LCD KVM Switch
CL5808/CL5816

User Manual

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EMC Information

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

The device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

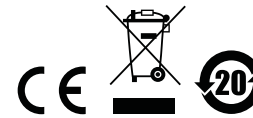
FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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

KCC Statement: 유선 제품용 / A 급 기기 (업무용 방송 통신 기기)
이 기기는 업무용 (A 급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며 , 가정 외의 지역에서 사용하는 것을 목적으로 합니다 .

RoHS

This product is RoHS compliant.



SJ/T 11364-2006

The following contains information that relates to China.

部件名称	有毒有害物质或元素					
	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚
电器部件	●	○	○	○	○	○
机构部件	○	○	○	○	○	○

○: 表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T 11363-2006规定的限量要求之下。

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User Information

Online Registration

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

International	http://eservice.aten.com

Telephone Support

For telephone support, call this number:

International	886-2-8692-6959
China	86-10-5255-0110
Japan	81-3-5615-5811
Korea	82-2-467-6789
North America	1-888-999-ATEN ext 4988
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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.

Package Contents

Basic Package

The basic CL5808/CL5816 package consists of:

- 1 CL5808/CL5816 KVM Switch with Standard Rack Mounting Kit
- 2 Custom KVM Cables
- 1 5-in-1 Console Cable
- 1 Firmware Upgrade Cable
- 1 Power Cord
- 1 User Instructions*

Optional Equipment

Depending on any optional equipment that you may have purchased, one of the following may be included in your package:

- Standard Rack Mounting Kit - Long
- Easy-Installation Rack Mounting Kit - Short
- Easy-Installation Rack Mounting Kit - Long
- Fingerprint Identification Module

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

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

***** Features may have been added to the CL5808/CL5816 since this manual was printed. Please visit our website to download the most up-to-date version of the manual.

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About this Manual

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

Chapter 1, Introduction, introduces you to the CL5808/CL5816 system. Its purpose, features and benefits are presented, and its front and back panel components are described.

Chapter 2, Hardware Setup, describes how to set up your installation. The necessary steps – from a basic single stage hookup to a complete 32 switch daisy chained operation are provided.

Chapter 3, Basic Operation, explains the fundamental concepts involved in operating the CL5808/CL5816.

Chapter 4, OSD Operation, provides a complete description of the CL5808/CL5816's OSD (On Screen Display), and how to work with it.

Chapter 5, Keyboard Port Operation, details all of the concepts and procedures involved in the Hotkey operation of your CL5808/CL5816 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 use this utility to upgrade the CL5808/CL5816's firmware with the latest available versions.

An Appendix, provides specifications and other technical information regarding the CL5808/CL5816.

Conventions

This manual uses the following conventions:

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

Product Information

For information about all 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	http://www.aten.com
North America	http://www.aten-usa.com

Chapter 1
Introduction

Overview

The CL5808/CL5816 LCD KVM Switch is an integrated LCD console and keyboard, video, and mouse (KVM) switch that offers secure access to 8 or 16 attached computers and mounts in only 1U of rack space.

The CL5808/CL5816's 19" LED-backlit LCD monitor and keyboard/touch pad slide independently of each other. To maximize space in your data center, the keyboard/touch pad module slides back to "hide away" when not in use, while the thin profile LCD monitor rotates back – flush against the rack – allowing convenient monitoring of computer activity. An extra console port is provided on the rear panel to manage the LCD KVM switch from an optional external console (monitor, keyboard, and mouse). For added convenience it also supports an external USB mouse.

The CL5808/CL5816 supports both PS/2 and USB keyboards and mice for the connected computers, and the CL5808/CL5816 supports USB peripheral devices to be used with the attached computers. A single CL5808/CL5816 can control up to 8 or 16 computers. As many as 31 additional compatible KVM switches can be daisy chained together, so that up to 256 or 512 computers can all be controlled from a single keyboard, monitor, and mouse console (See the Appendix for a list of compatible ATEN switches).

The CL5808/CL5816 is built on a modular design. The KVM section can be detached from the switch section for convenient maintenance and repair.

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

Model	LCD Panel	KVM Ports	Power
CL5808	19"	8	AC
CL5816	19"	16	AC

Your CL5808/CL5816 investment is protected by an included firmware upgrade utility. You can stay current 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. Because the CL5808/CL5816 intercepts keyboard input directly, there is no software to configure, no need to get involved in complex installation routines, nor any need to be concerned with incompatibility problems.

Access to any computer connected to the installation is easily accomplished either by entering Hotkey combinations from the keyboard, or by means of a powerful, mouse driven, OSD (on-screen display) menu system. A convenient *Auto Scan* feature also permits automatic scanning and monitoring of the activities of all computers running on the installation one by one.

There is no better way to save time and money than with a CL5808/CL5816 installation. By using the CL5808/CL5816 with its sliding LCD console to manage your installation, you: eliminate the expense of having to purchase a separate keyboard, monitor, and mouse for each computer; save all the space those extra components would take up; save the space that a keyboard, monitor, and mouse would take with a standard KVM switch; save on energy costs; and eliminate the inconvenience and wasted effort involved in constantly moving from one computer to another.

Features

- Exclusive LED illumination light - designed by ATEN to illuminate the keyboard and touchpad and allow visibility in low-light conditions
- Integrated KVM console with 19” LED-backlit LCD in a Dual-Rail Slideaway™ housing
- Space saving technology – up to two consoles (one bus) control up to 8 or 16 computers
- Daisy chain up to 31 additional units – control up to 256 (CL5808) or 512 (CL5816) computers from a single console
- Dual Interface – supports computers with PS/2 or USB keyboards and mice
- USB port – allows each connected computer to access an attached USB peripheral*
- 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 up to 1280 x 1024 @ 75 Hz
- No software required – convenient computer selection via mouse-driven, intuitive OSD (on-screen display) menus and Hotkeys
- 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 view and control computers
- Supports one administrator and four user accounts with separate profiles
- Auto Scan mode enables continuous monitoring of user-selected computers
- Broadcast support – commands from the keyboard can be broadcast to all available computers on the installation
- Hot pluggable – add or remove computers without having to power down the switch
- Beeper on/off via Hotkey and OSD
- Firmware upgrades to all the chained KVM switches at the same time via the daisy chain cable

***** Only for computers connected with USB KVM cables.

- Extra console port – manage computers from an external console (monitor, USB or PS/2 keyboard and mouse)
- Supports external USB mouse
- Convenient direct port selector buttons (8 or 16) each with 2 LEDs that indicate whether the server is powered-on and selected.
- Station Up/Down Navigation buttons with a 2x7 segment LED display indicating the currently selected station of a daisy chained installation.
- Port Navigation Buttons located on the front LCD panel for quick port switching when the keyboard module is in the Slideaway™ position behind and hidden.
- 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
- 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 authorization for enhanced security protection; Administrator access rights synchronized between master and slave 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 1U of rack space
- DDC emulation – video settings of each computer are automatically adjusted for optimal output to the monitor
- Standard 105-key keyboard
- Keyboard status restored when switching computers
- Keyboard languages supported: English (US), English (UK), French, German, German (Swiss), Greek, Hungarian, Italian, Japanese, Korean, Russian, Spanish, Swedish and Traditional Chinese

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.

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.

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

Cables

Substandard cables may damage the connected devices or degrade overall performance. For optimum signal integrity and to simplify the 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 1.8 m 3.0 m 5.0 m 15.0 m	2L-1700 2L-1701 2L-1703 2L-1705 2L-1715
USB KVM cables	1.2 m 1.8 m 3.0 m 5.0 m	2L-5201U 2L-5202U 2L-5203U 2L-5205U
PS/2 KVM cables	1.2 m 1.8 m 3.0 m 6.0 m	2L-5201P 2L-5202P / 2L-5702P 2L-5203P 2L-5206P

PS/2-USB KVM cables	1.2 m 1.8 m 3.0 m	2L-5301UP 2L-5302UP 2L-5303UP

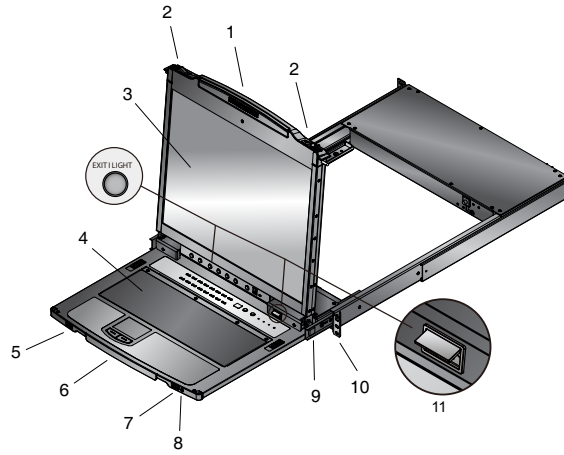
Operating Systems

Supported operating systems are shown in the table, below:

OS		Version
Windows		2000 and higher
Linux	RedHat	7.1 and higher
	SuSE	9.0 and higher
	Mandriva (Mandrake)	9.0 and higher
UNIX	AIX	4.3 and higher
	FreeBSD	4.2 and higher
	Sun	Solaris 8 and higher
Novell	Netware	5.0 and higher
Mac		OS 9 and higher
DOS		6.22

