

SERVER REMOTE CONTROL

KVM over IP with Virtual Media

SV1107IPEXT



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- 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.

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Table of Contents

Introduction	1
Features	1
Package Contents	1
Hardware Requirements.....	2
Hardware Guide	3
Computer Preliminary Setup.....	5
SV1107IPEXT Preliminary Setup	6
Windows XP and 2000	7
Windows Vista™.....	7
SV1107IPEXT Initial Configuration	8
Hardware Setup	11
Installation	11
(Optional) Mounting to a Cabinet/Rack	13
Normal Logon.....	14
Administration	16
Network	17
Access Ports.....	17
IP Address.....	18
DNS Server	18
IP Change Notification.....	18
Security	19
Overview.....	19
Filtering.....	20
User Station Filtering – IP Addresses	20

User Station Filtering – MAC Addresses	21
Custom SSL Certificates	21
User Management	22
Customization	24
Firmware	24
Using the SV1107IPEXT	26
Required Equipment	26
Connecting from your Local Network	26
Using The Windows Client	27
The Windows Client Control Panel	29
Hotkey Setup	30
Video Adjustment	32
The Message Board	34
Compose Panel	34
Message Display Panel	34
User List Panel	34
Virtual Media	36
The Java Applet	37
Navigation	38
The Java Applet Toolbar	39
Troubleshooting	45
General Operation	45
The Java Applet	45
The Windows Client	46
Mouse Synchronization Procedures	47
Technical Support	49
Warranty Information	49

Introduction

The SV1107IPEXT Server Remote Control KVM over IP with Virtual Media capability enables simple management of remote servers from anywhere in the world, through remote administrative control, while providing a convenient way to monitor computers and servers over a network, or over the Internet.

The SV1107IPEXT Server Remote Control KVM over IP also offers the ability to transfer files to the server from a remote location, as well as the ability to upload files to a Virtual Media USB 2.0 RAM port. The Virtual Media port acts as a virtual USB port, allowing files and data to be accessed as if it originated from a local USB port - simplifying software or operating system updates and installs via an Internet connection.

Features

- USB virtual media port for disk emulation and file transfers, including complete remote application and operating system installations
- SSL 128bit encryption
- Flash upgradable

Package Contents

- 1 x 6' CAT5 cable
- 1 x Power adapter
- 1 x SV1107IPEXT unit
- 1 x USB console cable
- 1 x USB KVM cable set
- 1 x User manual
- 1 x Virtual Media USB Cable (Mini B to A)
- 1 x Mounting bracket

Hardware Requirements

For best results, we recommend that the computers used to access the SV1107IPEXT control unit have at minimum a Pentium III 1 GHz processor, with the screen resolution set to 1024 x 768.

- Browsers must support 128-bit SSL data encryption
- Recommended Internet connection speed: at least 128 kbps
- For the browser-based Windows Client, you must have DirectX® 7.0 or higher installed
- For the browser-based Java Applet, you must have Sun's Java Runtime Environment Version 6 Update 3 or higher.
- Your router and ISP must support Port Forwarding to allow access from the Internet.

Video

The SV1107IPEXT unit supports the following resolutions and refresh rates:

Resolution	Refresh Rates
640x480	60, 72, 75, 85
720x400	70
800x600	56, 60, 72, 75, 85
1024x768	60, 70, 75, 85
1152x864	75
1280x1024	60, 75

Operating System Support

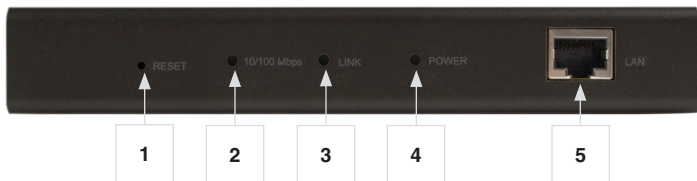
Windows® 2000 or more recent

Linux: RedHat 9 +, SuSE 10+, Mandriva (Mandrake) 2007 +

UNIX: AIX .3+, FreeBSD 6+

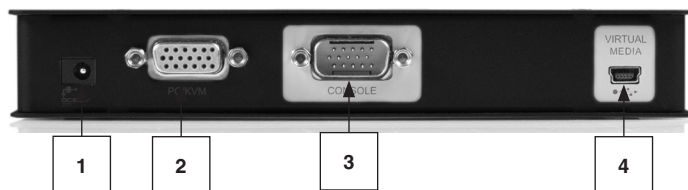
Novell: Netware 6 +

Hardware Guide



	Component	Description
1	Reset Switch	<p>System Reset: Pressing and holding this switch in for more than three seconds performs a system reset</p> <p>Restore Factory Default Settings: Power off the SV1107IPEXT, then press and hold the reset switch for at least 3 seconds while reconnecting power</p> <p>Please Note: This will not reset users or passwords</p>
2	10/100 Mbps LED	<p>ORANGE: Indicates 10 Mbps connection</p> <p>GREEN: Indicates a 100 Mbps connection</p>
3	Link LED	Flashes GREEN to indicate that a Client program is accessing the device.
4	Power LED	ORANGE: SV1107IPEXT unit is powered and ready to operate.
5	LAN Port	The network Ethernet cable connection

Hardware Guide - Cont'd



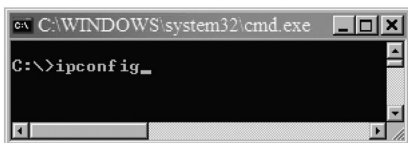
	Component	Description
1	Power Jack	The power adapter connection
2	PC/KVM Port	The connection for the cable that links the SV1107IPEXT to your computer
3	USB Console Port	This is the connection for the local console cable (USB keyboard, monitor, and USB mouse). Each port is color coded and marked with an appropriate icon for identification*
4	Virtual Media Port	The connection for the virtual media cable that connects the SV1107IPEXT to a USB port on your computer - allowing file transfers to occur
5	LAN Port	The network Ethernet cable connection

Please Note: if you are using a wireless keyboard/mouse set, connect the receiver to the Keyboard port of the KVM cable

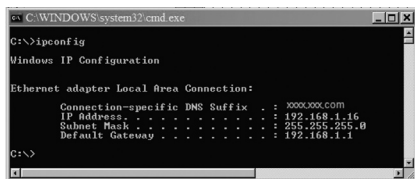
Computer Preliminary Setup

Find your computer's IP address and default Gateway by doing the following:

1. Click on **Start**, then **RUN**.
2. Enter **CMD** in the text box.
3. Click on **[OK]** or press the **[Enter]** key.
4. When the command line window opens, Type **ipconfig**, then press **Enter**:



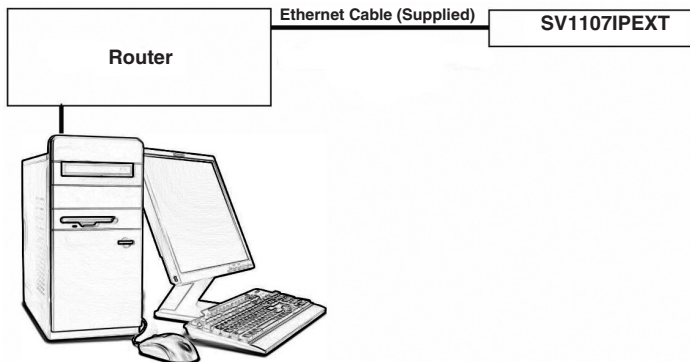
5. Look for the heading that says Ethernet adapter **Local Area Connection**:



6. Write down the IP Address and Default Gateway. If the first three groups of numbers of your IP Address happens to be 192.168.0, proceed to Hardware Set Up.
7. Exit the command line by clicking on the "X" on the top right corner of the Command line window SV1107IPEXT preliminary setup

SV1107IPEXT Preliminary Setup

Connect the SV1107IPEXT and your computer to your network using the following diagram. This is a preliminary set up, so no other connections are needed.



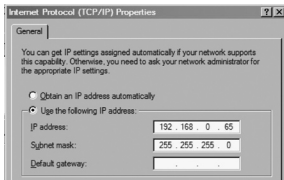
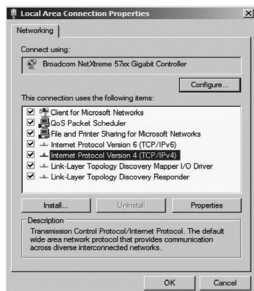
Most home networks use automatic IP Addressing, and the SV1107IPEXT is provided with a default fixed IP address of 192.168.0.60. Therefore, to log in for the first time, you must have your computer and the SV1107IPEXT on the same network.

Be sure to write down your existing settings prior to changing anything so you can return to them after the initial set up.

The instructions on the following pages will explain how to put your computer and SV1107IPEXT on the same network; the first set of instructions cover Windows XP and 2000, the second set explains Windows Vista™.

Windows XP and 2000

1. Locate, and double-click on the **Network Connections** icon, within the Windows Control Panel.
2. Right-click on **Local Area Connection** (or Wireless network connection)
3. Select **Properties**. Under the General tab highlight Internet Protocol TCP/IP
4. Click on the **Properties** button.
5. Click on the Radio button titled **Use the following IP address**
6. In the top text block, labeled **IP Address**, Enter: **192.168.0.65**.
7. In the center block, labeled **Subnet Mask**, enter: **255.255.255.0**
8. Click on **OK**, then wait a few moments for the computer to refresh it's IP Address.

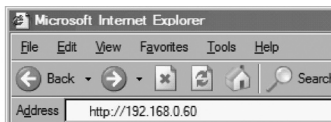


Windows Vista™

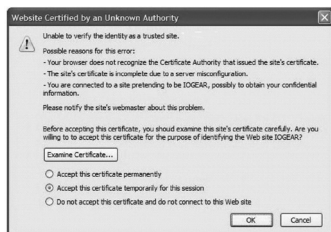
1. Enter the Control Panel; select **Network and Sharing Center**.
2. Select **Manage network connections**.
3. Select **Local Area Connection**, then right-click **Properties**.
4. Highlight **Internet Protocol Version 4 (TCP/IPv4)**.
5. Select **Properties**.
6. Select **Use the following IP Address**; then, in the top text block, labeled **IP Address**, enter: **192.168.0.65**.
7. In the center block, labeled **Subnet Mask**, enter: **255.255.255.0**. Leave the **Default Gateway** blank.
8. Click on **OK**, then wait a few moments for the computer to refresh it's IP Address.

SV1107IPEXT Initial Configuration

1. Open your web browser. You will get a Page cannot be displayed error message, this is normal.
2. In the Address line, type: **http:// 192.168.0.60**, then press **Enter**.



3. When the certificate windows pop up, accept them.



4. When the below screen appears, log into the SV1107IPEXT:

User name: **administrator** (lowercase)

Password: **password** (lowercase).

A screenshot of the 'SV1107IPEXT Login' page. The title is 'SV1107IPEXT Login'. It features two input fields: 'User Name: administrator' and 'Password: *****'. Below the fields are two buttons: 'Login' and 'Reset'.

5. After logging in, click on the **Network** icon (shown below) along the top of the window.



Network

6. Select **Set IP Address manually** (A static IP Address is preferred). The actual address you use is dependent on your network's address range:

As an example: In the preliminary set up, the IP Address noted is 192.168.1.16, so the IP Address you would enter would be 192.168.1.60

IP Address

Obtain an IP address automatically

Set IP address manually

IP address:

Subnet mask:

Default gateway:

7. Select Obtain DNS server address automatically:

DNS Server

Obtain an IP address automatically

Using the following DNS server address

Primary DNS server:

Alternate DNS server:

- For now leave the rest of the settings at their default values (they will be covered later).
- Click on Apply, then Logout. The SV1107IPEXT will reset. (It is important to log out so the SV1107IPEXT will close the connection).



Apply



Log out

Please Note:

Change your computer's IP address and Default Gateway back to the original settings as noted in the preliminary steps. If both of these values are obtained automatically, click on the radio button to restore your settings.

Reconnect the computer to your network, then connect the SV1107IPEXT into your system as described in the following section.

Hardware Setup

Warning!

Please ensure that power has been removed from all devices that will be connected during the installation. You must **unplug the power cords** of any computers that support Keyboard Power On function.

Installation

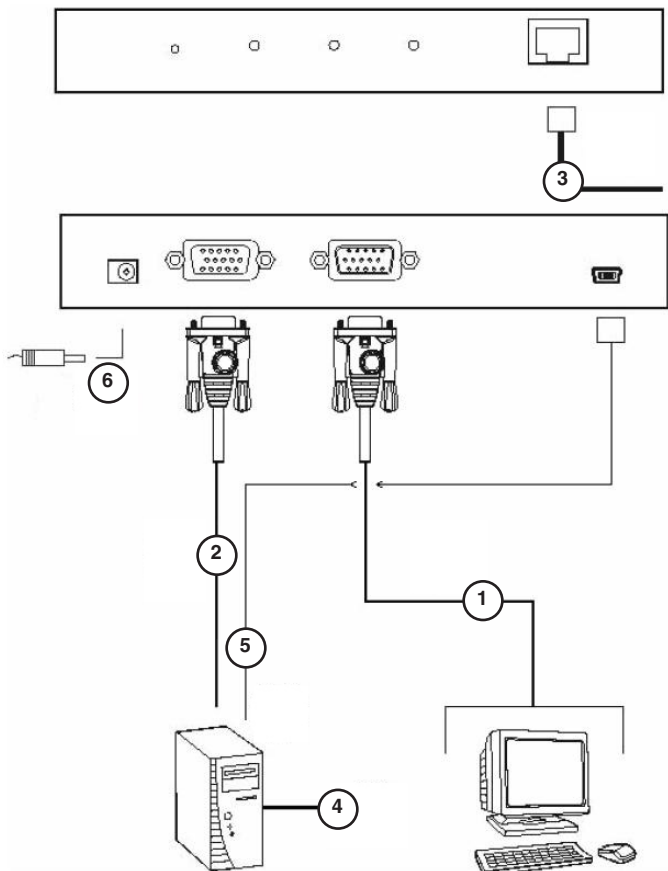
To install the SV1107IPEXT, refer to the installation diagram on the following page:

1. Use the Console cable provided to connect the SV1107IPEXT's Console port, to the local keyboard, monitor and mouse, they are color coded for identification.
2. Use the KVM cable provided to connect the SV1107IPEXT's PC/KVM port, to the video and a USB port on the computer.
3. Connect your network cable between the SV1107IPEXT's LAN port and your router.
4. Connect your computer to the network.
5. Connect the mini B to A -USB connector between SV1107IPEXT Virtual Media port and a USB port on your computer.
6. Connect the power adapter cable to the SV1107IPEXT's power jack

Please Note: Both the SV1107IPEXT and your computer must be connected to your router. If you are using a wireless network , switch to a wired connection to set up the SV1107IPEXT, once you know everything is working you can switch back to wireless

Please Note: The SV1107IPEXT to router connection **must** be wired.

Installation - Cont'd



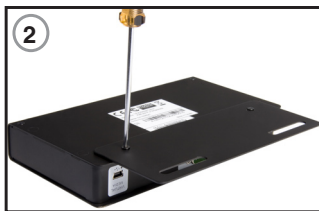
(Optional) Mounting to a Cabinet/Rack

If you wish to mount the SV1107IPEXT in a server/storage rack/cabinet, using the included bracket:

1. **(Figure 1)** Remove the two screws closest to the rear panel of the SV1107IPEXT, on the base of the unit.



2. **(Figure 2)** Place the mounting bracket on the base, aligning the circular holes on the bracket with the holes left from the removed screws, positioning the bracket as shown. Then, replace the screws removed in step #1.



3. Mount the SV1107IPEXT in the server/storage rack/cabinet as appropriate:



Normal Logon

To operate the SV1107IPEXT from an Internet browser, begin by logging in. Open your browser and specify the IP address (assigned in the preliminary set up) of the SV1107IPEXT in the browser's Address bar.

1. A Security Alert dialog box, similar to the one below, appears.
Accept the certificate. If a second certificate appears, accept it as well.



2. When the SV1107IPEXT login page appears, provide a valid username and Password and click on Login.

By default, the username and password are:






User name : administrator

Password : password

The SV1107IPEXT Main Screen appears:



The Main Screen consists of Administration icons arranged horizontally across the top of the screen (see pg. 15), and Utility icons arranged vertically on the left side of the screen (described in table below).

	Utility Icons
 Apply	Apply: Saves the changes you make in the administration dialog boxes, but does not implement the changes, which go into effect when you enable Reset on exit (see Customization) and log out.
 Windows Client	Windows Client: Allows users with the proper permission to connect to the SV1107IPEXT using Windows software, to remotely control the server.
 Java	Java Applet: For platform independence, the Java applet allows users with the proper permission (see User Manager) and Java installed on the remote computer, to connect to the SV1107IPEXT and remotely control the sever.
 Log	Log: All the events that take place on the SV1107IPEXT are recorded in a log file. If you have the proper permission clicking on this Icon displays the contents of the log file Note: See the next page for an explanation of the Log utility.
 Log out	Logout: Click this icon to log out and end your session Note: It is important to end your session, so the SV1107IPEXT can terminate the session. If you get a "System in use" error message its because the session ended with out Logging out, Logon with the other Client.

Administration

The icons arranged vertically on the left side of the screen (shown left) are linked to the administration utilities, which are used to configure the SV1107IPEXT.

Your ability to make configuration changes depends on the permissions associated with your login information.

Once you login, the General panel displays on the browser window shown below). It is the first of the Administration pages, and provides information about the SV1107IPEXT's status.

Device Name:	<input type="text"/>
MAC Address:	<input type="text"/>
Firmware Version:	<input type="text"/>

An explanation of each of the fields is given in the following table:

Field	Explanation
Device Name:	To make it easier to manage installations that have more than one SV1107IPEXT, each one can be given a unique name. Assign a name (up to 16 characters) by entering it here.
MAC Address:	Displays the SV1107IPEXT's MAC Address.
Firmware Version:	Indicates the SV1107IPEXT's current firmware version level.

Network

The Network dialog is used to specify the SV1107IPEXT's network environment.

Access Ports

If a firewall is being used, the Administrator can specify (in the firewall set up) the port numbers that it will allow. When connecting to the SV1107IPEXT, users must specify the port number as part of the IP Address.

If an invalid port number (or no port number) is specified, the SV1107IPEXT will not be found. (i.e 192.168.0.60 / 9000 for the Windows client, 192.168.0.60/9002 for the Java client.)

Please Note:

1. If there is no firewall (on an Intranet, for example), these numbers will not have any effect.
2. The access ports cannot have the same value. A different value must be set for each one.

The screenshot shows a 'Network' dialog box with the following sections and fields:

- Access Port:** Program: 9000, Java: 9002
- IP Address:**
 - Obtain an IP address automatically
 - Set IP address manually
 - IP address: 10.0.100.100
 - Subnet mask: 255.255.255.0
 - Default gateway: 10.0.100.1
- DNS Server:**
 - Obtain DNS server address automatically
 - Using the following DNS server address
 - Primary DNS server: []
 - Alternate DNS server: []
- IP Change Notification:**
 - Enable [Test]
- SMTP server:** []
- My server requires authentication
- Account Name:** []
- Password:** []
- From:** []
- To:** []

Explanations of the fields are given in the table below:

Field	Explanation
Program	This is the port number that must be specified when connecting from the Administrator and Windows Client. Valid entries are between 1024 -60,000
Java	This is the port number used for Java connections. Valid entries are between 1 - 65535

IP Address

The SV1107IPEXT can have its IP address assigned dynamically at boot-up (DHCP), or can be given a fixed IP address.

Please note: If you wish to access the SV1107IPEXT from the Internet, assign a static IP address as you will need to configure your router to forward the port to the SV1107IPEXT, and an IP address is the most reliable way to connect.

