



Avocent™

AutoView® 416/424

Installer/User Guide



**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[®] 424**

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 présent 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 Notification

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Agency Approvals

UL 1950, CSA C22.2 No. 950, EN60950, IEC 60950
FCC part 15A, EN55022, EN55024

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Product Overview

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Chapter 1: Product Overview

Features and Benefits

The AutoView 424 KVM switch allows you to control up to 256 PC, Sun or USB computers with one keyboard, monitor and mouse. It supports Sun workstations, USB computers, IBM PC/AT and PS/2 systems and 100% compatible machines with support for VGA, SVGA, XGA and XGA-II video. Sun and PS/2 keyboard and mouse peripherals connect through the rear of the unit.

Multiplatform

The AutoView 424 adds multiplatform capabilities to your switching system by simultaneously supporting any combination of PS/2, Sun or USB computers in the same system. Switch easily across platforms with the AutoView 424 on-screen menu system.

Multiuser/extended access capability

The AutoView 424 supports two simultaneous users in the system. This second user may be placed up to 500 feet away from the AutoView 424 system. Built-in extension lets you place your second keyboard, monitor and mouse wherever you need them most. Within the base unit, AutoView 424 performs as a complete 2 x 24 matrix switch with both users independently accessing any of the 24 attached computers at the same time.

On-Screen Display capability

Configure and control your AutoView 424 switch with the On-Screen Display (OSD). Name your computer channels anything you wish, then select the desired computer from an easy-to-use menu. Secondary menus let you configure and initiate channel scanning and other system features.

Advanced security for total control over system access

Use the advanced multilevel security feature to configure and control server access for every type of user in the system. The administrator has full access privileges, while individual users can have viewing or viewing/editing capability for each attached server.

FLASH upgrade capability

The AutoView 424 switch is FLASH upgradable. This allows you to update your firmware at any time through a simple serial connection to insure that your AutoView 424 is always running the most current version available.

Mouse support

The AutoView 424 offers support for numerous PS/2 mice including: IBM ScrollPoint, Logitech MouseMan Wheel, Logitech Trackman Marble Wheel, Logitech Trackman Marble FX, Kensington 4 Button Mouse, Microsoft Explorer Mouse and the Microsoft IntelliMouse family.

Plug and Play

The AutoView 424 supports Plug and Play video and is compliant with the VESA DDC2B standard.

Mouse translation

For added compatibility with your current equipment, AutoView 424 features mouse translation capability. Operated through the AutoView 424, your mouse will work with any attached computer - regardless of whether the computer is Sun, USB or PS/2 mouse compatible.

Expansion for up to 64 computers

An AutoView 424 unit will support from one to 24 attached computers, or channels, depending on the model. If more than 24 channels are needed, multiple units can be cascaded together for expansion. An extra tier of units can be connected for a total of 256 attached computers in one system.

Keep Alive feature

The AutoView 424 Keep Alive feature allows attached servers to power the unit in the event of an AutoView 424 power failure. This prevents attached computers from locking up and keeps you from losing valuable time and data.

OSD Configuration Utility

The OSD Configuration Utility allows the administrator to easily configure and download a channel list with defined users and access privileges to the entire system. This utility will also read and save your current configuration for extra security.

AutoBoot technology

The AutoBoot feature boots all attached servers during initial power up or after a power failure. Computers are booted transparently without operator intervention, and may be powered up one at a time or all at once. When the power stabilizes, a channel may be selected.

Built-in scanning capability

A built-in scanning feature allows you to automatically monitor, or scan, connected computers without intervention. When keyboard activity is detected, scanning is suspended until all activity stops. Scanning then resumes with the next channel in sequence.

Keyboard switching

In addition to using the on-screen menus, you can also switch computer channels with a simple keyboard sequence.

16-port version

The AutoView 424 is also available in a 16-port version known as the AutoView 416. Aside from the number of ports, all information in this manual that applies to the AutoView 424 is also applicable to the AutoView 416.

A typical AutoView 424 configuration is shown below.

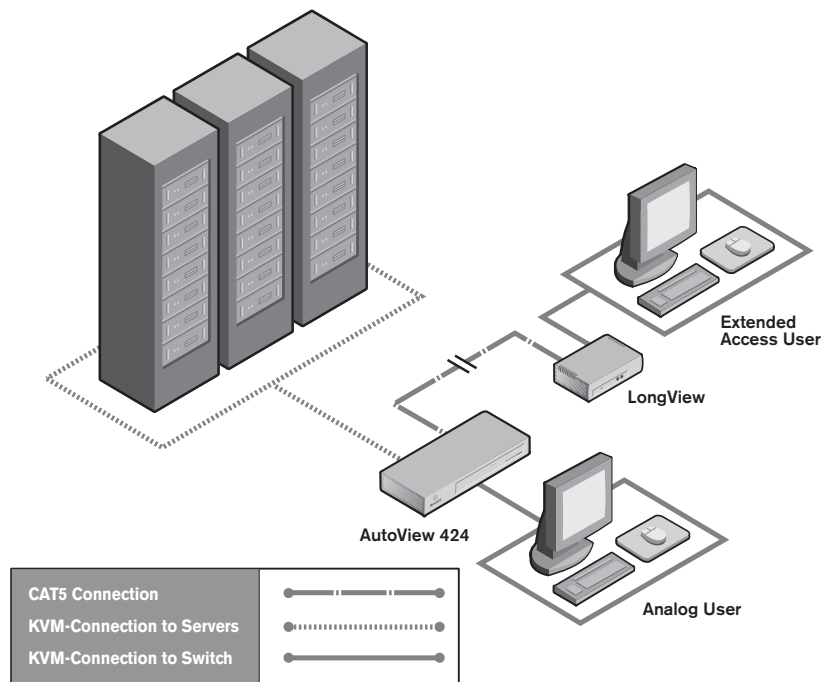


Figure 1.1: AutoView 424 Configuration

Compatibility

XGA/XGA-II support

If you wish to use XGA or XGA-II video, you will need to purchase an adaptor available through Avocent.

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 computer and monitor 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 power supply (UPS), power the computer, the monitor and the AutoView 424 unit 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).



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Chapter 2: Installation

Getting Started

Before installing your AutoView 424 system, refer to the lists below to ensure that you have all the items that shipped with the AutoView 424 as well as all other items necessary for proper installation.

Supplied with the AutoView 424

Your AutoView 424 switch package contains the following items:

- AutoView 424 unit
- Local country power cord
- AutoView 424 Installer/User Guide
- AutoView 424 Quick Installation Guide
- Download Instructions

Optional items

- 19 inch Switch Mounting Bracket kit (available from Avocent)
- Serial cable, DB9 female
- Adaptors (available from Avocent)

Rack Mounting your AutoView Unit

You can either place your AutoView appliance on your desktop or rack mount your unit into an EIA standard rack.

Obtain a Rack Mounting Bracket Kit (1U) from Avocent to rack mount your AutoView. Before installing the switch and other components in the rack, stabilize the rack in a permanent location. Start rack mounting your equipment at the bottom of the rack, then work to the top.



CAUTION: Rack Loading - Overloading or uneven loading of racks may result in shelf or rack failure, causing damage to equipment and possible personal injury. Stabilize racks in a permanent location before loading begins. Mount components beginning at the bottom of the rack, then work to the top. Do not exceed your rack load rating.



CAUTION: Power Considerations - Connect only to the power source specified on the unit. When multiple electrical components are installed in a rack, assure the total component power ratings do not exceed circuit capabilities. Overloaded power sources and extension cords present fire and shock hazards.

To install the rack mounting bracket:

1. Remove the side screws that secure the cover on your AutoView unit.
2. Line up the holes in the side brackets with the screw holes in the sides of the AutoView unit.
3. Using the previously removed screws, thread one through each of the holes in the sides of the rack mount brackets and into the AutoView cover. Tighten them securely.
4. Install a snap on nut (provided) onto one end of the cable support rod. Insert the rod through both brackets as shown above. Install the remaining acorn nut on the other end of the support rod.
5. Tie wraps can be used to secure cables to the support rod.

