



**Single Rail 8-Port DVI FHD LCD KVM Switch
CL6708MW
User Manual**



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.

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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

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

International	http://eservice.aten.com
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Telephone Support

For telephone support, call this number:

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

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

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

Package Contents

The basic CL6708MW package consists of:

- ◆ 1 CL6708MW Single Rail 8-Port DVI FHD LCD KVM Switch with Standard Rack Mount Kit
- ◆ 1 Custom USB DVI KVM Cable Set
- ◆ 1 Power Cord
- ◆ 1 Firmware Upgrade Cable
- ◆ 1 User Instructions*

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

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

* Changes may have been made to the manual since it was published. Please visit our web site 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 CL6708MW 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 CL6708MW 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 level hookup to a complete 17-switch two level operation are provided.

Chapter 3, Basic Operation, explains the fundamental concepts involved in operating the CL6708MW.

Chapter 4, OSD Operation, provides a complete description of the CL6708MW 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 CL6708MW 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 CL6708MW firmware with the latest available versions.

An Appendix, provides specifications and other technical information regarding the CL6708MW.

Conventions

This manual uses the following conventions:

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

Product Information

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

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

Chapter 1

Introduction

Overview

The CL6708MW Single Rail 8-Port DVI FHD LCD KVM Switch features an integrated 17.3" LED-backlit LCD panel allowing access to and control of up to 8 computers. As many as 8 additional switches can be cascaded bringing the total number of connected computers to 64. Additionally, the CL6708MW features a compact design that allows installation in a 1U system rack and includes ports for a second KVM console (keyboard, mouse, speakers and DVI monitor) on the rear panel.

Setup is fast and easy - plugging cables into their appropriate ports is all that is needed. The switch supports DVI and USB connections for the external console and computers. The CL6708MW also intercepts keyboard input directly, eliminating the need to configure software. Switching between computers is easily accomplished by pressing front panel pushbuttons, entering hotkeys or via a menu-driven on-screen display (OSD).

The CL6708MW incorporates the YUV video format for greater compatibility with high-definition signals from source devices. Similarly, the CL6708MW is HDCP-compatible, making it effective for use with content-protected media in corporate, educational and commercial settings. To further enhance usability, ATEN's LED illumination light brightens the keyboard and touchpad for easy viewing in low-light conditions.

As a complete KVM solution, the CL6708MW offers an integrated 17.3" widescreen LCD panel with keyboard and mouse console, management of 8 computers from a single console (or up to 64 computers when cascaded with additional switches), YUV video format and HDCP support and additional ports for an external console (keyboard, monitor, mouse) connection.

Features

- ◆ Integrated KVM switch with a 17.3" Widescreen DVI Full HD LCD monitor
- ◆ Single rail housing with top and bottom clearance for smooth operation in a 1U high system rack
- ◆ Controls eight Single Link DVI computers
- ◆ Supports an external console with DVI video port
- ◆ Exclusive LED illumination light – designed by ATEN to illuminate the keyboard and touchpad to allow visibility in low-light conditions
- ◆ KVM Port extendable via one level cascade (CS1768)
- ◆ Computer selection via front panel pushbuttons, hotkeys, and multilingual on-screen display (OSD)
- ◆ Broadcast mode – allows you to send commands from the console to all computers to perform operations simultaneously
- ◆ Supports YUV video format for greater compatibility
- ◆ DVI monitor support – fully compliant with the DVI specifications
- ◆ Video DynaSync™ – exclusive ATEN technology eliminates boot-up display problems and optimizes responsiveness when switching between ports*
- ◆ HDCP-compatible
- ◆ Superior video quality – 1920 x 1080 @ 60Hz; DDC, DDC2, DDC2B
- ◆ Compatible with most ATEN DVI KVM Switches
- ◆ Adjustable depth to fit within the rack
- ◆ Audio support for connecting speakers
- ◆ Auto Scan Mode for monitoring all computers
- ◆ Multiplatform support – Windows, Linux, Mac, Sun
- ◆ Console lock – enables the console drawer to remain securely locked away in position when not in use
- ◆ DDC emulation – video settings of attached computers are automatically adjusted for optimal output to the monitor

- ◆ Console mouse port emulation/bypass feature supports most mouse drivers
- ◆ Standard rack mount kit included – optional Easy Rack Mounting (single person installation) rack mount kit available (requires separate purchase)
- ◆ Firmware upgradable
- ◆ Mac/Sun keyboard support and emulation*
- ◆ Multilingual OSD supports English, German, Japanese, Traditional Chinese and Simplified Chinese
- ◆ Standard 105-key keyboard; Sun keyboard emulation
- ◆ Keyboard Language support: English (US); English (UK); German; German (Swiss); French; Spanish; Traditional Chinese; Japanese; Korean; Swedish; Italian; Russian; Hungarian and Greek

Note: 1. Video DynaSync™ only works in conjunction with digital video sources.

2. PC keyboard combinations emulate Mac/Sun keyboards; Mac/Sun keyboard work only with their own computers

Requirements

External Console

The following hardware components are required for the external console:

- ◆ A DVI-I monitor capable of displaying the highest resolution provided by any computer in the installation.
- ◆ A USB keyboard and mouse.

Computers

The following equipment must be installed on each computer:

- ◆ A DVI-I video graphics card.

Note: The integrated 17.3" LCD monitor's maximum resolution is 1920 x 1080 @ 60Hz. Make sure that none of the computer resolution settings exceed the LCD monitor's maximum resolution.

- ◆ 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 sets described below:

Function	Length	Part Number*
USB DVI-D Single Link KVM cable	1.8 m	2L-7D02U
	3.0 m	2L-7D03U
	5.0 m	2L-7D05U

* Contact your KVM dealer for ordering information.

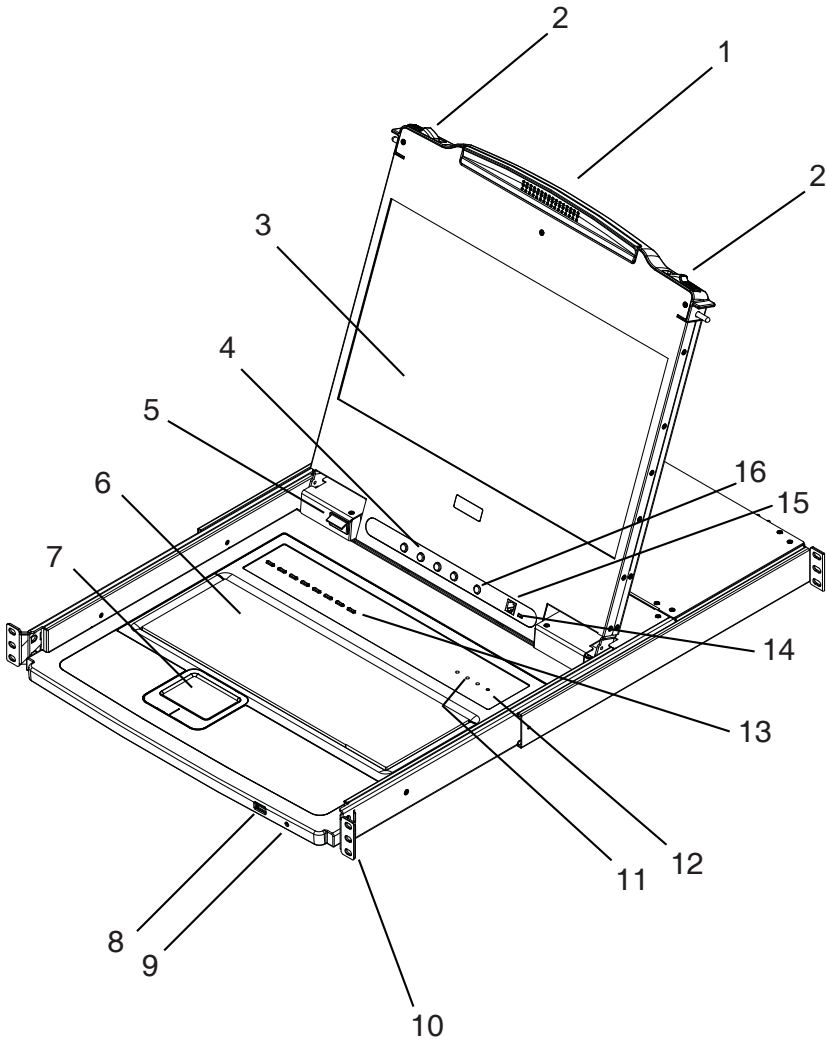
Operating Systems

Supported operating systems are shown in the table, below:

OS		Version
Windows		2000 and higher
Linux	RedHat	9.0 and higher
	SuSE	10 and higher
	Debian	3.1 and higher
	Ubuntu	7.04 and higher
UNIX	AIX	4.3 and higher
	FreeBSD	5.5 and higher
	Sun	Solaris 8 and higher
Novell	Netware	5.0 and higher
Mac		OS 9 and higher

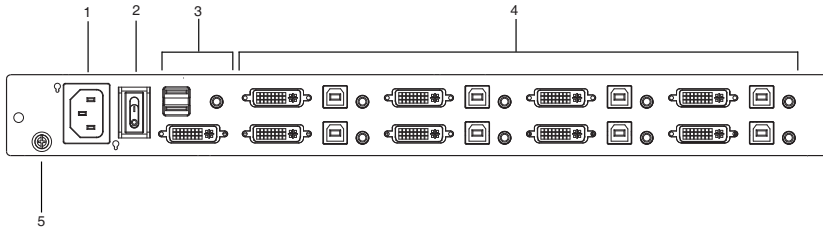
Components

Front View



No.	Component	Description
1	Upper Handle	Pull to slide the LCD module out; push to slide it in. See <i>Opening the Console</i> , page 13, 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	After sliding the LCD module out, flip up the cover to access the LCD display.
4	LCD Controls	The buttons to control the position and picture settings of the LCD display are located here. See page 23 for details.
5	LED Illumination Light	Press the Exit/Light pushbutton for two seconds to turn the LED light ON or Off. (Default: On)
6	Keyboard Module	Standard 105-key keyboard.
7	Touchpad	Standard mouse touchpad.
8	USB Port	The USB port is available to connect a USB peripheral device (flash drive, CD-ROM drive, etc.) to the console, or a USB mouse for users who prefer to use an external mouse.
9	Power LED	Lights (green) to indicate that the unit is receiving power.
10	Rack Mounting Tabs	Rack mounting tabs are located at each corner of the unit. See <i>Standard Rack Mounting</i> , page 9, for details.
11	Lock LEDs	The Num Lock, Caps Lock, Scroll Lock LEDs are located here.
12	Reset Switch	Located to the right of the Lock LEDs. Press this recessed switch in with a thin object to perform a system reset.
13	Port LEDs / Port Switches	An orange ONLINE LED lights to indicate that the computer attached to its corresponding port is up and running. A green Selected LED lights to indicate that the computer attached to the corresponding port is selected for KVM control. Press the port pushbuttons to bring the KVM focus to the computer attached to the corresponding port.
14	Firmware Upgrade Switch	During normal operation and while performing a firmware upgrade, this switch should be in the NORMAL position. If a firmware upgrade operation does not complete successfully, this switch is used to perform a firmware upgrade recovery. See <i>Firmware Upgrade Recovery</i> , page 54, for details.
15	Firmware Upgrade Port	The firmware upgrade cable that transfers the firmware upgrade data from the administrator's computer plugs into this RJ-11 connector.
16	LCD On / Off Button	Push this button to turn the LCD monitor on and off. The button lights when the LCD monitor is off. Note: The light indicates that only the monitor is off, not the attached KVM switch.

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 is a standard rocker switch that powers the CL6708MW on and off.
3	External Console Section	For flexibility and convenience, the CL6708MW supports an independent, external, KVM console. The external console's USB keyboard and mouse, DVI, VGA, or HDMI monitor, and audio cables plug in here.
4	KVM Port Section	The custom KVM cable supplied with the package for linking the CL6708MW to a computer or switch plugs in here.
5	Grounding Terminal	The grounding wire (used to ground the unit) attaches here.

Chapter 2

Hardware Setup

Overview

The CL6708MW is a switch designed to work with USB interfaces. It utilizes custom KVM cables that serve as intermediaries between the switch and computers. A custom KVM cable is required for each computer. Custom cables of various lengths are listed on page 4. Consult your dealer to find out which custom KVM cables best fit your needs.

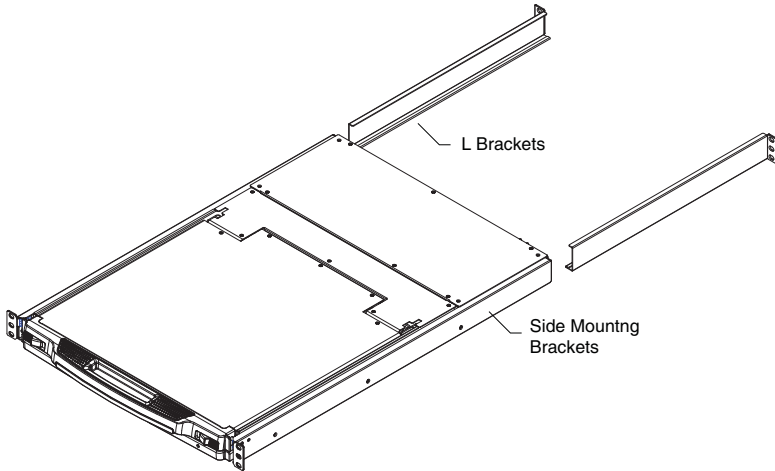
Before You Begin



1. Important safety information regarding the placement of this device is provided on page 55. 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.

Standard Rack Mounting

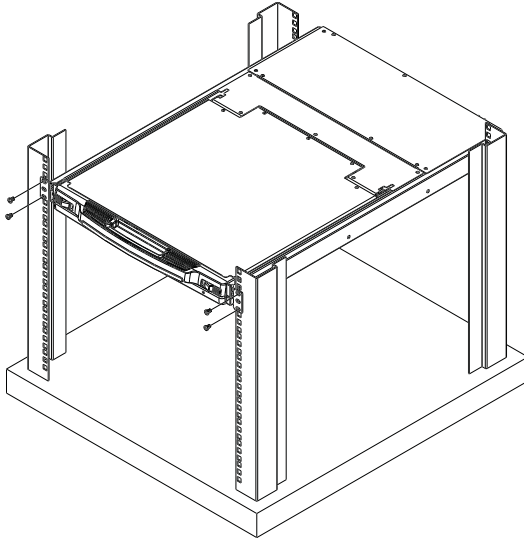
A standard rack mounting kit is provided with your CL6708MW and can be mounted in 1U of rack space. The installation procedures are described in the following sections. Below is an image of the parts included with your package that will be needed for rack installation.



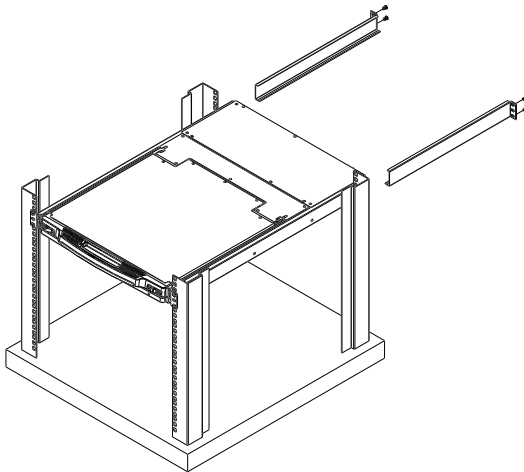
-
- Note:**
1. It takes two people to mount the switch: one to hold it in place, the other to screw it in.
 2. The standard rack mounting kit does not include screws or cage nuts. If you need additional screws or cage nuts, contact your rack dealer.
 3. Allow at least 5.1 cm on each side for proper ventilation, and at least 12.7 cm at the back for the power cord and cable clearance.
 4. Optional mounting kits – including single person *Easy Installation* kits – are available with a separate purchase. See *Optional Rack Mounting*, page 67 for details.
-

To rack mount the CL6708MW, 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.



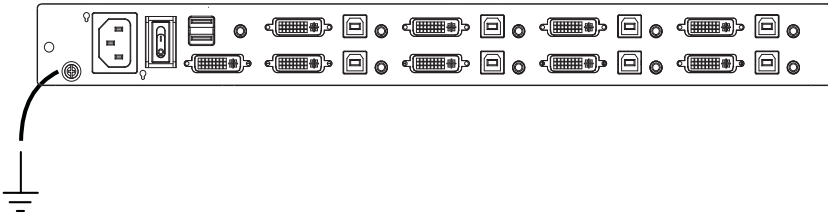
2. While the first person still holds the switch in place, the second person slides the L brackets into the switch's side mounting brackets, from the rear until the bracket flanges contact the rack, then screws the L brackets to the rack.



