USB 2.0 HDMI KVMP Switch

CS1792 / CS1794

User Manual

FCC Information

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to 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 instruction manual, may cause 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/an experienced radio/television technician for help.

RoHS

This product is RoHS compliant.

SJ/T 11364-2006

The following contains information that relates to China.

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

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

●: 表示符合欧盟的豁免条款，但该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T 11363-2006的限量要求。

✕：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T 11363-2006的限量要求。

User Information

Online Registration

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

International	http://support.aten.com
North America	http://www.aten-usa.com/product_registration

Telephone Support

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 CS1792 / CS1794 package consists of:

- ◆ 1 CS1792 / CS1794 USB 2.0 HDMI KVMP Switch
- ◆ 2 Custom HDMI KVM Cable Sets (CS1792)
- ◆ 4 Custom HDMI KVM Cable Sets (CS1794)
- ◆ 1 Firmware Upgrade Cable
- ◆ 1 Power Adapter
- ◆ 1 USB-to-PS/2 Converter
- ◆ 1 User Instructions*

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

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

* Features may have been added to the CS1792 / CS1794 since this manual was printed. Please visit our website to download the most up-to-date version of the manual.

Contents

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 CS1792 / CS1794 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 CS1792 / CS1794.

Chapter 4, Keyboard Port Operation, details all of the concepts and procedures involved in the Hotkey operation of your CS1792 / CS1794 installation.

Chapter 5, The Firmware Upgrade Utility, explains how to use this utility to upgrade the CS1792 / CS1794's firmware with the latest available versions.

An Appendix, provides specifications and other technical information regarding the CS1792 / CS1794.

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 CS1792 / CS1794 HDMI USB 2.0 KVMP Switch charts a revolutionary new direction in KVM switch functionality by combining a 2-port (CS1792) or 4-port (CS1794) switch with a 2-port USB 2.0 hub. In addition, the CS1792 / CS1794's interface for a HDMI monitor enables effortless HDMI signal switching using a single high-definition display as well as integrated multi-channel audio.

As a KVM switch, the CS1792 / CS1794 HDMI USB 2.0 KVMP Switch allows users to access 2/4 computers from a single USB keyboard, USB mouse, and HDMI monitor console. As a USB hub, it permits each computer to access connected peripherals on a one-computer-at-a-time basis.

The CS1792 / CS1794's independent switching feature allows the KVM focus to be one computer while the USB peripheral focus is on another. This eliminates the need to purchase a separate USB hub as well as the need to purchase separate stand-alone peripheral sharers.

The CS1792 / CS1794 further improves on previous designs with HDMI (High Definition Multimedia Interface) connectors, and the transfer of keyboard and mouse data to the computers via a fast, reliable USB connection. HDMI supports digital input (flat panel displays, data projectors, plasma displays, digital TVs and set-top boxes). Therefore, when all the displays and peripherals are connected to the CS1792 / CS1794, you simply select which source you want to view on the console displays by either of the two convenient access methods: port selection pushbuttons located on the unit's front panel, or hotkey combinations entered from the console keyboard.

Recognizing the increased importance of digital audio, the CS1792 / CS1794's HDMI interface integrates multi-channel audio support that allows users to experience high-definition audio such as Dolby True HD and DTS HD Master Audio. Furthermore, 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). As with the USB peripherals, the audio focus can be independent of the KVM focus.

Setup is fast and easy; simply plug cables into their appropriate ports. There is no software to configure, no installation routines, and no incompatibility

problems. Since the CS1792 / CS1794 intercepts keyboard input directly, it will work on Microsoft Windows, Linux, and Mac platforms.

With its unique design and innovative features, the CS1792 / CS1794 HDMI USB 2.0 KVMP Switch provides both style and functionality for the SOHO environment. Allowing you to switch seamlessly between up to four HDMI-enabled PCs, and share USB peripherals and high-definition audio from a single console, the CS1792 / CS1794 is ideal for multimedia applications, and offers the ultimate in space-saving, streamlined KVM technology for the desktop.

