

## 4x4 HDMI Matrix Video Switch Splitter | RS232



*Actual product may vary from photos*

### User Manual

SKU#: VS440HDMI

For the latest information and specifications visit  
[www.startech.com/VS440HDMI](http://www.startech.com/VS440HDMI)

# Compliance Statements

## FCC Compliance Statement

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. 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 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

## Industry Canada Statement

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe [B] est conforme à la norme NMB-003 du Canada.

CAN ICES-3 (B)/NMB-3(B)

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# Safety Statements

## Safety Measures

- Wiring terminations should not be made with the product and/or electric lines under power.
- Cables (including power and charging cables) should be placed and routed to avoid creating electric, tripping or safety hazards.

## Mesures de sécurité

- Les terminaisons de câblage ne doivent pas être effectuées lorsque le produit et/ou les câbles électriques sont sous tension.
- Les câbles (y compris les câbles d'alimentation et de chargement) doivent être placés et acheminés de façon à éviter tout risque électrique, de chute ou de sécurité

## 安全対策

- 電源が入っている状態の製品または電線の終端処理を行わないでください。
- ケーブル(電源ケーブルと充電ケーブルを含む)は、適切な配置と引き回しを行い、電気障害やつまづきの危険性など、安全上のリスクを回避するようにしてください。

## Misure di sicurezza

- I terminali dei fili elettrici non devono essere realizzate con il prodotto e/o le linee elettriche sotto tensione.
- I cavi (inclusi i cavi di alimentazione e di ricarica) devono essere posizionati e stesi in modo da evitare pericoli di inciampo, rischi di scosse elettriche o pericoli per la sicurezza.

## Säkerhetsåtgärder

- Montering av kabelavslutningar får inte göras när produkten och/eller elledningarna är strömförda.
- Kablar (inklusive elkablar och laddningskablar) ska dras och placeras på så sätt att risk för snubblingsolyckor och andra olyckor kan undvikas.

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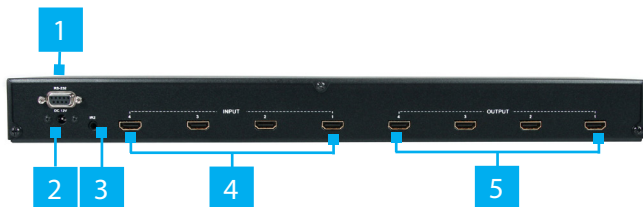
# Product Diagram

## Front View



1	Output Port Buttons
2	Input Port Buttons
3	IR Receiver
4	Function Buttons
5	LCD Display

## Rear View



1	RS232 DB9 Port
2	DC Power Port
3	IR Extender Port
4	HDMI Input Ports
5	HDMI Output Ports

## Product Information

### Package Contents

- VS440HDMI Video Switch x 1
- IR Extender Module x 1
- Remote Control x 1
- Rack Mounting Brackets x 2
- Screws for Rack Mount Brackets x 6
- DB9 RS232 Cable x 1
- Universal Power Adapter x 1
- Software Installation CD x 1
- AAA Batteries x 2

### Requirements

- HDMI Video Source Device(s) (e.g. computer, game console, PVR/DVR, etc)
- HDMI Display Device(s) (e.g. monitor, projector, HDTV, etc)

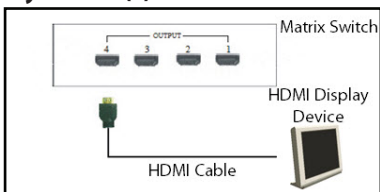
### System

- Microsoft® Windows® 2000/XP/Vista/7 (32/64-bit), 32MB RAM, 10MB storage space, CD-ROM drive, RS232 serial port

# Installation

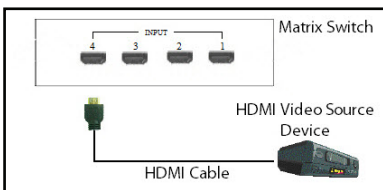
## Hardware Installation

1. Make sure that all connected **Devices** are powered off before beginning installation.
2. Connect an **HDMI Cable(s)** to the **HDMI Output Port(s)** on the **Matrix Switch** and the other end to an HDMI port on an **HDMI Display Device(s)**.



*Connecting Display Devices*

3. Connect an **HDMI Cable(s)** to the **HDMI Input Port(s)** on the **Matrix Switch** and the other end to an HDMI port on the **HDMI Video Source Device(s)**.



*Connecting Video Source Devices*

4. Select the appropriate regional **Power Cord** and connect it to the **Universal Power Adapter**.



5. Connect the **Universal Power Adapter** to the **DC Power Port** on the **Matrix Switch** and the other end to an **AC Electrical Outlet**.
6. Turn on the connected **HDMI Display Device(s)** and then the **HDMI Video Source Device(s)**.
7. The **LCD Display** on the **Matrix Switch** will activate, displaying the current status and Input-to-Output display relationships.

