



# VHX-8

4K 8x8 HDMI 2.0 Matrix Switcher



## Operation Guide

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Version: VHX-8 V1.1

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## Federal Communications Commission Notice

This equipment 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 residential installation. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the device.

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. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and the receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received including interference that may cause undesired operation.

## Industry Canada Compliance Statement

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received including interference that may cause undesired operation.

Cet appareil est conforme avec Industrie Canada exempts de licence standard RSS (s). Son fonctionnement est soumis aux deux conditions suivantes:

1. Ce dispositif ne peut causer des interférences nuisibles.
2. Cet appareil doit accepter toute interférence reçue y compris des interférences qui peuvent provoquer un fonctionnement indésirable.



## Safety Suggestions

**Read and Follow Instructions.** Read all safety and operating instructions before operating the unit.

**Retain Instructions.** Keep the safety and operating instructions for future reference.

**Heed Warnings.** Adhere to all warnings on the unit and in the operating instructions.

**Heat.** Keep the unit away from heat sources such as radiators, heat registers, stoves, etc., including amplifiers that produce heat.

**Power Sources.** Connect the unit only to a power supply of the type described in the operating instructions, or as marked on the unit.

**Power Cord Protection.** Route power supply cords so that they are not likely to be walked on or pinched by items placed on or against them, paying particular attention to the cord plugs at power receptacles and at the point at which they exit from the unit.

**Water and Moisture.** Do not use the unit near water—for example, near a sink, in a wet basement, near a swimming pool, near an open window, etc.

**Object and Liquid Entry.** Do not allow objects to fall or liquids to be spilled into the enclosure through openings.

**Servicing.** Do not attempt any service beyond that described in the operating instructions. Refer all other service needs to qualified service personnel.

**Damage Requiring Service.** The unit should be serviced by qualified service personnel when:

- The power supply cord or the plug has been damaged.
- Objects have fallen or liquid has been spilled into the unit.
- The unit has been exposed to rain.
- The unit does not appear to operate normally or exhibits a marked change in performance.
- The unit has been dropped or the enclosure has been damaged.

## Limited Warranty

RTI warrants new products for a period of three (3) years (excluding consumables such as rechargeable batteries which are warranted for one (1) year) from the date of purchase by the original purchaser (end user) directly from RTI / Pro Control (herein referred to as "RTI"), or an authorized RTI dealer.

Warranty claims may be initiated by an authorized RTI dealer using the original dated sales receipt or other proof of warranty coverage. In the absence of the receipt of purchase from the original dealer, RTI will provide warranty coverage extension of six (6) months from the date code of the product. Note: RTI warranty is limited to the provisions set forth in this policy and does not preclude any other warranties offered by third parties who are solely responsible for those other warranties.

Except as specified below, this warranty covers defects in product material and workmanship. The following are not covered by the warranty:

- Product purchased via unauthorized sellers or internet sites will not be serviced- regardless of purchase date.
- Damages caused by accident, misuse, abuse, neglect or acts of God.
- Cosmetic damage, including, but not limited to, scratches, dents and normal wear and tear.
- Failure to follow instructions contained in the Product Installation Guide.
- Damages due to products used in an application or environment other than that for which it was intended, improper installation procedures or adverse environmental factors such as incorrect line voltages, improper wiring, or insufficient ventilation.
- Repair or attempted repair by anyone other than RTI and Pro Control or authorized service partners.
- Failure to perform recommended periodic maintenance.
- Causes other than product defects, including lack of skill, competence or experience of user.
- Damage due to shipment of this product (claims must be made to the carrier).
- Altered unit or altered serial number: defaced, modified or removed.

RTI is also not liable for:

- Damages caused by its products or for failure of its products to perform, including any labor costs, lost profits, lost savings, incidental damages, or consequential damages.
- Damages based upon inconvenience, loss of use of the product, loss of time, interrupted operation, commercial loss, any claim made by a third party or made on behalf of a third party.
- Loss of, or damage to, data, computer systems or computer programs.

RTI's liability for any defective product is limited to repair or replacement of the product, at the sole discretion of RTI.

In cases where the warranty policy conflicts with local laws, the local laws will be adopted.

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## INTRODUCTION

### INTRODUCTION TO VHX-8

The VHX-8 is a professional 4K 8x8 HDMI 2.0 Matrix Switcher with 8 HDMI inputs, 8 HDMI outputs, and 8 SPDIF audio outputs, which is designed for switching four HDMI 2.0 and HDCP 2.2 compliant signals. It also provides powerful EDID management to ensure reliable AV distribution and routing.

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

### FEATURES

- 8 SPDIF ports provide de-embedded HDMI audio output;
- Supports 4Kx2K@60Hz 4:4:4 & 1080p 3D signals;
- Supports HDMI 2.0, HDCP 2.2 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 GUI;
- Controllable via front panel button, RS232, TCP/IP or GUI;
- LCD screen shows real-time I/O connection status;
- Convenient firmware upgrade through Micro USB port;
- Easy installation with rack-mounting design.

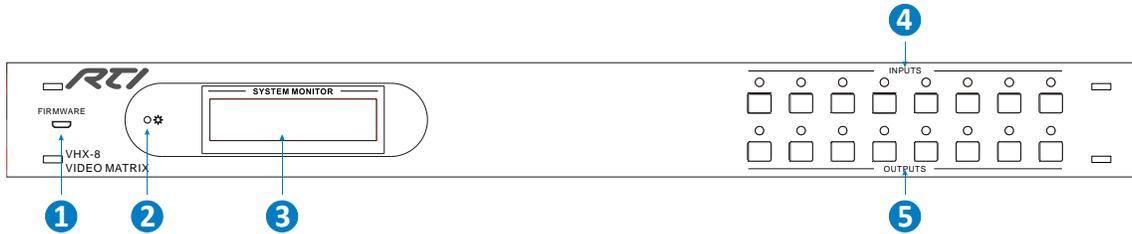
### PACKAGE LIST

- 1 x VHX-8
- 6 x Screws
- 1 x RS232 Cable (3-pin to DB9)
- 1 x User Manual
- 2 x Mounting Ears
- 4 x Plastic Cushions
- 1 x Power Adaptor (DC 24V 2.71A)

