ATEN

Dual-View KVM Switch
CS1742 / CS1744

User Manual

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EMC Information

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

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

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

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

KCC Statement
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RoHS

This product is RoHS compliant.

SJ/T 11364-2006

The following contains information that relates to China.

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

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

●: 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

Online Registration

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

International	http://eservice.aten.com

Telephone Support

For telephone support, call this number:

International	886-2-8692-6959
China	86-10-5255-0110
Japan	81-3-5615-5811
Korea	82-2-467-6789
North America	1-888-999-ATEN ext 4988
United Kingdom	44-8-4481-58923

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

The CS1742 / CS1744 Dual-View KVM Switch package consists of:

- 1 CS1742 or CS1744 Dual-View KVM Switch
- 2 Custom Audio/Video Cable Sets (CS1742)
- 2 Custom USB/Video Cable Sets (CS1742)
- 4 Custom Audio/Video Cable Sets (CS1744)
- 4 Custom USB/Video Cable Sets (CS1744)
- 1 Firmware Upgrade Cable
- 1 User Instructions*

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

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

* Features may have been added to the CS1742 / CS1744 since this manual was published. Please visit our website to download the most up-to-date version of the manual.

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Chapter 6.
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About this Manual

This User Manual is provided to help you get the most from your 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 CS1742 / CS1744 system. Its purpose, features and benefits are presented, and its front and back panel components are described.

Chapter 2, Hardware Setup, describes how to set up your installation. Diagrams showing the necessary steps are provided.

Chapter 3, Basic Operation, explains the fundamental concepts involved in operating the CS1742 / CS1744.

Chapter 4, Hotkey Operation, details all of the concepts and procedures involved in the keyboard port Hotkey operation of your CS1742 / CS1744 installation.

Chapter 5, Keyboard Emulation, provides a complete description of the CS1742 / CS1744's OSD (On Screen Display), and how to work with it.

Chapter 6, The Firmware Upgrade Utility, explains how to use this utility to upgrade the CS1742 / CS1744's firmware with the latest available versions.

Chapter 7, OSD Operation, provides tables that list the PC to Mac and PC to Sun keyboard emulation mappings.

An Appendix, provides specifications and other technical information regarding the CS1742 / CS1744.

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

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Chapter 1
Introduction

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Overview

The Master View Dual-View CS1742 or CS1744 USB KVM Switch brings dual head video functionality to ATEN's USB KVM switch technology. Now, two (CS1742) or four (CS1744) dual head computers can be accessed and controlled from a single console that consists of a USB keyboard, USB mouse, and two VGA, SVGA, or Multisync monitors.

In addition, the CS1742 / CS1744 incorporates a two port USB hub that allows each of the computers to share any USB peripherals connected to the hub on a one computer at a time basis. Recognizing the importance of sound, the switches are also 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).

The CS1742 / CS1744's independent (asynchronous) switching feature allows independent switching of the KVM, USB hub, and audio focus. If you wish, you can give one computer the KVM console focus, another the USB hub focus, while a third has the audio focus.

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 CS1742 / CS1744 intercepts keyboard input directly, it works on multiple operating platforms (PC compatible, Mac and Sun).

There are two convenient methods to access the computers: push button port selection switches located on the unit's front panel; and hotkey combinations entered from the keyboard.

Since a single console manages all of the computers, the CS1742 / CS1744 setup: 1) eliminates the expense of having to purchase separate peripheral components 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

- Provides a second video channel to support dual head computers
- One console controls 2 (CS1742) or 4 (CS1744) dual head computers
- Two USB ports for USB device sharing
- Audio jacks for speaker and microphone sharing
- Independent (asynchronous) switching of the KVM, USB, and audio focus
- Fully compliant with the USB 1.1 specification - supports transfer rates of 1.5/12 Mbps
- Easy to install - no software required - connecting cables is all it takes
- Easy to operate - computer selection via push button switches or hotkeys
- Hotkey OS selection
- LED display for easy status monitoring
- Auto Scan Mode for monitoring all computers
- Caps Lock, Num Lock, and Scroll Lock, states are saved and restored when switching
- Keyboard and mouse emulation for error free booting
- Supports multimedia USB keyboards; supports Mac & Sun keyboards
- Supports Microsoft Intellimouse and the scrolling wheel on most mice; supports Logitech and Microsoft wireless keyboards and mice
- Supports multibutton mice with appropriate drivers installed
- Superior video quality - 2048 x 1536; DDC2B
- Hot pluggable - add or remove computers for maintenance without powering down the switch
- Upgradeable firmware
- Compatible with major operating platforms

Requirements

Console

- Monitors capable of the highest resolution that you will be using on any computer in the installation
- A USB mouse
- A USB keyboard

Computer

The following equipment must be installed on each computer:

- A VGA, SVGA or Multisync port
- USB Type A port

Cables

Only Custom cable sets specifically designed to work with this switch may be used to link to the computers. Two (CS1742) or four (CS1744) cable sets are provided with this package. Additional cable sets can be purchased from your dealer.

