

PS/2 – USB KVM Switch

CS-1754
CS-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 – http://www.aten-usa.com/product_registration

Telephone Support

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

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

- ◆ 1 CS-1754 or CS-1758 KVM Switch
- ◆ 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.

* Features may have been added to the CS-1754 / CS-1758 since this manual was printed. Please visit our website to download the most up-to-date version of the manual.

© Copyright 2008 ATEN® International Co., Ltd.
Manual Part No. PAPE-0225-200G
Manual Date: 2008-08-04

ATEN and the ATEN logo are registered trademarks of ATEN International Co., Ltd. All rights reserved.
All other brand names and trademarks are the registered property of their respective owners.

Contents

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
1. Introduction	
Overview	1
Features	2
Hardware Requirements	3
Console	3
Computers	3
Cables	3
CS-1754 / CS-1758 Front View.	4
CS-1754 / CS-1758 Rear View	6
2. Installation	
Stacking and Rack Mounting	9
Stacking	9
Rack Mounting	10
Single Stage Installation	11
Single Stage Installation Diagram	12
USB Cable Connection	13
PS/2 Cable Connection	13
Two Stage Installation.	14
Two Stage Installation Diagram.	15
Three Stage Installation	16
Three Stage Installation Diagram	17
3. Basic Operation	
Hot Plugging	19
Hot Plugging KVM ports	19
Hot Plugging Console Ports	19
Powering Off and Restarting.	20
Port ID Numbering	21
Port Selection	22
Manual.	22
OSD.	22
Hotkey	22

4. OSD Operation

OSD Overview	23
OSD Navigation	24
OSD Main Screen Headings.	25
OSD Functions	25

5. Hotkey Operation

Invoking Hotkey Mode (HKM).	35
When HKM is active:	35
Hotkey Port Access	36
Selecting the Active Port:	36
Auto Scan Mode	36
Hotkey Configuration	37
Alternate Hotkey Invocation Keys	37
Alternate OSD Invocation Keys.	37
Platform Setup	38
Miscellaneous Actions.	38
Hotkey Summary Table	39

6. Keyboard Emulation

Mac Keyboard.	41
Sun Keyboard.	42

7. The Firmware Upgrade Utility

Preparation	43
Starting the Upgrade.	44
Upgrade Succeeded.	47
Upgrade Failed	47
Firmware Upgrade Recovery	48

Appendix

Safety Instructions	49
General	49
Rack Mounting	51
Technical Support.	52
International	52
North America	52
CS-1754 / CS-1758 Connection Tables	53
CS-1758	53
CS-1754	54
OSD Factory Default Settings.	54
Administrator Login Failure.	55
Specifications	56
Troubleshooting	57
Limited Warranty.	58

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 CS-1754 / CS-1758 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-1754 / CS-1758.

Chapter 4, OSD Operation, provides a complete description of the CS-1754 / CS-1758'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-1754 / CS-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 CS-1754 / CS-1758's firmware with the latest available versions.

An Appendix, provides specifications and other technical information regarding the CS-1754 / CS-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 – <http://www.aten-usa.com>

Chapter 1

Introduction

Overview

The CS-1754 and CS-1758 USB KVM (Keyboard, Video, Mouse) Switches are control units that allow access and control of up to 4 (CS-1754) or 8 (CS-1758) computers from a single USB keyboard, USB mouse, and monitor console. They can be cascaded to three levels – allowing up to 21 CS-1754s to control up to 64 computers, and up to 73 CS-1758s to control up to 512 computers - all from the original single console.

Although the switches use a USB keyboard and mouse for the console, they support both PS/2 and USB computers. Users have the choice of connecting the switch to a computer with PS/2 connectors or USB connectors depending on the cable used to link the switch to the computers. See the *Cables* section, page 3 for more details.

The CS-1754 / CS-1758 provides Multimedia keyboard support (volume up/down, mute and pulse), and is audio enabled. A single microphone can provide audio input to each of the computers, and you can listen to the audio output of each computer on a single set of speakers (on a one-at-a-time basis).

There are three convenient methods to access any computer connected to the installation: (1) using the push button port selection switches located on each unit's front panel; (2) entering *Hotkey* combinations from the keyboard; and (3) selecting from menus provided by the On Screen Display (OSD). An *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 CS-1754 / CS-1758 intercepts keyboard input directly, it works on multiple operating platforms (PC compatible, Mac*, Sun*, etc.).

Since a single console manages all of the computers on your installation, a CS-1754 / CS-1758 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.

* Mac and Sun computers must use the USB cable connection (see *Cables*, page 3).

Features

- ◆ Dual function KVM-USB switch
- ◆ One console controls 4 (CS-1754) or 8 (CS-1758) 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*
- ◆ Computer selection via front panel switches, hotkeys and OSD
- ◆ LED Display For Easy Status Monitoring
- ◆ Auto Scan Mode for monitoring all computers
- ◆ Complete keyboard emulation for error free booting
- ◆ Multimedia keyboard support (volume up/down, mute and pulse)
- ◆ Superior video quality - 2048 x 1536; DDC2B
- ◆ Easy installation - no software required
- ◆ Hot pluggable - add or remove computers for maintenance without powering down the switch
- ◆ Supports Windows, Mac, and Sun host systems
- ◆ Windows 98SE / ME / 2000 / XP; Mac OS8.6 or higher; Solaris

* For PC compatible computers. Mac and Sun computers must use the USB cable connection (see *Cables*, page 3).

Hardware Requirements

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

Cables

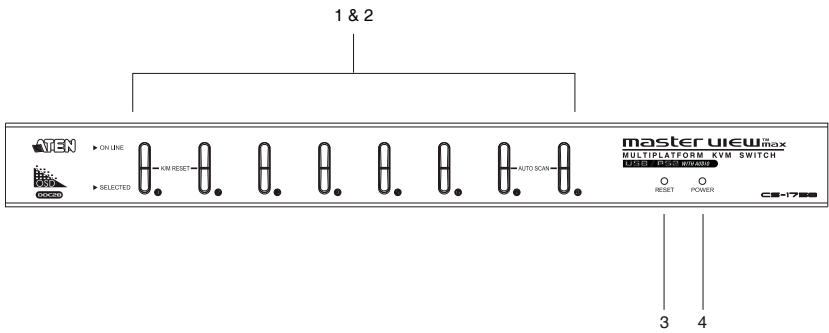
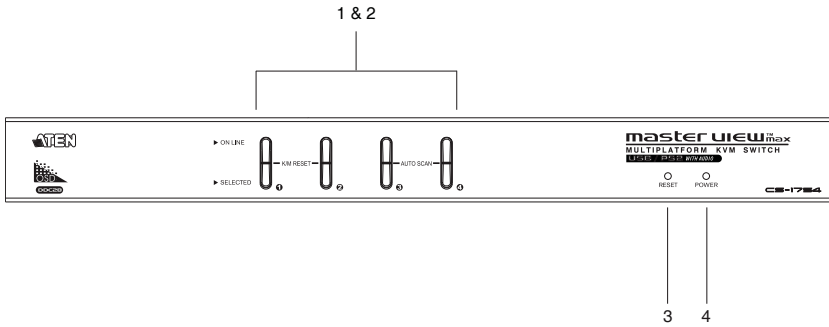
Only ATEN's CS Custom KVM cable sets, which are specifically designed to work with these switches, may be used.