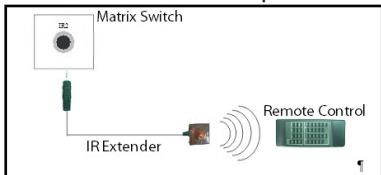
OUT	1	2	3	4	EDID
IN	1	2	0	0	FIX

*LED Display*

**Note:** The top row of the **LCD Display** lists the **HDMI Display Devices** connectd to an **Output Port** (4). The bottom row lists the **HDMI Video Source Devices** connected to the **Input Ports** (2). If a 0 appears this means that there is no **HDMI Video Source Device** connected to that **Input Port**.

## Connecting the IR Extender (Optional)

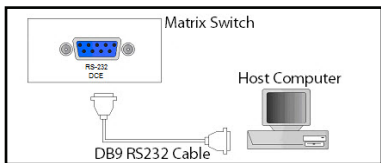
- Connect the IR Extender to the **IR Extended Port** on the **Matrix Switch**. Position the **IR Extender** so that the **Remote Control** has an unobstructed view/path to the **IR Extender**.



*Connecting the IR Extender*

## Connecting an RS232 Control (Optional)

- Connect a **DB9 RS232 Cable** to the **RS232 DB9 Port** on the **Matrix Switch** and the other end to the RS232 port on the **Host Computer**.



*Connecting a RS232 Control*

## Function Buttons

There are 5 function buttons and 2 sets of input/output selection buttons on the front of the **Matrix Switch**.

### ALL:

- Push the **All** button to select all of the Output ports at once.
- Used to configure all output ports simultaneously with the same setting.

### STO:

- Stores/saves the current Input/Output display relationships to internal memory.

### EDID:

- Allows you to switch between FIX and TV1 modes. The **LED Display** will show which EDID mode is selected.
  - **FIX mode:** Uses an internal EDID profile that supports up to 1080p and sends it to the connected **HDMI Display Devices**.
  - **TV1 mode:** Uses the EDID settings from the **HDMI Display Device** connected to **Output Port 1** and sends it to the other **HDMI Display Devices** connected to the **Matrix Switch**.

**Note:** To prevent display issues, connect the **HDMI Display Device** with the lowest video resolution to **Output Port 1**.

### OFF:

- Turns off the selected Output port. No video will be sent to the selected display(s).

## RCL:

- Recalls/loads the stored display relationships from the “STO” button.

## OUT 1~4:

- Select an **Output Port** (1 - 4) to map an **Input Port** to.

**Note:** An **Output Port** must be selected before selecting an **Input Port**.

## IN 1~4:

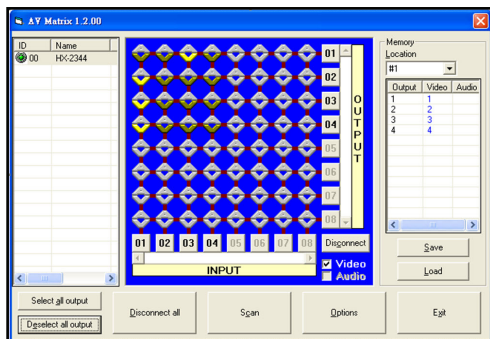
- Select an **Input Port** to map to an **Output Port** to. An error message will be appear on the **LCD Display**, if you select an **Input Port** prior to selecting an **Output Port**.

## Software Installation

1. Insert the **Software Installation CD** into the **Host Computer's CD/DVD** drive.
2. On the **CD Menu** select the **AVM Folder** and click on the **AV Matrix.exe** file, to start the software installation.
3. An **Installation Wizard** will appear, follow the on-screen prompts to install the software. Once installation is complete, close the **Installation Wizard**. The software should now be ready for use.

## AV Matrix Software

Once the software is installed and the matrix switch is properly connected to the host computer, launch the AV Matrix software to bring up the main control panel.



## AV Matrix Screen

- The panel on the left side of the **AV Matrix** screen will list all compatible **Matrix Switches** (name/model and number of ports) that are connected to the **Host Computer**.
- The center panel displays a grid showing the current Input-to-Output relationships for the selected **Matrix Switch**. The numbered ports for Input and Output are listed along the X and Y axis of the grid, with the currently set relationships highlighted.
- The panel on the right side displays the stored display relationship profiles for the selected **Matrix Switch**. Up to 4 different custom profiles can be saved for each matrix switch connected.

