



USER MANUAL

**MASTER VIEW USB 2.0 KVME
SWITCH
CS-1772
CS-1774**

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

유선 제품용 / A 급 기기 (업무용 방송 통신 기기)

이 기기는 업무용 (A 급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정 외의 지역에서 사용하는 것을 목적으로 합니다.

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.**

Safety Instructions

General

- ◆ 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.
- ◆ The device is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not attempt to defeat the purpose of the grounding-type plug. Always follow your local/national wiring codes.
- ◆ Do not allow anything to rest on the power cord or cables. Route the power cord and cables so that they cannot be stepped on or tripped over.

- ◆ If an extension cord is used with this device make sure that the total of the ampere ratings of all products used on this cord does not exceed the extension cord ampere rating. Make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
- ◆ To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or un-interruptible power supply (UPS).
- ◆ Position system cables and power cables carefully; Be sure that nothing rests on any cables.
- ◆ When connecting or disconnecting power to hot-pluggable power supplies, observe the following guidelines:
 - ◆ Install the power supply before connecting the power cable to the power supply.
 - ◆ Unplug the power cable before removing the power supply.
 - ◆ If the system has multiple sources of power, disconnect power from the system by unplugging all power cables from the power supplies.
- ◆ Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.
- ◆ Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.
- ◆ If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.
 - ◆ The power cord or plug has become damaged or frayed.
 - ◆ Liquid has been spilled into the device.
 - ◆ The device has been exposed to rain or water.
 - ◆ The device has been dropped, or the cabinet has been damaged.
 - ◆ The device exhibits a distinct change in performance, indicating a need for service.
 - ◆ The device does not operate normally when the operating instructions are followed.
- ◆ Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.

Rack Mounting

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

© Copyright 2005 – 2015 ATEN® International Co., Ltd.
Manual Part No. PAPE-0244-100G
Date: 04/2015

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

Package Contents

Basic Package

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

- ◆ 1 CS-1772 or CS-1774 KVM Switch
- ◆ 2 Custom KVM Cable Sets (CS-1772)
- ◆ 4 Custom KVM Cable Sets (CS-1774)
- ◆ 1 Firmware Upgrade Cable
- ◆ 1 Power Adapter
- ◆ 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 this product since the manual was written. Visit our website to download the latest version of this manual.

Contents

EMC Information	ii
RoHS	ii
SJ/T 11364-2006	iii
User Information	iv
Online Registration	iv
Telephone Support	iv
User Notice	iv
Safety Instructions	v
General	v
Rack Mounting	vii
Package Contents	viii
Basic Package	viii
About this Manual	xi
Conventions	xii
Getting Help	xii

Chapter 1.

Introduction

Overview	1
Features	2
Hardware Requirements	3
Console	3
Computers	3
Cables	3

Chapter 2.

Hardware Setup

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
Alternative Manual Port Selection Settings	12

Chapter 3.

Operation

Manual Port Switching	13
Hotkey Port Switching	13
Cycling Through the Ports	14
Going Directly to a Port	15
Auto Scanning	16

Chapter 4.

Hotkey Setting Mode

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
Alternative Manual Port Selection Settings.	20
Disable Port Switching Keys.	21
Restore Default Settings.	21
Invoke Firmware Upgrade Mode	21
HSM Summary Table	22

Chapter 5.

Keyboard Emulation

Mac Keyboard.	23
Sun Keyboard.	24

Chapter 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

About this Manual

This User Manual is provided to help you get the most from your CS-1772 / CS-1774 system. It covers all aspects of installation, configuration and operation. An overview of the information found in the manual is provided below.

Chapter 1, Introduction, introduces you to the CS-1772 / CS-1774 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.

Chapter 3, Operation, explains the port switching procedures.

Chapter 4, Hotkey Setting Mode, details all of the concepts and procedures involved in setting up the Hotkey environment of your CS-1772 / CS-1774 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 CS-1772 / CS-1774's firmware with the latest available versions.

An Appendix, provides specifications and other technical information regarding the CS-1772 / CS-1774.

