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.

The device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, 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: Operation of this equipment in a residential environment could cause radio interference.

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

RoHS

This product is RoHS compliant.
User Information

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

<table>
<thead>
<tr>
<th></th>
<th><a href="http://eservice.aten.com">http://eservice.aten.com</a></th>
</tr>
</thead>
</table>

Telephone Support
For telephone support, call this number:

<table>
<thead>
<tr>
<th></th>
<th>886-2-8692-6959</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>86-400-810-0-810</td>
</tr>
<tr>
<td>Japan</td>
<td>81-3-5615-5811</td>
</tr>
<tr>
<td>Korea</td>
<td>82-2-467-6789</td>
</tr>
<tr>
<td>North America</td>
<td>1-888-999-ATEN ext 4988</td>
</tr>
<tr>
<td></td>
<td>1-949-428-1111</td>
</tr>
</tbody>
</table>

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 VM3404H / VM3909H package consists of:

- 1 VM3404H / VM3909H 4 x 4 / 9 x 9 HDMI HDBaseT-Lite Matrix Switch
- 1 Power Cord
- 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 VM3404H / VM3909H since this manual was published. Please visit our website to download the most up-to-date version.
# Table of Contents

EMC Information .......................................................... ii
RoHS. .............................................................................. ii
User Information ........................................................... iii
  Online Registration ....................................................... iii
  Telephone Support ......................................................... iii
  User Notice ................................................................. iii
Package Contents ........................................................... iv
Table of Contents .......................................................... v
About this Manual ........................................................... ix
Conventions ..................................................................... x
Product Information ........................................................ x

## 1. Introduction
Overview ....................................................................... 1
Features .......................................................................... 3
Requirements ................................................................... 5
  Source Devices ........................................................... 5
  Display Devices .......................................................... 5
  Cables .......................................................................... 5
  Source Device Operating Systems ................................. 6
  Browsers ....................................................................... 6
Components .................................................................... 7
  VM3404H Front View .................................................... 7
  VM3404H Rear View ...................................................... 8
  VM3909H Front View .................................................... 9
  VM3909H Rear View ..................................................... 10

## 2. Hardware Setup
Rack Mounting ............................................................... 11
Grounding ....................................................................... 13
Cable Connection ........................................................... 14
  Installation Diagram ..................................................... 15

## 3. Front Panel Configuration
Overview ....................................................................... 17
Front Panel Pushbuttons ................................................. 17
Enter Password .............................................................. 18
Main Screen .................................................................... 19
  Port Switching .............................................................. 19
    Input Port Selection ................................................... 19
    Output Port Selection ................................................ 21
LCD Menu Organization .................................................. 23
Menu Pushbutton ............................................................ 23
4. Browser Operation

Overview ................................................................. 39
Logging In ............................................................... 39
Main Page ................................................................. 40
Menu Bar ................................................................. 40
Profile List ............................................................... 41
  Adding/Playing a Profile .......................................... 41
  Importing / Exporting a Profile ................................ 43
  Profile List Options ................................................ 43
    Profile .................................................................... 44
    Play Window ......................................................... 44
Profile Scheduling ...................................................... 46
Connection Profiles ..................................................... 48
  Digital Signage Profile ............................................ 48
    Output Icon ........................................................ 49
    Grid View .......................................................... 50
    Output Options .................................................... 50
Video Wall Profile ....................................................... 51
  Video Wall Options ................................................. 51
  Number of Displays / Output Order / Bezel Dimensions .... 52
  Null Input ............................................................ 53
  Independent Output ................................................ 54
  Group ................................................................. 54
  Display Preferences ................................................ 55
  Video Wall Example 1 ............................................. 56
  Video Wall Example 2 ............................................. 56
Output Option .......................................................... 58
  Video Control’s ..................................................... 58
System Settings ........................................................................... 59
  General ............................................................................... 60
    Fan Status ........................................................................ 60
    Device Info. ...................................................................... 60
    Other ............................................................................... 60
User Account ................................................................................. 62
  Add Account ......................................................................... 63
  Permission Level ................................................................... 64
  Port Name ............................................................................ 65
  Network ............................................................................... 66
EDID Settings ............................................................................... 67
  EDID Mode ......................................................................... 68
  EDID & CEA Description ..................................................... 69
  Customized Mode .................................................................. 70
  Customized EDID Parameters .............................................. 71
  CEA Settings ....................................................................... 74
  Video Data .......................................................................... 75
    Detail Timing / Display Description .................................. 76
Maintenance .................................................................................. 77
  IR Channel ......................................................................... 78
  HDCP ................................................................................ 79
  OSD/CEC ......................................................................... 80
Telnet Operation ............................................................................ 81
Configuration Menu ....................................................................... 81
  1. H – Call up the command list for help .............................. 81
  2. IP – Set IP address .......................................................... 82
  3. LO – Load connections from profile ................................ 82
  4. PW – Change password .................................................... 82
  5. RI – Read what input is connected to nn output ............... 82
  6. RO – Read what output is connected to nn input ............. 82
  7. SB – Set serial port baud rate ........................................... 82
  8. SS – Switch input to specified output ................................. 82
  9. SV – Save the current connections into a profile .............. 83
  10. TI – Set timeout ............................................................. 83
  11. VR – Software version information ................................. 83

5. Mobile Control
  Overview ............................................................................... 85
  The Video Matrix Control App .............................................. 86
    Requirements ..................................................................... 86
    Installation and Connections .............................................. 86
    The Control Interface ......................................................... 87

6. RS-232 Commands
  Serial Control Protocol Commands ....................................... 89
    RS232 Pin Assignment ......................................................... 89
## Configuring the Serial Port ................................. 89
Veriﬁcation ........................................ 90
Switch Port Command .................................. 91
EDID Mode Command .................................. 93
CEC Command ........................................ 95
Scaling Command ..................................... 96
Echo Command ........................................ 99
Read Command ....................................... 100
Reset Command ...................................... 100
Baud Rate Command ................................... 101
Save/Load Profile Command ......................... 102
OSD Command ........................................ 103
RS232 Pin Assignment ................................. 104

## Appendix

<table>
<thead>
<tr>
<th>Safety Instructions</th>
<th>105</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>105</td>
</tr>
<tr>
<td>Rack Mounting</td>
<td>107</td>
</tr>
<tr>
<td>Technical Support</td>
<td>108</td>
</tr>
<tr>
<td>International</td>
<td>108</td>
</tr>
<tr>
<td>North America</td>
<td>108</td>
</tr>
<tr>
<td>Specifications</td>
<td>109</td>
</tr>
<tr>
<td>Compatible Receivers</td>
<td>111</td>
</tr>
<tr>
<td>Limited Warranty</td>
<td>112</td>
</tr>
</tbody>
</table>
About this Manual

This User Manual is provided to help you get the most from your VM3404H / VM3909H 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 VM3404H / VM3909H 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 VM3404H / VM3909H installation.

**Chapter 3 Front Panel Configuration**, explains the fundamental concepts involved in operating the VM3404H / VM3909H at the local site via the front panel LCD display using pushbuttons.

**Chapter 4 Browser Operation**, provides a complete description of the VM3404H / VM3909H's Browser Graphical User Interface (GUI), and how to use it to remotely configure and operate the VM3404H / VM3909H.

**Chapter 5 Mobile Control**, introduces you to the Video Matrix Control app and provides details on its installation requirements.

**Chapter 6 RS-232 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 be utilized in the installation.

**Appendix**, provides specifications and other technical information regarding the VM3404H / VM3909H.
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 charded, 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:

<table>
<thead>
<tr>
<th>International</th>
<th><a href="http://www.aten.com">http://www.aten.com</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td><a href="http://www.aten-usa.com">http://www.aten-usa.com</a></td>
</tr>
</tbody>
</table>
Chapter 1
Introduction

Overview

The ATEN VanCryst VM3404H / VM3909H 4 x 4 / 9 x 9 HDMI HDBaseT-Lite Matrix Switch is a versatile solution that provides an easy way to route high definition video and audio from any of 4/9 HDMI sources to any of 4/9 HDMI/HDBaseT displays at the same time. As a Matrix Switch, each input can be independently connected to any or all outputs, giving you the ultimate in flexibility and control in any multi-display audio/video installation.

Furthermore, with the latest HDBaseT technology, the VM3404H / VM3909H is able to extend HDMI sources up to 4K2K high-resolution video (with audio signals) over single Cat5 cable to receivers up to 60m away. The VM3404H / VM3909H also features Power over HDBaseT (POH), which can send power over Cat 5e/6 cable without an additional power supply.

When the VM3404H / VM3909H is combined with VE805R/VE816R receivers, it supports both ATEN Seamless Switch™ technology and Video Wall functionality, employing FPGA matrix system architecture to seamlessly switch between multiple sources and multiple displays. With EDID Expert technology, the VM3404H / VM3909H selects the optimum EDID settings for smooth power-up and the highest quality display. It also features a high-performing scaling engine that converts the video resolution into the display's native resolution to give you the best image quality.

You can easily configure the VM3404H / VM3909H via the front panel LCD display and pushbuttons, and through the use of an IR Remote Control. The LCD provides a quick view of all port connections, and lets operators access the unit’s built-in configuration utility.

Furthermore, the VM3404H / VM3909H allows convenient configuration and operation via an intuitive Graphical User Interface (GUI) using any web browser. The web GUI provides you with advanced features which include easy setup of custom Video Wall (when used in conjunction with VE805R/VE816R receivers) and Digital Signage configurations that can be saved and recalled. Because your VM3404H / VM3909H can be controlled over a standard TCP/IP connection, it conveniently integrates into any existing network for easy remote access. For complete system and install integration, serial control is standard through the VM3404H / VM3909H’s built-in RS-232 port that allows the switch to be controlled through a high-end controller or PC.
The VM3404H / VM3909H also supports mobile control of frequently used features such as switching of profile and AV inputs using ATEN Video Matrix Control app.

