# 8x8 4K HDMI Matrix Switch
# VM0808HA
# User Manual



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# EMC Information

**FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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

(1) this device mat not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

**FCC Caution:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

**CE Warning:** This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

KC Information: 이 기기는 업무용 (A 급 ) 전자파 적합기기로서 판매자 또는 사용자는 이점을 주의하시기 바라며 , 가정외의 지역에서 사용하는 것을 목적으로합니다 .

# RoHS

This product is RoHS compliant.

# Safety

This product has been classified as Information Technology Equipment.



# User Information

## Online Registration

Be sure to register your product at our online support center:

| | |
|---|---|
| International | http://eservice.aten.com |

## Telephone Support

For telephone support, call this number:

| | |
|---|---|
| International | 886-2-8692-6959 |
| China | 86-400-810-0-810 |
| Japan | 81-3-5615-5811 |
| Korea | 82-2-467-6789 |
| North America | 1-888-999-ATEN ext 4988 |
| United Kingdom | 44-8-4481-58923 |

## User Notice

All information, documentation, and specifications contained in this manual are subject to change without prior notification by the manufacturer. The manufacturer makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties as to merchantability or fitness for any particular purpose. Any of the manufacturer's software described in this manual is sold or licensed *as is*. Should the programs prove defective following their purchase, the buyer (and not the manufacturer, its distributor, or its dealer), assumes the entire cost of all necessary servicing, repair and any incidental or consequential damages resulting from any defect in the software.

The manufacturer of this system is not responsible for any radio and/or TV interference caused by unauthorized modifications to this device. It is the responsibility of the user to correct such interference.

The manufacturer is not responsible for any damage incurred in the operation of this system if the correct operational voltage setting was not selected prior to operation. PLEASE VERIFY THAT THE VOLTAGE SETTING IS CORRECT BEFORE USE.

## Package Contents

The VM0808HA package consists of:

- 1 VM0808HA 8x8 4K HDMI Matrix Switch
- 1 Power Cord
- 1 IR Remote Control
- 1 IR Receiver
- 1 Mounting Kit
- 1 User Instructions*

Check to make sure that all the components are present and that nothing got damaged in shipping. If you encounter a problem, contact your dealer.

Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the unit, and/or any of the devices connected to it.

***** Features may have been added to the VM0808HA since this manual was published. Please visit our website to download the most up-to-date version.

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# About this Manual

This User Manual is provided to help you get the most from your VM0808HA system. It covers all aspects of installation, configuration and operation. An overview of the information found in the manual is provided below.

**Chapter 1, Introduction,** introduces you to the VM0808HA system. Its purpose, features and benefits are presented, and its front and back panel components are described.

**Chapter 2, Hardware Setup,** describes how to set up your VM0808HA installation.

**Chapter 3, Local Operation,** explains the fundamental concepts involved in operating the VM0808HA at the local site via the front panel LCD display, using pushbuttons and the IR remote control.

**Chapter 4, Browser Operation,** provides a complete description of the VM0808HA's Browser Graphical User Interface (GUI), and how to use it to remotely configure and operate the VM0808HA.

**Chapter 5, RS-232 Protocol Commands,** provides a complete list of the serial control protocol commands used when utilizing the RS-232 Serial Port so that an extra source device can function further as transmitter and receiver.

**An Appendix,** provides specifications and other technical information regarding the VM0808HA.

## Conventions

This manual uses the following conventions:

| | |
|---|---|
| `Monospaced` | Indicates text that you should key in. |
| [ ] | Indicates keys you should press. For example, [Enter] means to press the **Enter** key. If keys need to be chorded, they appear together in the same bracket with a plus sign between them: [Ctrl+Alt]. |
| 1. | Numbered lists represent procedures with sequential steps. |
| ♦ | Bullet lists provide information, but do not involve sequential steps. |
| → | Indicates selecting the option (on a menu or dialog box, for example), that comes next. For example, Start → Run means to open the *Start* menu, and then select *Run*. |
| ⚠ | Indicates critical information. |

## Product Information

For information about all ATEN products and how they can help you connect without limits, visit ATEN on the Web or contact an ATEN Authorized Reseller. Visit ATEN on the Web for a list of locations and telephone numbers:

| | |
|---|---|
| International | http://www.aten.com |
| North America | http://www.aten-usa.com |

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# Chapter 1
# Introduction

## Overview

The ATEN VM0808HA, an 8x8 4K HDMI Matrix Switch, supports up to 4K resolutions, including UHD (3840 x 2160) and DCI (4096 x 2160), and refresh rates of 30 Hz (4:4:4) and 60 Hz (4:2:0). Ready for future high-definition video trends, the VM0808HA is ideal for applications where the routing of up to 4K digital video signals is required, such as in classrooms, auditoriums and department stores.

This matrix switch offers an easy and affordable way to route any of 8 HDMI video sources to any of 8 HDMI displays and can be controlled and operated through front-panel pushbuttons, IR, RS-232 and Ethernet connections, ensuring optimum control capabilities. Moreover, with a built-in, intuitive Web GUI, the VM0808HA can be easily accessed via a web browser for remote setup and customization of source/display switching.

# Features

- Connects any of 8 HDMI sources to any of 8 HDMI displays
- Supports 4K resolutions of UHD (3840x2160) and DCI (4096x2160) with refresh rates of 30 Hz (4:4:4) and 60 Hz (4:2:0)
- EDID Expert™ – selects optimum EDID settings for smooth power-up, high-quality display, and use of the best video resolution across different screens
- Multiple Control Methods – system management via front-panel pushbuttons, IR, RS-232, and Ethernet (Web GUI) connections
- Supports Dolby True HD and DTS-HD Master Audio
- Signaling rates up to 3.4 Gbits for flawless 4K output
- HDMI (3D, Deep Color) and HDCP 2.2 compatible
- Consumer Electronics Control (CEC) allows interconnected HDMI devices to communicate and respond to a single remote control
- Supports ATEN's LockPro™ HDMI cable lock for secure HDMI cables
- Supports Power on Detection
- ESD protection for HDMI
- Firmware upgradeable
- Rack-mountable (1U design)

# Requirements

The following devices are required for a complete VM0808HA installation:

## Source Devices

- HDMI Type A output connector(s)

**Note:** A DVI/HDMI adapter is required when connecting a DVI source device.

## Display Devices

- Display devices or receivers with an HDMI Type A input connector

## Cables

- 1 HDMI cable for each source device you will be connecting
- 1 HDMI cable for each display device you will be connecting

**Note:** No cables are included in this package. We strongly recommend that you purchase high-quality cables of appropriate length since this will affect the quality of the audio and video display. Contact your dealer to purchase the correct cable sets.

## Source Device Operating Systems

Supported operating systems are shown in the table, below:

| OS | | Version |
|---|---|---|
| Windows | | 2000 and higher |
| Linux | RedHat | 6.0 and higher |
| | SuSE | 8.2 and higher |
| | Mandriva (Mandrake) | 9.0 and higher |
| UNIX | AIX | 4.3 and higher |
| | FreeBSD | 3.51 and higher |
| | Sun | Solaris 8 and higher |
| Novell | Netware | 5.0 and higher |
| Mac | | OS 9 and higher |
| DOS | | 6.2 and higher |

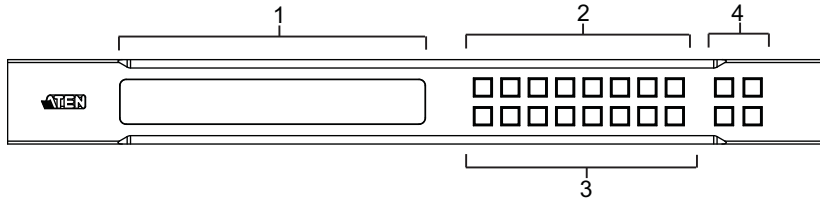
**Note:** For Windows 7 64-bit systems, the following must be installed first:

1) Microsoft Office 64-bit Access Database software; and

2) Microsoft 64-bit ODBC and OLEDB driver

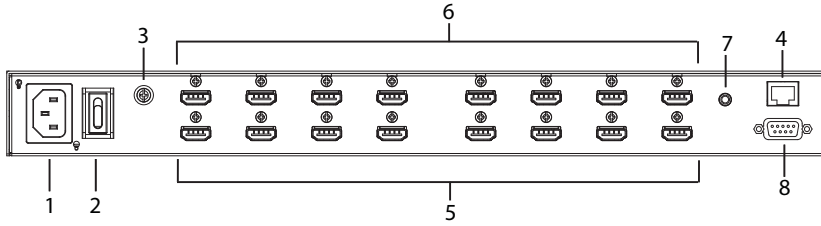
# Components

## Front View



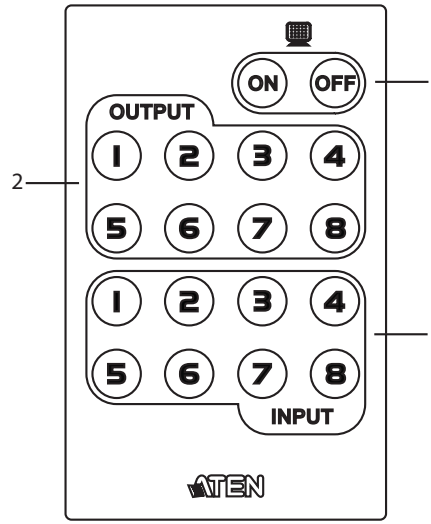

| No. | Component | Description |
|---|---|---|
| 1 | LCD Display | The LCD Display gives a quick view of all port connections, and shows the various options for configuring and operating the VM0808HA. For full details, see *Main Screen*, page 17. |
| 2 | Input Pushbuttons | These pushbuttons refer to the HDMI Input ports found on the VM0808HA rear panel. Press to select the Input port. These pushbuttons may also correspond to menu options, connection profiles (P1–P8) and so on.<br>**Note:** The **INPUT** (1–8) front panel pushbuttons have built-in LEDs that light to indicate they have been selected. |
| 3 | Output Pushbuttons | These pushbuttons refer to the HDMI Output ports found on the VM0808HA rear panel. Press to select the Output port. These pushbuttons may also correspond to connection profiles (P9–P16).<br>**Note:** The **OUTPUT** (1–8) front panel pushbuttons have built-in LEDs that light to indicate they have been selected. |
| 4 | Function Pushbuttons | The function pushbuttons (**MENU**, **PROFILE**, **ENTER** and **CANCEL**) are for navigating the LCD built-in configuration utility. For full details, see *Front Panel Pushbuttons***, page 15**.<br>**Note:** The **MENU** and P**ROFILE** front panel pushbuttons have built-in LEDs that light to indicate they have been selected. |

## Rear View




| No. | Component | Description |
|---|---|---|
| 1 | Power Socket | This is a standard 3-pin AC power socket. The power cord from an AC source plugs in here. |
| 2 | Power Switch | This is a standard rocker switch that powers the unit on and off. |
| 3 | Grounding Terminal | The grounding wire attaches here. See *Grounding*, page 11, for further details. |
| 4 | Ethernet Port | In order to access the VM0808HA's Browser Graphical User Interface (GUI), the VM0808HA must be connected to your network. The cable that connects the VM0808HA to your LAN plugs in here. See *Cable Connection*, page 12, for further details |
| 5 | HDMI Input Ports | The cables from the HDMI source devices plug into these ports. |
| 6 | HDMI Output Ports | The cables from the HDMI display devices plug into these ports. |
| 7 | External IR Receiver Port | This 3.5 mm Mini Stereo Jack connects to the IR Receiver unit included with your product. |
| 8 | RS-232 Serial Port | This serial remote port is for input source selection and high-end system control. |

## IR Remote Control




| No. | Component | Description |
|---|---|---|
| 1 | Power ON/OFF | Use the **ON** and **OFF** pushbuttons to turn the Output displays on or off – by individual port, or all ports (see *IR Remote Control Operation*, page 32). |
| 2 | Output Pushbuttons 1–8 | Press **Output** display pushbuttons 1–8 to select the Output display you want to configure (see *IR Remote Control Operation*, page 32). |
| 3 | Input Pushbuttons 1–8 | Press **Input** source pushbuttons 1–8 to select the Input source you want to display on a selected output (see *IR Remote Control Operation*, page 32). |

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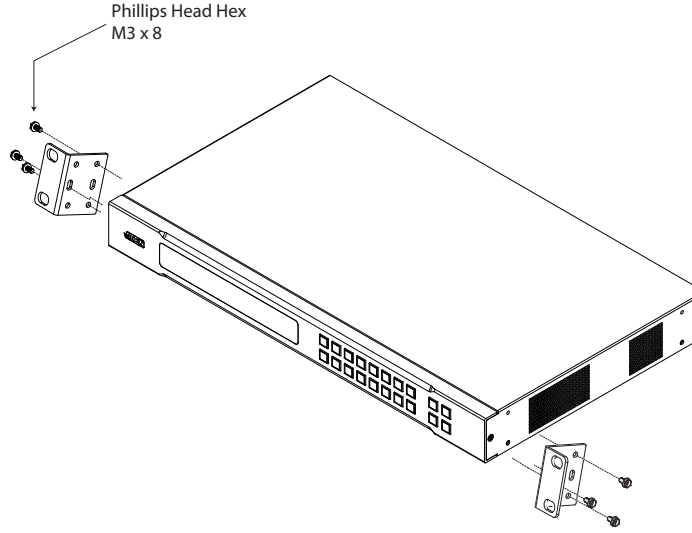
# Chapter 2
# Hardware Setup

1. Important safety information regarding the placement of this device is provided on page 83. Please review it before proceeding.
2. Make sure that the power to all devices connected to the installation are turned off. You must unplug the power cords of any computers that have the Keyboard Power On function.