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

Grounding

To prevent damage to your installation it is important that all devices are properly grounded. Use a grounding wire to ground the CL6708MW by connecting one end of the wire to the grounding terminal, and the other end of the wire to a suitable grounded object.



Single Level Installation

In a single level installation, there are no additional switches cascaded from the first unit. The numbers in the diagram on page 14 correspond to the numbered steps below (see page 15 for step 2). To set up a single level installation do the following:

1. Ground the CL6708MW 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 CL6708MW, connect the keyboard, monitor and mouse to their respective ports in the External Console Section. See *Console Cable Installation*, page 15.

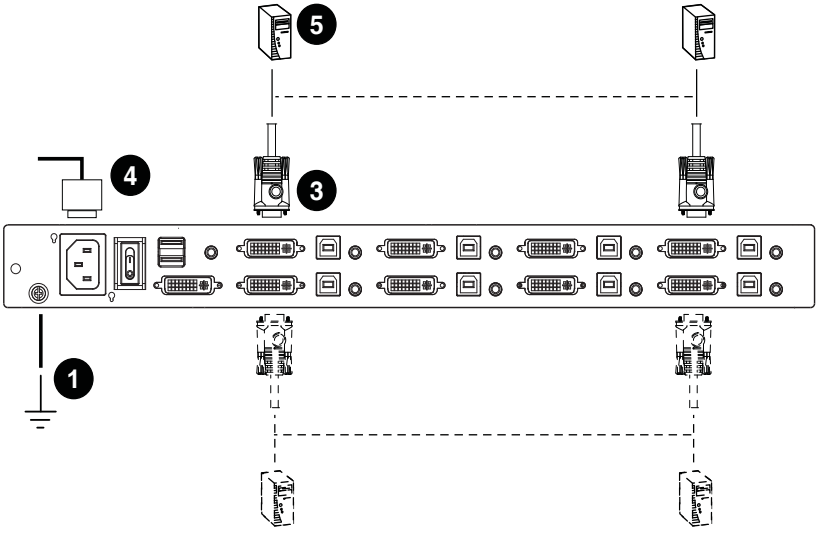
Note: 1. Connecting an external console is optional.

2. The CL6708MW only supports USB keyboards and mice.
-

3. For each of the computers you are installing, use a KVM cable set (listed in *Cables*, page 4) to connect any available KVM port to a computer's keyboard, video and mouse ports. See *Cabling Diagrams*, page 15.
4. Plug the power cord into the CL6708MW power socket and into a AC power source.

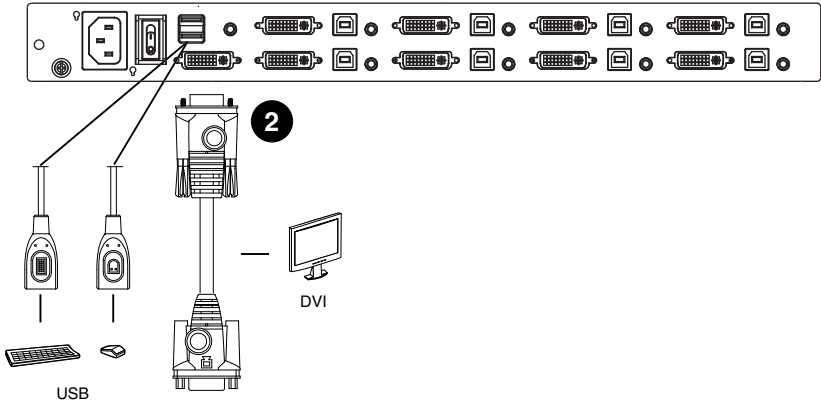
After you have completed the installation procedures, power on the CL6708MW (see *Powering Off and Restarting*, page 22, for details). Once the CL6708MW is powered on, power on the computers in the installation.

Single Level Installation Diagram



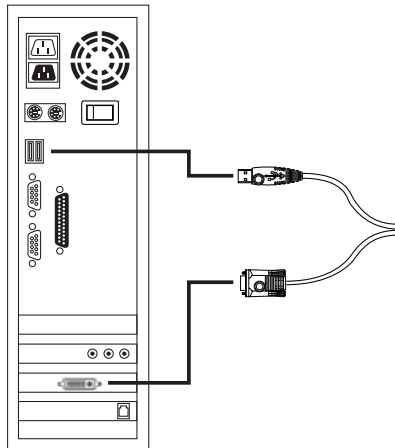
Cabling Diagrams

Console Cable Installation



KVM Cable Installation

USB KVM Cable Connection



Multi-Level Installation

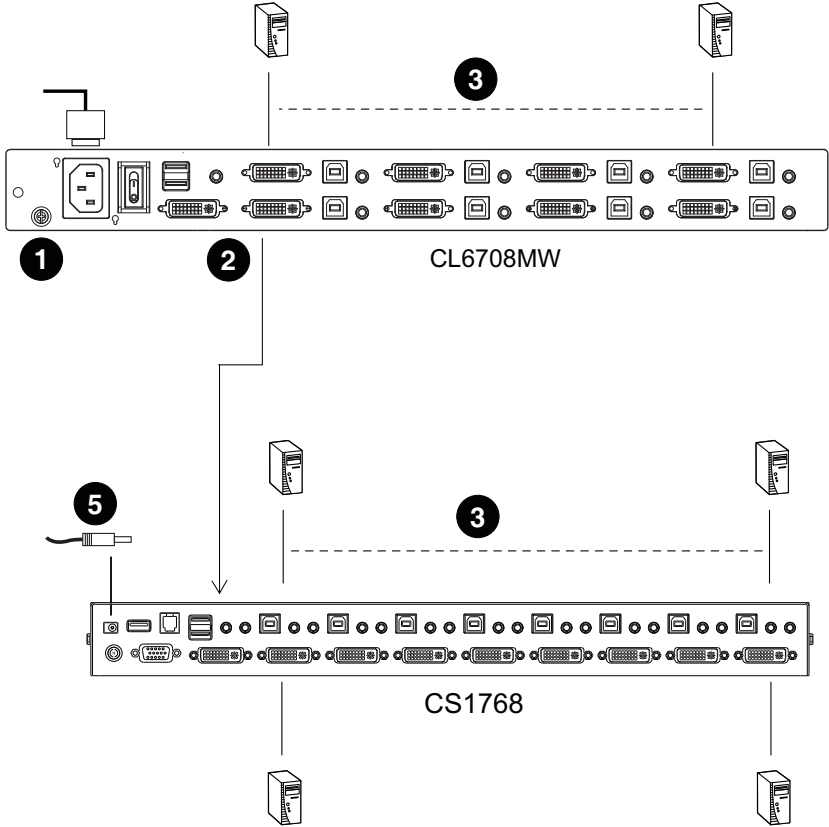
To control even more computers, up to 8 additional switches can be cascaded from the first CL6708MW (see *Supported KVM Switches*, page 65). As many as 64 computers can be controlled from a single console in a complete cascade installation. Tables showing the relation between the number of computers and the number of switches needed to control them are provided on page 65 in the Appendix.

To set up a multi-level installation, do the following:

1. Ground the master CL6708MW and make sure that power has been turned off to all the computers you will be connecting up.
2. Using a KVM cable, connect any available KVM Port on the first level switch to the Console port on the second level unit*.
3. Use custom DVI KVM cable sets (described in the *Cables* section, page 4) to connect any available KVM port on the either of the two switches to the keyboard, video and mouse ports of the computers you are installing.
4. Repeat the steps above to cascade additional switches to the installation.
5. The Power On sequence requires that all Second Stage units be powered on first. After the second stage units are on, power on the First Stage unit. After the Second and First stage units have been powered on, the computers can be powered on.

* The CL6708MW can only be installed as the first switch in a two level installation as its LCD, keyboard and mouse are used as the console and all second level switches require an external console port to be cascaded.

