



TRENDNET®



User's Guide

TV-IP501P
1.01

Table of Contents

Table of Contents	1
Before you start	3
Packing List	3
System Requirements	4
Default Settings	4
Introduction	5
Features and Benefits.....	5
Camera Hardware Components	6
Front Components	6
Rear Panel Components	6
LED Indicators	7
Hardware Installation	8
Mounting of Camera	8
Connect Ethernet Cable	9
Connect Power Cable	9
Connect Power using Power over Ethernet (PoE).....	9
Reset Camera.....	10
Software - Setup Wizard.....	11
Launching Setup Wizard for the first time	11
Web Configuration	15
Accessing the Camera Video Display.....	15
Login	16
Web Manager and Live Video Display Page	16
Video – ActiveX	17
Video – Java	17
Administration - Status Section.....	19
System Page	19
Video.....	19
Audio.....	20
Network.....	20
Active Users.....	20
Configuration Section	21
System.....	21
Video.....	22
Audio.....	22
Network.....	23
User	24

Upload	24
E-Mail.....	25
Tools Section	26
FTP Server Test	26
E-Mail Test.....	26
Restart	27
Factory Reset	27
Firmware Upgrade	27
Backup and Restore	28
Software – IPViewPro 2.0.....	29
Launching IPViewPro 2.0 for the first time.....	29
Add a camera for monitoring	30
IPViewPro 2.0 User Interface	31
Display Controls.....	32
Snapshot, recording and audio controls	33
Live video display controls	33
Camera configuration with IPViewPro 2.0	34
Schedule Recording with IPViewPro 2.0	35
Motion Detection and Digital Input.....	36
IPViewPro 2.0 Miscellaneous Options.....	37
Load Saved Video Files.....	38
Technical Specifications	40

About this User's Guide

This user's guide provides instructions on how to install the TV-IP501P PoE Internet Camera and use it for camera monitoring applications. Camera monitor applications are accessible through an Ethernet local area network.

Before you start

Please read and make sure you understand all the prerequisites for proper installation of your new PoE Network Camera. Have all the necessary information and equipment on hand before beginning the installation.

Packing List

Open the shipping carton and carefully remove all items. In addition to this Manual, ascertain that you have:

- One TV-IP501P PoE Internet Camera
- One Installation CD-ROM containing IPViewPro 2.0 application and Setup Wizard
- One Quick Installation Guide
- One Ethernet Cable
- One Camera Stand
- One Power Adapter

If any of the above items are missing, please contact your reseller.



CAUTION: If powering up the camera with DC power, the Camera must be used with the power adapter included with the device.

System Requirements

Computer

- CPU: For Intel x86 compatible CPUs: Intel Pentium IV 2.0Ghz or above
- CPU: For IA64 compatible CPUs: AMD Athlon 64 3000+ and above
- Memory: 1GB or above
- VGA Resolution: 1024 x 768 or above (Independent Display Card recommended)
- 10BASE-T Ethernet or 100BASE-TX Fast Ethernet Network Interface Card
- CD-ROM Drive for Setup Wizard on Installation CD-ROM
- IPViewPro 2.0 Application Users must use Microsoft® Windows®2000, XP or Vista Operating System with Internet Explorer 6.0 or above with DirectX9.0

Network

- Local Area Network: 10Base-T Ethernet or 100Base-TX Fast Ethernet



Note: When you connect multiple cameras and monitor their images synchronously, it is recommended to use a high performance system, such as a Pentium 4 & 2.4GHz PC

Default Settings

Default configuration settings	
Username	This is the Username you will be prompted to enter when you access the camera configuration screens using a Web browser. The default Username is admin.
Password	This is the Password you will be prompted to enter when you access the configuration windows using a Web browser. The default Password is admin.
IP address	This is the IP address you will enter into the Address field of your Web browser to access the camera monitor screen and configuration menus using a Web Browser. The camera uses DHCP for IP settings by default. If a DHCP server is not detected, the default IP address is 192.168.10.30. (Make sure your computer is configured to belong to the 192.168.10.X subnet if using the default IP address of the camera.)
Subnet Mask	The default subnet mask is 255.255.255.0

Introduction

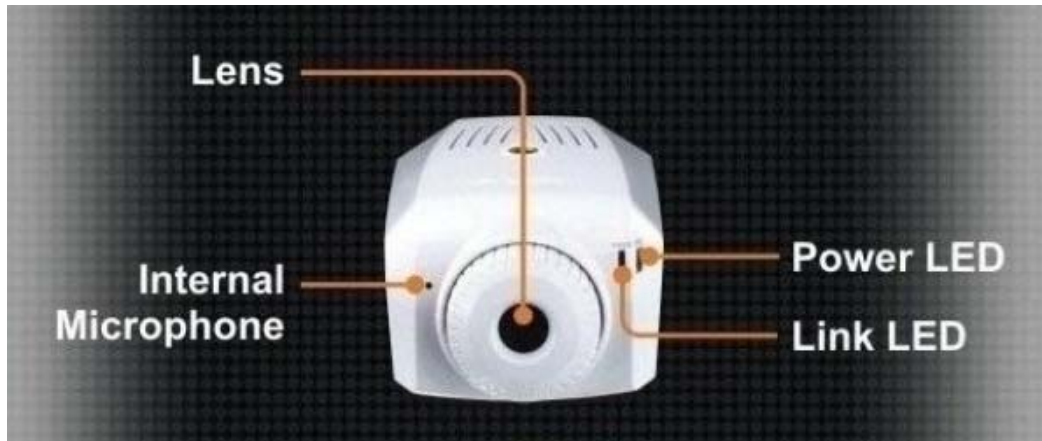
The TV-IP501P PoE Internet Camera transmits live real-time high-quality MJPEG video through an Ethernet network useful for remote monitoring applications. The live video can be viewed remotely and managed through the network from any computer connected to the network.

Features and Benefits

- **Easy to use** - The Camera is a standalone system with built-in CPU, no special hardware or software is required. The camera supports DirectX 9.0; therefore, the only requirement you need is the web browser software such as Internet Explorer 6.0 or above. Once you have a valid IP Address, just connect it and you can view the picture and receive sound from your camera. In addition, the camera's stand allows you to adjust the camera for optimal viewing angle.
- **Live audio for listening** - The built-in mic is useful for listening for voices in front of the camera.
- **Supports variety of platforms** - The camera supports TCP/IP networking, SMTP e-mail, HTTP and other Internet related protocols. It can be utilized in a mixed operating system environment, including Windows 2000/XP/Vista, Linux and Mac OS. Moreover, it can be integrated easily into other www/Intranet applications.
- **Web configuration** - Applying a standard web browser, the administrator can configure and manage the camera directly from its own web page via the Intranet or Internet.
- **Remote Utility** - The powerful IPViewPro 2.0 application assigns the administrator with a pre-defined user ID and password, allowing the administrator to modify the camera settings from the remote site via Intranet or Internet. When new firmware is available, you can also upgrade remotely over the network for added convenience. Users are also allowed to monitor the image, and take snapshots.

Camera Hardware Components

Front Components



Rear Panel Components

All cables connect to the camera at the rear panel.



Camera Hardware Components

Below is a summary description of the camera hardware.

Audio Mic	Used to capture sounds
DC 5V	The DC power input connector is located on the back of the camera's rear panel and is labeled DC5V with a single jack socket to supply power to the camera. Power will be generated when the power supply is connected to a wall outlet.
Reset	The Reset procedure will be initiated when this button is pressed. The Factory Reset procedure will be initiated when this button is pressed and held for five seconds.
10/100 Ethernet LAN Port	This RJ-45 connector is used to connect to a 10Base-T Ethernet or to a 100Base-TX Fast Ethernet network. This port supports the N-Way protocol & Auto-MDIX, allowing the camera to automatically detect or negotiate the transmission speed of the network.
Camera Stand Connector	It's located on the top and the bottom panel of the camera. This hole is used to connect the camera's stand to the camera by attaching the screw head of the camera stand into the screw hole of the camera.

LED Indicators

PWR	This LED indicator lights green when the camera is powered on. It remains dark when powered off.
LNK	A steady orange light indicates that the camera has a good connection to LAN. It starts flashing to indicate that the camera is sending and receiving data to and from the LAN.

Hardware Installation

The camera can be attached to the included stand and placed on a sturdy flat surface or hung from a ceiling or similar flat surface.

Mounting of Camera

Determine the location for the camera and assemble the camera stand. Secure the stand to the flat surface or ceiling with the mounting screws included in the package. When the stand is assembled and firmly attached to flat surface or ceiling, attach the camera. Do not attach network cables or the power cord until the camera is firmly mounted in place.



