

MASTER VIEW USB-DVI KVMP SWITCH



USER MANUAL

CS-1762
CS-1764

FCC Information

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Subpart J of Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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



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

- ◆ 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 uninterruptible 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.

Package Contents

The complete Master View CS-1762 / CS-1764 package consists of:

- 1 CS-1762 or CS-1764 KVMP Switch
- 2 Custom KVM Cables (CS-1762)
- 4 Custom KVM Cables (CS-1764)
- 1 Firmware Upgrade Cable
- 1 Power Adapter
- 1 User Manual*
- 1 Quick Start Guide

Check to make sure that all of the components are present and in good order. If anything is missing, or was damaged in shipping, contact your dealer.

Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the switch or to any other devices on the installation.

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

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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.
n	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.

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Chapter 1. Introduction

Overview

The Master View CS-1762 or CS-1764 DVI KVMP Switch charts a revolutionary new direction in KVM (Keyboard, Video, Mouse) switch functionality by combining a 2 port (CS-1762) or 4 port (CS-1764) KVM switch with a 2 port USB hub at the same time as it provides an interface for a digital monitor (DVI).

As a KVM switch, it allows users to access two or four computers from a single USB keyboard, USB mouse, and monitor console. As a USB hub, it permits each computer to access any peripherals connected to the hub on a 'one computer at a time' basis.

The CS-1762 / CS-1764's independent (asynchronous) switching feature, allows the KVM focus to be on 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 - such as print servers, modem splitters, etc.

The CS-1762 / CS-1764 further improves on previous designs with DVI (Digital Visual Interface) connectors, and the transfer of keyboard and mouse data to the computers via a fast, reliable USB connection. DVI supports both digital video input (flat panel displays, data projectors, plasma displays, digital TVs and set-top boxes) and analog video input (traditional monitors and TVs).

The CS-1762 / CS-1764 is audio enabled. A single microphone can provide audio input to each of the computers, and you can listen to the audio output of each computer on a single set of speakers (on a one-at-a-time basis). 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 CS-1762 / CS-1764 intercepts keyboard input directly, it will work on multiple computing platforms (PC (x86/x64), Macintosh PowerPC, and Sun Microsystems Sparc). There are two convenient methods to access the computers: push button port selection switches located on the unit's front panel; and hotkey combinations entered from the keyboard.

There is no better way to save time and money than with a Master View CS-1762 / CS-1764 installation. Since a single console manages all of the computers, the CS-1762 / CS-1764 setup: eliminates the expense of having to purchase separate console components for each computer; saves all the space those extra components would take up; saves on energy costs; and eliminates the inconvenience and wasted effort involved in constantly moving from one computer to another.

Features

- ◆ Dual function KVMP-USB switch
- ◆ One console controls 2 (CS-1762) or 4 (CS-1764) computers
- ◆ Independent (asynchronous) switching of KVM and peripheral USB/Audio ports
- ◆ Fully compliant with the USB 1.1 specification - supports transfer rates of 1.5/12 Mbps
- ◆ DVI digital and analog monitor support - fully compliant with the DVI specifications
- ◆ Computer selection via front panel switches and hotkeys
- ◆ LED display for easy status monitoring
- ◆ Auto Scan Mode for monitoring all computers
- ◆ Complete keyboard emulation for error free booting
- ◆ Superior video quality - 1920 x 1200, 60Hz; DDC2B
- ◆ Easy installation
- ◆ Hot pluggable - add or remove computers for maintenance without powering down the switch
- ◆ Compatible with PC (x86/x64), Macintosh PowerPC, and Sun Microsystems Sparc architectures
- ◆ The CS-1762/64 supports the following operating systems:
 - ◆ Mac OS 9 and X
 - ◆ Microsoft Windows 98SE, ME, 2000, XP, and 2003
 - ◆ Red Hat Linux 7, 8, and 9
 - ◆ Fedora Core 1, 2, 3, and 4
 - ◆ Novell NetWare 6.0
 - ◆ Sun Microsystems Solaris 8, 9, and 10
 - ◆ FreeBSD 5.2.1

Hardware Requirements

Console

- ◆ A DVI compatible monitor capable of the highest possible resolution
- ◆ A USB style mouse
- ◆ A USB style keyboard
- ◆ Microphone and speakers (optional)

Computers

The following equipment must be available on each computer:

- ◆ A DVI port

Note: The quality of the display is affected by the quality of the DVI display card.