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

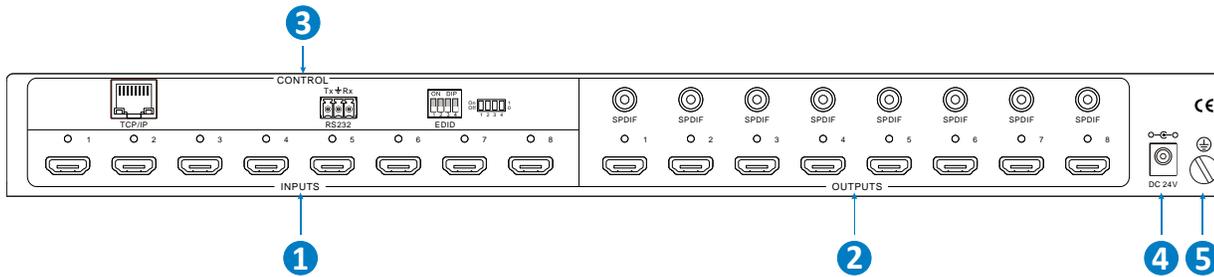
# PANEL DESCRIPTION

## FRONT PANEL



No.	Name	Description
①	Firmware	Micro USB port for updating firmware.
②	Power Indicator	<ul style="list-style-type: none"> <li>▪ Illuminates red when power on;</li> <li>▪ Turns green in standby mode;</li> <li>▪ Blinks red when upgrading.</li> </ul>
③	LCD Screen	Displays real-time operation status.
④	INPUT selector button	8 input selector buttons, press one of buttons to switch input source.
⑤	OUTPUT selector button	8 output selector buttons, press the buttons to select output channel.

## REAR PANEL



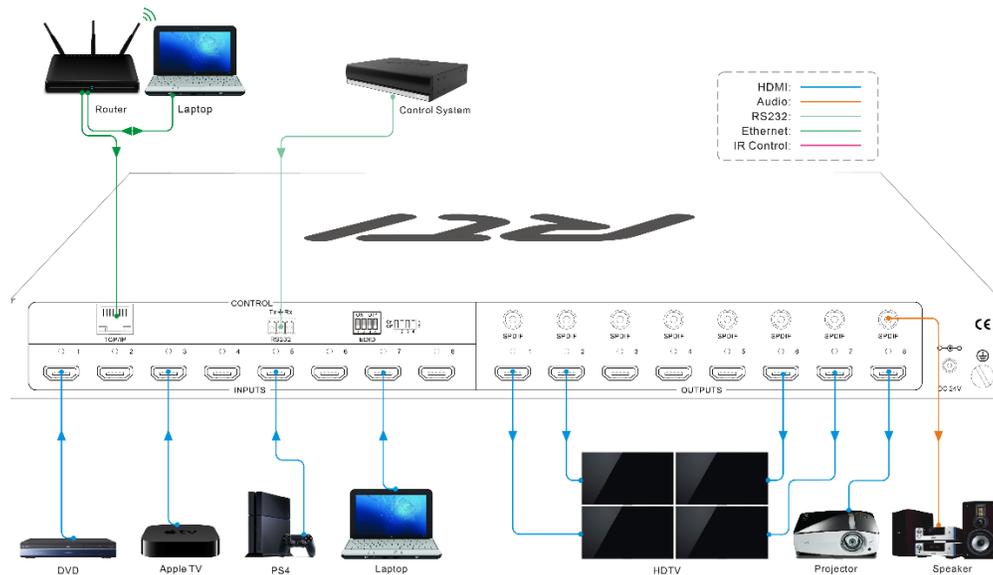
No.	Name	Description
①	INPUTS	HDMI input ports, 8 in total, connect with HDMI sources.
②	OUTPUTS	<b>SPDIF:</b> audio output ports for de-embedded HDMI audio, 8 in total.
		<b>HDMI:</b> 8 in total, connect with HDMI displays.
③	Control	<b>EDID:</b> 4-pin EDID DIP switchers to set EDID data, “1” stands for “On”, “0” stands for “Off”. Refer to <a href="#">4.2 EDID Configuration</a> for more details.
		<b>RS232:</b> Serial control port, connect with control device.
		<b>TCP/IP:</b> TCP/IP port for unit control.
④	DC 24V	Connect with 24VDC 2.71A power adaptor.
⑤	Ground	Connect to ground.

# SYSTEM CONNECTION

## USAGE PRECAUTIONS

- Verify all components and accessories included before installation.
- System should be installed in a clean environment with proper temperature and humidity.
- All of the power switches, plugs, sockets and power cords should be insulated and safe.
- All devices should be connected before powering on.

## CONNECTION DIAGRAM



## CONNECTION PROCEDURE

1. Connect HDMI sources (e.g. DVD/PS4/Laptop) to HDMI input ports with HDMI cables;
2. Connect HDMI displays (e.g. HDTV/Projector) to HDMI output ports with HDMI cables;
3. Connect speakers/ amplifiers to the SPDIF audio outputs with Toslink cables;
4. Connect the RS232 ports of the control device (e.g. Central Control System, PC) and the Matrix Switcher to enable serial control.
5. Connect the TCP/IP port to the Ethernet network to enable TCP/IP control.
6. Plug a 24VDC power adapter to the DC24V power port.

### Notes:

- When connecting to HDMI 2.0 sources, make sure the HDMI cable is compliant with HDMI 2.0 to ensure reliable transmission.
- Connect amplifiers that are capable to decode HDMI audio to the SPDIF ports, or there will be no output on the amplifiers.