Connect Ethernet Cable

To connect the camera to your network, connect a Category 5 or better Ethernet cable to the network cable connector located on the camera's rear panel, and then attach it to the network. The Ethernet port will automatically detect and adjust to the speed (10 or 100 Mbps) and polarity (MDI-II or MDI-X) of the connection.



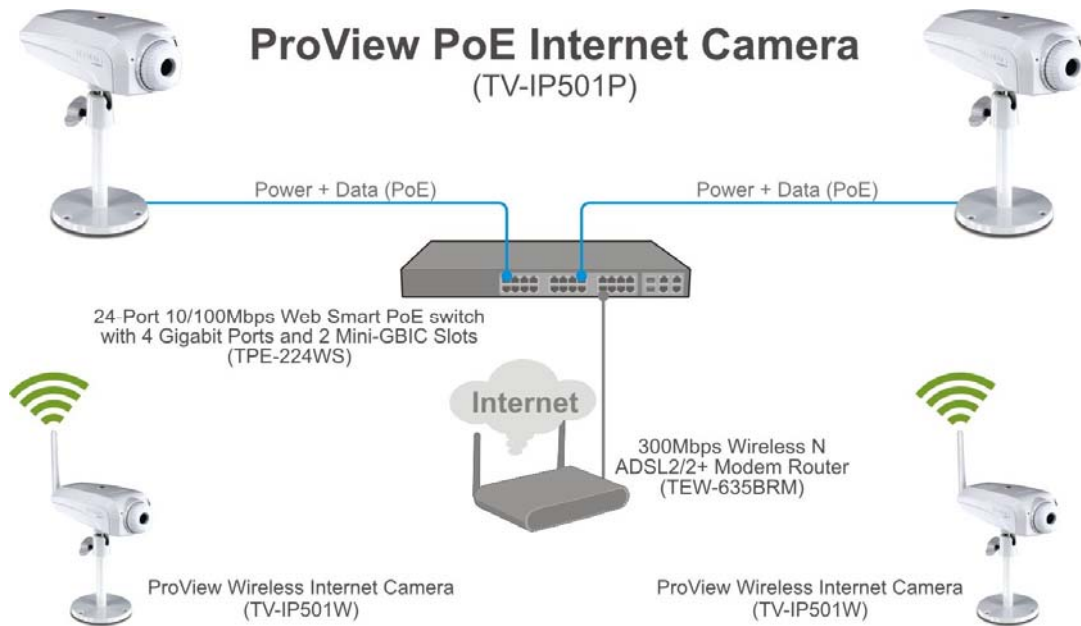
Connect Power Cable

To provide power to the camera using the Adapter, connect the AC power adapter to the DC power input connector, also located on the camera's left side panel, and then plug it to the electrical outlet. As with any electrical device, make sure the power source and camera are located in an area where it is not going to get wet or present an electrical hazard.



Connect Power using Power over Ethernet (PoE)

The TV-IP501P camera can be powered up via its Ethernet connection using Power over Ethernet technology. The diagram below shows you how to connect the TV-IP501P camera to a PoE enabled switch. If the switch or router you are connecting the TV-IP501P camera to does not support PoE, a power injector can be connected between the TV-IP501P Camera and the switch/router as shown in the diagram below.



Reset Camera

A manual reset can be conducted by following the procedure below. The reset button is located on the rear panel of the camera. To reset the system settings to factory defaults, please follow these steps:

1. Leave the camera powered on, do not disconnect the power.
2. Use a paper clip or similar object to press the reset button and hold. See the Rear Panel picture above to locate the reset button.
3. Keep the button pressed about 5 seconds.
4. Release the button.

The camera will then automatically reboot itself. Upon restarting the camera loads the factory default configuration settings. The default IP address 192.168.10.30 and subnet mask 255.255.255.0 will be applied unless a DHCP server is actively connected to the network. The administrator's default user name is admin and the password is admin. Use the Setup Wizard shipped with the camera to reconfigure it or access it through the web based management software.

Software - Setup Wizard

This section describes the how to setup a camera using the Setup Wizard. To install the Setup Wizard on a system running Windows, launch the Setup Wizard on the installation CD-ROM and follow the setup instructions. Once the software is installed, the Setup Wizard utility is ready for use.

Launching Setup Wizard for the first time

To launch the Setup Wizard, click Start > Programs > TRENDnet > Setup Wizard > Setup Wizard

Install Your Camera

- Connect the camera to your LAN using the provided RJ45 cable.
- Connect the AC Power Adapter to the back of the camera and to a live power socket.
- Click Next to continue.



Select Your Camera

The following screen appears showing the cameras that have been found on your network.

- Click on the camera you want to configure.
- Click Next to continue



Authentication

On the following screen type in the ID and Password that you will use to configuring the camera settings.

- Type a User ID in the ID field.
- Type the password of the User in the Password field.
- Click Next to continue

Change Password

The following screen allows you to change the default admin password.

Carry out the following if you want to change the admin password:

- Tick the Change Password checkbox
- Type in a New Password in the New Password field and confirm it in the Confirm Password field
- Click the Next button to proceed to the next Setup window
- If you don't want to change the admin password, leave the checkbox un-ticked and click Next

Select a Connection Option

The following window allows you to specify the connection method used by your camera network.

Click the radio button of the network environment your camera is connected to. The available options are:

- PPPoE
- DHCP
- Fixed IP

If your connection method is DHCP, click the DHCP radio button and click Next.

Select a Connection Option- PPPoE

If your connection method is PPPoE, click the PPPoE radio button and click Next. The following window appears.

- Type the User Name used to connect to your PPPoE connection in the User Name field.
- Type the Password of the PPPoE User Name in the Password field and confirm it in the Confirm Password field.
- Click Next to proceed to the next setup window

The screenshot shows the 'Authentication for PPPoE Connection' screen in the Trendnet Setup Wizard. It includes a title bar with the Trendnet logo and 'Setup Wizard'. The main content area has a heading 'Authentication for PPPoE Connection' and a sub-heading 'Please enter username and password while ensuring that your camera is directly attached to your modem. Click button "Next" to continue setting up. Or click button "Previous" to select another network environment.' Below this are three input fields: 'User Name', 'Password', and 'Confirm Password'. At the bottom are three buttons: 'Previous', 'Next', and 'Exit'. A copyright notice 'Copyright © 2009 TRENDNET. All Rights Reserved.' is visible in the bottom right corner.

Select a Connection Option- Fixed IP

If your connection method is Fixed IP, click the Fixed IP radio button. The following window appears.

- Type in the IP Address, Subnet Mask, Default Gateway, Primary DNS Server IP address and Secondary DNS Server IP Address in the appropriate fields.
- Click Next to proceed to the next setup window.

The screenshot shows the 'Network Configuration' screen in the Trendnet Setup Wizard. It includes a title bar with the Trendnet logo and 'Setup Wizard'. The main content area has a heading 'Network Configuration' and a sub-heading 'Please input correct information. You can click button "Auto" to let IP camera configured automatically. Click button "Next" to continue setting up.' Below this are five input fields: 'IP Address' (192.168.1.4), 'Subnet Mask' (255.255.255.0), 'Default Gateway' (192.168.1.1), 'Primary DNS', and 'Secondary DNS'. At the bottom are four buttons: 'Auto', 'Previous', 'Next', and 'Exit'. A copyright notice 'Copyright © 2009 TRENDNET. All Rights Reserved.' is visible in the bottom right corner.

Other Settings

The following window allows you to configure additional camera settings.

- Type a name to help you identify the camera in the Camera Name field.
- Set the camera date and time from the Camera Time drop-down menus. To use the time settings from your computer, click the Copy Local Time button.
- Click Next when you have finished configuring the other settings.

The screenshot shows the 'Other Settings' screen in the Trendnet Setup Wizard. It includes a title bar with the Trendnet logo and 'Setup Wizard'. The main content area has a heading 'Other Settings' and a sub-heading 'You can have a name for the camera. And you can also adjust the camera's clock by input the current time on "Camera time" option. Click button "Next" to continue setting up.' Below this are three input fields: 'Camera Name' (TV-IP501P), 'Camera Time' (2009/05/27), and a time field (09:43:32). At the bottom are four buttons: 'Copy Local Time', 'Previous', 'Next', and 'Exit'. A copyright notice 'Copyright © 2009 TRENDNET. All Rights Reserved.' is visible in the bottom right corner.