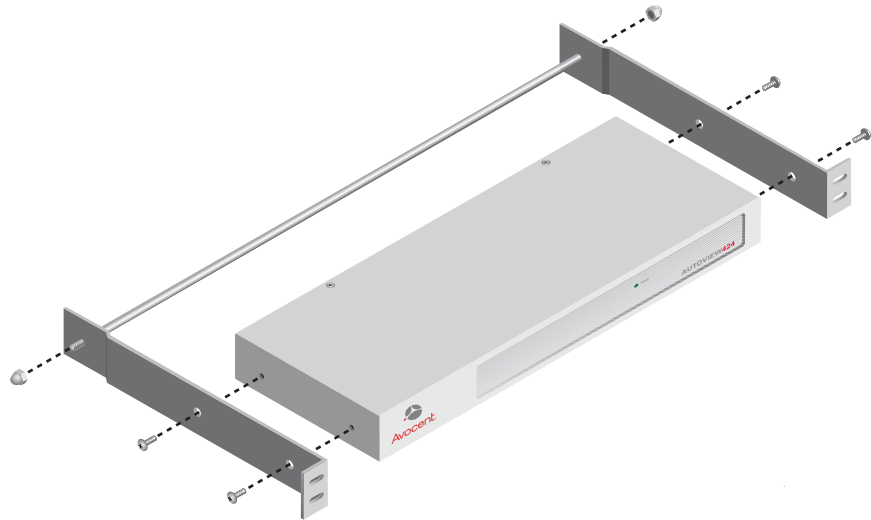


Figure 2.1: Rack Mounting Diagram

Installing an AutoView Switch

Installing your AutoView 424

The diagram below illustrates one possible configuration for your AutoView 424 switch. Follow the step-by-step procedure *To install an AutoView 424 switch* to properly install your new switch.

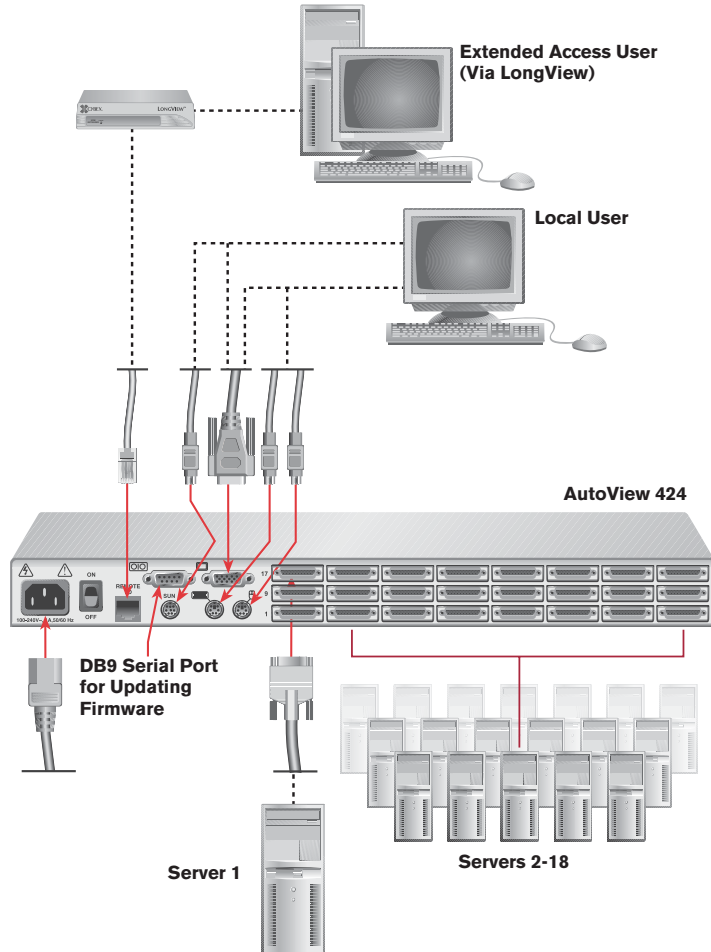





Figure 2.2: AutoView 424 Installation Example



WARNING: 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.




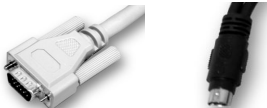
To install an AutoView 424 switch:

1. Power down all computers that will be part of your AutoView 424 system.
2. Plug your VGA monitor cable into the port labeled  on the back of your AutoView 424. For Sun support, plug your Sun connector into the port labeled SUN and for PS/2 peripherals, plug your PS/2 keyboard cable and your PS/2 mouse cable into the ports labeled  and  respectively.

NOTE: A PS/2 keyboard will not function if a Sun keyboard is attached. However, you may use a PS/2 mouse with a Sun keyboard.

3. Locate the input cable appropriate to the computer you are connecting. AutoView 424 cable types are identified below. Plug this cable into any numbered channel port on the rear of the AutoView 424. The other end of the input cable will have up to three connectors depending on type. Plug these connectors into the matching ports on your computer.

AutoView 424 Cable Types

Cable	Description	Length	
CIFCM-4	PS/2 only/VGA	4 ft	
CIFCM-8	PS/2 only/VGA	8 ft	
CIFCM-15	PS/2 only/VGA	15 ft	
CIFCM-30	PS/2 only/VGA	30 ft	
CUSBM-4	USB/VGA	4 ft	
CUSBM-8	USB/VGA	8 ft	
CUSBM-12	USB/VGA	12 ft	
CWSNM-4	SUN Kbd/Mouse 13W3	4 ft	
CWSNM-8	SUN Kbd/Mouse 13W3	8 ft	
CWSNM-15	SUN Kbd/Mouse 13W3	15 ft	
CWSNM-30	SUN Kbd/Mouse 13W3	30 ft	
CVSNM-4	SUN Kbd/Mouse VGA	4 ft	
CVSNM-8	SUN Kbd/Mouse VGA	8 ft	
CVSNM-15	SUN Kbd/Mouse VGA	15 ft	
CVSNM-30	SUN Kbd/Mouse VGA	30 ft	


4. Locate your next input cable. Repeat step 3 until all computers are properly attached to the AutoView 424.
5. Locate the power cord that came with your AutoView 424 unit and plug it into the IEC power connector on the AutoView 424. Make sure that the power switch is off, then plug the other end of the power cord into an appropriate AC wall outlet. This outlet must be near the equipment and easily accessible to allow for unplugging prior to any servicing of the unit.
6. Power up your AutoView 424 unit first, then power up all attached computers.



NOTE: The AutoView 424 and all attached computers should be powered down before servicing the unit. Always disconnect the power cord from the wall outlet.

To connect an extended access PS/2 user station:


1. Plug a standard Category 5 Unshielded Twisted Pair cable (up to 500 feet) into the RJ-45 style modular jack on the rear of the AutoView 424. Avocent C5T or Avocent P5T cable is strongly recommended to achieve best performance and maximum distance. If you use a different Category 5 cable, make sure it is terminated to the EIA (TIA) 568 B standard, commonly used for 10BaseT Ethernet.
2. Route the Category 5 cable to the location where you intend to place the secondary monitor, keyboard and mouse.
3. Connect your monitor, keyboard and mouse to the connectors on the rear of the LongView receiver just as you would connect them to your computer. Make sure you connect your monitor's power supply to appropriate electrical outlets.

NOTE: The  connector on the rear of the receiver is not used in any AutoView 424 configuration. Do not connect anything to this connector.

4. Connect the Category 5 cable to the modular jack on the rear of the receiver.
5. Connect the circular power plug from the wall mount power supply to the power port on the LongView receiver. Then plug the power supply into a convenient electrical outlet. Verify that the receiver's power LED is now lit.

