

Streamer VIP User's Manual



About the Cover Image

The cover image illustrates a Streamer VIP V2.3. A wireless version of the Streamer VIP that includes an external antenna is available also. This manual is applicable to both products.

About this Manual

This manual describes how to use a Streamer VIP in your Video over IP application. It is intended for system integrators and end-users.

Organization of this Manual

The manual organizes information in seven key sections:

Introduction	Provides an overview of features and organization of the Streamer VIP.
Getting Started	Describes the Streamer VIP development system.
Hardware Reference	Defines location and function of connectors and indicators on the Streamer VIP.
System Configuration	Gives details on configuration of the Streamer VIP, as well as IP address assignment.
Troubleshooting	Lists troubleshooting tips.
System Specifications	Includes mechanical, environmental, and electrical specifications.
Revision History	Identifies and explains product revisions.

To locate the information you need, try the following:

1. Browse the *Table of Contents*.
2. Follow cross-references between sections.
3. View and search this manual in PDF format.

Printing this Manual

This manual is designed for printing on both sides of an 8.5x11 inch paper sheet or two pages per sheet but can be printed single-sided also.

Revision History

The following table summarizes the changes made between released revisions of the manual.

Revision	Description	By
1	Preliminary release	07/18/08 ch

Errata, Addenda, and Further Information

Errata and addenda to this manual are posted on the Eurotech support forums along with the latest release of the manual. Consult the support forums any time you need further information or feel information in this manual is in error. You may access the forums from the Eurotech support site,

<http://www.eurotech.com>

In addition to manuals, the support forums include downloads, troubleshooting guides, operating system updates, and answers to hundreds of questions about developing applications for Eurotech products. You may also post questions you have about Eurotech products on the forums.

Copyright Notice

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1 Introduction

1.1 Overview

The Streamer VIP is a video encoder providing a flexible and cost-efficient Video over IP (VIP) solution for distributed media systems. The Streamer VIP digitizes NTSC/PAL video and mono audio inputs creating MPEG-4 or MPEG-2 streams at DVD quality. The streams are broadcast over an IP connection using RTP. Frame rates and other settings are adjustable optimizing application performance.

The Streamer VIP supports point-to-point communication configurations or can multicast to an infinite number of receiving devices, including the Player VIP. An Internet browser configures the Streamer VIP allowing easy customization to meet the needs of various media systems. Streamer VIP is ideal for security monitoring, distributed video, and digital signage applications.

This document applies to the latest revision of the Streamer VIP, as listed in the revision history Section 7.

1.2 Features

1.2.1 Processor

- ARM9 processor
- MPEG-4 encoder

1.2.2 Power Supply

- 12 V main power input
- Power over Ethernet (optional)

1.2.3 Memory

- 32 MiB synchronous DRAM ¹
- 4 MiB Flash memory

1.2.4 Communications

- 10/100 Mbps Ethernet, RJ-45
- 802.11g/b wireless (optional)
- USB 1.1 Host port
- EIA-232 Serial port
- EIA-485 Serial port

1.2.5 Network

- Full D1 connection
- TCP/IP, UDP, ARP, ICMP, HTTP, FTP, Telnet, SMTP, and DHCP protocols
- Static or dynamic IP assignment

¹ MiB is the IEC abbreviation for mebibyte = 2^{20} byte = 1 048 576 byte. The kibi and mebi abbreviations are based on the 1998 IEC standard for binary multiples. For further reading, see the US NIST web site, <http://physics.nist.gov/cuu/Units/binary.html>.

- 1.2.6 **Video**
 - One NTSC or PAL composite video input
 - Video resolution up to NTSC (720 x 480) and PAL (720 x 576)
 - Frame rate up to 30 fps for NTSC and 25 fps for PAL
 - Adjustable data rate from 32 Kbps to 4 Mbps
 - Brightness, Saturation, Hue, and Contrast control
 - QVGA, QQVGA, and VGA support

- 1.2.7 **Audio**
 - Mono audio input

- 1.2.8 **Camera**
 - PELCO-P/PELCO-D protocol support

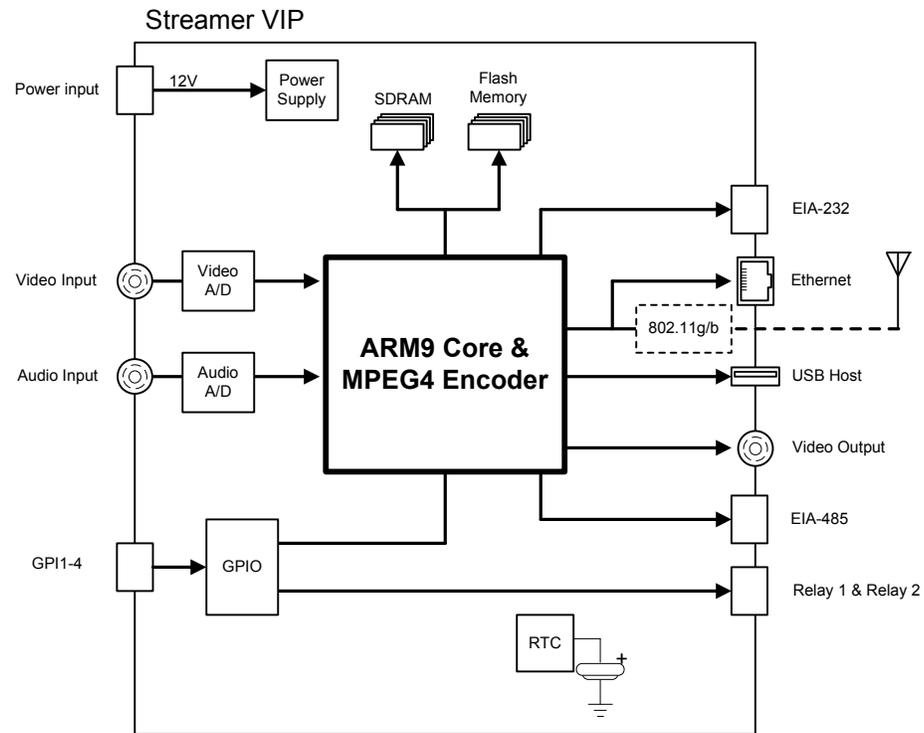
- 1.2.9 **Programmable Event Trigger**
 - Motion detection
 - Four general-purpose input triggers
 - E-mail of images to a specific account
 - FTP of images to a remote site
 - Two relay outputs

- 1.2.10 **User Interface**
 - Configuration through Internet browser
 - Password protection

- 1.2.11 **Mechanical**
 - 180mm x 110mm x 41mm dimensions

1.3 Block Diagram

The following diagram illustrates the hardware architecture of the Streamer VIP. Arrows indicate direction of control and not necessarily signal flow.



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2 Getting Started

This section provides information on the initial use of the Streamer VIP development system.

2.1 Development System

The design of the Streamer VIP development system gets your video over IP system up and running quickly. The default settings play video and audio on your computer with no additional configuration required.

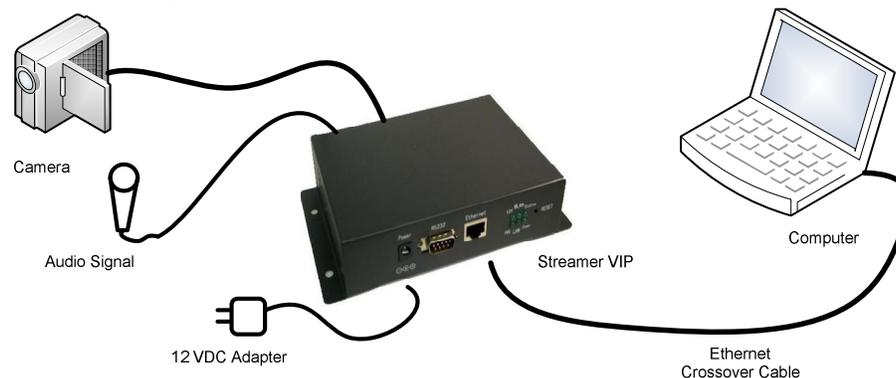
2.1.1 Components

The Streamer VIP development system consists of the following components:

- Streamer VIP
- 12 VDC power adapter
- Ethernet crossover cable
- Camera and lens
- User's Guide
- Sentinel application (optional)

Please make sure you have received *all* the components before you begin your installation.