Setting Up The Camera

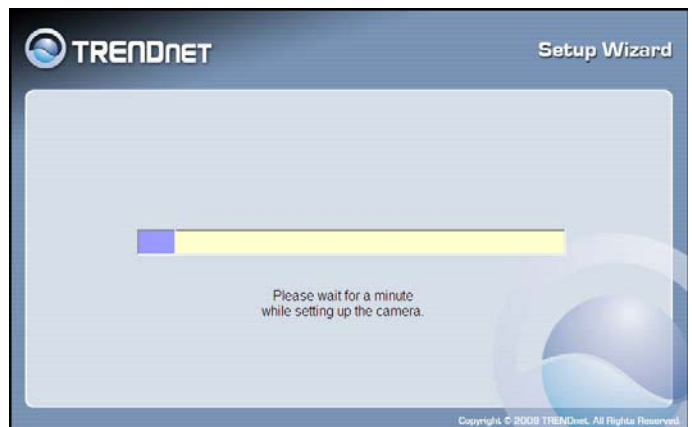
The following window appears, summarizing the network settings of your camera.

- When you have finished setting up the Camera click the Next button. To make any changes to your Camera settings, click the Previous button.



Camera Restart

The following window appears, indicating that the camera is restarting.



Complete

After the camera has restarted, the following window will appear.

- Click the Link button to connect to the camera web interface.
- If you want to setup an additional camera, click the Setup Another Camera button.
- When you have finished, click the Exit button to close the Setup Wizard.



Browser Configuration

The camera is easy to use and manage using a web browser or the IPViewPro 2.0 software to access the camera's live video display, and configuration software. Check and make sure the computer can access and use the camera before placing it in the location where it will be used, especially if it is mounted to a ceiling or other difficult to access area.

For the initial setup, use the Setup Wizard program located on the CD-ROM included with the camera. Use the Setup Wizard to assign an IP address and other network settings. Once the camera has an IP address, follow the instructions below to access the camera's web management interface used to manage the camera and for video display.

Accessing the Camera Video Display

If the camera is used on a network with an active DHCP server, the camera will detect it and obtain an IP address. If you are using the camera on a network with a DHCP server it is necessary to first determine what the IP address of camera is. To do this, follow the instructions in the Quick Installation Guide to launch the Setup Wizard software utility used with the network camera.



NOTE: If your network uses DHCP or has an active DHCP server running, use the Setup Wizard utility on the installation CD-ROM shipped with the camera to first access the camera. Once it is accessed, you can change the IP address or continue to use the DHCP assigned address as preferred.

If your network does not use a DHCP server, the camera will use a default IP address of 192.168.10.30. Use this address to access the web-based management software. Use a web browser and type in `http://` followed by the default IP address, 192.168.10.30 in the address bar of the browser and press the Enter key. The URL in the address bar should read: `http://192.168.10.30`

If the login dialog does not appear, check the proxy server settings on your browser.



NOTE: The wrong proxy server settings on your browser can prevent connection to the web manager. If you are having trouble connecting to the camera, configure the proxy settings to bypass the proxy server or disable use of proxy servers and try to connect again

Login

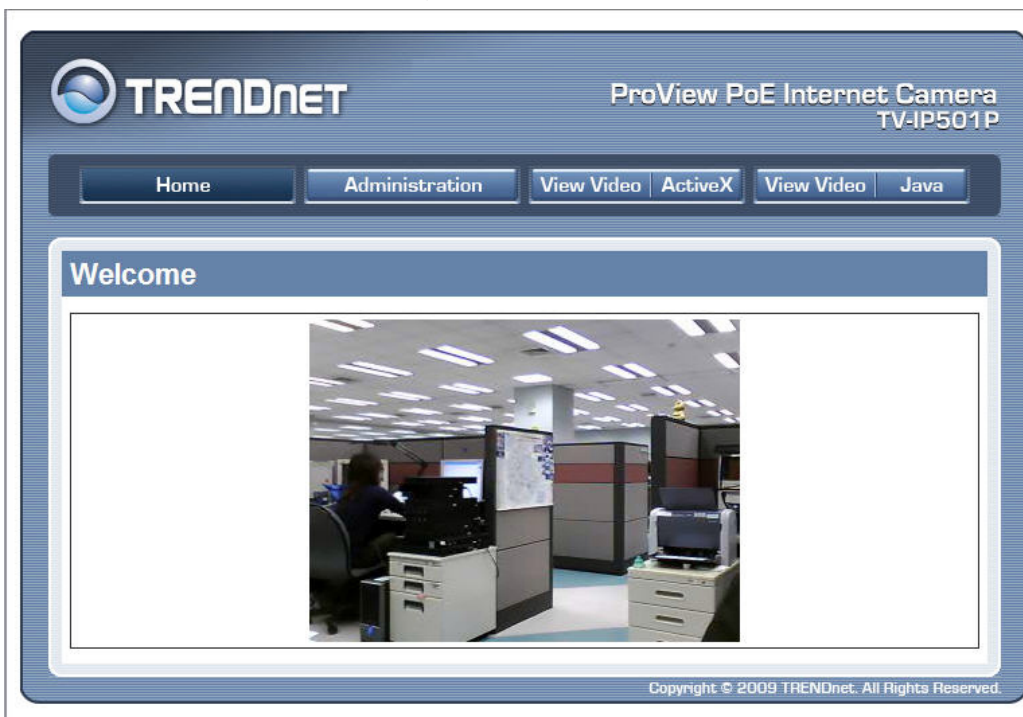
To access the web manager directly from a computer or on a network without a DHCP server running, use the default IP address of the camera in the browser address entry to access the web manager. Type `http://192.168.10.30` in the address bar and press Enter. The login dialog appears when accessing the camera.



Type the default user name "admin", default password "admin" and click on the OK button to access the camera's management interface.

Web Manager and Live Video Display Page

After login you'll be directed to the Home page which will display the last video screenshot.

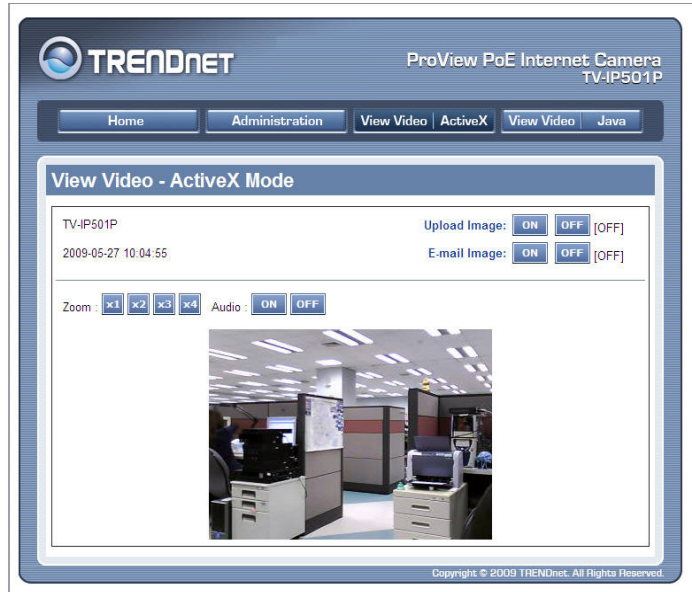


The camera's web configuration provides two methods of viewing live video display:

- View Video - ActiveX page
- View Video - Java page

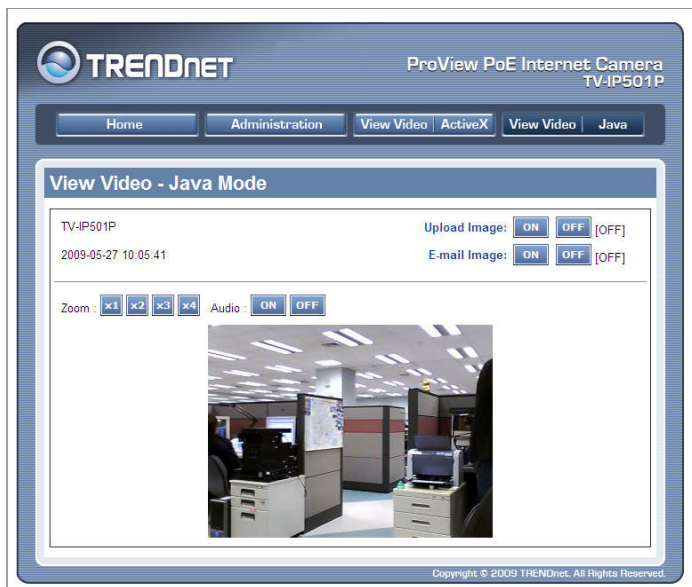
Video – ActiveX

To view live video from browser, using ActiveX, click the View Video-ActiveX Mode from the Welcome screen to access the live video feed :



Video – Java

To view live video from browser, using JAVA, click the View Video-JAVA Mode from Welcome screen to access the live video feed:



As you can see, both live video display pages are identical both in look and the controls that are available to manage the display.