## PANEL BUTTON CONTROL

### I/O CONNECTION SWITCHING

The front panel features eight input selection buttons and eight 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:**

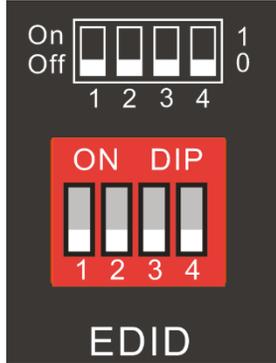
Example: Convert Input 2 to Output 3 and 4

→ Press INPUTS 2 + OUTPUTS 3 + OUTPUTS 4

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

### EDID CONFIGURATION

The rear panel has 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
 <p>EDID DIP Switcher</p>	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 GUI control	



## I/O CONNECTION INQUIRY

Press OUTPUTS buttons 1, 2, 3, 4, 5, 6, 7 or 8 to inquire its corresponding input, and the indicator of the input button will turn green.

## RS232 CONTROL

### BASIC SETTINGS

Firstly, connect the Matrix Switcher with necessary input devices and output devices. Then, connect it with a control system processor or a PC with RS232 control software installed.

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

### RS232 COMMUNICATION COMMANDS

**Notes:**

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

### SYSTEM COMMANDS

Command	Function	Feedback Example
#MOD?!	Report system model.	@MOD:VHX-8!
#IPA?!	Report IP address of device.	@IPA:192.168.0.178!
#RST!	Factory reset.	"@RST:OK! @FWV:V1.0.1! @FPL:UNLOCKED! @RAV:VIDEO 01 TO OUT 01! @RAV:VIDEO 02 TO OUT 02! @RAV:VIDEO 03 TO OUT 03!

		@RAV:VIDEO 04 TO OUT 04! @RAV:VIDEO 05 TO OUT 05! @RAV:VIDEO 06 TO OUT 06! @RAV:VIDEO 07 TO OUT 07! @RAV:VIDEO 08 TO OUT 08! @DAO:01ON! @DAO:02ON! @DAO:03ON! @DAO:04ON! @DAO:05ON! @DAO:06ON! @DAO:07ON! @DAO:08ON! EDID BYPASS 0000 @IPA:192.168.0.178! LCD 2: VHX-8 LCD 1: Matrix Switcher "
#POW?!	Report power status.	@POW:ON!
#POW:ON!	Power on the system.	@POW:ON!
#POW:OFF!	Power off the system.	@POW:OFF!
#POW:STANDBY!	Turn the system to standby mode, and then press other buttons or send other commands to start.	@POW:STANDBY!
#FWV?!	Report firmware version	@FWV:V1.0.1!
#UDO!	Cancel the current operation.	@UDO!
#RES:OUT[XX]!	Report the output [XX] resolution.	@RES:OUT 01 720x480P!
#RES:ALL?!	Report all output resolution.	@RES:OUT 01 1920x1080! @RES:OUT 02 1920x1080! @RES:OUT 03 1920x1080!

		@RES:OUT 04 1920x1080! @RES:OUT 05 1920x1080! @RES:OUT 06 1920x1080! @RES:OUT 07 1920x1080! @RES:OUT 08 1920x1080!
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### LOCK/UNLOCK COMMANDS

Command	Function	Feedback Example
#FPL:LOCK!	Lock front panel buttons.	@FPL:LOCKED!
#FPL:UNLOCK!	Unlock front panel buttons (Default).	@FPL:UNLOCKED!"
#FPL?!	Report the panel buttons locking status.	@FPL:UNLOCKED!

### SWITCHING COMMANDS

Command	Function	Feedback Example
#RAV:[XX]AVALL!	Switch input [XX] AV to all outputs. XX=01~08.	@RAV:VIDEO 01 TO OUT ALL!
#RAV:ALLAVTHROUGH!	Switch all input signal to the corresponding output channel	@RAV:VIDEO 01 TO OUT 01! @RAV:VIDEO 02 TO OUT 02! @RAV:VIDEO 03 TO OUT 03! @RAV:VIDEO 04 TO OUT 04! @RAV:VIDEO 05 TO OUT 05! @RAV:VIDEO 06 TO OUT 06! @RAV:VIDEO 07 TO OUT 07! @RAV:VIDEO 08 TO OUT 08!"
#RAV:[XX]AVTHROUGH!	Switch input [XX] to output [XX]. XX=01~08.	@RAV:VIDEO 01 TO OUT 01!
#RAV:ALLAVOFF!	Switch off all outputs	@RAV:VIDEO 00 TO OUT ALL!

#RAV:[XX]AVOFF!	Turn off the output [XX]. XX=01~08.	@RAV:VIDEO 00 TO OUT 01!
#RAV:ALLAVON!	Turn on all outputs.	@RAV:VIDEO FF TO OUT ALL!
#RAV:[XX]AVON!	Turn on the output [XX]. XX=01~08.	@RAV:VIDEO FF TO OUT 01!
#RAV:[XX]AV[Y1](&[Y2]....)!	Switch Input [XX] to output [Y1] (and all target output in [Y2] and so on). XX=01~08. Y1/Y2 =01~08.	@RAV:VIDEO 02 TO OUT 01! @RAV:VIDEO 02 TO OUT 02! @RAV:VIDEO 02 TO OUT 03! @RAV:VIDEO 02 TO OUT 04! @RAV:VIDEO 02 TO OUT 05! @RAV:VIDEO 02 TO OUT 06!
#RPT:[YY]?!	Report the input channel on output [YY]. YY =01~08.	@RAV:VIDEO 02 TO OUT 01!
#RPT:ALL?!	Report the input channel on output channel one by one.	@RAV:VIDEO 02 TO OUT 01! @RAV:VIDEO 02 TO OUT 02! @RAV:VIDEO 02 TO OUT 03! @RAV:VIDEO 02 TO OUT 04! @RAV:VIDEO 02 TO OUT 05! @RAV:VIDEO 02 TO OUT 06! @RAV:VIDEO 02 TO OUT 07! @RAV:VIDEO 02 TO OUT 08!
#CXN:INP?!	Report the connection status of the inputs.	@CXN:INP 01 Y! @CXN:INP 02 Y! @CXN:INP 03 Y! @CXN:INP 04 Y! @CXN:INP 05 Y! @CXN:INP 06 Y! @CXN:INP 07 Y! @CXN:INP 08 Y!