Operating System Support

Supported operating systems are shown in the table, below:

OS		Version
Windows		98SE and higher
Linux*	RedHat	7.1 and higher; Fedora Core 2 and higher
UNIX	SUN Blade	2000 / 100
	Sun	Solaris 8 and higher
Mac		OS 8.6 and higher

CS1742 / CS1744 Front View

CS-1742:

1 & 2   3

CS-1744:

1 & 2   3
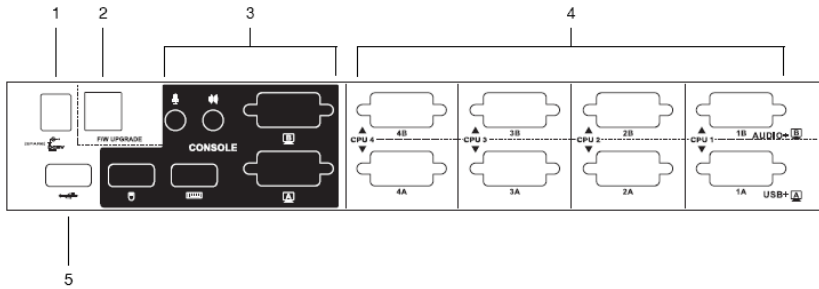
No.	Component	Description
1	Port Selection Switches	Press a switch to access the computer attached to its corresponding port.
		Pressing Buttons 1 and 2 simultaneously for 2 seconds starts Auto Scan Mode. **See page 15 for details.**
2	Port LEDs	The Port LEDs are built into the Port Selection Switches. The upper ones are the KVM Port LEDs; the lower ones are the USB LEDs:
		KVM: Lights DIM ORANGE to indicate that the computer attached to the corresponding port is up and running (On Line).
		Changes to BRIGHT ORANGE to indicate that the computer attached to its corresponding port is the one that has the KVM focus (Selected).
		Flashes to indicate that the computer attached to its corresponding port is being accessed under Auto Scan mode.
		USB: Lights DIM GREEN to indicate that there is a USB cable connection to the computer. Does not light if there is no USB connection to the computer **(see item 2 of the installation diagram on page 10).**
		Changes to BRIGHT GREEN to indicate that the computer attached to its corresponding port is the one that has access to the USB peripherals.
3	USB Port	Cables from your USB peripherals (printers, scanners, etc.) can plug in here, as well as into the USB port on the rear panel.

CS1742 / CS1744 Rear View

CS-1742:
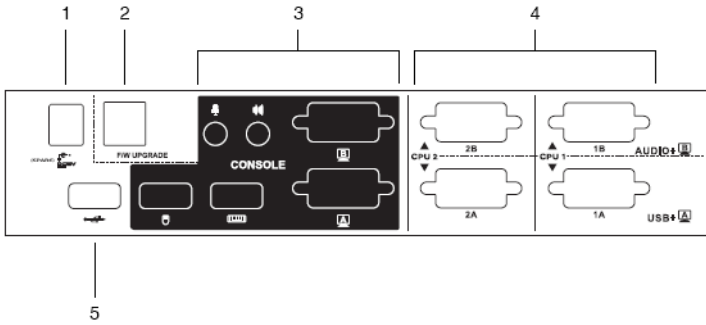
CS-1744:

No.	Component	Description
1	Power Jack	If you choose to use external power, the power adapter cable plugs into this jack. **Note:** Use of a power adapter (DC 5V) is optional, and requires a separate purchase. **See the note on page 10 for power adapter details.**
2	Firmware Upgrade Port	The Firmware Upgrade Cable that transfers the firmware upgrade data from the administrator's computer to the CS1742 / CS1744 plugs into this RJ-11 connector. **See Chapter 6 for firmware upgrading details.**
3	Console Port Section	The cables from your console components (keyboard, mouse, monitors, speakers and microphone), plug in here. Each port is marked with an icon to indicate itself.
4	KVM (CPU) Port Section	The cables that link the switch to your computers plug in here.* Each port is comprised of two connectors: The upper connector carries the audio data (microphone and speakers) and the video data for monitor **B**; the lower connector carries the USB data (keyboard, mouse, and peripherals) and the video data for monitor **A**.
5	USB Port	Cables from your USB peripherals (printers, scanners, etc.) can plug in here, as well as into the USB port on the front panel.

Note: Only cables specifically designed to work with this switch can be used **(see the Cables section on page 3 for details)**. Do NOT attempt to use ordinary 15 pin VGA connector cables to link these ports to the computers.

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Chapter 2
Hardware Setup

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1. Important safety information regarding the placement of this device is provided on page 37. Please review it before proceeding.

2. Make sure that the power to all devices connected to the installation are turned off. You must unplug the power cords of any computers that have the Keyboard Power On function

Cable Connection

To set up your Master View CS1742 / CS1744 installation, refer to the installation diagram on the next page (the numbers in the diagram correspond to the steps below), and do the following:

1. Plug your Console devices (USB keyboard, USB mouse, monitors, microphone and speakers) into the switch's Console Ports.

2. Use the *Port A* KVM cable (the one with the USB connector) to connect any available CPU **A** port to the first VGA port and the USB port of the computer you are installing.

3. Use the *Port B* KVM cable (the one with the microphone and speaker connectors) to connect the CPU **B** port to the second VGA port and the audio jacks of the computer you are installing.

Note: Be sure that the Port B cable is in the same CPU port as the Port A cable — both in Port 1; both in Port 2, etc.

4. Connect your USB peripherals to the USB ports located on the front and rear panels.

5. If you choose to use external power, plug the power adapter cable into the switch's Power Jack, then plug the power adapter into an AC power source.

