Master View™ KVM Switch
CS-88A
User Manual

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FCC Information

This is an FCC Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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	ATEN TECH	http://www.aten-usa.com/product_registration
	ATEN NJ	http://support.aten.com

Telephone Support

For telephone support, call this number:

International		886-2-8692-6959
North America	ATEN TECH	1-888-999-ATEN
	ATEN NJ	1-732-356-1703

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 CS-88A package consists of:

◆ 1 CS-88A KVM Switch

◆ 1 Power Adapter

◆ 1 Rack Mounting Kit

◆ 1 User Manual*

◆ 1 Quick Start Guide

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 CS-88A since this manual was printed. Please visit our website to download the most up-to-date version of the manual.

Contents

4. OSD Operation

About this Manual

This User Manual is provided to help you get the most from your CS-88A system. It covers all aspects of installation, configuration and operation. An overview of the information found in the manual is provided below.

Chapter 1, Introduction, introduces you to the CS-88A system. Its purpose, features and benefits are presented, and its front and rear panel components are described.

Chapter 2, Hardware Setup, describes how to set up your installation. The necessary steps – from a basic single stage hookup to a complete 3 stage cascaded operation are provided.

Chapter 3, Basic Operation, explains the fundamental concepts involved in operating the CS-88A.

Chapter 4, OSD Operation, provides a complete description of the CS-88A's OSD (On Screen Display), and how to work with it.

Chapter 5, Hotkey Operation, details all of the concepts and procedures involved in the Hotkey operation of your CS-88A installation.

An Appendix, provides specifications and other technical information regarding the CS-88A.

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	ATEN TECH	http://www.aten-usa.com
	ATEN NJ	http://www.aten.com

Chapter 1
Introduction

Overview

The Master View CS-88A KVM Switch is a control unit that allows access to multiple computers from a single console (keyboard, monitor, and mouse). Before the development of the Master View, the only way to control multiple computer configurations from a single console was through a complex and costly network. Now, with the Master View CS-88A, you can easily access multiple computers in a cost effective manner.

A single Master View CS-88A can control up to 8 computers. Since units can be cascaded to three levels, in a full three stage installation up to 73 CS-88A Master Views can control up to 512 computers – all from a single console.

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-88A intercepts keyboard input directly, it works on any hardware platform and with all operating computers.

There are three convenient methods to access any computer connected to the installation: (1) using the pushbutton port selection switches located on the front panel; (2) entering Hotkey combinations from the keyboard; and (3) selecting from menus provided by the On Screen Display (OSD). A powerful Auto Scan feature also permits automatic scanning and monitoring of the activities of all computers running on the installation one by one.

There is no better way to save time and money than with a Master View CS-88A installation. By allowing a single console to manage all the attached computers, a Master View CS-88A installation: (1) eliminates the expense of having to purchase a separate keyboard, monitor, and mouse for each computer; (2) saves all the space those extra components would take up; (3) saves on energy costs; and (4) eliminates the inconvenience and wasted effort involved in constantly moving from one computer to another.

Features

- Controls 8 computers from a single console
- Cascadable from any port to three levels for control of up to 512 computers from a single console
- Administrator/User password authorization for enhanced security protection (PSP)
- Intelligent OSD (On Screen Display) and hotkey switching for efficient system handling
- No software required – computer selection via front panel switches, hotkeys, or On Screen Display (OSD)
- Auto Scan feature for monitoring user-selected computers
- Hot Pluggable, add or remove computers without powering off the switch
- PS/2 mouse emulation provided for system boot up
- Console PS/2 mouse controls all connected computers
- PS/2 compatible mouse support – Microsoft Intellimouse Explorer and Logitech FirstMouse+ support*
- Superior video quality: up to 2048 x 1536; DDC; DDC2; DDC2B
- Rack mountable in 19" (1U) system rack
- Patented ASIC design for enhanced functionality and compatibility

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* PS/2 compatible mouse support is for three button (wheel) mice. The Logitech Mouse Ware program's Change Device procedure does not work on Microsoft NT systems.

Requirements

Consoles

The following hardware components are required for each KVM console:

- A VGA, SVGA, or MultiSync monitor capable of displaying the highest resolution provided by any computer in the installation
- PS/2 Keyboard and mouse

Computers

The following hardware components are required for each computer:

- A VGA, SVGA, or MultiSync video graphics card with an HDB-15 port
- 6-pin Mini-DIN PS/2 mouse and keyboard ports

Cables

Substandard cables may damage the connected devices or degrade overall performance. For optimum signal integrity and to simplify the layout, we strongly recommend that you use the high quality CS Custom Cable sets described below:

Function	Part Number - Length
Connecting Switch to Computer	2L-1001P/C – 1.8 m
Cascading Master Views	2L-1003P/C – 3 m

Note: 1. The CS-88A does not support serial mice. You cannot use Serial-to-PS/2 adapters with the cables. Attempts to do so will not work.

2. If your computer uses an AT style keyboard socket you will need to purchase 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.

Components

Front View

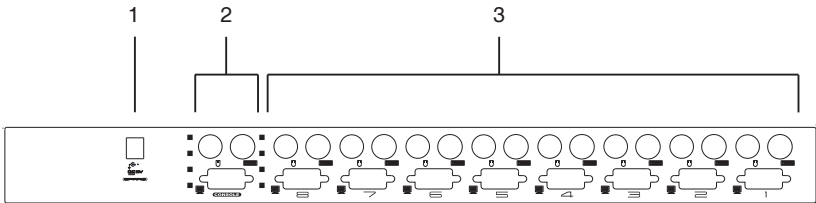| No.	Component	Description
1	Port Selection Switches	Press a switch to access the computer attached to the corresponding port.
		◆ Pressing Buttons 1 and 2 simultaneously for 3 seconds performs a *Keyboard and Mouse Reset*.
		◆ Pressing 7 and 8 simultaneously starts *Auto Scan Mode* (see page 29).
2	Port LEDs	The Port LEDs are built into the Port Selection Switches. The upper ones are the On Line LEDs; the lower ones are the Selected Port LEDs:
		◆ The *On Line* LEDs light ORANGE to indicate that the computer attached to the corresponding port is up and running. If the LED is flashing, it indicates that the Port is being used for cascading to another Master View switch (see *Two Stage Installation*, page 10).
		◆ The *Selected* LEDs light GREEN to indicate that the computer attached to the corresponding port is the one that has the KVM focus. The LED is steady under normal conditions, but flashes when its port is accessed under Auto Scan Mode (see *F7: SCAN*, page 29).
3	Reset Button	Use a small object (such as the end of a paper clip, or a ballpoint pen) to press this recessed switch to initiate a warm reset. If the switch is kept in for longer than three seconds, a cold reset takes place.
4	Power LED	Lights (blue) to indicate that the unit is receiving power.

