Master View Max Slideaway™ LCD KVM Switch
CL-1758
User Manual

FCC Information

This is an FCC 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.

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.
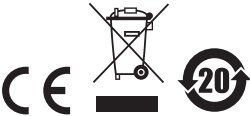
RoHS

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。

●: 表示符合欧盟的豁免条款，但该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T 11363-2006的限量要求。

×: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T 11363-2006的限量要求。

User Information

Online Registration

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

International		http://support.aten.com
North America	ATEN TECH	http://www.aten-usa.com/product_registration
	ATEN NJ	http://support.aten.com

Telephone Support

For telephone support, call this number:

International		886-2-8692-6959
North America	ATEN TECH	1-888-999-ATEN
	ATEN NJ	1-732-356-1703

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 CL-1758 package consists of:

- 1 CL-1758 KVM Switch with Standard Rack Mounting Kit
- 2 Custom KVM Cable Sets
- 1 Firmware Upgrade Cable
- 1 Power Cord
- 1 User Manual*
- 1 Quick Start Guide

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

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.

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* Features may have been added to the CL-1758 since this manual was printed. Please visit our website to download the most up-to-date version of the manual.

Contents

4. OSD Operation

5. Keyboard Port Operation

6. Keyboard Emulation

7. The Firmware Upgrade Utility

8. Appendix

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 CL-1758 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 step – 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 CL-1758.

Chapter 4, OSD Operation, provides a complete description of the CL-1758'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 CL-1758 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 CL-1758's firmware with the latest available versions.

An Appendix, provides specifications and other technical information regarding the CL-1758.

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	ATEN TECH	http://www.aten-usa.com
	ATEN NJ	http://www.aten.com

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Chapter 1
Introduction

Overview

The Master View CL-1758 KVM Switch is a control unit that allows access to multiple computers from a single keyboard, monitor, and mouse (KVM) console. Before the development of the Master View, the only way to control multiple computer configurations from a single console was through a complex and costly network system. Now, with the Master View CL-1758, you can easily access multiple computers in a cost effective manner.

A single Master View CL-1758 can control up to 8 computers. Since the CL-1758 supports cascading to three levels, in a complete three stage installation, up to 72 Master View CS-1758 models can be cascaded from the CL-1758 to control up to 512 computers - all from the original single console.

The Master View CL-1758 offers a space-saving, streamlined approach to KVM switch technology by integrating a keyboard, LCD monitor, and touchpad in a *Slideaway™* housing. The LCD display is built into the cover; the keyboard and touchpad are built into the base. Slide the KVM module section out; flip the cover up; and you are ready to go to work. When finished, flip the cover down and slide the KVM module away.

For further convenience and flexibility, the switch also supports an external keyboard, monitor, and mouse console. Although external consoles often use a PS/2 keyboard and mouse, the CL-1758 supports both PS/2 and USB computers. Depending on the cable you use to link the switch to the computer, you can attach to a computer with PS/2 connectors or USB connectors. (See *Cables*, page 4, for more details.)

The *Slideaway™* housing is 1U high for easy rack mounting, and because of its modular design, the KVM section can be detached from the switch section. The CL-1758 also features high density 15 pin KVM connectors instead of the usual 25 pin kind. This space-saving innovation provides more reliable and efficient transmission of KVM data, at the same time that it reduces cable clutter.

Your CL-1758 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.

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

Setup is fast and easy; simply plug cables into their appropriate ports. There is no software to configure, no installation routines, and no incompatibility problems. Since the CL-1758 intercepts keyboard input directly, it works on multiple operating platforms (PC compatible, Mac*, Sun*, etc.).

There is no better way to save time and money than with a CL-1758 installation. Since a single console manages all of the computers, the CL-1758 setup: (1) eliminates the expense of having to purchase a separate keyboard, monitor, and mouse for each computer; (2) saves all the space those extra components would take up; (3) saves on energy costs; and (4) eliminates the inconvenience and wasted effort involved in constantly moving from one computer to another.

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* Mac and Sun computers must use the USB cable connection (see p. 4).

Features

◆ Integrated KVM console with 15"or 17" LCD monitor in a *Slideaway™* housing.

◆ *Slideaway™* housing is less than 1 U – with top and bottom clearance for smooth operation in a 1U high system rack.

◆ Space saving technology - two consoles (one bus) controls 8 computers.

◆ Cascadable to three levels for control of up to 512 computers from a single console.

◆ Dual interface support - PS/2 or USB keyboard and mouse data transfer from the switch to the computer*

◆ No software required - convenient computer selection via mouse driven intuitive On Screen Display (OSD) menus and *Hotkeys*.

◆ Auto Scan feature for monitoring user-selected computers.

◆ Hot Pluggable - add or remove computers without having to power down the switch.

◆ Two level password security - only authorized users view and control the computers - up to four users plus an administrator with separate profiles for each.

◆ DDC Emulation of the LCD Monitor - VGA settings of every connected computer are automatically adjusted for optimal output to the LCD Monitor.

◆ Upgradable firmware.

◆ Supports Windows, Mac, and Sun host systems

◆ Windows 98SE / ME / 2000 / XP / 2003; Mac OS8.6 or higher; Solaris; Linux

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∗ For PC compatible computers only. Mac and Sun computers must use the USB cable connection (see p. 4).

Hardware Requirements

Computers

The following equipment must be installed on each computer:

◆ A VGA, SVGA or Multisync card.

> **Note:** The integrated LCD monitor's maximum resolution is 1024 x 768 @ 75Hz (15") or 1280 x1024 @ 75Hz (17"). Make sure that the computer resolution settings do not exceed the LCD monitor's maximum resolution.

◆ Either a Type A USB port, or PS/2 keyboard and mouse ports (see the *Cables* discussion in the next section).

Cables

Only the following ATEN Custom KVM cable sets may be used with these switches.

Depending on the KVM cable type, the switches can link to computers that use PS/2 connectors to transfer keyboard and mouse data as well as computers that use USB connectors (see the installation diagram on p. 12).

Function	Part Number
KVM Switch to PS/2 Connectors	2L-5702P - 1.8m
(See the note on p. 4)	2L-5201P - 1.2m 2L-5202P - 1.8m 2L-5203P - 3m 2L-5206P - 6m
KVM Switch to USB Connectors	2L-5201U - 1.2m 2L-5202U - 1.8m 2L-5203U - 3m 2L-5206U - 6m

To purchase ATEN Custom KVM cable sets, contact your dealer.

> **Note:** 1. Two cables are provided with this package.
>
> 2. For PS/2 port computers, we strongly recommend using 2L-5702P cables. While the other cables work, the keyboard and/or mouse will not work if all their connectors (keyboard, video, and mouse), aren't plugged into their ports on the computer before starting the computer up. The 2L-5702P cables do not have this limitation.
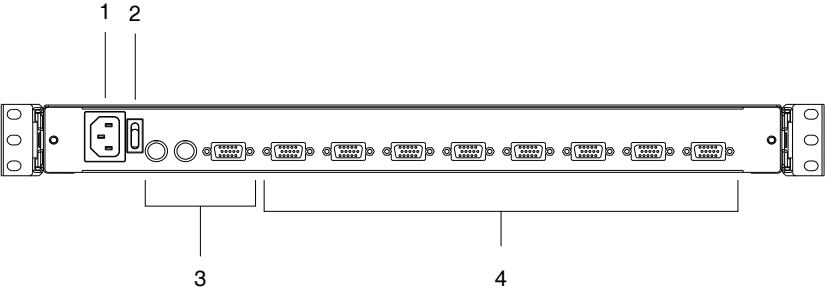
Components

Front View
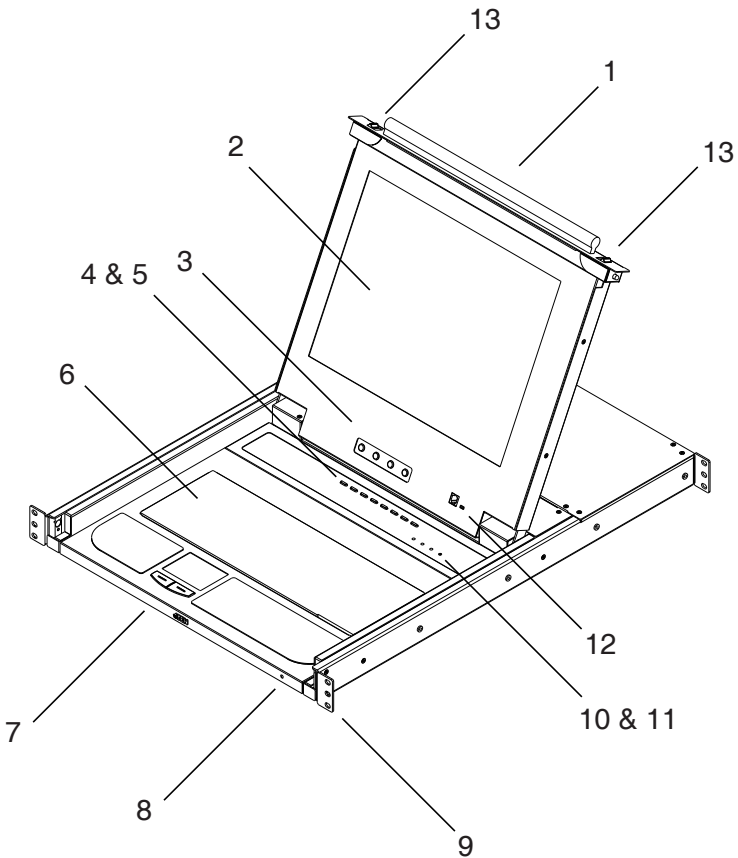
(Continues on next page.)