Video Display Control	
Zoom : <input type="button" value="x1"/> <input type="button" value="x2"/> <input type="button" value="x3"/> <input type="button" value="x4"/>	The Zoom option allows you to digitally zoom in on an object up to 4 times
Audio : <input type="button" value="ON"/> <input type="button" value="OFF"/>	The Audio option allows you to toggle Audio mode ON or OFF
E-mail Image: <input type="button" value="ON"/> <input type="button" value="OFF"/>	The E-mail Image option allows you to turn the image e-mailing option ON or OFF
Upload Image: <input type="button" value="ON"/> <input type="button" value="OFF"/>	The Upload Image option allows you to turn the image uploading option ON or OFF

Administration - Status Section

The Status section displays information about the camera. In the Status section there are pages for System, Video, Audio, Network and Active Users.

System Page

The System Page display information about the Device Status and Ethernet Status of the camera. Information like the Camera Name, Location, Product Code, Firmware Version, MAC address, IP address, Link Status, Link Speed and Duplex.

The screenshot shows the TrendNet ProView PoE Internet Camera TV-IP501P System page. The page is divided into a left sidebar and a main content area. The sidebar contains a 'Status' section with links for System, Video, Audio, Network, and Active Users, and a 'Configuration' section with links for Tools and Help. The main content area is titled 'System' and contains two sections: 'Device Status' and 'Ethernet Status'. The 'Device Status' section lists the following information:

Device Status	
Camera Name	TV-IP501P
Location	
Model	TV-IP501P
Firmware Version	3.50 (2009-05-21)
MAC Address	00 FF 32 93 4C D0
IP Address	192.168.69.35

The 'Ethernet Status' section lists the following information:

Ethernet Status	
Link	Yes
Speed	100M bps
Duplex	Full Duplex

A 'Refresh' button is located at the bottom of the Ethernet Status section. The page footer contains the text: Copyright © 2009 TRENDnet. All Rights Reserved.

Video

The Video page displays information about the video configuration of the camera like Video Resolution, Compression Rate, Frame Rate, Frame Size and Light Frequency.

The screenshot shows the TrendNet ProView PoE Internet Camera TV-IP501P Video page. The page is titled 'Video' and contains a 'Video Status' section. The 'Video Status' section lists the following information:

Video Status	
Video Resolution	320 X 240
Compression Rate	Medium
Frame Rate	Auto
Frame Size	15921 Bytes
Light Frequency	60 Hz

A 'Refresh' button is located at the bottom of the Video Status section.

Audio

The Video page displays information about the audio configuration of the camera like Audio Enabled or Disabled, Audio Volume Level, Codec and Sample rate.

Audio Status	
Audio	Enable
Volume	50
Codec	PCM
Sample Rate	16 kHz
Refresh	

Network

The Network page display the network configuration for the camera like IP Address, Subnet Mask, Default gateway, Primary and Secondary DNS Addresses, Dynamic DNS Enabled or Disabled, Secondary HTTP Port value, UPnP IP Address, FTP Server and E-Mail setup.

IP Address	192.168.69.35
Subnet Mask	255.255.255.0
Default Gateway	192.168.69.1
Primary DNS Address	0.0.0.0
Secondary DNS Address	0.0.0.0
Dynamic DNS	Disable
Secondary HTTP Port	Disable (Port : 81)
UPnP	Enable (IP : 192.168.1.4)
FTP Server Test	No Test
E-mail Test	No Test
Refresh	

Active Users

The Active Users Page displays information about the current active users that are connected to the camera like IP Address, Name, Date/Time and Speed/Throughput.

IP Address	Name	DateTime	Millisecond / Packet
Refresh			

Configuration Section

In the configuration you can set the configuration for the camera.

System

On the Status Page you can configure general system settings for the camera.

Camera Name:

Configure the camera's display name.

Location:

Configure the camera's display location.

Admin:

Configure the Username and Password for the camera.

LED Control:

Configure the LED display Controls. ON / OFF / DUMMY

The screenshot displays the configuration web interface for a Trendnet ProView PoE Internet Camera (TV-IP501P). The interface is titled "TRENDNET ProView PoE Internet Camera TV-IP501P". It features a navigation menu with buttons for "Home", "Administration", "View Video", "ActiveX", "View Video", and "Java". A sidebar on the left contains a "Configuration" menu with options: "System", "Video", "Audio", "Network", "User", "Date/Time", "Upload", and "E-mail". The main content area is titled "System" and contains a "System Setting" form. The form fields are: "Camera Name" (text box with "TV-IP501P"), "Location" (text box), "Admin" (sub-section with "Admin ID" text box containing "admin", "Admin Password" text box with masked characters, and "Confirm Again" text box with masked characters), and "LED Control" (radio buttons for "Normal" (selected), "OFF", and "Dummy"). "Save" and "Cancel" buttons are at the bottom of the form. A copyright notice "Copyright © 2009 TRENDnet. All Rights Reserved." is visible at the bottom right of the interface.

Video

On the Video page you can configure the video display settings for the camera.

Video Resolution:

Select between 3 different Video Resolutions.

Compression Rate:

Select between 5 different Compression Rates.

Frame Rate:

Select between 5 different Frame Rates

Choose Auto to let the camera choose the best frame rate needed.

Brightness Control:

Option to manually configure the video brightness.

Contrast Control:

Option to manually configure the video contrast.

Saturation Control:

Option to manually configure the video saturation.

Light Frequency:

Option to configure the light frequency.

Mirror:

Option to flip the live video feed horizontal or vertical.

Anti-Flicker:

Option to enable or disable Anti-Flicker.

Audio

On the Audio page you can configure the audio settings for the camera.

Audio:

Option to enable or disable the Audio settings.

Volume:

Option to set the Volume level.

Network

Click the Network Setup link to view menus for IP network settings, PPPoE configuration, DDNS and HTTP or RTSP port configuration.

Fixed IP:

Selecting Static IP Configuration requires you to assign IP information for the camera manually.

Dynamic IP (DHCP):

Selecting DHCP Configuration will cause the camera to obtain an IP address from a local DHCP Server.

PPPoE:

Enable this feature if you want the camera to access the Internet using PPPoE. This requires and PPPoE Username and Password.

DNS IP Address:

Enter DNS IP Addresses used by your ISP here manually.

Enable DDNS:

Enable this feature to use Dynamic DNS. This requires a DDNS account and you must enter the details accordingly here.

Enable this feature to use UPnP setup method.

Second HTTP Port:

You can enable or disable a secondary http port here. You can change the port number used for the secondary http connection.

UPnP:

Enable this feature to be able to connect to this camera using UPnP

User

On the User page you can create or delete users.

Access Control:

Here you can enable or disable user access control.

Define User:

Here you can add user accounts.

Delete User:

Here you can remove user accounts.

Upload

On this page you can define how the camera uploads images and video to an FTP server.

Host Address:

Enter the FTP Server's IP Address here.

Port number:

Enter the FTP port used here.

Username:

Enter the FTP Username here.

Password:

Enter the FTP Password here.

Directory Path:

Enter the FTP Directory Path here.

Passive Mode:

Enable or Disable Passive Mode here.

Time Schedule:

You can setup the time schedule here.

Manual Operation:

Setup Manual Operation here.

E-Mail

On this page you can setup the e-mail client configuration that the camera can use.

SMTP Server Address:

Enter the Mail Server IP address here.

SMTP Port Number:

Enter the SMTP port number used here.

Sender's E-Mail Address:

Enter the Sender's e-mail address here:

Recipient's E-Mail Address:

Enter the Recipient's e-mail address here.

User Name:

Enter the mail client username used here.

Password:

Enter the mail client password used here.

Time Schedule:

You can define the time schedule here.

Manual Operation:

You can setup manual operation here.