To connect an extended access Sun user station:

NOTE: This will require a VAK-1 adaptor kit available from Avocent.

1. Plug a standard Category 5 Unshielded Twisted Pair cable (up to 500 feet) into the RJ-45 style modular jack on the rear of the AutoView 424. Avocent C5T or Avocent P5T cable is strongly recommended to achieve best performance and maximum distance. If you use a different Category 5 cable, make sure it is terminated to the EIA (TIA) 568 B standard, commonly used for 10BaseT Ethernet.
2. Route the Category 5 cable to the location where you intend to place the secondary monitor, keyboard and mouse.
3. If your monitor uses a 13W3 plug, connect the 15HDD male adaptor to the  port of your LongView receiver and your monitor cable to your VAK-1 video adaptor. Otherwise, plug your monitor directly into the LongView receiver.

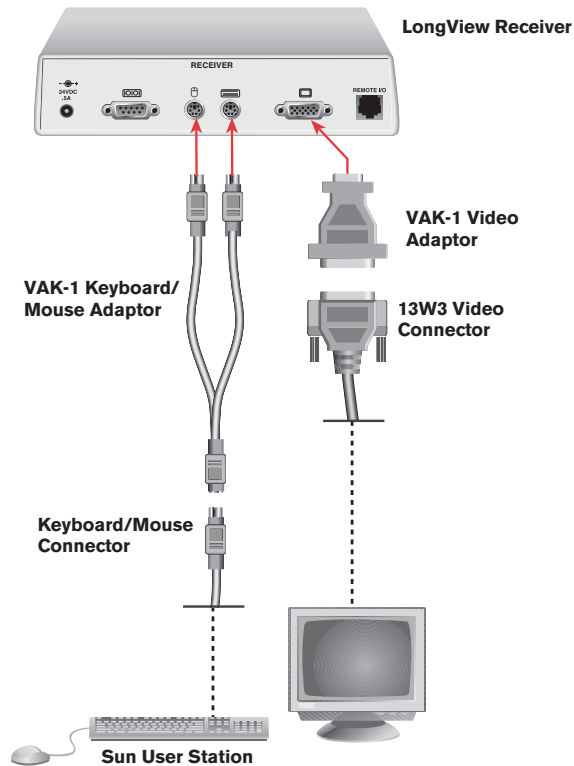




Figure 2.3: Connecting Extended Access Sun Peripherals




4. Plug the ends of the 6-pin miniDIN VAK-1 keyboard/mouse adaptor into the  and  ports on your LongView receiver and then plug the Sun keyboard/mouse cable into the VAK-1 adaptor.
5. Connect the Category 5 cable to the modular jack on the rear of the receiver.
6. Connect the circular power plug from the wall mount power supply to the power port on the LongView receiver. Then plug the power supply into a convenient electrical outlet. Verify that the receiver's power LED is now lit.
7. If your extended access location utilizes Sun peripherals, you will need to configure the AutoView 424 to recognize them before they can be used. To do this:
 - a. At the local user, activate the OSD by pressing either of the keyboard **Control** keys twice within one second.
 - b. Press the **Control** key twice more to access Administrator Commands.
 - c. Use your **Arrow** keys to highlight Administrator Functions and press **Enter**.

- d. Highlight and select the *Remote User* menu selection. Use the **Spacebar** to cycle through peripheral types and select the ones appropriate to your system. Press **Enter** to select.

Attaching Multiple AutoView 424 Units

NOTE: CIFCM cables are required for cascading.

To cascade multiple AutoView 424 units:

1. Follow steps 1-5 in the procedure *To install an AutoView 424 switch* for each cascaded unit.
2. Plug the 25-pin “mini-D” connector of your CIFCM input cable into any available channel port on the rear of your primary AutoView 424 unit.
3. Plug the 15-pin video connector on the other end of the cable into the port labeled  on your first cascading AutoView 424 unit. Plug the PS/2 mouse connector into the  port. Plug the remaining 6-pin miniDIN keyboard connector into the  port.

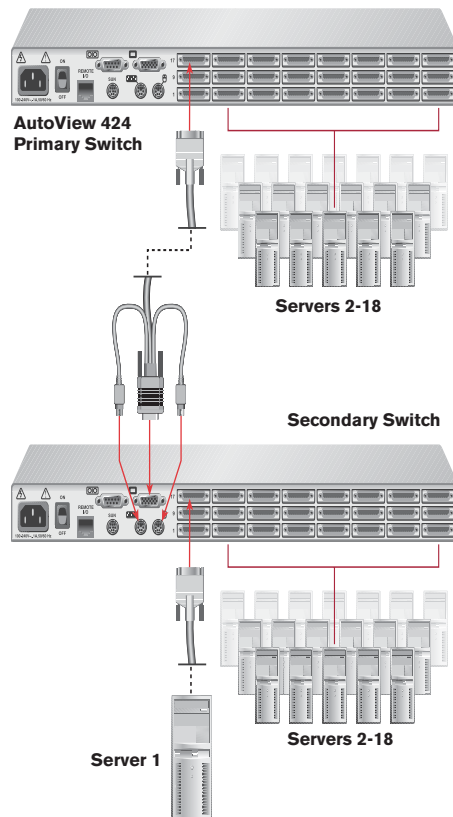


Figure 2.4: Attaching Multiple Units

4. Repeat steps 2-3 for every cascaded AutoView 424 unit in your system.
5. Power up your AutoView 424 unit(s) first, then all attached computers.



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Basic Operations

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Chapter 3: Basic Operations

Operating the AutoView 424

Your AutoView 424 may be operated in a non-secure (no password required) or secure (password required) mode. All units ship defaulted to the non-secure mode. For information on implementing password security, see *Setting User Station Security* in this chapter.

Computers may be powered up one at a time or all at once. No operator intervention is required during booting. A computer may now be selected via the On-Screen Display menu or, if you are in non-secure mode, keyboard hotkey sequence.

There is one power status LED. This green LED will be illuminated when power has been applied to the unit.



Figure 3.1: AutoView 424 Front Panel

Activating OSD

To access the OSD Administrator Channel List:

1. Press the keyboard **Control** key twice within one second.
2. In non-secure mode, the Administrator Channel List appears.
-or-
In secure mode, the User Login window appears. Type in your user name and press **Enter**. The Administrator Channel List appears.
-or-
In secure mode, if you are the system administrator, log in as Admin, Root or Administrator. Type your password and press **Enter**. The Administrator Channel List appears.
3. If there is no keyboard activity, the login window will time-out after five minutes and go blank, enabling the monitor's energy saver. Enter your OSD activation sequence to restore the login prompt.

AVOCENT Control Administrator Channel List			
Name	Address	Access	
Alison	1	VK	○
Katrina	2	V	●
Kay	3	VK	○
Liz	4	VK	○
Orla	5	V	●
Valerie	6	VK	●

Figure 3.2: Administrator Channel List

NOTE: All AutoView 424 units ship in the default non-secure state. For more information on secure versus non-secure operation, see the *Setting User Station Security* section.

Viewing the status of your switch system

The Administrator Channel List displays all named channels in your AutoView 424 system. They are listed alphabetically with their channel addresses and access status beside them. When in secure mode, only the channels that are accessible to the logged in user will be listed. For more information on security, see *Setting User Station Security* in this chapter.

OSD Status Symbols

Symbol	Description
●	Server connected and powered up.
○	Server is powered down or is not operating properly.

Selecting channels

To select a channel in the OSD:

- Use the **Up** or **Down Arrow** keys or the mouse to select a channel.
-or-
Press the **Home** or **End** key to move directly to the top or bottom of the list.
-or-
Type a letter to move the highlight bar to the first channel name beginning with that letter. Press the letter repeatedly to scroll through all channels that begin with that letter from top to bottom.
- Press **Enter**.