Features

- 2/4-port HDMI USB 2.0 KVMP Switch
- One USB console controls two (CS1792) or four (CS1794) HDMI-interface computers and two additional USB devices
- 2-port USB 2.0 hub built in
- Fully compliant with the USB 2.0 specification
- Independent switching of KVM, USB peripheral, and audio focus
- HDMI digital monitor support – fully compliant with HDMI; also HDCP compliant
- Dolby True HD and DTS HD Master Audio support
- Superior video quality – supports 480i, 480p, 720p, 1080i, and 1080p (1920 x 1200)
- Supports widescreen resolutions
- Computer selection via front panel pushbuttons and hotkeys
- Multiplatform support – Windows 2000/XP/Vista, Linux, and Mac
- Console mouse port emulation/bypass feature supports most mouse drivers and multifunction mice
- Video DynaSync – stores the console monitors EDID (Extended Display Identification Data) to optimize display resolution
- Power on detection – if one of the computers is powered off, the CS1792 / CS1794 will automatically switch to the next powered-on computer
- Complete keyboard emulation for error-free booting
- Mac keyboard support and emulation*
- Auto Scan Mode for monitoring all computers and HDMI devices
- Firmware Upgradable

---

*   1. PC keyboard combinations emulate Mac keyboards.

     2. Mac keyboards only work with their own computers

Requirements

Console

- A HDMI compatible monitor capable of the highest possible resolution
- A USB mouse
- A USB keyboard

> **Note:** A PS/2 keyboard and mouse can be used with the converter included in the CS1792 / CS1794 package.

- Microphone and speakers (optional)

Computers

The following must be available on each computer:

- A HDMI port

> **Note:** The quality of the display is affected by the quality of the display card. For best results, we recommend you purchase a high quality product.

- USB Type A port
- Audio ports (optional)

Cables

Two (CS1792) or four (CS1794) custom HDMI KVM cable sets are provided with this package.

> **Note:** If the Console monitor has built-in speakers and supports audio through its HDMI interface, the speaker connectors on the Console ends of the HDMI cable sets do not need to be used. The microphone jack should be connected to the appropriate location.

<u>Operating Systems</u>

Supported operating systems are shown in the table, below:

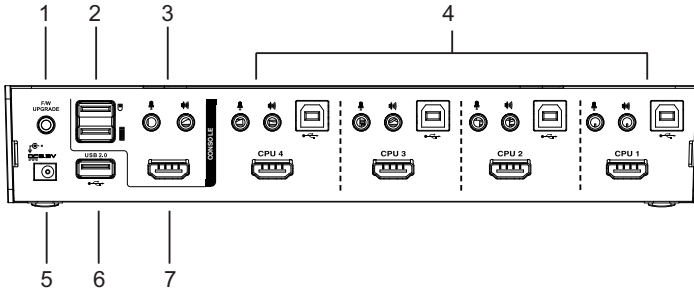| OS		Version
Windows		2000 and higher
Linux	RedHat	6.0 and higher
	SuSE	8.2 and higher
UNIX	FreeBSD	3.51 and higher
Novell	Netware	6.0 and higher
Mac		OS 9 and higher

Components

Front View
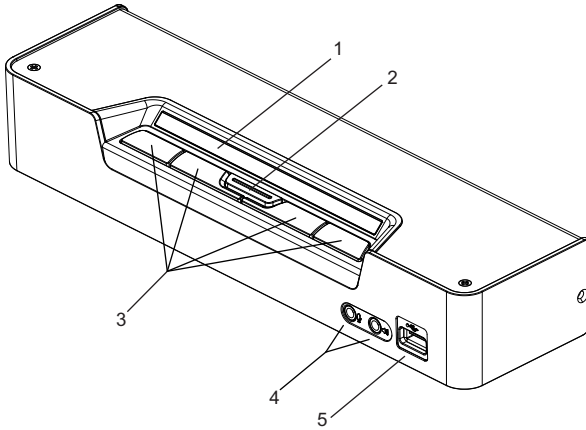
LED Status Panel Detail

Note: The CS1794 has been used in these illustrations. The components of the CS1792 are identical, except that the CS1792 has only two port selection pushbuttons on the front panel and two KVM port sections on the rear panel.

