User Manual

KENSENCE

KX-HDMI-44

4K 4x4 HDMI2.0 Matrix Switcher

Preface

Read this user manual carefully before using this product. Pictures shown in this manual is for reference only, different model and specifications are subject to real product.

This manual is only for operation instruction only, not for any maintenance usage. The functions described in this version are updated till December 2016. Any changes of functions and parameters since then will be informed separately. Please refer to the dealers for the latest details.

Trademarks

Any other trademarks mentioned in this manual are acknowledged as the properties of the trademark owner. No part of this publication may be copied or reproduced without the prior written consent.

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 PRECAUTIONS

To insure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment

- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.

- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.

- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.

- Refer all servicing to qualified service personnel.

- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.

- Do not put any heavy items on the extension cable in case of extrusion.

- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.

- Install the device in a place with fine ventilation to avoid damage caused by overheat.

- Keep the module away from liquids.

- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.

- Do not twist or pull by force ends of the optical cable. It can cause malfunction.

- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

- Unplug the power cord when left unused for a long period of time.

- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

Contents

1. Introduction

1.1 Brief Introduction

This product 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 HDMI2.0 Matrix Switcher
- 6 x Screws
- 1 x RS232 cable (3-pin to DB9)
- 1 x IR remote
- 1 x User manual

- 2 x Mounting ears
- 4 x Plastic cushions
- 1 x IR receiver
- 1 x Power adaptor(24VDC 1.25A)

📖 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	● 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

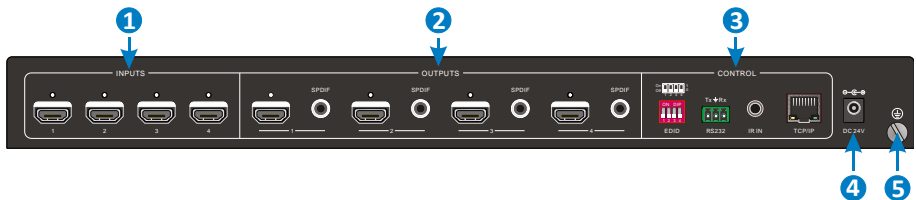**Figure 2- 2 Rear Panel**

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 *4.2 EDID Configurarion* for more detials.
		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

1) System should be installed in a clean environment with prop temperature and humidity.

2) All of the power switches, plugs, sockets and power cords should be insulated.

3) All devices should be connected before power on.
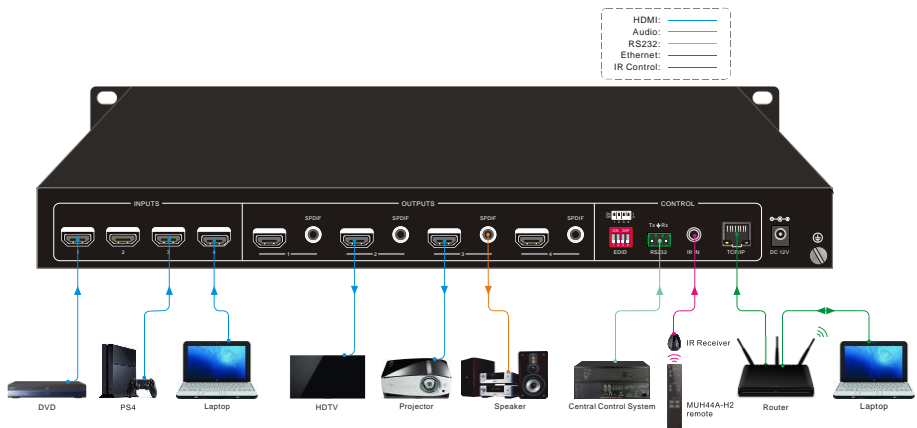
3.2 Connection Diagram

Figure 3- 1 Connection diagram

3.3 Connection Procedure

Step1. Connect HDMI sources (e.g. DVD/PS4/Laptop) to HDMI input ports with HDMI cables;

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

Step3. Connect speakers/ amplifiers to the SPDIF audio outputs with Toslink cables;

Step4. Connect the RS232 port of the control device (e.g. Central Control System, PC) and the Matrix Switcher to enable serial control;

Step5. Insert an IR receiver to the IR IN port to control this switcher via IR Remote;

Step6. Connect the TCP/IP port of the control device (e.g. Laptop) and the Matrix Switcher to enable TCP/IP control;

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

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

2) Connect amplifiers that are capable to decode HDMI audio to the SPDIF ports, or there will be no output on the amplifiers.

3.4 System Applications

As its good performance in control and transmission, the Matrix Switcher can be widely used in computer realm, monitoring, large screen displaying, conference system, television education and bank securities institutions etc.

