

UHD44MX-IP
4x4 HDMI2.0 Matrix Switcher

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FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.





Safety Information:

Electrical safety

- Use only the power supplies and the AC power cord that were included with your product.
Use of other power supplies could damage the product or cause shock, or other hazards
- For Indoor Use only
- Avoid excessive humidity, or temperature extremes
- Do not place the product in any area where it may become wet.
- Unplug the power supplies and the AC power cord before cleaning or removing any panels for servicing.
- When adding or removing devices to or from the product, disconnect all power cables from the existing product before you add a device.

Operation safety

- Install the product in a well-ventilated location. Keep ventilation opening free of obstructions.
- Don't block any ventilation openings on the unit.
- Avoid dust, humidity, and temperature extremes.
- Do not place the product in any area where it may become wet.

If you are unsure, please contact your authorized service center.

Contents

1.1 Introduction to UHD44MX-IP	1
1.2 Features	1
1.3 Package List	1
2. Panel Description.....	2
2.1 Front Panel.....	2
2.2 Rear Panel.....	3
3. System Connection.....	4
3.1 Usage Precautions	4
3.2 Connection Diagram.....	4
3.3 Connection Procedure.....	4
4. Panel Button Control.....	5
4.1 I/O connection switching.....	5
4.2 EDID Configuration.....	5
4.3 I/O connection Inquiry.....	6
5. IR Control.....	7
6. RS232 Control	8
6.1 Installation/uninstallation of RS232 Control Software	8
6.2 Basic Settings.....	8
6.3 RS232 Communication Commands	9
6.3.1 System Commands	9
6.3.2 Lock/unlock Commands	10
6.3.3 Switching Commands.....	10
6.3.4 Scene Commands	11
6.3.5 HDCP Compliance	11
6.3.6 EDID Configuration.....	11
6.3.7 Enable/disable Digital Audio	13
7. TCP/IP Control.....	14
7.1 Control Modes	14
7.2 TCP/IP Communication Software Control.....	15

7.3 Web-based GUI Control	17
7.3.1 Scene Setting	18
7.3.2 I/O connection switching.....	19
7.3.3 EDID Configuration.....	20
7.3.4 Audio Out.....	21
7.3.5 Status Setting	22
7.3.6 Network Configuration	23
7.3.7 Password Modification.....	24
7.4 TCP/IP Port Configuration	25
7.5 GUI Update.....	25
8. Firmware Upgrade through USB port	26
9. Specification	27
10. Panel Drawing	28
11. Troubleshooting & Maintenance	29
12. Customer Service	30

1. Introduction

1.1 Introduction to UHD44MX-IP

UHD44MX-IP is a professional 4K 4x4 HDMI2.0 Matrix Switcher with 4 HDMI inputs, 4 HDMI outputs, and 4 SPDIF audio outputs, which is designed for switching four HDMI2.0 and HDCP2.2 compliant signals. It also provides powerful EDID management to ensure reliable AV distribution and routing.

You can control the unit via the front panel, IR, RS232, TCP/IP and web-based GUI.

1.2 Features

- 4 SPDIF ports provide de-embedded HDMI audio output;
- Supports 4Kx2K@60Hz 4:4:4 & 1080p 3D signals;
- Supports HDMI 2.0, HDCP2.2 compatible, and is backward compatible to the earlier versions;
- Transmits 4Kx2K@60Hz 4:4:4 signal up to 16.4 feet (5m) via HDMI port;
- Provides powerful EDID management, built-in EDID can be invoked via DIP switcher on rear panel, RS232 command or web-based GUI;
- Controllable via front panel button, IR, RS232, TCP/IP or web-based GUI;
- LCD screen shows real-time I/O connection status;
- Convenient firmware upgrade through Micro USB port;
- Easy installation with rack-mounting design.

1.3 Package List

- | | |
|----------------------------------|-----------------------------------|
| ● 1 x UHD44MX-IP | ● 2 x Mounting ears |
| ● 6 x Screws | ● 4 x Plastic cushions |
| ● 1 x RS232 cable (3-pin to DB9) | ● 1 x IR receiver |
| ● 1 x IR remote | ● 1 x Power adaptor (24VDC 1.25A) |
| ● 1 x User manual | |



Confirm if the product and the accessories are all included, if not, please contact with the dealers.

2. Panel Description

2.1 Front Panel



Figure 2- 1 Front Panel

No.	Name	Description
①	FIRMWARE	Micro USB port for updating firmware.
②	Power Indicator	<ul style="list-style-type: none">• Illuminates red when power on;• Turns green in standby mode;• Blinks red when upgrading.
③	IR sensor	Built-in IR sensor, receive IR signal sent from IR remote.
④	LCD Screen	Displays real-time operation status.
⑤	INPUT selector button	Total 4 input selector buttons, press one of buttons to switch input source.
⑥	OUTPUT selector button	Total 4 output selector buttons, press the buttons to select output channel.

2.2 Rear Panel

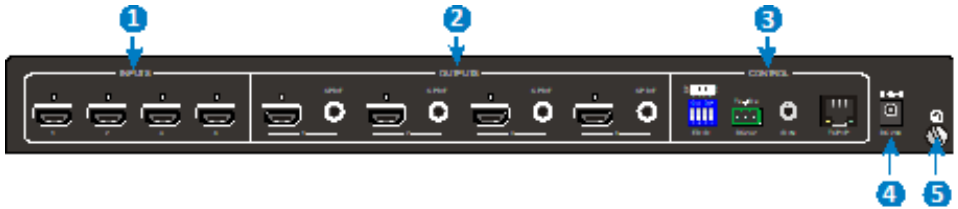



Figure 2- 2 Rear Panel

No.	Name	Description
①	INPUTS	HDMI input ports, 4 in total, connect with HDMI sources.
②	OUTPUTS	SPDIF: audio output ports for de-embedded HDMI audio, 4 in total.
		HDMI: 4 in total, connect with HDMI displays.
③	CONTROL	EDID: 4-pin EDID DIP switchers to set EDID data, “1” stands for “On”, “0” stands for “Off”. Refer to <u>4.2 EDID Configuration</u> for more details.
		RS232: Serial control port, connect with control device.
		IR IN: Connects with external IR receiver for using the IR remote to control the Matrix Switcher.
		TCP/IP: Connect control PC for TCP/IP control.
④	DC 24V	Connect with 24VDC 1.25A power adaptor.
⑤	Ground	Connect to ground.