Rear View

No.	Component	Description
1	Power Jack	The unit is designed to be non-powered (external power is not required - its operating power comes from the computers). In general, the only time that external power is necessary is when operation becomes erratic because the unit isn't obtaining enough power from the computer connections. If you choose to use external power, the power adapter cable plugs in here.
2	Console Ports	◆ If this is a first station unit, your monitor, keyboard and mouse plug in here. ◆ If this is a cascaded unit, the cables that link back to a port on a higher Master View unit plug in here.
3	KVM Ports	The cables that link to the computers plug in here.

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Hardware Setup

Before You Begin

1. Important safety information regarding the placement of this device is provided on page 37. Please review it before proceeding.

2. Make sure that the power to any device that you connect to the installation has been turned off. You must unplug the power cords of any computers that have the Keyboard Power On function.

Stacking and Rack Mounting

The CS-88A can be stacked on a desktop or rack mounted in 1U of rack space. The procedures for each method are described in the following sections.

Stacking

CS-88A devices can be stacked one on top of the other using the stacking brackets that come already attached to the unit.

Note that there is a top and bottom half to each bracket. The top half has a convex surface; the bottom half has a concave surface. Line up the four bottom brackets of the top unit with the four top brackets of the bottom unit; then fit the top unit down onto the bottom unit.
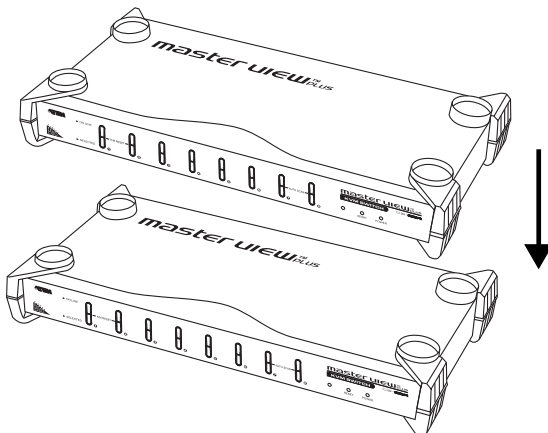
Rack Mounting

1. First remove the stacking brackets by unscrewing them from the unit, as shown in the diagram below:
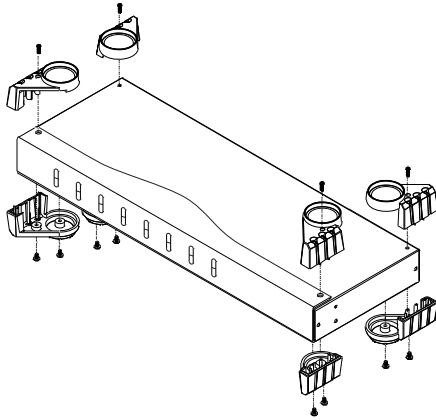
2. Next screw the mounting brackets into the sides of the unit, as shown in the diagram below:

3. Slide the unit into the rack and secure it to the rack.

Single Stage Installation

In a single stage installation, there are no additional switches cascaded down from the first unit. To set up a single stage installation do the following:

1. Plug your keyboard, mouse, and monitor into the unit's Console Ports.

2. Use KVM cable sets (as described in the *Cables* section on page 3), to connect any available KVM Port to the Keyboard, Video and Mouse ports of the computer you are installing.

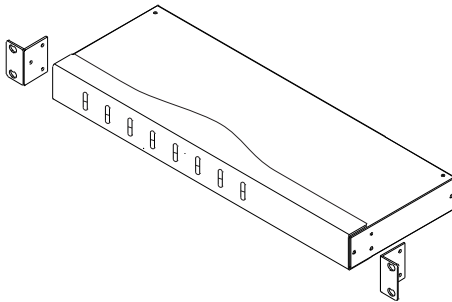3. If you choose to use external power, plug the power adapter cable into the Master View's Power Jack, then plug the adapter into an AC power source.

   Note: Under non-powered operation, the unit gets its power from the computers via the cables. If a computer, only supplies 3.3V of power for the keyboard and mouse instead of 5V (as in the case of Notebooks, for example), the unit will not receive enough power, and you will need to use the external power adapter.

4. Turn on the power to the computers.

   Note: If you choose to use external power, the Master View unit must be plugged in and receiving power prior to turning on the power to the computers.

Single Stage Installation Diagram
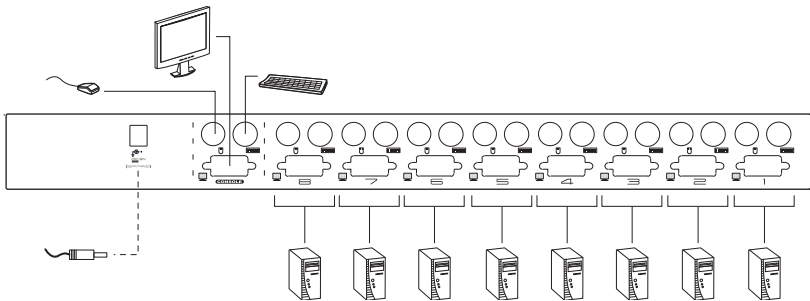
Two Stage Installation

To control even more computers, up to eight additional Master View CS-88A units can be cascaded from the KVM ports of the First Stage unit. The cascaded Master Views that connect back to the First Stage unit are considered Second Stage units. As many as 64 computers can be controlled in a complete two stage installation. A table showing the relation between the number of computers and the number of Master View units needed to control them is provided on page 42.

Note: 1. Mixing different Master View models on the same installation can cause problems with OSD port switching. We strongly recommend that all cascaded units be the same model as the First Stage unit.

2. If you are adding this switch into an already existing CS-88A configuration, be sure to make it the First Stage unit. Otherwise, you won't get the benefit of its improved OSD features and functions.

To set up a two stage installation do the following:

1. Make sure that power to all the devices you will be connecting up, including all preexisting devices on the installation, have been turned off.

2. Use a KVM cable set (described in the Cables section, page 3), to connect any available KVM Port on the First Stage unit to the Console Port connectors of the Second Stage unit.