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 <i>Start</i> menu, and then select <i>Run</i> . |
|  | Indicates critical information. |

Getting Help

If you need to contact ATEN technical support with a problem, visit our website at www.aten.com.

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 keyboard
- ◆ A USB style mouse

Computers

The following equipment must be installed on each computer that is to be connected to the system:

- ◆ A VGA, SVGA or Multisync port
- ◆ A Type A USB port for the keyboard/mouse connector
- ◆ A Type A USB port for the USB hub connector

Cables

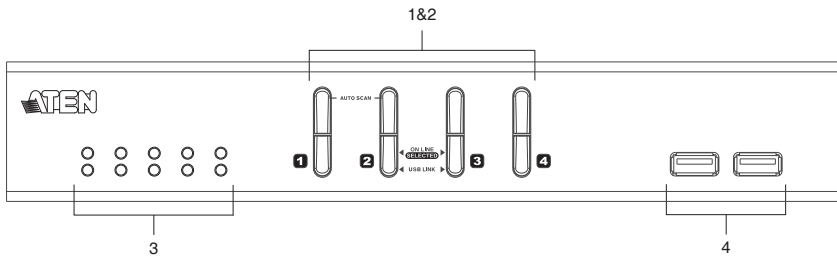
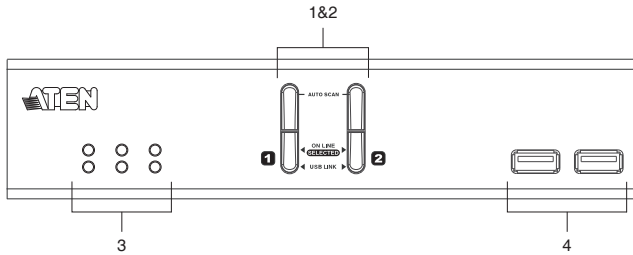
Only Custom KVM cable sets specifically designed to work with this switch may be used. Two (CS-1772), or four (CS-1774) 1.8m cable sets are provided with this package.

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.

This Page Intentionally Left Blank

Chapter 2 Hardware Setup

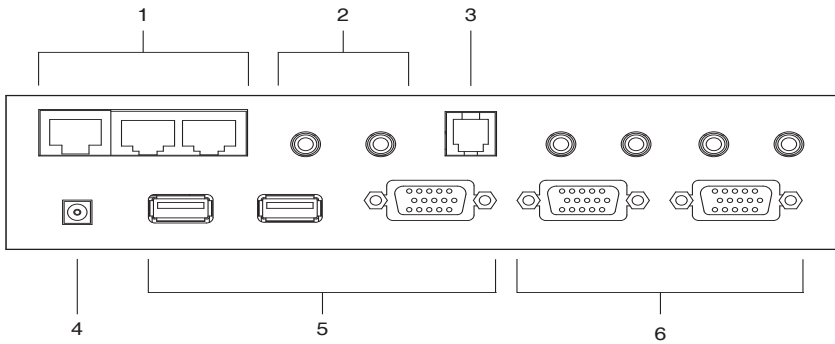
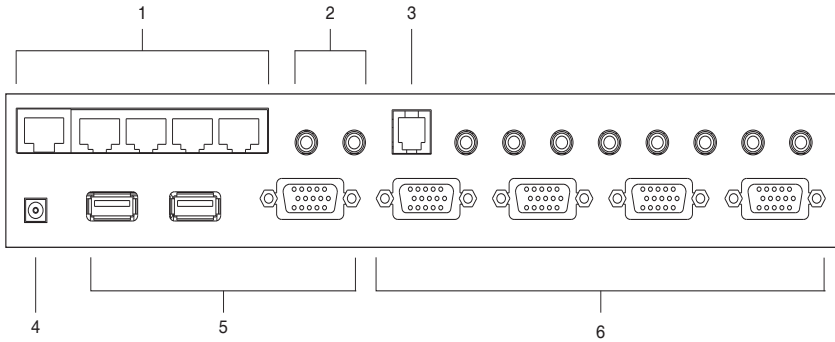
CS-1772 / CS-1774 Front View



(Continues on next page.)

