



Avocent.

SwitchView™ IP

Installer/User Guide





• **SwitchView™ IP**

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 B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Canadian Notification

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Agency Approvals

FCC part 15B, EN55022, EN55024, EN61000-3-5

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1 **Product Overview**

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Chapter 1: Product Overview

Features and Benefits

The Avocent SwitchView™ IP adds economical remote access capability to a PS/2 server or existing KVM switch. Using industry standard TCP/IP connectivity, this KVM over IP remote access device provides BIOS level access to a PS/2 server via standard IP connection. The SwitchView IP can easily integrate with a KVM switch to offer convenient IP-based access and control to your IT environment. With the secure browser-based access of SwitchView IP, you can control your servers anywhere, anytime. You can even remotely boot your business-critical servers from any location.

Security

For enhanced security, 128 bit encryption ensures secure remote connections via industry standard Secure Sockets Layer (SSL) connectivity. SwitchView IP also eases configuration complexities. Unlike software remote access solutions, SwitchView IP does not require agents for each host server.

FLASH upgradable

The SwitchView IP is FLASH upgradable for fast and easy updates via the Avocent web site.

System log

A system log enables you to track user login and logout, file access, critical events and other activities. Log files can be saved, printed and emailed.

The SwitchView IP unit

The SwitchView IP provides secure control and management of the host computer through a web interface and client computer. The SwitchView IP supports a PS/2 keyboard and mouse on the local console and a USB keyboard and mouse for the host system. The SwitchView IP does not require any host video drivers. Figure 1.1 shows a typical SwitchView IP configuration.

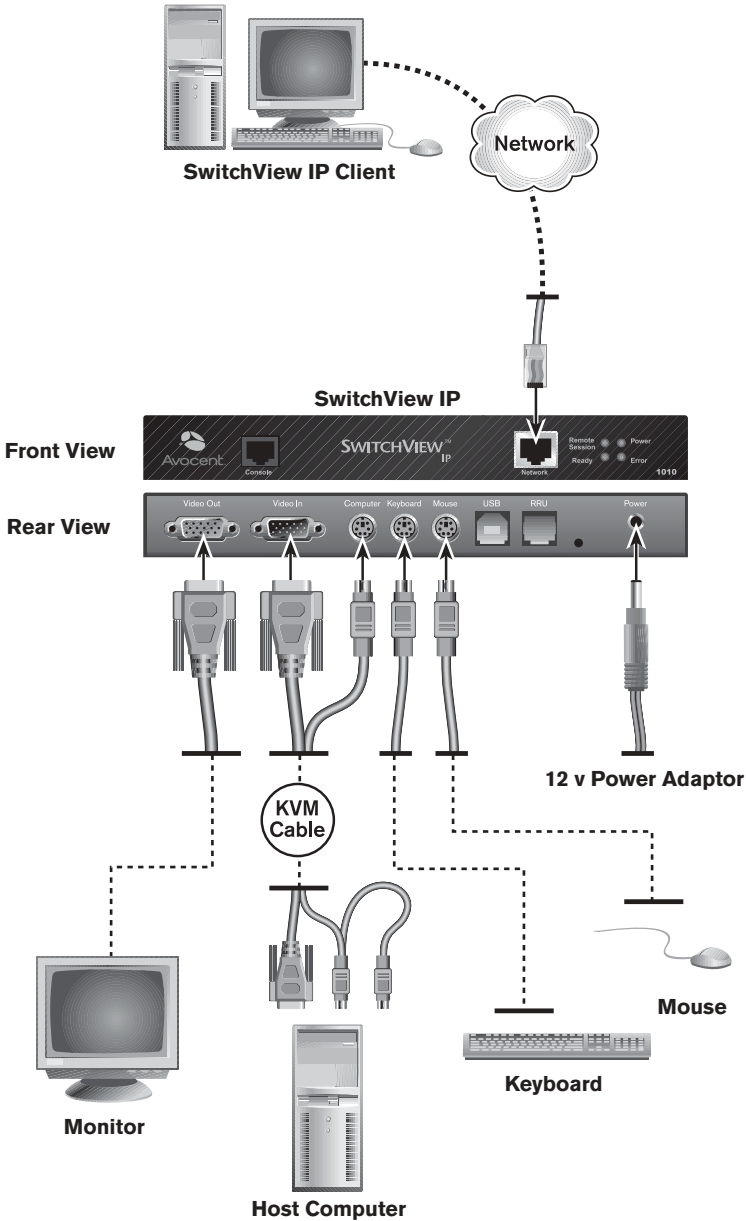


Figure 1.1: Typical SwitchView IP Configuration

The Keyboard, Video, Mouse (KVM) cable

The KVM cable redirects keyboard, video and mouse input from the host computer to the SwitchView IP.

12 volt power adaptor

The 12 volt (v) power adaptor provides power to the SwitchView IP unit.

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 server and monitor are on the same phase. For best results, they should be on the same circuit.

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 server and monitor for proper polarity and grounding.
- Use only with grounded outlets at both the server and monitor. When using a backup Uninterruptible Power Supply (UPS), power the server, the monitor and the SwitchView IP off the supply.



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Chapter 2: Installation

Getting Started

Before installing your SwitchView IP, refer to the following lists to ensure that you have all the items necessary for proper installation.

Supplied with the SwitchView IP

- SwitchView IP unit
- KVM cable
- 12 v power adaptor

Requirements

The SwitchView IP supports many hardware and software configurations for host and client computers. Make sure that your computers meet the following software and hardware requirements.

Host computer operating systems

- Microsoft® Windows NT® 4
- Microsoft Windows® XP
- Microsoft Windows 2000
- Microsoft Windows 98 SE
- Microsoft Windows ME
- Red Hat® Linux® 8.0
- Novell® NetWare® v6.0

Host computer hardware configuration

- The video adaptor is non-interlaced and is set to a supported video resolution and refresh rate. For more information, see *Video settings* later in this chapter.
- Mouse acceleration should be turned off.

NOTE: The SwitchView IP Viewer mouse movement is slow or erratic when mouse acceleration is not turned off. For more information, see *Mouse Acceleration* in this chapter and *Appendix C*.

Client computer operating systems

- Microsoft Windows NT 4
- Microsoft Windows XP
- Microsoft Windows 2000
- Microsoft Windows ME

Client computer web browser

The required web browser for the client computer is Microsoft Internet Explorer 5.5 or higher.

Client computer hardware configuration

- 500 Mhz / Intel® Pentium® III processor or greater
- 256 Mb RAM or greater
- 2 Mb free local hard drive space or greater

Mouse Acceleration

The following steps describe how to configure mouse acceleration settings for the supported operating system platforms.

NOTE: SwitchView IP Viewer mouse movement is slow and erratic when mouse acceleration is not turned off. For more information, see *Appendix C*.

To configure mouse acceleration on Windows XP:

1. From the Control Panel, click the *Printers and Other Hardware* option and then the *Mouse* icon.
2. From the Mouse Properties dialog box, click the *Pointer Option* tab.
3. Center the Motion pointer speed slider bar and deselect the *Enhance Pointer Precision* option.

To configure mouse acceleration on Windows 2000 and Windows ME:

1. From the Control Panel, click the *Mouse* icon.
2. From the Mouse Properties dialog box, click the *Motion* tab.
3. Center the Speed slider bar and set Acceleration to *None*.

To configure mouse acceleration on Windows 98 SE and Windows NT4:

1. From the Control Panel, click the *Mouse* icon.
2. From the Mouse Properties dialog box, click the *Motion* tab.
3. Set the Pointer speed slider bar completely to the left.

To configure mouse acceleration on NetWare 6 servers running Java 1.4.1:

1. From the NetWare 6 Graphical User Interface (GUI) Environment tool Input tab, select *Turn off mouse acceleration*.
2. Click *Apply* and restart the GUI.

