



**TRENDnet**<sup>®</sup>



User's Guide

**TV-IP121W**  
H/W: A1

# **Preface**

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Thank you for purchasing the TV-IP121W, a powerful and high-quality image SecurView Wireless Day/Night Internet Camera. The infrared LEDs and light sensor enable the camera to capture images even in dark environments. The camera can be installed as a standalone system within your application environment easily and quickly, and supports remote management function so that you can access and control it using a Web browser on your computers.

This User Guide provides you with the instructions and illustrations on how to use your camera, which includes:

**Chapter 1 Introduction to Your Camera** describes the features of the camera. You will also know the components and functions of the camera.

**Chapter 2 Hardware Installation** helps you install the camera according to your application environment. You can use this camera at home, at work, at any where you want.

**Chapter 3 Accessing the Camera** lets you start using your camera without problem. The camera can be set up easily and work within your network environment instantly.

**Chapter 4 Configuring the Camera** guides you through the configuration of the camera using the web browser on your PC.

**Chapter 5 Using SecurView™** shows you the detail instructions on operating SecurView™ software.

**Chapter 6 Appendix** provides the specification of the camera and some useful information for using your camera.

**NOTE** The illustrations and configuration values in this guide are for reference only. The actual settings depend on your practical application of the camera.

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# CHAPTER 1

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## INTRODUCTION TO YOUR CAMERA

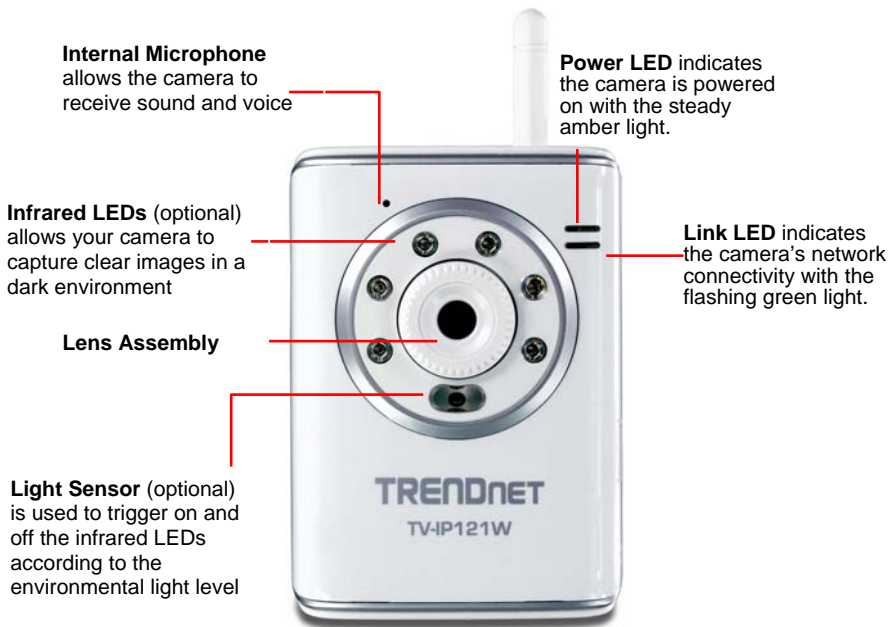
### 1.1 Checking the Package Contents

Check the items contained in the package carefully. You should have the following:

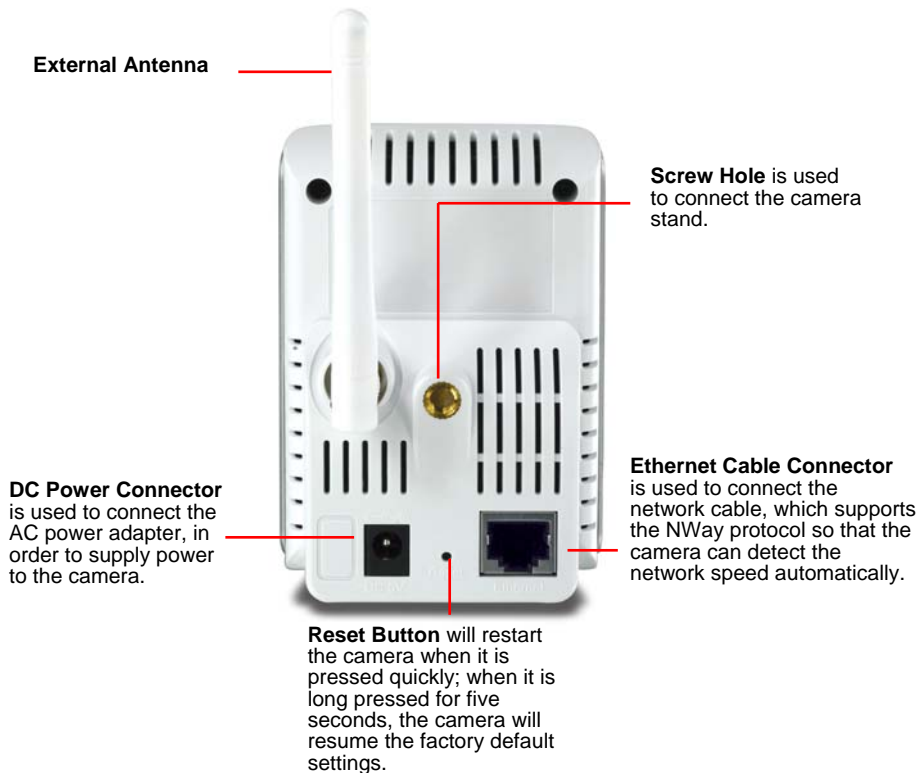
- TV-IP121W
- AC Power Adapter (5VDC, 2.5A)
- Detachable External Antenna
- Camera Stand
- Ethernet Cable (RJ-45 type)
- Utility CD-ROM
- Multi-Language Quick Installation Guide