3. Use KVM cable sets (described in the Cables section, page 3), to connect any available KVM port on the Second Stage unit to the Keyboard, Video, and Mouse ports of the computer you are installing.

4. Plug the power adapter cable into the Master View's Power Jack, then plug the adapter into an AC power source.

5. Repeat these steps for any other Second Stage units you wish to connect.

6. Plug in the power adapter for the First Stage Master View unit.

7. Turn on the power to all the computers.

Note: The Power On sequence requires that all Second Stage units be powered on first. After all the Second Stage units have been powered on, the First Stage unit must be powered on next. After the Second and First stage units have been powered on, the computers can be powered on.

Two Stage Installation Diagram

Three Stage Installation

The procedures for setting up a three stage installation are essentially the same as for a two stage installation. With a three stage setup, as many as 512 computers can be controlled in a complete installation. A table showing the relation between the number of computers and the number of Master View units needed to control them is provided on page 42.
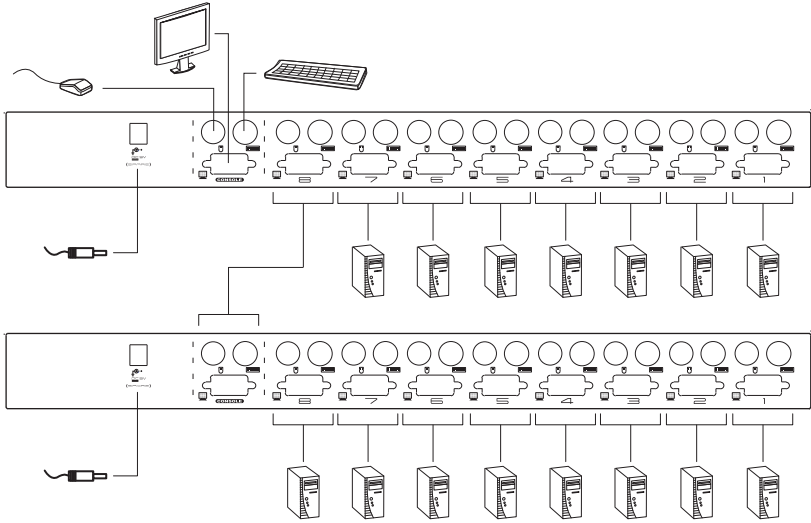
Note: 1. See Notes 1 and 2 at the beginning of the *Two Stage Installation* section.

2. Master View units cannot be cascaded beyond the third level.

To set up a three stage installation do the following:

1. Make sure that power to all the devices you will be connecting up, including all preexisting devices on the installation, have been turned off.

2. Use a KVM cable set (described in the Cables section, page 3), to connect any available KVM Port on the Second Stage unit to the Console Port connectors of the Third Stage unit.

3. Use KVM cable sets (described in the Cables section, page 3), to connect any available KVM port on the Third Stage unit to the Keyboard, Video, and Mouse ports of the computer you are installing.

4. Plug the power adapter cable into the Master View's Power Jack, then plug the adapter into an AC power source.

5. Repeat these steps for any other Third Stage units you wish to connect.

6. Plug in the power adapters for all the Second Stage Master View units.

7. Plug in the power adapter for the First Stage Master View unit.

8. Turn on the power to all the computers.

Note: The Power On sequence requires that all Third Stage units be powered on first. After they are all on, the Second Stage units must be powered on next. After all the Second Stage units are on, the First Stage unit must be powered on. Only after all the Master Views have been powered on in this sequence, can the computers be powered on.

Three Stage Installation Diagram
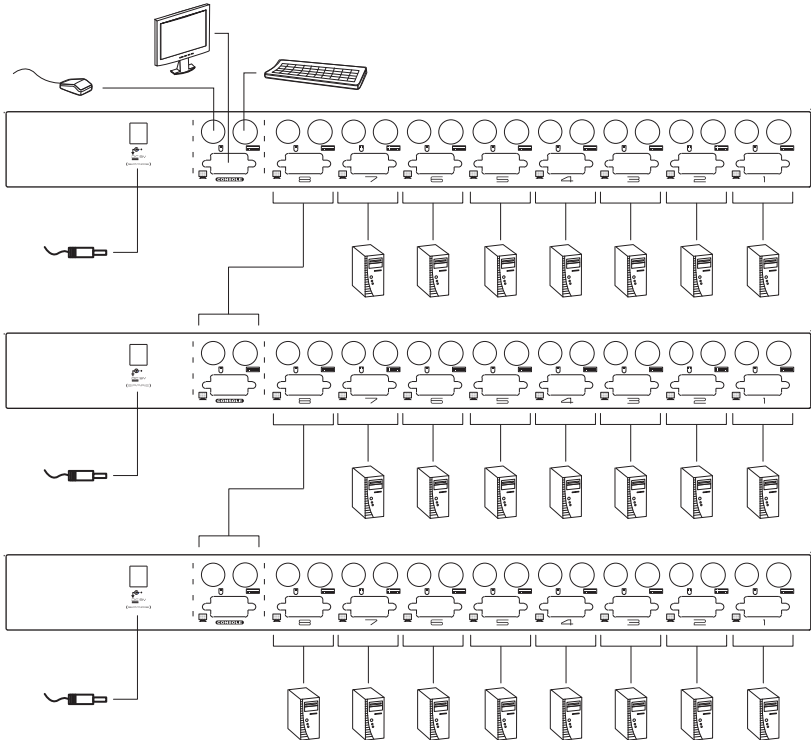
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Chapter 3
Basic Operation

Hot Plugging

The CS-88A supports *hot plugging* - components can be removed and added back into the installation by unplugging their cables from the ports without the need to shut the unit down. In order for hot plugging to work properly, however, the procedures described below must be followed:

Hot Plugging KVM Ports

When hot plugging cables from the KVM ports:

1. The cable must be plugged back into the same port it was removed from.

2. The mouse cable must be plugged in before the keyboard cable.

3. After plugging the cable back in, you must perform a *KVM Reset* on the First Stage unit (by pressing the Reset switch In).

Hot Plugging Console Ports

The unit supports hot plugging of the keyboard, monitor, and mouse. When hot plugging the mouse from the Master View's console mouse port:

1. You may unplug the mouse and plug it back in again (to reset the mouse, for example), as long as you use the same mouse.

2. If you plug in a different mouse, all the stations and all the computers on the installation must be shut down for 10 seconds, then restarted. (Refer back to the note describing the Power On sequence on page 10, if necessary.)

