



Simply Better Connections

## CL5708 / CL5716

8 / 16-Port VGA Single Rail

LCD KVM Switch

User Manual

## Compliance Statements

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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.

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.

#### Warning

Operation of this equipment in a residential environment could cause radio interference.

#### Achtung

Der Gebrauch dieses Geräts in Wohnumgebung kann Funkstörungen verursachen.



### KCC Statement

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합니다.

**Industry Canada Statement**

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

**CAN ICES-003 (A) / NMB-003 (A)**

**RoHS**

This product is RoHS compliant.

## **User Information**

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### **Online Registration**

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

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

For telephone support, call this number:

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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

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### **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.**

## Product Information

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For information about all ALTUSEN products and how they can help you connect without limits, visit ALTUSEN on the Web or contact an ALTUSEN Authorized Reseller. Visit ALTUSEN 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>

## Package Contents

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Check to make sure that all the components are in working order. If you encounter any problem, please contact your dealer.

- ◆ 1 CL5708 / CL5716 KVMP Switch
- ◆ 2 custom KVM cable sets
- ◆ 1 5-in-1 USB / PS/2 console cable
- ◆ 1 firmware upgrade cable
- ◆ 1 power cord (AC power models only)
- ◆ 1 standard rack mount kit
- ◆ 1 user instructions

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## About this Manual

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This manual is provided to help you get the most out of your CL5708 / CL5716. It covers all aspects of the device, including installation, configuration, and operation.

The LCD KVM switch models covered in this manual include:

Model	Product Name
CL5708	8-Port PS/2-USB VGA Single Rail LCD KVM Switch
CL5716	16-Port PS/2-USB VGA Single Rail LCD KVM Switch

An overview of the information found in the manual is provided below.

**Chapter 1, Introduction**, introduces you to the CL5708 / CL5716, its purpose, features, and benefits, with its front and back panel components described.

**Chapter 2, Hardware Setup**, describes how to set up your CL5708 / CL5716, from the necessary steps for a basic single-stage hookup to a complete 32-switch daisy chained operation.

**Chapter 3, Basic Operation**, explains the fundamental concepts involved in operating the CL5708 / CL5716.

**Chapter 4, OSD Operation**, provides a complete description of the CL5708 / CL5716's on-screen display (OSD), and the various functions contained.

**Chapter 5, Keyboard Port Operation**, details all of the concepts and procedures involved in the hotkey operation of your CL5708 / CL5716 installation.

**Chapter 6, Keyboard Emulation**, provides tables that list the PC to Mac and PC to Sun keyboard emulation mappings.

**Chapter 7, The Firmware Upgrade Utility**, explains how to upgrade the CL5708 / CL5716's firmware to the latest available versions using firmware upgrade utility.


**Appendix**, provides specifications and other technical information at the end of the manual.

**Note:**

- ◆ Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the unit or connected devices.
  - ◆ The product may be updated, with features and functions added, improved, or removed since the release of this manual. For an up-to-date user manual, visit <http://www.aten.com/global/en/>
- 

**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 <b>Enter</b> 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 consecutive options (such as on a menu or dialog box). For example, Start > Run means to open the <i>Start</i> menu, and then select <i>Run</i> .
	Indicates critical information.

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# Chapter 1

## Introduction

### Overview

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The CL5708 / CL5716 Slideaway™ LCD KVM Switch is a keyboard, video, and mouse (KVM) switch with an integrated LCD console that offers secure access and control to 8 or 16 computers and be mounted within a 1U rack space. It features an independently retractable 17" or 19" LED-backlit LCD monitor and keyboard with built-in touchpad in a 1U rack-mountable sliding housing. An extra console port is provided on the rear panel for managing the LCD KVM switch from an external console (monitor, keyboard, and mouse) up to 20 meters away. For added convenience it also supports an external USB mouse.

The CL5708 / CL5716 supports both PS/2 and USB keyboards and mice as well as USB peripheral devices for the connected computers, a.

When daisy-chained, as many as 31 additional compatible KVM switches can be connected for managing up to 256 / 512 computers from a single keyboard, monitor, and mouse console. (See *Compatible Products* on the product web page for a list of compatible ATEN switches.)

The CL5708 / CL5716 is built on a modular design. The KVM section can be detached from the switch section for convenient maintenance and repair.

For added security, an optional fingerprint identification system\* can be used to control access to the CL5708 / CL5716, and the servers under its command.

There are fix models in the series as outlined in the following table:

Model	LCD Panel	KVM Ports
CL5708M	17"	8
CL5708FM*	17"	8
CL5716M	17"	16
CL5716FM*	17"	16
CL5708N	19"	8
CL5716N	19"	16

Your CL5708 / CL5716 investment is protected by an included firmware upgrade utility. You can stay up-to-date with the latest functionality improvements by downloading firmware update files from our website as they become available, and using the utility to quickly and conveniently perform the upgrade.

Setup is fast and easy — plugging cables into their appropriate ports is all that is entailed. There is no software configuration required, with no need to get involved in complex installation routines.

Access to any computer connected to the installation is easily accomplished either by entering hotkey combinations from the keyboard, or via its powerful, menu-driven OSD (on-screen display). A convenient *Auto Scan* feature also permits automated port switching at set intervals for easy monitoring of all activities from the managed computers.

There is no better way to save time and money than with a CL5708 / CL5716 installation. By using the CL5708 / CL5716's sliding LCD console to manage your installation, you can not only eliminate the expense of having to purchase a separate keyboard, monitor, and mouse for each computer, while saving all the space and energy costs those extra components would otherwise take up, but also eliminate the inconvenience and wasted effort involved in constantly moving the required consoles from one computer to another.

## Features

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- ◆ Exclusive LED illumination — designed by ATEN to illuminate the keyboard and touchpad for operation under low-light conditions
- ◆ Integrated KVM console with 17" or 19" LED-backlit LCD in a Slideaway™ housing
- ◆ Available with (CL5708FM & CL5716FM) or without (CL5708M & CL5716M) Fingerprint Identification Reader
- ◆ LCD module rotates up to 120 degrees for a more comfortable viewing angle
- ◆ Space saving technology — up to two consoles (one bus) for controlling up to 8 or 16 computers
- ◆ Daisy chain up to 31 additional units — for management of up to 256 (CL5708) or 512 (CL5716) computers from a single console

- ◆ Dual Interface — supports computers with PS/2 and USB keyboard and mouse interface
- ◆ USB port allows each computer to access USB peripherals\*
- ◆ Multiplatform support — Windows, Linux, Mac, and Sun
- ◆ Supports multimedia USB keyboards for PC, Mac and Sun
- ◆ Auto PS/2 and USB interface detection
- ◆ Keyboard and mouse emulation (PS/2 and USB) for smooth switching and simultaneous booting of multiple computers even when the console focus is elsewhere
- ◆ Superior video quality — supports resolutions of up to 1280 x 1024 @ 75 Hz
- ◆ No software required — convenient computer selection front panel pushbuttons, hotkeys and multilingual on-screen display (OSD), menus
- ◆ Auto-senses station's position on daisy chained installations; no need for manual DIP switch setting; front panel led indicates station's position
- ◆ Port names automatically reconfigured when station sequence is changed
- ◆ Two-level password security — authorized users can view and control the connected computers
- ◆ Supports one administrator and four user accounts with separate profiles
- ◆ Auto Scan mode enables automated monitoring by switching views between user-selected computers
- ◆ Broadcast support — commands from the keyboard can be broadcast to all managed computers on the installation
- ◆ Hot pluggable — add or remove computers without having to power down the switch
- ◆ Optional rack mount kits available including easy installation options
- ◆ Beeper on/off via hotkey and OSD
- ◆ Firmware upgrades to all the chained KVM switches at the same time via the daisy chain cable
- ◆ Extra console port — manage computers from an external console (monitor, USB or PS/2 keyboard and mouse)
- ◆ Supports external USB mouse
- ◆ Conveniently located station and port selectors, each with two 7-segment LED displays to quickly switch to target computers

- ◆ Dedicated *Hotkey* mode and *OSD Invocation Keys* reduce the number of keystrokes and provide quick access to these functions
- ◆ OSD tree structure makes finding and managing computers easy and effortless
- ◆ Console lock — enables the console drawer to remain securely locked away when not in use
- ◆ OSD port list automatically expands when new stations are added
- ◆ Security — administrator / user password authentication for enhanced security protection; Administrator access rights can be synchronized between first and chained stations
- ◆ OSD screen automatically adjusts to resolution changes
- ◆ Two types of logout: manual and timed
- ◆ Slideaway™ housing is slightly less than 1U with top and bottom clearance for smooth operation in a 1U rack space
- ◆ DDC emulation — video settings of each computer are automatically adjusted for optimal output for the connected monitors
- ◆ Standard 105-key keyboard
- ◆ Keyboard status restored when switching computers
- ◆ Keyboard language supports English (US), English (UK), French, German, German (Swiss), Greek, Hungarian, Italian, Japanese, Korean, Russian, Spanish, Swedish and Traditional Chinese

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**Note:** \* The USB peripheral function only works with USB cable set connections. It will not work with PS/2 cable set connections.

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## Requirements

### External Console

The following hardware components are required for the external console:

- ◆ A VGA, SVGA, or multisync monitor capable of displaying the highest resolution provided by any computer in the installation.
- ◆ A USB or PS/2 keyboard and mouse

### Computers

The following equipment must be installed on each computer:

- ◆ A VGA, SVGA, or multisync video graphics card with an HDB-15 port.

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**Note:** The integrated LCD monitor's maximum resolution is 1280 x 1024 @ 75 Hz. Make sure that none of the computer resolution settings exceed the LCD monitor's maximum resolution.

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- ◆ PS/2 mouse and keyboard ports (6-pin Mini-DIN), or at least one USB port.
- ◆ Direct support for Sun USB systems; or, for Sun legacy systems, an ATEN CV130A Sun Console Converter is required.

### Cables

Substandard cables may damage the connected devices or affect the installation's overall performance. For optimum signal integrity and a simplified layout, we strongly recommend that you use the high-quality CS custom cable sets described below:

Function		Length	Part Number
KVM switch to KVM switch (Daisy chaining)		0.6 m	2L-1700
		1.8 m	2L-1701
		3 m	2L-1703
		5 m	2L-1705
		15 m	2L-1715
KVM switch to computer	PS/2	1.2 m	2L-5201P
		1.8 m	2L-5202P
		3.0 m	2L-5203P
		6.0 m	2L-5206P
		1.8 m	2L-5702P
	USB	1.2 m	2L-5201U
		1.8 m	2L-5202U
		3.0 m	2L-5203U
		5.0 m	2L-5205U

## **Operating Systems**

Supported operating systems are shown in the table, below:

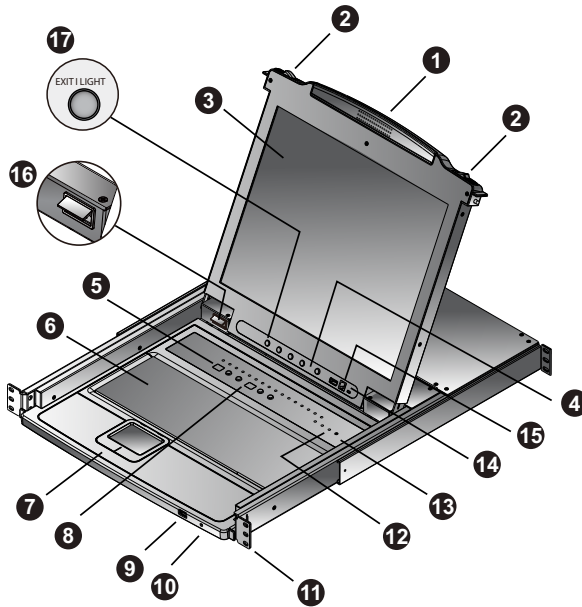
<b>OS</b>		<b>Version</b>
Windows		2000 or later
Linux	RedHat	7.1 or later
	SuSE	9.0 or later
	Mandriva (Mandrake)	9.0 or later
UNIX	AIX	4.3 or later
	FreeBSD	4.2 or later
	Sun	Solaris 8 or later
Novell	Netware	5.0 or later
Mac		OS 9 or later
DOS		6.22

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## Components

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### Front View



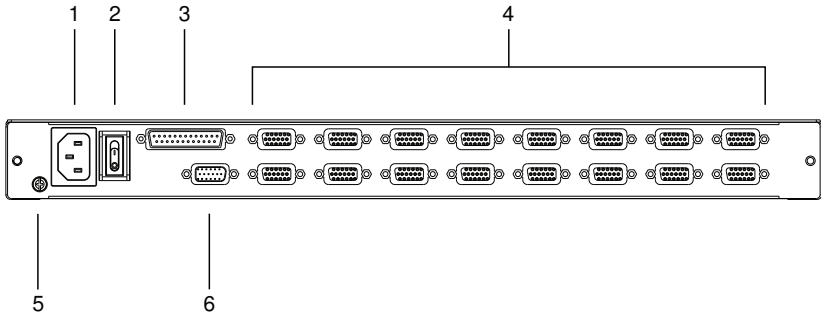
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**Note:** The CL5716 is pictured in the diagrams of this chapter. However, the CL5708 is the same as the CL5716, except that it has 8 KVM ports.

