

# USB KVM Switch

## CS-1708

## CS-1716

### 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。
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## **User Information**

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

- ◆ International – <http://support.aten.com>
- ◆ North America – [http://www.aten-usa.com/product\\_registration](http://www.aten-usa.com/product_registration)

### **Telephone Support**

- ◆ International – 886-2-8692-6959
- ◆ North America – 1-888-999-ATEN

### **User Notice**

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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

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- ◆ 1 CS-1708 or CS-1716 KVM Switch
- ◆ 2 Custom KVM Cable Sets
- ◆ 1 Firmware Upgrade Cable
- ◆ 1 Power Adapter
- ◆ 1 Rack Mount Kit
- ◆ 1 User Manual
- ◆ 1 Quick Start Guide

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 CS-1708 / CS-1716 since this manual was printed. Please visit our website to download the most up-to-date version of the manual.

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# Contents

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FCC Information . . . . .	ii
RoHS. . . . .	ii
SJ/T 11364-2006. . . . .	ii
User Information . . . . .	iii
Online Registration . . . . .	iii
Telephone Support . . . . .	iii
User Notice . . . . .	iii
Package Contents. . . . .	iv
About this Manual . . . . .	vii
Conventions . . . . .	viii
Product Information. . . . .	viii
<b>1. Introduction</b>	
Overview . . . . .	1
Features . . . . .	3
Hardware Requirements. . . . .	4
Console . . . . .	4
Computers. . . . .	4
Cables . . . . .	4
CS-1708 / CS-1716 Front View. . . . .	5
CS-1708 / CS-1716 Rear View . . . . .	7
<b>2. Installation</b>	
Rack Mounting . . . . .	9
Single Stage Installation . . . . .	10
Single Stage Installation Diagram . . . . .	11
USB Cable Connection . . . . .	11
Daisy Chaining . . . . .	12
Daisy Chain Installation Diagram. . . . .	13
<b>3. Basic Operation</b>	
Hot Plugging . . . . .	15
Switching Station Positions . . . . .	15
Hot Plugging KVM ports . . . . .	15
Hot Plugging Console Ports . . . . .	15
Port ID Numbering . . . . .	16
Powering Off and Restarting. . . . .	16
<b>4. OSD Operation</b>	
OSD Overview . . . . .	17
OSD Navigation . . . . .	18
OSD Main Screen Headings. . . . .	19
OSD Functions . . . . .	19
F1 GOTO. . . . .	20

F2 LIST .....	20
F3 SET .....	21
F4 ADM .....	23
F5 SKP .....	27
F6 BRC .....	28
F7 SCAN .....	29
F8 LOUT .....	30

## 5. Hotkey Operation

Invoking Hotkey Mode (HKM) .....	31
When HKM is active: .....	31
Hotkey Port Access .....	32
Selecting the Active Port: .....	32
Auto Scan Mode .....	32
Hotkey Configuration .....	33
Alternate Hotkey Invocation Keys .....	33
Alternate OSD Invocation Keys .....	33
Platform Setup .....	34
Miscellaneous Actions .....	34

## 6. Keyboard Emulation

Mac Keyboard .....	35
Sun Keyboard .....	36

## 7. The Firmware Upgrade Utility

Preparation .....	37
Starting the Upgrade .....	38
Upgrade Succeeded .....	41
Upgrade Failed .....	41
Firmware Upgrade Recovery .....	42

## Appendix

Safety Instructions .....	43
General .....	43
Rack Mounting .....	45
Technical Support .....	46
International .....	46
North America .....	46
CS-1708 / CS-1716 Connection Tables .....	47
CS-1708 .....	47
CS-1716 .....	47
Administrator Login Failure .....	48
Specifications .....	49
OSD Factory Default Settings .....	50
Troubleshooting .....	51
Limited Warranty .....	52

## About this Manual

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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 CS-1708 / CS-1716 system. Its purpose, features and benefits are presented, and its front and back panel components are described.

**Chapter 2, Installation,** provides the necessary information for setting up your installation – from a basic single stage hookup to a complete 3-level cascade.

**Chapter 3, Basic Operation,** explains the fundamental concepts involved in operating the CS-1708 / CS-1716.

**Chapter 4, OSD Operation,** provides a complete description of the CS-1708 / CS-1716's OSD (On Screen Display), and how to work with it.

**Chapter 5, Hotkey Operation,** details all of the concepts and procedures involved in the Hotkey operation of your CS-1708 / CS-1716 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 CS-1708 / CS-1716's firmware with the latest available versions.

**An Appendix,** provides specifications and other technical information regarding the CS-1708 / CS-1716.

## Conventions

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This manual uses the following conventions:

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

## Product Information

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

- ◆ International – <http://www.aten.com>
- ◆ North America – <http://www.aten-usa.com>



# Chapter 1

## Introduction

### Overview

---

The Master View CS-1708 and CS-1716 KVM Switches are control units that allow access to multiple computers from a single console (keyboard, mouse, and monitor). A single Master View can control up to eight (CS-1708) or 16 (CS-1716) computers.

As many as 31 additional switches can be added in a daisy chain configuration, allowing up to 512 computers to be controlled from a single keyboard-monitor-mouse console. A seven segment front panel LED displays each Station's position for easy identification. An auto-sensing function recognizes the position of each station (switch) on the chain, eliminating the need to manually set the position with DIP switches.

The CS-1708 and CS-1716 improve on previous models by providing USB ports for the console Keyboard and Mouse, and by transferring keyboard and mouse data to the computers via the faster, more reliable USB bus rather than the traditional PS/2 connection and in providing Multimedia keyboard support.

The CS-1708 and CS-1716 also utilize a custom ASIC (patent pending) for increased reliability and enhanced performance. By incorporating high density 15 pin KVM port connectors instead of the usual 25 pin connectors, a full, 16 port switch can be installed in a 1U system rack.

An included *Firmware Upgrade Utility* allows you can stay current with new improvements in switch functionality by downloading the latest firmware files from our website and using the utility to quickly and conveniently perform the upgrade.

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 CS-1708 / CS-1716 intercepts keyboard input directly, it works on multiple operating platforms (PC compatible, Mac, Sun).

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

Since a single console manages all of the computers on your installation, a CS-1708 / CS-1716 KVM switch 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.

## Features

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- ◆ A single KVM console (USB Keyboard, Monitor, and USB Mouse) controls 8 (CS-1708) or 16 (CS-1716) computers - daisy chain up to 31 additional units - control up to 256 or 512 computers from a single console
- ◆ Hot pluggable - add or remove computers for maintenance without powering down the switch - port names are automatically reconfigured when the station sequence is changed
- ◆ LED Display For Easy Status Monitoring
- ◆ Auto Scan feature for monitoring user-selected computers
- ◆ Convenient computer selection via *Hotkeys* and intuitive OSD menus
- ◆ OSD is mouse-driven for quick and efficient menu navigation - OSD port list automatically expands when stations are added - OSD screen automatically adjusts to resolution changes
- ◆ OSD or hotkey selection of the OS and keyboard language
- ◆ Keyboard and mouse emulation - computers boot even when the console focus is elsewhere
- ◆ Supports Microsoft IntelliMouse and the scrolling wheel on most mice - Supports Logitech and Microsoft wireless keyboards and mice
- ◆ Multimedia keyboard support
- ◆ Administrator/User password authorization for enhanced security (PSP); administrator synchronized confirmation between master and slave stations
- ◆ Two types of logout - manual and timed
- ◆ Superior video quality - 2048 x 1536; DDC2B
- ◆ DDC emulation - video settings of each computer is automatically adjusted for optimum output to the monitor
- ◆ Upgradable firmware - all switches upgraded at the same time via the daisy chain bus
- ◆ Backward compatible with the Master View CS-1216A KVM switch series
- ◆ Compatible with multiple operating platforms: PC, Mac, and Sun
- ◆ Supports: Windows 98 or higher; Mac OS8.6 or higher; Sun Blade 2000/100 (Solaris 8); Linux Red Hat 7.1 or higher
- ◆ Rack mountable in 19" system rack (1U)

## Hardware Requirements

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### Console

- ◆ A VGA, SVGA, or Multisync monitor capable of the highest resolution that you will be using on any computer in the installation.
- ◆ A USB mouse
- ◆ A USB keyboard

### Computers

The following equipment must be installed on each computer:

- ◆ A VGA, SVGA or Multisync card.
- ◆ Type A USB port.