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 diagrams on page 13).

Function	Length	CS Part Number
PS/2 KVM	1.2 m	2L-5301P
	1.8 m	2L-5302P
	3.0 m	2L-5303P
	5.0 m	2L-5305P
USB KVM	1.2 m	2L-5301U
	1.8 m	2L-5302U
	3.0 m	2L-5303U
	4.0 m	2L-5304U
	5.0 m	2L-5305U

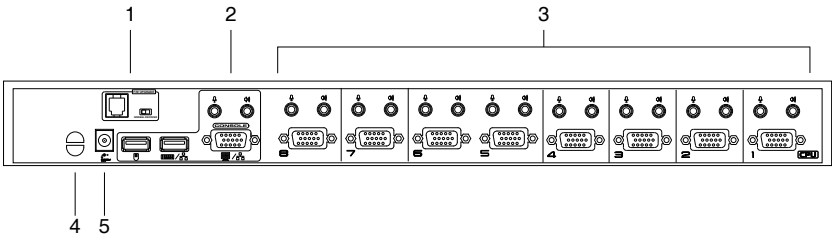
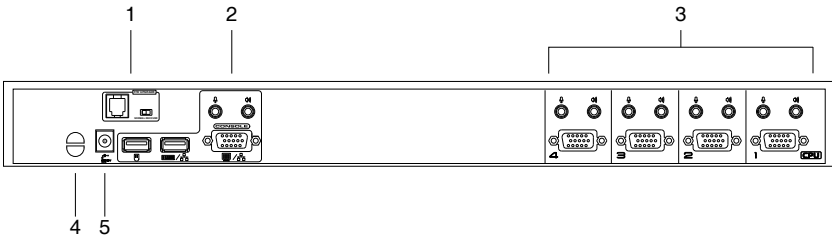
To purchase CS Custom KVM cable sets, contact your dealer.

CS-1754 / CS-1758 Front View



No.	Component	Description
1	Port Selection Switches	<ul style="list-style-type: none"> ◆ Press a switch to access the computer attached to its corresponding port. ◆ Pressing buttons 1 and 2 simultaneously for 2 seconds performs a keyboard and mouse reset. ◆ For the CS-1754, pressing buttons 3 and 4 simultaneously for 2 seconds starts <i>Auto Scan Mode</i>; for the CS-1758, pressing buttons 7 and 8 simultaneously for 2 seconds starts <i>Auto Scan Mode</i>. See <i>Auto Scan Mode</i>, page 36, for details.
2	Port LEDs	<p>The Port LEDs are built into the Port Selection Switches. The upper ones are the On Line LEDs; the lower ones are the Selected Port LEDs:</p> <ul style="list-style-type: none"> ◆ The On Line LEDs light ORANGE to indicate that the computer attached to its corresponding port is up and running. If the LED is flashing, it indicates that the Port is being used for cascading to another Master View switch (see <i>Two Stage Installation</i>, page 14). ◆ The Selected LEDs light 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 <i>Auto Scan Mode</i>, page 36, and <i>F7 SCAN</i>, page 32).
3	Reset Switch	<ul style="list-style-type: none"> ◆ Pressing this switch in for less than three seconds performs a warm reset. ◆ Pressing this switch in for more than three seconds performs a cold reset. <p>Note: 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>
4	Power LED	<p>The Power LED lights to indicate that the CS-1758 is powered up and ready to operate.</p>

CS-1754 / CS-1758 Rear View



No.	Component	Description
1	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 43), plugs into this RJ-11 connector.
	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 48 for details about the use of this switch.
2	Console Port Section	Ports to plug in your microphone, speakers, monitor, keyboard and mouse are found here. Each port is marked with an appropriate icon to indicate itself.
3	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 <i>Cables</i> , page 3, for details).
4	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.
5	Power Jack	The power adapter cable plugs in here.

This Page Intentionally Left Blank

Chapter 2

Installation

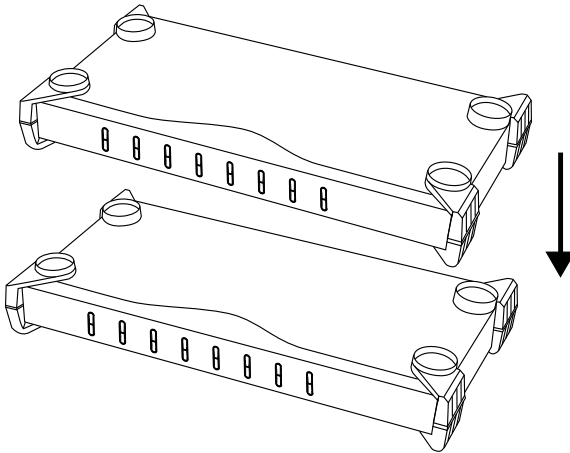


1. Important safety information regarding the placement of this device is provided on page 49. Please review it before proceeding.
2. Make sure that power to all the devices you will be connecting up have been turned off. You must unplug the power cords of any computers that have the Keyboard Power On function.

