VHX-8
8x8 HDMI Video Matrix

Reference Guide

Product Contents

- 1x VHX-8
- 2x Mounting Ears
- 6x Mounting Screws
- 4x Plastic Cushions
- 1x RS-232 Cable
- 1x Power Adaptor(24V DC 2.71A)
- 1x Power Cord
- 1x Reference Guide

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.

Cleaning

To clean this product, lightly dampen a lint-free cloth with plain water or a mild detergent and wipe the outer surfaces.

NOTE: Do not use harsh chemicals as damage to the unit may occur.

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.

DECLARATION OF CONFORMITY (DOC)
The Declaration of Conformity for this product can be found on the RTI website at: www.rticorp.com/declaration

Contacting RTI

For news about the latest updates, new product information, and new accessories, please visit our web site at: **www.rticorp.com**

For general information, you can contact RTI at:
Remote Technologies Incorporated
5775 12th Ave. E Suite 180
Shakopee, MN 55379
Tel. (952) 253-3100
Fax (952) 253-3131
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 or e-mail. For the highest quality service, please have the following information ready:

- 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 return authorization.

Limited Warranty

RTI warrants new products for a period of three (3) years (excluding consumables such as rechargeable batteries which are warrantied 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.
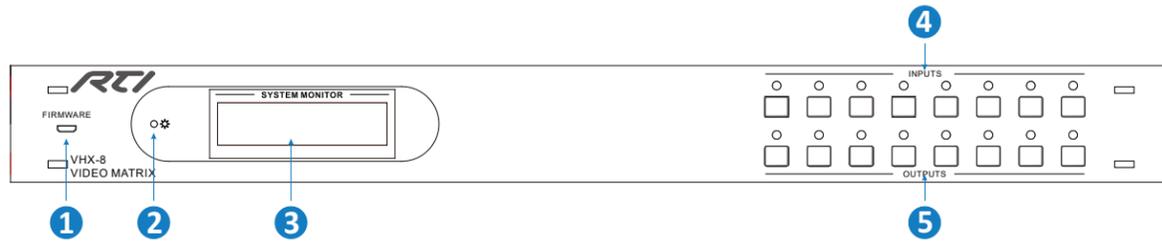
VHX-8 8x8 HDMI Video Matrix

The VHX-8 is a high-performance 8x8 HDMI Matrix Switcher for the distribution of up to eight video sources to eight displays. Featuring 18Gbps bandwidth and HDCP 2.2, the switcher allows cross-point switching from any input to any output, and support for 4K x 2K@60Hz video signals. The VHX-8 is also fully compliant with the HDMI 2.0 standard and backward compatible with HDMI 1.4 sources and displays. In addition, eight S/PDIF ports allow breakout audio from corresponding HDMI outputs. Control options include RS-232, TCP/IP, Web GUI or via the front panel buttons.

The VHX-8 provides superior quality and reliability as well as these features:

- Independently distributes up to eight HDMI video sources to eight displays or projectors.
- Supports HDMI 2.0 and video resolutions up to 4K@60Hz 4:4:4, including 1080p 3D video.
- HDCP 2.2 compliant to ensure compatibility with the latest content.
- Powerful EDID management for optimum resolution.
- Features DIP switches for manual EDID management.
- Eight S/PDIF ports provide de-embedded HDMI audio output.
- Convenient control via front panel buttons, RS-232, TCP/IP and a web-based GUI.
- Front panel LCD screen shows real-time connection status.
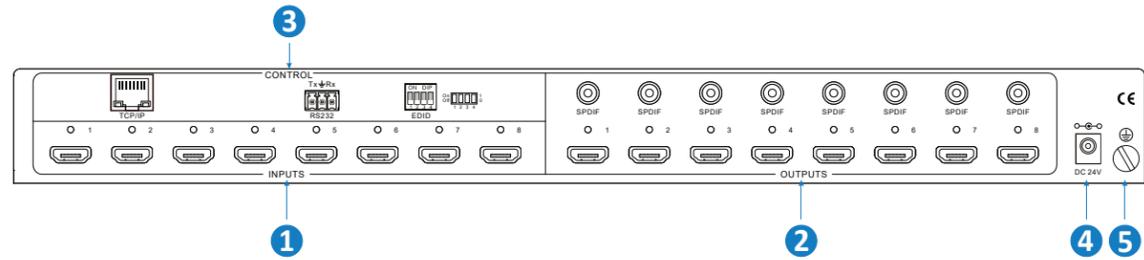- Easy installation with rack-mount design.

Installation & Operation

FRONT PANEL DESCRIPTION

No.	Name	Function
1	FIRMWARE	Micro-USB port for firmware upgrade.
2	Power Indicator	Turns red when power is on. It turns green when in standby mode and flashes red when upgrading the firmware.
3	LCD Screen	Displays real-time operation status.
4	INPUTS(1~8)	Eight buttons for the input source selection.
5	OUTPUTS(1~8)	Eight buttons for the output channel selection.