Note: The power adapter should be DC5V 2.6A with the inside positive and the outside negative:

6. Turn on the power to the computers.
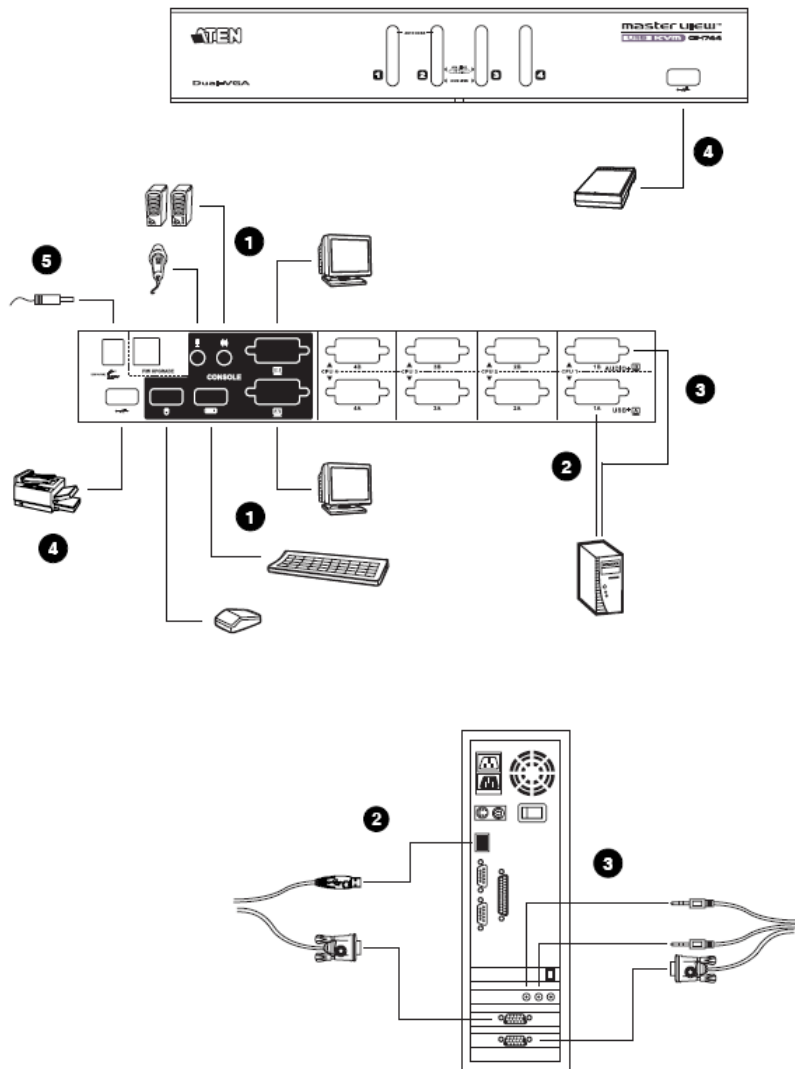
Basic Operation

Manual Switching

There are two convenient methods to access the computers: Manual - which involves pressing the pushbutton port selection switches located on the unit's front panel; and Hotkey - which involves entering combinations from the keyboard. Hotkey port selection is discussed in the next chapter.

For manual port selection:

* Press and hold a port selection pushbutton for more than 3 seconds to bring the KVM focus to the computer attached to its corresponding port. The USB and Audio focus does not change - they stay with the port that they are already on.

* Press and release a port selection pushbutton to bring the KVM focus, plus the USB and Audio focus to the computer attached to its corresponding port.

* Press and hold port selection switches 1 and 2 for more than 2 seconds to start Auto Scan Mode **(see page 15 for Auto Scan Mode details)**.

* Press and release either port selection switch to stop Auto Scan Mode. The KVM focus goes to the computer attached to the corresponding port of the switch you pressed.

Hot Plugging

The Master View CS1742 / CS1744 supports USB hot plugging. Components can be removed and added back into the installation by unplugging their cables from the USB hub ports without the need to shut the unit down.

Powering Off and Restarting

If it becomes necessary to Power Off the unit, do the following:

1. Disconnect all the KVM cables from the CPU Port section of the switch (**refer back to the installation diagram on page 10).**

2. If you are using an external power adapter, unplug the switch's power adapter cable.

3. Wait 10 seconds, then reconnect the KVM cables.

4. If you are using an external power adapter, plug the switch's power adapter cable back in.

Port ID Numbering

Each CPU port on the CS1742 / CS1744 switch is assigned a port number (1 or 2 for the CS1742; 1 to 4 for the CS1744). The port numbers are marked on the rear panel of the switch **(see page 6)**.

The Port ID of a computer is derived from the CPU port number it is connected to. For example, a computer connected to CPU port 2 has a Port ID of 2.

The Port ID is used to specify which computer gets the KVM, USB peripheral, and audio focus with the Hotkey port selection method (**see Going Directly to a Port, page 14, for details)**.

Chapter 4
Hotkey Operation

The CS1742 / CS1744 hotkey function makes it convenient to operate your KVM installation from the keyboard. Asynchronous (independent) switching of the KVM, USB hub, and audio focus is supported. You can give one computer the KVM console focus, another the USB hub focus, while a third has the audio focus.

Port Switching

All port switches begin with tapping the **Scroll Lock** key twice. The tables below describe the actions that each combination performs.

Note: If using the Scroll Lock key conflicts with other programs running on the computer, the **Ctrl** key can be used, instead. **See** *Alternate HSM Invocation Keys***, page 17 for details.**

Cycling Through the Ports

Hotkey	Action
[Scroll Lock] [Scroll Lock] [Enter]	Brings the KVM, USB hub, and audio focus from the port that currently has the KVM focus to the next port on the installation (1 to 2; 2 to 1 for the CS1742; 1 to 2; 2 to 3; 3 to 4; 4 to 1 for the CS1744).
	Note: The KVM, USB hub, and audio focus all go to this port even if they were on different ports to begin with.
[Scroll Lock] [Scroll Lock] [K] [Enter]	Brings only the KVM focus from the port that currently has it to the next port on the installation. The USB hub and audio focus remain where they are.
[Scroll Lock] [Scroll Lock] [U] [Enter]	Brings only the USB hub focus from the port that currently has it to the next port on the installation. The KVM and audio focus remain where they are.
[Scroll Lock] [Scroll Lock] [S] [Enter]	Brings only the audio focus from the port that currently has it to the next port on the installation. The KVM and USB hub focus remain where they are.

