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4x4 HDMI® Matrix Switch | 4K 60Hz

Actual product may vary from photos

User Manual

SKU#: VS424HD4K60

For the latest information and specifications visit
www.startech.com/VS424HD4K60

Manual Revision: 11/22/2018

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

This Class B digital apparatus complies with Canadian ICES-003.
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.
- Product installation and/or mounting should be completed by a certified professional as per the local safety and building code guidelines.
- 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 câblâge ne doivent pas être effectuées lorsque le produit et/ou les câbles électriques sont sous tension.
- L'installation et/ou le montage du produit doit être réalisé par un professionnel certifié et dans le respect des normes locales et du code de construction local.
- 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。
- 製品の設置やマウントは、使用地域の安全ガイドラインおよび建築基準に従い、有資格の専門業者が行うようにしてください。
- 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 terminiali dei fili elettrici non devono essere realizzate con il prodotto e/o le linee elettriche sotto tensione.
- L'installazione e/o il montaggio dei prodotti devono essere eseguiti da un tecnico professionale certificato che conosca le linee guida locali sulle norme edilizie e sulla sicurezza.
- 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.
- Installation och/eller montering får endast göras av behöriga yrkespersoner och enligt gällande lokala förordningar för säkerhet och byggnormer.
- 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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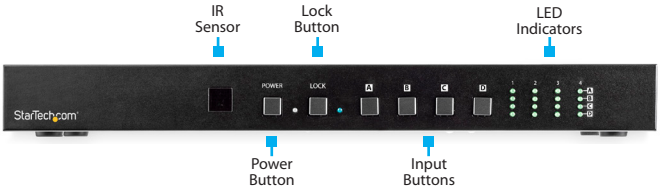
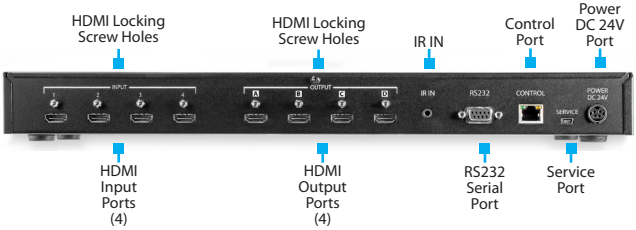
Product Diagram

Front View



Rear View



Product Information

Package Contents

- 4 X 4 4K60 Matrix Switch x 1
- Remote Control x 1
- Mounting Brackets x 2
- Universal Power Adapter x 1
- IR Receiver x 1
- User Manual x 1

Requirements

For the latest requirements, please visit www.startech.com/VS424HD4K60.

Video Source

- HDMI enabled **Video Source Devices** (e.g. computer, Blu-ray player) x 4

Display

- HDMI enabled **Display Devices** (e.g. television, projector) x 4

Cables

- RS232 Serial Cable x 1
- CAT5e/6 Cable x 1
- M/M HDMI cables for **Displays Devices** and **Video Sources** x 4

Replacement Battery

- CR 2025 Battery

Installation

1. Connect an **HDMI Cable** (sold separately) to the **HDMI Input Port** on the **Matrix Switch** and to an **HDMI Output Port** on the **Video Source Device**.

   Note: *If you are using a* **Locking HDMI Cable***, insert and tighten the* **HDMI Cable's Locking Screw** *into the* **Locking Screw Hole** *above the corresponding* **HDMI Port** *on the* **Matrix Switch***. Using the* **Phillips Head Screwdriver***, tighten the* **Locking Screw***. Be careful not to over-tighten.*

2. Connect an **HDMI Cable** to the **HDMI Output Port** on the **Matrix Switch** and the other end to an **HDMI Input Port** on the **Display Device**. The corresponding **Input LED** (front of **Matrix Switch**) will light up solid when a **Display Device** is connected.

   Note: *If you are using a* **Locking HDMI Cable***, insert and tighten the* **Locking Screw** *in the* **Locking Screw Hole** *above the corresponding* **HDMI Port***. Using the* **Phillips Head Screwdriver***, tighten the Locking Screw. Be careful not to over-tighten.*

3. Connect the **Universal Power Adapter** to the **Power DC 24V Port**, with the arrow on the **Universal Power Adapter Connector Housing** facing upward. If aligned properly, the **Universal Power Adapter** will lock into the **Power DC 24V Port**.
4. Connect the other end of the **Universal Power Adapter** to an **AC Electrical Outlet**.