 Pictures shown in this manual are for reference only.

3. System Connection

3.1 Usage Precautions

- All of the power switches, plugs, sockets and power cords should be insulated.
- All devices should be connected before power on.

3.2 Connection Diagram

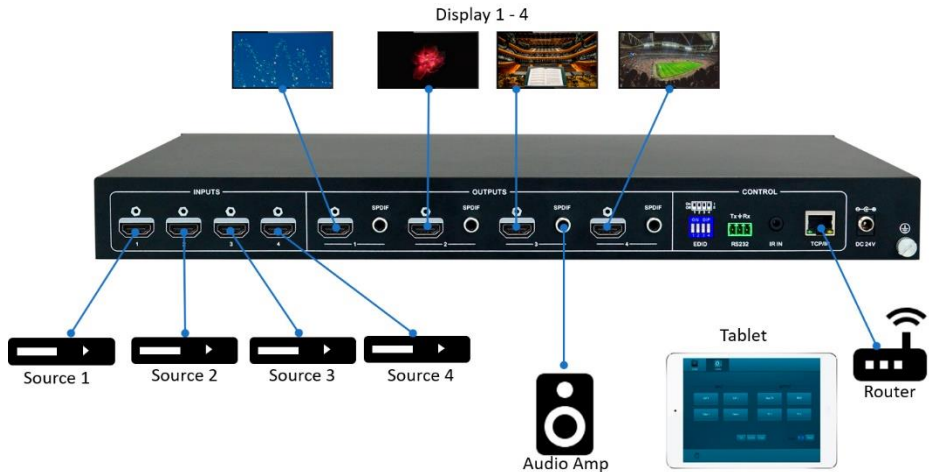


Figure 3- 1 Connection diagram

3.3 Connection Procedure

Step1. Connect HDMI sources to HDMI input ports with HDMI cables.

Step2. Connect HDMI displays (e.g. HDTV/Projector) to HDMI output ports with HDMI cables.

Step3. Connect audio system to the SPDIF audio outputs (optional)

Step4. Connect the RS232 port of control device (e.g. Central Control System, PC) and UHD44MX-IP to enable serial control. (optional)

Step5. Insert an IR receiver to the IR IN port to control this switcher via IR Remote. (optional)

Step6. Connect the TCP/IP port to network to enable TCP/IP control. (optional)

Step7. Plug a 24VDC power adapter to the DC 24V power port.



- When connecting to HDMI2.0 sources, make sure the HDMI cable is compliant with HDMI2.0 to ensure reliable transmission;

Panel Button Control

3.4 I/O connection switching

The front panel features four input selection buttons and four output selection buttons for switching I/O connection.

1) To convert one input to an output:

Example: Input 1 to Output 3

→ Press INPUTS 1 + OUTPUTS 3

2) To convert an input to several outputs:

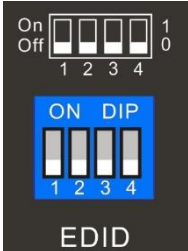
Example: Convert Input 2 to Output 3 and 4

→ Press INPUTS 2 + OUTPUTS 3 + OUTPUTS 4

NOTE: Indicators of the pressed buttons will blink green for three times if the conversion is done, then it will be off. If the conversion failed, they will be off immediately.

3.5 EDID Configuration

The rear panel boasts a 4-pin EDID DIP switcher to manage EDID. The EDID data and its corresponding DIP switcher status are shown in the below list.

 <p>DIP Switcher</p>	NO.	Status	EDID
	0	0000	Pass-through (default)
	1	0001	720P 2D Pass-through CH
	2	0010	720P 3D Pass-through CH
	3	0011	1080P 2D Pass-through CH
	4	0100	1080P 3D Pass-through CH
	5	0101	4K@30HZ Pass-through CH
	6	0110	4K@30HZ 2.0CH
	7	0111	4K@30HZ 7.1CH
	8	1000	4K@60HZ 4:2:0 Pass-through CH
	9	1001	4K@60HZ 4:2:0 7.1CH
	10	1010	4K@60HZ 4:4:4 Pass-through CH
	11	1011	4K@60HZ 4:4:4 7.1CH
		1111	Enable Software EDID management mode: RS232 control or Web-based GUI control

3.6 I/O connection Inquiry

Press OUTPUTS button 1, 2, 3 or 4 to inquiry its corresponding input, and then the indicator of the input button will turn green.

4. IR Control

The Matrix Switcher features one built-in IR receiver to receive IR signal from IR remote to enable IR control. If the external IR receiver or other IR control device need to be used, the IR IN port on rear panel can be connected.

① Standby button, press it to enter/ exit standby mode.

② INPUTS:
Input channel selection buttons, same with the corresponding front panel buttons

③ OUTPUTS:
Output channel selection buttons, same with the corresponding front panel buttons

④ Menu buttons: ALL, EDID, CLEAR and ENTER.

- **ALL:** Select all inputs/outputs.

To convert an input to all outputs:

Example: Input 1 to all Outputs:

→ Press INPUTS 1 + ALL + ENTER

- **EDID management button:**

1) One input port learns the EDID data from one output port.

Example: Input 2 learns EDID data from output 4:

→ Press EDID + INPUTS 2 + OUTPUTS 4+ ENTER

2) All input ports learn EDID data from one output port.

Example: All input ports learn EDID data from output 3:

→ Press EDID + ALL + OUTPUTS 3 + ENTER

- **CLEAR:** Withdraw button.

- **ENTER:** Confirm operation.