Going Directly to a Port

Hotkey	Action
[Scroll Lock] [Scroll Lock] [n] [Enter]	Brings the KVM, USB hub, and audio focus to the computer attached to the port corresponding to the specified Port ID. **Note:** The KVM, USB hub, and audio focus all go to this port even if they were on different ports to begin with.
[Scroll Lock] [Scroll Lock] [n] [K] [Enter]	Brings only the KVM focus to the computer attached to the specified port. The USB hub and audio focus remain where they are.
[Scroll Lock] [Scroll Lock] [n] [U] [Enter]	Brings only the USB hub focus to the computer attached to the specified port. The KVM and audio focus remain where they are.
[Scroll Lock] [Scroll Lock] [n] [S] [Enter]	Brings only the audio focus to the computer attached to the specified port. The KVM and USB hub focus remain where they are.
[Scroll Lock] [Scroll Lock] [n] [K] [U] [Enter]	Brings the KVM and USB hub focus to the computer attached to the specified port. The audio focus remains where it is.
[Scroll Lock] [Scroll Lock] [n] [K] [S] [Enter]	Brings the KVM and audio focus to the computer attached to the specified port. The USB hub focus remains where it is.
[Scroll Lock] [Scroll Lock] [n] [U] [S] [Enter]	Brings the USB hub and audio focus to the computer attached to the specified port. The KVM focus remains where it is.

Note: The **n** stands for the computer's Port ID number (1, 2, 3, or 4 - **see Port ID Numbering, page 12**). Replace the **n** with the appropriate Port ID when entering hotkey combinations.

Auto Scanning

The CS1742 / CS1744's Auto Scan feature automatically cycles the KVM focus through the computer ports at regular intervals. This allows you to monitor the computer activity without having to take the trouble of switching from port to port manually. See the table below for details.

Hotkey	Action
[Scroll Lock] [Scroll Lock] [A] [Enter]	Starts Auto Scan. The KVM focus cycles from port to port at 5 second intervals.
[Scroll Lock] [Scroll Lock] [A] [n] [Enter]	Starts Auto Scan. The KVM focus cycles from port to port at **n** second intervals.

Note: 1. The **n** stands for the number of seconds that the CS1742 / CS1744 should dwell on a port before moving on to the next. Replace the **n** with a number between 1 and 99 when entering this hotkey combination.

2. 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. To exit Auto Scan Mode, press [Esc] or [Spacebar].

Hotkey Setting Mode

Hotkey Setting Mode is used to set up your CS1742 / CS1744 switch configuration. All operations begin with invoking Hotkey Setting Mode (HSM).

Invoking HSM

To invoke HSM 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.

Note: 1. There is an alternate key combination to invoke HSM. See below for details.

    2. The minus key must be released within one half second, otherwise Hotkey invocation is canceled.

When HSM is active, the Caps Lock, and Scroll Lock LEDs flash in succession to indicate that HSM is in effect. They stop flashing and revert to normal status when you exit HSM.

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

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

Alternate HSM Invocation Keys

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

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

1. Invoke HSM (**see page 16**).

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

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

Note: This procedure is a toggle between the two methods. To revert back to the original HSM invocation keys, invoke HSM, then press and release the **H** key again.

Alternate Port Switching Keys

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

1. Invoke HSM (**see page 16**).

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

Note: This procedure is a toggle between the two methods. To revert back to the original [Scroll Lock] [Scroll Lock] method, invoke HSM, then press and release the **T** key again.

Keyboard Operating Platform

The CS1742 / CS1744's default port configuration is for a PC Compatible keyboard operating platform. If you have a Mac or Sun attached to a port, you can change the port's keyboard operating platform configuration as follows:

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

2. Invoke HSM (**see page 16**).

3. Press and release the appropriate Function key (see table). After completing a setting, you automatically exit HSM.

Function Key	Action
[F2]	Sets the Mac keyboard operating platform.
[F3]	Sets the Sun keyboard operating platform.*
[F10]	Auto detects the keyboard operating platform (for PC compatible systems).

*The first time that the Sun system runs from a port, you must configure its port for the Sun keyboard operating platform before you turn the system on, or else the Sun system will not start.

List Hotkey Settings

To see a listing of the current hotkey settings, do the following:

1. Open a text editor or word processor.

2. Invoke HSM (s**ee page 16**).

3. Press and release the **F4** function key.

USB Reset

If the USB loses focus and needs to be reset, do the following:

1. Invoke HSM (s**ee page 16**).

2. Press and release the **F5** function key.

Hotkey Beeper Control

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

1. Invoke HSM (s**ee page 16**).

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

The Beeper toggles On or Off. The Command Line displays *Beeper On* or *Beeper Off* for one second; then the message disappears and you automatically exit Hotkey Mode.

Disable Port Switching Keys

To disable the Port Switching Keys ([Scroll Lock] [Scroll Lock] / [Ctrl] [Ctrl]), do the following:

1. Invoke HSM (s**ee page 16**).

2. Press [**X] [Enter]**.

This procedure is a toggle. To enable the Port Switching keys repeat steps 1 and 2.

Firmware Upgrade Mode

To set the CS1742 / CS1744 to Firmware Upgrade Mode, do the following:

1. Invoke HSM (s**ee page 16**).

2. Key in: [u][p][g][r][a][d][e].

3. Press **[Enter]**.

   The front panel LEDs flash to indicate Firmware Upgrade Mode is in effect.