The VM3404H / VM3909H is an ideal solution for applications that require HDMI outputs from multiple sources to be conveniently delivered to multiple destinations, such as for stage presentations, competitions, control centers, and system installations that require real-time reports.
Chapter 1. Introduction

Features

- Supports 4 (VM3404H) or 9 (VM3909H) HDMI inputs and mirrored 4 / 9 HDMI and HDBaseT outputs
- Long Distance Transmission – supports up to 60 m (using Cat 5e/6 cables) or 70m (Cat 6a)
- HDMI (4K, 3D, Deep Color); HDCP 1.4 compatible
- Video Wall - allows you to create custom video wall layouts via intuitive web GUI

**Note:**
1. The video wall feature is only available when the VM3404H / VM3909H is used in conjunction with the VE805R/VE816R.
2. The VE816R is only supported on VM3404H / VM3909H using firmware version 2.2.213 or later.

- Features a built in high-performance scaler function for best image quality (Only available when the VM3404H / VM3909H is used in conjunction with the VE805R/VE816R.)
- Easily switch between multiple sources and multiple displays
- Seamless Switch™ – provides continuous video streams, real-time switching and stable signal transmission

**Note:**
1. If Seamless Switch™ is enabled, the video output will not display 4K, 3D, Deep Color or interlaced resolutions (i.e., 1080i). For these features, you must disable Seamless Switch™.
2. Seamless Switch™ is only available when the VM3404H / VM3909H is used in conjunction with the VE805R/VE816R.
3. The VE816R is only supported on VM3404H / VM3909H using firmware version 2.2.213 or later.

- EDID Expert™ – selects optimum EDID settings for smooth power-up and highest quality display
- Configuration and control via the front-panel LCD display and the pushbuttons, and web GUI
- Supports free mobile control using the Video Matrix Control App
- System Operation:
  - Serial controller
- Browser Graphical User Interface (GUI)
- Telnet
- Built-in bi-directional RS-232 serial port for high-end system control
- Superior video quality – HDTV resolution of 480p, 720p, 1080i, 1080p (1920 x 1080) and 4K
- Supports Dolby True HD and DTS HD Master audio
- Consumer Electronics Control (CEC) support
- ESD protection for HDMI connections
- Firmware upgradeable
- Rack mountable all metal casing
Requirements

The following devices are required for a complete VM3404H / VM3909H installation:

**Source Devices**
- Computer or A/V source device with 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
- 1 Cat 5e cable
- 1 RS-232 serial cable

*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:

<table>
<thead>
<tr>
<th>OS</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td>2000 and higher</td>
</tr>
<tr>
<td>Linux RedHat</td>
<td>6.0 and higher</td>
</tr>
<tr>
<td>SuSE</td>
<td>8.2 and higher</td>
</tr>
<tr>
<td>Mandriva (Mandrake)</td>
<td>9.0 and higher</td>
</tr>
<tr>
<td>UNIX AIX</td>
<td>4.3 and higher</td>
</tr>
<tr>
<td>FreeBSD</td>
<td>3.51 and higher</td>
</tr>
<tr>
<td>Sun</td>
<td>Solaris 8 and higher</td>
</tr>
<tr>
<td>Novell Netware</td>
<td>5.0 and higher</td>
</tr>
<tr>
<td>Mac OS 9 and higher</td>
<td></td>
</tr>
<tr>
<td>DOS</td>
<td>6.2 and higher</td>
</tr>
</tbody>
</table>

Browsers
Supported web browsers are shown in the table below:

<table>
<thead>
<tr>
<th>OS</th>
<th>Java Version</th>
<th>Browser</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 8.1</td>
<td>V1.8.0_60</td>
<td>Chrome</td>
<td>45.0.2454.85 m</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Firefox</td>
<td>40.0.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Safari</td>
<td>5.1.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Opera</td>
<td>31.0.1889.174</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IE11</td>
<td>11</td>
</tr>
<tr>
<td>Windows 2012 R2</td>
<td>V1.8.0_60 (64bit)</td>
<td>IE11</td>
<td>11 (64bit)</td>
</tr>
<tr>
<td>(64bit)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows 2008 R2</td>
<td>V1.8.0_60 (64bit)</td>
<td>IE8</td>
<td>8</td>
</tr>
<tr>
<td>(64bit)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows 7</td>
<td>V1.8.0_60 (64bit)</td>
<td>IE10</td>
<td>10 (64bit)</td>
</tr>
<tr>
<td>SP1 (64bit)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows XP</td>
<td>V1.8.0_60</td>
<td>IE8</td>
<td>8</td>
</tr>
<tr>
<td>CentOS 7.0</td>
<td>V1.8.0_60 (64bit)</td>
<td>Firefox</td>
<td>40.0.3</td>
</tr>
<tr>
<td>(64Bit)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ubuntu 12.04</td>
<td>V1.8.0_60</td>
<td>Chrome</td>
<td>45.0.2454.85</td>
</tr>
<tr>
<td>Solaris 11(64bit)</td>
<td>V1.8.0_25</td>
<td>Firefox</td>
<td>33</td>
</tr>
<tr>
<td>Mac 10.10</td>
<td>V1.8.0_25</td>
<td>Safari</td>
<td>8</td>
</tr>
</tbody>
</table>
# Components

## VM3404H Front View

<table>
<thead>
<tr>
<th>No.</th>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LCD Display</td>
<td>The LCD Display gives a quick view of all port connections, and shows the various options for configuring and operating the VM3404H. For full details, see <em>Main Screen</em>, page 19.</td>
</tr>
<tr>
<td>2</td>
<td>Input Pushbuttons</td>
<td>These pushbuttons refer to the HDMI Input ports found on the VM3404H rear panel. Press to select the Input port. These pushbuttons may also correspond to menu options, connection profiles (P1–P4) and so on.</td>
</tr>
<tr>
<td></td>
<td>Note:</td>
<td>The <strong>INPUT</strong> (1–4) front panel pushbuttons have built-in LEDs that light to indicate they have been selected.</td>
</tr>
<tr>
<td>3</td>
<td>Output Pushbuttons</td>
<td>These pushbuttons refer to the HDMI/HDBaseT Output ports found on the VM3404H rear panel. Press to select the Output port. These pushbuttons may also correspond to connection profiles (P5–P8).</td>
</tr>
<tr>
<td></td>
<td>Note:</td>
<td>The <strong>OUTPUT</strong> (1–4) front panel pushbuttons have built-in LEDs that light to indicate they have been selected.</td>
</tr>
<tr>
<td>4</td>
<td>Prev / Next Pushbuttons</td>
<td>These pushbuttons allow you to cycle through the menu options on the LCD display.</td>
</tr>
<tr>
<td>5</td>
<td>Function Pushbuttons</td>
<td>The function pushbuttons (<strong>MENU</strong>, <strong>PROFILE</strong>, <strong>ENTER</strong> and <strong>CANCEL</strong>) are for navigating the LCD built-in configuration utility. For full details, see <em>Front Panel Pushbuttons</em>, page 17.</td>
</tr>
<tr>
<td></td>
<td>Note:</td>
<td>The <strong>MENU</strong> and <strong>PROFILE</strong> front panel pushbuttons have built-in LEDs that light to indicate they have been selected.</td>
</tr>
</tbody>
</table>
### VM3404H Rear View

<table>
<thead>
<tr>
<th>No.</th>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power Socket</td>
<td>This is a standard 3-pin AC power socket. The power cord from an AC source plugs in here.</td>
</tr>
<tr>
<td>2</td>
<td>Power Switch</td>
<td>This is a standard rocker switch that powers the unit on and off.</td>
</tr>
<tr>
<td>3</td>
<td>Grounding Terminal</td>
<td>The grounding wire attaches here. See Grounding, page 13, for further details.</td>
</tr>
<tr>
<td>4</td>
<td>HDMI Input Ports</td>
<td>The cables from your HDMI source devices plug into these ports.</td>
</tr>
<tr>
<td>5</td>
<td>HDBaseT Output Ports</td>
<td>The cables from your remote HDBaseT display devices or HDBaseT receivers plug into these ports.</td>
</tr>
<tr>
<td>6</td>
<td>HDMI Output Ports</td>
<td>The cables from your local HDMI display devices plug into these ports.</td>
</tr>
<tr>
<td>7</td>
<td>IR Channel Ports</td>
<td>Connect IR receivers / transmitters into the IR Channel ports for controlling the source and the display from local or remote locations.</td>
</tr>
<tr>
<td>8</td>
<td>IR Port</td>
<td>Connect an IR unit via the 3.5 mm Mini Stereo Jacks. IR signals are used to control the VM3404H.</td>
</tr>
<tr>
<td>9</td>
<td>RS-232 Serial Port</td>
<td>Connect a computer or high-end system controller via this serial port.</td>
</tr>
<tr>
<td>10</td>
<td>Ethernet Port</td>
<td>In order to access the VM3404H’s Browser Graphical User Interface (GUI), the VM3404H must be connected to your network. The cable that connects the VM3404H to your LAN plugs in here. See Cable Connection, page 14, for further details</td>
</tr>
</tbody>
</table>
### VM3909H Front View

<table>
<thead>
<tr>
<th>No.</th>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LCD Display</td>
<td>The LCD Display gives a quick view of all port connections, and shows the various options for configuring and operating the VM3909H. For full details, see <strong>Main Screen</strong>, page 19.</td>
</tr>
<tr>
<td>2</td>
<td>Input Pushbuttons</td>
<td>These pushbuttons refer to the HDMI/HDBaseT Input ports found on the VM3909H rear panel. Press to select the Input port. These pushbuttons may also correspond to menu options, connection profiles (P1–P9) and so on. <strong>Note</strong>: The INPUT (1–9) front panel pushbuttons have built-in LEDs that light to indicate they have been selected.</td>
</tr>
<tr>
<td>3</td>
<td>Output Pushbuttons</td>
<td>These pushbuttons refer to the HDMI Output ports found on the VM3909H rear panel. Press to select the Output port. These pushbuttons may also correspond to connection profiles (P10–P18). <strong>Note</strong>: The OUTPUT (1–9) front panel pushbuttons have built-in LEDs that light to indicate they have been selected.</td>
</tr>
<tr>
<td>4</td>
<td>Prev / Next Pushbuttons</td>
<td>These pushbuttons allow you to cycle through the menu options on the LCD display.</td>
</tr>
<tr>
<td>5</td>
<td>Function Pushbuttons</td>
<td>The function pushbuttons (<strong>MENU, PROFILE, ENTER</strong> and <strong>CANCEL</strong>) are for navigating the LCD built-in configuration utility. For full details, see <strong>Front Panel Pushbuttons, page 17</strong>. <strong>Note</strong>: The <strong>MENU</strong> and <strong>PROFILE</strong> front panel pushbuttons have built-in LEDs that light to indicate they have been selected.</td>
</tr>
</tbody>
</table>
### VM3909H Rear View