## Rack Mounting

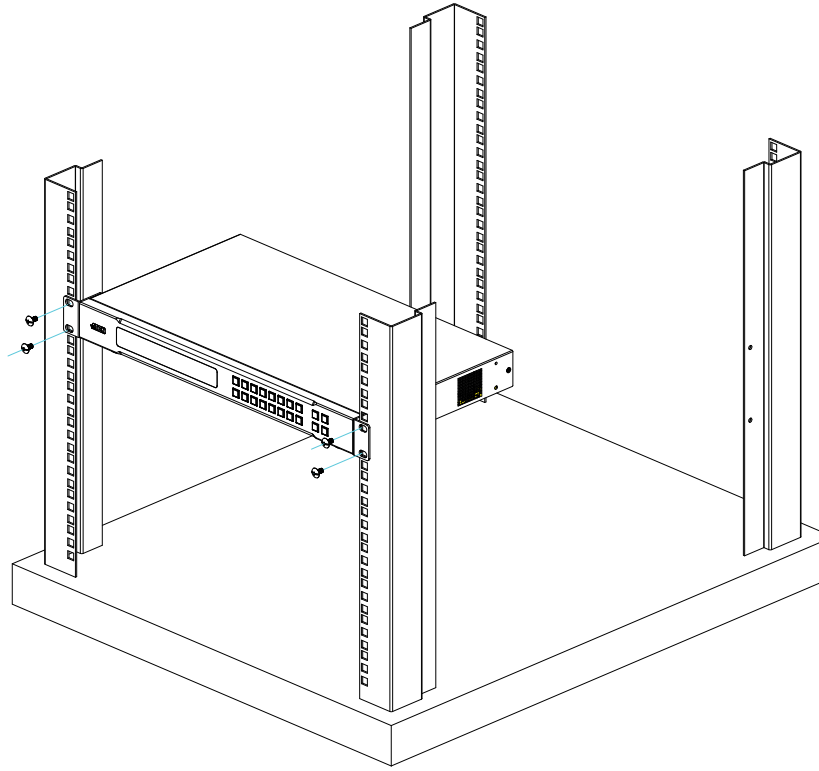
The VM0808HA can be mounted in a 19" (1U) system rack. For the most convenient front panel pushbutton configuration and operation at the local site, mount the unit at the front of the rack, as follows:

1. Use the M3 x 8 Phillips head hex screws supplied with the Rack Mount Kit to screw the rack mounting brackets onto the front of the unit.




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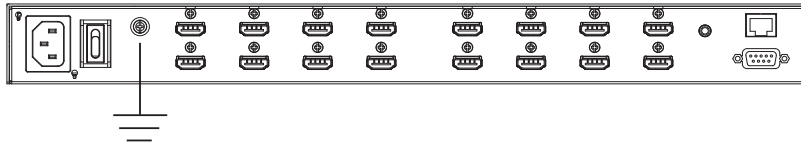
2. Position the unit in the front of the rack and align the holes in the mounting brackets with the holes in the rack.
3. Screw the mounting brackets to the rack.



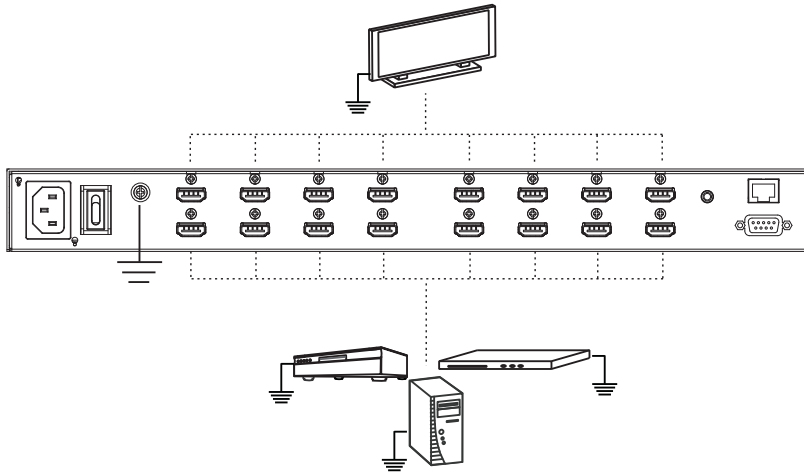
# Grounding

To prevent damage to your installation, it is important that all devices are properly grounded.

1. Use a grounding wire to ground the VM0808HA by connecting one end of the wire to the grounding terminal, and the other end of the wire to a suitable grounded object.



2. Make sure that all devices in your VM0808HA installation are properly grounded.



## Cable Connection

Installation of the VM0808HA is simply a matter of connecting the appropriate cables. Refer to the installation diagram on the following page (the numbers in the diagram correspond to the steps below), and do the following:

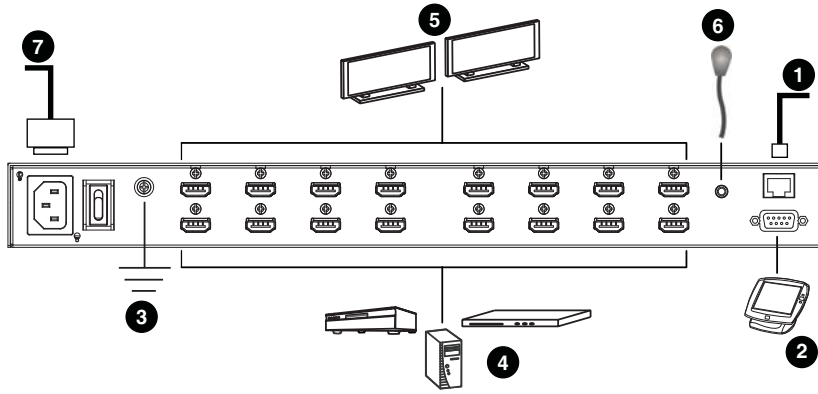
1. If using the Remote Operation features, plug a Cat 5e cable from the LAN into the VM0808HA's **Ethernet** port.
2. If you are using the serial control function, use an appropriate RS-232 serial cable to connect the computer or serial controller to the VM0808HA's female **RS-232** port.
3. Use a grounding wire to ground the unit by connecting one end of the wire to the grounding terminal, and the other end of the wire to a suitable grounded object.

   **Note:** Do not omit this step. Proper grounding helps to prevent damage to the unit from surges or static electricity.

4. Connect up to 8 HDMI video sources to the **HDMI Input** ports
5. Connect up to 8 HDMI display devices to the **HDMI Output** ports
6. Connect the IR Receiver into the **External IR Receiver** input Port
7. Plug the power cord supplied with the package into the VM0808HA's 3-prong AC socket, and then into an AC power source.
8. Power on the VM0808HA and all devices in the installation.

*(Continues on next page.)*

## Installation Diagram



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# Chapter 3
# Front Panel Configuration

## Overview

The VM0808HA can be configured and operated locally via the front panel LCD/pushbuttons and IR Remote Control; remotely over a standard TCP/IP connection via graphical user interface (GUI) using a web browser; via a remote terminal session using Telnet; or by a RS-232 serial controller.

The local front panel operation is discussed in this chapter. Web GUI Operation is discussed in Chapter 4, and RS-232 serial control is discussed in Chapter 5.

## Front Panel Pushbuttons

The front panel features an LCD display and pushbuttons for convenient operation locally. This allows users to perform operations such as selecting which source shows on which display, viewing the IP settings, configuring the serial port, setting the EDID Mode / CEC / OSD /Output Status, selecting security settings, and loading/saving profiles.

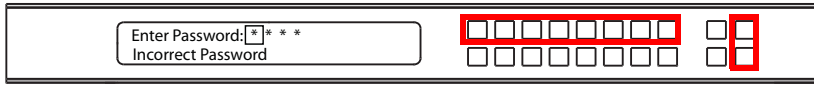
Note the following front panel pushbutton functions:

- Use the **MENU** pushbutton to access the Menu page options: IP Setting, Serial Port Setting, Operation Mode, Security Mode, and Save to a Profile (see *LCD Menu Organization*, page 21).
- Use the **PROFILE** pushbutton to switch between the connection profiles which have been added to the Profile List (see *Profile List*, page 37). Pressing this pushbutton for longer than 3 seconds displays the Save to a Profile page (see *Save to a Profile*, page 29).
- Use the **CANCEL** pushbutton to go back to a previous page, return to the Main Screen, stop or exit an operation.
- Use the **ENTER** pushbutton to select options and confirm operations.
- Use the **INPUT / OUTPUT** (**1–8**) Pushbuttons to select the Input/Output port. These pushbuttons may also correspond to menu options, connection profiles, and so on.
- Use pushbuttons **7/8** (Prev/Next) to navigate the VM0808HA menus.

# Enter Password

Upon VM0808HA startup, check the front panel LCD to view the loading progress. If the Password screen / LCD Menu fails to load, an error message displays. Reset the unit and try again.

If you are accessing the VM0808HA for the first time, the Password screen appears as soon as the LCD loading process is done. Enter the default password 1234 to continue to the Main Screen (see *Main Screen*, page 17).




Additionally, the Password Screen appears if the VM0808HA has been configured to require a password for Front Panel operation (see *Security Mode*, page 27).

To enter a password, do the following:

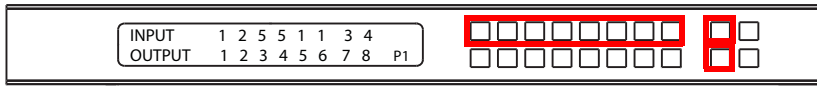
1. In the **Enter Password** field, check that the cursor is at the first asterisk (*) and flashing.
2. Use the front panel Input Port pushbuttons (1–8) to enter the 4-digit password. After the fourth digit has been entered correctly, the Main Screen displays.
3. Press **Cancel** to clear the password. The digits revert to 4 asterisks and the cursor goes back to the first asterisk.

**Note:** 1. The VM0808HA password can be any four digit combination between 1111 to 8888 (VM0808HA). The default password is 1234.

2. If you enter an incorrect password, the cursor goes back to the first digit and reverts to flashing. The Incorrect Password message displays at the bottom of the screen, but clears as soon as a new password is entered.
3. If Password option is Enabled (see *Security Mode*, page 27), the LCD display time-out is 5 minutes by default.

# Main Screen

The Main Screen shows the Input ports in the top row, which are tied to the Output ports shown in sequential order (1–8) at the bottom row.



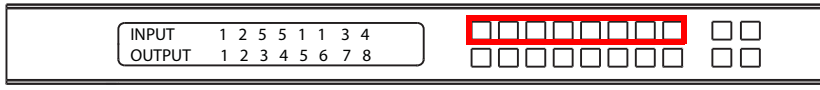

- The front panel pushbutton label (1–8) corresponds to the **Input** ports and **Output** ports on the unit's rear panel.
- Use the **Menu** pushbutton to view the LCD Menu (see *LCD Menu Organization*, page 21).
- Use the **Profile** pushbutton to switch between profile connections (see *Profile List*, page 37).

## Port Switching

From the Main Screen, users can configure the Input-to-Output port connections to associate an Input source device to an Output display.

### Input Port Selection

Use the Input Port pushbuttons to select the Input port you want to configure.




To select which input source displays on each output port, do the following:

1. Press any Input port pushbutton (1–8). The Output port LED(s) tied to the said Input port will begin to flash. Available output port LED(s) will light up (steady).

   In the example below, pressing Input port **1** shows it is tied to Output ports **1** and **2**.




*(Continues on next page.)*

*(Continued from previous page.)*

2. To disconnect an Output port from an Input port, press the corresponding Output port pushbutton.

   In the example below, Output port **2** has been disconnected from Input port **1**.

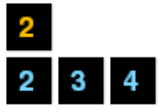



3. To switch to another Input port, press any Input port pushbutton. The Output port LED(s) tied to the said Input port will flash.

   In the example below, pressing Input port **2** shows it is tied to Output ports **3** and **4**.




4. To connect Output port **2** to Input port **2** in the example above, then press the Output port **2** pushbutton. The Output port 2 LED will also begin to flash (0.5 sec on, 0.2 sec off). This indicates that Input port **2** is now connected to Output ports **2**, **3** and **4**.




Once the signal from the selected Input port is successfully tied to the Output port, the LEDs turn off and the LCD information is updated.

**Note:** 1. Pressing an Input port a second time deselects it.

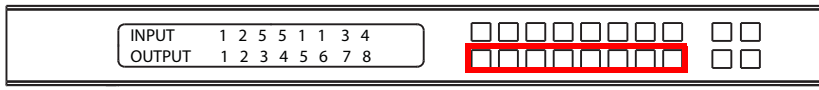
2. Input ports that are not configured or tied to any output port do not in the LCD screen.

3. Pressing the **Cancel** pushbutton once stops the Input Port Selection operation and the LCD displays the active setting. Pressing the **Cancel** pushbutton again turns all LEDs off.

4. After 10 seconds of inactivity, all the LEDs turn off.

### Output Port Selection

Use the Output Port pushbuttons to select the Output port you want to configure.




To select which output display corresponds to each input source device, do the following:

1. Press any Output port pushbutton (1–8).

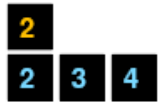
   In the example below, Output port **1** pushbutton has been pressed. Available Input ports light up. Because no Input LEDs are flashing, Output port **1** is not tied to any Input port.

2. If an Output port pushbutton is pressed a second time, it is deselected and the LED turns off.

3. To connect the selected Output port(s) to an Input port, press the Input port pushbutton to which you want the Output port(s) tied. The newly selected Input port LED flashes (0.5 sec on, 0.2 sec off), and the LCD information is updated.

   In the example below, pressing Input port **2** ties it to Output ports **2**, **3** and **4**.

4. To switch Output ports **2, 3** and **4** to another Input port (and disconnect it from Input port **2**), press another Input port pushbutton to which you want them tied.

   In the example below, Input port **3** has been pressed and is now connected to Output ports **2**, **3** and **4**.




**Note:** 1. Pressing an Output port a second time deselects it.

2. Pressing the **Cancel** pushbutton once stops the Output Port Selection operation, and the LCD displays the active setting. Pressing the **Cancel** pushbutton again turns all LEDs off.

