



## 9 x 2 4K Presentation Matrix Switch VP1920 User Manual



[www.aten.com](http://www.aten.com)

## EMC Information

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### 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.

**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.

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

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

## RoHS

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This product is RoHS compliant.



## User Information

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### Online Registration

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

International	<a href="http://eservice.aten.com">http://eservice.aten.com</a>
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### Telephone Support

For telephone support, call this number:

International	886-2-8692-6959
China	86-400-810-0-810
Japan	81-3-5615-5811
Korea	82-2-467-6789
North America	1-888-999-ATEN ext 4988 1-949-428-1111

### 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

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- ◆ 1 VP1920 9 x 2 4K Presentation Matrix Switch
- ◆ 1 Power Cord
- ◆ 1 IR Receiver
- ◆ 1 IR Remote Control
- ◆ 1 User Instructions

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**Note:** Make sure that all of the items are present and in good order. If anything is missing or was damaged in shipping, please contact your dealer for further assistance.

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## About this Manual

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This user manual is provided to help you get the most from the VP1920 unit. 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 VP1920. Its purpose, features, and installation considerations are described.

**Chapter 2, *Hardware Setup*** describes the hardware components of the VP1920 and the supplied IR remote control, and details the steps that are necessary to quickly and safely set up the VP1920.

**Chapter 3, *Operation*** provides details on panel operations and system settings.

*Appendix* provides a list of safety instructions and precautions, contact information for ATEN technical support, product specifications, and other technical information.

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### Note:

- ◆ Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the unit or any connected devices.
  - ◆ ATEN regularly updates its product documentation for new features and fixes. For an up-to-date VP1920 documentation, visit <http://www.aten.com/global/en/>
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## Conventions

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This manual uses the following conventions:

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

## Product Information

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

International	<a href="http://www.aten.com">http://www.aten.com</a>
North America	<a href="http://www.aten-usa.com">http://www.aten-usa.com</a>



# Chapter 1

## Introduction

### Overview

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The ATEN VP1920 is a 3-in-1 presentation switch integrating a video matrix switching, audio processing, and analog-to-digital conversion. With nine inputs to two 4K outputs, it is designed to boost the efficiency and impact of professional presentations.

With streamlined control from front-panel pushbuttons, IR remote controller, OSD, and RS-232, the VP1920 reduces not only system device count, but also lowers operation complexity. It is suitable for all small-to-medium sized corporate and education presentation environments, such as meeting rooms, classrooms, training rooms, or any other presentation setting, such as in exhibition centers or hotels.

## **Benefits**

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### **Fast Multi-format Audio-video Switching**

The VP1920 allows for fast switching among 6 HDMI and 3 combo inputs (HDMI/VGA, HDMI/DisplayPort, HDMI/Component/Composite) to 2 HDMI outputs and supports Coaxial, Toslink, Stereo audio outputs.

### **USB Control Routing for PCs and Touch Panels**

The VP1920 integrates PC and touch panel controls with other devices into one system with its USB ports. This allows for independent switching of USB peripheral ports and keyboard/mouse control to a designated computer source.

### **Selectable Matrix, Mirror, and PIP\* Modes**

Three different display modes meet the needs of various events or presentation styles.

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**Note:** The PIP mode supports resolutions up to 1080p.

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### **Source Preview**

The previous function allows you to quickly identify and switch to your target content. No more guessing which port connects to which content source.

## Features

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### Multi-format AV Switching with Simplicity

- ◆ Supports 9 multi-format inputs and 2 HDMI outputs:
  - ◆ 3 combo inputs (HDMI/VGA, HDMI/DisplayPort, HDMI/AV/YPbPr)
  - ◆ 3 HDMI inputs
  - ◆ 2 HDMI outputs
- ◆ VGA port supports universal analog input formats (RGBHV/RGBs/YCbCr/YPbPr)
- ◆ Embed/de-embed audio-HDMI/DisplayPort audio signals can be extracted to digital/analog audio signals; stereo/composite/component audio can be embedded to digital audio signals

### High-definition Video with Optimum Output

- ◆ Superior video quality up to 4K @ 60 Hz (4:2:0) or 4K @ 30 Hz (4:4:4)(HDMI/DP)
- ◆ EDID Expert™ – automatically selects the optimum EDID settings for smooth power-up, high-quality display and the best video resolution across connected devices
- ◆ HDMI (3D, Deep Color, 4K); HDCP 1.4 compliant

### Versatile, Streamlined Operation

- ◆ Multiple control via front-panel pushbuttons, RS-232, OSD, and IR remote control
- ◆ Source preview – quickly identify and switch to the target content
- ◆ Selectable display modes (Matrix, Mirror, or PiP) for fast switching among sources
- ◆ Auto switching – automatically switches to a new source as soon as it is detected
- ◆ Supports stand-by mode for power saving and fast waking up

### **Extended Flexibility for USB Peripherals**

- ◆ USB ports enable keyboard/mouse or touch panel control over the connected computers
- ◆ Control focus for keyboard/mouse and USB peripherals can be individually switched to a designated computer source