2.1.2 Connectivity



Connect the Streamer VIP Development System

To use the Streamer VIP, complete the following steps:

1. Connect the video input to the camera.
2. Connect the audio input to your audio signal.
3. Connect the Ethernet port to your computer using the crossover cable.
4. Connect the power input to the 12 VDC adaptor.

Three LEDs located on the front panel indicate the Streamer VIP is operating. Upon boot, the power and 12V LEDs light indicating power to the system. The status LED blinks during boot. When the status LED remains lit, you can access the Streamer VIP through a web browser.

2.2 Web Server Access

A browser-based application configures the Streamer VIP. A computer connected to your network and running a standard internet browser such as Internet Explorer® accesses the Streamer VIP web server. The following sections explain the steps to access the web server of the Streamer VIP.

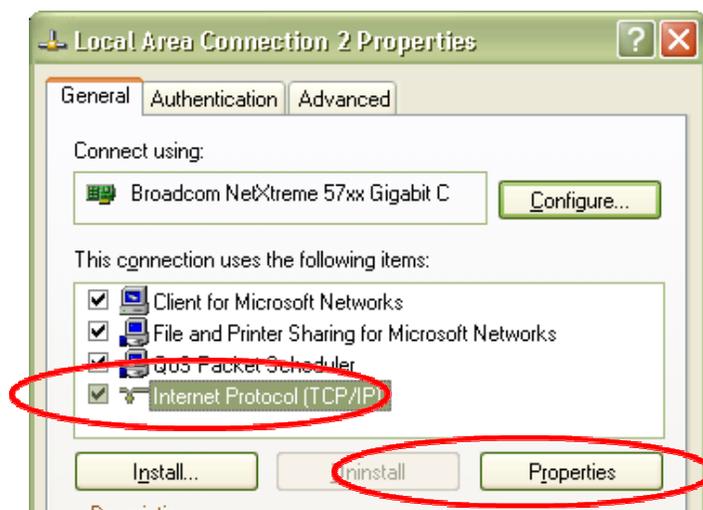
2.2.1 Crossover Cable Connection

To configure the Streamer VIP prior to installation in your network, connect the system directly to a computer without a hub or switch. Use an Ethernet crossover cable between the Ethernet port of the Streamer VIP and the computer. The computer's network properties must be configured to access the Streamer VIP.

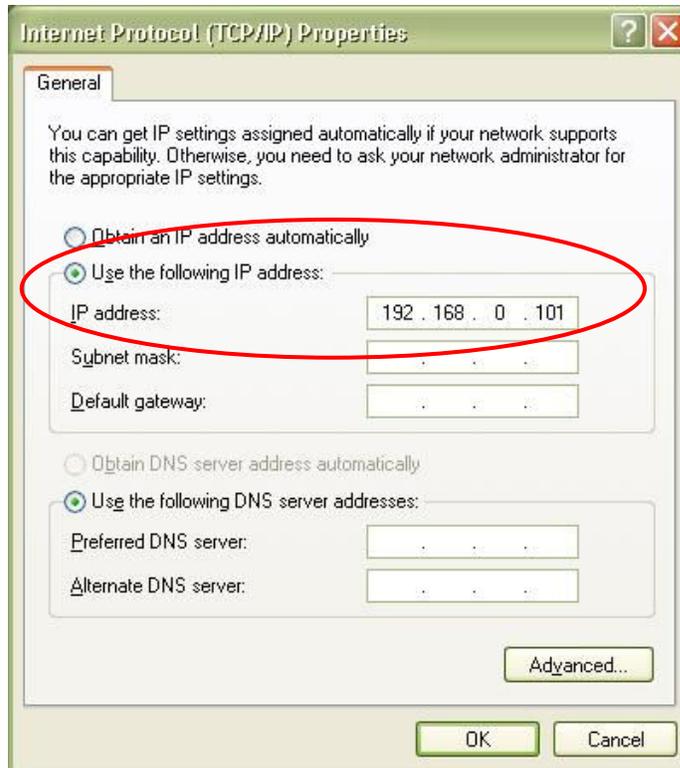
Configure Local Area Network (LAN) Properties

The following steps describe the settings for the Windows® operating system:

1. Open the Network Connections window.
2. Click the right mouse button on Local Area Connection.
3. Open the Properties window.
4. In the General tab, select Internet Protocol (TCP/IP).
5. Click the Properties button as show in the following screen capture.



6. Select the Use the following IP address check box.
7. Type the IP address as shown in the following screen capture.
8. Click the OK button.



When finished configuring the Streamer VIP, restore your computer's previous network settings.

2.2.2 Password-Protected Login

Accessing the web server requires a password-protected account. The Streamer VIP is shipped with a default administrative account. You can add or delete accounts as described in Section 4.1.1.

Log in to Web Server

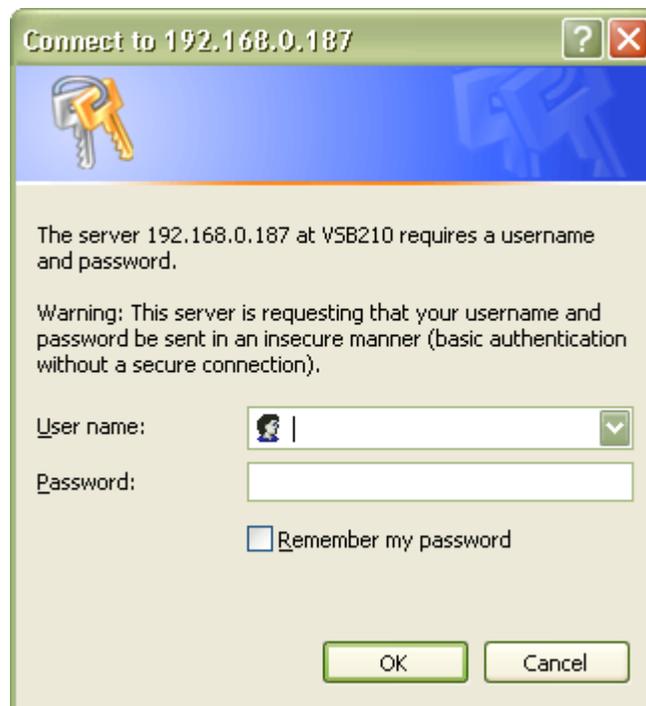
To log in to the Streamer VIP web server, complete the following steps:

1. Start the web browser on your computer.
2. Type the Streamer VIP IP address in the browser URL.

The following URL is the default login:

- URL `http://192.168.0.187`

The following login window appears.



3. Type the account information for User name and Password.

The following is the default account information:

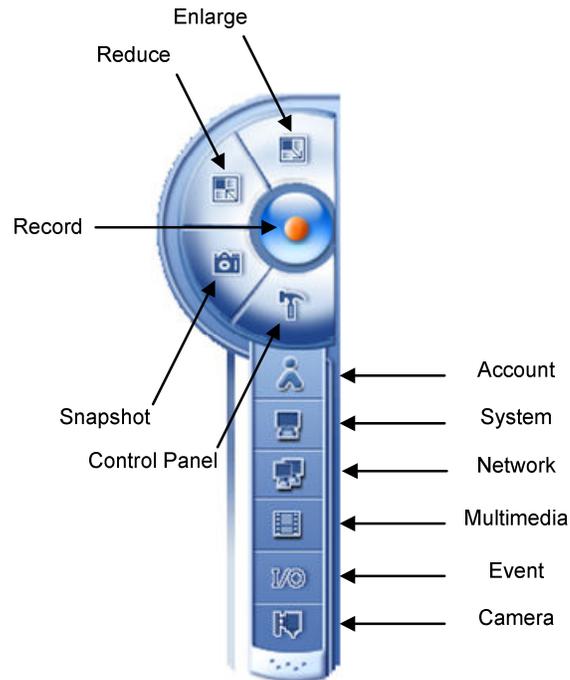
- User name `admin`
- Password `admin`

4. Click the OK button.

After login, the Streamer VIP main web page appears.