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No.	Component	Description
1	Handle	Pull to slide the KVM module out; push to slide the module in (see item 13 in this table).
2	LCD Display	After sliding the KVM module out, flip up the cover to access the LCD monitor.
3	LCD Controls	The LCD On/Off switch is located here, as well as buttons to control the position and picture settings of the LCD display. See p. 22, for details.
4	Port Switches	Press a switch to bring the KVM focus to the computer attached to its corresponding port. See p. 24 for details.
5	Port LEDs	Two Port LEDs are built into the Port Switches. The one on the left is the *On Line* LED; the one on the right is the *Selected Port* LED: ◆ An *On Line* LED lights ORANGE to indicate that the computer attached to its corresponding port is up and running. ◆ A *Selected* LED lights GREEN to indicate that the computer attached to its corresponding port is the one that has the KVM focus. The LED is steady under normal conditions, but flashes when its port is accessed under *Auto Scan Mode* (see p. 39).
6	Keyboard	
7	Touchpad	
8	Power LED	Lights BLUE to indicate that the unit is receiving power.
9	Rack Mounting Brackets	The rack mounting brackets located at each corner of the unit secure the chassis to a system rack. Refer to the Appendix (p. 67), for rack mounting details.
10	Lock LEDs	The Num Lock, Caps Lock, Scroll Lock LEDs are located here.
11	Reset Switch	Located to the right of the Lock LEDs. Press this recessed switch in with a thin object to perform a system reset.
12	Firmware Upgrade Section	◆ **Firmware Upgrade Port:** The Firmware Upgrade Cable that transfers the firmware upgrade data from the administrator's computer to the CL-1758 plugs into this RJ-11 connector. ◆ **Firmware Upgrade Switch:** During normal operation this switch should be in the NORMAL position. (See p. 51 for firmware upgrading details.)
13	Slide Release	In order to slide the console out, you must first release it by sliding these tabs to the inside. See page 19 for details on sliding the console in and out.

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	
3	External Console Section	For flexibility and convenience, the CL-1758 supports an independent, external, KVM console. The external console's keyboard, monitor, and mouse cables plug in here.
4	KVM Port Section	The cables that link to the computers plug in here.
		Note: The shape of these 15-pin connectors has been specifically modified so that only KVM cables designed to work with this switch can plug in (see the *Cables* section on p. 4, for details). Do **NOT** attempt to use ordinary 15 pin VGA connector cables to link these ports to the computers.

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Hardware Setup

Before You Begin

1. Important safety information regarding the placement of this device is provided on page 59. Please review it before proceeding.

2. Make sure that the power to any device that you connect to the installation has been turned off. You must unplug the power cords of any computers that have the Keyboard Power On

Standard Rack Mounting

A standard rack mounting kit is provided with your CL-1758. The kit enables the switch to be mounted in rack with a depth of 42.0 - 82.0 cm.
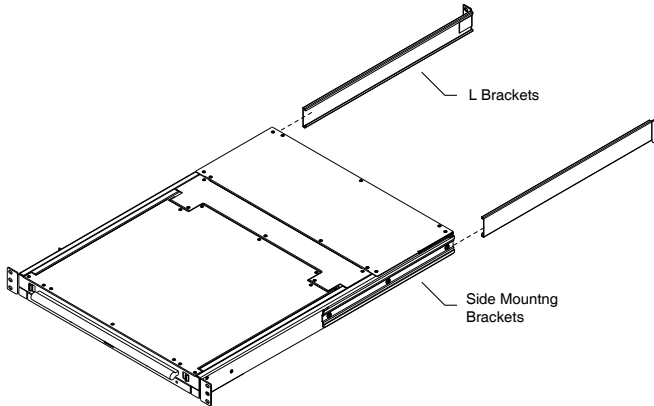
Note: It takes two people to mount the switch: one to hold it in place; the other to screw it in.

Optional mounting kits - including single person *Easy Installation* kits - are available with a separate purchase. See *Optional Rack Mounting*, page 67 for optional rack mounting details.

To rack mount the switch, do the following:

1. While one person positions the switch in the rack and holds it in place, the second person - using the screws provided with the rack mounting kit - loosely screws the front brackets to the rack.
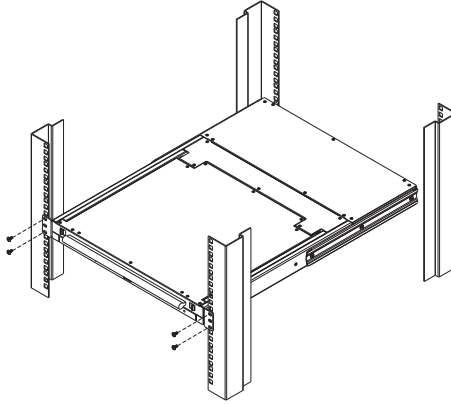
2. While the first person still holds the switch in place, the second person slides the L brackets into the switch's side mounting brackets, from the rear until the bracket flanges contact the rack, then - using the screws provided with the rack mounting kit - screws the L brackets to the rack.
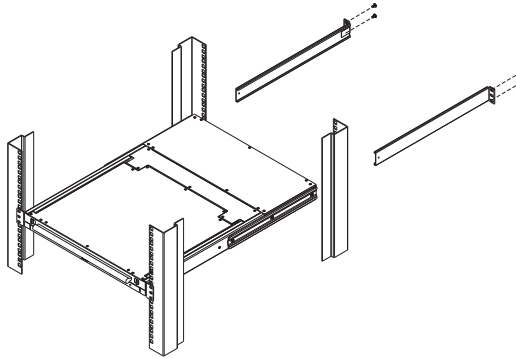
3. After the L brackets have been secured, tighten the front bracket screws.

Note: 1. Cage nuts are provided for racks that are not prethreaded.

2. 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

To set up a single stage installation, refer to the installation diagram on the next page (the numbers in the diagram correspond to the numbers of the installation steps), and do the following:

1. If you choose to install an external console, plug your keyboard, monitor, and mouse into the Console Ports located on the switch's rear panel. The ports are color coded and marked with an appropriate icon to indicate themselves.

2. Using a KVM cable set (described in the *Cables* section on p. 4), plug the custom SPHD connector into any available KVM Port on the switch.

3. At the other end of the cable:

   a) For a USB connection, plug the USB and video connectors into their respective ports on the computer.

   b) For a PS/2 connection plug the keyboard, mouse and video connectors into their respective ports on the computer.

   Note: Repeat steps 2 and 3 for any additional computers you are installing.

4. Use the Power cord provided with this package to connect the switch's Power Socket to an AC power source.
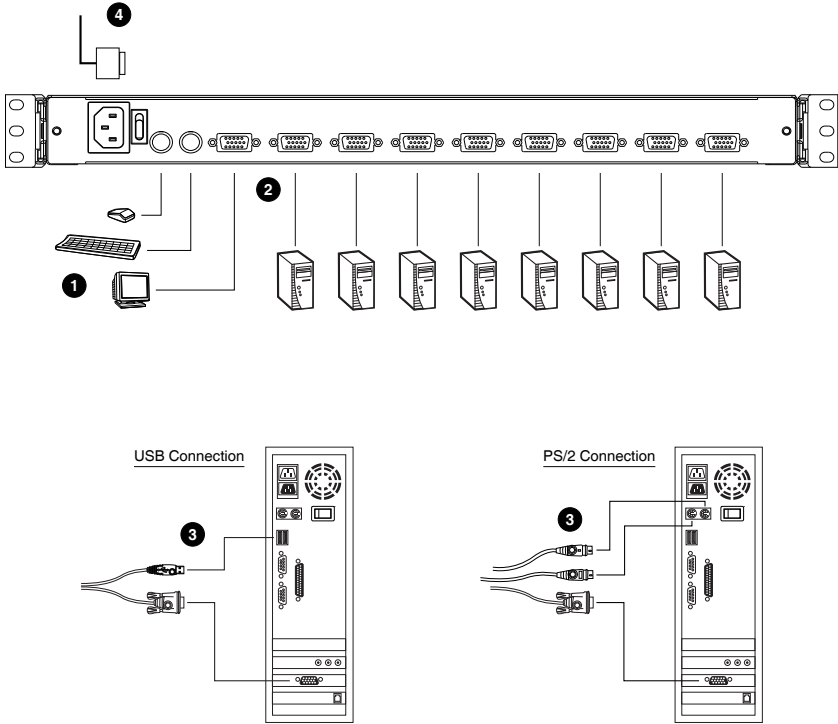
This completes the single stage installation, and you can power on the switch. After the switch has been powered on, you can turn on the power to the computers.