## **Planning the Installation**

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### **Required Equipment**

Prepare the following before installing the VP1920 unit:

- ◆ Source devices  
This can be PCs and/or HDMI source devices such as blue-ray player, VCR Player, or TV Box etc.
- ◆ Appropriate cables that connect your source devices to the VP1920
- ◆ Display devices
- ◆ HDMI cables that connect your display devices to the VP1920

### **Optional Equipment**

Optionally prepare the following:

- ◆ USB drives to serve as external storage
- ◆ A set of keyboard and mouse for accessing computers connected as Source 1 and 2
- ◆ A software or hardware controller to configure the settings of the VP1920 using RS-232 interface

For information on the number of equipped ports for each connection interface, see *Specifications*, page 39.

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# Chapter 2

## Hardware Setup

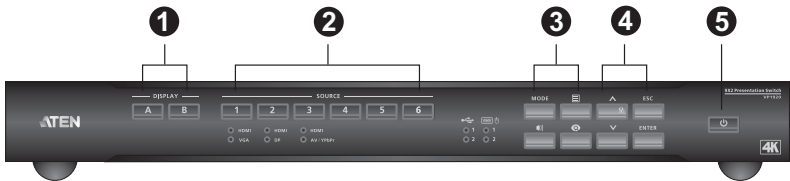


1. Please review the safety information regarding the placement of this device in *Safety Instructions*, page 35.
2. Do not power on the VP1920 until all the necessary hardware is connected.







### Components

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#### VP1920 Front View

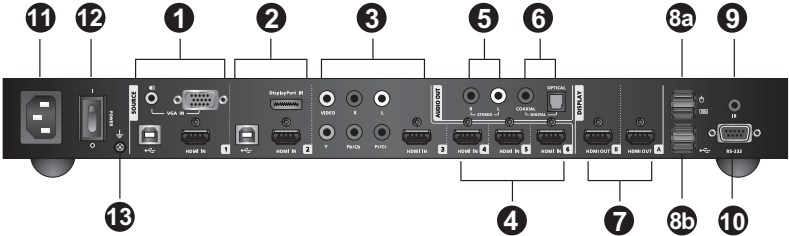


No.	Component	Description
1	Display Selection Pushbuttons	Press a display pushbutton to focus a display.
2	Source Selection Pushbuttons	Press a source pushbutton to designate a source for a focused display.

No.	Component	Description
3	Function Pushbuttons	<ul style="list-style-type: none"> <li>◆ <b>MODE</b>: Opens the OSD of display mode settings. For more details about display modes, see <i>Setting the Display Mode</i>, page 19.</li> <li>◆ : <ul style="list-style-type: none"> <li>◆ Opens the OSD of system settings for the VP1920. For more details about system settings, see <i>System Settings</i>, page 23.</li> <li>◆ Press the pushbutton twice to close the OSD.</li> </ul> </li> <li>◆ : Opens the OSD for setting the source of local audio output.</li> <li>◆ : Activates a preview of the current display mode. For more details, see <i>Changing the Source for Mirror Mode</i>, page 18.</li> </ul>
4	Navigation Pushbuttons	<ul style="list-style-type: none"> <li>◆  : <ul style="list-style-type: none"> <li>◆ Navigate up and down the OSD.</li> <li>◆ Press  to lock or unlock the panel pushbuttons. You can also set the VP1920 to automatically lock the panel pushbuttons. For more information, see <i>Locking the Panel Pushbuttons</i>, page 21.</li> </ul> </li> <li>◆ <b>ENTER</b>: Goes to the next level of settings in the OSD or selects a setting.</li> <li>◆ <b>ESC</b>: Returns to the previous level of the OSD.</li> </ul>
5	Standby Pushbutton	Press the pushbutton to enable the standby mode. Press again to wake the unit.



**VP1920 Rear View**



No.	Component	Description
1	Source 1	A combo port that can receive up to two source devices (one VGA In with a Stereo Audio In and one HDMI In).
2	Source 2	A combo port that can receive up to two source devices (one DisplayPort In and one HDMI In).
3	Source 3	A combo port that can receive up to two sources (one A/V In or Comp In and one HDMI In).
4	Source 4, 5, 6	Receive HDMI sources.
5	Stereo Audio Out	Connects to a speaker.
6	Digital Audio Out	Connects to a speaker via the Optical Audio Out or Coaxial Audio Out port.
7	HDMI Out Ports	Connect to HDMI-enabled displays.
8a	USB Type-A (1.1) Ports	Connect to a keyboard and a mouse.
8b	USB Type-A Ports	Connect to USB drives as external storages.
9	IR Receiver Port	Connects to an IR receiver to receive IR signals from the IR remote control.
10	RS-232 Serial Port	Connects to a hardware or software controller to transmit serial data.
11	Power Socket	Receives a power cord to supply power to the VP1920.
12	Power Switch	Enables (ON) or disables (OFF) the power supply to the VP1920.