Optional Installation

Using RS232 to Control the Matrix Switch

To control your **Matrix Switch** through **RS232**:

- Connect a **9-Pin Serial Cable** (sold separately) to the **RS232 Serial Port** on the **Matrix Switch** and to an **RS232 Serial Port** on the **Host Computer**.

Serial Control Settings

Setting	Description
Baud Rate	115200bps
Data Bit	8 bits
Parity	None
Flow Control	None
Stop Bit	1

Using a Network to Control the Matrix Switch

To control your **Matrix Switch** over a network:

- Connect an **Ethernet Cable** (sold separately) to the **Control Port** on the **Matrix Switch** and to an available **LAN Port** on a **Network Device**.

  Note: *See the Web Interface section for further control instructions.*

Installing the IR Receiver

Connecting the **IR Receiver** will extend the IR signal range on the **Matrix Switch**.

- Connect the **IR Receiver** to the **IR IN Port** on the **Matrix Switch**. Face the **IR Receiver** in the desired direction to receive the IR signal.

Lock Button Function

The **Lock Button** on the front of the **Matrix Switch** enables you to disable or lock the **Input Buttons**.

Locking Input Buttons

- Press the **Lock Button** to lock the **Input Buttons**. The **Lock LED** with stay solid and the **Input LED** will turn off, indicating that the **Input Buttons** are locked.

Unlocking Input Buttons

- Press and hold the **Lock Button** for three seconds. The **Lock LED** will turn off and the **Input LED** will turn on, indicating that the **Input Buttons** are unlocked.

Hardware Operation

Unplugging the Universal Power Adapter

- To unplug the **Universal Power Adapter** gently slide the **Connector Housing** away from the **Matrix Switch**.

Remote Control

Enables you to control the **Matrix Switch** primary functions remotely.

Remote Control Functionality

Button	Functionality
Power	• Powers the **Matrix Switch** On • Places the **Matrix Switch** into Stand-by mode
Output A (1 - 4)	• When selected, displays the corresponding input device (1 - 4) on Output A
Output B (1 - 4)	• When selected, displays the corresponding input device (1 - 4) on Output B
Output C (1 - 4)	• When selected, displays the corresponding input device (1 - 4) on Output C
Output D (1 - 4)	• When selected, displays the corresponding input device (1 - 4) on Output D

Removing/Replacing the Battery

1. On the back of the **Remote Control**, slide the **Lock** on the **Battery Housing**.
2. While sliding the **Lock,** pull the **Battery Housing**, and slide it away from the **Remote Control**.

3. Remove the **CR 2025 Battery** and replace it with a new **CR 2025 Battery** (sold separately) with the **+** side facing up.
4. Slide the **Battery Housing** back into the **Remote Control**, the **Lock** will snap back into place, securing the **Battery Housing** to the **Remote Control**.

Mounting the Matrix Switch

Note: *StarTech.com is not responsible for any damages related to the installation of this product.*

Mounting Requirements:

- Server Rack x 1
- Mounting Bracket x 2
- Writing Utensil x 1
- Phillips Head Screwdriver x 1
- M5 Cage Nuts x 4
- M5 Screws x 4

1. Remove the **Mounting Screws** from the **Mounting Holes** on both sides of the **Matrix Switch** (4).
2. Align the **Mounting Brackets** with the two **Mounting Holes** on both sides of the **Matrix Switch**.
3. Insert the **Bracket Screws** (4) through the **Mounting Brackets** and into the **Mounting Holes**.
4. Tighten the **Mounting Screws** using a **Phillips Head Screwdriver**, be careful not to over-tighten.

5. Decide where in the server rack you want to install the **Matrix Switch**.
6. Insert the **M5 Cage Nuts** (two per mounting post) into the square mounting holes on the **Server Rack's Mounting Posts**.
7. Align the **Mounting Brackets** with the **M5 Cage Nuts** on the **Server Rack's Mounting Post**.
8. Insert an **M5 Screw** (two per mounting post) through the front **Mounting Bracket** (rail) and into the **M5 Cage Nut**.
9. Tighten the **Mounting Screws** using a **Phillips Head Screwdriver**, be careful not to over-tighten.

Web Interface

The **Matrix Switch's** built-in ***Web Interface*** enables you to control all primary functions:

- Switch
- EDID Settings
- System Settings
- Admin - Logout

Connecting the Matrix Switch to a Computer

Connect the **Matrix Switch** to a **Computer** on the same network.