3. After 10 seconds of inactivity, all the LEDs turn off.

## LCD Menu Organization

The VM0808HA has a built-in configuration utility via the front panel LCD, which can be controlled by pressing the **MENU** and front panel Input pushbuttons (1–8). User can cycle through the menu options, starting from IP Setting page, in the order shown in the table below:

| Menu Page | Sub-Menu Page(s) | | |
|---|---|---|---|
| IP Setting | IP Address | | |
| | Subnet Mask | | |
| | Gateway | | |
| Serial Port Setting | Baud Rate Setting | 9600 / **19200** / 38400 / 115200 | |
| Operation Mode | EDID Mode | **Default** / Port 1 / Remix / Customized | |
| | CEC | On / **NA** | |
| | Output Status | Video | **On** / NA |
| Security Mode | Mode | None | |
| | | Password Enable | |
| | | Lock Screen | |
| | Change Password | Old Password | New Password |
| Save to a Profile | Save to a Profile No. | 1-8 | |
| Play/Stop the Profile Schedule | | | |

**Note:** The highlighted values are the default settings of the VM0808HA.

## Menu Pushbutton

Press the **MENU** pushbutton to switch between the Main Screen and LCD Menu page. When the Menu is active, the MENU pushbutton's built-in LED lights up:




From the Menu page:

- Press **1** to go to the IP Setting page (see *IP Setting*, page 22)
- Press **2** to go to the Serial Port Setting page (see *Serial Port Setting*, page 23)

- Press **8** or **Next** to go to the next page(s) for the sub-menu pages
- Press **Menu** or **Cancel** to return to the Main Screen

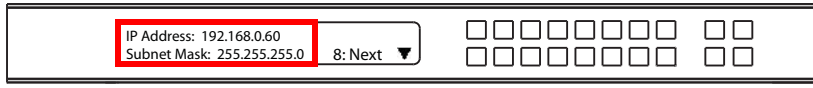
## IP Setting

The IP Setting page displays the VM0808HA's IP configuration. The values in the LCD Menu are read-only and can be edited via the Browser GUI (*Network*, page 51).

### IP Address / Subnet Mask

To view the VM0808HA's IP address and Subnet Mask, do the following:

1. From the Menu page, press **1** to see the IP Setting submenu. The IP address and Subnet Mask are then shown.



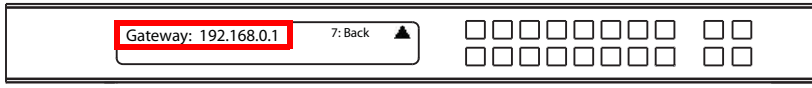

**Note:** The VM0808HA default IP address is 192.168.0.60. The default Subnet Mask is 255.255.255.0

2. Press **8** or **Next** to go to the next page.
3. Press **Menu** to return to the Menu page.
4. Press **Cancel** to return to the previous page without saving.

### Gateway

To view the VM0808HA's gateway address, do the following:

1. From the Menu page, press **1** to see the IP Setting submenu, then press **8** or **Next** to get to the next page. The gateway address displays.




**Note:** The default Gateway is 192.168.0.1.

2. Press **7** or **Prev** to go to the previous page.
3. Press **Menu** to return to the Menu page.
4. Press **Cancel** to return to the previous page without saving.

## Serial Port Setting

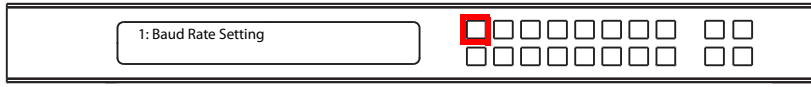
To configure the VM0808HA's baud rate for its serial port connection, select Serial Port Setting from the Menu page.



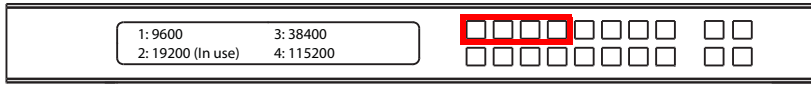

### Baud Rate Setting

To set the VM0808HA's baud rate, do the following:

1. Select **Baud Rate Setting** from the Serial Port Setting submenu by pressing **1**:




2. Press pushbuttons 1–4 to make your selection.




Baud Rate options are:

- **1:** 9600
- **2**: 19200
- **3**: 38400
- **4**: 115200

**Note:** The default baud rate is 19200.

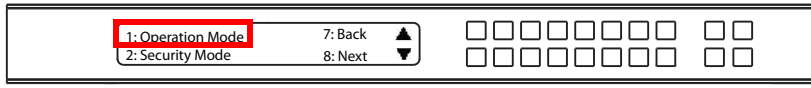
3. Press **Menu** to return to the Menu page.
4. Press **Cancel** to return to the previous step without saving.

## Operation Mode

The EDID Mode, CEC, OSD and Output Status features can be configured from the Operation Mode page.

- EDID (Extended Display Identification Data) is used to have the VM0808HA automatically apply a preset video configuration or EDID Mode, which utilizes the best resolution across different monitors
- Consumer Electronics Control (CEC) allows interconnected HDMI devices to communicate and respond to one remote control

To configure the VM0808HA's operation mode settings from the Main Screen, use the **Menu** pushbutton to access the Menu page, press **8** or **Next** to navigate to the next page, then press pushbutton **1** to access the Operation Mode page.




### EDID Mode

To configure the EDID Mode, do the following:

1. From the Operation Mode page, press pushbutton **1**:




2. Press pushbuttons 1–4 to make your selection.



EDID Mode options are:

| EDID Option | Description |
|---|---|
| **1:** Port 1 | The EDID from port1 is passed to all video sources. |
| **2:** Default | The default EDID is passed to all video sources. |
| **3:** Remix | Uses the EDID of each connected display according to its connection when the VM0808HA is first powered on, or immediately after pressing 3 to select the Remix option. |
| **4:** Customized | Automatically retrieves and saves the EDID settings of a connected monitor/display device to an input source port. This can be configured using the Browser GUI. See *Customized EDID Settings*, page 56. |

3. Press **Menu** to return to the Menu page.
4. Press **Cancel** to return to the previous step without saving.

## CEC

To configure the CEC setting, do the following:

1. From the Operation Mode page, press pushbutton **2**:




2. Press pushbuttons (1–8) to enable (**ON**) or disable (**NA**) the CEC feature for the output port. If the port does not support CEC, an **NA** is shown.




**Note:** The default CEC setting is NA.

3. Press **Menu** to return to the Menu page.
4. Press **Cancel** to return to the previous page without saving.

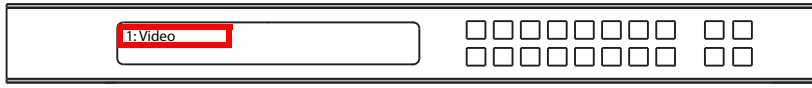
### Output Status

To configure the Output Status of each port, do the following:

1. From the second Operation Mode page, press pushbutton **1**:




2. From the Output Status page, press pushbutton **1**:




3. Press pushbuttons (1–8) to enable (**ON**) or disable (**NA**) the Video Output for each output port.



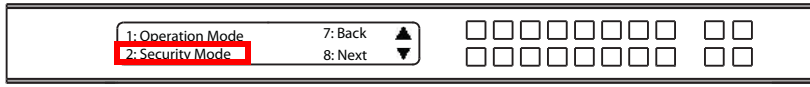

**Note:** The default Video Output Status setting is On.

4. Press **Menu** to return to the Menu page.
5. Press **Cancel** to return to the previous page without saving.

## Security Mode

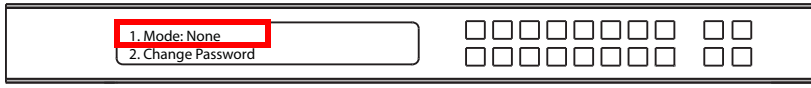
The Security Mode page allows users to manage the VM0808HA's security-related settings. Three security modes are available: None, Password Enable and Lock Screen. The VM0808HA's password can also be changed here.

To configure the VM0808HA's security settings from the Main Screen, use the **Menu** pushbutton to access the Menu page, press **8** or **Next** to navigate to the next page, then press pushbutton **2** to access the Security Mode page.




### Mode

1. To change the VM0808HA's security mode, press pushbutton **1** in Security Mode.




2. In the Mode menu, to disable security settings, press pushbutton **1**. The menu will then return to Security Mode. To require a password after the LCD display times out or is powered off/on, press pushbutton **2**. The menu will then return to the home screen.




**Note:** If Password is Enabled, the LCD display's default time-out is 5 minutes. The VM0808HA's default password is 1234.

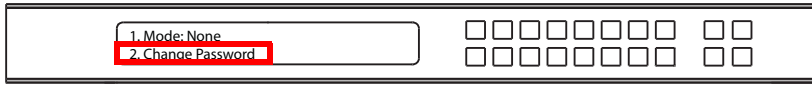
3. To enable a lock screen, press **8** or **Next** to navigate to the next page, then press pushbutton **1**. The menu will then return to the home screen. When Lock Screen is enabled, pressing any pushbutton from the home screen will trigger the following message: *Please press "Menu" to start.*



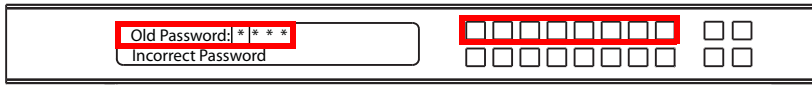

4. Press **Menu** to return to the Menu page.
5. Press **Cancel** to return to the previous step without saving.

## Change Password

1. To change the password for accessing the unit, press pushbutton **2**.

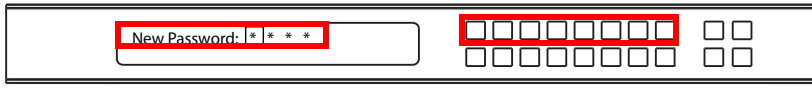



2. In the Old Password field, the cursor flashes at the first digit. Enter the old password (see *Enter Password*, page 16). If the old password is entered correctly, you can proceed to the next step.

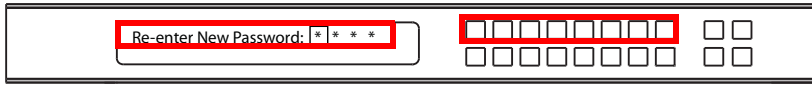



**Note:** If you entered an incorrect password, an error message appears and the cursor goes back to the first digit (flashing). The Incorrect Password message clears as soon as a new digit is entered.

3. In the New Password field, the cursor flashes at the first digit. Enter the new password using the front panel number pushbuttons (1111–8888).




4. Re-enter the new password in the following screen. The new password is applied by the VM0808HA immediately.




If the password you entered does not match the one entered in the previous screen, an error message appears. Enter the new password correctly.

5. Press **Menu** to return to the Menu page.
6. Press **Cancel** to return to the previous step without saving.

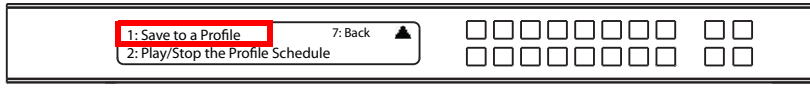
## Save to a Profile

The switch allows users to store up to 16 (numbered P1–P16) different connection profiles that can be saved and recalled later.

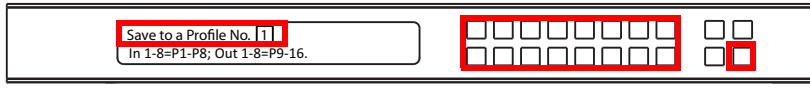
The active Input-to-Output port connections on the LCD Main Screen is the configuration saved to a profile. When a user loads a profile, the change is immediate and the profile number is shown on the lower right corner of the LCD screen.

To save a profile once the desired port connections are set, do the following:

1. Press the **Menu** pushbutton to access the Menu page, then **8** or **Next** to navigate to the next pages. Press pushbutton **1** to open the select Save to a Profile page.




2. On the page that opens, you are asked to give the profile a number. Use the front panel number pushbuttons to select a profile number into which you want to save the configuration.




   Options are P1–P16 (when saving a profile via the LCD), where:

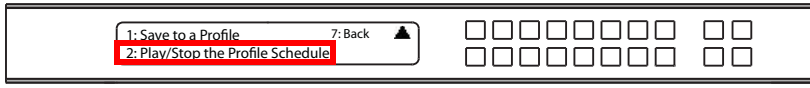
   - Input port pushbuttons **1–8** correspond to Profile **P1** to **P8**
   - Output port pushbuttons **1–8** correspond to Profile **P9** to **P16**

3. Press **Enter** to store the configuration – the LCD shows Profile Saved.
4. Press **Menu** to return to the Menu page,
5. Press **Cancel** to return to the previous step without saving.

**Note:** Access the Save to a Profile page quickly by pressing the **Profile** pushbutton for longer than 3 seconds.

## Play/Stop the Profile Schedule

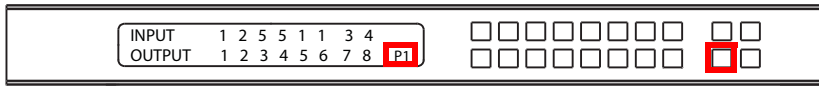
Inputting port pushbutton **2** will Play or Stop the active Profile Schedule.



## Profile Pushbutton

The **PROFILE** pushbutton lets users conveniently switch between connection profiles that have been saved or added to the Profile List (see *Profile List*, page 37).

When a Profile is in use, its profile number (P1–P16) is shown on the lower right corner of the LCD display.




The Profile pushbutton functions as follows:

- After pressing the Profile pushbutton, available profile numbers will light up. The active profile number will flash. use the Input/Output pushbuttons to switch to a specific profile (P1 to P16) or (P1 to P8). Note that:
  - **Input** ports **1–8** correspond to Profile **P1** to **P8**
  - **Output** ports **1–8** correspond to Profile **P9** to **P16** (where Output Port 1=Profile 9, Output Port 2=Profile 10... Output Port 8=Profile 16)

  The selected pushbutton's light flashes, and the VM0808HA immediately applies the port connections configured in the selected profile. If the light changes to a steady state, it means the profile is valid.
- After pressing the Profile pushbutton, pressing it again will change to next profile in Profile Scheduling (see page 40), not the profile list. This feature is only available while a schedule is playing.
- Press the **Cancel** pushbutton to exit

**Note:** If there are no profiles configured on the VM0808HA device, an error message "*No Available Profile*" is displayed when the Profile pushbutton is pressed.