Stacking and Rack Mounting

Stacking

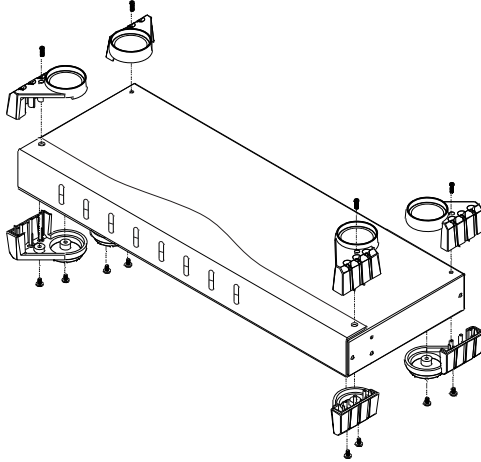
Switches can be stacked one on top of the other using the stacking brackets that come already attached to the unit:



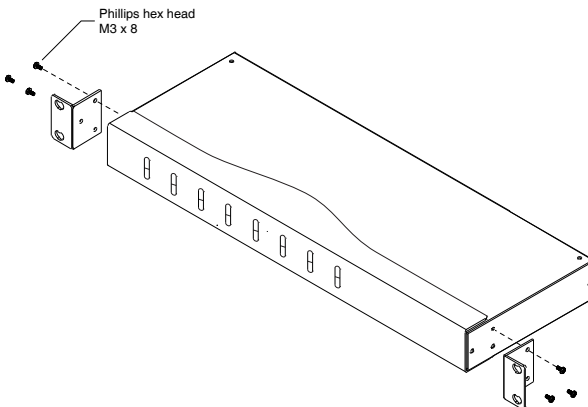
Rack Mounting

The CS-1754 / CS-1758 can be mounted in a 1U system rack. To rack mount the unit, do the following:

1. Remove the stacking brackets by unscrewing them from the unit, as shown in the diagram, below:



2. Screw the mounting brackets into the sides of the unit, as shown in the diagram, below



Note: 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.

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

Single Stage Installation

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

1. Plug your USB keyboard, USB mouse, monitor, microphone and speakers into the Console Ports located on the unit's rear panel.
2. Using a KVM cable set (requires a separate purchase, see *Cables*, page 3), plug the custom SPHD connector into any available KVM Port on the switch, and plug the accompanying microphone and speaker cables into the KVM Port's microphone and speaker jacks.

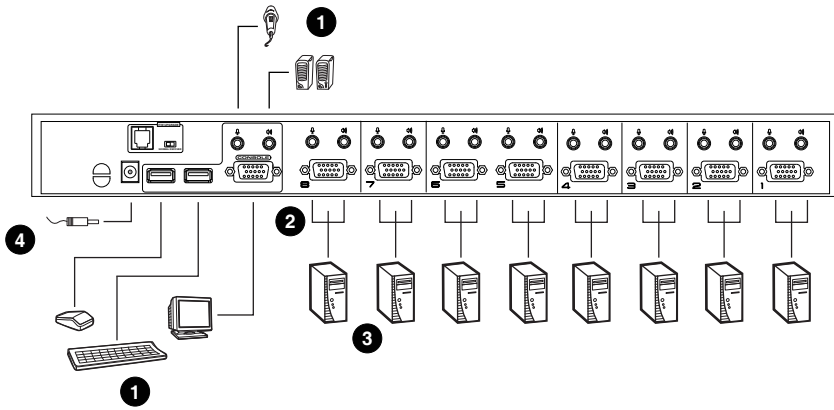
Note: Be sure that all the plugs are in the same KVM Port sockets (all in Port 1, all in Port 2, etc.).

3. At the other end of the cable:
 - a) For a USB connection (see *USB Cable Connection*, page 13), plug the USB, video, microphone and speaker cables into their respective ports on the computer.
 - b) For a PS/2 connection (see *PS/2 Cable Connection*, page 13), plug the keyboard, mouse, video, microphone and speaker cables into their respective ports on the computer.
4. Plug the power adapter cable into the switch's Power Jack, then plug the power adapter into an AC power source.
5. Repeat steps 2 - 4 for any other computers you are connecting up.

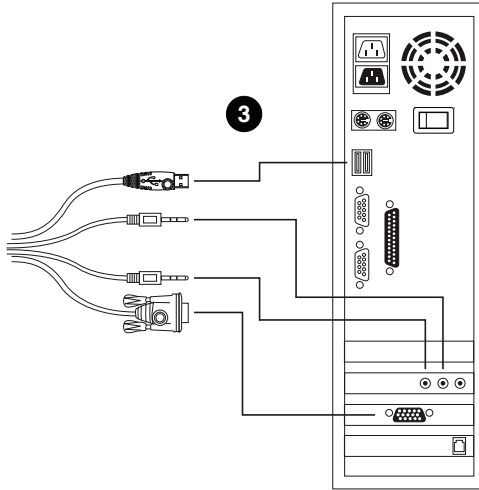
This completes the single stage installation, and you can turn on the power to the computers.

Note: The CS-1754 / CS-1758 initially links to the first computer you turn on.

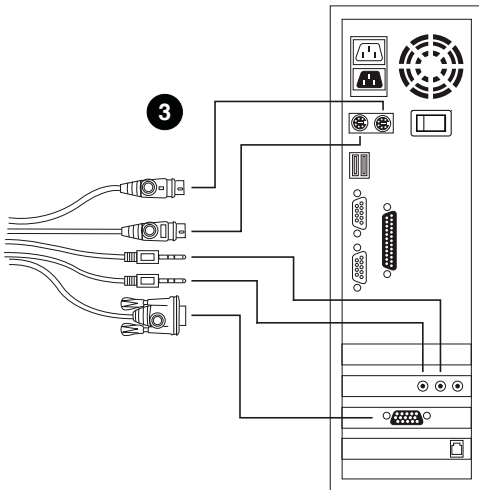
Single Stage Installation Diagram



USB Cable Connection



PS/2 Cable Connection



Two Stage Installation

To control even more computers, up to four/eight additional Master View CS-1754/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 16 (CS-1754) or 64 (CS-1758) 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 53.

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 3), 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 3), plug the custom SPHD connector into any available KVM Port on the switch and plug the accompanying microphone and speaker cables into the KVM Port's microphone and speaker jacks.

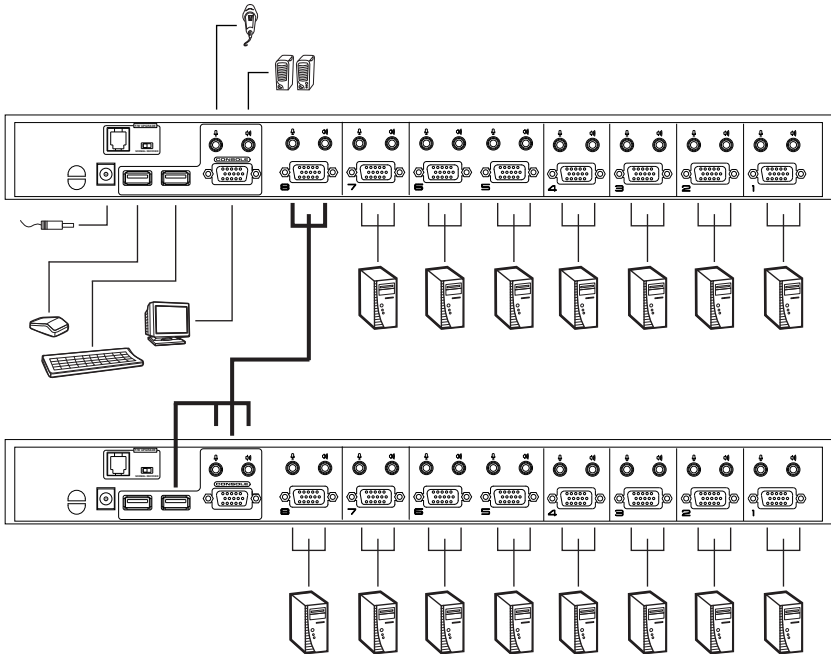
Note: Be sure that all the plugs are in the same KVM Port sockets (all in Port 1, all in Port 2, etc.).