Accessing the Web Interface

1. Open a **Web Browser** on the **Computer**. Make sure that the **Computer** is connected to the same network as the **Matrix**

Switch.

2. Enter the **Matrix Switch's** default IP address (192.168.1.50) into the web address bar on the ***Web Browser***.
3. On the ***Login*** screen, enter the **Username** (admin) and **Password** (admin)

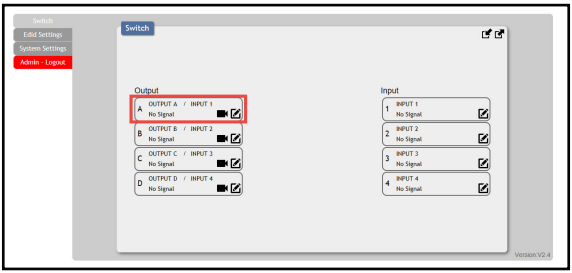
Login screen

4. Once you have logged into the **Web Interface** the ***Switch*** tab will appear.

Switch

Setting an I/O Position

1. On the ***Switch*** tab, click on an **Output**. The **Output** will highlight indicating that it was selected.



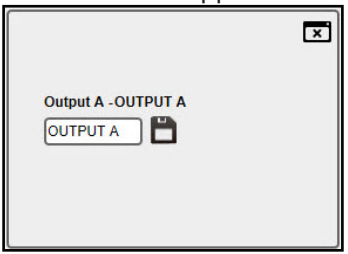
Output

2. Click on the **Inputs** that you want to connect to the selected **Output**.
3. Repeat Steps 1 - 2 to configure the other **Outputs**.

Changing Output/Input Name

1. On the ***Switch*** tab, select the **Edit** icon on the **Output** you wish to change.

2. The ***Output Name*** screen will appear.



Output Name screen

3. Enter a new name in the **Name** field. The **Name** field has an 8-character limitation.
4. Click on the **Save** button to save the new name.

Muting/Unmuting a Channel

1. On the ***Switch*** tab, select the **Mute/Blank** Button on the **Output Channel** you want to mute/blank out.

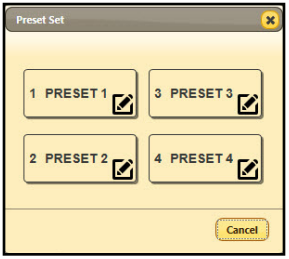
   Note: *When the* **Mute/Blank Button** *is selected the audio (Mute) and video (Blank) on the selected* **Output Channel** *with turn Off.*

2. The icon will appear crossed out, indicating that the corresponding **Output Channel** has been muted/blanked out.
3. Click the **Mute/Blank** icon a second time to reactivate the **Output Channel**.

Creating an I/O Position Preset

1. On the ***Switch*** tab, set up **Input/Output** positions (see Setting an I/O Position).
2. Click on the **Store Current I/O Position** icon (top right).

3. The ***Preset Set*** screen will appear.



Preset Set screen

4. Select a **Preset Location** (e.g. **PRESET1**) to save the current preset to.
5. When you have selected a **Preset Location**, the preset will be saved and you will return to the ***Switch*** tab.

Loading an I/O Position Preset

1. On the ***Switch*** tab, click on the **Recall the Store I/O Position** icon (top right).

2. The ***Preset Recall*** screen will appear.

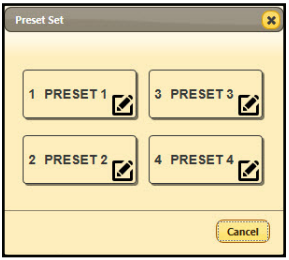
Preset Recall screen

3. Select the I/O position preset you want to load.
4. The ***Switch*** tab will appear with the I/O preset loaded.

Changing a Preset Name

1. On the ***Switch*** tab click on the **Store Current I/O Position** icon (top right).

2. The ***Preset Set*** screen will appear.



Preset Set screen

3. Click on the **Edit** icon next to a preset, the ***Edit Preset Name*** screen will appear.
4. Enter the new **Preset Name** (max. 8 characters).
5. Click the **Save** button to save the new preset name.

   - or -

   Click on the **Cancel** button to return to the ***Switch*** tab without making any changes.