4. Panel Button Control

4.1 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

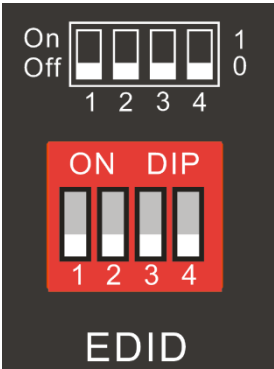2. **To convert an input to several outputs:**

   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.

4.2 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.

NO.	Status	EDID
0	0000	Pass though (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.

DIP Switcher

4.3 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.

5. 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.

Here is a brief introduction to the IR remote:

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:
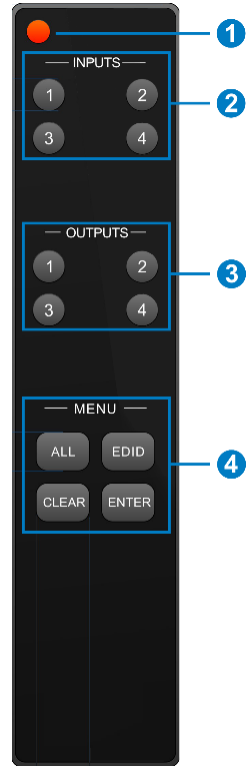
→ Press EDID + INPUTS 2 + OUTPUTS 4+ ENTER

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.

6. RS232 Control

6.1 Installation/uninstallation of RS232 Control Software

- **Installation** Copy the control software file to the computer connected with the Matrix Switcher.

- **Uninstallation** Delete all the control software files in corresponding file path.

6.2 Basic Settings

Firstly, connect the Matrix Switcher 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:

Figure 6- 1 Icon of CommWatch

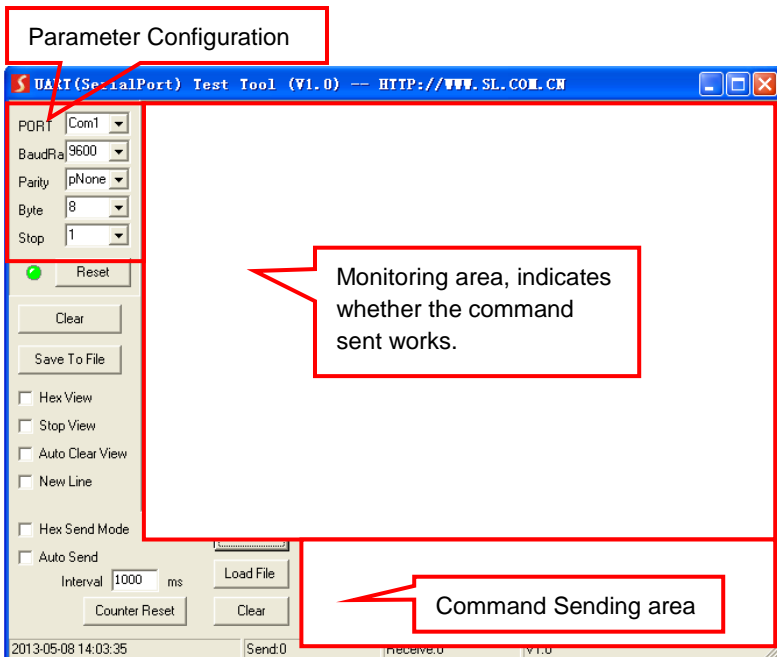The interface of the control software is showed as below:

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

6.3 RS232 Communication Commands

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1) "[", "]" in the commands are for easy recognition only and not necessary in real operations. Other symbols including ".", ",", "/", "%", ";", "^". are parts of the commands.

2) Feedbacks listed in the column "Feedback Example" are only for reference, feedbacks may vary according to different operations.

3) Dial the EDID switcher to "1111" before sending commands pertaining to software EDID management (with grey background).

6.3.1 System Commands

Command	Function	Feedback Example
/*Type;	Query the model.	XXXXX
/^Version;	Query the version of firmware	VX.X.X
Demo.	Switch to the "demo" mode, convert input and output in turn like1B1, 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

6.3.2 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!

6.3.3 Switching Commands

Command	Function	Feedback Example
[x]All.	Transfer signals from the input channel [x] to all output channels	X To All. (X=01~04)
All#.	Transfer all input signals to the corresponding output channels respectively like 1->1, 2->2…	All Through.
All$.	Switch off all the output channels.	All Closed.
[x]#.	Transfer signals from the input channel [x] to the output channel [x].	X Through. (X=01~04)
[x]$.	Switch off the output channel [x].	X Closed. (X=01~04)
[x]@.	Switch on the output channel [x].	X Open. (X=01~04)
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).	AV: X1-> X2 (X1/X2=01~04)
Status[x].	Query the I/O connection status of output [x]	AV: Y-> X (X=01~04, Y=01~04)
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

