# Complete Control

ATEN®
Simply Better Connections™

## Product Catalog

# About ATEN

ATEN International Co., Ltd. has specialized in connectivity and management solutions in information technology since its establishment in 1979, and is today considered the leading manufacturer of KVM switches worldwide. ATEN offers a broad range of solutions to meet the needs of consumers, small office/home office (SOHO) users, and small and medium sized business (SMB) customers. In 2002, ATEN launched the "ALTUSEN" product line of high-end server management solutions for the enterprise-level KVM switch market.

ATEN's state-of-the-art KVM switches are easy to use, highly integrated, and demonstrate ATEN's commitment to innovation. For example, ATEN was first-to-market with a Cable KVM switch featuring a patented built-in cable design and tiny desktop footprint with full KVM switch functionality. Having recognized the increasing demand for USB and audio applications, ATEN also offers the CubiQ™ range of KVM switches for desktop multimedia applications. Incorporating the latest advances in high-definition video and audio, these all-in-one solutions transform a KVM switch into a desktop control center.

With a keen eye on your future enterprise growth, ATEN offers a series of KVM Over IP products as a next-generation solution for expanding KVM applications. And to meet the demand for remote management, ATEN has recently introduced its KVM on the NET™ range of external and embedded solutions that allow you to effectively manage your IT infrastructure from anywhere in the world.

ATEN also offers the VanCryst™ range of video integrated solutions for a wide variety of corporate, commercial, and home theater applications. Our high-quality audio/video switches, splitters, extenders, and converters are available with VGA, DVI, HDMI, and high definition component video interfaces. Furthermore, the ProXime™ range of KVM extenders brings control closer to you wherever your installation is located. ATEN also provides industry control data switches and signal converters, and a host of popular USB and FireWire hubs, switches, and converters.

At ATEN, we are committed to protecting the environment. Our manufacturing operations are ISO 14001 certified and we are continually searching for ways to reduce their impact on the environment. In addition, we are fully compliant with both the European Union and China's RoHS directives restricting the use of hazardous materials in electronic products.

To offer the best service, we are continually expanding our presence throughout the world to better assist our partners and customers with localized solutions, services, and support. ATEN is strategically located with subsidiaries in Taiwan, China, Japan, Belgium, Canada, Korea, the US, and the UK.

# Contents

# Basic KVM

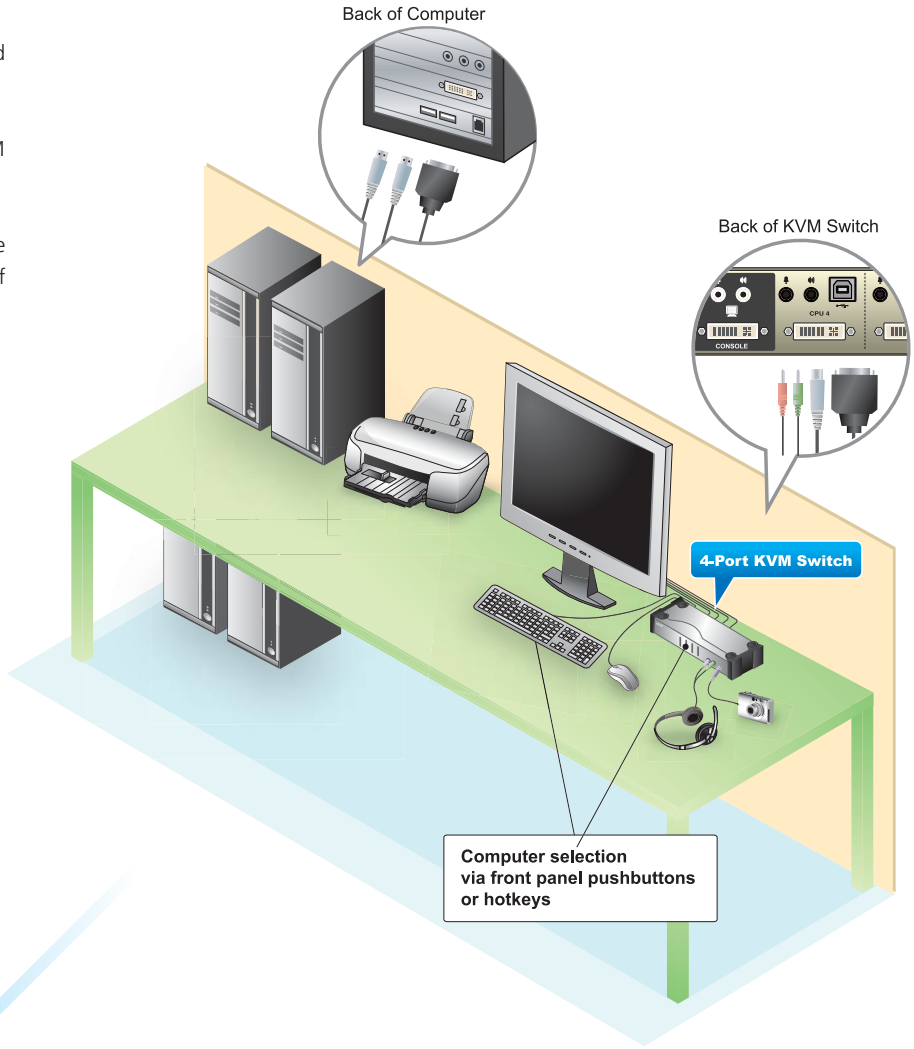
## What is KVM switching?