Two Level Installation Diagram



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Chapter 3

Basic Operation

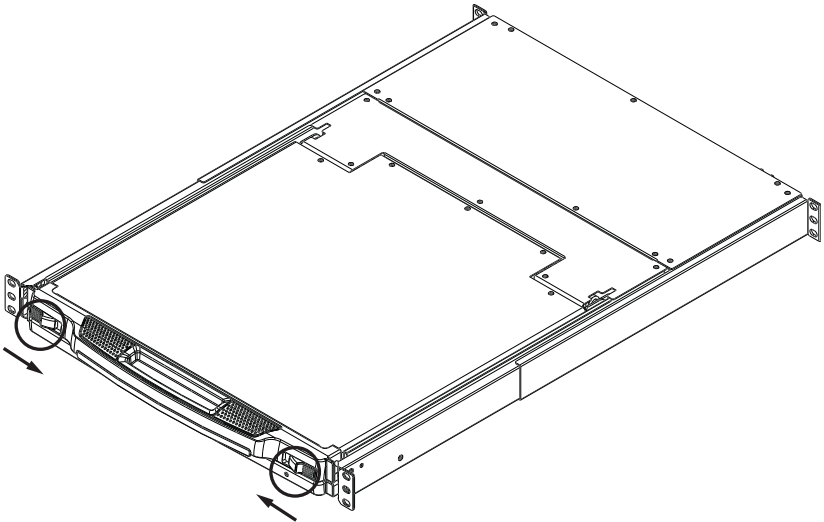
Opening the Console

The CL6708MW's console is located under the top cover. To access the console, slide the console module out and raise the cover.

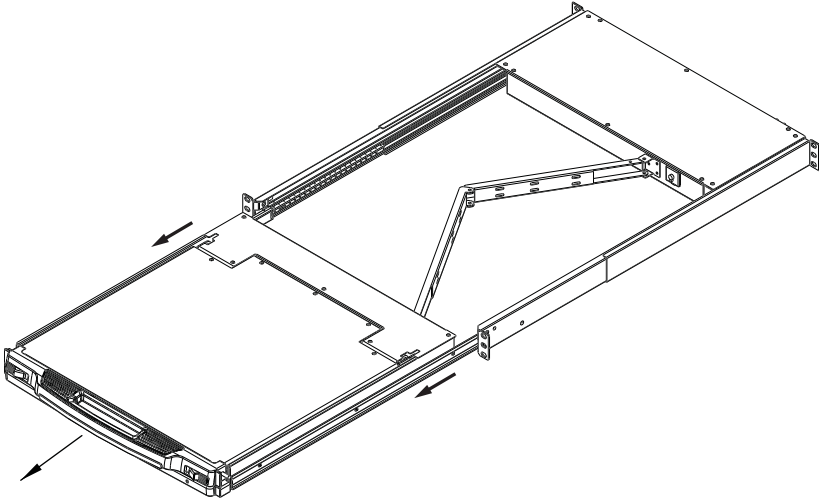
Note: As a safety precaution, to keep the console from accidentally sliding out, the console is locked into the *In* position. Before you can pull the console module out, you must release it by pushing the catches on the unit's front panel toward the center of the switch.

To slide the console module out, do the following:

1. Push the catches inward.



2. Slide the module all the way out until it automatically locks in place.

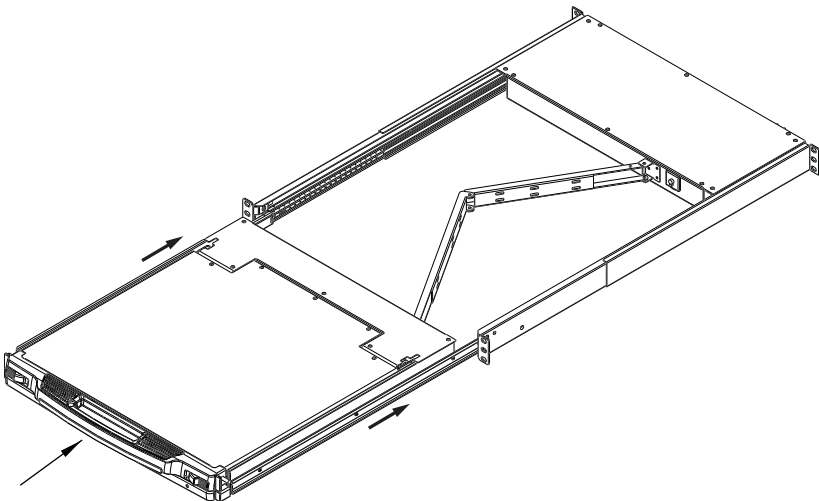


3. Open the cover.

Closing the Console

To slide the console module back in, do the following:

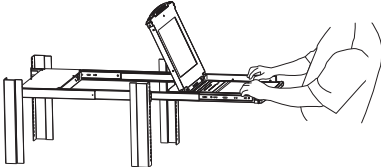
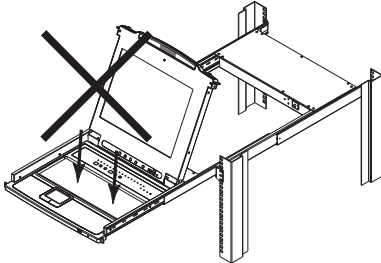
1. Close the cover.
2. Push the module all the way in until it automatically locks in place.



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.

	<p>Right!</p> <p>Rest your hands and arms lightly on the keyboard module as you work.</p>
	<p>Wrong!</p> <ul style="list-style-type: none">◆ 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 CL6708MW, do the following before restarting it:

1. Shut down all the computers that are attached to the CL6708MW.

Note: Unplug the power cords of any computers that have the *Keyboard Power On* function. Otherwise, the CL6708MW will still receive power from the computers.



2. Unplug the CL6708MW from its power source.
3. Wait 10 seconds, then plug the CL6708MW back in.
4. After the CL6708MW has started and ascertained its station ID, power on the computers.

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

LCD OSD Configuration

The LCD Buttons

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

Button	Function
MENU	<ul style="list-style-type: none"> ◆ 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/LIGHT	<ul style="list-style-type: none"> ◆ 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. ◆ Pressing this button for two seconds turns the LED light ON or OFF. (Default: ON)

LCD Adjustment Settings

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

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

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/LIGHT*, page 23

Hot Plugging

The CL6708MW supports *hot plugging* – components can be removed and added back into the installation by unplugging their cables from the ports without the need to shut the unit down. In order for hot plugging to work properly, the procedures described below must be followed:

Hot Plugging KVM Ports

In order for the OSD menus to correspond to KVM port changes, you must manually reconfigure the OSD to reflect the new port information. See the *F3 SET* (page 31) and *F4 ADM* (page 33), functions for details.

Note: If the computer's operating system does not support hot plugging, this function may not work properly.

Port Selection

The CL6708MW provides three port selection methods to access the computers on the installation: Manual, OSD (on-screen display), and Hotkeys. See Chapter 4, *OSD Operation* and Chapter 5, *Keyboard Port Operation* for more information.

Manual Port Switching

Use the Port LED/Port Pushbuttons located on the keyboard module to switch KVM focus to any port on the installation.

Port ID Numbering

Each port on a CL6708MW installation is assigned a unique *Port ID*. You can directly access any computer on any level of the installation by specifying the Port ID that the computer is connected to – either with the OSD (see *OSD Operation*, page 27), or with the Hotkey port selection method (see *Keyboard Port Operation*, page 39).

- ◆ A computer attached to a master unit has a two digit Port ID that corresponds to the KVM port number that it is connected to.
- ◆ A computer attached to a slave unit has a four digit Port ID.

The first two digits represent the KVM port number on the master and the second two digits represent the KVM port number on the slave unit that the computer is connected to. For example, a Port ID of 02–08 would refer to a computer that is connected to KVM port 08 of a slave unit that links back to KVM port 2 of the master unit.

Chapter 4

OSD Operation

OSD Overview

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

OSD Login

The OSD incorporates a two level (administrator / user) password system. Before the OSD main screen displays, a login screen appears requiring a password. If this is the first time that the OSD is used, or if the password function has not been set, simply press **[Enter]**. 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 Hotkey

You can display the OSD on the console monitor while also viewing the display of any port on the CL6708MW by pressing the **[Scroll Lock]** key twice.

Note: You can optionally change the OSD hotkey to the Ctrl key, in which case you would press **[Ctrl]** twice (see *OSD HOTKEY*, page 31). With this method, you must press the same **[Ctrl]** key.

