

# MASTER VIEW USB 2.0 KVM SWITCH



## USER MANUAL

---

**CS-1772**

**CS-1774**

2005-03-16

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Subpart J of Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, 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 which the receiver is connected.
- ◆ Consult the dealer or an experienced radio/television technician for help.



## **Packing List**

---

The complete Master View USB 2.0 KVME CS-1772 / CS-1774 package consists of:

- ◆ 1 CS-1772 or CS-1774 KVM Switch
- ◆ 2 CS Custom KVM Cables (CS-1772)
- ◆ 4 CS Custom KVM Cables (CS-1774)
- ◆ 1 Firmware Upgrade Cable
- ◆ 1 Power Adapter
- ◆ 1 User Manual
- ◆ 1 Quick Start Guide

Check to make sure that all the components are present and that nothing was 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 that connect to it.

©Copyright 2005 ATEN® International Co., Ltd.  
Manual Part No. PAPE-0244-100  
Printed in Taiwan 03/2005

All brand names and trademarks are the registered property of their respective owners.

**Notes:**

---

## Contents

---

<b>1. Introduction</b>	
Features . . . . .	2
Hardware Requirements . . . . .	3
Console . . . . .	3
Computer . . . . .	3
Cables . . . . .	3
<b>2. Hardware Setup</b>	
CS-1772 / CS-1774 Front View . . . . .	5
CS-1772 / CS-1774 Rear View . . . . .	7
Cable Connection . . . . .	9
Port Numbering . . . . .	11
Powering Off and Restarting . . . . .	11
Hot Plugging . . . . .	11
<b>3. Port Switching</b>	
Manual Port Switching . . . . .	13
Hotkey Port Switching . . . . .	13
Cycling Through the Ports . . . . .	14
Going Directly to a Port . . . . .	15
Auto Scanning . . . . .	16
<b>4. Hotkey Setting Mode</b>	
Invoking Hotkey Setting Mode . . . . .	17
Alternate HSM Invocation Keys . . . . .	18
Alternate Port Switching Keys . . . . .	18
Keyboard Operating Platform . . . . .	19
List Hotkey Settings . . . . .	20
USB Reset . . . . .	20
Hotkey Beeper Control . . . . .	20
Disable Port Switching Keys . . . . .	21
Restore Default Settings . . . . .	21
Invoke Firmware Upgrade Mode . . . . .	21
HSM Summary Table . . . . .	22

**5. Keyboard Emulation**

Sun Keyboard . . . . . 23  
Mac Keyboard . . . . . 24

**6. The Firmware Upgrade Utility**

Before You Begin . . . . . 25  
Starting the Upgrade . . . . . 26  
Upgrade Succeeded . . . . . 29  
Upgrade Failed . . . . . 29

**Appendix**

Specifications . . . . . 31  
Hotkey Default Settings . . . . . 32  
Troubleshooting . . . . . 33  
Limited Warranty . . . . . 34

**Conventions**

---

This manual uses the following conventions:

- Courier 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 movement through a series. For example, Start → Run means to open the *Start* menu, and then select *Run*.
- ⚠ Indicates critical information.

## Chapter 1. Introduction

### Overview

---

The Master View CS-1772 and CS-1774 represent a revolutionary new direction in KVM (Keyboard, Video, Mouse) Switches. These two (CS-1772) and four (CS-1774) port USB KVM Switches incorporate a two port USB Hub and an ethernet hub all in the same compact unit. This eliminates the need to purchase separate hubs or standalone peripheral sharers such as print servers, modem splitters, etc.

As KVM switches, the CS-1772 and CS-1774 allow users to access two or four computers from a single USB keyboard, USB mouse, and monitor console. They improve on previous designs by using the fast, reliable, USB bus to transferring keyboard and mouse data to the computers, while the integrated two-port USB hub permits any of the computers to access any peripherals connected to it on a 'one computer at a time' basis.

Recognizing the importance of sound in the computing environment, the CS-1772 / CS-1774 is also audio enabled. A single microphone can provide audio input to any of the computers, and you can listen to the audio output of any computer (on a one-at-a-time basis) on a single set of speakers.

The CS-1772 / CS-1774'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.