No.	Component	Description
13	Grounding Terminal	Grounds the VP1920 to prevent damages to the VP1920 from power surge or static electricity.





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**Note:** Source 1, 2, and 3 of the unit can each receive more than one input, but can only output one source at a time.

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# IR Remote Control

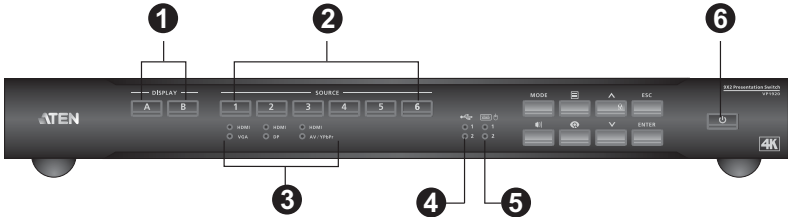


No.	Buttons	Description
1	On/Off Button	Turns the VP1920 on or off.
2	Source Buttons	Press a Source button to assign the source to a focused display.
3	Navigation Buttons	<ul style="list-style-type: none"><li>◆   : Press these buttons to navigate up and down the OSD.</li><li>◆  : Press this button to return to the previous level of options of the OSD.</li><li>◆  : Press this button to go to the next level of options or to select an option.</li></ul>
4	Display Buttons	Press a display button to focus the display.

No.	Buttons	Description
5	Function Buttons	<ul style="list-style-type: none"><li>◆ <b>Mode</b> : <ul style="list-style-type: none"><li>◆ Opens the display mode settings. For more details about display modes, see <i>Setting the Display Mode</i>, page 19.</li><li>◆ When the display mode menu is open, press this button to cycle through the options.</li></ul></li><li>◆ <b>Menu</b> : <ul style="list-style-type: none"><li>◆ Opens the OSD of system settings for the VP1920. For more details about system settings, see <i>Setting the Display Mode</i>, page 19.</li><li>◆ Press the button twice to close the OSD.</li></ul></li><li>◆ <b>Audio</b> : Opens the OSD for setting the source of local audio output.</li><li>◆ <b>Preview</b> : Activates a preview of the current display mode. For more details, see <i>Changing the Source for Mirror Mode</i>, page 18.</li></ul>

# LED Indicators

You can find the LEDs of the VP1920 on the top panel as illustrated below. See the table below for details about LED indication.



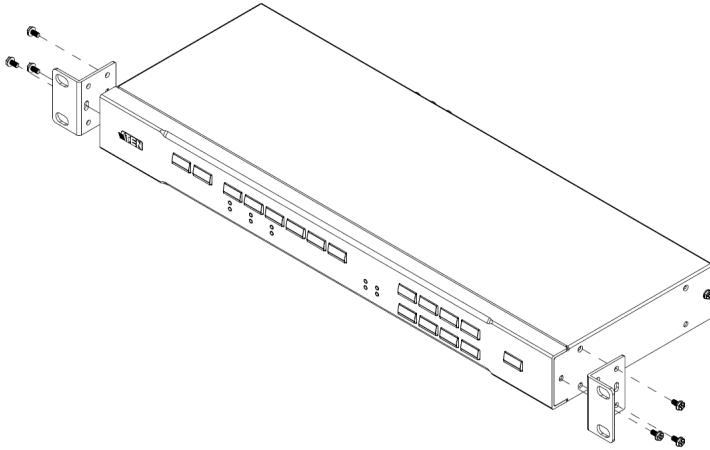
No.	LED	Indication	System Status
1	Display Pushbuttons	Light amber	The display device (Display A or B) is focused.
2	Source Pushbuttons	Light green	The source is selected for display.
3	Source LEDs	Light green	The indicated source is selected as the output for the combo port.
4	USB LEDs	Light amber	The attached USB drives are accessible by the indicated source device (Source 1 or 2).
5	Keyboard and Mouse LEDs	Light amber	The control of the attached keyboard and mouse is switched to the indicated source (Source 1 or 2).
6	Power Pushbutton	Lights green	The VP1920 is powered on.
		Lights orange	The VP1920 is in standby mode.

## Rack Mounting

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The VP1920 can be mounted in a 19" (1U) system rack. To conveniently access the front-panel pushbuttons for configuration and operation, mount the unit at the front of the rack so that the front panel faces outward.