5. RS232 Control

5.1 Installation/uninstallation of RS232 Control Software

- **Installation** Copy the control software file to the computer connected with UHD44MX-IP.
- **Uninstallation** Delete all the control software files in corresponding file path.

5.2 Basic Settings

Firstly, connect UHD44MX-IP with necessary input devices and output devices. Then, connect it with a PC installed RS232 control software. Double-click the software icon to run this software.

Here we take the software **CommWatch.exe** as example. The icon is showed as below:



CommWatch.exe

Figure 6- 1 Icon of CommWatch

The interface of the control software is showed as below:

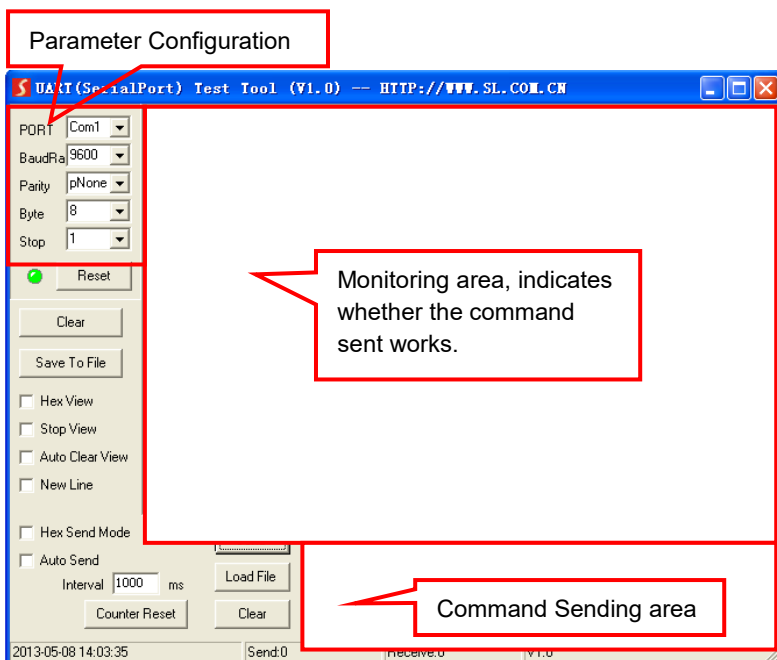


Figure 6- 2 Control Interface of CommWatch

Set the parameters (baud rate, data bit, stop bit and parity bit) correctly to ensure reliable RS232 control.

Baud rate: 9600

Data bit: 8

Stop bit: 1

Parity bit: none

5.3 RS232 Communication Commands



- “[, ”] in the commands are for easy recognition only and not necessary in real operations. Other symbols including “.”, “,”, “/”, “%”, “;”, “^” are parts of the commands.
- Feedbacks listed in the column “Feedback Example” are only for reference, feedbacks may vary according to different operations.
- Dial the EDID switcher to “1111” before sending commands pertaining to software EDID management (with grey background).

5.3.1 System Commands

Command	Function	Feedback Example
<code>/*Type;</code>	Query the model.	UHD44MX-IP
<code>/^Version;</code>	Query the version of firmware	VX.X.X
Demo.	Switch to the “demo” mode, convert input and output in turn like 1B1, 1B2, ...4B3, 4B4, 1B1... and so on .The switching interval is 2 seconds.	Demo Mode AV:01->01 AV:01->02 AV:01->03 AV:01->04 AV:02->01 ... Normal Mode
Undo.	To cancel the current operation.	Undo Ok!
PWON.	Work in normal mode.	PWON
PWOFF.	Enter into standby mode, send the “PWON.” to start.	PWOFF
STANDBY.	Enter into standby mode, press other buttons or send other commands to start.)	STANDBY
%9962.	Query the power status	STANDBY/PWOFF/ PWON
%9964.	Query the IP address.	IP:XXX.XXX.X.XXX
%0911.	Reset to factory default.	Factory Default

5.3.2 Lock/unlock Commands

Command	Function	Feedback Example
/%Lock;	Lock the front panel buttons.	System Locked!
/%Unlock;	Unlock the front panel buttons.	System Unlock!
%9961.	Query the system locking status.	System Locked/ Unlock!

5.3.3 Switching Commands

Command	Function	Feedback Example
[x]All.	Transfer signals from the input channel [x] to all output channels. (x=1~4)	01 To All.
All#.	Transfer all input signals to the corresponding output channels respectively like 1->1, 2->2...	All Through.
All\$.	Switch off all the output channels.	All Closed.
[x]#.	Transfer signals from the input channel [x] to the output channel [x]. (x=1~4)	01 Through.
[x]\$.	Switch off the output channel [x]. (x=1~4)	01 Closed.
[x]@.	Switch on the output channel [x]. (x=1~4)	02 Open.
All@.	Switch on all output channels.	All Open.
[x1]V[x2].	Switch the input channel [x1] to one or several output channels ([x2], separate output channels with comma). (x1/x2=1~4)	AV: 02-> 04
Status[x].	Query the I/O connection status of output [x]. (x=1~4, y=1~4)	AV: Y-> X (AV: 04-> 01)
Status.	Query the input channel to the output channels one by one.	AV:01->01 AV:01->02 AV:01->03 AV:01->04
%9971.	Query the connection status of the inputs.	In 01 02 03 04 Connect Y Y Y Y
%9972.	Query the connection status of the outputs.	Out 01 02 03 04 Connect Y Y Y Y
%9975.	Query the I/O connection status.	Out 01 02 03 04

		In 04 04 04 04
%9976.	Query the output resolution.	Resolution Out 1 1920x1080P Out 2 1920x1080P Out 3 1920x1080P Out 4 1920x1080P

5.3.4 Scene Commands

Command	Function	Feedback Example
Save[Y].	Save the present operation to the preset command [Y], ranges from 1 to 10.	Save To F6
Recall[Y].	Recall the preset command [Y].	Recall From F2
Clear[Y].	Clear the preset command [Y].	Clear F8

5.3.5 HDCP Compliance

Command	Function	Feedback Example
/%[Y]/[X]:[Z].	HDCP management command. Y=O is for output; X=1~4 is the number of the port, if the X=ALL, it means all ports; Z is for HDCP compliant status, the value may be 1 (HDCP compliant) or 0 (not HDCP compliant).	/%O/ALL:0.
%0801.	Auto HDCP management, activate carrier native mode	%0801
%9973.	Query the HDCP status of the input signals.	In 01 02 03 04 HDCP Y N Y N
%9974.	Query the HDCP status of the output signals.	Out 01 02 03 04 HDCP Y N Y N

5.3.6 EDID Configuration

The DIP switcher status should be set as 1111 to enable Software EDID management mode: RS232 control or Web-based GUI control.

