CS1732A / CS1734A

2/4-Port USB KVMP™ Switch

User Manual

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FCC Information

Federal Communication Commission Interference Statement. This equipment has been tested and found to comply with the limits for a Class B digital service, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Any changes or modifications made to this equipment may void the user's authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna;
- Increase the separation between the equipment and receiver;
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected;
- Consult the dealer/an experienced radio/television technician for help.

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.

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://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 CS1732A / CS1734A USB KVMP™ Switch package consists of:

- 1 CS1732A / CS1734A KVMP™ Switch
- 2 Custom USB KVM Cable Sets (CS1732A)
- 4 Custom USB KVM Cable Sets (CS1734A)
- 1 Firmware Upgrade Cable
- 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 CS1732A / CS1734A since this manual was printed. Please visit our website to download the most up-to-date version of the manual.

Contents

FCC Information 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
Requirements 3
Console 3
Computer 3
Cables 3
Operating System Support 4
Components 5
CS1732A Front View 5
CS1734A Front View 5
CS1732A Rear View 7
CS1734A Rear View 7

2. Hardware Setup

Cable Connection 9
Installation Diagram 11
PS/2 Cable Connection 12
USB Cable Connection 12

3. Basic Operation

Manual Switching 13
Hot Plugging 14
Powering Off and Restarting 14
Port ID Numbering 14

4. Keyboard Port Operation

Port Switching 15
Cycling Through the Ports 15
Going Directly to a Port 16
Auto Scanning 17
Hotkey Setting Mode 18
Invoking HSM 18

Alternate HSM Invocation Keys 19
Alternate Port Switching Keys 19
Keyboard Operating Platform 20
List Switch Settings 20
USB Reset 20
Hotkey Beeper Control 21
Disable Port Switching Keys 21
Restore Default Settings 21
Reverse Manual Switching Behavior 21
HSM Summary Table 22

5. Keyboard Emulation

Mac Keyboard 23
Sun Keyboard 24

6. The Firmware Upgrade Utility

Before you Begin 25
Starting the Upgrade 26
Upgrade Succeeded 27
Firmware Upgrade Recovery 28

Appendix

Safety Instructions 29
Technical Support 31
International 31
North America 31
Specifications 32
Troubleshooting 33
About SPHD Connectors 34
Limited Warranty 34

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 CS1732A / CS1734A 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 CS1732A / CS1734A.

Chapter 4, Keyboard Port Operation, details all of the concepts and procedures involved in the keyboard port Hotkey operation of your CS1732A / CS1734A installation.

Chapter 5, Keyboard Emulation, provides tables that list the PC to Mac and PC to Sun keyboard emulation mappings.

Chapter 6, The Firmware Upgrade Utility, explains how to use this utility to upgrade the CS1732A / CS1734A's firmware with the latest available versions.

An Appendix, provides specifications and other technical information regarding the CS1732A / CS1734A.

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 CS1732A / CS1734A are dual function 2- and 4- port KVMP™ Switches combined with a 2-port USB hub that allow users to access two and four computers from a single USB keyboard, USB mouse, and monitor console.

The CS1732A / CS1734A improves on previous designs by giving the user a choice of either transferring keyboard and mouse data to the computers via a USB connection, or with the traditional PS/2 connection. If a USB connection is used, the CS1732A / CS1734A's integrated two-port USB hub is available to each of the computers. This permits each computer to access any peripherals connected to the hub on a one-at-a-time basis.

The CS1732A / CS1734A's 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. You can work on a spreadsheet on one computer, for example, while you print from a second computer at the same time.

Recognizing the increased importance of sound, the CS1732A / CS1734A 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).

Setup is fast and easy; simply plug cables into their appropriate ports. There is no software to configure and no incompatibility problems. Since the CS1732A / CS1734A intercepts keyboard input directly, it works on multiple operating platforms (PC compatible, Mac*, Sun*, etc.). There are two convenient methods to access the computers: pushbuttons located on the unit's front panel; and hotkey combinations entered from the keyboard.

Since a single console manages all of the computers, the CS1732A / CS1734A installation: 1) eliminates the expense of having to purchase separate console 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.