Setup is fast and easy; you simply plug cables into their appropriate ports. There is no software to configure, no installation routines, and no incompatibility problems. Since the CS-1772 / CS-1774 intercepts keyboard input directly, it works on multiple operating platforms (PC compatible, Mac, Sun, etc.). There are two convenient methods to access the computers: pressing push button port selection switches located on the unit's front panel; and entering hotkey combinations from the keyboard.

Since a single console manages all of the computers, the CS-1772 / CS-1774 installation: 1) eliminates the expense of having to purchase separate 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

---

- ◆ Multifunction USB KVM switch integrates a USB hub, ethernet hub, and audio
- ◆ One console controls 2 (CS-1772) or 4 (CS-1774) computers and USB peripherals connected to two USB 2.0 ports
- ◆ Independent (asynchronous) switching of KVM, USB, and audio focus USB ports
- ◆ Easy installation - no software required - connecting cables to the PCs is all it takes
- ◆ Easy to operate - port selection via push button switches or hotkeys - auto scanning to monitor computer operation
- ◆ Power on detection - automatically switches to the first powered on port
- ◆ Keyboard and mouse emulation - computers boot even when the console focus is elsewhere
- ◆ Supports Microsoft IntelliMouse and the scrolling wheel on most mice
- ◆ Supports Logitech and Microsoft wireless keyboards and mice
- ◆ Supports multimedia USB keyboards
- ◆ Caps Lock, Num Lock, and Scroll Lock states are saved and restored when switching
- ◆ LED Display For Easy Status Monitoring
- ◆ Auto Scan Mode for monitoring all computers
- ◆ Complete keyboard emulation for error free booting
- ◆ Hotkey operating platform selection
- ◆ Superior video quality - up to 2048x1536; DDC2B
- ◆ Upgradeable firmware
- ◆ Auto-sensing, Plug-and-Play Ethernet/Fast Ethernet/Dual Speed hub built in - per port MDI/MDIX - full/half duplex - IEEE802.3 and IEEE802.3u compatible
- ◆ Hot pluggable - add or remove computers for maintenance without powering down the switch
- ◆ Compatible with multiple operating platforms (PC, Mac, and Sun)
- ◆ Supports Windows 98SE / ME / 2000 / XP / Server 2003; Mac OS8.6 or higher; Solaris; Linux

---

## Hardware Requirements

---

### Console

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

### Computer

The following equipment must be installed on each computer:

- ◆ A VGA, SVGA or Multisync card
- ◆ 1 Type A USB port for keyboard/mouse cable
- ◆ 1 Type A USB port for USB hub cable

### Cables

Only CS Custom cable sets specifically designed to work with this switch may be used to link to the computers. Two (CS-1772) or four (CS-1774) 1.8m cable sets are provided with this package.

**Note:** The quality of the display is affected by the quality and length of the cable. If you need additional cable sets, contact your dealer to purchase the correct ones for your switch.

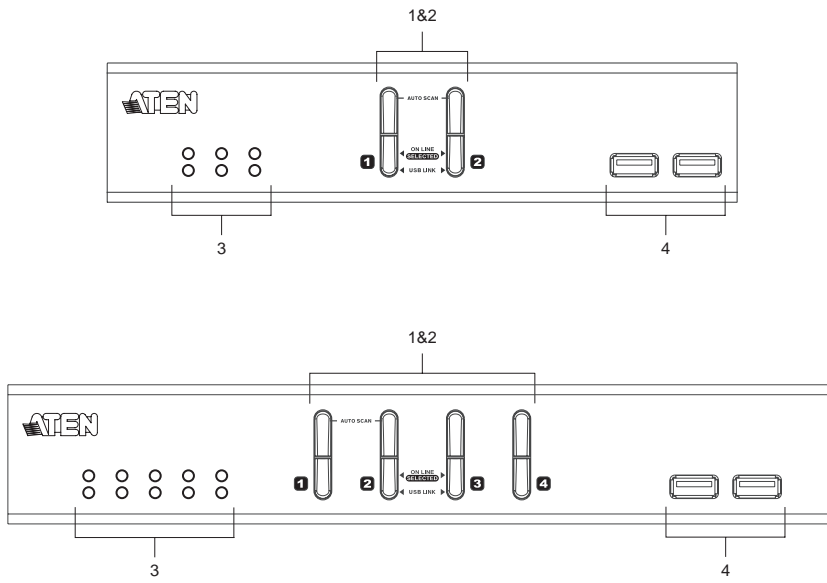
**Notes:**

---

## Chapter 2. Hardware Setup

### CS-1772 / CS-1774 Front View

---



### 1. Port Selection Switches

Pressing a switch brings the focus to the computer attached to its corresponding port. See p. 13 for operation 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:

LED	Indication
KVM:	<ul style="list-style-type: none"> <li>◆ Lights DIM ORANGE to indicate that the computer attached to its corresponding port is up and running (On Line).</li> <li>◆ Changes to BRIGHT ORANGE to indicate that the computer attached to its corresponding port is the one that has the KVM focus (Selected).</li> <li>◆ Flashes to indicate that the computer attached to its corresponding port is being accessed under Auto Scan mode.</li> </ul>
USB:	<ul style="list-style-type: none"> <li>◆ 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.</li> <li>◆ Changes to BRIGHT GREEN to indicate that the computer attached to its corresponding port is the one that has access to the USB peripherals.</li> </ul>

### 3. Ethernet LEDs

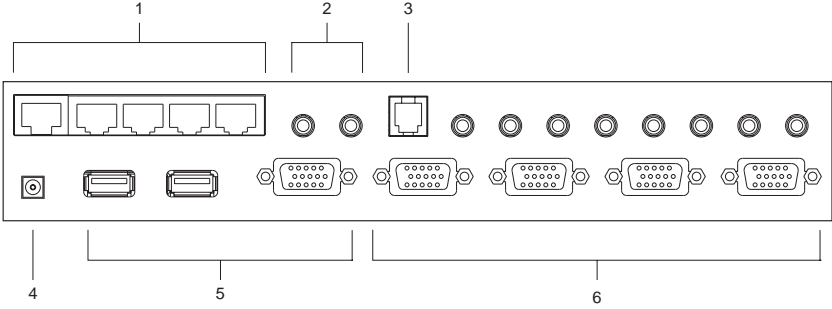
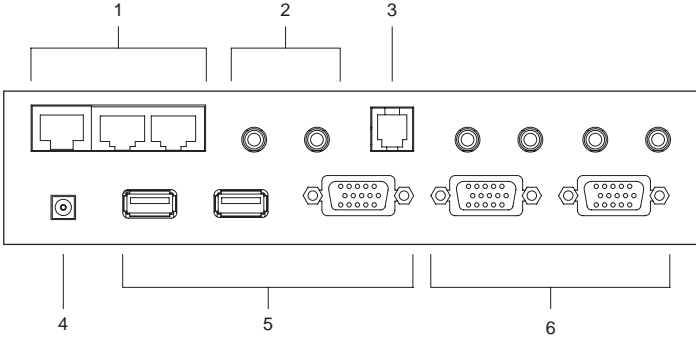
The ethernet LEDs light to indicate the data transmission status of their corresponding ports on the ethernet hub:

LED	Status	Indication
LAN Link	Off	No data connection to the computer attached to its corresponding port.
	On	Data connection to the computer attached to its corresponding port is in effect.
	Flashing	Data is being transmitted through the port.
10/100Mbps	Off	Data transmission speed is 10Mbps.
	On	Data transmission speed is 100Mbps.

### 4. USB Hub Section

USB peripherals (printers, scanners, etc.) can plug into either port.

**CS-1772 / CS-1774 Rear View**



### 1. Ethernet Port Section

The Cat5 LAN cable that connects to the computer's ethernet port can plug into any available port.

### 2. Console Audio Jacks

The cables from your microphone and speakers plug in here. Each jack is color coded and marked with an appropriate icon to indicate itself.

### 3. Firmware Upgrade Port

The Firmware Upgrade Cable that transfers the firmware upgrade data to the CS-1772 / CS-1774 plugs in here. See p. 25 for firmware upgrade details.

### 4. Power Jack

The power adapter cable plugs into this jack.