<table>
<thead>
<tr>
<th>No.</th>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power Socket</td>
<td>This is a standard 3-pin AC power socket. The power cord from an AC source plugs in here.</td>
</tr>
<tr>
<td>2</td>
<td>Power Switch</td>
<td>This is a standard rocker switch that powers the unit on and off.</td>
</tr>
<tr>
<td>3</td>
<td>Grounding Terminal</td>
<td>The grounding wire attaches here. See <em>Grounding</em>, page 13, for further details.</td>
</tr>
<tr>
<td>4</td>
<td>HDMI Input Ports</td>
<td>The cables from your HDMI source devices plug into these ports.</td>
</tr>
<tr>
<td>5</td>
<td>HDBaseT Output Ports</td>
<td>The cables from your remote HDBaseT display devices or HDBaseT receivers plug into these ports.</td>
</tr>
<tr>
<td>6</td>
<td>HDMI Output Ports</td>
<td>The cables from your local HDMI display devices plug into these ports.</td>
</tr>
<tr>
<td>7</td>
<td>IR Channel Ports</td>
<td>Connect IR receivers / transmitters into the IR Channel ports for controlling the source and the display from local or remote locations.</td>
</tr>
<tr>
<td>8</td>
<td>IR Port</td>
<td>Connect an IR unit via the 3.5 mm Mini Stereo Jacks. IR signals are used to control the VM3909H.</td>
</tr>
<tr>
<td>9</td>
<td>RS-232 Serial Port</td>
<td>Connect a computer or high-end system controller via this serial port.</td>
</tr>
<tr>
<td>10</td>
<td>Ethernet Port</td>
<td>In order to access the VM3909H’s Browser Graphical User Interface (GUI), the VM3909H must be connected to your network. The cable that connects the VM3909H to your LAN plugs in here. See <em>Cable Connection</em>, page 14, for further details</td>
</tr>
</tbody>
</table>
1. Important safety information regarding the placement of this device is provided on page 105. 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 VM3404H can be mounted in a 19” (1U) system rack and VM3909H can be mounted in a 19” (2U) 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 Mounting Kit to screw the rack mounting brackets onto the front and back of the unit.
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 VM3404H / VM3909H 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 VM3404H / VM3909H installation are properly grounded.
Cable Connection

Installation of the VM3404H / VM3909H 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. 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.

2. Connect up to 4 (VM3404H) or 9 (VM3909H) HDMI video sources to the **HDMI Input** ports.

3. You can choose one of the following methods to transmit signals over a distance:
   - Connect up to 4 (VM3404H) or 9 (VM3909H) HDBaseT display devices directly to the **HDBaseT Output** ports using an RJ-45 cable.
   - Connect up to 4 (VM3404H) or 9 (VM3909H) HDMI display devices via an HDBaseT receiver. (Connect the VM3404H / VM3909H to the HDBaseT receiver using an RJ-45 cable. Then connect the receiver to the HDMI display device using an HDMI cable.)

4. (Optional) Connect up to 4 (VM3404H) or 9 (VM3909H) local HDMI display devices to the **HDMI Output** ports.

5. Connect IR receivers / transmitters to the **IR Channel** ports for controlling source and display devices from local or remote locations.

6. (Optional) To access features on the web interface or use the ATEN Video Matrix Control app (see **Browser Operation**, page 39), plug a Cat 5e cable from the LAN into the VM3404H / VM3909H’s **Ethernet** port.

7. (Optional) If you are using the serial control function, use an appropriate RS-232 serial cable to connect the computer or serial controller to the VM3404H / VM3909H’s female **RS-232 Serial** port.

8. Plug the power cord supplied with the package into the VM3404H / VM3909H’s 3-prong AC socket, and then into an AC power source.

9. Connect an IR Receiver to the **IR** port for controlling the VM3404H / VM3909H.

Chapter 2. Hardware Setup

Installation Diagram
Chapter 3
Front Panel Configuration

Overview

The VM3404H / VM3909H 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 an 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 6.

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 23).
- Use the **PROFILE** pushbutton to switch between the connection profiles which have been added to the Profile List (see *Profile List*, page 41). Pressing this pushbutton for longer than 3 seconds displays the Save to a Profile page (see *Save to a Profile*, page 35).
- 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 (1–9)** or **(1–4)** pushbuttons to select the Input/Output port. These pushbuttons may also correspond to menu options, connection profiles, and so on.
- Use pushbuttons **Prev** / **Next** to navigate the VM3404H / VM3909H menus.
Enter Password

Upon VM3404H / VM3909H 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 VM3404H / VM3909H 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 19).

Additionally, the Password Screen appears if the VM3404H / VM3909H has been configured to require a password for Front Panel operation (see Security Mode, page 32).

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 (1–9) or (1–4) 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 VM3404H / VM3909H password can be any four digit combination between 1111 to 9999 (VM3909H) or 1111 to 4444 (VM3404H). 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 32), the LCD display time-out is 5 minutes by default.
Chapter 3. Front Panel Configuration

Main Screen

The Main Screen shows the Input ports in the top row, which are tied to the Output ports shown in sequential order (1–9) or (1–4) at the bottom row.

- The front panel pushbutton label (1–9) or (1–4) 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 23).
- Use the Profile pushbutton to switch between profile connections (see Profile List, page 41).

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 (1–9). The Output port LED(s) tied to the said Input port flash.

   In the example below, pressing Input port 1 shows it is tied to Output ports 1 and 2.
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 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 shows NA 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 (1–9) or (1–4).
   In the example below, Output port 1 pushbutton has been pressed. Available Input ports light up. Because no Input LEDs are flashing, no ports have already been assigned to Output port 1.

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 it tied.

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

![Diagram of ports](image)

**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.
Chapter 3. Front Panel Configuration

LCD Menu Organization

The VM3404H / VM3909H has a built-in configuration utility via the front panel LCD, which can be controlled by pressing the **MENU** and front panel Input pushbuttons (1–9) or (1–4). User can cycle through the menu options, starting from IP Setting page, in the order shown in the table below:

<table>
<thead>
<tr>
<th>Menu Page</th>
<th>Sub-Menu Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Setting</td>
<td>IP Address</td>
</tr>
<tr>
<td></td>
<td>Subnet Mask</td>
</tr>
<tr>
<td></td>
<td>Gateway</td>
</tr>
<tr>
<td>Serial Port Setting</td>
<td>Baud Rate</td>
</tr>
<tr>
<td></td>
<td>9600 / <strong>19200</strong> / 38400 / 115200</td>
</tr>
<tr>
<td>Operation Mode</td>
<td>EDID</td>
</tr>
<tr>
<td></td>
<td>Default / Port1 / Remix / Customized</td>
</tr>
<tr>
<td></td>
<td>CEC</td>
</tr>
<tr>
<td></td>
<td>On / NA</td>
</tr>
<tr>
<td></td>
<td>OSD</td>
</tr>
<tr>
<td></td>
<td>On / NA</td>
</tr>
<tr>
<td></td>
<td>Output Status</td>
</tr>
<tr>
<td></td>
<td>Video</td>
</tr>
<tr>
<td></td>
<td>Output Resolution</td>
</tr>
<tr>
<td></td>
<td>On / NA</td>
</tr>
<tr>
<td></td>
<td>01 - 04 (VM3404H)</td>
</tr>
<tr>
<td></td>
<td>01 - 09 (VM3909H)</td>
</tr>
<tr>
<td>Security Mode</td>
<td>Mode</td>
</tr>
<tr>
<td></td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Password enable</td>
</tr>
<tr>
<td></td>
<td>Lock Screen</td>
</tr>
<tr>
<td></td>
<td>Change Password</td>
</tr>
<tr>
<td></td>
<td>Old Password</td>
</tr>
<tr>
<td></td>
<td>New Password</td>
</tr>
<tr>
<td>Save to a Profile</td>
<td>Save to a Profile No.</td>
</tr>
<tr>
<td></td>
<td>01–08 (VM3404H); 01-18 (VM3909H)</td>
</tr>
</tbody>
</table>

**Note:** The highlighted values are the default settings of the VM3404H / VM3909H.

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 24)
- Press 2 to go to the Serial Port Setting page (see *Serial Port Setting*, page 26)
- Press 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 VM3404H / VM3909H’s IP configuration. The values in the LCD Menu are read-only and can be edited via the Browser GUI (*Network*, page 66).

#### IP Address / Subnet Mask
To view the VM3404H / VM3909H’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.

<table>
<thead>
<tr>
<th>IP Address: 192.168.0.60</th>
<th>Next</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subnet Mask: 255.255.255.0</td>
<td></td>
</tr>
</tbody>
</table>

   **Note:** The VM3404H / VM3909H default IP address is 192.168.0.60. The default Subnet Mask is 255.255.255.0

2. Press 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 VM3404H / VM3909H’s gateway address, do the following:
1. From the Menu page, press 1 to see the IP Setting submenu, then press Next to get to the next page. The gateway address displays.

| Gateway: 192.168.0.1 | Prev |

Note: The default Gateway is 192.168.0.1.

2. Press 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 VM3404H / VM3909H’s baud rate for its serial port connection, select Serial Port Setting from the Menu page.

**Baud Rate**

To set the VM3404H / VM3909H’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.
Chapter 3. Front Panel Configuration

**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 VM3404H / VM3909H 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
- **The OSD**, when enabled for a port, lets an attached display/monitor show real-time port switching information
- **The Output Status** shows whether the video/audio of an Output port is turned on or off

To configure the VM3404H / VM3909H’s operation mode settings from the Main Screen, use the **Menu** pushbutton to access the Menu page, press **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:

(Continues on next page.)
2. Press pushbuttons 1–4 to make your selection.