A Profile's port connections can be edited using the front panel pushbuttons (see *Port Switching*, page 17) or from the *Connections* page of the Browser GUI (see *Connection Profiles*, page 42). Additionally, the Profile List can be configured via the Profile page of the Browser GUI (see *Profile List*, page 37).

# IR Remote Control Operation

The IR remote control (*IR Remote Control*, page 7) included with the VM0808HA can be used to:

- change the Input source of any Output display
- power on/off individual Output displays; or
- power on/off all Output displays simultaneously

Before using the remote control, a user must first plug the IR External Receiver into the rear panel of the VM0808HA and place the receiver where the IR signal can be reached (see *External IR Receiver Port*, page 6).

## Change the Input source of an Output display

To change the Input source of an Output display, using the remote control, do the following:

1. Press the **Output** port number (**1–8**) you want to change.
2. Within 2 seconds press the **Input** port number (**1–8**) you want the Output port to display.*
3. Repeat steps 1-2 to change additional ports.

*For the change to occur the Input number must be pressed within 2 seconds of pressing the Output number.

## Power on/off individual Output displays

To power on/off individual Output displays, using the remote control, do the following:

1. Press the **Output** port number (**1–8**) you want to power on/off.
2. Within 2 seconds press the **ON** or **OFF** pushbutton.*
3. Repeat steps 1-2 to change the power status back on/off.

*If the **ON** or **OFF** pushbutton is pressed *after* 2 seconds of pressing the Output port number, all the displays are powered on or off instead of just the intended Output port.

## Power on/off all Output displays

To power on/off all Output displays simultaneously, with the remote control, do the following:

1. Press the **ON** or **OFF** pushbutton.*
2. Repeat step 1 to simultaneously change back the power status of all Output ports, to on or off, respectively.

*The **ON** or **OFF** pushbuttons bring all displays to the same power status, regardless of the individual power statuses.

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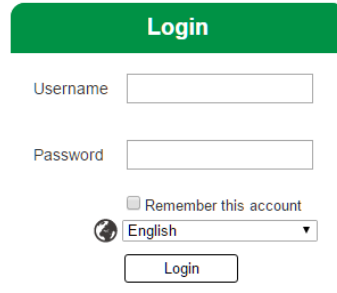
# Chapter 4
# Browser Operation

## Overview

The VM0808HA can be configured over a standard TCP/IP connection via its built-in Graphical User Interface (GUI). Because it can be accessed from anywhere over a network or the Internet, operators can easily log in via web browser. Security is ensured by password protection and user-configurable time-out. The VM0808HA supports three levels of remote users with various privileges, and up to 32 users can log into the GUI at one time. For full details, see the sections that follow.

## Logging In

To access the GUI, type the VM0808HA's IP address into the address bar of any browser. If a Security Alert dialog box appears, accept the certificate – it can be trusted. The login screen appears:

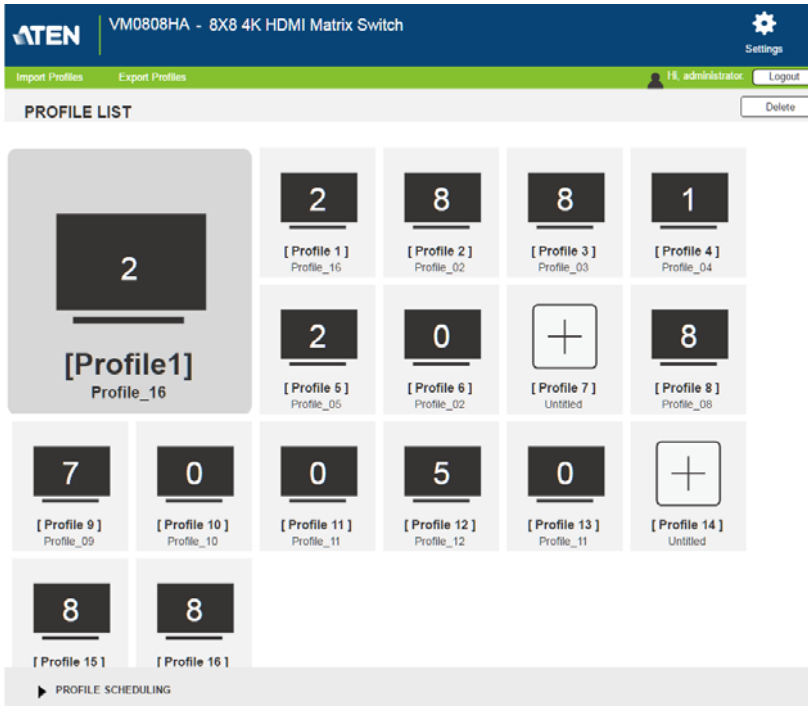



- The default IP address is **http://192.168.0.60**
- The default Username and Password are: **administrator / password**
- Enter the username and password, then click **Login**.
- The same user can not be logged in simultaneously.
- Use the drop-down menu to select the GUI language
  - English, French, German, Italian, Japanese, Korean, Portuguese, Russian, Spanish, Simplified Chinese and Traditional Chinese

**Note:** The username supports lower case letters only.

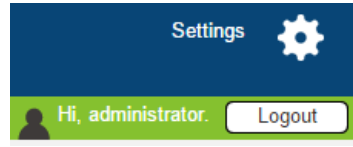
# Main Page

The Main Page opens to the **Profile List**. This is where you configure the input to output connections by creating profiles. The page is divided into three parts: the *Menu Bar*, *Profile List*, and *Profile Scheduling*.




## Menu Bar

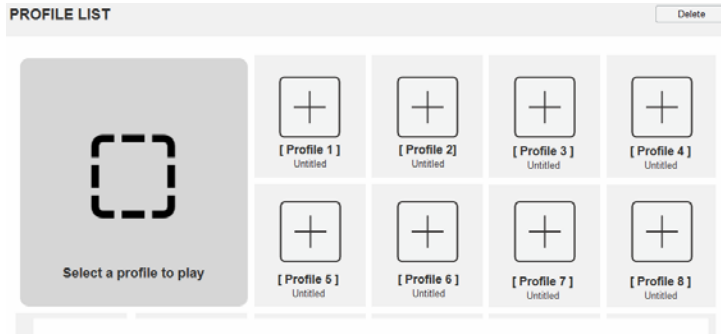
The Menu Bar consists of the *Settings* icon and *Logout* button.




- Click **Settings** to enter the System Settings (see page 45).
- Click the **Logout** button to log out of the GUI.

# Profile List

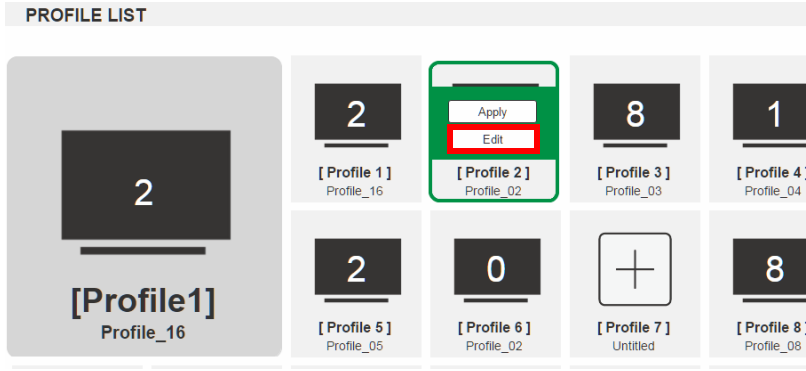
The *Profile List* lets you configure the input to output port connections by creating profiles to use. You can store up to 16 differently configured profiles that can be saved and played by two methods: locally via the unit's front panel pushbuttons and via the web GUI.




## Adding/Playing a Profile

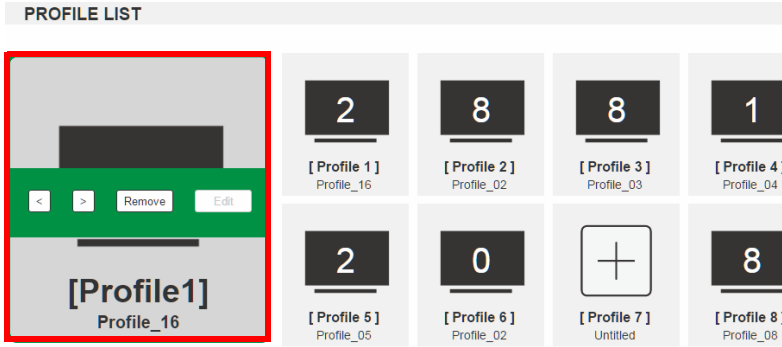
To configure a connection profile, do the following:

1. From the Profile List, click a **[Profile]**.
2. Select **Edit**, as shown here:




To play a connection profile, do the following:

1. Select the profile and click **Apply.**
2. The profile appears in the large **Play** window and the connections start:




**Note:** More information about Profile List page options are provided on the next page.

## Importing/Exporting a Profile

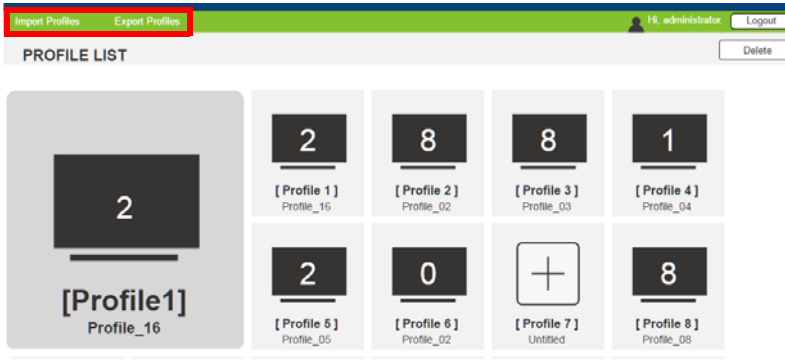
To export the VM0808HA's connection profiles, do the following:

1. Click **Export Profiles**. A configuration file will then begin downloading.

To import connection profiles to the VM0808HA, do the following:

1. Click **Import Profiles**.
2. Browse to the configuration file, select it and click **Open**.

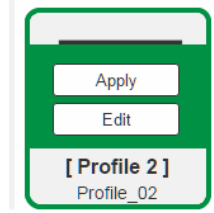
**Note:** Importing a connection profile database will overwrite the current profiles.



## Profile List Options

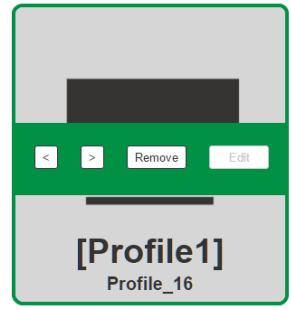
Clicking a *Profile* or the *Play* window opens a pop-up menu with options.

### Profile




| Option | Description |
|---|---|
| Apply | Click **Apply** to put the profile in the Play window. This allows you to start the profile connections. |
| Edit | Click **Edit** to configure the profile's input to output connections. |

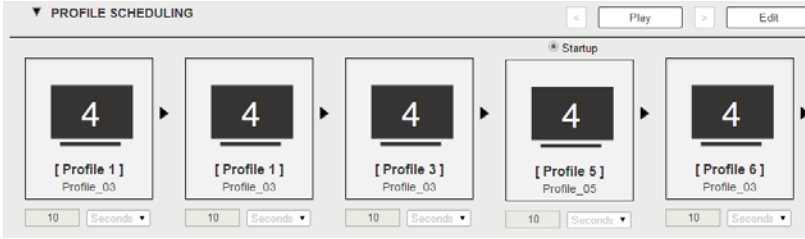
### Play Window




| Option | Description |
|---|---|
| < | Click < to go back to the previous profile in the sequence, when Profile Scheduling is in use. Only available with *On Sequence*. |
| > | Click > to advance to the next profile in the sequence, when Profile Scheduling is in use. Only available with *On Sequence*. |
| Remove | Removes the profile from the Play window. |
| Edit | Click **Edit** to configure the profile's input to output connections. |

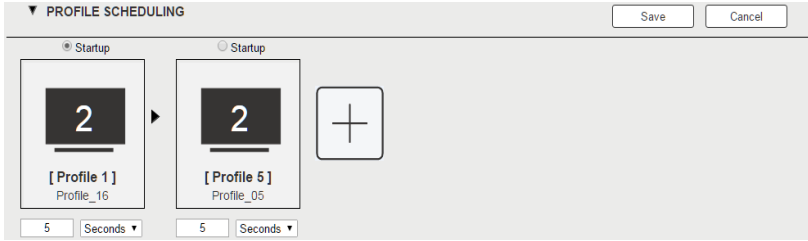
# Profile Scheduling

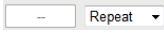
*Profile Scheduling* is located below the Profile List. Scheduling allows you to queue and play connection profiles in sequence for a specific amount of time.




| Option | Description |
|---|---|
| Edit | Click to edit profile schedule. |
| Play | Click to play profile schedule. |
| Stop | Click to stop profile schedule. |
| < > | Click to change to next or previous profile. |

After selecting **Edit**, you will be presented with the following options.




| Option | Description |
|---|---|
|  | Click to add profiles to the schedule in the order to be played, left to right, then set the amount of time each profile plays. |
|   | Click a profile for a pop-up menu to appear:<br>◆ Select **Startup** to use the profile as the starting point for the schedule.<br>◆ Click **Replace** to replace the selected profile with another profile.<br>◆ Click **Remove** to delete the profile from the schedule.<br>◆ Use **< >** to change the profile's position in the schedule. |
|   | Use the drop-down menu to select the duration (Hours, Minutes, or Seconds) and enter the amount of time for the profile to play. After the time expires, the schedule switches to the next profile.<br>Use **Repeat** to stop switching between schedules and stay on the currently selected profile. If **Repeat** isn't used, the schedule will loop back to the first profile. If **Repeat** is used, a specific number of hours, minutes and seconds cannot be set and later profiles will not be played. |
| Save | Click **Save** to save the schedule as it appears. After saving, the Profile Scheduling window will close.<br>When a Profile Schedule is playing the *On Sequence* box will appear in the Play window. |
| Cancel | Click **Cancel** to discard changes and return to the Profile Schedule page. |

# Connection Profiles

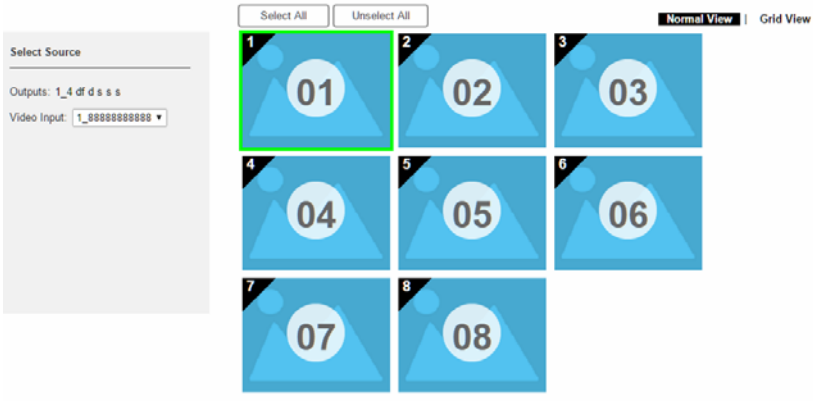
**Digital Signage** profiles are for displays where video is viewed on separate monitors.