#CXN:OUT?!	Report the connection status of the outputs.	@CXN:OUT 01 Y! @CXN:OUT 02 Y! @CXN:OUT 03 Y! @CXN:OUT 04 Y! @CXN:OUT 05 Y! @CXN:OUT 06 Y! @CXN:OUT 07 Y! @CXN:OUT 08 Y!
#CXN:ALL?!	Report inputs and outputs connection status.	@CXN:INP 01 Y! @CXN:INP 02 Y! @CXN:INP 03 Y! @CXN:INP 04 Y! @CXN:INP 05 Y! @CXN:INP 06 Y! @CXN:INP 07 Y! @CXN:INP 08 Y! @CXN:OUT 01 Y! @CXN:OUT 02 Y! @CXN:OUT 03 Y! @CXN:OUT 04 Y! @CXN:OUT 05 Y! @CXN:OUT 06 Y! @CXN:OUT 07 Y! @CXN:OUT 08 Y!

**SCENE COMMANDS**

Command	Function	Feedback Example
#PST:[YY]STO!	Store the current status to present [YY]. YY=01~10.	@PST:10 STO!



<p>#PST:[YY]RCL!</p>	<p>Recall present [YY]. YY=01~10.</p>	<p>@PST:03 RCL!                  @RAV:VIDEO 01 TO OUT 01!                  @RAV:VIDEO 01 TO OUT 02!                  @RAV:VIDEO 01 TO OUT 03!                  @RAV:VIDEO 01 TO OUT 04!                  @RAV:VIDEO 01 TO OUT 05!                  @RAV:VIDEO 01 TO OUT 06!                  @RAV:VIDEO 01 TO OUT 07!                  @RAV:VIDEO 01 TO OUT 08!</p>
<p>#PST:[YY]CLR!</p>	<p>Clear the present [YY].                  YY=01~10.</p>	<p>@PST:09 CLR!</p>

### HDCP COMPLIANCE

Command	Function	Feedback Example
#HDP:OUT[YY]ON!	Turn on HDCP on output [YY]. YY=01~08.	@HDP:OUT 01 ON!
#HDP:OUT[YY]OFF!	Turn off HDCP on output [YY]. YY=01~08.	@HDP:OUT 01 OFF!
#HDP:OUTALLON!	Turn on HDCP on all outputs.	@HDP:OUT ALL ON!
#HDP:OUTALLOFF!	Turn off HDCP on all outputs.	@HDP:OUT ALL OFF!
#HDP:INP?!	Report the HDCP status of the inputs.	@HDP:INP 01 OFF! @HDP:INP 02 ON! @HDP:INP 03 ON! @HDP:INP 04 OFF! @HDP:INP 05 OFF! @HDP:INP 06 ON! @HDP:INP 07 ON! @HDP:INP 08 ON!
#HDP:OUT?!	Report the HDCP status of the outputs.	@HDP:OUT 01 OFF! @HDP:OUT 02 ON! @HDP:OUT 03 ON! @HDP:OUT 04 OFF! @HDP:OUT 05 OFF! @HDP:OUT 06 ON! @HDP:OUT 07 ON! @HDP:OUT 08 ON!

### EDID CONFIGURATION

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

Command	Function	Feedback Example
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#EDD:SYS[XX]!	Upgrade the EDID data of the input port [XX]. When the command applied, system prompts to upload the EDID file (.bin). Operation will be cancelled in 10 seconds.	Prompt to upload EDID file ..... Upload EDID to input card completed
#EDD:SYS[YY]TO[XX]!	Set the built-in EDID data type [YY] to input [XX]. YY=00~11, XX=01~08.	Set system EDID[Y] to input [X]
#EDD:GET[XX]!	Get the EDID data from output port [XX] and display on serial port.	00 FF FF FF FF FF FF 00 1E 6D 01 00 01 01 01 01 01 1A 01 03 80 A0 5A 78 0A EE 91 A3 54 4C 99 26 0F 50 54 A1 08 00 31 40 45 40 .....
#EDD:RST!	Reset all input card EDID to all input card.	@EDD:RST!
#EDD:SET[YY]TO[XX]!	Set the EDID data of output [YY] on input [XX]. YY=01~08, XX=01~08.	@EDD:SET OUT 08 TO INP 05!

AUDIO SETTING

Command	Function	Feedback Example
#DAO:[XX]ON!	Enable SPDIF audio output [XX]. XX=01~08.	@DAO:01ON!
#DAO:[XX]OFF!	Disable SPDIF audio output [XX]. XX=01~08.	@DAO:01OFF!
#DAO:ALLON!	Enable all SPDIF audio outputs.	@DAO:ALLON!
#DAO:ALLOFF!	Disable all SPDIF audio outputs.	@DAO:ALLOFF!
#DAO?!	Report SPDIF audio output status.	@DAO:01OFF! @DAO:02OFF! @DAO:03OFF! @DAO:04OFF! @DAO:05ON! @DAO:06ON! @DAO:07ON! @DAO:08ON!