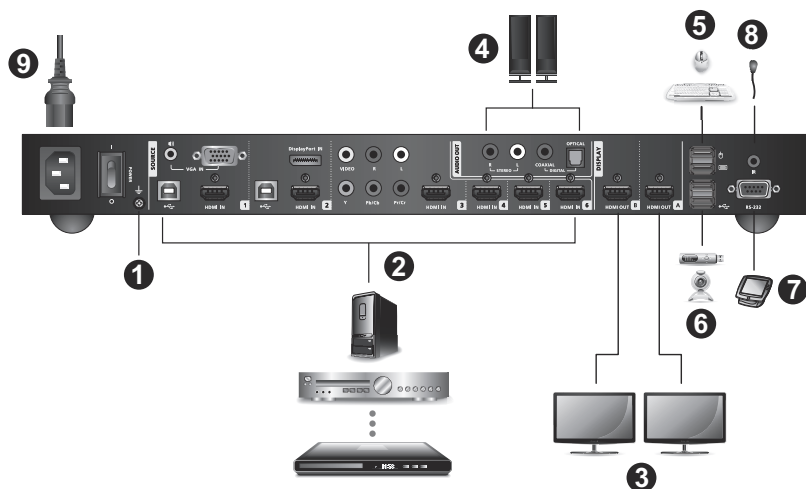
1. Use the M3 x 6 Phillips hex head screws supplied with the Mounting Kit to screw the rack mounting brackets onto the front of the unit.



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.

## Installation

Follow the steps below to safely install the VP1920 to sources, display devices, and other equipment as required.



1. Ground the unit with a grounding wire. Connecting one end of the grounding wire to the grounding terminal, and the other end to a suitable grounded object.

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

---

2. Connect the unit to source devices.

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**Note:** You can connect sources of different interfaces to each of Source 1, 2, and 3 and select one from each set when needed. For details on how to switch sources for each of these combo ports, see *Switching the Display Source*, page 17.

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3. Use HDMI cables to connect HDMI displays to the HDMI Out ports.

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**Note:** If you are only using one display, make sure to connect it to Display A where the OSD menu displays.

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4. Connect your audio devices to the Stereo Audio Out or Digital Audio Out ports.

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**Note:** By default, the connected speakers output the audio of the source that is switched to on Display A.

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5. Connect a keyboard and a mouse to the USB Type-A ports to access computers connected as Source 1 or Source 2.
6. Connect USB peripherals to the USB Type-A ports to be controlled by computers connected as Source 1 or Source 2.
7. To configure the unit's settings via RS-232 commands, connect the unit to a hardware or software controller. For details about RS-232 commands, see *Chapter 4, RS-232 Serial Commands*.
8. To operate the unit using IR remote control, connect the supplied IR Receiver to the IR Receiver port.
9. Plug the Power Cord to the Power Socket and put the Power Switch to **ON**.
10. Power on any connected devices.



# Chapter 3

## Operation

### Overview

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This chapter provides detailed information on the features of the VP1920's on-screen display (OSD), and how to locally operate the unit using the front-panel pushbuttons and the IR remote control.

### Operation Considerations

- ◆ Make sure to use the IR remote control within the effective range (6 m), and that there is a clear line-of-sight between the remote control unit and the IR receiver connected to the VP1920.
- ◆ The IR remote control and the VP1920's front panel offer the same operation capability. Use either method as required.

### Switching the Display Source

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#### Auto Switching

By default, VP1920 automatically switches to a new source on Display A as soon as the source is detected. To disable automatic switching, press the **Menu** button/pushbutton, and then go to **Source > Auto Switch** to disable the setting.

#### Manual Switching

You can manually switch the display source using the IR remote control and the front-panel pushbuttons.

1. Skip this step if your displays are set to the mirror mode.

Press a **Display** button/pushbutton to focus a display. The pushbutton for the selected display lights amber.

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**Note:** If your displays are set to the PiP mode, press the **Display A** pushbutton to focus the main display, and press the **Display B** pushbutton to focus the inset window.

---

2. Press a **Source** button/pushbutton to assign the source to the focused display. The pushbutton for the selected source lights green.

---

**Note:** For combo ports (Source 1, 2, and 3), the latest connected input will be automatically selected as the output source for the set. To manually change the source of a combo port, press the **Source** button/pushbutton twice. The selected source LED lights green. To change this priority, configure the Source settings in the OSD. For details, see *System Settings*, page 23.

---

## **Changing the Source for Mirror Mode**

When your displays are set to Mirror Mode, you can select your source from a list of mini preview windows. To select or change the source for your displays under mirror mode, follow the steps below.

1. Press the **Preview** button/pushbutton. The available sources appear in mini preview windows.
2. Press the **Up** and **Down** button/pushbutton to focus a desired option. The focused source moves out of the list.
3. Press the **Enter** button/pushbutton to select the source. The source is immediately assigned.

# Display Modes

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## Understanding Display Modes

When you have two display devices connected to the VP1920, you can choose among the following display modes:

- ◆ **Matrix Mode:** This is the default setting. Select this mode to assign different sources on the connected display devices.
- ◆ **Mirror Mode:** Select this mode to generate a mirror view with which the source on Display A is automatically assigned to Display B.
- ◆ **Picture-in-picture Mode (PiP):** Select this mode to produce a composite display with which the source on Display B is inserted into Display A in a mini window.

## Setting the Display Mode

By default, the VP1920 is set to the matrix mode with which you can assign different sources to the connected displays. To change the display mode, following the steps below:

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**Note:** To change to the PiP mode, make sure to first assign the main source (displayed in full) to Display A, and the subordinate source (displayed as an inset window) to Display B before proceeding to the steps below.