### 5. Console Port Section

Your USB keyboard, USB mouse, and monitor plug in here.

### 6. CPU Port Section

The cables that link the switch to your computers plug in here. Each CPU 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 the Cables section on p. 3, for details). Do **NOT** attempt to use ordinary 15 pin VGA connector cables to link these ports to the computers.

## Cable Connection

---



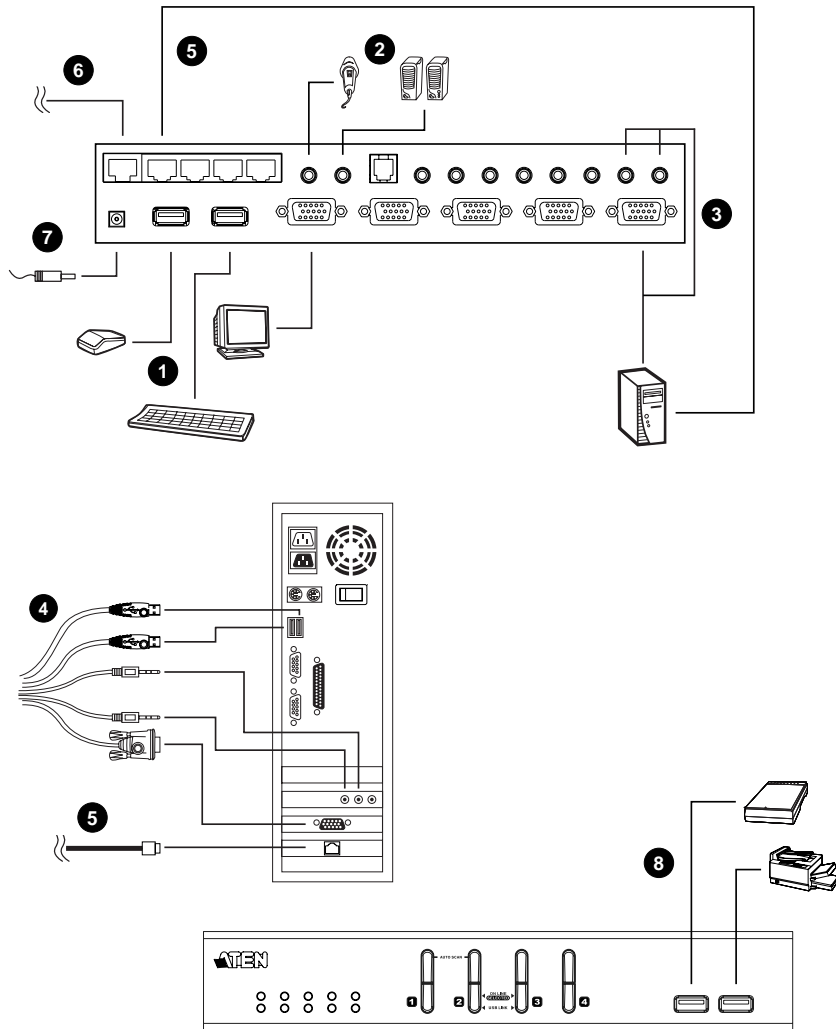
1. Make sure that power to all the devices you will be connecting up have been turned off. You must unplug the power cords of any computers that have the *Keyboard Power On* function.
2. Make sure that all devices on the installation are properly grounded.

To set up your Master View CS-1772 / CS-1774 installation, refer to the installation diagram on the following page, and do the following:

1. Plug your keyboard, mouse and monitor into the Console Ports located on the unit's rear panel.
2. Plug your microphone and speakers into the Console microphone and speaker jacks located on the unit's rear panel.
3. Using a KVM cable set (provided with this package), plug the custom SPHD connector into any available CPU Port on the switch and plug the accompanying microphone and speaker connectors into the CPU 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 CPU Port sockets (all in Port 1, all in Port 2, etc.).
4. At the other end of the cable, plug the USB keyboard/mouse, USB hub, video, microphone and speaker cables into their respective ports on the computer.
5. Use Cat5 cable to connect any available ethernet port on the switch to the computer's ethernet port.  
Repeat steps 3 - 5 for any other computers you are connecting up.
6. Plug the cable from your external LAN source into any available ethernet port on the switch.
7. Plug the power adapter that came with your switch into an AC power source, then plug the power adapter cable into the switch's Power Jack.
8. Plug your USB peripherals into the USB hub section on the front panel.