KVM stands for: "Keyboard, Video and Mouse". KVM switching allows you to control multiple computers from a single keyboard, monitor, and mouse (Console).

By using a KVM switch, you will save money on redundant hardware, consolidate desk space, and increase performance by having multiple computers working as one.

Want to use your speakers, microphone, USB hub and even Ethernet hub along with the KVM switch? ATEN integrates all of these multimedia functions into one KVM switch.

With a KVM switch, it is possible to access any computer on the installation from a single console anytime you want to. This provides operators with the centralized control of a large number of computers from a single console.

# Advanced KVM

## 1. Managing Multiple Servers

Additional KVM switches can increase the overall capacity of your installation. There are two methods for expanding your KVM switch installation: Cascading and Daisy-chaining.

### Cascading

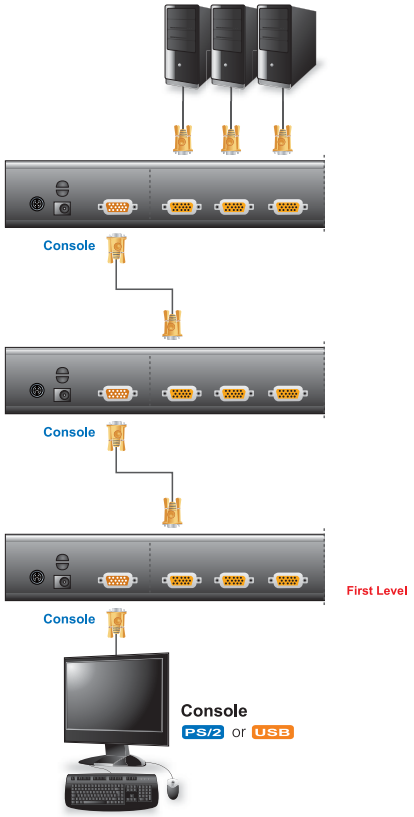
Cascading involves using the KVM port(s) of a parent KVM switch (one that is above a switch linked down from it) to connect to the console ports of a child KVM switch. With numerous child switches linked down from the parent, the effect is reminiscent of the way water cascades down a waterfall. Cascading adds capacity to a KVM installation, but the parent KVM switch loses at least one KVM port for each cascaded child switch.

### Daisy-chaining

Daisy-chaining refers to connecting two KVM switches via dedicated daisy-chain ports. The switches are strung together in a chain, similar to the way children make chains of daisies by tying the end of one daisy to the head of another.