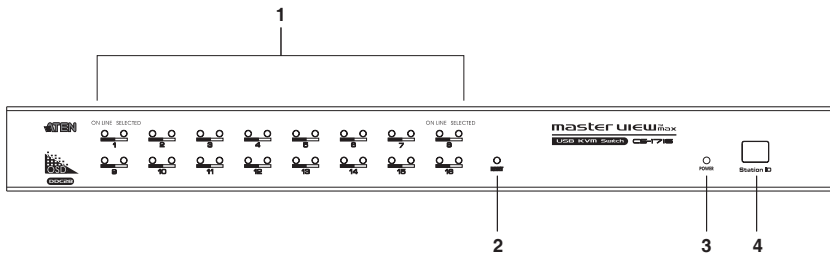
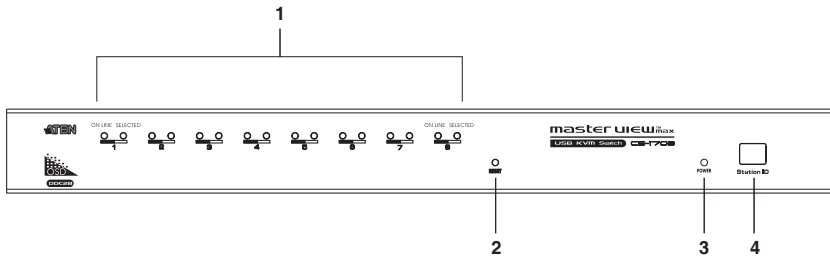
### Cables

Substandard cables may damage the connected devices or degrade overall performance. For optimum signal integrity and to simplify the layout, we strongly recommend that you use the high quality CS Custom Cable sets described below:

Function	Length	CS Part Number
Daisy Chain	0.6m	2L-1700
	1.8m	2L-1701
USB KVM	1.2m	2L-5201U
	1.8m	2L-5202U
	3.0m	2L-5203U

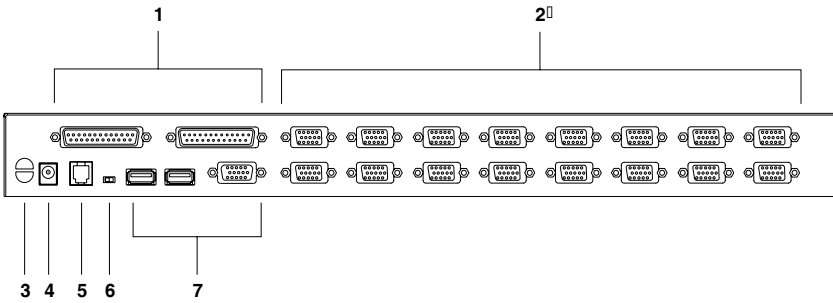
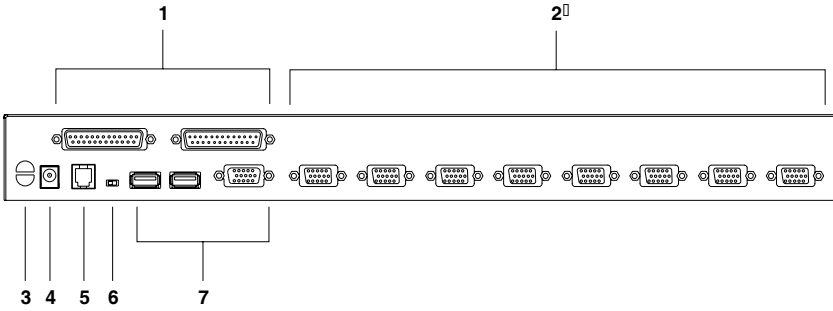
To purchase CS Custom KVM cable sets, contact your dealer.

# CS-1708 / CS-1716 Front View



No.	Component	Description
1	Port LEDs	<p>The Port LEDs provide status information about their corresponding KVM ports. There is one pair for each port. The one on the left is the <i>On Line</i> LED; the one on the right is the <i>Selected Port</i> LED:</p> <ul style="list-style-type: none"><li>◆ An <i>On Line</i> LED lights ORANGE to indicate that the computer attached to its corresponding port is up and running.</li><li>◆ A <i>Selected</i> 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 <i>Auto Scan Mode</i> (see page 29).</li><li>◆ When the switch is first powered on, the <i>On Line</i> and <i>Selected</i> LEDs blink in sequence as the Switch performs a self-test.</li></ul>
2	Reset Switch	<p>Pressing this switch in performs a system reset. The switch is recessed and must be pushed with a thin object - such as the end of a paper clip, or a ball point pen.</p>
3	Power LED	<p>The Power LED lights to indicate that the CS-1708 is powered up and ready to operate.</p>
4	Station ID LED	<p>The switch's Station ID is displayed here. If this is a Single Station installation (see page 10), or the First Station on a Daisy Chained installation (see page 12), the CS-1708 has a Station ID of <b>01</b>.</p> <p>On a Daisy Chained installation, the CS-1708 auto-senses its position and displays the Station ID that corresponds to its place in the chain. (see <i>Port ID Numbering</i>, page 16, for details).</p>

# CS-1708 / CS-1716 Rear View



No.	Component	Description
1	Daisy Chain Ports	When Daisy Chaining Units, the cables plug in here. The port on the left is the <i>Chain In</i> port; the one on the right is the <i>Chain Out</i> port.
2	KVM Port Section	The cables that link to the computers plug in here. The shape of these connectors has been specifically modified so that only cables designed to work with this switch can plug in (see the <i>Cables</i> section on page 4 for details).
3	Cable Tie Slot	If you want to use a cable tie to gather the cables together, you can run it through this slot to attach it to the unit.
4	Power Jack	The power adapter cable plugs in here.
5	Firmware Upgrade Port	The <i>Firmware Upgrade Cable</i> that transfers the firmware upgrade data from the administrator's computer to the switch (see page 37), plugs into this RJ-11 connector.
6	Firmware Upgrade Reset Switch	During normal operation and while performing a firmware upgrade, this switch should be in the NORMAL position. See <i>Firmware Upgrade Recovery</i> , page 42 for details about the use of this switch.
7	Console Port Section	If this is a Single Station installation, or if this is the First Station unit of a daisy chained installation, your USB keyboard, monitor, and USB mouse plug in here.



# Chapter 2

## Installation



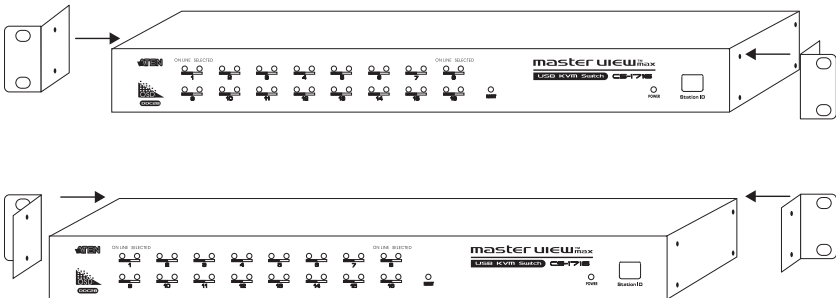
1. Important safety information regarding the placement of this device is provided on page 43. Please review it before proceeding.
2. Make sure that power to all the devices you will be connecting up have been turned off. You must unplug the power cords of any computers that have the Keyboard Power On function.