---

1. Press the **Mode** button/pushbutton. The mode settings appear on Display A.
2. Press the **Mode** button/pushbutton to cycle through the options.
3. Press the **Enter** button/pushbutton to select an option. The selected mode is applied immediately.

## **Operating PCs/Laptops/Tablets**

---

You can control connected PCs, laptops, and/or tablets using a keyboard and a mouse attached to your VP1920.

### **Hardware Setup**

Follow the steps below to correctly install your PCs and/or laptops.

1. Connect your PC or laptop to Source 1 or Source 2 of the VP1920 depending on the equipped interface (VGA, DisplayPort, or HDMI).
2. Use a USB cable to connect your device to the USB host port of the Source group on the VP1920 that you use in step 1.
3. Connect a keyboard and a mouse to the back panel of the VP1920. Make sure to connect the keyboard and mouse to their indicated USB port.

### **Operation**

By default, the VP1920 is set to automatically switch the control to the source that Display A shows. For example, if you have a laptop connected to Source 1, and the source is displayed on Display A, you can then control the laptop using the keyboard and mouse connected to the VP1920. In this case, the Keyboard/Mouse and peripherals LEDs for “1” light amber to indicate that the keyboard/mouse control is switched to Source 1, and that the Source 1 device (your laptop) can now access any USB devices attached to the VP1920.





To protect confidential data from leaking, you can limit the access of USB peripherals to a particular source, and that the access will only be allowed when Display A is assigned with that particular source. Press the **Menu** button/pushbutton, navigate to **USB > Peripherals** and select **Source 1** or **Source 2**.

## Locking the Panel Pushbuttons

---



You can have your panel pushbuttons locked to avoid accidentally changing your configuration.

### Manual Lock

Press and hold the  pushbutton until the Lock  icon on the pushbutton lights red. To unlock, press and hold the  pushbutton until the Lock  icon dims.

### Automatic Lock

To automatically lock the panel pushbuttons, follow the steps below.

1. Press the **Menu** button/pushbutton. The System Settings menu appears.
2. Navigate to **General Settings > Panel Auto Lock**. Select an idle duration upon which the panel pushbuttons are locked. When the pushbuttons are locked, the Lock  icon on the  pushbutton lights red.

## Firmware Upgrades

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Follow the steps below to upgrade the system firmware via the RS-232 command.

1. Make sure you have connected a PC to the VP1920 and configured the required software. For details, see *Setup*, page 27.
2. Visit the product web page and download the following:
  - ◆ the firmware file as required
  - ◆ the Firmware Upgrade Utility program
3. Save the downloaded files to the PC.
4. Use one of the following methods to enable the firmware upgrade mode:
  - ◆ In VP1920's OSD, go to **Maintenance** > **Firmware Upgrades**, and set the setting to **Enable**.
  - ◆ Execute the RS-232 command for upgrade.
5. From the PC, execute Firmware Upgrade Utility and follow on-screen instructions to start the upgrade.

## System Settings

To access the system settings, follow the steps below.

1. Press the **Menu** button/pushbutton. The System Settings menu appears on Display A.
2. Navigate to the setting you wish to configure.
3. Press the **Enter** button/pushbutton to select an option. The selected option appears in square brackets for the setting.

Refer to the table below for an overview of the VP1920's settings.

System Settings			Description
<b>Note:</b> Default settings are indicated in bold.			
General Settings	Info OSD	<ul style="list-style-type: none"> <li>◆ <b>Enable</b></li> <li>◆ Disable</li> </ul>	Displays the current source, audio, I/O, and display mode settings for Display A and B.
	RS-232 Baud Rate	<ul style="list-style-type: none"> <li>◆ 9600</li> <li>◆ <b>19200</b></li> <li>◆ 38400</li> <li>◆ 115200</li> </ul>	Sets the baud rate for RS-232 communications.
	Panel Auto Lock	<ul style="list-style-type: none"> <li>◆ 5s later</li> <li>◆ 30s later</li> <li>◆ 5 mins later</li> <li>◆ <b>Disable</b></li> </ul>	Sets the VP1920 to automatically lock the panel pushbuttons when they have been idled for the selected duration.
USB	KB/Mouse	<ul style="list-style-type: none"> <li>◆ <b>Auto</b></li> <li>◆ Source 1</li> <li>◆ Source 2</li> </ul>	<p>Sets the source that can be controlled by the VP1920's console keyboard and mouse.</p> <p><b>Note:</b> The source must also be assigned to Display A for this function to work.</p> <p>Select <b>Auto</b> to allow Source 1 or Source 2 to be controlled by the VP1920's console keyboard and mouse, depending on which source is assigned to Display A.</p>

