Avocent

AutoView® Switch

Installer/User Guide

For models: 1400, 1500 and 2000

INSTRUCTIONS

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

DANGEROUS VOLTAGE

This symbol is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

POWER ON

This symbol indicates the principal on/off switch is in the on position.

POWER OFF

This symbol indicates the principal on/off switch is in the off position.

PROTECTIVE GROUNDING TERMINAL

This symbol indicates a terminal which must be connected to earth ground prior to making any other connections to the equipment.

AutoView® 1400/1500/2000

Installer/User Guide

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USA Notification

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: 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.

Canadian Notification

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présente appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

Japanese Approvals

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Safety and EMC Approvals and Markings

UL, FCC, cUL, ICES, CE, N, GS, IRAM, GOST, VCCI, MIC, C-Tick

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CHAPTER 1

Product Overview

Features and Benefits

The AutoView® 1400/1500/2000 switches integrate Avocent field-proven analog keyboard, video and mouse (KVM) switching technology with advanced cable management, flexible access for two simultaneous users and a patented, easy-to-use interface. This AutoView series of KVM switches conveniently supports all major server platforms and features powerful on-screen management for easy system configuration and server selection.

AVRIQ Intelligent Module

A benefit of the AutoView switch is the AVRIQ intelligent module. The AVRIQ module with CAT 5 design dramatically reduces cable clutter, while providing optimal resolution and video settings. The built-in memory of the AVRIQ module simplifies configuration by assigning and retaining unique server names and Electronic ID (EID) numbers for each attached server. The AVRIQ module is powered directly from the server and provides Keep Alive functionality even if the AutoView switch is not powered.

Each AutoView 2000 switch has 16 Avocent Rack Interface (ARI) ports for connecting AVRIQ modules. AutoView 1400 and 1500 switches provide eight ARI ports. Utilizing an AVRIQ module, you can attach additional switches to expand your AutoView switching system. This flexibility allows you to add capacity as your data center grows.

Multiplatform support

The AVRIQ modules available with the AutoView switch support PS/2, Sun™, USB and serial server environments. Using the OSCAR® graphical user interface in conjunction with these modules allows you to switch easily across platforms.

OSCAR graphical user interface

AutoView switches use the OSCAR interface, which features intuitive menus to configure your switching system and select computers. Computers can be identified by unique name, EID or port number, allowing you to assign unique server names.

Security

The OSCAR interface allows you to protect your system with a screen saver password. After a user-defined time, the screen saver mode engages and access is prohibited until the appropriate password is entered to reactivate the system.

Operation modes

The OSCAR user interface provides convenient operation modes for easy system administration of the AutoView switch. These modes (broadcast, scan, switch and share) allow you to manage your switching activities. Chapter 3 explains these modes in detail.

Video

The AutoView switch provides optimal resolution for analog VGA, SVGA and XGA video. Achieve resolutions of up to 1600 x 1200 with a 10 foot cable and up to 800 x 600 with a 50 foot cable. Resolutions will vary depending upon the length of cable separating your switch and servers.

Plug and Play

The AutoView switch also supports Display Data Channel (DDC) Plug and Play, which automates configuration of the monitor and is compliant with the VESA DDC2B standard.

Flash upgradable

Upgrade your firmware at any time through a simple update utility to ensure that your AutoView switching system is always running the most current version available. Both the AutoView switch and the AVRIQ modules are Flash upgradable. See *Appendix A* for more information.

Cascading expansion

Each AutoView switch supports up to 16 directly attached servers and can conveniently scale to support more. You can expand your system using cascadable Avocent products such as other AutoView or OutLook® switches. This extra “cascade” of units allows you to attach up to 256 servers in one system. See Chapter 2 for more information.

Integrated Access Cables

The AutoView 1400/1500/2000 switches also feature Integrated Access Cable (IAC) modules designed to provide the same ease of use as the AVRIQ module. Available in three different lengths, IAC modules are RJ-45 style cables that provide a reduced cost alternative to AVRIQ modules. IAC modules support PS/2 and USB connectivity.

Contact your Avocent representative for more information.

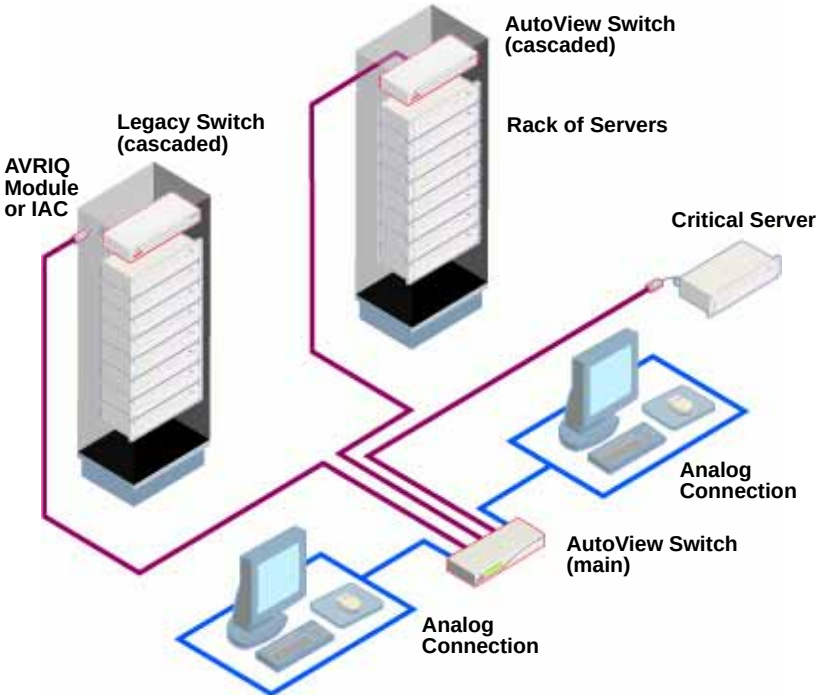

Figure 1.1: Example of an AutoView Switch Configuration

Safety Precautions

To avoid potential video and/or keyboard problems when using Avocent products:

- If the building has 3-phase AC power, ensure that the computers and monitors are on the same phase. For best results, they should be on the same circuit.
- Use only Avocent-supplied cable to connect computers and KVM switches. Avocent warranties do not apply to damage resulting from user-supplied cable.

To avoid potentially fatal shock hazard and possible damage to equipment, please observe the following precautions:

- Do not use a 2-wire extension cord in any Avocent product configuration.
- Test AC outlets at the computer and monitor for proper polarity and grounding.
- Use only with grounded outlets at both the computer and monitor. When using a backup Uninterruptible Power Supply (UPS), power the computer, the monitor and the AutoView switch off the supply.