Command	Function	Feedback Example
EDIDH[x]B[y].	Input port [y] learns the EDID from output port [x].	EDIDH1B1

	If the EDID data is available and the audio part supports not only PCM mode, then force-set it to support PCM mode only. If the EDID data is not available, then set it as initialized EDID data.	
EDIDPCM[x] .	Set the audio part of input port [x] to PCM format in EDID database.	EDIDPCM[x]
EDIDG[x] .	Get EDID data from output [x] and display the output port number.	Hexadecimal EDID data and carriage return character
EDIDMInit .	Restore the factory default EDID data for each input.	EDIDMInit.
EDIDM[X]B[Y] .	Manually EDID switching. Enable input [Y] to learn the EDID data of output [X]. If the EDID data is not available, then set it as initialized EDID data.	EDIDM3B1
EDID/[x]/[y] .	Set the EDID data of input port [x] to built-in EDID No. [y]. [y] = 0~11, correspond to the 12 embedded EDID data separately.	EDID/[x]/[y]
EDIDUpgrade[x] .	Upgrade EDID data via the RS232 port. X represents the input port, and x=5 represents all input ports. When the switcher receives the command, it will show a message to prompt you to send EDID file (.bin file). Operations will be canceled after 10 seconds.	Please send the EDID file EDID Upgrade OK!
GetInPortEDID [X]	Get the EDID data of input [x], [x]=1~4	
%9979 .	Get the DIP switcher status	EDID RS232 GUI CONTROL 1111

5.3.7 Enable/disable Digital Audio

Command	Function	Feedback Example
DigitAudioON[x].	Enable SPDIF audio output port x. <ul style="list-style-type: none">• X=1, 2, 3, 4, enable the port x.• X=5, enable all ports.	DigitAudio ON with [x]/ ALL Outputs
DigitAudioOFF[x].	Disable SPDIF audio output port x. <ul style="list-style-type: none">• X=1, 2, 3, 4, disable the port x.• X=5, disable all ports.	DigitAudio OFF with [x]/ ALL Outputs
%9977.	Query the status of digital audio of output channels.	Out 01 02 03 04 Audio Y Y Y Y

6. TCP/IP Control

6.1 Control Modes

TCP/IP default settings: IP is 192.168.0.178, Gateway is 192.168.0.1, and Serial Port is 4001. IP can be changed as you need, Serial Port cannot be changed.

- **Controlled by single PC**

Connect a computer to the TCP/IP port of the UHD44MX-IP, and set its network segment to the same as the default IP of the UHD44MX-IP (192.168.0.178).

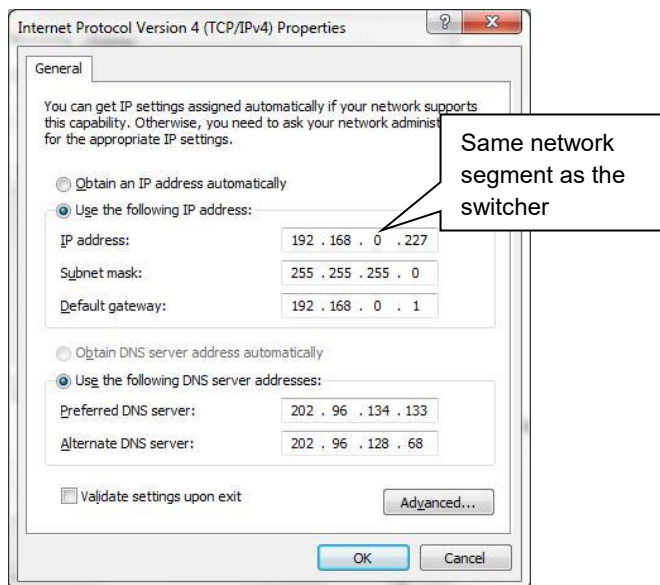


Figure 7- 1 Modify the IP of PC

- **Controlled by PC(s) in LAN**

The UHD44MX-IP can be connected with a router to make up a LAN with the PC(s), this make it able to be controlled in a LAN. When control, just make sure the UHD44MX-IP's network segment is the same with the router. Please connect as the following figure for LAN control.

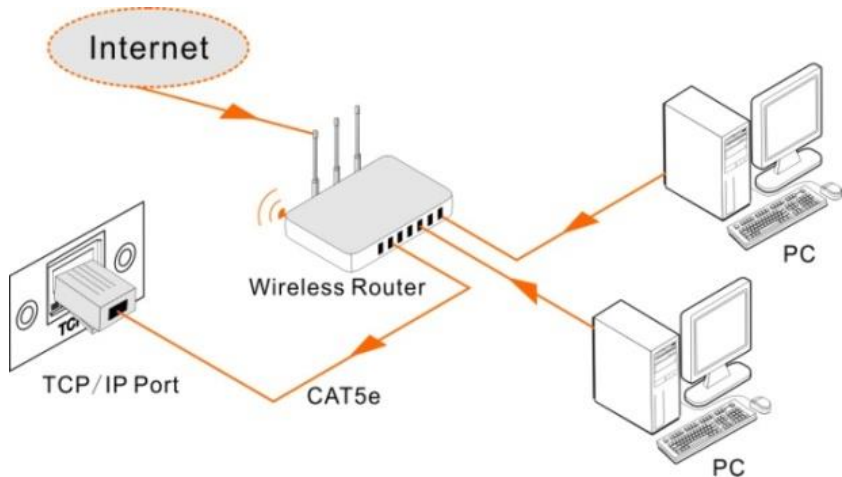


Figure 7- 2 Connect to LAN

- Step1.** Connect the TCP/IP port of the UHD44MX-IP to Ethernet port of PC with twisted pair.
- Step2.** Set the PC's network segment to the same as the UHD44MX-IP. Do please remember the PC's original network segment.
- Step3.** Set the UHD44MX-IP's network segment to the same as the router.
- Step4.** Set the PC's network segment to the original one.
- Step5.** Connect the UHD44MX-IP and PC(s) to the router. In the same LAN, each PC is able to control the UHD44MX-IP asynchronously.

