TRENDnet®

User's Guide

TV-IP600
TV-IP600W
H/W: V1

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About This User's Guide

This User Guide provides instructions on how to install the TV-IP600/W Wireless Network camera and use it for camera monitoring applications. Camera monitor applications are accessible through an Ethernet or 802.11b/g wireless local area network. The following chapters are included in this User Guide:

- Chapter 1, **Introduction**, provides general information about the Camera.
- Chapter 2, **Installing the Camera**, describes the hardware installation procedure for the Camera.
- Chapter 3, **Security**, explains the security features of the Camera.
- Chapter 4, **Application of the Camera**, provides an illustration of the Camera's applications.
- Chapter 5, **Using the Utility**, guides you through configuring the Camera with the Utility.
- Chapter 6, **Using the Camera Web Manager**, guides you through configuring the Camera with a Web Browser.
- Chapter 7, **IPView Pro**, helps you to install and use the software.
- Chapter 8, **Playing Video Files on a Computer**, shows you how to use the IPCamPlayer application to record and play back video recordings with the Camera.
- Chapter 9, **Appendix**.

Please note that the illustrations or setting values in this manual are **FOR YOUR REFERENCE ONLY**. The actual settings and values depend on your system and network. If you are not sure about the respective information, please ask your network administrator or MIS staff for help.

1

Introduction

Thank you for purchasing the TV-IP600/TV-IP600W Pan/Tilt (Wireless) Internet Camera, a standalone system that can be connected directly to an Ethernet or Fast Ethernet connection. The TV-IP600W also supports wireless transmissions based on the IEEE 802.11g standard. Compared to a conventional PC camera, the Pan/Tilt Internet (Wireless) Camera features a built-in CPU and web-based solution that can provide a cost-effective way of transmitting real-time high-quality video images for monitoring. The Camera can be managed remotely, allowing you to use a Web browser to access the Camera from any notebook/desktop computer over an intranet or the Internet. The simple installation procedures and Web-based interface allows you to easily integrate the Camera into your network. With comprehensive application support, the Internet Camera is an ideal solution for remotely monitored, high quality and high performance video images.

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 video footage from your Camera. In addition, the Camera's pan/tilt function allows you to adjust the Camera for optimal viewing angles. You can pan the Camera to the left or right (-156° ~ +156°) and tilt the Camera up or down (-45° ~ +70°) using the Web Configuration Utility.

Motion detection and event triggered digital image or video recording – Use the Motion Detection to take a snapshot or digital video record of objects that move through a selected area of the video display.

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 XP/Vista. 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. Up to 64 user accounts are permitted with privilege settings controlled by the administrator.

Remote Utility - The powerful IPView Pro 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.

Broad Range of Applications - With today's high-speed Internet services, the Camera can provide the ideal solution for live video images over the Intranet and Internet for remote monitoring. The Camera allows remote access from a Web-browser for live image viewing and allows the Administrator to manage and control the Camera from anywhere in the World at anytime. The Camera can be used to monitor many different objects and places, including homes, offices, banks, hospitals, child-care centers, amusement parks and all kinds of industrial and public monitoring tasks. The Camera can also be used to detect intruders, capture still images for archiving and many other applications.

Unpacking the Package

Open the shipping carton and carefully remove all items. Check that you have the following:

- One TV-IP600 or TV-IP600W Internet Camera Server
- One Detachable Antenna (TV-IP600W only)
- One Multi-Language Quick Installation Guide
- One Installation CD-ROM containing User Guide, IPView Pro 2.0 application and Setup Wizard
- One External Power Adapter (5V DC, 2.5A)
- One RJ-45 Ethernet Cable
- One Metal Plate

If any packaging content is damaged or missing, please contact your local dealer immediately. Also, keep the box and packing materials in case future shipment is necessary.

CAUTION: The Camera must be used with the power adapter included with the device.

System Requirements

Networking

- Local Area Network: 10Base-T Ethernet or 100Base-TX Fast Ethernet
- Wireless Local Area Network: IEEE 802.11b/g Wireless LAN (TV-IP600W only)

Computer

- CPU: 1.3GHz or above
- Memory: 128 MB or above
- VGA Resolution: 1024 x 768 or above (Independent Display Card recommended)
- Network Card
    - For cabled connections: 10BASE-T Ethernet or 100BASE-TX Fast Ethernet Network Interface Card
    - For wireless connections: 802.11 series Wireless Interface Card
- CD-ROM Drive for Setup Wizard on Installation CD-ROM
- IPView Pro 2.0 Application Users must use Microsoft® Windows® XP or Vista Operating System with Internet Explorer 6.0 or above with DirectX9.0 or Netscape Navigator™ 7.0 or above

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

Use the default settings to access the web-based management software and live video display.

Default configuration settings	
Username	This is the Username you will be prompted to enter when you access the TV-IP600/W 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.

Camera Hardware Components

This section provides information about the Camera's hardware components:

Front Panel Components

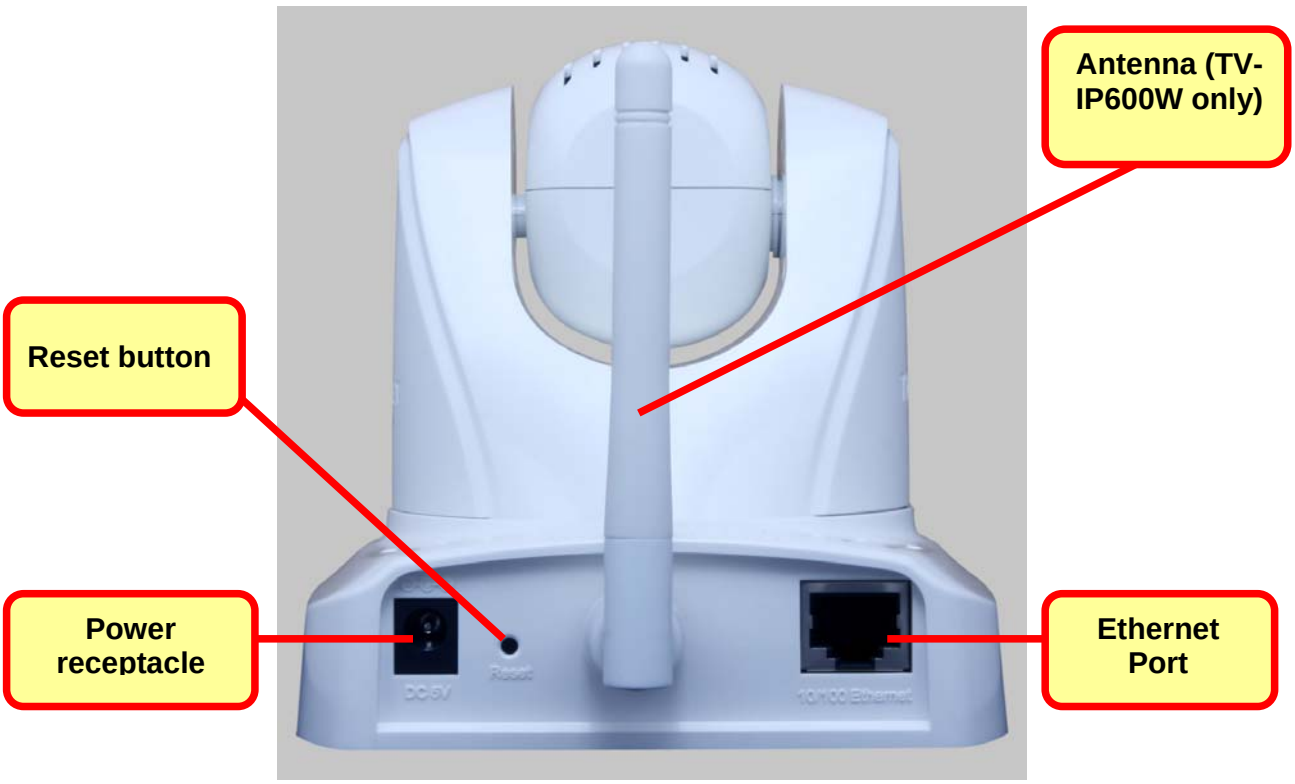
Front panel of TV-IP600/W

LED Indicators

LNK	This LED indicator lights steady orange when a valid Ethernet link is established. It blinks orange when traffic is received or transmitted through the Ethernet link.
PWR	This LED indicator lights blue when the camera is powered on. It remains dark when powered off.

Rear Panel Components

The power connection to the camera when fitted with the Infrared lens is split between the camera body and lens using the power connection adapter cable attached to the infrared lens. All other cables connect to the camera at the rear panel.



Rear Panel view of TV-IP600/W

Ethernet Port	Connect to Ethernet LAN. The port is auto MDI-II/MDI-X and auto-negotiation for port speed.
Reset Button	Use to reset device to factory default settings including IP address and administrator user name and password.
Antenna	A threaded post is used for attaching the antenna. Fasten the antenna securely to the post.
Power receptacle	Connect power adapter shipped with the camera and plug into suitable power source.

2

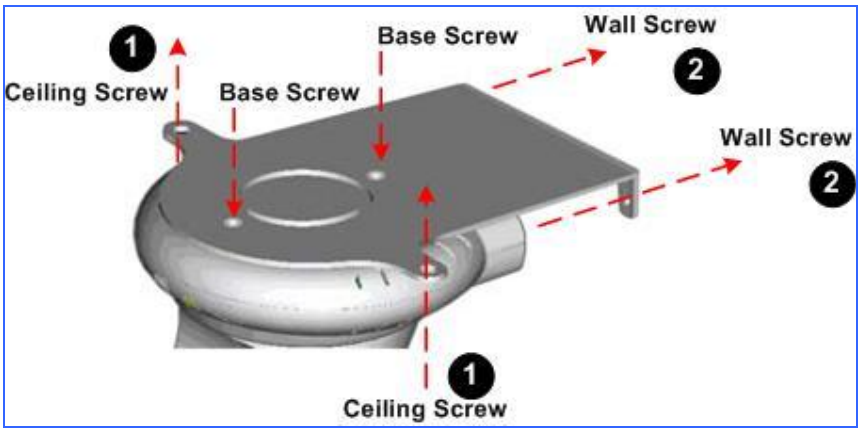
Installing the Camera

The camera is intended for indoor use. The camera, the power adapter and power source should be protected from water and moisture, excessive heat, direct sunlight and cold. Make sure the power adapter and its cord and the Ethernet cable are safely arranged so they do not create a tripping hazard and will not be disturbed by people or objects moving past.

Attach the Metal Plate

To attach the metal plate carry out the following:

1. Remove the two rubber pads under the base of the Camera.
2. Slide the metal plate onto the base of the Camera, making sure that the two holes on the base of the Camera align with the two screw holes on the base of the Camera.
3. Secure the metal plate to the base of the Camera with the two screws provided.
4. The Camera can now be mounted to the ceiling or a wall. See the diagram below for more information.



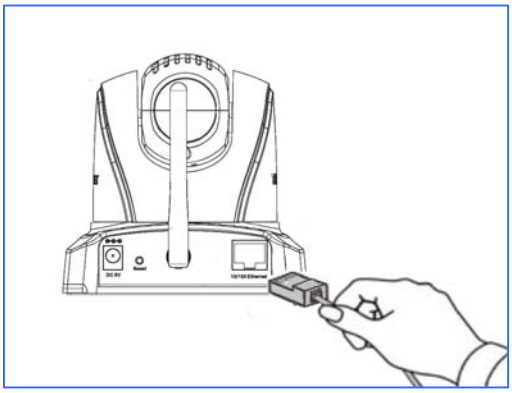
1. Install the Camera to the ceiling using the two ceiling screws (❶);

   Or,

2. Install the Camera using the two wall screws (❷).

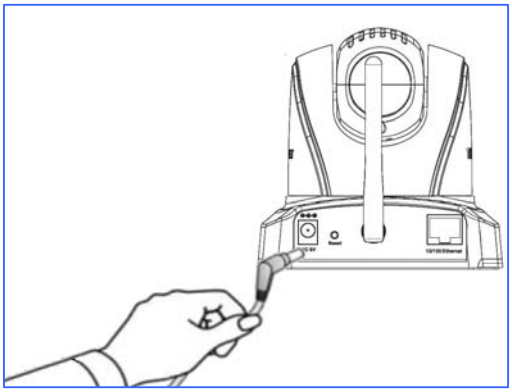
Connect Ethernet Cable

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 left side 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 and Power On Camera

To provide power to the camera, 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.



CAUTION: The Camera must be used with the power adapter included with the device.

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. Use a paper clip or similar object to hold down the reset button for three seconds. The reset button is located on the rear panel of the device. See the Rear Panel Components picture above to locate the reset button.
2. Release the reset button and the Power LED will begin to flash, indicating that the Camera is reverting back to factory settings.

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. If using the TV-IP600W Wireless Camera, the default SSID is "TRENDNet". 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.

3

Security

To ensure the highest level of security and prevent unauthorized usage of the Camera, the Administrator account has exclusive access to the System Administration configuration settings. The Administrator account can create up to 64 users and configure different privilege levels for each user. The Camera supports multi-level password protection and access to the Camera is strictly restricted to User's that have been created in the **User Configuration** menu.

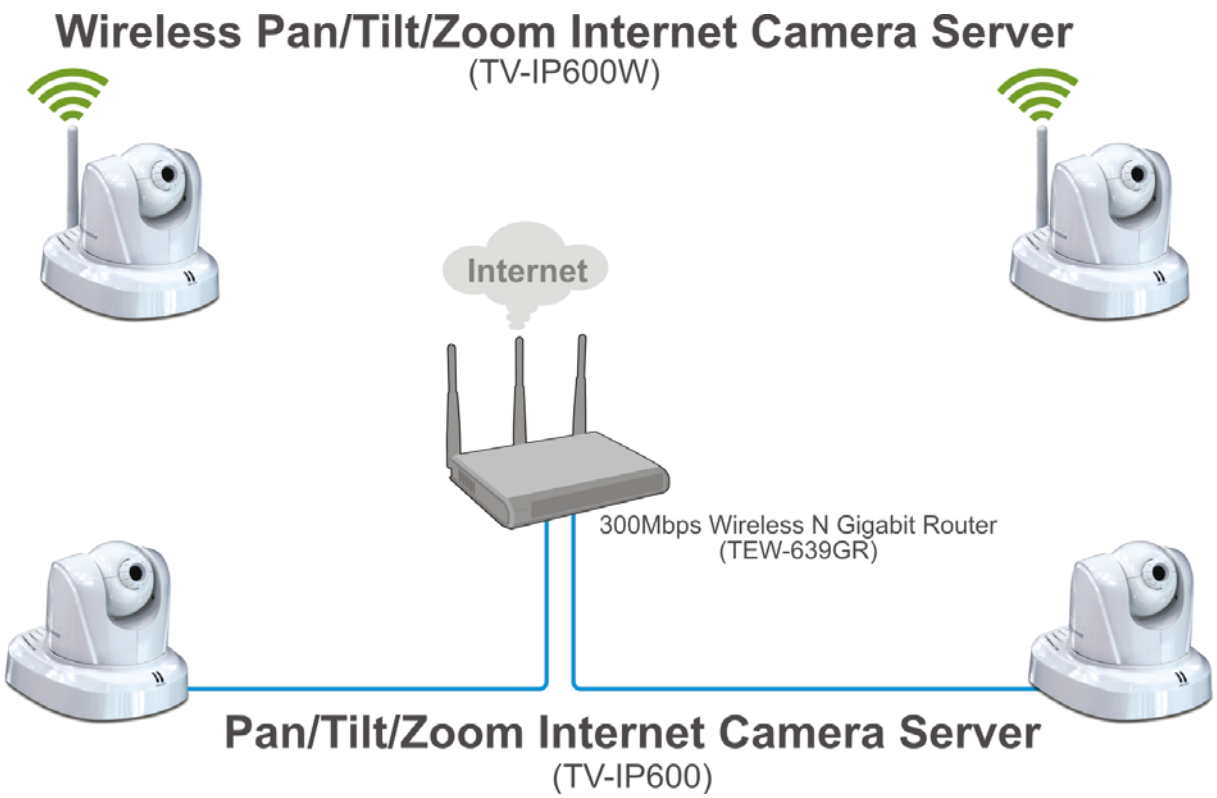
4

Application

The TV-IP600 / TV-IP600W camera can be applied in a wide range of applications, including:

- Monitoring of local and remote places and objects, such as construction sites, hospitals, amusement parks, schools and day-care centers by using a web browser.
- Using the IPView Pro application to capture singles frame images.
- Configuring the Camera to upload images to an FTP Server or sending e-mail messages with single frame images.

The diagram below shows the Camera being used for a number of different applications using the IPView Pro applications and includes basic information that may assist you with installing and configuring the Camera:



5

Using the Utility

This chapter describes the software utilities for the IP Camera, including how to set up your Camera with the utility. The **SetupWizard** has a user-friendly interface that allows you to setup the Camera easily.

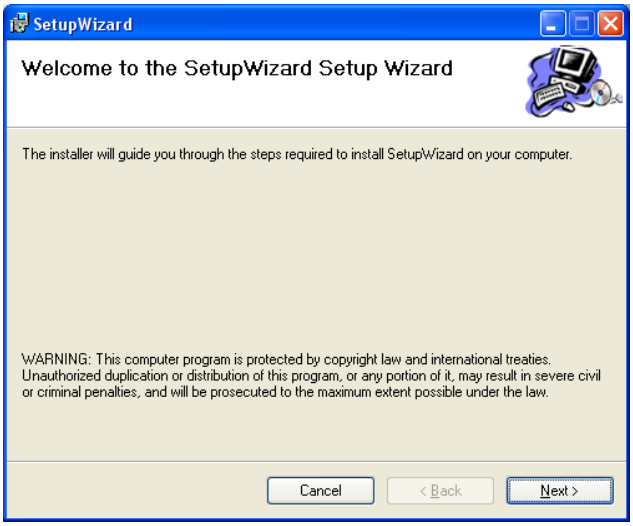
SetupWizard

This section describes how to install the SetupWizard and how to use the SetupWizard to setup and install your Camera quickly and easily. To install the SetupWizard on a system running Windows, launch the SetupWizard on the installation CD-ROM and follow the setup instructions.

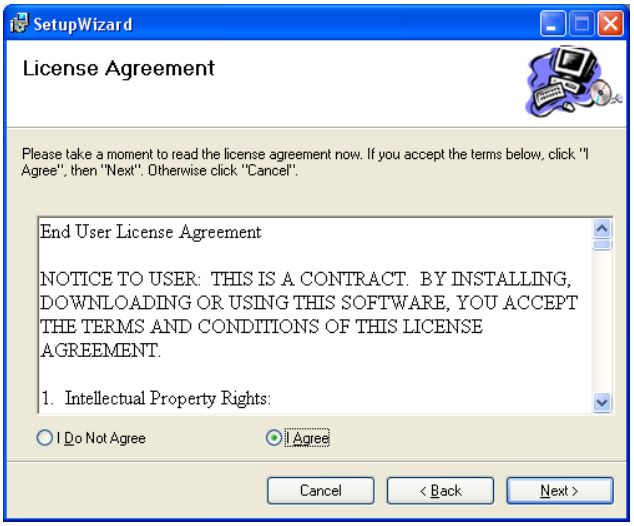
Installing the SetupWizard

1. Click the **Setup Wizard** button for the Auto-Run menu screen. The InstallShield Wizard will appear:

    - Click **Next >** to continue.

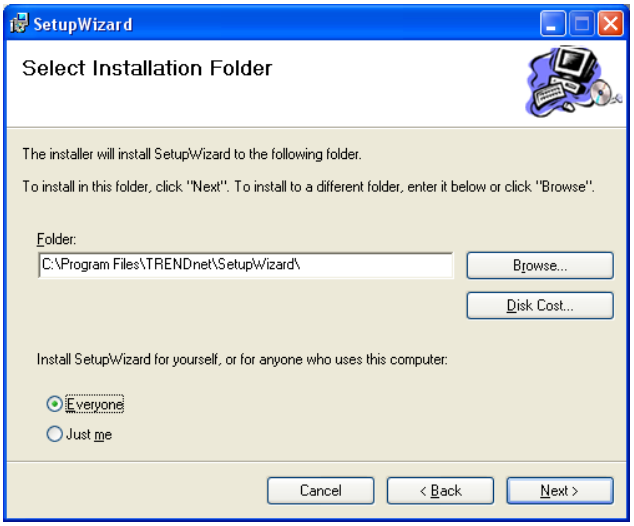


2. The next window asks you whether you want to accept the License Agreement or not.



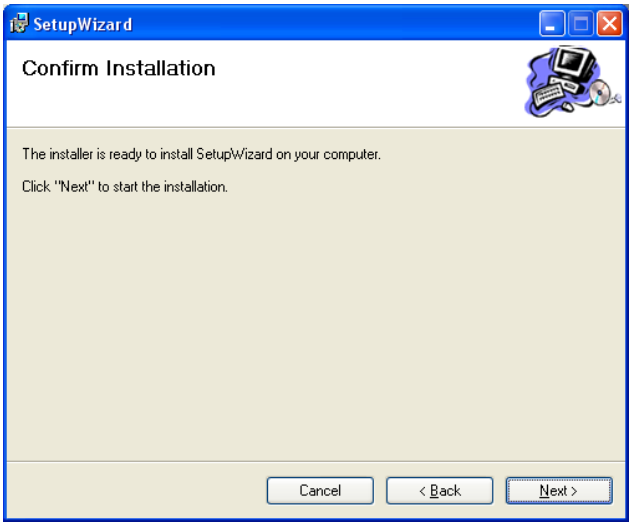
   - If you agree with the Licensing Agreement, click the **I Agree** radio button and the **Next >** button.
   - If you don't agree with the Licensing Agreement, click the **I Do Not Agree** radio button to exit the install wizard.

3. The following window appears asking you to choose the desired installation location. By default the destination location is C:\Program Files\TRENDnet\SetupWizard.



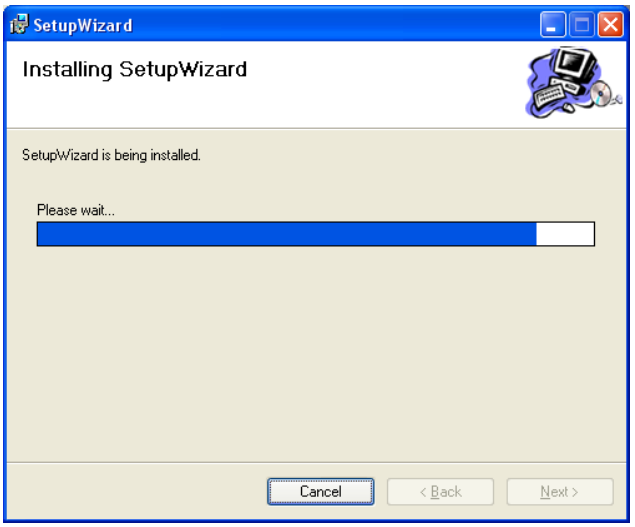
   - Click the **Browse** button to change the default installation location.
   - Click the **Everyone** radio button to make the SetupWizard available to all users on your Computer.
   - Click the **Just me** radio button to only make the application available to the user who is running the SetupWizard installation.
   - Click **Next >** to continue.

4. The following window appears informing you that the installation is ready to start:

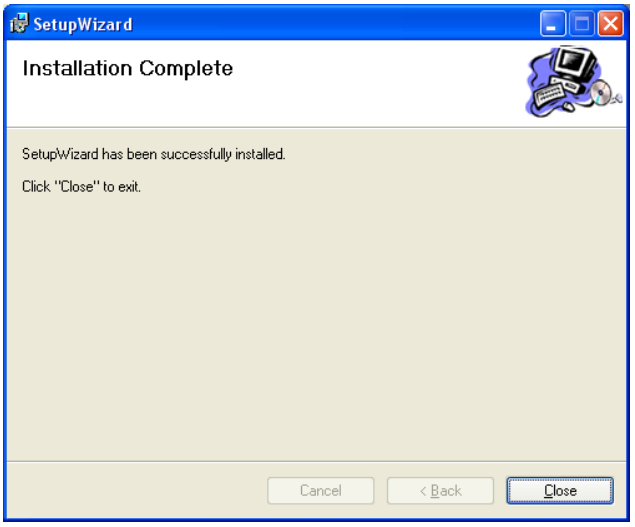


   - Click **Next >** to start the Installation.

5. The software will start to install. The following window appears, showing the progress of the installation:



6. When installation is complete the following window appears to confirm that the SetupWizard has installed successfully:



   - Click **Close** to exit the installation

After installing the SetupWizard, the application program for the Camera is automatically installed on your computer.

Launching the SetupWizard

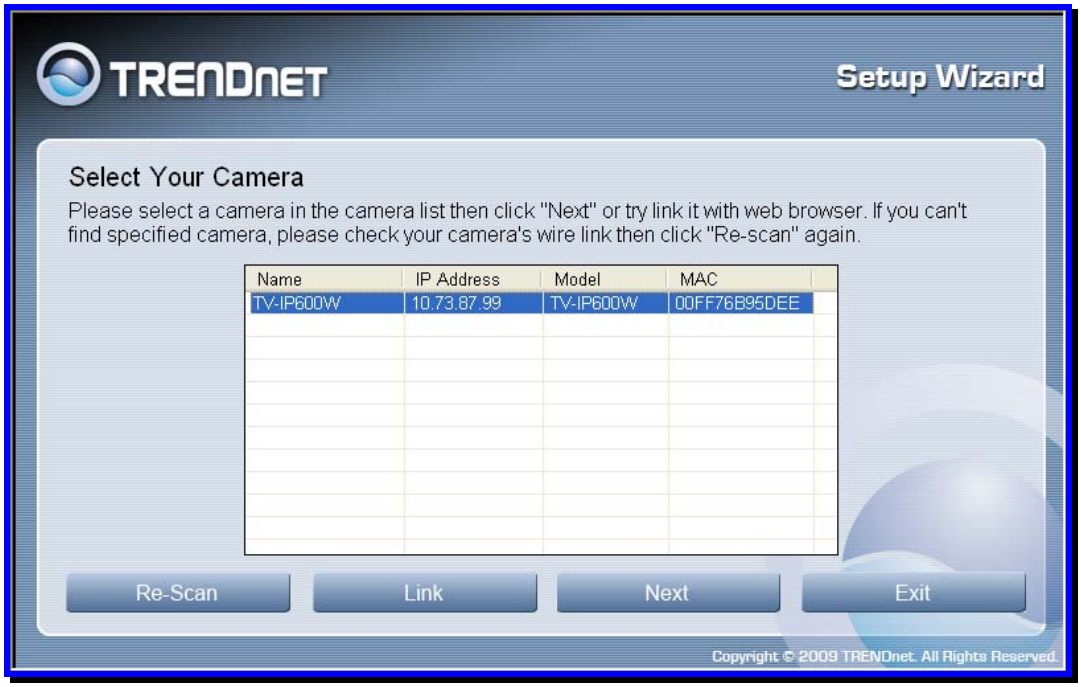
To launch the SetupWizard, click the SetupWizard icon on your desktop or go to **Start** > **Programs** > **TRENDnet** > **SetupWizard** > **SetupWizard** to start the appilcation.

SetupWizard- 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.

SetupWizard- 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.