System Settings			Description	
<b>Note:</b> Default settings are indicated in bold.				
USB	Peripheral	<ul style="list-style-type: none"> <li>◆ <b>Auto</b></li> <li>◆ Source 1</li> <li>◆ Source 2</li> </ul>	<p>Sets the source that has access to the VP1920's USB peripherals. Note that the selected source must also be assigned to Display A for this function to work.</p> <p>Select <b>Auto</b> to allow either Source 1 or 2 to access the attached peripherals, depending on which one is assigned to Display A.</p> <p><b>Note:</b> The source device must be a laptop, PC, or tablet, and is connected to the USB host port on the VP1920. For details on the required setup, see <i>Operating PCs/Laptops/Tablets</i>, page 20.</p>	
		Source	<ul style="list-style-type: none"> <li>◆ <b>Display A</b></li> <li>◆ Display B</li> </ul>	Sets the audio source for the VP1920.
		I/O	<ul style="list-style-type: none"> <li>◆ <b>All</b></li> <li>◆ S/PDIF / Coaxial</li> <li>◆ L/R</li> </ul>	Sets the allowed output type (stereo, digital, or both).
Audio	Mute	<ul style="list-style-type: none"> <li>◆ Enable</li> <li>◆ <b>Disable</b></li> </ul>	Mute or unmute the VP1920.	
	Source	Auto Switch	<ul style="list-style-type: none"> <li>◆ <b>ON</b></li> <li>◆ OFF</li> </ul>	Enable this function to have Display A automatically switch to a newly connected source.
		Source 1	<ul style="list-style-type: none"> <li>◆ <b>Auto</b></li> <li>◆ HDMI</li> <li>◆ VGA</li> </ul>	<p>Sets the input source for Source 1.</p> <ul style="list-style-type: none"> <li>◆ <b>Auto:</b> Source 1 automatically switches to a newly detected source.</li> <li>◆ <b>HDMI</b> or <b>VGA:</b> Source 1 defaults to the <b>HDMI</b> or <b>VGA</b> source.</li> </ul>



System Settings			Description
<b>Note:</b> Default settings are indicated in bold.			
Source	Source 2	<ul style="list-style-type: none"> <li>◆ <b>Auto</b></li> <li>◆ HDMI</li> <li>◆ DisplayPort</li> </ul>	<p>Sets the input source for Source 2.</p> <ul style="list-style-type: none"> <li>◆ <b>Auto:</b> Source 2 automatically switches to a newly detected source.</li> <li>◆ <b>HDMI or DisplayPort:</b> Source 2 defaults to the <b>HDMI</b> or <b>DisplayPort</b> source.</li> </ul>
	Source 3	<ul style="list-style-type: none"> <li>◆ <b>Auto</b></li> <li>◆ HDMI</li> <li>◆ AV / YPbPr</li> </ul>	<p>Sets the input source for Source 3.</p> <ul style="list-style-type: none"> <li>◆ <b>Auto:</b> Source 3 automatically switches to a newly detected source.</li> <li>◆ <b>HDMI or AV/YPbPr:</b> Source 3 defaults to the <b>HDMI</b> or <b>AV/YPbPr</b> source.</li> </ul>
	EDID	<ul style="list-style-type: none"> <li>◆ <b>Display A</b></li> <li>◆ Remix</li> <li>◆ Default</li> </ul>	<ul style="list-style-type: none"> <li>◆ <b>Display A:</b> Sends the EDID information of the Display A to the displayed sources.</li> <li>◆ <b>Remix:</b> Sends the optimum EDID among the connected displays to the sources.</li> <li>◆ <b>ATEN default:</b> Sends the pre-defined EDID to the displayed sources.</li> </ul>
Maintenance	Firmware Upgrades		Enables the firmware upgrade mode.
	Reset to Default		Sets the VP1920 to its default settings.
Exit			Closes the OSD.

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# Chapter 4

## RS-232 Serial Commands

### Overview

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The VP1920 supports system operation and configuration via RS-232 commands sent from a hardware or software controller.

### Setup

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1. Connect a PC to the RS-232 Serial port on the VP1920 unit.
2. Download and install controller software that supports RS-232 serial control and the operation system of your controller PC.
3. Execute the software and configure the connection settings to the following:
  - ◆ Serial line to connect to: **COM1**
  - ◆ Speed (baud): **19200**
  - ◆ Data bits: **8**
  - ◆ Stop bits: **1**
  - ◆ Parity: **None**
  - ◆ Flow control: **None**
4. When a session is established with the VP1920, you can configure the VP1920 by sending RS-232 commands. For a list of commands, see *Command Guidelines*, page 28.

## Command Guidelines

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- ◆ The general form of a command is:

**command** parameter<argument> {one|two|three}

Notation	Description
<b>command</b>	The name of the command is shown in bold.
parameter	Indicates the name of the parameter.
<argument>	Indicates the name of the value or the information that the user must provide. Only type the information in the angle brackets, not the brackets themselves.
[ ]	Indicates optional items. Only type the information in the brackets, not the brackets themselves.
{ }	Indicates a set of choices from which the user must choose one.
	Indicates two or more mutually exclusive choices in a command line. Only type one of the choices in the command line, not the symbol.