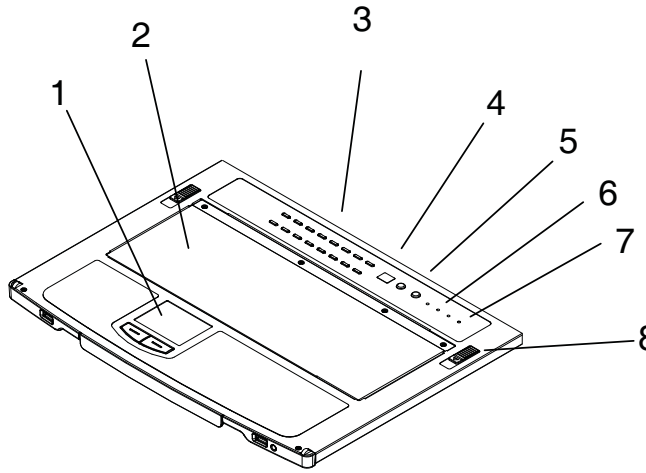
Components

Front View



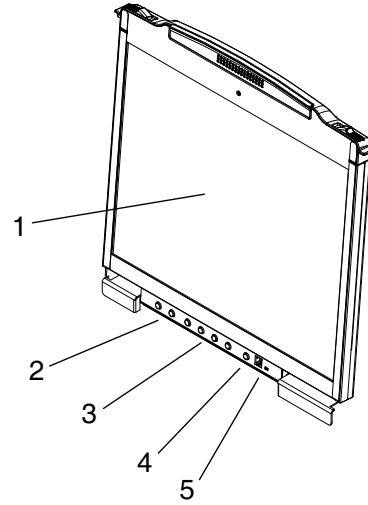
No.	Component	Description
1	Upper Handle	Pull to slide the LCD module out; push to slide it in. See *Opening the Console*, page 19, for details on sliding the console in and out
2	Module Release Catches	In order to slide the console out, you must first release it by sliding these catches to the inside.
3	LCD Module	See *LCD Module*, page 9.
4	Keyboard Module	See *Keyboard Module*, page 8.
5	USB Port	The USB port is available to connect a USB 1.1 peripheral device (flash drive, CD-ROM drive, etc.) to the switch.
6	Lower Handle	Pull to slide the Keyboard module out; push to slide it in.
7	External Mouse Port	A USB mouse port is provided for users who prefer to use an external mouse.
8	Power LED	Lights (blue) to indicate that the unit is receiving power.
9	LCD Release Catch	These catches (one on each side) release the LCD Module so that you can slide it away.
10	Rack Mounting Tabs	Rack mounting tabs are located at each corner of the unit. See *Standard Rack Mounting*, page 12, for details.
11	LED Illumination Light	Press the Exit/Light pushbutton for two seconds to turn the LED light ON or Off. (Default: On)

Keyboard Module



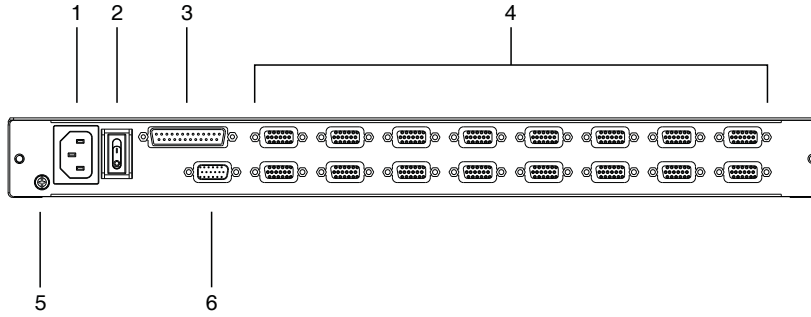
No.	Component	Description
1	Touchpad	Standard mouse touchpad
2	Keyboard	Standard 105-key keyboard
3	Port Selection Buttons and LEDs	To access a Port on the currently selected Station press its corresponding port selection button. Indicator LEDs are built into the switches: ◆ An **On Line** LED lights to indicate that the computer attached to its corresponding port is up and running. ◆ A **Selected** LED lights to indicate which port has the KVM focus.
4	Station ID LED	In a daisy chained installation, the Station ID of the currently selected station displays as a 2 digit figure in this panel. See *Manual Port Switching*, page 29 for further details.
5	Station Selection Buttons	In a daisy chained installation, press the UP or DOWN button to cycle to the desired Station. ◆ The left (DOWN) button shifts the KVM focus down the chain (Station 2 → Station 1, etc.). After Station 1, it cycles back to the last station. ◆ The right (UP) button shifts the KVM focus up the chain. After the last station, it cycles to Station 1.
6	Lock LEDs	Num Lock, Caps Lock, Scroll Lock LEDs are located here.
7	Reset Switch	Located to the right of the Lock LEDs. Press this recessed switch in with a small object to perform a system reset.
8	Keyboard Release Catch	These catches (one on each side) release the keyboard/ touchpad module so you can slide it away.

LCD Module



No.	Component	Description
1	LCD Display	After sliding the LCD module out, flip up the cover to access the LCD monitor.
2	Port Navigation Switches	These buttons can be used to access a port when the Keyboard Module isn't extended. Press the UP or DOWN button to cycle forward or backward through the ports. ◆ The left (DOWN) button shifts the KVM focus down the chain (Port 2 → Port 1, etc.). After Port 1, it cycles to the last port. ◆ The right (UP) button shifts the KVM focus up the chain. After the last port, it cycles back to Port 1.
3	LCD OSD Controls	Buttons to control the position and picture settings of the LCD display are located here. See *LCD OSD Configuration*, page 26, for details.
4	LCD Power Button	Press this button to turn the LCD monitor on and off. When the LCD monitor is off, this button illuminates; when the LCD monitor is on, this button does not illuminate. (This function only affects the monitor, not the KVM switch itself.)
5	Firmware Upgrade Section	◆ Firmware Upgrade Port: The Firmware Upgrade Cable that transfers the firmware upgrade data from the administrator's computer to the CL5808/CL5816 plugs into this RJ-11 connector. ◆ Firmware Upgrade Switch: During normal operation this switch should be in the NORMAL position. (See *The Firmware Upgrade Utility*, page 57 for firmware upgrading details.)

Rear View

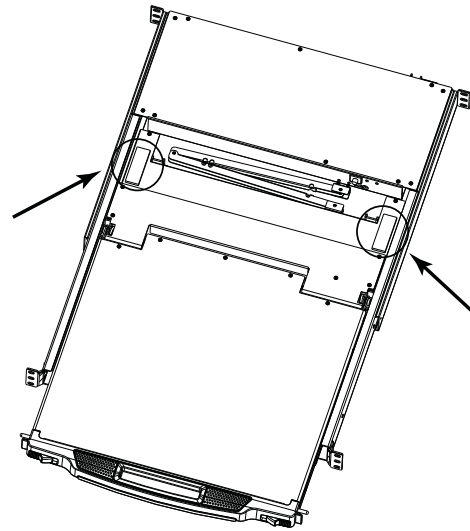


No.	Component	Description
1	Power Socket	This is a standard 3-prong AC power socket. The power cord from an AC source plugs in here.
2	Power Switch	This standard rocker switch powers the unit on and off.
3	Daisy Chain Port	When daisy chaining units, the daisy chain cable plugs in here.
4	KVM Port Section	The cables that link to the computers plug in here. **Note:** 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 *Cables*, page 5 for details). Do **NOT** 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 CL5808/CL5816 supports an independent, external, KVM console. If you choose to install an external console, the Console Cable (supplied with the CL5808/CL5816 package), plugs in here.

Chapter 2
Hardware Setup

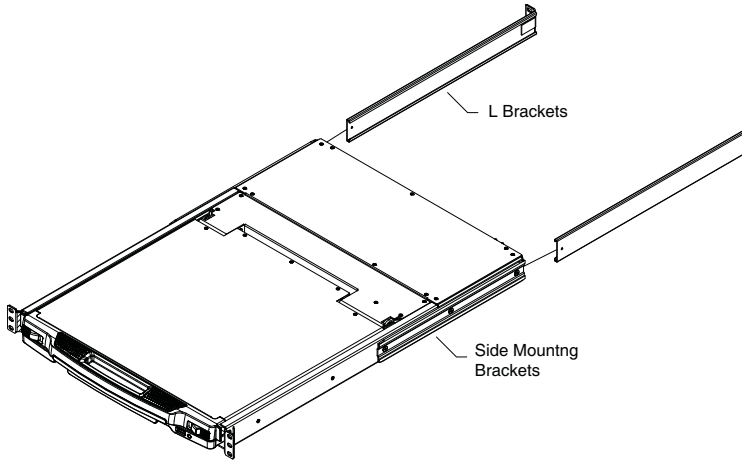
Before you Begin

1. Important safety information regarding the placement of this device is provided on page 63. Please review it before proceeding.
2. Make sure that power to all the devices you will be connecting up has been turned off. You must unplug the power cords of any computers that have the Keyboard Power On function.
3. Packing material has been inserted to protect the CL5808/ CL5816 during shipping. Slide the LCD module out (see *Opening the Console*, page 19, for details), until the packing material is visible. Remove the packing material before installing the unit, as shown in the diagram below.



Standard Rack Mounting

A standard rack mounting kit is provided with your CL5808/CL5816. The kit enables the CL5808/CL5816 to be mounted in rack with a depth of 52–85 cm.



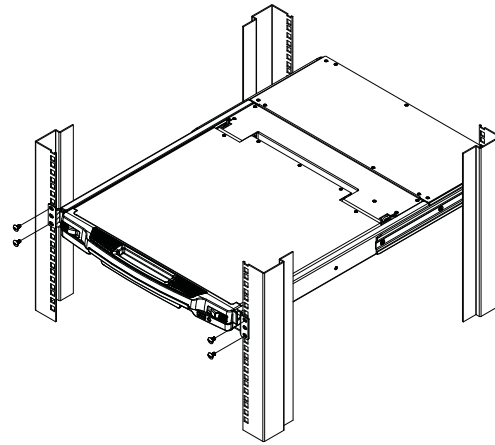
Note: 1. It takes two people to mount the switch: one to hold it in place, the other to screw it in.

2. The standard rack mounting kit does not include screws or cage nuts. If you need additional screws or cage nuts, contact your rack dealer.

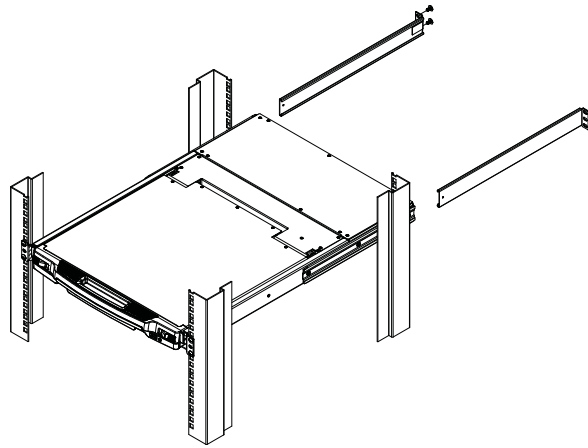
3. Optional mounting kits - including single person *Easy Installation* kits - are available with a separate purchase. see *Optional Rack Mounting*, page 78, for details.

To rack mount the CL5808/CL5816, do the following:

1. While one person positions the switch in the rack and holds it in place, the second person loosely screws the front brackets to the rack.