<table>
<thead>
<tr>
<th>EDID Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Port1</td>
<td>The EDID from port1 is passed to all video sources.</td>
</tr>
<tr>
<td>2: Default</td>
<td>The default EDID is passed to all video sources.</td>
</tr>
<tr>
<td>3: Remix</td>
<td>Uses the EDID of each connected display according to its connection when the VM3404H / VM3909H is first powered on, or immediately after pressing 3 to select the Remix option.</td>
</tr>
</tbody>
</table>
| 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 Mode*, page 70. |

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 (1–9) or (1–4) 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.
OSD
The On-Screen Display or OSD feature enables real-time text updates to appear on the display device’s screen for any configuration changes made to the Output port via the VM3404H / VM3909H’s front panel, IR remote control or Browser GUI.

To configure the OSD setting for each output port, do the following:

1. From the Operation Mode page, press Next to go to the next page, then press pushbutton 1:

2. Press pushbuttons (1–9) or (1–4) to enable (ON) or disable (NA) the OSD feature for the output port.

   Note: The default OSD setting is On.

3. Press Menu to return to the Menu page.

4. Press Cancel to return to the previous step without saving.
Output Status
To configure the Output Status settings for each output port, do the following:

1. From the Operation Mode page, press 8 to go to the next page, then press pushbutton 2:

2. From the Output Status page, press 1 to select Video.

3. Press pushbuttons (1–8) or (1–4) to enable (ON) or disable (NA) the video/audio of the output port.

   Note: The default Output Status setting is On.

4. Press Menu to return to the Menu page.

5. Press Cancel to return to the previous step without saving.

To configure the Output Resolution settings for each output port, do the following:

1. From the Operation Mode page, press 8 or Next to go to the next page, then press pushbutton 2:
2. From the Output Status page, press 2 to select Output Resolution.

3. Press pushbuttons (1–8) or (1–4) to select an output port whose resolution will be changed.

4. Available options include: Native Resolution, 1024x768@60Hz, 1280x720@60Hz, 1280x1024@60Hz, 1400x1050@60Hz, 1600x1200@60Hz, 1920x1080@60Hz, 1920x1200@60Hz, 1280x720@50Hz, 1920x1080@50Hz, 1280x800@60Hz, 720x576@50Hz and 1600x900@60Hz.

5. Press **Menu** to return to the Menu page.

6. Press **Cancel** to return to the previous step without saving.
Security Mode

The Security Mode page allows users to manage the VM3404H / VM3909H’s security-related settings. Three security modes are available: None, Password Enable and Lock Screen. The VM3404H / VM3909H’s password can also be changed here.

To configure the VM3404H / VM3909H’s password settings from the Main Screen, use the Menu pushbutton to access the Menu page, press 8 or Next to navigate to the next pages, then press pushbutton 2 to access the Security Mode page.

1. To change the VM3404H / VM3909H’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 VM3404H / VM3909H’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.

(Continues on next page.)
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 18). 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 VM3404H: (1111–8888) or VM3909H: (1111–4444).

4. Re-enter the new password in the following screen. The new password is applied by the VM3404H / VM3909H 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.
Chapter 3. Front Panel Configuration

Save to a Profile

The switch allows users to store up to 8 (VM3404H) or 18 (VM3909H) (numbered P1–P18) 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 **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.

   **VM3404H**: Options are P1–P8 (when saving a profile via the LCD), where:
   - Input port pushbuttons **1–4** correspond to Profile **P1** to **P4**
   - Output port pushbuttons **1–4** correspond to Profile **P5** to **P8**

   **VM3909H**: Options are P1–P18 (when saving a profile via the LCD), where:
   - Input port pushbuttons **1–9** correspond to Profile **P1** to **P9**
   - Output port pushbuttons **10–18** correspond to Profile **P10** to **P18**

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.

Turn Video Wall Off
If a video wall is currently playing, a submenu will appear.

- Selecting Turn video wall off will return port assignments to their default (i.e. disassemble the video wall).
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 41).

When a Profile is in use, its profile number (P1–P18) is shown on the lower right corner of the LCD display.

The Profile pushbutton functions as follows:
- Press the Profile pushbutton for 1–2 seconds to cycle between profiles stored in the GUI’s Profile List (from 1 up to 18) or (from 1 up to 8) depending on how many are added to the list.
- Alternatively, after pressing the Profile pushbutton (lights), use the Input/Output pushbuttons to switch to a specific profile (P1 to P18) or (P1 to P8). Note that:
  - Input ports 1–9 or 1-4 correspond to Profile P1 to P9 or P1 to P4
  - Output ports 1–9 or 1-4 correspond to Profile P10 to P18 or P5 to P8 (where Output Port 1=Profile 9, Output Port 2=Profile 10... Output Port 9=Profile 18)

The selected pushbutton lights steady, and the VM3404H / VM3909H immediately applies the port connections configured in the selected profile.
- When the Profile pushbutton is pressed for 3 seconds or more, the LCD directs to the Save to a Profile page (see Save to a Profile, page 35)
- Press the Cancel pushbutton to exit

Note: If there are no profiles configured on the VM3404H / VM3909H device, an error message “No Profile List defined. Profile List can be edited via the Web GUI” 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 19) or from the Connections page of the Browser GUI (see Connection Profiles, page 48). Additionally, the Profile List can be configured via the Profile page of the Browser GUI (see Profile List, page 41).
Overview

The VM3404H / VM3909H 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 VM3404H / VM3909H 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 VM3404H / VM3909H’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.
- Use the drop-down menu to select the GUI language

Note: 1. The username supports lower case letters only.
       2. The same user can not be logged in simultaneously.
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 59).
- 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 8/18 differently configured profiles that can be saved and played later by two methods: locally via the unit’s front panel pushbuttons and via the web GUI.

Adding/Playing a Profile

To configure a new or existing connection profile:

1. From the Profile List, click an empty or existing [Profile] icon.

2. For a new profile, select the profile type:
**Digital Signage:** Select this option for video that is displayed independently on separate monitors (page 48).

**Video Wall:** Select this option for monitors that are displayed together - tiled or as a large screen (page 51).

3. Configure the input to output connections for a Digital Signage (page 48) or Video Wall (page 51) profile.

4. Select the profile and click **Apply**.

5. The profile appears in the large **Play** window and the connections start:

---

**Note:** More information about the Profile List is provided on the next page.
Importing / Exporting a Profile

To export the VM3404H / VM3909H’s connection profiles, do the following:
1. Click Export Profiles. A configuration file will then begin downloading.

To import connection profiles to the VM3404H / VM3909H, 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, as shown on the next page.
Profile

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply</td>
<td>Click <strong>Apply</strong> to put the profile in the Play window. This allows you to start the profile connections.</td>
</tr>
<tr>
<td>Edit</td>
<td>Click <strong>Edit</strong> to configure the profile's input to output connections.</td>
</tr>
</tbody>
</table>

Play Window

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Sequence</td>
<td><strong>On Sequence</strong> will appear when a profile schedule is playing (see page 43).</td>
</tr>
<tr>
<td>&lt;</td>
<td>Click &lt; to go back to the previous profile in the sequence, when Profile Scheduling is in use. Only available with <strong>On Sequence</strong>.</td>
</tr>
<tr>
<td>&gt;</td>
<td>Click &gt; to advance to the next profile in the sequence, when Profile Scheduling is in use. Only available with <strong>On Sequence</strong>.</td>
</tr>
<tr>
<td>Positioning</td>
<td>Click <strong>Positioning</strong> to open a window that allows you to adjust the image position on each display. For Video Wall profiles, you can also set the Bezel Dimension, which is the frame thickness between each display.</td>
</tr>
<tr>
<td>Remove</td>
<td>Removes the profile from the Play window.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Edit</td>
<td>Click Edit to configure the profile’s input to output connections.</td>
</tr>
<tr>
<td>Show OSD</td>
<td>Check Show OSD to display the OSD on all connected displays. The OSD will be displayed until the user closes it manually.</td>
</tr>
<tr>
<td>Blank All</td>
<td>Check Blank All to turn off the video to all displays.</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="#" alt="Edit" /></td>
<td>Click to edit profile schedule.</td>
</tr>
<tr>
<td><img src="#" alt="Play" /></td>
<td>Click to play profile schedule.</td>
</tr>
<tr>
<td><img src="#" alt="Stop" /></td>
<td>Click to stop profile schedule.</td>
</tr>
<tr>
<td><img src="#" alt="&lt; shortage" /> <img src="#" alt="&gt; shortage" /></td>
<td>Click to change to next or previous profile when a profile schedule is playing.</td>
</tr>
</tbody>
</table>
After selecting **Edit**, you will be presented with the following options.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Add Profile" /></td>
<td>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.</td>
</tr>
</tbody>
</table>
| ![Profile Options](image2) | Click a profile for a pop-up menu to appear:  
  - Select **Startup** to use the profile as the starting point for the schedule.  
  - Click **Replace** to replace the selected profile with another profile.  
  - Click **Remove** to delete the profile from the schedule.  
  - Use `< >` to change the profile’s position in the schedule. |
| ![Duration Select](image3) | 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.  
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 Button](image4) | Click **Save** to save the schedule as it appears. After saving, the Profile Scheduling window will close.  
When a Profile Schedule is playing the **On Sequence** box will appear in the Play window. |
| ![Cancel Button](image5) | Click **Cancel** to discard changes and return to the Profile Schedule page. |
Connection Profiles

There are two types of profiles: Digital Signage and Video Wall. Digital Signage profiles are for displays where video is viewed on separate monitors. Video Wall profiles are for displays that are tiled together, where multiple monitors form one large screen – in various arrangements.

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 or Save as to save as a different profile number.
- Click Test to view a sample of the profile.
- Click Save and Apply to save and automatically apply the current profile to the play window.
- Click Grid View to use an alternate method for configuring connection profiles (see page 49).
Output Icon

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Icon</td>
<td>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). The large number is the Video Input port selected for the display. The small number (upper-left corner) is the Output port of the display.</td>
</tr>
</tbody>
</table>

Video

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video</td>
<td>Click the video icon to turn the video off/on.</td>
</tr>
</tbody>
</table>

Select Source

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Source</td>
<td>The Select Source menu appears when you click an Output icon.</td>
</tr>
<tr>
<td>Video Input</td>
<td>Use the drop-down menu to select the Video Input port.</td>
</tr>
<tr>
<td>Radio Button</td>
<td>• Fit Width of Output(s): fits the video to the width of the display. • Fit Height of Output(s): fits the video to the height of the display. • Scale to Whole Output(s): fits the video on the entire display.</td>
</tr>
</tbody>
</table>
Grid View
The Traditional View allows you to select the Input to Output connections using a simple grid.