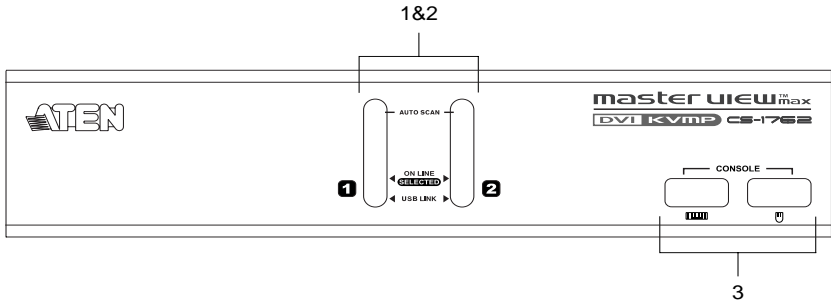
- ◆ For best results, we recommend you purchase a high quality product.
- ◆ Type A USB port
- ◆ Audio ports (optional)

Cables

Only 1.8m DVI-D KVM (P/N: 2L-7D0LU) cable sets, which are specifically designed to work with this switch, may be used to link to the computers. Either two (CS-1762), or four (CS-1764) cable sets are provided with this package.

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

CS-1762 Front View



1. Port Selection Switches

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

2. Port LEDs

The Port LEDs are built into the Port Selection Switches. The upper ones are the KVM Port LEDs; the lower ones are the USB LEDs:

KVM

- ◆ Lights DIM ORANGE to indicate that the computer attached to the corresponding port is up and running (On Line).
- ◆ Changes to BRIGHT ORANGE to indicate that the computer attached to its corresponding port is the one that has the KVM focus (Selected).
- ◆ Flashes to indicate that the computer attached to its corresponding port is being accessed under Auto Scan mode.

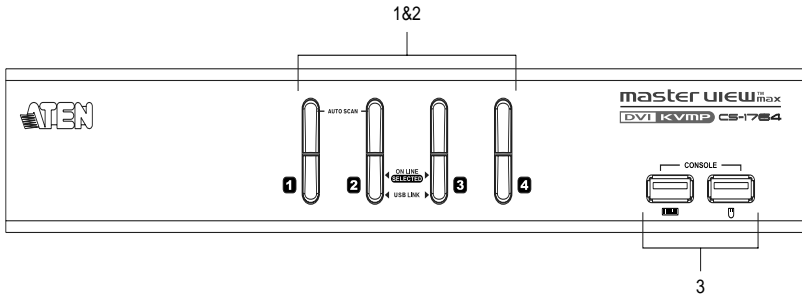
USB

- ◆ Lights GREEN to indicate that the computer attached to its corresponding port is the one that has access to the USB peripherals.

3. USB Console Ports

Your USB keyboard and USB mouse plug in here.

CS-1764 Front View



1. Port Selection Switches

- ◆ Press a switch for longer than two seconds to bring the KVM, USB hub, and audio focus to the computer attached to its corresponding port.
- ◆ Press a switch for less than two seconds to bring only the KVM 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.

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- ◆ Changes to BRIGHT ORANGE to indicate that the computer attached to its corresponding port is the one that has the KVM focus (Selected).
- ◆ Flashes to indicate that the computer attached to its corresponding port is being accessed under Auto Scan mode.

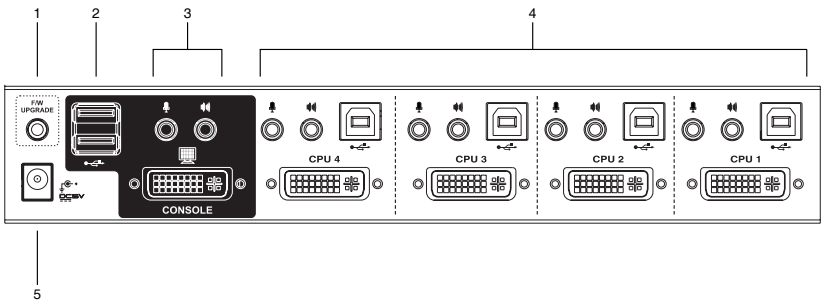
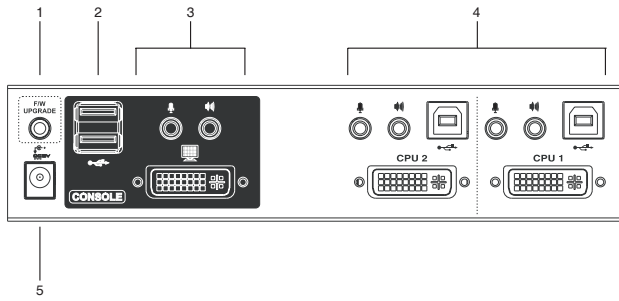
USB

- ◆ Lights GREEN to indicate that the computer attached to its corresponding port is the one that has access to the USB peripherals.