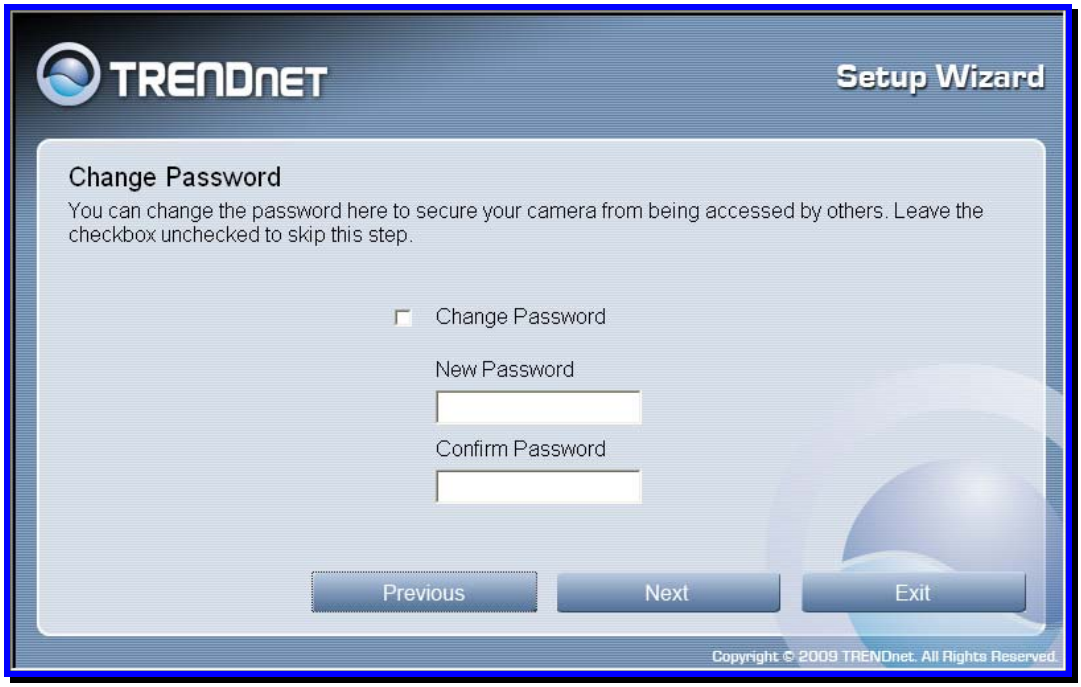
SetupWizard- Authentication

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 a *password* for the User in the **Password** field.
- Click **Next** to continue.

SetupWizard- 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

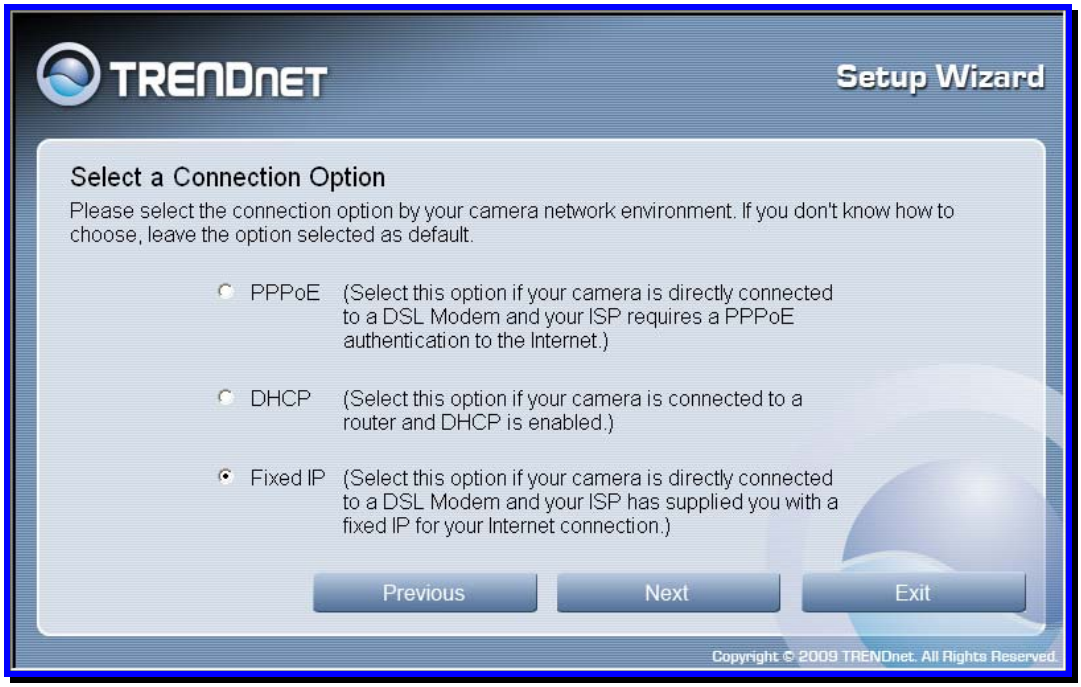
If you don't want to change the admin password, leave the checkbox un-ticked and click **Next**.

SetupWizard- Select a Connection Option

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

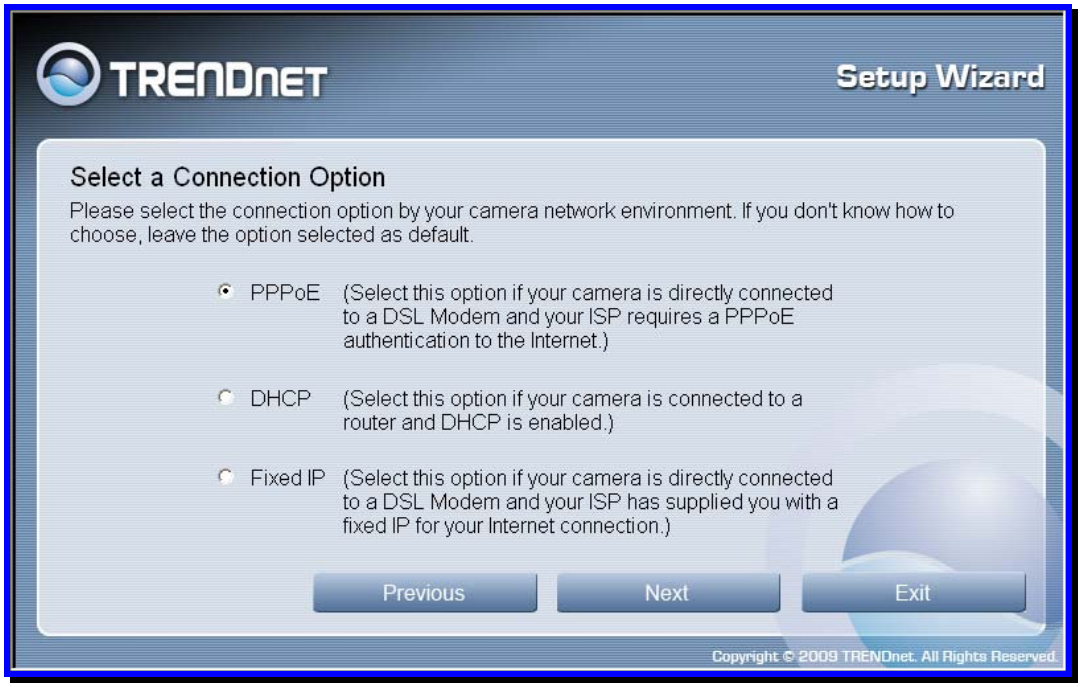
Click the radio button of the network environment your camera is connected to. The available options are:

- **PPPoE**
- **DHCP**
- **Fixed IP**

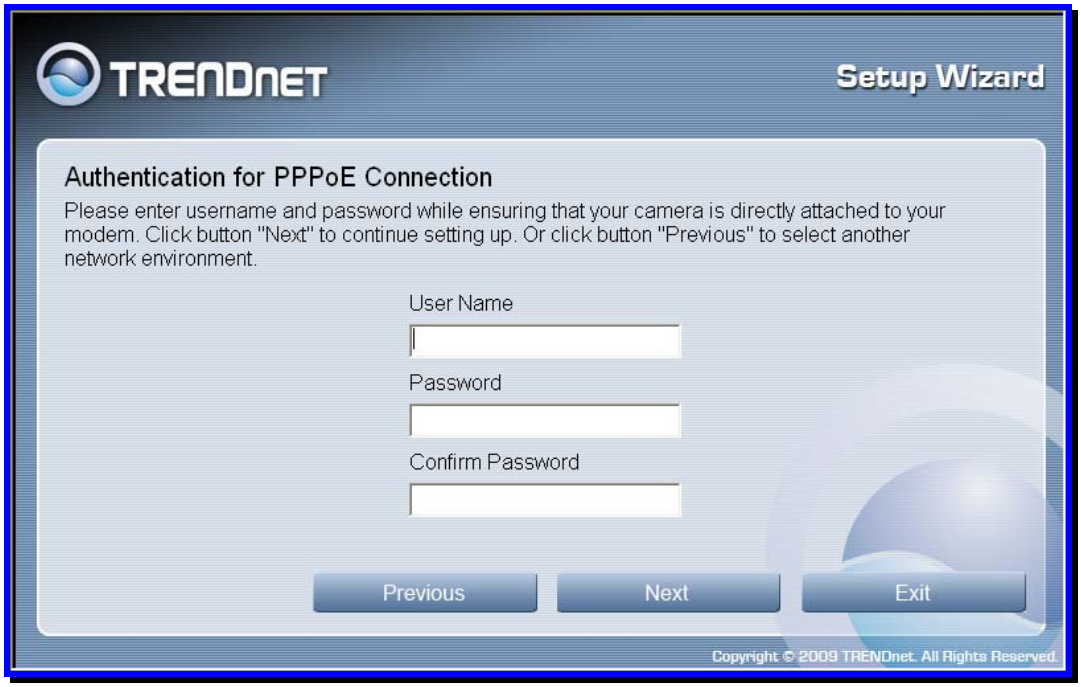


SetupWizard – Select a Connection Option - PPPoE

If your connection method is PPPoE, click the **PPPoE** radio button and click **Next**:



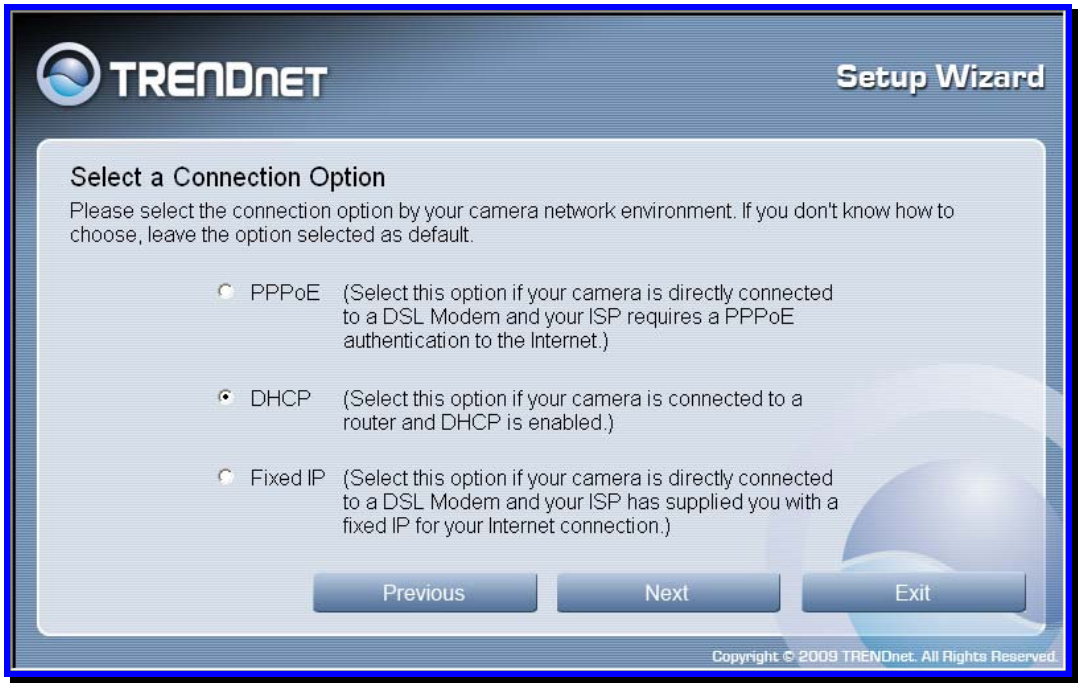
The following window appears:



- 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.

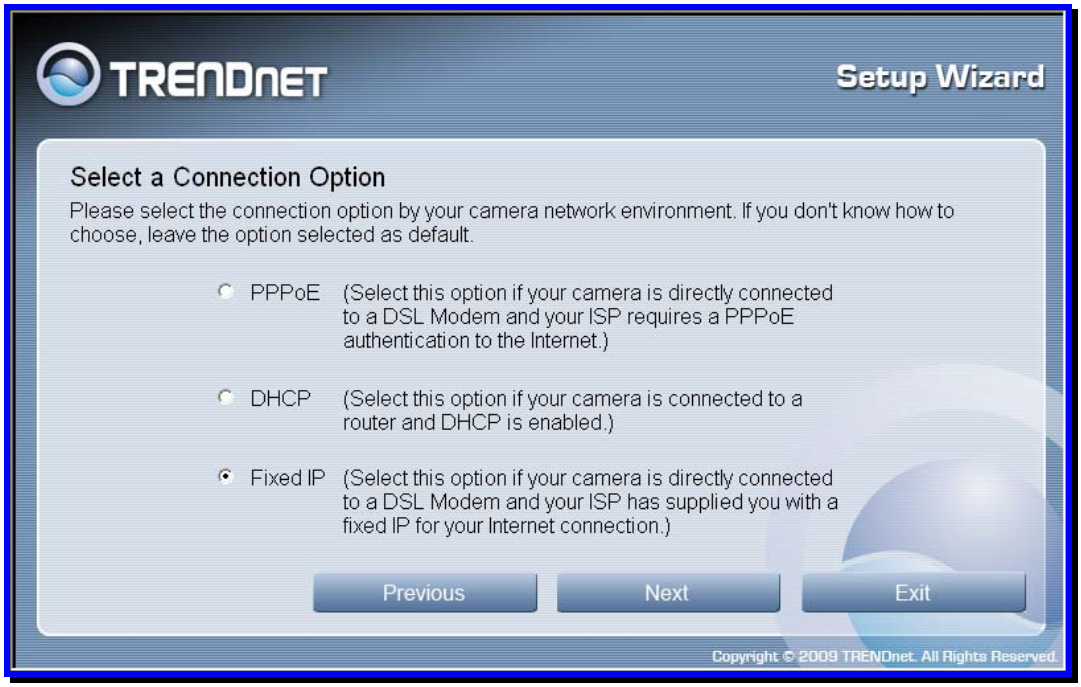
SetupWizard- Select a Connection Option- DHCP

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

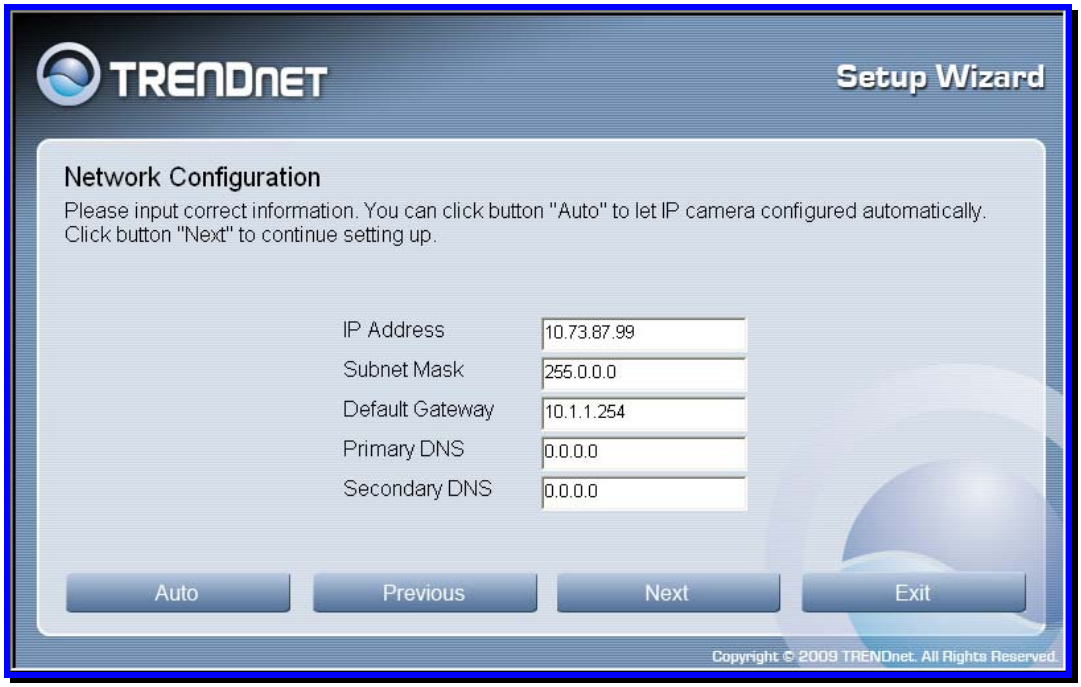


SetupWizard- Select a Connection Option- Fixed IP

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.

SetupWizard- Setup Wireless (For TV-IP600W only)

After choosing your connection method, the following window appears:

- Choose if you want to connect to your camera using the wireless connection or not by clicking the appropriate radio button.
- Click **Next** to continue.

SetupWizard- Setup Wireless (For TV-IP600W only)

If you selected the option to use a wireless connection to connect to your camera the following window appears:

- Choose the *Access Point* you want to connect the camera to from the **Available AP** drop-down menu. If the Wireless LAN you want to connect to doesn't appear in the **Available AP** list, click the **Re-Scan** button to scan for additional Wireless LAN's.
- Type the *SSID* of the WLAN you want to connect to in the **SSID** field.
- Choose the *Wireless Mode* of your WLAN from the **Wireless Mode** drop-down menu.
- Choose the *Channel* of your WLAN from the **Channel** drop-down menu.
- Choose the *Authentication method* of your WLAN from the **Authentication** drop-down menu.
- Choose the *Encryption method* of your WLAN from the **Encryption** drop-down menu.
- Type the *Encryption Key* used by your Wireless LAN in the **Key** field.
- When you have finished configuring the wireless settings, click **Next** to continue to the next setup window.

SetupWizard- 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.

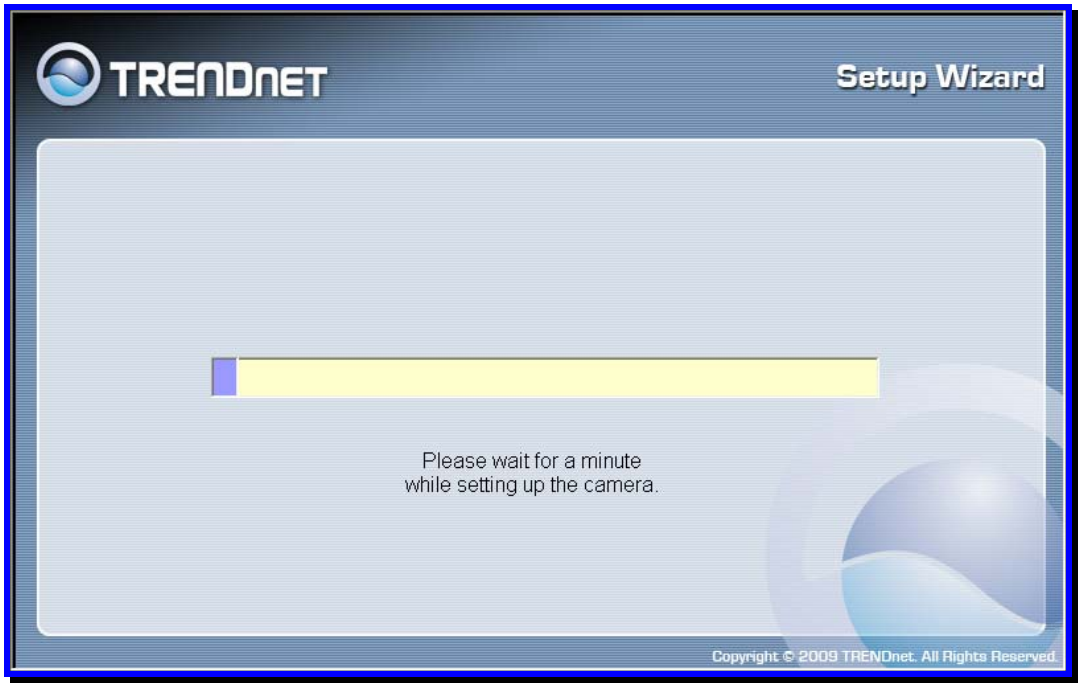
SetupWizard- Setting Up The Camera

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.

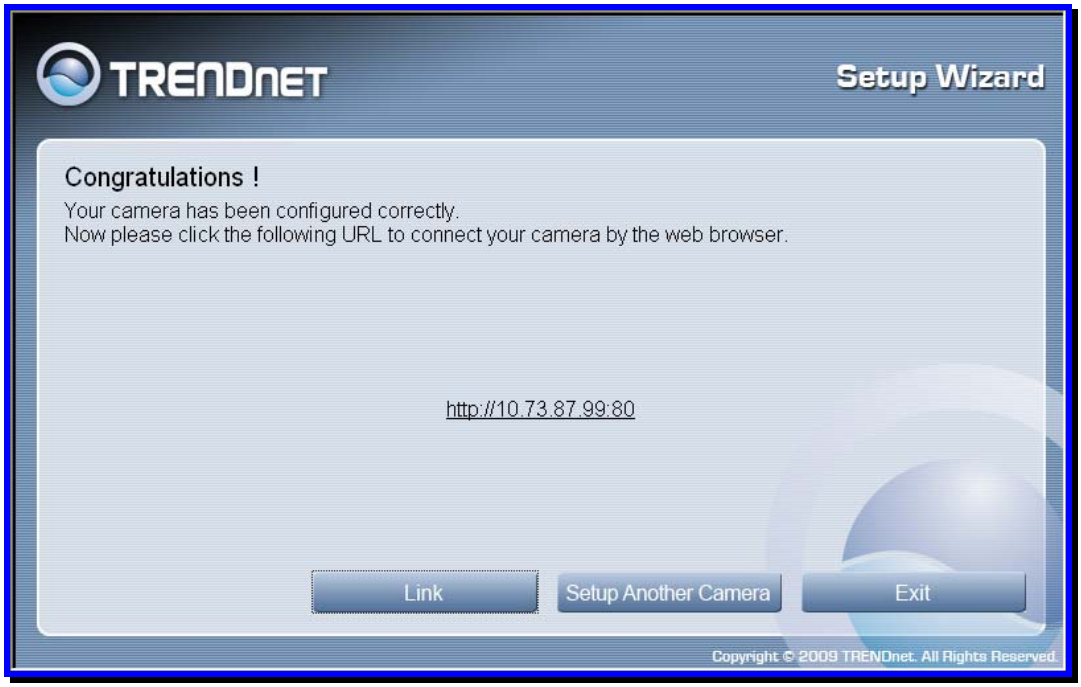
SetupWizard- Camera Restart

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



SetupWizard- Complete

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



- Click the hyper-link 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.

6

Using the Camera Web Manager

The camera is easy to use and manage. Use a normal web browser to access the camera's live video display, as well as the configuration software. It is recommended to 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 area that is difficult to physically access.

For the initial setup, use the SetupWizard program located on the TV-IP600/W CD-ROM included with the camera. Use the IPCam 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 to link to the cameras.

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. See the Quick Installation Guide for instructions on using the Setup Wizard utility.

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 web interface of the VLAN Switch, configure the proxy settings to bypass the proxy server or disable use of proxy servers and try to connect again.

To check proxy setting for Windows Internet Explorer:

1. In Windows, click on the **Start** button, go to **Settings** and choose **Control Panel**.
2. In the **Control Panel** window, double-click on the **Internet Options** icon. (Alternatively you can access this **Internet Options** menu using the **Tools** pull-down menu in Internet Explorer.)
3. Click the **Connections** tab and click on the **LAN Settings** button.
4. Verify that the "Use proxy server" option is NOT checked. If it is checked, click in the checked box to deselect the option and click **OK**.

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 Configuration Utility

After successfully logging in, the camera Welcome screen will appear with a still image. There are four options to choose from for setting up your camera:

- **Home**
- **Administration**
- **View Video – ActiveX**
- **View Video – Java**

Welcome Screen of the Web Configuration Utility

Administration

Click the **ADMINISTRATION** link to view the menus in the Administration Menu directory. The following menus are available in the Administration Menu directory: **Status System**, **Video**, **Wireless *(only for TV-IP600W camera)***, **Network** and **Active Users**. To access a menu click the link of the item you want to configure.

System menu in Administration directory

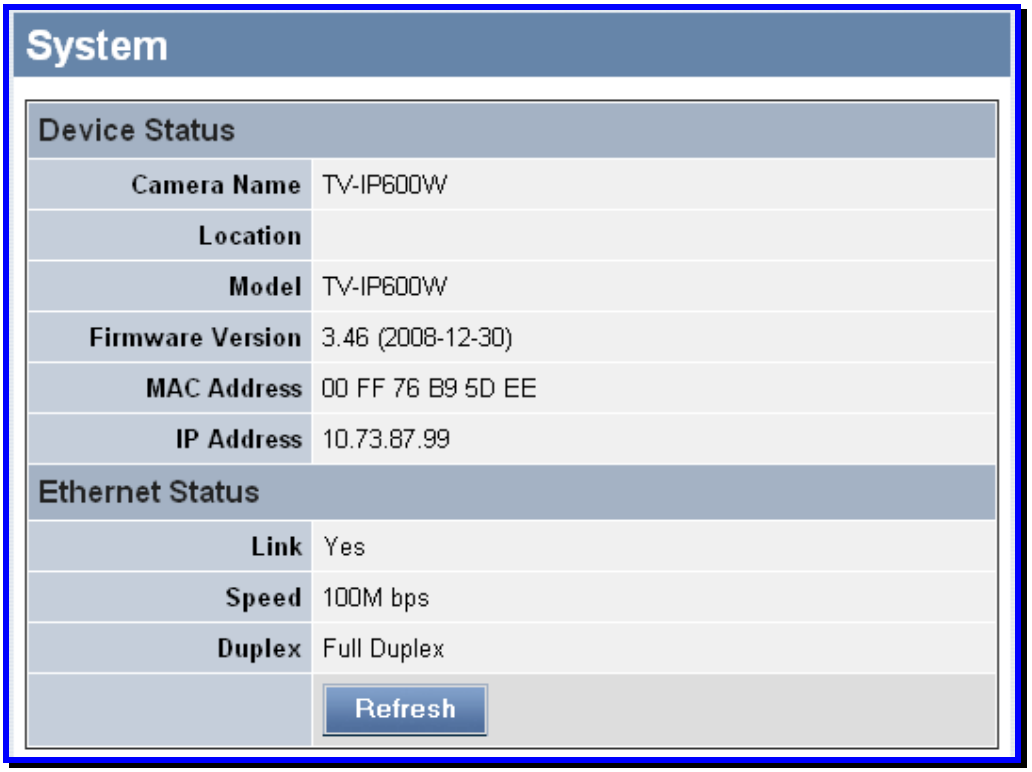
The different menus that are available are presented and described in the following pages.

Status

The following menus are available in the Status: **System**, **Video**, **Wireless *(only for TV-IP600W camera)***, **Network** and **Active Users**. To access a menu click the link of the item you want to view.

System Status

Click the System link from the column on the left hand-side to display the Device and Ethernet Status of your camera as shown on the screen below:



System Status display

Device Status

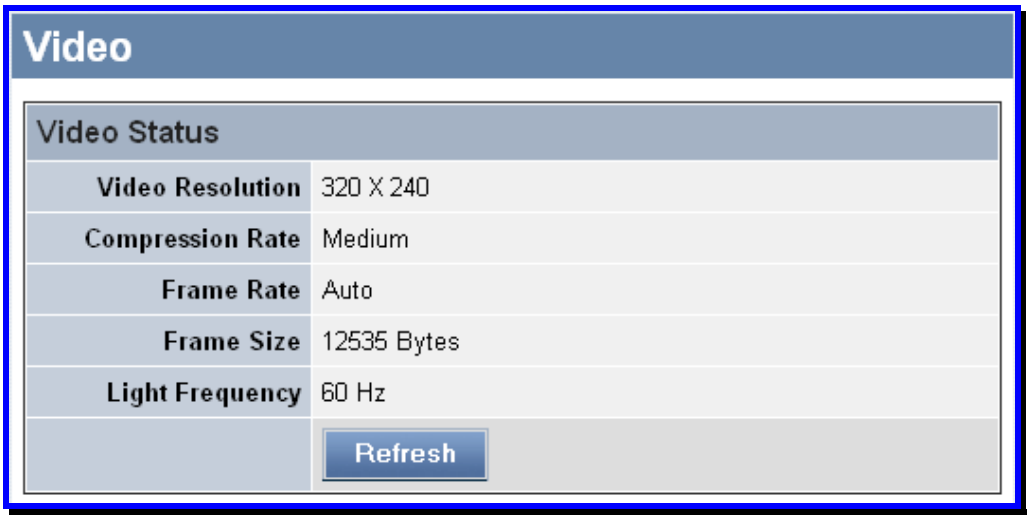
This section displays the *Camera Name*, *Location*, *Model*, *and Firmware Version*, *MAC Address* and *IP Address* of the camera.