2.2.3 Main Web Page Buttons

After log in, the Streamer VIP web server automatically displays the main web page. The main web page includes five control buttons. An additional six buttons appear under the control panel button. These buttons correspond to the Streamer VIP web pages. To navigate to a web page, click the corresponding web page button. The following diagram illustrates the location of the control and web page buttons, while the tables describe functionality.



The following table describes the five control buttons.

Button	Description
Enlarge	Enlarges the video display on the web page
Reduce	Reduces the video display on the web page
Record	Records AVI files to your disk drive
Snapshot	Saves a snapshot of the video display to your disk drive
Control Panel	Shows or hides the web pages buttons

The following table summarizes the capabilities that are provided by the six web pages.

Web page	Description
Account	Account management, video server time stamp, and logo
System	Service port configuration, multicast communication, SMTP and FTP settings, factory defaults, and firmware updates
Network	LAN and Internet configuration
Multimedia	Video and audio configuration
Event	General-purpose input event triggers and motion detection
Camera	Camera control

2.3 Software Applications

2.3.1 Additional Software Tools

The Streamer VIP web server provides ActiveX® controls to the browser to display video on the Streamer VIP web pages. Set the security of your Internet Explorer to allow ActiveX controls to install and run by adding the link for the Streamer VIP as a trusted site.

In addition, the web server uses Xvid to record video and audio as AVI files. Xvid is a MPEG-4 video codec for the PC. Download the latest Xvid plug-in at <http://www.xvid.org>.

2.3.2 Sentinel

The Streamer VIP is available with the Sentinel application. Sentinel is a Windows-based application and supports the Streamer VIP capabilities by allowing simultaneous viewing and control of up to sixteen Streamer VIPs on a network.

Refer to the Sentinel User's Manual for a complete description of this application. The manual is included with the Sentinel distribution.

2.3.3 Relay Server Software

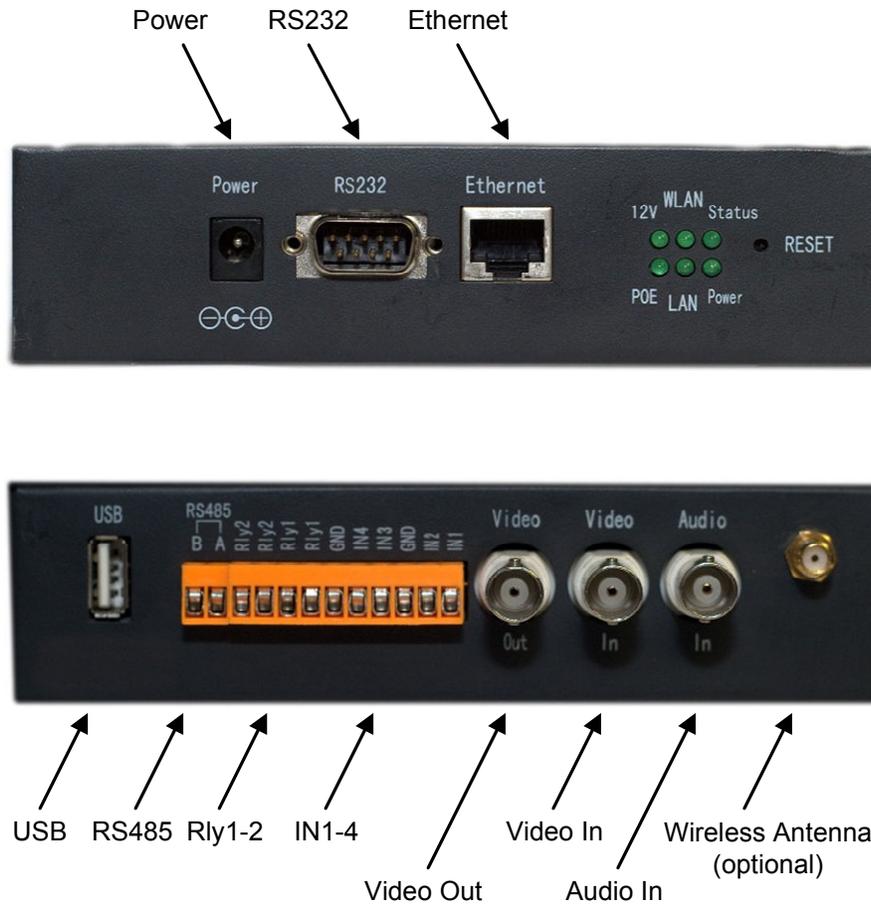
The Streamer VIP supports networks that access the Internet through a relay server. The relay server software enables the relay server to discover all Streamer VIPs in the same LAN and maintain their IP addresses. Using this application, you can access the relay server, select one Streamer VIP, and connect to the selected Streamer VIP. Contact Eurotech sales for additional information.

3 Hardware Reference

This section gives an overview of the hardware features of the Streamer VIP. The overview includes location and function of connectors, indicators, and switches.

3.1 Connectors

The following diagram illustrates the location of connectors on the Streamer VIP.



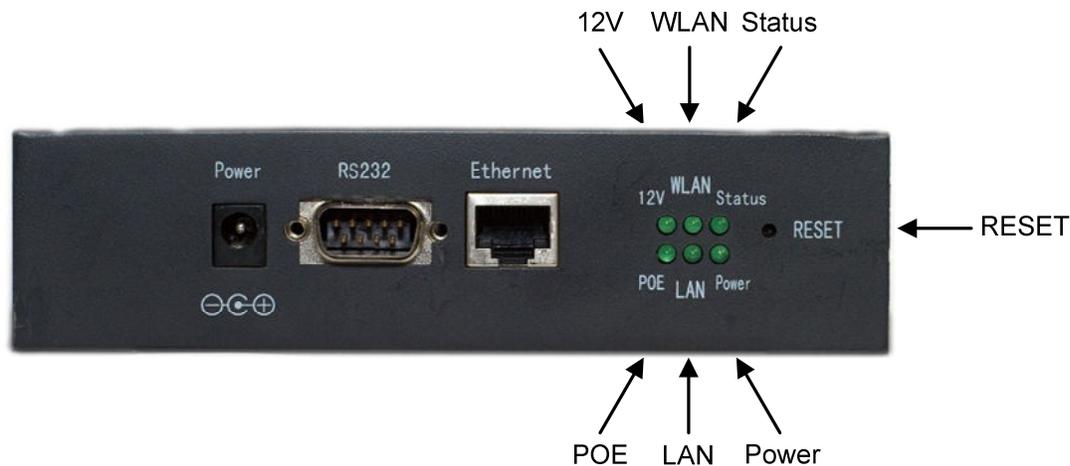
The following table provides details about connector type and functionality.

Connector	Enclosure Connector	Mating Connector	Description
Power	DC socket 2 mm	DC plug 2 mm	12 VDC power input
RS232	DB-9 socket	DB-9 plug	Serial interface
Ethernet	RJ-45 jack	RJ-45 plug	10/100 Mbps Ethernet network
USB	USB Type A receptacle	USB Type A plug	USB 1.1 Host port
RS485	Header 2 pin, P/N 210050-11020		Serial interface
Rly1-2	Header 10 pin, P/N 210050-11100		Two relay outputs (Section 4.5)
IN1-4			Four TTL general purpose inputs (Section 4.5)
Video Out	BNC socket	BNC plug	Straight through output from Video In ²
Video In	BNC socket	BNC plug	Analog video input
Audio In	BNC socket	BNC plug	Analog audio input
Wireless Antenna (optional)			Wireless network adapter

² Video In is connected directly to Video Out bypassing the ARM9 core and MPEG4 encoder. You can connect Video Out to a TV monitor to display the video before encoding.

3.2 Indicators and Switches

The Streamer VIP has six onboard light-emitting diodes (LEDs) indicating system operation, in addition to a reset switch. The following diagram illustrates the location of the LEDs and reset switch, while the table describes LED functionality.



LED	Description
12V	On indicates a 12 VDC power adapter powers the Streamer VIP.
WLAN	Blinking indicates activity over a wireless network.
Status	Blinking indicates the Streamer VIP is booting. On indicates the Streamer VIP is operating. Off indicates a failure during boot.
POE	On indicates the Ethernet cable powers the Streamer VIP.
LAN	Blinking indicates Ethernet activity.
Power	On indicates the power subsystem is operating.