No.	Component	Description		
1	Port Selection Switches	Pressing a switch brings the focus to the computer attached to its corresponding port. See <i>Manual Port Switching</i> , page 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:		
		<table border="1"> <tr> <td data-bbox="345 387 441 671">KVM:</td> <td data-bbox="441 387 938 671"> <ul style="list-style-type: none"> ◆ 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. </td> </tr> <tr> <td data-bbox="345 671 441 890">USB:</td> <td data-bbox="441 671 938 890"> <ul style="list-style-type: none"> ◆ 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. </td> </tr> </table>	KVM:	<ul style="list-style-type: none"> ◆ 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.
KVM:	<ul style="list-style-type: none"> ◆ 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:	<ul style="list-style-type: none"> ◆ 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	Ethernet LEDs	The ethernet LEDs light to indicate the data transmission status of their corresponding ports on the ethernet hub:		
		LAN Link	<p>Off: No data connection to the computer attached to its corresponding port.</p> <p>On: Data connection to the computer attached to its corresponding port is in effect.</p> <p>Flashing: Data is being transmitted through the port.</p>	
		10/ 100Mbps	<p>Off: Data transmission speed is 10Mbps.</p> <p>On: Data transmission speed is 100Mbps.</p>	
4	USB Hub Section	USB peripherals (printers, scanners, etc.) can plug into either port.		

CS-1772 / CS-1774 Rear View



(Continues on next page.)

No.	Component	Description
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 page 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 page 3, for details). Do **NOT** attempt to use ordinary 15 pin VGA connector cables to link these ports to the computers.

Cable Connection



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

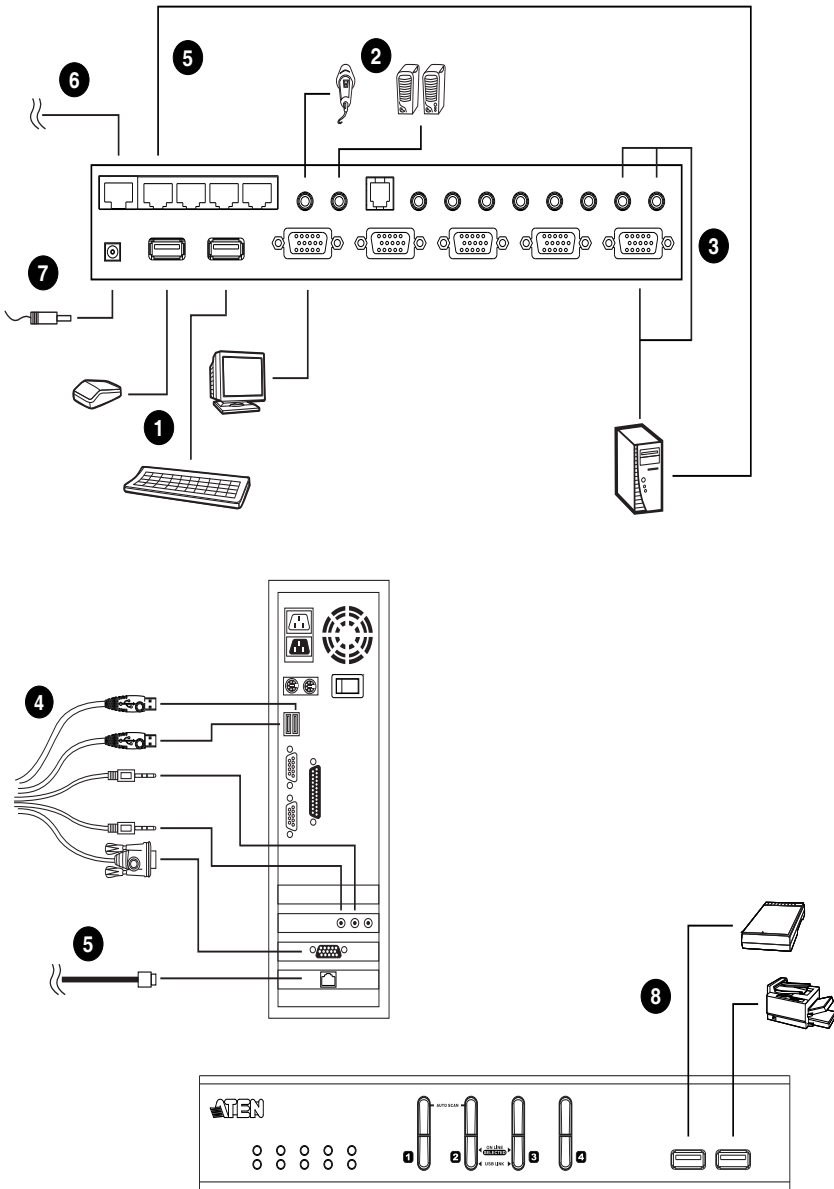
To set up your Master View CS-1772 / CS-1774 installation, refer to the installation diagram on the following page, and do the following:

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.

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 page 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.

Alternative Manual Port Selection Settings

When Hotkey Setting Mode has been activated, pressing [S] will invoke the alternative front panel pushbutton manual port selection functions as follows (see page 20):

- ◆ Press and hold a port selection pushbutton for more than 3 seconds to bring the KVM, audio and USB focus to the computer attached to its corresponding port.
- ◆ Press a port selection pushbutton once to bring only the KVM focus to the computer attached to its corresponding port.
- ◆ Press and hold port selection pushbuttons 1 and 2 for more than 2 seconds to start Auto Scan Mode, see page 16 for details.

Chapter 3

Operation

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 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 switches 1 and 2 simultaneously for 2 seconds to start *Auto Scan Mode*. See page 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*, page 18, 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 CS-1772; 1 to 2; 2 to 3; 3 to 4; 4 to 1 for the CS-1774). 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 Numbering*, page 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 n 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 page 17).
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 page 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 page 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]	Automatically detects and sets the keyboard operating platform.

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 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 page 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 page 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 page 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.

Alternative Manual Port Selection Settings

To toggle between the default and the alternative front panel pushbutton manual port selection settings, do the following:

1. Invoke HSM (see page 17).
2. Press and release the **S** key.

See *Alternative Manual Port Selection Settings*, page 12, for details.

Disable Port Switching Keys

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

1. Invoke HSM (see page 17).
2. Press **[X] [Enter]**.

Restore Default Settings

To reset the CS-1772 / CS-1774 to its default hotkey settings, do the following:

1. Invoke HSM (see page 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 page 32.

Invoke Firmware Upgrade Mode

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

1. Invoke HSM (see page 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 page 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	Automatically detects and sets the keyboard operating platform.
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.
S	Toggles between the default and alternate manual port selection pushbutton setting.
upgrade [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.

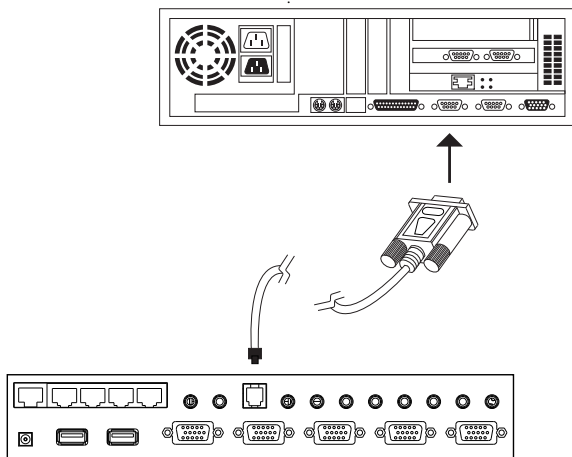
Chapter 6

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 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