4. At the other end of the cable:
 - a) For a USB connection (see *USB Cable Connection*, page 13), plug the USB, video, microphone and speaker cables into their respective ports on the computer.
 - b) For a PS/2 connection (see *PS/2 Cable Connection*, page 13), plug the keyboard, mouse, video, microphone and speaker cables into their respective ports on the computer.
5. Repeat steps 3 and 4 for any other computers you are connecting up.

- For each Second Stage unit, plug the power adapter cable into its Power Jack, then plug the power adapter into an AC source.
- Plug the First Stage unit's power adapter cable into its Power Jack, then plug the power adapter into an AC source.
- Turn on the power to all the computers.

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.

Two Stage Installation Diagram



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 64 (CS-1754) or 512 (CS-1758) 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 53.

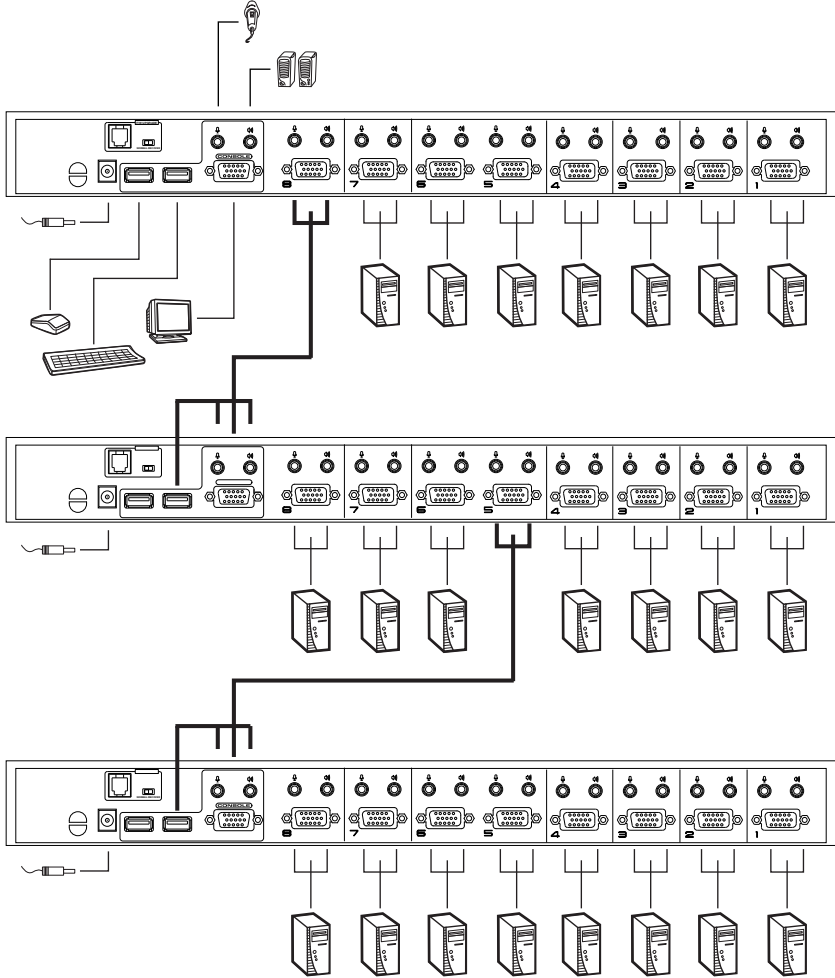
Note: Switches cannot be cascaded beyond the third level.

Once you have finished cabling up (see *Two Stage Installation*, page 14 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. Plug the First Stage unit's power adapter cable into its Power Jack, then plug the power adapter into an AC source.
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



This Page Intentionally Left Blank

Chapter 3

Basic Operation

Hot Plugging

The CS-1754 / CS-1758 supports *hot plugging* – components can be removed and added back into the installation by unplugging and replugging their cables without having to shut the switch down. In order for hot plugging to work properly, however, the procedures described below must be followed:

Hot Plugging KVM ports

When hot plugging cables from the KVM ports:

1. The cable must be plugged back into the *same port* it was removed from.
2. The mouse cable must be plugged in before the keyboard cable.
3. After plugging the cable back in, you must perform a **KVM Reset** on the First Stage unit (by pressing the Reset switch In – see *Reset Switch*, page 5 for details).

Hot Plugging Console Ports

The unit supports hot plugging of the keyboard, monitor, and mouse. 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 page 16, if necessary.)

Note: If there is no response to mouse and/or PS/2 keyboard input after hot plugging (or at any other time), simultaneously press and hold Port Select buttons 1 and 2 on the First Stage unit for 3 seconds to perform a PS/2 Keyboard and PS/2 Mouse reset.

Powering Off and Restarting

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

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

-
- Note:** 1. You must unplug the power cords of any computers that have the *Keyboard Power On* function that are connected to the shut down switches. Otherwise, the switches will still receive power from the computers.
2. If the unit is operating under external power, unplug the power adapter cable.
-

2. Wait 10 seconds, then plug the stations back in, starting with the lowest stations in the cascade and working back to the station you originally shut down.
3. After all the stations are up, power on the computers – starting with the ones attached to the lowest stations in the chain, and working back to the station you originally shut down.

Port ID Numbering

Each KVM Port on a CS-1754 / CS-1758 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 *OSD Navigation*, page 24), or with the Hotkey port selection method (see *Hotkey Port Access*, page 36).

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 1-4 for the CS-1754; from 1-8 for the CS-1758), 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.

Port Selection

The CS-1754 / CS-1758 provides three methods to obtain instant access to any computer in your installation: Manual, OSD (On Screen Display), and Hotkey.