The reset switch is located on the front panel of the enclosure. Pressing this switch for more than 5 seconds restores the factory-default system settings. This system reset requires several seconds.

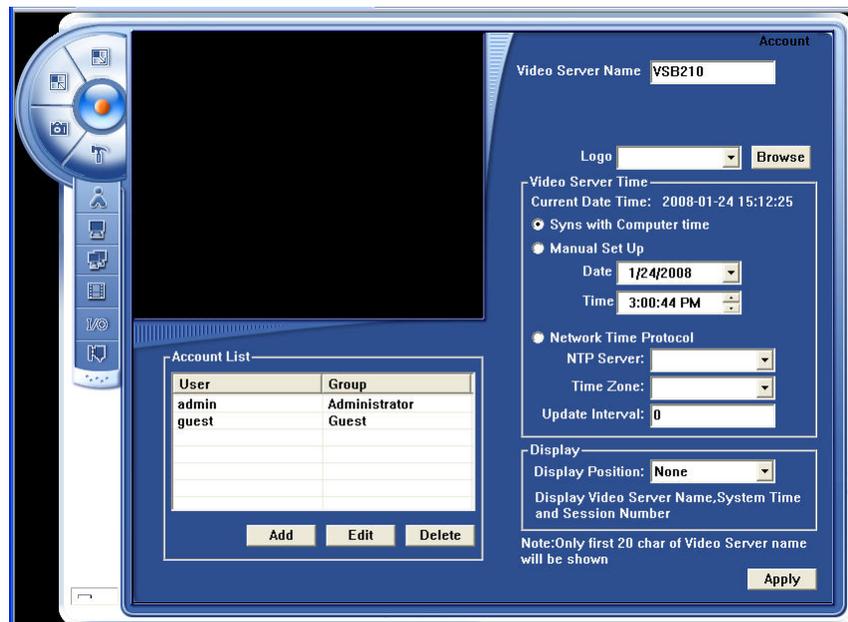
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4 System Configuration

The Streamer VIP provides a flexible solution for a variety of VIP applications. You can easily configure the Streamer VIP to meet your application requirements and your existing network structure. The web server enables you to customize the Streamer VIP for your needs. This section provides details on each Streamer VIP web page.

4.1 Account

The Account page allows you to manage user accounts and to include a time stamp with the video. The next screen capture illustrates the Account page.



4.1.1 Account Management

In addition to the default administrative account, you can add up to ten accounts, edit existing accounts, and delete accounts in the Account web page.

Manage User Accounts

To add, delete or edit an account, complete the following steps in the Account page:

1. To add an account, complete the following steps:
 - a. Click the Add button in the Account List area.
The Add User dialog box appears.
 - b. Choose Guest or Administrator in the User Group list.
 - c. Type a new user name and new password.
 - d. Confirm the new password.
 - e. Click the Add button.

The new account is added, and the user name is displayed in the Account List area.

2. To delete an account, complete the following steps:
 - a. Select the unwanted account in the Account List area.
 - b. Click the Delete button.
 - c. Confirm the delete.

The account is deleted, and the user new is removed from the Account List area.

3. To edit an account, complete the following steps:
 - a. Select the account in the Account List area.
 - b. Click the Edit button.

The Edit User dialog box appears.
 - c. Type the original password, new user name, and new password.
 - d. Confirm the new password.
 - e. Click the Apply button.

The account is changed, and the new information is displayed in the Account List area.

4.1.2

Video Server Time Stamp

Configure Video Server Time Stamp

To configure the Video Server Time stamp, complete the following steps in the Account page:

1. To change the Streamer VIP name, type a new name into the Video Server Name box.

Only the first twenty characters of the Video Server Name are displayed.
2. To set the Video Server Time, select one of the following methods:
 - a. To synchronize with your computer time, select the Sync with Computer time check box.
 - b. To set the date and time manually, select the Manual Set Up check box.
 - Choose the date and time.
 - c. To set the date and time automatically, select the Network Time Protocol check box.
 - Choose the NTP Server and Time Zone.
 - Type a value into the Update Interval box.
3. To add a time stamp to the display, choose Top or Bottom from the Display Position list.

The time stamp features allows you to include the Video Server Name, System Time and Session Number in the video displayed by the web server. The time stamp appears on the top or bottom of the display.
4. Click the Apply button.

The Streamer VIP saves the new logo and reboots to validate the change.

4.1.3 Logo

The Streamer VIP is shipped without a logo on the web pages. You can add your company's logo using the web server.

Add Logo

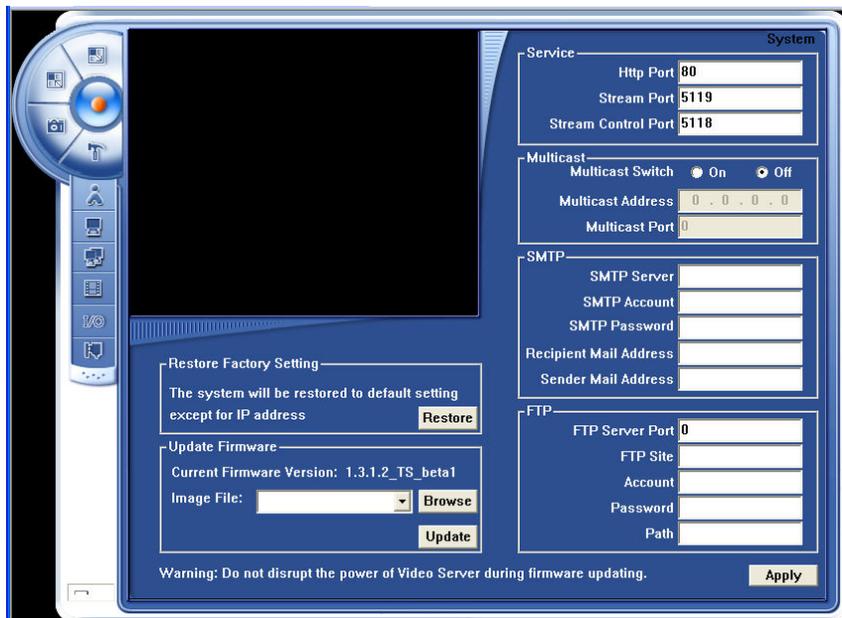
To add a logo, complete the following steps in the Account page:

1. Click the Browse... button on the right side of the Logo box.
You can browse your disk drive for the logo file.
2. Select the logo file, and then click Open.
The highlighted file appears in the Logo box.
3. Click the Apply button.
The Streamer VIP saves the new logo and reboots to validate the change.
4. Close the web browser.
5. Log in to the web server again.

The new logo appears on the web page.

4.2 System

The System page allows you to configure the service ports, multicast communication, SMTP setting and FTP setting, in addition to restoring the factory settings and to updating the firmware. The next screen capture illustrates the System page.



4.2.1 Service Ports

If there are multiple Streamer VIPs connected to the same local area network (LAN), you must assign each Streamer VIP a different IP address; however, the service ports of each Streamer VIP can be the same. Notice that the Streamer VIP includes three different service ports.

Configure Service Ports

To configure the service ports, complete the following steps in the System page:

1. Type values into the Http Port, Stream Port, and Stream Control Port boxes for each Streamer VIP in the Service area.

The following are the default values for the service ports:

- Http Port 80
- Stream Port 5119
- Stream Control Port 5118

2. Click the Apply button.

The Streamer VIP saves all settings and reboots to validate the change.

If there are multiple Streamer VIPs connected to the Internet through a router or firewall, you must assign different values for the service ports of each Streamer VIP, and you must configure the network address translation (NAT) table for the firewall or router.

Configure Firewall or Router

To configure the NAT of the firewall or router, complete the following steps:

1. Log in to the firewall.
2. Configure static NAT.

The following table is an example configuration for three Streamer VIPs connected to the Internet through a firewall at IP address 61.135.53.243.

Notice that each Streamer VIP is assigned a different IP address and that the three service ports of each Streamer VIP are assigned different values. These values correspond to the external IP address port values.