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No.	Component	Description
1	handle	Pull to slide the KVM module out; push to slide the module in (see item 2 in this table).
2	slide release	In order to slide the console out, you must first release it by sliding these tabs to the inside. See page 21 for details on sliding the console in and out.
3	LCD display	After sliding the KVM module out, flip up the cover to access the LCD monitor.
4	LCD controls	The LCD On / Off switch is located here, as well as buttons to control the position and picture settings of the LCD display. See page 25 for details.
5	port LEDs	An <b>ON LINE</b> LED lights to indicate that the computer attached to its corresponding port is up and running.
6	keyboard	Standard 105-key keyboard
7	touchpad	Standard mouse touchpad
8	station / port switches	Press the <b>UP</b> or <b>DOWN</b> buttons for the port ID and station ID to bring the KVM focus to the computer attached to the corresponding port. See <i>Manual Port Switching</i> , page 28.
9	external mouse port	A USB mouse port is provided for users who prefer to use an external mouse.
10	power LED	Lights to indicate that the unit is receiving power.
11	rack mount brackets	The rack mount brackets located at each corner of the unit secure the chassis to a system rack.
12	lock LEDs	Num Lock, Caps Lock, Scroll Lock LEDs are located here.
13	reset button	Located to the right of the Lock LEDs. Press this button in with a small object to perform a system reset.
14	firmware upgrade section	<ul style="list-style-type: none"> <li>◆ <b>Firmware upgrade port:</b> The firmware upgrade cable that transfers the firmware upgrade data from the administrator's computer to the CL5708 / CL5716 plugs into this RJ-11 connector.</li> <li>◆ <b>Firmware upgrade switch:</b> During normal operation this switch should be in the NORMAL position. (See <i>The Firmware Upgrade Utility</i>, page 57 for firmware upgrading details.)</li> </ul>
15	USB port	The USB port is available to connect a USB 1.1 peripheral device (flash drive, CD-ROM drive, etc.) to the switch.
16	LED illumination light	Illuminates the keyboard and touchpad to allow visibility in low-light conditions.
17	exit / light pushbutton	<p>Press the exit / light pushbutton for two seconds to turn the LED illumination light on or off. (Default: on)</p> <p>During the LCD OSD mode, this pushbutton has more functions, refer to <i>The LCD Buttons</i> on page 25 for more details.</p>

## Rear View (AC Power)



No.	Component	Description
1	power socket	This is a standard 3-prong AC power socket. The power cord from an AC source plugs in here.
2	power switch	This standard rocker switch powers the unit on and off.
3	daisy chain port	When daisy chaining units, the cable plugs in here.
4	KVM port section	The cables that link to the computers plug in here. <b>Note:</b> The shape of these SPHD connectors has been specifically modified so that only KVM cables designed to work with this switch can plug in (see the <i>Cables</i> section on page 5, for details). Do <b>NOT</b> attempt to use ordinary 15 pin VGA connector cables to link these ports to the computers.
5	grounding terminal	The grounding wire used to ground the switch attaches here.
6	external console port	For flexibility and convenience, the CL5708 / CL5716 supports an independent, external, KVM console. The external console keyboard, monitor, and mouse cables plug in here.

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# Chapter 2

## Hardware Setup

### Overview

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For convenience and flexibility, the CL5708 / CL5716 allows mixing of PS/2 and USB interfaces with custom KVM cables that serve as the medium between the KVM switch and the connected computers.

A separate custom KVM cable is required for each computer connection, and the various types available are listed in the *Cables* section on page 5. Consult your dealer to find out which custom KVM cables best fit your needs.

### Before you Begin

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1. Important safety information regarding the placement of this device is provided on page 63. 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 with Keyboard Power-On function.
3. Please operate the device with caution when under high environmental temperatures, as the surface of the device may become overheated under such conditions. For instance, the surface temperature of the device may reach 70 °C or higher when the environmental temperature reaches close to 50 °C.

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**Note:**

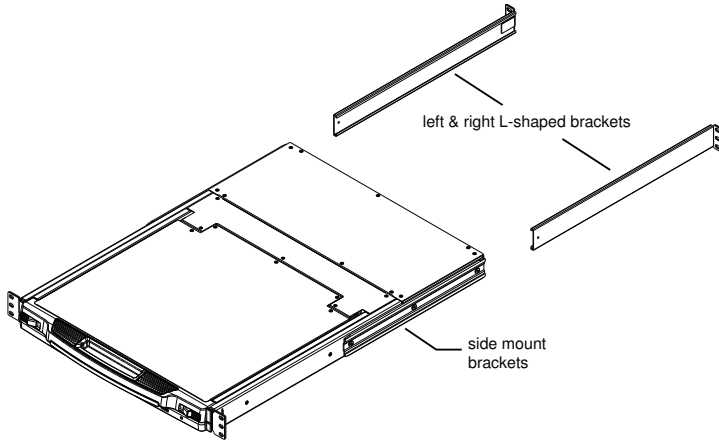
- ◆ It takes two people to mount the console.
- ◆ The standard rack mount kit does not include screws or cage nuts. If you need additional screws or cage nuts, contact your rack dealer.

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## Standard Rack Mount

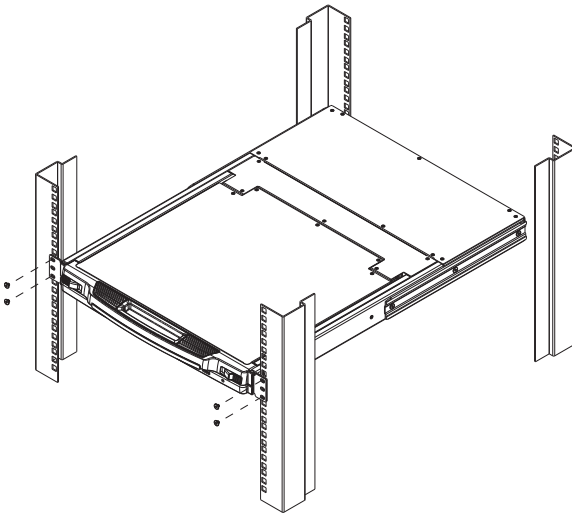
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A standard rack mount kit is provided with your CL5708 / CL5716. The kit enables the switch to be mounted onto a rack with a depth of 42.0 – 77.0 cm.



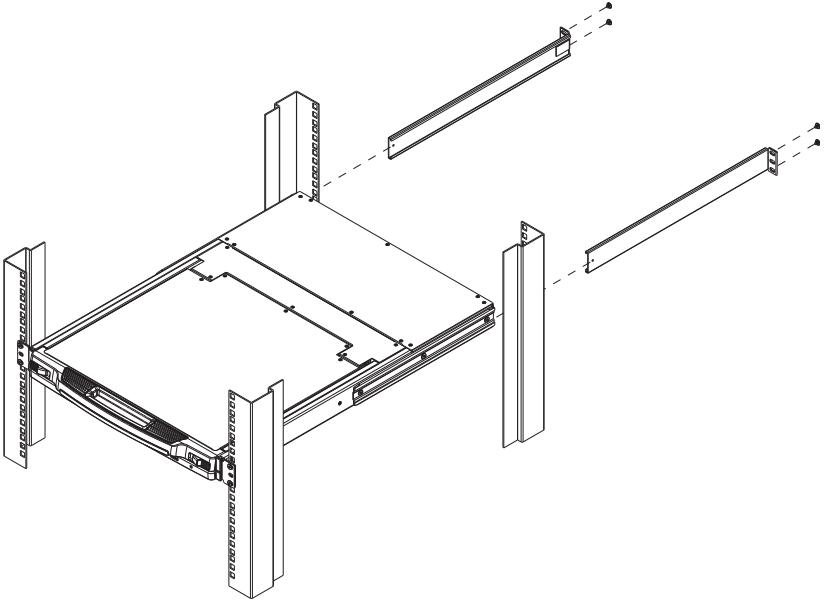
To rack mount the switch, do the following:

1. Have one person position the unit in the rack and hold it steady. Have a second person screw the front brackets to the rack.





2. While the first person still holds the unit in place, the second person slides the left & right L-shaped brackets into the unit's side mounting brackets from the rear, installing four screws in the brackets to secure them in place.



3. After the L-shaped brackets are secured, tighten all the screws.  
Allow at least 5.1 cm of clearance on each side for proper ventilation, and at least 12.7 cm at the back for its power cord and cables.

## Optional Rack Mount Kits

Optional rack mount kits are also available, as listed in the table below:

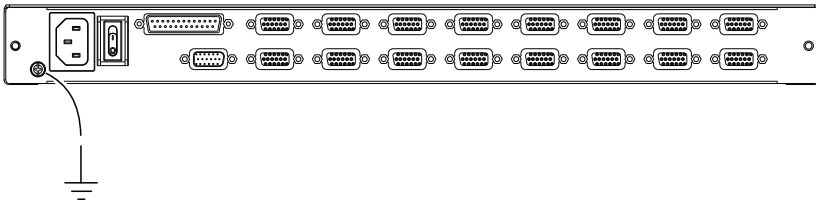
Mounting Kit	Description
Standard Long Rack Mount Kit	This kit is the long-railed version of your standard rack mount kit that lets you fit your device to racks with greater depth.
Easy Installation Rack Mount Kit	This kit is designed to easily install the device onto a rack without requiring more than one person.

- Note:**
- For more information, visit the product webpage and refer to the *Compatible Accessories*.
  - For detailed installation steps, visit the product webpage and refer to the *Optional Rack Mount Kits Installation Guide*.

## Grounding

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

Use a grounding wire to ground the CL5708 / CL5716 by connecting one end of the wire to the grounding terminal, and the other end of the wire to a suitable grounded object.



## Single-Level Installation

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In a single-level installation, there are no additional switches daisy chained from the first unit. To set up, refer to the installation instructions and diagrams on the following pages (the numbers in the diagrams correspond to the installation step numbers).

### **AC Power Models**

1. Ground the unit.
2. If you choose to connect an external console to the CL5708 / CL5716, use the console cable provided to plug a keyboard, monitor, and mouse into the *console port*. See *Cabling Diagrams*, page 17.

---

**Note:** 1. Using an external console is optional.

2. The maximum length of the cable used shall not exceed 20 m.
- 

3. For each of the computers you are installing, use a KVM cable set (as described in the *Cables* section on page 5), to connect any available KVM port to the computer's keyboard, video and mouse ports. See *KVM Cable Installation Diagrams*, page 17.

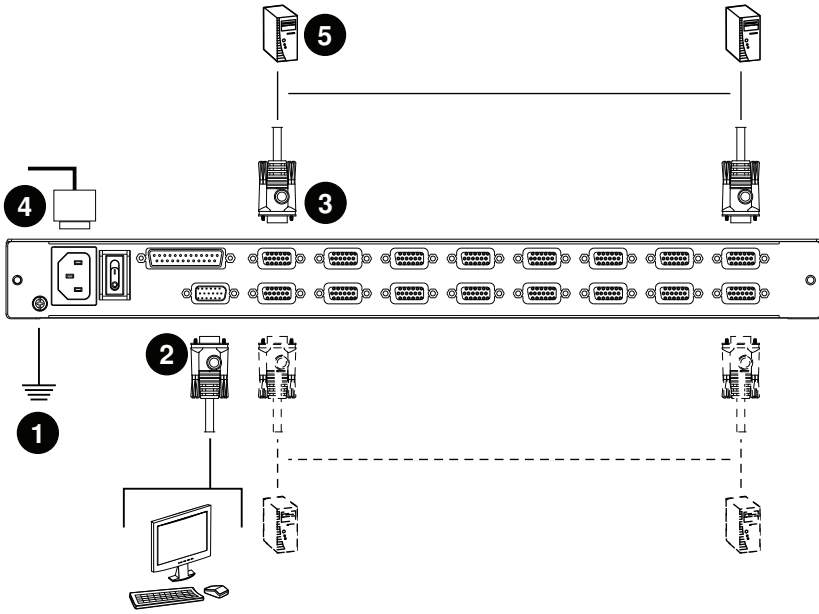
---

**Note:** The maximum length of the cable used shall not exceed 10 m.

---

4. Plug one end of the power cord into the CL5708 / CL5716 power socket and the other end into an AC power source.
5. Power on the CL5708 / CL5716 (see *Powering Off and Restarting*, page 24 for details). After the CL5708 / CL5716 is powered on, power on the computers.

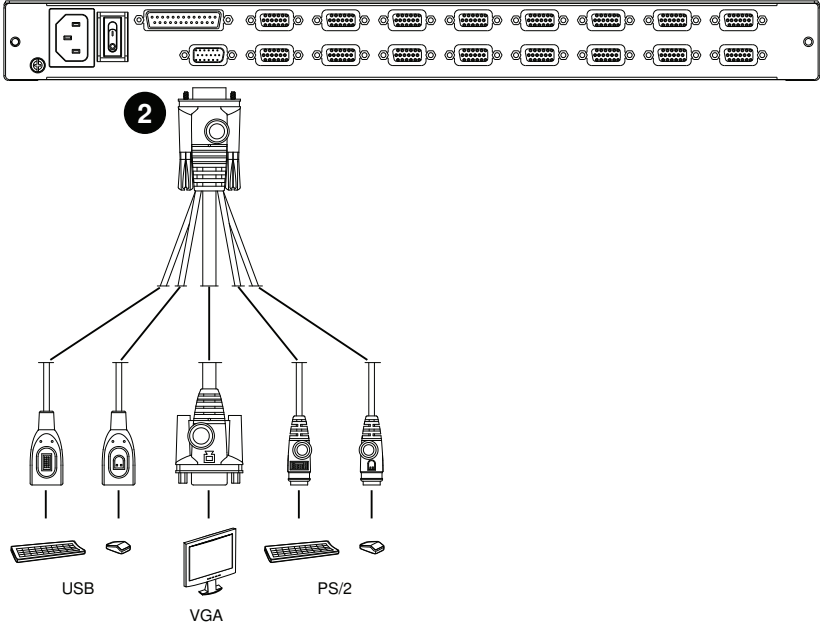
## AC Power Installation Diagram



## Cabling Diagrams

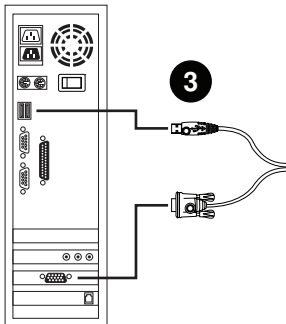
Use the following diagrams as a guide for attaching cables to an external console and/or computers you will be connecting to the CL5708 / CL5716.