Note: The CL-1758 initially links to the first port when you turn it on.

Single Stage Installation Diagram

Two Stage Installation

To control even more computers, up to eight additional Master View CS-1758 units can be cascaded from the KVM ports of the First Stage unit. The cascaded Master Views that connect back to the First Stage unit are considered Second Stage units. As many as 64 computers can be controlled in a complete two stage installation. A table showing the relation between the number of computers and the number of units needed to control them is provided on page 64.

To set up a two stage installation, refer to the *Two Stage Installation* diagram on the next page as you do the following:

1. Make sure that power to all the devices you will be connecting up, including all preexisting devices on the installation, have been turned off.

2. Use a USB KVM cable set (see *Cables*, page 4), to connect any available KVM Port on the First Stage unit to the Console ports of the Second Stage unit.

   Note: Plug the USB connector into the USB port next to the Console SPHD port (they are both marked with a similar icon to remind you of the correct USB port).

3. Using a KVM cable set (see *Cables*, page 4), plug the custom SPHD connector into any available KVM Port on the switch.

   Note: The CL-1758 does not support the audio features of audio enabled KVM switches.

4. At the other end of the cable:

   a) For a USB connection (see p. 12), plug the USB and video connectors into their respective ports on the computer.

   b) For a PS/2 connection (see p. 12), plug the keyboard, mouse, and video connectors into their respective ports on the computer.

5. Repeat steps 3 and 4 for any other computers you are connecting up.

6. For each Second Stage unit, plug the power adapter cable into its Power Jack, then plug the power adapter into an AC source.

7. Power On the First Stage unit.

8. Turn on the power to all the computers.

Two Stage Installation Diagram
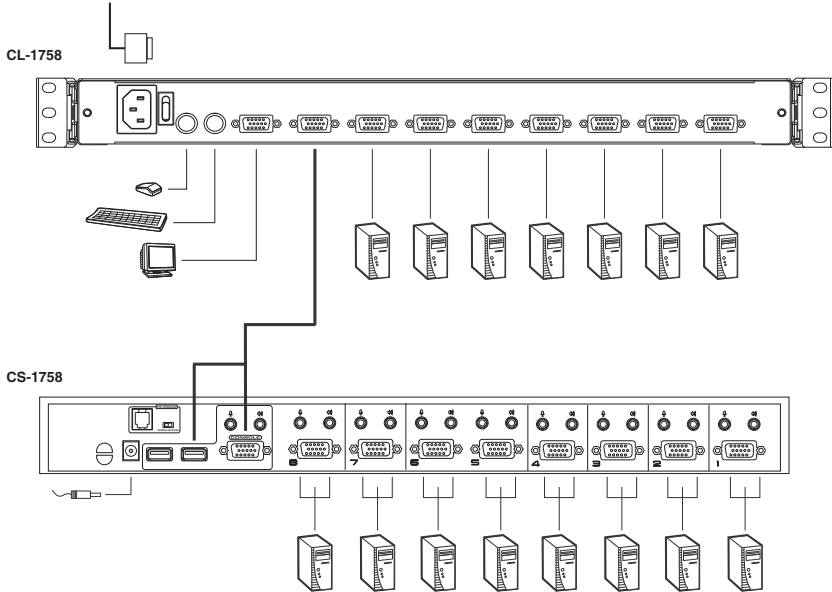
Note: The Power On sequence requires that all Second Stage units be powered on first. After all the Second Stage units have been powered on, then the First Stage unit must be powered on next. After the Second and First stage units have been powered on, the computers can be powered on.

Three Stage Installation

The procedures for setting up a three stage installation are essentially the same as for a two stage installation. With a three stage setup, as many as 512 computers can be controlled in a complete installation. A table showing the relation between the number of computers and the number of switches needed to control them is provided on page 64.

Note: Switches cannot be cascaded beyond the third level.

To set up a three stage installation, refer to the *Three Stage Installation* diagram on the next page. Once you have finished cabling up (see Two Stage Installation for details, if necessary), power up according to the following sequence:

1. For each Third Stage unit, plug the power adapter cable into the switch's Power Jack; plug the power adapter into an AC source.

2. For each Second Stage unit, plug the power adapter cable into the switch's Power Jack; plug the power adapter into an AC source.

3. Power On the First Stage unit.

4. Turn on the power to all the computers.

Note: The Power On sequence requires that all Third Stage units be powered on first. After they are all on, the Second Stage units must be powered on next. After all the Second Stage units are on, the First Stage unit must be powered on. Only after all the switches have been powered on in this sequence, can the computers be powered on.

Three Stage Installation Diagram
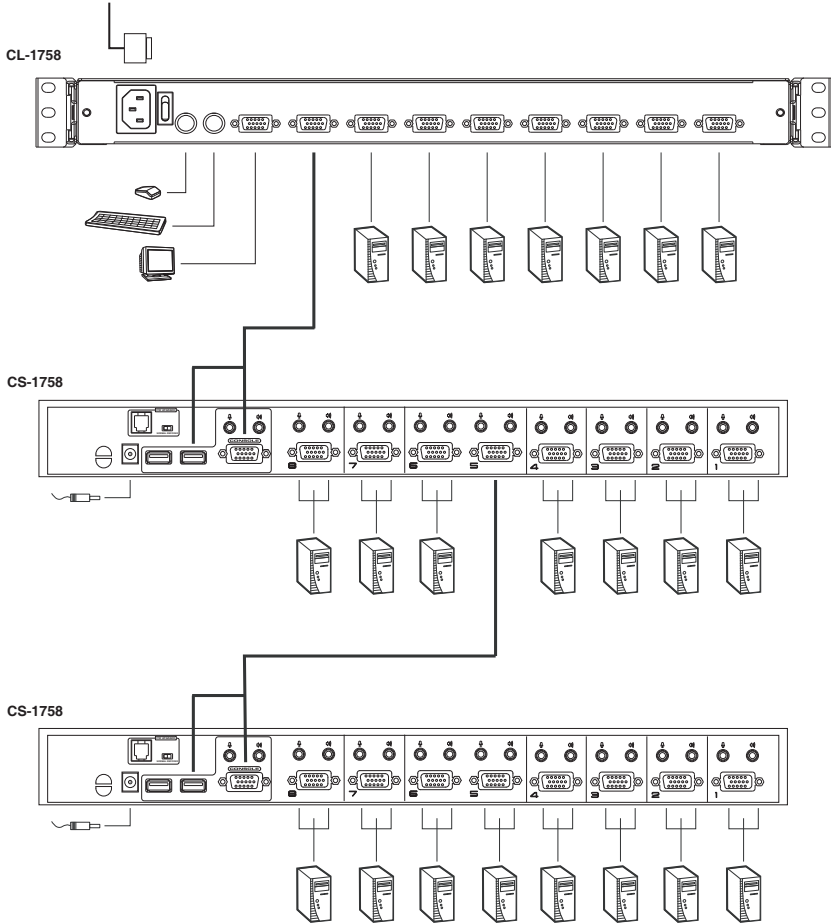
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Basic Operation

Opening the Console

The CL-1758'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.
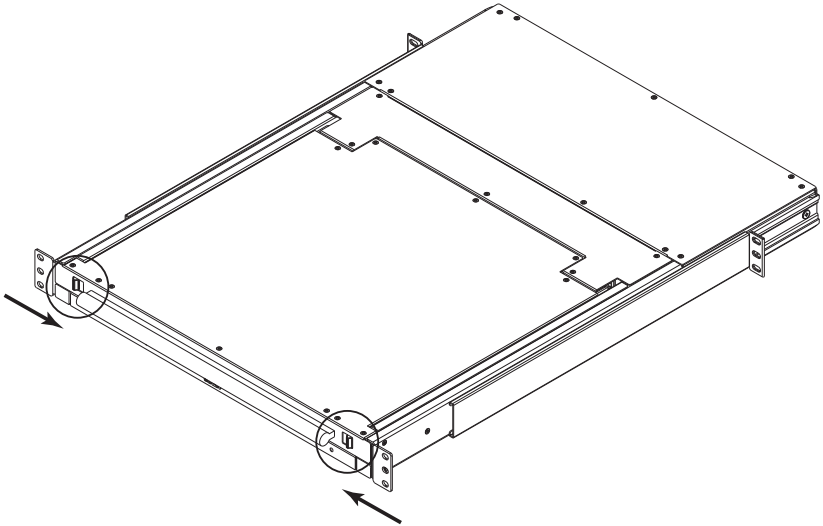
Closing the Console