Then it's able to control the device via a TCP/IP communication software.

6.2 TCP/IP Communication Software Control

(Exemplified by TCPUDP software)

- 1) Connect a computer with TCPUDP software to UHD44MX-IP. Open the TCPUDP software (or any other TCP/IP communication software) and create a connection, enter the IP address and port of UHD44MX-IP (default IP: 192.168.0.178, port:4001):

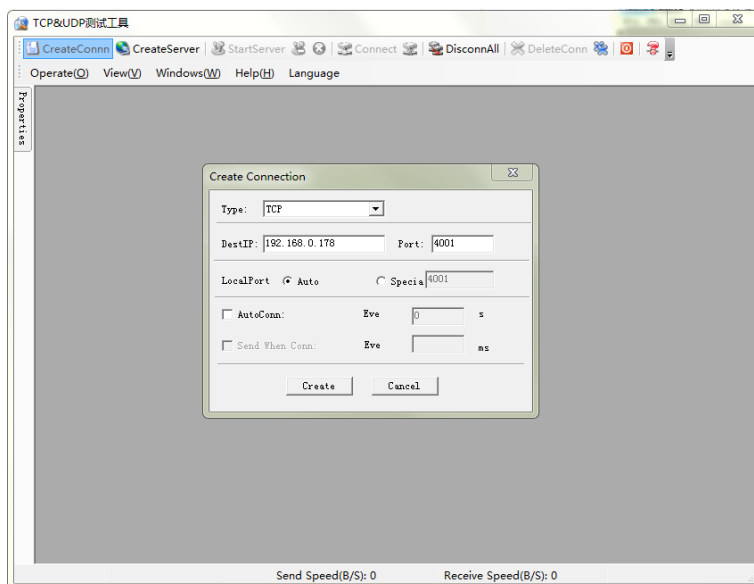


Figure 7- 3 Connect to TCPUDP

- 2) Enter commands in designed area to control UHD44MX-IP, see as below:

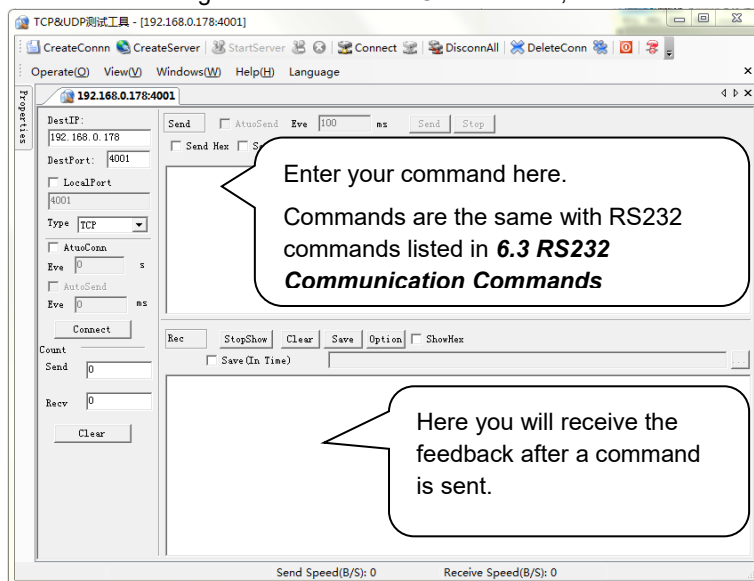


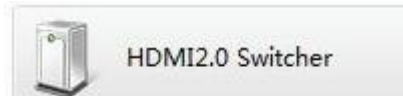
Figure 7- 4 Control interface of TCPUDP


6.3 Web-based GUI Control

UHD44MX-IP provides with built-in GUI for convenient TCP/IP control. GUI allows users to interact with UHD44MX-IP through graphical icons and visual indicators.

Access GUI interface through any one of the following methods:

1. Access through web browser: Type the default IP **192.168.0.178** in the browser at first login. The IP address also can be found via sending "%9964." on RS232 control software.
2. Access through UPnP: Go to My Network Place in your PC, and click the icon as below:



 PCs running Windows XP system may occur issues in finding UPnP icon, follow these steps to switch on UPnP protocol:

- 1) Add UPnP component: go to **"Control Panel"** -> double-click **"Add/ Delete Programs"** -> double-click "Add/ Delete windows component" -> tick "UPnP" -> click "Next" -> click "OK"
- 2) Enable Windows Firewall: go to **"Control Panel"** -> double-click **"Windows Firewall"** -> click "Others" -> tick "UPnP framework"
- 3) Enable UPnP auto-starting: go to **"Control Panel"** -> double-click **"Administrative Tools"** -> double-click "Services" -> find and click **SSDP Discovery Servic** and **Universal Plug and Play Device Host** -> click "OK"
UPnP will now automatically start when you turn on your computer.
- 4) Reboot the device.