To configure mouse acceleration on NetWare 6 servers running Java 1.3.1 CSP8 or CSP9:

1. Add the following command to the NetWare 6 `sys:/java/nwgfx/xinitrc` file:
`xset m 1`
2. Save the file and restart the GUI.

To configure mouse acceleration on Linux:

Execute the following command line parameter:

```
xset 0 255
-or-
xset m 0
```

NOTE: If the host computer is running an operating system that does not support turning off mouse acceleration, you will need to set the SwitchView IP Viewer Auto Mouse Sync to *Off*. For more information on the Auto Mouse Sync feature, see Chapter 3.

Video settings

The following table lists the video resolutions and refresh rates supported by the SwitchView IP on the host computer.

Video Resolutions and Refresh Rates

Resolutions	Refresh Rates	Resolutions	Refresh Rates
512 x 384	70 Hz	720 x 400	60, 70, 75, 85, 100 Hz*
640 x 480	60, 67, 72, 75, 85, 90, 100*, 120*, 140* Hz	800 x 600	56, 60, 72, 75, 85, 90, 100*, 120*, 140* Hz
832 x 624	75 Hz	960 x 720	60, 75, 85 Hz
1024 x 768	60, 70, 75, 80, 85, 90*, 100* Hz	1024 x 800	60 Hz
1152 x 864	60, 70, 75, 76, 80, 85* Hz	1152 x 870	75 Hz
1152 x 900	67 Hz	1280 x 960	60, 75*, 85* Hz
1280 x 1024	60, 67*, 75*, 85* Hz		

NOTE: *These refresh rates may not provide the best video lock on all video cards. For best performance, use the lowest refresh rate for any of the resolutions listed.

Installing the SwitchView IP

Follow these instructions to connect the SwitchView IP unit to a host computer and to a KVM switch. Refer to Figure 2.1 for port locations and cabling connections.

To connect the SwitchView IP to a host computer:

1. From the host computer, disconnect the video cable from the Video port and attach it to the Video Out port on the back of the SwitchView IP.
2. Disconnect the mouse and keyboard from the host computer and reconnect them to the corresponding ports on the back of the SwitchView IP.
3. Attach the green KVM cable mouse connector to the host computer Mouse port.
4. Attach the purple KVM cable keyboard connector to the host computer Keyboard port.
5. Attach the blue KVM cable male video connector to the host computer Video port.
6. Attach the black KVM cable computer connector to the Computer port on the back of the SwitchView IP.
7. Attach the black KVM cable female video connector to the Video In port on the back of the SwitchView IP.
8. Attach the SwitchView IP to your network using a 10/100 Ethernet cable connected through the Network port on the front of the SwitchView IP.
9. Connect the 12 v power adaptor to the Power port of the SwitchView IP and to a grounded power source. The SwitchView IP unit is now installed and powered.

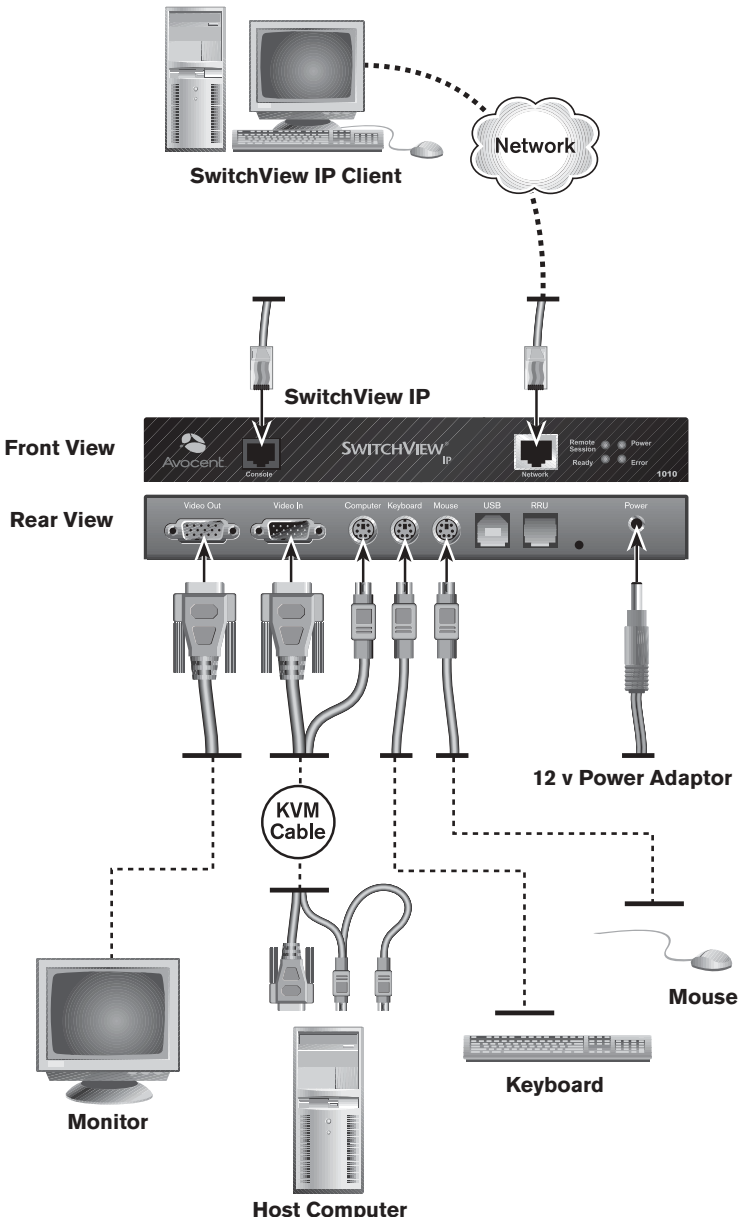


Figure 2.1: Connection of SwitchView IP to Host Computer

Connecting a KVM Switch

You can configure the SwitchView IP with a KVM switch to pass the keyboard, video and mouse output through a web browser. Using a SwitchView IP Viewer client computer, you can control computers connected to the KVM switch. For information on compatible KVM switches contact Avocent. Refer to Figure 2.2 and the following instructions to connect a KVM switch to the SwitchView IP.

To connect a KVM switch:

1. Attach the computers to a KVM switch as outlined in the KVM manufacturer documentation. Set the KVM switch to pass output to a computer you want to control.
2. Attach the black SwitchView IP cable female video connector to the Video In port on the back of the SwitchView IP and attach the blue SwitchView IP cable male video connector to the KVM switch local video port.
3. Attach the black SwitchView IP cable computer connector to the SwitchView IP Computer port.
4. Attach the purple SwitchView IP cable keyboard connector and green mouse connector to the KVM switch local keyboard and mouse ports.
5. Attach a keyboard and mouse directly to the SwitchView IP Keyboard and Mouse ports.
6. Attach a monitor by connecting the monitor video cable to the SwitchView IP Video Out port.
7. Attach the SwitchView IP to your network using the Network port on the front of the SwitchView IP.
8. From a client web browser, type the SwitchView IP address, log in to the SwitchView IP Web Server and launch the SwitchView IP Viewer to access the computer configured to receive KVM input.