6.3.4 Scene Commands

Command	Function	Feedback Example
Save[Y].	Save the present operation to the preset command [Y], ranges from 1 to 10.	Save To FY (Y=1-10)
Recall[Y].	Recall the preset command [Y].	Recall From FY (Y=1-10)
Clear[Y].	Clear the preset command [Y].	Clear FY (Y=1-10)

6.3.5 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

6.3.6 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]. 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	EDIDH1B1

Command	Function	Feedback Example
	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

6.3.7 Enable/disable Digital Audio

Command	Function	Feedback Example
DigitAudioON[x].	Enable SPDIF audio output port x. ● 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. ● 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

7. TCP/IP Control

7.1 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**

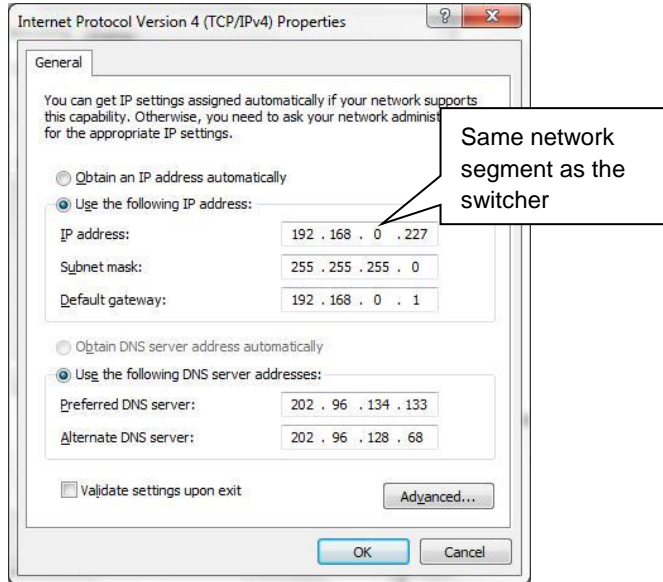Connect a computer to the TCP/IP port of the Matrix Switcher, and set its network segment to the same as the default IP of the Matrix Switcher (192.168.0.178).

Figure 7- 1 Modify the IP of PC

● **Controlled by PC(s) in LAN**

The Matrix Switcher 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 Matrix Switcher's network segment is the same with the router. Please connect as the following figure for LAN control.
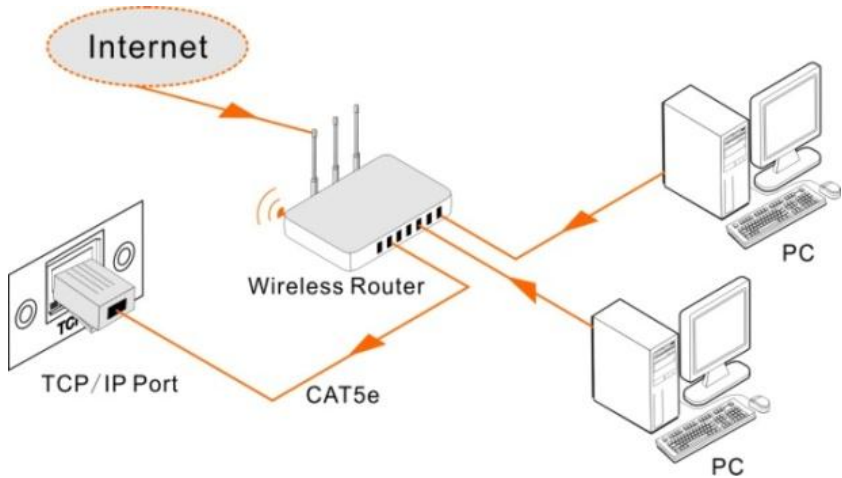
Figure 7- 2 Connect to LAN

Step1. Connect the TCP/IP port of the Matrix Switcher to Ethernet port of PC with twisted pair.

Step2. Set the PC's network segment to the same as the Matrix Switcher. Do please remember the PC's original network segment.

Step3. Set the Matrix Switcher's network segment to the same as the router.

Step4. Set the PC's network segment to the original one.

Step5. Connect the Matrix Switcher and PC(s) to the router. In the same LAN, each PC is able to control the Matrix Switcher asynchronously.

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

7.2 TCP/IP Communication Software Control

(Exampled by TCPUDP software)