External IP Address	Streamer VIP Configuration	Function
IP:61.135.53.243 Port: 81	IP: 192.168.0.11 Port: 81	Streamer VIP 1, Http Port
IP:61.135.53.243 Port: 82	IP: 192.168.0.22 Port: 82	Streamer VIP 2, Http Port
IP:61.135.53.243 Port: 83	IP: 192.168.0.33 Port: 83	Streamer VIP 3, Http Port
IP: 61.135.53.243 Port: 5118	IP: 192.168.0.11 Port: 5118	Streamer VIP 1, Stream Port
IP: 61.135.53.243 Port: 5119	IP: 192.168.0.11 Port: 5119	Streamer VIP 1, Stream Control Port
IP: 61.135.53.243 Port: 5120	IP: 192.168.0.22 Port: 5120	Streamer VIP 2, Stream Port
IP: 61.135.53.243 Port: 5121	IP: 192.168.0.22 Port: 5121	Streamer VIP 2, Stream Control Port
IP: 61.135.53.243 Port: 5122	IP: 192.168.0.33 Port: 5122	Streamer VIP 3, Stream Port
IP: 61.135.53.243 Port: 5123	IP: 192.168.0.33 Port: 5123	Streamer VIP 3, Stream Control Port

After you have configured the service ports for the Streamer VIPs and NAT for the firewall or router, you can log in to the web server of each Streamer VIP. For example, you access the Streamer VIP 1 Http Port configured as 192.168.0.11, Port 81 at IP address `http://61.135.53.243:81`.

4.2.2 Multicast Configuration

IP multicast is an efficient method to send information from one sender to multiple receivers simultaneously. The receivers join a multicast group designated by a multicast group address. The sender sends its data packets to the multicast group address without knowledge of the individual receivers. All receivers that have joined the group receive the data packets.

In a multicast configuration, one Streamer VIP streams video to many receivers. By default, multicast is disabled. You configure the Streamer VIP for multicast using the System page.

Configure Multicast Settings

To enable multicast communication, complete the following steps in the System page:

1. Select the Multicast Switch On check box in the Multicast area.
2. Type values into the Multicast Address and Multicast Port boxes.
3. Click the Apply button.

The Streamer VIP saves all settings and reboots to validate the change. After reboot, the Streamer VIP will send video and audio to the assigned multicast group.

4.2.3 SMTP and FTP Settings

The Streamer VIP has the capability to e-mail images to a specific account and FTP images to a remote site when a pre-defined event occurs. See Section 4.5 for a complete explanation of the events.

Configure SMTP Settings

To e-mail images to a specific account, complete the following steps in the System page:

1. Type values into the SMTP Server, SMTP Account, SMTP Password, Recipient Mail Address, and Send Mail Address boxes in the SMTP area.
2. Click the Apply button.

The Streamer VIP saves all settings and reboots to validate the change.

Configure FTP Settings

To FTP images to a remote site, complete the following steps in the System page:

1. Type values into the FTP Server Port, FTP Site, Account, Password, and Path boxes in the FTP area.
2. Click the Apply button.

The Streamer VIP saves all settings and reboots to validate the change.

4.2.4 Upgrade Firmware

You can upgrade the firmware using the web server. Notice that the System page contains the current firmware version number.

Upgrade Firmware

To upgrade to a new version of firmware, complete the following steps in the System page:

1. Click the Browse... button on the right side of the Image File box.
You can browse your disk drive for the firmware file.
2. Select the firmware file, and then click Open.
The highlighted file appears in the Image File box.
3. Click the Update button following the Image File box.
The Streamer VIP saves all settings and reboots to validate the change. Do not interrupt the update process or disrupt the power to the Streamer VIP until the update is complete.
4. Close the web browser.
5. Log in to the web server again.

The new firmware version number appears in the Update Firmware area.

4.2.5 Restore Factory Setting

The Streamer VIP is shipped with factory-default settings as given in each section of this manual. In addition to pressing the reset switch as described in Section 3.2, you can restore the factory-default settings using the System page. To restore the factory-default system settings, click the Restore button. The Streamer VIP restores all factory-default settings and reboots to validate the change.

4.3 Network

The Streamer VIP is easily customized to operate in any network. It supports operation in a LAN or over the Internet. You configure network settings in the Network web page. The following screen capture illustrates the Streamer VIP Network Page.

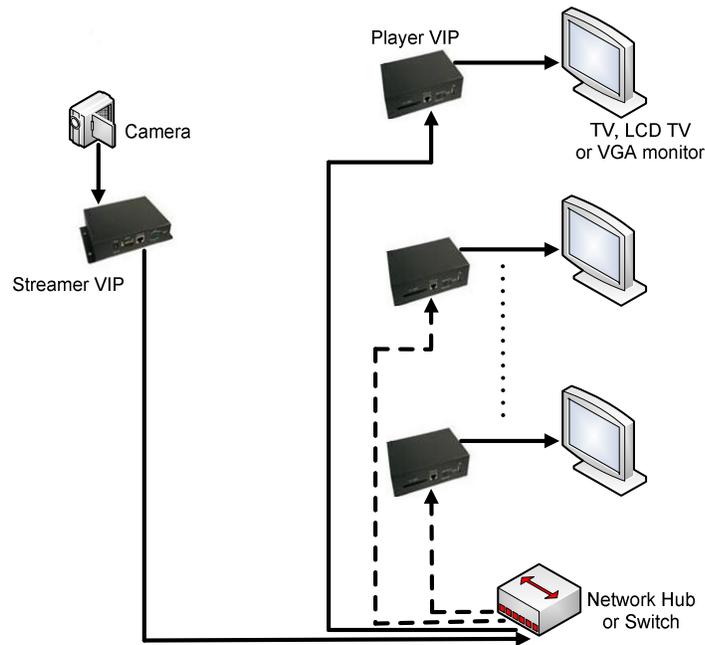
The screenshot shows the Network configuration page for the Streamer VIP. The page is titled "Network" and contains several sections for configuring network settings. On the left, there is a navigation pane with icons for Home, System, Network, and I/O. The main content area is divided into several sections:

- Internet Access:** A checkbox labeled "Enable Internet Access" is checked.
- Network Interface:** Radio buttons for "Wire" and "Wireless" are present, with "Wireless" selected.
- Net Type:** Radio buttons for "Static IP", "DHCP", and "PPPoE" are present, with "Static IP" selected.
- DNS:** Radio buttons for "Obtain DNS Automatically" and "Use Following DNS" are present, with "Use Following DNS" selected. Below are input fields for "Primary DNS" (255 . 255 . 255 . 255) and "Secondly DNS" (255 . 255 . 255 . 255).
- Dynamic DNS:** A dropdown menu for "Provider" is present, along with input fields for "User Name", "Password", and "Domain Name".
- Wire Network:** A section for "Static IP" with input fields for "Mac Address" (00:60:0C:01:68:01), "IP Address" (192 . 168 . 0 . 187), "Subnet Mask" (255 . 255 . 255 . 0), and "Default Gateway" (192 . 168 . 0 . 1).
- PPPoE:** Input fields for "User Name" and "Password".
- Wireless LAN:** A "Mode" dropdown menu set to "AP", an "ESSID" input field set to "G2000", and a "Static IP" section with input fields for "IP Address" (192 . 168 . 1 . 187), "Subnet Mask" (255 . 255 . 255 . 0), and "Default Gateway" (192 . 168 . 1 . 1).