Note: To exit Firmware Upgrade Mode, you must power off the switch.

Restore Default Settings

To reset the CS1742 / CS1744 to its default hotkey settings, do the following:

1. Invoke HSM (s**ee page 16**).

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

All hotkey settings return to the factory default settings. A table showing the CS1742 / CS1744's default settings is provided in the appendix **on page 31.**

HSM Summary Table

After invoking HSM (**see page 16**), key in one of the following keys to perform the corresponding function:

Key In	Action
[H]	Toggles between the default and alternate HSM invocation keys.
[T]	Toggles between the default and alternate Port Switching keys.
[F2]	Sets the Mac keyboard operating platform.
[F3]	Sets the Sun keyboard operating platform.*
[F10]	Auto detects the keyboard operating platform (for PC compatible systems).
[F4]	Lists the current hotkey settings via the Paste function of a text editor or WP.
[F5]	Performs a USB reset.
[B]	Toggles the beeper On and Off.
[X] [Enter]	Enables/Disables the Port Switching keys.
[R] [Enter]	Resets the hotkey settings to their default status.
[u][p][g][r][a][d][e] [Enter]	Invokes *Firmware Upgrade Mode*.

Chapter 5
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 6
The Firmware Upgrade Utility

The Windows-based Firmware Upgrade Utility (FWUpgrade.exe) provides a smooth, automated process for upgrading the KVM switch's firmware. The Utility comes as part of a Firmware Upgrade Package that is specific for each device. New firmware upgrade packages are posted on our web site as new firmware revisions become available. Check the web site regularly to find the latest packages and information relating to them:

    http://www.aten.com

Preparation

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 (CS1742 or CS1744) 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 to connect a COM port on your computer to the *Firmware Upgrade Port* of your switch.
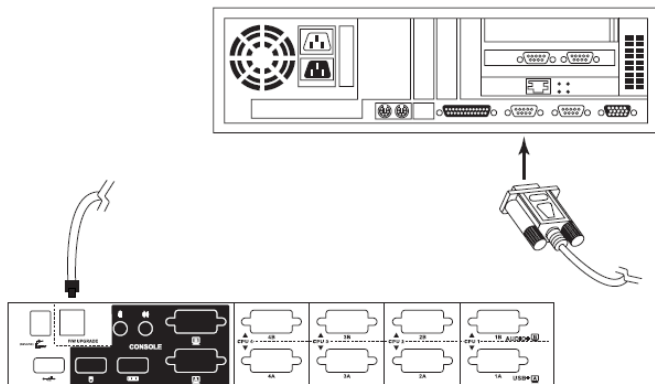

4. Invoke Firmware Upgrade Mode (see *FIRMWARE UPGRADE*, page 35).

   The front panel LEDs flash together to indicate Firmware Upgrade Mode is in effect.

Starting the Upgrade

To upgrade your firmware:

1. Run the downloaded Firmware Upgrade Package file - either by double clicking the file icon, or by opening a command line and entering the full path to it. The Firmware Upgrade Utility Welcome screen appears:
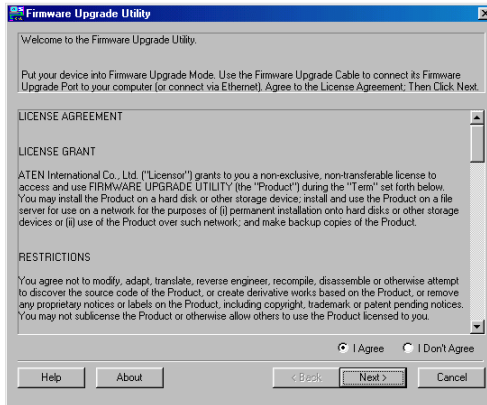
Note: The screens shown in this section are for reference only.

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

3. Click **Next**. The Firmware Upgrade Utility main screen appears:
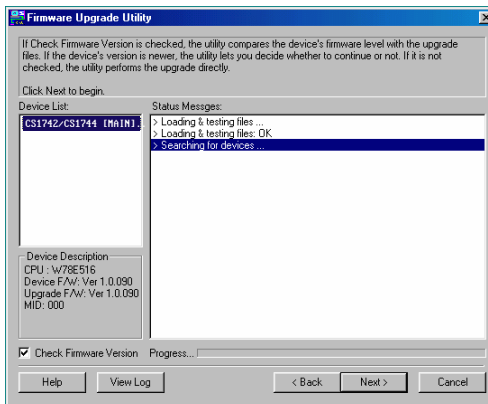
The Utility inspects your installation. All the devices capable of being upgraded by the package are listed in the *Device List* panel.

4. After you have made your device selection(s), Click **Next** to perform the upgrade.

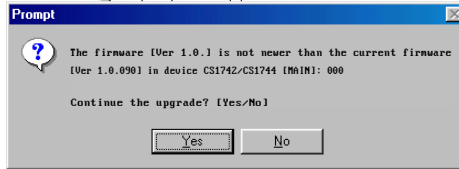If you enabled Check Firmware Version, the Utility compares the device's firmware level with that of the upgrade files. If it finds that the device's version is higher than the upgrade version, it brings up a dialog box informing you of the situation and gives you the option to Continue or Cancel.

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:
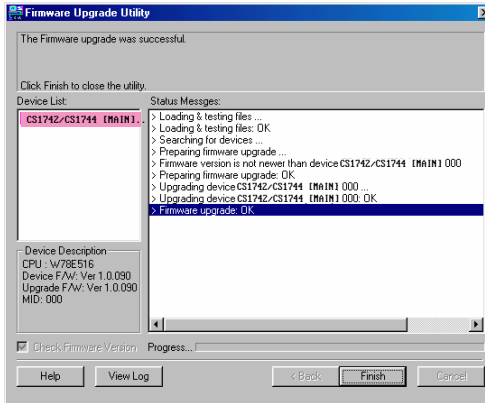
To Complete the upgrade:

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

2. Power off the switch

    ◆ Unplug the KVM cables from the back of the switch.