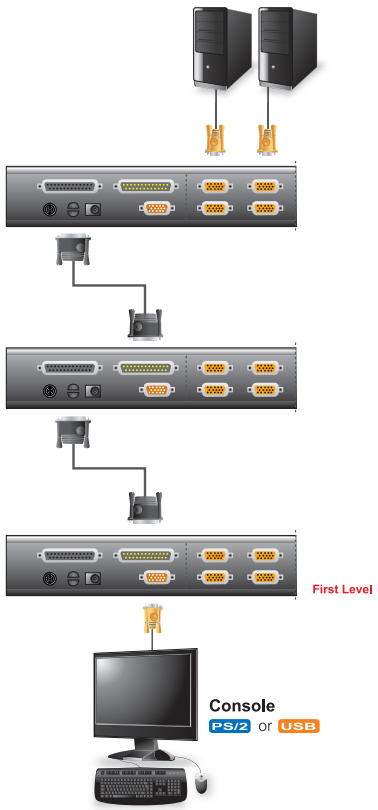
A daisy-chained installation does not utilize KVM ports and user ports to connect one switch to another as in a cascaded installation, and thereby preserves the number of valuable ports. The port capacity of a daisy-chained installation is the total of all the KVM ports for all of the KVM switches on the chain.

**Cascading**




**CS1308**
8-Port KVM Switch

**Daisy-chaining**



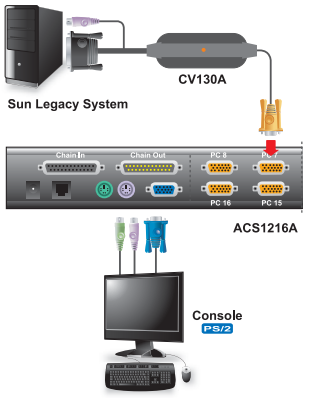

**CS1716A**
16-Port KVM Switch

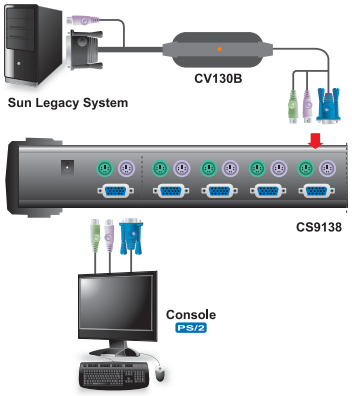
## 2. Managing Multiplatform Servers

ATEN provides a series of KVM switches which feature multiplatform support. In addition, we offer a host of converters to enable your PS/2 KVM switches to support USB, Sun, and Mac computers. By using ATEN converters, you eliminate the high cost and downtime associated with replacing KVM switches.