2. While the first person still holds the switch in place, the second person slides the L brackets into the switch's side mounting brackets, from the rear until the bracket flanges contact the rack, then screws the L brackets to the rack.



3. After the L brackets have been secured, tighten the front bracket screws.

Note: Allow at least 5.1 cm on each side for proper ventilation, and at least 12.7 cm at the back for the power cord and cable clearance.

Single Stage Installation

In a single stage installation, there are no additional switches daisy chained from the first unit. To set up a single stage installation, refer to the installation diagrams on the following pages (the numbers in the diagrams correspond to the numbers of the installation steps), and do the following:

1. Ground the CL5808/CL5816 by connecting one end of a grounding wire to the grounding terminal, and the other end of the wire to a suitable grounded object.

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

2. If you choose to connect an external console to the CL5808/CL5816, use the console cable provided to plug a keyboard, monitor, and mouse into the *Console Port*. See *Console Cable Installation Diagram*, page 16.

   Note: 1. Connecting an external console is optional.

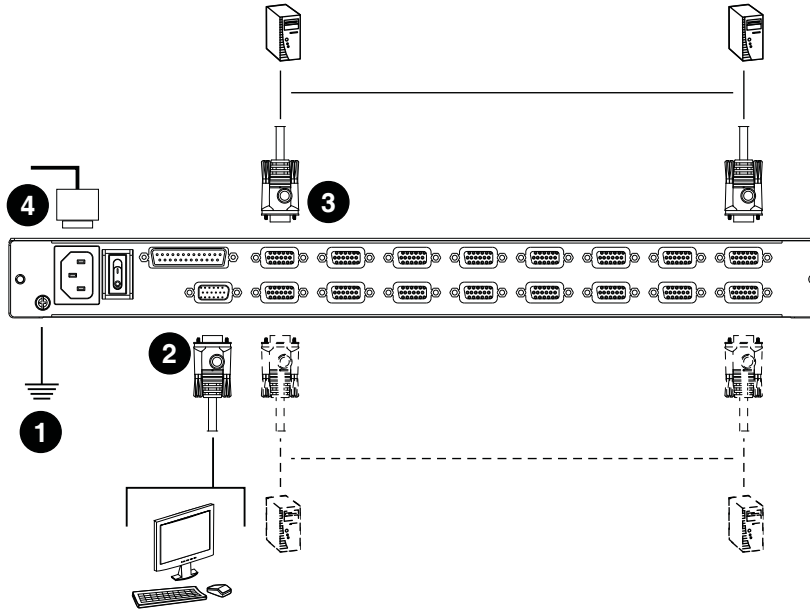
   2. You can use any combination of keyboard and mouse connections. For example, you can use a PS/2 keyboard with a USB mouse.

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 16.

4. Plug the power cord into the CL5808/CL5816 power socket and into a AC power source.

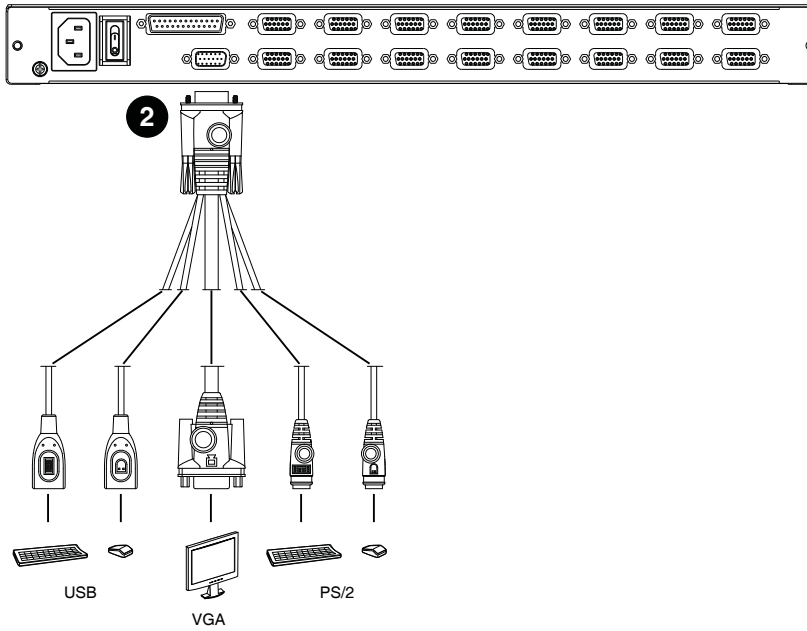
After you have completed the installation procedures, power on the CL5808/CL5816 (see *Powering Off and Restarting*, page 25 for details). After the CL5808/CL5816 is powered on, power on the computers.

Single Stage Installation Diagram



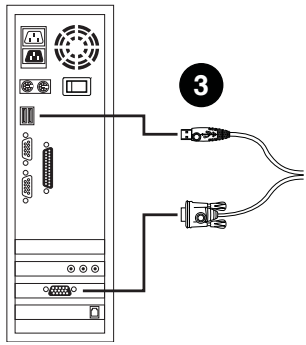
Cabling Diagrams

Console Cable Installation Diagram

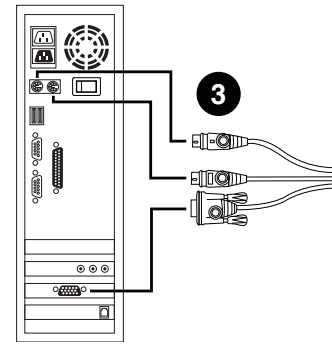


KVM Cable Installation Diagrams

USB KVM Cable Connection



PS/2 KVM Cable Connection



Daisy Chaining

To control even more computers, up to 31 compatible KVM switches can be daisy chained from the first stage CL5808/CL5816 (see *Supported KVM Switches*, page 75, for details). In a complete installation, as many as 256 or 512 computers can be controlled from the CL5808/CL5816. Tables showing the relation between the number of computers and the number of units needed to control them are provided on page 73 in the Appendix.

To set up a daisy chain installation, first make sure that power to all the devices you will be connecting have been turned off. Then, refer to the daisy chain installation diagram on page 18, as you do the following:

1. Use a daisy chain cable set (described in the *Cables* section, page 5), to connect the *Chain Out* port of the parent CL5808/CL5816 to the *Chain In* port of the child switch (first station out to second station in, second station out to third station in, etc.).

   Note: 1. The maximum distance between any two stations is 15 m.

   2. The total maximum distance from the first station to the last station is 100 m, regardless of the number of stations in the chain. The daisy-chain functionality is not guaranteed should any of the inter-station distances follow Note 1 above.

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 16.

3. Repeat the above steps for any additional units you wish to add to the chain.

4. Power up the installation according to the following procedure:

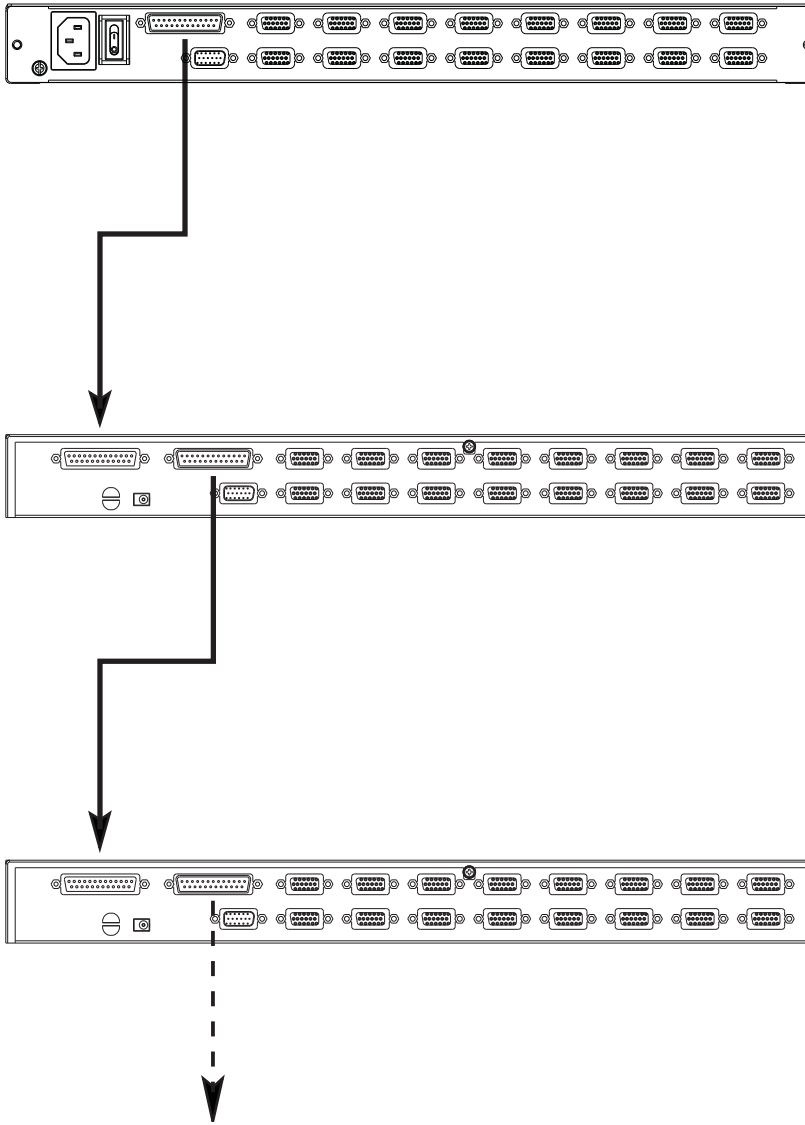
   a) Power on the CL5808/CL5816.

   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.