Manual

Simply press the appropriate *Port Selection Switch* on the CS-1754 / CS-1758's front panel. After you press the switch, the *Selected* LED lights to indicate that the port has the KVM focus. The OSD (see page 23) automatically switches to highlight the computer that you have selected.

-
- Note:**
1. On a cascaded installation, you must press the Port Selection switch on the CS-1754 / CS-1758 Station that connects directly to the computer you want to access.
 2. Simultaneously pressing Port Selection buttons 3 and 4 (for the CS-1754) or 7 and 8 (for the CS-1758) on the First Stage unit initiates the *Auto Scan* feature (see *F7 SCAN*, page 32), in which all the ports currently selected for *Quick View* scanning (see *SET QUICK VIEW PORTS*, page 31), are cycled through. The length of time spent on each port is determined with the *Scan Duration* setting under the OSD's **F3 SET** function (see *SCAN DURATION*, page 28).
-

OSD

OSD (On Screen Display), provides a menu driven interface to handle the computer switching procedure to provide instant access to any computer on the installation. OSD operation is discussed in detail beginning on page 23.

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 detail beginning on page 35.

Chapter 4

OSD Operation

OSD Overview

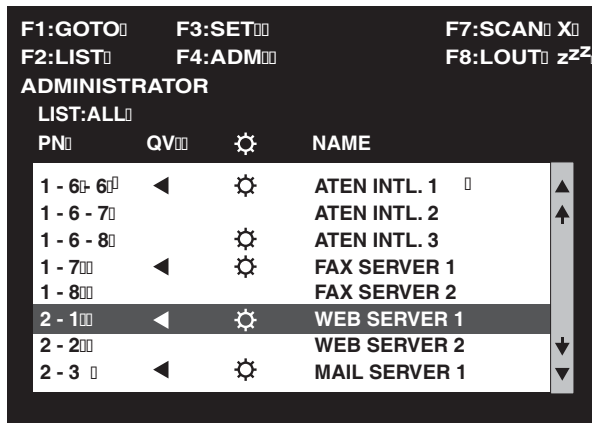
The On Screen Display (OSD) is used to handle all computer control and switching procedures. All procedures start from the OSD Main Screen. To pop up the Main Screen, tap the **[Scroll Lock]** key twice.

Note: You can optionally change the Hotkey to the Ctrl key (see *OSD HOTKEY*, page 27), in which case you would tap **[Ctrl]** twice. 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) 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 29), 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 31, for details).

OSD Navigation

- ◆ To dismiss the menu, and deactivate OSD, click the **X** at the upper right corner of the OSD Window; or press [**Esc**].
- ◆ To Logout, click **F8** or the **ZZZ** 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

PN	This column lists the Port ID numbers (see <i>Port ID Numbering</i> , page 21) for all the KVM ports on the installation. The simplest method to access a particular computer is move the Highlight Bar to it, then press [Enter] .
QV	If a port has selected for Quick View scanning (see <i>SET QUICK VIEW PORTS</i> , page 31), 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 30), 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 31), 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:

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 <i>SET QUICK VIEW PORTS</i> , page 31).
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 31), 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 31, 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:

Setting	Function
OSD HOTKEY	<p>Selects which Hotkey activates the OSD function: [Scroll Lock] [Scroll Lock] or [Ctrl] [Ctrl].</p> <p>Since the Ctrl key combination may conflict with programs running on the computers, the default is the Scroll Lock combination.</p>
PORT ID DISPLAY POSITION	<p>Allows 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 [Enter] to lock the position and return to the Set submenu.</p> <p>Note: The ID display position for each port is set independently; the choice specified here only applies to the currently selected port.</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:</p> <p>User Defined - which lets you select the amount of time (from 1 - 255 sec.);</p> <p>Always On - which displays the Port ID at all times.</p> <p>If you select <i>User Defined</i>, key in the number of seconds, then press [Enter]. The default is 3 Seconds. A setting of 0 (zero) disables this function.</p>

(Continues on next page.)

(Continued from previous page.)

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 <i>F7 SCAN</i> , page 32). Key in a value from 1 - 255 seconds, then press [Enter] . 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 32). Choices are:</p> <p>ALL - All the Ports which have been set Accessible (see <i>SET ACCESSIBLE PORTS</i>, page 31);</p> <p>POWERED ON - Only those Ports which have been set Accessible and are Powered On;</p> <p>QUICK VIEW - Only those Ports which have been set Accessible and have been selected as Quick View Ports (see <i>SET QUICK VIEW PORTS</i>, page 31);</p> <p>QUICK VIEW + POWERED ON - Only those Ports which have been set Accessible and have been selected as Quick View Ports and are Powered On. The default is ALL.</p> <p>Note: The Quick View choices only show up on the administrator's screen, since only the administrator has <i>Quick View</i> setting rights (see <i>SET QUICK VIEW PORTS</i>, page 31, 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 [Enter] . 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 35) 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.

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	<p>This function is used to set Usernames and Passwords for the administrator and users:</p> <ol style="list-style-type: none"> 1. Usernames and Passwords for one administrator and four users can be set. 2. After you select 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). 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	<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 [Enter]. If the number is 0 [zero], this function is disabled. Default is 0 (disabled).</p>

(Continues on next page.)

(Continued from previous page.)

Setting	Function
EDIT PORT NAMES	<p>To help remember which computer is attached to a particular port, every port can be given a name. This function allows the administrator to create, modify, or delete port names.</p> <p>Note: Only the Ports currently chosen for the LIST view on the main OSD screen (see <i>F2 LIST</i>, page 26), show up here.</p> <p>To Edit a port name:</p> <ol style="list-style-type: none"> 1. Use the Navigation Keys to move the highlight bar to it, then press [Enter]. 2. Key in the new Port Name, or modify/delete the old one. The maximum number of characters allowed for the Port Name is 12. Legal characters include: <ul style="list-style-type: none"> ◆ All alpha characters: a - z; A - Z ◆ All numeric characters: 0 - 9 ◆ + - / : . % () [] ' ? and Space <p>Case does not matter; the OSD displays the Port Name in all capitals no matter how they were keyed in.</p> 3. When you have finished editing, press [Enter] to have the change take effect. To abort the change, press [Esc].
RESTORE DEFAULT VALUES	<p>This function is used to undo all changes and return the setup to the original factory default settings. (Except for the <i>Names</i> that were assigned to the Ports. The names are kept.)</p>
CLEAR THE NAME LIST	<p>This function clears the port name list.</p>
ACTIVATE BEEPER	<p>Choices are:</p> <p>Y (for On)</p> <p>N (for Off)</p> <p>When activated, the beeper sounds whenever a Port is changed; when activating the Auto Scan function (see <i>F7 SCAN</i>, page 32); or an invalid entry is made on an OSD menu. The default is Y.</p>

(Continues on next page.)