No.	Component	Description
1	LED Status Panel	This panel contains LED icons that light to indicate mode and port status. The Mode and Port Selection Pushbuttons each have three corresponding LED icons that represent **audio**, **KVM**, and **USB** status.
		Mode Selection LEDs The KVM LED icon is a monitor. Audio KVM USB
		Port Selection LEDs The KVM LED icon is the Port number. Audio KVM USB
2	Mode Selection Pushbutton	This pushbutton allows you to cycle through the three modes of focus – KVM, audio, and USB.
3	Port Selection Pushbuttons	For manual port selection (see *Manual Switching*, page 13): ◆ To bring complete focus (**audio, KVM, and USB**) to a computer, *either*, a) press the port selection pushbutton that corresponds to that computer; *or* b) press the Mode pushbutton *once* (the Mode pushbutton's three icons light up) and then press the port selection pushbutton that corresponds to that computer. All three port icons light up. ◆ To bring only the **KVM** focus to a computer, press the Mode pushbutton *twice* (the Mode pushbutton's KVM icon lights up), and then press the port selection pushbutton that corresponds to that computer. The port's KVM icon (the port number) lights up. ◆ To bring only the **audio** focus to a computer, press the Mode pushbutton *three times* (the Mode pushbutton's audio icon lights up), and then press the port selection pushbutton that corresponds to that computer. The port's audio icon lights up. ◆ To bring only the **USB** focus to a computer, press the Mode pushbutton *four times* (the Mode pushbutton's USB icon lights up), and then press the port selection pushbutton that corresponds to that computer. The port's USB icon lights up. ◆ Press and hold port selection pushbuttons 1 and 2 simultaneously for *2 seconds* to start Auto Scan Mode (see *Auto Scanning*, page 19)
4	Console Audio Ports	Your speakers and microphone plug in here.
5	USB 2.0 Peripheral Port	USB 2.0 peripherals (printers, scanners, etc.) plug into this port.

Rear View

No.	Component	Description
1	Firmware Upgrade Port	The Firmware Upgrade Cable that transfers the firmware upgrade data from the administrator's computer to the CS1792 / CS1794 plugs into this connector. See Chapter 5 for firmware upgrading details.
2	USB Console Ports	Your USB keyboard and mouse plug in here.
3	Console Analog Audio Ports	The cables from your microphone and speakers plug in here. Each connector is marked with an appropriate icon.*
4	KVM Port Section	The cables that link the CS1792 / CS1794 to your computers plug in here. Each KVM port is comprised of a microphone jack, speaker jack, USB type B socket, and an HDMI connector.
5	Power Jack	The power adapter cable plugs into this jack.
6	USB 2.0 Peripheral Port	USB 2.0 peripherals (printers, scanners, etc.) can plug into this port.
7	Console Monitor Port	The cable from your HDMI monitor plugs in here.

* If the Console monitor has built-in speakers and supports audio through its HDMI interface, separate speakers do not need to be used.

Chapter 2
Hardware Setup

![warning] 1. Important safety information regarding the placement of this device is provided on page 33. Please review it before proceeding.

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

Cable Connection

Note: 1. If the Console monitor has built-in speakers and supports audio through its HDMI interface, separate speakers do not need to be used.

2. If the computers in your installation fully support HDMI, the speaker connectors on the custom HDMI KVM cable sets do not need to be used.

3. If after connecting all your devices to the switch, the USB mouse and/or keyboard do not work, you must disable *Mouse Emulation Control* (see *Mouse Emulation Control*, page 24).

To set up your CS1792 / CS1794 installation, refer to the installation diagram on page 11 (the numbers in the diagrams correspond to the steps, below), and do the following:

1. Plug your USB keyboard and USB mouse into the USB Console Ports located on the unit's rear panel.

2. Plug your HDMI monitor into the Console HDMI Port located on the unit's rear panel.

3. If you are using separate speakers and microphone, plug them into the console analog audio ports on the unit's rear panel.

4. Using the custom HDMI KVM cable set, plug the HDMI cable connectors and accompanying USB connectors their corresponding sockets on the rear of the switch.

5. At the other end of the cable, plug the HDMI and USB cables into their respective ports on the computer.

6. Plug your USB peripherals into the type A sockets (one is located on the front; the second is located on the rear).

7. Power on the monitor.

8. Plug the power adapter that came with the CS1792 / CS1794 package into an AC power source, then plug the power adapter cable into the switch's power jack.