Note: If, after hot plugging (or at any other time), there is no response to mouse or PS/2 keyboard input, simultaneously press and hold Port Select buttons 1 and 2 on the First Stage unit for 3 seconds to perform a PS/2 Keyboard and PS/2 Mouse reset.

Powering Off and Restarting

If it becomes necessary to Power Off one of the CS-88A units, before starting it back up you must do the following:

1. Shut down all the computers that are attached to the unit. If there are Master View stations cascaded down from it, all the cascaded stations and the computers attached to them must be shut down, as well.

   > **Note:** 1. You must unplug the power cords of any computers that have the *Keyboard Power On* function. Otherwise, the unit will still receive power from the computers.
   >
   > 2. If the unit is operating under external power, unplug the power adapter cable.

2. Wait 10 seconds, then plug the stations back in, starting with the lowest stations in the cascade and working back to the station you originally shut down.

3. After all the Master View's are up, power On the computers, starting with the ones attached to the lowest stations in the cascade and working back to the station you originally shut down.

Port Selection

The CS-88A provides three port selection methods to access the computers on the installation: Manual; OSD (On Screen Display) menus, and Hotkey. OSD Operation is discussed in the next chapter; Hotkey Port Selection is discussed detail in Chapter 5.

Manual Port Switching

Simply press the appropriate Port Selection Switch on the Master View's front panel. After you press the switch, the Selected LED lights to indicate that the port has the KVM focus. The OSD automatically switches to highlight the computer that you have selected.

Note: 1. On a cascaded installation, you must press the Port Selection switch on the Master View Station that connects directly to the computer you want to access.

2. Simultaneously pressing Port Selection buttons 7 and 8 on the First Stage unit initiates the Auto Scan feature (see *F7: SCAN*, page 29), in which all the ports currently selected for Quick View scanning (see *SET QUICK VIEW PORTS*, page 28), are cycled through. The length of time spent on each port is determined with the Scan Duration setting under the OSD's F3 SET function (see page 24).

Port ID Numbering

Each KVM port on a Master View installation is assigned a unique *Port ID*. You can directly access any computer on any level of the installation by specifying the Port ID of the KVM port that the computer is connected to – either with the Hotkey port selection method, or with the OSD.

The Port ID is a one, two, or three digit number. It is determined by the Stage Level and KVM Port number of the Master View unit that a computer is connected to.

The first digit represents the KVM Port number of the First Stage unit; the second digit represents the KVM Port number of the Second Stage unit; the third digit represents the KVM Port number of the Third Stage unit.

- A computer attached to a First Stage unit has a one digit Port ID (from 1–8), that corresponds to the KVM Port number that the computer is connected to.

- A computer attached to a Second Stage unit has a two digit Port ID.

  The first digit represents the KVM Port number on the First Stage unit that the Second Stage unit links back to; the second digit represents the KVM Port number on the Second Stage unit that the computer is connected to.

  For example, a Port ID of **2 3** refers to a computer that is connected to KVM Port 3 of a Second Stage unit that links back to KVM Port 2 of the First Stage unit.

- Likewise, a computer attached to a Third Stage unit has a three digit Port ID. A Port ID of **2 4 1** refers to a computer that is connected to KVM Port 1 of a Third Stage unit, that links back to KVM Port 4 of a Second Stage unit, which, in turn, links back to KVM Port 2 of the First Stage unit.

OSD Operation

OSD Overview

The On Screen Display (OSD) is a menu driven method to handle computer control and switching operations. All procedures start from the OSD Main Screen. To pop up the Main Screen, tap the **[Scroll Lock]** key twice.

Note: You can optionally change the Hotkey to the Ctrl key, in which case you would tap **[Ctrl]** twice (see *OSD Hotkey*, page 24). With this method, the [Ctrl] keys must be on the same side (both left, or both right).

The OSD incorporates a two level (Administrator / User) password system. Before the OSD Main Screen comes up, a dialog box appears that asks you to provide your username and password. If the password function has been set, you must provide the password in order to access the OSD Main Screen.

If this is the first time that the OSD is being run, or if the password function has not been set, simply press **[Enter]**. The OSD Main Screen comes up in Administrator Mode. In this mode, you have Administrator privileges, with access to all Administrator and User functions, and can set up operations (including password authorization for the future), as you would like.

OSD Main Screen

When you invoke the OSD, a screen similar to the one below appears:

```
F1:GOTO      F3:SET                 F7:SCAN
F2:LIST      F4:ADM                 F8:LOUT
ADMINISTRATOR
 LIST:ALL
 PN        QV      ☼      NAME

 1 - 6 - 6   ◄      ☼      ATEN INTL. 1        ▲
 1 - 6 - 7                 ATEN INTL. 2        ▲
 1 - 6 - 8          ☼      ATEN INTL. 3
 1 - 7       ◄      ☼      FAX SERVER 1
 1 - 8                     FAX SERVER 2
 2 - 1       ◄      ☼      WEB SERVER 1
 2 - 2                     WEB SERVER 2        ▼
 2 - 3       ◄      ☼      MAIL SERVER 1       ▼
```
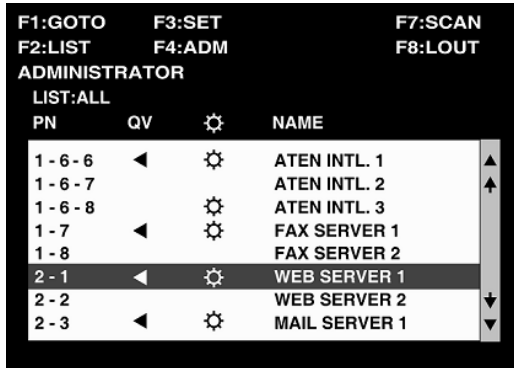
Note: 1. The diagram depicts the Administrator's Main Screen. The User Main Screen does not show the **F4** function since it is reserved for the Administrator and can't be accessed by ordinary Users.

2. OSD always starts in List view, with the highlight bar at the same position it was in the last time it was closed.

3. Only the ports that have been set accessible by the Administrator for the currently logged in User are visible (see *SET ACCESSIBLE PORTS*, page 28, for details).

OSD Main Screen Headings

PN	This column lists the Port ID numbers (see *Port ID Numbering*, page 18), for all the KVM ports on the installation. The simplest method to access a particular computer is move the Highlight Bar to it, then press **[Enter]**.
QV	If a port has selected for Quick View scanning (see *Set Quick View Ports*, page 28), an arrowhead symbol displays in this column to indicate so.
☼	The computers that are powered on and are On Line have a Sun symbol in this column to indicate so.
NAME	If a port has been given a name (see *Edit Port Names*, page 27), its name appears in this column.