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

1. Pull the safety catches on the unit's side rails toward you and push the module in until it stops.

2. Release the catches; pull the module slightly toward you; then push it all the way in.
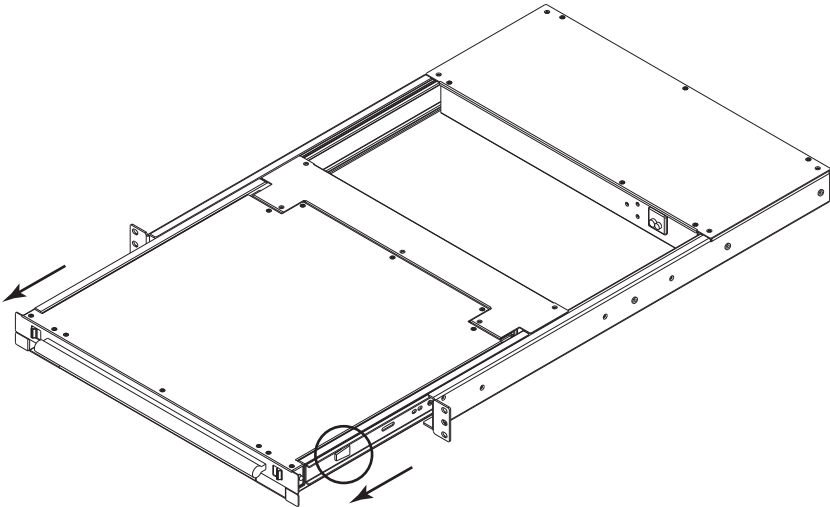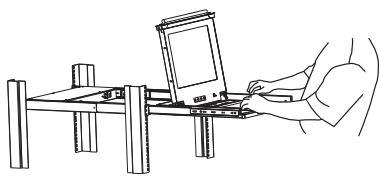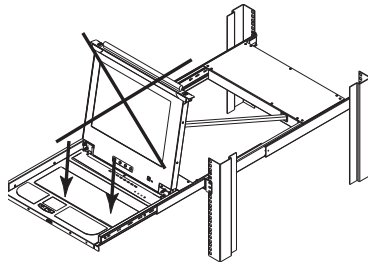
Note: The reason for the two step procedure is to minimize the chances of fingers getting pinched when sliding the module in.

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.

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.

The 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	Adjusts the vertical size of the screen image.
Clock	Adjusts the horizontal size of the screen image.
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:** The *Language* setting does not return to the factory default, but remains at the one that you have set it to.

Port Selection

CL-1758 installations provide three methods to obtain instant access to any computer in your installation: Manual, On Screen Display (OSD), and Hotkey.

Manual

For manual port selection on the CL-1758, simply press the Port Switch that corresponds to the device you wish to access.

For manual port selection on the cascaded CS-1758 switches, first press the Port Switch on the parent unit that the cascaded switch is connected to, then press the Port Switch on the cascaded switch that corresponds to the device you wish to access.

OSD

The OSD provides a menu driven interface to the computer switching procedure. OSD operation is discussed in the next chapter.

Hotkey

Hotkeys allow you to conveniently provide KVM focus to a particular computer from the keyboard, instead of having to manually select them by pressing Port Selection switches. Hotkey operation is discussed in Chapter 5.

Hot Plugging

The CL-1758 supports *hot plugging* - components can be removed and added back into the installation by unplugging their cables from the ports without the need to shut the unit down. In order for hot plugging to work properly, however, the procedures described below must be followed.

Hot Plugging KVM Ports

At times you may want to take a computer off the KVM installation - simply unplug its cable from the KVM port on the KVM switch that it is connected to. When hot plugging the cable back in:

1. The cable must be plugged back into the *same port* it was removed from.

2. After plugging the cable back in, you must perform a **KVM Reset** on the First Stage unit (by pressing the Reset switch In).

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

Hot Plugging Console Ports

The unit supports hot plugging of the external keyboard, monitor, and mouse console. When hot plugging the mouse from the Master View's console mouse port:

◆ You may unplug the mouse and plug it back in again (to reset the mouse, for example), as long as you use the *same mouse*.

◆ If you plug in a different mouse, all the stations and all the computers on the installation must be shut down for 10 seconds, then restarted. (Refer back to the note describing the Power On sequence on p. 16, if necessary.)

Note: If there is no response to mouse and/or keyboard input after hot plugging (or at any other time), and unplugging and replugging the component doesn't resolve the problem, perform a **KVM Reset** on the First Stage unit (by pressing the Reset switch In).

Powering Off and Restarting

If it becomes necessary to Power Off one of the switches, you must do the following before starting it back up:

1. Shut down all the computers that are attached to it. If there are switches cascaded down from it, all the cascaded switches and the computers attached to them must be shut down, as well.

   Note: You must unplug the power cords of any computers that have the *Keyboard Power On* function. Otherwise, the switches will still receive power from the computers.

2. Wait 10 seconds, then turn the switch back on. If you have shut down more than one switch, power up the lowest level switch first and work your way back up to the one you originally shut down.

3. After all the switches are up, power On the computers, starting with the ones attached to the lowest level switches and working back to the switch you originally shut down.

Port ID Numbering

Each KVM port on a Master View installation is assigned a unique Port ID. You can directly access any computer on any level of the installation by specifying the Port ID of the KVM port that the computer is connected to - either with the OSD (see page 29), or with the Hotkey port selection method (see page 41).

The Port ID is a one, two, or three digit number. It is determined by the Stage Level and KVM Port number of the switch that a computer is connected to.

The first digit represents the KVM Port number of the First Stage unit; the second digit represents the KVM Port number of the Second Stage unit; the third digit represents the KVM Port number of the Third Stage unit.

- ◆ A computer attached to a First Stage unit has a one digit Port ID (from 1-8), that corresponds to the KVM Port number that it is connected to.

- ◆ A computer attached to a Second Stage unit has a two digit Port ID.

  The first digit represents the KVM Port number on the First Stage unit that the Second Stage unit links back to; the second digit represents the KVM Port number on the Second Stage unit that the computer is connected to.

  For example, a Port ID of **2 3** would refer to a computer that is connected to KVM Port 3 of a Second Stage unit that links back to KVM Port 2 of the First Stage unit.

- ◆ Likewise, a computer attached to a Third Stage unit has a three digit Port ID.

  As in the previous example, a Port ID of **2 4 1** would refer to a computer that is connected to KVM Port 1 of a Third Stage unit, that links back to KVM Port 4 of a Second Stage unit, which, in turn, links back to KVM Port 2 of the First Stage unit.

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Chapter 4
OSD Operation

OSD 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. To pop up the Main Screen, tap the **OSD** key (see p. 71), or tap the **[Scroll Lock]** key twice.

Note: You can optionally change the OSD Hotkey from the Scroll Lock key to the Ctrl key, in which case you would tap **[Ctrl]** twice (see *OSD Hotkey*, p. 34). With this method, the Ctrl keys must be on the same side (both left, or both right).

The OSD incorporates a two level (Administrator / User) password system. Before the OSD Main Screen comes up, a login dialog box appears that asks you to provide your username password. If the password function has been set, you must provide a valid username and password in order to access the OSD Main Screen.

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 comes up 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 for the future), as you would like.

When you invoke the OSD, a screen similar to the one below appears:
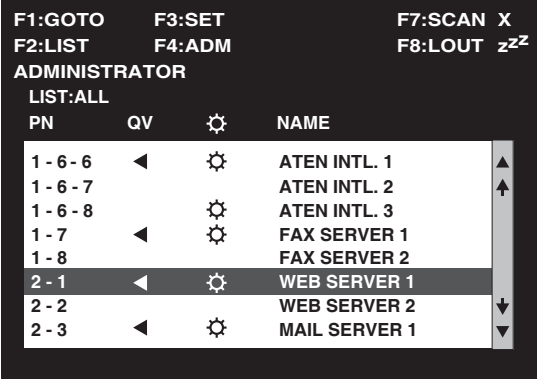
Note: 1. The diagram depicts the Administrator's Main Screen. The User Main Screen does not show the **F4** function, since it is reserved for the Administrator and can't be accessed by ordinary Users.