3. USB Console Ports

Your USB keyboard and USB mouse plug in here.

CS-1762 / CS-1764 Rear View



1. Firmware Upgrade Port

The Firmware Upgrade Cable that transfers the firmware upgrade data from the administrator's computer to the CS-1762 / CS-1764 plugs into this connector. See p. 21 for firmware upgrading details.

2. USB Hub Section

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

3. Console Port Section

The cables from your monitor, microphone, and speakers plug in here. Each connector is marked with an appropriate icon to indicate itself.

4. 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, USB type B socket and a DVI connector.

5. Power Jack

The power adapter cable plugs into this jack.

Chapter 2. Installation

Before you Begin



Make sure that power to all the devices on the installation are properly grounded.

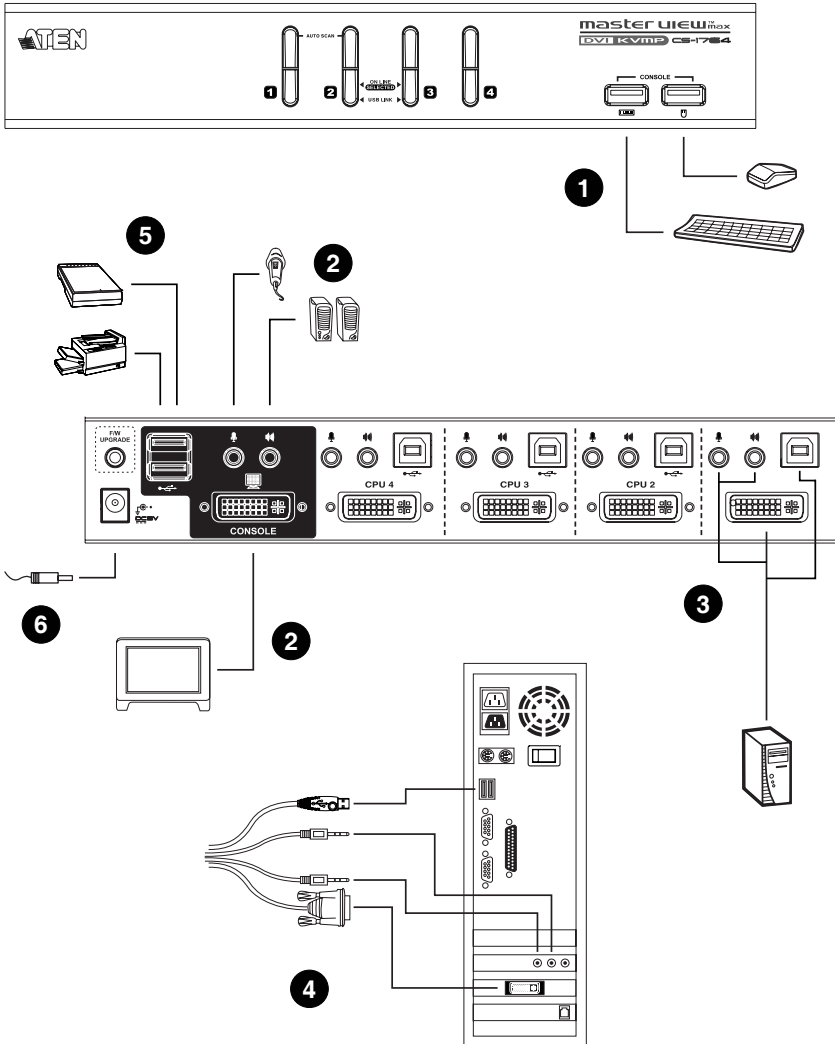
Cable Connection

To set up your Master View CS-1762 / CS-1764 installation, refer to the installation diagrams on the following pages (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 front panel.
2. Plug your microphone, speakers, and monitor into the Console ports located on the unit's rear panel.
3. Using a KVM cable set (provided with this package), plug the DVI connector into any available DVI socket in the CPU Port section of the switch, then plug the accompanying USB, microphone and speaker connectors into their corresponding USB, microphone, and speaker sockets.