Digital Signage

## Digital Signage Profile

Each icon represents an output port and the connected display. The large number is the **Input** port selected for the display. The small number (upper-left corner) is the **Output** port for the display. Click the icons to select options.



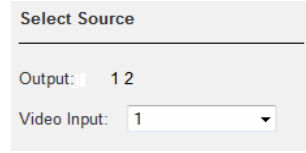

- Select icons to choose the **Video Input** from the *Select Source* menu.
- Click the PEN icon or name to edit the profile name.
- Click **Select All** to select all outputs.
- Click **Unselect All** to unselect all outputs.
- Click **Save** to save the profile or **Save as** to save as a different profile number.
- Click *Grid View* to use an alternate method for configuring connection profiles (see page 43).

## Output Icon




| Option | Description |
|---|---|
| Output Icon | Click an Output icon(s) to highlight it in green and use the *Select Source* menu to set the video options (see *Select Source* below).<br>The large number is the **Video Input** port selected for the display.<br>The small number (upper-left corner) is the **Output** port of the display. |

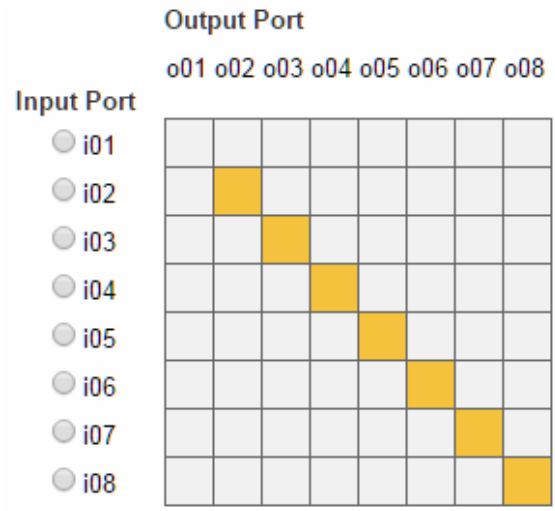
## Select Source




| Option | Description |
|---|---|
| Select Source | The Select Source menu appears when you click an **Output** icon. |
| Output | Displays the Outputs that are selected for the configuration change. |
| Video Input | Use the drop-down menu to select the **Video Input**.<br>Click **Save** or **Save as** to save the changes. |

### Grid View

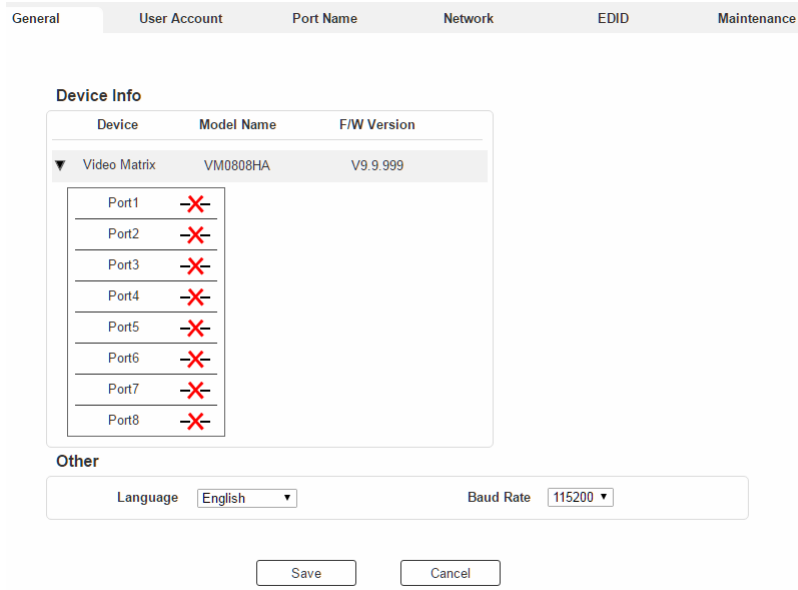
The Grid View allows you to select the **Input** to **Output** connections using a simple grid.




- Select a box to coordinate *Input Ports* to *Output Ports*. By default, ports will be aligned so that *i01* will correspond to *o01*, etc.
- **Uncheck** a box to disable the video for that Output Port. The column will no longer contain a yellow box.
- **Check** an *Input Port* radio button to align all *Output Ports* to that *Input Port*.
- Click **Test** to play current profile without saving.
- Click **Save & Apply** to save a profile and begin playing it.
- Click **Save** to save the profile.
- Click **Save as** to save the profile as a different profile number.
- Click **Cancel** to undo all unsaved changes.

# System Settings

Click the *Settings* link from the Main page for the System Settings to open on the **General** page:



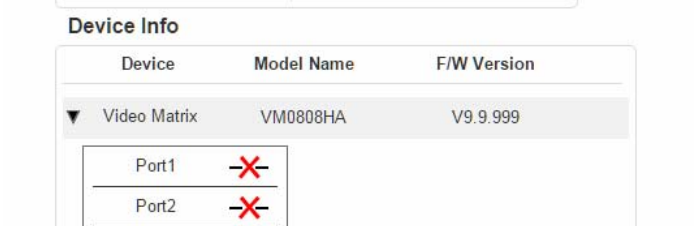

- The *General* page allows you to edit Baud and Language settings and view device information.
- The *User Account* page allows you to add and edit user accounts.
- The *Port Name* page allows you to name each input and output port.
- The *Network* page allows configuration of the network settings.
- The *EDID* page is used to set the EDID modes.
- The *Maintenance* page is for upgrading the device's firmware.
- The *HDCP* page is lets users view and set HDCP key settings.
- The *CEC* page allows users to control port CEC settings.
- Click **Back to Profile List** to return to the Main page.

## General

The *General* page has two sections: Device Info and Other.

### Device Info

- This section lists the device's type, Model Name, Firmware Version and port statuses.



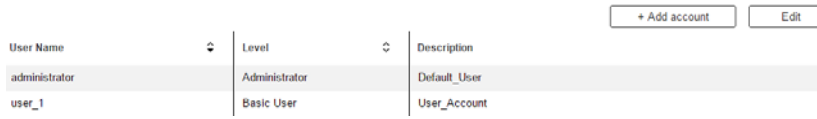

### Other

- Use the **Language** drop-down menu to select a preferred user interface language.
  - Options include: English, French, German, Italian, Japanese, Korean, Portuguese, Russian, Spanish, Simplified Chinese and Traditional Chinese.
- Use the **Baud Rate** drop-down menu to select a serial port setting.
  - Options include: 9600, 19200, 38400 and 115200.
- Click **Save** to save the settings or **Cancel** to exit without saving the settings.

## User Account

The *User Account* page lets you add, edit, or delete users and change the password for accessing the VM0808HA's GUI.

**Note:** This is an Administrator only function.




- **Add account** – Click the *Add account* button to add another user to the list. The VM0808HA supports up to 32 users at one time (see page 47 for more details).
- **Edit** – Click the *Edit* button to change user information. This option allows an Administrator to edit individual accounts.



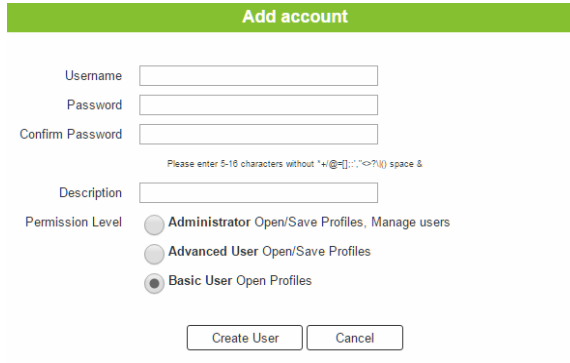

  - Edit – Rename the user account, set the password, add a description, and set the user's permission level (see page 49 for more details).
  - Delete – Removes the user account.



- The default username and password are: administrator/password.

## Add Account

Use the Add Account / Edit buttons to create a user account, set the user's password, add a description, and set the user's permission level (see , page 48) when accessing the VM0808HA's GUI.



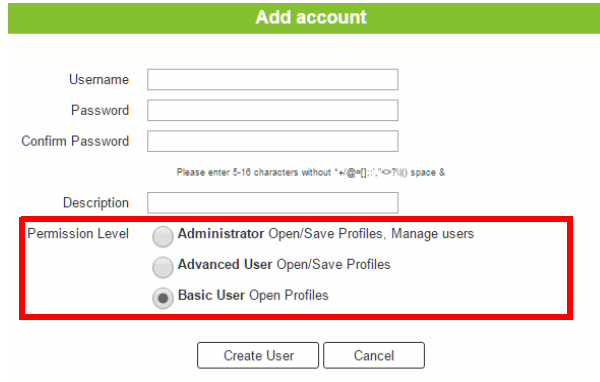

- Fill in a username or edit an existing one.
- Enter a password and re-type the password to confirm.

**Note:** Usernames and passwords accept multi-lingual characters, and must be 5–16 alphanumeric characters (excluding :;=[]+=/?\|). Passwords are case sensitive. Usernames only support lower case letters.

- Add or edit the description for the user.
- Select the permission level that you want to grant the user (see , page 48).
- Click **Create User** to save the data.
- Click **Cancel** to discard the changes and exit.
- If a user is logged into the VM0808HA's GUI, their user settings cannot be edited, and the fields in this screen are grayed out.

### Permission Level

At the bottom of the New/Edit User page is the permission section, which is used to set a user's permission level.

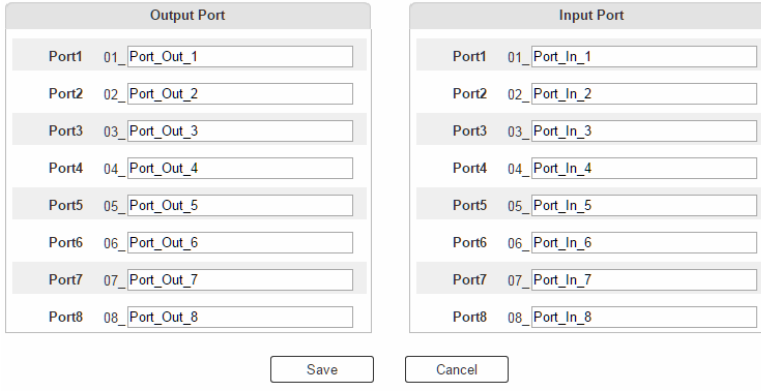



The three available permission levels are as follows:

- **Administrator** – this level provides full access and control of the VM0808HA, in addition to full User Management privileges.
- **Advanced User** – this level provides full access and control with no User Management privileges.
- **Basic User** – this level only provides basic functions (connections and open profiles).

## Port Name

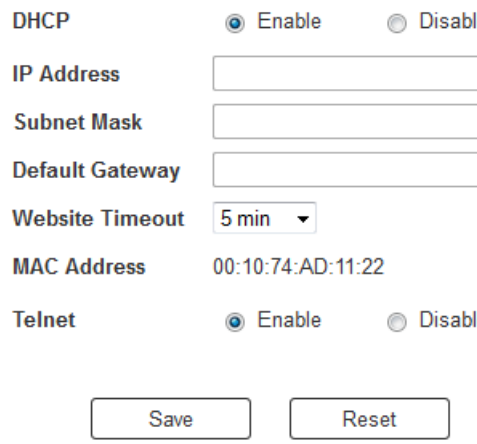
The *Port Name* page lets you name the input and output ports for easy identification.




- To name an Input/Output port, enter a descriptive name of up to 16 multi-language characters (excluding :;=[]+=/?\|) in the corresponding field and click **Save.**
- Language characters available include: English, French, German, Italian, Japanese, Korean, Portuguese, Russian, Spanish, Simplified Chinese and Traditional Chinese.
- To change an Input/Output port's name, enter another value and click **Save.**
- Input and Output port names can be the same.
- Press **Cancel** to go back a level, return to the initial screen, or exit.

## Network

The *Network* page lets you configure the IP settings, website timeout, and Telnet settings for connecting to the VM0808HA.




**Enable** DHCP to allow the DHCP server to assign an IP address to the VM0808HA. Select **Disable** to enter your own static IP address settings for the device.

Click **Reset** to use the following default values:

- IP Address – 192.168.0.60
- Subnet Mask – 255.255.255.0
- Default Gateway – 192.168.0.1
- Website Timeout* – 5 minutes
- Telnet Enabled

Enter the values, then click **Save**. Changes may take a few seconds and after refreshing the page automatically redirects you to the IP address specified.