Daisy Chain Installation Diagram



Chapter 3
Basic Operation

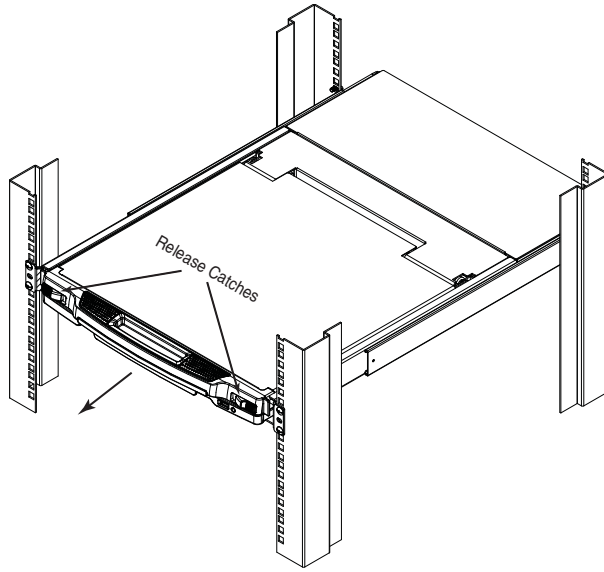
Opening the Console

The CL5808/CL5816's console consists of two modules: an LCD display module located under the top cover; and a keyboard / touch pad module below the LCD module.

The modules can either slide together, or independently. This allows you to have the LCD display available for viewing while the keyboard / touch pad module is conveniently out of the way when not in use.

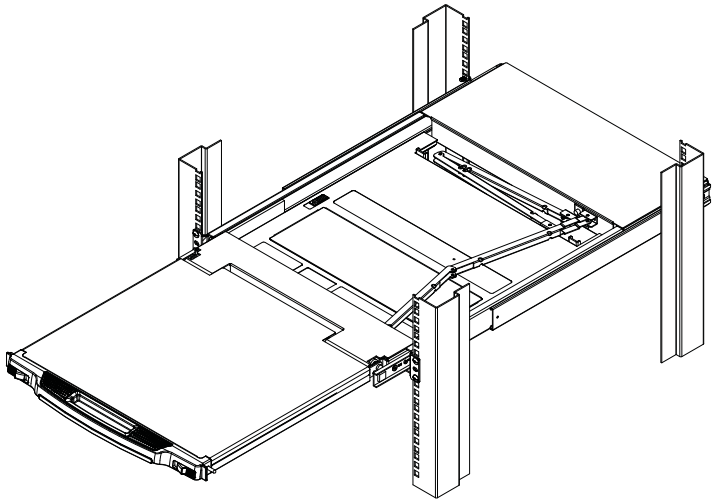
Opening Separately

1. Pull the release catches to release the console, and pull the top panel a few centimeters toward you. Once the console has been released, you can let go of the catches.

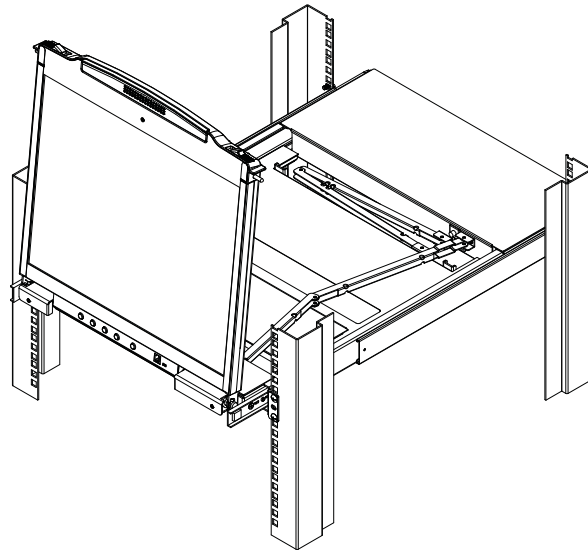


(Continued from previous page.)

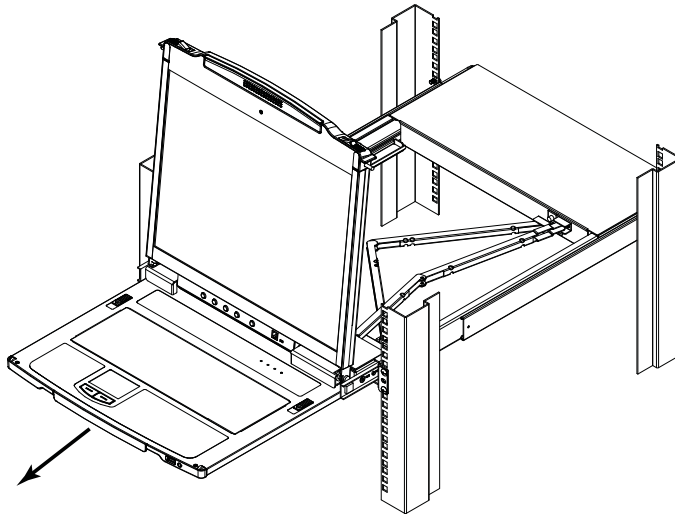
2. Pull the top panel all the way out until it clicks into place.



3. Rotate the top panel all the way back to expose the LCD screen.



4. Reach underneath and pull the keyboard module all the way out until it clicks into place.



Opening Together

Refer to the diagrams in the *Opening Separately* section as you do the following:

1. Pull the release catch and pull the top and bottom panels out until the keyboard module clicks into place.

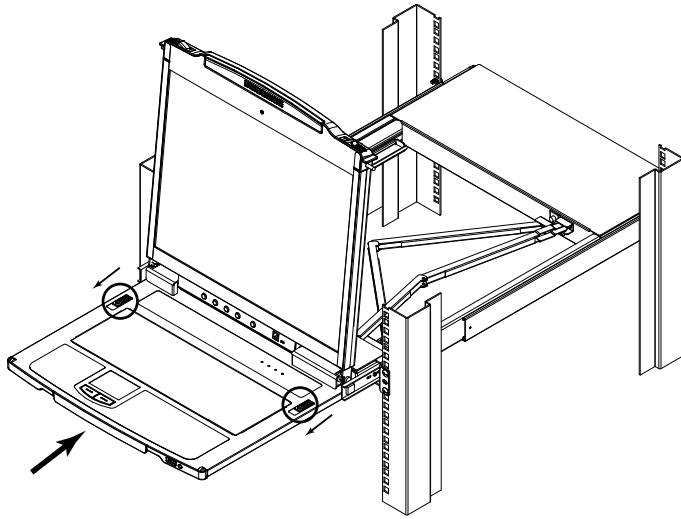
   Note: Once the console has been released, you can let go of the catch.

2. Pull the top panel the rest of the way out until it clicks into place.
3. Rotate the top panel all the way back to expose the LCD screen.

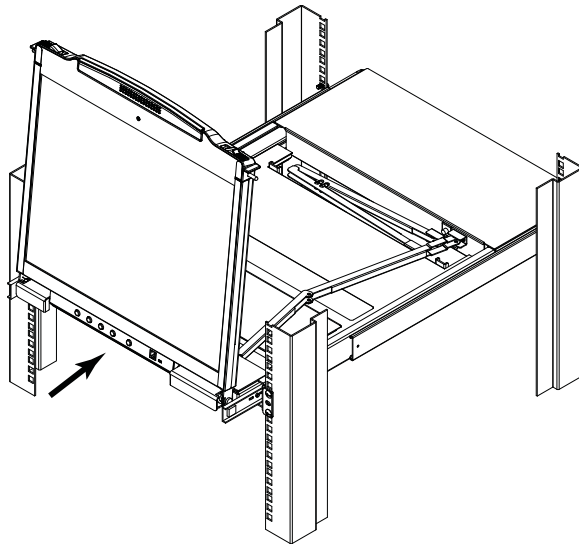
   Note: Refer to the warning regarding placing excessive weight on the keyboard module on the following page.

Closing the Console

1. Pull the release catches located on either side of the keyboard toward you to release the keyboard module, then slide the module slightly in.

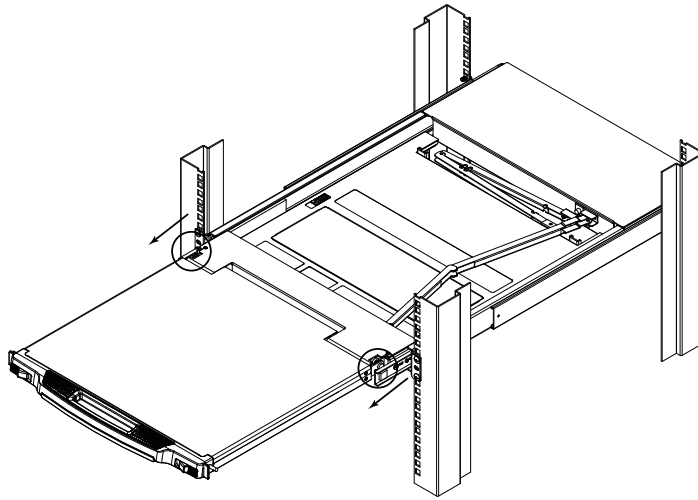


2. Let go of the catches. Using the front handle, push the keyboard module all the way in.

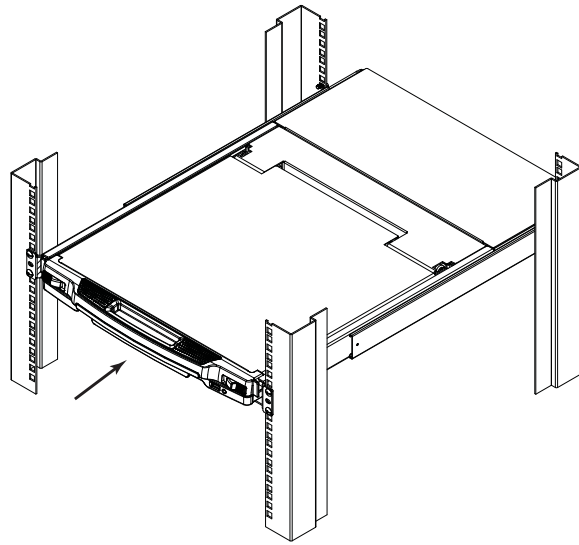


(Continued from previous page.)

3. Rotate the LCD module all the way down, then pull the rear catches to release the LCD module.

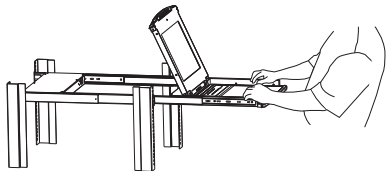
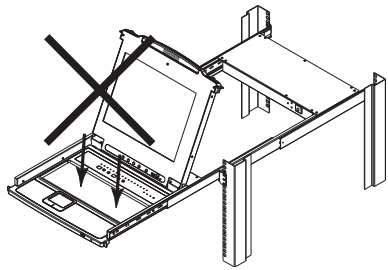


4. Using the front handle, push the module all the way in.



Operating Precautions

The maximum load bearing capacity of the keyboard module is 30kg. Failure to heed the information below can result in damage to the keyboard module.