### Console Cable Installation Diagram

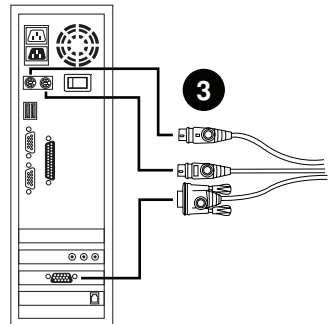


### KVM Cable Installation Diagrams

USB KVM Cable Connection



PS/2 KVM Cable Connection



## Daisy Chain Installations

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To control even more computers, up to 31 compatible KVM switches can be daisy chained down from the CL5708 / CL5716 (see *Compatible Products* on its product web page for a list of compatible ATEN KVM switches). In a complete installation, as many as 256 or 512 computers can be controlled from the CL5708 / CL5716. Tables showing the relation between the number of computers and the number of units needed to control them are provided on page 76 in the Appendix.

To set up a daisy chain installation, first, make sure that the power of all devices to be connected have been turned off. Then, refer to the daisy chain installation diagram on page 19, as you do the following:

1. For setting the LCD KVM switch CL5708 / CL5716 as the first station, connect the *Chain Out* port of CL5708 / CL5716 to the *chain in* port of the next station using a daisy chain cable set (described in the *Cables* section, page 5).

For the rest of the daisy chain, connect the *chain out* port of the chained station to the *chain in* port of the consecutive station using a daisy chain cable set. Make sure the KVM switches (stations) have their *Chain in* port connected to a previous station.

2. Use compatible KVM cable sets to connect any available KVM port on the daisy chained switch to the keyboard, video and mouse ports of the computers you are installing. See *KVM Cable Installation Diagrams*, page 17.

---

**Note:** The maximum length of each cable shall not exceed 10 m.

---

3. Power up the installation according to the following procedure:
  - a) Power on the CL5708 / CL5716.
  - b) Power on each station on the installation in turn (second station, then third station, etc.).

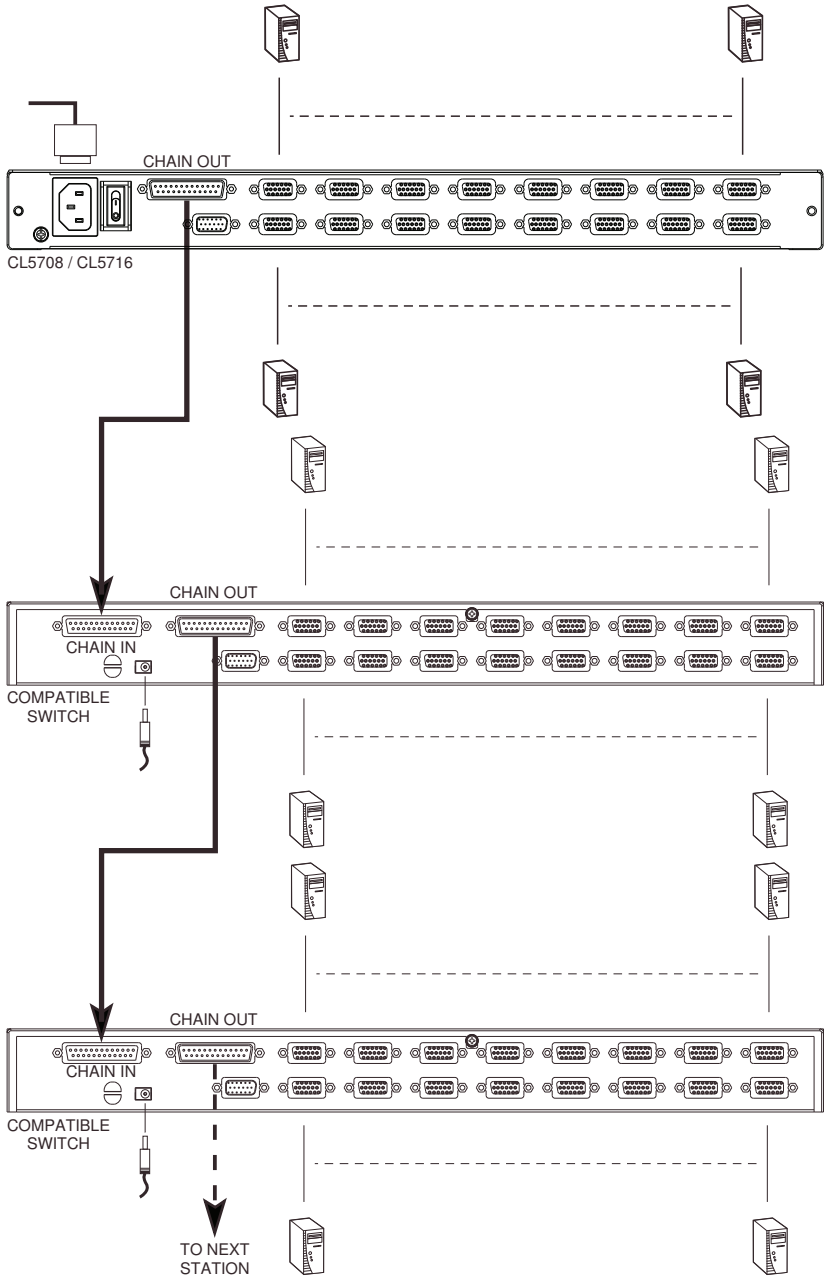
In each case, wait for the station ID to be ascertained and displayed on the current station before powering on the next one.
  - c) After all the stations are turned on, power on the computers.

---

**Note:** 1. The cable length between any two stations shall not exceed 15 m.

2. The total cable length from the first station to the last station shall not exceed 100 m, regardless of the number of stations in the chain.
-

## Daisy Chain Installation Diagram



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## Chapter 3

# Basic Operation

### Opening the Console

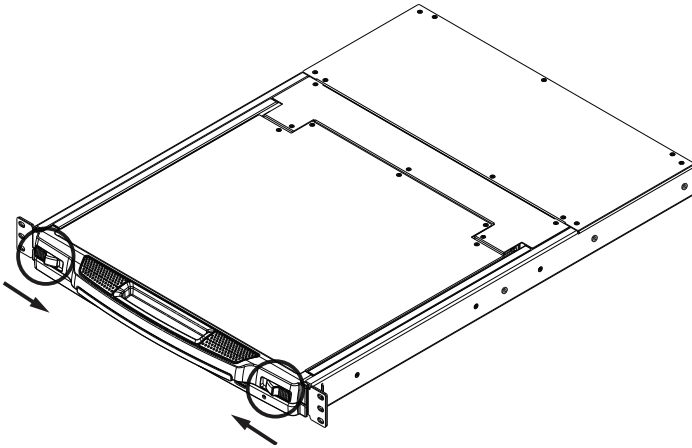
---

The CL5708 / CL5716's console is located under the top cover. To access the console, slide the console module out and raise the cover.

---

**Note:** As a safety precaution, to keep the console from accidentally sliding out, the console is locked into the *In* position. Before you can pull the console module out, you must release it by pushing the catches on the unit's front panel toward the center of the switch.

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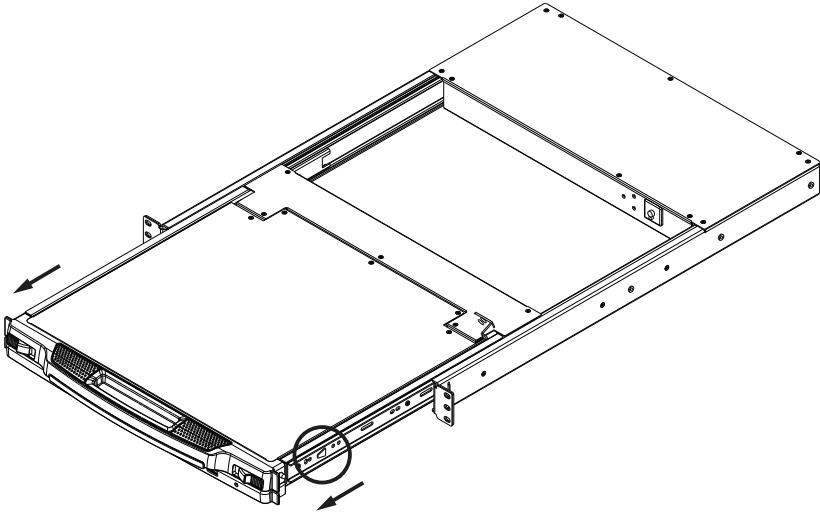


## Closing the Console

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To slide the console module back in, close the cover and do the following:

1. Pull the safety catches on the unit's side rails toward you and push the module in until it stops.
2. Release the catches; pull the module slightly toward you; then push it all the way in.



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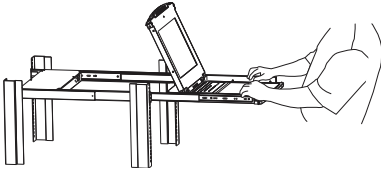
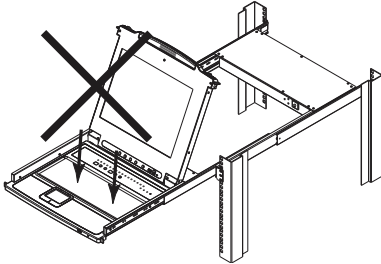
**Note:** The reason for the two step procedure is to minimize the chances of you pinching your fingers when sliding the module in.

---

## Operating Precautions



The maximum load bearing capacity of the keyboard module is 20 kg. Failure to heed the information below can result in damage to the keyboard module.

	<p><b>Right!</b></p> <p>Rest your hands and arms lightly on the keyboard module as you work.</p>
	<p><b>Wrong!</b></p> <ul style="list-style-type: none"><li>◆ <b>DO NOT</b> lean your body weight on the keyboard module.</li><li>◆ <b>DO NOT</b> place heavy objects on the keyboard module.</li></ul>

## Powering Off and Restarting

---

If it becomes necessary to power off the CL5708 / CL5716, do the following before restarting it:

1. Shut down all the computers that are attached to the CL5708 / CL5716.

---

**Note:** Unplug the power cords of any computers that have the *Keyboard Power On* function. Otherwise, the CL5708 / CL5716 will still receive power from the computers.

---

2. Unplug the CL5708 / CL5716 from its power source.
3. Wait 10 seconds, then plug the CL5708 / CL5716 back in.
4. After the CL5708 / CL5716 has started and ascertained its station ID, power on the computers.

---



**Note:** If you have shut down more than one station, power up the highest station first and work your way down to the lowest one.

---

## LCD OSD Configuration

### The LCD Buttons

The LCD OSD allows you to set up and configure the LCD display. Four buttons are used to perform the configuration, as described in the table, below:

Button	Function
MENU	<ul style="list-style-type: none"> <li>◆ When you have not entered the LCD OSD Menu function, pressing this button invokes the Menu function, and brings up the Main Menu.</li> <li>◆ When you have entered the LCD OSD Menu function, and have reached a setting choice with the navigation buttons, pressing this button brings up its adjustment screen.</li> </ul>
	When navigating through the menus, this button moves you Right or Up. When making an adjustment, it increases the value.
	When navigating through the menus, this button moves you Left or Down. When making an adjustment, it decreases the value.
EXIT	<ul style="list-style-type: none"> <li>◆ When you have not entered the LCD OSD Menu function, pressing this button performs an auto adjustment. An auto adjustment automatically configures all the settings for the LCD panel to what the OSD considers their optimum values to be.</li> <li>◆ When you have entered the LCD OSD Menu function, pressing this button exits the current menu and returns you to the previous menu. Use it to leave an adjustment menu when you are satisfied with the adjustment you made.</li> <li>◆ When you are at the Main Menu, pressing this button exits the LCD OSD.</li> </ul>

## LCD Adjustment Settings

An explanation of the LCD OSD adjustment settings is given in the table below:

Setting	Explanation
Brightness	Adjusts the background black level of the screen image.
Contrast	Adjusts the foreground white level of the screen image.
Phase	If pixel jitter or horizontal line noise is visible on the display, your LCD may have the wrong phase setting. Adjust the phase setting to eliminate these problems.
Clock	If vertical banding is visible on the display, your LCD may have the wrong clock setting. Adjust the clock setting to eliminate vertical banding.
H-Position	Positions the display area on the LCD panel horizontally (moves the display area left or right).
V-Position	Positions the display area on the LCD panel vertically (moves the display area up or down).
Color Temperature	Adjusts the color quality of the display. You can adjust the warmth value, color balance, etc. The <i>Adjust Color</i> selection has a further submenu that lets you fine tune the RGB values.
Language	Selects the language that the OSD displays its menus in.
OSD Duration	Lets you set the amount of time the OSD displays on the screen. If there is no input for the amount of time you choose, the OSD display turns off.
Reset	Resets the adjustments on all menus and submenus to their factory default settings.

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**Note:** As an alternative to manually adjusting the LCD settings, you can have the LCD auto-adjusted for optimum display by pressing the Exit button. See *EXIT*, page 25

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## **Hot Plugging**

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The CL5708 / CL5716 supports *hot plugging* - components can be removed and added back into the installation by unplugging their cables from the ports without the need to shut the unit down. In order for hot plugging to work properly, however, the procedures described below must be followed:

### **Changing Station Positions**

You can change a station's position by simply disconnecting it from the previous station it is connected to and reconnecting it to another switch in the chain. In order for the OSD menus to correspond to the change, the station IDs must be reset in the OSD. See *RESET STATION IDS*, page 41, for details.

### **Hot Plugging KVM Ports**

You can add or remove computers by plugging/unplugging them into/from a switch's KVM ports. In order for the OSD menus to correspond to the change, however, you must manually reconfigure the OSD to reflect the new Port information. See *F3: SET*, page 35, and *F4: ADM*, page 38, for details.

---

**Note:** If the computer's Operating System does not support hot plugging, this function may not work properly.

---

### **Hot Plugging External Console Ports**

The external keyboard, monitor, mouse and front panel mouse connections can all be hot plugged. When hot plugging a mouse:

- ◆ You may unplug and replug the mouse (to reset the mouse, for example), as long as you use the same mouse.
- ◆ If you plug in a different mouse, all the stations and all the computers on the installation must be shut down for 10 seconds, then restarted following the power up sequence described under Step 5 on page 18.