### Rack Mounting

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The CS-1708 / CS-1716 can be mounted in a 1U system rack. For convenience and flexibility, the mounting brackets can screw into either the front or the back of the unit so that it can attach to the front or the back of the rack. To rack mount the unit do the following:

1. Screw the mounting brackets into the sides of the unit at the front or the rear, as shown in the diagram below.



2. Slide the unit into the rack and secure it to the rack.

## Single Stage Installation

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Refer to the installation diagrams on the next page as you perform the following steps. The numbers in the diagrams correspond to the steps:

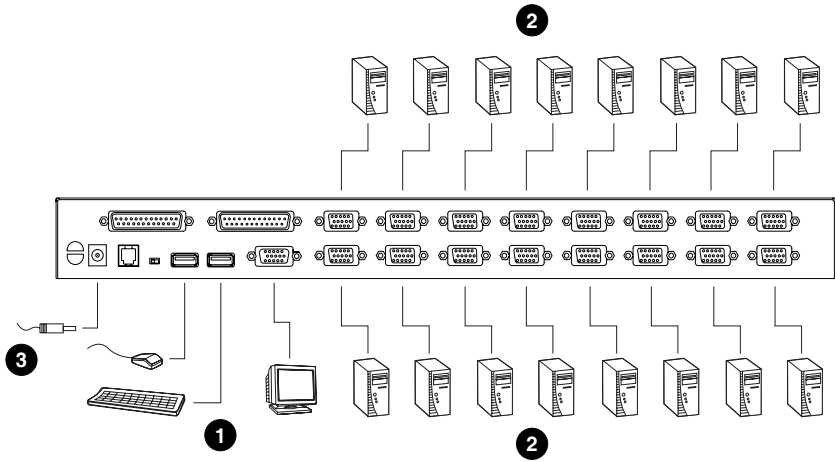
1. Plug your USB keyboard, monitor, and USB mouse into the Console Ports located on the unit's rear panel.
2. Use KVM cable sets to connect any available KVM port to the video and USB ports of the computers you are connecting up.

- 
- Note:**
1. Two cable sets are supplied with this package; additional sets require a separate purchase. See *Cables*, page 4 for details.
  2. The shape of the 15-pin KVM port connectors has been specifically modified so that only KVM cables designed to work with this switch can plug in.
- 

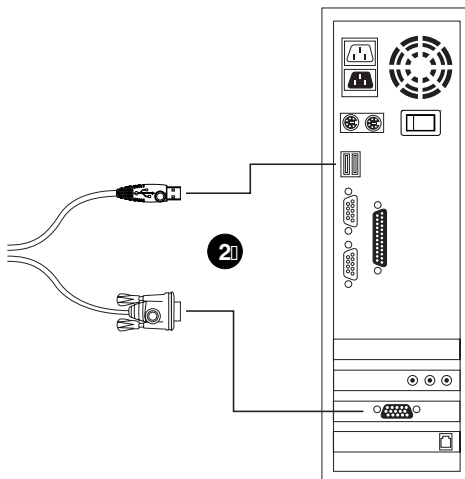
3. Plug the power adapter cable into the switch's Power Jack, then plug the power adapter into an AC power source.

This completes the single stage installation, and you can turn on the power to the computers.

## Single Stage Installation Diagram



## USB Cable Connection



## Daisy Chaining

---

To control even more computers, up to 31 additional switches can be daisy chained down from the first unit. As many as 512 computers can be controlled from a single console in a complete installation. Tables showing the relation between the number of computers and the number of Master View CS-1708 / CS-1716 units needed to control them are provided on page 47 in the Appendix.

To set up a daisy chained installation, do the following:

1. Make sure that power to all the devices you will be connecting up has been turned off.
2. Use a daisy chain cable set (described in the *Cables* section, page 4), to connect the *Chain Out* port of the parent switch to the *Chain In* port of the child switch (First Station Out to Second Station In, Second Station Out to Third Station In, etc.).

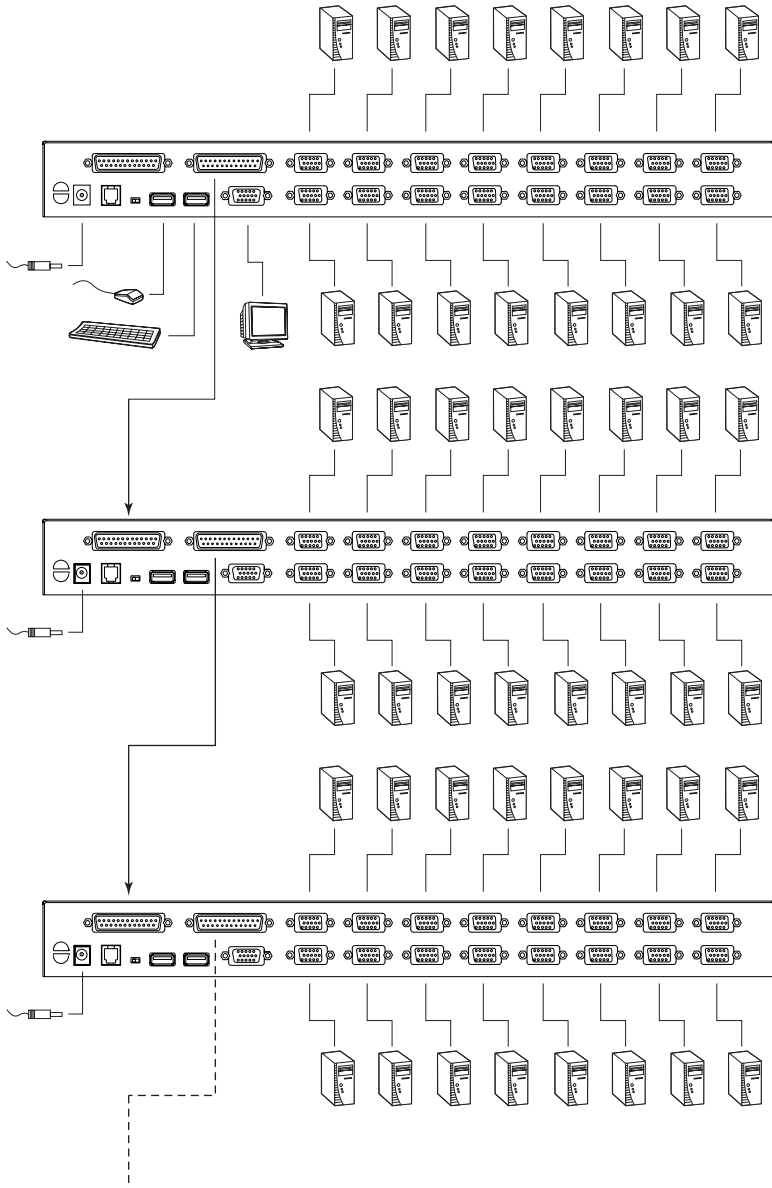
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**Note:** You cannot use the *Chain In* port of the First Station CS-1708 / CS-1716, since it is the highest level parent.

---

3. Use KVM cable sets (described in the *Cables* section, page 4), to connect any available KVM Port on the installation to the keyboard, video and mouse ports of the computers you are installing.
4. Repeat the above steps for any additional CS-1708 / CS-1716 units you wish to add to the chain.
5. Power up the installation according to the following procedure:
  - a) Plug in the power adapter for the First Station.  
Wait for the unit to ascertain its Station ID and display it on the Station ID LED. (The Station ID for the First Stage unit is **01**, the ID for the Second Stage unit is **02**, the ID for the Third Stage unit is **03**, etc.).
  - b) Plug in the power adapters for each Station on the installation in turn (Second Station, then Third Station, etc.).  
In each case, wait for the Station ID to be ascertained and displayed on the current Station before plugging in the next one.
  - c) After all the Stations are up, power on the computers.