---

## Port Numbering

---

Each CPU port on the CS-1772 / CS-1774 switch is assigned a port number (1 or 2 for the CS-1772; 1 to 4 for the CS-1774). The port numbers are marked on the rear panel of the switch (see p. 7).

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 hub, and audio focus with the Hotkey port selection method (see p. 13, for details).

---

## Powering Off and Restarting

---

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

1. Power off the switch.
  - ♦ Unplug the KVM cables from the switch's rear panel.
  - ♦ Unplug the switch's power adapter cable.
2. Wait 10 seconds, then reconnect the KVM cables.
3. Plug the switch's power adapter cable back in.

---

## Hot Plugging

---

The Master View CS-1772 / CS-1774 supports USB hot plugging - components can be removed and added back into the installation by unplugging their cables from the CPU ports without the need to shut the unit down.

**Notes:**

---

## Chapter 3. Port Switching

There are two convenient methods to switch the KVM, USB hub, and audio focus among the ports: 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.

### Manual Port Switching

---

- ◆ Press and release a switch (for less than three seconds) to bring only the KVM focus to the computer attached to its corresponding port.
- ◆ Press a switch for longer than three seconds to bring the KVM, USB hub, and audio focus to the computer attached to its corresponding port.
- ◆ Press switches 1 and 2 simultaneously for 2 seconds to start *Auto Scan Mode*. See p. 16 for details.

### Hotkey Port Switching

---

All port switches begin with tapping the **Scroll Lock** key twice. The tables on the following pages 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*, p. 18, for details.

## Cycling Through the Ports

Hotkey	Action
[Scroll Lock] [Scroll Lock] [Enter]	<p>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 CS-1772; 1 to 2; 2 to 3; 3 to 4; 4 to 1 for the CS-1774).</p> <p>Note that the KVM, USB hub, and audio focus all go to this port even if they were on different ports to begin with.</p>
[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 that 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 Numbering*, p. 11). Replace the **n** with the appropriate Port ID when entering hotkey combinations.

## Auto Scanning

The CS-1772 / CS-1774'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 <b>n</b> second intervals.

- Note:**
1. The **n** stands for the number of seconds that the CS-1772 / CS-1774 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. Although the video focus switches from port to port, the keyboard, mouse, audio and USB focus doesn't switch. They stay at the port they were on when Auto Scanning started.
  3. While Auto Scan Mode is in effect, ordinary keyboard functions are suspended - only Auto Scan Mode compliant keystrokes can be input. You must exit Auto Scan Mode in order to regain normal control of the keyboard.

To exit Auto Scan Mode, press the **Esc** key, the **Spacebar**, or any Port Selection switch.

## Chapter 4. Hotkey Setting Mode

### Invoking Hotkey Setting Mode

---

Hotkey Setting Mode is used to set up your CS-1772 / CS-1774 switch configuration. All operations begin with invoking Hotkey Setting Mode (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:** 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 above)
2. Press and release the **H** key

The HSM invocation keys become the Ctrl key and F12 (instead of Num Lock and 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 p. 17)
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 CS-1772 / CS-1774's default port configuration is for a PC Compatible keyboard operating platform. If your requirements call for different port settings (you have a Mac or Sun attached to a port, e.g.), you can change a port's keyboard operating platform configuration as follows:

1. Bring the KVM focus to the port you want to set.
2. Invoke HSM (see p. 17)
3. Press and release the appropriate Function key (see table). After completing a setting, you automatically exit HSM.

Function Key	Operation
[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). Activates Pass Through keyboard mode (keystrokes are sent directly to the computer instead of through the Mac or Sun emulator).

\* 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. Invoke HSM (see p. 17).
2. Press and release the **F4** function key.
3. Open a text editor or word processor and use its *Paste* function to display the settings.