9. Power on the computers.

Installation Diagram

Custom KVM Cable Set
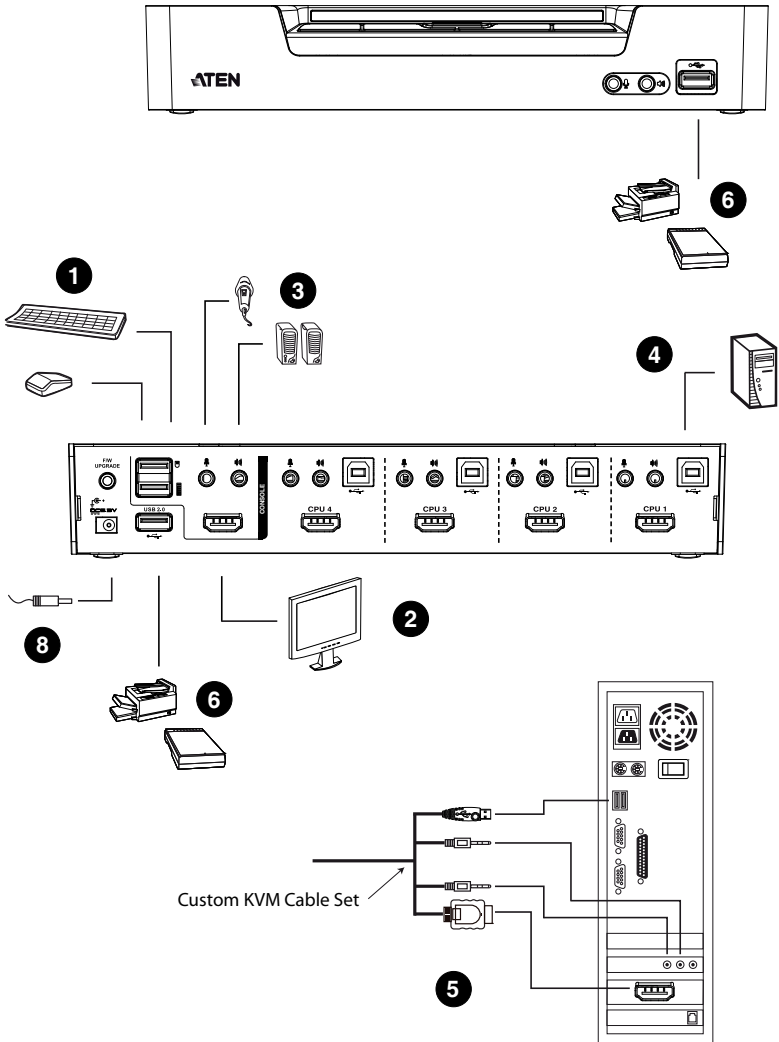
This Page Intentionally Left Blank

<div align="right">

Chapter 3
Basic Operation

</div>

Overview

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

Manual Switching

The Mode selection pushbutton and the pushbuttons that correspond to each port have three icons – **KVM, audio**, and **USB**. The icons on the Mode pushbutton light up when the Mode pushbutton is pressed to indicate cycling through the corresponding KVM, audio, and USB modes.

The icons on the port selection pushbuttons light up to indicate the current status of the computer that corresponds to that port. For example, if the audio icon is lit up above the port 3 selection pushbutton, this indicates that the computer attached to port 3 currently has the audio focus.

For manual port selection:

- To bring complete focus (**audio, KVM, and USB**) to a computer, *either*, a) press the port selection pushbutton that corresponds to that computer; *or* b) press the Mode pushbutton **once** (the Mode pushbutton's three icons light up) and then press the port selection pushbutton that corresponds to that computer. All three port icons light up.

- To bring only the **KVM** focus to a computer, press the Mode pushbutton **twice** (the Mode pushbutton's KVM icon lights up), and then press the port selection pushbutton that corresponds to that computer. The port's KVM icon (the port number) lights up.

- To bring only the **audio** focus to a computer, press the Mode pushbutton **three times** (the Mode pushbutton's audio icon lights up), and then press the port selection pushbutton that corresponds to that computer. The port's audio icon lights up.

(Continues on next page.)

(Continued from previous page.)

◆ To bring only the **USB** focus to a computer, press the Mode pushbutton **four times** (the Mode pushbutton's USB icon lights up), and then press the port selection pushbutton that corresponds to that computer. The port's USB icon lights up.

◆ Press and hold port selection pushbuttons 1 and 2 simultaneously for *2 seconds* to start Auto Scan Mode, see *Auto Scanning*, page 19 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.