EDID Settings

Configuring EDID Settings

1. On the ***Switch*** tab, click on the ***EDID Settings*** tab, the ***EDID Settings*** tab will appear.

EDID Settings screen

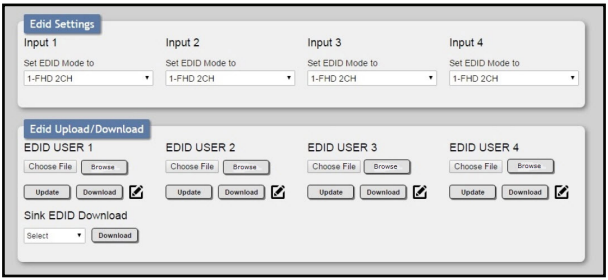
2. From the **Set EDID Mode to** drop-down list, select an **EDID** setting for each of the **Inputs** that are connected to the **Matrix Switch**.
   - **FHD2CH:** Full High-Definition-2-Channel
   - **FHDMCH:** Full High-Definition-Multi-Channel
   - **4KUHD2CH:** 4K Ultra High-Definition-2-Channel
   - **4KUHDMCH:** 4K Ultra High-Definition-Multi-Channel
   - **4KUHD+2CH:** 4K Ultra High-Definition + 2-Channel
   - **4KUHD+MCH:** 4K Ultra High-Definition + Multi-Channel
   - **TXA:** Transmitter A

- **TXB:** Transmitter B
- **TXC:** Transmitter C
- **TXD:** Transmitter D

Downloading EDID Settings

Enables you to save an EDID setting to the **Host Computer**.

1. On the ***Switch*** tab, click on the ***EDID Settings*** tab, the ***EDID Settings*** tab will appear.

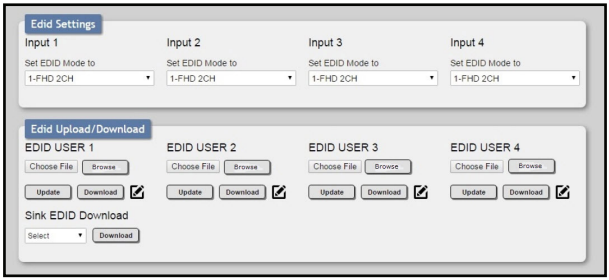


EDID Settings screen

2. On the ***EDID Upload/Download*** section, click the **Download** button that corresponds with the **EDID Input** settings you want to download (e.g. **EDID USER 1** corresponds to **Input 1** settings).
3. The **EDID Setting** will be saved to your **Host Computer** in a .bin file format.

Downloading EDID Settings from a Connected Sink Device

1. On the ***Switch*** tab, click on the ***EDID Settings*** tab, the ***EDID Settings*** tab will appear.



EDID Settings screen

2. On the ***EDID Upload/Download*** section, click the **Sink EDID Download** drop-down list and select a sink device.
3. Click the **Download** button, the **EDID Setting** will be saved to your **Host Computer** in a .bin file format.

Uploading EDID Settings

Enables you to upload a custom EDID setting to the **Matrix Switch**.

1. On the ***Switch*** tab, click on the ***EDID Settings*** tab, the ***EDID Settings*** tab will appear.

EDID Settings screen

2. On the ***EDID Upload/Download*** section, click the **Browse** button.

3. The ***File*** screen will appear, giving you access to the **Host Computers** files. Select the EDID file you would like to download to the **Matrix Switch**.

   Note: *The EDID file must be in .bin file format.*

4. Click the **Update** button, a notification screen will appear asking "**Are you sure you want to update EDID?**".

5. Click the **OK** button to update the EDID settings.

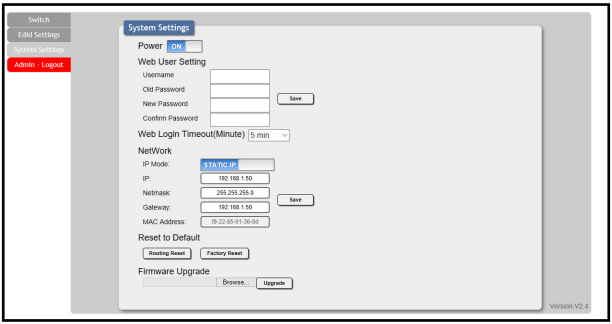
   - or -

   Click the **Cancel** button to return to the ***EDID Settings*** tab without updating.