## Daisy Chain Installation Diagram



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# Chapter 3

## Basic Operation

### Hot Plugging

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The CS-1708 / CS-1716 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:

#### **Switching Station Positions**

You can switch station positions by simply unplugging from the old parent and plugging into a new one.

#### **Hot Plugging KVM ports**

In order for the OSD menus to correspond to a KVM port change, you must manually reconfigure the OSD to reflect the new port information. See SCAN/SKIP MODE under the *F3 SET* function (see page 21), and the two *Set Port* selections under the *F4 ADM* function (see page 23), for details.

---

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

---

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

The keyboard, monitor, and mouse can all be hot plugged. When hot plugging the mouse:

- a) You may unplug and replug the mouse (to reset the mouse, for example), as long as you use the *same* mouse.
- b) If you plug in a different mouse, all the stations and all the computers on the installation must be shut down for 10 seconds, then restarted following the Power Up Sequence described under Step 5 on page 12.

---

**Note:** If, after hot plugging there is no response to keyboard and/or mouse input, perform a *Keyboard and Mouse Reset* by pressing in the Reset button (see page 6).

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## Port ID Numbering

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

- ♦ The *Station Number* - reflects the switch's position in the daisy chain sequence. This corresponds to the number displayed on the front panel Station ID LED.
- ♦ The *Port Number* - reflects the port on the Station that the computer is connected to.
- ♦ The Station Number precedes the Port Number.
- ♦ Station and Port numbers from 1 - 9 are padded with a preceding zero, so they become 01 - 09.

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

## Powering Off and Restarting

---

If it becomes necessary to Power Off one of the switches, unplug its power adapter cable from the power jack.

Before starting it back up you must do the following:

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

---

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

---

2. Wait 10 seconds, then plug the power adapter back in.
3. After the CS-1708 / CS-1716 is up, 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.

---



# Chapter 4

## OSD Operation

### OSD Overview

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The On Screen Display (OSD) is used to handle all computer control and switching procedures. All procedures start from the OSD Main Screen. To pop up the Main Screen, tap the **[Scroll Lock]** key twice.

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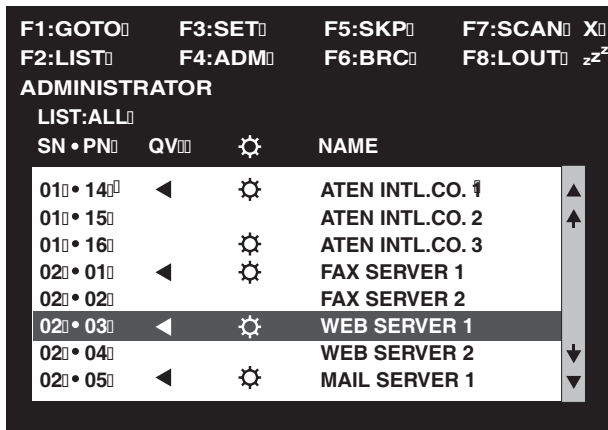
**Note:** You can change the Hotkey to the Ctrl key (see *OSD HOTKEY*, page 21).

---

The OSD incorporates a two level (Administrator / User) authorization system. Before the OSD Main Screen comes up, a dialog box appears that asks you to provide your Username and Password. If the Password Function has been set (see *SET USERNAME AND PASSWORD*, page 23), you must provide them 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]** when the authorization dialog box appears. The OSD Main Screen comes up in Administrator Mode, with access to all functions.

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



Please note the following:


- ◆ The diagram depicts the Administrator's Main Screen. The User Main Screen does not show the **F4 ADM** function.
- ◆ OSD always starts in List view, with the highlight bar at the same position it was in the last time it was closed.
- ◆ Only the ports that have been set accessible by the Administrator for the currently logged in User are visible (see *SET ACCESSIBLE PORTS*, page 25, for details).

## OSD Navigation

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- ◆ To dismiss the menu, and deactivate OSD, Click the **X** at the upper right corner of the OSD Window; or press **[Esc]**.
- ◆ To Logout, Click **F8** or the **ZZ** 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 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 Main Screen Headings

SN-PN	This column lists the Port ID numbers (Station Number - Port Number) for all the KVM ports on the installation. The simplest method to access a particular computer is move the Highlight Bar to it, then press <b>Enter</b> .
QV	If a port has selected for Quick View scanning (see <i>SET QUICK VIEW PORTS</i> , page 25), 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 <i>EDIT PORT NAMES</i> , page 24), 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*, page 25), that match the Name or Port ID pattern, regardless of the current List settings (see *F2 LIST*, for details).

---

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

## **F2 LIST**

The LIST function lets you broaden or narrow the scope of which ports the OSD displays (lists) on the Main Screen.

Many of the OSD functions only operate on the computers that have been selected for listing on the Main Screen with this function. The choices and their meanings are given in the table below:

<b>Choice</b>	<b>Meaning</b>
ALL	Lists all of the ports on the installation.
QUICK VIEW*	Lists only the ports that have been selected as Quick View Ports (see <i>SET QUICK VIEW PORTS</i> , page 25).
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 25), and that have their attached computers Powered On.

---

\* These items only show up on the Administrator's screen, since only he has *Quick View* setting rights (see *SET QUICK VIEW PORTS*, page 25, for details).

---

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.

After you make your choice and press **[Enter]**, you return to the OSD Main Screen with the newly formulated List displayed.

## **F3 SET**

This function allows the Administrator and each User to set up their own working environment. A separate profile for each is stored by the OSD and is activated according to the Username that was provided during Login. To change a setting:

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

<b>Setting</b>	<b>Function</b>
OSD HOTKEY	<p>Selects which Hotkey activates the OSD function:</p> <p><b>[Scroll Lock] [Scroll Lock]</b> or <b>[Ctrl] [Ctrl]</b>.</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 you to position where the Port ID appears on the screen. The default is the upper right corner, but you can choose to have it appear anywhere on the screen.</p> <p>Use the Mouse or the Arrow Keys plus Pg Up, Pg Dn, Home, End, and 5 (on the numeric keypad with Num Lock off), to position the Port ID display, then double click or press <b>[Enter]</b> to lock the position and return to the Set submenu.</p>
PORT ID DISPLAY DURATION	<p>Determines how long a Port ID displays on the monitor after a port change has taken place. The choices are: <b>User Defined</b> - which lets you select the amount of time (from 1 - 255 sec.); and <b>Always On</b> - which displays the Port ID at all times. If you select <i>User Defined</i>, key in the number of seconds, then press <b>[Enter]</b>. The default is 3 Seconds. A setting of 0 (zero) disables this function.</p>

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Setting	Function
PORT ID DISPLAY MODE	Selects how the Port ID is displayed: the Port Number alone ( <b>PORT NUMBER</b> ); the Port Name alone ( <b>PORT NAME</b> ); or the Port Number plus the Port Name ( <b>PORT NUMBER + PORT NAME</b> ). 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 <i>F7 SCAN</i> , page 29). Key in a value from 1 - 255 seconds, then press <b>[Enter]</b> . Default is 5 seconds; a setting of 0 disables the Scan function.
SCAN/SKIP MODE	<p>Selects which computers will be accessed under Auto Scan Mode (see <i>F7 SCAN</i>, page 29). Choices are:</p> <p><b>ALL</b> - All the Ports which have been set Accessible (see <i>SET ACCESSIBLE PORTS</i>, page 25);</p> <p><b>POWERED ON</b> - Only those Ports which have been set Accessible and are Powered On;</p> <p><b>QUICK VIEW</b> - Only those Ports which have been set Accessible and have been selected as Quick View Ports (see <i>SET QUICK VIEW PORTS</i>, page 25);</p> <p><b>QUICK VIEW + POWERED ON</b> - Only those Ports which have been set Accessible and have been selected as Quick View Ports and are Powered On. The default is ALL.</p> <p><b>Note:</b> The Quick View choices only show up on the Administrator's screen, since only he has <i>Quick View</i> setting rights (see <i>SET QUICK VIEW PORTS</i>, page 25, for details).</p>
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 <b>[Enter]</b> . A setting of 0 disables this function. The default is 0 (disabled).
HOTKEY COMMAND MODE	Enables / Disables the Hotkey function (see <i>Hotkey Operation</i> , page 31) in case there is a conflict with programs running on the computers. <i>On</i> enables the function, <i>Off</i> disables it. The default is On.
HOTKEY	Selects which keys invoke Hotkey Mode (see <i>Invoking Hotkey Mode (HKM)</i> , page 31). Choices are <b>[Num Lock] [-]</b> or <b>[Ctrl] [F12]</b> . The default is <b>[Num Lock] [-]</b> .