Hot Plugging

The CS1792 / CS1794 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 CS1792 / CS1794 switch is assigned a port number (1 and 2 for the CS1792); 1, 2, 3, and 4 for the CS1794). The port numbers are marked on the rear panel of the switch (see *Rear View*, page 8 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 *Going Directly to a Port*, page 18 for details).

This Page Intentionally Left Blank

Chapter 4
Keyboard Port Operation

The CS1792 / CS1794 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. With the CS1792, you can give one computer the KVM console focus and the other the USB or audio focus. With the CS1794, you can give one computer the KVM focus, another the USB hub focus, and the other two the audio focus, for example.

Port Switching

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

Note: If using the Scroll Lock key conflicts with other programs running on the computer, the **Ctrl** key can be used, instead. See *Alternate HSM Invocation Keys*, page 21, 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 to2; 2 to 1 for the CS1792; and 1 to 2; 2 to 3; 3 to 4; 4 to 1 for the CS1794).
[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.

Note: The **n** stands for the computer's Port ID number (1, 2, 3, or 4). See *Port ID Numbering*, page 15, for details. Replace the **n** with the appropriate Port ID when entering hotkey combinations.

Auto Scanning

The CS1792 / CS1794'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**. This 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 CS1792 / CS1794 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 keyboard, mouse, and USB focus do not switch. They stay at the port they were on when Auto Scanning started.

Hotkey Setting Mode

Hotkey Setting Mode is used to set up your CS1792 / CS1794 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 20).

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 20).

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 CS1792 / CS1794'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 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 keyboard. The procedure is as follows:

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

2. Invoke HSM (see page 20).

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

Function Key	Operation
[F2]	Enables Mac keyboard emulation, see *Mac Keyboard Emulation*, page 39, for details.
[F10]	Automatically detects and sets the keyboard operating platform.

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 20).

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 20).

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 20).

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 20).

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

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

Firmware Upgrade Mode

To set the CS1792 / CS1794 to Firmware Upgrade Mode, do the following:

1. Invoke HSM (see page 20).

2. Key in: upgrade

3. Press **[Enter]**.

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

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

Restore Default Settings

To reset the CS1792 / CS1794 to its default hotkey settings, do the following:

1. Invoke HSM (see page 20).

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

All hotkey settings return to the factory default settings.

Video DynaSync

To invoke Video DynaSync so the CS1792 / CS1794 stores the console monitor's EDID (Extended Display Identification Data) to optimize display resolution, do the following:

1. Invoke HSM (see page 20)

2. Press **[D]**

Mouse Emulation Control

Mouse Emulation Control is used on the switch to mimic the connection between a computer, mouse and keyboard. Some USB multi-button mice and multimedia keyboards will not work with Mouse Emulation Control enabled, and you must disable it for them to work. To toggle between mouse emulation enabled and disabled, do the following:

1. Invoke HSM (see page 20).

2. Press **[M]**.

SPC Mode

To set the keyboard/mouse to use SPC mode so that it can work under special operating systems as a standard (104 key) keyboard/mouse, do the following:

1. Invoke HSM (see page 20).

2. Press **[F1]**.

HSM Summary Table

After invoking HSM (see page 20), 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]	Enables Mac keyboard emulation.
[F10]	Automatically detects and sets the keyboard operating platform.
[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.
[upgrade] [Enter]	Invokes Firmware Upgrade Mode.
[D]	Invokes the Video DynaSync function, which stores the console monitor's EDID to optimize display resolution.
[M]	Toggles between mouse emulation enable and disable.
[F1]	Sets the keyboard and mouse to SPC mode so that it can work under special operating systems as a standard (104 key) keyboard and mouse.

This Page Intentionally Left Blank

Chapter 5
The Firmware Upgrade Utility

The Windows-based Firmware Upgrade Utility (FWUpgrade.exe) provides a smooth, automated process for upgrading the CS1792 / CS1794'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 Website as new firmware revisions become available. Check the web site regularly to find the latest packages and information relating to them:

```
http://www.aten.com
```

Before you Begin

To prepare for the firmware upgrade, do the following:

1. From a computer that is not part of your KVM installation, go to our Internet support site and choose the model name that relates to your device (CS1792 / CS1794) to get a list of available Firmware Upgrade Packages.