	**Right!** Rest your hands and arms lightly on the keyboard module as you work.
	**Wrong**! ◆ **DO NOT** lean your body weight on the keyboard module. ◆ **DO NOT** place heavy objects on the keyboard module.

Powering Off and Restarting

If it becomes necessary to power off the CL5808/CL5816, do the following before restarting it:

1. Shut down all the computers that are attached to the CL5808/CL5816.

   Note: Unplug the power cords of any computers that have the *Keyboard Power On* function. Otherwise, the CL5808/CL5816 will still receive power from the computers.

2. Unplug the CL5808/CL5816 from its power source.
3. Wait 10 seconds, then plug the CL5808/CL5816 back in.
4. After the CL5808/CL5816 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	◆ When you have not entered the LCD OSD Menu function, pressing this button invokes the Menu function, and brings up the Main Menu. ◆ 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.
▶|▲	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	◆ 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. ◆ 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. ◆ When you are at the Main Menu, pressing this button exits the LCD OSD.

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 *Adjust Color* 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.

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 26

Hot Plugging

The CL5808/CL5816 supports hot plugging – components can be removed and added back into the installation by unplugging and replugging their cables without the need to shut the unit down. In order for hot plugging to work properly, however, there are some procedures that need to be taken into account, as described in the following sections.

Hot Plugging Stations

You can switch station positions by simply unplugging from the old parent and plugging into a new one. After you do, in order for the OSD menus to correspond to the change, you must reset the OSD. See *RESET STATION IDS*, page 41, for details.

Hot Plugging KVM Ports

After switching KVM ports, in order for the OSD menus to correspond to the change, you must reconfigure the OSD information for the new port information. See *F3: SET*, page 36, and the port setting selections under the *F4 ADM* function, page 38, for details.

Note: If a computer's operating system doesn't support hot plugging, this function may not work properly.

Hot Plugging Console Ports

The keyboard, monitor, and mouse can be hot plugged. When hot plugging the mouse, however, be aware of the following:

- If you unplug the mouse (to reset the mouse, for example), we recommend that you use the same mouse when you plug back in.
- If, after hot plugging (or at any other time), there is no response to keyboard and/or mouse input, perform a keyboard and mouse reset by pressing in the Reset switch (see page 8).

  Note: If performing the keyboard/mouse reset doesn't resolve the problem, shut down all the stations and all the computers on the installation for 10 seconds, then restarted following the sequence given under *Powering Off and Restarting* on page 25.

- Some older operating systems may not support hot plugging.

Port Switching

The CL5808/CL5816 provides three port switching 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 3, *Keyboard Port Operation* for more information.

Manual Port Switching

Station Selection

The Station Navigation buttons are located on the Keyboard Module. Press and release the UP or Down button to move to the next or previous station. To cycle forward or backward through the installed Stations, press and hold the UP or DOWN button.

Port Selection

There are two methods for selecting the target port after you have selected the target station:

- If the keyboard module is not extended, you can use the Port Navigation buttons, located at the bottom left of the LCD module. Press the UP or DOWN button to move to the previous or next port. To cycle backward or forward through all the available ports on all the stations, keep pressing and releasing the UP or DOWN button.
- If the keyboard module is extended, press the port selection button (located at the top of the keyboard module – see page 8), that corresponds to the port you want to access. The SELECTED LED, built into the button, lights to indicate the currently selected port has the KVM focus.

Port ID Numbering

Each computer on the installation is assigned a unique port ID. The port ID is a one or two segment number that is determined by the stage level and port number of the switch that the computer is connected to. The first segment represents the stage level of the switch (04, for example); the second segment represents the number of the port that the computer is plugged into.

For example, a computer that is connected to KVM port 3 of a switch that is in the 12th position of the daisy chain, would have a port ID of 12-03.

Note: Single digit numbers (1–9) are padded with a preceding zero (0).

USB Peripheral Devices

A USB port, located on the keyboard module's front panel, is available to connect a USB peripheral device (flash drive, CD-ROM drive, printer, etc.) to the CL5808/CL5816. Any computer connected to the CL5808/CL5816 can access the USB peripheral on a one-at-a-time basis. The peripheral device is available to computers connected to the CL5808/CL5816 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 CL5808/CL5816. 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.

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

Chapter 4
OSD Operation

Overview

The On Screen Display (OSD) is a menu driven method to handle computer control and switching operations. All procedures start from the OSD main screen.

There are two ways to invoke the OSD:

1. Tap the OSD invocation key on the keyboard (see page 81), or
2. Tap the **[Scroll Lock]** key twice.

Note: [Scroll Lock] is the default OSD hotkey. You can optionally change the OSD Hotkey to the Ctrl key (see *OSD HOTKEY*, page 36), in which case you would press **[Ctrl]** twice. If you choose this method, you must press the same [Ctrl] key both times.

Logging In

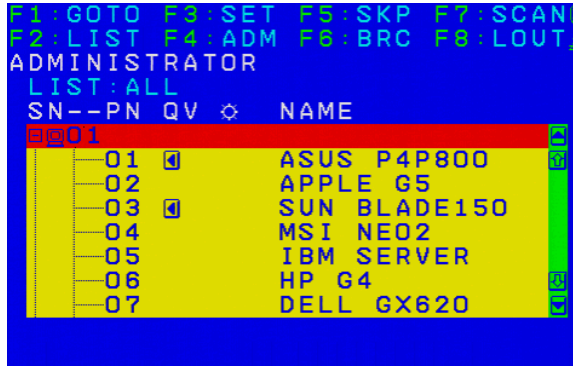
The OSD incorporates a two level (administrator / user) authorization procedure. Before the OSD main screen comes up, a login dialog box appears requesting a username and password.

If this is the first time that the OSD is being run, or if the password function has not been set, simply press **[Enter]**. The OSD main screen displays in administrator mode. In this mode, you have administrator privileges, with access to all administrator and user functions, and can set up operations (including password authorization) as you like.

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

OSD Main Screen

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 **[Enter]**.
QV	If a port has selected for quick view scanning (see *Set Quick View Ports*, 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 *Edit Port Names*, 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 bring the KVM focus to 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

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 key field at the top of the main screen, or press a corresponding 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.

Choice	Meaning
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 *SET ACCESSIBLE PORTS*, 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 *SET QUICK VIEW PORTS*, 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:

Setting	Function
OSD HOTKEY	Selects which Hotkey activates the OSD function: **[Scroll Lock] [Scroll Lock]** or **[Ctrl] [Ctrl]**. Since the [Ctrl] key combination may conflict with programs running on the computers, the default is the [Scroll Lock] combination.
PORT ID DISPLAY POSITION	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. 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 **[Enter]** to lock the position and return to the Set submenu.
PORT ID DISPLAY DURATION	Determines how long a port ID displays on the monitor after a port change has taken place. The choices are: **3 Seconds** (default) and **ALWAYS OFF**.
PORT ID DISPLAY MODE	Selects how the port ID is displayed: the port number plus the port name (**PORT NUMBER + PORT NAME**) (default); the port number alone (**PORT NUMBER**); or the port name alone (**PORT NAME**).
SCAN DURATION	Determines how long the focus dwells on each port as it cycles through the selected ports in Auto Scan mode (see *F7 SCAN*, page 44). Key in a value from 1–255 seconds, then press **[Enter]**. Default is 5 seconds; a setting of 0 disables the SCAN function.

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Setting	Function
SCAN–SKIP MODE	Selects which computers will be accessed under skip mode (see *F5 SKP*, page 42), and Auto Scan mode (see *F7 SCAN*, page 44. Choices are: **ALL** - All the ports which have been set accessible (see *SET ACCESSIBLE PORTS*, page 39); **QUICK VIEW** - Only those ports which have been set accessible and have been selected as quick view ports (see *SET QUICK VIEW PORTS*, page 40); **POWERED ON** - Only those ports which have been set accessible and are powered on; **QUICK VIEW + POWERED ON** - Only those ports which have been set accessible and have been selected as quick view ports and are powered on. The default is ALL. **Note:** The quick view choices only show up on the administrator's screen, since only he has *Quick View* setting rights (see *SET QUICK VIEW PORTS*, page 40, for details).
SCREEN BLANKER	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 **[Enter]**. The default setting of 0 disables this function.
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 *Hotkey Mode* (see page 36). Choices are: **[NUM LOCK] + [-]** (minus) (default), and **[CTRL] + [F12]**.
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	Use this function to set login mode, usernames, passwords and fingerprints for the administrator and users. SET USERNAME AND PASSWORD ◆ Usernames and passwords for one administrator and four users can be set. ◆ 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). ◆ For each individual, key in the username and password, confirm the password, then press **[Enter]**. ◆ To modify or delete a previous username and/or password, use the backspace key to erase individual letters or numbers. Press **[Enter]** when done. ◆ Usernames and passwords are not case sensitive. Usernames are displayed in capital letters in the OSD. SET FINGERPRINT: **Note:** This setting is only available on models with a fingerprint reader. Selecting this option enables the fingerprint reader to record fingerprints. Fingerprints can be used in conjunction with, or in place of, a username and password when logging in. Although up to 10 fingerprints can be scanned for each user account, a maximum of 20 fingerprints can be stored on the switch, depending on the size of the fingerprint data file.

Setting	Function
SET USER LOGIN (continued)	**To record a fingerprint**: 1. Select an item from the list and double-click it, or move the high-light bar to it and press **[Enter]**. 2. Swipe the selected finger across the reader 3 times as directed. 3. Once the fingerprint is successfully recorded, you have the option of recording another. **Note:** 1. Pressing F1 deletes the highlighted fingerprint from memory. 2. Pressing F2 deletes all fingerprints for the current user from memory. 3. Pressing F3 allows you to edit the name of the highlighted fingerprint. 4. Pressing F5 deletes the highlighted fingerprint's name. SET LOGIN MODE: **Note:** This setting is only available on models with a fingerprint reader. Use this function to select the user login mode: either **PASSWORD OR FINGERPRINT** (where either the username and password or a fingerprint can be used to log in), or **PASSWORD + FINGERPRINT** (where the username and password followed by a fingerprint must be used). In PASSWORD + FINGERPRINT mode, if the fingerprint does not match the username, the user will not be able to log in. This mode provides better security than PASSWORD OR FINGERPRINT mode.
SET ACCESSIBLE PORTS	This function allows the administrator to define user access to the computers on the installation on a port-by-port basis. For each user, select the target port; then press the **[Spacebar]** to cycle through the choices: **F** (full access), **V** (view only), or blank. Repeat until all access rights have been set, then press **[Enter]**. The default is **F** for all users on all ports. **Note:** 1. 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. 2. The administrator always has full access to all ports.
SET LOGOUT TIMEOUT	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. 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 **[Enter]**. The default setting of 0 disables this function.

