

# MASTER VIEW KVM SWITCH



## USER MANUAL

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# CS-74A

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Read this guide thoroughly and follow the installation and operation procedures carefully in order to prevent any damage to the unit and/or any devices that connect to it.

This package contains:

- 1 Master View CS-74A KVM Switch
- 4 CS Custom KVM Cables
- 1 Console Connector Cable
- 1 User Manual
- 1 Quick Start Guide

If anything is damaged or missing, contact your dealer.

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Manual Part No. PAPE-1225-1AT  
Printed in Taiwan 02/2003

2003-02-18

**Note:** 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 or an experienced radio/television technician for help.



2003-02-18

## OVERVIEW

The CS-74A KVM (Keyboard, Video, Mouse), Switch is a control unit that allows the control of up to four computers from a single console (keyboard, monitor, and mouse). With its custom designed connectors, the CS-74A reduces the number of ports required for a 4 Port KVM switch from 15 (10 PS/2 and 5 HDB-15) to only 5 (4 custom designed SPDB-15 connectors for the computer attachments, and a single, custom designed, integrated, SPDB-15 connector for the keyboard, video, and mouse).

The special connector design provides several advantages over standard KVM switch implementations: 1) increased reliability; 2) a handsome, space-saving, vertical-standing, modern appearance; 3) neater, more efficient, cabling - eliminating the usual tangled mess.

Setup is fast and easy; plugging cables into their appropriate ports is all that is entailed. There is no software to configure, so there is no need to get involved in complex installation routines or be concerned with incompatibility problems. Since the CS-74A intercepts keyboard and mouse input directly, it works on any hardware platform and with all operating systems.

The CS-74A provides two convenient methods to switch the KVM focus among the computers: 1) by pressing push button port selection switches located on the unit's front panel; and 2) by entering Hotkey combinations from the keyboard.

There is no better way to save time and money than with an CS-74A installation. By allowing a single console to manage all of the attached computers, the CS-74A eliminates the expense of purchasing a separate keyboard, monitor, and mouse for each one. Additionally, it saves the extra space and energy costs that they would require, and eliminates the inconvenience and wasted effort involved in constantly having to move from one computer to the other.

## **FEATURES**

- ♦ Compact Vertical-Standing Design
- ♦ Custom Connector Layout Requires Only 5 Ports - 4 SPDB-15 Connectors for Linking to the Computers - A Single, Integrated, SPDB-15 Connector For the Keyboard, Video, and Mouse Console
- ♦ Custom ASIC For Enhanced Performance
- ♦ Easy to Install - No Software Required - Connecting Cables to the Computers Is All It Takes
- ♦ Easy to Operate - Computer Selection Via Port Selection Switches or Hotkeys
- ♦ Power On Detection - Automatically Switches to the First Powered On Port - Automatically Switches to the Next Powered On Port If the Current One is Shut Down
- ♦ Auto Scan Function to Monitor Computer Operation
- ♦ LED Display For Easy Status Monitoring
- ♦ Hot Pluggable - Add or Remove Computers Without Powering Down the Switch
- ♦ Caps Lock, Num Lock, and Scroll Lock States are Saved and Restored When Switching
- ♦ Keyboard and Mouse Emulation for Error Free Computer Booting
- ♦ Supports Microsoft IntelliMouse and the Scrolling Wheel on Most Mice
- ♦ Superior Video Quality - Up To 2048 x 1536; DDC, DDC2, DDC2B
- ♦ Non-powered
- ♦ Saves Time, Space, Power, and Equipment Costs

## SYSTEM REQUIREMENTS

### CONSOLE

- ♦ A VGA, SVGA, or Multisync monitor capable of the highest resolution that you will be using on any computer in the installation
- ♦ A PS/2 style keyboard
- ♦ A PS/2 style mouse

### COMPUTERS

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

- ♦ A VGA, SVGA or Multisync port.
- ♦ A 6-pin mini-DIN (PS/2 Style) mouse port.
- ♦ Either a 6-pin mini-DIN (PS/2 Style) keyboard port with +5V DC on pin 4 and Ground on pin 3, or a 5-pin DIN (AT Style) keyboard port with +5V DC on pin 5 and ground on pin 4.

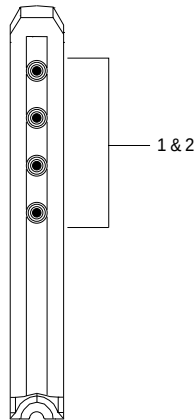
### CABLES

Only CS Custom cable sets specifically designed to work with this switch may be used. One Console Connector Cable and four KVM cable sets (2 x 1.2 m; 2 x 1.8 m) are provided with this package.