System Settings

Powering the Matrix Switch On/Off

1. From the ***Switch*** tab click on the ***System Settings*** tab, the ***System Settings*** tab will appear.

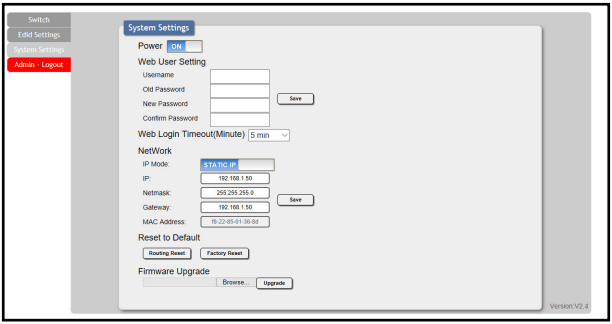


System Settings screen

2. Click on the **Power** field to toggle the **Matrix Switch** On or Off.

Changing Username and Password

1. On the ***Switch*** tab click on the ***System Setting*** tab, the ***System Settings*** tab will appear.



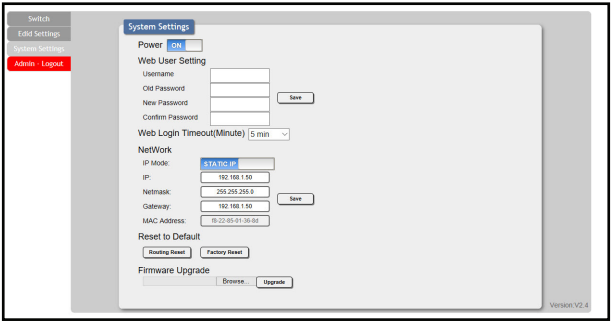
System Settings screen

2. On the ***Web User Setting*** section, enter a **Username**. The **Username** field has an 8 character limitation.
3. Enter the current password in the **Old Password** field.
4. Enter the new password in the **New Password** field (Max. 8 characters).
5. Re-enter the new password in the **Confirm Password** field.
6. Click the **Save** button to save changes.

Setting Web Login Timeout

Enables you to set the idle time before a user is automatically logged out of the **Web Interface**.

1. On the ***Switch*** tab click on the ***System Setting*** tab, the ***System Settings*** tab will appear.



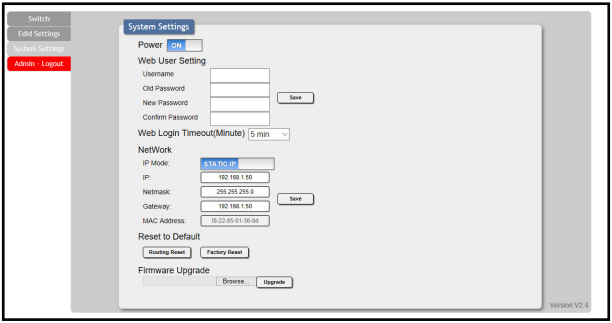
System Settings screen

2. Click the **Web Login Timeout (Minute)** drop-down list and select a new timeout time (values range from 5 - 60 minutes).

Changing Network Settings

Enables you to change/set the **Matrix Switch's** IP mode, IP address, netmask, gateway, and MAC address.

1. On the ***Switch*** tab click on the ***System Setting*** tab, the ***System Settings*** tab will appear.



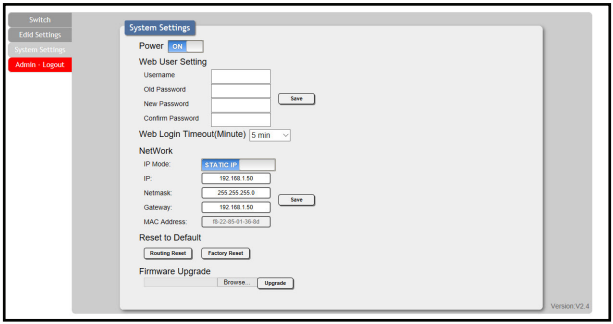
System Settings screen

2. Enter the following network information:
   - IP Mode
     - Static
     - DHCP
   - IP address
   - Netmask
   - Gateway
   - MAC Address

3. Click the **Save** button to save the network settings.

Resetting the Matrix Switch to Default Settings

1. On the ***Switch*** tab click on the ***System Settings*** tab, the ***System Settings*** tab will appear.



System Settings screen

2. On the ***Reset to Defaults*** section, click on the **Routing Reset** button to reset all routing settings.

   - or -

   Click on the **Factory Reset** button to reset the **Matrix Switch** to factory defaults.