Note: For PC compatible computers, Mac and Sun computers must use the USB cable connection. See *Cables*, page 3

Features

- One USB console controls 2/4 computers and 2 additional USB devices
- 2-port USB hub built in
- Computer selection via front panel pushbuttons and hotkeys
- Dual Interface – supports computers with PS/2 or USB keyboards and mice
- Multiplatform support – Windows 2000 / XP / Vista, Linux, Mac, and Sun
- With speaker and microphone support
- Independent switching of the KVM, USB, and audio focus
- Automatic PS/2 and USB interface detection
- Buzzer On/Off via hotkey
- Keyboard and mouse emulation for error-free booting
- Superior video quality – up to 2048 x 1536; DDC2B
- Sun/Mac keyboard support and emulation*
- Firmware upgradable

Note: 1. PC keyboard combinations emulate Sun/Mac keyboards.

2. Sun/Mac keyboards work only with their own computers

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

Computer

The following equipment must be installed on each computer:

- A VGA, SVGA or Multisync card.
- USB Type A port, or PS/2 keyboard and mouse ports.

Cables

Only cable sets specifically designed to work with this switch may be used to link to the computers. Two 1.2 m cables sets are provided with the CS1732A package. Four (two 1.2 m and two 1.8 m) cable sets are provided with the CS1734A package. They use the USB to transfer the keyboard and mouse input from your console to the computer.

Both switches also support computers that use PS/2 connectors to transfer keyboard and mouse data. Cable sets with PS/2 connectors, as well as longer cable sets are available from your dealer. See the following table for details:

Connector	Cable Length	Part Number
USB	1.2 m	2L-5301U
USB	1.8 m	2L-5302U
USB	3 m	2L-5303U
USB	5 m	2L-5305U
PS/2	1.2 m	2L-5301P
PS/2	1.8 m	2L-5302P

Note: The CS1732A / CS1734A's USB hub function only works with USB cable set connections. It will not work with PS/2 cable set connections. It may also require an extra power adapter.

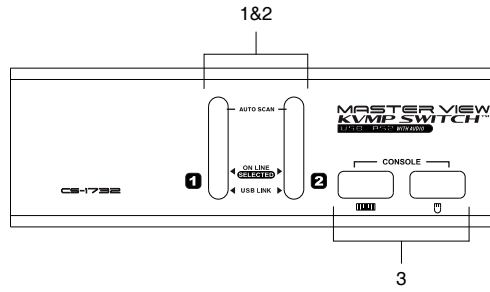
Operating System Support

Supported operating systems are shown in the table, below:

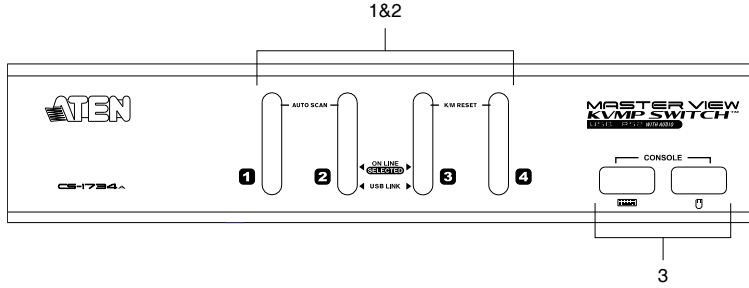
OS		Version
Windows		2000 and higher
Linux*	RedHat	7.1 and higher; Fedora Core 2 and higher
	SuSE	9.0 and higher
	Mandriva (Mandrake)	9.0 and higher
UNIX	AIX	4.3 and higher
	FreeBSD	4.2 and higher
	Sun	Solaris 9 and higher
Novell	Netware	5.0 and higher
Mac		OS 9.0 and higher
DOS		6.22 and higher