Manufacturing Number

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


OSD 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 33, 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

PN	This column lists the port ID numbers 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 <i>Set Quick View Ports</i> , page 35), an arrowhead displays in this column.
	The computers that are powered on and are online have a sun symbol in this column.
NAME	If a port has been given a name (see <i>EDIT PORT NAMES</i> , page 34), its name appears in this column.

OSD Navigation

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

OSD Functions

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 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 33), that match the name or port ID pattern, regardless of the current list settings (see *F2 LIST*, page 30, 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 <i>SET QUICK VIEW PORTS</i> , page 35).
POWERED ON	Lists only the ports that have their attached computers powered on.
QUICK VIEW + POWERED ON	Lists only the ports that have been selected as quick view ports (see <i>SET QUICK VIEW PORTS</i> , page 35), 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	<p>Selects which hotkey activates the OSD function:</p> <p>[Scroll Lock] [Scroll Lock] or [Ctrl] [Ctrl].</p> <p>Since the [Ctrl] key combination may conflict with programs running on the computers, the default is the [Scroll Lock] combination.</p>
PORT ID DISPLAY POSITION	<p>Allows each user to customize the position where the port ID appears on the screen. The default is the upper left corner, but users can choose to have it appear anywhere on the screen.</p> <p>Use the mouse or the arrow keys plus Pg Up, Pg Dn, Home, End, and 5 (on the numeric keypad with Num Lock off), to position the port ID display, then double-click or press [Enter] to lock the position and return to the Set submenu.</p>
PORT ID DISPLAY DURATION	<p>Determines how long a port ID displays on the monitor after a port change has taken place. The choices are: 3 Seconds (default) and Always Off.</p>
PORT ID DISPLAY MODE	<p>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).</p>
SCAN DURATION	<p>Determines how long the focus dwells on each port as it cycles through the selected ports in Auto Scan mode (see <i>F7: SCAN</i>, page 37). Key in a value from 1–255 seconds, then press [Enter]. Default is 5 seconds; a setting of 0 disables the SCAN function.</p>

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Setting	Function
SCAN-SKIP MODE	<p>Selects which computers will be accessed under skip mode (see <i>F5: SKP</i>, page 36), and Auto Scan mode (see <i>F7: SCAN</i>, page 37). Choices are:</p> <p>ALL - All the ports which have been set accessible (see <i>SET ACCESSIBLE PORTS</i>, page 33);</p> <p>QUICK VIEW - Only those ports which have been set accessible and have been selected as quick view ports (see <i>SET QUICK VIEW PORTS</i>, page 35);</p> <p>POWERED ON - Only those ports which have been set accessible and are powered on;</p> <p>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.</p> <p>Note: The quick view choices only show up on the administrator's screen, since only he has <i>Quick View</i> setting rights (see <i>SET QUICK VIEW PORTS</i>, page 35, for details).</p>
SCREEN BLANKER	<p>If there is no input from the console for the amount of time set with this function, the screen is blanked. Key in a value from 1–30 minutes, then press [Enter]. The default setting of 0 disables this function.</p>
HOTKEY COMMAND MODE	<p>Enables / disables the hotkey command function in case a conflict with programs running on the computers occurs.</p>
HOTKEY	<p>Sets the keyboard shortcut for invoking <i>Hotkey Mode</i> (see page 39). Choices are: NUM LOCK + - (minus) (default), and CTRL + F12.</p>
OSD LANGUAGE	<p>Sets the language used in the OSD. Choices are: English (default), German, Japanese, Simplified Chinese and Traditional Chinese.</p>

F4: ADM

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

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

Setting	Function
SET USER LOGIN	<p>This function is used to set usernames and passwords for the administrator and users:</p> <ol style="list-style-type: none"> 1. Usernames and passwords for one administrator and four users can be set. 2. 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). 3. For each individual, key in the username and password, confirm the password, then press [Enter]. 4. To modify or delete a previous username and/or password, use the backspace key to erase individual letters or numbers. Press [Enter] when done. <p>Note: Usernames and passwords are not case sensitive. Usernames are displayed in capital letters in the OSD.</p>
SET ACCESSIBLE PORTS	<p>This function allows the administrator to define user access to the computers on the installation on a port-by-port basis.</p> <p>For each user, select the target port; then press the [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.</p> <p>Note:</p> <ul style="list-style-type: none"> ◆ 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. ◆ The administrator always has full access to all ports.

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Setting	Function
SET LOGOUT TIMEOUT	<p>If there is no input from the console for the amount of time set with this function, the user is automatically logged out. A login is necessary before the console can be used again.</p> <p>This enables other users to gain access to the computers when the original user is no longer accessing them, but has forgotten to log out. To set the timeout value, key in a number from 1–180 minutes, then press [Enter]. The default setting of 0 disables this function.</p> <p>Note: This feature does not function if Set Login Mode is disabled. See <i>SET LOGIN MODE</i>, page 35.</p>
EDIT PORT NAMES	<p>To help remember which computer is attached to a particular port, every port can be given a name. This function allows the administrator to create, modify, or delete port names.</p> <p>To edit a port name:</p> <ol style="list-style-type: none"> 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: <ul style="list-style-type: none"> ◆ All alpha characters: A–Z ◆ All numeric characters: 0–9 ◆ * () + : - , ? . / and Space <p>Case does not matter; the OSD displays the port name in all capitals no matter how they were keyed in.</p> 3. When you have finished editing, press [Enter] to have the change take effect. To abort the change, press [Esc].
RESTORE DEFAULT VALUES	<p>This function is used to undo all changes and return the setup to the original factory default settings (see <i>OSD Factory Default Settings</i>, page 66) except for the port name list, username and password information, which are saved.</p>
CLEAR THE NAME LIST	<p>This function clears the port name list.</p>
ACTIVATE BEEPER	<p>Choices are Y (on), or N (off). When activated, the beeper sounds whenever a port is changed; when activating the Auto Scan function (see <i>F7: SCAN</i>, page 37); or an invalid entry is made on an OSD menu. The default is Y.</p>

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Setting	Function
SET QUICK VIEW PORTS	<p>This function lets the administrator select which ports to include as quick view ports.</p> <ul style="list-style-type: none"> ◆ 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. When a port is deselected, the icon disappears. ◆ If one of the quick view options is chosen for the LIST view (see <i>F2 LIST</i>, page 30), 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 <i>SCAN-SKIP MODE</i>, page 32), only a port that has been selected here will be auto-scanned. <p>The default has no ports selected for quick view.</p>
SET OPERATING SYSTEM	<p>This function allows the administrator to define the operating system for the computer connected to each KVM port. The default is WIN (PC compatible).</p> <p>To set the port operating system:</p> <ol style="list-style-type: none"> 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	<p>In order to upgrade the CL6708MW firmware (see page 49), you must first enable Firmware Upgrade mode with this setting.</p> <p>When you bring up this menu, the current firmware version levels are displayed. Select Y to enable Firmware Upgrade mode, or N to leave this menu without enabling it.</p>
SET KEYBOARD LANGUAGE	<p>Sets the language for the computer keyboard attached to the KVM port. To select a keyboard language, double-click it, or use the navigation keys to move the highlight bar to it, then press [Enter].</p> <p>Choices are: AUTO (default), ENGLISH (UK), ENGLISH (US), FRENCH, GERMAN (GER.), GERMAN (SWISS), GREEK, HUNGARIAN, ITALIAN, JAPANESE, KOREAN, RUSSIAN, SPANISH, SWEDISH, and TRADITIONAL CHINESE.</p>
SET LOGIN MODE	<p>This function allows the administrator to request users to login or not. When the login dialog box is disabled, the system disables the login/logout function. If the system is re-started, the login/logout function remains disabled.</p>

F5: SKP

Clicking the **F5** field or pressing **[F5]** invokes Skip (SKP) 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 31).
- ◆ 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

Note: When you skip, you only skip to the previous or next available computer that is in the *Scan-Skip* mode selection (page 32).