- Note:**
1. Cable sets are also available in 3 m lengths. If you need additional cables, or 3 m cables, contact your dealer.
  2. If your computer uses a standard AT style keyboard socket, you will need a PS/2-to-AT keyboard adapter (Part No. 2A-106 or any standard keyboard adapter), in order to plug the cable into the Computer's keyboard port.
  3. The CS-74A only supports PS/2 style mice - it does not support serial mice.

## COMPONENTS

### FRONT VIEW:



#### 1. Port Selection Switches

Press a switch to give the KVM focus to the system attached to its corresponding port.

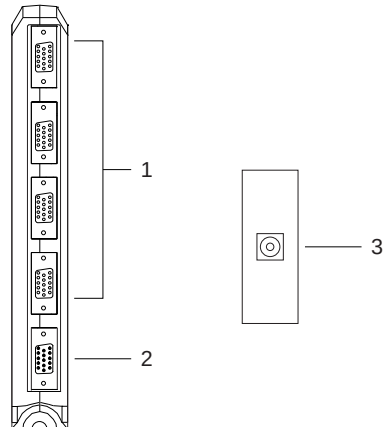
- ♦ Pressing Buttons 1 and 2 simultaneously for 3 seconds performs a *Keyboard and Mouse Reset*.
- ♦ Pressing Buttons 3 and 4 simultaneously for 3 seconds starts *Auto Scan Mode* (see p. 10).

#### 2. Port LEDs

The Port LEDs are built into the Port Selection Switches. A lit LED indicates that its corresponding Port is the one that has the KVM focus.

Depending on the Port's status, the LED may flash according to a specific pattern (see the table on p. 12 for details).

## REAR / BOTTOM VIEW



### 1. CPU Port Connectors\*

The KVM cables that connect the unit to the mouse, keyboard, and video ports on the computers you are connecting up can plug into any available port.

### 2. Console Port Connector\*

The Console Connector Cable plugs in here.

\* The shape of these 15-pin CPU and Console port connectors has been specifically modified so that only KVM cables designed to work with this switch can plug in (see the *Cables* section on p. 3 for details).

### 3. Power Jack

The power adapter plugs into this jack located on the CS-74A's bottom panel.

**Note:** The CS-74A does not require external power. Use of a power adapter is optional, and requires a separate purchase.

## INSTALLATION



1. Before you begin, make sure that power to all the devices you will be connecting up have been turned off. You must unplug the power cords of any computers that have the *Keyboard Power On* function. Otherwise, the switch will receive power from the computer.
2. To prevent damage to your installation

The CS-74A can either lay flat on the desktop or stand upright. To have it stand upright, unsnap its mounting stand from the bottom of the unit; turn it 90°; and snap it back into place. See the photo on the front page for an example.

Refer to the diagram on p. 7 as you do the following:

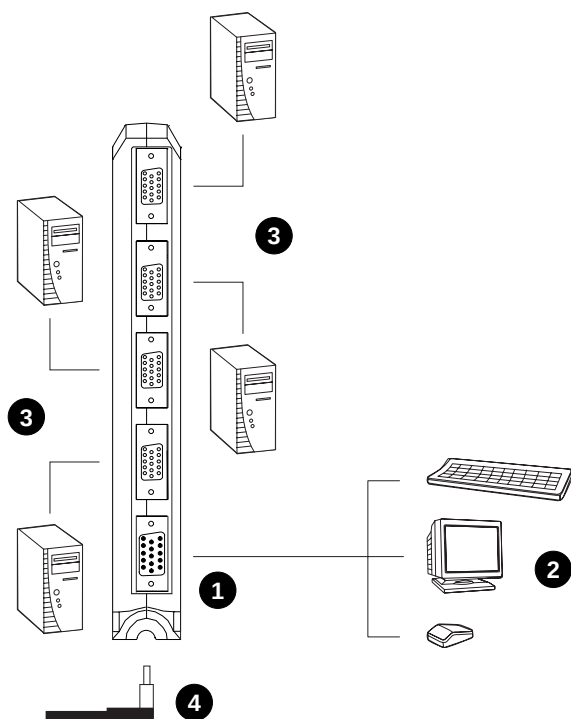
1. Plug the Console Connector Cable into the Console Port Connector on the rear panel of the CS-74A.
2. Plug your keyboard, monitor and mouse into the Console Keyboard, Monitor and Mouse connectors of the Console Adapter Cable.
3. Use the CS Custom KVM cables to connect the CS-74A CPU Ports to the monitor, keyboard and mouse ports of the computers you are installing.