Components

CS1732A Front View

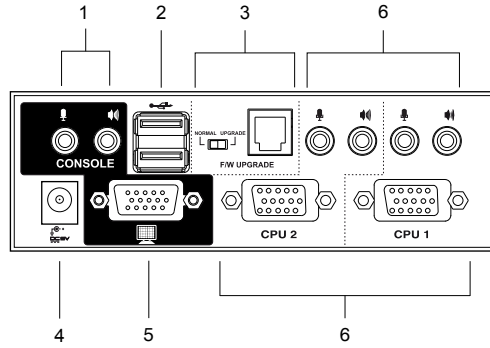


CS1734A Front View

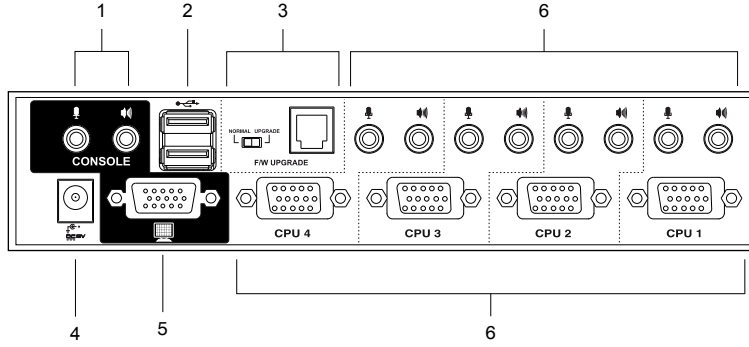


No.	Component	Description	
1	Port Selection Pushbuttons	Pressing a front panel port selection pushbutton brings the focus to the computer attached to its corresponding port. ◆ Press a port selection pushbutton for less than two seconds to bring the KVM, USB hub, and audio focus to the computer attached to its corresponding port. ◆ Press a port selection pushbutton for longer than two seconds to bring only the KVM focus to the computer attached to its corresponding port. ◆ Press pushbuttons 1 and 2 simultaneously for 2 seconds to start Auto Scan Mode. ◆ Press pushbuttons 3 and 4 simultaneously for 2 seconds to perform a keyboard and mouse reset. (CS1734A only)	
2	Port LEDs	The Port LEDs are built into the Port Selection Pushbuttons. 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 its 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 attached to its corresponding port. Does not light if there is no USB connection to the computer. ◆ 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	Console USB Ports	The cables from your console USB keyboard and USB mouse plug in here. Each connector is marked with an appropriate icon to indicate itself.	

CS1732A Rear View



CS1734A Rear View



No.	Component	Description
1	Console Port Section	The cables from your microphone and speakers plug in here. Each jack is marked with an appropriate icon to indicate itself.
2	USB Hub Section	USB 2.0 peripherals (printers, scanners, etc.) can plug into this port.
3	Firmware Upgrade Section	◆ Firmware Upgrade Switch During normal operation and while performing a firmware upgrade, this switch should be in the NORMAL position. See *Firmware Upgrade Recovery*, page 28 for details. ◆ Firmware Upgrade Port The Firmware Upgrade Cable that transfers the firmware upgrade data to the CS1732A / CS1734A plugs in here. See *The Firmware Upgrade Utility*, page 25 for details.
4	Power Jack	The power adapter cable plugs into this jack. **Note:** The use of a power adapter is optional and requires a separate purchase.
5	Monitor Port	The video cable from your monitor plugs in here.
6	KVM Port Section	The cables that link the switch to your computers plug in here. Each KVM port is comprised of a microphone jack, speaker jack, and KVM data connector.

Note: The shape of these 15-pin connectors has been specifically modified so that only KVM cables designed to work with this switch can plug in. See *Cables*, page 3 for details. **Do NOT** attempt to use ordinary 15-pin VGA connector cables to link these ports to the computers.

Chapter 2
Hardware Setup

1. Important safety information regarding the placement of this device is provided on page 29. 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 CS1732A / CS1734A installation, refer to the installation diagrams on the following pages, and do the following:

1. Plug your USB keyboard and USB mouse into the USB Ports located on the unit's front panel.
2. Plug your monitor into the Console monitor port located on the unit's rear panel and power on the monitor.
3. Plug your microphone and speakers into the Console microphone and speaker jacks located on the unit's rear panel.
4. Using a KVM cable set (provided with this package), plug the custom SPHD connector into any available KVM Port on the switch and plug the accompanying microphone and speaker connectors into the KVM Port's microphone and speaker jacks.

Note: 1. The connectors and jacks are color coded and marked with an appropriate icon for easy installation.
2. Be sure that all the plugs are in the same KVM Port sockets (all in Port 1, all in Port 2, etc.).

---

5. At the other end of the cable:

   a) For PS/2 (see *PS/2 Cable Connection*, page 12), plug the keyboard, mouse, video, microphone and speaker cables into their respective ports on the computer.

(Continues on next page.)

b) For USB (see *USB Cable Connection*, page 12), plug the USB, video, microphone and speaker cables into their respective ports on the computer.