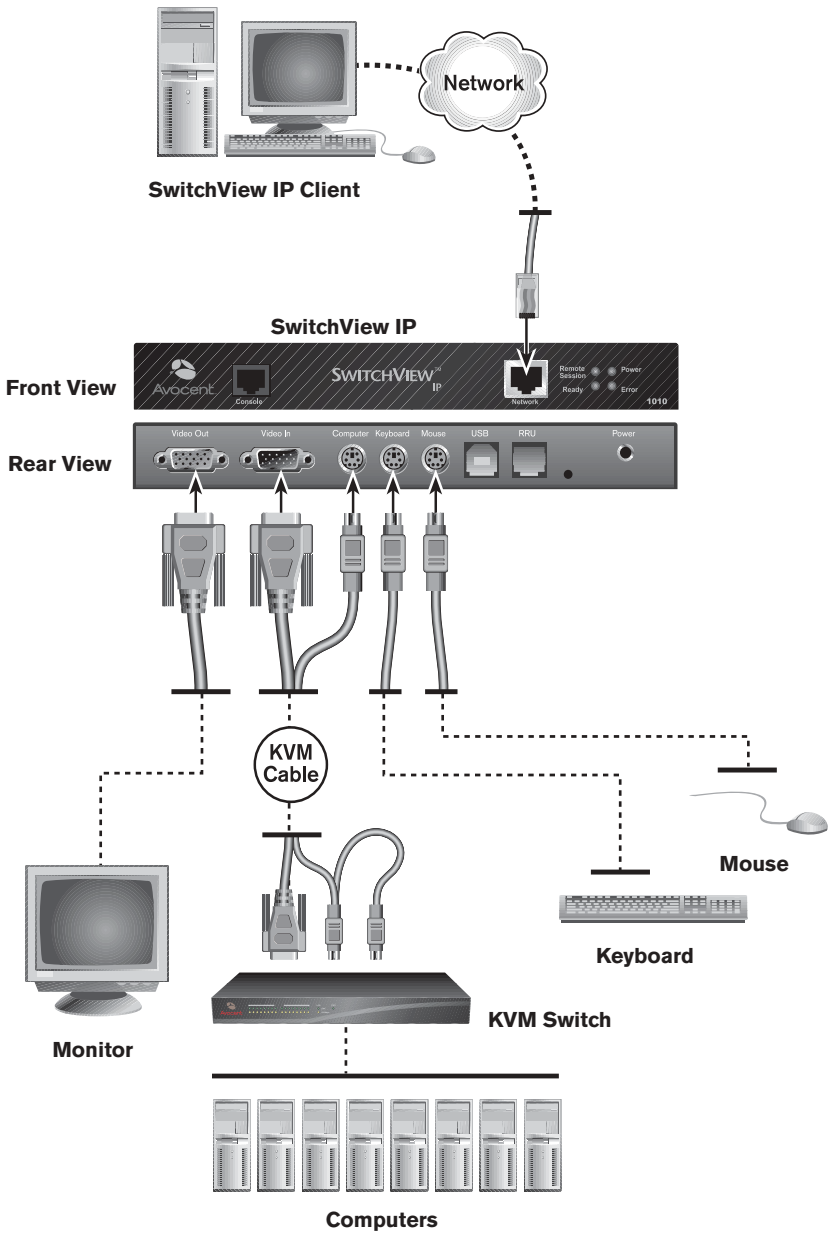


Figure 2.2: Connection of SwitchView IP to KVM Switch

Connecting a Remote Reboot Unit

This section provides instructions for connecting a Remote Reboot Unit (RRU) to the SwitchView IP. For information on RRU settings and configuration, see *Configuring RRU Power Settings* in Chapter 4.

NOTE: The SwitchView IP supports many off-the-shelf RRU units. For more information, contact Avocent Technical Support.

To connect a Remote Reboot Unit:

1. Attach the RRU cable serial connector to the RRU serial port.
2. Attach the RRU cable RJ-12 connector to the RRU port of the SwitchView IP.
3. Attach the host computer power cable to the RRU power port.
4. Attach the RRU power cable to a grounded power source.

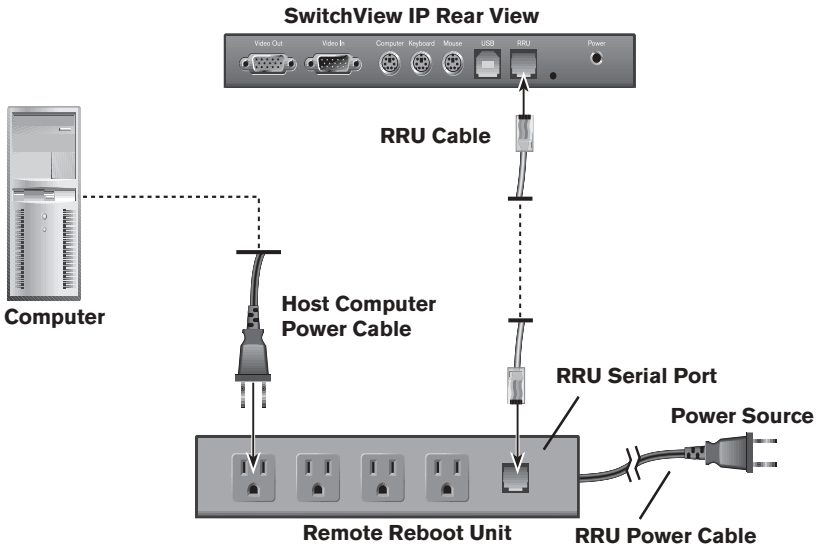


Figure 2.3: Remote Reboot Unit Connection

Connecting a USB Keyboard and Mouse

The instructions in this section and Figure 2.4 provide information for connecting a USB keyboard and mouse to the SwitchView IP.

To connect a USB keyboard and mouse:

1. Obtain a USB A/B cable (not included) and attach the type A connector to the USB port on the host computer.
2. Attach the USB cable type B connector to a USB port on the SwitchView IP.
3. Attach the USB keyboard connector to another USB port on the host computer.
4. Attach the USB mouse connector to the USB port on the keyboard or on the host computer.

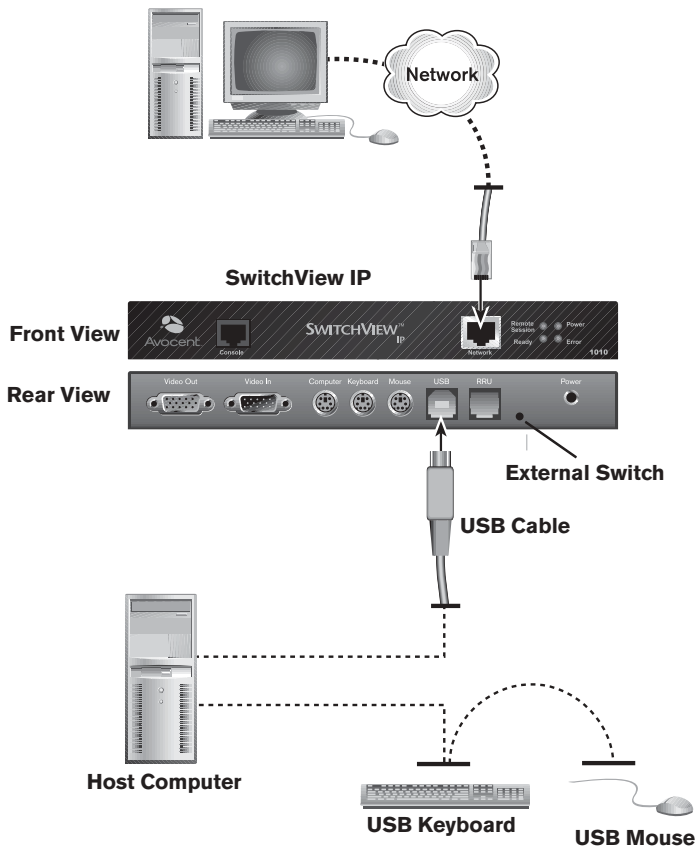


Figure 2.4: USB Keyboard and Mouse Connection

Connecting a Sun Workstation

This section provides instructions for connecting the SwitchView IP to a Sun workstation. Only one keyboard and mouse can be connected to a Sun workstation at a time. Connecting two of either device prevents both devices from functioning. All other systems, including the PC and Mac, can have multiple devices connected simultaneously.