To select servers without displaying the OSD:

1. Press and hold down the **Num Lock** key. Press and release the **Minus (-)** key on the numeric keypad. Now release the **Num Lock** key. The Command Line screen appears.
2. Type the channel address of the computer you wish to access.
3. Press **Enter**. For more information, see *Keyboard Switching* in this chapter.

Setting up the On-Screen Display (OSD)

All commands other than selecting servers are performed from the Administrator Commands menu. If you are operating in non-secure mode or are the system administrator, you will have several options that do not appear in the user level Command menu. Add Channel, Edit Channel, Delete Channel, Administrator Functions and Scanning are all covered in separate sections in this chapter.

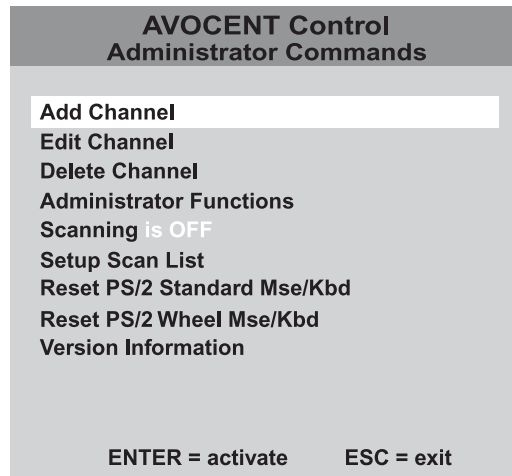


Figure 3.3: The Administrator Commands Menu

Administrator Commands Features List

Command	Description
Add Channel	Set up the channel name, address, ID and scan dwell times.
Edit Channel	Edit the channel name, address, ID and scan dwell times.
Delete Channel	Delete a channel from the Administrator Channel List.
Administrator Functions	Set up administrator, users, channel switching, port setup and FLASH upgrade.
Scanning	Initiate the mode where the switch scans from port to port.
Reset PS/2 Standard Mse/Kbd	Reset the mouse and keyboard to restore correct settings.
Reset PS/2 Wheel Mse/Kbd	Reset the mouse and keyboard to restore correct settings.
Version Information	Access the version information about your system.

To access the Administrator Commands menu:

1. Press the keyboard **Control** key twice within one second.
2. In non-secure mode, the Administrator Channel List appears.
-or-
In secure mode, the User Login window appears. Type in your user name and press **Enter**. The Administrator Channel List appears.
-or-
In secure mode, if you are the system administrator, log in as Admin, Root or Administrator. Type your password and press **Enter**. The Administrator Channel List appears.
3. Press the keyboard **Control** key twice within one second again. The Administrator Commands menu appears.
4. Press the **Up** or **Down Arrow** keys to select a specific menu or command.
5. Press **Enter** to access a screen or activate a command.
-or-
Press **Escape** to exit the window without saving changes.

Adding and maintaining channels

Basic channel maintenance is performed from the Administrator Commands menu and is available if you are operating in non-secure mode or if you are the system administrator. Here you can add, delete or edit individual channels.

To add a new channel:

1. Press the keyboard **Control** key twice within one second. The Administrator Channel List appears.
2. Press the keyboard **Control** key twice within one second again. The Administrator Commands menu appears.
3. Highlight *Add Channel* and press **Enter**.
-or-
Press the **Insert** key. The Add Channel menu appears.

AVOCENT Control Add Channel	
Name	
Address	
ID Dwell Time	5
Scan Dwell Time	5
ID Setup	
Save Changes	
ENTER = activate ESC = exit	

Figure 3.4: The Add Channel Menu

4. Type in a new channel name, up to 14 characters long, and press **Enter**.
5. Type in the address for the computer you are naming and press **Enter**.

NOTE: The address cannot be longer than two digits. For cascaded addresses, see *Keyboard Switching* in this chapter.

6. Enter the dwell time for the ID window and press **Enter**.
7. Enter the dwell time for scanning and press **Enter**.
8. Highlight *ID Setup* and press **Enter**. Use the **Arrow** keys to position the ID window where you would like it to appear when this channel is selected. Then press **Enter**. For further information, see *Configuring the ID window* later in this chapter.

9. Highlight *Save Changes* and press **Enter**.
-or-
Press **Escape** to exit this operation without adding the channel.

To edit an existing channel:

1. Highlight the channel you wish to change in the Administrator Channel List.
2. Press the **Control** key twice to access the Command menu.
-or-
Press the **F2** key once. (If you press **F2**, skip to step 4.)
3. Select *Edit Channel* from the Command menu.
4. Enter the new channel name, address, ID dwell time and Scan dwell time.
Press **Enter** to accept.
5. Highlight *ID Setup* and press **Enter**. Use the **Arrow** keys to position the ID window where you would like it to appear when this channel is selected.
Press **Enter**. For more information, see *Configuring the ID window* later in this chapter.
6. Select *Save Changes* and press **Enter**.

To delete an existing channel:

1. Highlight the channel you wish to delete in the Administrator Channel List.
2. Press the **Control** key twice to access the Command menu.
-or-
Press the **Delete** key. (If you press **Delete**, skip to step 4.)
3. Highlight *Delete Channel*.
4. Type **Y** or **N** at the prompt to confirm the deletion and press **Enter**.

Configuring the ID window

The ID window appears when you change channels and displays the name of the selected channel. This window can be individually configured for each channel in your system. The characteristics of the ID window can be changed from the Edit Channel menu. This option is only available if you are operating in non-secure mode or if you are the system administrator.

To change the size, color and position of the ID window:

1. Highlight the channel you wish to change in the Administrator Channel List.
2. Press the **Control** key twice.
-or-
Press **F3**. (If you press **F3**, skip to step 4.)
3. Highlight *Edit Channel* and press **Enter**.
4. Highlight *ID Setup* and press **Enter**. The ID window will appear. Follow the procedures outlined in the table below to change the size, color or position of your ID window.

ID Window Settings

Operation	Procedure
Move the ID window	Use the Arrow keys to move the ID window's position on the monitor. (Hold down the Shift key to move slower.) If the window flickers but does not move, continue tapping the Arrow keys until it moves back into range.
Change window background color	Press the Page Up key to cycle through the available window background colors.
Change text color	Press the Page Down key to cycle through the available text colors.
Change window length	Use the Plus (+) and Minus (-) keys to change the length of the ID window.
Change window size	Press the Spacebar to toggle between large and small.
ID window Help	Press F1 .

5. Press **Enter** to accept the changes or press **Escape** to exit the menu without saving the changes.

Setting the ID window dwell time

This menu selection lets you set the time that the ID window remains on screen after a channel switch. Each channel can be configured independently. The default time is set for five seconds.

To set the ID window dwell time:

1. Highlight the channel you wish to change in the Administrator Channel List.
2. Press the **Control** key twice to access the Administrator Commands menu.
3. Highlight *Edit Channel* and press **Enter**.

4. Highlight *ID Dwell Time*. Enter a number between 0-255 seconds. Entering 0 disables the ID window. Entering 255 allows the ID window to stay on screen the entire time the channel is active.
5. Highlight *Save Changes* and press **Enter**.

Setting User Station Security

The Administrator Functions menu allows you to set up the administrator and user accounts, enable and disable the setup port and utilize the AutoView 424 FLASH upgrade feature. The table below discusses the security features.

Security Operating Modes

Feature	Description
Administrator	Setting up an administrator account with a password places your system in secure mode. A lock symbol will appear to the right of the screen headings to indicate secure operation. Non-secure systems do not use passwords. To return your system to the default of non-secure mode, simply delete the administrator password. When the administrator password is enabled, user passwords must also be entered or the switch will not be completely secure. The default for users is no password. Simply press Enter at the prompt. If you configure an administrator password from this menu, your system will then be in secure mode. A lock symbol will appear to the right of the menu headings to indicate secure operation.
Logout Capability	You have the option of automatically logging out of the system after an administrator defined period of inactivity. Time-out values can be set from 0 to 60 minutes. (Default is five minutes.) A value of 0 keeps the user logged in continuously. When the time-out is reached, the current channel is deselected and the display goes to the login prompt. Users must log in again to access system computers. This option is only available in secure mode.
Multiple User Logins	You can create up to four user login accounts in addition to the system administrator. Use these accounts to configure and control server access for every type of system user. The administrator has full access privileges. Additional users can have viewing or viewing with keyboard and mouse control capability for each attached server. This option is only available in secure mode.