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

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

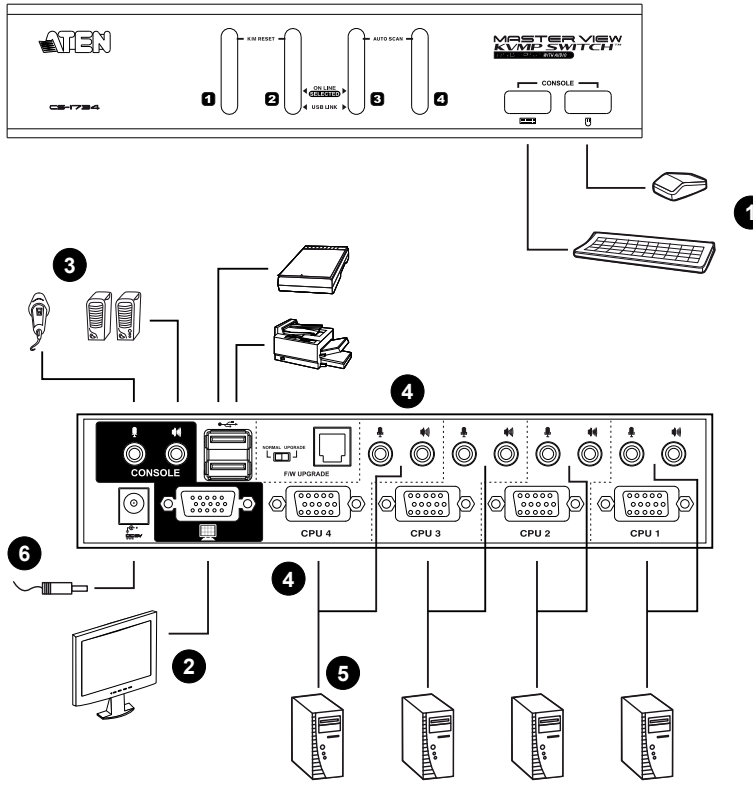
Note: The use of a power adapter is optional and requires a separate purchase.

7. Plug your USB peripherals into the USB hub sections on the front and back panels.

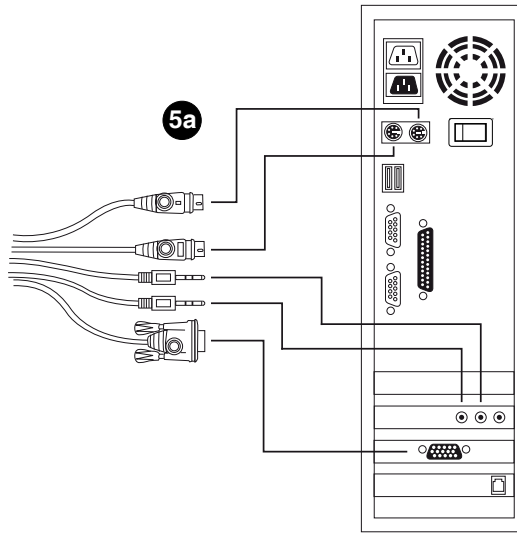
Note: USB peripherals may require an extra power adapter.

8. Power on the computers.

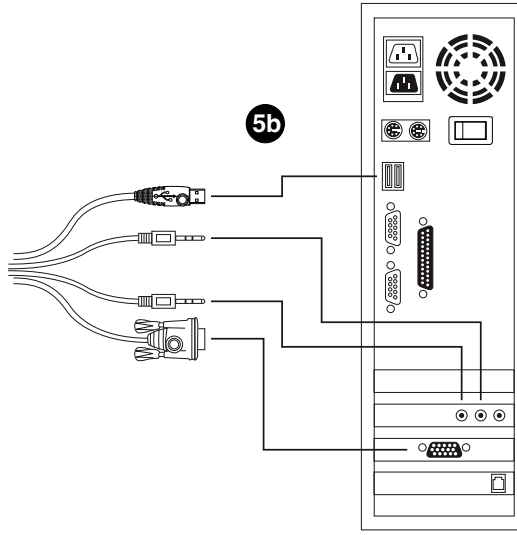
Installation Diagram



PS/2 Cable Connection



USB Cable Connection



Chapter 3
Basic Operation

This chapter explains the fundamental concepts involved in operating the CS1732A / CS1734A.

Manual Switching

There are two convenient methods to access the computers: Manual – which involves pressing the port selection pushbuttons located on the unit's front panel; and Keyboard Port Hotkey – which involves entering combinations from the keyboard (see Chapter 4, *Keyboard Port Operation*).