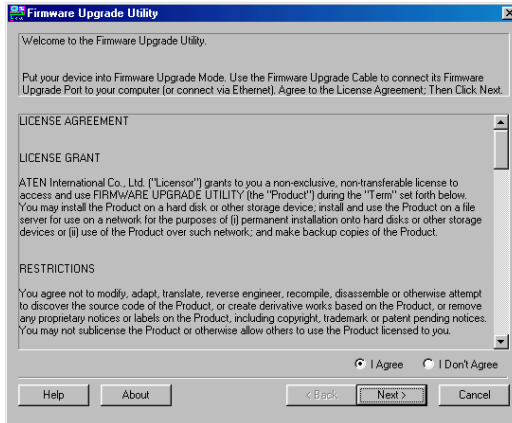
4. Unplug the KVM cables from the back of the switch.
5. Invoke Firmware Upgrade Mode (see page 21). The switch's front panel LEDs flash to indicate that it is in Firmware Upgrade Mode.

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.

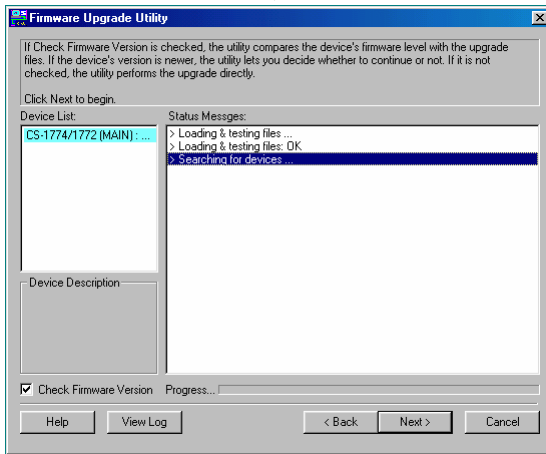
The Firmware Upgrade Utility *Welcome* screen appears



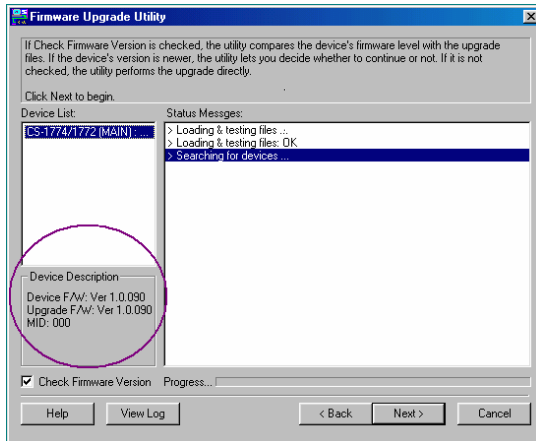
Note: The screenshots in this section are for example purposes. The screens that appear during your firmware upgrade may vary slightly as to their wording and descriptions.

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

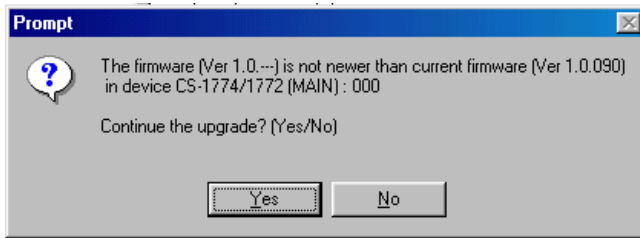
3. Click **Next** to continue. The Firmware Upgrade Utility main screen appears



- ◆ 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.