2. Choose the Firmware Upgrade Package you want to install (usually the most recent), and download it to your computer.

3. Use the *Firmware Upgrade Cable* provided to connect a COM port on your computer to the *Firmware Upgrade Port* of your switch.
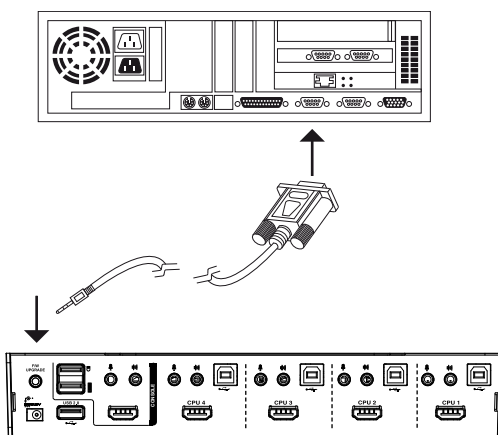
(Continues on next page.)

4. Shut down the computers on your CS1792 / CS1794 installation.

5. Invoke Firmware Upgrade Mode (see page 23).

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

Starting the Upgrade

Note: Do not unplug the CS1792 / CS1794's power jack when performing a firmware upgrade.

To upgrade your firmware:

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

   The *Firmware Upgrade Utility* Welcome screen appears:
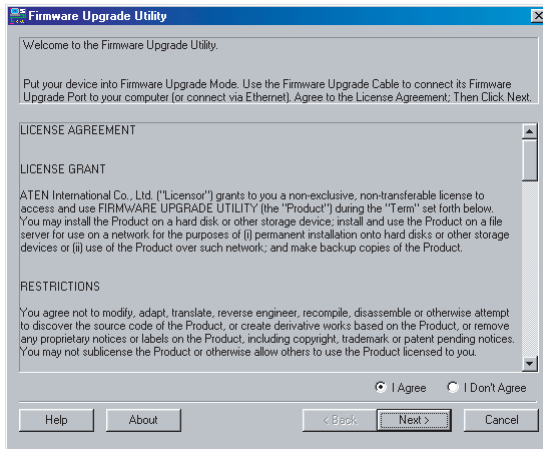
Note: The screens shown in this section are for reference only. The wording and layout of the actual screens put up by the Firmware Upgrade Utility may vary slightly from these examples.

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

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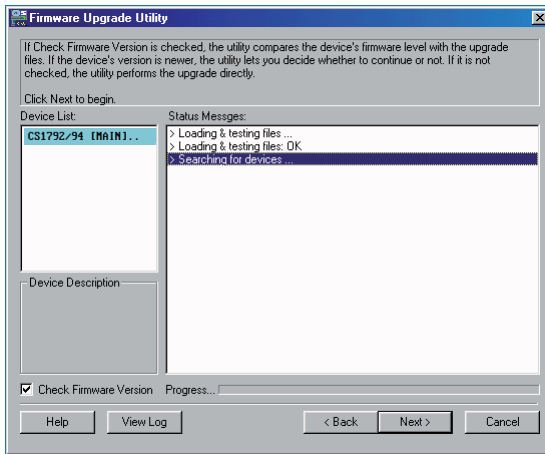
The Utility inspects your installation. All the devices capable of being upgraded by the package are listed in the *Device List* panel.

4. As you select a device in the list, its description appears in the Device Description panel.
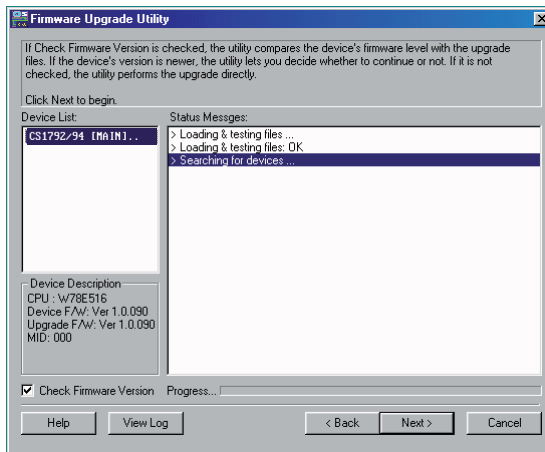
After you have made your device selection(s), Click **Next** to perform the upgrade.