NOTE: The AC inlet is the main disconnect.

Rack mount safety considerations

- Elevated Ambient Temperature: If installed in a closed rack assembly, the operation temperature of the rack environment may be greater than room ambient. Use care not to exceed the rated maximum ambient temperature of the unit.
- Reduced Air Flow: Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.
- Mechanical Loading: Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Consider equipment nameplate ratings for maximum current.
- Reliable Earthing: Reliable earthing of rack mounted equipment should be maintained. Pay particular attention to supply connections other than direct connections to the branch circuit (for example, use of power strips).

CHAPTER 2

Installation

Getting Started

Before installing your AutoView switch, refer to the following list to ensure you have all items that shipped with the appliance as well as other items necessary for proper installation.

Supplied with the AutoView switch

- Power cord
- One null modem serial cable
- Rack mounting kit
- AutoView 1400/1500/2000 Installer/User Guide
- AutoView 1400/1500/2000 Quick Installation Guide

Additional items needed

One IAC or AVRIQ module and UTP cabling per attached server or switch

Rack Mounting Your AutoView Switch

Your AutoView switch may be rack mounted using the brackets supplied in your rack mounting kit. Before installing the switch and other components in the rack cabinet (if not already installed), stabilize the rack in a permanent location. Install your equipment starting at the bottom of the rack cabinet, then work to the top.

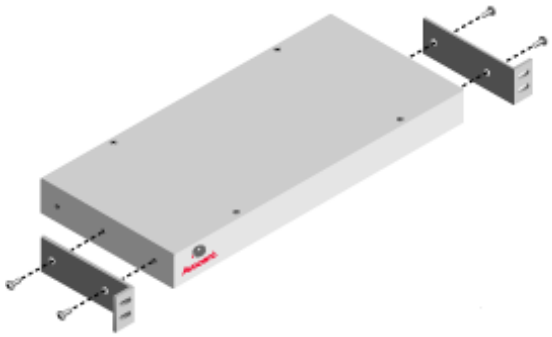

Figure 2.1: AutoView Switch Horizontal Installation

CAUTION: Rack Loading - Overloading or uneven loading of racks may result in shelf or rack failure, causing damage to equipment and possible personal injury. Do not exceed your rack load rating.

To install the 1U switch mounting bracket:

1. Remove the first two screws on each side of the switch.
2. Line up the holes in the “long side” of the kit’s side brackets with the screw holes in the switch.
3. With a Phillips screwdriver, fasten the mounting brackets to the switch using two screws on each side.
4. Attach four cage nuts or clip nuts to the rack mounting flange of the rack cabinet so that the nut is positioned on the inside of the rack.

NOTE: Nuts are not included with the rack mount kit.

5. Mount the switch assembly to the rack cabinet by matching the holes in the “short side” of each bracket to an appropriate set of matching holes on your rack cabinet.
6. Next, insert the combination hex head screws through the slots in the bracket and the holes in the mounting rail, then into the cage nuts or clip nuts.

Installing the AutoView Switch

Plug the supplied power cord into the back of the appliance and then into an appropriate power source. Figure 2.2 illustrates one possible configuration for your AutoView switch. See the following detailed set of procedures to successfully install your appliance.

CAUTION: To reduce the risk of electric shock or damage to your equipment -
- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Plug the power cord into a grounded (earthed) outlet that is easily accessible at all times.
- Disconnect the power from the unit by unplugging the power cord from either the electrical outlet or the unit.

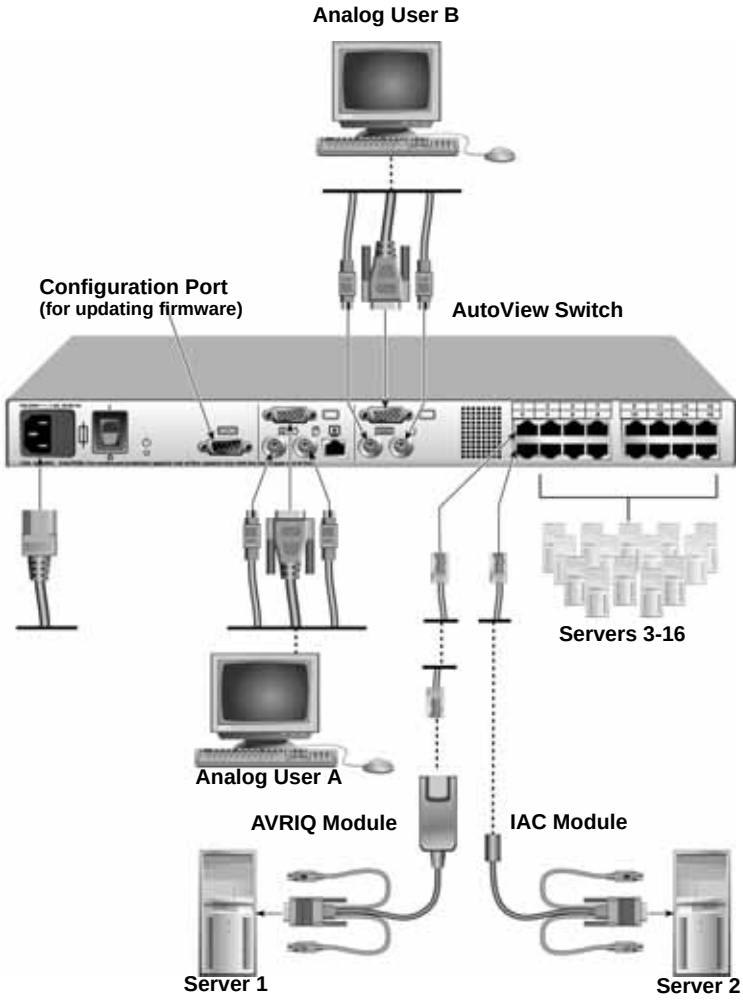

Figure 2.2: Basic AutoView Switch Configuration

NOTE: Only the AutoView 1500 and the AutoView 2000 switches support two simultaneous users.

To connect a server using an AVRIQ module:

1. Locate the AVRIQ modules for your AutoView switch.
2. Attach the appropriately color-coded cable ends to the keyboard, monitor and mouse ports on the first server you will be connecting to the appliance.
3. Attach one end of a CAT 5 cable to the RJ-45 connector on the AVRIQ module.
4. Connect the other end of the CAT 5 cable to the desired ARI port on the back of your AutoView switch.
5. Repeat steps 2 through 4 for each server you wish to attach.

NOTE: When connecting a Sun AVRIQ module, you must use a multi-sync monitor to accommodate Sun computers that support both VGA and sync-on-green or composite sync.