## Port Selection

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The CL5708 / CL5716 provides three port selection methods to access the computers on the installation: Manual, an OSD (on-screen display) menu system, and Hotkeys. Manual port switching is discussed below. See Chapter 4, *OSD Operation* and Chapter 5, *Keyboard Port Operation* for more information.

### Manual Port Switching

Use the **UP** and **DOWN** Port ID / Station ID selection buttons located on the keyboard module (page 8) to switch KVM focus to any port on the installation. Continually pressing any button cycles through the list of available ports/stations.

## Port ID Numbering

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Each KVM port on the installation is assigned a unique Port ID. The Port ID is made up of two parts: a *Station Number*, and a *Port Number*:

- ◆ The *Station Number* is a two digit number of the switch's position in the daisy chain sequence. This number is displayed on the front panel station ID LED.
- ◆ The *Port Number* is a two digit number of the port on the CL5708 / CL5716 station that a computer is connected to. This number is displayed on the front panel port ID LED.
- ◆ When keying in a Port ID number, the station number precedes the port number.
- ◆ Station and port numbers from 1–9 are padded with a preceding zero, so they become 01–09.

For example, a computer attached to **Port 6** of **Station 12** would have a Port ID of: **12-06**.



## USB Peripheral Devices

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The front panel USB port is available to connect a USB peripheral device (flash drive, CD-ROM drive, printer, etc.) to the CL5708 / CL5716. Any computer connected to the CL5708 / CL5716 can access the USB peripheral on a one-at-a-time basis. The peripheral device is available to computers connected to the CL5708 / CL5716 on the same level only, and is not available to computers connected to daisy chained switches.

The USB peripheral device is automatically detected on target computers when switching ports on the CL5708 / CL5716. For example, when switching from a computer connected to port 1 to a computer connected to port 2, the peripheral device automatically disconnects from the computer on port 1 and connects to the computer on port 2.

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# Chapter 4

## OSD Operation

### OSD Overview

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The OSD (on-screen display) is a mouse and keyboard enabled, menu driven method to handle computer control and switching operations. All procedures start from the OSD main screen.

### Manufacturing Number

The *MFG Number* (Manufacturing Number) is an internal serial number used by ATEN's factory and technical support staff to identify products. This number does not affect products' warranty. If your product requires after-sales services, you may provide the MFG Number to ATEN's sales or technical support staff to identify the product and model number.

### OSD Login

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The OSD incorporates a two-level (administrator / user) password system. Before the OSD main screen displays, a login screen appears requiring a password. If this is the first time that the OSD is used, or if the password function has not been set, simply press **[Enter] [Enter]** to log in. The OSD main screen displays in administrator mode, with administrator privileges for full access to all functions.

If the password function has been set, you must provide an appropriate administrator/user password in order to access the OSD.

### [KVM OSD] Invocation Key

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A dedicated invocation key **KVM OSD**  is provided on the CL5708 / CL5716's keyboard module with which users can press for an instantaneous access to the OSD on the LCD.

### OSD Hotkey

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The OSD hotkey is enabled and set to *[Scroll Lock]* *[Scroll Lock]* by default. Using the OSD hotkey, users can access the OSD on the LCD or an external console monitor while also viewing the display of any port on the CL5708 / CL5716.

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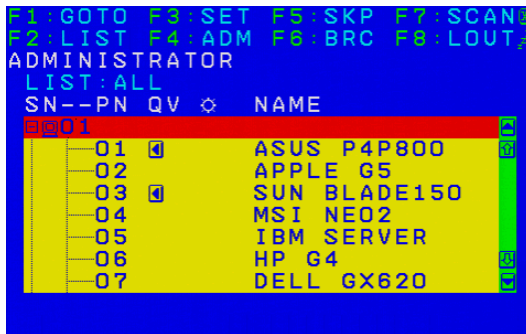
**Note:** To adjust the OSD hotkey settings, see *OSD Hotkey*, page 35.

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## OSD Main Screen

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When you invoke the OSD, a screen similar to the one below appears:



- 
- Note:**
1. The diagram depicts the administrator's main screen. The user main screen does not show the **F4** and **F6** functions, since these are reserved for the administrator and can't be accessed by users.
  2. The OSD always starts in list view, with the highlight bar at the same position it was in the last time it was closed.
  3. Only the ports that have been set accessible by the administrator for the current logged in user are visible (see *SET ACCESSIBLE PORTS*, page 39, for details).
  4. If the port list is collapsed, click on a switch number, or move the highlight bar to it then press the right arrow key to expand the list. Similarly, to collapse a switch's port list, click on the switch number, or move the highlight bar to it then press the left arrow key to collapse the list.
-

## OSD Main Screen Headings

The table below describes the OSD main screen headings.

Heading	Description
SN--PN	This column lists the port ID numbers (station number - port number) for all the KVM ports on the installation. The simplest method to access a particular computer is move the highlight bar to it, then press <b>[Enter]</b> .
QV	If a port has selected for quick view scanning (see <i>Set Quick View Ports</i> , page 40), an arrowhead displays in this column.
	The computers that are powered on and are online have a sun symbol in this column.
NAME	If a port has been given a name (see <i>Edit Port Names</i> , page 40), its name appears in this column.

## OSD Navigation

- ◆ To dismiss the menu, and deactivate OSD, click the **X** at the upper right corner of the OSD window; or press **[Esc]**.
- ◆ To log out, click **F8** at the top of the main screen, or press **[F8]**.
- ◆ To move up or down through the list one line at a time, click the up and down triangle symbols (**▲▼**) or use the up and down arrow keys. If there are more list entries than what can appear on the main screen, the screen will scroll.
- ◆ To move up or down through the list one screen at a time, click the up and down arrow symbols (**↑↓**), or use the **[Pg Up]** and **[Pg Dn]** keys. If there are more list entries than what can appear on the main screen, the screen will scroll.
- ◆ To activate a port, double-click it, or move the highlight bar to it, then press **[Enter]**.
- ◆ After executing any action, you automatically go back to the menu one level above.

## OSD Functions

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OSD functions are used to configure and control the OSD. For example, you can rapidly switch to any port, scan selected ports, limit the list you wish to view, designate a port as a quick view port, create or edit a port name, or make OSD setting adjustments.

To access an OSD function:

1. Either click a function field at the top of the main screen, or press a function key on the keyboard.
2. In the submenus that appear make your choice either by double-clicking it, or moving the highlight bar to it, then pressing **[Enter]**.
3. Press **[Esc]** to return to the previous menu level.

### **F1: GOTO**

Clicking the **F1** field or pressing **[F1]** activates the GOTO function. GOTO allows you to switch directly to a port either by keying in the port's *Name*, or its *Port ID*.

- ♦ To use the name method, key in **1**; key in the port's *Name*; then press **[Enter]**.
- ♦ To use the port ID method, key in **2**; key in the *Port ID*; then press **[Enter]**.

---

**Note:** You can key in a partial name or port ID. In that case, the screen will show all the computers that the user has *View* rights to (see *SET ACCESSIBLE PORTS*, page 39), that match the name or port ID pattern, regardless of the current list settings (see *F2 LIST*, page 35, for details).

---

To return to the OSD main screen without making a choice, press **[Esc]**.

## **F2: LIST**

This function lets you broaden or narrow the scope of which ports the OSD displays on the main screen. The submenu choices and their meanings are given in the table below.

<b>Choice</b>	<b>Meaning</b>
ALL	Lists all of the ports on the installation that have been set accessible by the administrator for the current logged in user.
QUICK VIEW	Lists only the ports that have been selected as quick view ports (see <i>SET ACCESSIBLE PORTS</i> , page 39).
POWERED ON	Lists only the ports that have their attached computers powered on.
QUICK VIEW + POWERED ON	Lists only the ports that have been selected as quick view ports (see <i>SET QUICK VIEW PORTS</i> , page 40), and that have their attached computers powered on.

Move the highlight bar to the choice you want, then press **[Enter]**. An icon appears before the choice to indicate that it is the currently selected one.

## **F3: SET**

This function allows the administrator and each user to set up his own working environment. A separate profile for each is stored by the OSD and is activated according to the username that was provided during login.

To change a setting:

1. Double-click it; or move the highlight bar to it, then press **[Enter]**.
2. After you select an item, a submenu with further choices appears. To make a selection, either double-click it; or move the highlight bar to it, then press **[Enter]**. An icon appears before the selected choice to indicate which one it is. The settings are explained in the following table:

<b>Setting</b>	<b>Function</b>
OSD HOTKEY	<p>Selects one of the following to disable or enable a hotkey for activating the OSD function:</p> <p><b>OFF, [Scroll Lock] [Scroll Lock] or [Ctrl] [Ctrl].</b></p> <p><b>Note:</b> By default, this function set to <i>[Scroll Lock] [Scroll Lock]</i>.</p>

PORT ID DISPLAY POSITION	<p>Allows each user to customize the position where the port ID appears on the screen. The default is the upper left corner, but users can choose to have it appear anywhere on the screen.</p> <p>Use the mouse or the arrow keys plus Pg Up, Pg Dn, Home, End, and 5 (on the numeric keypad with Num Lock off), to position the port ID display, then double-click or press <b>[Enter]</b> to lock the position and return to the Set submenu.</p>
PORT ID DISPLAY DURATION	<p>Determines how long a port ID displays on the monitor after a port change has taken place. The choices are: <b>3 Seconds</b> (default) and <b>ALWAYS OFF</b>.</p>
PORT ID DISPLAY MODE	<p>Selects how the port ID is displayed: the port number plus the port name (<b>PORT NUMBER + PORT NAME</b>) (default); the port number alone (<b>PORT NUMBER</b>); or the port name alone (<b>PORT NAME</b>).</p>
SCAN DURATION;Scan	<p>Determines how long the focus dwells on each port as it cycles through the selected ports in Auto Scan mode (see <i>F7 SCAN</i>, page 43). Key in a value from 1–255 seconds, then press <b>[Enter]</b>. Default is 5 seconds; a setting of 0 disables the SCAN function.</p>
SCAN–SKIP MODE	<p>Selects which computers will be accessed under skip mode (see <i>F5 SKP</i>, page 42), and Auto Scan mode (see <i>F7 SCAN</i>, page 43). Choices are:</p> <p><b>ALL</b> - All the ports which have been set accessible (see <i>SET ACCESSIBLE PORTS</i>, page 39);</p> <p><b>QUICK VIEW</b> - Only those ports which have been set accessible and have been selected as quick view ports (see <i>SET QUICK VIEW PORTS</i>, page 40);</p> <p><b>POWERED ON</b> - Only those ports which have been set accessible and are powered on;</p> <p><b>QUICK VIEW + POWERED ON</b> - Only those ports which have been set accessible and have been selected as quick view ports and are powered on. The default is ALL.</p> <p><b>Note:</b> The quick view choices only show up on the administrator's screen, since only he has <i>Quick View</i> setting rights (see <i>SET QUICK VIEW PORTS</i>, page 40, for details).</p>
SCREEN BLANKER	<p>If there is no input from the console for the amount of time set with this function, the screen is blanked. Key in a value from 1–30 minutes, then press <b>[Enter]</b>. The default setting of 0 disables this function.</p>



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SCREENSAVER	<p>Prevents the OSD screen from a burn-in on the LCD panel when a user leaves the OSD on for a long period of time. The SCREENSAVER function will float the ATEN logo on the screen when enabled.</p> <ul style="list-style-type: none"><li>◆ Set the wait time from 1 ~ 60 minutes. Setting 0 disables the SCREENSAVER function.</li><li>◆ The default setting is On with a wait time of 20 minutes for the SCREENSAVER to be enabled.</li></ul>
HOTKEY COMMAND MODE	Enables / disables the hotkey command function in case a conflict occurs with programs running on the computers.
HOTKEY	Sets the keyboard shortcut for invoking <i>Hotkey Mode</i> (see page 45). Choices are: <b>[NUM LOCK] + [-]</b> (minus) (default), and <b>[CTRL] + [F12]</b> .
OSD LANGUAGE	Sets the language used in the OSD. Choices are: English, German, Japanese, Simplified Chinese and Traditional Chinese.
TOUCHPAD	Enables / disables the touchpad.

---

## **F4: ADM**

F4 is an administrator only function. It allows the administrator to configure and control the overall operation of the OSD. To change a setting double-click it, or use the up and down arrow keys to move the highlight bar to it then press **[Enter]**.

After you select an item, a submenu with further choices to select from appears. Double-click an item, or move the highlight bar to it then press **[Enter]**. An icon appears before the selected item so that you know which one it is. The settings are explained in the following table:

Setting	Function
SET USER LOGIN	<p>Use this function to set login mode, usernames, passwords and fingerprints for the administrator and users.</p> <p>SET USERNAME AND PASSWORD</p> <ul style="list-style-type: none"> <li>◆ Usernames and passwords for one administrator and four users can be set.</li> <li>◆ After you select the administrator field or one of the user fields, a screen that allows you to key in the username and password appears. Usernames and passwords can be from 1 to 16 characters long and can consist of any combination of letters and numbers (A–Z, 0–9) and some additional keys (* ( ) + : - , ? . / space).</li> <li>◆ For each individual, key in the username and password, confirm the password, then press <b>[Enter]</b>.</li> <li>◆ To modify or delete a previous username and/or password, use the backspace key to erase individual letters or numbers. Press <b>[Enter]</b> when done.</li> <li>◆ Usernames and passwords are not case sensitive. Usernames are displayed in capital letters in the OSD.</li> </ul> <p>SET FINGERPRINT*</p> <p>Selecting this option initializes the fingerprint reader to record fingerprints used in place of a username and password when logging in. Although up to 10 fingers can be scanned for each user account, a maximum of 20 can be stored in the KVM, depending on the size of the fingerprint data file.</p>

\* Available on models with fingerprint reader.