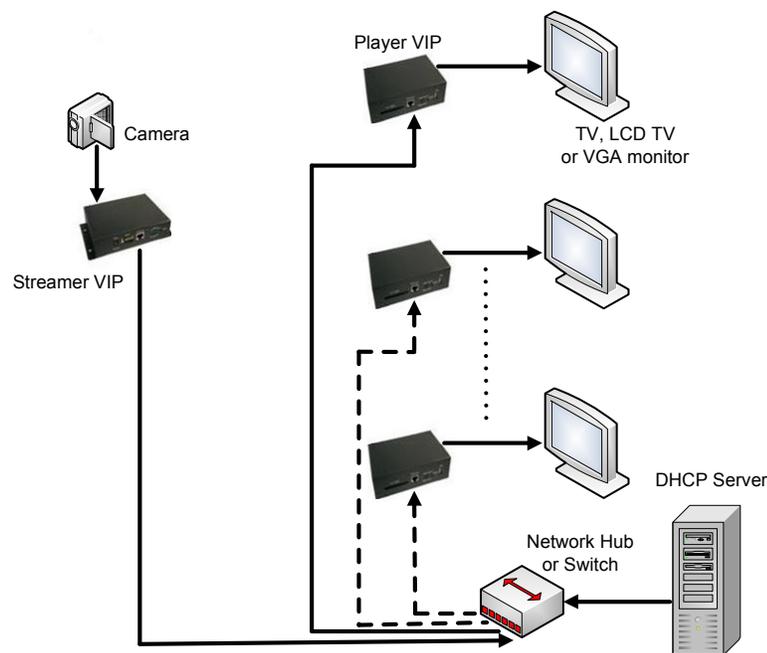
A "Save" button is located at the bottom right of the page.

4.3.1 Local Area Network (LAN)

In a LAN, one of two methods sets the IP address of the Streamer VIP: static local IP and dynamic local IP. In a static local IP configuration, your administrator assigns one local IP address for the Streamer VIP. The following diagram illustrates the network topology for static local IP mode.



In a dynamic IP configuration, the DHCP server in the same LAN assigns the IP address to the Streamer VIP. The following diagram illustrates the network topology for dynamic local IP mode.



Configure LAN Network Settings

To connect the Streamer VIP to a LAN, complete the following steps in the Network page:

1. Do not select the Enable Internet Access check box in the Internet Access area.
2. Select the Wire or Wireless check box in the Network Interface area.

Wire allows you to use the 10/100 Mbps Ethernet connection to a network. If your Streamer VIP includes the wireless option, select Wireless to connect to an 802.11g/b wireless network.

3. Select the Static IP or DHCP check box in the Net Type area.

Static IP allows you to assign a static IP address, while DHCP allows your server to assign a dynamic IP address.

- a. If you selected Static IP and Wire, type values into the IP Address, Subnet Mask, and Default Gateway boxes in the Wire Network area.

The following are the default values for the Wire Network Static IP boxes:

- IP Address 192.168.0.187
- Subnet Mask 255.255.255.0
- Default Gateway 192.168.0.1

- b. If you selected Static IP and Wireless, type values into the Mode, ESSID, IP Address, Subnet Mask, and Default Gateway boxes in the Wireless LAN area.

The following are the default values for the Wireless LAN Static IP boxes:

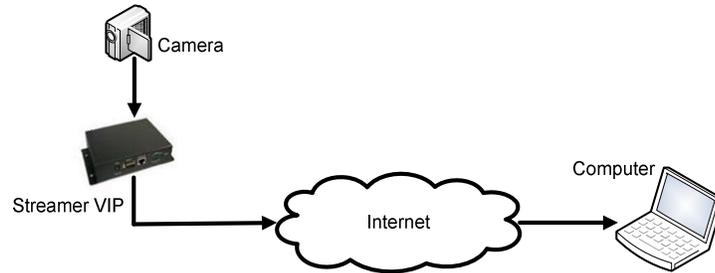
- Mode AP
- ESSID G2000
- IP Address 192.168.1.187
- Subnet Mask 255.255.255.0
- Default Gateway 192.168.1.1

4. Click the Save button.

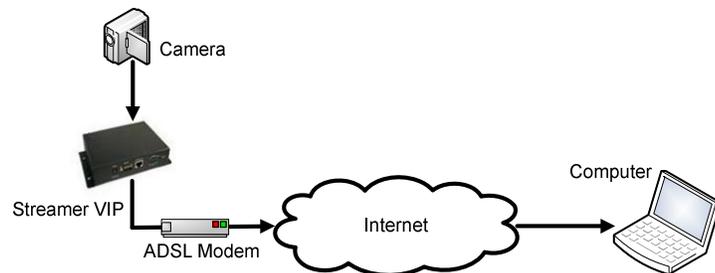
The Streamer VIP saves all settings and reboots to validate the change.

4.3.2 Internet

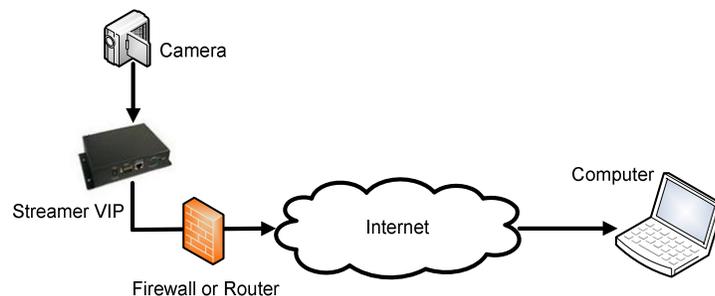
When you access the Streamer VIP over the Internet, one of four methods sets the Streamer VIP IP address: Public IP, ADSL, Private IP, or Relay. You configure each method using the Network web page. When assigned as a public IP, the Streamer VIP IP address is global and static. The following diagram illustrates the network topology for Public IP mode.



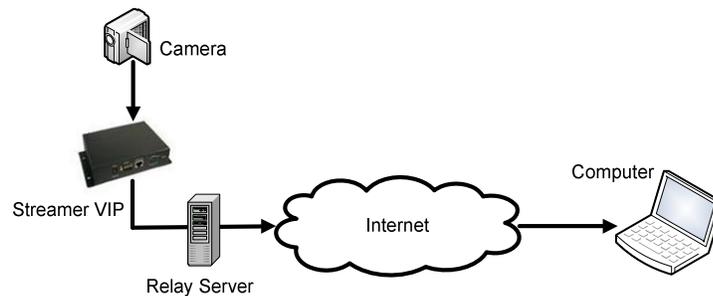
In the ADSL configuration, the Streamer VIP connects to the Internet using an ADSL modem. The following diagram illustrates the network topology for ADSL mode.



If your network accesses the Internet through a firewall or router, you can assign the Streamer VIP a private IP address. In this configuration, the IP address is not global. The following diagram illustrates the network topology for Private IP mode.



The Streamer VIP also supports networks that access the Internet through a relay server. In Relay mode, the Streamer VIP IP address is not global. The relay server must have one public IP address, and the relay server software must be installed. See Section 2.3.3 for information about the relay server software. The following diagram illustrates the network topology for Relay mode.



Configure Internet Network Settings

To connect the Streamer VIP to the Internet, complete the following steps in the Network page:

1. Select the Enable Internet Access check box in the Internet Access area.
2. Select the Wire or Wireless check box in the Network Interface area.

Wire allows you to use the 10/100 Mbps Ethernet connection to a network. If your Streamer VIP includes the wireless option, select Wireless to connect to an 802.11g/b wireless network.

3. Select the Static IP, DHCP, or PPPoE check box in the Net Type area.

Static IP allows you to assign a static IP address, while DHCP allows your server to assign a dynamic IP address. PPPoE enables the Streamer VIP to access the Internet through an ADSL modem.

- a. If you selected Static IP and Wire, type values into the IP Address, Subnet Mask, and Default Gateway boxes in the Wire Network area.

The following are the default values for the Wire Network Static IP boxes:

- IP Address 192.168.0.187
- Subnet Mask 255.255.255.0
- Default Gateway 192.168.0.1

- b. If you selected Static IP and Wireless, type values into the Mode, ESSID, IP Address, Subnet Mask, and Default Gateway boxes in the Wireless LAN area.

The following are the default values for the Wireless LAN Static IP boxes:

- Mode AP
- ESSID G2000
- IP Address 192.168.1.187
- Subnet Mask 255.255.255.0
- Default Gateway 192.168.1.1

- c. If you selected PPPoE, type values into the User Name and Password boxes in the PPPoE area.

Use the User Name and Password that your ISP assigned to your ADSL.

4. Select the Obtain DNS Automatically or Use Following DNS check box in the DNS area.

- a. If you selected Obtain DNS Automatically, type values into the Provider, User Name, Password, and Domain Name boxes in the Dynamic DNS area.

Your ISP assigns the Primary DNS and Secondly DNS. The Streamer VIP supports www.dyndns.org service client. You may register at www.dyndns.org for a User Name, Password, and Domain Name.