To specify a fixed IP address, select the radio button titled **Set IP address manually**, and fill in the IP address you wrote down in the preliminary steps (see pg. 5).

The subnet mask is **255.255.255.0**.

The Default Gateway is the IP Address of your router.

DNS Server

The SV1107IPEXT can have DNS Server Address assigned automatically, or a fixed address can be specified.

- For automatic address assignment, select **Obtain DNS server address automatically** (Recommended)
- To specify a fixed address, select **Use the following DNS**

IP Change Notification

If you elect to use Automatic IP Addressing, you can have the SV1107IPEXT send an e-mail notification whenever its DHCP assigned IP address changes.

- To enable e-mail notification, select the **Enable** check box, fill in the domain name or IP address of your SMTP server, and specify the **From:** and **To:** e-mail addresses.
- If your SMTP server requires authentication, select the **My server requires authentication** check box and fill in the **Account Name** and **Password** fields with a valid user account name and password.
- After filling in all the appropriate fields, click the **Test** button to test

the operability of the e-mail notification. An e-mail should be sent to the e-mail address specified in the **To:** field

Please Note: This will only notify you if the SV1107IPEXT changes its address on your local network, it will not notify you if your external address changes.

Security

The Security page is used to control access to the SV1107IPEXT.

The screenshot shows a window titled "User Station Filters". It is divided into two main sections. The top section is for IP filters, with a checkbox for "IP Filter Enable" (unchecked), radio buttons for "include" (selected) and "exclude", a list box, and buttons for "Add", "Edit", and "Remove". The bottom section is for MAC filters, with a checkbox for "MAC Filter Enable" (unchecked), radio buttons for "include" (selected) and "exclude", a list box, and buttons for "Add", "Edit", and "Remove". At the bottom of the window, there is a label "Login string:" followed by an empty text input field.

Overview

- IP and MAC Filters control access to the SV1107IPEXT based on the IP and/or MAC Addresses of the computers attempting to access the system. If any filters have been configured, they appear in the IP Filter and/or MAC Filter list boxes.
- The Login string lets the Administrator specify a string that users must include along with the SV1107IPEXT's IP address when accessing the SV1107IPEXT through the Java Applet. For example, if the IP Address were **192.168.0.126**, and the string was **abcdefg**, the users would key in the following: **192.168.0.126/abcdefg**

Users must include a forward slash (/) and the string, along with the IP Address when they log in. For security purposes, we recommend that you change this string periodically.

Filtering

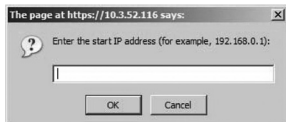
To enable IP and/or MAC filtering, place a checkmark in the **IP Filter Enable** and/or **MAC Filter Enable** checkbox. There is a maximum of 100 filters allowed for each option.

- If the **include** button is checked, all the addresses within the filter range are allowed access to the SV1107IPEXT. Addresses **not** specified within the filter will be **denied** access.
- If the **exclude** button is checked, all the addresses within the filter range are denied access to the SV1107IPEXT. Addresses **not** specified within the filter will be **allowed** access.

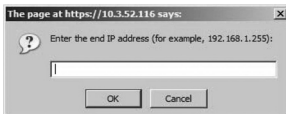
User Station Filtering – IP Addresses

To add an IP Address filter:

1. Click **Add**. A dialog box similar to the one below appears:



2. Specify the filter address in the dialog box, then click **OK**. A second dialog box, similar to the one below, appears:



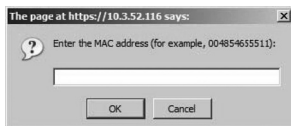
3. To filter a single IP address, key in the same address as the start IP Address. To filter a continuous range of addresses, key in the end number of the range.
4. After filling in the address, click **OK**.
5. Repeat these steps for any additional IP addresses you wish to filter.

To delete a filter, select it and click **Remove**.

To modify a filter, select it and click **Edit**. The Edit dialog box is similar to the Add dialog box. When it appears, simply delete the old address and replace it with the new one.

User Station Filtering – MAC Addresses

To add a MAC address filter click **Add**. A dialog box similar to the one below will appear:



1. Specify the MAC address in the dialog box, then click **OK**.

Repeat this step for any additional MAC addresses you wish to filter.

To delete a filter, select it and click **Remove**.

To modify a filter, select it and click **Edit**. When the dialogue box appears, simply delete the old information and replace it with the new information.

Custom SSL Certificates

To authenticate a secured connection to the SV1107IPEXT, a custom SSL certificate is recommended. The custom certificate should be created as a PEM file, using the RSA algorithm, and at least 1024 bits.

To create the necessary file, you will need to use a program such as OpenSSL (<http://openssl.org/>) and save the file in a PEM format with header and footer lines.

Once you have the necessary software for creating the PEM file, the following is an example of a command used to generate the file.

Enter the following command:

```
openssl req -x509 -nodes -days 365 -newkey rsa: 1024 -keyout mycert.pem -out mycert.pem
```

In order to use a custom SSL certificate, the created PEM file must then be uploaded through the web interface.



The screenshot shows a dark-themed web interface titled "User Station Filters". It contains two filter sections: "IP Filter Enable" and "MAC Filter Enable". Each section has a checkbox, a radio button for "include" (selected) or "exclude", a text input field, and three buttons: "Add", "Edit", and "Remove". Below these sections is an "SSL Certificate File" section with a text input field and a "Browse..." button. At the bottom center is an "Upload" button.

Click on the **Browse** button, and locate the generated certificate file, then click on the **Open** button.

The listing for the file will appear in the text box next to the **Browse** button. Please verify that the correct location has been designated and click on **Upload** to upload the file.

User Management

The User Management page is used to create and manage user profiles. Up to eight user profiles can be established.

To add a user profile, fill in the information requested in the **User Info** panel and click **Add**. The user's name appears in the **User List** panel.

To delete a user profile, select it from the names displayed in the **User List** panel, and click **Remove**. The user's name is removed from the User List panel.

To modify a user profile, first select it from the list in the upper panel, then change the information that appears in the **User Info** dialog box. The Reset button clears all the information shown in the **User Info** fields. When you have made all your changes, click **Update**.

Please Note: For security purposes, change the default username and password

Please Note: The user's password is not displayed – the **Password** and **Confirm** fields are blank. If you want to change the password, key in the password in the **Password** field, then key it in again in the **Confirm** field. Otherwise, leave both fields blank (not recommended).