    ◆ If you are using a power adapter with your switch, unplug its power adapter cable from the power jack.

3. Remove the Firmware Upgrade Cable.

4. Connect all the KVM cables.

5. If you are using a power adapter, plug its cable back in.

<u>Upgrade Failed</u>

If the Upgrade Succeeded screen doesn't appear, it means that the upgrade failed to complete successfully, in which case you should repeat the upgrade procedure from the beginning.

<u>Upgrade Interrupted</u>

If the firmware upgrade procedure is abnormally halted (due to computer crash, power failure, etc.), the switch may become inoperable. If you find that the switch does not work following an interrupted upgrade, you must return it to the factory to have the firmware reinstalled. Contact your dealer for details.

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Chapter 7
OSD Operation

This chapter provides a complete description of the procedures involved in the OSD (On Screen Display) operation of your CS1732B / CS1734B installation.

OSD Overview

The On Screen Display (OSD) is a menu driven method to handle computer control and switching operations. All procedures start from the OSD Main Screen. To pop up the Main Screen, tap the **Scroll Lock** key twice.

Note: You can change the Hotkey to the Ctrl key by tapping **[Ctrl]** twice (see *Invoking HSM*, page 16 and *Alternate HSM Invocation Keys*, page 17). The Ctrl keys must be both left, or both right.

OSD Main Screen

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

Note: The OSD always starts with the highlight bar at the same position it was in the last time it was closed.

OSD Navigation

- The KVM, USB, Audio, and PN columns can be selected with the mouse. Using the mouse allows you to select single or multiple columns. Click the mouse or press **[Enter]** on your keyboard to switch KVM, Audio or USB focus to the highlighted port. The OSD will disappear briefly and a Check Box will appear on the selected port at next OSD startup.

    Note: Clicking on the PN column selects the KVM, USB and Audio columns at the same time. However, simply click on the KVM, USB and Audio columns to configure them one by one.

- The KVM, USB, Audio, and PN columns can also be selected using the **Up** and **Down** keys on your keyboard to move the Highlight Bar down the list on the screen. When the Highlight Bar is on the port to which you want to switch KVM, Audio and USB focus, press **[Enter]** or click the left button of the mouse. The OSD will disappear briefly and a Check Box will appear on the selected port at next OSD startup.

- The **Left** and **Right** keys on your keyboard let you select the KVM, USB and Audio either individually or together. Cycle through KVM, USB, Audio or All using either the left or right keys. When the Highlight Bar is on the port to which you want to switch KVM, Audio or USB focus, press **[Enter]** or click the left button of the mouse. The OSD will disappear briefly and a Check Box will appear on the selected port at next OSD startup.

- In the Name column, use the **Up** and **Down** keys on your keyboard or the mouse to select a port. Once a port has been selected, you can edit its name after double clicking with the mouse or pressing **[F2]**.

- To exit the Main Screen/Port Display, press **[Esc]** or click the right button of the mouse. The OSD will disappear and the original computer screen will be displayed. Settings will not be stored on exit.

- To store settings on exit, press **[Enter]** or move to the cursor to the central yellow area or the Highlight Bar and double click with the left button of the mouse. Then exit as outlined above.

OSD Main Screen Headings

PN	This column lists the Port ID numbers for all the KVM ports on the installation. The simplest method to access a particular computer is move the Highlight Bar to its corresponding port, then press [Enter].
☼	The computers that are powered on and are On Line have a Sun symbol in this column to indicate so.
KVM	A Check Box in this column indicates which computer has the console focus.
🔊	A Check Box in this column indicates which computer has access to the audio.
USB	A Check Box in this column indicates which computer has access to the USB peripheral.
NAME	If a port has been given a name, it appears in this column. To edit a name, double click on the port in the NAME column and a green grid will appear in which you can key the name. Press [Enter] to store the name. The system allows for the following characters in this function: A~Z, 0~9,+,-, :, ., [Space] and /.
▲ : UP	Click here to move the Highlight Bar up one item at a time.
▼ : DOWN	Click here to move the Highlight Bar down one item at a time.
🔼 : PAGEUP	Click here to move the Highlight Bar up one screen at a time.
🔽 : PAGEDOWN	Click here to move the Highlight Bar down one screen at a time.
◀▶ : SELT	Use the Left and Right keys on your keyboard to navigate through the menu options.
⋮	This pointer indicates the position of the mouse in the OSD screen.
☑	This check box identifies which port has the KVM / Audio / USB focus in the OSD Main Screen.
	For the rest of the OSD screens (i.e., Hotkey, OSD Language), this Check Box indicates the active selection.

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; 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.

F3: SCAN

Clicking the **F3** field or pressing **[F3]** invokes AUTO SCAN Mode. This function allows you to automatically switch among the available computers at regular intervals so that you can monitor their activity without having to take the trouble of switching yourself.

◆ The amount of time that each Port displays for is set with the *Scan Duration* setting under the **F4 SET** function (see *F4: SET*, page 33).

◆ If the scanning stops on an empty port, or one where the computer is attached but is powered Off, the monitor screen will be blank, and the mouse and keyboard will have no effect. After the *Scan Duration* time is up, the Scan function will move on to the next port.

◆ 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]**.