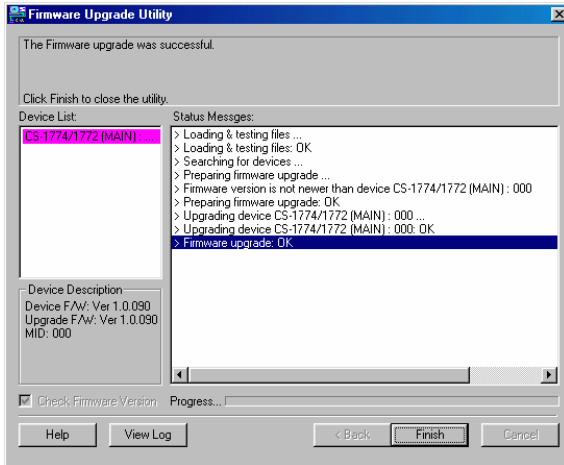
4. After you have made your device selection(s), Click **Next** to perform the upgrade.
 - ◆ If you enabled *Check Firmware Version*, the Utility compares the device's firmware level with that of the upgrade files. If it finds that the device's version is equal to, or higher than, the upgrade version,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

This Page Intentionally Left Blank

Appendix

Specifications

Function		CS-1772	CS-1774
Computer Connections		2	4
KVM Port Selection		Front Panel Switches; Hotkey	
USB/Audio Port Selection		Hotkey	
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	
Computer 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
Firmware Upgrade Port		1 x RJ- 11socket	
Hubs	USB	2 x USB Type A female	
	Ethernet	3 x RJ-45 sockets	5 x RJ-45 sockets
LEDs	KVM	2 (Orange)	4 (Orange)
	USB	2 (Green)	4 (Green)
	Link	3 (Green)	5 (Green)
	10/100Mbps	3 (Green)	5 (Green)
KB/Mouse Emulation		USB (PC, Mac, Sun)	
Video		Up to 2048 x 1536; DDC2B	
Scan Interval		1 - 99 secs. (5 secs. default)	
Power Consumption		DC5.3V; 4.5W; 900mA	DC5.3V; 5W; 1000mA
Power Adapter		1 x DC 5.3V; 2.4A	

(Continues on next page.)

(Continued from previous page.)

Function		CS-1772	CS-1774
Environment	Operating Temp.	0 - 50° C	
	Storage Temp.	-20 - 60° C	
	Humidity	0 - 80% RH	
Physical Properties	Housing	Metal	
	Weight	0.71 kg	0.92 kg
	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

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 page 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 page 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"> 1. Unplug the KVM cable from the computer's USB port. 2. Go into Windows' <i>System Settings</i> and remove the <i>Unknown Device</i> entry. 3. Plug the KVM cable back in. Windows will now recognize the device.
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 page 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"> ◆ Use F14 to substitute for the Scroll Lock key. ◆ Use the Clear key to substitute for the Num Lock key.

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.

A

- Alternate HSM Invocation Keys, 18
- Alternate Port Switching Keys, 18
- Auto Scanning, 16

C

- Cable Connection, 9
- Cables, 3
- Cycling through the ports, 14

D

- Disable Port Switching Keys, 21

F

- Features, 2
- Firmware Upgrade
 - Failed, 29
 - Starting, 26
 - Succeeded, 29
- Firmware Upgrade Mode
 - Invoking, 21
- Firmware Upgrade Utility, 25
- Front View, 5

H

- Hardware Requirements, 3
- Hardware Setup, 5
- Hot Plugging, 11
- Hotkey Beeper Control, 20
- Hotkey Default Settings, 32
- Hotkey Setting Mode
 - Invoking, 17
- HSM Summary Table, 22

I

- Invoke Firmware Upgrade Mode, 21

K

- Keyboard Emulation
 - Mac, 23
 - Sun, 24
- Keyboard Operating Platform, 19

L

- List Hotkey Settings, 20

O

- Online
 - Registration, iv
 - Operation, 13
 - Overview, 1

P

- Port Numbering, 11
- Port Switching
 - Cycling, 14
 - Direct, 15
 - Hotkey, 13
 - Manual, 13
- Powering Off and Restarting, 11

R

- Rack Mounting
 - Safety information, vii
- Rear View, 7
- Restore Default Settings, 21
- RoHS, ii

S

- Safety Instructions
 - General, v
 - Rack Mounting, vii
- SJ/T 11364-2006, iii
- Specifications, 31

T

Telephone support, iv
Troubleshooting, 33

U

USB Reset, 20
User Notice, iv