The screenshot shows a software interface with two main sections. The top section, titled "User List", contains a list box with the name "administrator" selected. Below this is the "User Info" section, which includes a note: "If you wish to keep the existing user's password, leave 'Password' and 'Confirm' fields blank". It features four text input fields: "User Name:", "Password:", "Confirm:", and "Description:". Below the fields are several checkboxes under the heading "Permissions": "Configure", "Log", "Windows Client", "View Only", "Java Operation", and "Virtual Device". At the bottom right of the "User Info" section is a "Reset" button. At the very bottom of the dialog are three buttons: "Add", "Update", and "Remove".

An explanation of the profile items is given in the table on the following page:

Item	Explanation
User name	A minimum of 6 and a maximum of 6 characters are allowed
Password	A minimum of 8 and a maximum of 16 characters are allowed.
Confirm Password	To ensure accuracy, you are asked to re-enter the password. The two entries must match.
Description	Additional information about the user that you may wish to include
Permissions	<p>A check mark grants permission, no check mark denies permission to the profile being created or modified.</p> <p>Configure: Administrator privileges, which allows the user to set up and modify the SV1107IPEXT's operating environment.</p> <p>Windows Client: allows access the SV1107IPEXT via the Windows Client software.</p> <p>Java Operation: Java Operation access the SV1107IPEXT via the Java Applet software.</p> <p>Virtual Device: Enables Virtual Media</p> <p>Log: allows viewing the contents of the log file.</p> <p>View Only: Limits a user to viewing the video display of the remote connection</p>

Please Note: If a user is denied a permission, that permission will not be visible on the Utility tool bar, when that user logs on.

Customization

This configuration page allows the Administrator to set **Timeout**, **Login Failure**, and **Working** mode parameters. An explanation of the Customization parameters is given in the table on the following page:

Parameter	Explanation
Time out Control	If the SV1107IPEXT does not receive any input from a computer that is accessing it with either client within the specified time, the connection terminates.
Login failure	<p>Login failures allowed: Sets the number of consecutive failed login attempts permitted</p> <p>Login failure timeout: Sets the amount of time a remote computer must wait before attempting to login again after it has exceeded the number of allowed failures.</p>
Working Mode	Enable stealth mode: With stealth mode enabled, the SV1107IPEXT will not reply to a ping request.
Reset on exit	A check here causes the SV1107IPEXT to reset itself and implement all the new changes when you log out. A wait of approximately 30 to 60 seconds is necessary before logging in, following the reset.

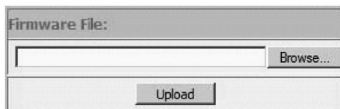
Firmware

As new versions of the SV1107IPEXT firmware become available, they can be downloaded from our website.

Check the website regularly to find the latest information and packages.

To upgrade the firmware, do the following:

1. After downloading the new firmware file to your computer, open your browser and login to the SV1107IPEXT. Click the **Firmware** icon, to bring up the **Firmware File** dialog box:



2. Click **Browse**, then navigate to location of the new firmware and click on the new firmware file.
3. Click **Upload**.

4. After the upload completes, click the **Apply** icon at the left side of the web page.
5. Enable the **Reset on Exit** checkbox on the **Customization** page.
6. Re-click the **Apply** icon at the left of the web page.
7. Click the **Logout** icon at the upper right of the web page to exit and reset the SV1107IPEXT.

Using the SV1107IPEXT

Start by accessing the unit through your local network, to verify the settings are correct and operate as desired. Once the setup is confirmed on your local network, the final step will be to connect through the Internet.

Required Equipment

A networked computer, either on your network or on the Internet, that meets the following minimum requirements (you cannot use the computer that is directly connected to the SV1107IPEXT):

- Pentium® III 1 GHz processor or higher
- A screen resolution set to 1024 x 768.
- A browser supporting 128-bit SSL data encryption
- Recommended Internet connection speed: 128 kbps or higher
- For the browser-based Windows Client, you must have DirectX® 7.0 or higher installed.
- For the browser-based Java Applet, you must have Sun's Java Runtime Environment Version 6 Update 3 or higher

Connecting from your Local Network

1. Ensure the remote computer is connected to your network.
2. Ensure the SV1107IPEXT is connected to your local network.

3. Open a web browser on the remote computer.
4. Type in the IP Address you wrote down in step 6 of SV1107IPEXT Initial configuration for example `http://192.168.1.60`, then hit the enter key
5. You will be taken to the SV1107IPEXT Logon screen
6. Enter your user name and password in the spaces provided and click on Logon. This brings you to the SV1107IPEXT main screen.

Using The Windows Client

1. After you log in, click the Windows Client icon.

Please Note: You must have DirectX 7.0 or higher installed on your computer.



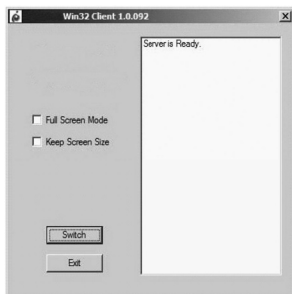
Some browsers may not allow the client to run directly in their window.

If this is the case, you will be asked to **Save to disk**; direct the file to be downloaded to a convenient location (such as the desktop), then with the browser still open, double-click on the downloaded application.

A box similar to the one shown on the following page will appear. There is nothing actually installed on your computer - the application is merely being run from your computer, instead of directly through the browser.

If you use the **Save to Disk** method, each time you use the Windows client, a fresh copy of the program will be downloaded.

2. When a connection to the SV1107IPEXT has been established, a screen similar to the one shown here will appear:



After you click on the **Switch** button, the remote system appears on your monitor. You can work on the remote system via the screen displayed on your monitor, as if it were your local system.



- You can move the window to any convenient location on your desktop by clicking on the title bar and dragging it.
- You can switch between your local and remote programs using the **Alt + Tab** key combination.

Please Note:






- Due to network lag, there might be a delay before your keystrokes appear on the screen. You may also have to wait a bit for the remote mouse to catch up to your local mouse before you click.
- Due to net lag, or insufficient computing power on the local machine, some images, especially motion images, may display poorly.





The Windows Client Control Panel

The Windows Client control panel – located at the bottom right of the screen – provides utilities to simplify control of remote KVM operations.



The panel consists of an icon bar with two text bars below it. The text bars display the video resolution and IP address of the remote device. The functions of icons are described in the following table:

Icon	Function
	Launches the Hotkey Setup dialog box (see pg.29)
	Launches the Video Adjustment dialog box. (see pg. 30) (Right click for fast Auto Sync.)
	Opens the Message board (see pg. 32)
	Launches the Virtual device dialog box (see pg. 34)
	Sends Ctrl + Alt + Del key command from the remote to the local computer.