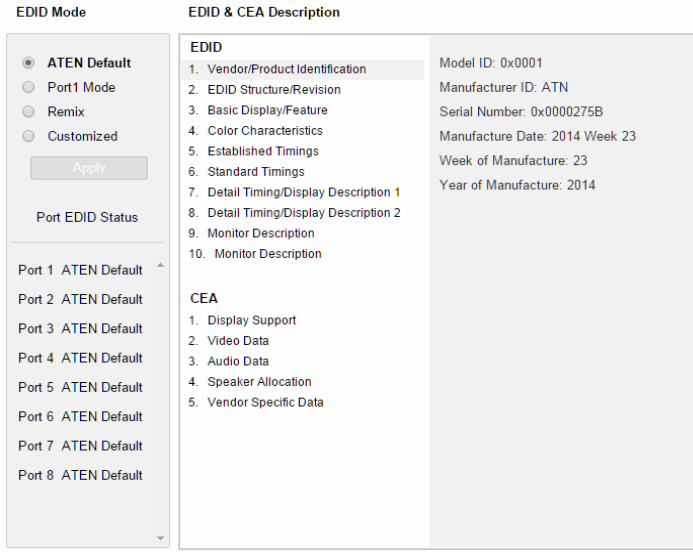
---

***** This option controls how long an inactive web connection stays logged into the VM0808HA. Use N/A to disable this option. Other options include 5, 10, 30 and 60 minutes. Any changes will take effect immediately.

---

## EDID

The *EDID Settings* page lets users view and select an EDID Mode so that the VM0808HA can use the best resolution for its display(s).

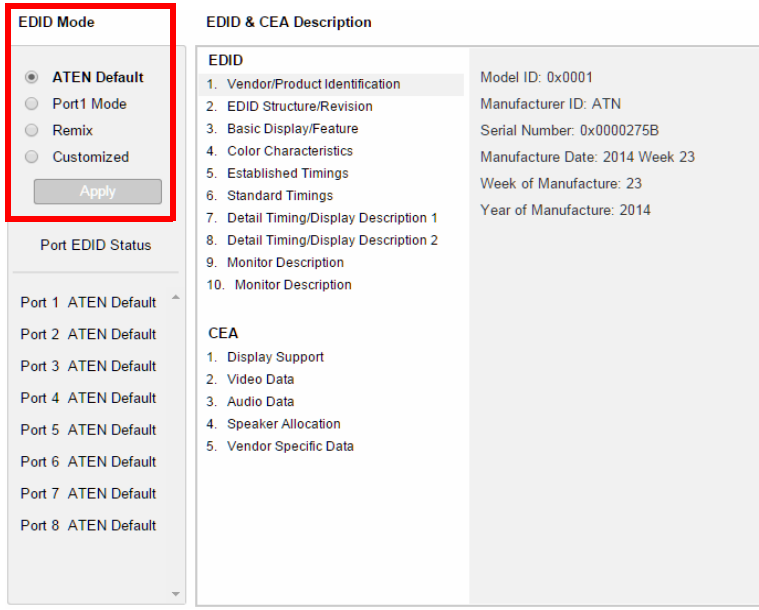



**Note:** The EDID Mode can also be selected via the Front Panel pushbuttons – see *EDID Mode*, page 53.

Extended Display Identification Data (EDID) is a data format that contains a display's basic information and is used to communicate with the video source/system.

## EDID Mode

In the left panel of the page, users can select a pre-configured EDID Mode using the **EDID Mode** radio buttons.



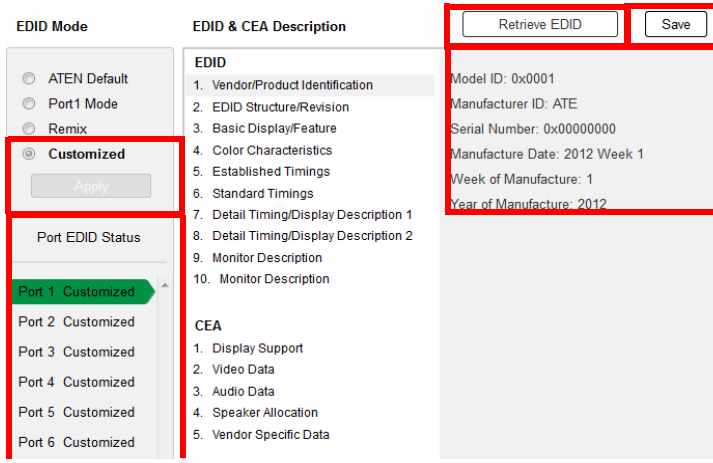

Select the EDID Mode to use and click **Apply**. The VM0808HA uses the settings configured for that EDID mode.

Options are:

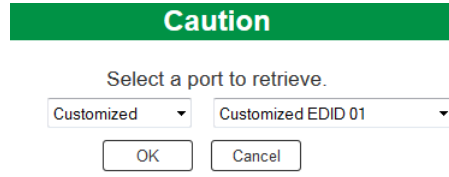
- **ATEN Default**: All ports' EDID are the same as the hardware default EDID.
- **Port 1 Mode**: All ports' EDID are the same as Port1's EDID.
- **Remix**: All ports' EDID use the best display resolution.
- **Customized**: See Customized Mode, see page 56.

## Customized Mode

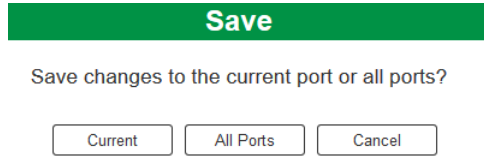
Use the *Customized* Mode to automatically retrieve and save the EDID settings of a connected monitor/display device to an input source port.




- In the left-most panel of the page, select **Customized** from the *EDID Mode* section and click **Apply.**
- **Port EDID Status**: Select which input source port you want to store the EDID configuration (01–08).
- **Retrieve EDID**: Click and a pop-up window appears to retrieve the EDID settings of a stored EDID configuration: *Customized EDID 01-08*, or *ATEN Default*. Select the port to retrieve:

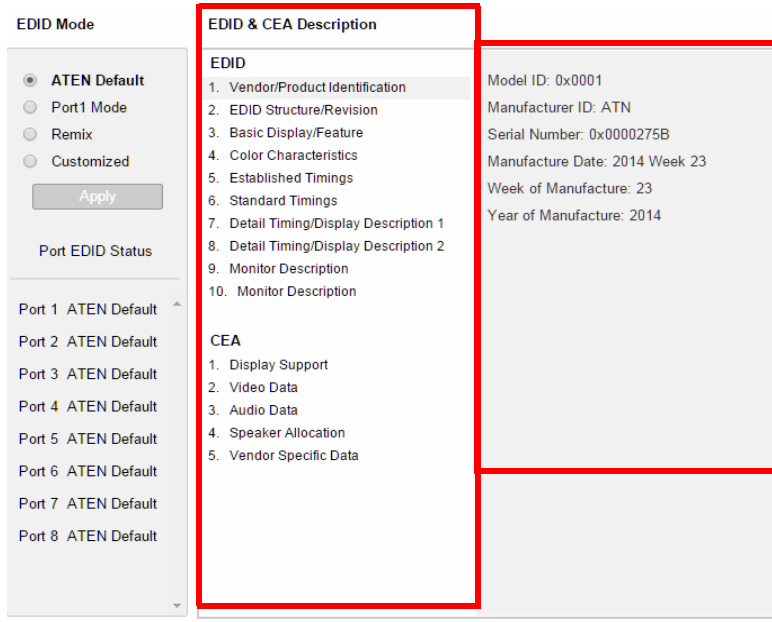



- The right panel displays a summary of the acquired EDID settings that you can edit. Click **Save** and select the configuration for the **Current** or **All Ports** for the duration of the session.



## EDID & CEA Description

The right panel of the screen lets users view the configuration of the *EDID* and *CEA* Modes selected:




- From the left column, click the option that you want to view and/or edit. There are two categories: **EDID** (Extended Display Identification Data) and **CEA** (Consumer Electronics Association).
- When you highlight the menu items on the left column, the right column displays the current settings for the corresponding EDID configuration. Some of the screens are read-only.
- See *Customized EDID Settings*, page 56 for more information on these two columns.

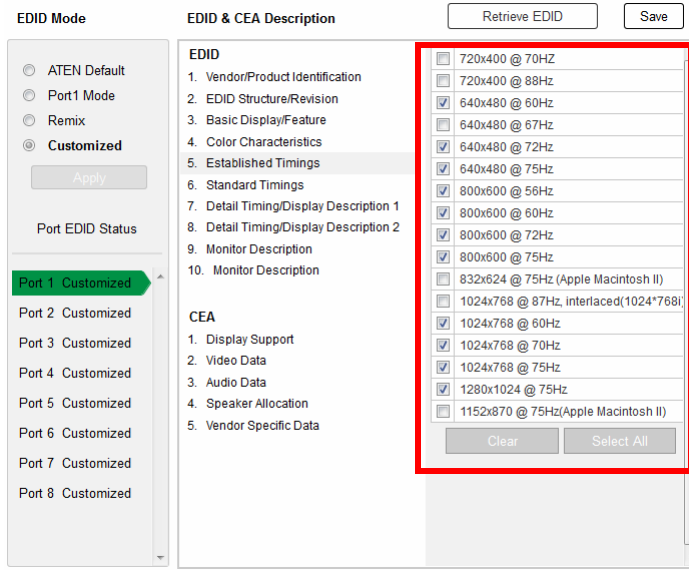
## Customized EDID Settings

The EDID structure is comprised of 128 bytes in total – each heading shown in the left column corresponds to a specific number of bytes.

The pages for the pre-configured EDID Modes (Port 1, Default and Remix) cannot be edited. The pages for the Customized EDID, which can be edited, are discussed in the proceeding sections:

### Established Timings

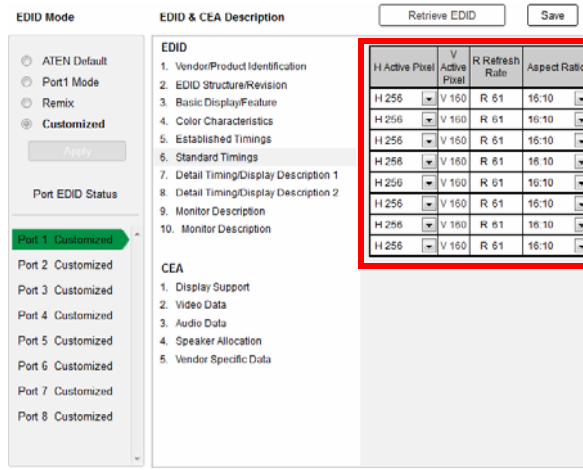
This page lists video resolutions/timings that display devices can support.




- Select the resolution(s) you want to use for the attached monitor/ display device.
- Click **Clear** to deselect all the items.
- Click **Select All** to check all the items.
- Click **Save** to apply the changes.

### Standard Timings

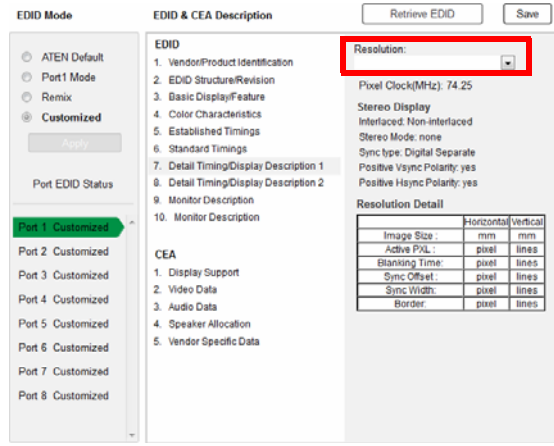
This page shows eight resolutions/timings that display devices can support in addition to those listed in the Established Timings page.




- Select the *H Active Pixel* from the drop-down menu.
- Select the *Aspect Ratio* from the drop-down menu.
- Click **Save** to apply the changes.

### Detail Timing / Display Description

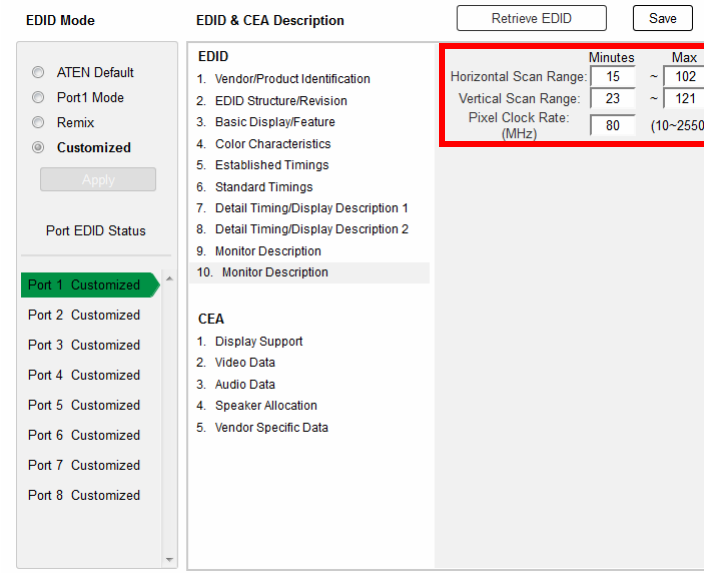
This screen gives more video resolution options, and provides resolution/ timing details.




In the drop down menu, choose a resolution with values that fit the attached monitor/display device and click **Save**.

## Monitor Description

This screen lets you specify the viewing specifications, namely horizontal and vertical scan ranges and pixel clock rate, of your monitor/display device.



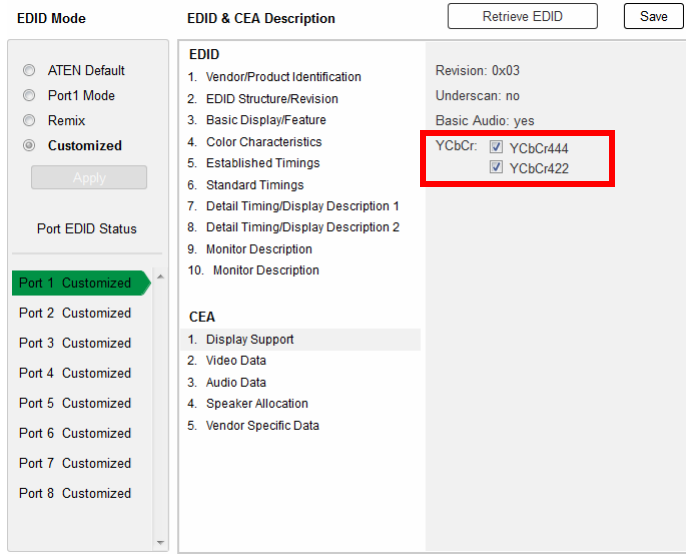

Enter the values that correspond to your device and click **Save** to apply the changes.