(Continued from previous page.)

Setting	Function
SET QUICK VIEW PORTS	<p>This function lets the administrator select which Ports to include as Quick View ports.</p> <p>Note: Only the Ports currently chosen for the LIST view on the main OSD screen (see <i>F2 LIST</i>, page 26), show up here.</p> <ul style="list-style-type: none"> ◆ To select/deselect a port as a Quick View Port, use the Navigation Keys to move the highlight bar to it, then press [Space]. ◆ 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 <i>F2 LIST</i>, page 26), only Ports that have been selected here will show up on the LIST display on the main OSD screen. ◆ If one of the Quick View options is chosen for Auto Scanning (see <i>SCAN/SKIP MODE</i>, page 28), only Ports that have been selected here will be Auto Scanned. <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 [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.</p> <p>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.</p>
FIRMWARE UPGRADE	<p>In order to upgrade the CS-1754 / CS-1758's firmware (See chapter 5), you must first enable <i>Firmware Upgrade Mode</i> with this setting.</p>
SET PORT OS	<p>Specifies the operating platform of the computer attached to each port. For each port, press the [Spacebar] to cycle through the choices (PC Compatible, Sun, and Mac). Repeat until all the ports have been set, then press [Esc]. The default is PC Compatible.</p>

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 28).
- ◆ The amount of time that each Port displays for is set with the *Scan Duration* setting under the **F3 SET** function (see page 28).
- ◆ 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 36, for details.
- ◆ When you want to permanently stop scanning at a particular location, press the [**Spacebar**] or [**Esc**] 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.
- ◆ To exit Auto Scan Mode, press the [**Spacebar**] or [**Esc**].

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.
-

This Page Intentionally Left Blank

Chapter 5

Hotkey Operation

The CS-1754 / CS-1758 's hotkey function makes it convenient to control your KVM installation from the keyboard.

Note: The hotkey function must be enabled to use hotkey operations.
See *HOTKEY COMMAND MODE*, page 28, 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 37 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-1754 / CS-1758 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 21 for details):

1. Invoke HKM (see *Invoking Hotkey Mode (HKM)*, page 35).
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-1754 / CS-1758's Auto Scan feature automatically switches among all the active KVM Ports that are accessible to the currently logged on User at regular intervals (see *Scan Mode* of the OSD **F3 SET** function, page 27), 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 35)
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

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 35)
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 35)
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-1754 / CS-1758'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 35)
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 35)
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.

Hotkey Summary Table

[Num Lock] + [-]	[Port ID] [Enter]	Switches the KVM focus to the computer that corresponds to that Port ID
	[A]	Invokes Auto Scan Mode. <ul style="list-style-type: none"> ◆ When Auto Scan Mode is in effect, [P] or Left Click pauses Auto Scanning. ◆ When Auto Scanning is paused, pressing Any Key or Left Clicking again resumes Auto 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 PC 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.
	[F5]	Performs a USB reset.
	[R] [Enter]	Resets the KVM settings back to their defaults.
	[B]	Toggles the Beeper On or Off.

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

This Page Intentionally Left Blank

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
[Win]	⌘
[F12]	▲
[Alt]	L Alt/Option
[Prt Sc]	F13
[Scroll Lock]	F14
[Desktop Menu]	=
[Enter]	Return
[Backspace]	Delete
[Ins]	Help
[Ctrl] [Win]	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

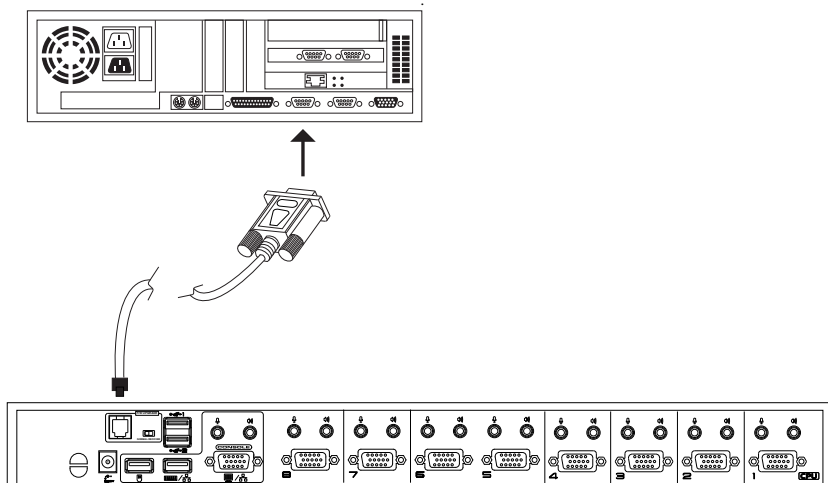
The Windows-based Firmware Upgrade Utility (FWUpgrade.exe) provides a smooth, automated process for upgrading the KVM switch's firmware.

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



(Continues on next page.)

(Continued from previous page.)

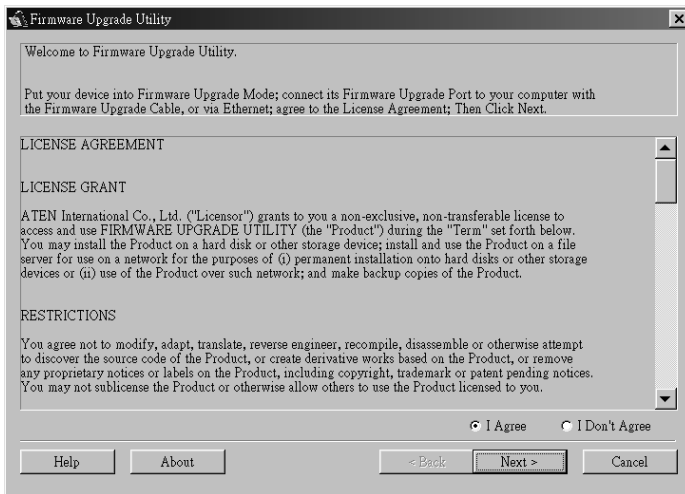
4. Shut down all of the computers on your KVM installation.
5. From your KVM switch console, bring up the OSD (see page 23) and select the **F4 ADM** function.
6. Scroll down to FIRMWARE UPGRADE. Press [**Enter**], then press [**Y**] to invoke Firmware Upgrade Mode (see page 31.) For your reference, the current firmware upgrade version displays on the screen.