*(Continues on next page.)*

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Setting	Function
SET USER LOGIN (continued)	<p><b>To record a fingerprint:</b></p> <ol style="list-style-type: none"> <li>1. Select an item from the list and double-click it, or move the highlight bar to it and press <b>[Enter]</b>.</li> <li>2. Swipe the selected finger across the reader 3 times as directed.</li> <li>3. Once the fingerprint is successfully recorded, you have the option of recording another.</li> </ol> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>◆ Pressing F1 will delete the highlighted fingerprint from memory.</li> <li>◆ Pressing F2 will delete all fingerprints for the current user from memory.</li> <li>◆ Pressing F3 will edit the name of the highlighted fingerprint.</li> <li>◆ Pressing F5 will delete the highlighted fingerprint name.</li> </ul> <p>SET LOGIN MODE*</p> <p>Use this function to set user login mode to PASSWORD OR FINGERPRINT (either username and password or just fingerprint can be used to login) or PASSWORD + FINGERPRINT (username, password, and then fingerprint must all be used to login).</p> <ul style="list-style-type: none"> <li>◆ In PASSWORD + FINGERPRINT mode, if the subsequent fingerprint does not match the previously entered username, user will not be able to login. This mode provides better access security.</li> </ul>
SET ACCESSIBLE PORTS	<p>This function allows the administrator to define user access to the computers on the installation on a port-by-port basis.</p> <p>For each user, select the target port; then press the <b>[Spacebar]</b> to cycle through the choices: <b>F</b> (full access), <b>V</b> (view only), or blank. Repeat until all access rights have been set, then press <b>[Enter]</b>. The default is <b>F</b> for all users on all ports.</p> <p><b>Note:</b> ◆ A blank setting means that no access rights are granted. The port will not show up on the user's LIST on the main screen.</p> <ul style="list-style-type: none"> <li>◆ The administrator always has full access to all ports.</li> </ul>
SET LOGOUT TIMEOUT	<p>If there is no input from the console for the amount of time set with this function, the user is automatically logged out. A login is necessary before the console can be used again.</p> <p>This enables other users to gain access to the computers when the original user is no longer accessing them, but has forgotten to log out. To set the timeout value, key in a number from 1–180 minutes, then press <b>[Enter]</b>. The default setting of 0 disables this function.</p>

\* Available on models with fingerprint reader.

(Continues on next page.)

(Continued from previous page.)

Setting	Function
EDIT PORT NAMES	<p>To help remember which computer is attached to a particular port, every port can be given a name. This function allows the administrator to create, modify, or delete port names. To edit a port name:</p> <ol style="list-style-type: none"> <li>Click the port, or use the navigation keys to move the highlight bar to it, then press <b>[Enter]</b>.</li> <li>Key in the new port name, or modify/delete the old one. The maximum number of characters allowed for the port name is 12. Legal characters include: <ul style="list-style-type: none"> <li>◆ All alpha characters: <b>A–Z</b></li> <li>◆ All numeric characters: <b>0–9</b></li> <li>◆ <b>* ( ) + : - , ? . /</b> and <b>Space</b></li> </ul> <p>Case does not matter; OSD displays the port name in all capitals no matter how they were keyed in.</p> </li> <li>When you have finished editing, press <b>[Enter]</b> to have the change take effect. To abort the change, press <b>[Esc]</b>.</li> </ol>
RESTORE DEFAULT VALUES	<p>This function is used to undo all changes and return the setup to the original factory default settings (see <i>OSD FACTORY DEFAULT SETTINGS</i>, page 80) except for the port name list, username and password information, which are saved.</p>
CLEAR THE NAME LIST	<p>This function clears the port name list.</p>
ACTIVATE BEEPER	<p>Choices are <b>Y</b> (on), or <b>N</b> (off). When activated, the beeper sounds whenever a port is changed; when activating the Auto Scan function (see <i>F7 SCAN</i>, page 43); or an invalid entry is made on an OSD menu. The default is <b>Y</b>.</p>
SET QUICK VIEW PORTS	<p>This function lets the administrator select which ports to include as quick view ports.</p> <ul style="list-style-type: none"> <li>◆ To select/deselect a port as a quick view port, double-click the port, or use the navigation keys to move the highlight bar to it, then press <b>[Spacebar]</b>.</li> <li>◆ When a port has been selected as a quick view port, an icon displays in the QV column of the LIST on the main screen.</li> <li>◆ If one of the quick view options is chosen for the LIST view (see <i>F2 LIST</i>, page 35), only a port that has been selected here will display on the list.</li> <li>◆ If one of the quick view options is chosen for auto-scanning (see <i>SCAN/SKIP MODE</i>, page 36), only a port that has been selected here will be auto-scanned.</li> </ul> <p>The default has no ports selected for quick view.</p>

(Continues on next page.)

(Continued from previous page.)

Setting	Function
RESET STATION IDS	<p>If you change the position of one of the stations in the daisy chain, the OSD settings will no longer correspond to the new location. This function directs the OSD to rescan the station positions of the entire installation and updates the OSD so that the OSD station information corresponds to the new physical layout.</p> <p><b>Note:</b> Only the station numbers get updated. Except for the port names, all administrator settings (such as SET ACCESSIBLE PORTS, SET QUICK VIEW PORTS, etc.) must be input again for all of the computers affected by the change.</p>
SET OPERATING SYSTEM	<p>This function allows the administrator to define the operating system for the computer connected to each KVM port. The default is WIN (PC compatible).</p> <p>To set the port operating system:</p> <ol style="list-style-type: none"> <li>1. From the list, select the port for which you wish to set the computer's operating system.</li> <li>2. Set the operating system by pressing <b>[Spacebar]</b> to cycle through WIN, MAC, SUN, or OTHER .</li> <li>3. Press <b>[Esc]</b> to exit. The operating system you selected is assigned to the KVM port.</li> </ol>
FIRMWARE UPGRADE	<p>In order to upgrade the CL5708 / CL5716 firmware (see page 57), you must first enable Firmware Upgrade mode with this setting.</p> <p>When you bring up this menu, the current firmware version levels are displayed. Select <b>Y</b> to enable Firmware Upgrade mode, or <b>N</b> to leave this menu without enabling it.</p>
SET KEYBOARD LANGUAGE	<p>Sets the language for the computer keyboard attached to the KVM port. To select a keyboard language, double-click it, or use the navigation keys to move the highlight bar to it, then press <b>[Enter]</b>.</p> <p>Choices are: AUTO (default), ENGLISH (US), ENGLISH (UK), FRENCH, GERMAN (GER.), GERMAN (SWISS), GREEK, HUNGARIAN, ITALIAN, JAPANESE, KOREAN, RUSSIAN, SPANISH, SWEDISH and TRADITIONAL CHINESE.</p>
SET CONSOLE MODE	<p>This setting selects which consoles (internal/external) are enabled:</p> <p><b>0</b> – Both consoles enabled  <b>1</b> – LCD console only  <b>2</b> – External console only</p> <p>Use the spacebar to cycle to the choice you want. The default is 0.</p>

## **F5: SKP**

Clicking the **F5** field or pressing **[F5]** invokes Skip mode. This function enables you to easily skip backward or forward – switching the console focus from the currently active computer port to the previous or next available one.

- ◆ The selection of computers to be available for skip mode switching is made with the *Scan-Skip* mode setting under the **F3: SET** function (see page 35).
- ◆ When you are in skip mode:
  - press [ ← ] to switch to the previous computer in the list
  - press [ → ] to switch to the next computer in the list
  - press [ ↑ ] to switch to the last computer on the previous station in the list
  - press [ ↓ ] to switch to the first computer on the next station in the list.

---

**Note:** When you skip, you only skip to the previous or next available computer that is in the *Scan-Skip* mode selection (page 36).

---

- ◆ If a port has been selected for *Scan-Skip* mode, when the focus switches to that port a left/right triangle symbol appears before its port ID display.
- ◆ While skip mode is in effect, the console will not function normally. You must exit skip mode in order to regain control of the console.
- ◆ To exit skip mode, press **[Spacebar]** or **[Esc]**.

## **F6: BRC**

F6 is an administrator only function. Clicking the **F6** field, or pressing **[F6]**, invokes *Broadcast* (BRC) mode. When this function is in effect, commands sent from the console are broadcast to all available computers on the installation.

This function is particularly useful for operations that need to be performed on multiple computers, such as performing a system wide shutdown, installing or upgrading software, etc.

- ◆ While BRC mode is in effect, a speaker symbol appears before the port ID display of the port that currently has the console focus.
- ◆ While BRC mode is in effect, the mouse will not function normally. You must exit BRC mode in order to regain control of the mouse.
- ◆ To exit BRC mode, invoke the OSD (with the OSD hotkey), then click the **F6** field, or press **[F6]**, to turn BRC mode off.

## **F7: SCAN**

Clicking the **F7** field or pressing **[F7]** invokes *Auto Scan* mode. This function allows you to automatically switch among the available computers at regular intervals so that you can monitor their activity without having to take the trouble of switching yourself.

- ◆ The selection of computers to be included for auto-scanning is made with the *Scan-Skip* mode setting under the **F3: SET** function (see page 36).
- ◆ The amount of time that each port displays for is set with the *Scan Duration* setting under the **F3: SET** function (see page 36). When you want to stop at a particular location, press the **[Spacebar]** to stop scanning.
- ◆ If the scanning stops on an empty port, or one where the computer is attached but is powered Off, the monitor screen will be blank, and the mouse and keyboard will have no effect. After the *Scan Duration* time is up, the scan function will move on to the next port.
- ◆ As each computer is accessed, an **S** appears in front of the port ID display to indicate that it is being accessed under *Auto Scan* mode.
- ◆ While *Auto Scan* mode is in effect, the console will not function normally. You must exit *Auto Scan* mode in order to regain control of the console.
- ◆ While you are in *Auto Scan* mode, you can pause the scanning in order to keep the focus on a particular computer either by pressing **[P]**, or with a left-click of the mouse. See *Invoking Auto Scan*, page 48, for details.

- ◆ To exit *Auto Scan* mode, press the **[Spacebar]** or **[Esc]**.

## **F8: LOUT**

Clicking the **F8** field, or pressing **[F8]** logs you out of OSD control of the computers, and blanks the console screen. This is different from simply pressing **[Esc]** when you are at the main screen to deactivate the OSD. With this function you must log in all over again to regain access to the OSD, whereas with **[Esc]**, all you have to do to reenter the OSD is tap the OSD hotkey.

- 
- Note:**
1. When you reenter the OSD after logging out, the screen stays blank except for the OSD main screen. You must input your username and password before you can continue.
  2. If you reenter the OSD after logging out, and immediately use **[Esc]** to deactivate the OSD without having selected a port from the OSD menu, a null port message displays on the screen. The OSD hotkey will bring up the main OSD screen.
-



# Chapter 5

## Keyboard Port Operation

### Hotkey Port Control

---

Hotkey port control allows you to provide KVM focus to a particular computer directly from the keyboard. The CL5708 / CL5716 provides the following hotkey port control features:

- ◆ Selecting the Active Port
- ◆ Auto Scan Mode Switching
- ◆ Skip Mode Switching
- ◆ Computer Keyboard / Mouse Reset

The following settings can also be controlled in *Hotkey* mode:

- ◆ Setting the Beeper
- ◆ Setting the Quick Hotkey
- ◆ Setting the OSD Hotkey
- ◆ Setting the Port Operating System
- ◆ Restoring the OSD Default Values

## Invoke Hotkey Mode

---

All hotkey operations begin by invoking *Hotkey* mode.<sup>1</sup> There are two possible keystroke sequences used to invoke *Hotkey* mode, though only one can be operational at any given time:

### Number Lock and Minus Keys

1. Hold down the **Num Lock** key;
2. Press and release the **minus** key;
3. Release the **Num Lock** key:

[Num Lock] + [-]

### Control and F12 Keys

1. Hold down the **Ctrl** key;
2. Press and release the **F12** key;
3. Release the **Ctrl** key:

[Ctrl] + [F12]

When *Hotkey* mode is active:

- ♦ A command line appears on the monitor screen. The command line prompt is the word *Hotkey*: in white text on a blue background, and displays the subsequent hotkey information that you key in.
- ♦ Ordinary keyboard and mouse functions are suspended – only hotkey compliant keystrokes (described in the sections that follow), can be input.

Pressing [Esc] exits *Hotkey* mode.

---

1. Make sure that the *Hotkey Command Mode* function is enabled and that you key in the appropriate *Hotkey*. See page 37 for details.

## Select the Active Port

---

Each KVM port is assigned a port ID (see *Port ID Numbering*, page 27). You can directly access any computer on the installation with a hotkey combination that specifies the port ID of the KVM port that a computer is connected to. To access a computer using hotkeys:

1. Invoke hotkey mode with the **[Num Lock] + [-]** or **[Ctrl] + [F12]** combination.
2. Key in the port ID.

The port ID numbers display on the command line as you key them in. If you make a mistake, use **[Backspace]** to erase the wrong number.

3. Press **[Enter]**.

After you press **[Enter]**, the KVM focus switches to the designated computer and you automatically exit hotkey mode.

---

**Note:** In hotkey mode, KVM focus will not switch to a port if an invalid switch or port number is entered. The hotkey command line will continue to display on the screen until you enter a valid switch and port number combination, or exit hotkey mode.

---

## Auto Scan Mode

---

*Auto Scan* automatically switches, at regular intervals, among all the KVM ports that have been set as accessible under *Scan-Skip Mode*, so that their activity can be monitored automatically. See *Scan-Skip Mode* on page 36 for more information.

### Invoking Auto Scan:

To start *Auto Scan*, key in the following Hotkey combination:

1. Invoke hotkey mode with the [**Num Lock**] + [-] or [**Ctrl**] + [**F12**] combination.
2. Press [**A**]. After you press **A**, then [**Enter**], you automatically exit hotkey mode, and enter *Auto Scan* mode.
  - ♦ While you are in *Auto Scan* mode, you can pause the scanning in order to keep the focus on a particular computer either by pressing **P** or with a left click of the mouse. During the time that auto-scanning is paused, the command line displays: **Auto Scan: Paused**.