To connect a server using an IAC module:

1. Locate an IAC module for the server you wish to connect.
2. Attach the appropriately color-coded cable ends of the IAC module to the keyboard, monitor and mouse ports on the server you will be connecting to the switch.
3. Attach the other end of the IAC module to an open ARI port.
4. Repeat steps 1 through 3 for each server you wish to attach.

Connecting Users

To connect local peripherals:

1. Select the keyboard, monitor and mouse to be connected to local analog user A.
2. Locate the port set labeled A on the back of the appliance. Connect these peripherals to their respective ports.
3. Bundle and label the cables for easy identification.
4. Repeat these steps for user B, if desired.

Cascading AutoView Switches

You can cascade multiple AutoView 2000 switches to enable one or two users to connect to as many as 256 servers; the AutoView 1400 and 1500 switches feature connections of up to 128 servers. In a cascaded system, each ARI (Avocent Rack Interface) port on the main AutoView switch will connect to the ACI (Avocent Console Interface) port on each cascaded AutoView switch. Each cascaded switch can then be connected to a server with an AVRIQ module or IAC. The example shown in Figure 2.3 shows one AutoView switch cascaded under the main switch, enabling the connection of up to 15 primary servers and 16 secondary servers. Using this configuration, you could cascade 16 AutoView switches under the main switch, enabling the connection of up to 256 servers. Only one level of tiering is supported in this type of configuration, which means you cannot cascade any additional legacy switches or another AutoView switch.

In this configuration, the local port OSCAR interface is disabled in switches cascaded below the main AutoView switch.

To cascade multiple AutoView switches:

1. Connect the cascaded AutoView switch to each server as described in the previous *Installing the AutoView Switch* section.
2. Connect the local peripherals to analog user A and/or B of the main switch as described in *To connect local peripherals*.
3. Attach one end of the CAT 5 cabling that will run between your main and cascaded AutoView switch to the RJ-45 ACI port on the cascaded AutoView switch.
4. Attach the other end of the CAT 5 cable to one of the RJ-45 ARI ports on the main AutoView switch.

NOTE: The system will automatically “merge” the two switches together as one. All servers connected to the cascaded AutoView switch will display on the main AutoView switch server list in the OSCAR interface.

5. Repeat steps 3 and 4 for all additional (secondary) cascaded AutoView switches you wish to attach.

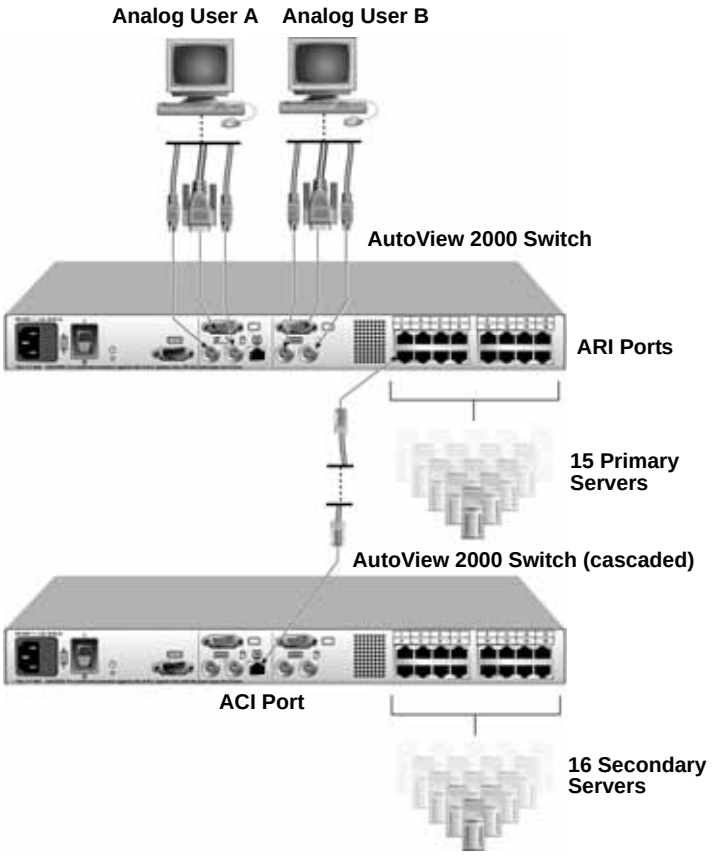

Figure 2.3: AutoView 2000 Switch Configuration with a Cascaded Switch

Adding Legacy Switches

You can add legacy switches to the AutoView switching system for easy integration into your existing configuration. In a cascaded system, each ARI port will accommodate up to 24 servers. See the following table for legacy switches compatible with the AutoView switching system.

Table 2.1: Legacy Switch Support

Legacy Product	Model Numbers
OutLook ES switch	140ES, 180ES, 280ES, 1160ES, 2160ES, 4160ES
AutoView switch	AV200-4, AV200-8, AV400-4, AV400-8, AV416, AV424

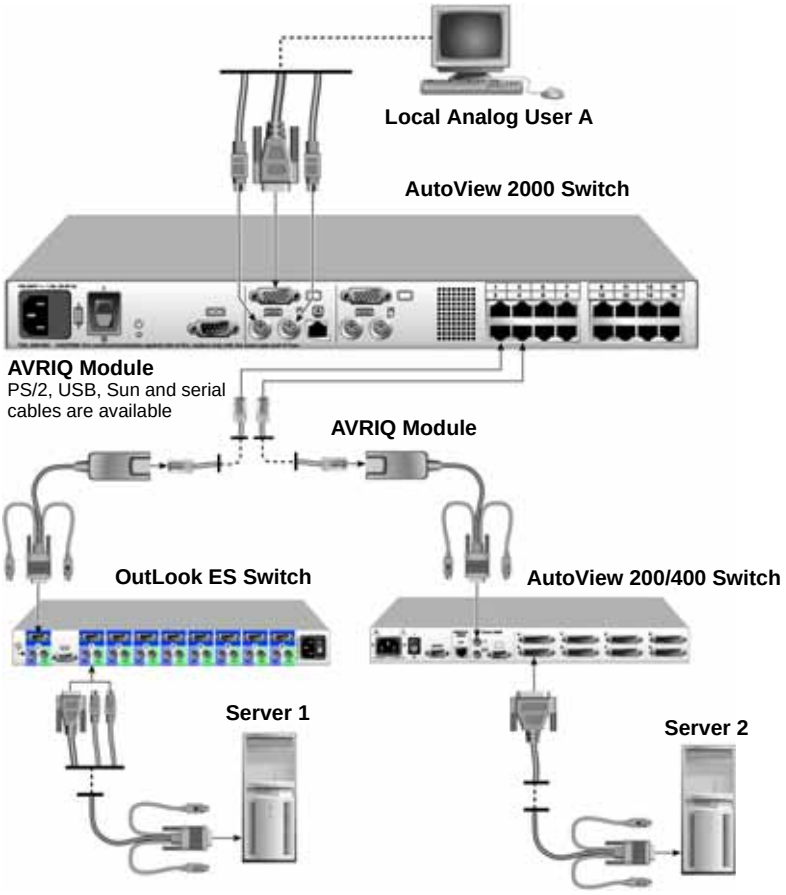

Figure 2.4: AutoView 2000 Switch Configuration with Legacy KVM Switches

To add a legacy KVM switch:

1. Mount the primary KVM switch into your rack cabinet.
2. Connect one end of a CAT 5 cable to an available port on the back of your AutoView switch.
3. Attach the keyboard, monitor and mouse connectors of the AVRIQ module to a user port on your cascaded switch.
4. Attach the other end of the CAT 5 cabling to the RJ-45 connector on the AVRIQ module.
5. Connect the servers to your cascaded switch according to the instructions included with the switch.
6. Power cycle the cascaded switch to enable its local user port to recognize the AVRIQ module.
7. Repeat steps 2 to 6 for all cascaded switches you wish to attach to your system.

To connect local peripherals:

1. Select the keyboard, monitor and mouse to be connected to local user A.
2. Locate the port set labeled A on the back of the switch. Connect these peripherals to their respective ports.
3. For the multiuser, 16-port AutoView switch, repeat steps 1 and 2 for the local analog port set labeled B.
   - or -
   For the AutoView 1400/1500 switch, proceed to step 4.
4. Bundle and label the cables for easy identification.

Setting Up Your AutoView Switching System

The AutoView switching system enables you to auto detect and configure each port on your appliance. Chapter 3 provides detailed instructions on name customization and OSCAR interface setup and configuration.

CHAPTER 3

Basic Operations

Controlling Your System at the Analog Ports

The AutoView switch features one or two analog port sets on the back of the switch that allow you to connect a monitor and a PS/2 keyboard and mouse for direct analog access. The AutoView switch uses the OSCAR interface, featuring intuitive menus to configure your system and select servers.

Viewing and Selecting Ports and Servers

Use the OSCAR interface Main dialog box to view, configure and control servers in the AutoView switching system. View your servers by name, port or by the unique Electronic ID number (EID) embedded in each AVRIQ module and IAC. You will see an OSCAR interface-generated port list by default when you first launch the OSCAR GUI.

The Port column indicates the ARI port to which a server is connected. If you connect a legacy KVM switch to the main AutoView switch or a cascaded AutoView switch, the port numbering displays the ARI port first, then the switch port to which the server is connected. For example, in Figure 3.1, servers 04-03 and 01-02 are connected to switches, then to servers on ports 03 and 02 respectively.

To access the Main dialog box:

Press **Print Screen** to launch the OSCAR interface. The Main dialog box displays.

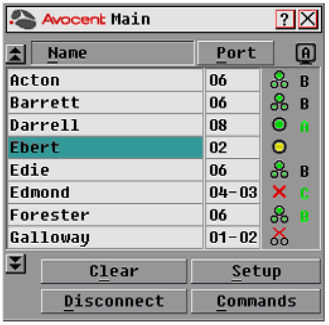

Figure 3.1: Example of Configured Main Dialog Box

NOTE: You can also press the **Control** key twice within one second to launch the OSCAR interface. You can use this key sequence in any place you see **Print Screen** throughout this installer/user guide.

Viewing the status of your switch

The status of the servers in your system is indicated in the right columns of the Main dialog box. The following table describes the status symbols.

Table 3.1: OSCAR Interface Status Symbols

Symbol	Description
	AVRIQ modules and IACs are online (green circle).
	AVRIQ modules and IACs are offline or are not operating properly.
	Server is cascaded through a cascade legacy switch. The switch is online and has power.
	Server is cascaded through a cascade legacy switch. The switch is offline or has no power.
	AVRIQ module is being upgraded (yellow circle).
	AVRIQ modules and IACs are being accessed by the indicated user channel (green channel letter).
	AVRIQ modules and IACs are blocked by the indicated user channel (black channel letter).

Selecting servers

Use the Main dialog box to select servers. When you select a server, the switch reconfigures the keyboard and mouse to the proper settings for that server.

To select servers:

Double-click the server name, EID or port number.
-or-
If the display order of your server list is by port (*Port* button is depressed), type the port number and press **Enter**.
-or-
If the display order of your server list is by name or EID number (*Name* or *EID* button is depressed), type the first few characters of the name of the server or the EID number to establish it as unique and press **Enter**.

To select the previous server:

Press **Print Screen** and then **Backspace**. This key combination toggles you between the previous and current connections.

To disconnect the user from a server:

Press **Print Screen** and then **Alt+0**. This leaves the user in a free state, with no server selected. The status flag on your desktop displays *Free*.

Soft switching

Soft switching is the ability to switch servers using a hotkey sequence. You can soft switch to a server by pressing **Print Screen** and then typing the first few characters of its name or number. If you have set a Screen Delay Time and you press the key sequences before that time has elapsed, the OSCAR interface will not display.

To configure servers for soft switching:

1. Press **Print Screen** to launch the OSCAR interface. The Main dialog box displays.
2. Click *Setup - Menu.* The Menu dialog box displays.
3. For Screen Delay Time, type the number of seconds of delay desired before the Main dialog box is displayed after **Print Screen** is pressed.
4. Click *OK*.

To soft switch to a server:

1. To select a server, press **Print Screen**. If the display order of your server list is by port (*Port* button is depressed), type the port number and press **Enter**.
   -or-
   If the display order of your server list is by name or EID number (*Name* or *EID* button is depressed), type the first few characters of the name of the server or the EID number to establish it as unique and press **Enter**.
2. To switch back to the previous server, press **Print Screen** then **Backspace**.

Navigating the OSCAR Interface

This table describes how to navigate the OSCAR interface using the keyboard and mouse.

Table 3.2: OSCAR Interface Navigation Basics

This Keystroke	Does This
Print Screen	Press **Print Screen** twice to send the **Print Screen** keystroke to the currently selected device.
F1	Opens the Help screen for the current dialog box.