OSD Navigation

* To move up or down through the list one line at a time, use the Up and Down Arrow Keys. If there are more entries than appear on the screen, the screen will scroll.

* To move up or down through the list one screen at a time, use the **[Pg Up]** and **[Pg Dn]** keys. If there are more entries than appear on the screen, the screen will scroll.

* To activate a port, move the Highlight Bar to it then press **[Enter]**.

* After executing any action, you automatically go back to the menu one level above.

* To dismiss the current menu, and return to the previous one, press **[Esc]**. If you are at the OSD Main Screen, you deactivate the OSD (but do not log out).

* To deactivate the OSD and Log Out, press **[F8]**. You can do this at any time and from anywhere in the OSD.

OSD Functions

OSD functions are used to configure and control the OSD. For example, you can: rapidly switch to any port; scan selected ports only; limit the list you wish to view; designate a port as a Quick View Port; create or edit a port name; or make OSD setting adjustments.

To access an OSD function:

1. Press the Function Key that corresponds to the heading at the top of the OSD screen.

2. In the Submenus that appear make your choice by moving the Highlight Bar to it, then pressing **[Enter]**.

3. Press **[Esc]** to return to the previous menu level.

F1: GOTO

Pressing **[F1]** activates the GOTO function. GOTO allows you to switch directly to a port either by keying in the port's *Name*, or its *Port ID*.

◆ To use the Name method, key in **1**; key in the port's Name; then press **[Enter]**.

◆ To use the Port ID method, key in **2**; key in the *Port ID*; then press **[Enter]**.

Note: You can key in a partial Name or Port ID. In that case, the screen will show all the computers that the User has *View* rights to (see *SET ACCESSIBLE PORTS*, page 28), that match the Name or Port ID pattern, regardless of the current List settings (see *F2 LIST*, page 23, for details).

To return to the OSD Main Screen without making a choice, press **[Esc]**.

F2: LIST

This function lets you broaden or narrow the scope of which ports the OSD displays (lists) on the Main Screen. Many of the OSD functions only operate on the computers currently selected for Listing on the Main Screen with this function. The submenu choices and their meanings are given in the table below:

Choice	Meaning
ALL	Lists all of the ports on the installation.
POWERED ON	Lists only the ports that have their attached computers Powered On.
QVIEW*	Lists only the ports that have been selected as Quick View Ports (see *SET ACCESSIBLE PORTS*, page 28).
QVIEW + POWERED ON*	Lists only the ports that have been selected as Quick View Ports (see *SET QUICK VIEW PORTS*, page 28), and that have their attached computers Powered On.

∗ These items only show up on the Administrator's screen, since only he has *Quick View* setting rights (see *SET QUICK VIEW PORTS*, page 28, for details).

Move the Highlight Bar to the choice you want, then press **[Enter]**. An icon appears before the choice to indicate that it is the currently selected one. After you make your choice and press **[Enter]**, you return to the OSD Main Screen with the newly formulated List displayed.

F3: SET

This function allows the Administrator and each User to set up his own working environment. A separate profile for each is stored by the OSD and is activated according to the Username that was provided during Login.

To change a setting:

1. Move the highlight bar to it, then press **[Enter]**.

2. After you select an item, a submenu with further choices appears. To make a selection, move the Highlight Bar to it, then press **[Enter]**. An icon appears before the selected choice to indicate which one it is. The settings are explained in the following table:

Setting	Function
OSD HOTKEY	Selects which Hotkey activates the OSD function: **[Scroll Lock] [Scroll Lock]** or **[Ctrl] [Ctrl]**. Since the Ctrl key combination may conflict with programs running on the computers, the default is the Scroll Lock combination.
PORT ID DISPLAY POSITION	Allows you to position where the Port ID appears on the screen. The default is the upper right corner, but you can choose to have it appear anywhere on the screen. Use the Arrow Keys plus Pg Up, Pg Dn, Home, End, and 5 (on the numeric keypad with Num Lock off), to position the Port ID display, then press **[Enter]** to lock the position and return to the Set submenu. **Note:** The ID display position for each port on the installation is set independently; the choice specified here only applies to the currently active computer.
PORT ID DISPLAY DURATION	Determines how long a Port ID displays on the monitor after a port change has taken place. The choices are: **User Defined** - which lets you select the amount of time (from 1–255 sec.); and **Always On** - which displays the Port ID at all times. If you select *User Defined*, key in the number of seconds, then press **[Enter]**. The default is 3 Seconds.

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Setting	Function
PORT ID DISPLAY MODE	Selects how the Port ID is displayed: the Port Number alone (**PORT NUMBER**); the Port Name alone (**PORT NAME**); or the Port Number plus the Port Name (**PORT NUMBER + PORT NAME**). The default is PORT NUMBER + PORT NAME.
SCAN DURATION	Determines how long the focus dwells on each port as it cycles through the selected ports in Auto Scan Mode (see *F7 SCAN*, page 29). Key in a value from 1–255 seconds, then press **[Enter]**. Default is 5 seconds; a setting of 0 disables the Scan function.
SCAN/SKIP MODE	Selects which computers will be accessed under Auto Scan Mode (see *F7 SCAN*,page 29). Choices are: **ALL** - All the Ports which have been set Accessible (see *SET ACCESSIBLE PORTS*, page 28); **POWERED ON** - Only those Ports which have been set Accessible and are Powered On; **QUICK VIEW** - Only those Ports which have been set Accessible and have been selected as Quick View Ports (see *SET QUICK VIEW PORTS*, page 28); **QUICK VIEW + POWERED ON** - Only those Ports which have been set Accessible and have been selected as Quick View Ports and are Powered On. The default is ALL. **Note:** The Quick View choices only show up on the Administrator's screen, since only he has *Quick View* setting rights (see *SET QUICK VIEW PORTS*, page 28, for details).
SCREEN BLANKER	If there is no input from the console for the amount of time set with this function, the screen is blanked. Key in a value from 1–30 minutes, then press **[Enter]**. A setting of 0 disables this function. The default is 0 (disabled).

F4: ADM

F4 is an Administrator only function. It allows the Administrator to configure and control the overall operation of the OSD. To change a setting use the Up and Down Arrow Keys to move the highlight bar to it then press **[Enter]**.