## CEA Settings

CEA is an extension data of the EDID structure, which further extends the standard definitions of EDID to support advanced features of monitors/display devices.

### Display Support

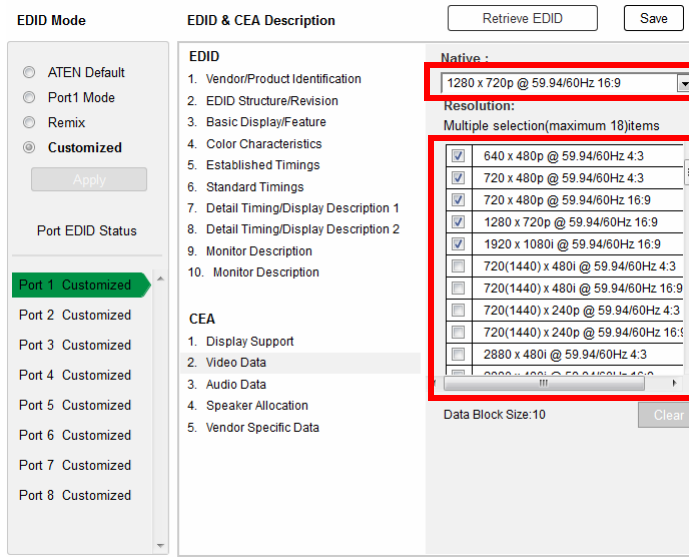
This screen describes the display's basic digital components.




Select the YCbCr mode applicable to your display and click **Save**.

## Video Data

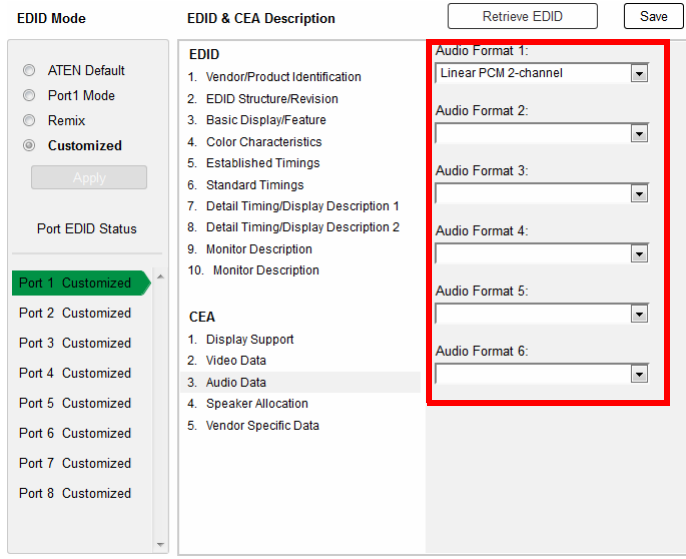
This screen lists additional video resolution/timing displays that may be supported by devices other than PC monitors (for example, 1080i).




- Select the native resolution of the attached display device.
- Select the resolutions that work with the attached monitor/display device.
- Click **Clear All** to deselect all the items.
- Click **Save** to apply the changes.

### Audio Data

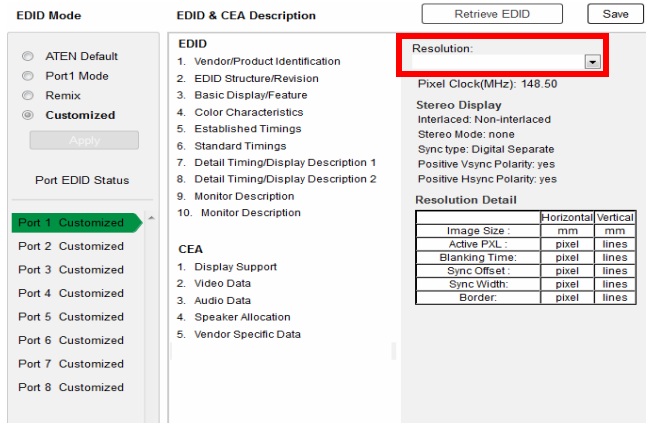
This screen lets you select advanced audio configurations for your device.




Use the drop down menu to select the **Audio Format** (1~6) applicable to your audio output device, and click **Save** to apply the changes.

### Detail Timing / Display Description

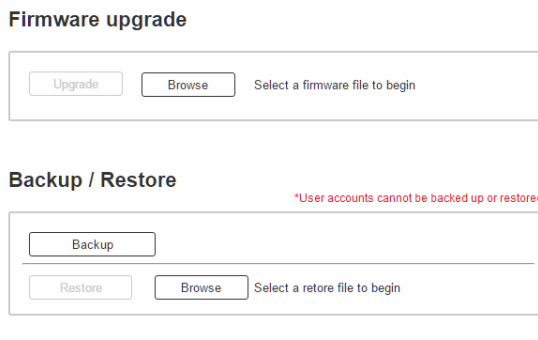
This screen gives more video resolution options, and provides resolution/ timing details (in addition to those specified in the EDID structure).




In the **Resolution** drop down menu, choose a resolution with values that fit the attached monitor/display device and click **Save**.

## Maintenance

The *Maintenance* page lets users upgrade the VM0808HA's firmware and back up or restore system settings. This is an Administrator only function.




To upgrade the VM0808HA's firmware, do the following:

1. Use the **Browse** button to locate the firmware upgrade file. Make sure you have the correct file saved on your PC.
2. Click **Upgrade** to begin the upgrade procedure.

**Note:** After updating the firmware, it's recommended that you clear your web browser's cache and then close and reopen the web browser. This will ensure the GUI refreshes and functions properly.

To back up the VM0808HA's system settings, do the following:

1. Click **Backup**. A configuration file will then begin downloading.

To restore the VM0808HA's system settings, do the following:

1. Use the **Browse** button to locate the configuration file. Make sure you have the correct file saved on your PC.
2. Click **Restore** to begin the restoration procedure.

**Note:** User accounts cannot be backed up or restored.

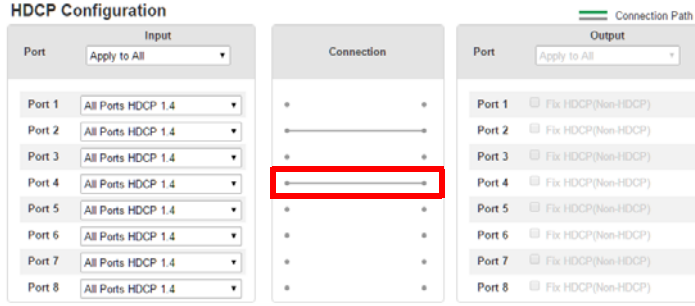
## HDCP

The *HDCP* page lets users view and set HDCP key settings between input and output ports for digital copy protection and to ensure Seamless Switching between different devices. This is an Administrator and Advanced User only function.




### Input

Here users can view whether port content is HDCP 2.2, HDCP 1.4 or non-HDCP enabled.




### Connection

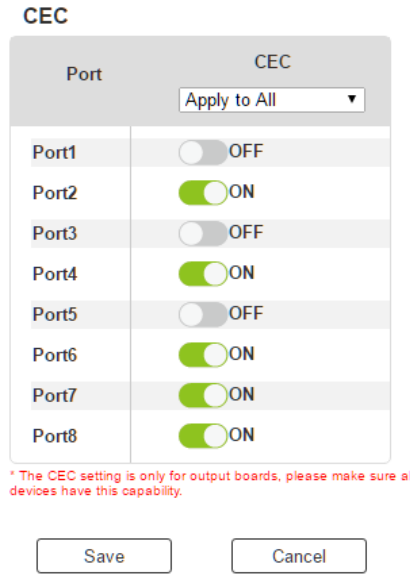
Here users can find a visual display of connection paths between inputs and outputs. When selecting an input, its path is displayed in green.

### Output

Here users can define whether or not HDCP settings are fixed, either by individual port or by applying one setting to all ports. By prearranging and fixing keys, this setting ensures that the Seamless Switch feature is possible even when switching between HDCP and non-HDCP enabled devices.

## CEC

Consumer Electronics Control (CEC) allows interconnected HDMI devices to communicate and respond to one remote control.




To set the CEC for each port, do the following:

- Use the drop-down menu to apply options to all ports.
- Use the On/Off buttons to enable/disable CEC for individual ports.

# Telnet Operation

The VM0808HA can be operated and configured via a remote terminal session using Telnet.

To log into the VM0808HA by means of a Telnet session, do the following:

1. On your computer, open a terminal (command line) session.
2. At the prompt, key in the VM0808HA's IP address in the following way:

   ```
   telnet [IP address]:23
   ```

3. Press **Enter**. The login screen appears. At the login prompt, provide your Username and Password.

**Note:** If a user logs on using a Username that is already in session, the newest login takes effect and the previous session is replaced.

## Configuration Menu

Once a Telnet connection to the VM0808HA is established, the device's text-based Configuration Menu comes up, with the following items:

### 1. H – Call up the command list for help

Command list:

GT – Set gateway address

IM – Set IP subnet mask

IP – Set IP address

LO – Load connections from profile *nn*

PW – Change password

RI– Read what input is connected to *nn* output

RO – Read what output is connected to *nn* input

SB – Set the serial port baud rate

SS – Switch input to specified port

SV – Save the current connections into profile *nn*

TI – Set timeout

VR – Software version information

Ctrl-Q – Quit

### 2. GT – Set gateway address

```
GT
```

Old gateway address: 192.168.0.1

New gateway address:

### 3. IM – Set IP subnet mask

```
IM
```

Old IP subnet mask: 255.255.255.0

New IP subnet mask:

### 4. IP – Set IP address

```
IP
```

Old IP address: 192.168.0.60

New IP address:

### 5. LO – Load connections from profile

```
LO 01
```

Load profile 01 OK.

### 6. PW – Change password

```
PW
```

Old password: ********

New password:

### 7. RI – Read what input is connected to *nn* output

```
RI 01
```

Input port 02 04 08 is connected to output port 01

### 8. RO – Read what output is connected to *nn* input

```
RO 01
```

Output port 02 is connected to input port 01

### 9. SB – Set serial port baud rate

```
SB 96
```

Serial port baud rate is set to 9600

### 10. SS – Switch input to specified output

```
SS 01,03
```

Switch input 01 to output 03

### 11. SV – Save the current connections into a profile

```
SV 01
```

Save the current connections into profile 01

### 12. TI – Set timeout

```
TI 30
```

Set 30 minute timeout

### 13. VR – Software version information

```
VR
```

Software version 1.0.

**Note:** All RS-232 commands in this manual are also applicable in Telnet mode, see *Switch Port Commands*, page 71.

**Note:** For further information about these functions, please reference the equivalent Browser GUI functions earlier in this chapter.

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# Chapter 5
# RS-232 Commands

## Overview

This chapter provides a complete list of the serial control protocol commands used when utilizing the RS-232 Serial Port so that an extra source device can function further as transmitter and receiver.

## RS-232 Control Tool

RS-232 serial operations in a VM0808HA installation can be managed via a Graphical User Interface (GUI) on systems that are running Windows. In order to use this Control Tool, two separate items of software must be installed on all of the PCs in your installation – .NET Framework 2.0 and the Control Tool AP. Please download the VM0808HA RS-232 Control Tool AP and user instructions from the ATEN website (www.aten.com).

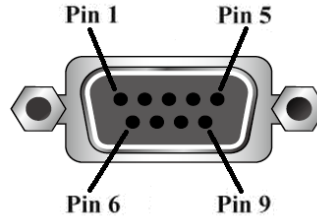
**Note:** For Windows 7 64-bit systems, the following must be installed first:

1) Microsoft Office 64-bit Access Database software; and

2) Microsoft 64-bit ODBC and OLEDB driver.

## RS232 Pin Assignment

| Pin | Description | Pin | Description |
|---|---|---|---|
| 1 | Not connected | 6 | Not connected |
| 2 | RXD | 7 | Not connected |
| 3 | TXD | 8 | Not connected |
| 4 | Not connected | 9 | Not connected |
| 5 | GND | | |




## Configuring the Serial Port

The controller's serial port should be configured as follows:

| | |
|---|---|
| Baud Rate | 19200 (Default) |
| Data Bit | 8 bits |
| Parity | None |
| Stop Bit | 1 Bit |
| Flow Control | None |

# Switch Port Commands

The formula for Switch Port commands is as follows:

**Switch Command + Input Command + Port number + Output Command + Port Number + Control + [Enter]**

1. For example, to switch input port 02 to output port 05, type the following:
   **sw i02 o05 [Enter]**
2. To turn off output on port 03, type the following:
   **sw o03 off [Enter]**
3. To switch output port 04 to the next port, type the following:
   **sw o04** + **[Enter]**

The following table shows the possible values for switch commands:

| Command | Description |
|---|---|
| sw | Switch command |

| Input Command | Description |
|---|---|
| i | Input command |

| Input Port Number | Description |
|---|---|
| xx | 01-08 port (default is 01) |

| Output Command | Description |
|---|---|
| o | Output Command |

| Output Port Number | Description |
|---|---|
| yy | 01-08 port (default is 01) |
| * | All output ports |

| Control | Description |
|---|---|
| on | Turn on |
| off | Turn off |
| + | Next port |
| - | Previous port |

| Enter | Description |
|---|---|
| [Enter] | Enter and send out the command |

The following table shows the available command list:

| Cmd | In | N1 | Out | N2 | C2 | Enter | Description |
|---|---|---|---|---|---|---|---|
| sw | i | xx | o | yy<br>* | | [Enter] | Switch Input Port xx to Output Port yy<br>(xx:01~08; yy:01~08, *) |
| sw | | | o | yy<br>* | on<br>off | [Enter] | Turn on Output Port yy<br>Turn off Output Port yy<br>(yy:01~08, *) |
| sw | | | o | yy<br>* | +<br>- | [Enter] | Switch Next Input to Output Port yy<br>Switch Previous Input to Output Port yy<br>(yy:01~08, *) |