1) Connect a computer with TCPUDP software to the Matrix Switcher. Open the TCPUDP software (or any other TCP/IP communication software) and create a connection, enter the IP address and port of the Matrix Switcher (default IP: 192.168.0.178, port:8080):
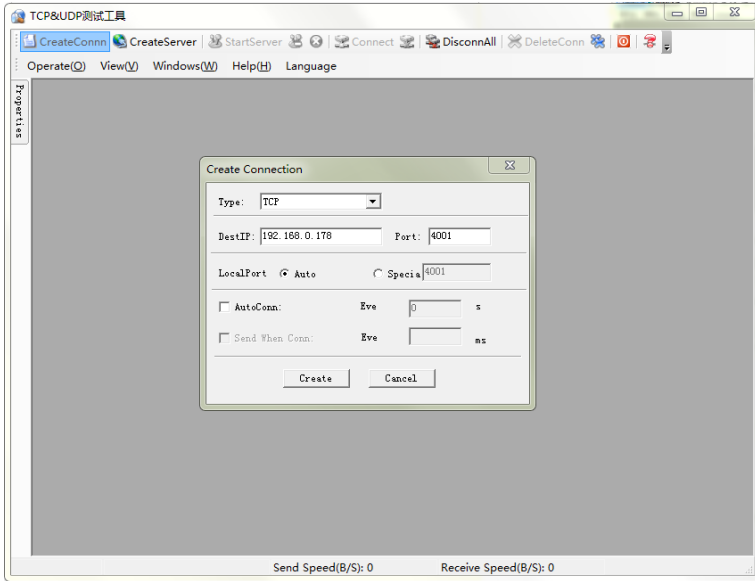
Figure 7- 3 Connect to TCPUDP

2) Enter commands in designed area to control the Matrix Switcher, see as below:

Enter your command here.

Commands are the same with RS232 commands listed in *6.3 RS232 Communication Commands*

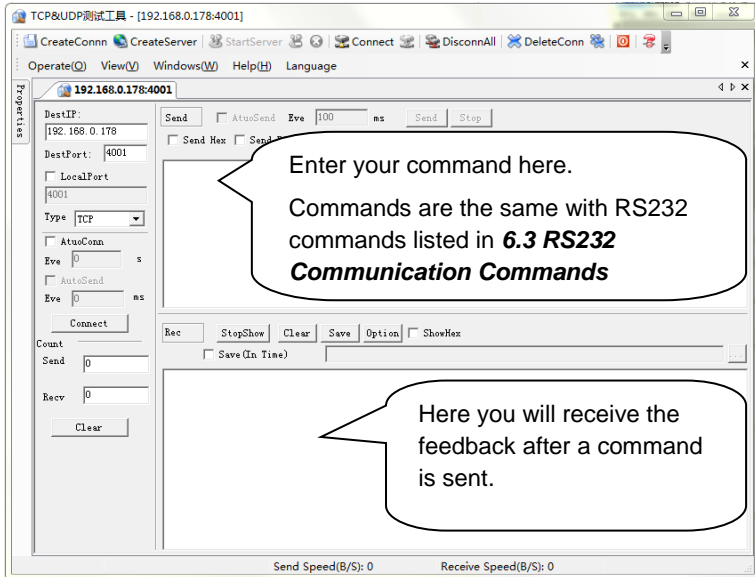Here you will receive the feedback after a command is sent.

Figure 7- 4 Control interface of TCPUDP

7.3 Web-based GUI Control

The Matrix Switcher provides with built-in GUI for convenient TCP/IP control. GUI allows users to interact with the Matrix Switcher 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:
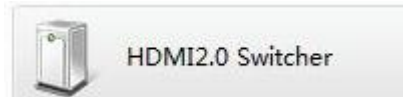
📖 PCs running Windows XP system may occur issues in finding UPnP icon, follow these steps to switch on UPnP protocol:

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.

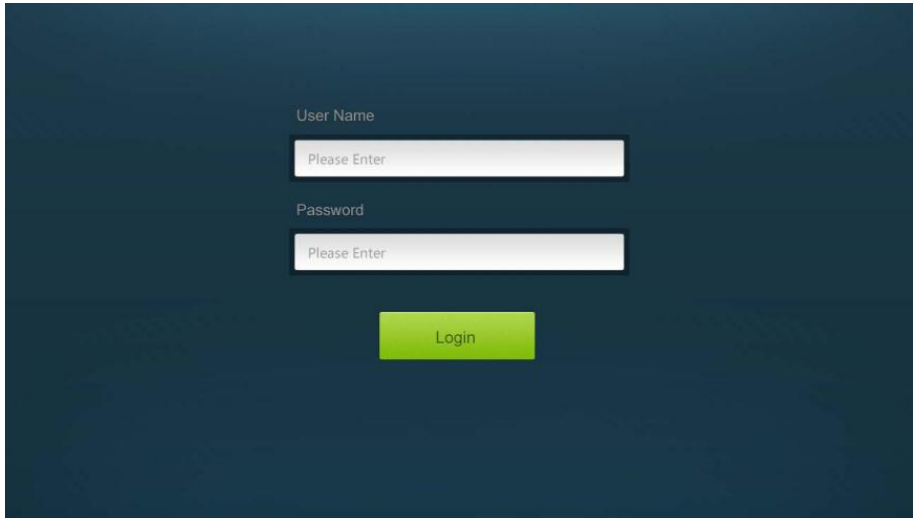Type **__192.168.0.178__** in your browser, it will enter the log-in interface shown as below:

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.