Setting	Function
EDIT PORT NAMES	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: 1. Click the port, or use the navigation keys to move the highlight bar to it, then press **[Enter]**. 2. 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: ◆ All alpha characters: **A**–**Z** ◆ All numeric characters: **0**–**9** ◆ *** ( ) + : - , ? . /** and **Space** Case does not matter; OSD displays the port name in all capitals no matter how they were keyed in. 3. When you have finished editing, press **[Enter]** to have the change take effect. To abort the change, press **[Esc]**.
RESTORE DEFAULT VALUES	This function is used to undo all changes and return the setup to the original factory default settings (see *OSD FACTORY DEFAULT SETTINGS*, page 63) except for the port name list, username and password information, which are saved.
CLEAR THE NAME LIST	This function clears the port name list.
ACTIVATE BEEPER	Choices are **Y** (on), or **N** (off). When activated, the beeper sounds whenever a port is changed; when activating the Auto Scan function (see *F7 SCAN*, page 44); or an invalid entry is made on an OSD menu. The default is **Y**.
SET QUICK VIEW PORTS	This function lets the administrator select which ports to include as quick view ports. ◆ 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 **[Spacebar]**. ◆ 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. ◆ If one of the quick view options is chosen for the LIST view (see *F2 LIST*, page 35), only a port that has been selected here will display on the list. ◆ If one of the quick view options is chosen for auto scanning (see *SCAN/SKIP MODE*, page 37), only a port that has been selected here will be auto scanned. The default has no ports selected for quick view.

Setting	Function
RESET STATION IDS	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. **Note:** 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.
SET OPERATING SYSTEM	This function allows the administrator to define the operating system for the computer connected to each KVM port. The default is WIN (PC compatible). To set the port operating system: 1. From the list, select the port for which you wish to set the computer's operating system. 2. Set the operating system by pressing **[Spacebar]** to cycle through WIN, MAC, SUN, or OTHER . 3. Press **[Esc]** to exit. The operating system you selected is assigned to the KVM port.
FIRMWARE UPGRADE	In order to upgrade the CL5808/CL5816 firmware (see page 57), you must first enable Firmware Upgrade mode with this setting. When you bring up this menu, the current firmware version levels are displayed. Select **Y** to enable Firmware Upgrade mode, or **N** to leave this menu without enabling it.
SET KEYBOARD LANGUAGE	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 **[Enter]**. Choices are: AUTO (default), ENGLISH (UK), ENGLISH (US), FRENCH, GERMAN (GER.), GERMAN (SWISS), GREEK, HUNGARIAN, ITALIAN, JAPANESE, KOREAN, RUSSIAN, SPANISH, SWEDISH, GREEK, and TRADITIONAL CHINESE.
SET CONSOLE MODE	This setting selects which consoles (internal/external) are enabled: **0 –** Both consoles enabled **1 –** LCD console only **2 –** External console only Use the spacebar to cycle to the choice you want. The default is 0.

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 36).
- 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 37).

- 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 37).
- 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 *Pausing 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 CL5808/CL5816 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

Hotkey Mode

Invoking Hotkey Mode

All Hotkey operations begin by invoking *Hotkey* mode. There are two key sequences – a default and an alternate – that can be used to invoke Hotkey Mode, but only one of them can be active at a time:

1. The Default: *Num Lock* and *Minus*

   To invoke Hotkey mode with the default key sequence, do the following:

   1. Hold down the **[Num Lock]** key.
   2. Press and release the **[Minus]** key.
   3. Release the **[Num Lock]** key.

2. The Alternate: *Control* and *F12*

   To invoke Hotkey mode with the alternate key sequence, do the following:

   1. Hold down the **[Ctrl]** key.
   2. Press and release the **[F12]** key.
   3. Release the **[Ctrl]** key.

Note: 1. *Hotkey Command Mode* must be enabled in the settings (see page 37).

2. When invoking Hotkey Mode, be sure to use the active sequence.

Hotkey Mode Active

When the *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 and mouse clicks (described in the sections that follow), can be input.

Exiting Hotkey Mode

Press **[Esc]** to exit *Hotkey* mode.

Selecting the Active Port

Each KVM port is assigned a unique port ID (see *Port ID Numbering*, page 28). You can directly access any computer on the installation with a Hotkey combination that specifies the port ID of the KVM port that the computer is connected to. To access a computer using Hotkeys, do the following:

1. Invoke Hotkey mode (see page 46).
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 error.
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, the KVM focus does not switch to a port if an invalid switch or port number is entered. The Hotkey command line continues to display on the screen until you either enter a valid switch and port number combination, or exit Hotkey mode.

Auto Scan Mode

Auto Scan automatically switches among all the KVM ports that are accessible to the user at regular intervals, so that their activity can be monitored automatically. (See *SCAN–SKIP MODE*, page 37 for information regarding accessible ports.)

Invoking Auto Scan

To start *Auto Scan mode*, do the following:

1. Invoke Hotkey mode (see page 46).
2. Press **[A]**.
3. Press **[Enter]**

   After pressing [Enter], you exit Hotkey mode, and enter *Auto Scan* mode. 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.

Exiting Auto Scan

To exit *Auto Scan* mode press **[Esc]** or **[Spacebar]**. Automatic scanning stops and you return to normal console operation.

Pausing Auto Scan

While you are in *Auto Scan* mode, you can pause the scanning in order to keep the focus on a particular computer.

In certain cases, *pausing* can be more convenient than exiting *Auto Scan* mode because when you *resume*, the scanning order starts from the point you paused. If, by contrast, you exited in order to focus on a particular computer, when you restarted scanning would start over from the first computer of the installation.

To pause Auto Scan mode, press **[P]** or left click with the mouse. While auto scan mode is paused, the command line displays:

```
Auto Scan: Paused.
```

To resume Auto Scanning from where you paused, press any key or left click.

Skip Mode

Skip Mode 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 the port focus after a fixed interval.

Invoking Skip Mode

To start *Skip* mode, do the following:

1. Invoke Hotkey mode (see page 46).
2. Press an **[Arrow]** key.

   Once you press an arrow key, you automatically exit Hotkey mode and enter *Skip* mode where you can switch ports as follows:

←	Skips to the first accessible port. (See *SCAN–SKIP MODE*, page 37, 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 continue skipping by pressing the arrow keys. You do not have to use the Hotkey invocation 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 to regain normal control of the console.

Exiting Skip Mode

1. To exit *Skip* mode, press **[Esc]** or **[Spacebar]**.

Computer Keyboard/Mouse Reset

If either the keyboard or mouse stop functioning on the computer connected to the currently selected port, you can perform a keyboard/mouse reset on the computer with the following steps:

1. Invoke Hotkey mode (see page 46).
2. Press **[F5]**.

This function has the same effect as unplugging and replugging the keyboard and mouse on the target computer. 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 Switch*, page 8.

Hotkey Beeper Control

The beeper (see Activate Beeper, page 40) can be toggled on and off with the following steps:

1. Invoke Hotkey mode (see page 46).
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.

Hotkey Invocation Key Selection

The keys used to invoke Hotkey Mode (see *Invoking Hotkey Mode*, page 46) can be toggled between

[Num Lock] + [-] and

[Ctrl] + [F12]

To toggle between them, do the following:

1. Invoke Hotkey mode (see page 46).
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 Selection

The Hotkey sequence used to call up the OSD can be toggled between

[Scroll Lock] [Scroll Lock] and

[Ctrl] [Ctrl]

To toggle between them, do the following:

1. Invoke Hotkey mode (see page 46).
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 Selection

A port's operating system can be configured so that it matches the one that is used by the computer attached to it. To configure a port's operating system configuration, do the following:

1. Invoke Hotkey mode (see page 46).
2. Refer to the table below.

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

3. Press the function key that corresponds to the OS configuration you want for the port.

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

Restore the Default Values

This administrator only Hotkey restores the CL5808/CL5816 default values (see *RESTORE DEFAULT VALUES*, page 40). To restore the CL5808/CL5816 to its default values, do the following:

1. Invoke Hotkey mode (see page 46).
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]	Enters Auto *Scan* mode. When *Auto Scan* 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]	Switches the beeper on or off.
	[Esc] or [Spacebar]	Exits Hotkey mode.
	[F1]	Sets the operating system configuration of the currently selected port to Windows
	[F2]	Sets the operating system configuration of the currently selected port to Mac
	[F3]	Sets the operating system configuration of the currently selected port to Sun
	[F5]	Performs a keyboard / mouse reset on the target computer.
	[H]	Switches the key combination used to enter the *Hotkey* mode keys between [Ctrl] + [F12] and [Num Lock] + [-].
	[R] [Enter]	This administrator-only Hotkey restores the switch's default values. See *RESTORE DEFAULT VALUES*, page 40.
	[Station #][Port #] [Enter]	Switches access to the computer that corresponds to the specified Station Number and Port Number.
	[T]	Switches the *OSD Hotkey* between [Ctrl] [Ctrl] and [Scroll Lock] [Scroll Lock].
	[←]	Enters *Skip* mode and skips from the current port to the first accessible port previous to it.
	[→]	Enters *Skip* mode and skips from the current port to the next accessible port.
	[↑]	Enters *Skip* mode and skips from the current port to the last accessible port of the previous station.
	[↓]	Enters *Skip* mode and skips from the current port to the first accessible port of the next station.