Table 3.2: OSCAR Interface Navigation Basics (Continued)

This Keystroke	Does This
Escape	Closes the current dialog box without saving changes and returns to the previous one. In the Main dialog box, it closes the OSCAR interface and returns to the flag. In a message box, it closes the pop-up box and returns to the current dialog box.
Alt+Hotkey	Opens dialog boxes, selects or checks options and executes actions when used with underlined or other designated letters.
Alt+X	Closes the current dialog box and returns to the previous one.
Alt+O	Selects the *OK* button, then returns to the previous dialog box.
Single-click, Enter	In a text box, selects the text for editing and enables the **Left** and **Right Arrow** keys to move the cursor. Press **Enter** again to quit the edit mode.
Enter	Completes a switch in the Main dialog box and exits the OSCAR interface.
Print Screen, Backspace	Toggles back to previous selection.
Print Screen, Alt+0 (zero)	Immediately disengages a user from a server; no server is selected. Status flag displays *Free*. (This only applies to the **0** on the keyboard and not the keypad.)
Print Screen, Pause	Immediately turns on screen saver mode and prevents access to that specific console, if it is password protected.
Up/Down Arrows	Moves the cursor from line to line in lists.
Right/Left Arrows	Moves the cursor between columns. When editing a text box, these keys move the cursor within the column.
Page Up/Page Down	Pages up and down through Name and Port lists and Help pages.
Home/End	Moves the cursor to the top or bottom of a list.
Delete	Deletes characters in a text box.
Page Up/Page Down	Pages up and down through Name and Port lists and Help pages.
Numbers	Type from the keyboard or keypad.

Configuring OSCAR Interface Menus

You can configure your AutoView switch from the Setup menu within the OSCAR interface. Select the *Names* button when initially setting up your switch to identify servers by unique names. Select the other setup features to manage routine tasks for your servers from the OSCAR interface menu.

Table 3.3: Setup Features to Manage Routine Tasks for Your Servers

Feature	Purpose
Menu	Change the server listing between numerically by port or EID number and alphabetically by name. Change the Screen Delay Time before the OSCAR interface displays after pressing **Print Screen**.
Flag	Change display, timing, color or location of the status flag.
Broadcast	Set up to simultaneously control multiple servers through keyboard and mouse actions.
Scan	Set up a custom scan pattern for up to 16 servers.
Security	Set passwords to restrict server access. Enable the screen saver.
Devices	Identify the appropriate number of ports on an attached cascaded switch.
Names	Identify servers by unique names.
Switch	Choose the switch mode and the share mode time-out.

To access the Setup menu:

1. Press **Print Screen** to launch the OSCAR interface. The Main dialog box displays.
2. Click *Setup*. The Setup dialog box displays.

Figure 3.2: Setup Dialog Box

Assigning server names

Use the Names dialog box to identify individual servers by name rather than by port number. The Names list is always sorted by port order. Names are stored in the AVRIQ or IAC module, so even if you move the module/cable to another ARI port, the name and configuration will be recognized by the switch.

NOTE: If a server is turned off, its respective AVRIQ or IAC module will not appear in the Names list.

To access the Names dialog box:

1. Press **Print Screen** to launch the OSCAR interface. The Main dialog box will appear.
2. Click *Setup - Names.* The Names dialog box displays.

Figure 3.3: Names Dialog Box

NOTE: If the server list changes, the mouse cursor will turn into an hourglass as the list is automatically updated. No mouse or keyboard input will be accepted until the list update is complete.

To assign names to servers:

1. In the Names dialog box, select a server name or port number and click *Modify.* The Name Modify dialog box displays.

Figure 3.4: Name Modify Dialog Box

2. Type a name in the New Name box. Names of servers may be up to 15 characters long. Supported characters include: A to Z, a to z, 0 to 9, space and hyphen.
3. Click *OK* to transfer the new name to the Names dialog box. Your selection is not saved until you click *OK* in the Names dialog box.
4. Repeat steps 1 to 3 for each server in the system.
5. Click *OK* in the Names dialog box to save your changes.
   -or-
   Click *X* or press **Escape** to exit the dialog box without saving changes.

NOTE: If an AVRIQ module has not been assigned a name, the EID is used as the default name.

Assigning device types

The AutoView switch automatically discovers cascaded KVM switches, but you will need to specify the number of ports on the cascaded switch through the Devices dialog box. You will see an Sw-8 or Sw-24 display in the Type category for the cascaded switch. Select the switch from the list and the Modify button displays, allowing you to assign it the appropriate number of ports.

NOTE: The Modify button will only be available if a configurable switch is selected.

To access the Devices dialog box:

1. Press **Print Screen** to launch the OSCAR interface. The Main dialog box will appear.
2. Click *Setup - Devices*. The Devices dialog box displays.

Figure 3.5: Devices Dialog Box

When the AutoView switch discovers a cascaded switch, you will notice the port numbering change to accommodate each server under that switch. For example, if the switch is connected to ARI port 6, the switch port would be listed as 06 and each server under it would be numbered sequentially 06-01, 06-02 and so on.

To assign a device type:

1. In the Devices dialog box, select the desired port number.
2. Click *Modify*. The Device Modify dialog box displays.

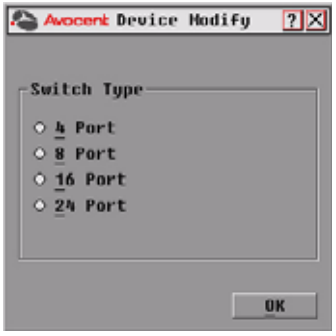

Figure 3.6: Device Modify Dialog Box

3. Choose the number of ports supported by your cascaded switch and click *OK*.
4. Repeat steps 1 to 3 for each port requiring a device type to be assigned.
5. Click *OK* in the Devices dialog box to save settings.

NOTE: Changes made in the Device Modify dialog box are not saved until you click *OK* in the Devices dialog box.

Changing the display behavior

Use the Menu dialog box to change the display order of servers and set a Screen Delay Time for the OSCAR interface. The display order setting alters how servers will display in several screens including the Main, Devices and Broadcast dialog boxes.

To access the Menu dialog box:

1. Press **Print Screen** to launch the OSCAR interface. The Main dialog box displays.
2. Click *Setup - Menu* in the Main dialog box. The Menu dialog box displays.

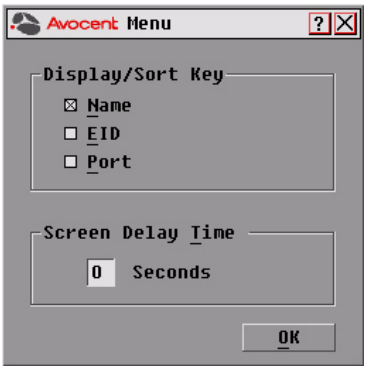

Figure 3.7: Menu Dialog Box

To choose the default display order of servers:

1. Select *Name* to display servers alphabetically by name.
   -or-
   Select *EID* to display servers numerically by EID number.
   -or-
   Select *Port* to display servers numerically by port number.
2. Click *OK*.