In order for this item to appear on the OSD Main Screen, a login with the Administratorís Username and Password is required. See *OSD Overview*, page 19, for setting the Administrator's Username and Password the first time the OSD is invoked.

After you select an item, a submenu with further choices for you to select from appears. Double Move the Highlight Bar to it then press **[Enter]**. An icon appears before the selected choice so that you know which one it is. The settings are explained in the following table:

Setting	Function
SET USERNAME AND PASSWORD	This function is used to set Usernames and Passwords for the Administrator and Users: 1. One Administrator and four User passwords can be set. 2. After you select the Administrator field or one of the User fields, a screen that allows you to key in your username and password appears. The password may be up to 12 characters long, and can consist of any combination of letters and numbers (A–Z, 0–9). 3. For each individual, key in the Username and Password, then press **[Enter]**. 4. To modify or delete a previous Username and/or Password, use the backspace key to erase individual letters or numbers. **Note:** To clear all Username and Password information and have the Switch return to its default (empty) state, see *Restoring Original Factory Default Settings*, page 44.
SET LOGOUT TIMEOUT	If there is no input from the console for the amount of time set with this function, the Operator is automatically logged out. A login is necessary before the console can be used again. This enables other Operators to gain access to the computers when the original Operator is no longer accessing them, but has forgotten to log out. To set the timeout value, key in a number from 1–180 minutes, then press **[Enter]**. If the number is 0 [zero], this function is disabled. Default is 0 (disabled).

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Setting	Function
EDIT PORT NAMES	To help remember which computer is attached to a particular port, every port can be given a name. This function allows the Administrator to create, modify, or delete port names.
	Note: Only the Ports currently chosen for the LIST view on the main OSD screen (see page 23), show up here.
	To Edit a port name:
	1. Use the Navigation Keys to move the highlight bar to it, then press **[Enter]**.
	2. Key in the new Port Name, or modify/delete the old one. The maximum number of characters allowed for the Port Name is 12. Legal characters include:
	◆ All alpha characters: **a**–**z; A**–**Z**
	◆ All numeric characters: **0**–**9**
	◆ **+ - / : .** and **Space**
	Case does not matter; OSD displays the Port Name in all capitals no matter how they were keyed in.
	3. When you have finished editing, press **[Enter]** to have the change take effect. To abort the change, press **[Esc]**.
RESTORE DEFAULT VALUES	This function is used to undo all changes and return the setup to the original factory default settings (see *OSD FACTORY DEFAULT SETTINGS*, page 44) – except for the Names and QUICK VIEW settings that were assigned to the Ports. These latter two are saved.
CLEAR THE NAME LIST	This function clears the port name list.
ACTIVATE BEEPER	Choices are **Y** (for On), or **N** (for Off). When activated, the beeper sounds whenever a Port is changed; when activating the Auto Scan function (see *F7 SCAN*, page 29); or an invalid entry is made on an OSD menu. The default is Y.

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Setting	Function
SET QUICK VIEW PORTS	This function lets the Administrator select which Ports to include as Quick View ports.
	Note: Only the Ports currently chosen for the LIST view on the main OSD screen show up here.
	◆ To select/deselect a port as a Quick View Port, use the Navigation Keys to move the highlight bar to it, then press **[Spacebar]**.
	◆ When a port has been selected as a Quick View Port, an arrowhead displays in the QV column of the LIST on the Main Screen to indicate so. When a port is deselected, the arrowhead disappears.
	◆ If one of the Quick View options is chosen for the LIST view (see *F2 LIST*, page 23), only a Port that has been selected here will display on the List.
	◆ If one of the Quick View options is chosen for Auto Scanning (see *SCAN MODE*, page 25), only a Port that has been selected here will be Auto Scanned.
	The default is for no ports to be selected.
SET ACCESSIBLE PORTS	This function allows the Administrator to define User access to the computers on the installation on a Port-by-Port basis.
	For each User, select the target Port; then press the **[Spacebar]** to cycle through the choices: **F** (Full access), **V** (View Only), or blank. Repeat until all access rights have been set, then press **[Enter]**. The default is **F** for all users on all Ports.
	Note: A blank setting means that no access rights are granted. The Port will not show up on the User's LIST on the Main Screen.

F7: SCAN

Pressing [F7] invokes Auto Scan Mode. This function allows you to automatically switch among the available computers at regular intervals so that you can monitor their activity without having to take the trouble of switching yourself.

◆ The selection of computers to be included for Auto Scanning is made with the *Scan Mode* setting under the **F3 SET** function (see page 25).

◆ The amount of time that each Port displays for is set with the *Scan Duration* setting under the **F3 SET** function (see page 25). When you want to stop at a particular location, press the **[Spacebar]** to stop scanning.

◆ If the scanning stops on an empty port, or one where the computer is attached but is powered Off, the monitor screen will be blank, and the mouse and keyboard will have no effect. After the *Scan Duration* time is up, the Scan function will move on to the next port.

◆ As each computer is accessed, an **S** appears in front of the Port ID display to indicate that it is being accessed under *Auto Scan Mode*.

◆ While Auto Scan Mode is in effect, the console will not function normally. You must exit Auto Scan Mode in order to regain control of the console.

◆ To exit Auto Scan Mode, press the **[Spacebar]** or **[Esc]**.

F8: LOUT

Pressing **[F8]** logs you out of OSD control of the computers, and blanks the Console screen. This is different from simply pressing **[Esc]** to deactivate the OSD. With this function you must log in all over again to regain access to the OSD, whereas with **[Esc]**, all you have to do to reenter the OSD is tap the OSD Hotkey.

Note: 1. When you reenter the OSD after logging out, the screen stays blank except for the OSD Main Screen. You must input your password before you can continue.

2. If you reenter the OSD after logging out, and immediately use **[Esc]** to deactivate the OSD without having selected a port from the OSD menu, a Null Port message displays on the screen. The OSD Hotkey will bring up the Main OSD Screen.

Chapter 5
Hotkey Operation

Hotkey Port Control

Hotkey Port Control allows you to provide KVM focus to a particular computer directly from the keyboard. The CS-88A provides the following Hotkey Port Control features:

- ◆ Selecting the Active Port
- ◆ Auto Scanning
- ◆ Skip Mode

Invoking Hotkey Mode

All Hotkey operations begin by invoking *Hotkey Mode*. Invoking Hotkey Mode takes three steps:

1. Hold down the **Num Lock** key;

2. Press and release the **asterisk** or the **minus** key;

3. Release the **Num Lock** key:

   ```
   [Num Lock] + [*];
   ```
   or:
   ```
   [Num Lock] + [-];
   ```

When Hotkey Mode is active:

- ◆ The Num Lock, 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.