*Pausing* when you want to keep the focus on a particular computer is more convenient than exiting *Auto Scan* mode because when you resume scanning, you start from where you left off. If, on the other hand, you exited and restarted, scanning would start over from the very first computer on the installation.

To resume Auto Scanning, press any key or left-click. Scanning continues from where it left off.

- ♦ While *Auto Scan* mode is in effect, ordinary keyboard and mouse functions are suspended – only *Auto Scan* mode compliant keystrokes and mouse clicks can be input. You must exit *Auto Scan* mode in order to regain normal control of the console.
3. To exit *Auto Scan* mode press [**Esc**] or [**Spacebar**]. Auto-scanning stops when you exit *Auto Scan* mode.

## Skip Mode

---

This feature allows you to switch between computers in order to monitor them manually. You can dwell on a particular port for as long as you like – as opposed to auto-scanning, which automatically switches after a fixed interval. To invoke *Skip* mode, key in the following hotkey combination:

1. Invoke hotkey mode with the **[Num Lock] + [-]** or **[Ctrl] + [F12]** combination.
2. Key in **[Arrow]**
  - ◆ Where **[Arrow]** refers to one of the arrow keys. After you press an arrow, you automatically exit hotkey mode and enter *Skip* mode where you can switch ports as follows:

←	Skips to the first accessible port. (See <i>Scan/Skip Mode</i> , page 36, for information regarding accessible ports.)
→	Skips to the next accessible port.
↑	Skips to the last accessible port of the previous station.
↓	Skips to the first accessible port of the next station.

- ◆ Once you are in *Skip* mode, you can keep on skipping by pressing the arrow keys. You don't have to use the **[Num Lock] + [-]** combination again.
  - ◆ While *Skip* mode is in effect, ordinary keyboard and mouse functions are suspended – only *Skip* mode compliant keystrokes can be input. You must exit *Skip* mode in order to regain normal control of the console.
3. To exit *Skip* mode, press **[Esc]** or **[Spacebar]**.

## Computer Keyboard / Mouse Reset

---

If the keyboard or mouse cease to function on the computer connected to the currently selected port, you can perform a keyboard / mouse reset on the computer. This function is essentially the same as unplugging and replugging the keyboard and mouse on the target computer. To perform a computer keyboard / mouse reset, key in the following hotkey combination:

1. Invoke hotkey mode with the **[Num Lock] + [-]** or **[Ctrl] + [F12]** combination.
2. Press **[F5]**.

After you press **[F5]** you automatically exit *Hotkey* mode and regain keyboard and mouse control on the computer connected to the KVM port. If you fail to regain keyboard / mouse control on the computer after pressing **[F5]**, perform a system reset. For more information see *reset button*, page 8.

## Hotkey Beeper Control

---

The beeper (see *Activate Beeper*, page 40) can be hotkey toggled on and off. To toggle the beeper, key in the following hotkey combination:

1. Invoke hotkey mode with the **[Num Lock] + [-]** or **[Ctrl] + [F12]** combination.
2. Press **[B]**.

After you press **[B]**, the beeper toggles on or off. The command line displays *Beeper On* or *Beeper Off* for one second; then the message disappears and you automatically exit hotkey mode.

## Quick Hotkey Control

---

The *Quick Hotkey* (see *HOTKEY*, page 37) can be toggled between [Num Lock] + [-], and [Ctrl] + [F12]. To toggle the *Quick Hotkey*:

1. Invoke hotkey mode with the [Num Lock] + [-] or [Ctrl] + [F12] combination.
2. Press [H].

After you press [H], the command line displays *HOTKEY HAS BEEN CHANGED* for one second; then the message disappears and you automatically exit *Hotkey* mode.

## OSD Hotkey Control

---

The *OSD hotkey* (see *OSD HOTKEY*, page 35) can be toggled between OFF, [Scroll Lock] [Scroll Lock], or [Ctrl] [Ctrl]. To toggle the *OSD hotkey*, key in the following hotkey combination:

1. Invoke hotkey mode with the [Num Lock] + [-] or [Ctrl] + [F12] combination.
2. Press [T].

After you press [T], the command line displays *HOTKEY HAS BEEN CHANGED* for one second; then the message disappears and you automatically exit *Hotkey* mode.

## Port OS Control

---

A port's operating system can be changed to match that of the computer attached to the port. To change a port's operating system, key in the following hotkey combination:

1. Invoke hotkey mode with the **[Num Lock] + [-]** or **[Ctrl] + [F12]** combination.
2. Key in **[Function]**, where [Function] refers to one of the function keys in the following table:

Key	Description
F1	Sets the Port OS to Windows
F2	Sets the Port OS to Mac
F3	Sets the Port OS to Sun

After pressing a function key you automatically exit *Hotkey* mode.

## Set USB Speed

---

Users can use hotkeys to set the USB speed of the selected KVM port to low/full speed to comply with the connected computers.

1. Invoke Hotkey mode (see *Invoke Hotkey Mode* on page 46).
2. Press **[F11]**
3. Key in **[Function]**, where [Function] refers to one of the function keys in the following table:

Key	Description
L	Set the KVM port to low speed USB
F	Set the KVM port to full speed USB

4. Press **[Enter]**.

To set all KVM ports of the selected KVM station, add an [A] after the function key: Under Hotkey mode, press **[F11][L][A][Enter]** or **[F11][F][A][Enter]**.



## Restore Default Values

---

This administrator only hotkey restores the CL5708 / CL5716 default values. See *RESTORE DEFAULT VALUES*, page 40. To restore the default values, key in the following hotkey combination:

1. Invoke hotkey mode with the **[Num Lock] + [-]** or **[Ctrl] + [F12]** combination.
2. Press **[R]**.
3. Press **[Enter]**.

After you press [Enter], the command line displays *RESET TO DEFAULT SETTING* for three seconds; then the message disappears and you automatically exit *Hotkey* mode.

## Hotkey Summary Table

[Num Lock] + [-] or [Ctrl] + [F12]	[A] [Enter] or [Q] [Enter]	Invokes <i>Auto Scan</i> mode.  When <i>Auto Scan</i> mode is in effect, [P] or left-click pauses auto-scanning.  When auto-scanning is paused, pressing any key or another left-click resumes auto-scanning.
	[B]	Toggles the beeper on or off.
	[Esc] or [Spacebar]	Exits hotkey mode.
	[F1]	Set Operating System to Windows
	[F2]	Set Operating System to Mac
	[F3]	Set Operating System to Sun
	[F5]	Performs a keyboard / mouse reset on the target computer.
	[H]	Toggles the <i>Quick Hotkey</i> invocation keys between [Ctrl] + [F12] and [Num Lock] + [-].
	[R] [Enter]	This administrator only hotkey restores the switch's default values. See <i>RESTORE DEFAULT VALUES</i> , page 40.
	[SN][PN] [Enter]	Switches access to the computer that corresponds to that port ID.
	[F11] [F] [Enter]	Set the selected KVM port to full speed USB
	[F11] [L] [Enter]	Set the selected KVM port to low speed USB
	[F11] [F] [A] [Enter]	Set the selected KVM station to full speed USB
	[F11] [L] [A] [Enter]	Set the selected KVM station to low speed USB
	[T]	Toggles the <i>OSD hotkey</i> between OFF, [Ctrl] [Ctrl] or [Scroll Lock] [Scroll Lock].
	[←]	Invokes <i>Skip</i> mode and skips from the current port to the first accessible port previous to it.
	[→]	Invokes <i>Skip</i> mode and skips from the current port to the next accessible port.
	[↑]	Invokes <i>Skip</i> mode and skips from the current port to the last accessible port of the previous station.
	[↓]	Invokes <i>Skip</i> mode and skips from the current port to the first accessible port of the next station.









# Chapter 6

## Keyboard Emulation

### Mac Keyboard

---

The PC compatible (101/104 key) keyboard can emulate the functions of the Mac keyboard. The emulation mappings are listed in the table below.

PC Keyboard	Mac Keyboard
[Shift]	Shift
[Ctrl]	Ctrl
	
[Ctrl] [1]	
[Ctrl] [2]	
[Ctrl] [3]	
[Ctrl] [4]	
[Alt]	Alt
[Print Screen]	F13
[Scroll Lock]	F14
	=
[Enter]	Return
[Backspace]	Delete
[Insert]	Help
[Ctrl] 	F15








---

**Note:** When using key combinations, press and release the first key (Ctrl), then press and release the activation key.

---

## Sun Keyboard

The PC compatible (101/104 key) keyboard can emulate the functions of the Sun keyboard when the Control key [Ctrl] is used in conjunction with other keys. The corresponding functions are shown in the table below.

PC Keyboard	Sun Keyboard
[Ctrl] [T]	Stop
[Ctrl] [F2]	Again
[Ctrl] [F3]	Props
[Ctrl] [F4]	Undo
[Ctrl] [F5]	Front
[Ctrl] [F6]	Copy
[Ctrl] [F7]	Open
[Ctrl] [F8]	Paste
[Ctrl] [F9]	Find
[Ctrl] [F10]	Cut
[Ctrl] [1]	
[Ctrl] [2]	
[Ctrl] [3]	
[Ctrl] [4]	
[Ctrl] [H]	Help
	Compose
	

**Note:** When using key combinations, press and release the first key (Ctrl), then press and release the activation key.

# Chapter 7

## The Firmware Upgrade Utility

### Introduction

---

The purpose of the Windows-based firmware upgrade utility is to provide an automated process for upgrading the CL5708 / CL5716 and compatible adapter cable firmware. The program comes as part of a firmware upgrade package that is specific for each device.

As new firmware versions become available, new firmware upgrade packages are posted on our website. Check the website regularly to find the latest information and packages.

### Downloading the Firmware Upgrade Package

To download the firmware upgrade package:

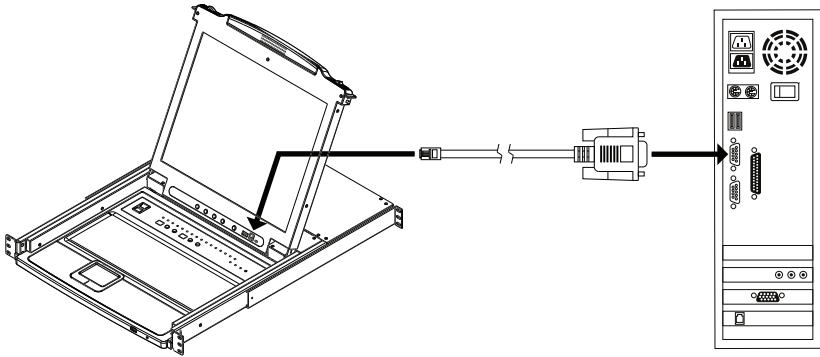
1. From a computer that is not part of your KVM installation go to our website and choose the model name that relates to your device. A list of available firmware upgrade packages appears.
2. Choose the firmware upgrade package that you wish to install (usually the most recent) and download it to your computer.

## Preparation

---

To prepare for the firmware upgrade, do the following:

1. Use the *firmware upgrade cable* (provided with this unit), to connect a COM port on your computer to the *firmware upgrade port* of your switch.



---

**Note:** On a daisy chained installation, the chained stations will automatically receive the upgrade via the daisy chain cables.

---

2. Shut down all the computers, but not the stations, on the KVM installation.
3. From your KVM switch console, login to the OSD as the administrator (see page 31) and select the **F4 ADM** function.
4. Scroll down to FIRMWARE UPGRADE. Press **[Enter]**, then press **[Y]** to invoke *Firmware Upgrade Mode* (see page 41.).

---

**Note:** During *Firmware Upgrade Mode*, the port LEDs will flash on and off.

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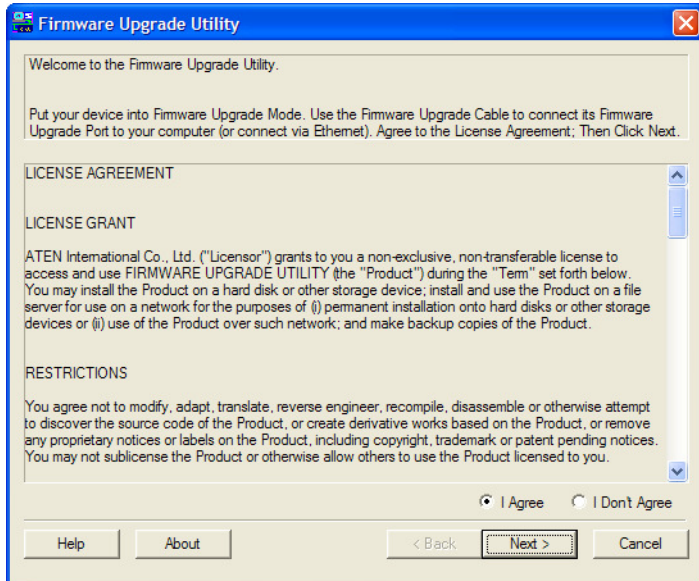
## Starting the Upgrade

---

To upgrade the firmware:

1. Run the downloaded firmware upgrade package file either by double-clicking the file icon, or by opening a command line and entering the full path to it.