For manual port selection:

- Press and hold a port selection pushbutton for more than 2 seconds to bring the KVM focus to the computer attached to its corresponding port. The USB and Audio focus do 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 USB and Audio focus to the computer attached to its corresponding port.
- Press and hold port selection pushbuttons 1 and 2 simultaneously for *2 seconds* to start Auto Scan Mode. See *Auto Scanning*, page 17, for details.

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

- Press pushbuttons 3 and 4 simultaneously for 2 seconds to perform a keyboard and mouse reset. (CS1734A only)

Hot Plugging

The CS1732A / CS1734A 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, before starting it back up you must do the following:

1. Shut down all the computers that are attached to the switch.
2. Unplug the switch's power adapter cable.
3. Wait 10 seconds, then plug the switch's power adapter cable back in.
4. After the switch is up, Power On the computers.

Port ID Numbering

Each KVM port on the CS1732A / CS1734A switch is assigned a port number (1, 2, 3, or 4). The port numbers are marked on the rear panel of the switch. (see page 7, for details).

The Port ID of a computer is derived from the KVM port number it is connected to. For example, a computer connected to KVM 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 page 15 for details).

Chapter 4
Keyboard Port Operation

The CS1732A / CS1734A provides an extensive, easy-to-use, hotkey function that makes it convenient to control and configure your KVM installation from the keyboard. Hotkeys provide asynchronous (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 and the other two 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 Port Switching Keys*, page 19, 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 3; 3 to 4; 4 to 1 for the CS1732A / CS1734A).
[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 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.
[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.
[Scroll Lock] [Scroll Lock] [n] [K] [S] [U] [Enter]	Brings the **KVM**, **USB hub** and **audio** focus to the computer attached to the specified port. **Note:** This is the same action as [Scroll Lock] [Scroll Lock] [n] [Enter]

Note: The **n** stands for the computer's Port ID number (1, 2, 3, or 4). See *Port ID Numbering*, page 14, for details. Replace the **n** with the appropriate Port ID when entering hotkey combinations.

Auto Scanning

The CS1732A / CS1734A'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]	Invokes Auto Scan. The KVM focus cycles from port to port at **5 second intervals**. Five second intervals is the Default setting.
[Scroll Lock] [Scroll Lock] [A] [n] [Enter]	The KVM focus cycles from port to port at **n** second intervals.

Note: 1. The **n** stands for the number of seconds that the CS1732A / CS1734A 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.

3. Although the video focus switches from port to port, the audio and USB focus do not switch. They stay at the port they were on when Auto Scanning started.

4. To exit Auto Scan Mode, press the **Esc** key, or the **Spacebar**.

Hotkey Setting Mode

Hotkey Setting Mode is used to set up your CS1732A / CS1734A switch configuration. All operations begin with invoking Hotkey Setting Mode (HSM).

Invoking HSM

To invoke HSM do the following:

1. Press and hold down **[Num Lock]**.
2. Press and release **[-]**.
3. Release **[Num Lock]**.

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

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 the **Esc** key, 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 18).
2. Press and release **[H]**.

   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 18).
2. Press and release **[T]**.

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 CS1732A / CS1734A's default port configuration is for a PC compatible keyboard operating platform. If your console uses a PC compatible keyboard and you have a Mac or Sun attached to a port, for example, you can change the port's keyboard operating platform configuration so that the PC compatible keyboard emulates the Mac or Sun keyboard. The procedure is as follows:

1. Bring the KVM focus to the port you want to set.
2. Invoke HSM (see page 18).
3. Press and release the appropriate Function key (see table below). After completing this procedure, you automatically exit HSM.

Function Key	Operation
[F1]	Disables keyboard emulation and activates pass through keyboard mode.
[F2]	Enables Mac keyboard emulation.
[F3]	Enables Sun keyboard emulation.*

Note: 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 the Sun system will not start.

List Switch Settings

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

1. Open a text editor or word processor and place the cursor in the page window.
2. Invoke HSM (see page 18).
3. Press and release **[F4]** to display the settings.

USB Reset

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

1. Invoke HSM (see page 18).
2. Press and release **[F5]**

Hotkey Beeper Control

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

1. Invoke HSM (see page 18).
2. Press and release **[B].**

The Beeper toggles On or Off.