F4: SET

This function allows you to set up your working environment. When you press **[F4]** or click on the F4 field, a screen similar to the one below appears:
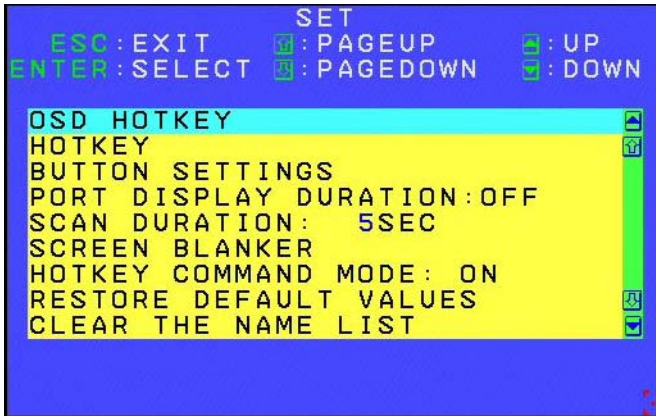
To change a setting:

1. Double click it; or move the Highlight Bar to it, and press **[Enter]**.

2. After you select an item, a submenu with further choices appears. (Press **[Esc]** to return to the previous menu level). To make a selection, either double click it; or move the Highlight Bar to it, and press **[Enter]**. A Check Box appears before the selected choice to indicate which one it is. The settings are explained in the following table:

Setting	Function
OSD HOTKEY	Selects which Hotkey activates the OSD function: **[Scroll Lock] [Scroll Lock] or [Ctrl] [Ctrl].** Since the Ctrl key combination may conflict with programs running on the computers, the default is the Scroll Lock combination.
HOTKEY	Selects which Hotkey activates the Hotkey function (for keyboard port operation. See Chapter 4: Keyboard Port Operation): **[Num Lock] + [-] or [Ctrl] + [F12]** [Num Lock] + [-] is the default setting.

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Setting	Function
BUTTON SETTINGS	Sets the Front Panel Pushbutton Switching Operation Setting: MODE 1 (Default Setting): 1. Press a pushbutton once to bring the KVM, Audio and USB focus simultaneously to the computer attached to its corresponding port (in 2 secs). 2. Press a pushbutton twice to bring the Audio focus to the computer attached to its corresponding port (in 2 secs). 3. Press a pushbutton for longer than 2 seconds to bring only the KVM focus to the computer attached to its corresponding port. 4. Press pushbuttons 1 and 2 simultaneously for 2 seconds to start Auto Scan Mode. 5. Press pushbuttons 3 and 4 simultaneously for 2 seconds to perform a keyboard and mouse reset. (CS1734B only). MODE 2 (Alternative Setting) 1. Press a pushbutton once to bring only the KVM focus to the computer attached to its corresponding port (in 2 secs). 2. Press a pushbutton twice to bring the audio focus to the computer attached to its corresponding port (in 2 secs). 3. Press a pushbutton for longer than 2 seconds to bring the KVM, Audio and USB focus simultaneously to the computer attached to its corresponding port. 4. Press pushbuttons 1 and 2 simultaneously for 2 seconds to start Auto Scan Mode. 5. Press pushbuttons 3 and 4 simultaneously for 2 seconds to perform a keyboard and mouse reset. (CS1734B only)
PORT DISPLAY DURATION	Determines how long a Port displays on the monitor after a port change. The choices are User Defined (from 0–255 secs), the default value is 0, which shows as OFF. If you specify 5 and press **[Enter]**, the Port Display Duration will be saved as 5 SEC. **Note:** A value of 0 (zero) will disable the Port Display Duration function. This shows as OFF.
SCAN DURATION	Determines how long the focus dwells on each port as it cycles through the selected ports in Auto Scan Mode. Key in a value from 1–255 seconds (the default is 5 secs) and press **[Enter]** to save the setting.
SCREEN BLANKER	SET TIMEOUT: OFF and SCREEN LOCK: OFF is the default setting. Settings steps: 1. SET TIMEOUT to ON. Key in a value from 1–30 minutes. If SET TIMEOUT is set to OFF, you will not be able to set the SCREEN BLANKER. 2. Set the SCREEN BLANKER password. Key in a password that is 8 characters long (allowed characters are A–Z and 0–9). If you have not changed the default password, you can press **[Enter]** to cancel SCREEN LOCK. 3. Set the SCREEN LOCK to ON. Key in **Y**. If the SCREEN LOCK function is set to ON, a password is needed to the leave the SCREEN BLANKER mode and return to the OSD.

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Setting	Function
HOTKEY COMMAND MODE	Enables / Disables the Hotkey Command function in case a conflict with programs running on the computer occurs.
RESTORE DEFAULT VALUES	Used to undo all the changes and return to the factory default settings (see *Factory Default Settings*, page 40) except for the NAMES settings that were assigned to the ports, which are saved.
CLEAR THE NAME LIST	This function is similar to the Restore Default Values function with an extra function of clearing all the NAMES in addition to undoing all changes and returning the setup to the factory default settings.
ACTIVATE BEEPER	Enables / Disables the Beeper function. The default setting is ON. When activated, the beeper sounds whenever a port is changed; when activating the Auto Scan function; or an invalid entry is made on an OSD menu.
FIRMWARE UPGRADE	In order to upgrade the CS1732B / CS1734B's firmware, connect the Upgrade Cable as prompted in the Firmware Upgrade main menu. Key in Y (Yes) and then press **[Enter]**. A FIRMWARE UPGRADE IN PROGRESS message will appear on the screen.
PORT OS	Sets the OS for PC ports to be PC, SUN, MAC or SPC* mode and allows users to use special SUN, MAC or other OS keyboard keys. Use the Up and Down Arrow keys or click with the mouse to select the port. You can also use the Spacebar or double click with mouse to change the OS for each port. **Note:** SPC mode supports other OS.
MOUSE EMULATION	Enables / Disables the emulation function of the Console mouse port. The default setting is ON. If you disable this function, it supports full mouse driver. **Note:** Only USB console mouse to USB PC pass through is supported; USB console mouse to PS/2 PC does not support full mouse driver.
MOUSE SWITCHING FUNCTION	Enables / Disable the mouse port-switching function. The default setting is OFF. If this function is enabled, the user can switch ports via by double-clicking on the mouse wheel.
OSD LANGUAGE	The OSD display supports English, Chinese (Simplified and Traditional), Japanese, and German. The default setting is ENGLISH.