To set a Screen Delay Time for the OSCAR interface:

1. Type in the number of seconds (0 to 9) to delay the OSCAR interface display after you press **Print Screen**. Entering **0** will instantly launch the OSCAR interface with no delay.
2. Click *OK*.

Setting a Screen Delay Time allows you to complete a soft switch without the OSCAR interface displaying. To perform a soft switch, see *Soft switching* in this chapter.

Controlling the status flag

The status flag displays on your desktop and shows the name or EID number of the selected server or the status of the selected port. Use the Flag dialog box to configure the flag to display by server name or EID number, or to change the flag color, opacity, display time and location on the desktop.

Table 3.4: OSCAR Interface Status Flags

Flag	Description
	Flag type by name
	Flag type by EID number
	Flag indicating that the user has been disconnected from all systems
	Flag indicating that broadcast mode is enabled

To access the Flag dialog box:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Setup* - *Flag*. The Flag dialog box displays.

Figure 3.8: Flag Dialog Box

To determine how the status flag is displayed:

1. Select *Name* or *EID* to determine what information will be displayed.
2. Select *Displayed* to show the flag all the time or select *Timed* to display the flag for only five seconds after switching.
3. Select a flag color in Display Color.

4. In Display Mode, select *Opaque* for a solid color flag or select *Transparent* to see the desktop through the flag.
5. To position the status flag on the desktop:
   a. Click *Set Position* to gain access to the Set Position Flag screen.
   b. Left-click on the title bar and drag to the desired location.
   c. Right-click to return to the Flag dialog box.

Figure 3.9: Set Position Flag

NOTE: Changes made to the flag position are not saved until you click *OK* in the Flag dialog box.

6. Click *OK* to save settings.
   -or-
   Click *X* to exit without saving changes.

Setting console security

The OSCAR interface enables you to set security on your analog port console. You can establish a screen saver mode that engages after your console remains unused for a specified Inactivity Time. Once engaged, your console will remain locked until you press any key or move the mouse. You will then need to type in your password to continue.

Use the Security dialog box to lock your console with password protection, set or change your password and enable the screen saver.

NOTE: If a password has been previously set, you will have to enter the password before you can access the Security dialog box. If you should lose or forget your password, please contact Avocent Technical Support about returning your switch for service. See *Appendix C:Technical Support* for contact information.

To access the Security dialog box:

1. Press **Print Screen** to launch the OSCAR interface. The Main dialog box will appear.
2. Click *Setup - Security.* The Security dialog box displays.

Figure 3.10: Security Dialog Box

To set or change the password:

1. Single-click and press **Enter** or double-click in the New text box.
2. Type the new password in the New text box and press **Enter**.
   Passwords must contain both alpha and numeric characters, are case sensitive and may be up to 12 characters long. Supported characters are: A to Z, a to z, 0 to 9, space and hyphen.
3. In the Repeat box, type the password again and press **Enter**.
4. Click *OK* to change only your password, and then close the dialog box.

To password protect your console:

1. Set your password as described in the previous procedure.
2. Select *Enable Screen Saver.*
3. Type the number of minutes for Inactivity Time (from 1 to 99) to delay activation of password protection and the screen saver feature.
4. For Mode, select *Energy* if your monitor is ENERGY STAR® compliant; otherwise select *Screen*.

CAUTION: Monitor damage can result from the use of Energy mode with monitors not compliant with ENERGY STAR.

5. (Optional) Click *Test* to activate the screen saver test which lasts 10 seconds then returns you to the Security dialog box.
6. Click *OK*.

To log in to your console:

1. Press any key or move the mouse.
2. The Password dialog box displays. Type your password, then click *OK*.
3. The Main dialog box displays if the password was entered properly.

To remove password protection from your console:

1. From the Main dialog box, click *Setup - Security*; the Password dialog box displays. Type your password, then click *OK*.
2. In the Security dialog box, single-click and press **Enter** or double-click in the New box. Leave the box blank. Press **Enter**.
3. Single-click and press **Enter** or double-click in the Repeat box. Leave the box blank. Press **Enter**.
4. Click *OK* to eliminate your password.

To enable the screen saver mode with no password protection:

1. If your console does not require a password to gain access to the Security dialog box, proceed to step 2.
   -or-
   If your console is password protected, see the previous procedure, then go to step 2.
2. Select *Enable Screen Saver.*
3. Type the number of minutes for Inactivity Time (from 1 to 99) to delay activation of the screen saver.
4. Choose *Energy* if your monitor is ENERGY STAR compliant; otherwise select *Screen*.

CAUTION: Monitor damage can result from the use of Energy mode with monitors not compliant with ENERGY STAR.

5. (Optional) Click *Test* to activate the screen saver test which lasts 10 seconds then returns you to the Security dialog box.
6. Click *OK*.

NOTE: Activation of the screen saver mode disconnects the user from a server; no server is selected. The status flag displays *Free*.

To exit the screen saver mode:

Press any key or move your mouse. The Main dialog box displays and any previous server connection will be restored.

To turn off the screen saver:

1. In the Security dialog box, clear *Enable Screen Saver.*
2. Click *OK*.

To immediately turn on the screen saver:

Press **Print Screen**, then press **Pause**.

Displaying Version Information

The OSCAR interface enables you to display the versions of the AutoView switch, as well as the AVRIQ module and IAC module firmware. For optimum performance, keep your firmware current. For more information, see *Appendix A.*

To display version information:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Commands - Display Versions*. The Version dialog box displays. The top half of the box lists the subsystem versions in the appliance.

Figure 3.11: Version Dialog Box

3. Click the *Target* button to view individual AVRIQ and IAC module version information. The Target Selection dialog box displays.

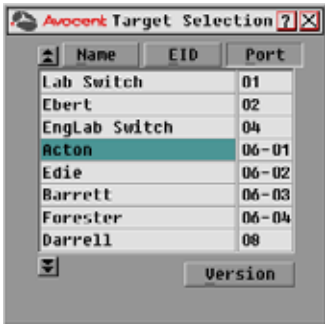

Figure 3.12: Target Selection Dialog Box

4. Select an AVRIQ or IAC module to view and click the *Version* button. The Target Version dialog box displays. For more information on loading firmware, see *Appendix A.*

Figure 3.13: Target Version Dialog Box

5. Click *X* to close the Target Version dialog box.

NOTE: *Load Firmware* button will only display for an AVRIQ module; IAC modules are not upgradable.

Scanning Your System

In scan mode, the appliance automatically scans from port to port (server to server). You can scan up to 16 servers, specifying which servers to scan and the number of seconds that each server will display. The scanning order is determined by placement of the server in the list. The list is always shown in scanning order. You can, however, choose to display the server's name or EID number by pressing the appropriate button.