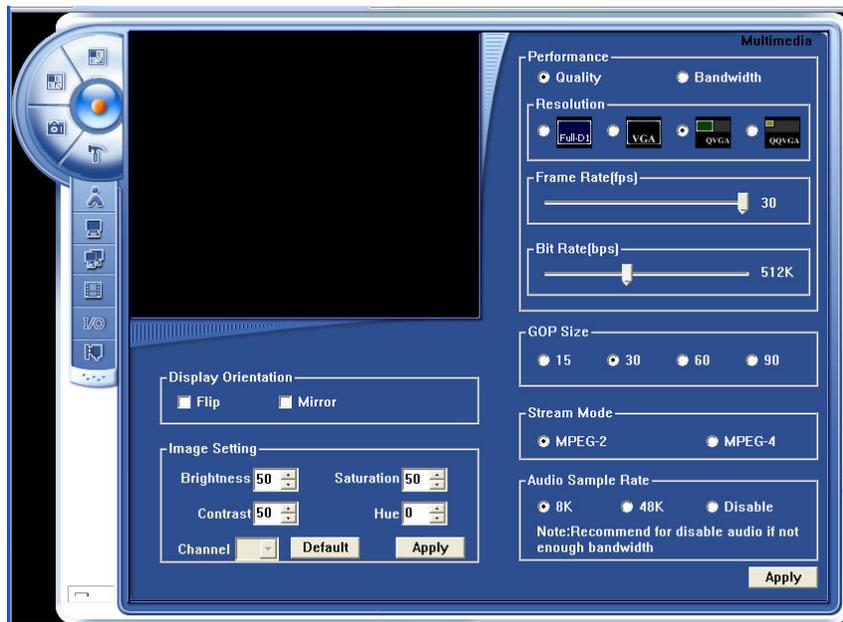
- b. If you selected Use Following DNS, type values into the Primary DNS and Second DNS boxes in the DNS area.

5. Click the Save button.

The Streamer VIP saves all settings and reboots to validate the change.

4.4 Multimedia

Multimedia settings can be adjusted to optimize application performance. The Multimedia page enables you to configure the video and audio of the Streamer VIP. The next screen capture illustrates the Multimedia page.



4.4.1 Video

The Streamer VIP supports NTSC or PAL composite video inputs at resolutions up to NTSC (720 x 480) and PAL (720 x 576). You can configure the display orientation, image setting, performance, GOP Size, and compression in the Multimedia page.

Configure Video

To configure the Streamer VIP video, complete the following steps in the Multimedia page:

1. Select the Flip or Mirror check box in the Display Orientation area, if required by your application.

Display Orientation allows you to change the appearance of the video displayed. You can flip and mirror the display.

2. Adjust the video output in the Image Setting area.
 - a. Set the Brightness, Contrast, Saturation, and Hue.

The following are the default values:

- Brightness 50
- Contrast 50
- Saturation 50
- Hue 0

- b. Click the Apply button.

3. Select the Quality or Bandwidth check box in the Performance area.
You can optimize the performance for quality or bandwidth.
4. Select the Full-D1, VGA, QVGA, or QQVGA check box in the Resolution area.
5. Adjust the Frame Rate.
The Streamer VIP supports frame rates up to 30 fps for NTSC and 25 fps for PAL.
6. Adjust the Bit Rate.
The Streamer VIP supports bit rates from 32 kbps to 4 Mbps.
7. Select the 15, 30, 60, or 90 check box in the GOP Size area.
GOP Size allows you to select the group of pictures (GOP) size.
8. Select the MPEG-2 or MPEG-4 check box in the Stream Mode area.
The Streamer VIP supports MPEG-2 and MPEG-4 image compression.
9. Click the Apply button.

The Streamer VIP saves all settings and reboots to validate the change. Notice that the Channel box is not used.

4.4.2 Audio

The Streamer VIP accepts a mono audio input. You can disable the audio and adjust the audio sample rate using the Multimedia page.

Configure Audio

To configure the Streamer VIP audio, complete the following steps in the Multimedia page:

1. If your application does not require audio, select the Disable check box in the Audio Sample Rate area.
Disable the audio if your network bandwidth is low.
2. If your application requires audio, select the 8K or 48K check box in the Audio Sample Rate area.
3. Click the Apply button.

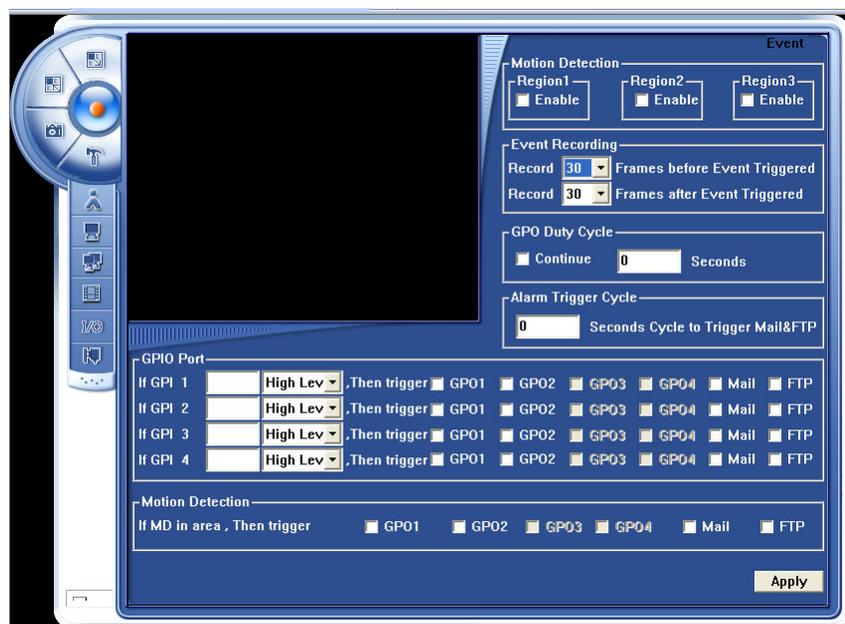
The Streamer VIP saves all settings and reboots to validate the change.

4.5 Event

Applications such as security monitoring often require programmable events based upon external triggers. The Event web page enables you to trigger events on a general-purpose input (GPI) and motion detection. Motion detection and GPI triggering can be used simultaneously. When a trigger occurs, the Streamer VIP can perform one of the following actions:

- Store images to an internal buffer
- Send FTP images to a remote site
- E-mail images to a specific account
- Control external devices using two relay outputs

The next screen capture illustrates the Event page. Notice that GPI1-GPI4 correspond to the inputs of the rear panel connector labeled IN1-IN4, and that GPO1 and GPO2 correspond to the outputs of the rear panel connector labeled Rly1-Rly2.



4.5.1 Motion Detection Trigger

The Streamer VIP monitors up to three regions for motion.

Configure Motion Detection Trigger

To set a motion detection trigger, complete the following steps in the Event page:

1. Select up to three region check boxes in the Motion Detection area located near the top of the window.

A box appears on the display for each region that is enabled.

2. Drag the pointer to re-size and re-position the motion detection regions in the display area.
3. Select the check boxes for the events to trigger in the Motion Detection area located near the bottom of the window.

You can select up to four events to occur: GPO1 (Rly 1), GPO2 (Rly 2), Mail or FTP. See Section 4.2.3 for configuration of e-mail and FTP.

4. If you selected a GPO trigger check box, select the Continue check box and type a value into the Seconds box in the GPO Duty Cycle area.

The value in the Seconds box is the duration of the GPO signal when triggered.

5. If you selected the Mail or FTP check box, complete the following steps:
 - a. Type a value into the Seconds Cycle to Trigger Mail and FTP box in the Alarm Trigger Cycle area.

The value in the Seconds Cycle to Trigger Mail and FTP box is the interval between alarm triggers. The mail and FTP alarm action will trigger once during this interval regardless of how many alarm trigger events occur. This feature reduces the number of redundant alarm actions.

- b. Choose the number of frames to record before and after the event trigger in the Event Recording area.

You can independently choose 30, 60, or 90 frames before and after the trigger.

6. Click the Apply button.

The Streamer VIP saves all settings and reboots to validate the change.