To access the Administrator Functions menu:

1. Press the **Control** key twice to access the Administrator Channel List.
2. Press the **Control** key twice more to access Administrator Commands.
3. Highlight *Administrator Functions* and press **Enter**.

To create the administrator account:

1. Press the **Control** key twice to access the Administrator Channel List.
2. Press the **Control** key twice again to access the Command menu.
3. Select *Administrator Functions - Setup Administrator*. The Administrator Setup screen appears.
4. Type your password and press **Enter**. (The password is not case sensitive.)
5. Re-enter the password for confirmation.
6. Enter the number of minutes you wish to pass without keyboard/mouse activity before the administrator is automatically logged out of the system. Entering **0** keeps the administrator logged on continuously; **60** is the maximum setting.



CAUTION: Security is enabled once the password has been created. Store a copy of your password in a safe place.

You should now see the option F10 - Logout at the bottom of your Administrator Channel List and a lock symbol to the right of the menu headings.

To set up additional users:

1. Press the **Control** key twice to access the Administrator Channel List.
2. Press the **Control** key twice again to access the Command menu.
3. Select *Administrator Functions - Setup User 1*.
4. Highlight *Name* and type the name for this user.
5. Highlight *Password* and type the password, then confirm it for this user. (Passwords are not case sensitive.)
6. Highlight *Logout Time*. Type a value in minutes for this user's logout time. A value of **0** keeps the user logged on continuously; **60** is the maximum setting. The default is set for 5 minutes.
7. Highlight *Access Setup*. You will see a listing of all attached servers in the channel list. For each server, choose a level of access for this user by selecting one of the function keys listed on the screen: **F5** for no access, **F6** for video only or **F7** for video and keyboard/mouse capability. The default is set for full access. All changes go into effect immediately. Press **Enter** when you are finished.
8. Press **Enter** to accept your selections and repeat steps 3-7 for each remaining user.

To assign the extended access user peripheral type:

1. Press the **Control** key twice to access the Command menu.
2. Highlight *Administrator Functions - Remote User*.
3. Press the **Space** key to toggle between either *PS/2* or *Sun* peripherals and press **Enter**.

To assign the power state selection:

1. Press the **Control** key twice to access the Command menu.
2. Highlight *Administrator Functions - Switch To*.
3. Press the **Space** key to toggle between either *Powered Channels* or *All Channels* to set the type of system the AutoView 400 will switch to. If *Switch To* is toggled to *All Channels*, the AutoView 400 will switch to a connected system regardless of power state. By default, the AutoView will only switch to systems that are powered up.

To enable the setup port:

1. Press the **Control** key twice to access the Command menu.
2. Highlight *Administrator Functions - Setup Port*.
3. Press the **Space** key to toggle between either *For OSD Utility* or *Disabled*. If you enable the setup port, you can automatically program the OSD via the OSD Configuration Utility or perform FLASH upgrades. Depending on the application, you may be asked to enable the setup port in the instructions that come with your AutoView enhancement.

Performing FLASH upgrades

FLASH upgrading allows you to update the code that runs your AutoView 424 and keep it current with the latest firmware revisions. For more information, see *Appendix A*.

Scanning your AutoView System

The AutoView 424 scanning feature allows you to automatically monitor, or scan, your computer channels without intervention. When keyboard activity is detected, scanning is suspended until all keyboard activity stops. Scanning then resumes with the next channel in sequence. The length of time each channel remains on the screen, or dwell time, is configurable and can be changed at any time.

Scanning options

There are multiple ways to scan through the channels in your AutoView 424 system, either by name, address or list.

NOTE: The AutoView 424 only scans the computers that are in your OSD list.

- Scanning by address allows you to view each of your active channels in the order that they are attached to the AutoView.
- Scanning by name allows you to scan channels in alphanumeric order according to the Administrator Channel List.
- Scanning by list allows you to create a customized scanning order for the switch to follow. Any active port in the system can be scanned in any order, as many times as desired.

With all scan methods, you can adjust the dwell time for each channel or omit a channel from the scan sequence completely. Choose whichever method is most appropriate for your configuration.

To scan using the OSD menu:

1. Press the **Control** key twice to access the Administrator Channel List.
2. Press the **Control** key twice again to access the Command menu.
3. Highlight *Scanning*. Use the **Spacebar** to toggle through the list of options: Off, by Name, by Address or by List.
4. Press **Enter**.

To scan using a keyboard hotkey sequence:

See *Keyboard Switching* later in this chapter. The following key sequences control scanning.

Keyboard Hotkey Sequences

Key Sequence	Action
<CM>SG<Enter>	Enables the scan Go command (by address only).
<CM>SH<Enter>	Enables the scan Halt command.

Setting up a custom scan list

Scanning by list allows you to create a customized scanning order for the switch to follow. Any active channel in the system can be scanned in any order, as many times as desired.

To access the Administrator Scan List menu:

1. Press the **Control** key twice to access the Administrator Channel List.
2. Press the **Control** key twice again to access the Command menu.
3. Highlight *Setup Scan List* and press **Enter**. The Administrator Scan List menu appears.

AVOCENT Control Administrator Scan List		
Address	Dwell	Name
1	5	Kyle
2	5	Pam
3	5	John
4	5	Charlene

F2 - Add F3 - Delete
Enter - Save Esc - Cancel

Figure 3.5: Configuring the Scan List**To add a channel to the Scan List:**

1. Press the **F2** key to open a new selection.
2. Type the address of the channel you want to add to the list. The dwell time and channel name are updated automatically from the channel configuration menu.
3. Press **Enter** to save the new entry.

To delete a channel from the Scan List:

1. Use the **Arrow** keys to highlight the channel you wish to delete.
2. Press the **F3** key.
3. Press **Enter** to confirm the deletion.

Resetting your Mouse

If your mouse locks up during normal use with the AutoView, you may be able to re-establish operation by issuing a reset command. The reset command sends a hot-plug sequence to the server. The hot-plug sequence to a Plug and Play server causes the mouse settings to be sent to the AutoView. With communication re-established, functionality is restored to you.

To reset the mouse values:

1. From the Administrator Channel List, press the **Control** key twice to access the Command menu.
2. Highlight either *Reset PS/2 Standard Mse/Kbd* or *Reset PS/2 Wheel Mse/Kbd*, depending on the type of mouse you are using.
3. Press **Enter** to activate the reset.

Displaying Version Information

Use the Version screen to display the system firmware. This information facilitates system troubleshooting and support. For optimum performance, keep your firmware current.

To display version information:

1. From the Administrator Channel List, press the **Control** key twice to access the Command menu.
2. Highlight *Version Information* and press **Enter**. The Version screen appears.

Keyboard Switching

One of the ways to change the active channel in a non-secured AutoView 424 system is by entering a short sequence of keystrokes on the keyboard. This is called keyboard, hotkey or soft switching. In addition, there are a variety of commands that can be activated via the keyboard without having to access the OSD. The following procedures and tables describe your options.

NOTE: Hotkey switching is only available in the default non-secure state. For more information on secure versus non-secure operation, see the *Setting User Station Security* section of this chapter.

Using the Command Mode

The first set of keystrokes places your system in Command Mode. A gray window with a command line will appear. As long as you are operating in Command Mode, whatever you type will be interpreted as channel switch commands until the **Enter** or the **Escape** key is pressed to terminate Command Mode. None of the keystrokes entered will be forwarded to the attached computer until you exit Command Mode.