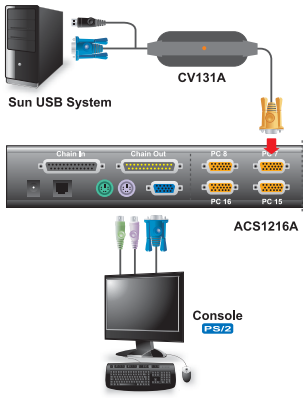
## Sun Converters

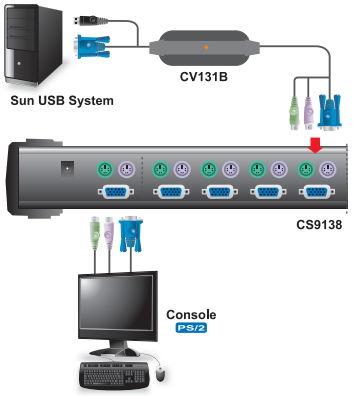
### For Sun Legacy Systems



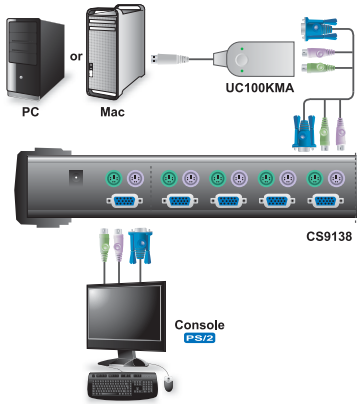

### For Sun USB Systems



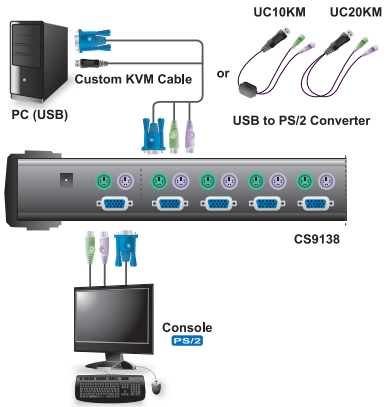



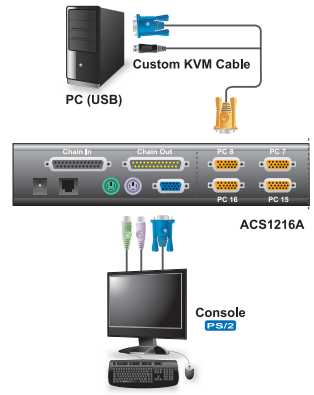

## USB Converters

### For PC / Mac




### For PC Only




*Custom KVM cables in various lengths. Please refer to page 53
**For more details on the UC100KMA or USB-to-PS/2 Converter, please refer to page 39

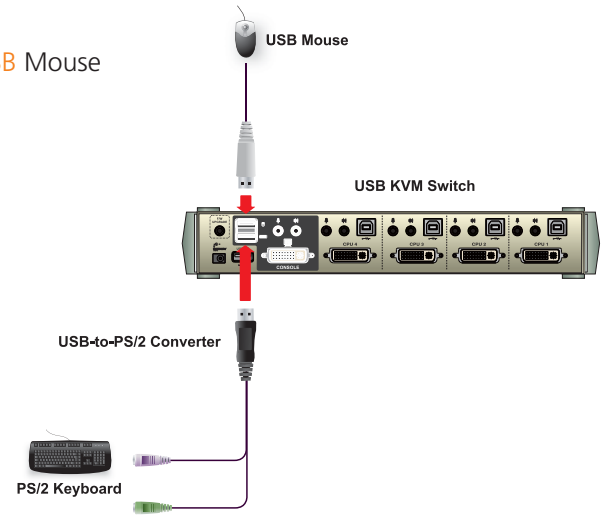
## 3. Turning Your USB KVM Switch or Computer Sharing Device into a Combo (PS/2-USB) Device

USB port technology has emerged in response to the proliferation of external peripheral devices (keyboards, mice, scanners, digital cameras, removable drives, etc.), that are increasingly being connected to the latest generation of computers. ATEN already offers several types of KVM switch with USB console ports (for keyboards and mice) to meet this market shift. However, we know that many of our customers want to use a PS/2 keyboard and PS/2 mouse – or a PS/2 keyboard and USB mouse – with their USB KVM Switch.

To satisfy our customers, ATEN has developed USB-to-PS/2 converters that allow users to install a PS/2 keyboard and either a PS/2 or USB mouse on their USB KVM Switch or Computer Sharing Device.

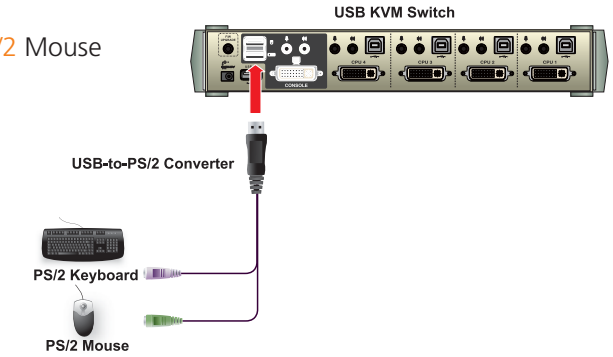
### Option 1

PS/2 Keyboard + USB Mouse




### Option 2

PS/2 Keyboard + PS/2 Mouse




**Compatible KVM Switches:** CS1732A, CS1734A, CS1732B, CS1734B, CS1742, CS1744, CS1774
CS1782, CS1784, CS1642, CS1644, CS1792, CS1794, CM0264