7.3.1 Scene Setting

Type the user name: admin, password: admin, and then click **LOGIN**, it will show the Scene menu as shown below:
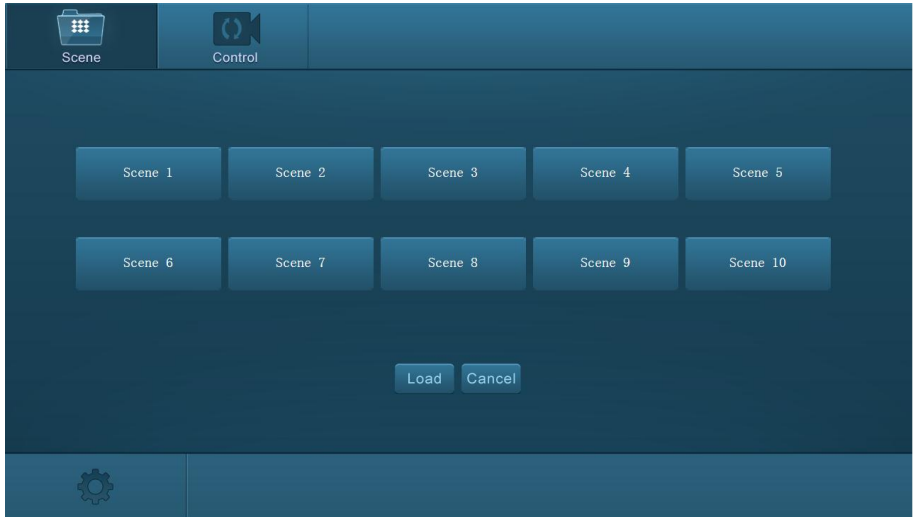
Figure 7- 6 Scene Menu

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.

7.3.2 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.

7.3.3 EDID Configuration

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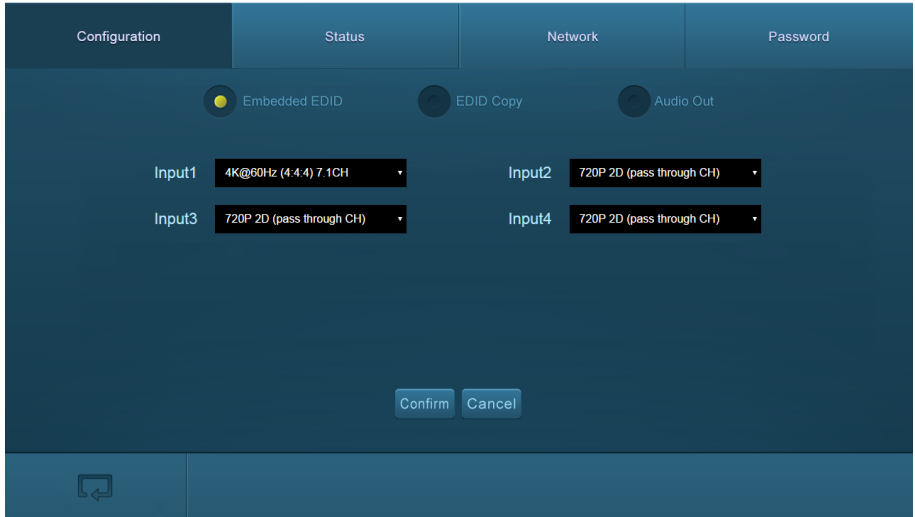
accordance with actual needs.

Figure 7- 8 Embedded EDID

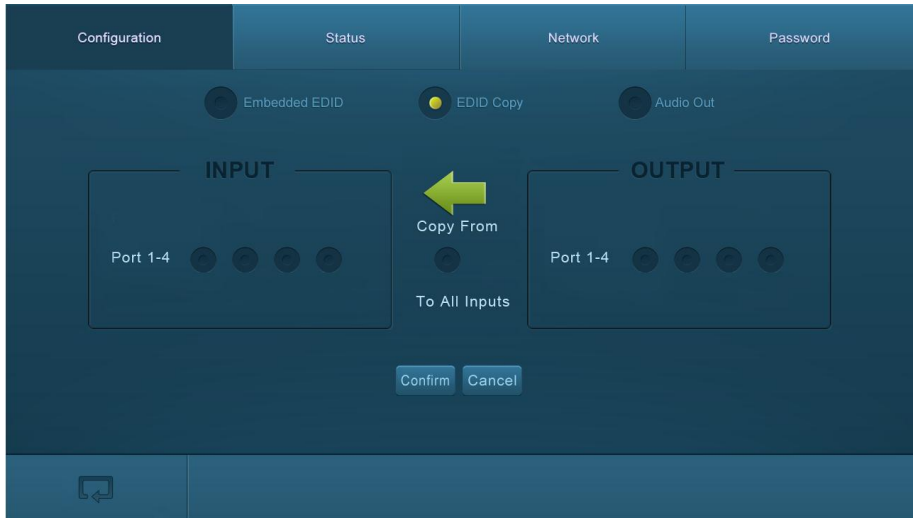2. Select "**EDID Copy"** to enter the below interface:

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.