The *Firmware Upgrade Utility* welcome screen appears:



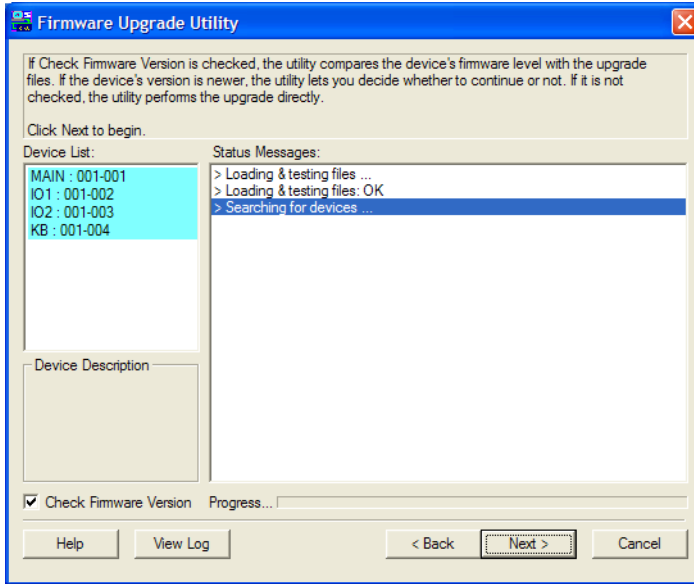
---

**Note:** The screens shown in this section are for reference only. The wording and layout of the actual screens put up by the *Firmware Upgrade Utility* may vary slightly from these examples.

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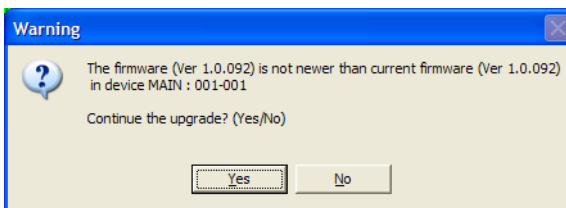
2. Read and *Agree* to the License Agreement (enable the I Agree radio button).
3. Click **Next** to continue.

The *Firmware Upgrade Utility* main screen appears. The devices capable of being upgraded are listed in the *Device List* panel:



4. Click **Next** to perform the upgrade.

If you enabled *Check Firmware Version*, the utility compares the device's firmware level with that of the upgrade files. If it finds that the device's version is higher than the upgrade version, it brings up a dialog box informing you of the situation and gives you the option to continue or cancel.



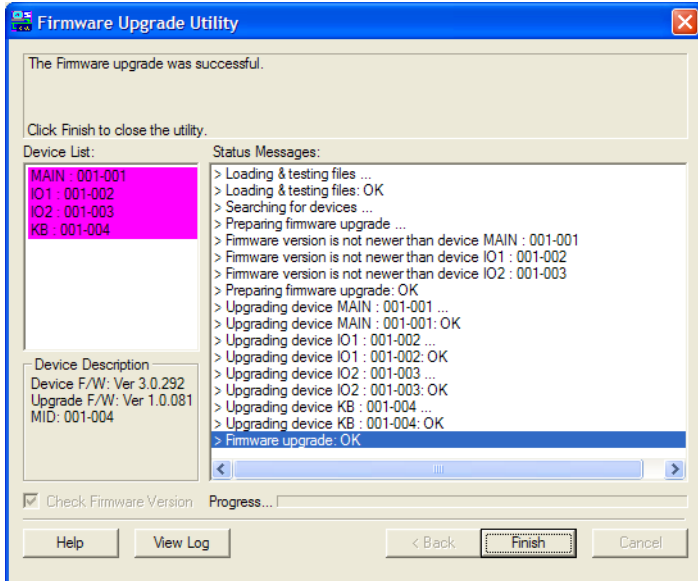
If you didn't enable *Check Firmware Version*, the utility installs the upgrade files without checking whether they are a higher level, or not.

As the upgrade proceeds, status messages appear in the *Status Messages* panel, and the progress toward completion is shown on the *Progress* bar.



## Upgrade Succeeded

After the upgrade has completed, a screen appears to inform you that the procedure was successful:



Click **Finish** to close the firmware upgrade utility.

## Upgrade Failed

---

If the firmware upgrade fails (*Upgrade Succeeded* screen does not appear), you can recover the situation.

Possible reasons for firmware upgrade failure are:

- ◆ When a firmware upgrade was manually aborted.
- ◆ When the unit's firmware becomes corrupted for some reason and you are unable to operate it.
- ◆ When a firmware upgrade procedure is interrupted.
- ◆ When a firmware upgrade procedure fails.

To recover a failed firmware upgrade, do the following:

1. Click **Cancel** to close the Firmware Upgrade Utility.
2. Power off the unit.
3. Connect the *firmware upgrade cable* to its *firmware upgrade port*.
4. Slide the *firmware upgrade switch* to the **Recover** position.
5. Power the unit back on and repeat the upgrade procedure (see *Starting the Upgrade* on page 59).
6. After the unit has been successfully upgraded, power it off, and slide the *firmware upgrade switch* back to the **Normal** position.
7. Power the unit back on again.

## 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.
- ◆ 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.
- ◆ 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.
- ◆ Do not connect the RJ-11 connector marked “UPGRADE” to a public telecommunication network.

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## **Rack Mount**

- ◆ 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.
- ◆ **Caution:** Slide/rail (LCD KVM) mounted equipment is not to be used as a shelf or a work space.



## Consignes de sécurité

---

### Général

- ♦ Ce produit est destiné exclusivement à une utilisation à l'intérieur.
- ♦ Veuillez lire la totalité de ces instructions. Conservez-les afin de pouvoir vous y référer ultérieurement.
- ♦ Respectez l'ensemble des avertissements et instructions inscrits sur l'appareil.
- ♦ Ne placez jamais l'unité sur une surface instable (chariot, pied, table, etc.). Si l'unité venait à tomber, elle serait gravement endommagée.
- ♦ N'utilisez pas l'unité à proximité de l'eau.
- ♦ Ne placez pas l'unité à proximité de ou sur des radiateurs ou bouches de chaleur.
- ♦ Le boîtier de l'unité est doté de fentes et d'ouvertures destinées à assurer une ventilation adéquate. Pour garantir un fonctionnement fiable et protéger l'unité contre les surchauffes, ces ouvertures ne doivent jamais être bloquées ou couvertes.
- ♦ L'unité ne doit jamais être placée sur une surface molle (lit, canapé, tapis, etc.) car ses ouvertures de ventilation se trouveraient bloquées. De même, l'unité ne doit pas être placée dans un meuble fermé à moins qu'une ventilation adaptée ne soit assurée.
- ♦ Ne renversez jamais de liquides de quelque sorte que ce soit sur l'unité.
- ♦ Débranchez l'unité de la prise murale avant de la nettoyer. N'utilisez pas de produits de nettoyage liquide ou sous forme d'aérosol. Utilisez un chiffon humide pour le nettoyage de l'unité.
- ♦ Evitez toute surcharge du circuit. Avant de connecter l'équipement à un circuit, vérifiez la limite de l'alimentation et ne la dépassez pas. Contrôlez toujours les caractéristiques électriques d'un circuit pour vous assurer de ne pas créer de situation dangereuse ou qu'il n'y en a pas déjà. Les surcharges du circuit peuvent provoquer un incendie et détruire l'équipement.
- ♦ L'appareil doit être alimenté par le type de source indiqué sur l'étiquette. Si vous n'êtes pas sûr du type d'alimentation disponible, consultez votre revendeur ou le fournisseur local d'électricité.
- ♦ Afin de ne pas endommager votre installation, vérifiez que tous les périphériques sont correctement mis à la terre.

- 
- ◆ L'unité est équipée d'une fiche de terre à trois fils. Il s'agit d'une fonction de sécurité. Si vous ne parvenez pas à insérer la fiche dans la prise murale, contactez votre électricité afin qu'il remplace cette dernière qui doit être obsolète. N'essayez pas d'aller à l'encontre de l'objectif de la fiche de terre. Respectez toujours les codes de câblage en vigueur dans votre région/pays.
  - ◆ L'équipement doit être installé à proximité de la prise murale et le dispositif de déconnexion (prise de courant femelle) doit être facile d'accès.
  - ◆ La prise murale doit être installée à proximité de l'équipement et doit être facile d'accès.
  - ◆ Veillez à ce que rien ne repose sur le cordon d'alimentation ou les câbles. Acheminez le cordon d'alimentation et les câbles de sorte que personne ne puisse marcher ou trébucher dessus.
  - ◆ En cas d'utilisation d'une rallonge avec cette unité, assurez-vous que le total des ampérages de tous les produits utilisés sur cette rallonge ne dépasse pas l'ampérage nominal de cette dernière. Assurez-vous que le total des ampérages de tous les produits branchés sur la prise murale ne dépasse pas 15 ampères.
  - ◆ Pour contribuer à protéger votre système contre les augmentations et diminutions soudaines et transitoires de puissance électrique, utilisez un parasurtenseur, un filtre de ligne ou un système d'alimentation sans coupure (UPS).
  - ◆ Placez les câbles du système et les câbles d'alimentation avec précaution ; veillez à ce que rien ne repose sur aucun des câbles.
  - ◆ Lors du branchement ou du débranchement à des blocs d'alimentation permettant la connexion à chaud, veuillez respecter les lignes directrices suivantes:
    - ◆ Installez le bloc d'alimentation avant de brancher le câble d'alimentation à celui-ci.
    - ◆ Débranchez le câble d'alimentation avant de retirer le bloc d'alimentation.
    - ◆ Si le système présente plusieurs sources d'alimentation, déconnectez le système de l'alimentation en débranchant tous les câbles d'alimentation des blocs d'alimentation.
    - ◆ N'insérez jamais d'objets de quelque sorte que ce soit dans ou à travers les fentes du boîtier. Ils pourraient entrer en contact avec des points de tension dangereuse ou court-circuiter des pièces, entraînant ainsi un risque d'incendie ou de choc électrique.
-

- ♦ N'essayez pas de réparer l'unité vous-même. Confiez toute opération de réparation à du personnel qualifié.
- ♦ Si les conditions suivantes se produisent, débranchez l'unité de la prise murale et amenez-la à un technicien qualifié pour la faire réparer:
  - ♦ Le cordon d'alimentation ou la fiche ont été endommagés ou éraillés.
  - ♦ Du liquide a été renversé dans l'unité.
  - ♦ L'unité a été exposée à la pluie ou à l'eau.
  - ♦ L'unité est tombée ou le boîtier a été endommagé.
  - ♦ Les performances de l'unité sont visiblement altérées, ce qui indique la nécessité d'une réparation.
  - ♦ L'unité ne fonctionne pas normalement bien que les instructions d'utilisation soient respectées.
- ♦ N'utilisez que les commandes qui sont abordées dans le mode d'emploi. Le réglage incorrect d'autres commandes peut être à l'origine de dommages qui nécessiteront beaucoup de travail pour qu'un technicien qualifié puisse réparer l'unité.
- ♦ Ne connectez pas le connecteur RJ-11 portant la marque « Sensor » (Capteur) à un réseau de télécommunication public.



## **Montage sur bâti**

- ◆ Avant de travailler sur le bâti, assurez-vous que les stabilisateurs sont bien fixés sur le bâti, qu'ils sont étendus au sol et que tout le poids du bâti repose sur le sol. Installez les stabilisateurs avant et latéraux sur un même bâti ou bien les stabilisateurs avant si plusieurs bâtis sont réunis, avant de travailler sur le bâti.
- ◆ Chargez toujours le bâti de bas en haut et chargez l'élément le plus lourd en premier.
- ◆ Assurez-vous que le bâti est à niveau et qu'il est stable avant de sortir une unité du bâti.
- ◆ Agissez avec précaution lorsque vous appuyez sur les loquets de libération du rail d'unité et lorsque vous faites coulisser une unité dans et hors d'un bâti ; vous pourriez vous pincer les doigts dans les rails.
- ◆ Une fois qu'une unité a été insérée dans le bâti, étendez avec précaution le rail dans une position de verrouillage puis faites glisser l'unité dans le bâti.
- ◆ Ne surchargez pas le circuit de l'alimentation CA qui alimente le bâti. La charge totale du bâti ne doit pas dépasser 80 % de la capacité du circuit.
- ◆ Assurez-vous que tous les équipements utilisés sur le bâti, y-compris les multiprises et autres connecteurs électriques, sont correctement mis à la terre.
- ◆ Assurez-vous que les unités présentes dans le bâti bénéficie d'une circulation d'air suffisante.
- ◆ Assurez-vous que la température ambiante de fonctionnement de l'environnement du bâti ne dépasse pas la température ambiante maximale spécifiée pour l'équipement par le fabricant.
- ◆ Ne marchez sur aucun appareil lors de la maintenance d'autres appareils d'un bâti.
- ◆ **Attention:** Glisser / rail (LCD KVM) monté l'équipement ne doit pas être utilisé comme une étagère ou un espace de travail.