## USB Reset

---

If the Console USB keyboard and/or mouse loses focus and needs to be reset, do the following:

1. Invoke HSM (see p. 17).
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 (see p. 17).
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 (see p. 17).
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 CS-1772 / CS-1774 to its default hotkey settings, do the following:

1. Invoke HSM (see p. 17).
2. Press **[R]** **[Enter]**.

All hotkey settings return to the factory default settings. A table showing the default settings is provided in the Appendix, on p. 32.

---

## Invoke Firmware Upgrade Mode

---

To set the CS-1772 / CS-1774 to Firmware Upgrade Mode, do the following:

1. Invoke HSM (see p. 17).
2. Key in: upgrade
3. Press **[Enter]**.

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

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

## HSM Summary Table

---

After invoking HSM (see p. 17), key in one of the following keys to perform the corresponding function:

Key	Function
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.
F4	Lists the current hotkey settings via the <i>Paste</i> function of a text editor or WP.
F5	Performs a USB reset.
F10	Auto detects the keyboard operating platform (for PC compatible systems). Activates Pass Through keyboard mode (keystrokes are sent directly to the computer instead of through the Mac or Sun emulator).
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.
upgrade [Enter]	Invokes Firmware Upgrade Mode.

## Chapter 5. Keyboard Emulation

### 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.



**Note:** When using [Ctrl] combinations, press and release the **Ctrl** key, then press and release the activation key.

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] [4]	☾
[Ctrl] [H]	Help
[Ctrl] [1]	Mult
[Ctrl] [2]	V_DN
[Ctrl] [3]	V_UP
[Win]	Compose

## 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.

**Note:** When using key combinations, press and release the first key, then press and release the second one.

PC Keyboard	Mac Keyboard
[Shift]	Shift
[Ctrl]	Ctrl
[Win]	
[Ctrl] [4]	
[Alt]	Alt/Option
[Prt_Sc]	F13
[Scroll Lock]	F14
[Desktop Menu]	=
[Enter]	Return
[Back Space]	Delete
[Ins]	Help
[Ctrl] [Win]	F15
[Ctrl] [1]	Mult
[Ctrl] [2]	V_DN
[Ctrl] [3]	V_UP

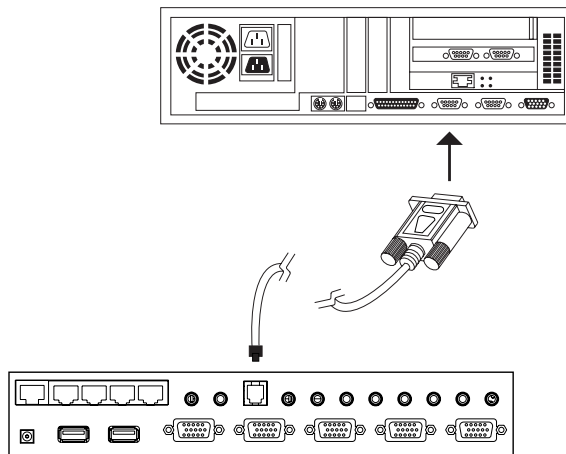
## Chapter 6. The Firmware Upgrade Utility

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 upgrade packages are posted on our web site as new firmware revisions become available.

### Before You Begin

---

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 (CS-1772 / CS-1774) to get a list of available Firmware Upgrade Packages.
2. Choose the Firmware Upgrade Package you want to install (usually the most recent), and download it to your computer.
3. Use the *Firmware Upgrade Cable* provided with this unit, to connect a COM port on your computer to the *Firmware Upgrade Port* of your switch.



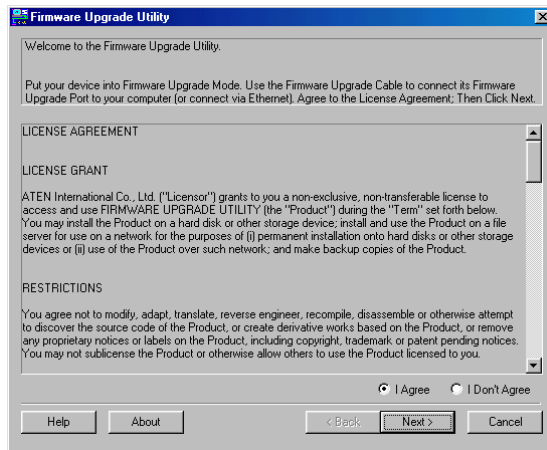
4. Unplug the KVM cables from the back of the switch.
5. Invoke Firmware Upgrade Mode (see p. 21). The switch's front panel LEDs flash to indicate that it is in Firmware Upgrade Mode.