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 currently logged in User are visible (see *SET ACCESSIBLE PORTS*, p. 38, for details).

OSD Navigation

◆ To dismiss the menu, and deactivate the OSD, Click the **X** at the upper right corner of the OSD Window; or press **[Esc]**.

◆ To Logout, Click **F8** or the $_Z Z^Z$ symbol 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 there is room for 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 there is room for 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 Main Screen Headings

Heading	Explanation
PN	This column lists the Port ID numbers (see *Port ID Numbering* p. 27) for all the KVM ports on the installation. The simplest method to access a particular computer is to Click it, or move the Highlight Bar to it, then press **[Enter]**.
QV	If a port has been selected for Quick View scanning (see *Set Quick View Ports*, p. 38), an arrowhead displays in this column to indicate so.
☼	The computers that are powered on and are On Line have a Sun symbol in this column to indicate so.
NAME	If a port has been given a name (see *Edit Port Names*, p. 37), its name appears in this column.

OSD Functions

OSD functions are used to configure and control the OSD. For example, you can: rapidly switch to any port; scan selected ports only; 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

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*, p. 38), that match the Name or Port ID pattern, regardless of the current List settings (see *F2 LIST*, p. 33, for details).

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

F2 LIST

Many of the OSD functions only operate on the computers that are listed on the Main Screen. This function lets you broaden or narrow the scope of which ports the OSD displays (lists) 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.
QUICK VIEW	Lists only the ports that have been selected as Quick View Ports (see *SET ACCESSIBLE PORTS*, p. 38).*
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*, p. 38), and that have their attached computers Powered On.*

Double Click the choice you want, or move the Highlight Bar to it, then press **[Enter]**. An icon appears before the choice to indicate that it is the currently selected one.

After you make your choice, you return to the OSD Main Screen with the newly formulated List displayed.

* Quick View choices only show up on the Administrator's screen, since only he has *Quick View* setting rights (see p. 38, for details).

F3 SET

This function allows the Administrator and each User to set up their own, individual, working environment. A separate profile for each is stored by the OSD and is activated according to the Username 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 you to position where the Port ID appears on the monitor. The default is the upper left corner, but you can 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 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: **User Defined** - which lets you select the amount of time (from 1 - 255 sec.); and **Always On** - which displays the Port ID at all times. If you select *User Defined*, key in the number of seconds, then press **[Enter]**. The default is 3 Seconds. A setting of 0 (zero) disables this function.

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Setting	Function
PORT ID DISPLAY MODE	Selects how the Port ID is displayed: the Port Number alone (**PORT NUMBER**); the Port Name alone (**PORT NAME**); or the Port Number plus the Port Name (**PORT NUMBER + PORT NAME**). The default is PORT NUMBER + 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*, p. 39). Key in a value from 1 - 255 seconds, then press **[Enter]**. Default is 5 seconds; a setting of 0 disables the Scan function.
SCAN MODE	Selects which computers will be accessed under Auto Scan Mode (see *F7 SCAN*, p. 39). Choices are: **ALL** - All the Ports which have been set Accessible (see *SET ACCESSIBLE PORTS*, p. 38); **QUICK VIEW** - Only those Ports which have been set Accessible and have been selected as Quick View Ports (see *SET QUICK VIEW PORTS*, p. 38); **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.
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]**. A setting of 0 disables this function. The default is 0 (disabled).
HOTKEY COMMAND MODE	Enables / Disables the Hotkey Command function. If the hotkey combinations conflict with programs running on the computers, you may want to disable hotkey operation by turning Hotkey Command Mode Off. The default is ON, which allows hotkey operation of the switch.

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 appears. Double Click the choice you want, or move the Highlight Bar to it then press **[Enter]**. An icon appears before the selected choice so that you know which one it is. The settings are explained in the following table:

Setting	Function
SET USERNAME AND PASSWORD	This function is used to set Usernames and Passwords for the Administrator and Users: 1. One Administrator and four User passwords can be set. 2. After you select the Administrator field or one of the User fields, a screen that allows you to key in your username and password appears. The username and password may be up to 15 characters long, and can consist of any combination of letters and numbers (A - Z, 0 - 9). 3. For each individual, key in the Username and 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.
SET LOGOUT TIMEOUT	If there is no input from the console for the amount of time set with this function, the Operator is automatically logged out. A login is necessary before the console can be used again. This enables other Operators to gain access to the computers when the original Operator 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]**. If the number is 0 [zero], this function is disabled. Default is 0 (disabled).

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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 you want, 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 15. Legal characters include: ◆ All alpha characters: **a - z; A - Z** (Case does not matter; the OSD displays the Port Name in all capitals no matter how they were keyed in. ◆ All numeric characters: **0 - 9** ◆ **+ - / : .** and **Space** 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 65) - except for the *Names* settings that were assigned to the Ports, which are saved.
CLEAR THE NAME LIST	This function is similar to Restore Default Values. The difference is that it also clears the *Names* settings along with undoing all changes and returning the setup to the original factory default settings.
ACTIVATE BEEPER	Choices are **Y** (for Yes), or **N** (for No). When activated, the beeper sounds whenever a Port is changed; when activating the Auto Scan function (see *F7 SCAN*, p. 39); or an invalid entry is made on an OSD menu. The default is Y (activated).

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Setting	Function
SET QUICK VIEW PORTS	This function lets the Administrator select which Ports to include as Quick View ports. **Note:** Only the ports currently chosen for the LIST view on the OSD Main Screen (see *F2 LIST*, page 33), show up here. ♦ To select/deselect a port as a Quick View Port, Double Click the port you want, 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 arrowhead displays in the QV column of the LIST on the Main Screen to indicate so. When a port is deselected, the arrowhead disappears. ♦ If one of the Quick View options is chosen for the LIST view (see *F2 LIST*, page 33), 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 MODE*, page 35), only a Port that has been selected here will be Auto Scanned. The default is for no ports to be selected.
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 **[Spacebar]** to cycle through the choices: **F** (Full access), **V** (View only), or blank. Repeat until all access rights have been set, then press **[Esc]**. The default is **F** for all users on all ports. **Note:** 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.
FIRMWARE UPGRADE	In order to upgrade the CL-1758's firmware (see *The Firmware Upgrade Utility*, page 51), you must first invoke *Firmware Upgrade Mode* with this setting.
PORT OS	Specifies the operating platform of the computer attached to each port. For each port, press **[Spacebar]** to cycle through the choices: Win (PC Compatible), Sun, and Mac. Repeat until all the ports have been set, then press **[Esc]**. The default is PC Compatible.
KEYBOARD LANGUAGE	This function allows the Administrator to define the keyboard language layout for each port. To assign a keyboard language, select the target port; then press **[Spacebar]** to cycle through the choices: US English; Japanese; or French. The default is US English.

F7 SCAN

This function automatically switches among the available computers at regular intervals so that you can monitor their activity without having to take the trouble of switching manually.

◆ The selection of computers to be included for Auto Scanning is made with the *Scan Mode* setting under the **F3 SET** function (see p. 34).

◆ The amount of time that the focus stays on each Port is set with the *Scan Duration* setting under the **F3 SET** function (see p. 34).

◆ 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 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. To resume scanning, press **P** or Left Click, again. See *Invoking Auto Scan Mode:*, page 43, for further details.

Note: Pressing almost any of the typewriter keys (letters, numbers, Enter, Esc, Spacebar, etc.), will resume scanning.

◆ To stop scanning and stay at a particular location, press **[Spacebar]** to exit *Auto Scan Mode*. 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. Simply wait - after the *Scan Duration* time is up, the Scan function will move on to the next port.

◆ 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.

◆ To exit Auto Scan Mode, press **[Spacebar]** or **[Esc]**, or **Right Click**.

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Chapter 5
Keyboard Port Operation

The CL-1758 provides an extensive, easy-to-use, hotkey function that makes it convenient to control and configure your KVM installation from the keyboard.

Note: The hotkey function must be enabled to use hotkey operations. See *HOTKEY COMMAND MODE*, page 35, for details.

Invoking Hotkey Mode (HKM)

All Hotkey operations begin by invoking *Hotkey Mode* (HKM). There are two methods to invoke HKM. The first is to tap the **Hotkey** key on the keyboard (see *Dedicated Invocation Keys*, page 71); the second, is as follows:

1. Hold down the **Num Lock** key

2. Press and release the **minus** key

3. Release the **Num Lock** key

        [Num Lock] + [-]

Note: There is an alternative key combination to invoke HKM (see p. 44).

When Hotkey Mode is active:

* The Caps Lock, and Scroll Lock LEDs flash in succession to indicate so. They stop flashing and revert to normal status when you exit HKM.

* A Command Line appears on the monitor screen. The command line prompt is the word *Hotkey:* in yellow text on a blue background. Hotkey information that you key in displays on the command line.