To activate the Command Line:

1. Press and hold down the **Num Lock** key.
2. Press and release the **Minus (-)** key on the numeric keypad.
3. Release the **Num Lock** key. The Command Line screen appears.

NOTE: In the following tables, the Command Mode procedure is referred to by the **<CM>** symbol. When you see this symbol, perform the above key sequence.

To select servers without displaying the OSD:

1. Press the **<CM>** sequence to access the Command Line.
2. Type the channel address of the computer you wish to access. For cascaded systems, enter the address of the base unit, then the address of the cascaded unit. Example: You have an AutoView unit cascaded from channel 2 of your base unit. To access the computer at channel 3 of this second (cascaded) unit, type **2.3**.
3. Press **Enter** to accept the new channel.

The table below shows an example of a hotkey switching session to demonstrate how you might switch to various channels in a system.

Example Hotkey Switching Session

Key Sequence	Action
1.<CM>6<Enter>	Selects channel 6 on the base unit as the active channel.
2.<CM>3.5<Enter>	Selects the AutoView 424 attached to channel 3 on the base unit, then selects channel 5 on the cascaded unit.
3.<CM>7<Enter>	Selects channel 7 on the base unit as the active channel.
4.<CM>2.1<Esc>	Exit Command Mode. The instruction is not executed. Channel 7 is still the active channel.

Additional Command Mode hotkey sequences

In addition to switching channels, you can also use the Command Mode to control a variety of other features on your AutoView system. The following table describes these hotkey sequences.

Keyboard Hotkey Sequences

Key Sequence	Action
<CM>Kn<Enter>	Sets the keyboard scan set where <i>n</i> is a scan set number 1-3.
<CM>MR<Enter>	If you hot-plug your mouse cable, you may experience a loss of mouse signal. Use this command to restore the signal if you are using a PC with a standard PS/2 mouse driver.
<CM>MW<Enter>	If you hot-plug your mouse cable, you may experience a loss of mouse signal. Use this command to restore the signal if you are using a PC with a Microsoft IntelliMouse or other wheel mouse driver.
<CM>AV<Enter>	Displays the current firmware version of your AutoView 424.
<CM>SG<Enter>	Enables the scan Go command (by address only).
<CM>SH<Enter>	Enables the scan Halt command.
<CM>M+<Enter>	Enables mouse suspension of scanning.
<CM>M-<Enter>	Disables mouse suspension of scanning.
<CM>H1<Enter>	Changes the hotkey sequence to the default: (NumLock, -) .
<CM>H2<Enter>	Changes the hotkey sequence to the 1st alternate: (NumLock, *) .
<CM>H3<Enter>	Changes the hotkey sequence to the 2nd alternate: (Ctrl, ~) .
<CM>OSD0<Enter>	Disables the OSD sequence.
<CM>OSD1<Enter>	Changes the OSD sequence to the default: (Ctrl, Ctrl) .
<CM>OSD2<Enter>	Changes the OSD sequence to the 1st alternate: (Alt, Alt) .
<CM>OSD3<Enter>	Changes the OSD sequence to the 2nd alternate: (Shift, Shift) .
<CM>ZM<Enter>	Use this command to resynchronize the mouse after a device or computer hot-plug. Repeat, if necessary, until synchronization is re-established.

NOTE: Using the <CM>ZM<Enter> command while the mouse is operating correctly will cause the mouse to lose sync.



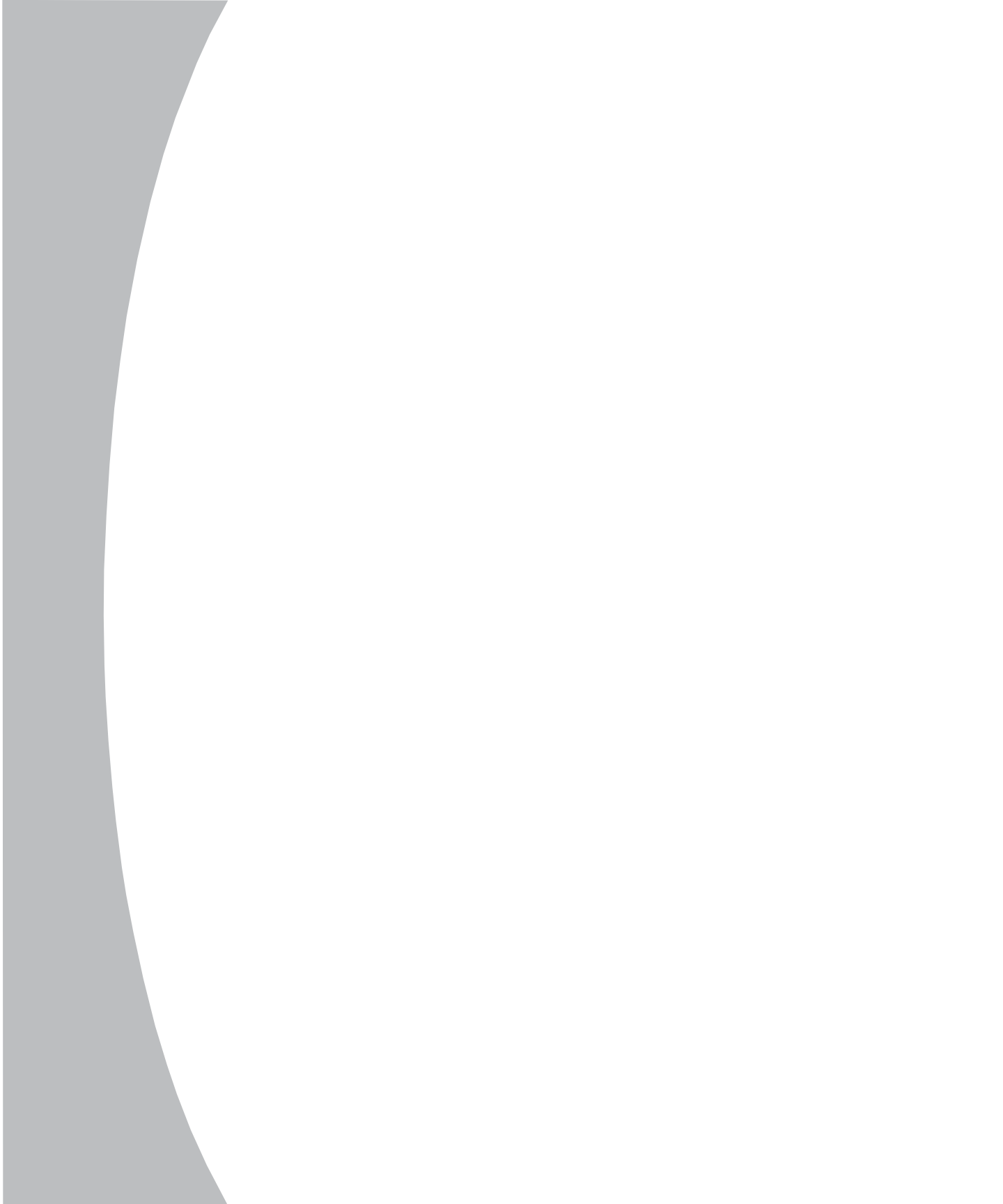
4

Advanced Operations

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Chapter 4: Advanced Operations

Multuser Operation

The AutoView 424 switch provides advanced features that go beyond those available in the standard AutoView Commander. Primarily, it offers the benefit of adding a LongView receiver to provide for an extended access user that may be located up to 500 feet away from the AutoView 424. As an extended access user, you have all the capabilities of the local user and can access any computer attached to the AutoView 424 system just as if sitting in front of it.

Within the base unit, there are two ways to utilize the multiuser capabilities of the AutoView 424. You can access computers independently or share access with the other user.

Independent vs. Shared Connections

Connection Type	Behavior
Independent Connection	Both users have keyboard and mouse control when they are accessing separate channels on the primary unit.
Shared Connection	One user has keyboard and mouse control for a specific channel; the remaining user can only view that channel. The second user cannot take control of the peripherals until the first user stops all keyboard and mouse activity.