The screenshot shows the 'E-mail' configuration window. It is divided into several sections:

- E-mail Account:**
 - SMTP Server Address: [Text Input Field]
 - SMTP Port Number: 25 (Default is 25)
 - Sender's E-mail Address: [Text Input Field]
 - Recipient's E-mail Address: [Text Input Field]
 - User Name: [Text Input Field]
 - Password: [Text Input Field]
- Time Schedule:**
 - Enable e-mail image to e-mail account
 - Always
 - Schedule
 - Day: Mon Tue Wed Thu Fri Sat Sun
 - Time: Start: 00:00:00 (Example: 08:30:00)
 - Stop: 00:00:00 (Example: 22:30:00)
 - Interval: 300 Seconds
- Manual Operation:**
 - Enable e-mail image to e-mail account
 - Interval: 300 Seconds

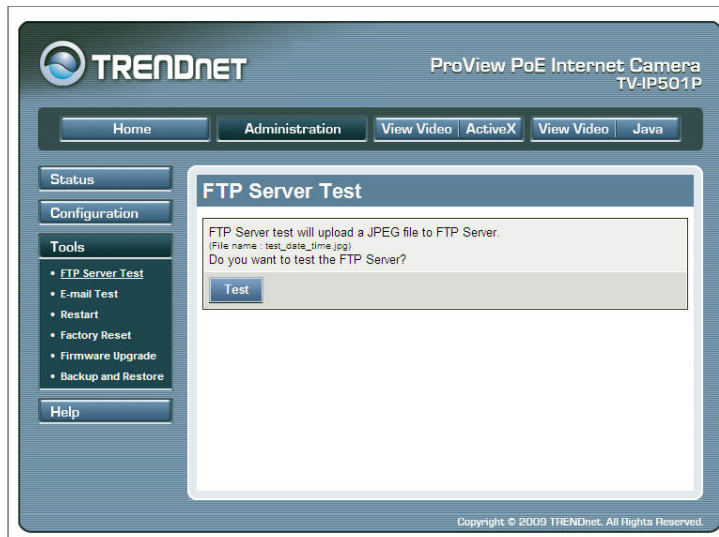
At the bottom, there are 'Save' and 'Cancel' buttons.

Tools Section

The Tools section offers many features to test FTP server settings E-Mail settings Firmware upgrade, Backup settings and Restart or Restore options.

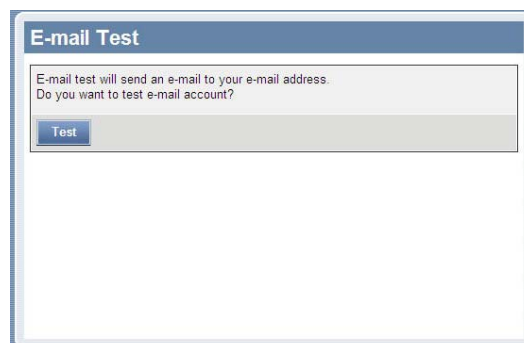
FTP Server Test

This page will help the user to test if the FTP server settings are setup correctly. It will send a JPEG file to the FTP server called 'test_date_time.jpg' as a test.



E-Mail Test

This page will help the user to test if the e-mail settings are setup correctly. It will send a test mail to the recipient's e-mail address as a test.



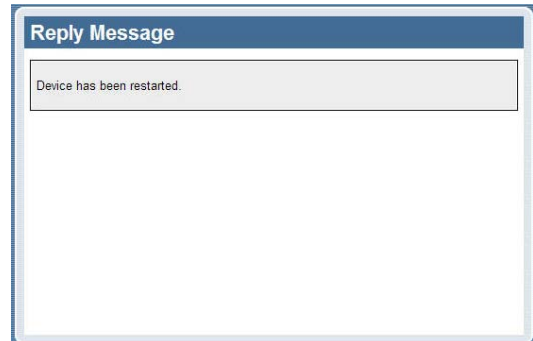
Restart

This page gives you the option to manually restart the camera.



Restart

Do you want to restart this device?



Reply Message

Device has been restarted.

Factory Reset

This page gives you the option the factory reset your camera through its web configuration.

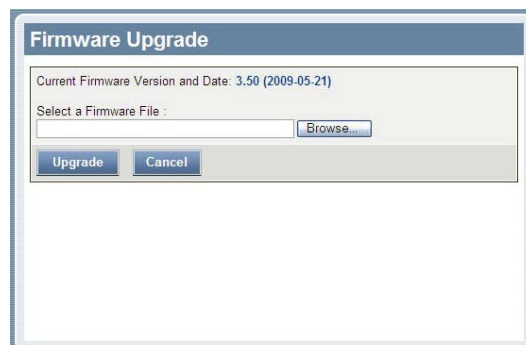


Factory Reset

Do you want to restore this device to factory default setting?

Firmware Upgrade

This page gives you the option to upgrade the firmware for the camera. To upgrade the firmware you'll need to download the latest firmware for your camera to your computer, click on the Browse button, navigate to the downloaded file and click Upgrade. This will upgrade the firmware for your camera.



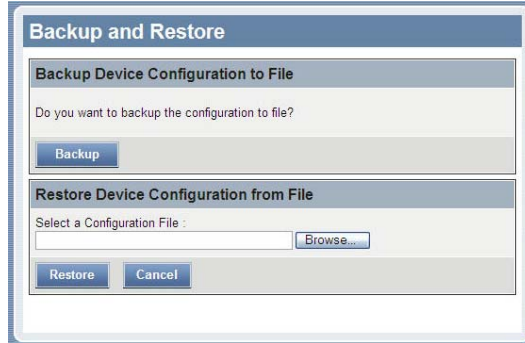
Firmware Upgrade

Current Firmware Version and Date: 3.50 (2009-05-21)

Select a Firmware File :

Backup and Restore

This page will allow the user to backup the configuration of the camera to a file that can be saved remotely. It also gives the option to restore the settings from the backup file saved on the hard drive.



The screenshot shows a web-based interface titled "Backup and Restore". It is divided into two main sections:

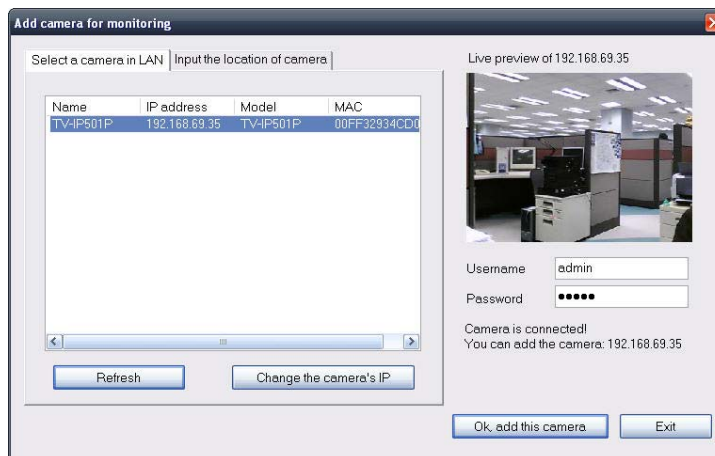
- Backup Device Configuration to File:** This section contains the question "Do you want to backup the configuration to file?" and a single "Backup" button.
- Restore Device Configuration from File:** This section contains the prompt "Select a Configuration File :", followed by a text input field and a "Browse..." button. Below this are "Restore" and "Cancel" buttons.

Software – IPViewPro 2.0

This section describes the how to setup a camera using the IPViewPro 2.0 camera monitoring software. To install IPViewPro 2.0 on a system running Windows, launch the IPViewPro 2.0 installation software on the installation CD-ROM and follow the setup instructions. Once the software is installed, the IPViewPro 2.0 camera monitoring utility is ready for use. Add up to 32 network cameras to monitor using the software. Additional software, IPViewPro 2.0 Player software is also installed. The IPViewPro 2.0 Player is used for playing recorded video from cameras that have been configured to save recorded files.

Launching IPViewPro 2.0 for the first time

To launch IPViewPro 2.0, click Start > Programs > TRENDnet > IPViewPro 2.0. If this is the first time using the software, the menu that appears on is the Add camera menu.

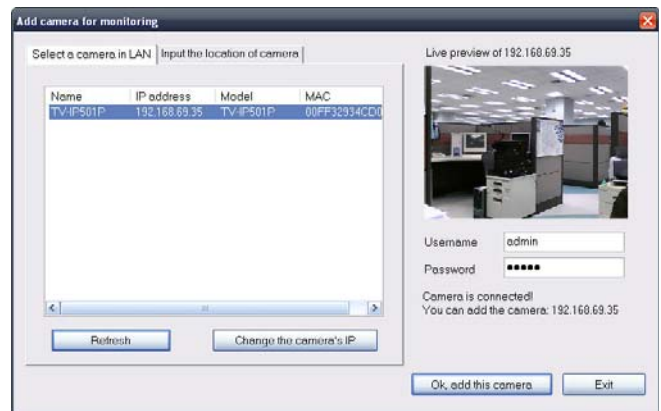


Add a camera for monitoring

The Add camera menu is presented the first time the IPViewPro 2.0 software is launched. This menu is used to add cameras to the user interface for monitoring. After the first time running the software, this menu can be accessed at anytime from the configuration menus. The configuration menus are described in a later section of this chapter. Notice that the IPViewPro 2.0 software has automatically detected eligible cameras running on the network.