* Ordinary keyboard and mouse functions are suspended - only Hotkey compliant keystrokes and mouse clicks (described in the sections that follow), can be input.

* At the conclusion of some hotkey operations, you automatically exit hotkey mode. With some operations, you must exit manually. To exit HKM manually, press **[Esc]** or **[Spacebar]**.

Hotkey Port Access

Hotkey Port Access allows you to select which computer has the KVM focus. The CL-1758 provides the following Hotkey Port Access features:

◆ Selecting the Active Port

◆ Auto Scan Mode

Selecting the Active Port

Each KVM port on the CL-1758 installation is assigned a unique Port ID (see *Port ID Numbering*, page 27). You can bring the KVM focus to any computer on the installation with a Hotkey combination that specifies the Port ID of the KVM Port that it is connected to. The steps involved are:

1. Invoke HKM (see p. 41).

2. Key in the computer's 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 computer associated with the specified Port ID, and you automatically exit Hotkey Mode.

Auto Scanning

Auto Scanning allows the automatic monitoring of computer activity instead of having to switch manually. Invoking *Auto Scan Mode* causes the CL-1758 to switch the KVM focus among all the active KVM Ports that are accessible to the currently logged on user at regular intervals. (See *SCAN MODE*, page 35, for information regarding accessible ports.)

Invoking Auto Scan Mode:

To start Auto Scan Mode, key in the following hotkey combination:

1. Invoke HKM (see p. 41).

2. Press **[A]**.

   After you press **A**, you automatically exit HKM; enter Auto Scan Mode; and Auto Scanning begins.

To exit Auto Scan Mode, press **[Esc]** or **[Spacebar]**, or **Right Click**. Auto Scanning stops when you exit Auto Scan Mode.

Note: 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.

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 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.**

At times, *pausing* when you want to keep the focus on a particular computer can be more convenient than Exiting Auto Scan Mode because when you resume scanning, you start from where you left off, whereas when you *exit* Auto Scan Mode, you resume scanning from the beginning - with the very first computer on the installation.

To resume Auto Scanning after Pausing, press **P** or Left Click, again. Scanning continues from where it left off.

Note: Pressing almost any of the typewriter keys (letters, numbers, Enter, Esc, Spacebar, etc.), will resume scanning.

Hotkey Configuration

Hotkeys can also be used to set up the CL-1758's working environment, as shown in the sections that follow.

Alternate Hotkey Invocation Keys

An alternate set of hotkey invocation keys is provided in case the default set conflicts with programs running on the computers.

To switch to the alternate hotkey invocation set, do the following:

1. Invoke HKM (see p. 41)

2. Press and release the **[H]** key

The hotkey invocation keys become the Ctrl key (instead of Num Lock) and the F12 key (instead of Minus).

> **Note:** This procedure is a toggle between the two methods. To revert back to the original [Num Lock] [Minus] method, invoke HKM, then press and release the **H** key again.

Alternate OSD Activation Keys

The OSD activation method can be changed from tapping the Scroll Lock key twice to tapping the Ctrl key twice (**[Ctrl] [Ctrl]**). To change the OSD activation method, do the following:

1. Invoke HKM (see p. 41)

2. Press and release the **[T]** key

> **Note:** 1. This procedure is a toggle between the two methods. To revert back to the original [Scroll Lock] [Scroll Lock] method, invoke HKM, then press and release the **T** key again.
>
> 2. For Mac systems we recommend using [Ctrl] [Ctrl] as the OSD activation keys since Scroll Lock is used to emulate F14 in PC to Mac keyboard emulation (see *Keyboard Emulation*, page 49).

Keyboard Operating Platform

The CL-1758's default port configuration is for a PC Compatible keyboard operating platform. If you have a Mac or a Sun on your installation, you can change its port's keyboard operating platform as follow:

1. Bringing the KVM focus to the port you want to set.

2. Invoke HKM (see p. 41)

3. Press and release the appropriate Function key (see table).

Key	Operation
[F1]	Sets the PC Compatible keyboard operating platform for the port that currently has the KVM focus.
[F2]	Sets the Mac keyboard operating platform for the port that currently has the KVM focus.
[F3]	Sets the Sun keyboard operating platform for the port that currently has the KVM focus.

Note: 1. The brackets indicate the keys you should press. Simply press the indicated keys - do not type the brackets.

2. After completing a setting, you automatically exit HKM.

Beeper Control

The Beeper can be hotkey toggled On and Off. To toggle the Beeper, do the following:

1. Invoke HKM (see p. 41).

2. Press and release the **[B]** key.

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.

Restore Default Settings

To reset the CL-1758 to its default hotkey settings, do the following:

1. Invoke HKM (see p. 41).

2. Press **[R] [Enter]**.

All hotkey settings return to the factory default settings. See *OSD Factory Default Settings*, page 65, for a list of default settings.

Hotkey Summary Table

[Num Lock] + [-] or [Ctrl] + [F12]	[Port ID] [Enter]	Switches the KVM focus to the computer that corresponds to that Port ID
	[A]	Invokes Auto Scan Mode. ◆ When Auto Scan Mode is in effect, [P] or Left Click pauses Auto Scanning. ◆ When Auto Scanning is paused, pressing P or Left Clicking again resumes Auto Scanning. **Note:** Pressing almost any of the typewriter keys (letters, numbers, Enter, Esc, Spacebar, etc.), will resume scanning.
	[H]	Toggles between the default ([Num Lock] [-]) and alternate ([Ctrl] [F12]) Hotkey invocation keys.
	[T]	Toggles between the default ([Scroll Lock] [Scroll Lock]) and alternate ([Ctrl] [Ctrl]) OSD invocation keys.
	[F1]	Sets the PC Compatible keyboard operating platform for the port that currently has the KVM focus.
	[F2]	Sets the Mac Compatible keyboard operating platform for the port that currently has the KVM focus.
	[F3]	Sets the Sun keyboard operating platform for the port that currently has the KVM focus.
	[B]	Toggles the Beeper On or Off.
	[R] [Enter]	Resets the KVM settings back to their defaults.

Note: The brackets indicate the keys you should press. Simply press the indicated keys - do not type the brackets.

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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

The Windows-based Firmware Upgrade Utility (FWUpgrade.exe) provides a smooth, automated process for upgrading the KVM switch's firmware.

The Utility comes as part of a Firmware Upgrade Package that is specific for each device. New firmware upgrade packages are posted on our web site as new firmware revisions become available. Check the web site regularly to find the latest packages and information relating to them.

Preparation

To prepare for the firmware upgrade, do the following:

1. From a computer that is not part of your KVM installation go to our Internet support site and choose the model name that relates to your device to get a list of available Firmware Upgrade Packages.

2. Choose the Firmware Upgrade Package you want to install (usually the most recent), and download it to your computer.

3. 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.
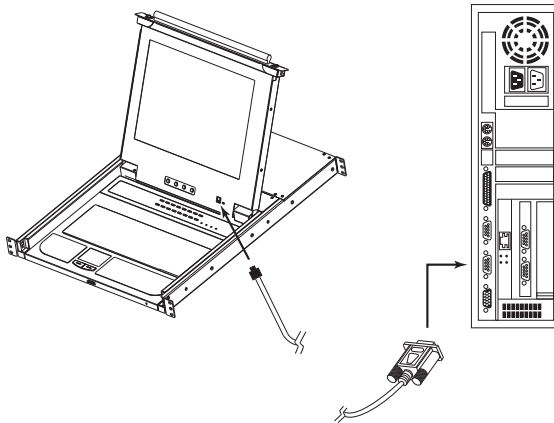
4. Shut down all of the computers - but not the Stations - on your KVM installation.