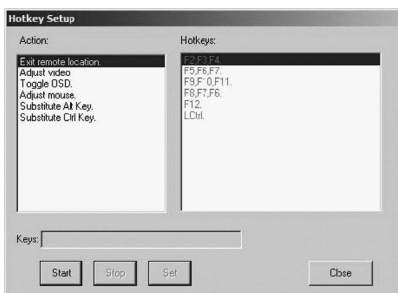
Icon	Function
	Exit from the Windows Client
  	<p>From left to right, these icons indicate the current Num Lock, Caps Lock and Scroll Lock state, respectively.</p> <p>When the corresponding icon is illuminated, the function is active. When connected, toggle the LEDs to set the correct state</p>

Please Note: You can move the control panel to any convenient location on the remote window's screen, by clicking on the title bar, and dragging it.

The Windows Client Control Panel icons and their functions are described in the sections that follow.

Hotkey Setup

Various actions related to manipulating the remote server can be accomplished using hotkeys. The Hotkey Setup utility (accessed by clicking the Keyboard icon on the Control Panel), lets you configure which hotkeys perform the actions. The actions are listed in the left panel, the corresponding hotkeys that invoke them are shown in the panel at the right.



To customize a hotkey combination:

1. Highlight the Action, and then click **Start**.
2. Key in the Function keys (one at a time). The key names appear in the **Key** field as you press them.
3. When you have finished keying in your sequence, Click **Stop**.
4. Click **Set**. Repeat for any other actions you wish to change.
5. Click **Close**.

Please Note: You can use the same function keys for more than one action, as long as the first key is not the same. For example, you can use F1 F2 F3 for one action, F2 F1 F3 for another, F3 F2 F1 for a third, etc. An explanation of Hotkey actions are given in the table below:

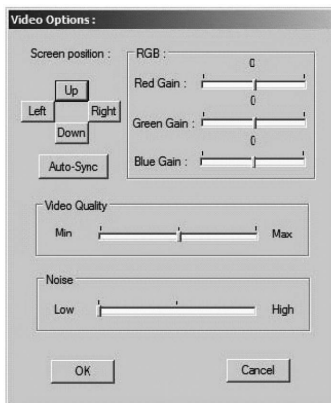
Action	Explanation
Exit remote location	Ends remote connection to the SV1107IPEXT, returns to local operation
Adjust Video	Brings up the video setting dialog box
Toggle OSD	Toggles the control panel Off and On
Toggle screen mode	Toggles the screen display between full screen and windowed modes
Adjust mouse	This utility synchronizes the local and remote mouse movements, following a change in video resolution. After invoking this utility, simply click the local mouse pointer on top of the remote mouse pointer
Substitute Alt key	Although all other keyboard input is captured and sent to the SV1107IPEXT, [Alt + Tab] and [Ctrl + Alt + Del] key combinations work on your local computer. In order to implement their effects on the remote system, another key may be substituted for the Alt key. If you substitute the F12 key, for example, you would use [F12 + Tab] and [Ctrl + F12 + Del] .

Action	Explanation
Substitute Ctrl key	<p>If your local computer captures Ctrl key combinations, preventing them from being sent to the remote system, you can implement their effects on the remote system by specifying a function key to substitute for the Ctrl key.</p> <p>If you substitute the F11 key, for example, pressing [F11 + 5] would appear to the remote system as [Ctrl + 5].</p>

Please Note: To invoke an action, you must press and release one key at a time.

Video Adjustment

The Video options dialog box allows you to adjust the placement and picture quality of the remote screen (as displayed on your monitor). To launch the dialog box, either click on the Hammer icon on the Control Panel, or use the Adjust Video hotkeys. The following screen will appear:

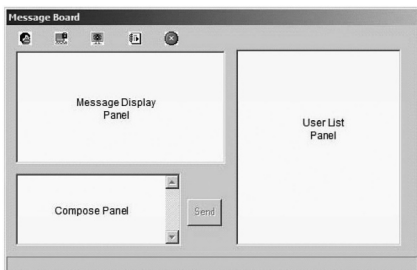


Option	Usage
Screen Position	Adjust the horizontal and vertical position of the remote computer window by clicking the Arrow buttons.
Auto-Sync	<p>Click Auto-Sync to detect the vertical and horizontal offset values of the remote screen and automatically synchronize it with the local screen. If the local and remote mouse pointers are not in sync, in most cases, performing this function will bring them back into sync.</p> <p>Please Note: This function works best with a bright screen. If you are not satisfied with the results, use the Screen Position arrows to position the remote display manually.</p>
RGB	Drag the slider bars to adjust the RGB (Red, Green, and Blue) values. When an RGB value is increased, the RGB component of the image is correspondingly increased.
Video Quality	Drag the slider bar to adjust the overall Video Quality. Values range from minimum to maximum. The larger the value, the clearer the picture and the more video data goes through the network. Depending on the network bandwidth, a high value may adversely effect response time.
Noise	Noise refers to a grainy effect caused by random color speckles in the display. Drag the slider to achieve the desired effect.

The Message Board

The SV1107IPEXT supports two user logins, (only one user has control at a given time), which can possibly create access conflicts. To alleviate this problem, a message board feature has been provided, allowing users to communicate with one other.

Message board operation resembles that of an Internet chat program. When you click the Message Board icon on the Windows Client tool bar, a screen similar to the one shown here will appear:



Compose Panel

Key in the messages that you want to post to the board in this panel. Click **Send**, or press [Enter] to post the message to the board.

Message Display Panel

Messages that users post to the board, as well as system messages, display in this panel. If you disable Chat, however, messages that get posted to the board will not appear.

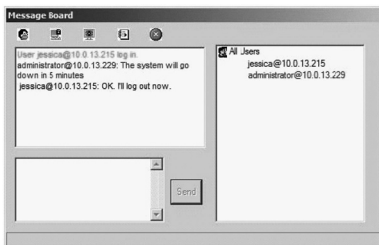
User List Panel




Currently logged in users are listed in this panel.



- Your name appears in blue, the other users' name appears in black.

Instruction Manual

- By default, messages are posted to all users. To post a message to an individual user, select the user's name before sending your message.
- If a user's name is selected, and you want to post a message to all users, select **All Users** prior to sending a message.
- If a user has disabled Chat, an icon is shown by the user's name to indicate as such
- If a user has occupied the KVM or the KM, its icon displays by the user's name to indicate so.



	<p>Enable / Disable (Chat): When disabled, messages posted to the board are not displayed. The button is shadowed when Chat is disabled. The Icon displays next to the user's name in the User List panel when Chat has been disabled.</p>
	<p>Occupy / Release (Keyboard / Video / Mouse): When you Occupy the SV1107IPEXT, other users cannot see the video, nor can they input keyboard or mouse data. The button is shadowed when the unit is occupied.</p> <p>The icon displays next to the user's name in the User List panel when they have occupied the SV1107IPEXT</p>
	<p>Occupy / Release (Keyboard / Mouse): When you Occupy the SV1107IPEXT, other users can see the video, but cannot input keyboard or mouse data. The button is shadowed when the unit is occupied. The icon displays next to the user's name in the User List panel when they occupy the SV1107IPEXT</p>

	<p>Show / Hide (User List): When you hide the User List, the User List panel closes. The button is shadowed when the User List is open</p>
	<p>Exit: Click to close the message board</p>

Please Note: Only users who are currently logged on can see the Message Board - it is not visible on the local monitor.