5. 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.
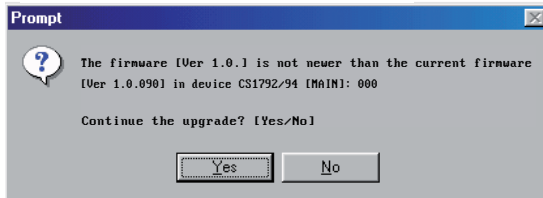

If you didn't enable *Check Firmware Version*, the Utility installs the upgrade files without checking whether they are a higher level, or not.

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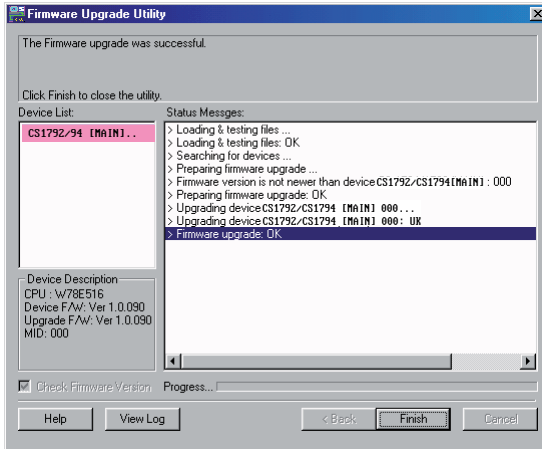
Click **Finish** to close the Firmware Upgrade Utility.

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

Upgrade Failed

If the *Upgrade Succeeded* screen doesn't appear, it means that the upgrade failed to complete successfully, in which case you should do the following:

1. Power off the CS1792 / CS1794 and remove its housing.

2. Using a jumper cap, short the jumper on the mainboard labeled J11 (CS1792) / J17 (CS1794). The diagram below indicates the jumper location on the CS1792 / CS1794 board:

CS1792
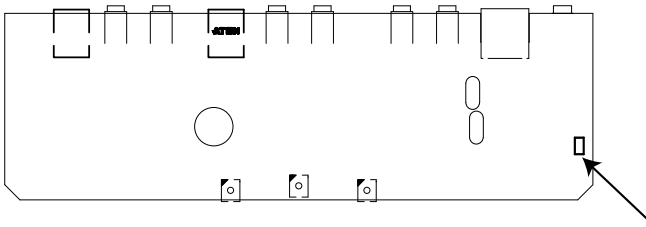
CS1794
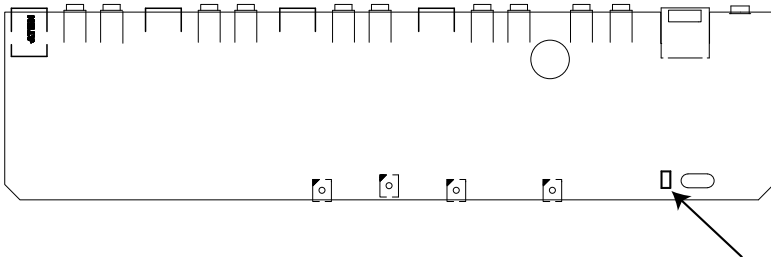
3. Power on the CS1792 / CS1794. It will now work with the factory default firmware.

4. Do the firmware upgrade procedure again.

5. After the upgrade procedure completes, power off the switch, remove the jumper cap from J11/J17, close the housing, and power the CS1792 / CS1794 on again.

Appendix

Safety Instructions

- 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 designed for IT power distribution systems with 230V phase-to-phase voltage.

- To prevent damage to your installation, it is important that all devices are properly grounded.

- 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.

- 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.

- Do not connect the RJ-11 connector marked "UPGRADE" to a public telecommunication network.