To add servers to the scan list:

1. If the OSCAR interface is not open, press **Print Screen**. The Main dialog box will appear.
2. Click *Setup - Scan*. The Scan dialog box displays.

Figure 3.14: Scan Dialog Box

3. The dialog box contains a listing of all servers attached to your appliance. Click the checkbox next to the servers you wish to scan.
   -or-
   Double-click on a server's name or port.
   -or-
   Press **Alt** and the number of the server you wish to scan. You can select up to 16 servers from the entire list.
4. In the Scan Time box, type the number of seconds (from 3 to 99) of desired time before the scan moves to the next server in the sequence.
5. Click *OK*.

To remove a server from the scan list:

1. In the Scan dialog box, deselect the checkbox next to the server to be removed.
   -or-
   Double-click on the server's name or port.
   -or-
   Click the *Clear* button to remove all servers from the scan list.
2. Click *OK*.

To start the scan mode:

1. If the OSCAR interface is not open, press **Print Screen.** The Main dialog box will appear.
2. Click *Commands*. The Commands dialog box displays.

Figure 3.15: Commands Dialog Box

3. Select *Scan Enable* in the Commands dialog box.
4. Click *X* to close the Commands dialog box.

NOTE: Scanning will begin when the Main dialog box or flag is displayed. Scanning is inhibited in any other OSCAR interface dialog box.

To cancel scan mode:

1. Select a server if the OSCAR interface is open.
   -or-
   Move the mouse or press any key on the keyboard if the OSCAR interface is not open. Scanning will stop at the currently selected server.
2. Press **Print Screen**. The Main dialog box will appear.
3. Click *Commands*. The Commands dialog box displays.
4. Clear *Scan Enable*.

Running System Diagnostics

You can validate the integrity of your system through the Run Diagnostics command. This command checks the main board functional sub-systems (memory, communications, switch control and the video channels) for each system controller. When you select the *Run Diagnostics* option, you will receive a warning indicating that all users (remote and local) will be disconnected. Click *OK* to confirm and begin the test.

The Diagnostics dialog box displays. The top section of the dialog box displays the hardware tests. The bottom portion divides the tested AVRIQ and IAC modules into three categories: On-line, Offline or Suspect.

NOTE: AVRIQ or IAC modules may appear to be offline while being upgraded.

Figure 3.16: Diagnostics Dialog Box

Next to each item to be tested, you will see a pass (green circle) or fail (red x) symbol display to the left of each item as that test finishes. The following table details each of the tests**.**

Table 3.5: Diagnostic Test Details

Test	Description
Memory Tests	Reports on the condition of the main board RAM
Firmware CRCs	Reports on the condition of the main board RAM
Comm Interfaces	Validates the current firmware images stored in the system's Flash
Switch Controller test	Verifies the switch matrix controller is accessible and functional
Local Video	Indicates the condition of the local video monitor
On-line Targets	Indicates the total number of currently connected and powered targets
Offline Targets	Indicates the number of targets that have been connected successfully in the past and are powered down
Suspect Targets	Indicates the number of targets that have been detected, but are either unavailable for connection or have dropped packets during the ping tests

To run diagnostic tests:

1. If the OSCAR interface is not open, press **Print Screen**. The Main dialog box will appear.
2. Click *Commands - Run Diagnostics*. A warning message displays indicating that all users will be disconnected.

Figure 3.17: Diagnostics Warning Dialog Box

3. Click *OK* to begin diagnostics.
   -or-
   Click *X* or press **Escape** to exit the dialog box without running a diagnostic test.
4. All users are disconnected and the Diagnostics dialog box displays.
5. As each test is finished, a pass (green circle) or fail (red x) symbol displays. The test is complete when the last test's symbol displays.

Broadcasting to Servers

The analog user can simultaneously control more than one server in a system to ensure that all selected servers receive identical input. You can choose to broadcast keystrokes and/or mouse movements independently.

NOTE: You can broadcast to up to 16 servers at a time, one server per ARI port.

To access the Broadcast dialog box:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click *Setup - Broadcast*. The Broadcast dialog box displays.

Figure 3.18: Broadcast Dialog Box

NOTE: Broadcasting Keystrokes - The keyboard state must be identical for all servers receiving a broadcast to interpret keystrokes identically. Specifically, the **Caps Lock** and **Num Lock** modes must be the same on all keyboards. While the appliance attempts to send keystrokes to the selected servers simultaneously, some servers may inhibit and thereby delay the transmission.

NOTE: Broadcasting Mouse Movements - For the mouse to work accurately, all systems must have identical mouse drivers, desktops (such as identically placed icons) and video resolutions. In addition, the mouse must be in exactly the same place on all screens. Because these conditions are extremely difficult to achieve, broadcasting mouse movements to multiple systems may have unpredictable results.

To broadcast to selected servers:

1. From the Broadcast dialog box, select the mouse and/or keyboard checkboxes for the servers that are to receive the broadcast commands.
   -or-
   Press the **Up** or **Down Arrow** keys to move the cursor to the target server. Then press **Alt+K** to select the keyboard checkbox and/or **Alt+M** to select the mouse checkbox. Repeat for additional servers.
2. Click *OK* to save the settings and return to the Setup dialog box. Click *X* or press **Escape** to return to the Main dialog box.
3. Click *Commands*. The Commands dialog box displays.
4. Click the *Broadcast Enable* checkbox to activate broadcasting. The Broadcast Enable Confirm/Deny dialog box displays.

Figure 3.19: Broadcast Enable Confirm/Deny Dialog Box

5. Click *OK* to enable the broadcast. Click *X* or press **Escape** to cancel and return to the Commands dialog box.
6. If broadcasting is enabled, type the information and/or perform the mouse movements you want to broadcast from the switch. Only servers in the list are accessible.

NOTE: The other user is disabled when broadcast mode is enabled.

To turn broadcasting off:

From the Commands dialog box, clear the *Broadcast Enable* checkbox.

Changing Your Switch Mode

Your AutoView switch allows you to connect to attached servers using two methods: Preemptive and Cooperative.

Select *Preemptive* (default setting) to allow any user to select any server at any time; a request from another user disconnects the current user without warning.

-or-

Select *Cooperative* to maintain the current user connection; the current user will not be disconnected if another user requests connection.

To access the Switch dialog box:

1. Press **Print Screen**. The Main dialog box will display.
2. Click *Setup - Switch*. The Switch dialog box displays.

Figure 3.20: Switch Dialog Box

3. Select either *Preemptive* or *Cooperative* as your switch mode.
4. Click OK to save changes. Click *X* or press **Escape** to cancel.