**NOTE** If there is any item damaged or missing, please contact your local authorized dealer for replacement.

## 1.2 Getting to Know Your Camera



**Front View**



## Rear View

- **Internal Microphone:** It allows the camera to receive the sound or voice
- **Infrared LEDs:** It allows your camera to capture clear images in a dark environment.
- **Light Sensor:** It is used to trigger on and off the Infrared LEDs according to the environmental light level.
- **Power LED:** A steady orange light indicates the camera is powered on.
- **Link/Act LED:** A blinking green light indicates the camera's network connection correctly.
- **Detachable Antenna:** The detachable external antenna allows you to adjust its position to obtain the maximum signal.
- **Camera Stand Connection:** Connects the camera with the camera stand.
- **Power Connector:** Connects the AC power adapter to supply power to the camera.
- **LAN Port:** It is used to connect the network RJ-45 cable, which supports the NWay protocol so that the camera can detect the network speed automatically.
- **Reset Button:** Rest will be initiated when the reset button is pressed once. The power LED begins to flash.

Factory Reset will be initiated when the reset button is pressed continuously for three seconds or when Power LED begins to light up. Release the reset button and the Power LED will begin to flash.



## 1.3 Features and Benefits

### ■ **Audio Capability**

The built-in microphone of the camera provides on-the-spot audio via the Internet, allowing you to monitor the on-site voice.

### ■ **Day & Night Surveillance Supported**

The six Infrared LEDs around the standard lens assembly (optional) enable the camera to capture crystal clear images in the dark environment or at night. When the Light Sensor detects the environmental light level becomes low, the camera captures the images in black & white mode using these infrared LEDs.

### ■ **Remote Control Supported**

By using a standard Web browser or the bundled SecurView™ software application, the administrator can easily change the configuration of the camera via Intranet or Internet. In addition, the camera can be upgraded remotely when a new firmware is available. The users are also allowed to monitor the image and take snapshots via the network.

### ■ **Multiple Platforms Supported**

The camera supports multiple network protocols, including TCP/IP, SMTP e-mail, HTTP, and other Internet related protocols. Therefore, you can use the camera in a mixed operating system environment, such as Windows 2000, Windows XP and Window Vista.

### ■ **Multiple Applications Supported**

Through the remote access technology, you can use the cameras to monitor various objects and places for your own purposes.

For example, babies at home, patients in the hospital, offices and banks, and more. The camera can capture both still images and video clips, so that you can keep the archives and restore them at any time.

## 1.4 System Requirement

### ■ Networking

LAN: 10Base-T Ethernet or 100Base-TX Fast Ethernet.

WLAN: IEEE 802.11b/g.

### ■ Accessing the Camera using Web Browser

Platform: Microsoft® Windows® 2000/XP/Vista

CPU: Intel Pentium III 350MHz or above

RAM: 128MB

Resolution: 800x600 or above

User Interface: Microsoft® Internet Explorer 6.0 or above

### ■ Accessing the Camera using Ultra View

Platform: Microsoft® Windows® 2000/XP/Vista.

Hardware Requirement:

1 camera connected: Intel Pentium III 800MHz; 512MB RAM

2 ~ 4 cameras connected: Intel Pentium 4 1.3GHz; 512MB RAM

5 ~ 8 cameras connected: Intel Pentium 4 2.4GHz; 1GB RAM

9 ~ 16 cameras connected: Intel Pentium 4 3.4GHz; 2GB RAM

Resolution: 1024x768 or above

**NOTE** If you connect multiple cameras to monitor various places simultaneously, you are recommended to use a computer with higher performance.