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Appendix

Safety Instructions

- Read all of these instructions. Save them for future reference.

- Follow all warnings and instructions marked on the device.

- This product is for indoor use only.

- 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.

- 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.

- 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.

Technical Support

International

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

North America

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

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

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

Factory Default Settings

Pushbuttons and Hotkeys

Setting	Default
Port Switching	[Number Lock] [-] [Enter]
Invoking HSM	[Number Lock] [-]
Auto Scan Interval	5 seconds
Port Switching Keys	Enabled

OSD

Setting		Default
OSD Hotkey		[Scroll Lock] [Scroll Lock]
Keyboard Port Hotkey		[Num Lock] + [-]
Button Settings		Mode 1
Port Display Duration		0 Seconds
Scan Duration		5 Seconds
Screen Blanker	Set Timeout	OFF (Disabled)
	Screen Blanker Password	"Blank"
	Screen Lock	OFF (Disabled)
Hotkey Command Mode		ON
Activate Beeper		ON
Port OS		PC
Mouse Emulation		ON
Mouse Switching Function		OFF
OSD Language		ENGLISH

Specifications

Function			CS1732B	CS1734B
Computer Connections			2	4
Port Selection			OSD; Hotkeys; Pushbuttons, Mouse	
Connectors	Console Ports	KB	1 x USB Type A F (Black)	
		Video	1 x HDB-15 F (Blue)	
		Mouse	1 x USB Type A F (Black)	
		Speaker	2 x Mini Stereo Jack F (Green)	
		Mic.	2 x Mini Stereo Jack F (Pink)	
	KVM Ports	KB	2 x SPHD-15 F (Yellow)	4 x SPHD-15 F (Yellow)
		Video		
		Mouse		
		Speaker	2 x Mini Stereo Jack F (Green)	4 x Mini Stereo Jack F (Green)
		Mic.	2 x Mini Stereo Jack F (Pink)	4 x Mini Stereo Jack F (Pink)
	F/W Upgrade		1 x 4-conductor 3.5 mm Jack (Black)	
	Power		1 x DC Jack (Black)	
	USB Hub		2 x USB Type A F (White; 1 x front panel, 1 x rear panel)	
Switches	Selected		2 x Pushbutton	4 x Pushbutton
LEDs	On Line / Selected		2 (Orange)	4 (Orange)
	USB Link		2 (Green)	4 (Green)
Emulation	Keyboard / Mouse		PS/2; USB	
Video			2048 x 1536 @ 60Hz; DDC2B	
Scan Interval			1–255 seconds (Default: 5; Disabled: 0)	
Power Consumption			DC5.3V/3.1W (max.)	DC5.3V/3.4W (max.)
Environment	Operating Temp.		0–50º C	
	Storage Temp.		-20–60º C	
	Humidity		0–80% RH, Non-condensing	
Physical Properties	Housing		Metal	
	Weight		0.55 kg	0.78 kg
	Dimensions		14.00 x 8.70 x 5.50 cm	21.00 x 8.70 x 5.50 cm

Troubleshooting

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

In addition, updating the product's firmware may solve problems that have been discovered and resolved since the prior version was released. If your product is not running the latest firmware version, we strongly recommend that you upgrade. See *The Firmware Upgrade Utility*, page 23, for details.

Symptom	Possible Cause	Action
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.
	KVM switch needs to be reset.	Power off all devices on the installation (see safety note, top of page 9); power off the KVM switch; wait five seconds; then power up
USB devices not responding.	USB ports need to reset.	Unplug the device's USB cable from the USB port on the switch's rear panel, then plug it back in.
		Use the USB reset hotkey combination (see *[F5]*, page 20) to reset the USB ports.
		1. Change the OS by selecting SPC mode in the PORT OS settings (see *PORT OS*, page 35)
		Note: We suggest Linux Kernel 2.6 or higher.
		2. If the OS does not support USB 2.0, change to the PS/2 interface. This will require cables that are not provided with the CS1732B / CS1734B package. See PS/2 cable information under *Cables*, page 3 for details.
Device not recognized (Windows).	Windows timing problem.	1. Unplug the KVM cable from the computer's USB port.
		2. Go into Windows' *System Settings* and remove the *Unknown Device* entry.
		3. Plug the KVM cable back in. Windows will now recognize the device.
Cannot invoke OSD	Keyboard is incompatible with Scroll Lock OSD invocation	Switch to the other OSD invocation mode. See *Invoking HSM*, page 16 and *Alternate HSM Invocation Keys*, page 17.

About SPHD Connectors

This product uses SPHD connectors for its KVM and/or Console ports. We have specifically modified the shape of these connectors so that only KVM cables that we have designed to work with this product can be connected.

Limited Warranty

IN NO EVENT SHALL THE DIRECT VENDOR'S LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT FROM THE 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 specially disclaims its quality, performance, merchantability, or fitness for any particular purpose.

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

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Symbols