REAR PANEL DESCRIPTION

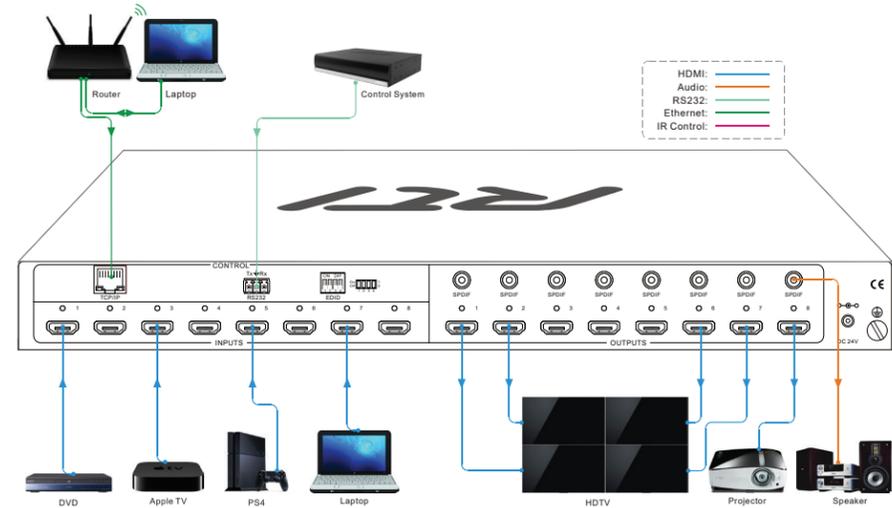| No.	Name	Function
1	INPUTS	Eight HDMI jacks to connect the source devices.
2	OUTPUTS	Eight HDMI jacks to connect the displays and eight digital coaxial S/PDIF jacks to connect an external amplifier or receiver.
3	CONTROL	• DIP switches for manual EDID management. • RS-232 connector to connect a control system or computer for RS-232 control. • RJ45 jack for control using TCP/IP via a control system and the built-in web-based GUI.
4	DC 24V	DC barrel connector for 24V DC power adapter.
5	GND	Ground connection.

SIGNAL SWITCHING

Perform the following steps to connect an input to one or more outputs.

1. Press the INPUTS button corresponding to the desired source device.
2. Press one or more of the OUTPUTS buttons, corresponding to the display(s) on which you want to view the selected input.
3. The LED corresponding to the buttons pressed will blink three times if the operation was successful. If not, the LEDs will remain off.

Examples:
• To connect input 1 to output 3, press the INPUTS 1 button, then press the OUTPUTS 3 button.
• To connect input 2 to both output 2 and output 4, press the INPUTS 2 button, then press the OUTPUTS 2 button, followed by the OUTPUTS 4 button.

CONNECTION DIAGRAM

EDID MANAGEMENT

The DIP switches on the rear panel allow you to set the EDID information that is passed to the source devices. Use the following table to determine the settings for the DIP switches for specific video resolution and audio capabilities. When in the down position, each switch represents a 0, while putting the switch in the up position represents a 1.

#	Switch	Video	Audio
0	0000	Pass-through (default)	Pass-through (default)
1	0001	720p 2D	Pass-through
2	0010	720p 3D	Pass-through
3	0011	1080p 2D	Pass-through
4	0100	1080p 3D	Pass-through
5	0101	4K@30Hz	Pass-through
6	0110	4K@30Hz	2-channel
7	0111	4K@30Hz	7.1-channel
8	1000	4K@60Hz 4:2:0	Pass-through
9	1001	4K@60Hz 4:2:0	7.1-channel
10	1010	4K@60Hz 4:4:4	Pass-through
11	1011	4K@60Hz 4:4:4	7.1-channel
12	1111	Enable software EDID management (RS-232 or TCP/IP)	

RS-232 CONTROL

To control the VHX-8 using serial communication from a control system, wire the RS-232 output of the control system to the VHX-8 RS-232 connector.
• Baud rate: 9600, Data bit: 8, Stop bit: 1, Parity bit: none

TCP/IP CONTROL

To control the VHX-8 using TCP/IP protocol from an RTI control system or the web GUI, wire the Ethernet port of VHX-8 TCP/IP connector to the LAN, set to the same network segment.
• Default IP: 192.168.0.178
• Subnet Mast: 255.255.255.0
• Gateway: 192.168.0.1
• Serial Port: 4001
IP and gateway can be changed as needed, but the Serial Port cannot be changed.

Web GUI Access: Type the IP address *http://192.168.0.178* into the web browser address bar on a network enabled device (PC, Tablet) to access the web-based GUI interface. Type in default username: *admin* and default password: *admin*

INSTALLATION

Please visit the RTI dealer portal (www.rticorp.com/dealer) for additional instructions and specifications.
NOTE: Features and specifications subject to change without notice.