Type **192.168.0.178** in your browser, it will enter the log-in interface shown as below:

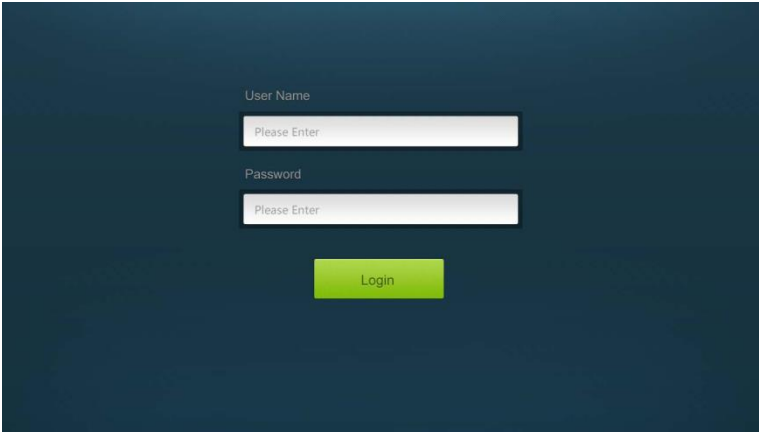


Figure 7- 5 Login GUI

This system divides into administrator and user mode.

There are 2 selectable usernames – admin (default password: admin) and user (default password: user). Login as admin can access more configuration interfaces than user.

6.3.1 Scene Setting

Type the user name: admin, password: admin, and then click **LOGIN**, it will show the Scene menu as shown below:

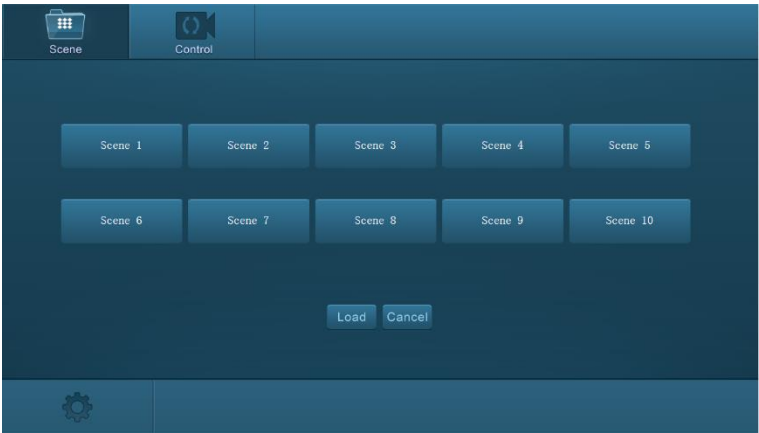


Figure 7- 6 Scene Menu


All ten scenes are shown in above interface.

Select a scene and then click **“Load”** can invoke the selected scene.

Click **“Cancel”** to cancel the current operation.

6.3.2 I/O connection switching



Click  to enter the following interface, it provide intuitive I/O connection switching.

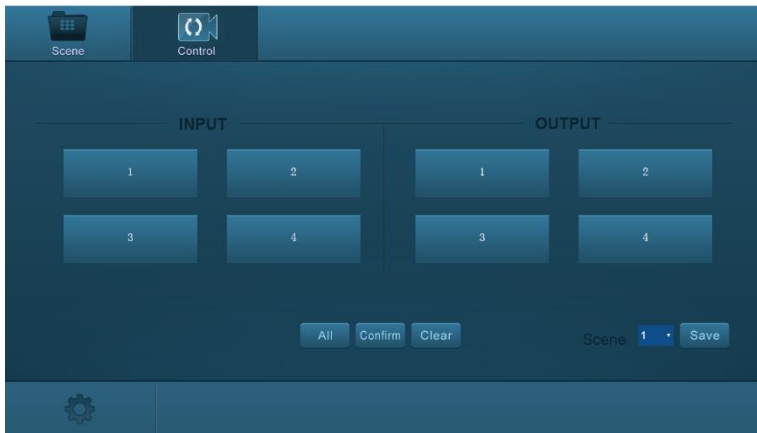


Figure 7- 7 Control Menu

The button matrix displays every possible connection between every input and output; users can carry on the connections by clicking corresponding button.

Buttons 1~4 at the right-bottom corner provides quick saving and recall for overall connection status. For example:


Step1: Select button1 at INPUT column

Step2: Select button 1 at OUTPUT column (If all OUTPUT ports in needed, you only need to click “All”).)

Step3: Choose a scene that you want to save.

Step4: Click **“Confirm”** to save the setting or Click **“Clear”** to clear set up.

6.3.3 EDID Configuration

- 1) Click setting button  to enter the below interface: User can select EDID in accordance with actual needs.

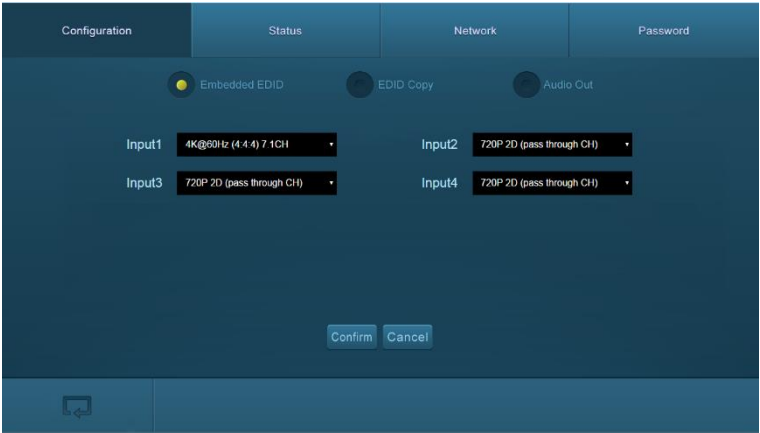


Figure 7- 8 Embedded EDID

- 2) Select “EDID Copy” to enter the below interface:



Figure 7- 9 Copy EDID

The EDID of INPUT device can be gained from OUTPUT devices.

Step1: Select one OUTPUT device that you want to copy its EDID.

Step2: Select one or more input devices that need to gain EDID. When select To All inputs, all input devices will copy the EDID from output device.

Step3: Click “**Confirm**” to save the setting or click “**Cancel**” to cancel operation.

6.3.4 Audio Out

Select “**Audio Out**” to enter the following interface to turn on/off the Audio Output passage.