- ◆ 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 32).
- ◆ The amount of time that each port displays for is set with the *Scan Duration* setting under the **F3: SET** function (see page 31). When you want to stop at a particular location, press the [Spacebar] to stop scanning.
- ◆ If the scanning stops on an empty port, or one where the computer is attached but is powered Off, the monitor screen will be blank, and the mouse and keyboard will have no effect. After the *Scan Duration* time is up, the scan function will move on to the next port.
- ◆ As each computer is accessed, an **S** appears in front of the port ID display to indicate that it is being accessed under *Auto Scan* mode.
- ◆ While *Auto Scan* mode is in effect, the console will not function normally. You must exit *Auto Scan* mode in order to regain control of the console.
- ◆ While you are in *Auto Scan* mode, you can pause the scanning in order to keep the focus on a particular computer either by pressing **P**, or with a left-click of the mouse. See *Invoking Auto Scan*, page 41, 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.

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- 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.
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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 CL6708MW provides the following hotkey port control features:

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

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

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

Invoke Hotkey Mode

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

Number Lock and Minus Keys

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

[Num Lock] + [-]

1. Make sure that the *Hotkey Command Mode* function is enabled and that you key in the appropriate *Hotkey*. See page 32 for details.

Control and F12 Keys

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

[Ctrl] + [F12]

When *Hotkey* mode is active:

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

Pressing [Esc] exits *Hotkey* mode.

Select the Active Port

Each KVM port is assigned a port ID (see *Port ID Numbering*, page 26). You can directly access any computer on the installation with a hotkey combination that specifies the port ID of the KVM port that a computer is connected to. To access a computer using hotkeys:

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

2. Key in the port ID.

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

3. Press [Enter].

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

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

Auto Scan Mode

Auto Scan automatically switches, at regular intervals, among all the KVM ports that have been set as accessible under *Scan-Skip Mode*, so that their activity can be monitored automatically. See *SCAN-SKIP MODE*, page 32, for more information.

Invoking Auto Scan

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

1. Invoke hotkey mode with the [**Num Lock**] + [-] or [**Ctrl**] + [**F12**] combination.
2. Press [**A**]. After you press **A**, then [**Enter**], you automatically exit hotkey mode, and enter *Auto Scan* mode.

- ◆ While you are in *Auto Scan* mode, you can pause the scanning in order to keep the focus on a particular computer either by pressing **P** or with a left click of the mouse. During the time that auto-scanning is paused, the command line displays: **Auto Scan: Paused**.

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

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

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

Skip Mode

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

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

←	Skips to the first accessible port. (See <i>Scan/Skip Mode</i> , page 32, for information regarding accessible ports.)
→	Skips to the next accessible port.

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

Computer Keyboard / Mouse Reset

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

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

After you press [F5], you automatically exit *Hotkey* mode and regain keyboard and mouse control on the computer connected to the KVM port. If you fail to regain keyboard / mouse control on the computer after pressing [F5], perform a console keyboard and mouse reset.

Hotkey Beeper Control

The beeper (see *ACTIVATE BEEPER*, page 34) can be hotkey toggled on and off. To toggle the beeper, key in the following hotkey combination:

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

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

Quick Hotkey Control

The *Quick Hotkey* (see *HOTKEY*, page 32) can be toggled between [Num Lock] + [-], and [Ctrl] + [F12]. To toggle the *Quick Hotkey*:

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

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

OSD Hotkey Control

The *OSD Hotkey* (see *OSD HOTKEY*, page 31) can be toggled between [Scroll Lock], [Scroll Lock] and [Ctrl], [Ctrl]. To toggle the *OSD Hotkey*, key in the following hotkey combination:

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

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

Port OS Control

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

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

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

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

Restore Default Values

This administrator only hotkey restores the CL6708MW default values. See *RESTORE DEFAULT VALUES*, page 34. To restore the default values, key in the following hotkey combination:

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

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

Hotkey Summary Table









[Num Lock] + [-] or [Ctrl] + [F12]	[PN] [Enter]	Switches KVM, Audio and USB focus directly to the computer that corresponds to that port ID. (PN = port number)
	[A] [Enter]	Starts Auto Scan. The KVM focus cycles from port to port at the default 5-second intervals.
	[A] [n] [Enter]	Starts Auto Scan at n-second intervals (n = 1–255 seconds).
	[H]	Toggles between the default ([Num Lock] [-]) and alternate ([Ctrl] [F12]) Hotkey Settings Mode invocation keys.
	[T]	Toggles the OSD Hotkey between [Ctrl] [Ctrl] and [Scroll Lock] [Scroll Lock].
	[F1]	Set the port OS to Windows.
	[F2]	Set the port OS to Mac.
	[F3]	Set the port OS to Sun.
	[F5]	Performs a keyboard / mouse reset on the target computer.
	[B]	Enables / Disables the buzzer.
	[R] [Enter]	Resets hotkey settings to their default values. See <i>RESTORE DEFAULT VALUES</i> , page 34.
	[D]	Invokes Video DynaSync™, ATEN's exclusive technology that eliminates boot-up display problems and optimizes resolution when switching between ports.
	[M]	Enables / Disables mouse emulation.
	[←]	Skips to the previous computer on the list, in Skip Mode.
	[→]	Skips to the next computer on the list in, Skip Mode.
[↑]	Skips to the next accessible port. If the next accessible port has cascaded a switch, then it skips to the first accessible port of that switch, in Skip Mode.	
[↓]	Skips to the previous accessible port. If the previous accessible port has cascaded a switch, then it skips to the last accessible port of that switch, in Skip Mode.	
[ESC] or [Spacebar]	Exits Hotkey Settings Mode.	

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 all CL6708MW switches in an installation. 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

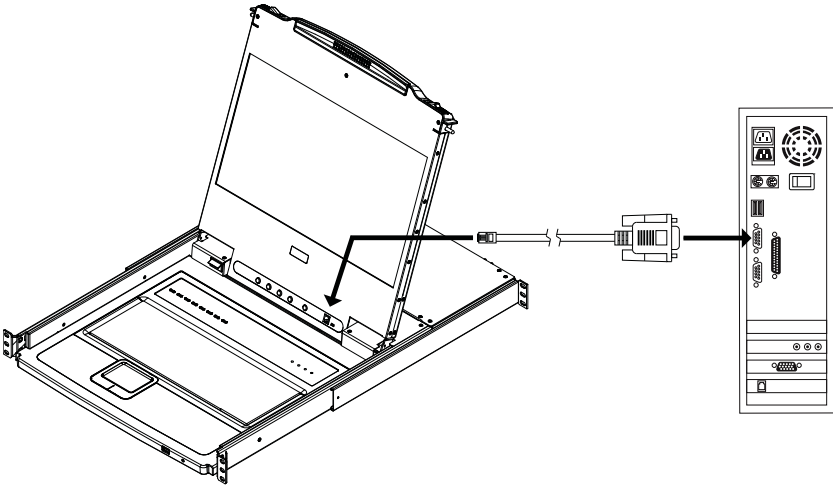
To download the firmware upgrade package:

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.



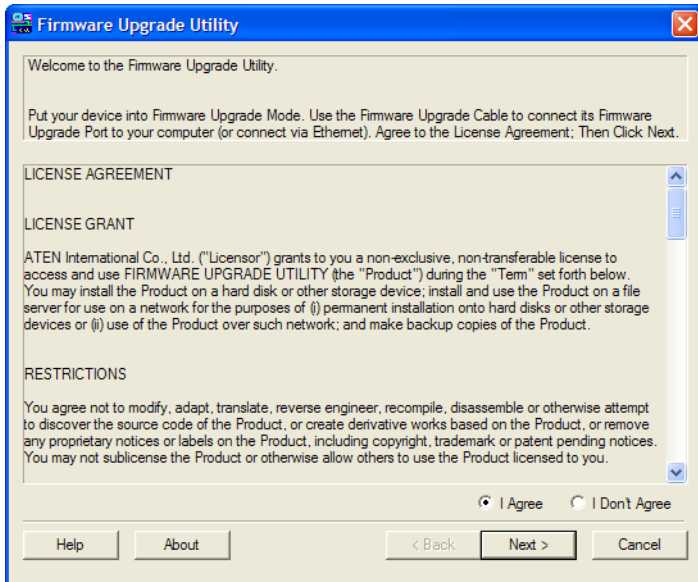
2. Shut down all the computers on the KVM installation.
3. From your KVM switch console, log into the OSD as the administrator (see page 27) and select the **F4 ADM** function.
4. Scroll down to FIRMWARE UPGRADE. Press **[Enter]**, then press **[Y]** to invoke *Firmware Upgrade* mode (see page 35).