To add a camera to the IPViewPro 2.0 user interface, follow these instructions:

1. Check the list of cameras detected by the software, if the camera you want does not appear on the list then clicks the Refresh button to conduct another search.



2. Select the camera to add from the list, enter the administrator's user name and password, a preview of the live video display will appear. Click the OK, add this camera button, a confirmation message informs when the camera is connected and added to the IPViewPro 2.0 monitoring group. Repeat this procedure for all the cameras being added. Click the Exit button after all the cameras have been added.

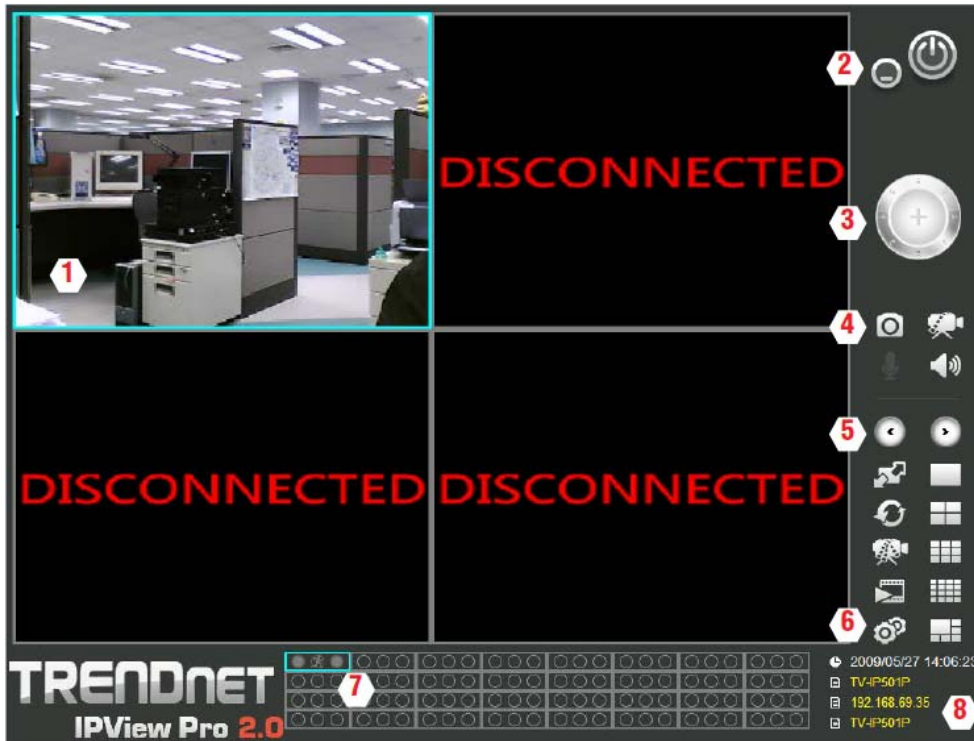


If the camera does not appear listed, click the Input the location of camera tab above the list to view a new menu. Enter the IP address or the URL (for example, ipcam.ddns.org) of the camera being added, type the user name and password and click the Preview to verify that a link can be established. The live video of the camera should appear in the Live preview display. If a link cannot be established, run the Setup Wizard software for the camera and verify the correct IP address. Click Exit to return to the main Add camera menu.

3. Once the cameras have been added, they are ready to be used in the main IPViewPro 2.0 user interface. Close the Add camera menu (click Exit) to go to the main user interface. See below for a description.

IPViewPro 2.0 User Interface

Below is a general description of the user interface.



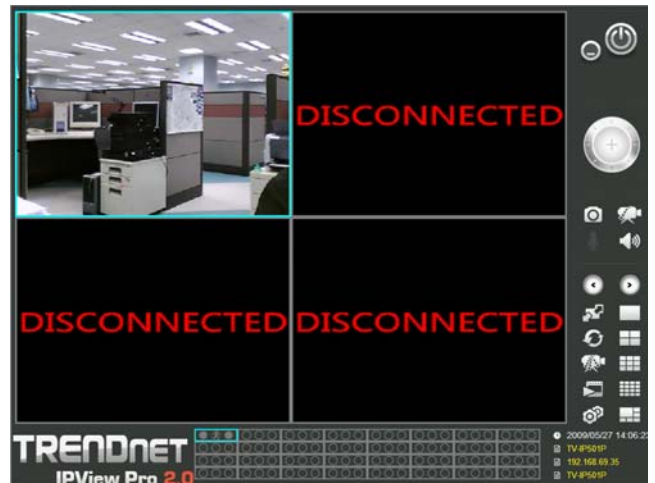
No.	Item	Description
1	Live video display area	Display area for single or multiple cameras of live video. Right click on any display area to view a list of quick configure options for that camera including the “Replace camera content ...” option used to change the order of the live video displays for multiple camera views.
2	Minimize and Exit	Use to minimize IPViewPro 2.0 interface or exit the program, a confirmation is required to exit.
3	Pan and Tilt control (Only for cameras equipped with RS-485 controlled pan/tilt motorized mount)	Click directional arrows to move camera in that direction within the limits of the pan and tilt range. The + in the center of the control is used to return to the home or center view as configured for the camera.
4	Snapshot, recording and audio controls	See below for detailed information.
5	Live video display controls	See below for detailed information.
6	Camera configuration menu	See below for detailed information.
7	Camera status	Use to quickly assess the status of operating cameras. Click

		on box to select camera display. The status indicators for each camera display recording, motion detection and GP input status.
8	Camera information	Displays basic information on selected camera.

Display Controls

The primary display and IPViewPro 2.0 control icons are described in detail below. When there are more than one camera displays viewed, one of the displays can be selected for management or additional changes. Simply left click on any display to select it. Notice the border around the display is bright aqua blue, indicating the “selected” status. For example, to go to a single screen display for any one camera, select the camera and click on the single screen display.

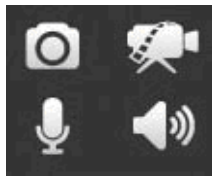
Left click on any display to “select” that display for camera management. Right click to view camera management and display options.



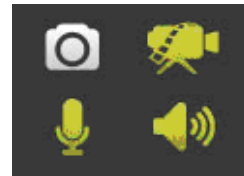
Snapshot, recording and audio controls

The still photo camera icon is used to take a snapshot of the selected live video display. The video camera icon is used to begin video recording of the selected live video display. Snapshot and videos files are stored in a default folder on the administrator's system, or in a folder designated by the administrator. The audio controls are represented by a microphone icon to activate the internal mic or the auxiliary audio input (if present), and a speaker icon for the audio output (remote speakers, if present).

Notice that when these functions are activated, the color of the icon changes from white to yellow.



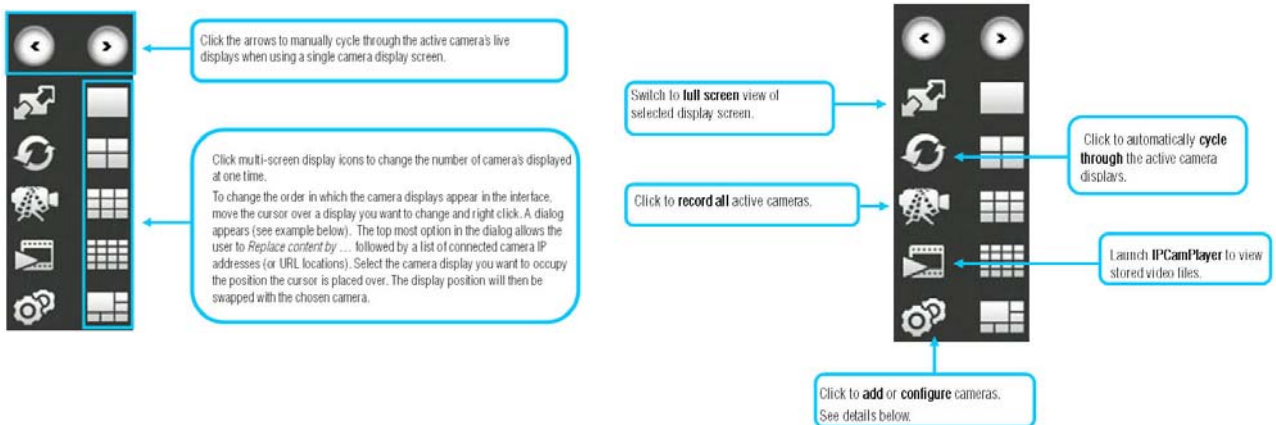
Inactive



Active

Live video display controls

Use the video display controls to change the view of the live video display. This is useful for multiple camera application.