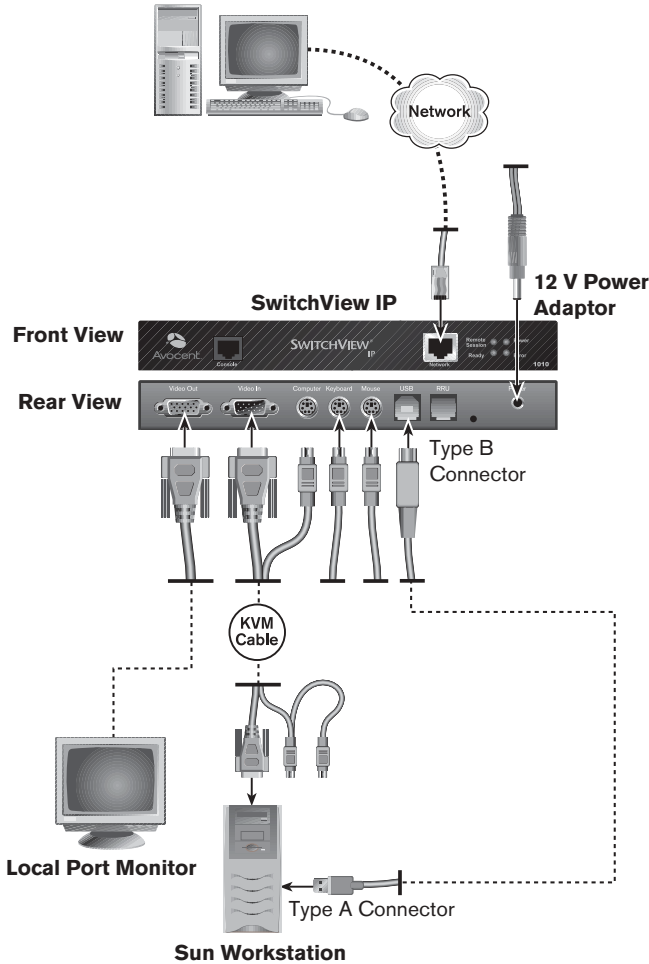


Figure 2.5: Sun Workstation Connection

To connect a Sun workstation:

1. Disconnect the local USB keyboard and mouse from the host computer.
-

NOTE: The Sun workstation dynamically detects any connections and/or disconnections from the USB ports and uses whichever device(s) was connected last. Before using either the local or remote keyboard and mouse, first disconnect the device(s) in use and then connect the new device(s).

2. Obtain a USB A/B cable (not included).
3. Attach the type A connector to the USB port on the Sun workstation.
4. Attach the type B connector to the USB port on the SwitchView IP.

Setting the IP Address

This section provides instructions for setting the IP address for the SwitchView IP.

Using the static IP address

The SwitchView IP boots to the following default static IP address, gateway and netmask:

- IP address: 192.168.1.254
- Gateway: 192.168.1.1
- Netmask: 255.255.255.0

You can use the SwitchView IP on a subnet that matches the default static IP address or use the SwitchView IP Web Server Network window to change the IP address. For information on changing the IP address, see *Modifying the Configuration* in Chapter 4.

Using ARP to Set the IP Address

You can use Address Resolution Protocol (ARP), a command line utility included with most operating system platforms, to set the IP address for the SwitchView IP. Follow these instructions to set the IP address using ARP.

NOTE: As a security feature, ARP only runs when the system boots to the default IP address of 192.168.1.254. Once ARP has been used to move the appliance from this address, ARP is turned off. The only way to get ARP to run again is to set the IP address to the default and reboot the system.

To run ARP and set the IP address:

1. Contact your network administrator and obtain an IP address.
2. From a client computer attached to the same subnet as the SwitchView IP, open a DOS window and enter the following command:
arp -s <ip address> <mac address>

Replace <ip address> with the IP address obtained from your network administrator, and <mac address> with the 12 digit MAC address listed on the SwitchView IP (for example, 00-05-C2-1E-40-20).
3. Ping the SwitchView IP by entering the following command:
Ping <IP Address>

NOTE: During verification of the IP address, the message *host not responding* may display. If this message displays four times, the IP or MAC address is incorrect.

- If the Ping command was successful, remove the IP address from the ARP table using the following command:

```
arp -d <IP Address>
```

-or-

If the Ping command failed, verify the IP and MAC address and resolve any communication issues.

Using DHCP to Obtain the IP Address

If Dynamic Host Configuration Protocol (DHCP) services are available on the local subnet where the SwitchView IP is installed, use the following instructions to configure the SwitchView IP to use DHCP to automatically obtain the IP address.

To use DHCP to obtain the IP address:

- In the web browser Address bar of a client computer, enter the IP address of the SwitchView IP and click *Enter*.
- In the Enter Network Password dialog box, type **admin** (default username) and **password** (default password) and click *OK*.



Figure 2.6: Enter Network Password Dialog Box

- From the Global Settings window, under Category, click *Network*.
- From the Network window, select the *Use DHCP* option and click *Apply*.

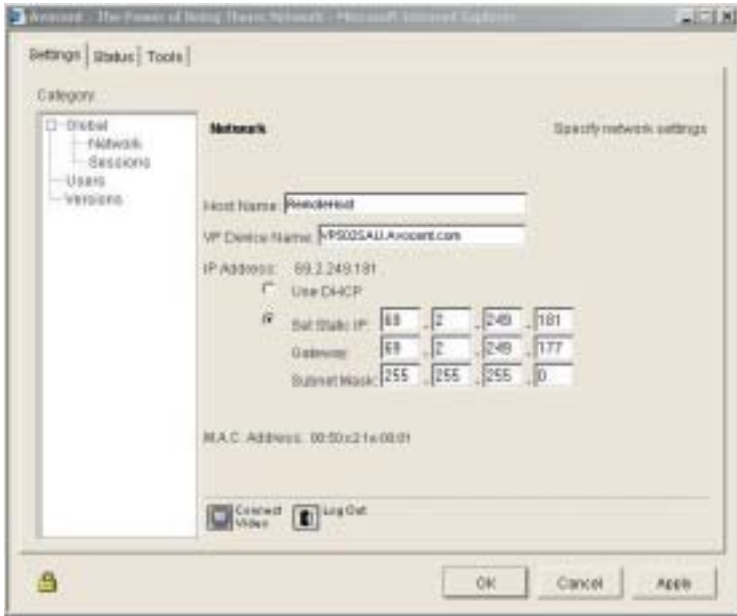


Figure 2.7: Network Window

5. The SwitchView IP will automatically obtain an IP address from DHCP services and use it as the SwitchView IP address. The previous IP address is stored until the *Set Static IP* option is enabled.

To disable DHCP configuration:

1. In the web browser Address bar of a client computer, enter the IP address of the SwitchView IP and click *Enter*.
2. In the Enter Network Password dialog box, type **admin** (default username) and **password** (default password) and click *OK*.
3. From the Global Settings window, under Category, click *Network*.
4. Select the *Set Static IP* option and use the previous IP address, gateway and subnet mask settings, or enter new IP address information and click *Apply*.
5. Log in to the static IP address and the SwitchView IP Web Server will refresh with the new IP address.

Accessing Through a Firewall

Before attempting to access the SwitchView IP through a firewall, verify that the following Internet ports are available and configured for Transmission Control Protocol (TCP) traffic or packets.

Internet Ports

Applications / Services	Ports (decimal)
SwitchView IPViewer	5900
Update.exe	12296
HTTP	80
SSL	443
Telnet	23
FTP	21

Launching the SwitchView IP Web Server and Viewer

Complete the setup process by launching the SwitchView IP Web Server and Viewer. Using the SwitchView IP Web Server, you can communicate directly with the SwitchView IP on the host computer. For more detailed information, refer to Chapter 4.