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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 CL5808/CL5816 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

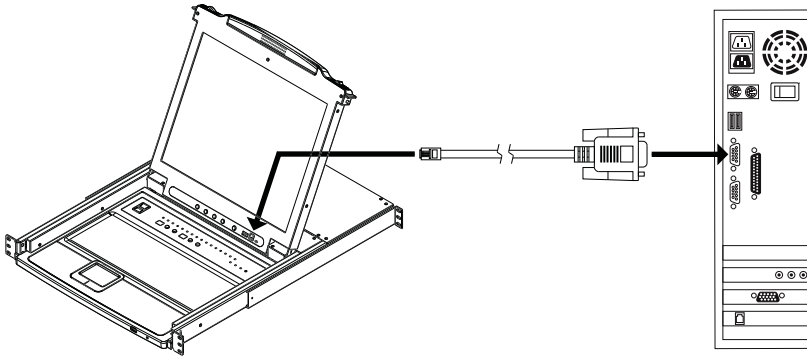
To download the firmware upgrade package:

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.).

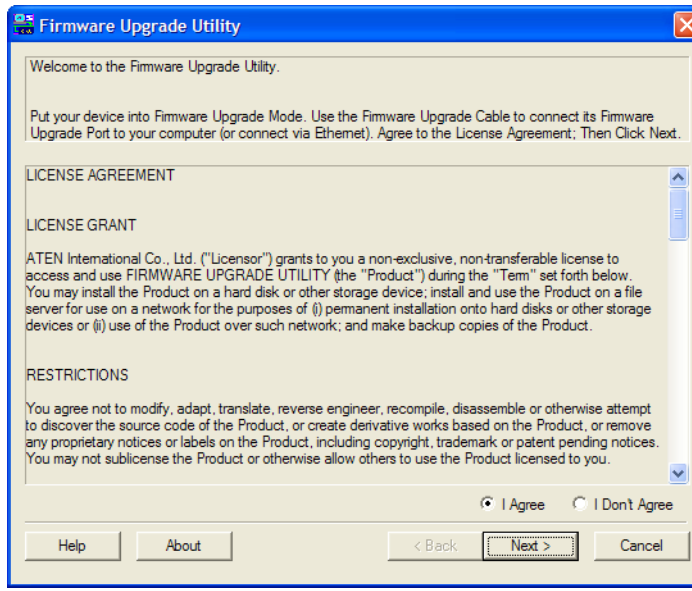
Note: During *Firmware Upgrade* mode, the port LEDs will flash on and off.

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.

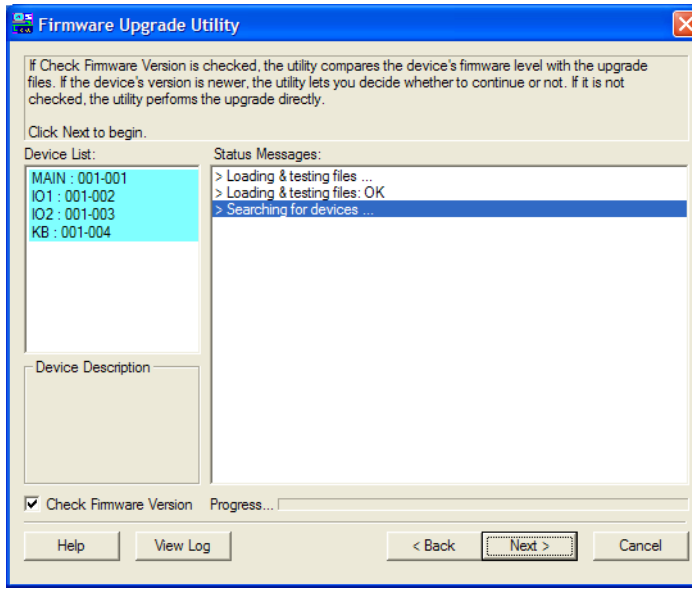
   The *Firmware Upgrade Utility* welcome screen appears:



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.

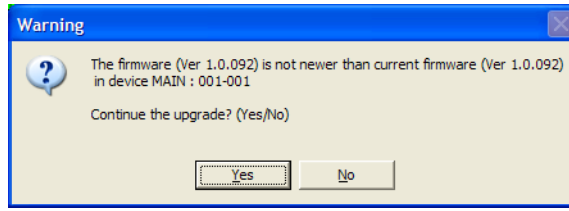
2. Read and *Agree* to the License Agreement (enable the I Agree radio button).
3. Click **Next** to continue.

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.

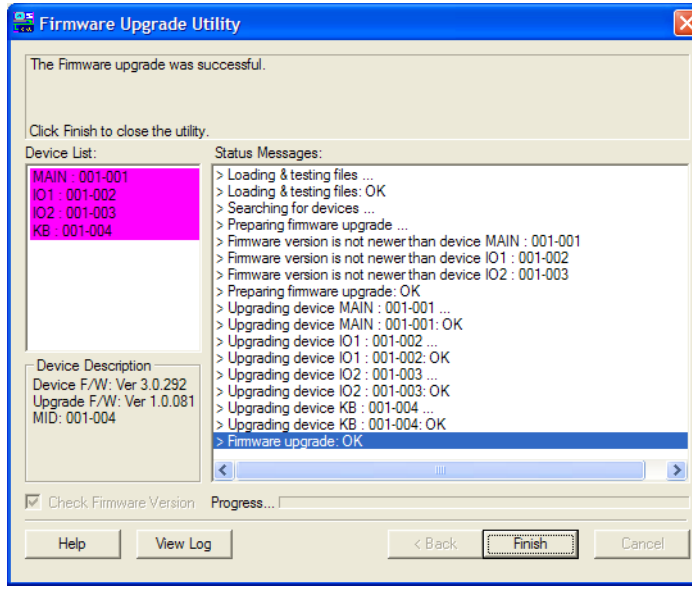


   If you didn't enable *Check Firmware Version*, the utility installs the upgrade files without checking whether they are a higher level, or not.

   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 *Upgrade Succeeded* screen doesn't appear, it means that the upgrade failed to complete successfully. See the next section, *Firmware Upgrade Recovery*, for how to proceed.

Firmware Upgrade Recovery

Below are three conditions that may result in requiring a firmware upgrade recovery:

- When a firmware upgrade is manually aborted.
- When the mainboard firmware upgrade fails.
- When the I/O firmware upgrade fails.

To perform a firmware upgrade recovery, do the following:

1. Power off the switch. If it is part of a daisy chain, disconnect it from the chain.
2. Connect the *Firmware Upgrade Cable* to its *Firmware Upgrade Port*.
3. Slide the *Firmware Upgrade Recovery Switch* to the **Recover** position.
4. Power the switch back on and repeat the upgrade procedure.
5. After the switch has been successfully upgraded, power it off, and slide the *Firmware Upgrade Recovery Switch* back to the **Normal** position.
6. If the switch is part of a daisy chain, replace it in the chain.
7. Power the switch back on.

Appendix

Safety Instructions

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, or other surfaces). If the device falls, serious damage will result.
- Do not use the device near water.
- Do not place the device near, or over, heat radiators or heat vents.
- The device housing 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, or other soft surface) as this will block its ventilation openings. Likewise, the device should not be placed in an enclosure unless adequate ventilation has been provided.
- Never spill liquid of any kind on the device.
- Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- The device is designed for IT power distribution systems with 230V phase-to-phase voltage.
- To prevent damage to your installation it is important that all devices are properly grounded.
- The device is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not attempt to circumvent 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).
- Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short-circuit 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 safely remove the power to the wall outlet, then unplug the device 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 could require extensive work by a qualified technician to repair.
- Do not connect the RJ-11 connector marked “UPGRADE” to any type of telephone network.

Rack Mounting

- Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.
- Always load the rack from the bottom up, and load the heaviest item in the rack first.
- Make sure that the rack is level and stable before extending a device from the rack.
- Use caution when pressing the device rail release latches and sliding a device into or out of a rack; the slide rails can pinch your fingers.
- After a device is inserted into the rack, carefully extend the rail into a locking position, and then slide the device into the rack.
- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- Make sure that all equipment used on the rack – including power strips and other electrical connectors – is properly grounded.
- Ensure that proper airflow is provided to devices in the rack.
- Ensure that the operating ambient temperature of the rack environment does not exceed the maximum ambient temperature specified for the equipment by the manufacturer.
- Do not step on or stand on any device when servicing other devices in a rack.
- **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.
- 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 fixées 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

International

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

North America

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

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

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

Specifications

Function			CL5808N
Computer Connections	Direct		8
	Max		256 (via daisy chain)
Port Selection			OSD, Hotkeys, Pushbuttons
Connectors	External Console Port		1 x SPHD-18 (Male)
	External Mouse Port		1 x USB Type-A (Female)
	KVM Ports		8 x SPHD-17/18 (Female)
	Daisy Chain		1 x DB-25 (Male)
	FW Upgrade		1 x RJ-11 (Female)
	Power		1 x 3-prong AC Socket
	USB 1.1 Hub		1 x USB Type-A (Female)
Switches	Reset		1 x Semi-recessed Pushbutton
	Power		1 x Rocker Switch
	Firmware Upgrade		1 x Slide Switch
	LCD Adjust		4 x Pushbutton
	LCD On/Off		1 x LED Pushbutton (Orange)
	Port Selection		2 x Pushbutton (LCD Module); 8 x Pushbutton (Keyboard Module)
	Station Selection		2 x Pushbutton
LEDs	On Line		8 (Orange)
	Selected		8 (Green)
	Station ID		2 x 7-segment LED Display (Orange)
	Power		1 (Dark Green)
	Lock	Num	1 (Green)
		Caps	1 (Green)
		Scroll	1 (Green)
Emulation	Keyboard / Mouse		PS/2, USB
Video			1280 x 1024 @ 75 Hz; DDC2B
Scan Interval (OSD Select)			1–255 sec.
I/P Rating			100–240 VAC, 50/60 Hz, 1 A
Power Consumption			120V, 24W / 230V, 25W
Environment	Operating Temp.		0–50^{o} C
	Storage Temp.		-20–60^{o} C
	Humidity		0–80% RH, Noncondensing
Physical Properties	Housing		Metal + Plastic
	Weight		14.83 Kg
	Dimensions (L x W x H)		68.04 x 48.00 x 4.40 cm

Function			CL5816N
Computer Connections	Direct		16
	Max		512 (via daisy chain)
Port Selection			OSD, Hotkeys, Pushbuttons
Connectors	External Console Port		1 x SPHD-18 (Male)
	External Mouse Port		1 x USB Type-A (Female)
	KVM Ports		16 x SPHD-17/18 (Female)
	Daisy Chain		1 x DB-25 (Male)
	FW Upgrade		1 x RJ-11 (Female)
	Power		1 x 3-prong AC Socket
	USB 1.1 Hub		1 x USB Type-A (Female)
Switches	Reset		1 x Semi-recessed Pushbutton
	Power		1 x Rocker Switch
	Firmware Upgrade		1 x Slide Switch
	LCD Adjust		4 x Pushbutton
	LCD On/Off		1 x LED Pushbutton (Orange)
	Port Selection		2 x Pushbutton (LCD Module) 16 x Pushbutton (Keyboard Module)
	Station Selection		2 x Pushbutton
LEDs	On Line		16 (Orange)
	Selected		16 (Green)
	Station ID		2 x 7-segment LED Display (Yellow)
	Power		1 (Dark Green)
	Lock	Num	1 (Green)
		Caps	1 (Green)
		Scroll	1 (Green)
Emulation	Keyboard / Mouse		PS/2, USB
Video			1280 x 1024 @ 75 Hz; DDC2B
Scan Interval (OSD Select)			1–255 sec.
I/P Rating			100–240 VAC, 50/60 Hz, 1 A
Power Consumption			120V, 26W / 230V, 26.8W
Environment	Operating Temp.		0–50^{o} C
	Storage Temp.		-20–60^{o} C
	Humidity		0–80% RH, Noncondensing
Physical Properties	Housing		Metal + Plastic
	Weight		15.02 Kg
	Dimensions (L x W x H)		68.04 x 48.00 x 4.40 cm

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.