- From an Output Port column, click a box to select its Input Port. The box will turn yellow.
- Uncheck an Output Port box to disable the video for that Output Port. The column will turn dark grey.
- Check an Output Port box to enable the video for that Output Port.
- Click Test to play the 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.

Output Options
For instructions on the Output Options page, see Output Option, page 58.
Chapter 4. Browser Operation

Video Wall Profile

**Note:**
1. This feature is only available when the VM3404H / VM3909H is used in conjunction with the VE805R/VE816R.
2. The VE816R is only supported on VM3404H / VM3909H using firmware version 2.2.213 or later.

Each blank icon represents an Output port and the connected display. Use the icons to create Independent and Grouped Outputs. **Independent** Outputs will display video on a single monitor. **Grouped** Outputs will display video across multiple monitors as one large screen.

**Video Wall Options**

- Click an icon to choose its **Output** and **Video Input** from the *Display Preference* menu (see page 55).
- Click multiple icons to Group Outputs (see *Grouping*, page 54) and choose the **Video Input** from the *Display Preference* menu.
- Use + next to **Display Layout _1** to create additional layouts under the same profile.
- 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 **Test** to play the current profile without saving.
- Click **Save & Apply** to save the profile and put it in the Play window (see page 44).
- Click **Save** to save the profile.
- Click **Save as** to save the profile as a different profile number.
- Click **Cancel** to discard changes and return to the Profile List.

### Number of Displays / Output Order / Bezel Dimensions

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Displays</td>
<td>Use the <em>Horizontal</em> and <em>Vertical</em> drop-down menu to select the number of displays that make up the video wall (a maximum of 64 are supported). Match this to the physical layout of the displays. Click <strong>Apply</strong> to set the layout. <strong>Note:</strong> To achieve a maximum number of displays requires the use of sixteen VM3404H / VM3909H switches.</td>
</tr>
<tr>
<td>Output Order</td>
<td>Automatically assign output ports by selecting one of the following options: Left to right (top to bottom), right to left (top to bottom), top to bottom (left to right) or top to bottom (right to left).</td>
</tr>
<tr>
<td>Bezel Dimension</td>
<td>Use the four boxes to increase/decrease the frame size for each active display.</td>
</tr>
<tr>
<td>Monitor Lock / Unlock</td>
<td>Click the monitor icon to <strong>Lock</strong> the (4) bezel settings, so that when one size is changed they all change. Click the monitor icon to <strong>Unlock</strong> the (4) bezel settings, so that each size can be set independently.</td>
</tr>
</tbody>
</table>
Null Input

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Null Icon</td>
<td>Click Null Input icons to highlight icons in green and use the Display Preferences menu to set the video options (see Display Preferences, page 55). Select a <strong>single</strong> icon to set the <strong>Output</strong> and <strong>Video Input</strong> for an independent display (see Independent Output, page 53). Select <strong>multiple</strong> icons and set the <strong>Video Input</strong> to group displays as one screen (see Grouping, page 54). You must first set the <strong>Output port</strong> for each icon.</td>
</tr>
</tbody>
</table>

Independent Output

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
</table>
| Independent | Independent Outputs are displays that have their own **Video Input** and **Output** selected. Independent Outputs:  
  • Display their own video  
  • Icons have their own color and Video Input  
Select an Independent Output and use the **Display Preferences** menu to select the **Video Input** (see page 55). |
## Grouping

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grouping</td>
<td>Click multiple icons to Group Outputs (highlighted in green) and click →</td>
</tr>
<tr>
<td>Ungroup</td>
<td>Select a group and click ← → to ungroup the displays.</td>
</tr>
</tbody>
</table>

## Group

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td><strong>A Group</strong> (of Outputs) shares the same <strong>Video Input</strong> and displays the video together as one large screen. A Group of Outputs:</td>
</tr>
<tr>
<td></td>
<td>• Displays video across multiple monitors to form one screen</td>
</tr>
<tr>
<td></td>
<td>• Icons have the same color and Video Input number.</td>
</tr>
<tr>
<td></td>
<td>• Select a Group and use the <strong>Display Preferences</strong> menu to select the <strong>Video Input</strong>.</td>
</tr>
<tr>
<td></td>
<td>• To group outputs see <strong>Grouping</strong>, page 54.</td>
</tr>
</tbody>
</table>
## Display Preferences

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Preferences</td>
<td>Click Output icons for the Display Preferences menu to appear– to select the <strong>Output</strong> and/or <strong>Video Input</strong> port.</td>
</tr>
<tr>
<td>Output</td>
<td>Use the drop-down menu to select the <strong>Output</strong> port (Independent and single Blank icons only). If you select multiple displays the output ports selected will appear here. You can use the output icon’s drop-down menu to change the output port for the display.</td>
</tr>
<tr>
<td>Video Input</td>
<td>Use the drop-down menu to select the <strong>Video Input</strong> port.</td>
</tr>
</tbody>
</table>
| Radio Button      | • **Fit Width of Output(s)**: fits the video to the width of the display.  
                      • **Fit Height of Output(s)**: fits the video to the height of the display.  
                      • **Scale to Whole Output(s)**: fits the video on the entire display.            |
Video Wall Example 1
The example below shows a video wall with 4 displays.

- Each Group and Independent Output has a unique color.
- This video wall has 1 Group and 2 Independent displays.
- The Group will show Video Input 01 across both displays as one large screen.
- The Independent displays will show the video from their own Video Input – 03 and 04.

Video Wall Example 2
The example below shows a video wall with 9 displays.

- Each Group and Independent Output has a unique color.
- This video wall has 2 Groups and 2 Independent displays.
- The Blue Group will show Video Input 01 across three displays as one large screen.
- The Green Group will show Video Input 02 across four displays as one large screen.
- The Pink Independent display will show the video from it’s own Video Input - 03
• The *Brown* Independent displays will show the video from its own Video Input – 04.

• Add Display Layouts to create separate video walls (see *Video Wall Options*, page 51).
Output Option

The *Output Option* page is used to configure the Video Controls.

**Video Control's**

*The Video Control page* allows you to set Seamless Switch options which determine how a display performs when the Input port is changed.

The *Transition, Period* and *Scale Resolution* apply only when Seamless Switching is on.

- **Seamless Switch**: Turning *Seamless Switch* on removes the video distortion and delay seen when an Input port is switched.
  - Use the drop-down menu to apply options to all ports, or the On/Off button to enable/disable Seamless Switching per port.

- **Transition**: Allows you to fade the video display when the Input port is changed. Use the period option to set the fade speed.
  - Use the drop-down menu to apply options to all ports, or On/Off button to enable/disable Transition per port.

- **Period**: Sets the fade speed for the Transition option.
  - Use the drop-down menu to apply an option (*Slow, Normal, or Fast*) to all ports, or lower drop-down menus to apply options per port.

- **Scale Resolution**: Forces the port to scale the video displayed to the selected resolution.
  - Use the top drop-down menu to apply an option to all ports, or lower drop-down menus to apply options per 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 view and set Serial, Fan, Language and Baud Rate Settings. Here you can also view Temperature, Fan and Slot 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 *IR Channel* page allows you to set the IR and channel settings*.
- The *HDCP* page lets users view and set HDCP key settings.
- The *OSD/CEC* page allows users to control port OSD and CEC settings.
- Click **Profile List** to return to the Main page.
General
The General page has three sections: Fan Status, Device Info, and Other.

Fan Status
- This section displays the internal temperature and status of the cooling fans.
- Fans rotate to indicate they are working.*

Note: Use the drop down menu to select fan speed: Auto, High, Medium and Low. If the fans have stopped working or are switched off, they will appear as follows. The fan module will then need to be replaced or reset.

Device Info
- This section lists the Video Matrix ports, Model Name, Firmware Version, and connection status.

Other
- Use the Language drop-down menu to select a preferred user interface language. Options include: English, French, German, Italian,
Japanese, 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 1152000
User Account

The User Account page lets you add, edit, or delete users and change the password for accessing the VM3404H / VM3909H’s GUI.

Note: This is an Administrator only function.

- **Add account** – Click the Add account button to add another user to the list. The VM3404H / VM3909H supports up to 32 users at one time (see page 63 for more details).

- **Edit** – Click the Edit button to change user information. This option allows an Administrator to edit individual accounts.

- Edit – Click to rename the user account, set the password, add a description, and set the user’s permission level (see page 64 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 63) when accessing the VM3404H / VM3909H’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 64).
- Click **Create User** to save the data.
- Click **Cancel** to discard the changes and exit.
- If a user is logged into the VM3404H / VM3909H’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 VM3404H / VM3909H, 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 users name the Input and Output ports for easy identification.

- To name an Input/Output port, enter a descriptive name of up to 16 characters (including 0-9, a-z, A-Z, _, -) in the corresponding field.
- To change an Input/Output port’s name, enter another value and click Save.
- Click Cancel to reset all stored names.

Note: The Input and Output port names can be the same.
**Network**

The *Network* page lets you configure the VM3404H / VM3909H’s IP settings for connecting to it via the web GUI, and enable/disable Telnet.

Enable DHCP to allow the DHCP server to assign an IP address to the VM3404H / VM3909H. Select **Disable** to enter your own static IP address settings for the device.

Click **Cancel** 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* – N/A, 5, 10, 30, 60 minutes
- **Telnet enabled** (checked)

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 VM3404H / VM3909H. Any changes will take effect immediately. The default setting is 5 minutes.
EDID Settings

The *EDID Setting* page lets users view and select an EDID Mode so that the VM3404H / VM3909H can use the best resolution for its display(s).