- ◆ A Command Line appears on the monitor screen. The command line prompt is the word *Hotkey:* in yellow text on a blue background, and displays the subsequent Hotkey information that you key in.

- ◆ 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 KVM port is assigned a Port ID (see *Port ID Numbering*, page 18). You can directly access any computer on the installation with a Hotkey combination that specifies the Port ID of the KVM Port that the computer is connected to. The steps involved are:

1. Invoke Hotkey Mode with the **[Num Lock]** + **[*]** or **[Num Lock]** + **[-]** combination.

2. Key in the Port ID

   The Port ID numbers display on the Command Line as you key them in. If you make a mistake, use **[Backspace]** to erase the wrong number.

3. Press **[Enter]**

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

Auto Scanning

Auto Scan automatically switches among all the active KVM Ports that are accessible to the currently logged on User at regular intervals, so that their activity can be monitored automatically. (See *Scan Mode* of the OSD **F3 SET** function, page 24 for information regarding accessible ports).

Setting the Scan Interval:

The amount of time Auto Scan dwells on each port is set with the *Scan Duration* setting of the OSD **F3 SET** function (page 24). You can change the scan interval before activating Hotkey Auto Scanning with the following Hotkey combination:

1. Invoke Hotkey Mode with the **[Num Lock]** + **[*]** or **[Num Lock]** + **[-]** combination

2. Key in **[T] [n]**

   Where [T] is the letter **T**, and [n] is a number from 1–255 that represents the number of seconds for the dwell time.

   The letter **T**, and the numbers display on the Command Line as you key them in. If you make a mistake, use **[Backspace]** to erase the wrong number.

3. Press **[Enter]**

   After you press [Enter], you automatically exit Hotkey Mode, and are ready to invoke Auto Scanning.

Invoking Auto Scan:

To start Auto Scanning, key in the following Hotkey combination:

1. Invoke Hotkey Mode with the **[Num Lock]** + **[*]** or **[Num Lock]** + **[-]** combination

2. Press **[A]**. After you press **A**, you automatically exit Hotkey Mode, and enter Auto Scan Mode.

   ◆ While you are in Auto Scan Mode, you can pause the scanning in order to keep the focus on a particular computer either by pressing **P**. During the time that Auto Scanning is paused, the Command Line displays: **Auto Scan**: **Paused**.

   Pausing when you want to keep the focus on a particular computer is more convenient than Exiting Auto Scan Mode because when you Resume scanning, you start from where you left off. If, on the other hand, you exited and restarted, scanning would start over from the very first computer on the installation.

   To resume Auto Scanning, press any key. Scanning continues from where it left off.

   ◆ 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. To exit Auto Scan Mode press **[Esc]** or **[Spacebar]**. Auto Scanning stops when you exit Auto Scan Mode.

Skip Mode

This feature allows you to switch between computers in order to monitor them manually. You can dwell on a particular port for as long as you like – as opposed to Auto Scanning, which automatically switches after a fixed interval. To invoke Skip Mode, key in the following Hotkey combination:

1. Invoke Hotkey Mode with the **[Num Lock]** + **[*]** or **[Num Lock]** + **[-]** combination.

2. Key in **[Arrow]**

   Where [Arrow] refers to the left or right Arrow key. After you press [Arrow], you automatically exit Hotkey Mode, and enter Skip Mode where you can switch ports as follows:

←	Skips from the current port to the first accessible port previous to it. (See *Scan Mode*, page 29, for information regarding accessible ports.)
→	Skips from the current port to the next accessible port.

   - Once you are in Skip Mode, you can keep on skipping by pressing the Arrow keys. You don't have to use the [Num Lock] + [-] combination again.

   - While Skip Mode is in effect, ordinary keyboard and mouse functions are suspended – only Skip Mode compliant keystrokes can be input. You must exit Skip Mode in order to regain normal control of the console.

3. To exit Skip Mode, press **[Esc]** or **[Spacebar]**.

Hotkey Beeper Control

The Beeper (see Activate Beeper, page 27) can be Hotkey toggled On and Off. To toggle the Beeper, key in the following Hotkey combination:

1. Invoke Hotkey Mode with the **[Num Lock]** + **[*]** or **[Num Lock]** + **[-]** combination.

2. Press **[B]**

   After you press **B**, 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.

Hotkey Summary Table

[Num Lock] + [*] or [Num Lock] + [-]	[Port ID] [Enter]	Switches access to the computer that corresponds to that Port ID.
	[T] [n] [Enter]	Sets the Auto Scan interval to **n** seconds – where **n** is a number from 1–255.
	[A]	Invokes Auto Scan Mode. When Auto Scan Mode is in effect, [P] or Left Click pauses Auto Scanning. When Auto Scanning is paused, pressing Any Key or another Left Click resumes Auto Scanning.
	[←]	Invokes Skip Mode and Skips from the current port to the first accessible port previous to it.
	[→]	Invokes Skip Mode and Skips from the current port to the next accessible port.
	[B]	Toggles the Beeper On or Off.

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Appendix

Safety Instructions

General

- 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.

- 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.

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- 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.

Rack Mounting

- Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.

- Always load the rack from the bottom up, and load the heaviest item in the rack first.

- Make sure that the rack is level and stable before extending a device from the rack.

- Use caution when pressing the device rail release latches and sliding a device into or out of a rack; the slide rails can pinch your fingers.

- After a device is inserted into the rack, carefully extend the rail into a locking position, and then slide the device into the rack.

- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.

- Make sure that all equipment used on the rack – including power strips and other electrical connectors – is properly grounded.

- Ensure that proper airflow is provided to devices in the rack.

- Ensure that the operating ambient temperature of the rack environment does not exceed the maximum ambient temperature specified for the equipment by the manufacturer.

- Do not step on or stand on any device when servicing other devices in a rack.