To launch the SwitchView IP Web Server:

1. From a client computer, launch a web browser.
2. In the web browser Address bar, type the IP address of the SwitchView IP and click *Enter*.
3. In the Enter Network Password dialog box, type **admin** (default username) and **password** (default password) and click *OK*. The username and password are case sensitive. In the Network window, you can change the default admin password, add users and assign access rights by clicking *Users* under Category. After modifying a user's information, click *Apply* to save changes. For information on modifying the SwitchView IP initial setup configuration, see *Modifying the Configuration* in Chapter 4.
4. From the Global Settings window, under Category, click *Network* to change the host name or SwitchView IP name.
5. Click the *Tools* tab and select *Set Appliance Date and Time* to set the current time and date. Click *Apply* to save any changes.

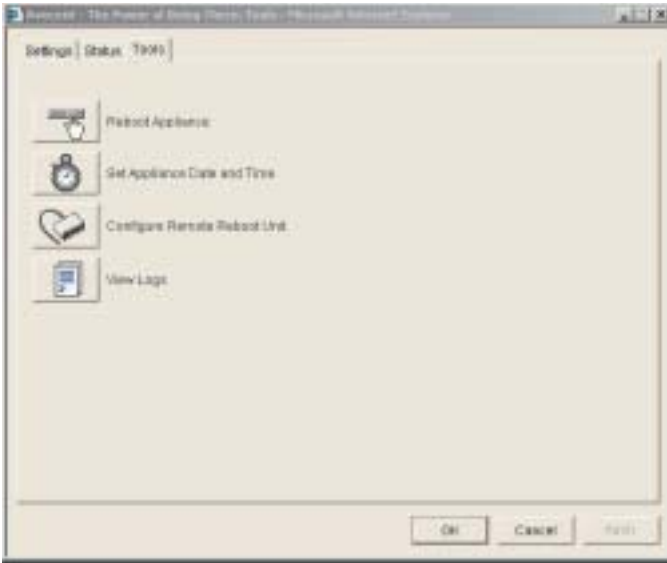


Figure 2.8: Tools Tab

Launching the SwitchView IP Viewer

After setting the IP address and completing the setup process, you can launch the SwitchView IP Viewer from the SwitchView IP Web Server and verify that the remote client can communicate with the host computer. For more information on viewing and controlling computers, see Chapter 3.

To launch the Viewer:

1. From the Network window, click *Connect Video*. The Startup Options dialog box displays the connection speed and the color mode on the remote computer.



Figure 2.9: Startup Options Dialog Box

2. Click *Connect*.
3. If you are prompted, enter the IP address of the SwitchView IP.

NOTE: For Microsoft Internet Explorer 5.5 SP2, 6.0 and 6.1, the IP address is automatically passed through to the SwitchView IP. If you are running an earlier version of Internet Explorer, update it to version 5.5 or later.

4. From the SwitchView IP Viewer screen, you now can view the host computer, control its keyboard and mouse and execute tasks. For more information on viewing and controlling computers, see *Using the SwitchView IP Viewer* in Chapter 3.

Understanding the Status LEDs

The following table lists the SwitchView IP status LEDs and their states when illuminated.

LED Name and Status

LED Name	LED On
Remote Session	SwitchView IP Viewer session active
Power	SwitchView IP powered
Ready	SwitchView IP internal system running
Error	SwitchView IP internal error (contact Avocent Technical Support)

Restoring Factory Default Settings

You can restore the SwitchView IP factory default settings by depressing the external switch for one second. The external switch is located next to the Power port on the back of the device, as shown in Figure 2.4. This switch is not a reset switch, and data is not preserved.



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Chapter 3: Operations

Using the SwitchView IP Viewer

The SwitchView IP Viewer enables users to view and control a host computer from any location using a standard TCP/IP connection and web browser. The following tables outline features and commands you can execute remotely, using the SwitchView IP Viewer drop-down menus.

Using the SwitchView IP Viewer shortcuts

The SwitchView IP Viewer Shortcuts drop-down menu provides quick access to the following common keystrokes and commands to help you manage and control your SwitchView IP Viewer environment.

SwitchView IP Viewer Shortcuts Menu

Command	Does This
Ctrl-Alt-Del	Executes Ctrl-Alt-Del command
Start Menu	Enables access to Windows Start menu programs and files
Task Manager	Enables access to Windows Task Manager
Close Window	Closes current window
Close MDI Window	Closes a Multi-Document Interface (MDI) frame or pop-up window
Ctrl x 2	Displays OSD (On-Screen Display) when used by some brands of KVM switch
Ctrl x 3	Displays OSD (On-Screen Display) when used by some brands of KVM switch
Scroll Lock x 2	Displays OSD (On-Screen Display) when used by some brands of KVM switch
Next Window	Moves focus to one of the open windows
Print Screen	Copies current SwitchView IP screen data to copy buffer
Print Window	Copies current window to printer
Hold Down Ctrl Key	Toggles to hold down Ctrl key
Hold Down Alt Key	Toggles to hold down Alt key
Exit SwitchView IP Viewer Client	Closes SwitchView IP Viewer and remote session

Using the SwitchView IP Viewer options

The SwitchView IP Viewer Options drop-down menu provides access to the following additional settings to help you fine-tune your SwitchView IP Viewer environment.

SwitchView IP Viewer Options Menu

Command	Description
Force Screen Refresh	Forces the screen to refresh to the original quality.
Force Screen Auto Alignment	Forces the SwitchView IP to perform a screen alignment.
Toggle Full Screen	Toggles screen size.
Viewer Options	Phase settings. Enables you to select quality of video allowing higher speed video performance. There is also a setting for horizontal and vertical screen alignments.
Show frames/sec and Network bits/sec	Displays the current bandwidth usage in frames per second and network bits/secbits per second. The information is shown in the lower left of the Viewer screen.
Auto Mouse Sync	Synchronizes mouse movements of the host computer and the VP Viewer. The default and recommended setting is <i>On</i> . Set the Auto Mouse Sync to <i>Off</i> only if the host computer operating system does not provide an option to turn off mouse acceleration. For more information on configuring mouse acceleration and erratic mouse movements, see Chapter 2 and <i>Appendix C</i> .
Show Startup Dialog	Displays the startup dialog. The default and recommended setting is <i>On</i> .

Using the SwitchView IP Viewer Connection menu

The SwitchView IP Viewer Connection menu options enable you to manually or automatically set the correct compression and throttle line speed for optimum performance and security. Lowering encryption and compression levels can increase performance.

SwitchView IP Viewer Connection Menu

Options	Description
56 K	Dial up speeds, lowest speeds, highest compression.
DSL	Low speeds (500 Kps), high compression.
T1	1 Mbps, high compression.
Low BW LAN	2 Mbps, low bandwidth, LAN speeds, medium compression.
LAN	10 Mbps, lowest compression.
Auto	Automatically selects the appropriate network connection.
Encrypt Everything	All video, keyboard, video and mouse data is encrypted. This setting is normally enabled through the SwitchView IP Web Server Security configuration page.
Encrypt KB & Mouse	Only keyboard and mouse data are encrypted. This setting is normally enabled on the SwitchView IP Web Server Security configuration page.

SwitchView IP Viewer Connection Menu (continued)

Options	Description
Encryption Type	Displays two encryption types. The default and recommended type is RC4™.
No Encryption	No data is encrypted. This setting is normally enabled on the SwitchView IP Web Server Security configuration page.
High Color	Optimizes best color but speed performance is lower than optimum.
Low Color	Optimizes best speed but color performance is lower than optimum. Speed may not be optimum on a LAN connection.
Gray Scale	Optimizes speed for low bandwidth connections.
Low Gray Scale	Enables best performance for low bandwidth connections.