**Note:** The EDID Mode can also be selected via the Front Panel pushbuttons – see *LCD Menu Organization*, page 23.

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 VM3404H / VM3909H 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 70.
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 EDID Settings, page 67 for more information on these two columns.
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 (01–16).
- **Retrieve EDID**: Click and a pop-up window appears to retrieve the EDID settings of a stored EDID configuration: *Customized EDID 01-16*, *Display Port* or *ATEN Default*. Select the port to retrieve:

  ![Retrieve EDID](image)

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

  ![Save](image)
Customized EDID Parameters
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 All 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 other 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.
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 VM3404H / VM3909H’s firmware and back up or restore system settings. This is an Administrator only function.

To upgrade the VM3404H / VM3909H’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 VM3404H / VM3909H’s system settings, do the following:

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

To restore the VM3404H / VM3909H’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.
IR Channel
This page allows users to view the IR channel path, and have the ability to configure the IR Channel signal path. Either one to all, or to individual ports.

- **Connection**: Sets the connection path for the IR signal.
  - Use the drop-down menu to select *Broadcast (1-All)* to broadcast the signal from one port to all ports.
  - Use the drop-down menu to follow video path.

- **Individual Paths**: Set the connection for the IR signal Individual Paths.
  - Click the preferred input port, and then the output port to set the individual path.
  - When both ports are selected, the Individual Path will appear on the display.

Click **Save** to save the settings. Click **Cancel** to revert to the default settings.
HDCP
The HDCP page lets users view and set HDCP key settings 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 select whether port content is HDCP 1.4 or non-HDCP enabled, either individually or by applying one setting to all ports.

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 Seamless Switching is possible even when switching between HDCP and non-HDCP enabled devices.
OSD/CEC

The OSD/CEC page lets users view and set OSD and CEC settings for all ports.

- **OSD**: Sets the default OSD option for the port. When OSD is on, real-time text updates appear on the display for 10 seconds when configuration and port changes are made to its output.
  - Use the drop-down menu to apply options to all ports, or ON/OFF button to enable/disable the OSD for each port.

- **CEC**: Consumer Electronics Control (CEC) allows interconnected HDMI devices to communicate and respond to one remote control.
  - Use the drop-down menu to apply options to all ports, or On/Off button to enable/disable CEC for a port.

- Click **Save** to save the settings or **Cancel** to exit without saving the settings.

*The CEC setting is only for output boards, please make sure all devices have this capability.*
### Telnet Operation

The VM3404H / VM3909H can be operated and configured via a remote terminal session using Telnet.

To log into the VM3404H / VM3909H 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 VM3404H / VM3909H’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 VM3404H / VM3909H 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:
   
   - 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. IP – Set IP address
   IP
   Old IP address: 192.168.0.60
   New IP address:

3. LO – Load connections from profile
   LO 01
   Load profile 01 OK.

4. PW – Change password
   PW
   Old password: ********
   New password:

5. RI – Read what input is connected to \textit{nn} output
   RI 01
   Input port 02 04 08 is connected to output port 01

6. RO – Read what output is connected to \textit{nn} input
   RO 01
   Output port 02 is connected to input port 01

7. SB – Set serial port baud rate
   SB 96
   Serial port baud rate is set to 9600

8. SS – Switch input to specified output
   SS 01,03
   Switch input 01 to output 03 (00: Local Port)
9. SV – Save the current connections into a profile
   SV 01
   Save the current connections into profile 01

10. TI – Set timeout
    TI 30
    Set 30 minute timeout

11. VR – Software version information
    VR
    Software version 1.0.

Note: All RS-232 commands in this manual are also applicable in Telnet mode, See RS-232 Commands, page 89.

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

The VM3404H / VM3909H supports Video Matrix Control App, a free mobile app that allows you to switch profiles, audio inputs and video inputs, and also reminds you when any new firmware is available, all through a local area network to which the target VM3404H / VM3909H is connected. This mobile application is especially useful for profile and AV source switching when you do not have access to the VM3404H / VM3909H’s front panel or the web interface.
The Video Matrix Control App

Requirements

- The Video Matrix Control App supports the following operating systems:

<table>
<thead>
<tr>
<th>Mobile Operating System</th>
<th>Supported Versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>iOS</td>
<td>10.2.1 or later</td>
</tr>
<tr>
<td>Android</td>
<td>7.0 or later</td>
</tr>
</tbody>
</table>

- The VM3404H / VM3909H needs to be connected to a local area network via the Ethernet port.

Installation and Connections

To install the Video Matrix Control App on a mobile device, do the following:

1. From the mobile device, tap the **App Store** or **Google Play** icon.
2. In the search box, type “Video Matrix Control App”.
3. Tap Video Matrix Control App and then download and install the app.
4. Tap the app icon.
5. Follow the on-screen instructions to connect to the target VM3404H / VM3909H device by scanning the network, selecting from connection history, or specifying the device IP address and password.

Note:

- The Video Matrix Control App is designed to control one VM3404H / VM3909H device at a time.
- If you cannot find the VM3404H / VM3909H device, make sure that the VM3404H / VM3909H is connected to LAN and that the app is connected to the same LAN and then try again.
The Control Interface

The functions in the Video Matrix Control App are categorized into four tabs – Profile, Control, Audio, and Settings. See the table below for an overview of each tab.

<table>
<thead>
<tr>
<th>Control Interface</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the Profile tab, you can switch profiles for display or change the video input for the profile that is playing.</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

- The Video Matrix Control App cannot be used to create profiles. Before using the app, make sure to create the profiles you need via the web interface. For details, see Adding/Playing a Profile, page 41.
- Any configuration change made to a profile via Video Matrix Control App is only effective while the profile is being played and will not be saved to the VM3404H / VM3909H unit.
- Previews of input assignment, as indicated by input numbers in the control interface on the left, are not supported for VM0404HB, VM0808HA, and VM0808HB.

In the Control tab, you can instantly switch video inputs for each of the output.
In the **Audio** tab, you can specify the audio input for the digital and analog outputs of the VM3404H / VM3909H.

**Note:** The fields available in this tab may vary for the connected device.

In the **Settings** tab, you can look up notification for system firmware upgrades, the current app version, and technical support contact, or log out of the app.
Serial Control Protocol Commands

The VM3404H / VM3909H’s built-in bi-directional RS-232 serial interface allows system control through a high-end controller or PC. The RS-232 commands for the VM3404H and VM3909H are the same, with the only difference being that the VM3909H has 5 additional ports.

**RS232 Pin Assignment**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Not connected</td>
<td>6</td>
<td>Not connected</td>
</tr>
<tr>
<td>2</td>
<td>RXD</td>
<td>7</td>
<td>Not connected</td>
</tr>
<tr>
<td>3</td>
<td>TXD</td>
<td>8</td>
<td>Not connected</td>
</tr>
<tr>
<td>4</td>
<td>Not connected</td>
<td>9</td>
<td>Not connected</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Configuring the Serial Port**

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baud Rate</td>
<td>19200</td>
</tr>
<tr>
<td>Data Bits</td>
<td>8</td>
</tr>
<tr>
<td>Parity</td>
<td>None</td>
</tr>
<tr>
<td>Stop Bits</td>
<td>1</td>
</tr>
<tr>
<td>Flow Control</td>
<td>None</td>
</tr>
</tbody>
</table>
Verification

After entering a command, a verification message appears at the end of the command line as follows:

- **Command OK** - indicates that the command is correct and successfully performed by the switch
- **Command incorrect** - indicates that the command has the wrong format and/or values.
**Switch Port Command**
The Switch Port command allows you to switch ports on the VM3404H / VM3909H.

The formula for the Switch command is as follows:

\[
\text{Command + Input + Number + Output + Number + Control + [Enter]}
\]

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

The following tables show the possible values for the **Switch Port** command:

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>sw</strong></td>
<td>Switch command</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Input Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>i</strong></td>
<td>Input command</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Port number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>xx</strong></td>
<td>01-09 port</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>o</strong></td>
<td>Output command</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Port number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>yy</strong></td>
<td>01-09 port</td>
</tr>
<tr>
<td>*</td>
<td>All output ports</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>on</strong></td>
<td>Turn on the display</td>
</tr>
<tr>
<td><strong>off</strong></td>
<td>Turn off the display</td>
</tr>
<tr>
<td><strong>+</strong></td>
<td>Next Port</td>
</tr>
<tr>
<td><strong>-</strong></td>
<td>Previous Port</td>
</tr>
</tbody>
</table>
Note: 1. By default, input port 01 is tied to output port 01; input port 02 is tied to output port 02; and so on until port 09 (i.e., o01 i01, o02 i02).

2. Each command string can be separated with a space.

3. The Port Number can be skipped, and the default value will be used.

The following table lists the available Switch Port commands:

<table>
<thead>
<tr>
<th>Command</th>
<th>Input Command</th>
<th>Input Port</th>
<th>Output Command</th>
<th>Output Port</th>
<th>Control</th>
<th>Enter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>sw</td>
<td>i</td>
<td>xx</td>
<td>o</td>
<td>yy</td>
<td>*</td>
<td>[Enter]</td>
<td>Switch Input Port xx to Output Port yy (xx:01<del>09; yy:01</del>09, *)</td>
</tr>
<tr>
<td>sw</td>
<td></td>
<td></td>
<td>o</td>
<td>yy</td>
<td>on off</td>
<td>[Enter]</td>
<td>Turn on Output Port yy Turn off Output Port yy (yy:01~09, *)</td>
</tr>
<tr>
<td>sw</td>
<td></td>
<td></td>
<td>o</td>
<td>yy</td>
<td>+ -</td>
<td>[Enter]</td>
<td>Switch Output port yy to next Output port. Switch Output port yy to previous Output port. (yy:01~09, *)</td>
</tr>
</tbody>
</table>
**EDID Mode Command**

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

The formula for the EDID command is as follows:

**Command + Control + [Enter]**

1. For example, to use the Port 1 EDID mode, type:
   
   **edid port1 [enter]**

The following tables show the possible values for the **EDID** command:

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>edid</td>
<td>EDID Mode command</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>port1</td>
<td>Implement the EDID of the connected display to Port 1, and pass it to the video source.</td>
</tr>
<tr>
<td>remix</td>
<td>Implement the EDID of each connected display according to its connection when the VM3404H / VM3909H is first powered on, or immediately after selecting the Remix option.</td>
</tr>
<tr>
<td>default</td>
<td>Implements ATEN's default EDID. (default)</td>
</tr>
<tr>
<td>custom</td>
<td>Implements the customized mode as set in the EDID system settings. (See Customized Mode, page 70)</td>
</tr>
</tbody>
</table>