7.3.4 Audio Out

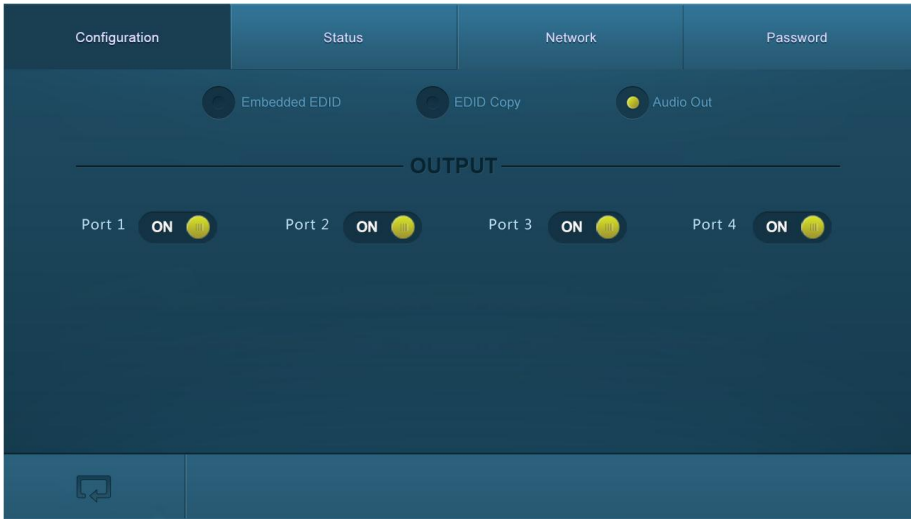Select "**Audio Out**" to enter the following interface to turn on/off the Audio Output passage.

Figure 7- 10 Audio EDID

7.3.5 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.
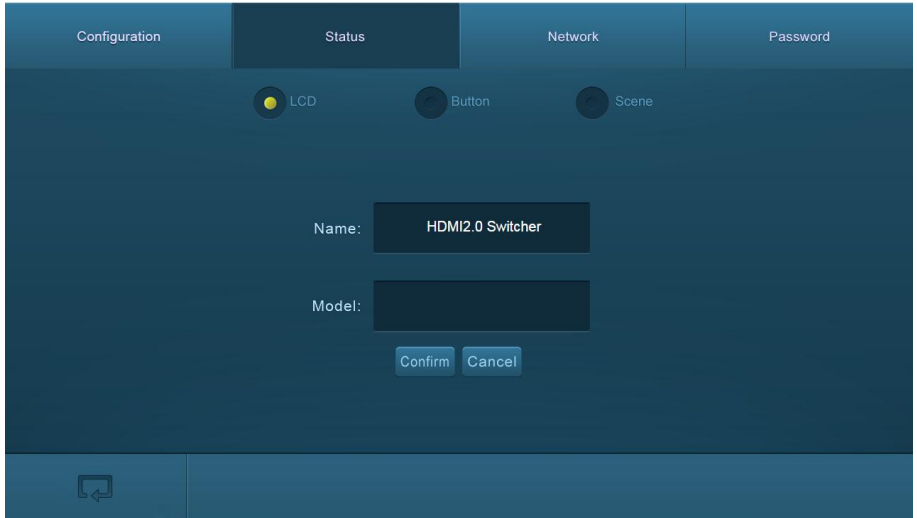
Figure 7- 11 Status- LCD

● **Button label:**

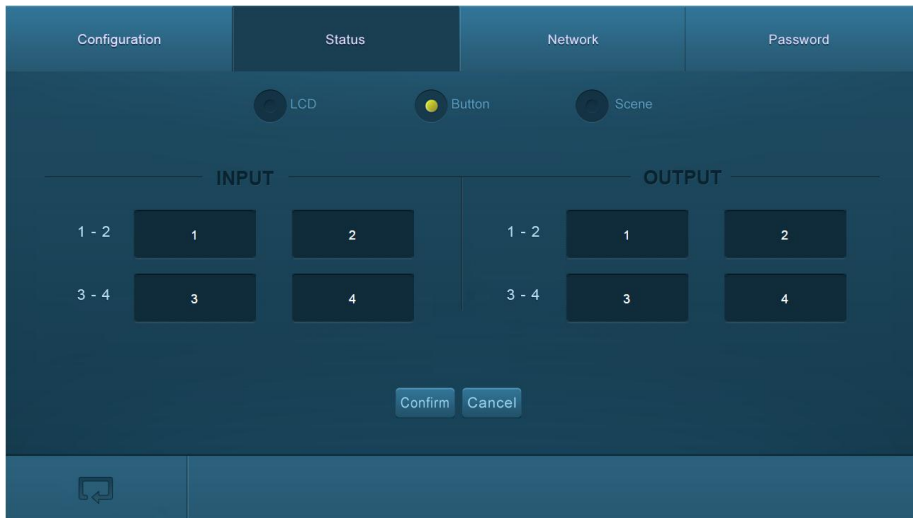Select "**Button**" to enter the following interface to modify the name of buttons.