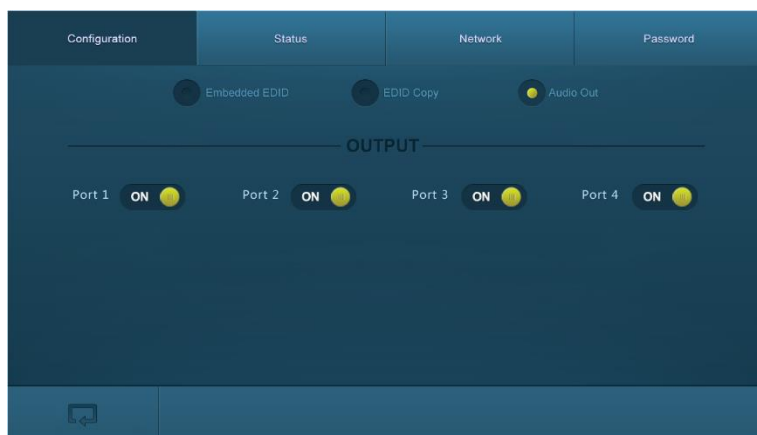


Figure 7- 10 Audio EDID

6.3.5 Status Setting

- **Product Name& Model:**

Click **“Status”** to enter the following interface to modify the product name and its model, and then they will be display in LCD screen.

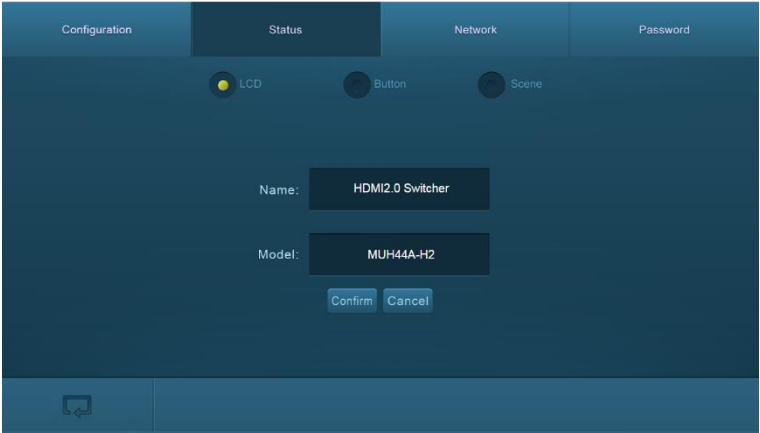


Figure 7- 11 Status- LCD

- **Button label:**

Select **“Button”** to enter the following interface to modify the name of buttons.

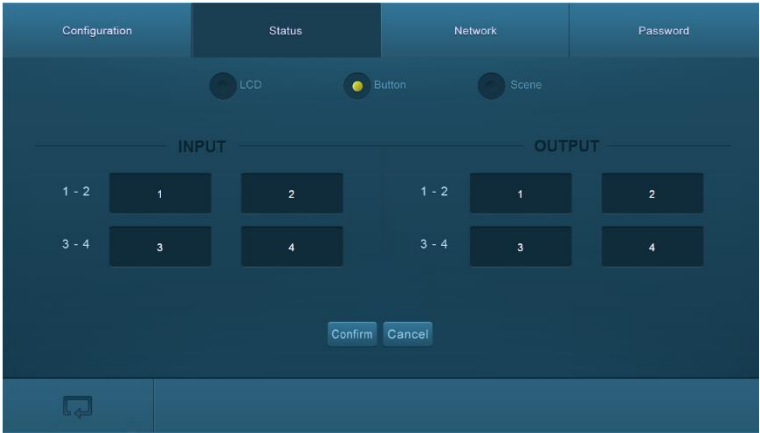


Figure 7- 12 Status- Button

- **Scene name:**

Select “**Scene**” to enter the following interface to modify the name of scenes.

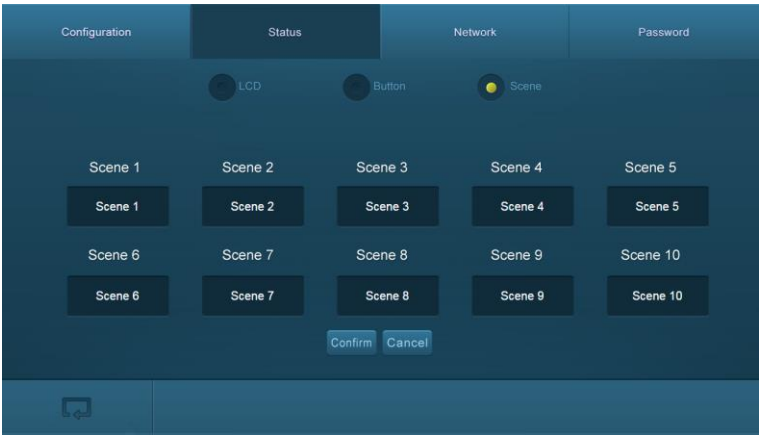


Figure 7- 13 Status-Scene

6.3.6 Network Configuration

Click “**Network**” to enter the below interface to inquire and configure network settings including MAC address, IP address, subnet mask, and Gateway.

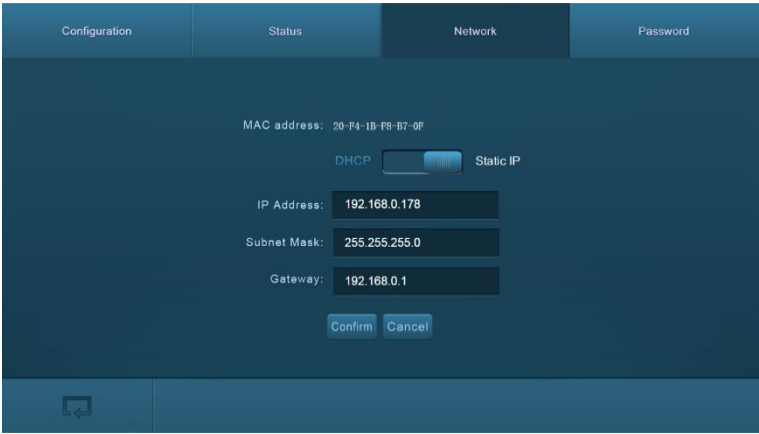


Figure 7- 14 Network

6.3.7 Password Modification

Click “**Password**” to enter the below interface to inquire and modify the admin or user password.