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

The following table lists the available EDID commands:

<table>
<thead>
<tr>
<th>Command</th>
<th>Control</th>
<th>Enter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>edid</td>
<td>port1</td>
<td>[Enter]</td>
<td>The EDID from Port 1 is passed to the video source.</td>
</tr>
<tr>
<td>edid</td>
<td>remix</td>
<td>[Enter]</td>
<td>The VM3404H / VM3909H implements the EDID of each connected display according to its connection when the VM3404H / VM3909H is first powered on, or immediately after selecting the Remix option.</td>
</tr>
<tr>
<td>edid</td>
<td>default</td>
<td>[Enter]</td>
<td>ATEN's default EDID is passed to the video source.</td>
</tr>
<tr>
<td>Command</td>
<td>Control</td>
<td>Enter</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td>-------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>edit</td>
<td>custom</td>
<td>[Enter]</td>
<td>Implements the customized mode.</td>
</tr>
</tbody>
</table>
**CEC Command**

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

The formula for the CEC command is as follows:

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

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

   `cec o01 on [enter]`

The following tables show the possible values for the **CEC** command:

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>cec</td>
<td>CEC command</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>o</td>
<td>Output command</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Port number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>yy</td>
<td>01-09 port (default is 01)</td>
</tr>
<tr>
<td>*</td>
<td>All output ports</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>off</td>
<td>Disable CEC (default)</td>
</tr>
<tr>
<td>on</td>
<td>Enable CEC</td>
</tr>
</tbody>
</table>

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

The following table lists the available CEC commands:

<table>
<thead>
<tr>
<th>Command</th>
<th>Output</th>
<th>Output Port</th>
<th>Control</th>
<th>Enter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>cec</td>
<td>o</td>
<td>yy</td>
<td>off</td>
<td>[Enter]</td>
<td>CEC off for output port yy (default) (yy:01~09, *)</td>
</tr>
<tr>
<td>cec</td>
<td>o</td>
<td>yy</td>
<td>on</td>
<td>[Enter]</td>
<td>CEC on for output port yy (yy:01~09, *)</td>
</tr>
</tbody>
</table>
Scaling Command

The Scaling command allows you to set a resolution for scaling the display connected to an output port.

The formula for the Scaling command is as follows:

`Command + Output + Number + Address + Number + Horizontal resolution + Number + Vertical Resolution + Number + [Enter]`

1. For example, to turn scaling off for output port 02, type:
   `scaling o02 off [Enter]`

2. To set the scaling for output port 04 to 1920x1080@60Hz, type:
   `scaling o04 1080p [Enter]`

3. To set the scaling for all output ports to the connected display’s native resolution, type:
   `scaling o* native [Enter]`

The following tables show the possible values for the `Scaling` command:

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>scaling</td>
<td>Scaling command</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>o</td>
<td>Output command</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Port Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>yy</td>
<td>01-09 port</td>
</tr>
<tr>
<td>*</td>
<td>All output ports</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>off</td>
<td>Turn off the scaling function (by pass mode)</td>
</tr>
<tr>
<td>native</td>
<td>Map display's native resolution for scaling (default)</td>
</tr>
<tr>
<td>1080p</td>
<td>Scale to 1920x1080@60Hz</td>
</tr>
<tr>
<td>720p</td>
<td>Scale to 1280x720@60Hz</td>
</tr>
<tr>
<td>1920</td>
<td>Scale to 1920x1200@60Hz</td>
</tr>
<tr>
<td>1800</td>
<td>Scale to 1800x1200@60Hz</td>
</tr>
<tr>
<td>1400</td>
<td>Scale to 1400x1050@60Hz</td>
</tr>
<tr>
<td>1280</td>
<td>Scale to 1280x1024@60Hz</td>
</tr>
</tbody>
</table>
Chapter 6. RS-232 Commands

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.

The following table lists the available Scaling commands:

<table>
<thead>
<tr>
<th>Command</th>
<th>Output</th>
<th>Port Number</th>
<th>Control</th>
<th>Enter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>scaling</td>
<td>o</td>
<td>yy *</td>
<td>off</td>
<td>[Enter]</td>
<td>Turn off scaling for port yy (by pass mode) yy: 01 ~ 09 or *</td>
</tr>
<tr>
<td>scaling</td>
<td>o</td>
<td>yy *</td>
<td>native</td>
<td>[Enter]</td>
<td>Enable display’s native resolution for scaling on output port yy (default) yy: 01 ~ 09 or *</td>
</tr>
<tr>
<td>scaling</td>
<td>o</td>
<td>yy *</td>
<td>1080p</td>
<td>[Enter]</td>
<td>Scale output port yy to 1920x1080@60Hz yy: 01 ~ 09 or *</td>
</tr>
<tr>
<td>scaling</td>
<td>o</td>
<td>yy *</td>
<td>720p</td>
<td>[Enter]</td>
<td>Scale output port yy to 1280x720@60Hz yy: 01 ~ 09 or *</td>
</tr>
<tr>
<td>scaling</td>
<td>o</td>
<td>yy *</td>
<td>1920</td>
<td>[Enter]</td>
<td>Scale output port yy to 1920x1200@60Hz yy: 01 ~ 09 or *</td>
</tr>
<tr>
<td>scaling</td>
<td>o</td>
<td>yy *</td>
<td>1800</td>
<td>[Enter]</td>
<td>Scale output port yy to 1800x1200@60Hz yy: 01 ~ 09 or *</td>
</tr>
<tr>
<td>scaling</td>
<td>o</td>
<td>yy *</td>
<td>1400</td>
<td>[Enter]</td>
<td>Scale output port yy to1400x1050@60Hz yy: 01 ~ 09 or *</td>
</tr>
<tr>
<td>Command</td>
<td>Output</td>
<td>Port Number</td>
<td>Control</td>
<td>Enter</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
<td>-------------</td>
<td>---------</td>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>scaling</td>
<td>o</td>
<td>yy</td>
<td>1280</td>
<td>[Enter]</td>
<td>Scale output port yy to 1280x1024@60Hz yy: 01 ~ 09 or *</td>
</tr>
<tr>
<td>scaling</td>
<td>o</td>
<td>yy</td>
<td>1024</td>
<td>[Enter]</td>
<td>Scale output port yy to 1024x768@60Hz yy: 01 ~ 09 or *</td>
</tr>
<tr>
<td>scaling</td>
<td>o</td>
<td>yy</td>
<td>hor 1920 ver 1080 freq 60</td>
<td>[Enter]</td>
<td>Scale output port yy to 1920x1080@60Hz yy: 01 ~ 09 or *</td>
</tr>
<tr>
<td>scaling</td>
<td>o</td>
<td>yy</td>
<td>hor 4096 ver 2048 freq 30</td>
<td>[Enter]</td>
<td>Scale output port yy to 4096x2048@30Hz yy: 01 ~ 09 or *</td>
</tr>
</tbody>
</table>
Echo Command
The Echo function updates the RS232 controller when operations are made via the front panel pushbuttons, web browser, or telnet. The changes echo back to the RS232 controller to keep the settings in sync with the device.

The formula for the Echo command is as follows:

**Command + Control + [Enter]**

1. For example, to enable the echo feature, type:
   
   **echo on [Enter]**

The following tables show the possible values for the **Echo** command:

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>echo</td>
<td>Echo command</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>on</td>
<td>Turns Echo function on</td>
</tr>
<tr>
<td>off</td>
<td>Turns Echo function off (default)</td>
</tr>
</tbody>
</table>

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

The following table lists the available Echo commands:

<table>
<thead>
<tr>
<th>Command</th>
<th>Control</th>
<th>Enter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>echo</td>
<td>on</td>
<td>[Enter]</td>
<td>Turn on Echo function</td>
</tr>
<tr>
<td>echo</td>
<td>off</td>
<td>[Enter]</td>
<td>Turn off Echo function</td>
</tr>
</tbody>
</table>
Read Command
The Read command allows you to view the current configuration, firmware and other information about the device.

The formula for the Read command is as follows:

Command + [Enter]

1. To view information about the device, type:
   read [Enter]

The following table shows the possible values for the Read command:

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>read</td>
<td>Read command</td>
</tr>
</tbody>
</table>

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

The following table lists the available Read commands:

<table>
<thead>
<tr>
<th>Command</th>
<th>Enter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>read</td>
<td>[Enter]</td>
<td>View information about the device</td>
</tr>
</tbody>
</table>

Reset Command
The Reset command allows you to reset the VM3404H / VM3909H to the default factory settings.

The formula for the Reset command is as follows:

Command + [Enter]

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

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>reset</td>
<td>Reset command</td>
</tr>
</tbody>
</table>

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

The following table lists the available Reset commands:

<table>
<thead>
<tr>
<th>Command</th>
<th>Enter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>reset</td>
<td>[Enter]</td>
<td>Resets the device settings</td>
</tr>
</tbody>
</table>
Chapter 6. RS-232 Commands

**Baud Rate Command**

The Baud Rate command allows you to set the RS-232 data rate for the VM3404H / VM3909H to use. Options are 9600, 19200 (default) 38400 and 115200.

The formula for the Baud Rate command is as follows:

**Command + Control + [Enter]**

1. For example, to set 38400 as the baud rate, type:

   `baud 38400 [Enter]`

The following tables show the possible values for the **Baud Rate** command:

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>baud</td>
<td>Sets the RS-232 baud rate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9600</td>
<td>Use 9600 baud rate</td>
</tr>
<tr>
<td>19200</td>
<td>Use 19200 baud rate (default)</td>
</tr>
<tr>
<td>38400</td>
<td>Use 38400 baud rate</td>
</tr>
<tr>
<td>115200</td>
<td>Use 115200 baud rate</td>
</tr>
</tbody>
</table>

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

The following table lists the available Baud Rate commands:

<table>
<thead>
<tr>
<th>Command</th>
<th>Control</th>
<th>Enter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>baud</td>
<td>9600 / 19200 / 38400 / 115200</td>
<td>[Enter]</td>
<td>Sets the RS-232 baud rate</td>
</tr>
</tbody>
</table>
Save/Load Profile Command

The Save/Load Profile command allows you to save and load connection profiles. Saving profiles will save the connections currently in use.