**Compatible Computer Sharing Devices:** CS231

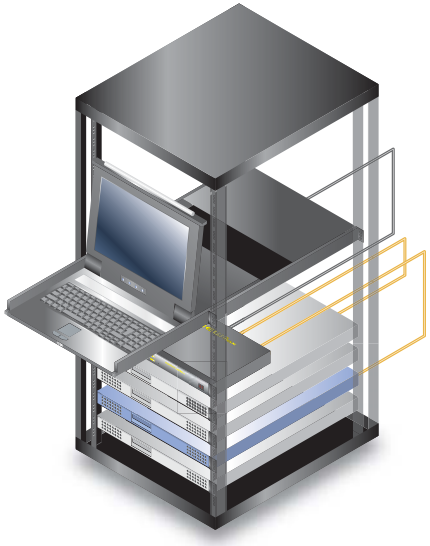
## 4. Saving Server Room Space with LCD KVM Switches

Since server room space is limited and the cost of maintenance continues to rise, network administrators now more than ever rely upon finding a solution to reduce requirements and costs.

ATEN LCD KVM switches/LCD consoles require only 1U of rack space. This eliminates the need for a separate monitor requiring at least 5U of space, thus saving valuable space in your server room.

For more details on LCD KVM switches/LCD consoles, please refer to page 11

**LCD KVM Switch / LCD Console**

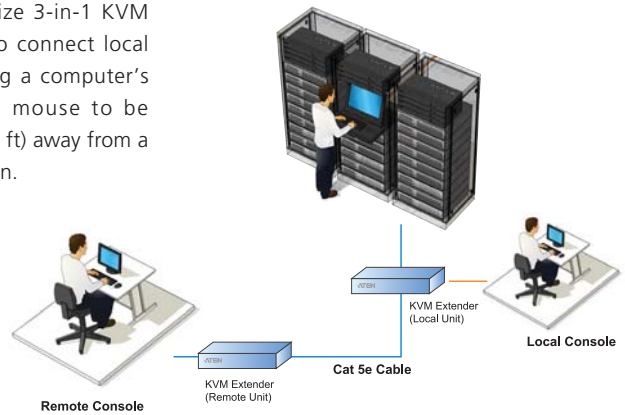


## 5. Eliminating the Need for Traveling Back and Forth between Desk and Different Server Rooms

ATEN KVM Extenders utilize 3-in-1 KVM cables or Cat 5e cables to connect local and remote units, allowing a computer's keyboard, monitor, and mouse to be located up to 300 m (1,000 ft) away from a computer or KVM Installation.

For more details on KVM Extenders, please refer to page 15

**KVM Extender**

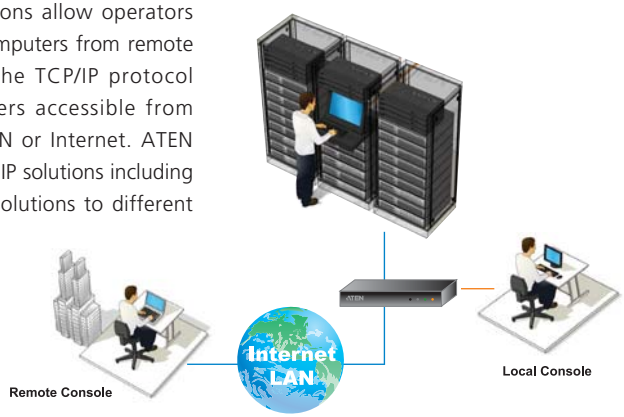



## 6. Accessing and Controlling Servers from Any Computer on the Net

ATEN KVM over IP solutions allow operators to monitor and access computers from remote locations. They utilize the TCP/IP protocol making connected servers accessible from any computer on the LAN or Internet. ATEN offers a host of KVM over IP solutions including external and embedded solutions to different installations.