Disable Port Switching Keys

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

1. Invoke HSM (see page 18).
2. Press **[X] [Enter]**.

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

Restore Default Settings

To reset the CS1732A / CS1734A to its default hotkey settings, do the following:

1. Invoke HSM (see page 18).
2. Press **[R] [Enter]**.

All hotkey settings return to the factory default settings.

Reverse Manual Switching Behavior

To toggle between how the switch behaves when the front panel pushbuttons are either- *pushed and released*, or *pushed for more than 2 seconds* (see *Manual Switching*, page 13 for details), do the following:

1. Invoke HSM (see page 18).
2. Press **[S] [Enter]**.

HSM Summary Table

After invoking HSM (see page 18), key in one of the following keys to perform the corresponding function:

Key	Function
[H]	Toggles between the default and alternate HSM invocation keys.
[S]	Reverses the manual switching behavior of the front panel pushbuttons, when you: ◆ Hold for 2 Seconds Press and hold a port selection pushbutton for more than 2 seconds to bring the KVM focus plus USB and Audio focus to the computer attached to its corresponding port. ◆ Press and Release Press and release a port selection pushbutton to bring the KVM focus to the computer attached to its corresponding port. The USB and Audio focus do not change - they stay with the port that they are already on.
[T]	Toggles between the default and alternate Port Switching keys.
[F1]	Disables keyboard emulation and activates pass through keyboard mode.
[F2]	Enables Mac keyboard emulation.
[F3]	Enables Sun keyboard emulation
[F4]	Print the switch's current settings via a text editor or word processor.
[F5]	Performs a USB keyboard and mouse 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.

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.

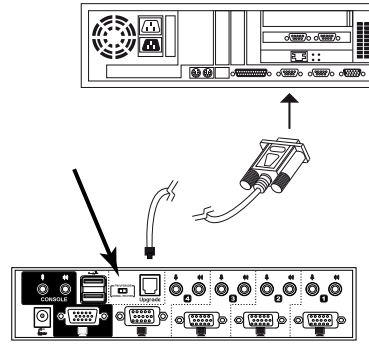
Chapter 6
The Firmware Upgrade Utility

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.

`http://www.aten.com`

Before you Begin

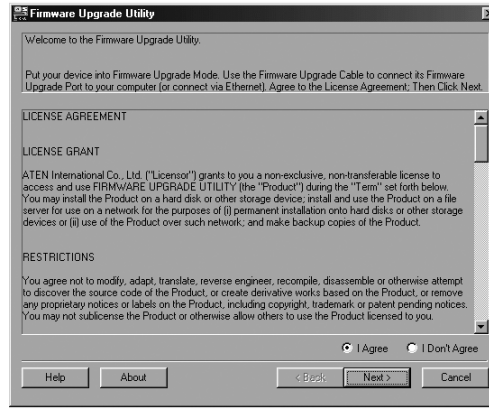
1. From a computer that is not part of the KVM installation go to our Internet support site and choose the model name of your device (CS1732A / CS1734A) to get a list of available Firmware Upgrade Packages.
2. Choose the Firmware Upgrade Package you want to install (usually the most recent), and download it to your computer.
3. Power off the switch. Unplug the KVM cables from the back of the switch. If you are using a power adapter, unplug it and remove its connector from the switch's power jack
4. Slide the Firmware Upgrade Switch to the *Upgrade* position.
5. Use the *Firmware Upgrade Cable* provided to connect a COM port on your computer to the *Firmware Upgrade Port* of your switch.



6. Power on the CS1732A / CS1734A by plugging in one of the KVM cables. The front panel LEDs flash together to indicate Firmware Upgrade Mode is in effect.

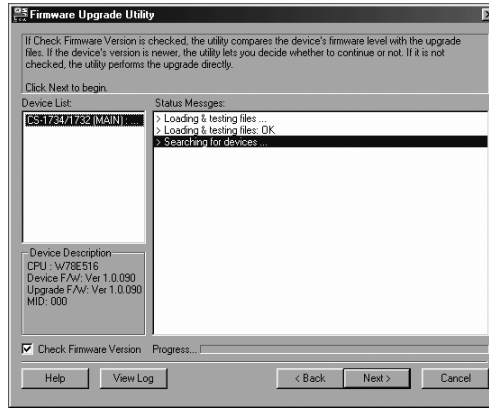
Starting the Upgrade

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:



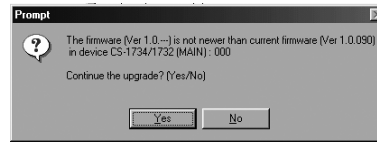
Note: The screens shown in this section are for reference only.