Virtual Media

The SV1107IPEXT's Virtual Media feature allows a USB 2.0 device (Floppy drive, or Flash Drive), on a remote system, to act as if it were installed on the local server.

Please Note: The Virtual Media function is:

- Only supported by the Windows Client on computers running Windows 2000 or higher.
- Not supported on computers using other operating systems (for example Linux).
- Not supported on any computer via the Java Client software.

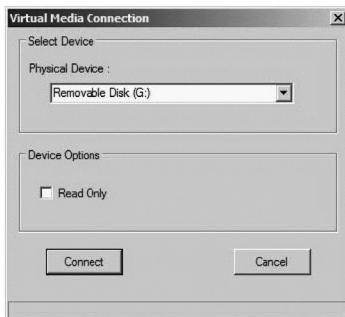
Connect the (mini B to A) USB cable between the Virtual Media port on the SV1107IPEXT and a USB port on the local computer.

Connect a USB mass storage device to a USB port on the remote Computer.

From the remote computer click on the Virtual Media icon in the Windows Client Control Panel, this opens the Virtual Media Connection dialog box:

Please Note: More than one USB mass storage device may be connected and recognized, but only the unit selected can be accessed.

1. Drop down the Physical Device list to select the appropriate drive.
2. After you have made your media source selection, click Connect [the Connect button changes to Disconnect]. Open “My Computer” on the remote computer and the selected device will appear as a connected drive, files may, then be transferred between the drive and local computer.



3. To end the connection, bring up the dialog box and click **Disconnect**.

***Please Note:** the connection remains open until the disconnect button is pressed.

The Java Applet

The Java Applet makes the SV1107IPEXT accessible to all supported platforms that have Java 2 installed. Java 2 is available for free download from Sun’s Java web site (<http://java.sun.com>).

Note: To verify your configuration and to become familiar with using the applet, the first step is to access the SV1107IPEXT from your local net-

work, once your configuration has been proven, the Internet connection will be covered.

To connect from your local network:

1. Ensure the “remote” computer is connected to your network.
2. Ensure the SV1107IPEXT is connected to your local network and to the local computer
3. Start the browser of your choice on the remote computer.
4. Type in **http://192.168.1.60**, and hit the enter key.
5. You will be taken to the SV1107IPEXT Logon screen. Enter your user name and password in the spaces provided, then click on Logon. This brings you to the SV1107IPEXT main screen.
6. Click on the Java Icon. After a few seconds the remote server’s display appears as a window on your desktop.

Navigation

You can work on the remote system via the screen display on your monitor, as if it were your local system.

- You can maximize the window, drag the borders to resize the window; or use the scroll bars to move around the screen.
- You can switch between your local and remote programs with [**Alt + Tab**].

Notes:

Due to network lag, there may be a slight delay before your keystrokes show up. You may also have to wait for the remote mouse to catch up to your local mouse before you click.

Due to net lag, or insufficient computing power on the local machine, some images, especially motion images, may display poorly.




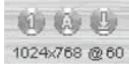



The Java Applet Toolbar

The Java Applet's toolbar provides utilities to help you control remote KVM operations.



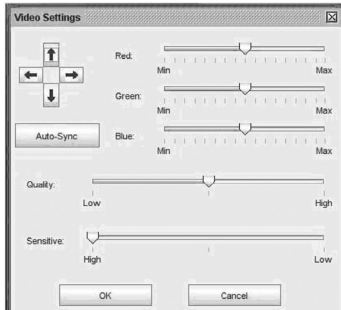
Please Note: The tool bar is hidden in the blank area at the bottom center of the screen, and appears when you move the mouse pointer over the area.

The Tool Bar Icons and their functions are explained in the table below:

	<p>Set Video Parameters: Launches the Video settings dialog box</p>
	<p>Keypad: Brings up the Keypad options</p>
	<p>Mouse Synchronization: Initiates the mouse synchronization process</p>
	<p>From left to right, these icons indicate the current Num Lock, Caps Lock and Scroll Lock state, respectively. When the corresponding icon is illuminated, the function is active.</p> <p>Please Note: When first connected, toggle the LEDs to set the correct state. The Video resolution and refresh rate of the remote computer are displayed below the lock icons.</p>
	<p>Message Board: Brings up the Message board</p>
	<p>Sends a Ctrl+Alt+Del command to the local system</p>
	<p>Exits the program.</p> <p>Please Note: This does not close the session.</p>

Set Video Parameters:

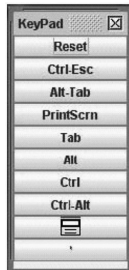
Clicking on this button brings up the **Video Settings** dialog box:



Please Note: We recommend that you perform Auto sync immediately following connection, to ensure proper mouse synchronization.

Keypad

Since some local input keyboard combinations cannot be captured and sent to the SV1107IPEXT, the Keypad provides a one-click implementation of their actions on the remote system.



Mouse Synchronization

At times, the local mouse movement may lose sync with the remote mouse movement. You can try getting them back in sync with fast mouse synchronization by moving the mouse pointer down into the Java Applet toolbar. If that does not help, run Auto sync (as discussed on the previous page).

1. If Auto sync does not resolve the problem, the Mouse Synchronization function can get them back into sync. This is similar to the Mouse Synchronization feature of the Windows Client.
2. Click the Mouse Synchronization button. The remote mouse pointer moves to the upper left area of the screen.
3. Move your local mouse pointer directly over the remote mouse pointer and Click. mouse adj.

The Message Board

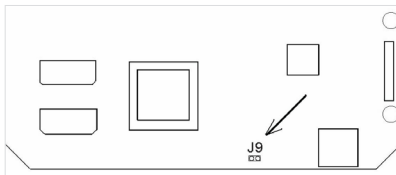
Please refer to pg. 34 for a detailed explanation of the Message Board function.

Administrator Reset

The following procedure will reset the default username and password in the event that the Username and Password information has become corrupted or lost.

To clear the login information (and return all settings to their defaults), do the following:

1. Disconnect the power adapter and all cables.
2. Remove the housing from the SV1107IPEXT.
3. Short jumper J9 on the circuit board.
4. Reconnect the SV1107IPEXT power adapter.