Ethernet Status

This section allows you to monitor the networking status of the camera, including the *Link (network connection)*, *Speed* and the *Duple*x mode.

Video Status

Click the Video link from the column on the left hand-side to display the Video Status of your camera as shown on the screen below:



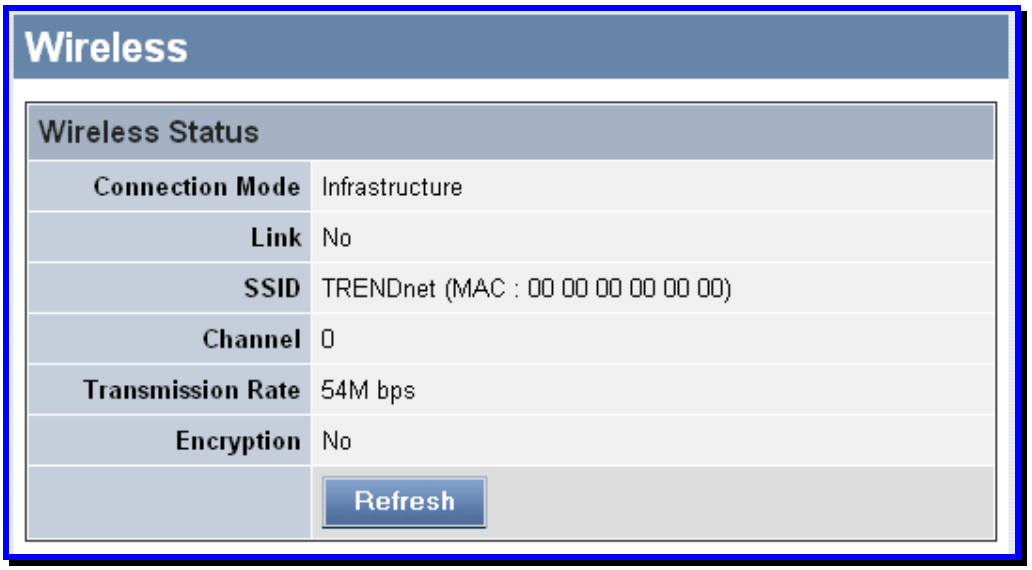
Video Status display

Video Status

This section displays the video configuration of the camera, including the *Video Resolution*, *Compression Rate*, *Frame Rate*, *Frame Size* and *Light Frequency*.

Wireless Status (for TV-IP600W only)

Click the Wireless link from the column on the left hand-side to display the Wireless Status of your camera as shown on the screen below:



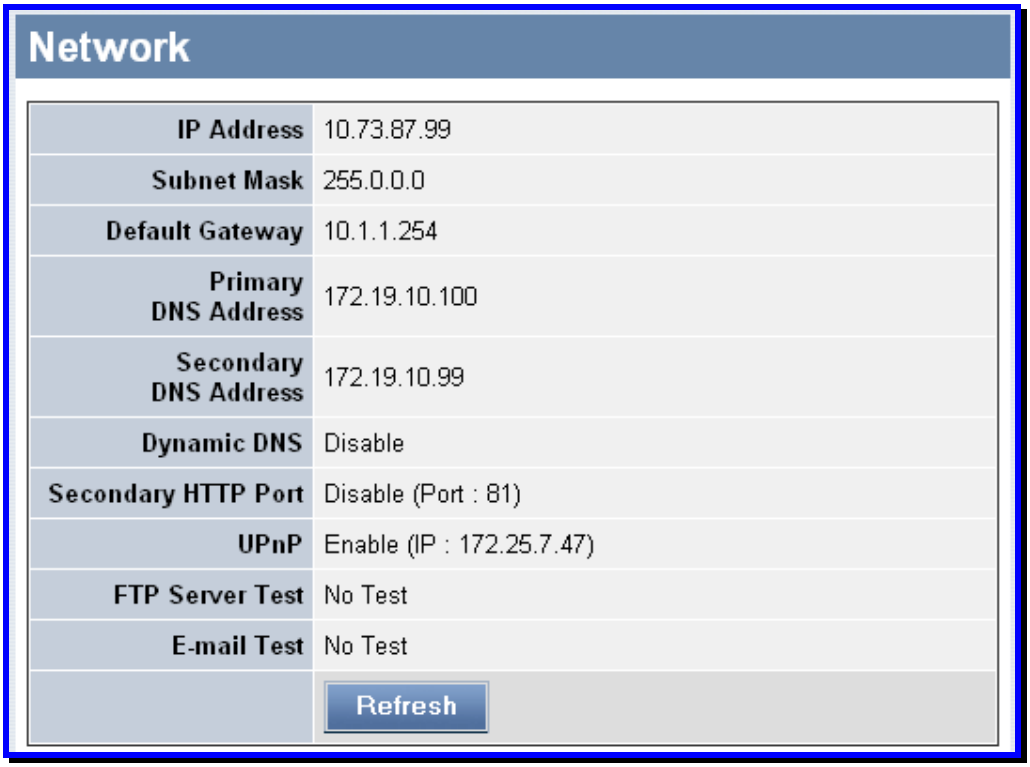
Wireless Status display

Wireless Status

This section displays information about the Camera's Wireless LAN connection, including the *Connection Mode (Infrastructure or Ad-Hoc)*, *Link (whether the wireless connection is up or down)*, *SSID*, *Channel*, *Transmission Rate* and *Encryption (whether encryption is enabled or not).*

Network Status

Click the Network link from the column on the left hand-side to display the Network Status of your camera as shown on the screen below:



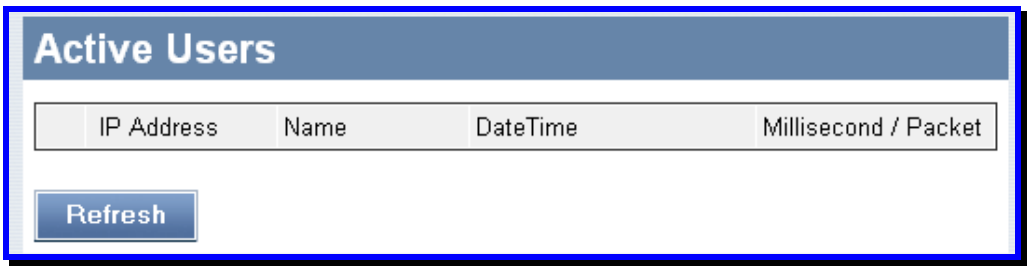
Network Status display

Network Status

This section displays information about the Camera's LAN connection, including the *IP Address*, *Subnet Mask*, *Default Gateway*, *Primary/Secondary DNS Address*, *Dynamic DNS (whether Dynamic DNS has been disabled or enabled)*, *Secondary HTTP Port (whether Secondary HTTP Port has been enabled or disabled and the port number configured)*, *UPnP (whether UPnP has been enabled or disabled and the IP address configured for UPnP)*, *FTP Server Test* and *E-mail Test.*

Active Users

Click the Active Users link from the column on the left hand-side to display the Active Users currently connected to your camera as shown on the screen below:



Active Users display

Active Users

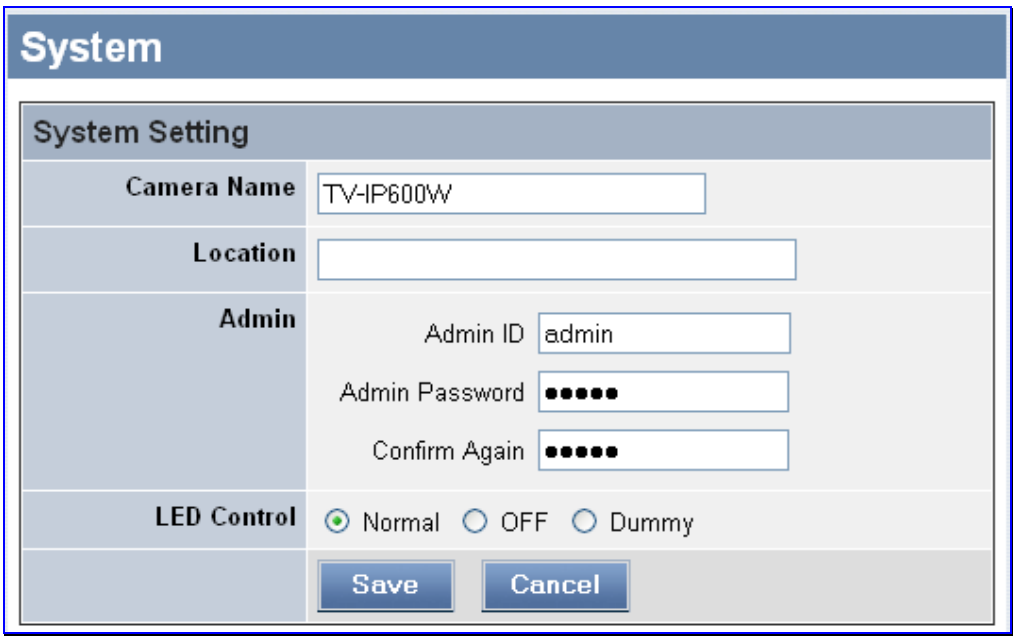
This section displays the *IP address* and *Name* of each user currently connected to the Camera, the *Date/Time* they connected and the rate of *Millisecond / Packet* that the user is transmitting.

Configuration

The following menus are available in the Configuration directory: **System**, **Video**, **Wireless *(only for TV-IP600W camera)***, **Network**, **User**, **Date/Time**, **Upload** and **E-mail**. To access a menu click the link of the item that you want to view.

System Configuration

Click the System link from the column on the left hand-side to configure the basic settings of the camera.



System Setting menu

System Setting

Use this section to configure basic information for your camera:

- **Camera Name:** Use this field to enter a descriptive name for the device. The default name of the Camera is the same as the Camera model name. Therefore, for the TV-IP600 the default name is TV-IP600 and for the TV-IP600W the default name is TV-IP600W. The maximum length allowed for the Camera Name is 32 (printable ASCII) characters.
- **Location:** Use this field to enter a description for the location used by the camera (optional).
- **Admin:** Use the fields to change the administrator name along with the password used to access the System Administration settings. Enter the *administrator name* in the **Admin ID** field, a *password* in the **Admin Password** field and confirm the *password* in the **Confirm Again** field.

The default setting for the **Admin ID** is “admin”. The maximum length allowed for the *Admin ID* is 12 (printable ASCII) characters. The default setting for the **Admin Password** is “password”.The maximum length allowed for the admin password is 8 (printable ASCII) characters.

It is highly recommended to set the *Admin ID* and *Admin Password* as soon as possible to enable the security option for the camera to function.

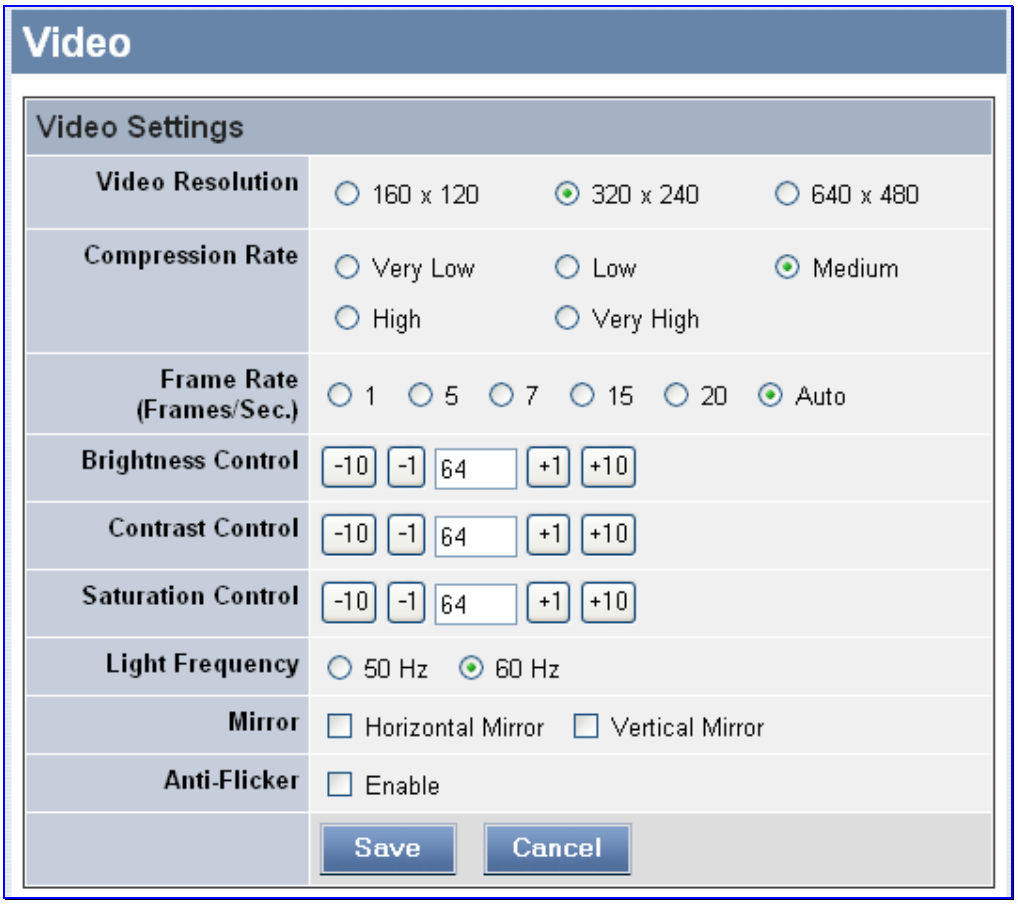
- **LED Control:** Use the radio buttons to control the LED illumination settings on the front of the Camera. The three LED Control options are as follows:

Normal	*Power* – LED indicator will light steady **Blue** when the device is powered on. *Link* – LED indicator will light steady **Orange** when the device has a network connection. The LED indicator will flash if there is network activity.
OFF	*Power* – The LED indicator will be switched off. *Link* – The LED indicator will be switched off.
Dummy	*Power* – LED indicator will light steady **Blue** when the device is powered on. *Link* – LED indicator will light steady **Orange** and flash randomly.

The default setting for the LED control is *Normal*. When you have configured the LED control, the correct illumination setting will be set after 1 minute.

Video Settings

Click the Video link from the column on the left hand-side to configure the image configuration of your camera.



Video Settings menu

Video Settings:

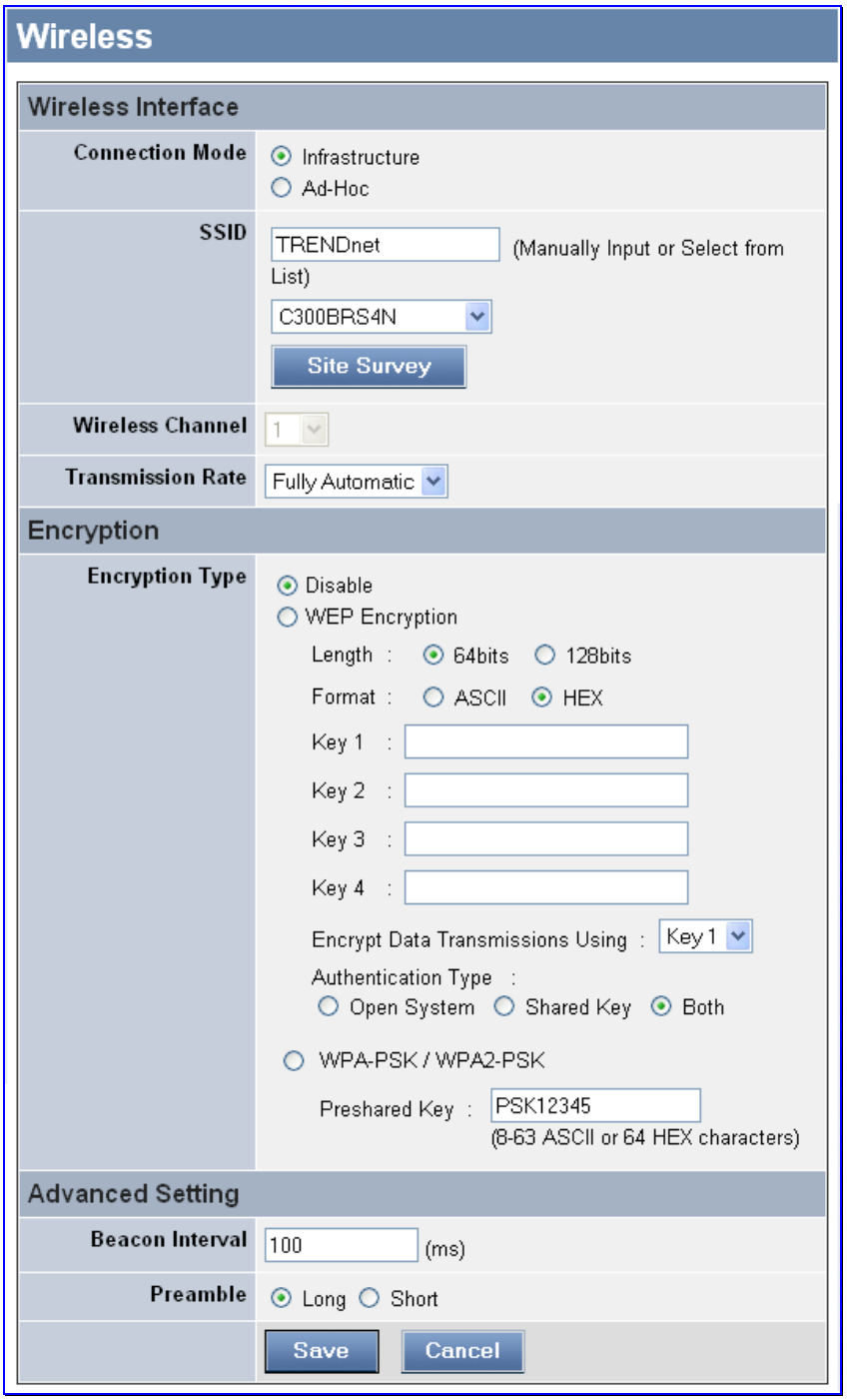
Use this section to configure the video settings for your camera as described below:

- **Video Resolution:** Click a radio button to set the desired video resolution format. The available options are *160x120*, *320x240* and *640x480*.
- **Compression Rate:** Click a radio button to set the desired compression rate. There are five levels to choose from starting from *Very Low* and ending at *Very High*. Higher video compression rates will generate more compact file sizes with lower video quality and vice-versa. The default setting is *Medium.*
- **Frame Rate:** Click a radio button to select the desired frame rate. The default setting is *Auto*.
- **Brightness Control:** Use the buttons to adjust the brightness level. The default setting is *64*.
- **Contrast Control:** Use the buttons to adjust the contrast level. The default setting is *64*.

- **Saturation Control:** Use the buttons to adjust the saturation level. The default setting is *64*.
- **Light Frequency:** Click the radio buttons to adjust the light frequency to suit the area the camera is viewing. The available options are *50 Hz* or *60 Hz (default).*
- **Mirror:** Tick the *Horizontal* checkbox to mirror the image horizontally. Tick the *Vertical* checkbox to mirror the image vertically. This function is useful if you are mounting the camera on a ceiling.
- **Anti-Flicker:** Tick the checkbox to eliminate the flicker rays that come from fluorescent light tubes.

Wireless Setup (for TV-IP600W only)

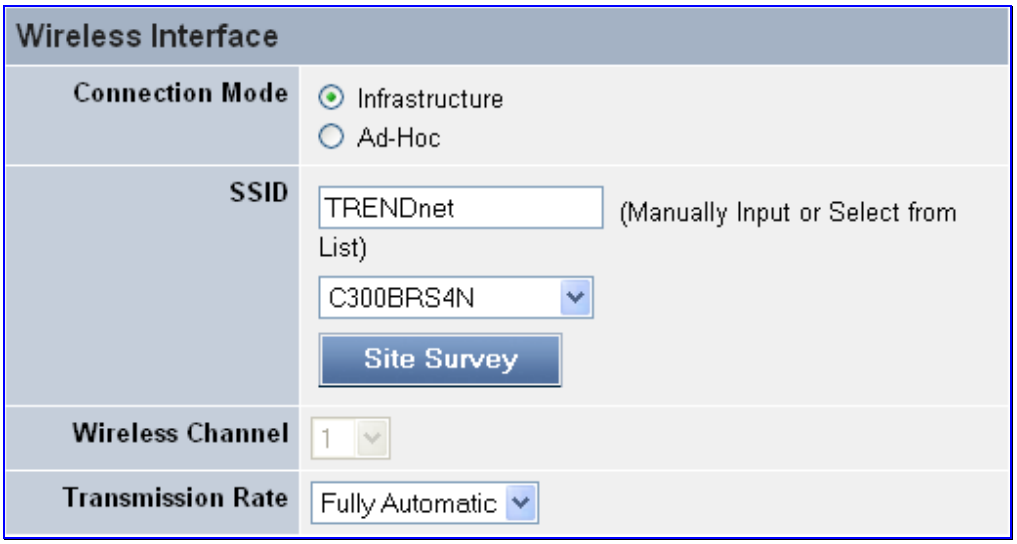
The TV-IP600W Wireless Network Camera supports normal wireless LAN functions for 802.11b/g wireless networks including WEP or WPA basic security settings.



Wireless Configuration menu

Wireless Interface

Use the Wireless Interface menu to configure the Camera's wireless interface.

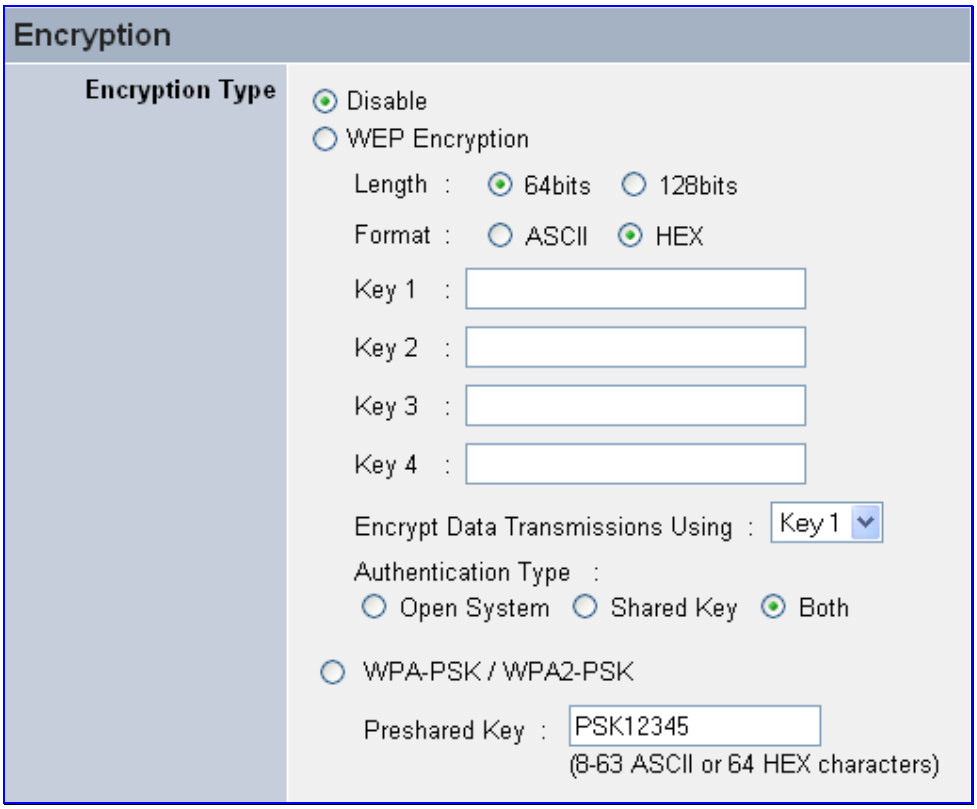


Wireless Interface menu

- **Connection Mode:** Click a radio button to determine the type of wireless communication for the camera. The two options are *Infrastructure* and *Ad-Hoc*, with *Infrastructure* being the default.
- **SSID:** The SSID (Service Set Identifier) is the name assigned to the wireless network. Type the SSID of the Wireless LAN you want to connect to in the SSID field or use the drop-down menu to choose the SSID you want to connect the Camera to. To refresh the list of available Wireless LAN's, click the **Site Survey** button.
- **Wireless Channel:** Use the drop-down menu to choose the channel used for communicating with your Wireless LAN. A "channel" is a range of frequencies used to communicate between the Camera and an Access Point in **Infrastructure** mode, or the Camera and PC/Notebook in **Ad-Hoc** mode.
- **Transmission Rate:** Use the drop-down menu to choose the transmission rate. The default setting is *Fully Automatic*.

Encryption

Use the Encryption menu to configure the Camera's Encryption settings.



Wireless Encryption menu

- **WEP Encryption:** Wireless network communications can be intercepted easily. WEP (Wired Equivalent Privacy) is an encryption method specified by the IEEE 802.11g standard to make intercepting wireless communication by unauthorized parties more difficult. Click this radio button to specify that WEP Encryption will be used. The default setting for this option is *Disable.*
- **WEP Key Length:** Click a radio button to specify the length of the WEP Key that is used on your Wireless LAN. The Camera offers *64 bits* or *128 bits* lengths for the WEP Key. In general, a larger key length creates a stronger cipher. The default setting is *64 bits*.

- **WEP Key Format:** If enabling WEP Encryption you should decide whether to use an *ASCII* or *HEX* format for your WEP Key. Use the radio buttons to choose an *ASCII* or *HEX* format for your WEP key and type the WEP keys used in the **Key 1 ~ 4** fields.

  ASCII input format:

  ASCII format causes each character you type to be intercepted as an eight-bit value. All unaccented upper and lower-case Western European characters that can be inputted through your keyboard's typing zone are valid. To setup a 64-bit WEP key, input 5 ASCII characters, e.g., '12345'. To setup a 128-bit WEP key, input 13 ASCII characters, e.g. '1234567890123'. These character counts result in bit counts of 40 and 104 respectively; the camera will automatically pad your input to a bit count of 64 or 128.

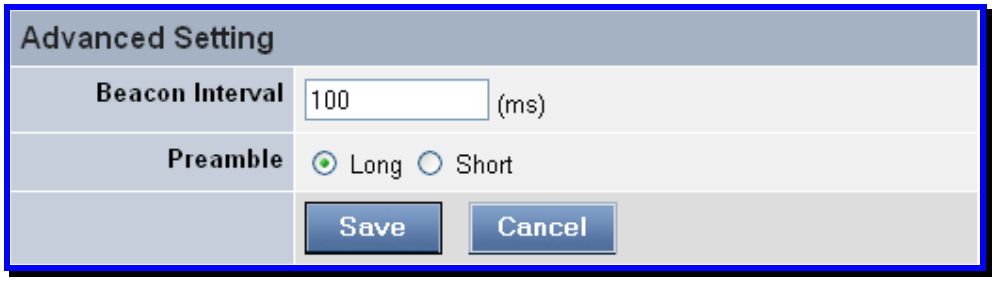
  HEX input format:

  HEX format causes each pair of characters you type to be interpreted as an eight-bit value in hexadecimal (base 16) notation. Only digits **0** through to **9** and the letters **A** through to **F** (in upper or lower case) are valid. To setup a 64-bit WEP key, input 10 HEX format. For example, '31323334353637383930313233', which is the same as ASCII input '1234567890123'. These character counts result in bit counts of 40 and 104, respectively; the camera will automatically pad your input to a bit count of 64 or 128.

- **Encrypt Data Transmissions Using:** Use the drop-down menu to decide if you want to use *Key 1*, *2*, *3* or *4* for encryption.
- **Authentication Type:** Click a radio button to specify the *Authentication Type* used with WEP Encryption. *Open System* communicates the key across the network. *Shared Key* allows communication only with other devices with identical WEP settings. The default setting is *Both*.
- **WPA-PSK / WPA-PSK2:** Click the radio button to enable WPA-PSK / WPA-PSK2 encryption for the Wireless connection. This encryption mode is designed for home and small business users to secure their wireless connection without using network authentication servers. In order to use this mode the user will need to type the WPA-PSK/ WPS-PSK2 password of their Wireless LAN in the **Preshared key** field.