Figure 7- 12 Status- Button

● **Scene name:**

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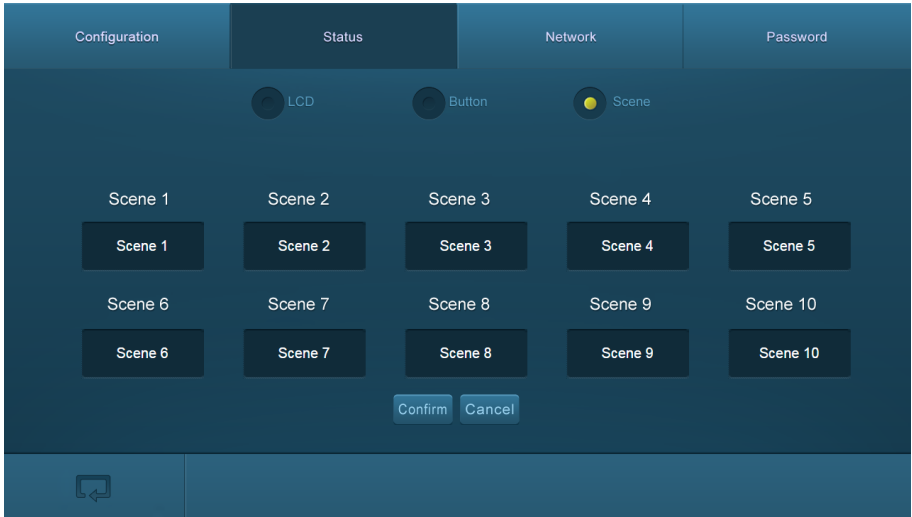

Figure 7- 13 Status-Scene

7.3.6 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

7.3.7 Password Modification

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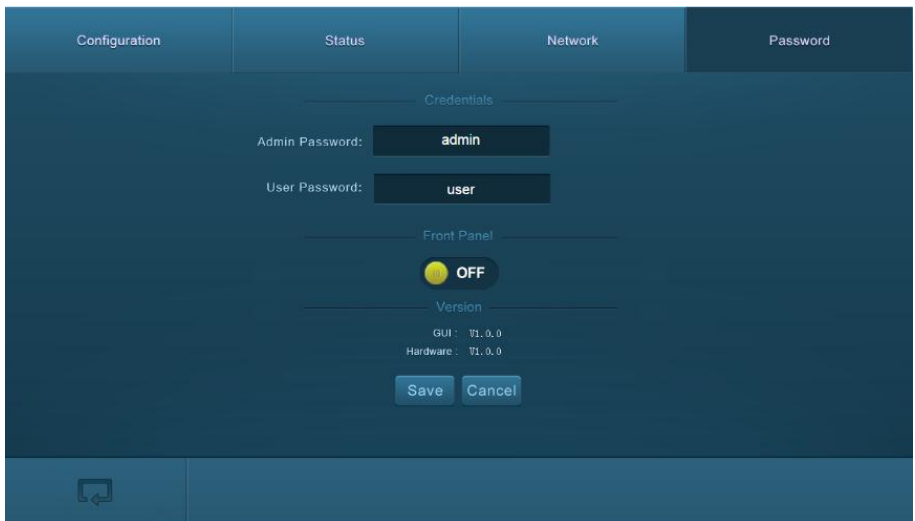

Figure 7- 15 Password

In the above interface, turn on the Front Panel to lock all buttons of machine, they

cannot be operated.

7.4 TCP/IP Port Configuration

IP address, subnet mask, and Gateway of the Matrix Switcher 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:
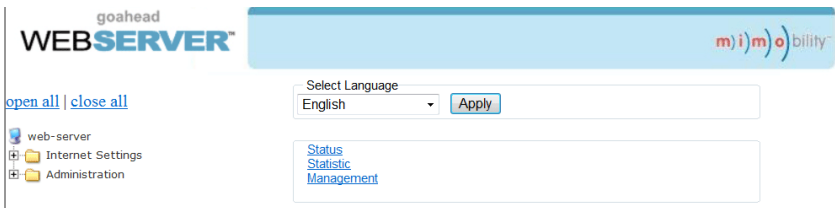
Figure 7- 16 TCP/IP Configuration

7.5 GUI Update

GUI for the Matrix Switcher 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:
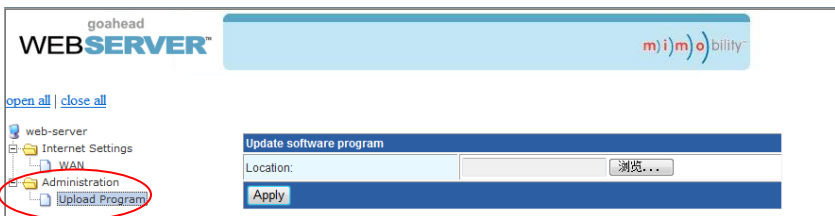
Figure 7- 17 GUI Update

8. Firmware Upgrade through USB port

The matrix switcher 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 the matrix switcher 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.