CL5808 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

CL5808 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

CL5816 to Compatible 8-Port Switches

No.	Computers	No.	Computers	No.	Computers	No.	Computers
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

CL5816 to Compatible 16-Port Switches

No.	Computers	No.	Computers	No.	Computers	No.	Computers
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

Up to 31 additional KVM switches can be daisy chained from the CL5808/ CL5816 . ATEN / Altusen KVM switches that can be used when configuring a daisy chained installation are shown in the following table:

Model	Type
ACS1208 / ACS1216	8 /16 Port PS/2 KVM Switch
ACS1208A / ACS1216A	
CS1708 / CS1716	8 /16 Port USB KVM Switch
CS1708A / CS1716A	8 / 16 Port PS/2+USB KVM Switch
KH0116	16 Port High-Density KVM Switch
KH1508 / KH1516	8 / 16 Port High-Density KVM Switch
KH1508A / KH1516A	
KH3116	16 Port High-Density KVM Switch

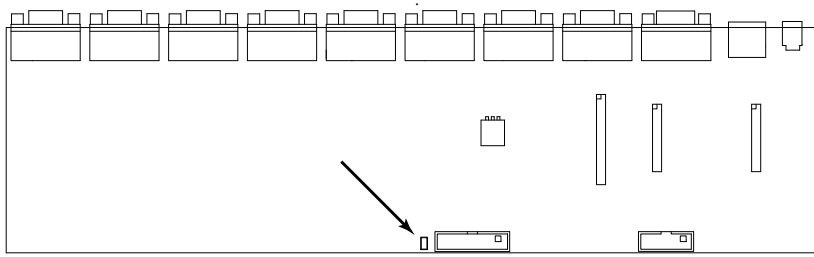
Note: 1. The maximum distance between any two KVM switches in the daisy chain cannot exceed 15 meters.

2. The maximum distance between the CL5808/CL5816 and the last switch in the daisy chain cannot exceed 100 meters.

Clear Login Information

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 jumper **J17** (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.
   ```

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

OSD Factory Default Settings

The factory default settings are as follows:

Setting	Default
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

Optional Rack Mounting

For convenience and flexibility, three optional rack mounting kits are available, as shown in the following table:

Bracket Type	Size (cm)
Standard Installation – Long	70.0 – 105.0
Easy Installation – Short	57.0 – 70.0
Easy Installation – Long	68.0 – 105.0

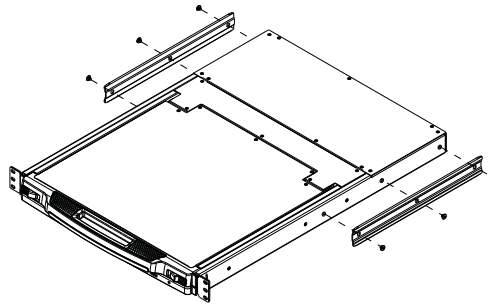
Standard - Long

To install the long bracket standard rack mount kit, simply replace the short L brackets on the standard rack mount kit with the long ones, and mount the switch according to the instructions given for *Standard Rack Mounting*, page 12.

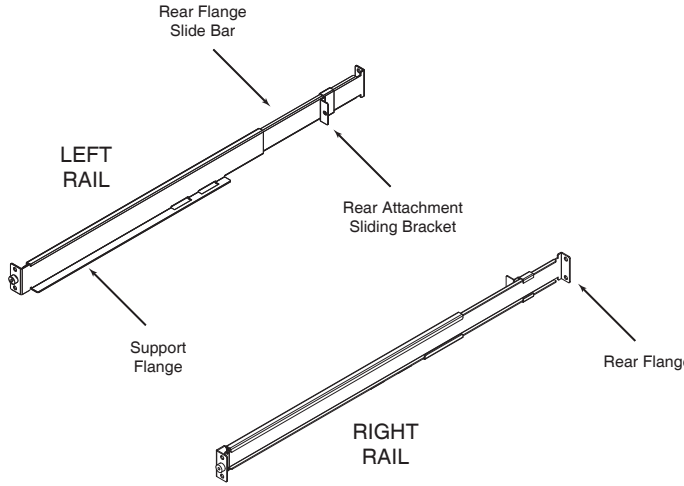
Easy Installation

With an *Easy-Installation*, kit, one person can mount the switch. To install the *Easy-Installation* kit, do the following:

1. Remove the standard L brackets, and the side mounting brackets from both sides of the switch.

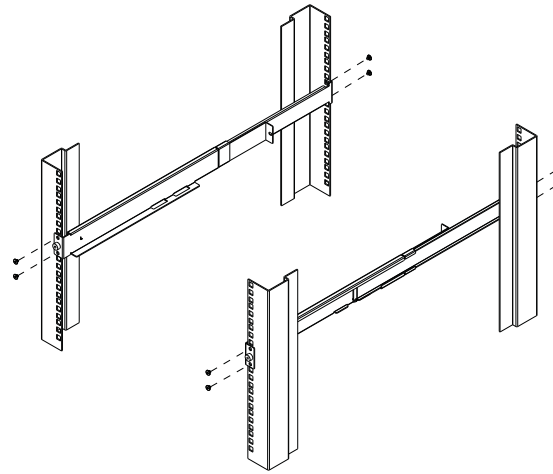


2. Attach the left and right *easy-installation* mounting rails to the inside of the rack. The flange that supports the switch will be to the inside.



a) Screw the front flanges to the rack first.

b) Slide the bars with the rear flanges toward the rack until the flanges make contact with the rack, then screw the rear flanges to the rack.



(Continues on next page.)

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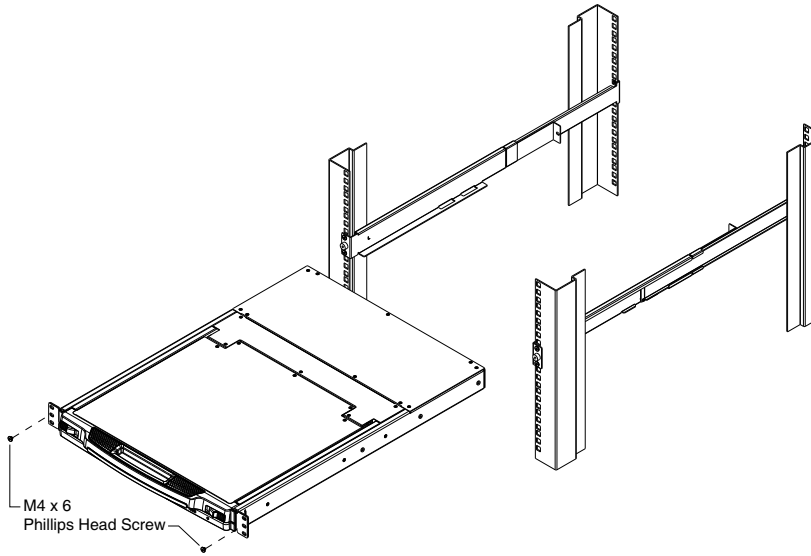
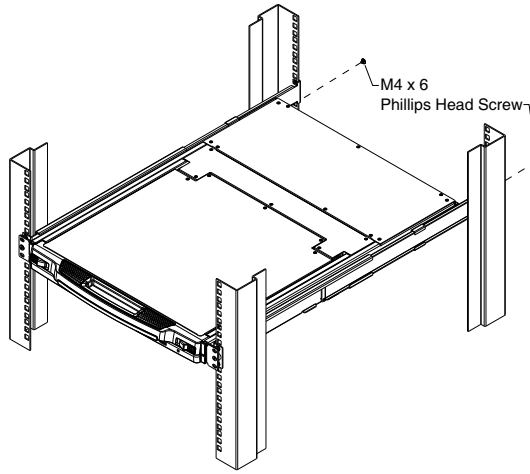
3. Slide the switch onto the support flanges. Use the screws supplied with this package to loosely attach the front of the switch to the front of the rack (only tighten the screws part way).



4. Slide the rear attachment sliding brackets along the slide bars until they contact the rear of the switch, then use the screws supplied with this package to attach the bars to the rear of the switch (tighten the screws all the way).



5. Slide the switch open and closed a couple of times to be sure that it is properly aligned and operating smoothly. (See p. 19 for opening and closing procedures.)

6. After determining that the switch is properly lined up and operating correctly, finish up by fully tightening down the partially tightened front attachment screws inserted in step 3.

Troubleshooting

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 <x reference to Firmware Upgrade Chapter or Section>, for upgrade details.

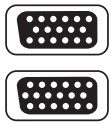
Problem	Solution
There are ghost images on the external monitor.	The distance between the external console and the CL5808/CL5816 is too great. The maximum VGA cable distance should not exceed 20m and, in some cases, may need to be shorter. Replace the VGA cable with one of an appropriately short length.

Keyboard Invocation Keys

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

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

About SPHD Connectors



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.

Limited Warranty

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

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

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

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