Advanced Setting

Use the Advanced Setting menu to configure the Camera's advanced settings.

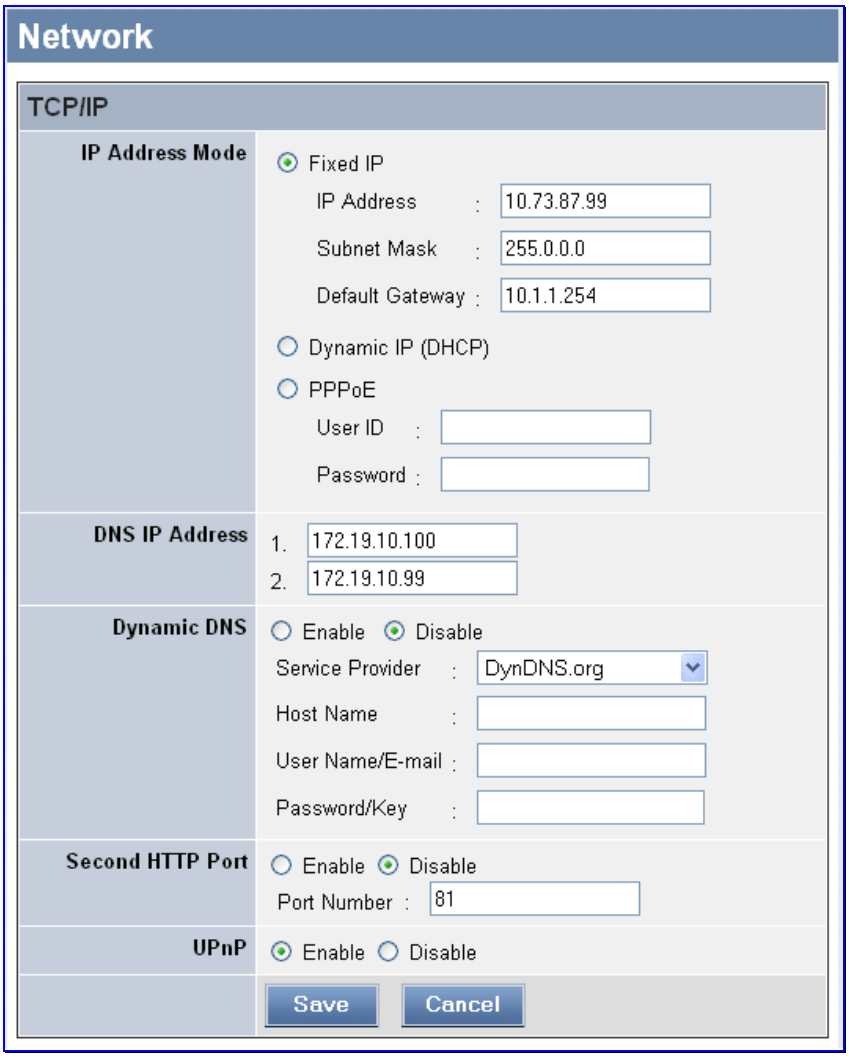


Advanced Setting menu

- **Beacon Interval:** Type a value to define the time interval between two beacons being sent.
- **Preamble:** A preamble is a signal used in a wireless environment to synchronize the transmitting time, including Synchronization and Start frame delimiter. Please NOTE that before changing the Preamble type to *Long* or *Short*, check the access point settings.

Network Settings

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



Network Setup menus

TCP/IP

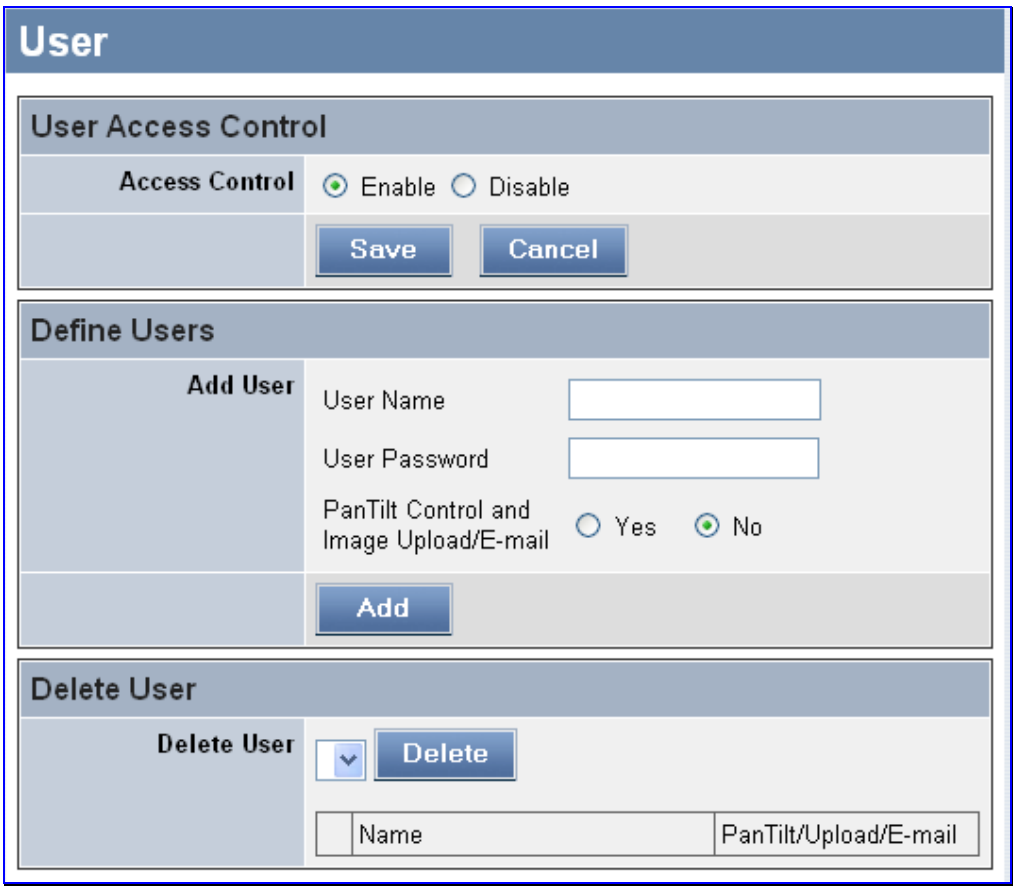
- **IP Address Mode:** Click a radio button to define the IP Address Mode:

Fixed IP	You can select this option and enter the IP address directly. The default settings are: • IP Address – 192.168.10.30 • Subnet Mask – 255.255.255.0 • Default Gateway – 0.0.0.0
Dynamic Address (DHCP)	If your network uses a DHCP server, select this option. According to this setting, the Camera will be assigned an IP address from the DHCP server automatically. If choosing this option please ensure that your DHCP Server is set to assign the Camera a Static IP address every time your Camera starts up.
PPPoE	If your application requires a direct connection from an ADSL modem through the Camera's RJ-45 LAN port, click this option and enter the *User ID* and *Password* in the respective fields. *(You should have an ISP PPPoE account.)* The Camera will then be issued an IP address from the ISP as it starts up.

- **DNS IP Address:** A DNS (Domain Name System) Server is an Internet service that translates domain names into IP addresses. Enter at least one DNS IP Address in this section.
- **Dynamic DNS:** Choose whether to *Enable* or *Disable* Dynamic DNS by clicking the respective radio button. The Dynamic DNS service allows you to alias a dynamic IP address to a static hostname in any domain, allowing your Camera to be accessed more easily from various locations on the Internet.
- **Second HTTP Port:** Some networks are configured to use a different port than the default port number of 80 for HTTP traffic. If your network uses a different port than 80 for HTTP communication, click the **Enable** radio button and type the port number used for HTTP communication on your network in the **Port Number** field.
- **UPnP:** UPnP is a pervasive peer-to-peer architecture type used for the network connectivity of intelligent appliances and PCs of all form factors. Click the **Enable** radio button to enable this function on your Camera.

User

Use the User menus to add, edit and delete users for your camera.



User menu

User Access Control

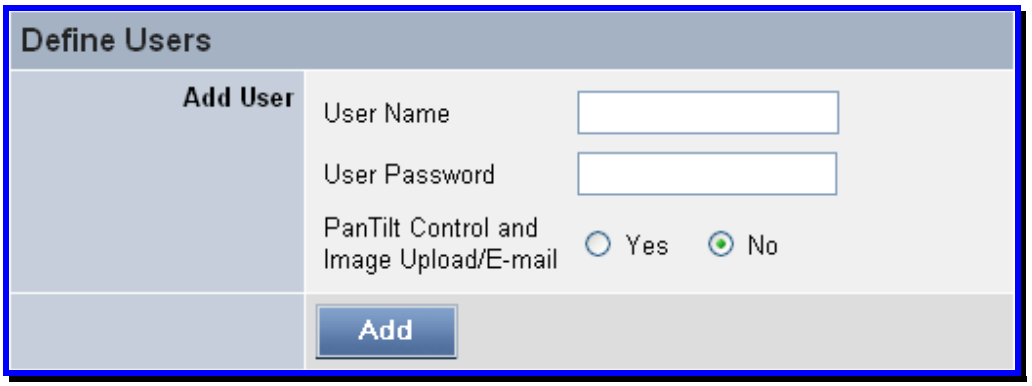
The Administrator has the authority to create additional users on the Camera and the privileges they have when accessing the Camera with the management software.

User Access Control menu

- **Access Control:** Click the **Enable** radio button to enable additional users to be created on the Camera.

Define Users

Use this section to add new users and define the privileges of the new user.



Define Users menu

- **Add User:** Type a name for the new user in the **User Name** field, a password in the **Password** field.

  Click the **Yes** radio button to allow the new user to use the Camera's PanTilt Controls and to be able to upload e-mail images.

Delete User

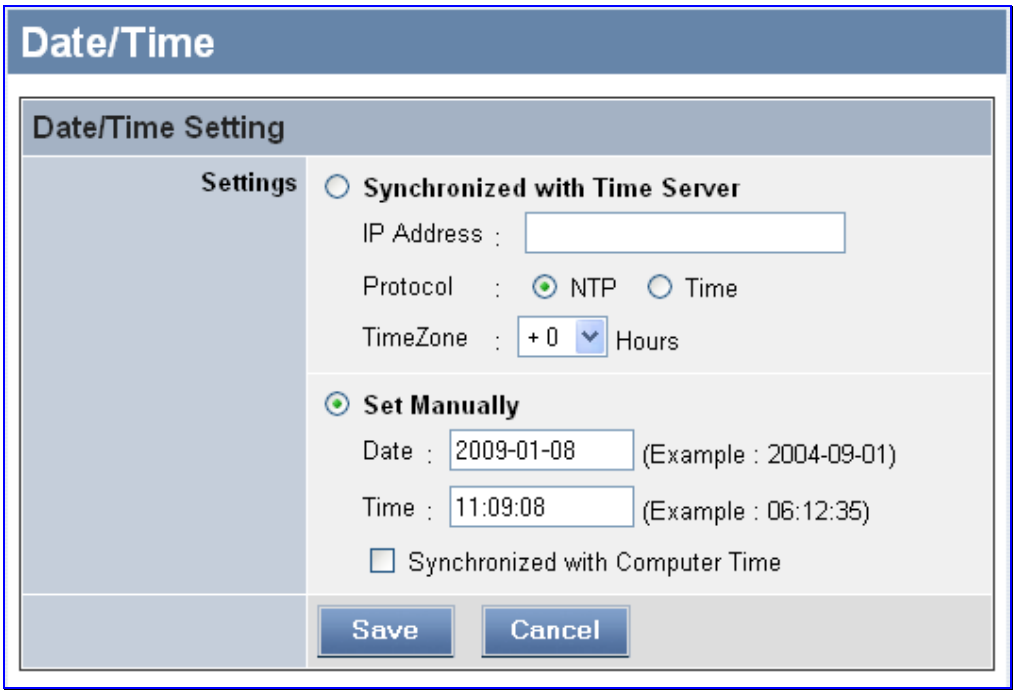
Use this section to delete existing users.

Delete User menu

- **Delete User:** Use this drop-down menu to select the user you want to delete and click the **Delete** button.
- **User List:** This list displays the current users setup on your Camera.

Date/Time

Use the Date/Time menu to set the Camera's time settings



Date/Time menu

Date/Time Setting

Use the radio buttons to specify if the Camera should set its time using a time server or if the time or be setup manually,

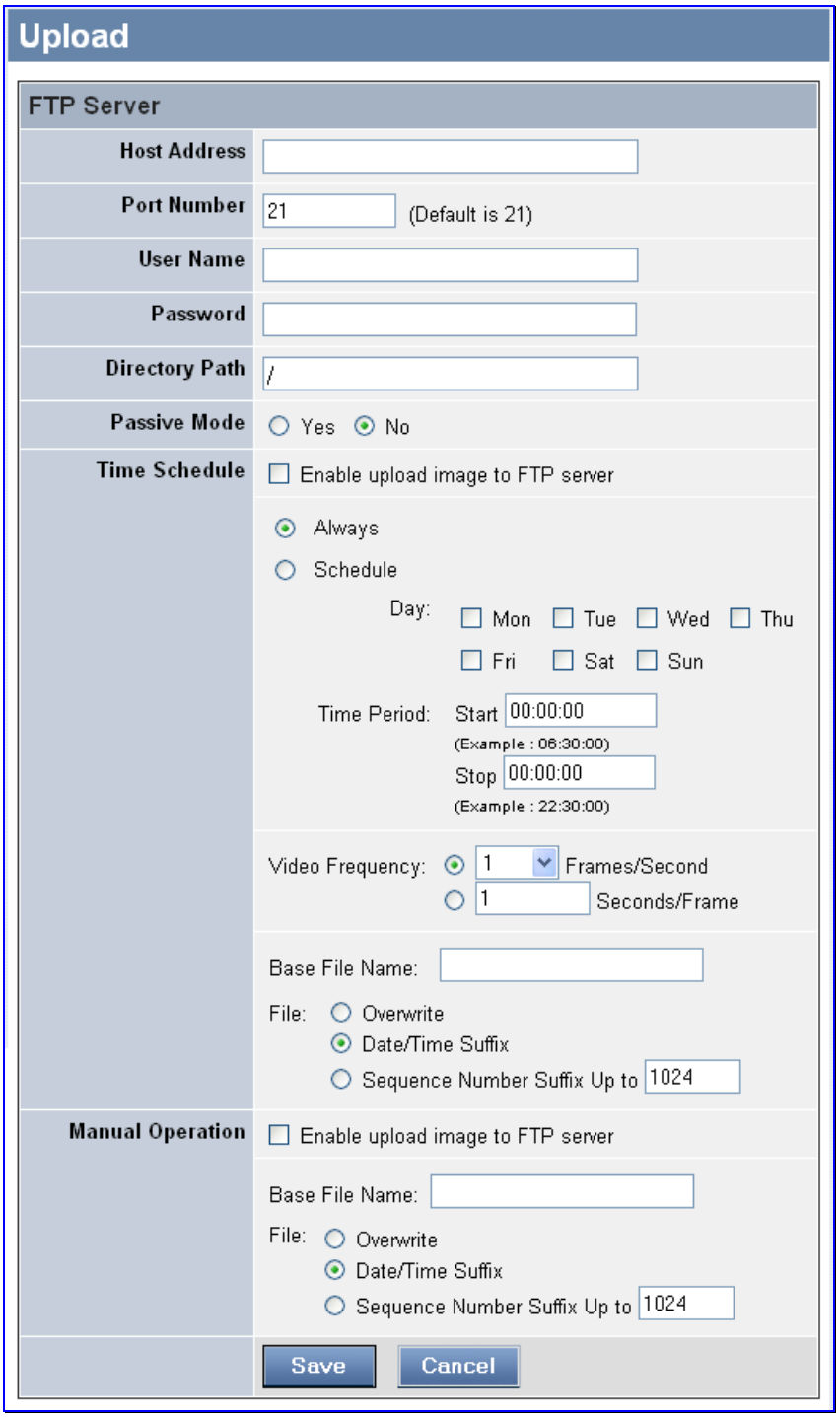
- **Synchronized with Time Server:** Selecting this option will set time using an NTP Server. The time will be synchronized every 24 hours. The following parameters need to be configured when choosing the **Synchronized with Time Server** option:

IP Address	Enter the IP Address of the Time Server in this field.
Protocol	Click a radio button to specify if the Time Server you are connecting to uses the *NTP* or *Time* protocol.
TimeZone	Select the time zone for the region you are located in from the drop-down menu.

- **Set Manually:** Select this option to enter the time manually. Type the current *date* in *yyyy-mm-dd* format in the **Date** field. Type the current time in *hh:mm:ss* format in the **Time** field. To synchronize the Camera time with the time set on your computer, tick the **Synchronized with Computer Time** checkbox.

Upload

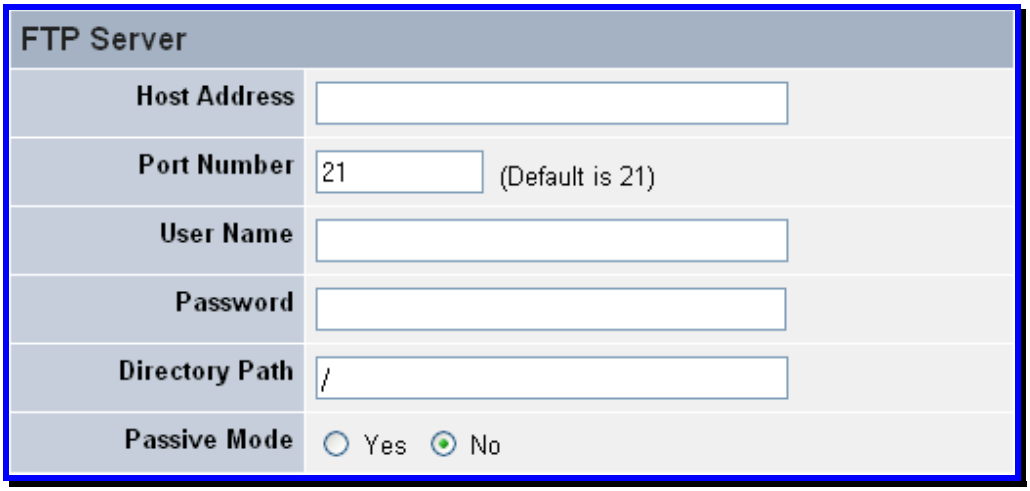
Use the Upload menu to setup the configuration for the FTP Server, schedule FTP Server Uploads and configure manual FTP Server Uploads.



Upload menu

FTP Server

Use this section to configure the basic settings of your FTP server.

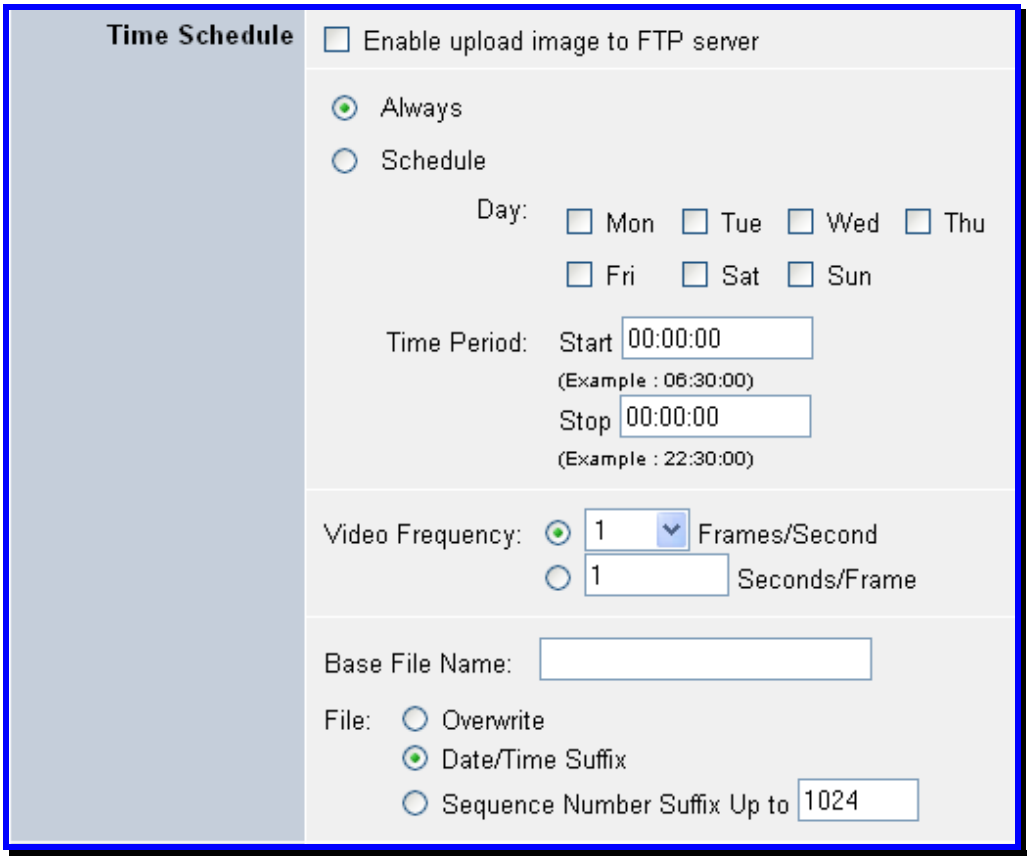


FTP Server menu

- **Host Address:** Use this field to type the IP address of the target FTP server.
- **Port Number:** Use this field to specify the port used by your FTP server. The standard port number for FTP is *21*, the default setting. If the FTP server uses a different port number, contact your IT Department and input the value in this field.
- **User Name:** Use the field to enter the user name used to login to FTP.
- **Password:** Type the password of the user name used to login to FTP.
- **Directory Path:** Enter an existing folder name in this field. The images will be uploaded to the specified folder.
- **Passive Mode:** Click a radio button to specify if your FTP server uses Passive Mode or not. Please check with your IT Department for information about your FTP server.

Time Schedule

Use this section to enable images to be uploaded to an FTP Server at regular intervals.



Time Schedule menu

- **Enable upload image to FTP server:** Tick the checkbox to enable images from the Camera to be uploaded to an FTP server.
- **Always:** Click this radio button to specify that images will always be uploaded to the FTP Server.
- **Schedule:** Click this radio button to specify that images will upload to the FTP server according to the schedule settings. Set the days that the images will be uploaded to the FTP server by ticking the appropriate checkboxes. Type in the time (*hh:mm:ss*) that the FTP uploads will start on the selected days in the **Start** field. Type in the time (hh:mm:ss) that the FTP uploads will stop on the selected days in the **Stop** field.
- **Video Frequency:** There are two ways to set the video frequency:

  1) Set the **Frames/Second** drop-down menu to be *Auto/1/2/3* frames per second

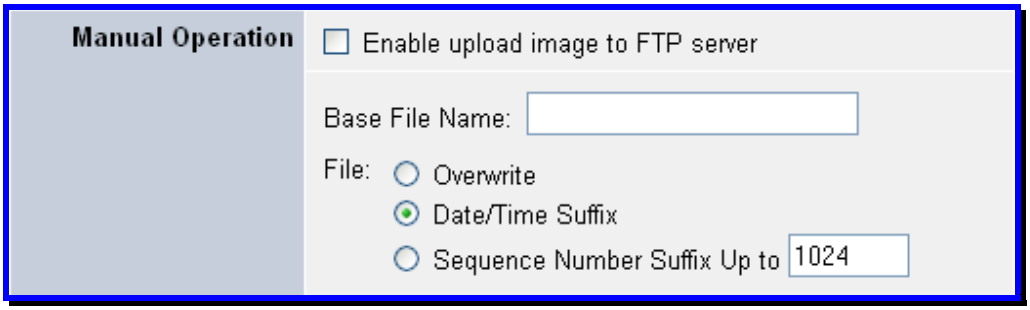
  2) Type in a value to set the time in seconds for every frame in the Seconds/Frame field.

- **Base File Name:** Use the field to specify the base *file name* that the images will be saved as.

- **File:** Since you may not upload only one image to the FTP server, you can use this field to specify the fling rule. Use the radio buttons to specify the option that you want to use. The available options are *Overwrite*, *Date/Time Suffix* and *Sequence Number Suffix Up to*. If specifying the *Sequence Number Suffix Up to* option type the highest sequence number you want to File to in the text box.

Manual Operation

Use this section to manually upload images to an FTP Server.

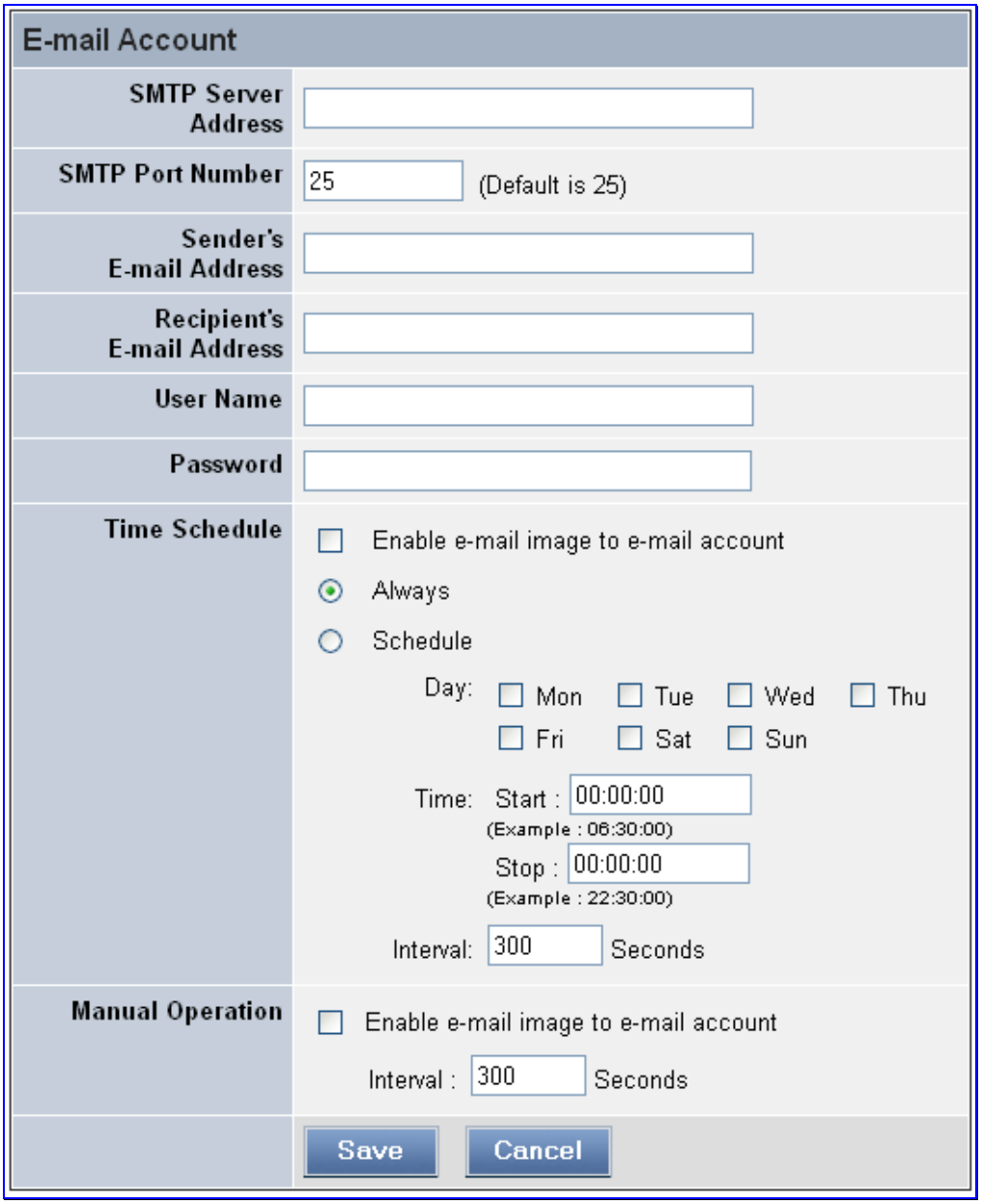


Manual Operation menu

- **Enable upload image to FTP server:** Tick the checkbox to enable images from the Camera to be uploaded to an FTP server.
- **Base File Name:** Use this field to specify the base *file name* that the images will be saved as.
- **File:** Since you may not upload only one image to the FTP server, you can use this field to specify the fling rule. Use the radio buttons to specify the option that you want to use. The available options are *Overwrite*, *Date/Time Suffix* and *Sequence Number Suffix Up to*. If specifying the *Sequence Number Suffix Up to* option type the highest sequence number you want to File to in the text box.