The formula for the Save/Load Profile command is as follows:

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

1. For example, to save the current connection configuration to profile 02, type:

   `profile f 02 save [Enter]`

The following tables show the possible values for the **Save/Load Profile** commands:

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>profile</td>
<td>Save / Load profile</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Profile</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>f</td>
<td>Profile command</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Profile Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>yy</td>
<td>VM3404H: 01-09 (default is 01)</td>
</tr>
<tr>
<td></td>
<td>VM3909H: 01-18 (default is 01)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>save</td>
<td>Save the connection configuration</td>
</tr>
<tr>
<td>load</td>
<td>Load a saved profile</td>
</tr>
</tbody>
</table>

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

The following table lists the available Save/Load Profile commands:

<table>
<thead>
<tr>
<th>Command</th>
<th>Profile</th>
<th>Profile Number</th>
<th>Control</th>
<th>Enter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>profile</td>
<td>f</td>
<td>yy</td>
<td>save</td>
<td>[Enter]</td>
<td>Save the connections as profile yy. VM3404H: (yy:01<del>08, *) VM3909H: (yy:01</del>18, *)</td>
</tr>
<tr>
<td>profile</td>
<td>f</td>
<td>yy</td>
<td>load</td>
<td>[Enter]</td>
<td>Load profile yy. VM3404H: (yy:01<del>08, *) VM3909H: (yy:01</del>18, *)</td>
</tr>
</tbody>
</table>
OSD Command

To enable or disable the On-Screen Display (OSD) using the following command:

\[
\text{Command + Output Command + Port Number + Control + [Enter]}
\]

1. For example, to enable the OSD, type:

\[\text{osd on [enter]}\]

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

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>osd</td>
<td>Enable / Disable the OSD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>o</td>
<td>Output command</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Port Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>yy</td>
<td>01-09 port</td>
</tr>
<tr>
<td>*</td>
<td>All output ports</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>on</td>
<td>OSD is enabled (default)</td>
</tr>
<tr>
<td>off</td>
<td>OSD is disabled</td>
</tr>
</tbody>
</table>

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

The following table lists the available OSD commands:

<table>
<thead>
<tr>
<th>Command</th>
<th>Output Command</th>
<th>Output Port</th>
<th>Control</th>
<th>Enter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>osd</td>
<td>o</td>
<td>yy</td>
<td>on</td>
<td>[Enter]</td>
<td>OSD on</td>
</tr>
<tr>
<td>osd</td>
<td>o</td>
<td>yy</td>
<td>off</td>
<td>[Enter]</td>
<td>OSD off</td>
</tr>
</tbody>
</table>
## RS232 Pin Assignment

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Not connected</td>
<td>6</td>
<td>Not connected</td>
</tr>
<tr>
<td>2</td>
<td>RXD</td>
<td>7</td>
<td>Not connected</td>
</tr>
<tr>
<td>3</td>
<td>TXD</td>
<td>8</td>
<td>Not connected</td>
</tr>
<tr>
<td>4</td>
<td>Not connected</td>
<td>9</td>
<td>Not connected</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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, table, 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.

Safety warning: Avoid circuit overloads. Before connecting equipment to a circuit, know the power supply’s limit and never exceed it. Always review the electrical specifications of a circuit to ensure that you are not creating a dangerous condition or that one doesn’t already exist. Circuit overloads can cause a fire and destroy equipment.
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

<table>
<thead>
<tr>
<th>Email Support</th>
<th><a href="mailto:support@aten-usa.com">support@aten-usa.com</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Technical Support</td>
<td>Troubleshooting Documentation Software Updates</td>
</tr>
<tr>
<td>Telephone Support</td>
<td>1-988-999-ATEN ext 4988</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Function</th>
<th>VM3404H</th>
<th>VM3909H</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Video Input</strong></td>
<td>Video Input Interface</td>
<td>Video Input Interface</td>
</tr>
<tr>
<td></td>
<td>4 x HDMI Type A Female (Black)</td>
<td>9 x HDMI Type A Female (Black)</td>
</tr>
<tr>
<td>Impedance</td>
<td>100 Ω</td>
<td></td>
</tr>
<tr>
<td>Max. Distance</td>
<td>1.8 m</td>
<td></td>
</tr>
<tr>
<td><strong>Video Output</strong></td>
<td>Video Output Interface</td>
<td>Video Output Interface</td>
</tr>
<tr>
<td></td>
<td>4 x HDMI Type A Female (Black)</td>
<td>9 x HDMI Type A Female (Black)</td>
</tr>
<tr>
<td></td>
<td>4 x RJ-45 Female</td>
<td>9 x RJ-45 Female</td>
</tr>
<tr>
<td>Impedance</td>
<td>100 Ω</td>
<td></td>
</tr>
<tr>
<td>Max. Distance</td>
<td>HDMI: 15 m</td>
<td>HDBaseT (Class B): 4K@35m (Cat 5e/6) / 40m (Cat 6a); 1080p@60m (Cat 5e/6) / 70m (Cat 6a)</td>
</tr>
<tr>
<td><strong>Video</strong></td>
<td>Max. Data Rate</td>
<td>10.2 Gbps (3.4 Gbps Per Lane)</td>
</tr>
<tr>
<td></td>
<td>Max. Pixel Clock</td>
<td>340 MHz</td>
</tr>
<tr>
<td>Compliance</td>
<td>HDMI (3D, Deep Color, 4K);</td>
<td>HDMI (3D, Deep Color, 4K);</td>
</tr>
<tr>
<td></td>
<td>HDCP 1.4 Compatible;</td>
<td>HDCP 1.4 Compatible;</td>
</tr>
<tr>
<td></td>
<td>Consumer Electronic Control (CEC);</td>
<td>Consumer Electronic Control (CEC);</td>
</tr>
<tr>
<td></td>
<td>HDBaseT Compatible</td>
<td>HDBaseT Compatible</td>
</tr>
<tr>
<td>Max. Resolution</td>
<td>Up to 4096 x 2160 / 3840 x 2160 @ 60Hz (4:2:0); 4096 x 2160 / 3840 x 2160 @ 30Hz (4:4:4)</td>
<td>Up to 70 m*</td>
</tr>
<tr>
<td>Max. Distance</td>
<td>Up to 70 m*</td>
<td></td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>Ethernet</td>
<td>1 x RJ-45 Female</td>
</tr>
<tr>
<td></td>
<td>RS-232</td>
<td>Connector: 1 x DB9 Female (Black)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Baud Rate: 19200, Data Bits: 8, Stop Bits:1, Parity: No, Flow Control: No</td>
</tr>
<tr>
<td>IR Channel</td>
<td>4 x Mini Stereo Jack Female (Black); 30–60 kHz full range transmission</td>
<td>9 x Mini Stereo Jack Female (Black); 30–60 kHz full range transmission</td>
</tr>
<tr>
<td><strong>EDID Settings</strong></td>
<td>EDID Mode: Default / Port1 / Remix / Customized</td>
<td></td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>Connector</td>
<td>1 x 3-Prong AC Socket</td>
</tr>
<tr>
<td></td>
<td>I/P Rating</td>
<td>100–240VAC; 50-60Hz; 1.0A</td>
</tr>
<tr>
<td></td>
<td>Consumption</td>
<td>110 VAC, 42.90W; 220 VAC,41.58W (w/o PoE)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>110 VAC, 77.44 W; 220 VAC, 75.24 W (w/o PoE)</td>
</tr>
<tr>
<td><strong>Environmental</strong></td>
<td>Operating Temperature</td>
<td>0–50°C</td>
</tr>
<tr>
<td></td>
<td>Storage Temperature</td>
<td>-20–60°C</td>
</tr>
<tr>
<td></td>
<td>Humidity</td>
<td>0–80% RH, Non-condensing</td>
</tr>
<tr>
<td>Function</td>
<td>VM3404H</td>
<td>VM3909H</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Physical Properties</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing</td>
<td>Metal</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>5.62 kg</td>
<td>7.33 kg</td>
</tr>
<tr>
<td>Dimensions (L x W x H)</td>
<td>43.24 x 38.23 x 4.40 cm</td>
<td>43.24 x 38.23 x 8.80 cm</td>
</tr>
<tr>
<td>Carton Lot</td>
<td>1 pc</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** A Cat 6a RJ-45 cable is required in order to extend a signal to 70m.
### Compatible Receivers

<table>
<thead>
<tr>
<th>Receiver</th>
<th>Max. Distance</th>
<th>IR</th>
<th>4K</th>
<th>Seamless Switch™</th>
<th>Video Wall</th>
<th>POH</th>
<th>Dual View</th>
</tr>
</thead>
<tbody>
<tr>
<td>VE801R</td>
<td>70m*</td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VE802R</td>
<td>70m*</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>VE805R (with Scaler)</td>
<td>70m*</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VE816R (with Scaler)</td>
<td>70m*</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VE814AR</td>
<td>70m</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>VE601R (DVI)</td>
<td>70m*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VE901R</td>
<td>70m*</td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Cat 6a Ethernet cable is required to extend the distance up to 70 meters.

** The VE816R is only supported on VM3404H / VM3909H using firmware version 2.2.213 or later.
Limited Warranty

ATEN warrants its hardware in the country of purchase against flaws in materials and workmanship for a Warranty Period of two [2] years (warranty period may vary in certain regions/countries) commencing on the date of original purchase. This warranty period includes the LCD panel of ATEN LCD KVM switches. Select products are warranted for an additional year (see A+ Warranty for further details). Cables and accessories are not covered by the Standard Warranty.

What is covered by the Limited Hardware Warranty

ATEN will provide a repair service, without charge, during the Warranty Period. If a product is defective, ATEN will, at its discretion, have the option to (1) repair said product with new or repaired components, or (2) replace the entire product with an identical product or with a similar product which fulfills the same function as the defective product. Replaced products assume the warranty of the original product for the remaining period or a period of 90 days, whichever is longer. When the products or components are replaced, the replacing articles shall become customer property and the replaced articles shall become the property of ATEN.

To learn more about our warranty policies, please visit our website: http://www.aten.com/global/en/legal/policies/warranty-policy/