Technical Support

Technical support is available both by email and online (with a browser over the web):

International

Email Support		support@aten.com
Online Support	Technical Support	http://support.aten.com
	Troubleshooting Documentation Software Updates	http://www.aten.com
Telephone Support		886-2-8692-6959

North America

Email Support		ATEN TECH	support@aten-usa.com
		ATEN NJ	sales@aten.com
Online Support	Technical Support	ATEN TECH	http://www.aten-usa.com/support
		ATEN NJ	http://support.aten.com
	Troubleshooting Documentation Software Updates	ATEN TECH	http://www.aten-usa.com
		ATEN NJ	http://www.aten.com
Telephone Support		ATEN TECH	1-888-999-ATEN
		ATEN NJ	1-732-356-1703

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			CS-88A
Computer Connections	Direct		8
	Max		512 (via Cascade)
Port Selection			Pushbutton; Hotkey; OSD
Connectors	Console	Keyboard	1 x 6-pin Mini DIN F
		Video	1 x HDB-15 F
		Mouse	1 x 6-pin Mini DIN F
	Computer	Keyboard	8 x 6-pin Mini DIN F
		Video	8 x HDB-15 M
		Mouse	8 x 6-pin Mini DIN F
LEDs	Power		1 (Blue)
	On Line		8 (Orange)
	Selected		8 (Green)
Scan Interval (OSD Select)			1–255 sec.
Power Consumption			DC9V; 1.08W (max.)
Environment	Operating Temp.		0–50° C
	Storage Temp.		-20–60° C
	Humidity		0–80% RH – Non condensing
Physical Properties	Housing		Metal
	Weight (kg)		2.85
	Dimensions (L x W x H)		43.3 x 15.0 x 4.45 cm (19"/1U)

CS-88A Connection Tables

The following tables indicate the relationship between the number of CS-88A units and the number of computers that they control:

No.	Comps	No.	Comps	No.	Comps	No.	Comps
1	8	20	134 - 141	39	267 - 274	58	400 - 407
2	8-15	21	141 - 148	40	274 - 281	59	407 - 414
3	15 - 22	22	148 - 155	41	281 - 288	60	414 - 421
4	22 - 29	23	155 - 162	42	288 - 295	61	421 - 428
5	29 - 36	24	162 - 169	43	295 - 302	62	428 - 435
6	36 - 43	25	169 - 176	44	302 - 309	63	435 - 442
7	43 - 50	26	176 - 183	45	309 - 316	64	442 - 449
8	50 - 57	27	183 - 190	46	316 - 323	65	449 - 456
9	57 - 64	28	190 - 197	47	323 - 330	66	456 - 463
10	64 - 71	29	197 - 204	48	330 - 337	67	463 - 470
11	71 - 78	30	204 - 211	49	337 - 344	68	470 - 477
12	78 - 85	31	211 - 218	50	344 - 351	69	477 - 484
13	85 - 92	32	218 - 225	51	351 - 358	70	484 - 491
14	92 - 99	33	225 - 232	52	358 - 365	71	491 - 498
15	99 - 106	34	232 - 239	53	365 - 372	72	498 - 505
16	106 - 113	35	239 - 246	54	372 - 379	73	505 - 512
17	113 - 120	36	246 - 253	55	379 - 386		
18	120 - 127	37	253 - 260	56	386 - 393		
19	127 - 134	38	260 - 267	57	393 - 400		

OSD Factory Default Settings

The factory default settings are as follows:

Setting	Default
OSD Hotkey	[Scroll Lock] [Scroll Lock]
Port ID Display Position	Upper Right Corner
Port ID Display Duration	3 Seconds
Port ID Display Mode	The Port Number plus the Port Name
Scan Duration	5 Seconds
Scan/Skip Mode	All
Screen Blanker	0 (Off)
Logout Timeout	0 (Off)
Beeper	Y (Activated)
Accessible Ports	F (Full) For all Users on all Ports

Restoring Original Factory Default Settings

You can restore the original factory default settings for the CS-88A. The original password for the default administrator account is restored; all administrator and user accounts are removed from the system. Only the station name and date and time are retained. This procedure requires the use of a jumper cap.

1. Turn off the CS-88A and unplug the power cord.

2. Remove the cover of the CS-88A.

3. Place a jumper cap over pins 1-2 of the J22 jumper on the mainboard.
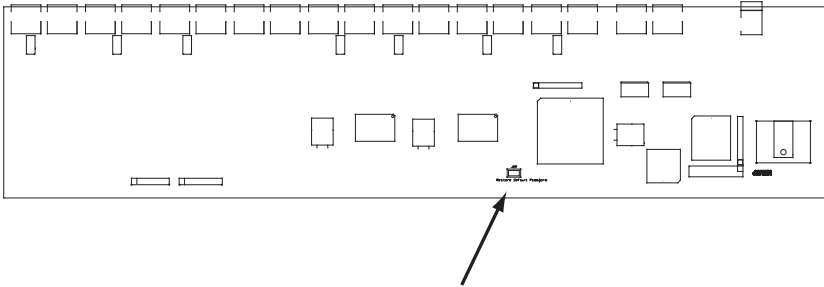
4. Plug in the power cord and turn on the CS-88A. The following directions appear on the KVM console screen:

   ```
   USERNAME AND PASSWORD INFORMATION AND PORT/USER
   INFORMATION HAS BEEN CLEARED. PLEASE POWER OFF THE
   SWITCH, REMOVE THE JUMPER, CLOSE THE CASE, THEN
   RESTART.
   ```

5. Turn off the CS-88A and unplug the power cord.

6. Remove the jumper cap from pins 1-2 of the J22 jumper.

7. Replace the cover on the KVM switch. Plug in the power cord and turn on the CS-88A.

8. You should now use the default username and password to log in to the CS-88A.

Troubleshooting

Overview

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.

Symptom	Action
Erratic behavior.	Use the Power Adapter that was supplied with the unit to provide the necessary power.
Pressing the Hotkeys gets no response.	Check the Online LED for the selected port. If it is not lit: 1. Manually press one of the Select switches to connect to a computer that is powered ON. 2. Check the cables to make sure they are all properly connected.
	1. Reset the keyboard (and mouse) by simultaneously pressing Buttons 1 and 2 on the First Stage unit for 3 seconds. 2. Unplug the keyboard connector from the Console Keyboard Port, then plug it back in.
	Turn off all Master View units and wait five seconds before turning them back on. See *Powering Off and Restarting*, page 16 for details.
	After invoking the Hotkey function (see page 31), be sure to key in the Port ID and press **[Enter]** within one second for each key.
The mouse is not responding.	1. Reset the mouse (and keyboard) by simultaneously pressing Buttons 1 and 2 on the First Stage unit for 3 seconds. 2. Unplug the mouse connector from the Console Mouse Port, then plug it back in.

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.

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