# CHAPTER 2

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## HARDWARE INSTALLATION

### 2.1 Installing the Camera Stand

The camera comes with a camera stand, which uses a swivel ball screw head to lock to the camera's screw hole. When the camera stand is attached, you can place the camera anywhere by mounting the camera through the three screw holes located in the base of the camera stand.



**The Camera Stand**

## 2.2 Connecting the Camera to LAN/WLAN

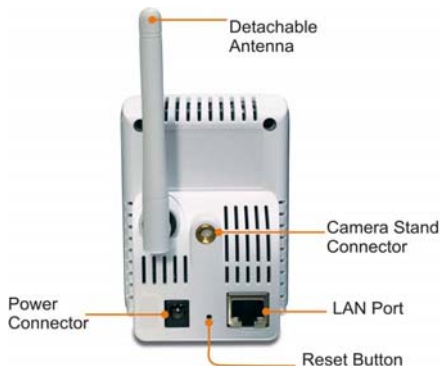
Use the provided Ethernet cable to connect the camera to your local area network (LAN).

When you connect the AC power adapter, the camera is powered on automatically. You can verify the power status from the Power LED on the front panel of the camera.

Once connected, the Link LED starts flashing green light and the camera is on standby and ready for use now.

If you use a wireless network in your application environment, you need to attach the included external antenna to the camera.

When the camera is powered on, the camera will automatically search any access point with “default” SSID.



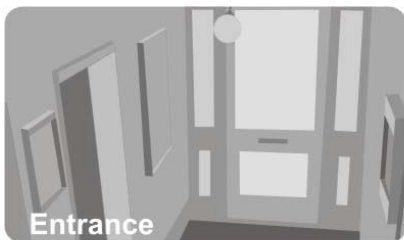
**NOTE** If the camera cannot to your wireless network, you need to install the camera in LAN and proceed with WLAN settings.

## 2.3 Applications of the Camera

The camera can be applied in multiple applications, including:

- Monitor local and remote places and objects via Internet or Intranet.
- Capture still images and video clips remotely.
- Upload images or send email messages with the still images attached.

The following diagram explains one of the typical applications for your camera and provides a basic example for installing the camera.



\*Please enclosed by waterproof housing when using in outdoor

# CHAPTER 3

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## ACCESSING THE CAMERA

### 3.1 Using IPSetup

The camera comes with a convenient utility, IPSetup, which is included in the Installation CD-ROM, allowing you to search the camera on your network easily.

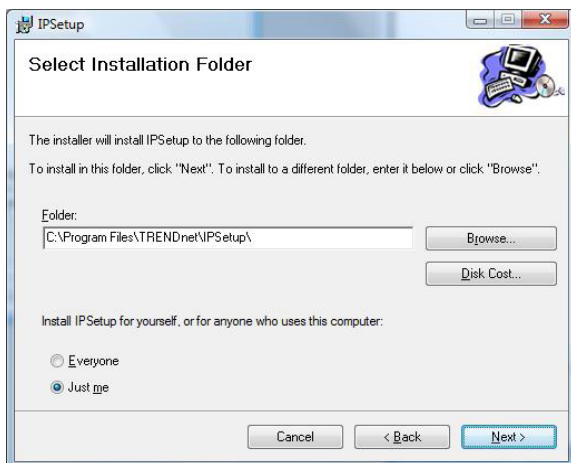
1. Insert the Installation CD-ROM into your computer's CD-ROM drive to initiate the Auto-Run program.



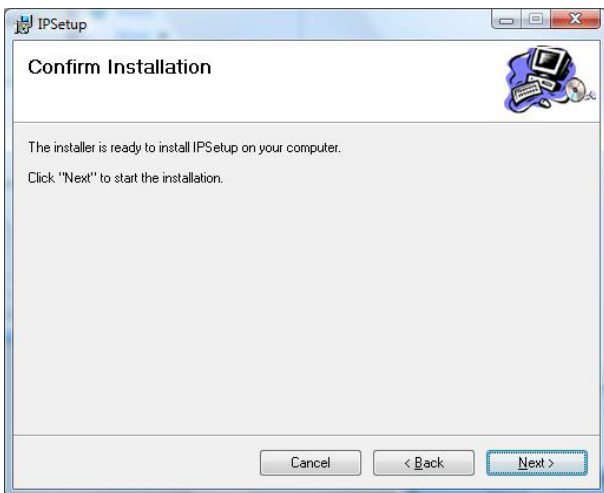
2. Click the **IPSetup** from the Auto-Run menu screen. Then the IPSetup Wizard will appear. Click **Next** when the **Welcome to the IPSetup Wizard** appears.