E-mail

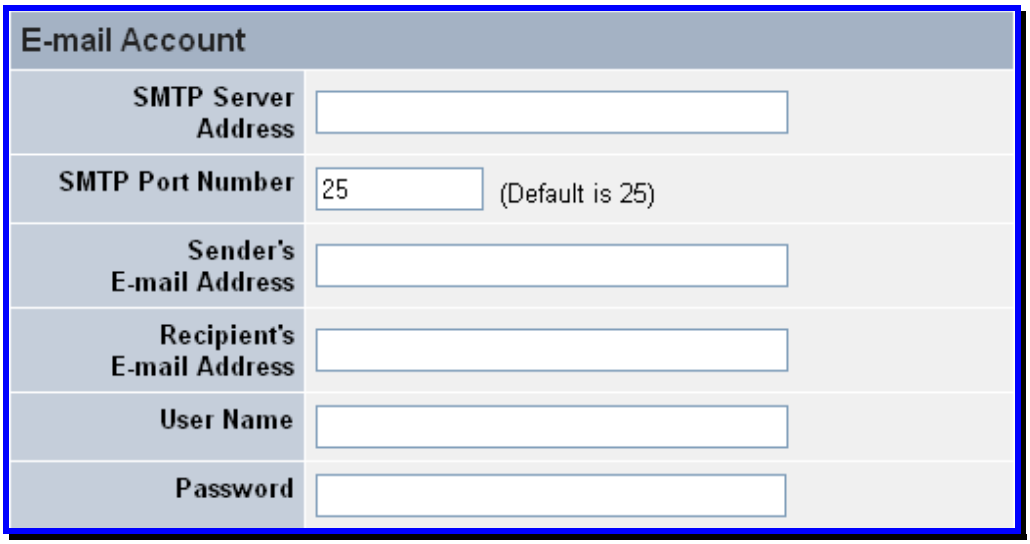
Use the E-mail menu to setup the configuration of the E-mail account, time schedule and manual operation settings.



E-mail menu

E-mail Account

Use this section to configure your E-mail Account configuration.

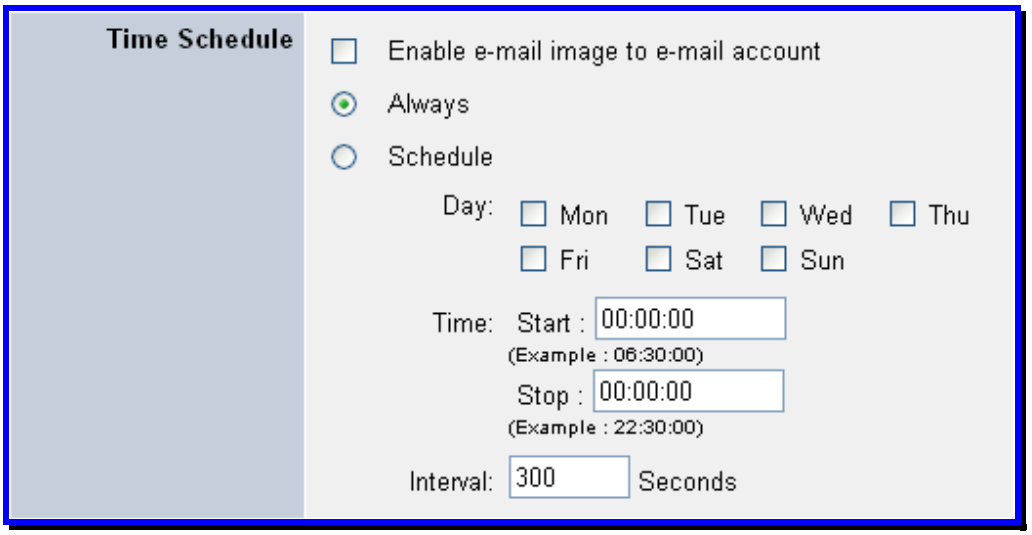


E-mail Account settings

- **SMTP Server Address:** SMTP (Simple Mail Transfer Protocol) is a protocol used for sending e-mail messages. Type in the mail server address that will be used to send e-mail messages between the different servers on your network.
- **Sender's e-mail Address:** Use this field to enter the e-mail address of the user who will send e-mail.
- **Recipient's e-mail Address:** Use this field to enter the e-mail address of the user who will receive e-mail.
- **User Name:** Use this field to enter the user name of a user who has access to the SMTP server.
- **Password:** Use this field to enter the password of the user specified in the User Name field.

Time Schedule

Use this section to section to enable images to be e-mailed to the specified e-mail account at regular intervals



E-mail Time Schedule settings

- **Enable e-mail image to e-mail account server:** Tick the checkbox to enable images from the Camera to be e-mailed to an e-mail recipient.
- **Always:** Click this radio button to specify that images will always be e-mailed to the specified e-mail recipient.
- **Schedule:** Click this radio button to specify that images will be e-mailed to the e-mail recipient according to the schedule settings. Set the days that the images will be e-mailed to the e-mail recipient by ticking the appropriate checkboxes. Type in the time (*hh:mm:ss*) that the e-mails will be sent on the selected days in the **Start** field. Type in the time (hh:mm:ss) that the e-mails will stop being sent on the selected days in the **Stop** field.
- **Interval:** Type a value in seconds to determine the time interval between two images being sent.

Manual Operation

Use this section to

E-mail Manual Operation settings

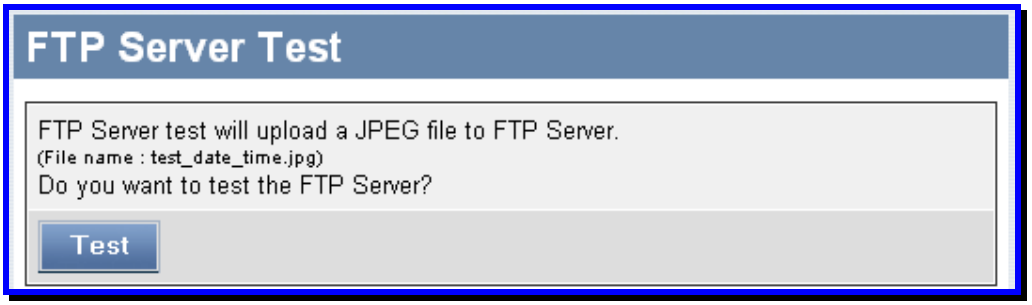
- **Enable e-mail image to e-mail account:** Tick the checkbox to enable images from the Camera to be e-mailed to an e-mail recipient.
- **Interval:** Type a value in seconds to determine the time interval between two images being sent.

Tools

The following menus are available in the Tools directory: **FTP Server Test**, **E-mail Test**, **Reset**, **Factory Reset, Firmware Upgrade** and **Backup**. To access a menu click the link of the item you want to view.

FTP Server Test

Click the **FTP Server Test** item in the column on the left-hand side to test your FTP Server connection.



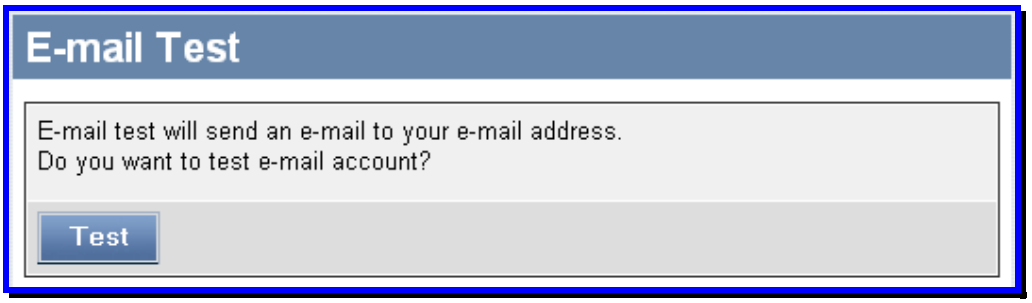
FTP Server Test menu

Test FTP Server

Click the **Test** button to test that you can successfully send files to the FTP Server you have configured.

E-mail Test

Click the **E-mail Test** item in the column on the left-hand side to test your E-mail connection.



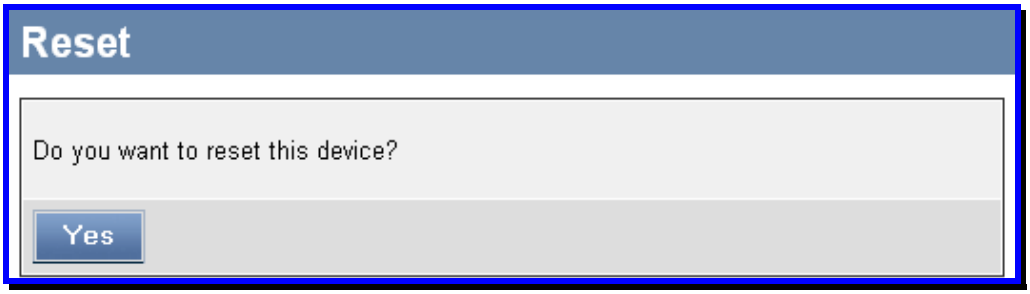
E-mail Test menu

Test E-mail

Click the **Test** button to test that you can successfully send an e-mail from the Camera to the Recipient e-mail Address you configured in the **Administration > Configuration > E-mail** window **of the web configuration utility.**

Reset

This option allows you to restart your Camera.



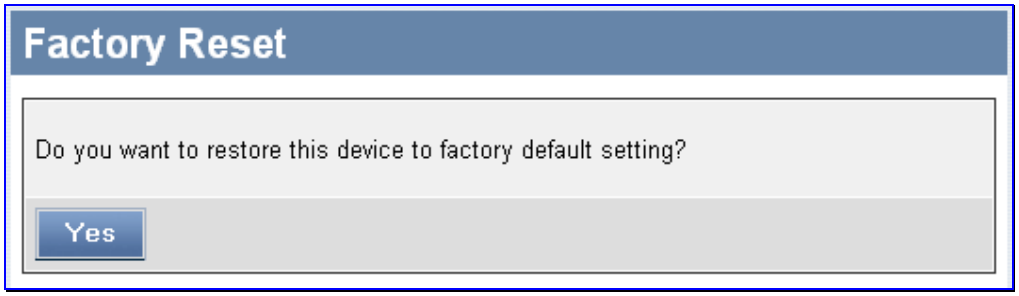
Reset menu

Reset Device

Clicking the **Yes** button will restart the Camera, retaining your saved settings, as if you were turning the device off and on. If you do not want to restart the Camera, exit this window without clicking **Yes**.

Factory Reset

This option will reset the Camera to factory settings.



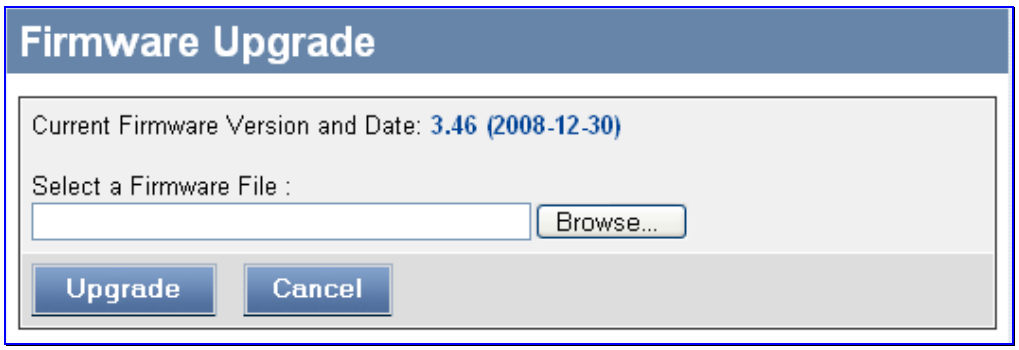
Factory Reset menu

Reset to Factory Settings

Clicking the **Yes** button will reset the Camera back to factory default settings. If you do not want to restore the Camera back to factory default settings, exit this window without clicking **Yes**. Please NOTE that you will need to configure the network settings again after a Factory reset.

Firmware Upgrade

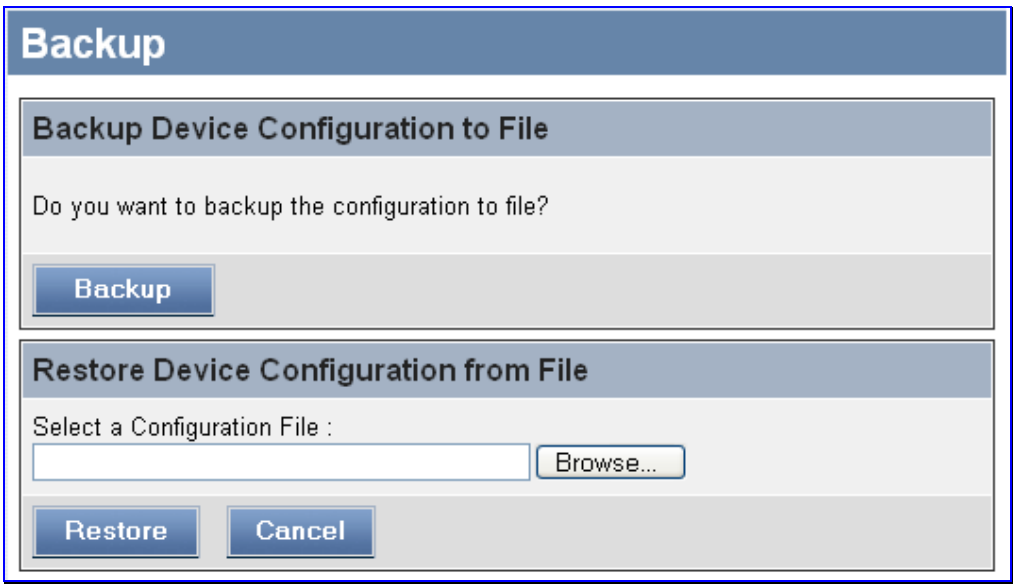
When new firmware is available, you can upgrade it through this window. To upgrade the camera firmware, make sure the correct firmware file is located on your computer. Click the **Browse** button to locate the file. After locating the file, click the **Upload** button to load the file. It will take several seconds to load the firmware and restart the camera.



Firmware Upgrade menu

Backup

The Backup window allows you to *Backup* or *Restore* the Camera settings.



Backup Settings menu

Backup Device Configuration to File

To save configuration settings for the camera to a file on a local hard disk, click the **Backup** button. A prompt appears to confirm that you want to save the file. Choose the location and save the file to the specified location.

Restore Device Configuration From File

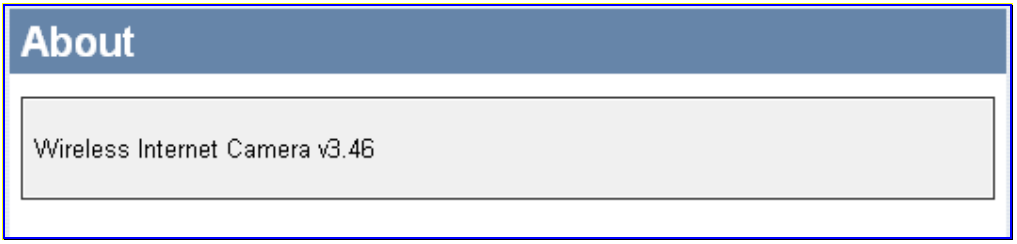
To load a previously saved configuration settings file, click the **Browse** button to locate the file, and then click the **Restore** button. It will take a few seconds to load the new settings. The camera will then restart.

Help

The **Help** window displays help topics for the Camera.

About

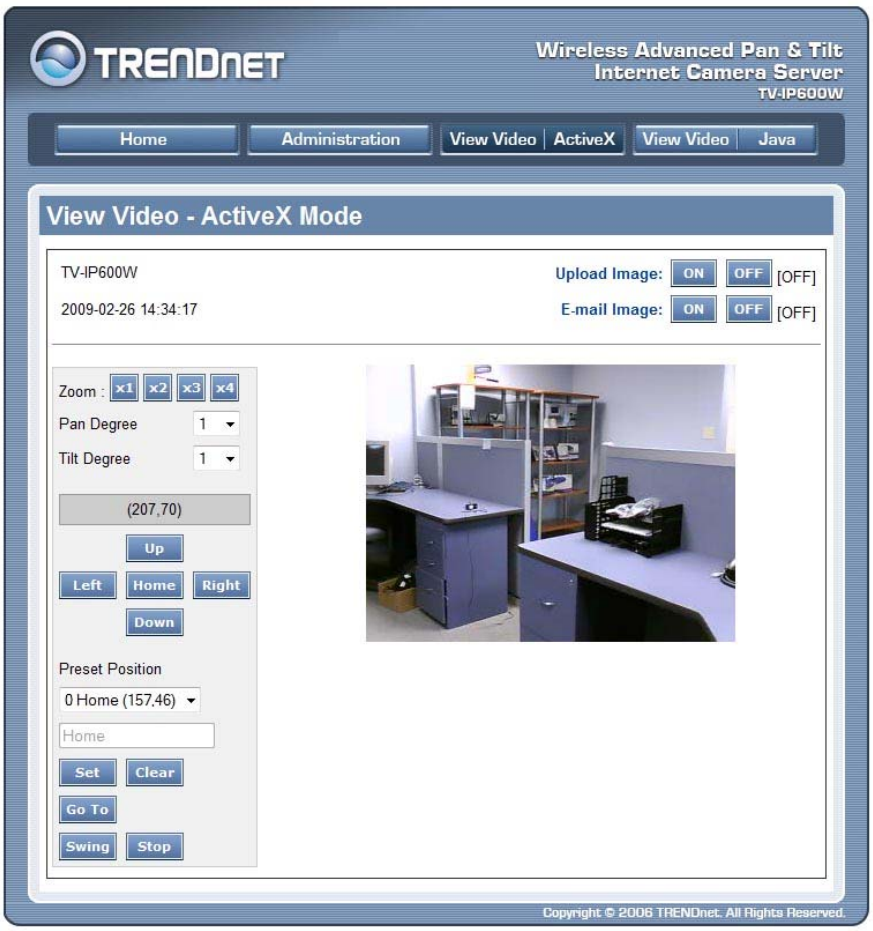
The **About** option displays the Camera's model name and version.



About menu

Viewing Video

The TV-IP600W allows you to view video images using ActiveX or Java in your web browser. Click **View Video – Active X** or **Java** from the Welcome screen to access the video images from your browser. Position your Camera for the desired location and turn the lens clockwise or anti-clockwise to adjust the focus of the Camera.



View Image – ActiveX and Java Mode

Camera Name and Date/Time: The camera name and the current date/time will be displayed when the related information has been entered in the Configuration section of the Web Configuration Utility.

Uploading/E-mailing Video

In the **View Video – Active X** or **Java** windows, it is possible to turn the **Upload Image** and **E-mail Image** options *ON* of *OFF*. Simply click the corresponding ON or OFF buttons to turn the Upload Image or E-mail Image options *ON* or *OFF*.

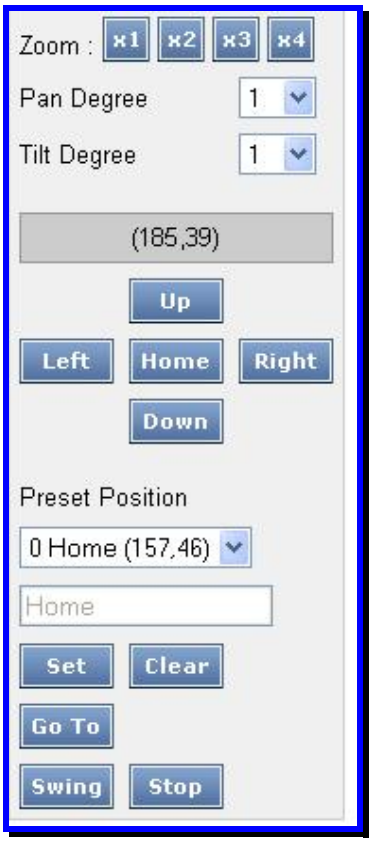
Upload Image and E-mail Image Controls

NOTE:

1. In order to view video using the ActiveX Mode you will need to install the Xplug Control Utility. Please refer to Appendix E for instructions on how to install the Xplug Control Utility
2. The administrator has the authority to set the upload/e-mail video function through the setting in the **Upload/E-mail** option under **Configuration**.

Controlling the Camera

You can control the Camera's viewing angle using the control buttons on the left-hand side of the viewing window.



Camera Control Buttons

Adjusting the Viewing Angle

To adjust the camera's viewing angle, simply click the **Up / Down / Left / Right** buttons. These buttons allow you to easily move the Camera's lens to focus on the object that you want. Clicking the Home button allows you to return to the original position.

The **Pan Degree** and **Tilt Degree** options allow you to increase/decrease the amount the camera pans and tilts each time you click the button.

Storing Positions

The Camera allows you to store positions that you want to monitor regularly, allowing you to quickly move the Camera's lens to focus on objects that you want to monitor regularly. You can store up to 24 positions in the Camera (the number "0" is reserved for the default position "Home"). To store the current position of the Camera, select a number between *1* and *24* from the **Preset Position** drop-down menu and click **Set**.

To remove a stored position, select the *number (position)* that you want to remove from the **Preset Position** drop-down menu and click **Clear**.

To move the Camera to an existing stored position, select the desired *number (position)* from the **Preset Position** drop-down menu and click the **Go To** button. The Camera's lens will immediately move to the desired position.

Swinging the Camera

The Camera can swing automatically between Stored Positions. Once you have stored two or more positions in the camera, click the **Swing** button to make the Camera swing from one position to another. Click the **Stop** button to stop the Camera swinging.

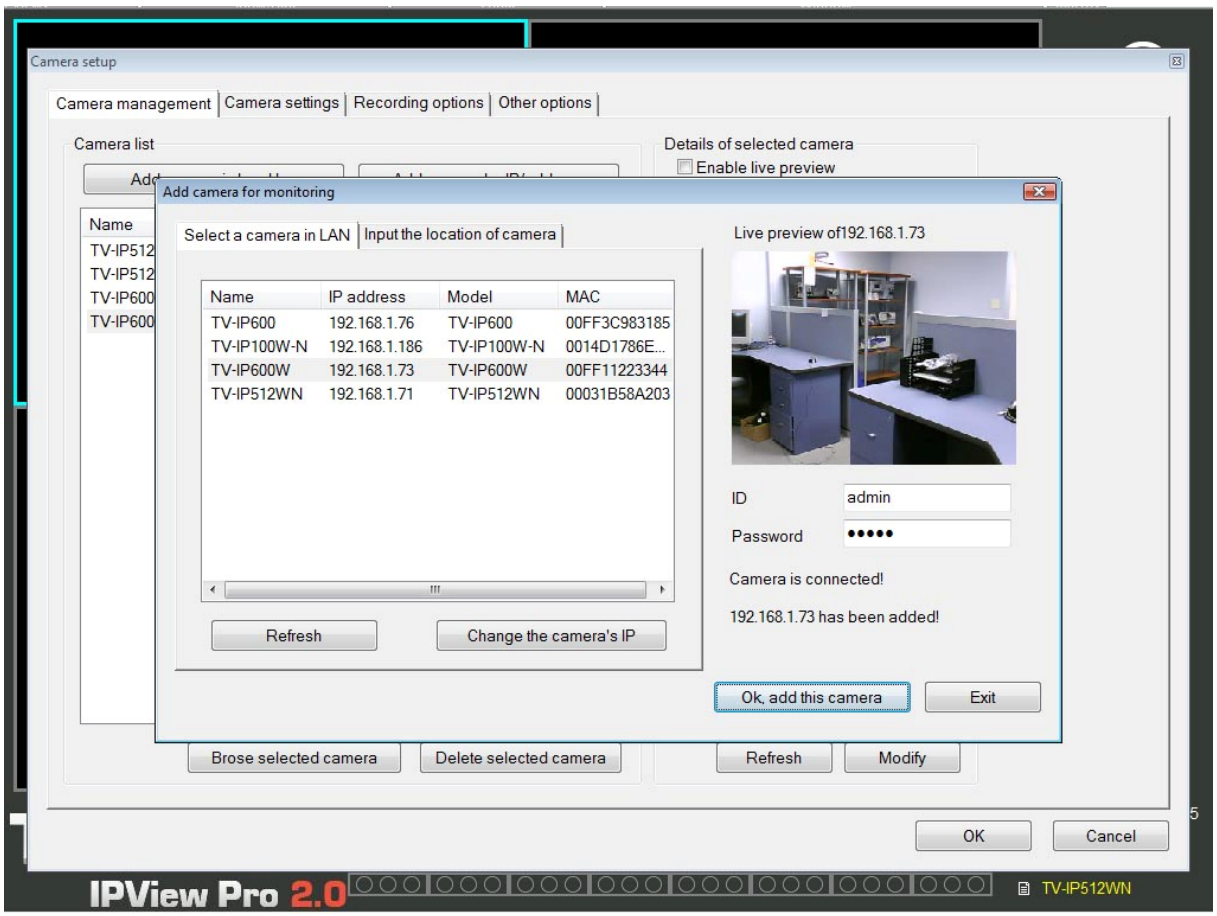
7

IPView Pro 2.0

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

Launching IPView Pro 2.0 for the first time

To launch IPView Pro 2.0, double click on the IPView Pro 2.0 icon on your desktop or go to **Start** > **Programs** > **TRENDnet** > **IPView Pro 2.0** > **IPView Pro 2.0**. If this is the first time using the software, the menu that appears is the **Add camera** menu:

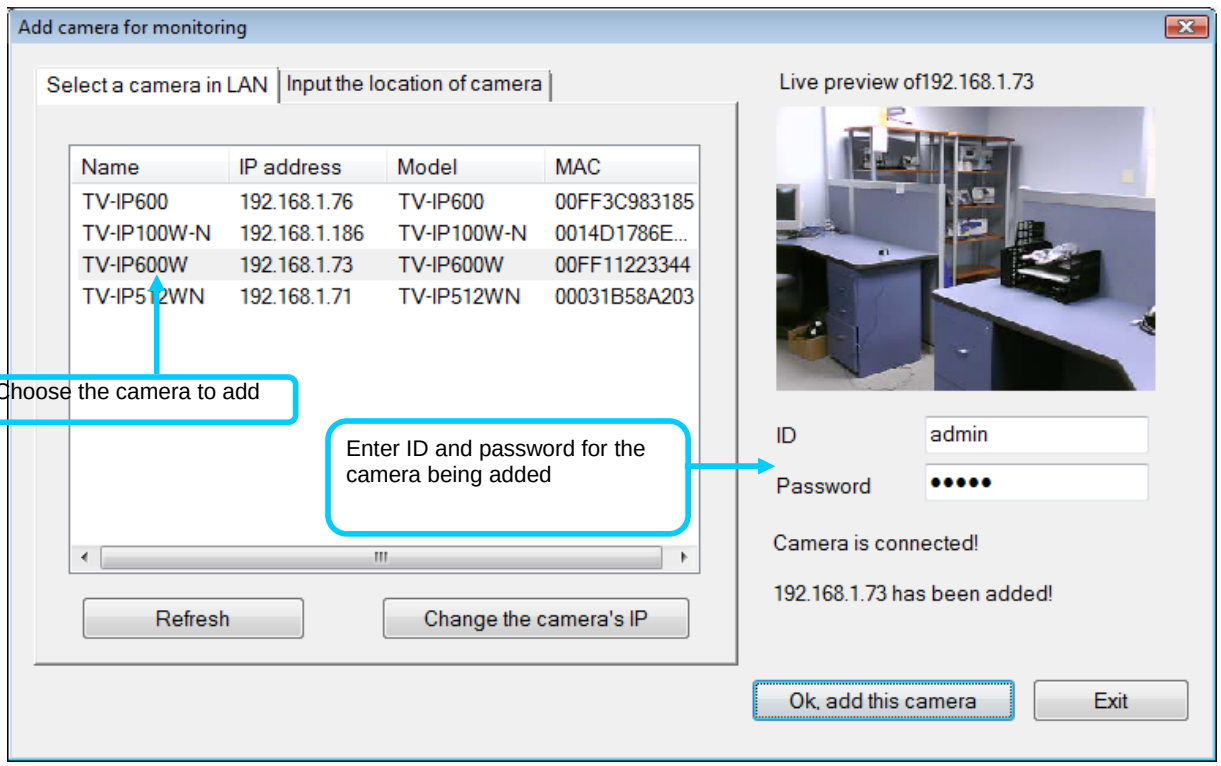


Add a camera for monitoring

The Add camera menu is presented the first time the IPView Pro 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 IPView Pro 2.0 software has automatically detected eligible cameras running on the network.