## 9. 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	≤5m
Power Supply	24VDC, 1.25A
Power Consumption	14W (Max)
Dimension (W*H*D)	437.0mm × 44.0mm × 236.5mm
Weight	1.75Kg
Temperature	-10℃~ 55℃
Reference Humidity	10% ~ 90%

📖 Recommend using quality HDMI cables in order to attain preferred transmission distance and effects.

10. Panel Drawing
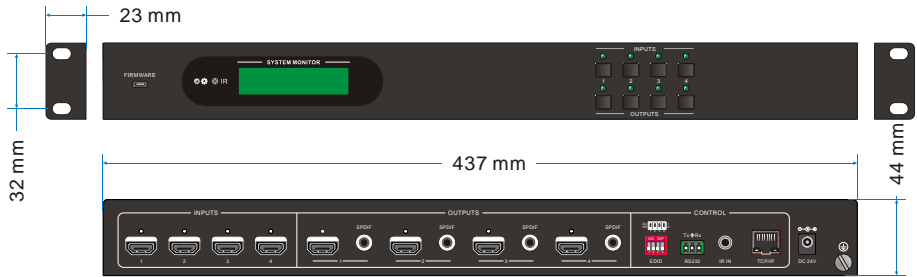
11. Troubleshooting & Maintenance

Problems	Causes	Solutions
Color losing or no video signal output	The connecting cables may not be connected correctly or it may be broken.	Check whether the cables are connected correctly and in working condition.
	Fail or loose connection	Make sure the connection is good
No output image when switching	No signal at the input / output end	Check with oscilloscope or multimeter if there is any signal at the input/ output end.
	Fail or loose connection	Make sure the connection is good
	Input source is with HDCP while the HDCP compliance is switched off.	Send command /%[x]:[1]. to change HDCP compliance status.
	The display doesn't support the input resolution.	Switch for another input source or enable the display to learn the EDID data of the input.
No output on the amplifiers connected to audio output ports	The amplifiers are not able to decode HDMI audio	Change for amplifiers that are capable to decode HDMI audio.
Cannot control the device via front panel buttons	Front panel buttons are locked.	Send command /%Unlock; to unlock.
Cannot control the device via IR remote	The battery has run off.	Change for new battery.
	The IR remote is broken.	Send it to authorized dealer for repairing.
	Beyond the effective range of the IR signal or not pointing at the IR receiver	Adjust the distance and angle and point right at the IR receiver.
Power Indicator remains off when powered on	Fail or loose power connection	Check whether the cables are connected correctly.
EDID management does not work normally	The HDMI cable is broken at the output end.	Change for another HDMI cable which is in good working condition.

		Switch again.
There is a blank screen on the display when switching	The display does not support the resolution of the video source.	Manage the EDID data manually to make the resolution of the video source automatically compliant with the output resolution.
Cannot control the device by control device (e.g. a PC) through RS232 port	Wrong connection	Check to ensure the connection between the control device and the unit.
	Wrong RS232 communication parameters	Type in correct RS232 communication parameters: Baud rate: 9600; Data bit: 8; Stop bit: 1; Parity bit: none.
	Broken RS232 port	Send it to authorized dealer for checking.
Static becomes stronger when connecting the video connectors	Bad grounding	Check the grounding and make sure it is connected well.
Cannot control the device by RS232 / IR remote / front panel buttons	The device has already been broken.	Send it to authorized dealer for repairing.

If your problem persists after following the above troubleshooting steps, seek further help from authorized dealer or our technical support.

12. After-sales Service

If there appear some problems when running the device, please check and deal with the problems reference to this user manual.

1. **Product Limited Warranty:** We warrants that its products will be free from defects in materials and workmanship for **three years,** which starts from the first day the product leaves warehouse (check the SN mark on the product).
   Proof of purchase in the form of a bill of sale or receipted invoice must be presented to obtain warranty service.

2. **What the warranty does not cover:**
   - 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 force majeure.
     - Servicing not authorized
     - Other causes which does not relate to a product defect
   - Delivery, installation or labor charges for installation or setup of the product

3. **Technical Support:** Email to our after-sales department or make a call, please inform us the following information about your cases.
   - Product version and name.
   - Detailed failure situations.
   - The formation of the cases.

Remark: For any questions or problems, please try to get help from your local distributor.