Note: Verify that all the plugs are in the same CPU Port sockets (all in Port 1, all in Port 2, etc.), and that each socket is marked with an appropriate icon to indicate itself.

4. At the other end of the cable, plug the USB, video, microphone, and speaker cables into their respective ports on the computer.
5. Plug your USB peripherals into the type A sockets in the USB hub section.
6. Plug the power adapter that came with your switch into an AC power source, then plug power adapter cable into the switch's Power Jack.
7. Turn on the power to the computers.



Chapter 3.

Basic Operation

Manual Switching

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

For manual port selection:

- ◆ Press and release a port selection switch 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 hold a port selection switch for more than 2 seconds to bring the KVM focus, plus the USB and Audio focus to the computer attached to its corresponding port.
- ◆ Press and hold port selection switches 1 and 2 for more than 2 seconds to start Auto Scan Mode, see page 16 for details.
- ◆ Press and release either port selection switch to stop Auto Scan Mode. The KVM focus goes to the computer attached to the corresponding port of the switch you pressed.

Hot Plugging

The Master View CS-1762 / CS-1764 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 Master View 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 CPU port on the CS-1762 / CS-1764 switch is assigned a port number (1 or 2 for the CS-1762; 1 to 4 for the CS-1764). The port numbers are marked on the rear panel of the switch (see page 5 for details).

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

The Port ID is used to specify which computer gets the KVM USB peripheral, and audio focus with the Hotkey port selection method (see page 15 for details).

Chapter 4.

Hotkey Operation

The CS-1762 / CS-1764 provides an extensive, easy-to-use, hotkey function that makes it convenient to control and configure your KVM installation from the keyboard. Hotkeys provide asynchronous (independent) switching of the KVM, USB hub and audio focus. If you wish, you can give one computer the KVM console focus, another the USB hub focus, while a third has the audio focus.

Port Switching

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

Note: If using the Scroll Lock key conflicts with other programs running on the computer, the **Ctrl** key can be used, instead. See *Alternate 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-1762; 1 to 2; 2 to 3; 3 to 4; 4 to 1 for the CS-1764). Note that the KVM, USB hub, and audio focus all go to this port even if they were on different ports to begin with.
[Scroll Lock] [Scroll Lock] [K] [Enter]	Brings only the KVM 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] [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, and audio focus to the computer attached to the port corresponding to the specified Port ID. Note that the KVM, USB, 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. audio focus remain 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" on page 12. Replace the **n** with the appropriate Port ID when entering hotkey combinations.

Auto Scanning

The CS-1762 / CS-1764'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.

-
- Note:**
1. The **n** stands for the number of seconds that the CS-1762 / CS-1764 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 doesn't 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 CS-1762 / CS-1764 switch configuration. All operations begin with invoking Hotkey Setting Mode (HSM).

Invoking HSM

To invoke HSM do the following:

1. Press and hold down the **Num Lock** key
2. Press and release the **minus** key
3. Release the **Num Lock** key

-
- Note:**
1. There is an alternate key combination to invoke HSM. See below for details.
 2. The minus key must be released within one half second, otherwise Hotkey invocation is canceled.
-

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

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

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

Alternate HSM Invocation Keys

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

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

1. Invoke HSM (see above)
2. Press and release the **H** key
The HSM invocation keys become the Ctrl key (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 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-1762 / CS-1764'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 17)
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 <i>Mac Keyboard Emulation</i> , page 23 for details.
[F3]	Enables Sun keyboard emulation, see <i>Sun Keyboard Emulation</i> , page 24 details.
[F10]	Disables keyboard emulation. Key presses are passed straight through. When your console uses a Mac keyboard to access a Mac attached to a port, for example.

List Hotkey Settings

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

1. Invoke HSM (see page 17 for details).
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 USB loses focus and needs to be reset, do the following:

1. Invoke HSM (see page 17 for details).
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.

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 for details).
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 CS-1762 / CS-1764 to Firmware Upgrade Mode, do the following:

1. Invoke HSM (see page 17 for details).
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 CS-1762 / CS-1764 to its default hotkey settings, do the following:

1. Invoke HSM (see page 17 for details).
2. Press **[R] [Enter]**.

All hotkey settings return to the factory default settings. See “Hotkey Default Settings” on page 33.