## 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.

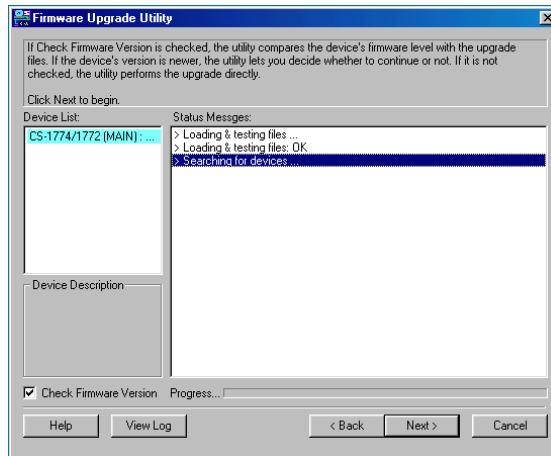
The Firmware Upgrade Utility *Welcome* screen appears:



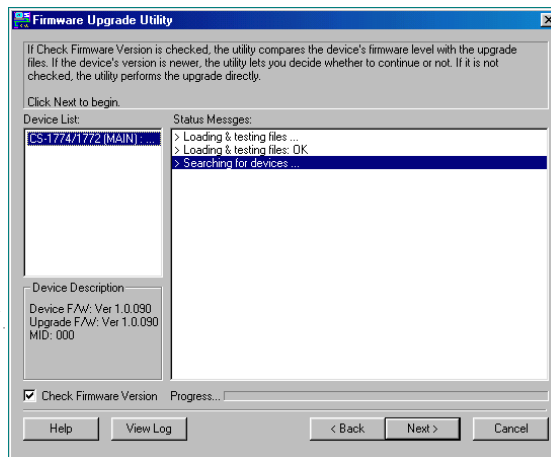
**Note:** The screenshots in this section are for example purposes. The screens that appear during your firmware upgrade may vary slightly as to their wording and descriptions.

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

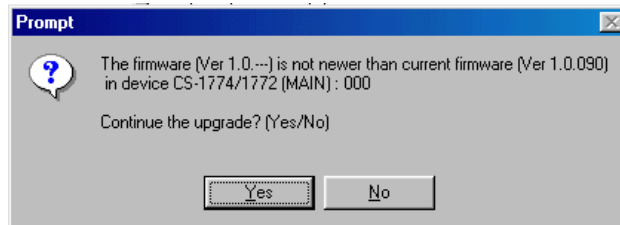
3. Click Next to continue. The Firmware Upgrade Utility main screen appears:



- ◆ The Utility inspects your installation. All the devices capable of being upgraded by the package are listed in the *Device List* panel.
- ◆ As you select a device in the list, its description appears in the *Device Description* panel.



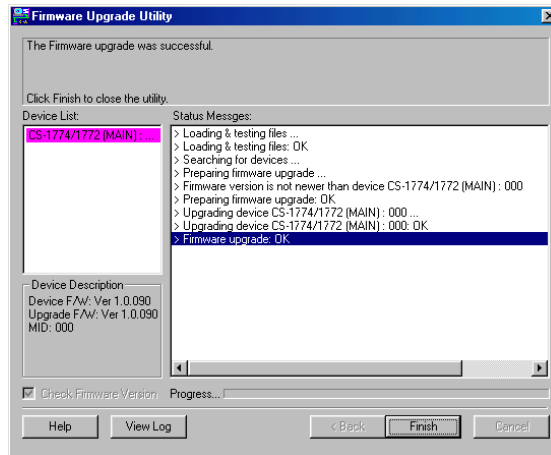
4. After you have made your device selection(s), Click **Next** to perform the upgrade.
  - ♦ If you enabled *Check Firmware Version*, the Utility compares the device's firmware level with that of the upgrade files. If it finds that the device's version is equal to, or higher than, the upgrade version, 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 switch exits Firmware Upgrade Mode and resets itself.