- ◆ If you have two or more parameters, the order of these parameters among themselves does not affect the result of the operation. For example, both of the following commands execute the same task:

**command name + parameter 1 + parameter 2**

**command name + parameter 2 + parameter 1**

# Commands

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## System Firmware Version Command

**Syntax:** `version`

**Function:** Display the firmware version of the VP1920.

## Read Command

**Syntax:** `read`

**Function:** Display the EDID mode for all output ports, the system information (device name, vendor, serial number, hardware version, build version) for the VP1920, and network settings.

## Source Switching Command

**Syntax:** `sw i<input_port> o<output_port>`

**Command Function:** Switch the source on specified display to the specified source.

### Parameters:

- ◆ `i<input_port>`
  - ◆ **Description:** Specify the input port of the target source. When this parameter is omitted, the system takes on the value 01 (input port 1).
  - ◆ **Format:** 01 – 06
- ◆ `o<input_port>`
  - ◆ **Description:** Specify the output port of the target display. When this parameter is omitted, the system takes on the value 01 (Display A).
  - ◆ **Format:**

Format	Description
01	Display A
02	Display B
*	Both Display A and B

### Examples:

- ◆ Type `sw i03 o02` to switch the source on Display B to the source connected to input port 2.
- ◆ Type `sw i05` to switch to the source on Display A to the source connected to input port 5.
- ◆ Type `sw o02` to switch to the source on Display B to the source connected to input port 1.

## Auto Switching Command

**Syntax 1:** `swmode next|off`

**Command Function:** Sets all input ports to auto switching. Display A will be automatically switched to any newly connected source.

**Syntax 2:** `swmode i<input_port> next|off`

**Command Function:** Set the specified combo port (Source 1, 2, or 3) to auto switching. If Display A is showing a source from a combo source (Source 1, 2, or 3), and that a new source is plugged into the combo source, Display A will be automatically switched to the new source.

### Parameters:

- ◆ `i<input_port>`
  - ◆ **Description:** Specify the input port of the target source.
  - ◆ **Format:** 01 – 03
- ◆ `next`: Enable auto switching.
- ◆ `off`: Disable auto switching.

### Example:

- ◆ Type `swmode next` to set all input ports to auto switching. When a new source is plugged into any input port on the VP1920, the input port will be switched to the new source.
- ◆ Type `swmode i02 next` to set Source 2 to auto switching. When a new source is plugged into input port 2, and that Display A is showing a source from input port 2, Display A will be switched to the new source.

## **Enabling/Disabling Display Command**

**Syntax:** `sw o<output_port> on|off`

**Command Function:** Enable or disable source display on the specified display devices.

### **Parameters:**

- ◆ `o<input_port>`
  - ◆ **Description:** Specify the output port of the target display.
  - ◆ **Format:**

Format	Description
01	Display A
02	Display B
*	Both Display A and B

- ◆ `on`: Enable the function.
- ◆ `off`: Disable the function.

## **Display Mode Command**

**Syntax:** `display matrix|mirror|pip`

**Command Function:** Set the display mode of the VP1920 to the specified mode.

### **Parameters:**

- ◆ `matrix`: This is the default setting. Select this mode to assign different sources on the connected display devices.
- ◆ `mirror`: Select this mode to generate a mirror view with which the source on Display A is automatically assigned to Display B.
- ◆ `pip`: Select this mode to produce a composite display with which the source on Display B is inserted into Display A in a mini window.

## **EDID Mode Command**

**Syntax:** `edid default|port1|remix`

**Command Function:** Enable or disable encryption (HDCP) of the specified source.

**Parameters:**

- ◆ `default`: Sends the pre-defined EDID to the displayed sources.
- ◆ `port1`: Sends the EDID information of the Display A to the displayed sources.
- ◆ `remix`: Sends the optimum EDID among the connected displays to the sources.

## **HDCP Authentication Command**

**Syntax:** `sw i<input_port> hdcp on|off`

**Command Function:** Enable or disable encryption (HDCP) of the specified source.

**Parameters:**

- ◆ `i<input_port>`
  - ◆ **Description:** Specify the input port of the target source.
  - ◆ **Format:** 01 – 06

## **CEC Status Command**

**Syntax:** `cec on|off`

**Command Function:** Enable or disable Consumer Electronics Control.

**Parameters:**

- ◆ `on`: Enable the function.
- ◆ `off`: Disable the function.



## **Mute Command**

**Syntax:** `mute on|off`

**Command Function:** Mute audio output of the VP1920.

### **Parameters:**

- ◆ `on`: Mute the audio.
- ◆ `off`: Unmute the VP1920.

## **Baud Rate Command**

**Syntax:** `baud 9600|19200|38400|115200`

**Command Function:** Set the baud rate to the specified value.

## **Standby Mode Command**

**Syntax:** `standby on|off`

**Command Function:** Enable or disable the standby mode.

### **Parameters:**

- ◆ `on`: Enable the function.
- ◆ `off`: Disable the function.