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	Enables Mac keyboard emulation.
F10	Removes keyboard emulation mappings. Key press data is passed straight through.
F4	Lists the current hotkey settings via the <i>Paste</i> function of a text editor.
F5	Performs a USB reset.
B	Toggles the beeper On and Off.
X[Enter]	Enables/Disables the Port Switching keys.
R[Enter]	Resets the hotkey settings to their default status.
upgrade [Enter]	Invokes Firmware Upgrade Mode.

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.

Note: When using key combinations, press and release the first key (Ctrl or Alt), then press and release the activation key.







PC Keyboard	Mac Keyboard
[Shift]	Shift
[Ctrl]	Ctrl
[Windows]	⌘
[Ctrl] [1]	Mute
[Ctrl] [2]	V_DN
[Ctrl] [3]	V_UP
[Ctrl] [4]	▲
[Alt]	[L Alt] or [R Ctrl] (Option)
[Prt_Sc]	F13
[Scroll Lock]*	F14
[Desktop Menu]	=
[Enter]	Return
[Back Space]	Delete
[Ins]	Help
[Ctrl] [Win]	F15

Note: If you are using Mac keyboard emulation, we recommend using the alternate port switching keys (see page 18), to avoid a conflict with the Scroll Lock key.

Sun Keyboard Emulation

The PC Compatible (101/104 key) keyboard can emulate the functions of the Sun keyboard. The emulation mappings are listed in the table below.

Note: When using key combinations, press and release the first key (Ctrl or Alt), then press and release the activation key.

PC Keyboard	Sun Keyboard
[Ctrl] [T]	Stop
[Ctrl] [F2]	Again
[Ctrl] [F3]	Props
[Ctrl] [F4]	Undo
[Ctrl] [F5]	Front
[Ctrl] [F6]	Copy
[Ctrl] [F7]	Open
[Ctrl] [F8]	Paste
[Ctrl] [F9]	Find
[Ctrl] [F10]	Cut
	Compose
	Meta
[Ctrl] [H]	Help
[Ctrl] [1]	
[Ctrl] [2]	
[Ctrl] [3]	
[Ctrl] [4]	

Chapter 5.

The Firmware Upgrade Utility

The Windows-based Firmware Upgrade Utility (FWUpgrade.exe) provides a smooth, automated process for upgrading the KVM switch's firmware.

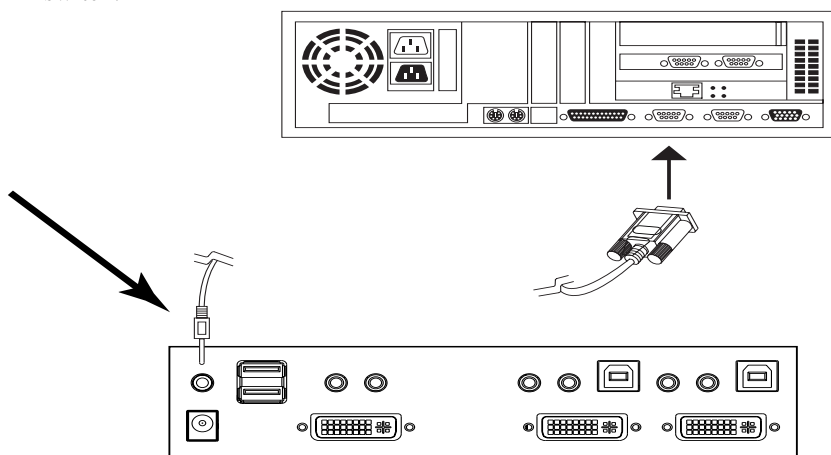
The Utility comes as part of a Firmware Upgrade Package that is specific for each device. New firmware upgrade packages are posted on our web site as new firmware revisions become available. Check the web site regularly to find the latest packages and information relating to them:

<http://www.aten.com>

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 (CS-1762 or CS-1764) 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.