**Note:** If your computers use AT style connectors for the keyboard, refer back to the note in the *Cables* section on p. 3.

4. If you choose to use external power, plug the power adapter into an AC power source, then plug the power adapter cable into the unit's Power Jack. See the note on the next page for information about the adapter.
5. Turn on the power to the computers.

**Note:** The CS-74A's default is to link to the first computer you turn on.





- Note:** 1. In order to fit into the jack, the power adapter cable should have an L shaped plug.
2. The power adapter should be DC9V with the inside positive and the outside negative: 

## **OPERATION**

Controlling all the computers in your CS-74A installation from a single console could not be easier. Two port selection methods that provide instant access to the computers are available:

- ♦ Manual Port Selection
- ♦ Hotkey Port Selection

### **MANUAL PORT SELECTION**

With Manual Port Selection you simply press the appropriate Port Selection switch on the unit's front panel to give the KVM focus to its corresponding port. The Port LED lights to indicate that its port has the KVM focus.

### **HOTKEY PORT SELECTION**

Hotkey port selection allows you to directly access a computer from the keyboard, instead of having to manually switch to it with the Port Selection button. The CS-74A provides three Hotkey navigation features:

- ♦ Selecting the Active Port
- ♦ Auto Scan Mode
- ♦ Skip Mode

### Invoking Hotkey Mode:

All Hotkey operations begin by invoking *Hotkey Mode*. Invoking Hotkey Mode takes three steps: 1) Press and hold down the **Num Lock** key; 2) Press and release the **asterisk** key or the **minus** key; 3) Release the **Num Lock** key:

[Num Lock] + [\*];

or:

[Num Lock] + [-];

**Note:** The asterisk or minus key must be released within one half second, otherwise Hotkey invocation is canceled and it has no effect.

When Hotkey Mode is active:

- ♦ The Caps Lock and Scroll Lock LEDs flash in succession to indicate so. They stop flashing and revert to normal status when you exit Hotkey Mode.
- ♦ Ordinary keyboard and mouse functions are suspended - only Hotkey compliant keystrokes and mouse clicks (described in the sections that follow), can be input.
- ♦ Pressing [Esc] or [Spacebar] exits Hotkey Mode.

### Selecting the Active Port:

Each CPU port is assigned a numeric Port ID (1 - 4). Instead of switching to a port with the Port Selection switches, you can give the KVM focus directly to any computer on the installation with a Hotkey combination. The steps involved are:

1. Invoke Hotkey Mode (see p. 9)
2. Press and release the appropriate **Port ID** number (1, 2, 3, or 4)

After you press the number, the KVM focus switches to the designated computer and you automatically exit Hotkey Mode.

### Auto Scan Mode:

The CS-74A's Auto Scan feature automatically cycles through the Ports at regular 5 seconds intervals so that you can monitor the computer activity without having to take the trouble of switching manually. To invoke Auto Scan Mode:

1. Invoke Hotkey Mode (see p. 9)
2. Press and release **[A]**

Once scanning begins, it continues until you press [Esc] or [Spacebar] to exit Auto Scan Mode. The Port that is active at the time scanning stops remains active.

- Note:**
1. While Auto Scan Mode is in effect, ordinary keyboard and mouse functions are suspended. You must exit Auto Scan Mode by pressing [Esc] or [Spacebar] in order to regain normal control of their use.
  2. Pressing [Esc] or [Spacebar] exits both Auto Scan Mode and Hotkey Mode.

### Skip Mode:

This feature allows you to skip from the currently active Port to the Previous or Next one with a single keystroke. In contrast to Auto Scan Mode (which switches Ports at a fixed interval), you can dwell on a particular port for as long or as little as you like. To activate Skip Mode:

1. Invoke Hotkey Mode (see p. 9)
2. Press [ ← ] to skip from the current port to the port that comes before it (3 to 2; 2 to 1, etc.).
3. Press [ → ] to skip from the current port to the port that comes after it (1 to 2; 2 to 3, etc.).

**Note:** 1. Skip Mode remains in effect until you exit it. You can use [ ← ] and [ → ] as often as you like. Ordinary keyboard and mouse functions are suspended - only [ ← ] and [ → ] can be input. You must exit Skip Mode in order to regain normal control of the console.