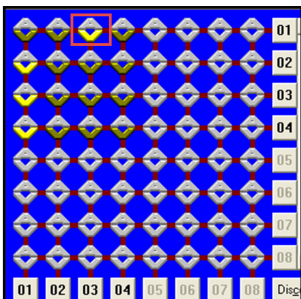
**Note:** *The front panel controls can only store 1 relationship profile.*

- The buttons along the bottom of the software window serve various functions:
  - **Select/Deselect All Output:** Selects or deselects all 4 of the **Output Ports** on the **Matrix Switch**.
  - **Disconnect All:** Disables video output to all the **Display Devices** connected to the **Matrix Switch**.
  - **Scan:** Refreshes the **AV Matrix** screen applying any changes made using the controls on the front panel of the **Matrix Switch** while the **AV Matrix** screen is open.
  - **Options:** Used to configure the serial port on the computer.

## Mapping the Output Ports to an Input Port

### Method 1:

1. Select the **Video** checkbox (bottom right corner of the center panel). Once selected, a check will appear in the checkbox.
2. Click on the appropriate location on the grid to map an **Output Port** to an **Input Port**. For example, to map Output 01 with Input 03, select column 03 on row 01.



*Mapping Output 01 to Input 03*

## Method 2:

1. Select the **Video** checkbox (bottom right corner of the center panel). Once selected, a check will appear in the checkbox.
2. Select the numbered **Output Port** button(s) along the side of the grid that corresponds with the **Output Port(s)** you wish to map to an **Input Port**.
3. Select the numbered **Input Port** button along the bottom of the grid that you want the previously selected **Output Ports** to map to.
4. Select the **Deselect All** output button in the bottom left corner of the screen.

**Note:** *If the Input/Output port relationships are changed using the front panel controls, the software will need to be refreshed using the **Scan** button.*

## Disconnecting/Disabling Video Output

To stop video from being sent to one or more of the Output ports:

1. Select the numbered **Output Port** button(s) along the side of the grid that corresponds with the **Output Port(s)** you want to disable.
2. Select the **Disconnect** button in the bottom right corner of the grid.
3. Select the **Deselect all output** button in the bottom left corner of the **AV Matrix** screen.

## Saving/Loading Stored Profiles

The **AV Matrix** screen can store up to 4 different display relationship profiles.

- To save the current configuration, select the desired profile number from the drop down list and press the **Save** button.
- To load the currently selected profile, click the **Load** button.



## Troubleshooting

### **Switching input/output with the front panel keys are not responsive.**

- Press and hold the key for 2 seconds, then release, instead of just a quick press.

### **Loss of video output or color, or the unit becomes unusually hot.**

- If the signal voltage difference between the video source device(s) and the matrix switch is too large, hot plugging could easily cause damage to the IC chips. Please turn off the power to the system before plugging or unplugging.

### **The LCD displays normally and the communication port has a return code but no image is being output.**

- The output/input cable connectors are loose. Simply reconnect the cables.
- The connection cable short-circuited. Simply replace the cable.
- The connection cable is broken. Simply replace the cable.

### **The front panel keys and communication ports are not responsive.**

- Check that the equipment input power is properly connected and the computer communication ports are working.
- Disconnect all cables and power and let sit for several minutes before attempting to use again.
- Otherwise, contact technical support for further assistance.

## Specifications

<b>Video Signal</b>	High Speed HDMI (HDMI 1.3)
<b>Number of Inputs</b>	4
<b>Number of Outputs</b>	4
<b>External Connectors</b>	4 x HDMI type A female (input) 4 x HDMI type A female (output) 1 x DB9 female 1 x IR Extender connector 1 x DC Power
<b>LEDs</b>	N/A
<b>Maximum Video Resolution</b>	1080p / 1920x1200
<b>Maximum Cable Length</b>	10m / 32.8ft
<b>Audio Support</b>	Yes
<b>EDID Support</b>	Yes
<b>Rack Mountable</b>	Yes
<b>Power Adapter</b>	12VDC, 1500mA, center positive
<b>Enclosure Material</b>	Metal
<b>Operating Temperature</b>	0°C ~ 70°C (32°F ~ 158°F)

<b>Storage Temperature</b>	-20°C ~ 85°C (-4°F ~ 185°F)
<b>Humidity</b>	0% ~ 95% RH
<b>Dimensions</b>	440.0mm x 185.0mm x 42.0mm
<b>Weight</b>	2350g
<b>Compatible Operating Systems (Software)</b>	Windows 2000/XP/Vista/7 (32/64-bit)

## Warranty Information

This product is backed by a two-year warranty.

For further information on product warranty terms and conditions, please refer to [www.startech.com/warranty](http://www.startech.com/warranty).

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