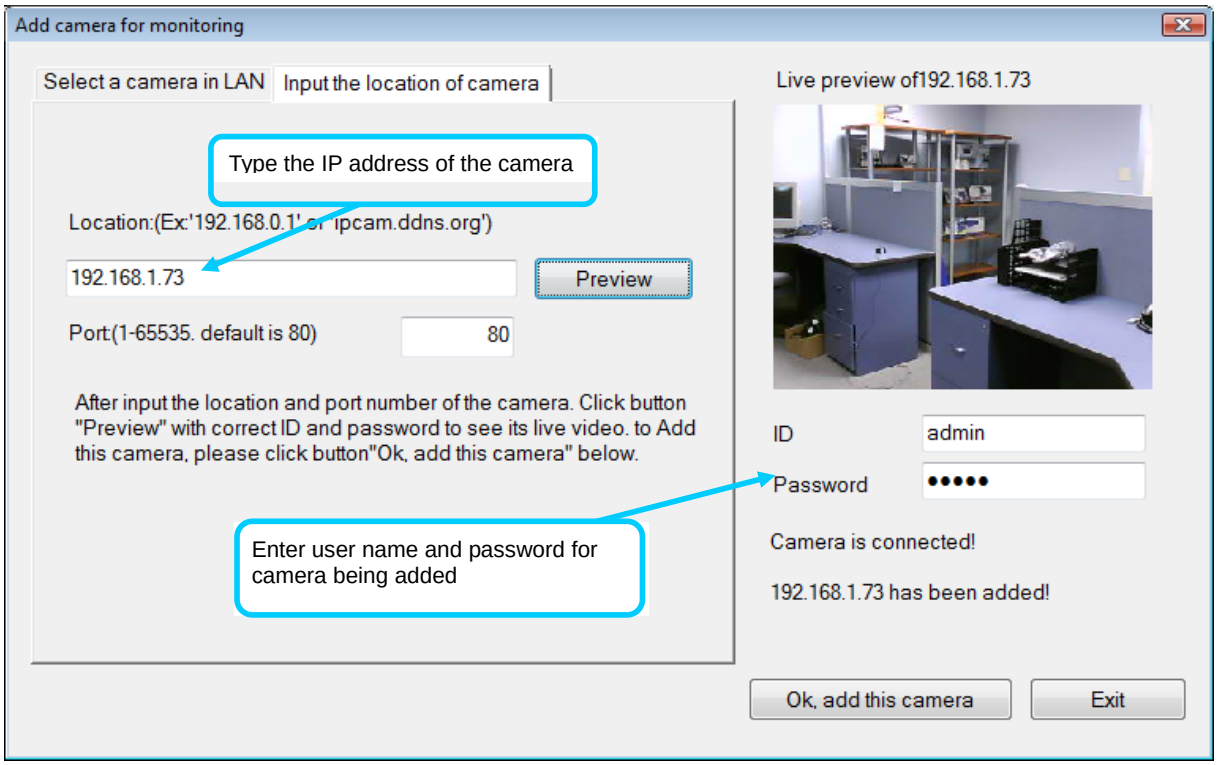
To add a camera to the IPCam user interface, follow these instructions:

1. Check the list of cameras detected by the software. If the camera you want to add does not appear on the list, click the **Refresh** button to conduct another search. If it still does not appear, check the IP address of the camera and click on the Input the location of camera menu tab and skip ahead to step 2.1.



2. Select the camera to add from the list, enter the administrator's user name (ID:) 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 IPView Pro 2.0 monitoring group. Repeat this procedure for all the cameras being added. Click the Exit button after all the cameras have been added.

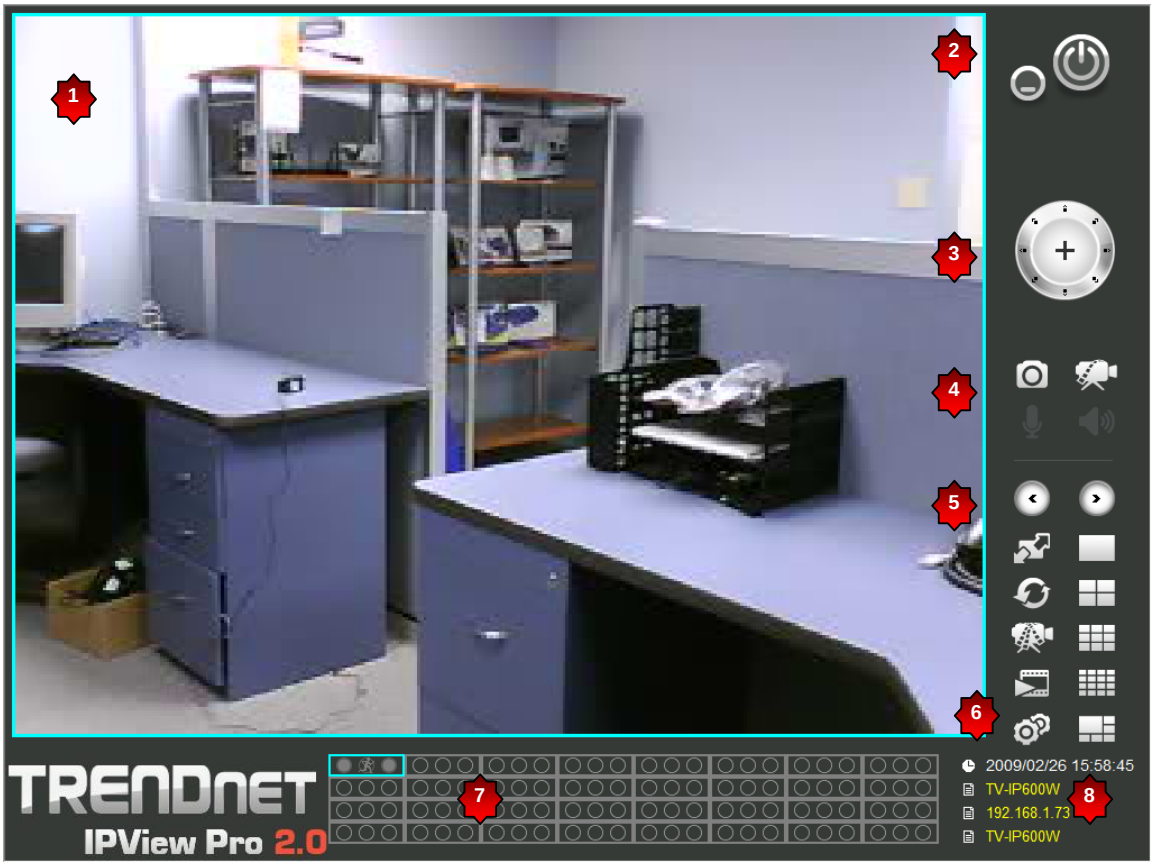
If the camera does not appear listed, click the **Input the location of camera** tab above the list to view a new menu. Enter the IP address or the URL (for example, *ipcam.ddns.org*) of the camera being added, type the user name and password and click the **Preview** to verify that a link can be established. 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 IPView Pro 2.0 user interface. Close the Add camera menu (click **Exit**) to go to the main user interface. See below for a description.

IPView Pro 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 IPView Pro 2.0 interface or exit the program, a confirmation is required to exit.
3	**Pan and Tilt control (cameras using RS-485 Pan/Tilt device only)**	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

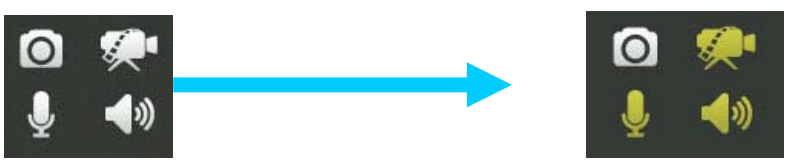
The primary display and IPView Pro 2.0 control icons are described in detail below. When there are more than one camera displays viewed, one of the displays can be selected for management or additional changes. Simply left click on any display to select it. Notice the border around the display is bright 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.

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.

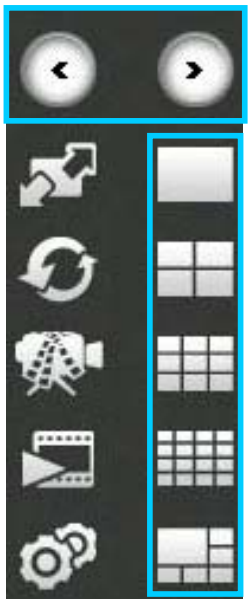


Audio and video controls - inactive

Audio and video controls - activated

Live video display controls

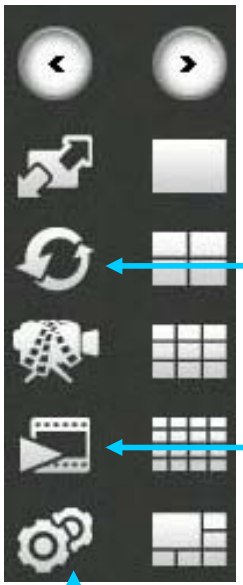
Use the video display controls to change the view of the live video display. This is useful for multiple camera application.



Click the arrows to manually cycle through the active camera's live displays when using a single camera display screen.

Click multi-screen display icons to change the number of camera's displayed at one time.

To change the order in which the camera displays appear in the interface, move the cursor over a display you want to change and right click. A dialog appears (see example below). The top most option in the dialog allows the user to *Replace content by …* followed by a list of connected camera IP addresses (or URL locations). Select the camera display you want to occupy the position the cursor is placed over. The display position will then be swapped with the chosen camera.



Switch to **full screen** view of selected display screen.

Click to automatically **cycle through** the active camera displays.

Click to **record all** active cameras.

Launch **IPCamPlayer** to view stored video files.

Click to **add** or **configure** cameras.
See details below.

Camera configuration with IPView Pro 2.0

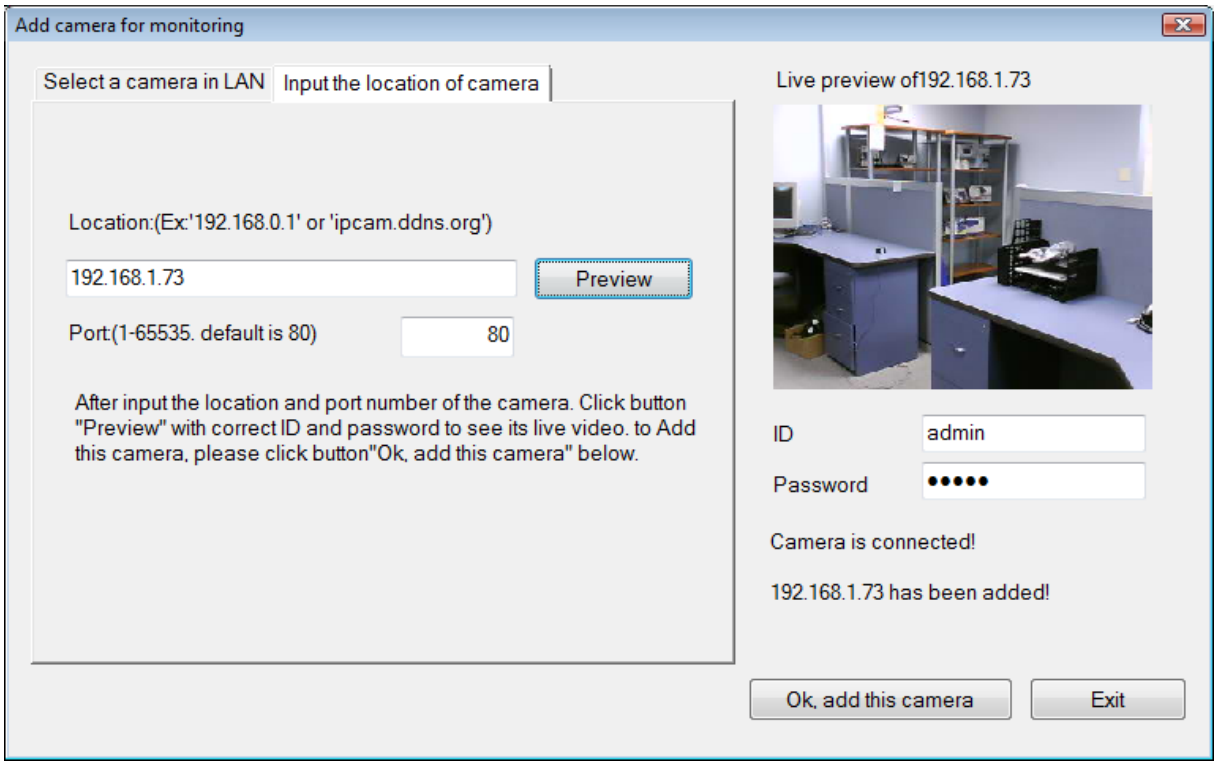
Access the camera configuration menus by clicking on the gear icon at the bottom of the right hand panel of the IPView Pro 2.0 user interface. Configuration options include adding and deleting cameras from the display view, configuration of motion detection and digital input with schedules, recording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

Adding a Camera

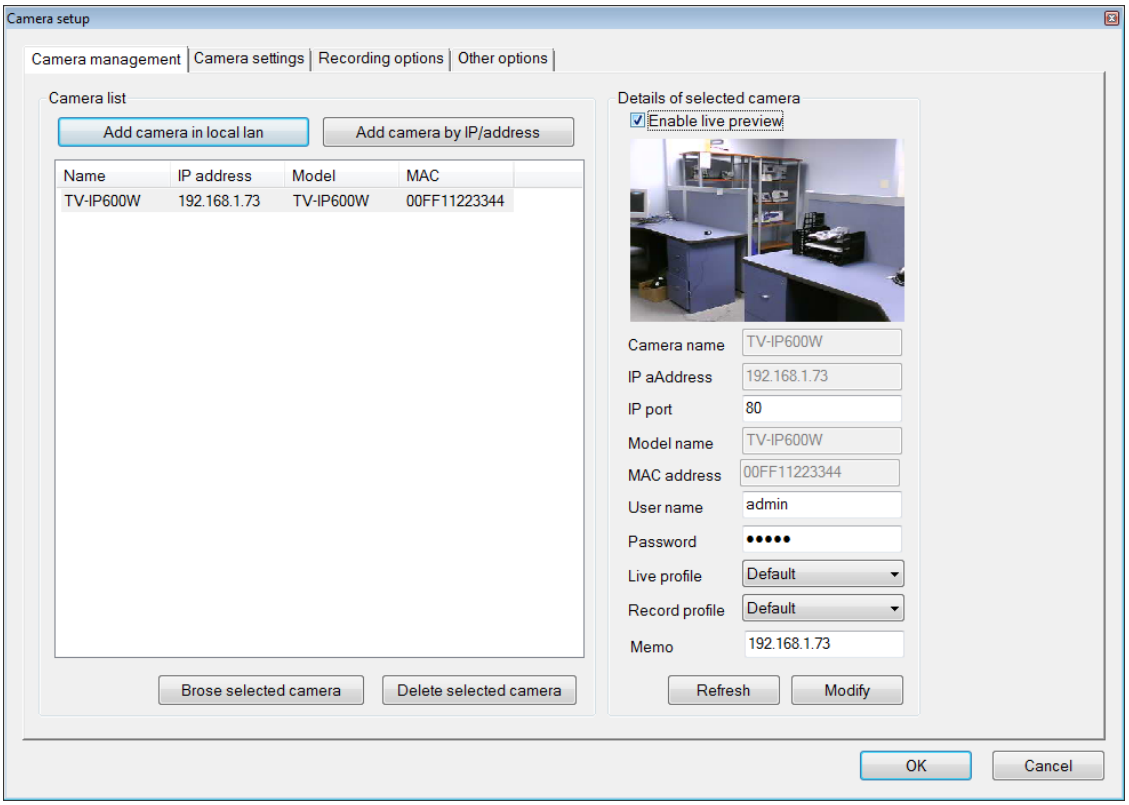
The procedure to add a camera after the initial launch of the software is very similar to the procedure used during the first setup. Follow the instructions below to add cameras.

To add a camera:

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 (**ID:**) 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 IPView Pro 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**.

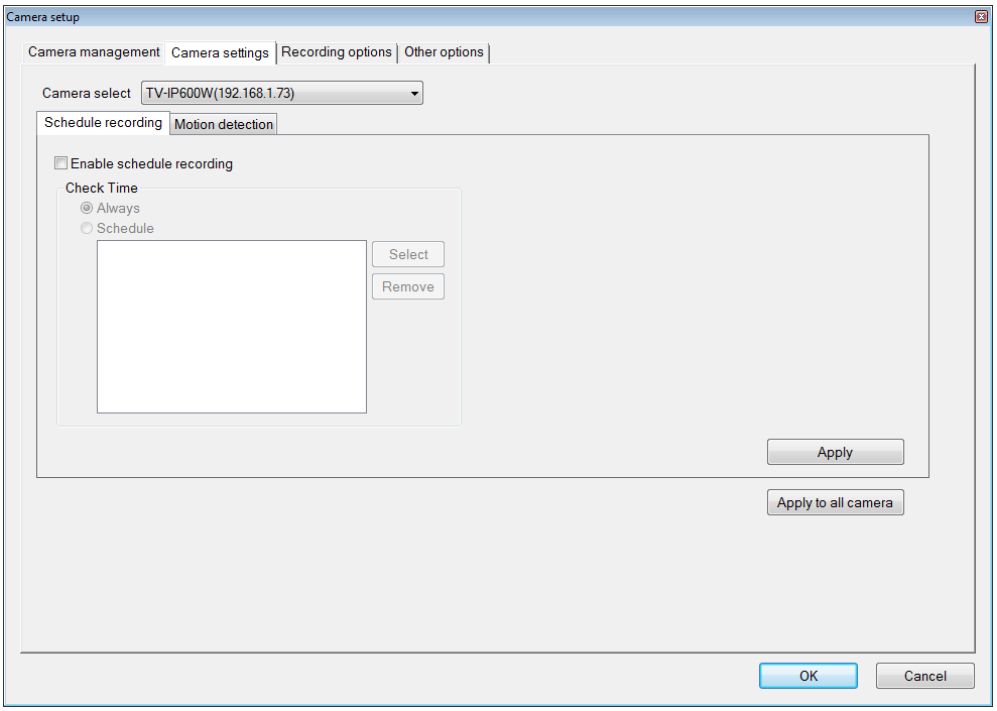
NOTE: Any camera display can be removed from the main IPView Pro 2.0 user interface by right-clicking on the display screen for the camera and selecting the **Remove this Camera** option.

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 IPView Pro 2.0

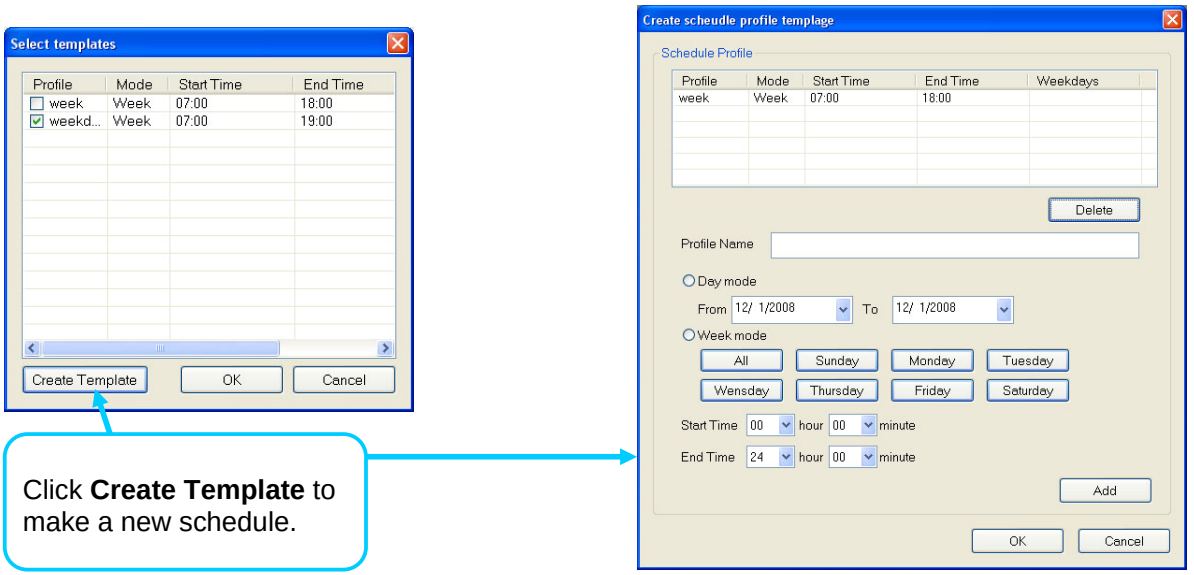
Use the **Camera Settings** menu to create schedules for recording and apply the schedules to any camera. Click the **Camera Settings** tab to view the **Schedule Recording** menu (the first menu viewed in the Camera Settings menu tab).



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).

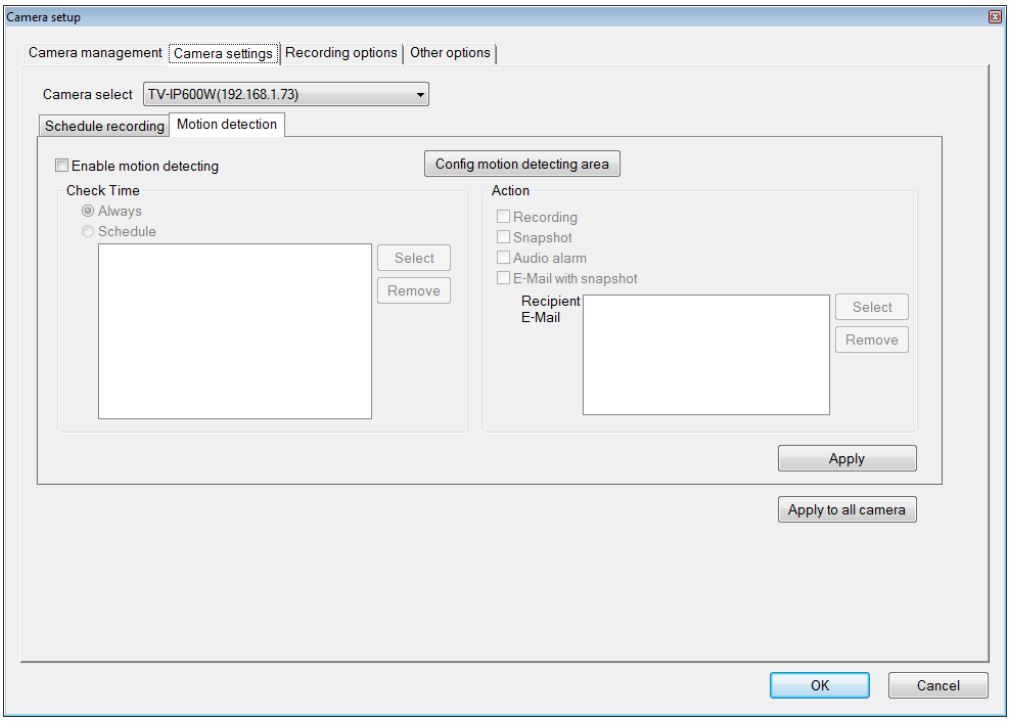
Create Schedule Templates

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.

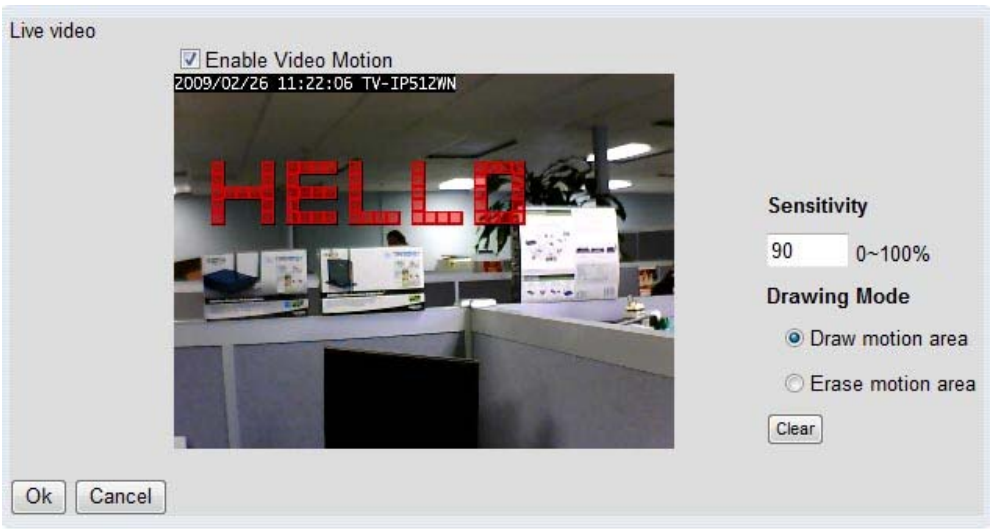


Setup Motion Detection and Digital Input with IPView Pro 2.0

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.

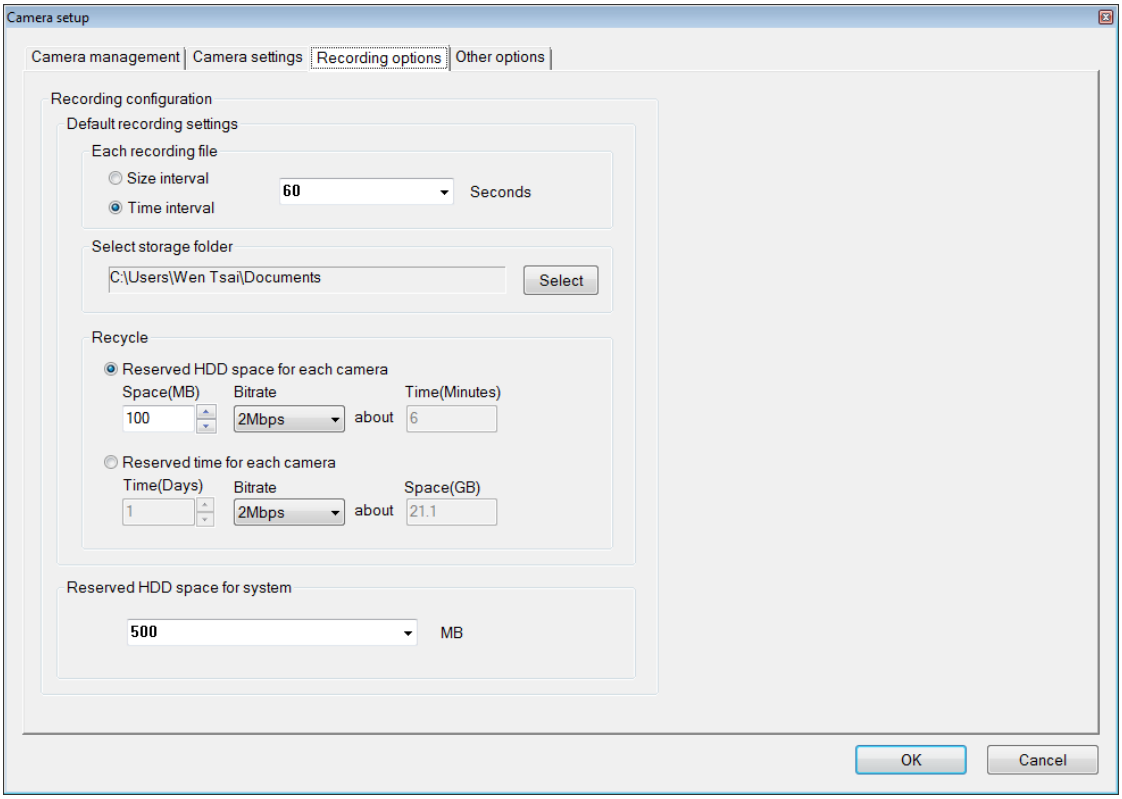


For Motion Detection, use the *Config motion detection area* menu to create the area to which it is applicable. Click the **Config motion detection area** button in the Motion Detection setup menu to view the menu in a new pop up window.