Single Switch Access Examples

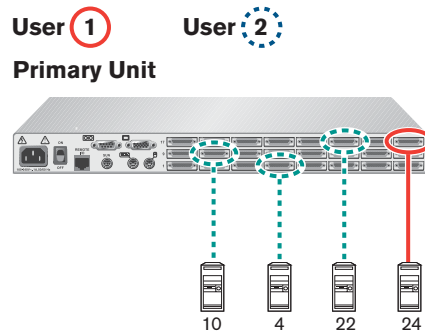


Figure 4.1: Independent Access

User 1 is accessing server 24. User 2 wants to access any of the other servers on the primary unit.

Behavior: Any keyboard stroke or mouse click by User 2 will be passed to the currently selected server.

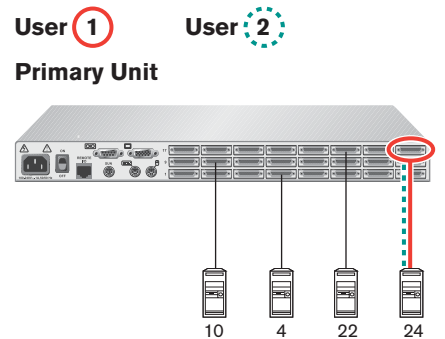


Figure 4.2: Shared Access

User 1 is accessing server 24. User 2 wants to access server 24.

Behavior: Activities of User 1 can be monitored but only one user can enter data through the keyboard or mouse at any given time. When User 1 stops all activity, User 2 can then take control of the server.

Multuser operation in a multiple switch system

In a multiple switch system, users will operate in independent access mode. Both users can simultaneously and independently access any computer attached to the primary AutoView unit. Similarly, independent access is possible across the cascaded units as long as each user is accessing a different secondary unit.

Multiple Switch Access Example

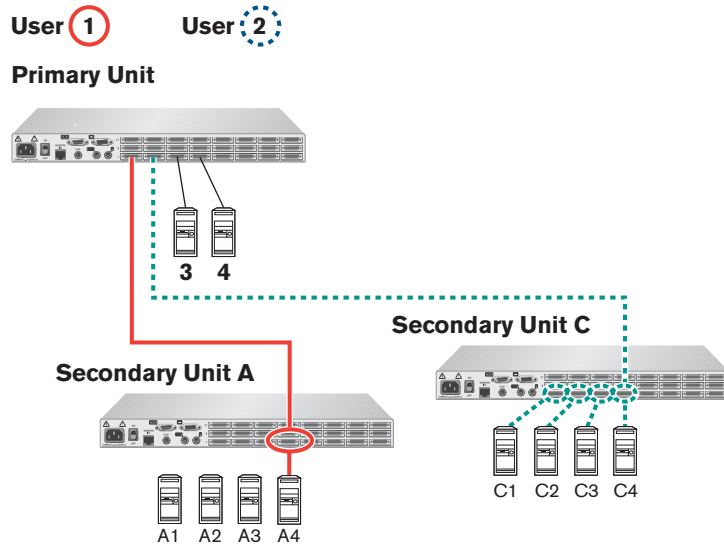


Figure 4.3: Independent Operation in a Multiple Switch System

User 1 is working on channel 4 of the secondary unit A. User 2 wants to access channel C4.

Behavior: User 2 can be independently using any computer attached to the primary unit or to secondary unit C. User 2 cannot independently access any computer attached to secondary unit A until the first user connects to a computer attached to a different unit.

Keyboard Translation

The AutoView 424 allows you to use PS/2 or Sun keyboards to operate any type of attached computer. However, when crossing platforms, certain keys will need to be remapped in order to provide all of the functions available on the keyboard native to that platform.

For example, if you access a Sun workstation with a PS/2 keyboard, you will notice that the PS/2 keyboard does not have the **Stop** and **Again** keys that are on a true Sun keyboard. But, by turning **Scroll Lock** on, the **F1** and **F2** keys on the PS/2 keyboard function as the Sun **Stop** and **Again** keys. With **Scroll Lock** off, **F1** and **F2** function normally.

The table below shows the translations for a PS/2 keyboard to a Sun computer. All mapped functions will only be valid when the **Scroll Lock** is on.

PS/2 Keyboard to Sun Computer

Key	Sun
F1	STOP
F2	AGAIN
F3	PROPS
F4	UNDO
F5	FRONT
F6	COPY
F7	OPEN
F8	PASTE
F9	FIND
F10	CUT
F11	POWER
F12	COMMAND
keypad *	COMPOSE
NUMLOCK	HELP
keypad /	MUTE
keypad -	VOL -
keypad +	VOL +

Sun keyboards have a **Power** key used to power the workstation on and off. PS/2 keyboards may have a **Sleep** key to place the computer in a stand-by or power saving mode.

Power/Sleep for USB Computers

Keyboard	Peripheral		Computer
	Key	Scroll Lock	
PS/2	Shift-F11	On	Win 98/2000
	F11	On	Win 98/Mac
	Sleep	On	Win 98/Mac
	Sleep	Off	Win 98/2000
Sun	Power	On	Win 98/2000
	Power	Off	Win 98/Mac

To issue the Power/Sleep command:

Press **Scroll Lock-F11** (or **Sleep** key) on a PS/2 keyboard.

-or-

For a Sun computer, press the **Power** key.



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Appendices

Appendix A: FLASH Upgrades

To ensure optimum operation, always use the latest firmware version available for your AutoView system.

To upgrade your AutoView 424 firmware:

1. Download the latest FLASH firmware revision from the Avocent web site.
2. Connect a serial cable from the serial port of your computer to your setup port on the back of your AutoView.
3. You will need some form of terminal software on your attached computer so that it can communicate with the AutoView. There are several that are commercially available. Select one that you are comfortable with and be sure that it can communicate at 38,400 baud.
4. Configure your terminal program to the following settings:
 - 38,400 Baud
 - 8 Bits
 - No Parity
 - 1 Stop Bit
 - No Flow Control
5. Activate the Administrator Channel List on your AutoView by pressing the **Control** key twice. Press **Control** twice more to activate the Administrator Commands menu, then highlight *Administrator Functions*.
6. Use the **Down Arrow** key to highlight FLASH Upgrade, then press **Enter**.
7. You will be prompted to indicate whether you wish to continue. Type **Yes**. Once you have done this, the AutoView will go into a standby mode and wait for data from the computer.

NOTE: The keyboard, video and mouse are disabled during the FLASH upgrade.

8. Now send the FLASH file from your terminal program. To do this, you will need to use the transfer function of your communications software. Send the FLASH file using the XMODEM protocol. The transfer should be completed within four minutes.
9. The AutoView will automatically check the upgrade and make sure that it is valid. If the AutoView detects an error, it will abort the upgrade and prompt you to re-transfer the file. Otherwise, it will return the message *Flash Upgrade Successful*.

Appendix B: Technical Specifications

AutoView Product Specifications

Mechanical

Height: 1.7" (4.5 cm)

Width: 17.2" (43.7 cm)

Depth: 6.5" (16.51 cm)

Weight: 6.0 lbs (2.72 kg)

Environmental/Power

Operating Temperature: 41° (5°C) to 104° (40°C)

Storage Temperature: -4° (-20°C) to 122° (50°C)

Operating Voltage: 100 - 240 VAC

Power Frequency: 50 - 60 Hz

Supported Hardware

Computer: IBM PC/AT, PS/2, Sun workstations, USB computers and 100% compatibles

Video Modes: VGA, SVGA, (XGA, XGA-II with adaptor)

Maximum Resolution: 1600 x 1200 @ 85 Hz

Peripherals: PS/2 keyboard, PS/2 mouse, Microsoft Explorer mouse, Microsoft IntelliMouse Family, IBM Scrollpoint, Logitech Mouseman Wheel, Logitech Trackman Marble wheel, Logitech Marble FX and Kensington 4 button mouse, Sun Type 5 and Type 6.