5. From your KVM switch console, bring up the OSD (see *OSD Operation*, page 29) and select the **F4:ADM** function.

6. Scroll down to FIRMWARE UPGRADE. Press [Enter], then press [Y] to invoke Firmware Upgrade Mode (see *FIRMWARE UPGRADE*, page 38.) For your reference, the current firmware upgrade version displays on the screen.
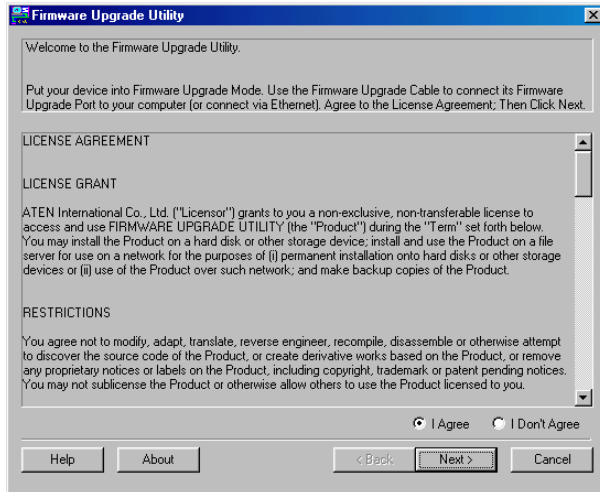
Starting the Upgrade

To upgrade your 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.
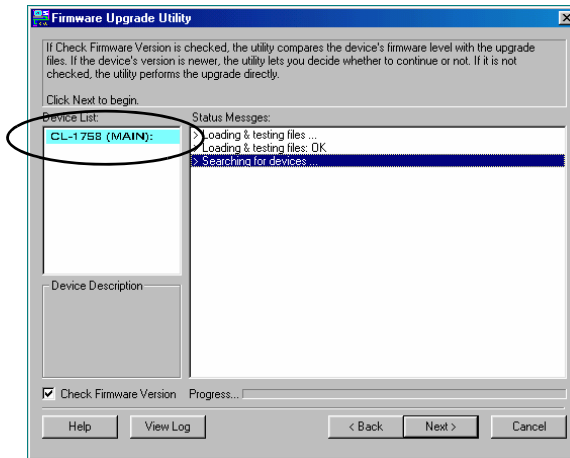
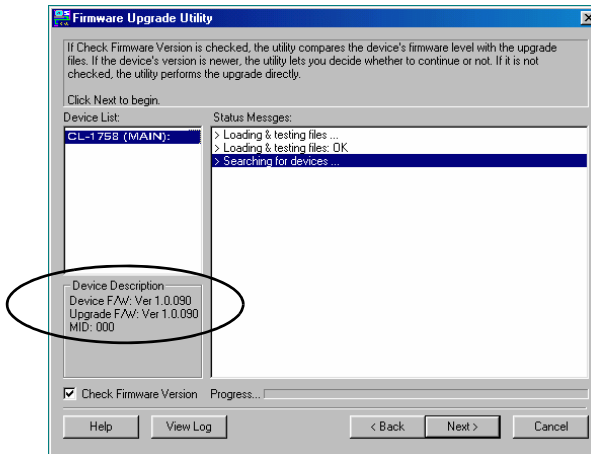2. Read and *Agree* to the License Agreement (enable the I Agree radio button).

(Continued from previous page.)

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. As you select devices, a detailed description of each appears in the *Device Description* panel.

5. After you have made your device selection(s), 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.
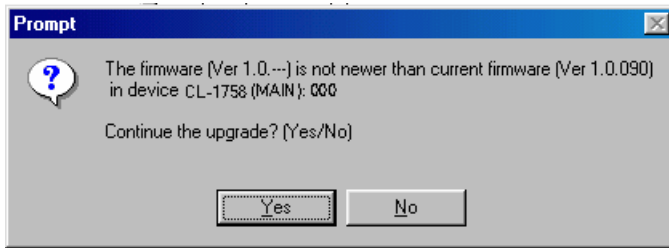

   If you didn't enable *Check Firmware Version*, the Utility installs the upgrade files without checking whether they are a higher level, or not.

   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:
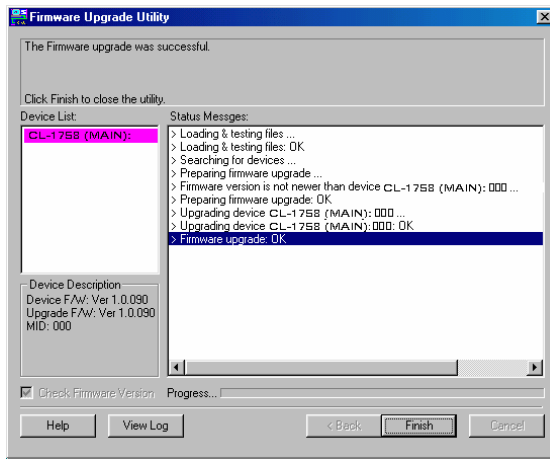
Click **Finish** to close the Firmware Upgrade Utility.

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

There are basically three conditions that call for firmware upgrade recovery:

◆ When you invoke Firmware Upgrade Mode (see *Preparation*, page 52), but decide not to proceed with the upgrade.

◆ 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 cascade, disconnect it from the group.

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 cascade, return it to the group.

7. Power the switch back on

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Appendix

Safety Instructions

General

- 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.

- 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.

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◆ 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.

- 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.

- Ensure that proper airflow is provided to devices in the rack.

- Do not step on or stand on any device when servicing other devices in a rack.

Technical Support

Technical support is available both by email and online (with a browser over the web):

International

Email Support		support@aten.com
Online Support	Technical Support	http://support.aten.com
	Troubleshooting Documentation Software Updates	http://www.aten.com
Telephone Support		886-2-8692-6959

North America

Email Support		ATEN TECH	support@aten-usa.com
		ATEN NJ	sales@aten.com
Online Support	Technical Support	ATEN TECH	http://www.aten-usa.com/support
		ATEN NJ	http://support.aten.com
	Troubleshooting Documentation Software Updates	ATEN TECH	http://www.aten-usa.com
		ATEN NJ	http://www.aten.com
Telephone Support		ATEN TECH	1-888-999-ATEN
		ATEN NJ	1-732-356-1703

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			CL1758
Computer Connections	Direct		8
	Max.		512 (via Cascade CS1758)
Port Selection			OSD, Hotkey, Pushbutton
Connectors	Second Console Ports	Keyboard	1 x 6 Pin Mini-Din Female (Purple)
		Video	1 x HDB-15 Female (Blue)
		Mouse	1 x 6 Pin Mini-Din Female (Green)
	KVM Ports	Keyboard/Video/Mouse	8 x SPHD-15 Female (Yellow)
	Power		1 x 3-prong AC Socket
	F/W Upgrade		1 x RJ-11 Female (Black)
Switches	F/W Upgrade		1 x Slide
	Port		8 x Pushbutton
	Power		1 x Rocker
LEDs	On Line		8 (Orange)
	Selected		8 (Green)
	Power		1 (Blue)
	Num Lock		1 (Green)
	Caps Lock		1 (Green)
	Scroll Lock		1 (Green)
Video	15" LCD		1024 x 768; DDC2B
	17" LCD		1280 x 1024; DDC2B
Scan Interval (OSD Select)			1-255 Seconds
I/P Rating			100-240V AC; 50/60 Hz; 1A
Power Consumption	15" LCD		120V, 20W / 230V, 22W
	17" LCD		120V, 23W / 230V, 26W
Emulation	Keyboard/ Mouse		PS/2
Environment	Operating Temp.		0-40°C
	Storage Temp.		-20-60°C
	Humidity		0-80% RH, Non-condensing
Physical Properties	Housing		Metal
	Weight	15" LCD	14.50 kg
		17" LCD	15.00 kg
	Dimensions (D x W x H)		62.60 x 48.00 x 4.40 cm

Connection Table

The following table indicates the relationship between the number of Master View Units (CL-1758 + CS-1758) and the number of computers that they control:

MVs	Computers	MVs	Computers	MVs	Computers	MVs	Computers
1	1 - 8	20	134 - 141	39	267 - 274	58	400 - 407
2	8 -15	21	141 - 148	40	274 - 281	59	407 - 414
3	15 - 22	22	148 - 155	41	281 - 288	60	414 - 421
4	22 - 29	23	155 - 162	42	288 - 295	61	421 - 428
5	29 - 36	24	162 - 169	43	295 - 302	62	428 - 435
6	36 - 43	25	169 - 176	44	302 - 309	63	435 - 442
7	43 - 50	26	176 - 183	45	309 - 316	64	442 - 449
8	50 - 57	27	183 - 190	46	316 - 323	65	449 - 456
9	57 - 64	28	190 - 197	47	323 - 330	66	456 - 463
10	64 - 71	29	197 - 204	48	330 - 337	67	463 - 470
11	71 - 78	30	204 - 211	49	337 - 344	68	470 - 477
12	78 - 85	31	211 - 218	50	344 - 351	69	477 - 484
13	85 - 92	32	218 - 225	51	351 - 358	70	484 - 491
14	92 - 99	33	225 - 232	52	358 - 365	71	491 - 498
15	99 - 106	34	232 - 239	53	365 - 372	72	498 - 505
16	106 - 113	35	239 - 246	54	372 - 379	73	505 - 512
17	113 - 120	36	246 - 253	55	379 - 386		
18	120 - 127	37	253 - 260	56	386 - 393		
19	127 - 134	38	260 - 267	57	393 - 400		

—

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	The Port Number plus the Port Name
Scan Duration	5 Seconds
Screen Blanker	0 (OFF)
Logout Timeout	0 (OFF)
Beeper	Y (ON)
Accessible Ports	F (Full) For all Users on all Ports
Hotkey Command Mode	ON

Troubleshooting

Problem	Solution
Keyboard and/or mouse do not work after computer boots up.	For computers with PS/2 connectors, if you are using 2L-520xP cables, make sure that all the connectors (keyboard, video, and mouse) are plugged into their ports on the computer before starting the computer. Plugging the cables in after the computer has booted will not resolve the problem.
When I emulate the Sun keyboard, I can't go into OK Mode ([Stop] [A]).	To go into OK Mode, use the following key sequence: 1. Press and release [Ctrl] 2. Press and hold [T] 3. Press and hold [A] 4. Release [T] and [A] together
When I press the LCD *Auto Adjust* button, it leaves my screen in a scrambled state.	This occurs when the screen background color is set to black. Changing the screen background to a color other than black resolves this problem.