## TCP/IP CONTROL

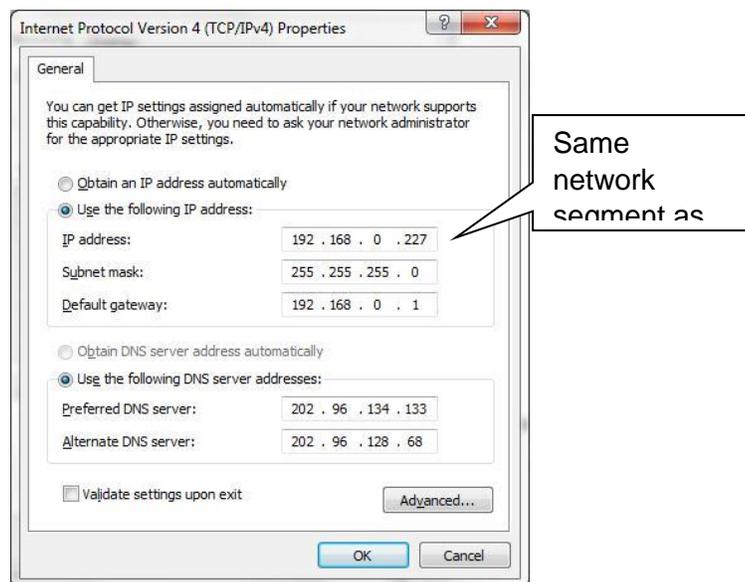
To control the VHX-8 using TCP/IP protocol from an RTI control system or PC, wire the Ethernet port of VHX-8 to the Ethernet Network. Visit the [rticorp.com](http://rticorp.com) dealer website to access the driver store and follow the instructions for installation.

## 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.

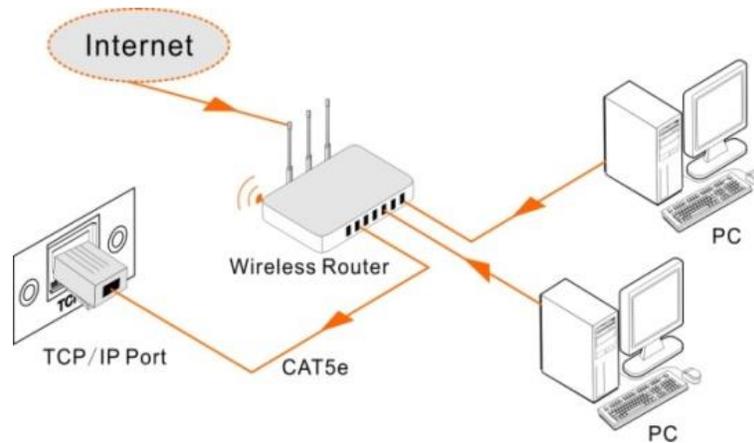
### ● Controlled by single PC

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).



### ● 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.



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.

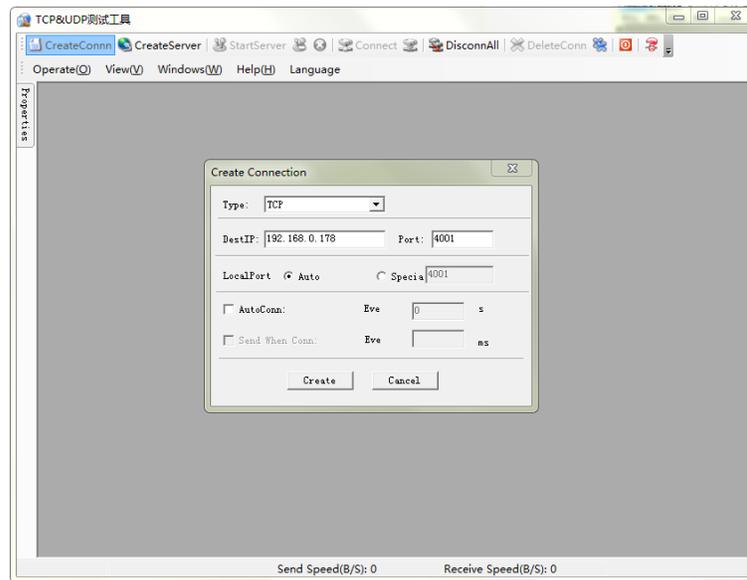
**Step5.** Connect the Matrix Switcher and PC(s) to the router. In the same LAN, each PC is able to control the Matrix Switcher asynchronously.

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

## TCP/IP COMMUNICATION SOFTWARE CONTROL

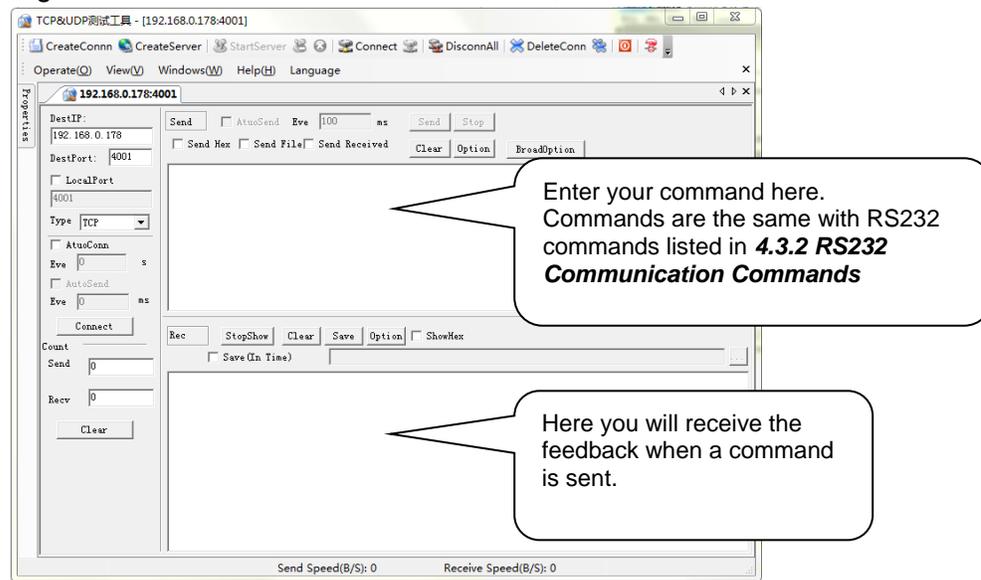
(Exemplified by TCPUDP software)

- 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:4001):