Starting the Upgrade

To upgrade the firmware:

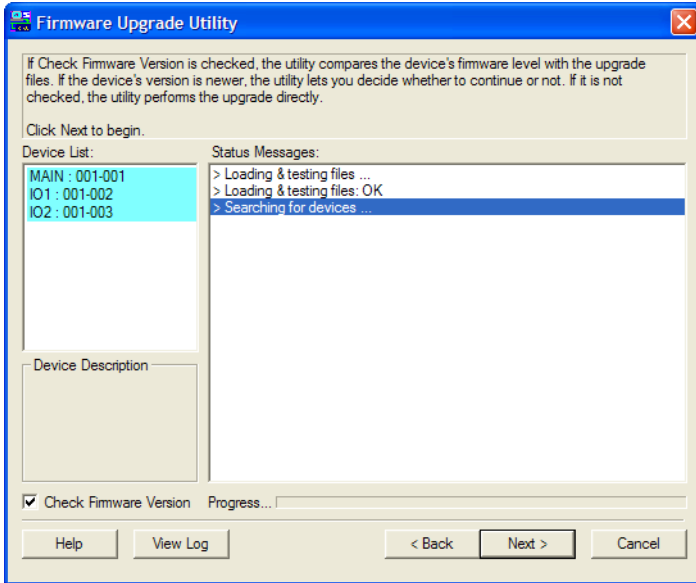
1. Run the downloaded firmware upgrade package file either by double-clicking the file icon, or by opening a command line and entering the full path to it.

The *Firmware Upgrade Utility* welcome screen appears:



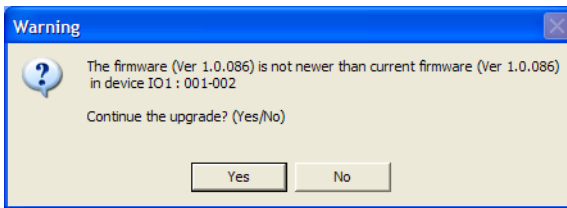
Note: The screens shown in this section are for reference only. The wording and layout of the actual screens put up by the *Firmware Upgrade Utility* may vary slightly from these examples.

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.

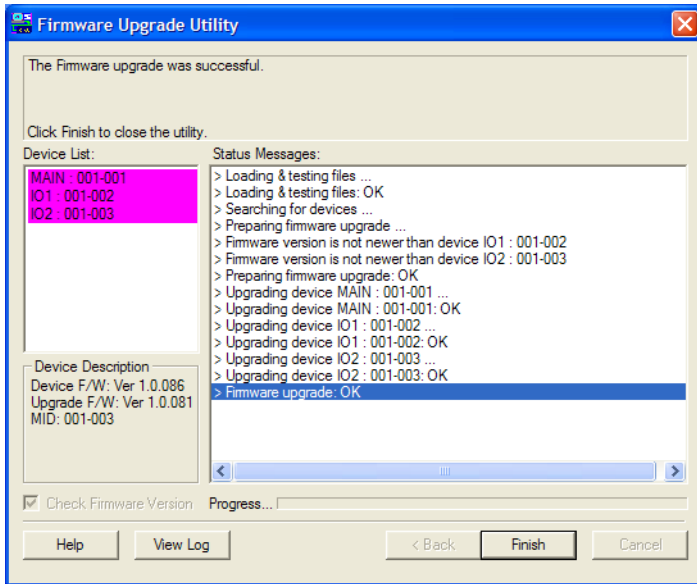


If you did not enable *Check Firmware Version*, the Utility installs the upgrade files without checking whether they are a higher level, or not.

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 does not appear, it means that the upgrade failed to complete successfully. See the next section, *Firmware Upgrade Recovery*, for how to proceed.

Firmware Upgrade Recovery

There are three conditions that call for 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.
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 one of the cascaded switches, plug it back into the installation.
7. Power the switch back on.

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

- ◆ If an extension cord is used with this device make sure that the total of the ampere ratings of all products used on this cord does not exceed the extension cord ampere rating. Make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
- ◆ To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or un-interruptible power supply (UPS).
- ◆ Position system cables and power cables carefully; Be sure that nothing rests on any cables.
- ◆ Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.
- ◆ Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.
- ◆ If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.
 - ◆ The power cord or plug has become damaged or frayed.
 - ◆ Liquid has been spilled into the device.
 - ◆ The device has been exposed to rain or water.
 - ◆ The device has been dropped, or the cabinet has been damaged.
 - ◆ The device exhibits a distinct change in performance, indicating a need for service.
 - ◆ The device does not operate normally when the operating instructions are followed.
- ◆ Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.
- ◆ Do not connect the RJ-11 connector marked “UPGRADE” to a public telecommunication 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.
- ◆ 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.

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 fixés sur le bâti, qu'ils sont étendus au sol et que tout le poids du bâti repose sur le sol. Installez les stabilisateurs avant et latéraux sur un même bâti ou bien les stabilisateurs avant si plusieurs bâtis sont réunis, avant de travailler sur le bâti.
- ◆ Chargez toujours le bâti de bas en haut et chargez l'élément le plus lourd en premier.
- ◆ Assurez-vous que le bâti est à niveau et qu'il est stable avant de sortir une unité du bâti.
- ◆ Agissez avec précaution lorsque vous appuyez sur les loquets de libération du rail d'unité et lorsque vous faites coulisser une unité dans et hors d'un bâti ; vous pourriez vous pincer les doigts dans les rails.
- ◆ Une fois qu'une unité a été insérée dans le bâti, étendez avec précaution le rail dans une position de verrouillage puis faites glisser l'unité dans le bâti.
- ◆ Ne surchargez pas le circuit de l'alimentation CA qui alimente le bâti. La charge totale du bâti ne doit pas dépasser 80 % de la capacité du circuit.
- ◆ Assurez-vous que tous les équipements utilisés sur le bâti, y-compris les multiprises et autres connecteurs électriques, sont correctement mis à la terre.
- ◆ Assurez-vous que les unités présentes dans le bâti bénéficie d'une circulation d'air suffisante.

- ♦ Assurez-vous que la température ambiante de fonctionnement de l'environnement du bâti ne dépasse pas la température ambiante maximale spécifiée pour l'équipement par le fabricant.
- ♦ Ne marchez sur aucun appareil lors de la maintenance d'autres appareils d'un bâti.

Technical Support

International

- ◆ For online technical support – including troubleshooting, documentation, and software updates: **<http://support.aten.com>**
- ◆ For telephone support, see *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		CL6708MW	
Computer Connections	Direct	8	
	Max.	64	
Console Selection		OSD, Hotkey, Pushbutton	
Connectors	KVM Ports	KB / Mouse	8 x USB Type B Female
		Monitor	8 x DVI-I Female
		Speaker	8 x Mini Stereo Jack Female (Green)
	External Console	KB	1 x USB Type A Female
		Mouse	1 x USB Type A Female
		Monitor	DVI-I F
		Speaker	1 x Mini Stereo Jack Female (Green)
	External Mouse / Peripheral		1 x USB Type-A Female
	Firmware Upgrade		1 x RJ-11 Female
	Power		1 x 3-prong AC Socket
LEDs	Online		8 (Orange)
	Selected		8 (Green)
	Power	KVM	1 (Dark Green)
		LCD	1 (Orange)
	Lock	Num	1 (Green)
		Caps	1 (Green)
		Scroll	1 (Green)
Switches	KVM Reset		1 x Semi-recessed Pushbutton
	Firmware Upgrade		1 x Slide
	Power Switch		1 x Rocker
	LCD Controls		4 x Pushbutton
	LCD Power		1 x Pushbutton
	Port		8 x Pushbutton
Emulation	Keyboard / Mouse		USB
Video		1920x1080 @ 60Hz ; DDC2B	
I/P Rating		100-240VAC	
Power Consumption		TBD	

Function		CL6708MW
Environment	Operating Temp.	0–40°C
	Storage Temp.	-20–60°C
	Humidity	0–80% RH, Non-condensing
Physical Properties	Housing	Metal
	Weight	TBD
	Dimensions (L x W x H)	TBD

Connection Table

The following table indicates the relationship between the number of units and the number of computers that they control on a cascaded installation.

CL6708MW to Compatible 8-Port Switches

Number of Switches	Computers
1	1-8
2	9-16
3	17-24
4	25-32
5	33-40
6	41-48
7	49-56
8	57-64

Supported KVM Switches

The table below lists the KVM switch that is compatible with the CL6708MW and the type of expansion that it uses. The switch listed below is sold separately. Contact your dealer for details.