**Note:** 1. Each command string can be separated with a space.

2. The **Port Number** command string can be skipped, and the default value will be used.

# EDID Commands

You can set up which EDID mode the VM0808HA uses, select one of the 14 available ATEN default EDID configurations and copy the EDID of any connected display to the input source with the following command:

**EDID Command + Input + Num + Control + [Enter]**

For example, to change EDID to use the port1 setting, type the following:

**edid i 01 port01 [Enter]**

The following tables show the possible values and formats for the commands:

| Command | Description |
|---|---|
| edid | Enable EDID selection |

| Input | Description |
|---|---|
| i | Implement the EDID of the connected display to Port yy, and pass it to the video source<br>(Note: yy: 01-08) |

| Num | Description |
|---|---|
| xx | Enable EDID selection |

| Control | Description |
|---|---|
| portyy | Implement the EDID of the connected display to Port yy, and pass it to the video source<br>(Note: yy: 01-08) |
| remix | Implement the EDID of all connected displays. The VM0808HA uses the best resolution for all displays |
| defaultyy | Implements the specified ATEN default EDID configuration<br>(Note: yy: 00-17, default is 00) |

**Note:** For the port and default command strings, the *yy* variable must be entered for the command to work.

The ATEN default EDID configuration can be selected via the RS-232 command line:

| Default EDID No. | Configuration | Remark |
|---|---|---|
| 00 | 4K2K video, 2 ch audio (default) | |
| 01 | 1080p video, 2 ch audio | |
| 02 | 1080p video, 5.1 ch audio | |
| 03 | 1080p video, 7.1 ch audio | |
| 04 | 1080i video, 2 ch audio | |
| 05 | 1080i video, 5.1 ch audio | |
| 06 | 1080i video, 7.1 ch audio | |
| 07 | 3D 1080p, 2 ch audio | |
| 08 | 3D 1080p, 5.1 ch audio | |
| 09 | 3D 1080p, 7.1 ch audio | |
| 10 | 1024 x 768 DVI format | DVI mode |
| 11 | 1280 x 1024 DVI format | DVI mode |
| 12 | 1920 x 1080 DVI format | DVI mode |
| 13 | 1920 x 1200 DVI format | DVI mode |
| 14 | 3840x2160 @ 30 7.1ch audio | |
| 15 | 3840x2160 @ 60 7.1ch audio | |
| 16 | 4096x2160 @ 30 7.1ch audio | |
| 17 | 4096x2160 @ 60 7.1ch audio | |

# Save / Load Profile Commands

The formula for Save/Load Profile commands is as follows:

**Command + Profile + Number + Control + [Enter]**

1. For example, to save the current connection configuration to profile 12, type the following:

   **profile f 12 save [Enter]**

2. To load profile 12, type the following:

   **profile f 12 load [Enter]**

The following table shows the possible values for Save/load Profile commands:

| Command | Description |
|---|---|
| profile | Save / Load profile |

| Profile | Description |
|---|---|
| f | Profile |

| Profile Number | Description |
|---|---|
| yy | 00-31 (default is 00) |

| Control | Description |
|---|---|
| save | Save the current connection configuration |
| load | Load a saved profile |

**Note:** Each command string can be separated with a space.

The following table shows the available command list:

| Command | Profile | Num1 | Control | Enter | Description |
|---|---|---|---|---|---|
| profile | f | yy | save | [Enter] | Save current connection configuration to profile yy<br>(yy:00~31)<br>(Default: 00) |
| profile | f | yy | load | [Enter} | Load saved profile yy<br>(yy:00~31)<br>Default: 00) |

# Power On Detection Commands

Enabling Power On Detection means that the VM0808HA automatically switches to the next powered on device when one of the HDMI source devices is powered off.

The formula for Power On Detection commands is as follows:

**Power On Detection + Control command [Enter]**

For example, to turn on the Power On Detection feature, input the following:

**pod on [Enter]**

The following tables show the possible values for the Power on Detection commands:

| Command | Description |
|---|---|
| pod | Power On Detection function |

| Control | Description |
|---|---|
| on | Enable power on detection function |
| off | Disable power on detection function (default) |

The following table shows the available command list:

| Command | Control | Enter | Description |
|---|---|---|---|
| pod | on | [Enter] | Turn on power on detection |
| pod | off | [Enter] | Turn on power off detection (default) |

# Read Commands

The Read command enables you to view information from the device using the following command:

**Read Command [Enter]**

To Reads and displays information from the device, type:

**read [Enter]**

The following table show the possible values and formats for the command:

| Command | Description |
|---|---|
| read | Reads and displays information from the VM0808HA, including the input/ output connections, audio/video and CEC status, EDID settings and the firmware version |

# CEC Commands

Consumer Electronics Control (CEC) allows interconnected HDMI devices to communicate and respond to one remote control. The formula for CEC mode selection commands is as follows:

**CEC Command + Output Command + Port Number + Control (Off / On) [Enter]**

For example, to enable CEC function on output port 1, type the following:

**cec o01 on [enter]**

The following tables show the possible values and formats for the **Control** command:

| Command | Description |
|---|---|
| cec | CEC control |

| Output Command | Description |
|---|---|
| o | Output command |

| Port number | Description |
|---|---|
| yy | 01-08 port (default is 01) |
| * | All output ports |

| Control | Description |
|---|---|
| off | Disable CEC (default) |
| on | Enable CEC |

**Note:** Each command string can be separated with a space.

The following table shows the available command list:

| Command | Output Port | Control | Enter | Description |
|---|---|---|---|---|
| cec | yy<br>* | off | [Enter] | CEC off for output port yy (default)<br>(yy:01~08, *) |
| cec | yy<br>* | on | [Enter] | CEC on for output port yy<br>(yy:01~08, *) |

# Baud Rate Setting

You can select the RS-232 Baud Rate you want the VM0808HA to use. Options are 9600, 19200 (default) 38400 and 115200.

The formula for Baud Rate setting command is as follows:

**Baud Command + Control [Enter]**

For example, to select 38400 as your baud rate, type the following:

**baud 38400 [enter]**

The following tables show the possible values and formats for the **Control** command:

| Command | Description |
|---|---|
| baud | Sets the RS-232 baud rate |

| Control | Description |
|---|---|
| 9600 | Use 9600 baud rate |
| 19200 | Use 19200 baud rate |
| 38400 | Use 38400 baud rate |
| 115200 | Use 115200 baud rate |

**Note:** Each command string can be separated with a space.

The following table shows the available command list:

| Command | Control | Enter | Description |
|---|---|---|---|
| baud | 9600 / 19200 / 38400 / 115200 | [Enter] | Sets the RS-232 baud rate |

# Mute Command

Mute allows you to enable or disable an output port(s) audio.

The formula for the Mute command is as follows:

**Command + Output + Number + Control + [Enter]**

1. For example, to mute the audio coming from output port 1, type:
   **mute o01 on [enter]**

The following tables show the possible values for the Mute command:

| Command | Description |
|---|---|
| mute | Mute command |

| Output Command | Description |
|---|---|
| o | Output command |

| Port number | Description |
|---|---|
| yy | 01-08 port (default is 01) |
| * | All output ports |

| Control | Description |
|---|---|
| on | Mute on; audio from HDMI output port is disabled |
| off | Mute off; audio output enabled (default) |

**Note:** 1. Each command string can be separated with a space.

2. Skip the output port command to mute or enable the audio of all output ports.

The following table lists the available Mute commands:

| Command | Output Command | Output Port | Control | Enter | Description |
|---|---|---|---|---|---|
| mute | o | yy<br>* | on | [Enter] | Audio on for output port yy<br>(yy:01~08, *) |
| mute | o | yy<br>* | off | [Enter] | Audio off for output port yy (default)<br>(yy:01~08, *) |

# Echo Commands

If the Echo feature is enabled: for each action from the front panel (pushbuttons), web GUI or IR interface, the VM0808HA sends a corresponding acknowledgment message to the attached controller or management device via the RS-232 port.

The formula for the Echo command is as follows:

**Echo Command + Control (on/off) + [Enter]**

For example, to enable the Echo function, type the following:

**echo on [enter]**

The following tables show the possible values and formats for the **Control** command:

| Command | Description |
|---|---|
| echo | Enable / Disable Echo function |

| Control | Description |
|---|---|
| on | Echo function on |
| off | Echo function off (default) |

**Note:** Each command string can be separated with a space.

The following table shows the available command list:

| Command | Control | Enter | Description |
|---|---|---|---|
| echo | on | [Enter] | Echo on |
| echo | off | [Enter] | Echo off |

## Reset

You can reset the VM0808HA to default factory settings. The formula for the Reset command is as follows:

**Reset Command [Enter]**

The following tables show the possible values and formats for the **Control** command:

| Command | Description |
|---|---|
| reset | Reset the device settings |

The following table shows the available command list:

| Command | Enter | Description |
|---|---|---|
| reset | [Enter] | Reset the device settings |

## Acknowledge

After commands are sent acknowledge messages are returned.

| Ack | Description |
|---|---|
| Command OK | Command is correct and function executed |
| Command Incorrect | Unavailable command or parameters |

# Appendix

## Safety Instructions

### General

- Read all of these instructions. Save them for future reference.
- Follow all warnings and instructions marked on the device.
- This product is for indoor use only.
- Do not place the device on any unstable surface (cart, stand, etc.). If the device falls, serious damage will result.
- Do not use the device near water.
- Do not place the device near, or over, radiators or heat registers.
- The device cabinet is provided with slots and openings to allow for adequate ventilation. To ensure reliable operation, and to protect against overheating, these openings must never be blocked or covered.
- The device should never be placed on a soft surface (bed, sofa, rug, etc.) as this will block its ventilation openings. Likewise, the device should not be placed in a built in enclosure unless adequate ventilation has been provided.
- Never spill liquid of any kind on the device.
- Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- The device is designed for IT power distribution systems with 230V phase-to-phase voltage.
- To prevent damage to your installation it is important that all devices are properly grounded.
- The device is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not attempt to defeat the purpose of the grounding-type plug. Always follow your local/national wiring codes.
- Do not allow anything to rest on the power cord or cables. Route the power cord and cables so that they cannot be stepped on or tripped over.

- If an extension cord is used with this device make sure that the total of the ampere ratings of all products used on this cord does not exceed the extension cord ampere rating. Make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
- To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or un-interruptible power supply (UPS).
- Position system cables and power cables carefully; be sure that nothing rests on any cables.
- Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.
- Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.
- If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.
  - The power cord or plug has become damaged or frayed.
  - Liquid has been spilled into the device.
  - The device has been exposed to rain or water.
  - The device has been dropped, or the cabinet has been damaged.
  - The device exhibits a distinct change in performance, indicating a need for service.
  - The device does not operate normally when the operating instructions are followed.
- Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.

## Rack Mounting

- Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.
- Always load the rack from the bottom up, and load the heaviest item in the rack first.
- Make sure that the rack is level and stable before extending a device from the rack.
- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- Make sure that all equipment used on the rack – including power strips and other electrical connectors – is properly grounded.
- Ensure that proper airflow is provided to devices in the rack.
- Ensure that the operating ambient temperature of the rack environment does not exceed the maximum ambient temperature specified for the equipment by the manufacturer.
- Do not step on or stand on any device when servicing other devices in a rack.

# Technical Support

## International

- For online technical support – including troubleshooting, documentation, and software updates: **http://eservice.aten.com**
- For telephone support, see *Telephone Support*, page iii:

## North America

| | | |
|---|---|---|
| Email Support | | support@aten-usa.com |
| Online Technical Support | Troubleshooting<br>Documentation<br>Software Updates | http://www.aten-usa.com/support |
| Telephone Support | | 1-888-999-ATEN ext 4988 |

When you contact us, please have the following information ready beforehand:

- Product model number, serial number, and date of purchase.
- Your computer configuration, including operating system, revision level, expansion cards, and software.
- Any error messages displayed at the time the error occurred.
- The sequence of operations that led up to the error.
- Any other information you feel may be of help.

# Specifications

| Function | | VM0808HA |
|---|---|---|
| Video Input | Interface | 8 x HDMI Type A Female (Black) |
| | Impedance | 100 Ω |
| | Max. Distance | 1.8 m |
| Video Output | Interface | 8 x HDMI Type A Female (Black) |
| | Impedance | 100 Ω |
| | Max. Distance | 15 m |
| Video | Max. Data Rate | 10.2 Gbps (3.4 Gbps Per Lane) |
| | Max. Pixel Clock | 340 MHz |
| | Compliance | HDMI (3D, Deep Color, 4K)<br>HDCP 2.2 Compatible<br>Consumer Electronics Control (CEC) |
| | Max. Resolution | Up to 4096 x 2160 / 3840 x 2160 @60Hz (4:2:0);<br>4096 x 2160 / 3840 x 2160 @30Hz (4:4:4) |
| | Max. Distance | Up to 15 m |
| Control | RS-232 | Connector: 1 x DB-9 Female (Black)<br>Baud rate and protocol:<br>Baud Rate: 19200, Data Bits: 8, Stop Bits:1,<br>Parity: No, Flow Control: No |
| | IR | 1 x Mini Stereo Jack Female (Black) |
| EDID Settings | | EDID Mode:<br>Default / Port1 / Remix / Customized |
| Power | Connectors | 1 x 3-Prong AC Socket |
| | I/P Rating | 100-240 VAC; 50-60 Hz; 1.0A |
| | Consumption | 110 VAC, 24W; 220 VAC, 24.4W |
| Environment | Operating Temp. | 0–40ºC |
| | Storage Temp. | -20–60ºC |
| | Humidity | 0–80% RH, Non-condensing |
| Physical Properties | Housing | Metal |
| | Weight | 3.86 kg |
| | Dimensions (L x W x H) | 43.24 x 26.23 x 4.40 cm |

## Limited Warranty

IN NO EVENT SHALL THE DIRECT VENDOR'S LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT FROM DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, DISK, OR ITS DOCUMENTATION.

The direct vendor makes no warranty or representation, expressed, implied, or statutory with respect to the contents or use of this documentation, and especially disclaims its quality, performance, merchantability, or fitness for any particular purpose.

The direct vendor also reserves the right to revise or update the device or documentation without obligation to notify any individual or entity of such revisions, or update. For further inquiries, please contact your direct vendor.