## Technical Support

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### International

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

### North America

Email Support		<a href="mailto:support@aten-usa.com">support@aten-usa.com</a>
Online Technical Support	Troubleshooting Documentation Software Updates	<a href="http://support.aten.com">http://support.aten.com</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		CL5708M	CL5708N
<b>Computer Connections</b>	Direct	8	8
	Max	256 (via Daisy Chain)	256 (via Daisy Chain)
<b>Port Selection</b>		OSD, Hotkey, Pushbutton	OSD, Hotkey, Pushbutton
<b>Connectors</b>	KVM Ports	8 x SPHD Female (Yellow)	8 x SPHD Female (Yellow)
	Daisy Chain Port	1 x DB-25 Male	1 x DB-25 Male
	Firmware Upgrade	1 x RJ-11 Female	1 x RJ-11 Female
	Power	1 x IEC 60320/C14	1 x IEC 60320/C14
	External Console Port	1 x SPHD Male (Yellow)	1 x SPHD Male (Yellow)
	External Mouse Port	1 x USB Type-A Female (Front)	1 x USB Type-A Female (Front)
	USB Port	1 x USB Type-A Female	1 x USB Type-A Female
<b>Switches</b>	Port Selection	2 x Pushbuttons	2 x Pushbuttons
	Station Selection	2 x Pushbuttons	2 x Pushbuttons
	Reset	1 x Semi-recessed Pushbutton	1 x Semi-recessed Pushbutton
	Firmware Upgrade	1 x Slide Switch	1 x Slide Switch
	Power	1 x Rocker Switch	1 x Rocker Switch
	LCD Control	4 x Pushbuttons	4 x Pushbuttons
	LCD Power	1 x LED Pushbutton	1 x LED Pushbutton

Function		CL5708M	CL5708N
<b>LEDs</b>	On Line	8 (Orange)	8 (Orange)
	Port ID	2 x 7-segment LED Displays (Orange)	2 x 7-segment LED Displays (Orange)
	Station ID	2 x 7-segment LED Displays (Orange)	2 x 7-segment LED Displays (Orange)
	Power	1 (Dark Green)	1 (Dark Green)
	Lock	1 x Num Lock (Green)	1 x Num Lock (Green)
		1 x Caps Lock (Green)	1 x Caps Lock (Green)
		1 x Scroll Lock (Green)	1 x Scroll Lock (Green)
LED Illumination Light	1 x LED Illumination Light	1 x LED Illumination Light	
<b>Panel Spec</b>	LCD Module	17" TFT-LCD	19" TFT-LCD
	Resolution	1280 x 1024 @ 75 Hz	1280 x 1024 @ 75 Hz
	Response Time	5 ms	5 ms
	Viewing Angle	170° (H), 160° (V)	170° (H), 160° (V)
	Pixel Pitch	0.264 mm x 0.264 mm	0.294 mm x 0.294 mm
	Supported Color	16.77 M Colors	16.77 M Colors
	Contrast Ratio	1000 : 1	1000 : 1
	Luminance	250 cd/m <sup>2</sup>	250 cd/m <sup>2</sup>
<b>Video</b>	Input Video Resolution	Up to 1920 x 1200 @ 60 Hz; 1280 x 1024 @ 75 Hz, DDC2B	Up to 1920 x 1200 @ 60 Hz; 1280 x 1024 @ 75 Hz, DDC2B
<b>Scan Interval</b>		1-255 seconds	1-255 seconds
<b>Emulation</b>	Keyboard / Mouse	PS/2, USB	PS/2, USB
<b>Maximum Input Power Rating</b>		100–240V AC, 50-60 Hz, 1 A	100–240V AC, 50-60 Hz, 1 A
<b>Power Consumption</b>		AC110V:23.9W:125BTU AC220V:25.1W:130BTU	AC110V:26.1W:135BTU AC220V:27.2W:140BTU
<b>Environmental</b>	Operating Temp.	0 – 40 °C	0 – 50 °C
	Storage Temp.	-20 – 60 °C	-20 – 60 °C
	Humidity	0–85% RH, Non-condensing	0–85% RH, Non-condensing

Function		CL5708M	CL5708N
<b>Physical Properties</b>	Housing	Metal + Plastic	Metal + Plastic
	Rail Type	Single Rail	Single Rail
	Weight	13.47 kg (29.67 lb)	13.39 kg (29.49 lb)
	Dimensions (L x W x H)	48.00 x 64.27 x 4.40 cm (18.90 x 25.30 x 1.73 in)	48.00 x 68.92 x 4.40 cm (18.90 x 27.13 x 1.73 in)

Function		CL5716M	CL5716N
<b>Computer Connections</b>	Direct	16	16
	Max	512 (via Daisy Chain)	512 (via Daisy Chain)
<b>Port Selection</b>		OSD, Hotkey, Pushbutton	OSD, Hotkey, Pushbutton
<b>Connectors</b>	KVM Ports	16 x SPHD Female (Yellow)	16 x SPHD Female (Yellow)
	Daisy Chain Port	1 x DB-25 Male	1 x DB-25 Male
	Firmware Upgrade	1 x RJ-11 Female	1 x RJ-11 Female
	Power	1 x IEC 60320/C14	1 x IEC 60320/C14
	External Console Port	1 x SPHD Male (Yellow)	1 x SPHD Male (Yellow)
	External Mouse Port	1 x USB Type-A Female (Front)	1 x USB Type-A Female (Front)
	USB Port	1 x USB Type-A Female	1 x USB Type-A Female
<b>Switches</b>	Port Selection	2 x Pushbuttons	2 x Pushbuttons
	Station Selection	2 x Pushbuttons	2 x Pushbuttons
	Reset	1 x Semi-recessed Pushbutton	1 x Semi-recessed Pushbutton
	Firmware Upgrade	1 x Slide Switch	1 x Slide Switch
	Power	1 x Rocker Switch	1 x Rocker Switch
	LCD Control	4 x Pushbuttons	4 x Pushbuttons
	LCD Power	1 x LED Pushbutton	1 x LED Pushbutton

Function		CL5716M	CL5716N
<b>LEDs</b>	On Line	16 (Orange)	16 (Orange)
	Port ID	2 x 7-segment LED Displays (Orange)	2 x 7-segment LED Displays (Orange)
	Station ID	2 x 7-segment LED Displays (Orange)	2 x 7-segment LED Displays (Orange)
	Power	1 (Dark Green)	1 (Dark Green)
	Lock	1 x Num Lock (Green)	1 x Num Lock (Green)
		1 x Caps Lock (Green)	1 x Caps Lock (Green)
		1 x Scroll Lock (Green)	1 x Scroll Lock (Green)
LED Illumination Light	1 x LED Illumination Light	1 x LED Illumination Light	
<b>Panel Spec</b>	LCD Module	17" TFT-LCD	19" TFT-LCD
	Resolution	1280 x 1024 @ 75 Hz	1280 x 1024 @ 75 Hz
	Response Time	5 ms	5 ms
	Viewing Angle	170° (H), 160° (V)	170° (H), 160° (V)
	Pixel Pitch	0.264 mm x 0.264 mm	0.294 mm x 0.294 mm
	Supported Color	16.77 M Colors	16.77 M Colors
	Contrast Ratio	1000 : 1	1000 : 1
	Luminance	250 cd/m <sup>2</sup>	250 cd/m <sup>2</sup>
<b>Video</b>	Input Video Resolution	Up to 1920 x 1200 @ 60 Hz; 1280 x 1024 @ 75 Hz, DDC2B	Up to 1920 x 1200 @ 60 Hz; 1280 x 1024 @ 75 Hz, DDC2B
<b>Scan Interval</b>		1-255 seconds	1-255 seconds
<b>Emulation</b>	Keyboard / Mouse	PS/2, USB	PS/2, USB
<b>Maximum Input Power Rating</b>		100–240V AC, 50-60 Hz, 1 A	100–240V AC, 50-60 Hz, 1 A
<b>Power Consumption</b>		AC110V:24.7W:129BTU AC220V:25.8W:134BTU	AC110V:26.9W:139BTU AC220V:27.9W:144BTU
<b>Environmental</b>	Operating Temp.	0 – 40 °C	0 – 50 °C
	Storage Temp.	-20 – 60 °C	-20 – 60 °C
	Humidity	0 – 85% RH, Non-condensing	0 – 85% RH, Non-condensing

Function		CL5716M	CL5716N
<b>Physical Properties</b>	Housing	Metal + Plastic	Metal + Plastic
	Rail Type	Single Rail	Single Rail
	Weight	13.59 kg (29.93 lb)	13.65 kg (30.07 lb)
	Dimensions (L x W x H)	48.00 x 64.27 x 4.40 cm (18.90 x 25.30 x 1.73 in)	48.00 x 68.92 x 4.40 cm (18.90 x 27.13 x 1.73 in)

## Connection Tables

The following tables indicate the relationship between the number of units and the number of computers that they control on a daisy chained installation.

### CL5708 to Compatible 8-Port Switches

No.	Computers	No.	Computers	No.	Computers	No.	Computers
1	1-8	9	65-72	17	129-136	25	193-200
2	9-16	10	73-80	18	137-144	26	201-208
3	17-24	11	81-88	19	145-152	27	209-216
4	25-32	12	89-96	20	153-160	28	217-224
5	33-40	13	97-104	21	161-168	29	225-232
6	41-48	14	105-112	22	169-176	30	233-240
7	49-56	15	113-120	23	177-184	31	241-248
8	57-64	16	121-128	24	185-192	32	249-256

### CL5708 to Compatible 16-Port Switches

No.	Computers	No.	Computers	No.	Computers	No.	Computers
1	1-8	9	121-136	17	249-264	25	377-392
2	9-24	10	137-152	18	265-280	26	393-408
3	25-40	11	152-168	19	281-296	27	409-424
4	41-56	12	169-184	20	297-312	28	425-440
5	57-72	13	185-200	21	313-328	29	441-456
6	73-88	14	201-216	22	329-344	30	457-472
7	89-104	15	217-232	23	345-360	31	473-488
8	105-120	16	233-248	24	361-376	32	489-504



## **CL5716 to Compatible 8-Port Switches**

<b>No.</b>	<b>Computers</b>	<b>No.</b>	<b>Computers</b>	<b>No.</b>	<b>Computers</b>	<b>No.</b>	<b>Computers</b>
1	1–16	9	73–80	17	137–144	25	201–208
2	17–24	10	81–88	18	145–152	26	209–216
3	25–32	11	89–96	19	153–160	27	217–224
4	33–40	12	97–104	20	161–168	28	225–232
5	41–48	13	105–112	21	169–176	29	233–240
6	49–56	14	113–120	22	177–184	30	241–248
7	57–64	15	121–128	23	185–192	31	249–256
8	65–72	16	129–136	24	193–200	32	257–264

## **CL5716 to Compatible 16-Port Switches**

<b>No.</b>	<b>Computers</b>	<b>No.</b>	<b>Computers</b>	<b>No.</b>	<b>Computers</b>	<b>No.</b>	<b>Computers</b>
1	1–16	9	129–144	17	257–272	25	385–400
2	17–32	10	145–160	18	273–288	26	401–416
3	33–48	11	161–176	19	289–304	27	417–432
4	49–64	12	177–192	20	305–320	28	433–448
5	65–80	13	193–208	21	321–336	29	449–464
6	81–96	14	209–224	22	337–352	30	465–480
7	97–112	15	225–240	23	353–368	31	481–496
8	113–128	16	241–256	24	369–384	32	497–512

## Supported KVM Switches

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The table below lists KVM switches that are compatible with the CL5708 / CL5716 and the type of expansion that they use. (KVM switches listed below are sold separately. Contact your dealer for details.)

Expansion Type	Brand	Model	Name
Daisy Chain	ATEN	ACS1208A	8 Port PS/2 KVM Switch
		ACS1216A	16 Port PS/2 KVM Switch
		CS1708	8 Port USB KVM Switch
		CS1716	16 Port USB KVM Switch
		CS1708A	8 Port USB / PS/2 KVM Switch
		CS1716A	16 Port USB / PS/2 KVM Switch

Please keep in mind the following limitations when installing more than one KVM switch:

- ♦ The maximum distance between the CL5708 / CL5716 and the last switch in the daisy chain cannot exceed 100 meters, regardless of the number of switches in the daisy chain.
- ♦ The maximum distance between any two KVM switches in the daisy chain cannot exceed 15 meters.

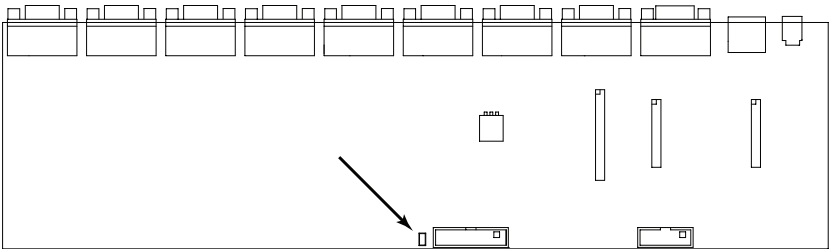
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## Clear Login Information

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If you are unable to perform an Administrator login (because the Username and Password information has become corrupted, or you have forgotten it), you can clear the login information with the following procedure.

1. Power off the switch and remove the top cover from the unit chassis.
2. Short the jumper labeled *Default Password* on the switch's main board



3. Power on the switch.

When you power the switch on, the following message appears on the LCD display:

```
USERNAME AND PASSWORD INFORMATION HAS BEEN CLEARED.  
PLEASE POWER OFF THE SWITCH, REMOVE THE JUMPER, CLOSE  
THE CASE, THEN RESTART.
```

4. After you start back up, the OSD login function acts exactly the way it did the first time the switch was run (see *OSD Overview*, page 31) and you can reset passwords for the Administrators and Users.

## OSD Factory Default Settings

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The factory default settings are as follows:

<b>Setting</b>	<b>Default</b>
OSD Hotkey	[Scroll Lock] [Scroll Lock]
Port ID Display Position	Upper Left Corner
Port ID Display Duration	3 Seconds
Port ID Display Mode	Port Number plus the Port Name
Scan Duration	5 Seconds
Scan/Skip Mode	All
Screen Blanker	0 (Disabled)
Logout Timeout	0 (Disabled)
Beeper	Y (Activated)
Accessible Ports	F (Full) for all users on all ports

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## Troubleshooting

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### Overview

Operation problems can be due to a variety of causes. The first step in solving them is to make sure that all cables are securely attached and seated completely in their sockets.

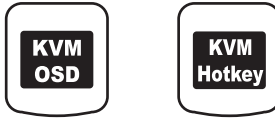
In addition, updating the product's firmware may solve problems that have been discovered and resolved since the prior version was released. If your product is not running the latest firmware version, we strongly recommend that you upgrade. See *The Firmware Upgrade Utility*, page 57, for upgrade details.

Problem	Solution
There are ghost images on the external monitor.	The distance between the external console and the CL5708 / CL5716 is too great. The maximum VGA cable distance should not exceed 20m and, in some cases, may need to be shorter. Replace the VGA cable with one of an appropriately short length.

## Keyboard Invocation Keys

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Two dedicated keys are provided on the keyboard module to make it easy to invoke Hotkey mode and the OSD, as shown in the diagram, below



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**Note:** These keys are toggles. Press them once to invoke the feature, press them again to exit.

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## About SPHD Connectors

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This product uses SPHD connectors for its KVM and/or Console ports. We have specifically modified the shape of these connectors so that only KVM cables that we have designed to work with this product can be connected.

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## 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/>

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