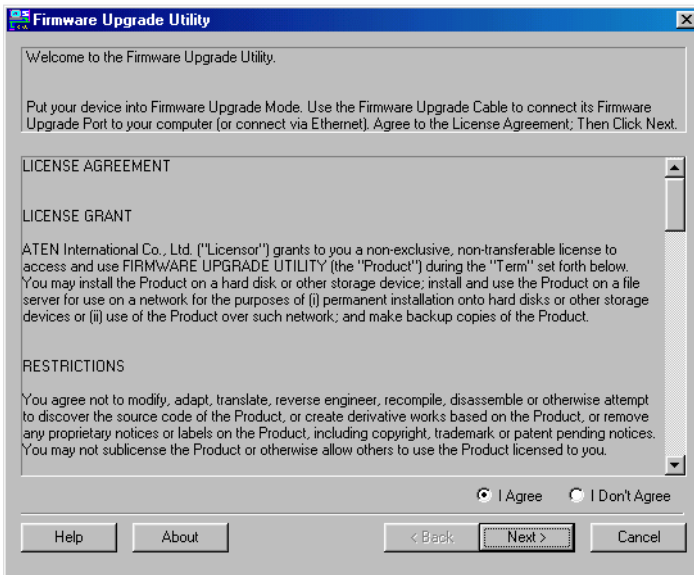
4. Shut down the computers on your CS-1762 / CS-1764 installation.
5. Invoke Firmware Upgrade Mode (see page 21).
The front panel LEDs flash together to indicate Firmware Upgrade Mode is in effect.

Starting the Upgrade

To upgrade your firmware:

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

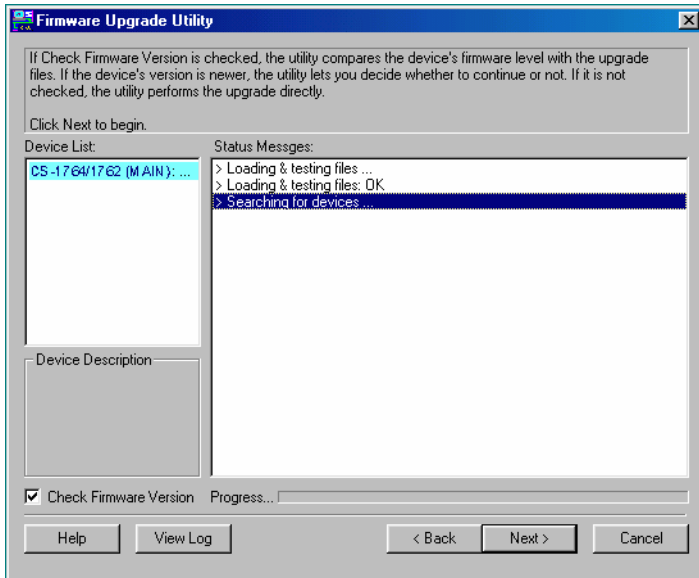
The *Firmware Upgrade Utility* Welcome screen appears:



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

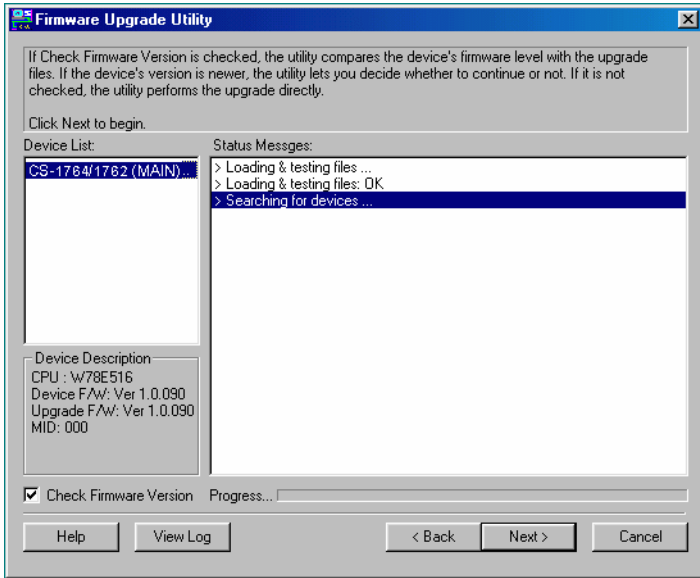
2. Read the License Agreement (enable the *I Agree* radio button).