## **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 for you to select from 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:

<b>Setting</b>	<b>Function</b>
SET USERNAME AND PASSWORD	<p>This function is used to set Usernames and Passwords for the Administrator and Users:</p> <ol style="list-style-type: none"> <li>1. Usernames and Passwords for one Administrator and four users can be set.</li> <li>2. After you select one of the User fields or the Administrator field, a screen that allows you to key in a Username and Password appears. The Username and Password may be up to 12 characters long, and can consist of any combination of letters and numbers (A - Z, 0 - 9).</li> <li>3. For each individual, key in the Username and Password, then press <b>[Enter]</b>.</li> <li>4. To modify or delete a previous Username and/or Password, use the backspace key to erase individual letters or numbers.</li> </ol>
SET LOGOUT TIMEOUT	<p>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.</p> <p>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 <b>[Enter]</b>. If the number is 0 [zero], this function is disabled. Default is 0 (disabled).</p>

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Setting	Function
EDIT PORT NAMES	<p>To help remember which computer is attached to a particular port, every port can be given a name. This function allows the Administrator to create, modify, or delete port names.</p> <p><b>Note:</b> Only the Ports currently chosen for the LIST view on the main OSD screen (see <i>F2 LIST</i>, page 20), show up here.</p> <p>To Edit a port name:</p> <ol style="list-style-type: none"> <li>1. Use the Navigation Keys to move the highlight bar to it, then press <b>[Enter]</b>.</li> <li>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"> <li>◆ All alpha characters: <b>a - z; A - Z</b></li> <li>◆ All numeric characters: <b>0 - 9</b></li> <li>◆ <b>+ - / : . % ( ) [ ] ' ?</b> and <b>Space</b></li> </ul> <p>Case does not matter; OSD displays the Port Name in all capitals no matter how they were keyed in.</p> </li> <li>3. When you have finished editing, press <b>[Enter]</b> to have the change take effect. To abort the change, press <b>[Esc]</b>.</li> </ol>
RESTORE DEFAULT VALUES	<p>This function is used to undo all changes and return the setup to the original factory default settings. (Except for the <i>Names</i> that were assigned to the Ports. The names are kept.)</p>
CLEAR THE NAME LIST	<p>This function is similar to Restore Default Values. The difference is that it also clears the Port Names along with undoing all changes and returning the setup to the original factory default settings.</p>
ACTIVATE BEEPER	<p>Choices are <b>Y</b> (for On), or <b>N</b> (for Off). When activated, the beeper sounds whenever a Port is changed; when activating the Auto Scan function (see <i>F7 SCAN</i>, page 29); 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> <p><b>Note:</b> Only the Ports currently chosen for the LIST view on the main OSD screen (see <i>F2 LIST</i>, page 20), show up here.</p> <ul style="list-style-type: none"> <li>◆ To select/deselect a port as a Quick View Port, use the Navigation Keys to move the highlight bar to it, then press <b>[Space]</b>.</li> <li>◆ 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.</li> <li>◆ If one of the Quick View options is chosen for the LIST view (see <i>F2 LIST</i>, page 20), only Ports that have been selected here will show up on the LIST display on the main OSD screen.</li> <li>◆ If one of the Quick View options is chosen for Auto Scanning (see <i>SCAN/SKIP MODE</i>, page 22), only Ports that have been selected here will be Auto Scanned.</li> </ul> <p>The default is for no ports to be selected.</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. For each User, select the target Port; then press the <b>[Spacebar]</b> to cycle through the choices: <b>F</b> (Full access), <b>V</b> (View Only) or blank. Repeat until all access rights have been set, then press <b>[Esc]</b>. The default is <b>F</b> for all users on all Ports.</p> <p><b>Note:</b> A blank setting means that no access rights are granted. The Port will not show up on the User's LIST on the Main Screen.</p>

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Setting	Function
RESET STATION IDS	<p>If you change the position of one of the Stations in the daisy chain, the OSD settings will no longer correspond to the new situation. This function directs the OSD to rescan the Station positions of the entire installation and updates the OSD so that the OSD Station information corresponds to the new physical layout.</p> <p><b>Note:</b> Only the Station Numbers get updated. Except for the Port Names, all Administrator settings (such as Set Accessible Ports, Set Quick View Ports, etc.), for all of the computers affected by the change, have to be manually redone.</p>
SET OPERATING SYSTEM	<p>Specifies the operating platform of the computer attached to each port. For each port, press the <b>[Spacebar]</b> to cycle through the choices (PC, Sun, Mac, and SPC). Repeat until all the ports have been set, then press <b>[Esc]</b>. The default is PC.</p> <p><b>Note:</b></p> <ol style="list-style-type: none"> <li>1. PC stands for PC compatible. This is the choice that should be made for all operating systems other than Sun and Mac.</li> <li>2. If you are installing a Sun or Mac computer, before you run it for the first time you must set the correct operating system for the port it is connected to with this function, otherwise, it will not boot.</li> <li>3. SPC stands for Special Case. For certain operating systems (such as FSPD), you may need to choose this option if you run into startup problems. If this occurs, please contact technical support for further information.</li> </ol>
FIRMWARE UPGRADE	<p>In order to upgrade the CS-1708 / CS-1716's firmware (See chapter 5), you must first enable <i>Firmware Upgrade Mode</i> with this setting.</p>
KEYBOARD LANGUAGE	<p>Sets the keyboard language layout for the computer attached to each port. Choices are: Auto, English, French, German, and Japanese. Auto (the default), sets the keyboard language according to the keyboard language of the computer.</p>

## **F5 SKP**

Skip (SKP) Mode 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 21).
- ◆ When you are in Skip Mode, press [ ← ] to switch to the previous computer in the List; press [ → ] to switch to the next computer in the List; press [ ↑ ] to switch to the last computer on the previous station in the List; press [ ↓ ] to switch to the first computer on the next station in the List.

---

**Note:** When you Skip, you only Skip to the previous or next available computer that is in the *Scan/Skip Mode* selection (see page 22).

---

- ◆ 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 to indicate so.
- ◆ 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. 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.

BRC works in conjunction with the **F2 LIST** function. The LIST function (see page 20), is used to broaden or narrow the focus of which Ports appear on the OSD Main Screen. When you Broadcast a command, it only goes to the Ports currently listed on the OSD Main Screen.

- ◆ 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**

The SCAN 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 manually.

- ◆ 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 22).
- ◆ The amount of time that each Port displays for is set with the *Scan Duration* setting under the **F3 SET** function (see page 22).
- ◆ 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.
- ◆ 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*.
- ◆ If you want to temporarily keep the focus on a particular computer, you can pause the scanning either by pressing **P**, or with a left click of the mouse. See *Auto Scan Mode*, page 32, for details.
- ◆ When you want to permanently stop scanning at a particular location, press the [**Spacebar**] or [**Esc**]; or **right click** with the mouse to stop scanning and exit 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.

## **F8 LOUT**

LOUT (Log out) logs you out of OSD control of the computers, and blanks the Console screen. After using this function you must log in all over again to regain access to the OSD.