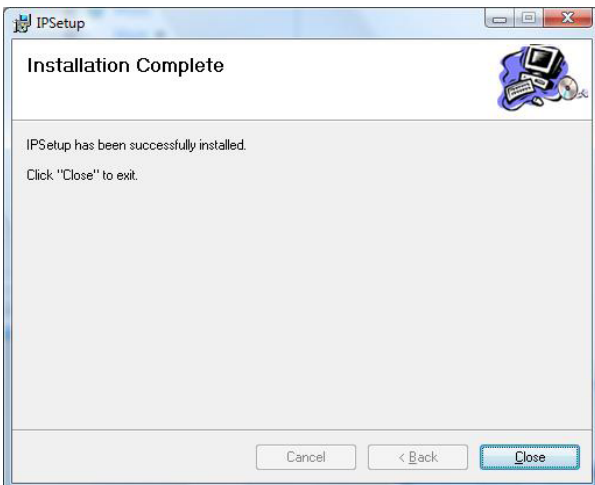
3. Click **Browse** to choose the desired destination location. By default, the destination location is C:\Program Files\TRENDnet\IPSetup. Then click **Next**.



4. Click **Next** to confirm the IPSetup software to be installed to the computer.

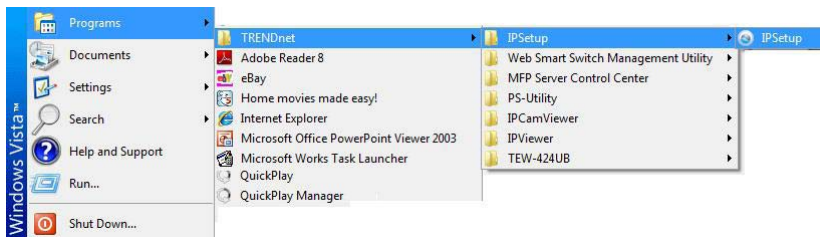


5. When the **Installation Complete** window appears, click **Close**.

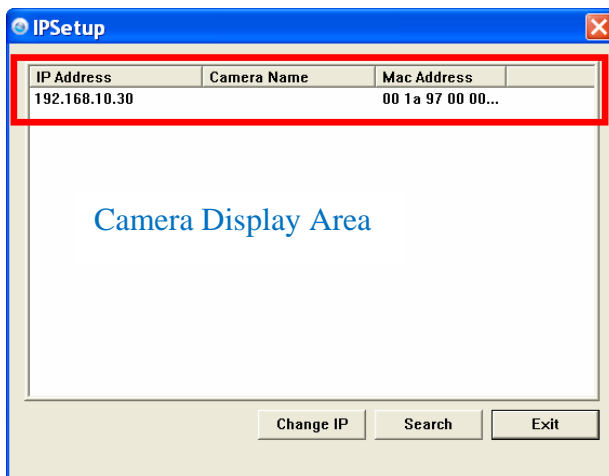




6. After installing the IPSetup utility, the application is automatically installed to your computer, and creates a folder in **Start\Program\TRENDnet\IPSetup**.
7. Click **Start>Programs>TRENDnet>IPSetup**, and then click **IPSetup**.



8. The IPSetup window will appear. It will search for the camera within the same network



- **Camera Display Area:** It shows the connected camera(s) within the same network

Double click the IP Address, it will link to the Camera's Web Configuration page.

- **Change IP:** Click this button to bring up the following window. It allows you to change the IP Address. You can select either **Static IP** or click **DHCP**. Then, enter the Administrator ID & Password. By default the ID/Password is: **admin**. When complete, click **Change**.

Change IP Address

Static IP

IP Address: 192 . 168 . 10 . 30

Submask: 255 . 255 . 255 . 0

Default gateway: 192 . 168 . 10 . 1

DHCP

Administrator ID & Password

ID:

Password:

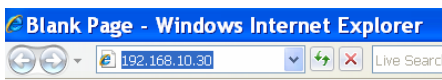
Change Exit

- **Search:** Click this button to search the connected camera in the same network
- **Exit:** Click this button to exit the program.

## 3.2 Accessing to the Camera

Whenever you want to access the camera:

1. Open the Web browser on your computer (example showed in the User's Guide is based on the Internet Explorer).
2. Type the default IP address (**192.168.10.30**) or the IP address found by IPSetup in the Address bar, and then press [Enter].