Agency Approvals

UL 1950, CSA C22.2 No. 950, EN60950

FCC part 15A, EN55022, EN50082

LongView Product Specifications

Mechanical

Height: 1.9" (4.8 cm)

Width: 8.1" (20.6 cm)

Depth: 4.8" (12.2 cm)

Weight: 1 lb (0.45 kg)

Environmental/Power

Operating Temperature: 5°C to 40°C

Storage Temperature: -20°C to 50°C

Power Supply: 24Vdc @ 500mA from 120 Vac adaptor

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:

1. Check the *Troubleshooting* section of this manual to see if the issue can be resolved by following the procedures outlined. See *Appendix D*.
2. Check our web site at www.avocent.com/support to search the knowledge base or use the on-line service request.
5. Call Avocent Technical Support for assistance at (888) 793-8763. Visit the Avocent web site at <http://www.avocent.com/support> and click on *Getting Support* for current phone support hours.

Appendix D: Troubleshooting

No status light

Verify that the unit is turned on. Check the power cable. If the problem persists, contact Avocent Technical Support.

Unable to hotkey switch to a channel

Check the power indicator on the OSD screen to ensure that the system in question is powered.

Verify that you are not in secure mode (no lock symbol on OSD screen).

No video

Verify that the video cable between the computer and the AutoView 424 is correctly connected. Verify that the monitor cable is correctly connected to the AutoView 424.

Power down the computer. Connect the monitor directly to the computer and power up again. If the monitor operates correctly direct to the computer, contact Avocent Technical Support. If it does not, try another monitor.

Extended access video is unrecognizable

Verify that the extended access monitor capabilities are equal to or greater than the local monitor capabilities. Plug and Play video is only supported on the local video port.

Poor video quality at extended access user

Verify that the length of Category 5 cable between the AutoView 424 and the LongView receiver is 500 ft or less. Make sure the video connectors at both ends are firmly seated. Make sure that the Category 5 connectors are properly inserted. Make sure that the modular plugs on the Category 5 cable were properly crimped onto the cable.

Mouse jumps or “hugs” screen

If the mouse has been hot-plugged while running in Windows, you may need to close and restart Windows.

If the mouse still does not function, try the mouse resynchronization command **<ZM>**. For instructions on Command Mode, see *Basic Operations*. If the problem persists, contact Avocent Technical Support.

Mouse is inoperable on one computer channel

If the mouse is inoperable on a channel, try the mouse reset command **<MR>** or **<MW>** with that computer selected. For instructions on the Command Mode, see *Basic Operations*.

Verify that all of the cables going from the computer to the AutoView 424 are connected properly.

Make sure that you have keyboard/mouse privileges for that channel.

Verify that the mouse driver and application are configured properly for the mouse to be supported.

Verify that the computer works properly with a mouse connected directly to it. If the problem persists, contact Avocent Technical Support.

Mouse is inoperable on all computer channels

Verify that the mouse is plugged into the correct PS/2 port on the back of the AutoView 424.

Try the mouse reset command **<MR>** or try the *Reset PS/2 Standard Mse/Kbd* command from the OSD Command menu for computers using PS/2 mice. Use **<MW>** or *Reset PS/2 wheel Mse/Kbd* for computers using the Microsoft IntelliMouse. For instructions on Command Mode, please see the *Basic Operations* chapter.

Verify that the mouse works when connected directly to a computer.

Cycle power to the AutoView 424 unit. You do not have to power down your computers for this. If the mouse remains inoperable, power down all attached computers, cycle power on the AutoView 424, then repower the computers. If the problem persists, contact Avocent Technical Support.

Keyboard is inoperable on one computer channel

If the keyboard does not function on one channel, verify that the cables from the computer to the AutoView 424 are connected properly.

If you are operating in secure mode, verify your keyboard and mouse privileges.

Verify that the keyboard works properly connected directly to the computer. If the problem persists, contact Avocent Technical Support.

Keyboard is inoperable on all computer channels

If the keyboard does not work on any channel, try the *Reset PS/2 Mse/Kbd* command from the OSD Command menu.

Try a different keyboard. If the keyboard still does not function, cycle the power on the AutoView 424 unit.

Cycle power on all attached computers and the AutoView 424 unit and try again. If the problem persists, contact Avocent Technical Support.

Keyboard is inoperable after switching channels

If you are operating in secure mode, verify your keyboard and mouse privileges. If the problem persists, call Avocent Technical Support.

Try changing the keyboard scan set for that channel by using the keyboard command sequence **<Kn>**. For more information, see the *Basic Operations* chapter.

Characters on screen do not match keyboard input

Try changing the keyboard scan set for that channel by using the keyboard command sequence **<Kn>**. For more information, see the *Basic Operations* chapter. If the problem persists, call Avocent Technical Support.

No keyboard, video or mouse on expansion unit; base unit is functioning properly

Verify that the cable connecting the two units together is correctly connected on both ends. For additional information, see the *Installation* chapter. If the problem persists, contact Avocent Technical Support.

General keyboard/video problems

If the building has 3-phase AC power, ensure that the computer, the AutoView 424 and the monitor are on the same phase. Best results are obtained when they are on the same circuit.

Use only Avocent supplied cable. Avocent warranties do not apply to damage resulting from user supplied cable.

Do not use a 2-wire extension cord in any Avocent product configuration.

Test AC outlets at computer, AutoView 424 and monitor for proper polarity and grounding.

Use only with grounded outlets at the computer, AutoView 424 and monitor. When using a backup power supply (UPS), power the computer, AutoView 424 and the monitor off the supply.

OSD menu does not "pop-up"

Type <CM>OSD1<Enter> to activate OSD.

Verify that you are pressing the **Control** key twice within one second. If the problem persists, contact Avocent Technical Support.

Unable to change channels on OSD

Verify that the channel is powered. Check the address configured in OSD. If the computer is powered and the address is correct, call Avocent Technical Support.

Administrator password

Call Technical Support.

User password is forgotten

Contact your system administrator.

LIMITED WARRANTY

Avocent Corporation warrants to the original retail purchaser that this product is and will be free from defects in materials and workmanship for a period of 24 months from the date of purchase.

Additionally, all Avocent products carry an unconditional thirty-day satisfaction guarantee. If, for any reason, you are dissatisfied with the performance of this product, you may return it to the point of purchase for a refund of the purchase price (excluding shipping charges). This guarantee does not apply to special order products, and may not be available through all resellers. During the warranty period, purchaser must promptly call Avocent for a RETURN MATERIALS AUTHORIZATION (RMA) number. Make sure that the RMA number appears on the packing slip, proof of purchase, AND ON THE OUTSIDE OF EACH SHIPPING CARTON. Unauthorized returns or collect shipments will be refused.

Ship prepaid to: Avocent Corporation
 4991 Corporate Drive
 Huntsville, AL 35805 U.S.A.
 Telephone: (256) 430-4000

The above limited warranty is voided by occurrence of any of the following events, upon which the product is provided as is, with all faults, and with all disclaimers of warranty identified below:

1. If non-Avocent approved cabling is attached to the unit. Poorly constructed and miswired cabling can diminish video quality and damage equipment. Avocent manufactured cabling is built to high quality standards utilizing overall braided shield to comply with FCC emission standards, and each cable is individually tested under load.
2. If defect or malfunction was caused by abuse, mishandling, unauthorized repair, or use other than intended.
3. If unauthorized modifications were made to product.
4. If unreported damages occurred in any shipment of the product.
5. If damages were due to or caused by equipment or software not provided by Avocent.
6. If the unit is used with non-grounded or incorrectly polarized AC power.
7. If the product is used in contradiction to any instruction provided by any User Guide or Instruction Sheet provided to you or with the product.
8. If the product is damaged due to power surges, water exposure or act of God including lightning.

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