This is different from simply pressing [**Esc**] when you are at the Main Screen to deactivate the OSD, where all you have to do to reenter the OSD is tap the OSD Hotkey.

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

# Chapter 5

## Hotkey Operation

The CS-1708 / CS-1716 's hotkey function makes it convenient to control your KVM installation from the keyboard.

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**Note:** The hotkey function must be enabled to use hotkey operations.  
See *HOTKEY COMMAND MODE*, page 22, for details.

---

### Invoking Hotkey Mode (HKM)

---

All hotkey operations begin by invoking HKM. To invoke HKM, do the following:

1. Press and hold down the **Num Lock** key
2. Press and release the **Minus** key
3. Release the **Num Lock** key

[Num Lock] + [-]

- 
- Note:** 1. The minus key must be released within one half second, otherwise Hotkey invocation is canceled.
2. There is an alternate invocation combination (see *Alternate OSD Invocation Keys*, page 33 for details.)
- 

#### When HKM is active:

- ♦ The Caps Lock, and Scroll Lock LEDs flash in succession to indicate that HKM is in effect. They stop flashing 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 others, you must exit manually by pressing the **Esc** key, or the **Spacebar**.

## Hotkey Port Access

---

Hotkey Port Access allows you to select which computer has the KVM focus. The CS-1708 / CS-1716 provides the following Hotkey Port Access features:

- ◆ Selecting the Active Port
- ◆ Auto Scan Mode

### **Selecting the Active Port:**

You can bring the KVM focus to any computer with a hotkey combination that specifies its Port ID (see *Port ID Numbering*, page 16 for details):

1. Invoke HKM (see *Invoking Hotkey Mode (HKM)*, page 31).
2. Key in the computer's Port ID number.

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].

The KVM focus switches to the computer associated with the specified Port ID, and you automatically exit Hotkey Mode.

### **Auto Scan Mode**

The CS-1708 / CS-1716's Auto Scan feature automatically switches among all the active CPU Ports that are accessible to the currently logged on User at regular intervals (see *Scan Mode* of the OSD **F3 SET** function, page 21), so that he can monitor their activity automatically.

To start Auto Scanning, key in the following Hotkey combination:

1. Invoke Hotkey Mode (see *Invoking Hotkey Mode (HKM)*, page 31)
2. Key in [A]

After you press **A**, you automatically exit Hotkey Mode, and enter Auto Scan Mode.

3. To exit Auto Scan Mode, press [Esc] or [Spacebar]; or Right Click with the mouse.

---

**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.

---



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

After pausing, to resume Auto Scanning, press any key. Scanning continues from where it left off.

---

## Hotkey Configuration

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### 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 *Invoking Hotkey Mode (HKM)*, page 31)
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, invoke HKM, then press and release the **H** key again.

---

### Alternate OSD Invocation 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 Invocation method, do the following:

1. Invoke HKM (see *Invoking Hotkey Mode (HKM)*, page 31)
2. Press and release the **T** key

---

**Note:** This procedure is a toggle between the two methods. To revert back, invoke HKM, then press and release the **T** key again.

---

## Platform Setup

The CS-1708 / CS-1716's default port settings are for a PC Compatible operating platform. You can modify the platform setting for each port by bringing the KVM focus to the port you want to change and using the hotkey combinations shown in the table below.

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.
[R] [Enter]	Reset everything to the default settings.

The Hotkey entry method is as follows:

1. Invoke HKM (see *Invoking Hotkey Mode (HKM)*, page 31)
2. Press and release the appropriate Function key (see table).

After completing a setting, you automatically exit HKM.

---

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

---

## Miscellaneous Actions

Hotkeys are also used to reset the USB, and toggle the beeper On and Off. To perform any of these operations, do the following:

1. Invoke HKM (see *Invoking Hotkey Mode (HKM)*, page 31)
2. Press and release the appropriate action key (see table).

Key	Operation
[F5]	Performs a USB reset
B	Toggles the Beeper On or Off. The Command Line displays <i>Beeper On</i> or <i>Beeper Off</i> for one second; then the message disappears and you automatically exit HKM.

After completing a setting, you automatically exit HKM.









# 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

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

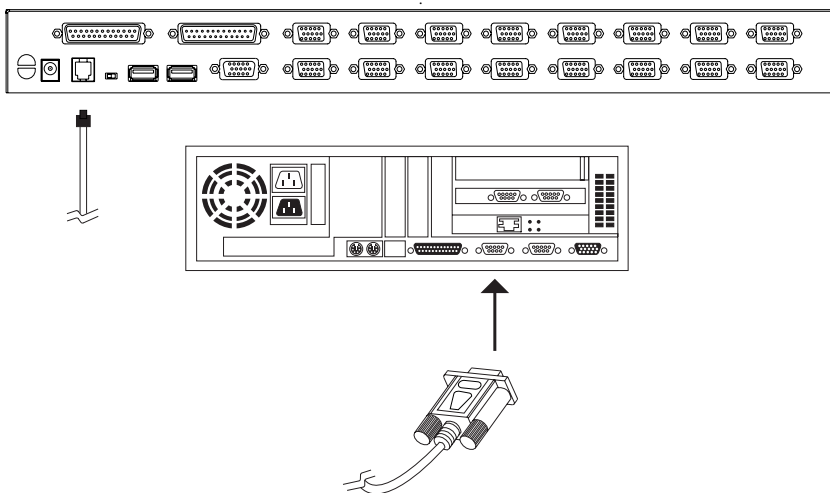
New firmware upgrade packages are posted on our web site as new firmware revisions become available. Check the web site regularly to find the latest packages and information relating to them.

### 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



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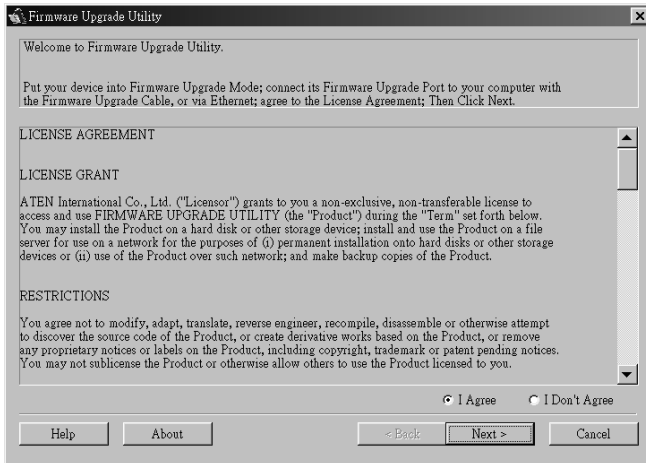
4. Shut down all of the computers - but not the Stations - on your KVM installation.
5. From your KVM switch console, bring up the OSD (see page 17) and select the **F4 ADM** function.
6. Scroll down to FIRMWARE UPGRADE. Press [Enter], then press [Y] to invoke Firmware Upgrade Mode (see page 26.) For your reference, the current firmware upgrade version displays on the screen.

## Starting the Upgrade

To upgrade your firmware:

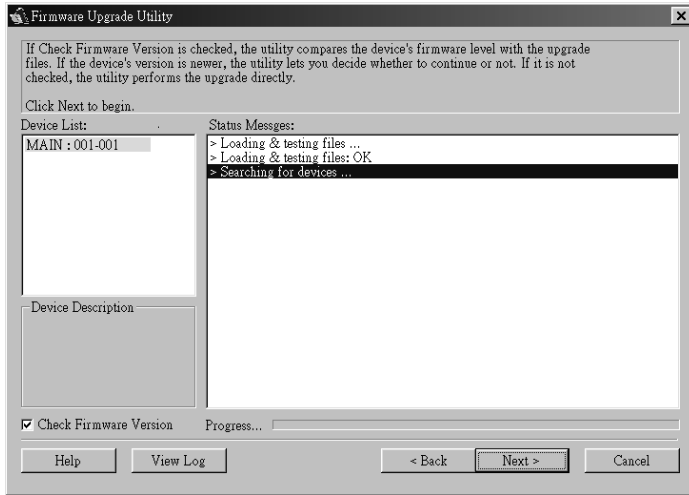
1. Run the downloaded Firmware Upgrade Package file - either by double clicking the file icon, or by opening a command line and entering the full path to it.