For more details on KVM over IP solutions, please refer to page 7

**KVM on the NET™**

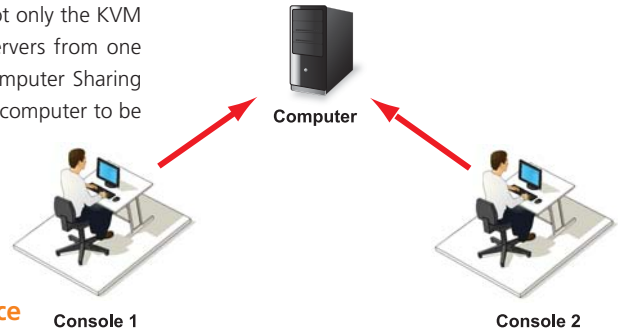



## 7. Sharing One Single Computer with Other Consoles

We understand that you may need to work on the same computer with other consoles in your working environment. ATEN provides you with total management solutions: not only the KVM switches to control multiple servers from one single console, but also the Computer Sharing Device which allows one single computer to be shared by two consoles.

For more details on Computer Sharing Devices, please refer to page 22

**Computer Sharing Device**



# The Latest Patented Technology from ATEN

## All-In-One

ATEN's patented All-In-One custom cables were the first in the industry to offer custom KVM cables built directly into a KVM switch. The All-In-One design provides the perfect solution to accessing and sharing 2 or 4 computers in a SOHO or Digital Living Room environment. Its integrated design and small footprint allow it to be placed in a convenient, out of the way, location so that it doesn't negatively impact the room's decor.

**Products:** All PETITE™ switches

## KVMP™

KVMP™ is a patented ATEN technology that provided the industry's first full-functioned USB hub to be integrated into a KVM switch, allowing peripherals to be shared. KVMP™ functionality centralizes control of both computers and USB peripherals from a single console for the utmost in desktop convenience. KVMP™ switches are platform independent, and allow you to access different PCs while maintaining peripheral focus on the original computer.

**Products:** All KVMP™ switches

## Video DynaSync™

Video DynaSync™ is a patented ATEN technology that optimizes your KVM viewing experience. By storing the console monitor's EDID, boot-up display problems are eliminated and operation is smoother because the switch will automatically show the correct display resolution when switching between ports. Video DynaSync™ ensures that your ideal video settings are maintained under all operating systems, and is optimized for Windows 7.

**Products:** Most KVMP™ and KVM switches

## Deskew

ATEN's patented automatic delay line synchronizing function corrects the color phase and time errors that can occur when R/G/B video signals are sent long distances over Cat 5e/6 cables. ATEN's Deskew technology enables you to manually tune the R/G/B signal settings, ensuring stable, high quality video in both KVM and video extender installations.

**Products:** CE770 USB KVM Extender

## Auto Switch

The ATEN US221A/US421A has an Auto Switch function that stores commands sent to the USB peripheral device to be processed on a first-come, first-served basis. This patented technology means that a separate print server is not required in your multifunction printer/USB peripheral installation.

**Products:** US221A/US421A USB 2.0 Peripheral Switch

## Mouse DynaSync™

Mouse DynaSync™ is a patented ATEN technology that represents the latest in KVM mouse synchronization. With USB mice and Mouse DynaSync™, your local console mouse movement actually becomes the remote unit's mouse movement. The Mouse DynaSync™ technology automatically locks in the local and remote mouse pointers so that you do not have waste time constantly re-synching the two movements.