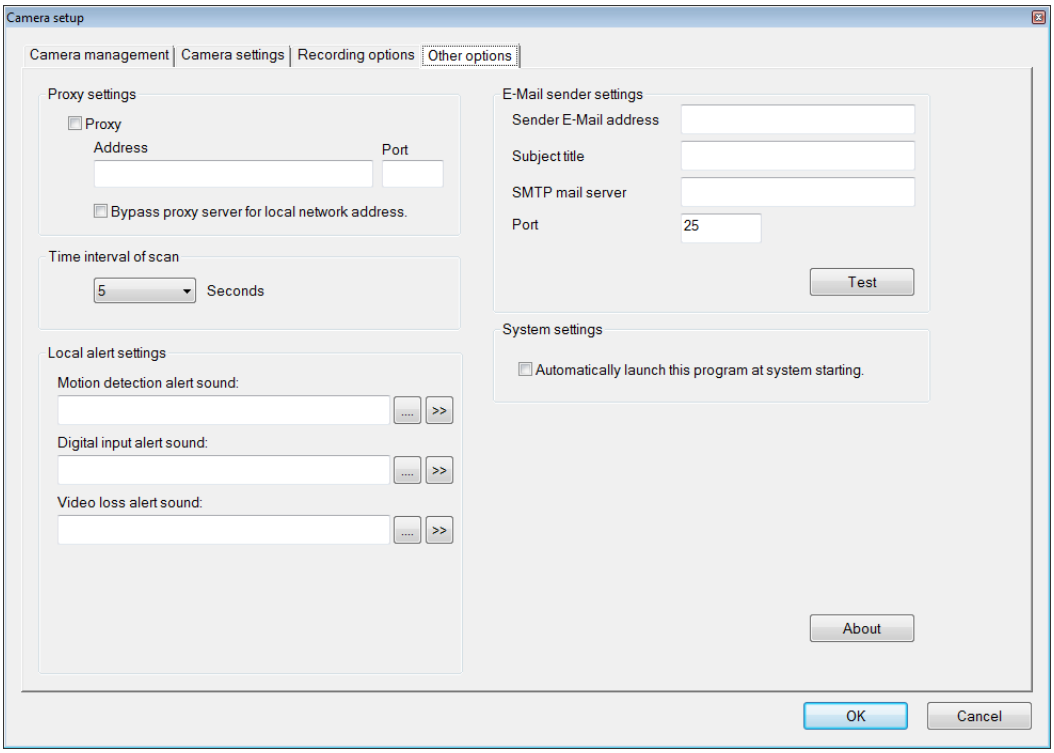
IPView Pro 2.0 Recording Options

The Recording Options configured in the IPView Pro 2.0 help to conserve and manage allowed memory storage (disk space) and for video file management. Recorded files can be limited by time elapsed or by size. Use the select storage folder to choose an alternative destination for stored video files. Storage limits can be set for each camera by time elapsed or hard disk space allowed. A limit can also be placed for the system and all cameras used in IPView Pro 2.0.



IPView Pro 2.0 Miscellaneous Options

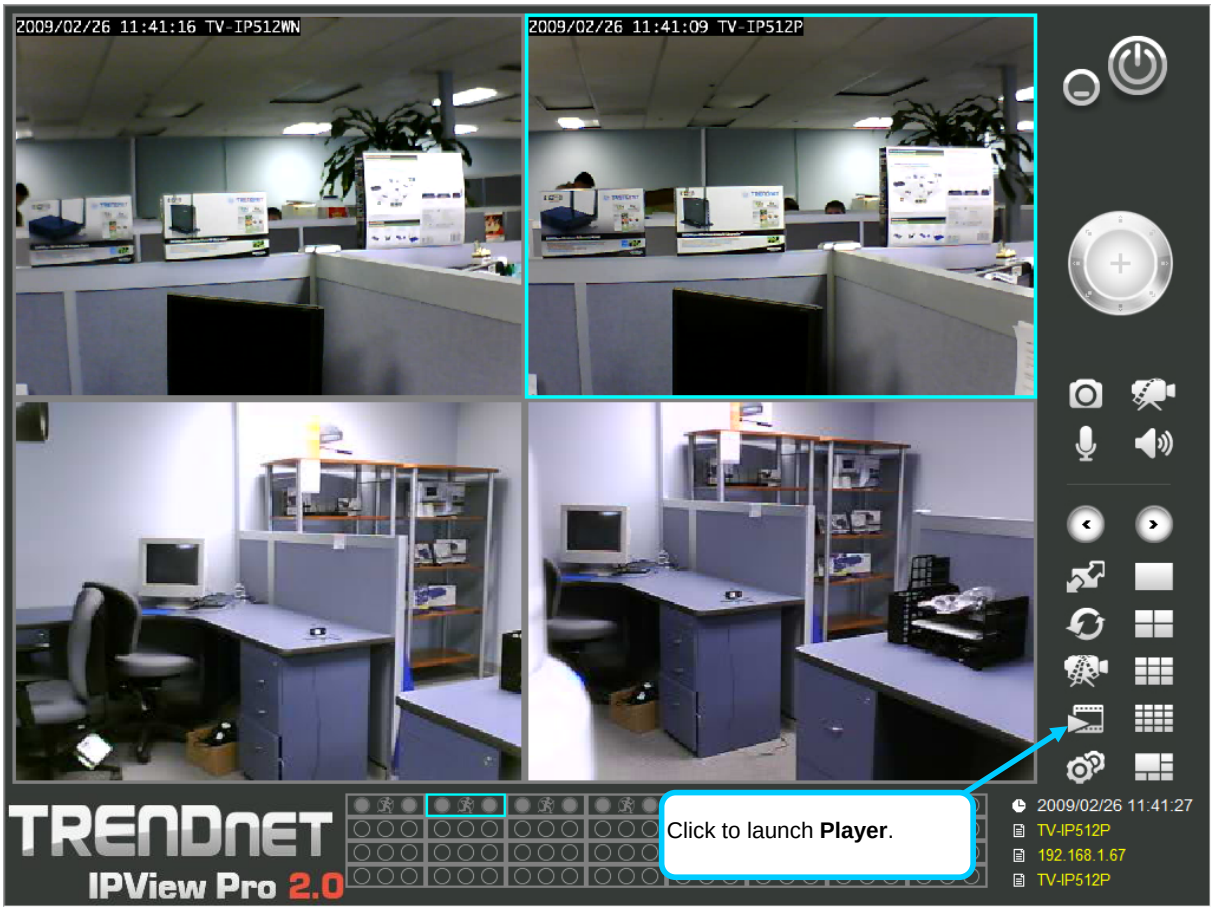
The Other Options available for configuration include Proxy server setup, email notification, scan interval and alert type settings.



8

Playing Video Files on a Computer

IPCamPlayer software is installed on the monitoring station or administrator's system along with the IPView Pro 2.0 monitoring software. Use it to playback and manage recorded video from the cameras added to the IPView Pro 2.0 group. In order to use the software however, it is necessary to first install the **ffdshow** package of codecs used for media files. There is an ffdshow installation file on the CD shipped with the camera. Install ffdshow before using the IPCamPlayer. For information on installation and use of ffdshow, see the **ffdshow** section at the end of this chapter.



The IPCamPlayer can be launched directly from the IPCamCenter or from the Programs menu. To launch the program from the IPView Pro 2.0 interface, click the movie icon on the control panel of the main IPView Pro 2.0 interface to launch IPCamPlayer.

NOTE: Install the **ffdshow** package of video codecs from the installation CD before using the IPCamPlayer.

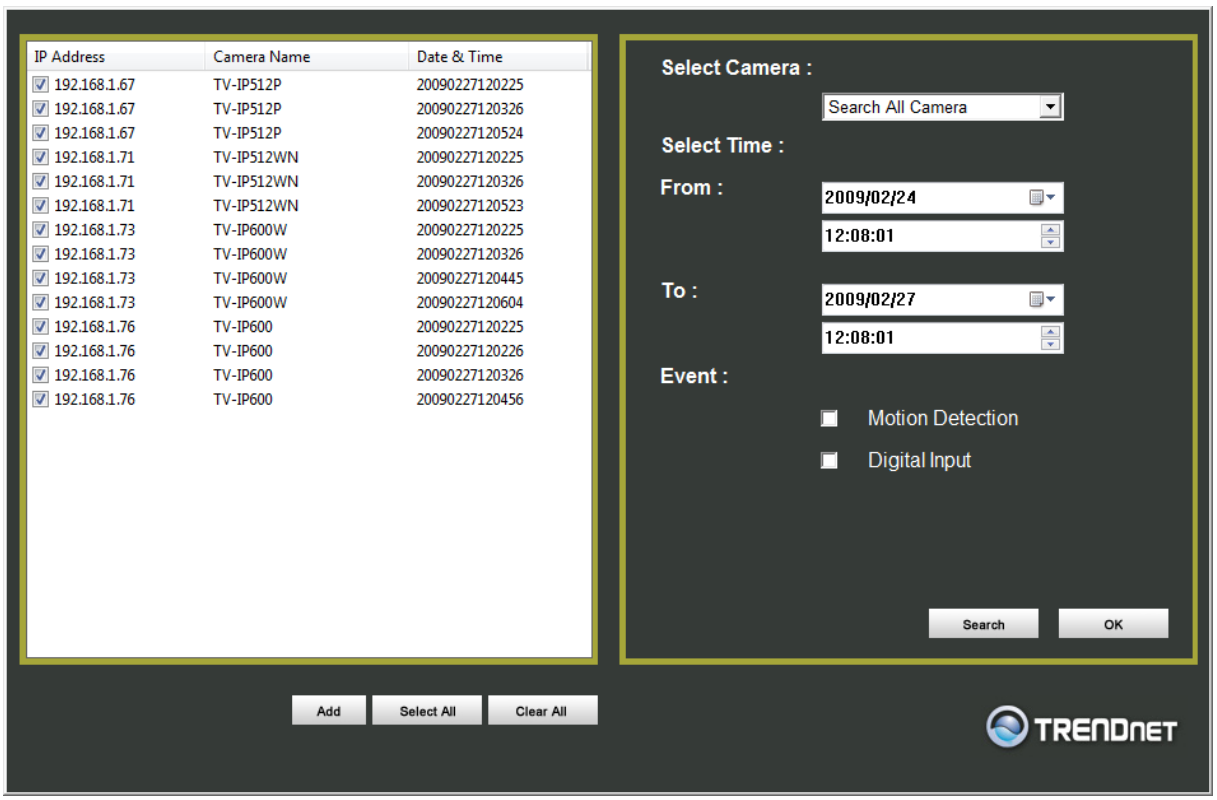
Load Saved Video Files

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-IP600/W is the name of the file folder for the TV-IP600/W using the default (non-DHCP) IP address.

IPCamPlayer User Interface

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 (**<<**) **Faster** and **Slower** to control speed of playback. Playback can be slowed to as much as 1/8 normal speed or speeded up to as fast as 8 times the normal speed. The vertical slider control is used for audio volume control.

To view recorded video files in the IPCamPlayer, 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 IPCamPlayer 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. When the search criteria have been defined, click the **Search** button to place qualified files in the Search list.



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.

Play Video Files

Now that the recorded video files have been selected and placed on the file list, they can be played and reviewed in the IPCamPlayer. Use the standard playback controls to play video files at normal speed or slowed down, paused, speeded up etc. Use the mouse and left click to grab the playback sliding progress indicator to move back and forth through the video.

ffdshow

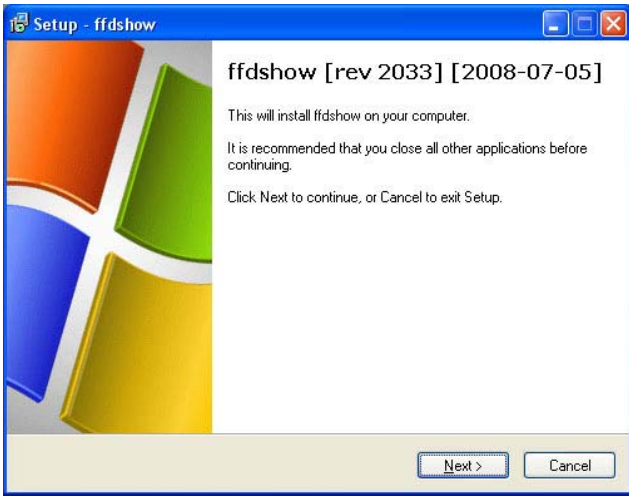
The ffdshow software is used for audio and video encoding and decoding, especially for MPEG-4 formats. It is free software used on Windows systems and enables the user to tweak media playback and select specific codecs and formats. For use with the IPCamPlayer, the default settings used for ffdshow installation are all that is needed. Expert users can change audio and video codecs as desired with one of the three ffdshow configuration utilities installed along with the codecs. The configuration utilities can be accessed after installation from the ffdshow folder in the Programs folder (Start > Programs > ffdshow >[configuration utility]).

Install ffdshow

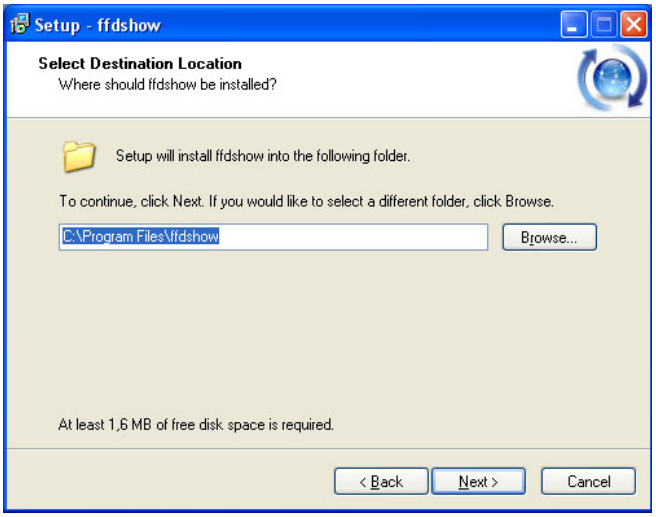
1. Insert the CD-ROM into the CD-ROM drive to initiate the auto-run program. The menu screen will appear as below:

2. Click the **ffdshow** install link, and select the desired language in the pop-up dialog window.

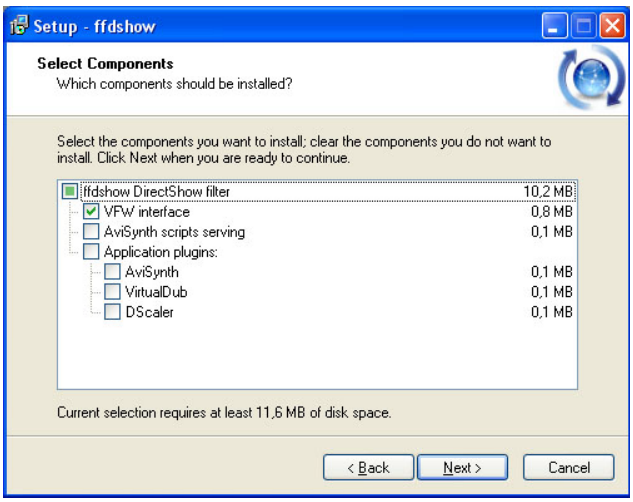
3. The InstallShield Wizard will appear, click **Next** in the welcome screen.



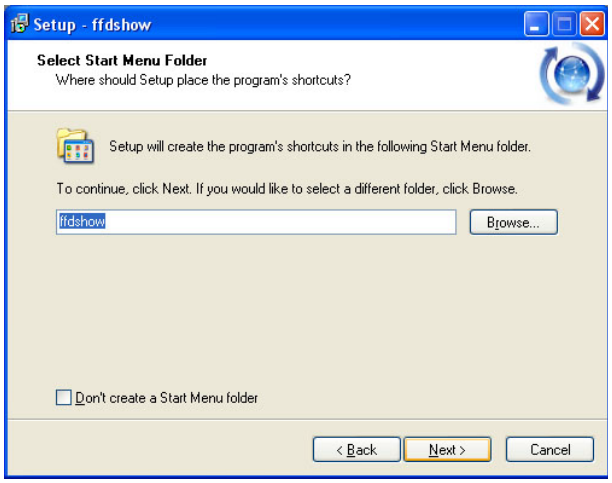
4. Accept the default location (Windows Programs folder) on the system for placement or **Browse** to choose an alternative, Click **Next** to continue.



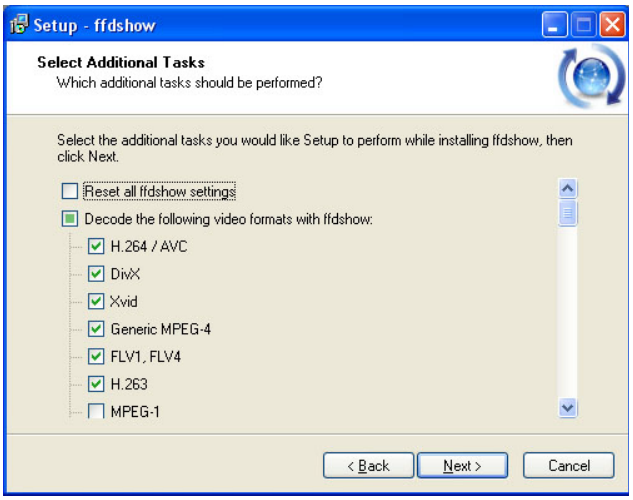
5. Click to check the components that will be installed. For IPCamPlayer it is only necessary to use the default components already selected. Click **Next** to continue.



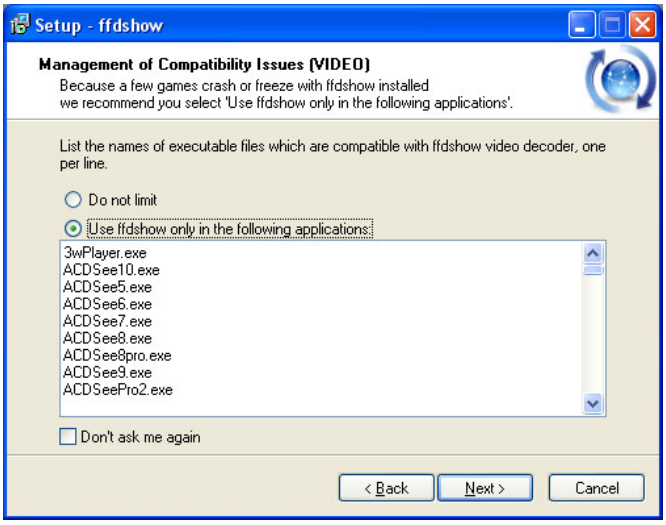
6. Accept the default destination folder (ffdshow) or **Browse** to choose an alternative, Click **Next** to continue.



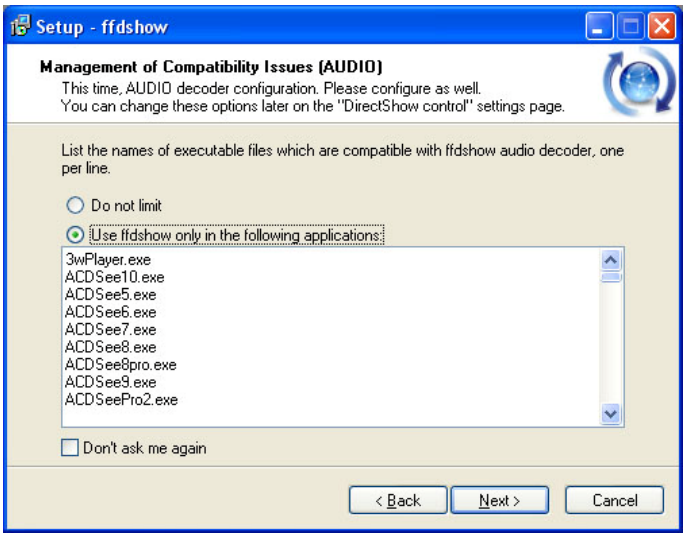
7. Click to check the additional tasks that will be installed. For IPCamPlayer it is only necessary to use the default formats already selected. Click **Next** to continue.



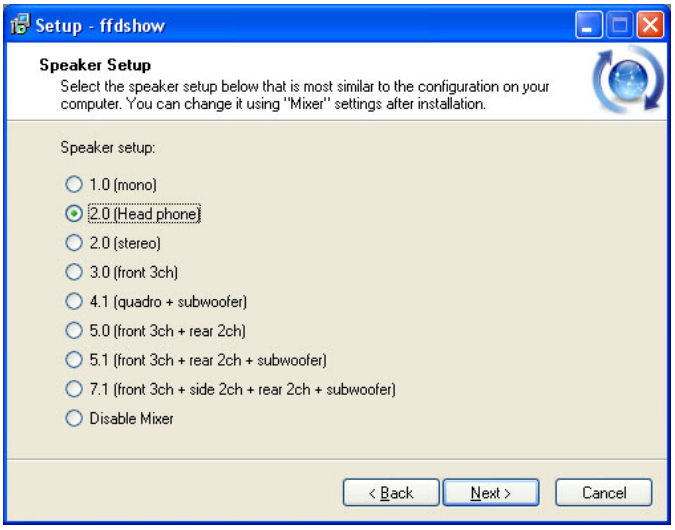
8. Click to check the video applications that use ffdshow. For IPCamPlayer it is only necessary to use the default applications already selected. Click **Next** to continue.



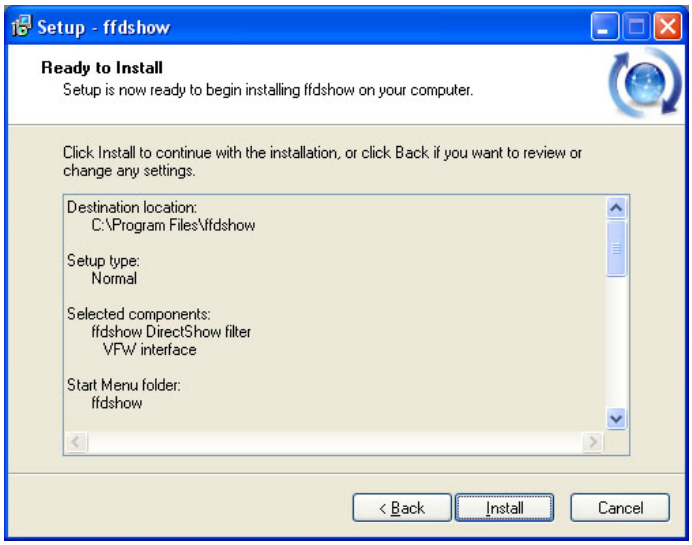
9. Click to check the audio applications that use ffdshow. For IPCamPlayer it is only necessary to use the default applications already selected. Click **Next** to continue.



10. Choose a speaker setup or choose Disable mixer if unsure. The audio function will work regardless of what speaker setup is chosen. Usually it will choose the default arrangement used on system on which it is being installed. Click **Next** to continue.



11. Review the information and click **Install** if satisfied that it is correct to install the necessary codecs. The installation will take a few seconds.



12. If desired, any of the three configuration utilities included with the ffdshow installation can be launched by checking the appropriate box. Click **Finish** to complete the installation.

NOTE: To download the latest copy of ffdshow please check the ffdshow website http://ffdshow.en.softonic.com/

9

Appendix

A. Frequently Asked Questions

Internet Camera Features

Q: What is an Internet Camera?

A: An Internet Camera is a stand-alone system connecting directly to an Ethernet or Fast Ethernet network and supported by the wireless transmission based on the IEEE 802.11g standard. It is different from the conventional PC camera, the camera is based on an all-in-one system with built-in CPU and web-based solutions providing a low cost solution that can transmit high quality video images for monitoring. The Camera can be managed remotely, accessed and controlled from any PC/Notebook over the Intranet or Internet via a web browser.

Q: What is the maximum number of users that are allowed to access the Camera simultaneously?

A: The maximum number of users that can log onto the Camera at the same time is 64. Please keep in mind the overall performance of the transmission speed will slow down when many users are logged on at the same time.

Q: What algortihm is used to compress the digital image?

A: The Camera utilizes JPEG image compression technology, providing a high quality image for users. JPEG has been adopted as it is a standard for image compression and can be applied to a variety of web browsers and software applications, avoiding the need to install additonal application software.

Q: Can I change the wireless antenna attached to the Camera?

A: The wireless antenna can be changed for a variety of reasons, such as extending the wireless transmission range. However, please consult and authorized distributor before attempting this as the connectors must use an SMA connector type.

Q: What is the wireless transmission range for the Camera?

A: Generally the wireless signal can reach up to 100 meters indoors and up to 300 meters outdoors. The range is limited by the number of walls, ceilings or other objects that the wireless signals must pass throigh. Typical ranges vary depending on the types of materials and background Radio Frequency (RF) noise in your home or business and the configuation setting of your network environment.

Internet Camera Installation

Q: Can the Internet Camera be used outdoors?

A: The Camera is not water-proof and it is not recomended to use it outdoors. But you can use our Outdoor Internet Camera Enclosure TV-H500 or the one with Heater and Fan model TV-H510 to install the camera outdoor.

Q: What type of network cabling is required for the Camera?

A: The Camera uses Category 5 UTP cable allowing 10 Base-T and 100 Base-TX networking.

Q: Can the Camera be setup as a PC-cam on a computer?

A: No, the Camera is an Internet Camera used only on Ethernet and Fast Ethernet networks and supports wireless connections.

Q: Can the Camera be connected to the network if the LAN only consists of private IP addresses?

A: The Camera can be connected to a LAN with private IP addresses.

Q: Can the Camera be installed and work if a firewall exists on the network?

A: If a firewall exists on the network, port 80 should be open for ordinary data communication. However, since the Camera transmits image data, the default port 8481 is also required. Therefore, it is neccessary to open 8481 on your firewall so that remote users can access the Camera.

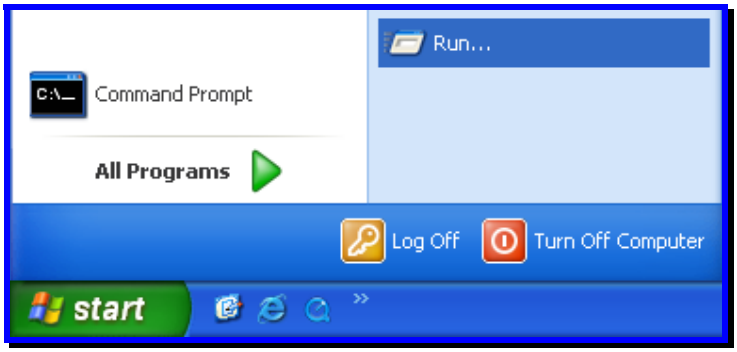
B. PING your IP Address

The PING (Packet Internet Groper) command can determine whether a specific IP address is accesible by sending a packet to the specific address and waiting for a reply. It can also be a useful tool in confirming whether an IP address conflicts with the Camera's on the network.