**CONNECT TO TCPUDP**

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



**CONTROL INTERFACE OF TCPUDP**

## WEB INTERFACE CONTROL

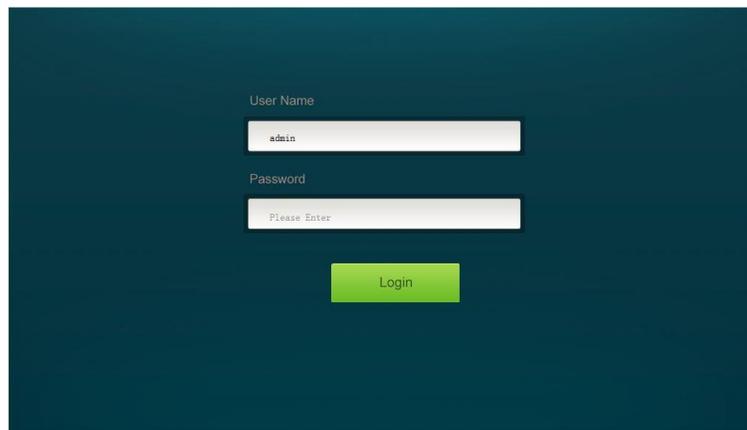
The Matrix Switcher can be controlled via GUI. It allows users to interact with the Matrix Switcher through graphical icons and visual indicators.

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 “#IPA?!” on RS232 control software.
- 2) Access through UPnP: Go to My Network Place in your PC, and click the icon as below:



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

A screenshot of a web-based login interface. The background is a dark teal color. In the center, there are two white input fields. The first field is labeled "User Name" and contains the text "admin". The second field is labeled "Password" and contains the text "Please Enter". Below the input fields is a green rectangular button with the text "Login" in white.

This system has an administrator and a user mode.

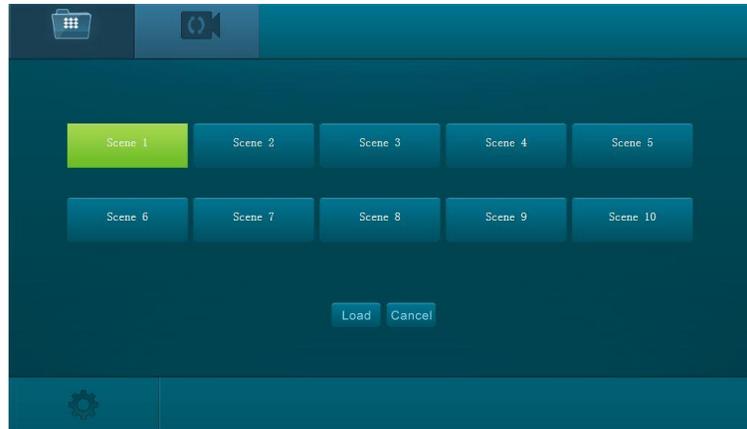
**Administrator mode:** User name: admin; Password: admin (default setting)

**User mode:** User name: user; Password: user (default setting)

**NOTE:** Log in as admin can access more configuration interfaces than user. Here is a brief introduction to the interfaces.

## SCENE SETTING

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



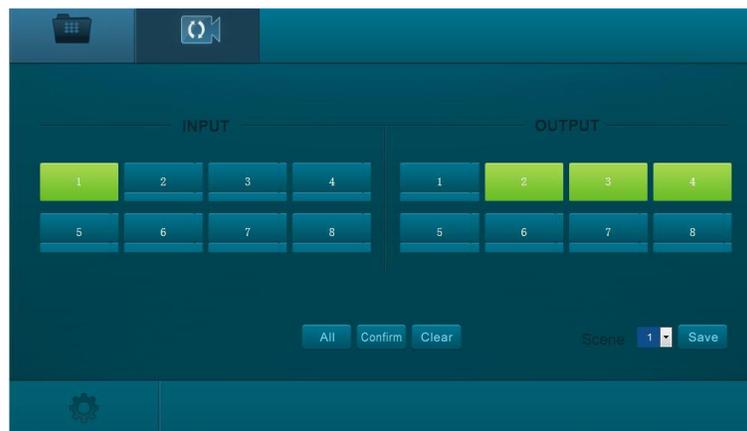
All ten scenes are shown in above interface.

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

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

## I/O CONNECTION SWITCHING

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



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

Buttons 1~8 at the right-bottom corner provide quick saving and recall for overall connection status.

**Step1:** Select button1 at INPUT column

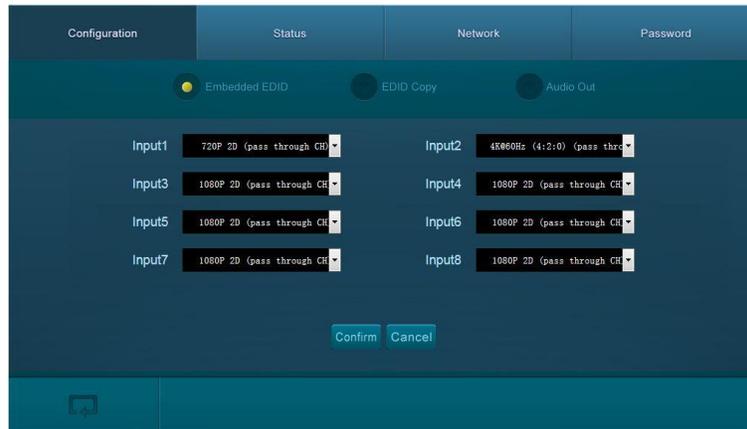
**Step2:** Select button 2, 3 and 4 at OUTPUT column (If all OUTPUT ports in needed, you only need to click “All”.)

**Step3:** Choose a scene that you want to save.

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

## EDID CONFIGURATION

- 1) Click setting button  to enter configuration interfaces.



**Figure 7-8 Embedded EDID**

All embedded EDID of the Matrix Switcher are shown in the above interface. User can select EDID in accordance with actual needs.

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



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.