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, for example), you can clear the login information with the following procedure:

1. Power off the switch and remove the top cover from the unit chassis.

2. Short the jumper labeled *Restore Default Password* at the front center of the switch's main board.
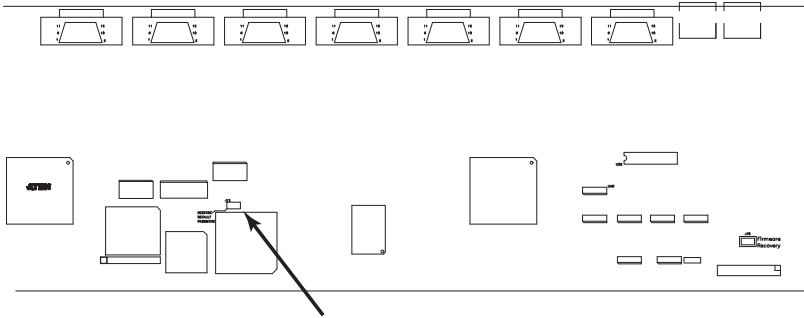
3. Power on the switch.

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

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

4. After you start back up, the OSD login function acts exactly the way it did the first time the switch was run (see *OSD Operation*, page 29) and you can reset passwords for the Administrators and Users.

Optional Rack Mounting

For convenience and flexibility, three optional rack mounting kits are available:

- A long bracket standard rack mounting kit for 68.0 - 110.0 cm racks;
- A short bracket Easy-Installation rack mount kit for 52.0 - 70.0 cm racks;
- A long bracket Easy-Installation rack mount kit for 68.0 - 105.0cm 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.
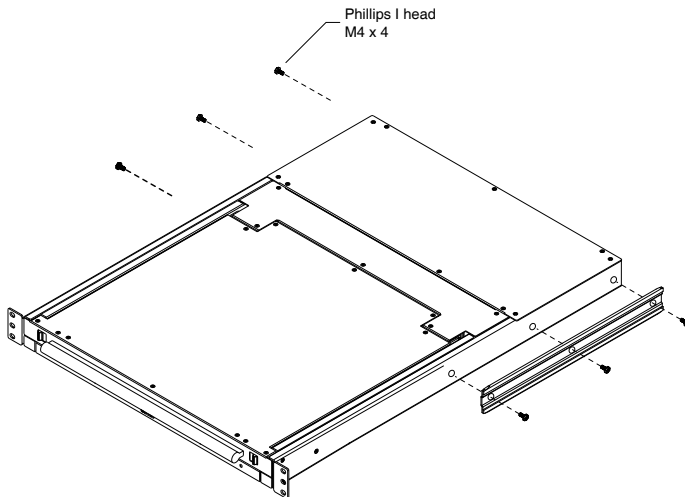
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2. Attach the left and right *easy-installation* mounting rails to the inside of the rack. The flange that supports the switch will be to the inside.
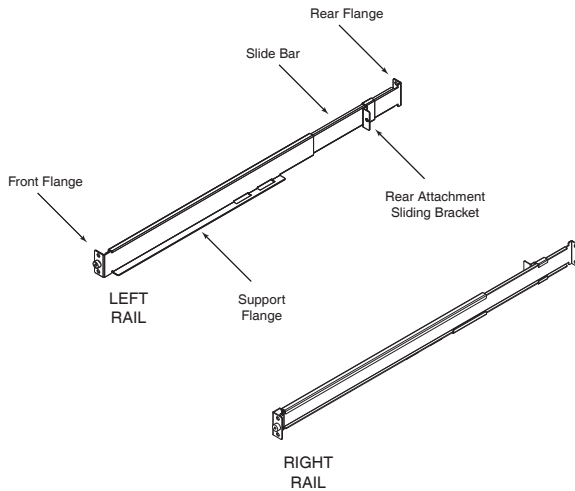
a) Screw the front flanges to the rack first.

b) Slide the slide bars toward the rack until the rear flanges make contact with the rack, then screw the rear flanges to the rack.
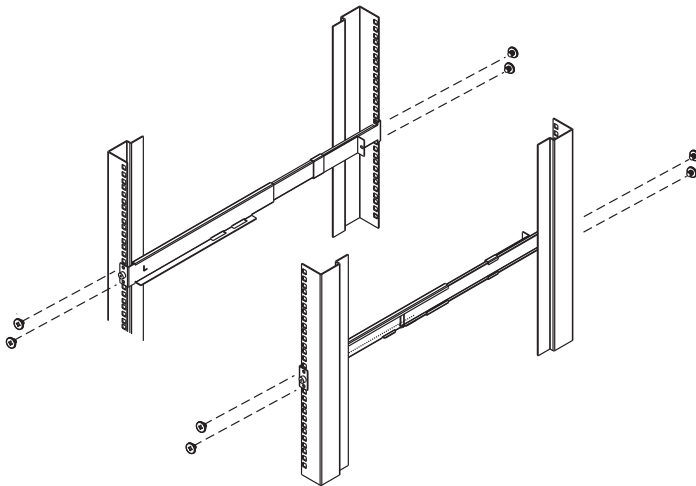
3. Slide the switch onto the support flanges. Use the screws supplied with this package to loosely attach the front of the switch to the front of the rack (only tighten the screws part way).

Phillips I head
M4 x 6
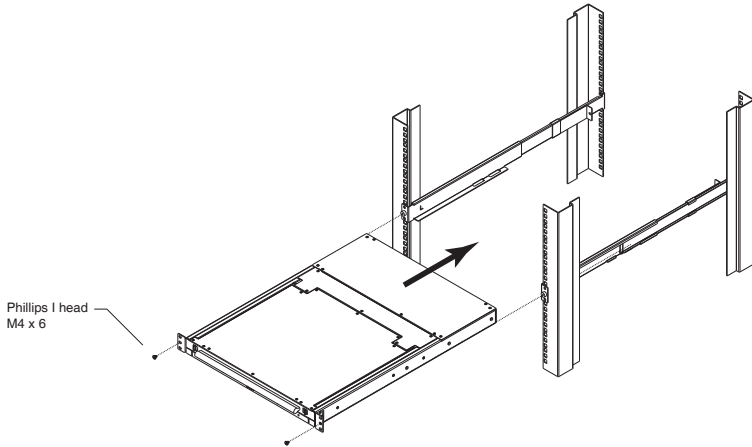
4. Slide the rear attachment sliding brackets along the slide bars until they contact the rear of the switch, then use the screws supplied with this package to attach the bars to the rear of the switch (tighten the screws all the way).

Phillips I head
M4 x 6
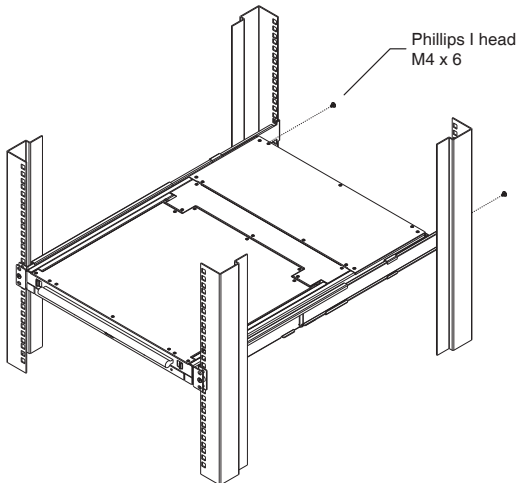
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5. Slide the switch open and closed a couple of times to be sure that it is properly aligned and operating smoothly. (See*Opening the Console*, page 19, and*Closing the Console*, page 20, for opening and closing procedures.)

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.

Entering the **ok** Prompt (Sun Solaris)

If you are using a PC keyboard to control a Sun Solaris server and want to use Stop-A keys to enter the ok prompt, do the following:

Note: Before entering the ok prompt, consult the server's documentation for any precautionary steps that you should take.

Press and release [Ctrl], press and hold down [T], and then press [A].

Dedicated Invocation Keys

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

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