The Firmware Upgrade Utility *Welcome* screen appears:



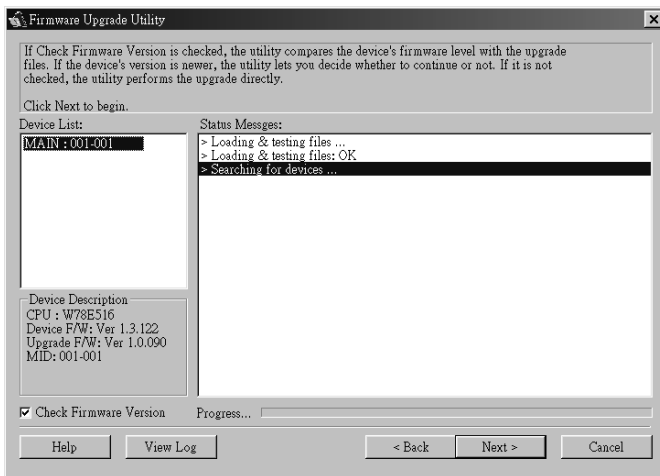
2. Read and *Agree* to the License Agreement (enable the I Agree radio button).

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



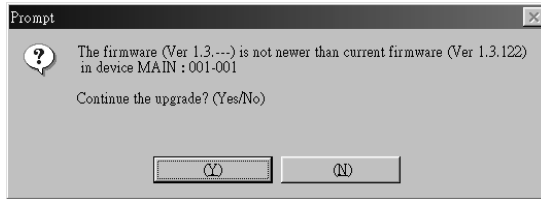
The Utility inspects your installation. All the devices capable of being upgraded by the package are listed in the *Device List* panel.

- As you select a device in the list, its description 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.



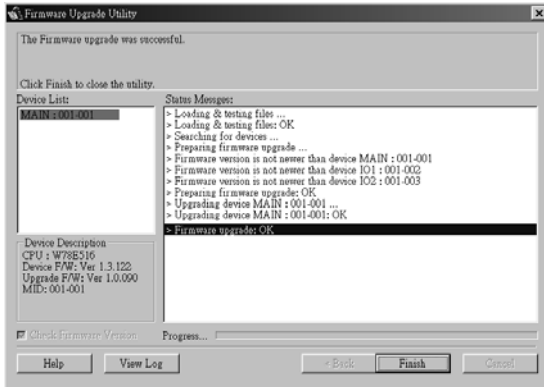
If you didn't enable *Check Firmware Version*, the Utility installs the upgrade files without checking whether they are a higher level, or not.

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

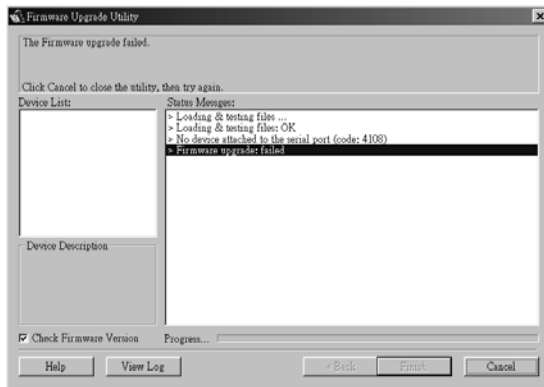
After the upgrade has completed, a screen appears to inform you that the procedure was successful:



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

## Upgrade Failed

If the upgrade failed to complete successfully a dialog box appears asking if you want to retry. Click **Yes** to retry. If you Click **No**, the *Upgrade Failed* screen appears:



Click **Cancel** to close the Firmware Upgrade Utility. 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 37), but decide not to proceed with the upgrade.
- ◆ When the Mainboard firmware upgrade fails.
- ◆ When the I/O firmware upgrade fails.

---

**Note:** If one of the cascaded switches fails to upgrade successfully, unplug it from the installation and perform the recovery and upgrade operation independently. After it has been successfully upgraded, plug it back into the installation.

---

To perform a firmware upgrade recovery, do the following:

1. Slide the *Firmware Upgrade Reset Switch* (see page 8) to the **Recover** position.
2. Power off and restart the switch.
3. Repeat the upgrade procedure from *Starting the Upgrade*, page 38.
4. Power off the switch.
5. Slide the *Firmware Upgrade Recovery Switch* back to the **Normal** position.
6. Power the switch back on.

## 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 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.
- ◆ When connecting or disconnecting power to hot-pluggable power supplies, observe the following guidelines:
  - ◆ Install the power supply before connecting the power cable to the power supply.
  - ◆ Unplug the power cable before removing the power supply.
  - ◆ If the system has multiple sources of power, disconnect power from the system by unplugging all power cables from the power supplies.
- ◆ Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.
- ◆ Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.
- ◆ If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.
  - ◆ The power cord or plug has become damaged or frayed.
  - ◆ Liquid has been spilled into the device.
  - ◆ The device has been exposed to rain or water.
  - ◆ The device has been dropped, or the cabinet has been damaged.
  - ◆ The device exhibits a distinct change in performance, indicating a need for service.
  - ◆ The device does not operate normally when the operating instructions are followed.
- ◆ Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.

---

## **Rack Mounting**

- ◆ Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.
- ◆ Always load the rack from the bottom up, and load the heaviest item in the rack first.
- ◆ Make sure that the rack is level and stable before extending a device from the rack.
- ◆ Use caution when pressing the device rail release latches and sliding a device into or out of a rack; the slide rails can pinch your fingers.
- ◆ After a device is inserted into the rack, carefully extend the rail into a locking position, and then slide the device into the rack.
- ◆ Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- ◆ 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

### International

Email Support	Email your questions and concerns to: support@aten.com
Online Support ♦ Technical Support ♦ Troubleshooting ♦ Documentation ♦ Software Updates	1. Online technical support is available to ALTUSEN customers through our e-Support Center: <b>http://support.aten.com</b> 2. Online troubleshooting that describes the most commonly encountered problems and offers possible solutions to them; online documentation (including electronically available manuals); and the latest drivers and firmware for your product are available at our website: <b>http://www.aten.com</b>
Telephone Support	886-2-8692-6959

### North America

Email Support	Email your questions and concerns to: support@aten-usa.com
Online Support ♦ Technical Support ♦ Troubleshooting ♦ Documentation ♦ Software Updates	1. Online technical support is available to ALTUSEN customers through our e-Support Center: <b>http://www.aten-usa.com/support</b> 2. Online troubleshooting that describes the most commonly encountered problems and offers possible solutions to them; online documentation (including electronically available manuals); and the latest drivers and firmware for your product are available at our website: <b>http://www.aten-usa.com</b>
Telephone Support	1-888-999-ATEN

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.