Technical Support

International

* For online technical support – including troubleshooting, documentation, and software updates: **http://support.aten.com**
* For telephone support, *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			CS1792	CS1794
Computer Connections			2	4
Port Selection			Front Panel Pushbuttons; Hotkeys	
Connectors	Console Ports	Keyboard	1 x USB Type A Female (Black; rear panel)	
		Video	1 x HDMI Female (Black)	
		Mouse	1 x USB Type A Female (Black; rear panel)	
		Speaker	2 x Mini Stereo Jack Female (Green; 1 x front, 1 x rear)	
		Mic.	2 x Mini Stereo Jack Female (Pink; 1 x front, 1 x rear)	
	KVM Ports	Keyboard/ Mouse	2 x USB Type B Female (White)	4 x USB Type B Female (White)
		Video	2 x HDMI Female (Black)	4 x HDMI Female (Black)
		Speaker	2 x Mini Stereo Jack Female (Green)	4 x Mini Stereo Jack Female (Green)
		Mic.	2 x Mini Stereo Jack Female (Pink)	4 x Mini Stereo Jack Female (Pink)
	F/W Upgrade		1 x 4-conductor 3.5 mm Jack (Black)	
	Power		1 x DC Jack	
	USB 2.0 Port		2 x USB Type A Female (White; 1 x front panel; 1 x rear panel)	
Switches	Selected		3 x Pushbutton	5 x Pushbutton
LEDs	Audio		3 (Green)	5 (Green)
	KVM		3 (Orange)	5 (Orange)
	USB		3 (Green)	5 (Green)
Emulation	Keyboard / Mouse		USB	
Video			1080p (HDTV) / 1920 x 1200 (DVI)	
Scan Interval			1–99 secs. (Default: 5 secs)	
Power Consumption			5.3V, 3.2W	5.3V, 4.8W
Environment	Operating Temp.		0–50ºC	
	Storage Temp.		-20–60ºC	
	Humidity		0–80% RH, Non-condensing	
Physical Properties	Housing		Metal, Plastic	
	Weight		0.42 kg	0.53 kg
	Dimensions (L x W x H)		20.50 x 7.30 x 4.50 cm	26.50 x 7.30 x 4.50 cm

Troubleshooting

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

In addition, updating the product's firmware may solve problems that have been discovered and resolved since the prior version was released. If your product is not running the latest firmware version, we strongly recommend that you upgrade. See Chapter 5, **The Firmware Upgrade Utility**, for upgrade details.

Symptom	Possible Cause	Action
USB Mouse and/or Keyboard are not working when connected to the switch.	The Mouse Emulation Control is enabled.	Disable Mouse Emulation Control. First invoke HSM mode, then press "M" (see *Mouse Emulation Control*, page 24).
		Some multi-button mice and multimedia keyboards do not work with Mouse Emulation Control enabled. Disabling Mouse Emulation Control allows your directly connected USB mouse and/or keyboard to work properly.
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, 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.
	PC or OS does not support USB 2.0.	The CS1792 / CS1794 has a built-in USB 2.0 hub, so will not support PCs or OS that do not support USB 2.0.
		For OS that do not support USB 2.0, keyboard and mouse functions can be reset using the [F1] hotkey function. See *SPC Mode*, page 24.
Device not recognized (Windows).	Windows timing problem.	Unplug the KVM cable from the computer's USB port; go into Windows' *System Settings* and remove the *Unknown Device* entry; plug the KVM cable back in. Windows will now recognize the device.
Cannot switch ports by pressing [Scroll Lock] twice	Keyboard is incompatible with Scroll Lock invocation.	Switch to the Alternate HSM invocation keys. See *Alternate HSM Invocation Keys*, page 21, for details.

Symptom	Possible Cause	Action
Monitor does not display after KVM cable set is hot plugged.	Some HDMI/DVI graphics cards are incompatible with cable set hot plugging.	Power off all devices on the installation (see safety note, page 9); power off the CS1792 / CS1794; confirm all KVM cables are properly connected; power on the CS1792 / CS1794; power on the computers

Mac Keyboard Emulation

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.

Factory Default Hotkey Settings

Setting	Default
Port Switching	[Scroll Lock] [Scroll Lock]
Invoking HSM	[Number Lock] [-]
Auto Scan Interval	5 seconds
Beeper	On
Keyboard Operating Platform	PC Compatible
Port Switching Keys	Enabled
Mouse Emulation	On

Limited Warranty

IN NO EVENT SHALL THE DIRECT VENDOR'S LIABILITY EXCEED THE PRICE PAID
FOR THE PRODUCT FROM DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR
CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, DISK,
OR ITS DOCUMENTATION.

The direct vendor makes no warranty or representation, expressed, implied, or statutory with
respect to the contents or use of this documentation, and especially disclaims its quality,
performance, merchantability, or fitness for any particular purpose.

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