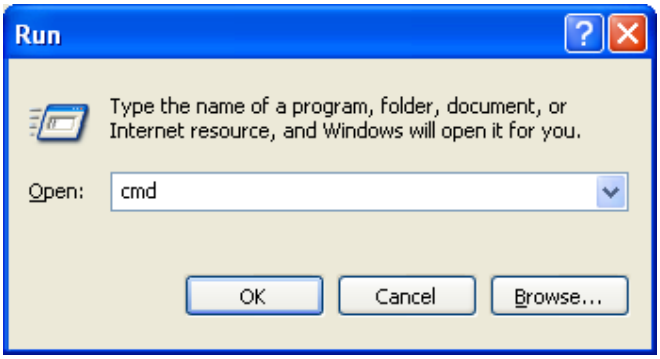
To find out if the Camera conflicts with another IP address on the network follow the steps below:

1. Disconnect the Camera from the network.

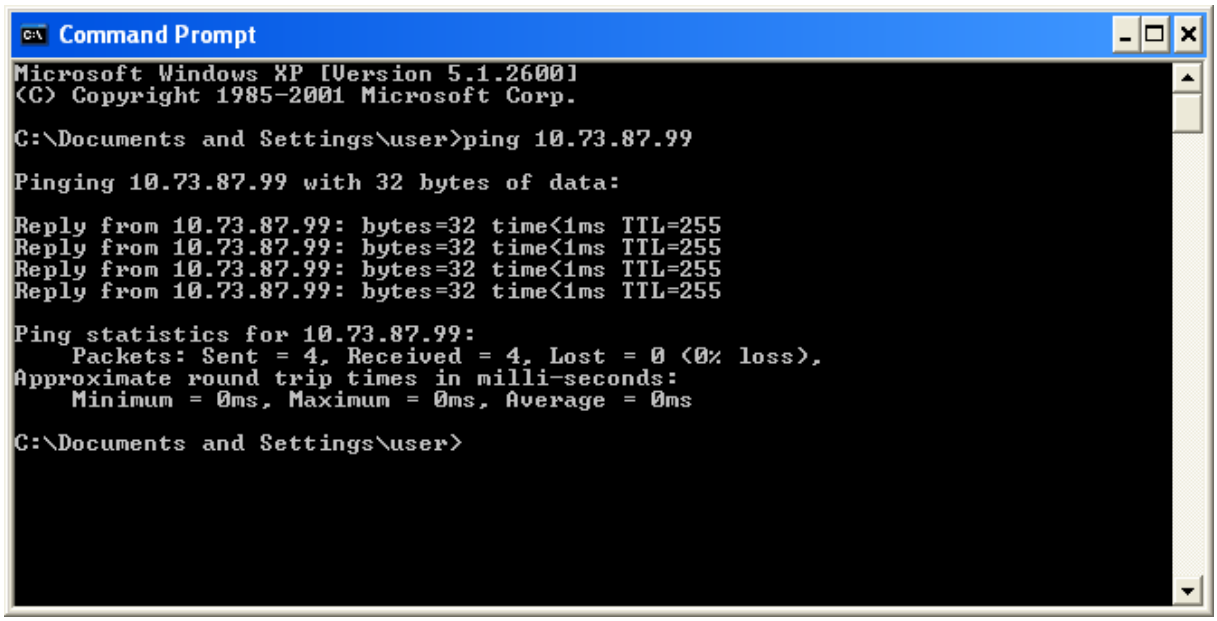
2. Open a new DOS Window,by clicking **Start > Run** as shown below:



3. Type **cmd** in the **Run** window:



4. Type ping *x.x.x.x*, where *x.x.x.x* is the IP address of the Camera, as shown below:



Reply messages indicate that there is another device on the nework, as indicated in the above window.

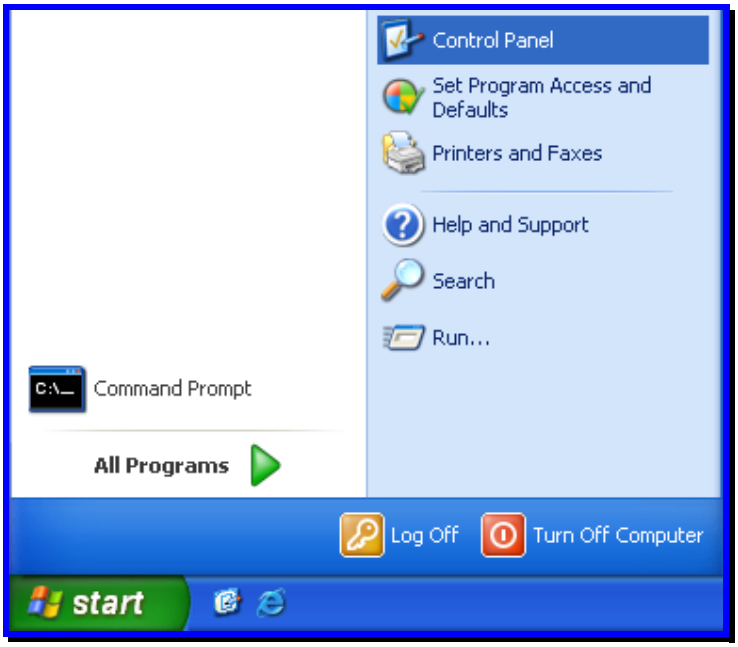
C. Troubleshooting

Q: I cannot access the Camera from a web browser?

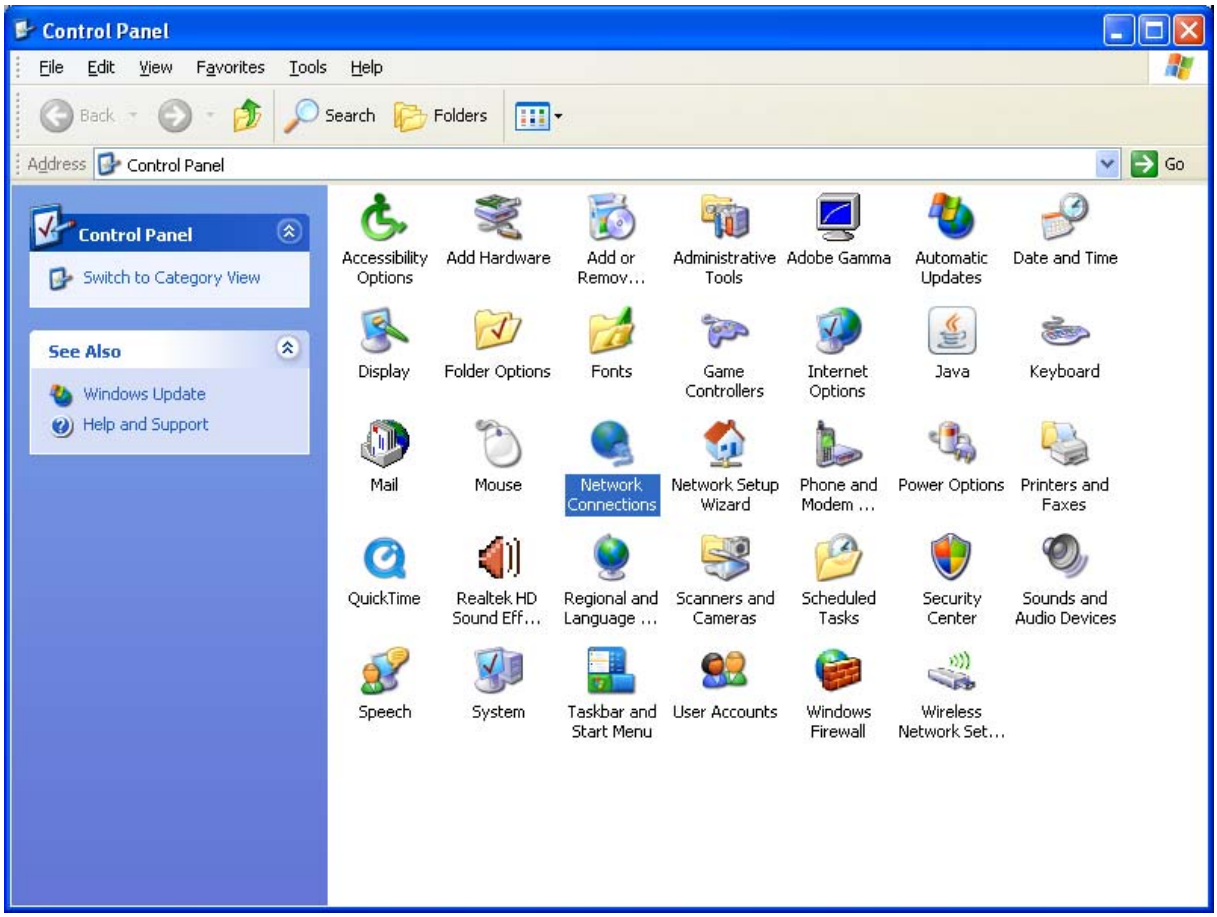
A1: The possible cause might by that the IP address of the Camera is already being used by another device. To correct the possible problem, you need to disconnect the Camera from the network first. Then run the PING utility (follow the instructions in Appendix B – PING your IP Address for more information).

A2: Another possible reason is the IP Address is located on a different subnet. To identify is this is the problem, run the PING utility (follow the instructions in Appendix B – PING your IP Address for more information). If the utility returns “no reply“ message or similar, it is possible that your Camera is on a different subnet from your computer. Carry out the following:

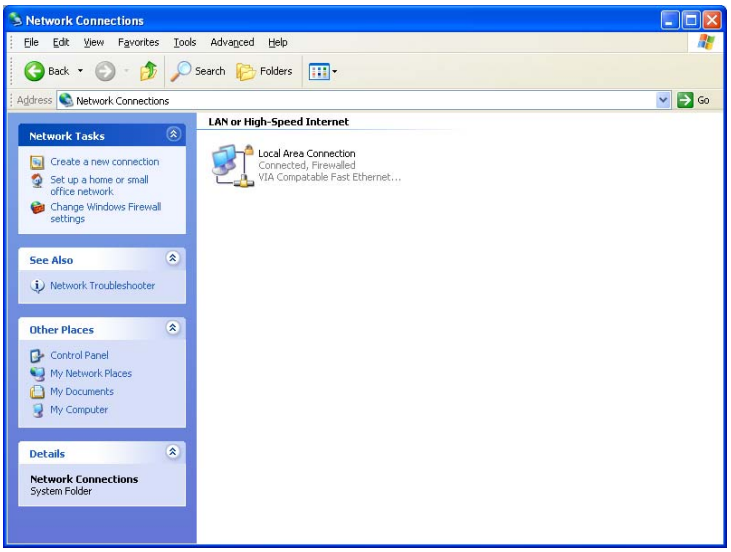
A2.1: Open the Control Panel by clicking **Start > Control Panel** as shown below:



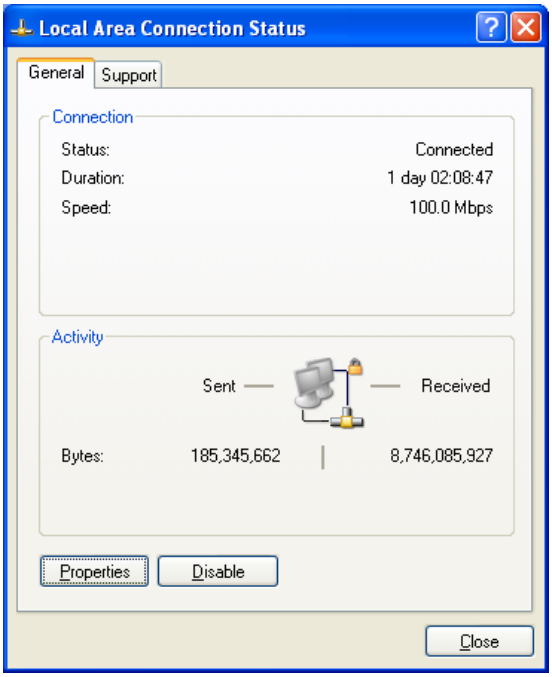
A2.2: Click the Network Connections icon as shown below:



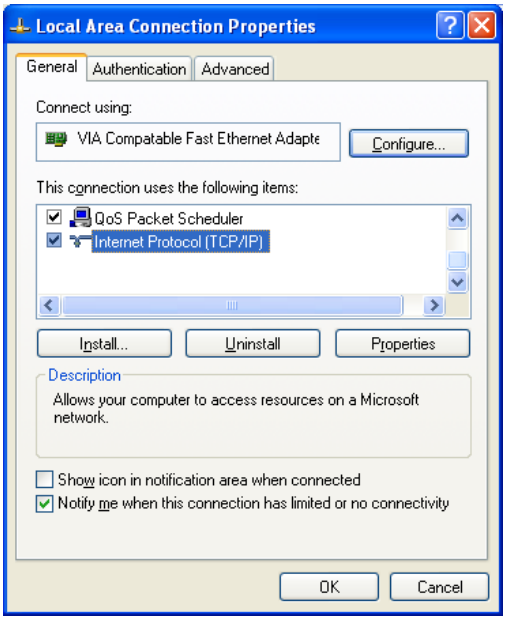
A2.3: Double-click the network adaptor that is connected to your Camera:



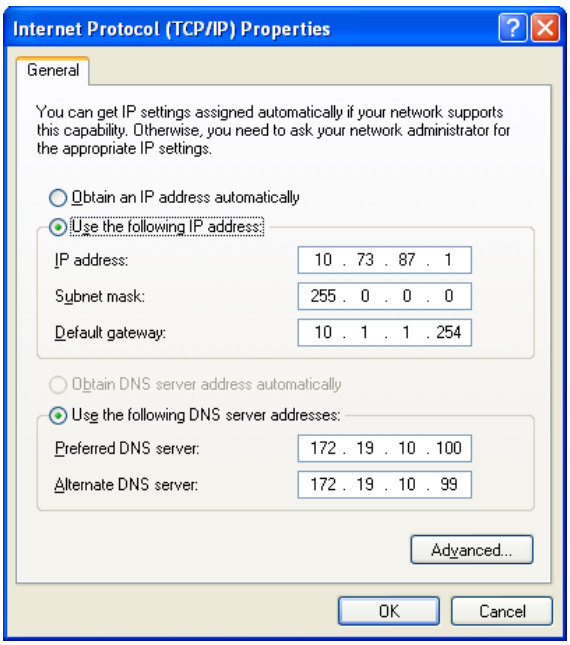
Select TCP/IP from the “Network“ dialog box and from the TCP/IP Properties:



Click the **Properities** button.



Double-click the **Internet Protocol (TCP/IP)** item and check that the first 3 bytes of your computer's IP address correspond with the first 3 bytes of the Camera's.



If the Camera is situated on a different subnet than your workstation, you will not be able to configure the Camera. Therefore, you must connect to the Camera from a PC on the same subnet to configure the Camera settings.

A3: The wireless connection might be faulty. If your Camera is operating in Ad-Hoc mode make sure the Camera wireless channel and SSID are set to match the PC/Notebook and the Camera must match with the Access Point's SSID.

Q: Why does the Camera work locally but not externally?

A1: The Camera's connection might be being blocked by a Firewall. Please check with your System Administrator to see if your Firewall allows access to the Canera.

A2: This could be caused by the Default Router setting. Double-check that the Camera's Default Router setting is correct.

Q: Why do a series of broad vertical white lines appear throughout the image?

A: A likely issue is that the CMOS sensor has become oveloaded when the light source is too bright, such as direct exposure to sunlight or halogen light. You will need to reposition the Camera into a more shaded area immediatley to avoid damaging the CMOS sensor.

Q: There is bad focus on the Camera, what should be done?

A: If you have changed the Lens of your Camera with a C-type lens, it is possible that you have not installed the adaptor for your C-type lens. The lens supplied with the Camera is a CS-type lens which doesn't require an adaptor.

Q: Noisy images occur, how can I resolve the problem?

A1: The video images might be noisy if the Camera is used in a very low light environment. To solve this issue you will need to increase the level of light in the Camera's location.

A2: There could be interference from other wireless devices on the network that are affecting the wireless transmission.

Q: There is poor image quality, how can I improve the image?

A1: A probable cause might be an incorrect property display configuration for your desktop. To check if this is the cause, open the Display Properties on your desktop and configure your display to show at leaset 65,000 colors, for example at least 16-bit.

A2: The configuration on the Camera image display is incorrect. Through the Web Configuration Image section you will need to adjust the image related parameters to improve the image, such as the brightness, contrast, hue and light frequency controls. Please refer to the Web Configuration section for more detailed information.

Q: There are no images available through the Web Browser?

A: ActiveX might be disabled. If your are viewing the images using Internet Explorer naje sure ActiveX has been enabled in the **Internet Options** menu. Alternatively, you can use the Java Applet for viewing the required images.

D. Time Zone Table

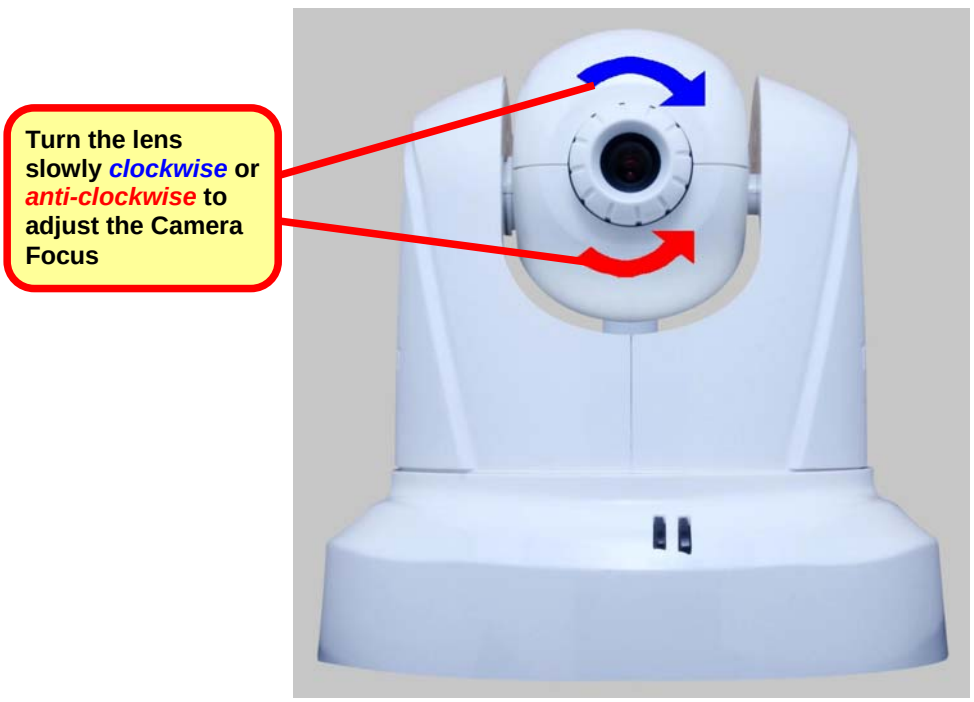
Time Zone	Location/Description
(GMT - 12:00)	Enjwetok, Kwajalein
(GMT - 11:00)	Midway Island, Samoa
(GMT - 10:00)	Hawaii
(GMT - 09:00)	Alaska
(GMT - 08:00)	Pacific Time (US & Canada; Tijuana)
(GMT - 07:00)	Arizona
(GMT - 07:00)	Mountain Time (US & Canada)
(GMT - 06:00)	Central Time (US & Canada)
(GMT - 06:00)	Mexico City, Tegucigalpa
(GMT - 06:00)	Saskatchewan
(GMT - 05:00)	Bogota, Lima, Quito
(GMT - 05:00)	Eastern Time (US & Canada)
(GMT - 05:00)	Indiana (East)
(GMT - 04:00)	Atlantic Time (Canada)
(GMT - 04:00)	Caracas, La Paz
(GMT - 04:00)	Santiago
(GMT - 03:30)	Newfoundland
(GMT - 03:00)	Brasilia
(GMT - 03:00)	Buenos Aires, Georgetown
(GMT - 02:00)	Mid-Atlantic
(GMT - 01:00)	Azores, Cape Verde Islands
(GMT)	Casablanca, Monrovia
(GMT)	Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London
(GMT + 01:00)	Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna
(GMT + 01:00)	Belgrade, Bratislava, Budapest, Ljubljana, Prague

Time Zone	Location/Description
(GMT + 01:00)	Brussels, Copenhagen, Madrid, Paris, Vilnius
(GMT + 01:00)	Sarajevo, Skopje, Sofija, Warsaw, Zagreb
(GMT + 02:00)	Athens, Istanbul, Minsk
(GMT + 02:00)	Bucharest
(GMT + 02:00)	Cairo
(GMT + 02:00)	Harare, Pretoria
(GMT + 02:00)	Helsinki, Riga, Talinn
(GMT + 02:00)	Jerusalem
(GMT + 03:00)	Baghdad, Kuwait, Riyadh
(GMT + 03:00)	Moscow, St. Petersburg, Volgograd
(GMT + 03:00)	Nairobi
(GMT + 03:30)	Tehran
(GMT + 04:00)	Abu Dhabi, Muscat
(GMT + 04:00)	Baku, Tbilisi
(GMT + 04:30)	Kabul
(GMT + 05:00)	Ekateringburg
(GMT + 05:00)	Islamabad, Karachi, Tashkent
(GMT + 05:30)	Bombay, Calcutta, Madras, New Delhi
(GMT + 06:00)	Astana, Almaty, Dhaka
(GMT + 06:00)	Colombo
(GMT + 07:00)	Bangkok, Hanoi, Jakarta
(GMT + 08:00)	Beijing, Chongqing, Hong Kong, Urumqi
(GMT + 08:00)	Perth
(GMT + 08:00)	Singapore
(GMT + 08:00)	Taipei
(GMT + 09:00)	Osaka, Sapporo, Tokyo

Time Zone	Location/Description
(GMT + 09:00)	Seoul
(GMT + 09:00)	Yakutsk
(GMT + 09:30)	Adelaide
(GMT + 09:30)	Darwin
(GMT + 10:00)	Brisbane
(GMT + 10:00)	Canberra, Melbourne, Sydney
(GMT + 10:00)	Guam, Port Moresby
(GMT + 10:00)	Hobart
(GMT + 10:00)	Vladivostok
(GMT + 11:00)	Magadan, Solomon Islands, New Caledonia
(GMT + 12:00)	Auckland, Wellington
(GMT + 12:00)	Fiji, Kamchatka, Marshall Islands

E. Adjusting Internet Camera Focus

To adjust the focus of the lens, you need to turn the lens slowly in either a clockwise or anti-clockwise direction until the desired image appears. Be sure to not over turn the lens in either direction as this will cause the Camera to be out of focus.



NOTE: You can further adjust the Camera's image quality through the **Administration> Configurations > Video Settings** window. Please refer to the Using the Camera Web Manager section for further details.

G. Technical Specifications

Camera	
General	Sensor: 1/4” color CMOS SOC image sensor Resolution: 640 x 480 pixels Board Lens Focal Length: 4.57mm F/No: F1.9 Minimum illumination: 1 Lux @ F1.9 Focus depth: 20cm ~ infinity View angle: horizontal: 46 degree, vertical: 35 degree
Image & Video	Compression: MJPEG Exposure/white balance control: automatic Resolution: up to 15fps for VGA (640x480), 30fps for QVGA (320x240), 30fps for QQVGA (160x120)
Pan/Tilt	Pan: -156° ~ +156° Tilt: -45° ~ +70° Preset position: 24 positions
Hardware	
Network	IEEE 802.3u 10/100Mbps Fast Ethernet, Auto-MDIX
LED	Power, Link
Reset Button	Reset settings
Power Consumption	8 watts
Power	5V, 2.5A external power adapter
Dimension	TV-IP600: 112 x 112 x 110mm (4.4 x 4.4 x 4.3 in.) TV-IP600W: 112 x 130 x 110mm (4.4 x 5.1 x 4.3 in.)
Weight	TV-IP600: 450g (1lb) TV-IP600W: 485g (1.1lb)
Temperature	Operating: 5°C ~ 40°C (41°F ~ 104°F) Storage: -25°C ~ 50°C (13°F ~ 122°F)
Certification	CE, FCC
Requirement	
To View	Internet Explorer 6.0 or above, Safari 2.0 or above, Firefox 2.0 or above, Opera,

	Netscape, and Google Chrome
To Run Software	Windows XP, Vista
IPView Pro 2.0	Channel: supports up to 32 cameras Record/Playback/Motion Detection
Network Protocols	IP, ARP, TCP, UDP, ICMP DHCP Client, NTP Client, DNS Client, DDNS Client, SMTP Client, FTP Client HTTP Server PPPoE UPnP
Management	
Account	Up to 64 user accounts*
Remote	Remote management supported
Backup / Restore	Save/retrieve configuration files
Settings	
Image	Brightness, contrast, noise reduction, saturation, sharpness, white balance, flip, mirror (horizontal/vertical), black/white mode
Video	Encoding type: MJPEG Resolution: 640 x 480, 320 x 240, 160 x 120 Frame rate: 1, 5, 7, 15, 20, Auto Compression: 5 levels
Recording	Recording type: continuous, schedule or motion detection with software
Port Settings	HTTP port: 80 (default)
Digital Zoom	4x
Dynamic DNS	Yes
Time	Synchronize with NTP server or set time/date manually
SMTP	Support SMTP mail
Wireless (TV-IP600W ONLY)	
Standard	IEEE 802.11b, IEEE 802.11g
Frequency	2.412 ~ 2.4835GHz ISM band
Antenna	1 x 2dBi dipole antenna (Reverse-SMA connector)
Data Rate **(auto fallback)**	802.11b: 11Mbps, 5.5Mbps, 2Mbps and 1Mbps 802.11g: 54Mbps, 48Mbps, 36Mbps, 24Mbps, 18Mbps, 12Mbps, 9Mbps and 6Mbps

Security	64/128-bit WEP, WPA-PSK, WPA2-PSK
Output Power	802.11b: 16dBm (typical) 802.11g: 12dBm (typical)
Receiving Sensitivity	802.11b: -82dBm at 11Mbps 802.11g: -66dBm at 54Mbps
Channel	1~11 (FCC), 1~13 (ETSI)

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-IP600/TV-IP600W	**3 years**

If a product does not operate as warranted above during the applicable warranty period, TRENDnet shall, at its option and expense, repair the defective product or deliver to customer an equivalent product to replace the defective item. All products that are replaced will become the property of TRENDnet. Replacement products may be new or reconditioned.

TRENDnet shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to TRENDnet pursuant to any warranty.

There are no user serviceable parts inside the product. Do not remove or attempt to service the product through any unauthorized service center. This warranty is voided if (i) the product has been modified or repaired by any unauthorized service center, (ii) the product was subject to accident, abuse, or improper use (iii) the product was subject to conditions more severe than those specified in the manual.

Warranty service may be obtained by contacting TRENDnet office within the applicable warranty period for a Return Material Authorization (RMA) number, accompanied by a copy of the dated proof of the purchase. Products returned to TRENDnet must be pre-authorized by TRENDnet with RMA number marked on the outside of the package, and sent prepaid, insured and packaged appropriately for safe shipment.

WARRANTIES EXCLUSIVE: IF THE TRENDNET PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, THE CUSTOMER'S SOLE REMEDY SHALL BE, AT TRENDNET'S OPTION, REPAIR OR REPLACEMENT. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. TRENDNET NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE OR USE OF TRENDNET'S PRODUCTS.

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MODIFY, OR ANY OTHER CAUSE BEYOND THE RANGE OF THE INTENDED USE, OR BY ACCIDENT, FIRE, LIGHTNING, OR OTHER HAZARD.

LIMITATION OF LIABILITY: TO THE FULL EXTENT ALLOWED BY LAW TRENDNET ALSO EXCLUDES FOR ITSELF AND ITS SUPPLIERS ANY LIABILITY, WHETHER BASED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE), FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR FOR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATE, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR INTERRUPTION OF THE POSSIBILITY OF SUCH DAMAGES, AND LIMITS ITS LIABILITY TO REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT TRENDNET'S OPTION. THIS DISCLAIMER OF LIABILITY FOR DAMAGES WILL NOT BE AFFECTED IF ANY REMEDY PROVIDED HEREIN SHALL FAIL OF ITS ESSENTIAL PURPOSE.

Governing Law: This Limited Warranty shall be governed by the laws of the state of California.

Note: AC/DC Power Adapter, Cooling Fan, Cables and Power Supply carry 1-Year Warranty

TRENDnet®

Product Warranty Registration

Please take a moment to register your product online.
Go to TRENDnet's website at http://www.trendnet.com/register

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