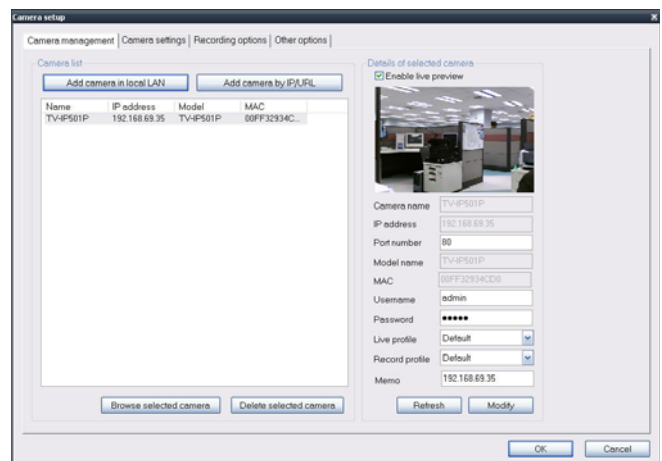
Camera configuration with IPViewPro 2.0

Access the camera configuration menus by clicking on the gear icon at the bottom of the right hand panel of the IPViewPro 2.0 user interface. Configuration options include adding and deleting cameras from the display view, configuration of motion detection and digital input with schedules, recording options, email alerts and other network settings.

Adding a Camera

The procedure to add a camera after the initial launch of the software is very similar to the procedure used during the first setup. Follow the instructions below to add cameras.

1. Click the Configuration icon to view the Camera Setup menu. The top most tab of the menu is the Camera Management tab. A list of active cameras appears on the left half of the menu. Select the camera to be added from the list. Click the Add Camera by IP Address to find the specified IP address or network URL of the camera you want to add.
2. Select the camera to add from the list, enter the administrator's user name and password, a preview of the live video display will appear. Click the OK, add this camera button, a confirmation message informs when the camera is connected and added to the IPViewPro 2.0 monitoring group. Repeat this procedure for all the cameras being added. Click the Exit button after all the cameras have been added.
3. The camera added now appears in the Camera List. To launch the web manager for the newly added camera or any camera in the active camera list, select it and click the Browse Selected Camera button.



Removing a Camera

To remove the camera from the list of active:

1. Select the camera you want to remove.
2. Click Delete Selected Camera.

Note: Any camera display can be removed from the main IPViewPro 2.0 user interface by right clicking on the display screen for the camera and selecting the Remove this Camera option.

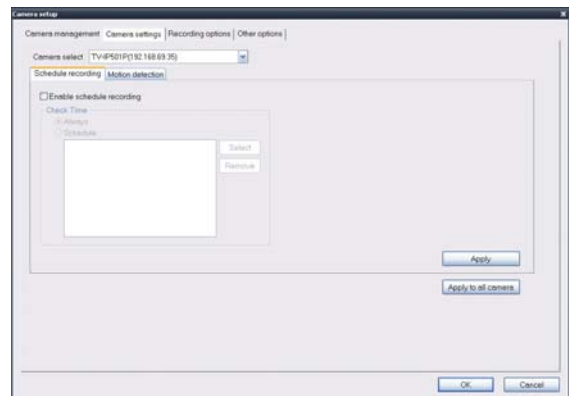
Launch Web Manager for Selected Camera

To launch the web-based IP Camera manager for any active camera in the list, simply select it and click the Browse Selected Camera button.

Schedule Recording with IPViewPro 2.0

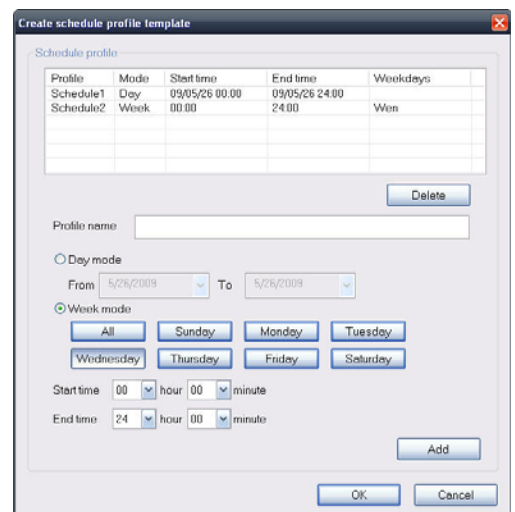
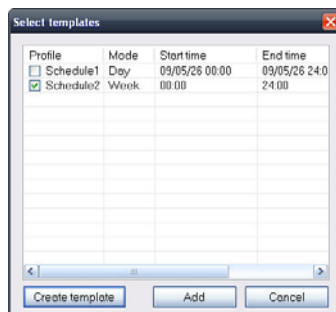
Use the Camera Setup menu to create schedules for recording and apply the schedules to any camera. Click the Camera Settings tab to view the Schedule Recording menu (the first menu viewed in the Camera Settings menu tab).

To apply an existing schedule template, click the Select button and choose a schedule from the list of previously created schedule templates. If a new schedule is needed it can be created from the Select Schedule Template menu (See below).



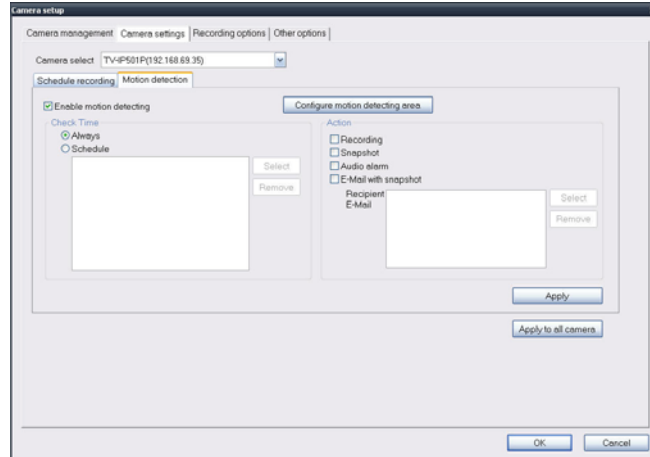
Create Schedule Templates

To make a new schedule template, click the Create Template button to view the Create Schedule Profile menu. Use this menu to create new schedules for recording.

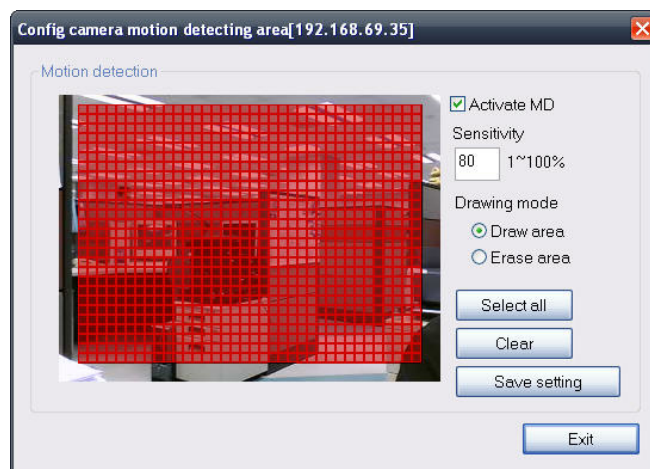


Motion Detection and Digital Input

The Camera Settings menus include Motion Detection setup and Digital Input control. Each menu has the schedule option to apply a schedule for the action taken or always take the specified action.



For Motion Detection, use the Config motion detection area menu to create the area to which it is applicable. Click the Config motion detection area button in the Motion Detection setup menu to view the menu in a new pop up window.



IPViewPro 2.0 Miscellaneous Options

The Other Options available for configuration include Proxy server setup, email notification, scan interval and alert type settings.

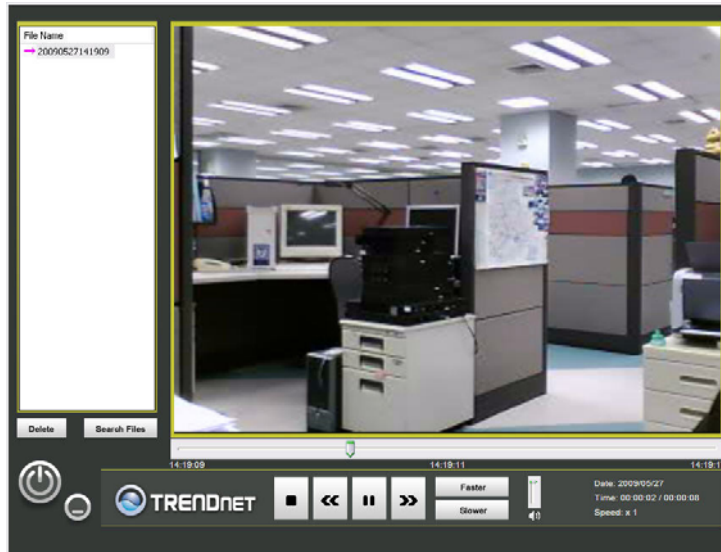
The screenshot shows the 'Camera setup' dialog box with the 'Other options' tab selected. The dialog is divided into several sections:

- Proxy settings:** Includes a checkbox for 'Proxy', an 'Address' text field, a 'Port' text field, and a checkbox for 'Bypass proxy server for local network address'.
- Time interval of scan:** A dropdown menu showing '5' and the unit 'Seconds'.
- Local alert settings:** Three rows for 'Motion detection alert sound', 'Digital input alert sound', and 'Video loss alert sound', each with a text field and a speaker icon.
- E-Mail sender settings:** Fields for 'Sender E-Mail address', 'Subject title', 'SMTP mail server', 'Port' (set to 25), 'Username', and 'Password'. A 'Test' button is located below these fields.
- System settings:** Two checkboxes: 'Automatically launch this program at system starting' and 'Resume Manual Recording state on application start up'.