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.



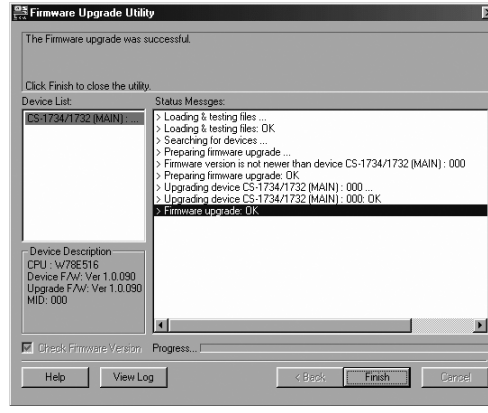
If you enabled Check Firmware Version, the Utility compares the device's firmware level with that of the upgrade files. If it finds that the device's version is higher than the upgrade version, it brings up a dialog box informing you of the situation and gives you the option to Continue or Cancel.

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:



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

After a successful completion, the switches exit Firmware Upgrade Mode, and reset themselves.

Firmware Upgrade Recovery

If the firmware upgrade procedure is unnaturally aborted (due to an outage, for example), the switch being upgraded may become inoperable and incapable of accepting a normal firmware upgrade.

If this occurs, to recover, do the following:

1. Power off the CS1732A / CS1734A and ensure all LEDs are off.
2. Slide the unit's Firmware Upgrade Switch to the UPGRADE position.
3. Connect the firmware upgrade cable.
4. Power on the CS1732A / CS1734A.

The CS1732A / CS1734A is now ready to be upgraded.

5. Start the firmware upgrade procedure again. See *Starting the Upgrade*, page 26.

After the upgrade has successfully completed, do the following:

6. Power off the CS1732A / CS1734A and ensure all LEDs are off.
7. Slide the unit's Firmware Upgrade Switch to the NORMAL position.
8. Power on the CS1732A / CS1734A.

Appendix

Safety Instructions

- This product is for indoor use only.
- Read all of these instructions. Save them for future reference.
- Follow all warnings and instructions marked on the device.
- Do not place the device on any unstable surface (cart, stand, table, etc.). If the device falls, serious damage will result.
- Do not use the device near water.
- Do not place the device near, or over, radiators or heat registers.
- The device cabinet is provided with slots and openings to allow for adequate ventilation. To ensure reliable operation, and to protect against overheating, these openings must never be blocked or covered.
- The device should never be placed on a soft surface (bed, sofa, rug, etc.) as this will block its ventilation openings. Likewise, the device should not be placed in a built in enclosure unless adequate ventilation has been provided.
- Never spill liquid of any kind on the device.
- Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- 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 iii:

North America

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

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

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

Any other information you feel may be of help.

Specifications

Function			CS1732A	CS1734A
Computer Connections			2	4
Port Selection			Front Panel Pushbuttons; Hotkeys	
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 RJ11 Socket	
	Power		1 x DC Jack (Black)	
	USB Hub		2 x USB Type A F (White; 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			1–99 seconds (Default: 5)	
Power Consumption			DC5V/1.2W (max.)	DC5V/1.25W (max.)
Environment	Operating Temp.		0–50° C	
	Storage Temp.		-20–60° C	
	Humidity		0–80% RH, Non-condensing	
Physical Properties	Housing		Metal	
	Weight		0.49 kg	0.70 kg
	Dimensions		13.98 x 8.80 x 5.55 cm	21.00 x 8.80 x 5.55 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 25, 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 22) to reset the USB ports.
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.
Sun system does not start	KVM port is not configured properly.	The first time that a Sun system runs from a port, you must configure its port for the Sun keyboard operating platform before you power the system on. See *Keyboard Operating Platform*, page 20 for details.

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.

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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 inquires please contact your direct vendor.

Manual Part No. PAPE-0232-AT6G

Printing Date: 2014-04-08

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ATEN International Co., Ltd., 3F, No. 125, Sec. 2, Datung Rd., Sijhih District, New Taipei City 221, Taiwan

Phone: 886-2-8692-6789 Fax: 886-2-8692-6767 TECHNICAL SUPPORT CENTER: 886-2-8692-6959