Audio 7.1 HDR	IN1 EDID:1080p,Stereo Audio 2.0

	22=User1 23=User2	
r did in x!	Get EDID status of the input x, x=0~4(0=all input)	IN1 EDID: 4K2K60_444, Stereo Audio 2.0 IN2 EDID: 4K2K60_444, Stereo Audio 2.0 IN3 EDID: 4K2K60_444, Stereo Audio 2.0 IN4 EDID: 4K2K60_444, Stereo Audio 2.0
r did data HDMI y!	Get the EDID data of the HDMI output y port,y=1~2	EDID : 00 FF FF FF FF FF FF 00 ……
Audio Setup		
s HDMI y arc z!	Turn on/off the arc of HDMI output y ， y=0~2(0=all) z=0~1(z=0,off,z=1 on)	HDMI output 1 arc on HDMI output 1 arc off
r HDMI y arc!	Get the arc state of HDMI output y, y=0~2(0=all)	HDMI out1 arc on
s spdif x mute y!	Enable/disable the audio outputs . x=1~2(1=spdif 1 ,2=spdif 2) ,y=0~1(0=unmute , 1=mute)	spdif 1 mute
r spdif x mute!	Read the audio output state. x=1~2(1=spdif 1, 2=spdif 2)	spdif 1 mute
Network setting		
r ip config!	Get the Current IP Configuration	IP Mode: Static IP: 192.168.1.72 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1

		TCP/IP port: 23 Mac address: 00:1C:91:03:80:01
r mac addr!	Get the network MAC address	Mac address: 00:1C:91:03: 80:01
s ip mode z!	Set network IP mode to static IP or DHCP, z=0~1 (z=0 Static, z=1 DHCP)	Set IP mode:Static. Please use "s net reboot!" command or repower device to apply new config!
r ip mode!	Get network IP mode	IP mode: Static
s ip addr xxx.xxx. xxx.xxx!	Set the network IP address	Set IP address:192.168.1. 100. Please use the "s net reboot!" command or repower device to apply the new config! DHCP on, The device can't config static address, set DHCP off first.
r ip addr!	Get the network IP address	IP address:192.168.1.100
s subnet xxx.xxx. xxx.xxx!	Set the network subnet mask	Set subnet Mask:255.255. 255.0. Please use the "s net reboot!" command or repower

		the device to apply the new config! DHCP on, Device can't config subnet mask, set DHCP off first.
r subnet!	Get a network subnet mask	Subnet Mask:255.255.255.0
s gateway xxx. xxx.xxx.xxx!	Set network gateway	Set gateway:192.168.1.1 Please use "s net reboot!" command or repower device to apply new config! DHCP on, Device can't config gateway, set DHCP off first.
r gateway!	Get network gateway	Gateway:192.168.1.1
s tcp/ip port x!	Set network TCP/IP port (x=1~65535)	Set tcp/ip port:8000
r tcp/ip port!	Get network TCP/IP port	tcp/ip port: 8000
s telnet port x!	Set network telnet port(x=1~65535)	Set telnet port:23
r telnet port!	Get network telnet port	telnet port:23
s net reboot!	Reboot network modules	Network reboot… IP Mode: Static IP: 192.168.1.72 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 Mac address:

		00:1C:91:03:80:01
Control setting		
s autopower z!	Set display auto power on/off control z=0~1(z=0 disable, z=1 enable)	Display autopower control enable
r autopower!	Get display auto power state	Display autopower control enable
s autopower mode z!	Set display auto power control mode z=1~3(z=1 RS-232, z=2 CEC, z=3 IR)	Display autopower control by RS-232
r autopower mode!	Get display auto power mode	Display autopower control by RS-232
s autopower on time y!	Set auto power on timeout y=0~600 seconds	Display autopower on timeout is 100 seconds
r autopower on time!	Get auto power on timeout	Display autopower on timeout is 100 seconds
s autopower off time y!	Set auto power off timeout y=0~600 seconds	Display autopower off timeout is 100 seconds
r autopower off time!	Get auto power off timeout	Display autopower off timeout is 100 seconds
s cec cmd (PORT) (SOURCE+ DESTINATION) (OPCODE)(ARGS) end!	CEC command sending. (PORT) is 1 byte; [PORT] =01~02 is HDMI output 1~2; (SOURCE+DESTINATION) is 1 byte,4~7bit is [SOURCE],0~3bit is [DESTINATION] [SOURCE] is command Initiator LogicAddress, [DESTINATION] is command Follower LogicAddress. [OPCODE] is the Operating code for CEC，	PORT:HAMI OUT 1 SOURCE:05 DESTINATION:0F OPCODE:82 ARGS:10 00

	[ARGS] is The parameters for the CEC opcode, Some of the CEC commands have parameters and some have no parameters，so [ARGS] is Optional end! Is the terminator	
s rs232 (port) (format)(baud rate) (databit)(parity) (stopbit)(cmdterm-inating)[cmddata]!	port=(01=RS232-A,02=RS232-B) format=(00=ASCII,01=HEX) baudrate=(00-4800 01-9600 02-19200 03-38400 04-57600 05-115200) databit=(00-7bit 01-8bit) parity=(00-none 01-odd 02-even) stopbit=(00-1bit 01-2bit) cmdterminating=(00-none 01-cr 02-lf 03-cr+lf) cmddata=cmd data	Port: RS232-A Format: ASCII Baudrate: 115200 Databit: 8bit Parity: none Stopbit: 1bit Terminator: none Data:r ipconfig!

Note that you can send the 'RS232 command' to control the Matrix via Serial Command tool. The 'Function description' explains the function of the command. The "Feedback" displays whether the command sends success or not and feedback on the information you need.

9. Connection diagram