**Products:** CN8000 (+ various KVM Over the NET™)

# Hotkeys

| Models | Hotkey Mode (Invoke Hotkeys) | Port Selection | Invoke OSD |
|---|---|---|---|
| CS1308, CS1316, CS1708A, CS1716A, CS1708i, CS1716i, CS1754, CS1758, CL5708, CL5716, CL1008, CL1016 | **Default:** Num Lock – or<br>**Alternate:** Ctrl F12 | **Default:** Num Lock – **(n)** Enter or<br>**Alternate:** Ctrl F12 **(n)** Enter | **Default:** Scroll Lock Scroll Lock or **Alternate:** Ctrl Ctrl |
| ACS1208A, ACS1216A, CS88A | **Default:** Num Lock * or<br>**Alternate:** Num Lock – | **Default:** Num Lock * **(n)** Enter or<br>**Alternate:** Num Lock – **(n)** Enter | **Default:** Scroll Lock Scroll Lock or **Alternate:** Ctrl Ctrl |
| CS9134, CS9138 | Ctrl Shift Alt | Ctrl Shift Alt **(n)** Enter | **Default:** Scroll Lock Scroll Lock or **Alternate:** Ctrl Ctrl |
| CS228, CS428 | — | — | **Default:** Scroll Lock Scroll Lock or **Alternate:** Ctrl Ctrl |
| CS682, CS62DU, CS52A, CS52 | **Default:** Scroll Lock Scroll Lock or **Alternate:** Ctrl Ctrl | **Default:** Scroll Lock Scroll Lock Enter or **Alternate:** Ctrl Ctrl Enter | — |
| CS62, CS62S, CS62A | — | **Default:** Scroll Lock Scroll Lock or **Alternate:** Ctrl Ctrl | — |
| CS64A | Num Lock – | Num Lock – **(n)** | — |
| CS62U, CS62US | **Default:** Num Lock – or **Alternate:** Ctrl F12 | **Default:** Scroll Lock Scroll Lock or **Alternate:** Ctrl Ctrl | — |
| CS64U, CS64US, CM0264, CS1642, CS1644, CS1792, CS1794, CS1782, CS1784, CS1762A, CS1764A, CS1772, CS1774, CS1742, CS1744, CS1732A, CS1734A | **Default:** Num Lock – or<br>**Alternate:** Ctrl F12 | **Default:** 1. Scroll Lock Scroll Lock<br>2. Scroll Lock Scroll Lock **(n)** Enter<br>or<br>**Alternate:** 1. Ctrl Ctrl **(n)** Enter<br>2. Ctrl Ctrl **(n)** Enter | — |
| CS1732B, CS1734B | **Default:** Num Lock – or<br>**Alternate:** Ctrl F12 | **Default:** Num Lock – **(n)** Enter<br>Num Lock – ←; Num Lock – →<br>Num Lock – ↑; Num Lock – ↓<br>or<br>**Alternate:** Ctrl F12 **(n)** Enter<br>Ctrl F12 ←; Ctrl F12 →<br>Ctrl F12 ↑; Ctrl F12 ↓ | **Default:** Scroll Lock Scroll Lock or<br>**Alternate:** Ctrl Ctrl Enter |
| CS82A, CS912 | — | **Default:** Scroll Lock Scroll Lock or **Alternate:** Ctrl Ctrl | — |
| CS84A, CS914 | — | Ctrl Shift Alt **(n)** Enter | — |
| CS72E | — | Scroll Lock Scroll Lock | — |
| CS74E | — | Scroll Lock Scroll Lock ↓; Scroll Lock Scroll Lock ↑; Scroll Lock Scroll Lock fn | — |

**Legend:**

**(n)**: The n stands for the computer's Port ID number (1, 2, 3, 4…).

K: The K stands for the KVM switch focus

S: The S stands for audio focus

U: The  stands for USB focus

fn: Where Fn represents a function key (from [F1] to [F4]) that corresponds to the KVM port (1 to 4).

←: previous port; →: next port; ↑: last accessible port; ↓: first accessible port

## Hotkeys

Our KVM switches provide an extensive, easy-to-use, hotkey function that makes it convenient to access, control, and configure your KVM installation from the keyboard. They offer the simplest way to access the connected computers.

## Hotkey Mode

All hotkey operations begin with invoking Hotkey Mode. The invocation sequence depends on the product and the user's preference. In each case, there is a factory default sequence and an alternate sequence that the user can select, instead. The Hotkey invocation sequence for each product is shown in the table, below. The default sequence is given first and appears in bold text.

## Port Selection

Hotkey port switching simply involves pressing the appropriate hotkey sequence. In some cases simply invoking Hotkey Mode cycles you through the available ports; in others, the sequence involves specifying the Port ID that the computer you want to access is connected to; while in still other cases, it involves pressing one of the Arrow keys.