---

## CS-1708 / CS-1716 Connection Tables

---

The following tables indicate the relationship between the number of Master View units and the number of computers that they control:

### CS-1708

MVs	Computers	MVs	Computers	MVs	Computers	MVs	Computers
1	1 - 8	9	65 - 72	17	129 - 136	25	193 - 200
2	9 - 16	10	73 - 80	18	137 - 144	26	201 - 208
3	17 - 24	11	81 - 88	19	145 - 152	27	209 - 216
4	25 - 32	12	89 - 96	20	153 - 160	28	217 - 224
5	33 - 40	13	97 - 104	21	161 - 168	29	225 - 232
6	41 - 48	14	105 - 112	22	169 - 176	30	233 - 240
7	49 - 56	15	113 - 120	23	177 - 184	31	241 - 248
8	57 - 64	16	121 - 128	24	185 - 192	32	249 - 256

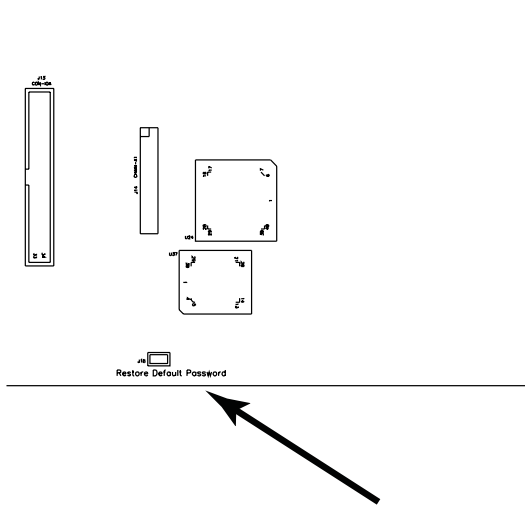
### CS-1716

MVs	Computers	MVs	Computers	MVs	Computers	MVs	Computers
1	1 - 16	9	129 - 144	17	257 - 272	25	385 - 400
2	17 - 32	10	145 - 160	18	273 - 288	26	401 - 416
3	33 - 48	11	161 - 176	19	289 - 304	27	417 - 432
4	49 - 64	12	177 - 192	20	305 - 320	28	433 - 448
5	65 - 80	13	193 - 208	21	321 - 336	29	449 - 464
6	81 - 96	14	209 - 224	22	337 - 352	30	465 - 480
7	97 - 112	15	225 - 240	23	353 - 368	31	481 - 496
8	113 - 128	16	241 - 256	24	369 - 384	32	497 - 512

## Administrator Login Failure

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 its housing.
2. Short the jumper labeled *Default Password* at the right front 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 page 17), and you can reset passwords for the Administrators and Users.



# Specifications

Function		CS-1708	CS-1716		
Computer Connections	Direct	8	16		
	Max	256 (via Daisy Chain)	512 (via Daisy Chain)		
Port Selection		OSD; Hotkeys			
Connectors	Console Ports	Keyboard	1 x USB Type A		
		Video	1 x HDB-15 F		
		Mouse	1 x USB Type A		
	KVM Ports	Keyboard	8 x SPHD-15 F (Yellow)	16 x SPHD-15 F (Yellow)	
		Video			
		Mouse			
	Daisy Chain	In	1 x DB-25 F		
		Out	1 x DB-25 M		
	F/W Upgrade		1 x RJ-11 socket		
Power		1 x DC Jack			
Switches	Reset	1 x Semi-recessed Pushbutton			
	F/W Upgrade	1 x Slide			
LEDs	On Line	4 (Orange)	8 (Orange)		
	Selected	4 (Green)	8 (Green)		
	Power	1 (Blue)			
	Station ID	2 x 7 Segment			
Video		Up to 2048 x 1536			
Scan Interval		User Specified: 1 - 255 secs.			
Power Consumption		DC 9V; 7.5W (max.)	DC 9V; 8W (max.)		
Environment	Operating Temp.	0 - 50° C			
	Storage Temp.	-20 - 60° C			
	Humidity	0 - 80% RH			
Physical Properties	Housing	Metal			
	Weight	2.70 Kg	2.90 Kg		
	Dimensions (L x W x H)	43.20 x 15.40 x 4.50 cm. (19" 1U)			

## OSD Factory Default Settings

---

The factory default settings are as follows:

Setting	Default
OSD Hotkey	[Scroll Lock] [Scroll Lock]
Port ID Display Position	Upper Right Corner
Port ID Display Duration	3 Seconds
Port ID Display Mode	The Port Number plus the Port Name
Scan Duration	5 Seconds
Scan/Skip Mode	All
Screen Blanker	0 (Disabled)
Logout Timeout	0 (Disabled)
Beeper	Y (Activated)
Accessible Ports	F (Full) For all Users on all Ports
Operating System	PC
Keyboard Language	Auto

---

## Troubleshooting

---

Symptom	Possible Cause	Action
After installation, my Sun/Mac computer does not boot.	Operating System not properly set for its port.	When you install a Sun or Mac computer, before you run it for the first time you must set the correct operating system for the port it is connected to, otherwise, it will not boot. See <i>SET OPERATING SYSTEM</i> , page 26, for details.
Mouse and/or Keyboard not responding.	Improper mouse and/or keyboard reset.	Unplug the cable(s) from the console port(s), then plug it/them back in.
	No connection to the computer.	Check the cable from the switch to the computer to make sure it is properly connected.
	KVM switch needs to be reset.	Power off all devices on the installation; power off the KVM switch; wait five seconds; then power up.
Device not recognized message (Windows)	Windows timing problem.	<ol style="list-style-type: none"><li>1. Unplug the KVM cable from the computer's USB port.</li><li>2. Go into Windows' <i>System Settings</i> and remove the <i>Unknown Device</i> entry.</li><li>3. Plug the KVM cable back in. Windows will now recognize the device.</li></ol>

---

## **Limited Warranty**

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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.

# Index

## A

- Activate Beeper, 24
- ADM, 23
- Administrator functions, 23
- Administrator Login Failure, 48
- Auto Scanning, 29
  - Scan Duration, 22

## B

- Beeper
  - Activate, 24
- BRC, 28
- Broadcast Mode, 28

## C

- Clear the Name List, 24
- Computer Connection Tables, 47
- Corrupt Password, 48

## E

- Edit Port Names, 24

## F

- F1 GOTO, 20
- F3 SET, 21
- F4 ADM, 23
- F5 SKP, 27
- F6 BRC, 28
- F7 SCAN, 29
- F8 LOUT, 30
- Factory Default Settings, 50
- FIRMWARE UPGRADE, 26
- Firmware upgrade
  - port, 8, 37
  - recovery, 42

- recovery switch, 8

Forgotten Password, 48

Front View

CS-1708, 5

CS-1716, 5

## G

GOTO, 20

## H

Hardware Requirements

Cables, 4

Computer, 4

Console, 4

Hot Plugging, 15

Console Ports, 15

CPU Ports, 15

Hotkey

Command Mode, 22

OSD, 21

## I

Installation

Daisy Chaining, 12

Single Stage, 10

## K

Keyboard Emulation

Mac, 35

Sun, 36

Keyboard language, 26

## L

Logout, 30

Logout Timeout, 23

LOUT, 30

**O**

- Online
  - Registration, iii
- OSD
  - Factory Default Settings, 50
  - Functions, 19
  - Hotkey, 21
  - Logout, 30
  - Main Screen Headings, 19
  - Overview, 17

**P**

- Password, 23
- Pause, 29
- Port ID
  - Display Duration, 21
  - Display Mode, 22
  - Display Position, 21
  - Numbering, 16
- Port Names, 24
- Powering Off and Restarting, 16

**Q**

- Quick View Ports, 25

**R**

- Rack Mounting
  - Safety information, 45
- Rack mounting, 9
- Rear View
  - CS-1708, 7
  - CS-1716, 7
- Reset Station IDs, 26
- Restore Default Values, 24
- RoHS, ii

**S**

- Safety Instructions
  - General, 43
  - Rack Mounting, 45
- SCAN, 29
- Scan Duration, 22
- SCAN/SKIPMODE, 22
- Screen Blanker, 22
- SET, 21
  - Accessible Ports, 25
  - Logout Timeout, 23
  - Password, 23
  - Quick View Ports, 25
  - Username, 23
- SJ/T 11364-2006, ii
- Skip Mode, 22, 27
- SKP, 27
- Specifications, 49
- Station IDs, 12
  - Reset, 26
- Station Positions
  - Switching, 15
- Switching Station Positions, 15

**T**

- Technical support, 46
- Telephone support, iii
- Timeout, 23
- Troubleshooting, 51

**U**

- USB cable connection, 11
- User Notice, iii
- Username, 23