## **Restoring Default Command**

**Syntax:** `reset`

**Command Function:** Restore system settings to default.

## **Firmware Upgrade Command**

**Syntax:** `upgrade`

**Command Function:** Enable the firmware upgrade mode. For a detailed upgrade procedure, see *Firmware Upgrades*, page 22.

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## Safety Instructions

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### General

- ◆ This product is for indoor use only.
- ◆ Read all of these instructions. Save them for future reference.
- ◆ Follow all warnings and instructions marked on the device.
- ◆ 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 uninterruptible power supply (UPS).
- ◆ Position system cables and power cables carefully; Be sure that nothing rests on any cables.
- ◆ Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.
- ◆ Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.
- ◆ If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.
  - ◆ The power cord or plug has become damaged or frayed.
  - ◆ Liquid has been spilled into the device.
  - ◆ The device has been exposed to rain or water.
  - ◆ The device has been dropped, or the cabinet has been damaged.
  - ◆ The device exhibits a distinct change in performance, indicating a need for service.
  - ◆ The device does not operate normally when the operating instructions are followed.
- ◆ Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.

## **Rack Mounting**

- ◆ Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.
- ◆ Always load the rack from the bottom up, and load the heaviest item in the rack first.
- ◆ Make sure that the rack is level and stable before extending a device from the rack.
- ◆ Use caution when pressing the device rail release latches and sliding a device into or out of a rack; the slide rails can pinch your fingers.
- ◆ After a device is inserted into the rack, carefully extend the rail into a locking position, and then slide the device into 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

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### International

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

### North America

Email Support		support@aten-usa.com
Online Technical Support	Troubleshooting Documentation Software Updates	<a href="http://www.aten-usa.com/support">http://www.aten-usa.com/support</a>
Telephone Support		1-888-999-ATEN ext 4988 1-949-428-1111

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

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

# Specifications

Function	VP1920
<b>Video Input</b>	
Interfaces	6 x HDMI Type-A Female (Black) 1 x DP Female (Black) 1 x HDB-15 Female (Blue) 1 x Component (3 x RCA Female, Blue/Green/Red) 1 x Composite (1 x RCA Female, Yellow)
<b>Video Output</b>	
Interfaces	2 x HDMI Type-A Female (Black)
Max. Distance	HDMI: Up to 15 m
<b>Video</b>	
Max. Resolutions	HDMI/DP: Up to 4096 x 2160 / 3840 x 2160 @ 60 Hz (4:2:0); Up to 4096 x 2160 / 3840 x 2160 @ 30 Hz (4:4:4)  VGA/Analog: Up to 1920 x 1200 @ 60 Hz
Compliance	HDMI (3D, Deep Color, 4K) HDMI/DP: HDCP 1.4 Compatible Consumer Electronics Control (CEC)
<b>Audio</b>	
Input	Stereo Audio: 1 x Mini Stereo Jack Female (Green) Composite/Component Audio: 2 x RCA Female (Red/White)
Output	Optical Audio: 1 x Toslink (Black) Coaxial Audio: 1 x RCA Female (Orange) Stereo Audio: 2 x RCA Female (White / Red)
<b>Connectors</b>	
Computers	2 x USB Type-B Female (White)
Console Ports	Keyboard/Mouse: 2 x USB Type-A Female (White) Device: 2 x USB Type-A Female (Blue)
Power	1 x 3-prong AC Socket

Function	VP1920
<b>Control</b>	
RS-232	1 x DB 9 Female (Black)
IR	1 x Mini Stereo Jack Female (Black)
<b>Switches</b>	
Power	1 x Pushbutton 1 x Rocker
Video Input Port Selection	6 x Pushbuttons
Video Output Port Selection	2 x Pushbutton
Selection	Mode: 1 x Pushbutton Menu: 1 x Pushbutton Up (Unlock): 1 x Pushbutton Esc: 1 x Pushbutton Audio: 1 x Pushbutton Preview: 1 x Pushbutton Down: 1 x Pushbutton Enter: 1 x Pushbutton
<b>LEDs</b>	
Video	Source 1: HDMI / VGA (2, Green) Source 2: HDMI / DP (2, Green) Source 3: HDMI / AV/YPbPr (2, Green)
USB Link	Keyboard/Mouse: 2 (amber) Device: 2 (amber)
<b>EDID Settings</b>	EDID Mode: Default / Display A / Remix
<b>Power</b>	
Max. Input Power Rating	100-240 VAC; 50 - 60Hz; 1.0A
Consumption	110 VAC, 7.3W; 220 VAC, 7.3W
<b>Environmental</b>	
Operating Temperature	0 - 40°C
Storage Temperature	-20 - 60°C
Humidity	0 x 80% RH, Non-Condensing
<b>Physical Properties</b>	
Housing	Metal
Weight	2.36 kg (5.20 lb)
Dimensions (L x W x H)	43.72 cm x 16.36 cm x 4.40 cm (17.21" x 6.44" x 1.73")



## Limited Warranty

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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>