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

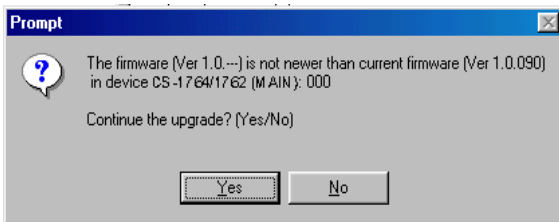


The Utility inspects your installation. All the devices capable of being upgraded by the package are listed in the *Device List* panel.

- As you select a device in the list, its description appears in the Device Description panel.



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



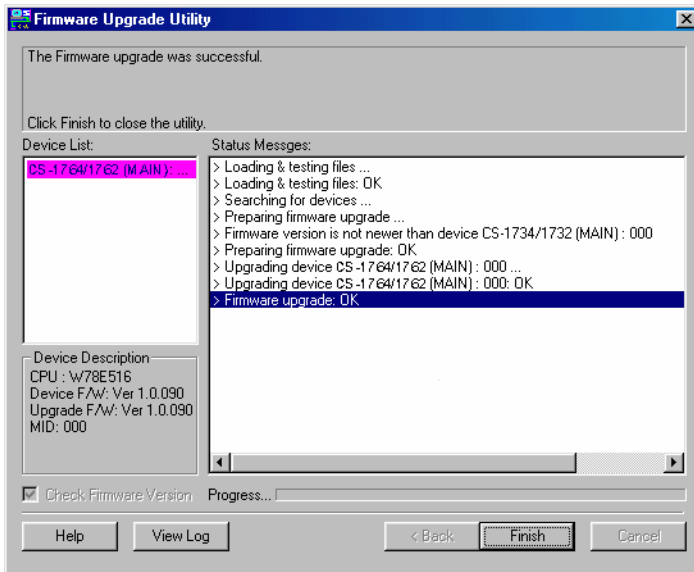
If you enabled Check Firmware Version, the Utility compares the device's firmware level with that of the upgrade files. If it finds that the device's version is higher than the upgrade version, it brings up a dialog box informing you of the situation and gives you the option to Continue or Cancel.

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

As the Upgrade proceeds status messages appear in the Status Messages panel, and the progress toward completion is shown on the *Progress* bar.

Upgrade Succeeded

After the upgrade has completed, a screen appears to inform you that the procedure was successful:



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

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

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.

Appendix

Specifications

Function		CS-1762	CS-1764
Computer Connections		2	4
CPU Port Selection		Front Panel Switches; Hotkey	
LEDs	On Line/ Selected	2 (Orange)	4 (Orange)
	USB Link	2 (Green)	4 (Green)
Console Connectors	Keyboard	1 x USB Type A socket	
	Mouse	1 x USB Type A socket	
	Video	1 x DVI-I (female) port	
	Audio	1 x 3.5mm Mini Stereo jack 1 x Microphone jack	
Computer Connectors	KB / Mouse	2 x USB Type B sockets	4 x USB Type B sockets
	Video	2 x DVI-I ports (female)	4 x DVI-I ports (female)
	Audio	2 x 3.5mm Mini Stereo jacks 2 x Microphone jacks	4 x 3.5mm Mini Stereo jacks 4 x Microphone jacks
USB Peripherals		2 x USB Type A sockets	
Firmware Upgrade		1 x 3.5mm Mini Stereo jack	
Power Adapter		1 x DC 5V jack	
Power Consumption		DC 5V, 5.1W (max)	1 x DC 5V, 7.9W (max)
Scan Interval		1 - 99 secs. (5 secs. default)	
Keyboard / Mouse Emulation		USB	
Resolution		Up to 1920 x 1200, 60Hz; DDC2B	
Operating Temperature		0 - 50°C	
Storage Temperature		-20 - 60°C	
Humidity		0 - 80% RH	
Housing		Metal	
Weight		0.8kg	1kg
Dimensions (L x W x H)		20.0 x 7.45 x 4.2cm	26.0 x 7.45 x 4.2cm

Troubleshooting

Symptom	Possible Cause	Action
Erratic behavior.	Unit not receiving enough power.	Use a DC 5V 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 5V), and that it is plugged in and functioning properly.
	Keyboard and/or mouse need to be reset.	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 <i>Before you Begin</i> , 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.
		Use the USB Reset hotkey combination (see page 20), to reset the USB ports.

Hotkey Default Settings

The hotkey factory default settings are as follows:

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

Limited Warranty

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