## AUDIO OUTPUT

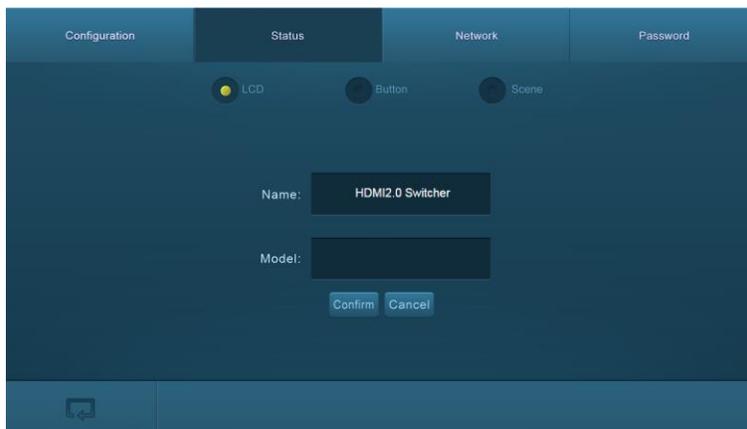
Select **“Audio Out”** to enter the following interface to turn on/off the Audio Output.



## STATUS SETTING

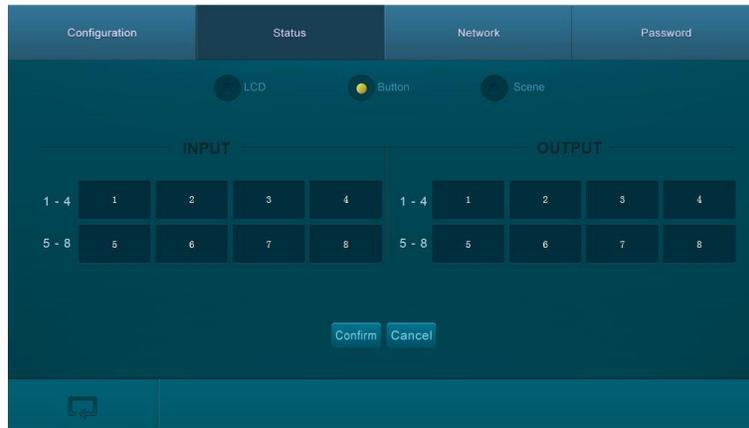
- Product Name& Model:

Click **“Status”** to enter the following interface to modify the name and mode of this machine, and then they will be display in LCD screen.



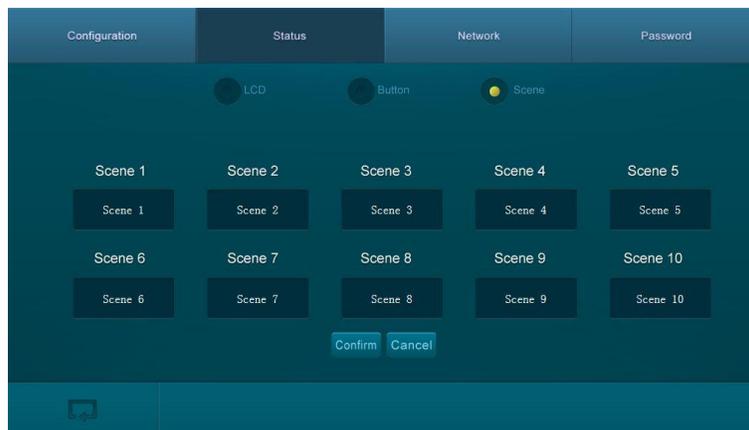
- Button label:

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



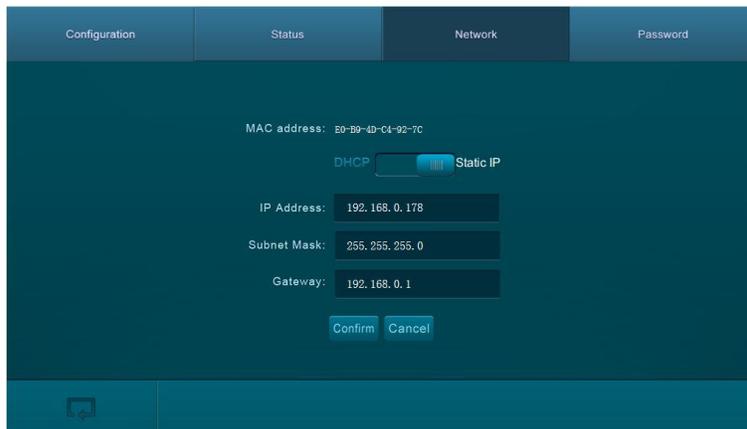
- Scene name:

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



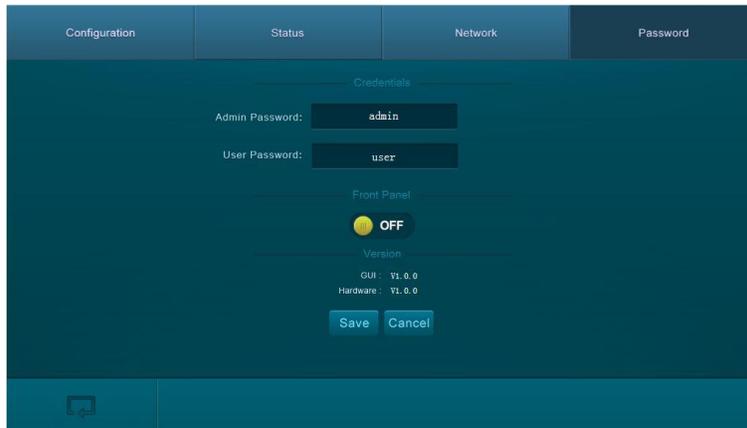
## NETWORK CONFIGURATION

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



## PASSWORD MODIFICATION

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



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

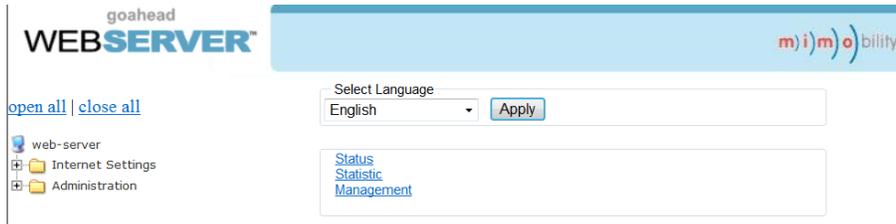
## TCP/IP CONFIGURATION

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:

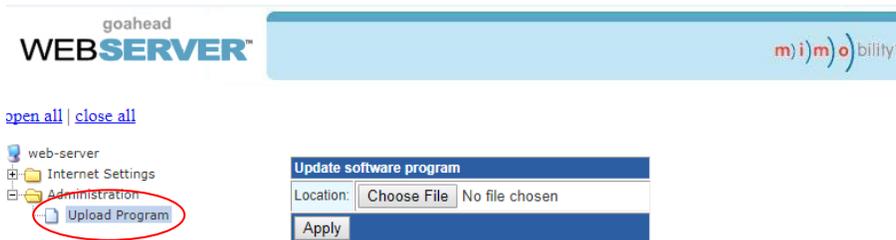
**Username:** admin; **Password:** admin

Here is the main configuration interface of the WebServer:



## 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:



Select the desired update file and press Apply, it will start upgrading then.

## 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:

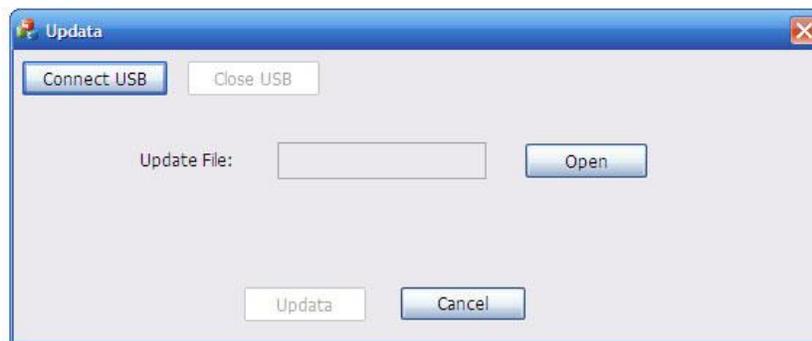
**Step1.**Copy the upgrade software and the latest upgrade file (.bin) to PC.

**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**.

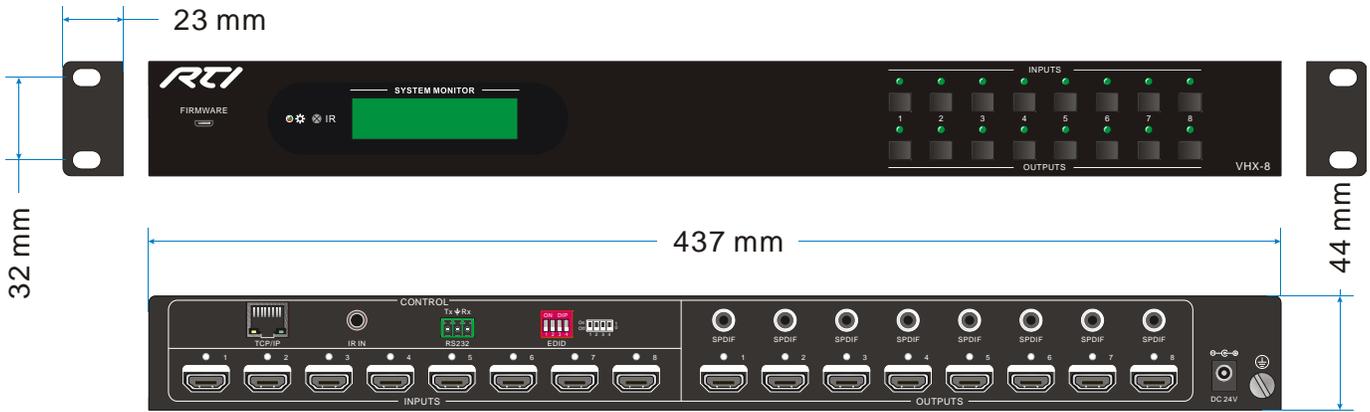
**Step5.**Click **Open** to load the upgrade file, then click **Updata** to start firmware upgrading.

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

## SPECIFICATION

Input Signal	8 HDMI
Input Connector	Female Type-A HDMI
Output Signal	8 HDMI; 8 SPDIF audio
Output Connector	Female Type-A HDMI; 3.5mm mini jack
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	HDMI 2.0& HDCP 2.2
Audio Signal	Dolby Digital, DTS, DTS-HD
<b>General</b>	
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, 2.71A
Power Consumption	21W
Dimension (W*H*D)	437mm x 44mm x 236.5mm
Weight	1.82Kg
Temperature	-10°C~ 55°C
Reference Humidity	10% ~ 90%

# PANEL DRAWING



## TROUBLESHOOTING & MAINTENANCE

Problems	Potential 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 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 to unlock.
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.
There is a blank screen on the display when switching	The display does not support the resolution of the video source.	Switch again.
		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.

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

## CONTACTING RTI

For news about the latest updates, new product information, and new accessories, please visit our web site at:

[www.rticorp.com](http://www.rticorp.com)

For general information, you can contact RTI at:

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5775 12th Ave. E Suite 180

Shakopee, MN 55379

Tel. (952) 253-3100

Fax (952) 253-3131

[info@rticorp.com](mailto:info@rticorp.com)

## SERVICE & SUPPORT

If you are encountering any problems or have a question about your RTI product, please contact RTI Technical Support for assistance (see the Contacting RTI section of this guide for contact details).

RTI provides technical support by telephone, fax or e-mail. For the highest quality service, please have the following information ready, or provide it in your fax or e-mail.

- Your Name
- Company Name
- Telephone Number
- E-mail Address
- Product model and serial number (if applicable)

If you are having a problem with hardware, please note the equipment in your system, a description of the problem, and any troubleshooting you have already tried.

Please do not return products to RTI without a return authorization.



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