NOTE: The default setting for the SwitchView IP Viewer Host OS menu is Auto/Other. This setting should be maintained. Should you encounter mouse or keyboard issues, select the name of your host operating system from the Host OS menu.

Working with Log Files

The log file tracks activities and events that occur on the host computer such as the following:

- User login and remote session activity
- Administrative functions such as adding users and updating passwords and firmware
- Tasks initiated including: Remote control sessions, program modules and remote session and other applications
- Changes made to SwitchView IP configuration settings

To view the log file:

1. From a web browser Address bar, enter the IP address of the SwitchView IP and launch the SwitchView IP Web Server.
2. Log in to the SwitchView IP Web Server as **admin** or as a user with administrator rights. For more information, see *Configuring Users and Access Rights* in Chapter 4.
3. From the Global Settings window, click the *Tools* tab and then click *View Logs*.

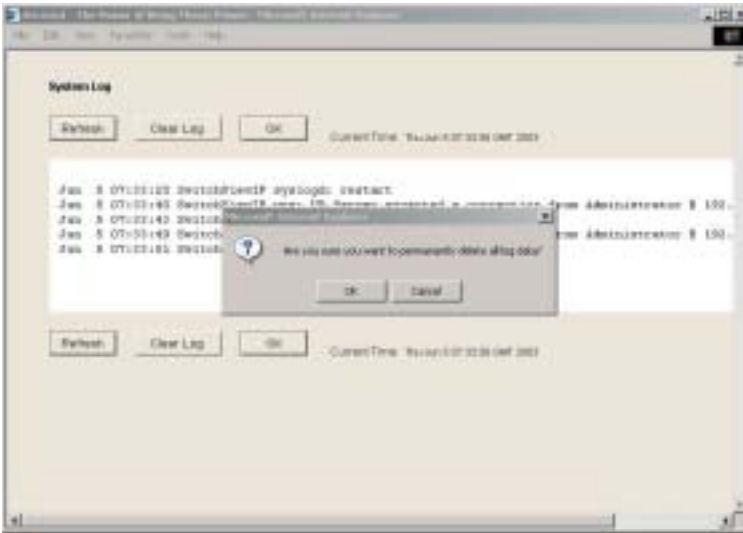


Figure 3.1: System Log with Clear Log Message Box

Refreshing the log file

Refresh updates the System Log window with any activity that has occurred on the host computer since the System Log was opened or the last refresh was performed.

Clearing the log file

Clear Log flushes all log file data from the System Log window and starts a new log of activity occurring on the host computer. Log files start to overwrite after 400 K bytes of data is logged.

Printing, saving or emailing the log file

Using the web browser File drop-down menu, you can print the log file, save it for later viewing in a text editor or send it to an email recipient.

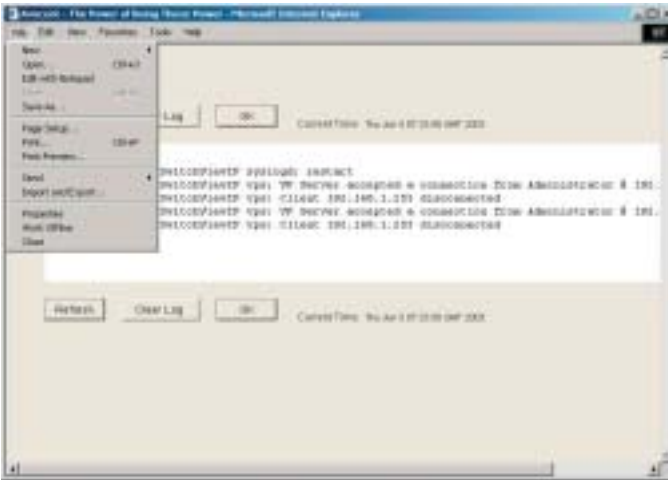


Figure 3.2: System Log with Pull-down Menu

Maintaining the Environment

Minimal maintenance is required to keep your SwitchView IP Viewer environment functioning properly. Periodically, you will need to update the SwitchView IP with the latest firmware so you can take advantage of new features as they are added. To streamline this process, you can download and run the Update utility. Also available for download is the SwitchView IP Find utility, a tool to help you identify where SwitchView IPs are installed on your network.

Updating the SwitchView IP firmware

Changes to the SwitchView IP firmware image are periodically available on the Avocent web site. A new firmware image is uploaded to the SwitchView IP using the Update program. Visit the Avocent web site at www.avocent.com/support to download the latest firmware image and Update program, along with SwitchView IP release notes, tools and product information.

To check the SwitchView IP firmware version:

1. From a web browser Address bar, type the IP address of the SwitchView IP you want to access and click *Enter*.
2. Log in to the SwitchView IP Web Server as **admin** or as a user with administrator rights. For more information, see *Configuring Users and Access Rights* in Chapter 4.
3. From the Global Settings window, under Category, click *Versions* to display the firmware version information.



Figure 3.3: Versions Window

To use the Update program:

1. From the Avocent web site at www.avocent.com/support, download the latest SwitchView IP firmware image and Update program (UPDATE.EXE) to a client computer.
2. Verify that a SwitchView IP session is not active and then launch *UPDATE.EXE*.
3. Drag the new firmware image icon and drop it on the UPDATE.EXE icon.
4. In the Flash Update Program dialog box, type the IP address of the SwitchView IP you want to update.

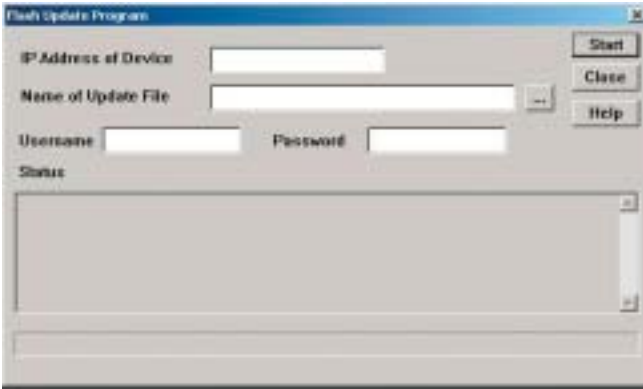


Figure 3.4: Flash Update Program Dialog Box

5. From the Name of Update File text box, browse for the new firmware image file you downloaded and select it.
6. Type the admin username and password and click *Start*.
7. When the upload process is complete, click *Close*. The SwitchView IP is now reset and will reflect the new firmware updates the next time a viewing session is launched. Previously stored user data is retained.

NOTE: If the Status window indicates the upload process failed, check the failure message, resolve the issue and try again. If failures persist, perform a reset (unplug power and plug power back in) on the SwitchView IP. If a reset does not resolve the failures, perform a factory default reset by depressing the switch located next to the Power port on the back of the unit.

CAUTION: A factory default reset will erase all stored user data and the IP address, so you will need to re-enter it. Do not abort the operation during update. Aborting the update operation may render the device unbootable and require the device to be replaced.

Using SwitchView IP Find to locate other SwitchView IPs

The SwitchView IP Find utility searches for SwitchView IP devices installed in a network segment.

To use SwitchView IP Find:

1. From the Avocent web site at www.avocent.com/support, download the latest SwitchView IP Find utility to a client computer.
2. From the client computer, launch *SwitchView IPFIND.EXE*.
3. From the SwitchView IP Find dialog box, type the network broadcast address of the segment you want to search and click *Find SwitchView IP Devices*.