2. Pressing [Esc] or [Spacebar] exits both Skip Mode and Hotkey Mode.

### Hotkey Summary Table:

After invoking Hotkey Mode:

| Combination         | Function                                                          |
|---------------------|-------------------------------------------------------------------|
| [Port ID]           | Switches access to the computer that corresponds to that Port ID. |
| [A]                 | Invokes Auto Scan Mode                                            |
| [ ← ]               | Switches access from the current port to the previous port.       |
| [ → ]               | Switches access from the current port to the next port.           |
| [Esc] or [Spacebar] | Exits Hotkey, Auto Scan, and Skip Modes.                          |

## SELECTED LED DISPLAY

| Activity                      | Meaning                                                                          |
|-------------------------------|----------------------------------------------------------------------------------|
| Off                           | Port is not selected.                                                            |
| On (Steady)                   | Port is connected to an active computer.                                         |
| Flashing (On and Off equal)   | Port is connected to an active computer and is being accessed in Auto Scan mode. |
| Flashing (On long; Off short) | Port is connected to an active computer and is being accessed in Skip mode.      |

## SPECIFICATIONS

| Function               |          | Specification                 |
|------------------------|----------|-------------------------------|
| CPU Ports              |          | 4                             |
| Port Selection         |          | Push Button Switches; Hotkeys |
| Connectors             | CPU      | 4 x SPDB-15 F (Yellow)        |
|                        | Console  | 1 x SPDB-15 M (Yellow)        |
| LEDs                   |          | 4 Selected Port (Green)       |
| Emulation              | Keyboard | PS/2                          |
|                        | Mouse    | PS/2                          |
| Scan Interval          |          | 5 secs.                       |
| Operating Temperature  |          | 0 - 50° C                     |
| Storage Temperature    |          | -20 - 60° C                   |
| Humidity               |          | 0 - 80% RH, Noncondensing     |
| Housing                |          | Plastic                       |
| Weight                 |          | 0.25 Kg                       |
| Dimensions (L x W x H) |          | 21.35 x 8.5 x 2.8 cm          |

## TROUBLESHOOTING

| Symptom                                                        | Cause                                     | Action                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Keyboard <sup>1</sup> and/or Mouse <sup>2</sup> Not Responding | Loose cables.                             | Check all cable connections to make sure they are completely seated in their sockets.                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                | Master View is in Auto Scan or Skip Mode. | Press [Esc] or [Spacebar] to exit Auto Scan or Skip Mode.                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                                | Keyboard needs to be reset.               | Unplug the keyboard from the Console Keyboard Port, then plug it back in.                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                                | Mouse needs to be reset.                  | Unplug the mouse from the Console Keyboard Port, then plug it back in.                                                                                                                                                                                                                                                                                                                                                                                     |
|                                                                | Mouse set to Serial Mode.                 | Some mice can be set to act as either a PS/2 or serial mouse. Make sure the mouse is set to PS/2 mode.                                                                                                                                                                                                                                                                                                                                                     |
|                                                                | Incorrect Mouse Driver.                   | Check your Device Manager to be sure that the correct driver for your mouse (obtained from the manufacturer, or supplied by the operating system), has been installed.<br><br>Because of the wide variety of mouse driver standards for the modern series of mice (the ones with the extra buttons and wheels), this unit only supports all of the extra features of the Microsoft Intellimouse. It supports the scroll wheel function of most other mice. |
|                                                                | Master View needs to be reset.            | Turn off the computers; wait 5 seconds; turn the computers back on.                                                                                                                                                                                                                                                                                                                                                                                        |
| Video Problems                                                 | Loose cables.                             | Check all cable connections to make sure they are completely seated in their sockets.                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                | Resolution and/or Bandwidth set too high. | This unit supports VGA, SVGA, Multisync, and XGA (interlaced), with resolutions of up to 2048x1536.                                                                                                                                                                                                                                                                                                                                                        |
|                                                                | Cable quality not good enough.            | We strongly recommend that you use the high quality cables provided with this package. Use of high quality cables should eliminate video problem.                                                                                                                                                                                                                                                                                                          |

#### **Troubleshooting Notes:**

1. The unit is designed to work with AT and PS/2 keyboards. Older XT (84 key) and some older AT keyboards (those with the function keys on the side), will not work.
2. Some Notebooks, notably the IBM Thinkpad and Toshiba Tecra, have trouble when their mouse and keyboard ports are used simultaneously. To avoid this, only connect the mouse port or the keyboard port. If you connect the mouse port, you will need to use the notebook's keyboard when the notebook becomes the active computer.

#### **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.

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