The screenshot displays a web-based configuration interface for a device. The top navigation bar includes tabs for 'Configuration', 'Status', 'Network', and 'Password'. The 'Password' tab is selected. The main content area is divided into three sections: 'Credentials', 'Front Panel', and 'Version'. The 'Credentials' section shows 'Admin Password' as 'admin' and 'User Password' as 'user'. The 'Front Panel' section features a toggle switch labeled 'OFF'. The 'Version' section displays 'GUI: V1.0.0' and 'Hardware: V1.0.0'. At the bottom, there are 'Save' and 'Cancel' buttons. A small icon of a device is visible in the bottom left corner.

Figure 7- 15 Password

In the above interface, turn on the Front Panel to lock all buttons of machine, they cannot be operated.

6.4 TCP/IP Port Configuration

IP address, subnet mask, and Gateway of UHD44MX-IP can be modified via GUI from the above description, but beyond that users can configure the IP port, including IP reset, password reset, and IP module firmware update on the WebServer.

Type the designed website (Default: 192.168.0.178:100, changeable) in your browser. Enter correct username and password to log in the WebServer:

Username: admin; **Password:** admin

Here is the main configuration interface of the WebServer:

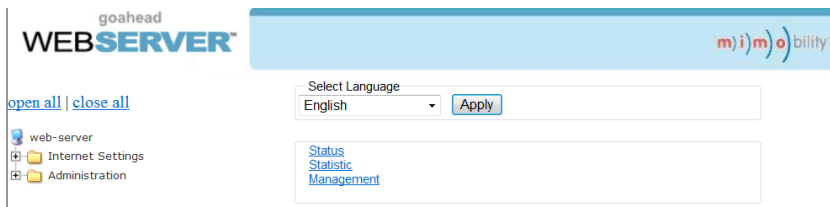


Figure 7- 16 TCP/IP Configuration

6.5 GUI Update

GUI for UHD44MX-IP supports online update in <http://192.168.0.178:100>. Type the username and password (the same as the GUI log-in settings, modified password will be available only after rebooting) to log in the configuration interface. After that, click **Administration** at the source menu to get to **Upload Program** as shown below:

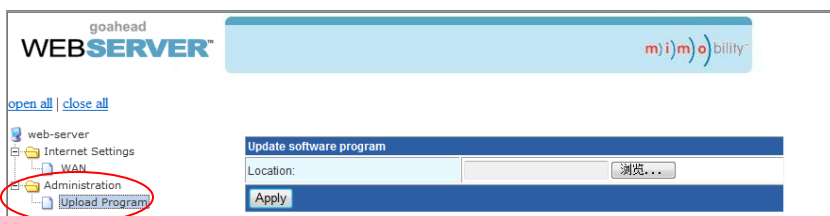


Figure 7- 17 GUI Update

7. Firmware Upgrade through USB port

UHD44MX-IP boasts a USB port for online firmware upgrade on the front panel. Follow these steps to upgrade firmware:

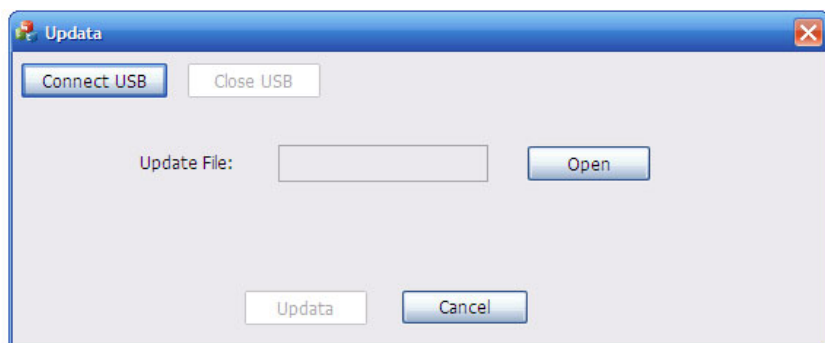
Step1. Copy the upgrade software and the latest upgrade file (.bin) to PC.

Step2. Connect the USB ports of UHD44MX-IP and the PC via USB cable.

Step3. Double-click the update software icon (see as below).



It will enter the upgrade interface shown as below:



Step4. Click **Connect USB**.

Step5. Click **Open** to load the upgrade file, then click **Updata** to start firmware upgrading.

Note: To ensure available control, the COM number of the PC should be 1~9.

8. Specification

Input Signal	4 HDMI
Input Connector	Female Type-A HDMI
Output Signal	4 HDMI; 4 SPDIF audio
Output Connector	Female Type-A HDMI; COAX connector
Control Signal	1 IR IN; 1 TCP/IP; 1 RS232
Control Connector	3.5mm mini jack; female RJ45; 3-pin pluggable terminal block
Video Signal	HDMI2.0& HDCP2.2
Audio Signal	Dolby Digital, DTS, DTS-HD
General	
EDID Management	In-built EDID data and manual EDID management
Resolution Range	640x480@60Hz ~ 4Kx2K@60Hz 4:4:4, 1080P 3D
HDMI Cable Length	≤16 ft recommended when possible.
Power Supply	24VDC, 1.25A
Power Consumption	14W (Max)
Dimension (W*H*D)	17.2 x 9.3 x 1.7 Inches (43.7 x 23.7 x 4.4 cm) L x W x H

9. Panel Drawing



10. Troubleshooting & Maintenance

Contact us at: www.octavainc.com

11. Customer Service

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

1) Warranty

The limited warranty period of the product is fixed 1 (one) years.

2) Scope

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

3) Warranty Exclusions:

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

4) Documentation:

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

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