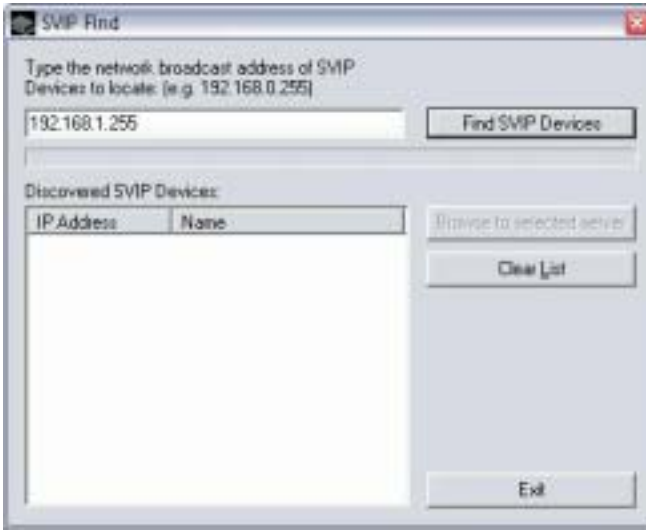


Figure 3.5: SwitchView IP Find Dialog Box

4. If you want to access any of the discovered SwitchView IP Servers, select the desired SwitchView IP and click *Browse to selected server*.
5. When you are finished, click *Exit*.



4 **Advanced Configuration**

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Chapter 4: Advanced Configuration

This chapter provides information necessary to modify the SwitchView IP settings, configure users and access rights and modify security settings.

Modifying the Configuration

From the Network window, you can select options for changing the host name or SwitchView IP name and the IP address. From the Versions window, you can make selections to verify the SwitchView IP firmware version and MAC address.

To change the host name or SwitchView IP name:

1. In the web browser Address bar, enter the IP address of the SwitchView IP and click *Enter*.
2. Log in to the SwitchView IP Web Server as **admin** or as a user with administrator rights. For information on assigning access rights, see the *Configuring Users and Access Rights* section later in this chapter.
3. From the Global Settings window, under Category, click *Network*. In the Network window, enter a new host name or SwitchView IP name in the Host Name and VP Device Name fields and click *Apply*.

To change the static IP address, gateway and subnet mask:

1. From the web browser Address bar, enter the IP address of the SwitchView IP and click *Enter*.
2. Log in to the SwitchView IP Web Server as **admin** or as a user with administrator rights. For information on assigning access rights, see the *Configuring Users and Access Rights* section later in this chapter.
3. From the Global Settings window, under Category, click *Network*. In the Network window, enter the new IP address, gateway or subnet mask information. Click *Apply* and then log in to the new IP address.

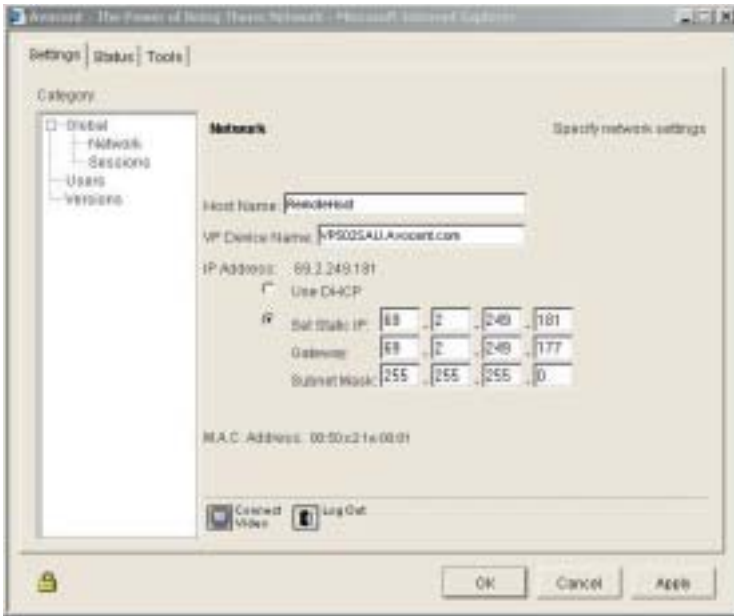


Figure 4.1: Network Window

Configuring RRU Power Settings

You can configure and modify the RRU settings used to control the host computer or other devices connected to the RRU.

To configure the RRU power settings:

1. Log in to the SwitchView IP Web Server as **admin** or as a user with administrator rights. For more information, see *Configuring Users and Access Rights* later in this chapter.
2. From the Global Settings window, click the *Tools* tab and then select *Configure Remote Reboot Unit*.
3. From the Remote Reboot Unit Commands dialog box, type a name or descriptive information to identify the RRU you are configuring.

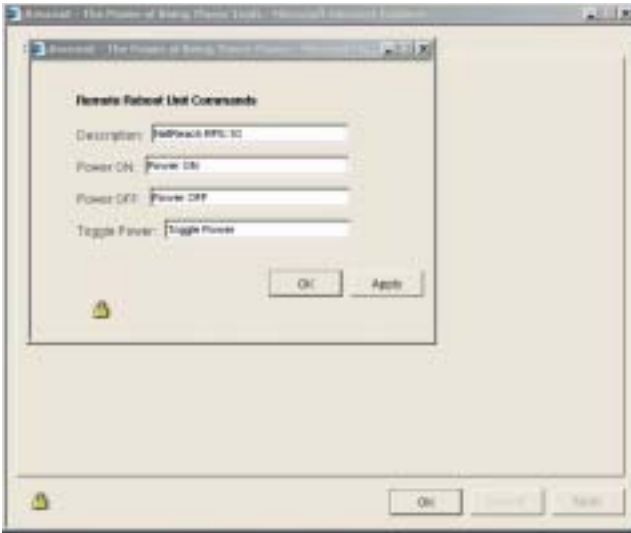


Figure 4.2: Remote Reboot Unit Commands Dialog Box

4. In the Power On, Power Off and Toggle Power text boxes, type the sequence strings located in your power control unit's owner manual and click *Apply*. The Reset Host Power, Power Host Off and Power Host On icons display at the bottom of the Global Settings window as shown in Figure 4.3.



Figure 4.3: Global Settings Window with RRU Power Icons

NOTE: For detailed information on the RRU sequence strings to specify for each power function, consult the RRU manufacturer documentation.

- The SwitchView IP Web Server power control buttons will respond to the RRU settings. For example, Reset Host Power uses the RRU Toggle Power sequence string.

Configuring Users and Access Rights

The Users window allows you to add and manage user rights to access the SwitchView IP. The SwitchView IP Web Server provides the following levels of access you can assign to your users:

- Users with full control access can control the host computer and power it up or down, if an RRU is installed.
- Users with administrator access can add and delete users and change their access rights, in addition to controlling the host computer.

To add a user and assign rights:

- From the Global Settings window, under Category, click *Users*.
- From the Users window, click *Add* and then type a user ID, username and password for the new user.