Upgrading Firmware

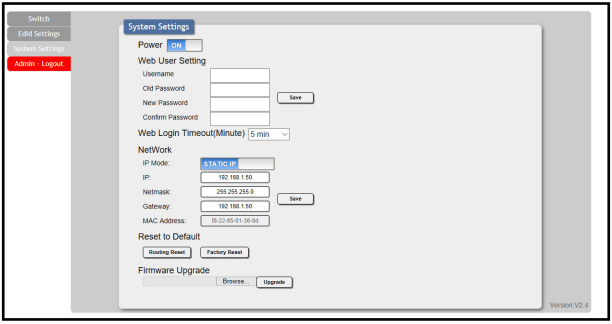
> ***Note:*** *Do not turn off the* **Matrix Switch** *when performing a firmware update.*

Enables you to upgrade the **Matrix Switch's** firmware.

For future Firmware updates refer to the Firmware section on the ***Product Support*** tab www.startech.com/VS424HD4K60.

Note: *Connect the* **Mini USB to USB-A Adapter** *to the* **Service Port**, *in order to connect a* **USB-A Device**.

1. Connect a **Mini USB Cable** to the **Service Port** on the **Matrix Switch** and connect the other end to a USB Port on the **Host Computer**.
2. From the ***Switch*** tab click on the ***System Settings*** tab, the ***System Settings*** tab will appear.



System Settings screen

3. On the ***Firmware Upgrade*** section, click on the **Browse** button.
4. The ***File*** screen will appear which enables you to access the **Host Computers** files. Select the appropriate firmware file.
5. Click the **Upgrade** button to apply the firmware upgrade.

Note: *While the firmware is upgrading do not turn off the Matrix Switch.*

Telnet Control

Telnet control enables you to use a computer command line to control **Matrix Switch** functionality.

Accessing the Command Line in Windows

1. From the ***Start*** menu type **cmd** in the **Search** field
2. Press **Enter**.

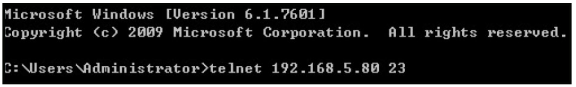
Accessing the Command Line in macOS

- From the **Go** menu, select **Application - Utilities - Terminal**.

Command Line Interface

To access the Matrix Switch's command line:

1. On the **Host Computer's** command line type **Telnet,** followed by the IP Address of the **Matrix Switch** and a port number if you are not using a standard or default port number.



Command Line Interface screen

2. Press the **Enter** button, to connect to the **Matrix Switch**.

Command List

The following is a list of commands that you can use through a computer's command line to control **Matrix Switch** functions:

Notes: *All commands must be followed by pressing the* **Enter** *button in order to execute the command.*

Commands are not case-sensitive.

Commands also work with RS232 (serial).

Command	*Description*
A N	Switch Output A to Input N (N = 1 - 4)
B N	Switch Output B to Input N (N = 1 - 4)
C N	Switch Output C to Input N (N = 1 - 4)
D N	Switch Output D to Input N (N = 1 - 4)
I N	Switch all Outputs to Input N (N = 1 - 4)
AB....N	Switch outputs AB to Input N (N = 1 - 4)
SETIP xxxx. xxxx.xxxx	Setting IP, Subnet, Gateway, for a Static IP (x = 0 - 255)
IPCONFIG	Displays the current IP Configuration
RSTIP	Sets the IP configuration to DHCP mode
P0	Powers the Switch Off
P1	Powers the Switch On

STORE N	Stores the current input/output to setting N (N = 1 - 4)
SHOW N	Shows the current port's input/output setting N (N = 1 - 4)
PRESET N	Creates a preset input/output setting using N (N = 1 - 4)
NAME N N1	Names port N as N1 (N = 1 - 4)
N1 = (LENGTH = 8 MAX)	
ST	Displays the Switch's current firmware version
EM N N1	Sets port N's EDID mode to N1
EM N	Displays port N's current EDID mode
RS	Resets routing settings back to default
USBISP	Enables you to update the Switch's firmware using the USB port
HELP	Displays all commands and descriptions
?	Displays all commands
QUIT	Exits Telnet

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