Expansion Type	Brand	Model	Name
Cascade	ATEN	CS1768	8-Port USB DVI KVM Switch

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 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:

- ◆ A long bracket standard rack mounting kit for 70.0–105.0 cm racks;
- ◆ A short bracket Easy-Installation rack mount kit for 57.0–70.0 cm racks;
- ◆ A long bracket Easy-Installation rack mount kit for 68.0–105.0 cm racks.

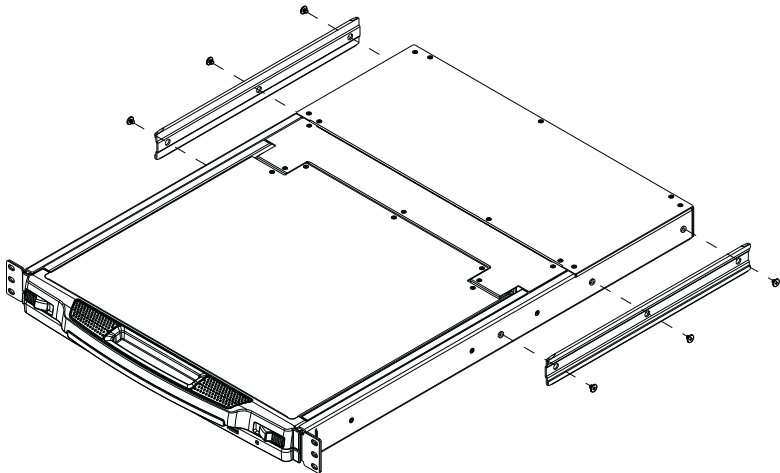
Standard - Long

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 10.

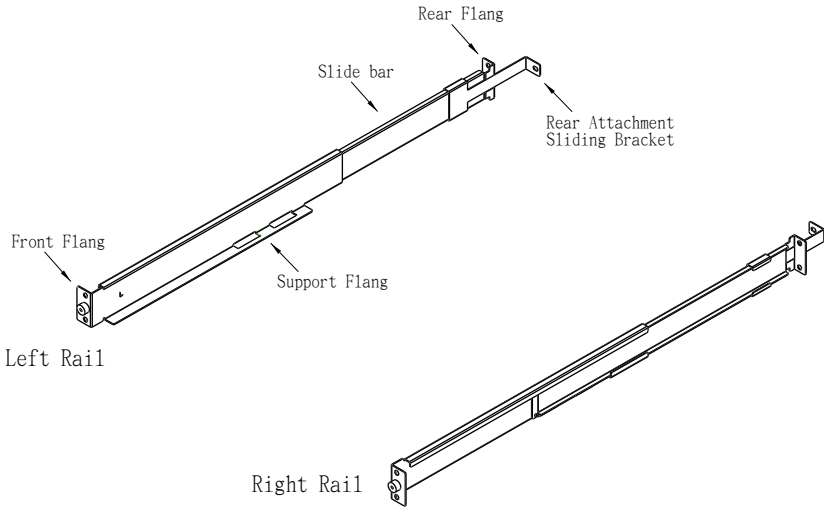
Easy Installation

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

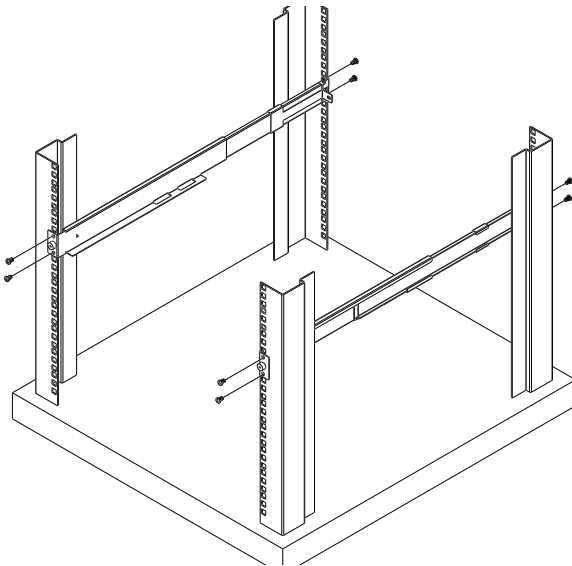
1. Remove the standard L brackets, and the side mounting brackets from both sides of the switch.



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.



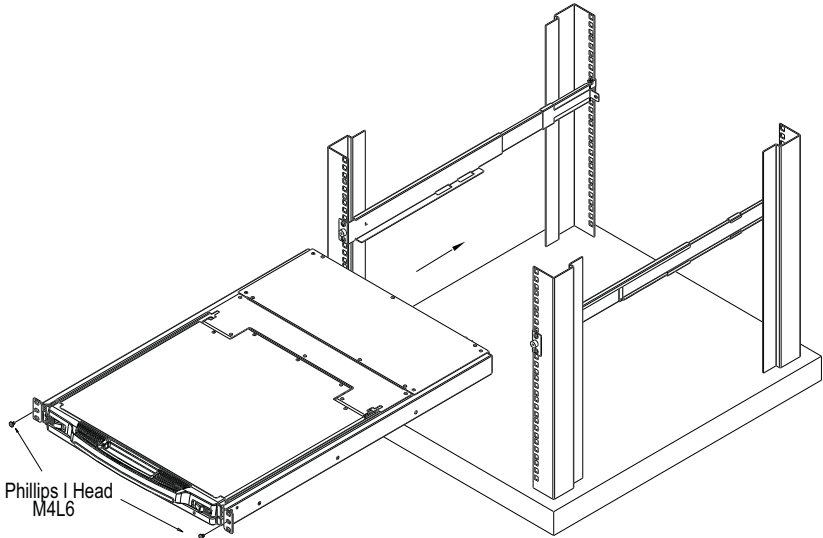
- a) Screw the front flanges to the rack first.
- b) Slide the bars with the rear flanges toward the rack until the flanges make contact with the rack, then screw the rear flanges to the rack.



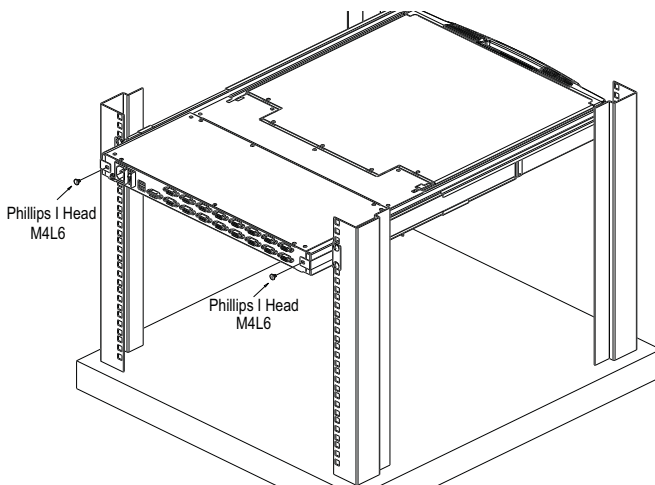
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3. Slide the switch onto the support flanges. Use the screws supplied with this package to loosely attach the front of the switch to the front of the rack (only tighten the screws part way).



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

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

In addition, updating the product's firmware may solve problems that have been discovered and resolved since the prior version was released. If your product is not running the latest firmware version, we strongly recommend that you upgrade. See *The Firmware Upgrade Utility*, page 49, for upgrade details.

Symptom	Possible Cause	Action
Erratic behavior.	Unit not receiving enough power.	Check that the power adapter that was supplied with the unit is plugged in and functioning properly.
There are ghost images on the external monitor.	The distance between the external console and the CL6700MW is too great.	The maximum DVI cable distance should not exceed 20m and, in some cases, may need to be shorter. Replace the DVI cable with one of an appropriately short length.
Some characters I enter from the keyboard do not display correctly.	The keyboard layout setting for the port does not match the keyboard you are using.	On your switch, change the keyboard layout setting for the port to match the layout of the keyboard you are using.
I can't use the special keys on the Sun external keyboard to control Sun computers.	Incorrect keyboard emulation.	Use Sun keyboard emulation keystrokes (page 48) to achieve all Sun keyboard functions.

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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