4.5.2 General Purpose Input Trigger

The Streamer VIP includes four GPIs that trigger events.

Configure External Input Trigger

To set a GPI trigger, complete the following steps in the Event page:

1. To configure each external input, complete the following steps in the GPIO Port area:
 - a. Choose High Level or Low Level for each GPI trigger.

You can assign a name to the GPI by typing the name into the box to the right of each GPI. Notice that the maximum length of the name is 31 characters.
 - b. Select the check boxes for the events to trigger.

You can select up to four events to occur: GPO1 (Rly 1), GPO2 (Rly 2), Mail or FTP. See Section 4.2.3 for configuration of e-mail and FTP.
2. If you selected a GPO trigger check box, select the Continue check box and type a value into the Seconds box in the GPO Duty Cycle area.

The value in the Seconds box is the duration of the GPO signal when triggered.
3. If you selected the Mail or FTP check box, complete the following steps:
 - a. Type a value into the Seconds Cycle to Trigger Mail and FTP box in the Alarm Trigger Cycle area.

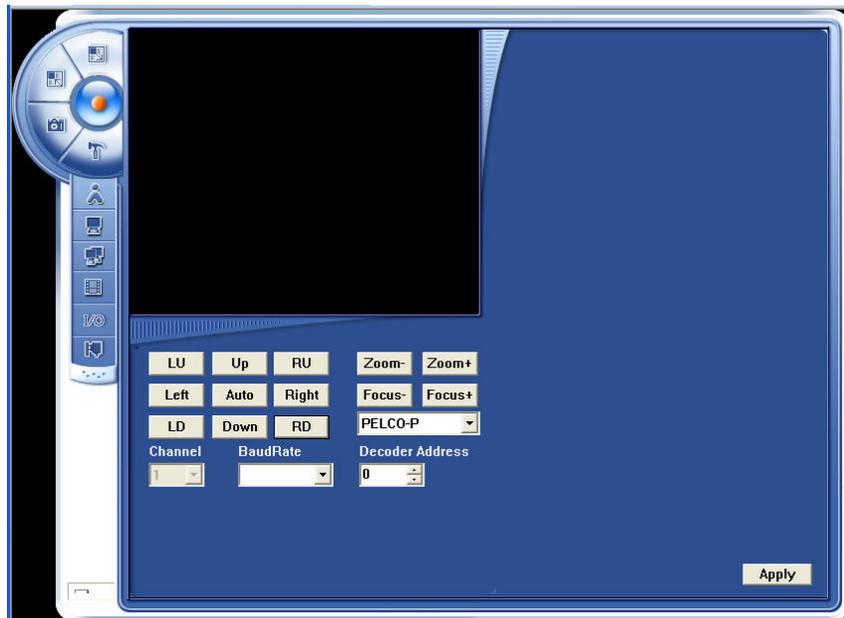
The value in the Seconds Cycle to Trigger Mail and FTP box is the interval between alarm triggers. The mail and FTP alarm action will trigger once during this interval regardless of how many alarm trigger events occur. This feature reduces the number of redundant alarm actions.
 - b. Choose the number of frames to record before and after the event triggers in the Event Recording area.

You can independently choose 30, 60, or 90 frames before and after the trigger.
4. Click the Apply button.

The Streamer VIP saves all settings and reboots to validate the change.

4.6 Camera Control

The Streamer VIP provides the capability to control a camera remotely. The EIA-485 serial port located on the rear panel connects to the camera. You can control various functions using the Streamer VIP web page shown in the next screen capture.



A Pan, Tilt, Zoom (PTZ) protocol defines camera control. Different camera manufacturers use different protocols, and there is no international standard protocol for all cameras. The Streamer VIP supports the PELCO-P/PELCO-D protocol defined by Pelco Inc.

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5 Troubleshooting Guide

The following are some of the most common problems that occur during installation or operation:

Q: Why am I unable to connect to the Streamer VIP over the LAN?

A: Do the following to resolve this problem:

- Check the power to the Streamer VIP.
- Verify the IP address of the Streamer VIP.
- PING the Streamer VIP to verify operation of the network.

Q: What can I do if I forget the IP address of the Streamer VIP?

A: Press the reset button for five or more seconds. The Streamer VIP will reset the IP address to 192.168.0.187 and the subnet mask to 255.255.255.0.

Q: Why is there no video output from the Streamer VIP, even though I can log in to the Streamer VIP web server with Internet Explorer?

A: One of the following reasons causes this problem:

- If the screen shows the message “Video Lost”, the Streamer VIP is not receiving a video input.
- The security setting of Internet Explorer forbids the ActiveX plug-in from downloading or running. Add a link for the Streamer VIP as a trusted site.
- A third-party software application installed on your laptop forbids the ActiveX plug-in from downloading or running. Temporarily disable the security feature of the application.

Q: Why does the video not play smoothly?

A: One of the following reasons causes this problem:

- The frame rate of the Streamer VIP is too low. Increase the frame rate.
- There are too many clients connected to the same Streamer VIP. Do one of the following:
 - Close the unused clients.
 - Set the Streamer VIP frame rate or bit rate lower.
- The bandwidth of the network is too low, and many frames have been dropped. Decrease the frame rate or bit rate of the video to economize bandwidth.
- Your laptop is not capable of playing high performance media.

Q: Why does the video play without audio?

A: One of the following reasons causes this problem:

- The audio input is not connected.
- The audio of the Streamer VIP is disabled. To enable the audio, configure the audio sample rate to 48K or 8K.

Q: Why does the audio not play smoothly?

A: One of the following reasons causes this problem:

- The bandwidth of the network is too low.
- Your laptop is not capable of playing high performance media.
- Your audio adapter driver is not functioning.

Q: Why am I unable to play the video and audio that I recorded as AVI files using the web server?

A: You may not have the latest Xvid plug-in. Download the latest version at <http://www.xvid.org>.

Q: Why does the Logo not change after I update it?

A: After you update the Logo, you must log in to the web server twice before the Logo changes.

Q: Why does the time reset to the original time after I set a new time successfully?

A: The battery is not installed on the Streamer VIP printed circuit board.

6 System Specifications

This section provides the system specifications for the Streamer VIP.

6.1 Mechanical Specifications

The Streamer VIP is a fully enclosed system. Dimensions of the enclosure are

180mm x 110mm x 41mm.
(7.1 inch x 4.3 inch x 1.6 inch).

6.2 Environmental Specifications

The following are environmental specifications for the Streamer VIP.

Parameter	Min	Typ.	Max	Units
Operating temperature	-20		60	°C
Humidity	20		80	%

6.3 Power Specifications

The following are power specifications for the Streamer VIP.

Symbol	Parameter	Min	Typ.	Max	Units
System Power					
Vin	Supply voltage	10.8	12	13.2	V
Pin	Power consumption			4.8	W

6.4 Audio Specifications

The following are specifications for the Streamer VIP audio input.

Symbol	Parameter	Min	Typ.	Max	Units
Audio					
Vin	Input voltage		2.0		V RMS
Rin	Input resistance		4.7		kΩ

6.5 Electrical Specifications

The following are electrical specifications for the Streamer VIP general-purpose inputs, IN1-IN4, and relay outputs, Rly1-Rly2.

Symbol	Parameter	Min	Typ.	Max	Units
IN1-IN4 (GPI)					
Vin	Input voltage		3.3	5	V
Rly1-Rly2 (GPO)					
	Contact rating @ 120 VAC			3	A
	Control voltage		24		VDC

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7 Product Revision History

This section provides the product revision history for the Streamer VIP.

7.1 **Hardware Revision**

This section lists the item numbers and revision history for the Streamer VIP.

7.1.1 Identifying the Product

The item number of the Streamer VIP is NVIP2010.

The item number of the wireless Streamer VIP is NVIP2510.

7.1.2 Revision History

The following is an overview of the revisions of the Streamer VIP.

Revision V2.3

Initial release

7.2 **Firmware Revision**

This section describes the Streamer VIP firmware revisions.

7.2.1 Identifying the Revision

The Streamer VIP firmware version number is given in the System web page.

7.2.2 Revision History

The following is an overview of the Streamer VIP firmware revisions.

Version 1.3.1.2

Initial release