## Upgrade Failed

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.

**Notes:**

---

# Appendix

## Specifications

Function		CS-1772	CS-1774
Computer Connections		2	4
CPU Port Selection		Front Panel Switches; Hotkey	
USB/Audio Port Selection		Hotkey	
LEDs	KVM	2 (Orange)	4 (Orange)
	USB	2 (Green)	4 (Green)
	Link	3 (Green)	5 (Green)
	10/100Mbps	3 (Green)	5 (Green)
Console Connectors	Keyboard	1 x USB Type A female	
	Mouse	1 x USB Type A female	
	Video	1 x HDB -15 female	
	Audio	1 x Speaker jack 1 x Microphone jack	
CPU Connectors	KVM data	2 x SPHD - 15 female	4 x SPHD - 15 female
	Audio	2 x Speaker jacks 2 x Microphone jacks	4 x Speaker jacks 4 x Microphone jacks
USB Hub		2 x USB Type A female	
Ethernet Hub		3 x RJ-45 sockets	5 x RJ-45 sockets
Firmware Upgrade Port		1 x RJ- 11 socket	
Power Adapter		1 x DC 5.3V; 2.4A	
Power Consumption		DC5.3V; 4.5W; 900mA	DC5.3V; 5W; 1000mA
Scan Interval		1 - 99 secs. (5 secs. default)	
Resolution		Up to 2048 x 1536; DDC2B	
KB/Mouse Emulation		USB (PC, Mac, Sun)	
Environment		Operating Temperature: 0 - 50° C Storage Temperature: -20 - 60° C Humidity: 0 - 80% RH	

Function	CS-1772	CS-1774
Housing	Metal	
Weight	0.71 kg	0.92 kg
Dimensions (L x W x H)	21.0 x 8.8 x 5.55cm	27.0 x 8.8 x 5.55cm
OS Support	Windows 98 or higher, Mac OS 8.6 or higher, SUN Blade 2000/100 (Sun Solaris 8), Linux RedHat 7.1 or higher, FreeBSD 3.51, 4.2, 4.3, 4.5 or newer	

## Hotkey Default Settings

The hotkey factory default settings are given in the table below:

Setting	Default
Port Switching	[Scroll Lock] [Scroll Lock]
Invoking HSM	[Num Lock] [ - ]
Beeper	On
Keyboard Operating Platform	PC Compatible
Port Switching Keys	Enabled

## Troubleshooting

Symptom	Possible Cause	Action
Erratic behavior.	Unit not receiving enough power.	Use a DC 5.3V power adapter if you are not already using one. If you are already using a power adapter, check that it matches the system specifications (DC 5.3V), and that it is plugged in and functioning properly.
Keyboard and/or Mouse not responding.	Keyboard and/or mouse need to be reset.	Use the USB Console Reset hotkey combination (see p. 20). Unplug the cable(s) from the console port(s), then plug it/them back in.
	No connection to the computer.	Check the cable from the switch to the computer to make sure it is properly connected.
	KVM switch needs to be reset.	Power off all devices on the installation (see the note at the top of p. 9); power off the KVM switch; wait five seconds; then power up.
USB devices not responding.	USB ports need to be reset.	Unplug the device's USB cable from the USB port on the switch's rear panel, then plug it back in.
Device not recognized message (Windows)	Windows timing problem.	<ol style="list-style-type: none"> <li>1. Unplug the KVM cable from the computer's USB port.</li> <li>2. Go into Windows' <i>System Settings</i> and remove the <i>Unknown Device</i> entry.</li> <li>3. Plug the KVM cable back in. Windows will now recognize the device.</li> </ol>
Sun system does not start.	CPU port not configured correctly.	The first time that a 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. See p. 19 for details.
Mac keyboard doesn't have a Scroll Lock or Num Lock key.	Some Mac keyboards do not have these keys.	<ul style="list-style-type: none"> <li>◆ Use F14 to substitute for the Scroll Lock key.</li> <li>◆ Use the Clear key to substitute for the Num Lock key.</li> </ul>

### **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 inquires please contact your direct vendor.