At the bottom of the dialog are 'About', 'OK', and 'Cancel' buttons.

Load Saved Video Files

Each camera has a file created automatically for storing video files. These files are normally located in the My Documents folder in Windows. The file folders are named according to the IP address and camera model. For example, 192.168.10.30_TV-IP501P is the name of the file folder for the TV-IP501P using the default (non-DHCP) IP address.

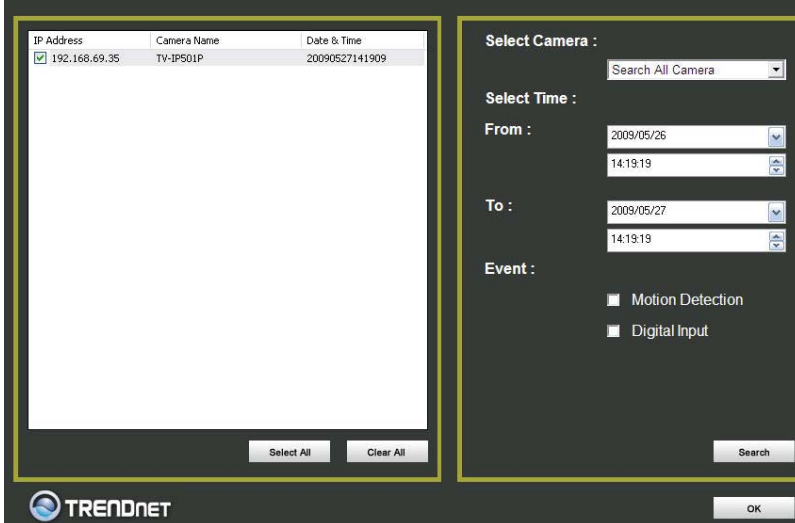


No.	Item	Description
1	File list	Video files added to the list are viewed in the order listed.
2	View Screen	Video files in the list are played here. The progress bar and starting time of the video clip appears beneath the view screen.
3	Add/Delete files from list	Use the Search Files button to add recorded video files. A new menu pops up that is used to find and add files to the list. (See description on next page)
4	Playback controls	Standard video playback controls for Stop, Play/Pause, go to next file (>>) or go to previous file (<<) Speed up and Speed down to control speed of playback. The vertical slider control is used for audio volume control.

To view recorded video files in the IPViewPro Player, it is first necessary to locate and select the files to be viewed and add them to the list. Click the Search Files button in the IPViewPro Player main interface and a new menu appears.

In the new menu, use the Select Camera pull-down menu to choose the video file folder of the camera to be reviewed. Use the Search Time menu to narrow the search to a specific time and date. Finally, the Event selection menu is used to further narrow the scope of the file search for videos triggered by Motion

Detection or a Digital Input device, or files designated for Server Recording. When the search criteria have been defined, click the Search button to place qualified files in the Search list.



The screenshot displays a web interface for searching camera files. On the left, a table lists search results with columns for IP Address, Camera Name, and Date & Time. One entry is shown, checked. Below the table are 'Select All' and 'Clear All' buttons. On the right, search criteria are defined: 'Select Camera' is set to 'Search All Camera'; 'Select Time' is set from '2009/05/26 14:19:19' to '2009/05/27 14:19:19'; and 'Event' includes 'Motion Detection' and 'Digital Input'. A 'Search' button is at the bottom right of the criteria panel. The TRENDnet logo is at the bottom left, and an 'OK' button is at the bottom right of the entire interface.

IP Address	Camera Name	Date & Time
<input checked="" type="checkbox"/> 192.168.69.35	TV-IP501P	20090527141909

Select Camera : Search All Camera

Select Time :

From : 2009/05/26 14:19:19

To : 2009/05/27 14:19:19

Event :

- Motion Detection
- Digital Input

Select All Clear All Search OK

Choose the files to be added to the view file list by check marking the individual files or click the Select All button to check mark all files in the Search list, click Add to place the check marked files on the list of files for viewing.

After the files to be viewed have been chosen, click the OK button.

Technical Specifications

Camera	
General	<p>Sensor: 1/4" color CMOS image sensor</p> <p>Resolution: up to 640 x 480 pixels</p> <p>Board lens</p> <p>Focal length: 4.57mm</p> <p>F/No: F1.9</p> <p>Minimum illumination: 1 Lux</p> <p>Focus depth: 20cm ~ infinity</p> <p>View angle: horizontal: 45 degree, vertical: 35 degree</p>
Audio	<p>Built-in microphone</p> <p>Sensitivity: -48dB +/- 3dB (5 meters max)</p> <p>Frequency: 50~16000Hz</p> <p>S/N: 50dB</p> <p>Codec: PCM</p>
Image & Video	<p>Compression: MJPEG</p> <p>Exposure/white balance control: automatic</p> <p>Resolution: VGA (640x480), QVGA (320x240), QQVGA (160x120) up to 30fps</p>
Hardware	
Network	<p>IEEE 802.3u 10/100Mbps Fast Ethernet, Auto-MDIX</p> <p>IEEE 802.3af PoE</p>
LED	Power, Link
Reset Button	Reset settings
Power Consumption	1.5 watts
Power	5V, 2.5A external power adapter
Dimension	195 x 90 x 50mm (7.7 x 3.5 x 2 in.)
Stand Dimension	128 mm (4.7 in.)
Weight	<p>Camera: 133g (4.7oz.)</p> <p>Stand: 121g (4.3 oz.)</p>
Temperature	<p>Operating: 5°C ~ 40°C (41°F ~ 104°F)</p> <p>Storage: -15°C ~ 50°C (5°F ~ 122°F)</p>
Certification	CE, FCC
Requirement	
To View Camera Browser	Internet Explorer 6.0 or above, Safari 2.0 or above, Firefox 2.0 or above and Netscape
To Run IPView Pro Software	Windows XP (32/64-bit), Vista (32/64-bit)

IPView Pro 2.0	Channel: supports up to 32 cameras Record/Playback/Motion Detection/Audio
Network Protocols	IPV4, ARP, TCP, UDP,ICMP DHCP Client, NTP Client, DNS Client, DDNS Client, SMTP Client, FTP Client HTTP Server PPPoE UPnP
Management	
Remote	Remote management supported
Backup / Restore	Save/retrieve configuration files
Settings	
Image	Brightness, contrast, noise reduction, saturation, sharpness, white balance, flip mirror(horizontal/vertical)
Video	Encoding type: MJPEG Compression rate: 5 levels Frame rate: 1, 5, 7, 15, 20, Auto (up to 30fps) Frequency: 50Hz, 60Hz
Recording (via Software)	Storage size: 32MB (minimum) Recording type: event based (motion detection), continuous and scheduled
Snapshot (via Software)	Trigger event: motion detection Action: send alert email and/or upload to FTP
Access Port	HTTP port: 80 (default)
Digital Zoom	4x
Dynamic DNS	Yes
Time	Synchronize with NTP server or set time/date manually

Limited Warranty

TRENDnet warrants its products against defects in material and workmanship, under normal use and service, for the following lengths of time from the date of purchase.

TV-IP501P – 3 Years Warranty

AC/DC Power Adapter, Cooling Fan, and Power Supply carry 1 year warranty.

If a product does not operate as warranted during the applicable warranty period, TRENDnet shall reserve the right, at its expense, to repair or replace the defective product or part and deliver an equivalent product or part to the customer. The repair/replacement unit's warranty continues from the original date of purchase. All products that are replaced become the property of TRENDnet. Replacement products may be new or reconditioned. TRENDnet does not issue refunds or credit. Please contact the point-of-purchase for their return policies.

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