5. When the front panel LEDs flash, disconnect the power adapter from the SV1107IPEXT.
6. Remove the jumper cap from J9.
7. Close the housing and reconnect the SV1107IPEXT power adapter and cables.
8. After starting back up, you can use the default Username and Password to log in.

Please Note: Performing this procedure also returns all settings to their defaults. It will not remove Users or their passwords.

Connecting From the Internet

To simplify setup, disable your network firewall. Once you have connected to the unit from the Internet, restore your firewall.

You will need to configure the firewall to pass through the ports selected for the Windows and Java clients (9000 and 9002 are the default ports).

Because each router manufacturer / ISP / and Dynamic DNS service is slightly different, the following steps are general in nature and serve only as guidelines. If you have specific questions, please contact the manufacturer of your router, ISP, or the FAQ s page of the Dynamic DNS service you use for assistance.

The following three items are needed to connect to the SV1107IPEXT from the Internet:

- A method to find the current IP address of the SV1107IPEXT (on your network) if no static IP Address is assigned. Some routers can use the name of the network device to locate it on your network. The network name of the SV1107IPEXT can be found under Device Name in the information box located on the SV1107IPEXT main screen
- A method to find your current external IP address. ISPs assign temporary external IP address so; unless you purchased a static IP address from your ISP, you have a dynamic IP address that changes periodically)
- A method by which your router knows where to direct the incoming Client software. This is port forwarding, set up to direct the incoming Client to the SV1107IPEXT

1. If you have assigned a static IP address to the SV1107IPEXT, this step can be skipped.

The SV1107IPEXT features IP Change Notification, which will automatically send an e-mail to your preferred address, notifying you of the new IP Address. Fill out the form (contact your ISP if you are unsure of the information). After all information has been entered, press the Test button to ensure it works.

Please Note: The above step will only notify you of the address change, it will not update your external IP Address (this will not ensure access from the Internet)

2. Once the above has been completed: Find a service provider that can monitor your current Internet IP address. Most routers provide native support for at least one free service. If it does not or you have a different preference, an Internet search for Dynamic DNS will produce a rather large list from which to choose.
3. Contact the service of your choice. To save time and frustration later, please spend the time to read all of the instructions on their site prior to beginning.
4. You will have a hostname like: **abcde.serviceprovider.something** (the actual formats differ between services, but the basics are the same), as well as a small application downloaded and installed from the service (that will periodically report the current external IP address to that service).

Login to your router's setup and look for a page called Port Forwarding. it should look similar to this:

		Ports to Open		
<input type="checkbox"/>	Name		TCP	Schedule
	<input type="text"/>	<input type="text" value="Application name"/>	<input type="text"/>	<input type="text" value="Always"/>
	IP Address		UDP	
	<input type="text" value="0.0.0.0"/>	<input type="text" value="Computer Name"/>	<input type="text"/>	

5. If a static IP address was assigned to the SV1107IPEXT, enter it in the space provided.

If you are using Automatic addressing, click on the drop down arrow labeled **Computer Name** and select the SV1107IPEXT by name.

6. In the **Ports to Open [TCP]** space, enter **9000, 9002** (or the port numbers you chose) and set the schedule. Activate Port Forwarding by placing an X in the box on the extreme left.
7. Save your changes and restart the router.
8. When the router has rebooted, start your browser and enter your DYNDNS host name. You should now be able to connect to the SV1107IPEXT from the Internet.
9. Restore your network Firewall and make any configuration changes if necessary.

Troubleshooting

General Operation

SV1107IPEXT is acting erratically:

Press and hold the Reset button for at least three seconds

My Virtual Media device is set to “read only” under Windows Vista™ and cannot be made writable:

Due to Windows Vista™ security features, no data can be written to a Virtual Media device. Under Windows 2000/2003/XP you have the option to make the Virtual Media device read only or read / write

The Java Applet

Java Applet will not connect to the SV1107IPEXT

1. Java Runtime Environment Version 6 Update 3 or higher must be installed
2. Close and restart the Java Applet

Java performance deteriorates

Exit the program and restart

National language characters don't appear

When entering national language characters, If your keyboard is set to a non-English national language layout, you must set the remote computer's keyboard layout to English

When I log in, the browser generates a CA Root certificate is not trusted, or a Certificate Error response

The certificate name is not found on Microsoft's list of Trusted Authorities. The certificate **can** be trusted.

For mouse problems, see **Additional Mouse Synchronization Procedures**

The Windows Client

Windows Client will not connect to the SV1107IPEXT

DirectX 7.0 or higher must be installed on your computer

Remote mouse pointer is out of Sync

Use the Auto Sync feature to sync the local and remote monitors. See Additional Mouse Synchronization Procedures for further mouse settings.

Part of the local window is off my monitor

If Keep Screen Size is not enabled, use the Auto Sync feature to synchronize the local and remote monitors.

The local screen is rotated 90°

Enable **Keep Screen Size**. See the discussion under **Keep Screen Size**

I cannot run Net Meeting when the Windows Client is running

Enable Keep Screen Size, see the discussion under Keep Screen Size

When I log in, the browser generates a CA Root certificate is not trusted, or a Certificate Error response

The certificate's name is not found on Microsoft's list of Trusted Authorities. The certificate can be trusted.

Mouse Synchronization Procedures

If the mouse synchronization procedures mentioned in the manual fail to resolve mouse pointer problems for particular computers, try the following:

Note:

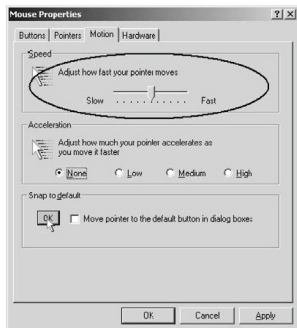
1. These procedures are to be performed on the computers attached to the SV1107IPEXT ports (local) - not on the computer you are using to access the SV1107IPEXT (remote).
2. In order for the local and remote mice to synchronize, you must use the generic mouse driver supplied with the Windows operating system. If you have a third party driver installed - such as one supplied by the mouse manufacturer - you must remove it.

Windows 2000

Set the mouse speed to the middle position; set the mouse acceleration to **None**.

(Control Panel -> Mouse -> Mouse Properties -> Motion)

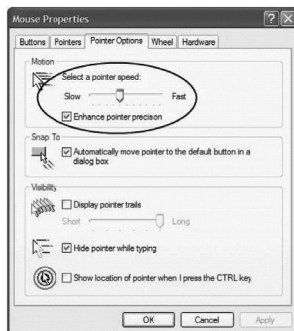
Apply -> OK



Windows XP / Windows Server 2003 / Vista™

Set the mouse speed to the middle position, then disable Enhance Pointer Precision (Control Panel → Printers and Other Hardware → Mouse → Pointer Options).

Apply → OK



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