Starting the Upgrade

To upgrade your firmware:

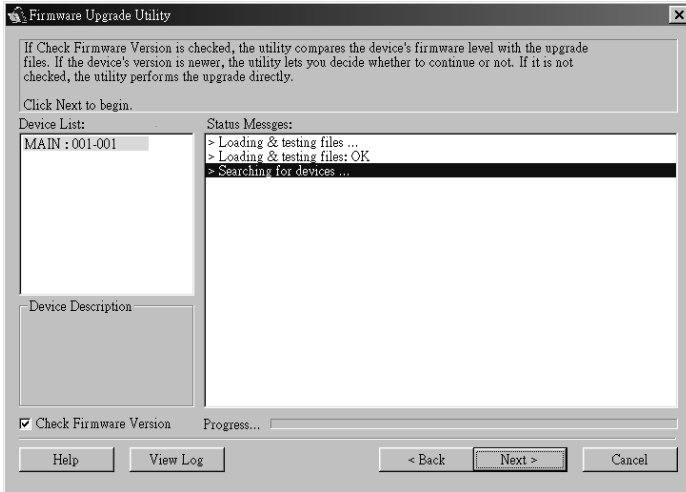
1. Run the downloaded Firmware Upgrade Package file - either by double clicking the file icon, or by opening a command line and entering the full path to it.

The Firmware Upgrade Utility *Welcome* screen appears:



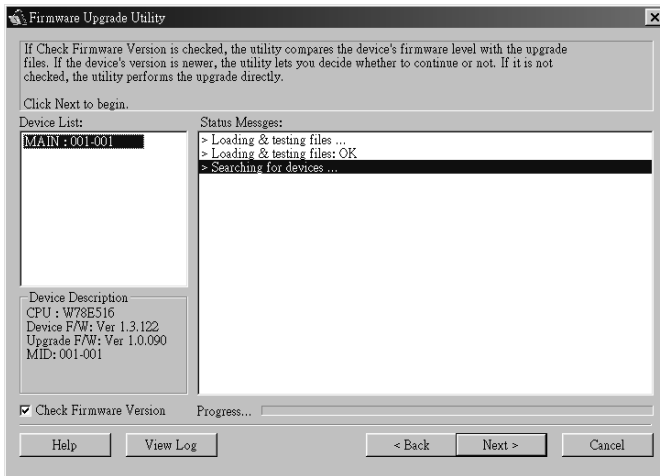
2. Read and agree to the License Agreement (enable the *I Agree* radio button).

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:



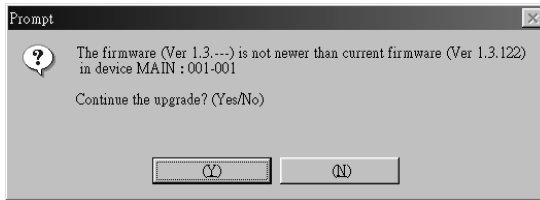
The Utility inspects your installation. All the devices capable of being upgraded by the package are listed in the *Device List* panel.

4. 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.

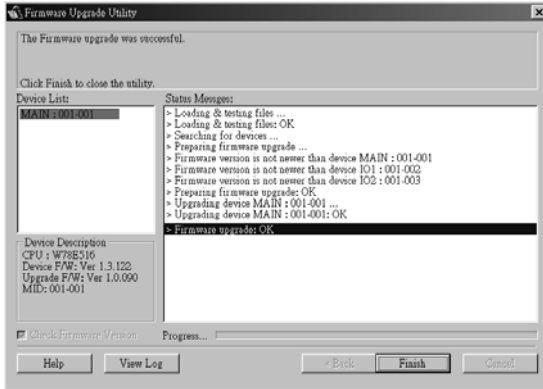


If you didn't enable *Check Firmware Version*, the Utility installs the upgrade files without checking whether they are a higher level, or not.

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

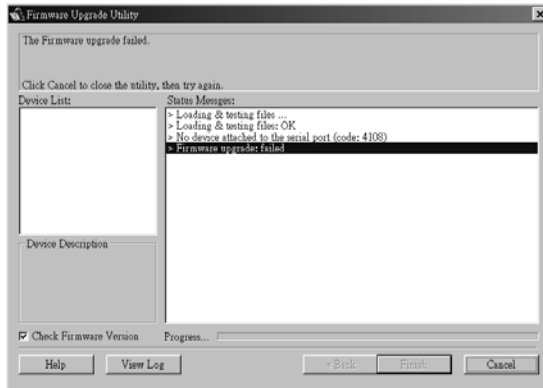
After the upgrade has completed, a screen appears to inform you that the procedure was successful:



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 43), 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. Unplug the switch's power adapter cable.
2. Slide the *Firmware Upgrade Reset Switch* (see page 7) to the **Recover** position.
3. Use the Firmware Upgrade Cable (provided with this unit), to connect a COM port on your computer with the Firmware Upgrade Port of the switch.
4. Plug the switch's power adapter cable back in.
5. Repeat the upgrade procedure from *Starting the Upgrade*, page 44.
6. After the upgrade completes successfully, unplug the switch's power adapter cable, once again.
7. Slide the *Firmware Upgrade Recovery Switch* back to the **Normal** position.
8. Plug the switch's power adapter cable back in.

This completes the Firmware Upgrade Recovery operation, and your switch is ready for use.

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	<ol style="list-style-type: none"> 1. Online technical support is available to ALTUSEN customers through our e-Support Center: http://support.aten.com 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: http://www.aten.com
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	<ol style="list-style-type: none"> 1. Online technical support is available to ALTUSEN customers through our e-Support Center: http://www.aten-usa.com/support 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: http://www.aten-usa.com
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-1754 / CS-1758 Connection Tables

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

CS-1758

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		

CS-1754

MVs	Computers	MVs	Computers	MVs	Computers	MVs	Computers
1	1 – 4	7	19 – 22	13	37 – 40	19	55 – 58
2	4 – 7	8	22 – 25	14	40 – 43	20	58 – 61
3	7 – 10	9	25 – 28	15	43 – 46	21	61 – 64
4	10 – 13	10	28 – 31	16	46 – 49		
5	13 – 16	11	31 – 34	17	49 – 52		
6	16 – 19	12	34 – 37	18	52 – 55		

OSD Factory Default Settings

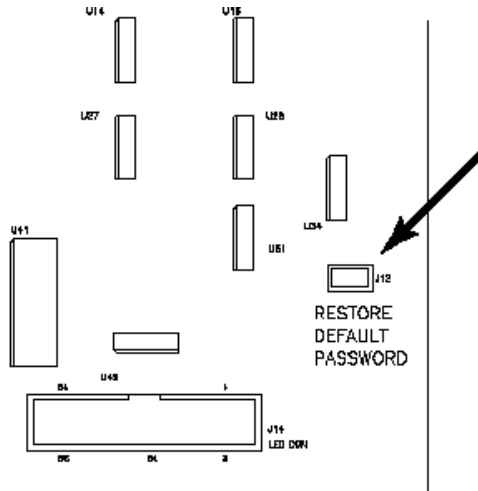
The factory default settings are as follows:

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 Compatible
Keyboard Language	Auto

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 *Restore Default Password* at the right front of the switch's main board.