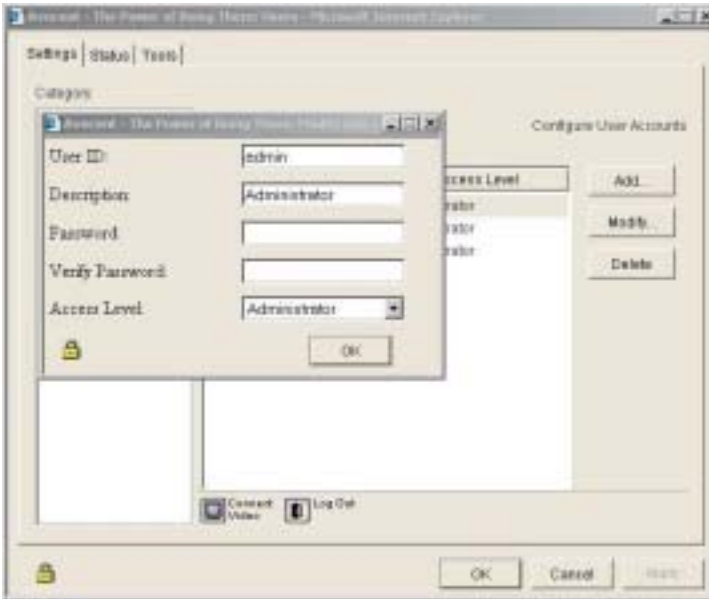


Figure 4.4: Add User Dialog Box

3. Verify the password and then select the access level you want to assign.
4. Click *OK* to save the new information.

User Account Information

Field	Description
User ID	User ID for login and authentication (3 to 32 character limit, no spaces)
User Name	Name identifying a user (no character limit, spaces allowed)
Password	6 to 32 characters, no spaces
Verify Password	Re-entering password confirms the password to the system
Access Level	Access level assigned to the new user
OK	Saves the user profile and access rights information

Configuring Security

From the Sessions window you can specify different levels of encryption. Changing these settings will increase the level of security for the SwitchView IP. You can restrict access to the SwitchView IP Web Server by selecting *SSL connections only*. After selecting the *SSL connections only* option, you are prompted to log in again under the secure address.

NOTE: When you specify either encryption Level 1 or encryption Level 2, the SwitchView IP Web Server is automatically set to *SSL connections only*. If you want to disable the *SSL connections only* setting, you will need to change the remote session encryption back to Level Ø.



Figure 4.5: Sessions Window

Replacing the Server Certificate

You can replace the default SwitchView IP server certificate with another certificate. Make sure the new certificate is in Privacy Enhanced Mail format and is at least 1024 bits in size.

To replace the default server certificate:

1. Open an FTP session and log in to the SwitchView IP as **admin** (default username).
2. Replace the default server certification with a new certificate by entering the following command:
`put <new_certificate.pem> /flash/inc/server.pem`
3. Wait 10 seconds for FLASH write to complete before rebooting.
4. Cycle power to the SwitchView IP. The new server certificate is in place.



Appendices

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Appendices

Appendix A: Technical Specifications

SwitchView IP Product Specifications

Server Ports	
Number	1
Type	PS/2
Connectors	DB-15 Video in, 8-pin miniDIN
Console Port	
Number	1
Type	Serial
Connector	RJ-12
Settings	115200 bps, flow control: none, 8 data bits, 1 stop bit, no parity
RRU Port	
Number	1
Type	Serial
Connector	RJ-12
Settings	9600 bps, flow control: none, 8 data bits, 1 stop bit, no parity
Network Connection	
Number	1
Type	Ethernet: 10BaseT, 100BaseT
Connector	RJ-45
Local KVM Port	
Number	1
Type	PS/2, USB v1.1
Connectors	DB-15 Video out, 6-pin miniDIN PS/2 keyboard, 6-pin miniDIN PS/2 mouse, USB-B series
Dimensions	
Dimensions (H x W x D)	1 x 4.5 x 7.75 in
Weight	2 lb without cables
Power Consumption	3 W
Operating Voltage	external 12 v DC power @ 500 mA

SwitchView IP Product Specifications (continued)

AC-input power	10.5 W maximum (120 v, 60 Hz)
AC-input voltage rating	120 v
AC-input cable	6 ft, 2 conductor, 24 AWG
AC-frequency	60 Hz
Humidity	10 to 80% noncondensing (operating/storage)
Operating Temperature	Ø° to 40° Celsius (32° to 104° Fahrenheit)
Storage Temperature	-10° to 65° Celsius (14° to 149° Fahrenheit)

Agency Approvals

FCC part 15B, EN55022, EN55024, EN61000-3-3

SwitchView IP Software Specifications**Operating System**

Type	NetBSD 1.6
------	------------

Web Server

Type	Custom on-board SwitchView IP server
------	--------------------------------------

Software Configuration

Drivers	None required
---------	---------------

Security

Type	128 bit SSL v2, v3, TLS v1 data encryption
Passwords	Encoded, maximum of 16 user accounts
Data Stream	OpenSSL 0.9.7 RC4 algorithm

NOTE: Associated software contains encryption technology subject to the U.S. Export Administration Regulations and other U.S. law, and may not be exported or re-exported to certain countries (currently Afghanistan/Taliban-controlled areas, Cuba, Iran, Iraq, Libya, North Korea, Sudan and Syria) or to persons or entities prohibited from receiving U.S. exports (including Denied Parties, entities on the Bureau of Export Administration Entity List, and Specially Designated Nationals). For more information on the U.S. Export Administration Regulations (EAR), 15 C.F.R. Parts 730-774, and the Bureau of Export Administration ("BXA"), see the BXA homepage.

Appendix B: 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 C*.
2. Check our web site at www.avocent.com/support to search the knowledge base or use the on-line service request.
3. Call Avocent Technical Support for assistance at (888) 793-8763. Visit the Avocent web site at <http://www.avocent.com/support> and click on *Support Phone Numbers* for current phone support hours.

Appendix C: Troubleshooting

Ensure that all components are attached securely and properly configured. If this does not resolve the issue, review the following troubleshooting guide.

Video slow to respond or erratic

Verify that the host computer video configuration is set to a supported resolution and refresh rate. Optimum video setting is 1024 x 768 at 60 Hz. For a list of supported video resolutions and refresh rates, refer to Chapter 2.

Ensure that the client computer meets minimum system hardware requirements. For a list of minimum hardware requirements, refer to Chapter 2.

Video displays pink screen

Verify that cables and connectors to the SwitchView IP, monitor and host computer are properly attached and firmly connected.

Verify that the host computer is powered up.

Re-establish video communication using power up reset.

Reboot the host computer as needed.

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.

Mouse pointer or mouse buttons slow to respond or erratic

Resync the mouse by left-clicking or by moving it across the screen several times.

Verify that the host computer mouse acceleration is turned off. For more information, see the *Mouse Acceleration* section in Chapter 2.

If a 2160ES or 180ES is tiered below the SwitchView IP and the mouse is in ballistic mode in OSCAR[®], set the Auto Mouse Sync to *Off* in the SwitchView IP Viewer.

Mouse pointers don't sync and you have turned off mouse acceleration on the host

The horizontal or vertical screen alignments may not be automatically adjusting. Manually adjust the screen alignments from the Viewer Options dialog box in the SwitchView IP Viewer.

Cannot access SwitchView IP through a firewall

Verify the required Internet ports are properly configured and available. For more information, see *Accessing Through a Firewall* in Chapter 2.

Cannot communicate with SwitchView IP after power up reset or new installation

Wait until Power and Ready LEDs are illuminated before attempting connection.

Ensure that the correct IP address is used in the browser.

After a factory default restore operation, the IP address will default to 192.168.1.254.

SwitchView IP Error LED is On

The SwitchView Error LED indicates an unstable internal condition exists in the device. Contact Technical Support for appropriate troubleshooting procedures. See *Understanding the Status LEDs* in Chapter 2 for information on the states monitored by the status LEDs.

SwitchView IP Viewer is not launching (the Connect Video button does nothing)

Turn on cache refreshing in Internet Explorer, click *Tools*, then *Internet Options*. On the General page, click *Settings* in the Temporary Internet Files area. Select *Automatically* or any other option except *Never*. Click *OK*.

The screen color on the host computer is smeared on the SwitchView IP Viewer

Change the color setting to *Low Color* in the Connection drop-down menu of the SwitchView IP Viewer.

Appendix D: RRU and Console Pinouts

This section provides the RJ-12 connector pinouts for the RRU and the console.

RRU and Console Pinouts

RJ-12 Pin	Signal Name	Description
1	RTS	Request to Send
2	RX	Receive
3	TX	Transmit
4	NC	Not Connected
5	GND	Signal Ground
6	CTS	Clear to Send



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