APPENDICES

Appendix A: Flash Upgrades

Upgrading the AutoView switch

You can upgrade the firmware of your AutoView switch by using a special update utility provided by Avocent. This utility automatically configures the port communications settings to allow direct downloading from the connected server.

Items needed for the upgrade

- Server running Windows NT®, Windows® 95, Windows 98 or Windows 2000
- Available serial port (COM port) on the server
- Null modem serial cable (DB-male) that connects the switch and the server
- Firmware update

To upgrade firmware:

1. Connect the standard serial cable to a COM port on the server and to the serial connector on the back panel of the switch. Make a note of which COM port you have chosen, then turn on the switch.
2. Go to http://www.avocent.com/support and click on *product upgrades* to access the firmware upgrade file. Once the download is complete, navigate to the drive where you have saved the firmware update and unzip the file.
3. Double-click to run the file WUpDateAVO.exe.
4. In the dialog box that displays, select the desired language and COM port.
5. Click *Load*.
6. Once the firmware is updated, the following message displays *Download complete*. Click *Done* to exit the dialog box.
7. The switch automatically reboots after the upgrade is completed.

Possible error conditions

If the download does not execute properly, verify the following:

- Verify that the COM port is correct.
- Verify that no other program is currently using the COM port, or that no previous DOS window/shell is open that had used the desired COM port.
- Verify that no other copies of the WUpDate utility are currently running.
- Verify that a null modem serial cable is used.

- In the selected COM port Advanced Port settings, verify that the FIFO buffers are selected and that the receive buffer is set to High.

CAUTION: While upgrading, do not use your computer for anything else or switch between windows. Close all other windows if necessary. If the upgrade was unsuccessful (such as during a power outage), repeat the procedure.

Upgrading the AVRIQ module firmware

The AVRIQ modules can be upgraded individually or simultaneously.

NOTE: IAC modules are not upgradable.

To simultaneously upgrade multiple AVRIQ modules:

1. Press **Print Screen.** The Main dialog box will appear.
2. Click *Commands - AVRIQ Status.* The AVRIQ Status dialog box displays.

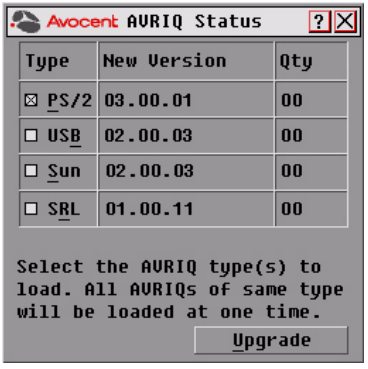

Figure A.1: AVRIQ Status Dialog Box

3. Click one or more types of modules to upgrade. Click *Upgrade*.
4. The AVRIQ Upgrade dialog box displays. Click *OK* to initiate the upgrade and return to the AVRIQ Status dialog box.

Figure A.2: AVRIQ Upgrade Dialog Box

To upgrade AVRIQ module firmware individually:

1. Press **Print Screen.** The Main dialog box will appear.
2. Click *Commands - Display Versions*. The Version dialog box displays.

Figure A.3: Version Dialog Box

3. Click *Target* to view individual AVRIQ module information. The Target Selection dialog box displays.

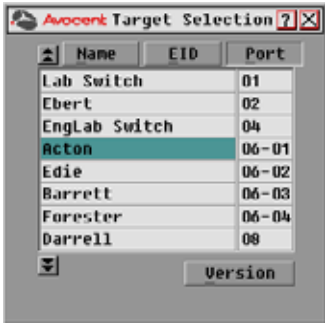

Figure A.4: Target Selection Dialog Box

4. Select an AVRIQ module to upgrade and click the *Version* button. The Target Version dialog box displays.

Figure A.5: Target Version Dialog Box

5. Click the *Load Firmware* button. The AVRIQ Load dialog box displays.

NOTE: The *Load Firmware* button displays for AVRIQ modules only; IAC modules are not upgradable.

Figure A.6: AVRIQ Load Dialog Box

6. Click *OK* to initiate the upgrade and return to the Status dialog box.

NOTE: During an upgrade, the AVRIQ status indicator in the Main dialog box will be yellow. The AVRIQ module is unavailable while an upgrade is in progress. When an upgrade is initiated, any current connection to the server via the AVRIQ module will be terminated.

Appendix B: Technical Specifications

Table B.1: Product Specifications

AutoView Switch Product Specifications	
ARI ports	
Number	8 (AutoView 1400/1500 switch), 16 (AutoView 2000 switch)
Types	PS/2, Sun, USB and serial AVRIQ modules or PS/2 and USB IACs
Connectors	RJ-45
Sync Types	Separate horizontal and vertical
Plug and Play	DDC2B
Video Resolution	Analog Port Maximum 1600 x 1280 @ 75 Hz
Update Port	
Number	1
Type	Serial RS-232
Connector	DB9 Male
Analog Port Sets	
Number	1 (AutoView 1400 switch), 2 (AutoView 1500/2000 switch)
Type	PS/2, VGA and ACI
Connectors	PS/2 miniDIN, 15 pin D, RJ-45
Dimensions	
Dimensions (H x W x D)	4.45 x 43.18 x 27.94 cm 1U form factor (1.75 x 17.00 x 11.00 in.)
Weight	3.6 kg (8 lb) without cables
Heat Dissipation	92 BTU/Hr
Airflow	8 cfm
Power Consumption	12.5 W
AC-input power	40 W maximum

Table B.1: Product Specifications (Continued)

AutoView Switch Product Specifications	
AC-input voltage rating	100 to 240 VAC Autosensing
AC-input current rating	0.5 A
AC-input cable	18 AWG three-wire cable, with a three-lead IEC-320 receptacle on the power supply end and a country or region dependent plug on the power resource end
AC-frequency	50/60 HZ
Temperature	10^{o} to 50^{o} Celsius (50^{o} to 122^{o} Farenheit) operating -20^{o} to 60^{o} Celsius (-4^{o} to 140^{o} Farenheit) nonoperating
Humidity	20 to 80% noncondensing operating 5 to 95% noncondensing nonoperating
Safety and EMC Approvals and Markings	
	UL, FCC Class A, cUL, ICES Class A, CE, N, GS, IRAM, GOST, VCCI Class A, MIC Class A, C-Tick

Appendix C: Technical Support

Our Technical Support staff is ready to assist you with any installation or operating issues you encounter with your Avocent product. If an issue should develop, follow the steps below for the fastest possible service.

To resolve an issue:

1. Check the pertinent section of this manual to see if the issue can be resolved by following the procedures outlined.
2. Check our web site at www.avocent.com/support to search the knowledge base or use the on-line service request.
3. Call the Avocent Technical Support location nearest you.

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