3. Power on the switch.
4. Wait a few seconds; power off the switch; and remove the jumper cap.
5. Replace the switch's housing and start it back up.
6. After you start back up, the OSD login function acts exactly the way it did the first time the switch was run (see page 23), and you can reset passwords for the Administrators and Users.

Specifications

Function			CS-1754	CS-1758	
Computer Connections	Direct		4	8	
	Max		64 (via Cascade)	512 (via Cascade)	
Port Selection			OSD; Hotkey; Pushbutton		
Connectors	Console Ports	Keyboard	1 x USB Type A		
		Video	1 x HDB-15 F		
		Mouse	1 x USB Type A		
		Speaker	1 x Mini Stereo Jack F (Green)		
		Microphone	1 x Mini Stereo Jack F (Pink)		
	KVM Ports	Keyboard	4 x SPHD-15 F (Yellow)	8 x SPHD-15 F (Yellow)	
		Video			
		Mouse			
		Speaker	4 x Mini Stereo Jack F (Green)	8 x Mini Stereo Jack F (Green)	
	Microphone	4 x Mini Stereo Jack F (Pink)	8 x Mini Stereo Jack F (Pink)		
	F/W Upgrade		1 x RJ-11 socket		
	Power		1 x DC Jack		
Switches	Port		4 x Pushbutton	8 x Pushbutton	
	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)		
Video			Up to 2048 x 1536		
Scan Interval			User Specified: 1 - 255 secs.		
Power Adapter			DC 5V; 2.6A		
Environment	Operating Temp.		0 - 50° C		
	Storage Temp.		-20 - 60° C		
	Humidity		0 - 80% RH		
Physical Properties	Housing		Metal		
	Weight		2.64 Kg	2.72 Kg	
	Dimensions (L x W x H)		43.20 x 15.40 x 4.50 cm. (19" 1U)		

Troubleshooting

Symptom	Possible Cause	Action
Erratic Behavior	Unit not receiving enough power	Use a DC 5V power adapter if you are not already using one. If you are already using a power adapter, check that it matches the system specifications (DC 5V) and that it is plugged in and functioning properly.
Keyboard and/or Mouse not responding.	Keyboard and/or Mouse need to be reset.	Press and hold port selection switches 1 & 2 for two seconds. 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 (see the second note at the top of page 9); power off the KVM switch; wait five seconds; then power up.
The OSD doesn't display on my Sun Blade 2000 or Sun V880	Bootup focus problem.	The port that the Sun Blade 2000 or Sun V880 resides on must be selected when the computer is booted – otherwise the OSD doesn't display it when you invoke it with the hotkeys.
Cannot enter the BIOS setup program with my Dell DL380.	Port OS setting problem.	The Dell DL380 needs to be set as a Sun computer (see <i>SET PORT OS</i> , page 31), in order to access the BIOS setup program. Change the Port OS and reboot. Note: After you have finished with the BIOS setup program, set the Port OS back to its normal value.

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.

Index

A

- Activate Beeper, 30
- ADM, 29
- Administrator functions, 29
- Administrator Login Failure, 55
- Auto Scan Mode
 - exit, 32
- Auto Scanning, 32
 - Scan Duration, 28

B

- Beeper
 - Activate, 30

C

- Clear the Name List, 30
- Computer Connection Tables, 53
- Corrupt Password, 55
- CS-1754 / CS-1758
 - Front View, 4
 - Rear View, 6

E

- Edit Port Names, 30
- Exit Auto Scan Mode, 32

F

- F1 GOTO, 26
- F3 SET, 27
- F4 ADM, 29
- F7 SCAN, 32
- F8 LOUT, 33
- Factory Default Settings, 54
- FIRMWARE UPGRADE, 31
- Firmware upgrade
 - port, 7, 43

- recovery, 48
- recovery switch, 7
- Forgotten Password, 55
- Front view, 4

G

- GOTO, 26

H

- Hardware Requirements
 - Cables, 3
 - Computer, 3
 - Console, 3
- Hot Plugging, 19
 - Console Ports, 19
 - CPU Ports, 19
- Hotkey
 - Command Mode, 28
 - OSD, 27
 - Summary Table, 39
 - Summary table, 39

I

- Installation
 - single stage, 11
 - two stage, 14

K

- Keyboard Emulation
 - Mac, 41
 - Sun, 42

L

- Logout, 33
- Logout Timeout, 29
- LOUT, 33

O

- Online
 - Registration, iii
- OSD
 - Factory Default Settings, 54
 - Functions, 25
 - Hotkey, 27
 - Logout, 33
 - Main Screen Headings, 25
 - Overview, 23

P

- Password, 29
- Pause, 32
- Port ID
 - Display Duration, 27
 - Display Mode, 28
 - Display Position, 27
 - Numbering, 21
- Port Names, 30
- Powering Off and Restarting, 20
- PS/2 Cable Connection, 13

Q

- Quick View Ports, 31

R

- Rack Mounting, 10
 - Safety information, 51
- Rear View, 6
- Restore Default Values, 30
- RoHS, ii

S

- Safety Instructions
 - General, 49
 - Rack Mounting, 51
- SCAN, 32
- Scan Duration, 28
- SCAN/SKIPMODE, 28
- Screen Blanker, 28
- SET, 27
 - Accessible Ports, 31
 - Logout Timeout, 29
 - Password, 29
 - Quick View Ports, 31
 - Username, 29
- Single Stage Installation, 11
- SJ/T 11364-2006, ii
- Skip Mode, 28
- Specifications, 56
- Stacking, 9

T

- Technical support, 52
- Telephone support, iii
- Timeout, 29
- Troubleshooting, 57
- Two Stage Installation, 14

U

- USB cable connection, 13
- User Notice, iii
- Username, 29