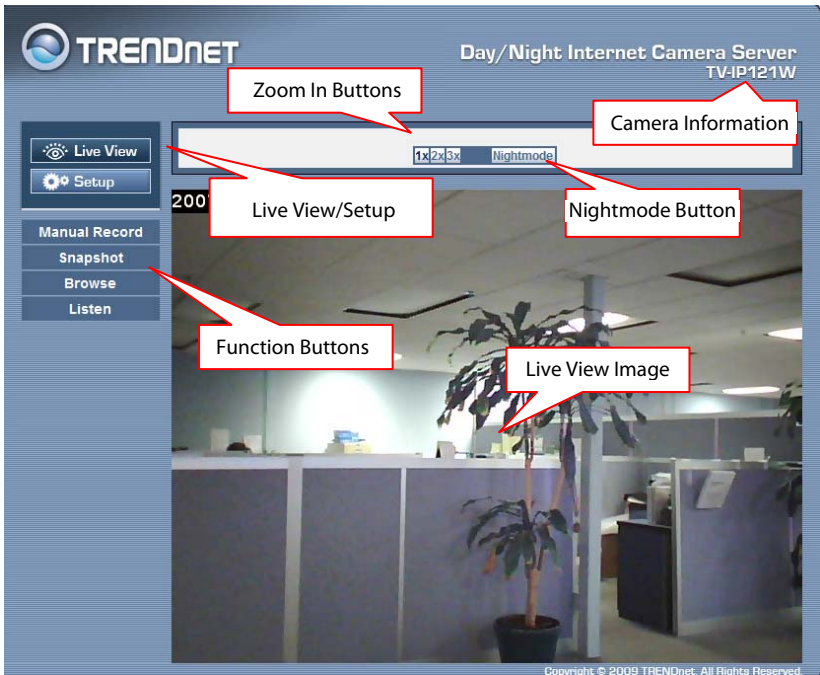
3. When the login window appears, enter the default **User name** (**admin**) and **Password** (**admin**) and press **OK** to access to the main screen of the camera's Web Configuration.



**NOTE** If you are initially access to the camera, you will be ask to install a new plug-in for the camera. Permission request

depends on the Internet security settings of your computer.  
Click **Yes** to proceed.

After you login into the Web Configuration of the camera, the main page will appear as below:



The main page of the Web Configuration provides you with many useful information and functions, including:

- **Camera Information** – Display the camera's location and the current date & time. The information can be modified in the Web Configuration.

- **Live View Image** – Displays the real-time image of the connected camera.
- **Live View/Setup Switch** – Click **Setup** to configure the camera. For details, see Chapter 4.
- **Function Buttons** – Use these buttons to control the video functions.
  - **Manual Record** allows you to record and save a video clip.
  - **Snapshot** allows you to capture and save a still image.
  - **Browse** allows assign the destination folder to store the video clips and still images.
  - **Listen** allows you receive the on-site sound and voice from the camera.
- **Zoom In Buttons** – Click the buttons to zoom in the live view image by 1x, 2x, and 3x.
- **Nightmode Button** – Click the button to enable the “nightshot mode” to deliver clearer images in the dark environment. However, this will reduce the frame rate of video setting.

**NOTE** If your PC uses Microsoft Vista platform you may not be able to find these recorded files that are stored by **Snapshot** or **Manual Record**. You will need to disable the protected mode of Security in the IE Browser. Please follow the below Steps:

1. Open IE Browser
2. Select **Tools**→**Internet Options**
3. Select **Security**
4. Disable the “**Enable Protected Mode**” then press **OK**

### 3.3 Configuring the IP Address of the PC

If you failed to access the camera, please check the IP address of your computer. When you connect the camera to your computer directly to proceed with configuration of the camera, you need to set up the IP Addresses to be in the same segment for the two devices to communicate.

1. On your computer, click **Start > Control Panel** to open the Control Panel window.
2. Double-click **Network Connection** to open the Network Connection window.
3. Right-click **Local Area Connection** and then click **Properties** from the shortcut menu.
4. When the Local Area Connection Properties window appears, select the **General** tab.
5. Select **Internet Protocol [TCP/IP]** and then click **Properties** to bring up the Internet Protocol [TCP/IP] Properties window.
6. To configure a fixed IP address that is within the segment of the camera, select the **Use the following IP address** option. Then, enter an IP address into the empty field. The suggested IP address is **192.168.10.x** (x is 0~254 except 30), and the suggested Subnet mask is **255.255.255.0**.
7. When you are finished, click **OK**.

# CHAPTER 4

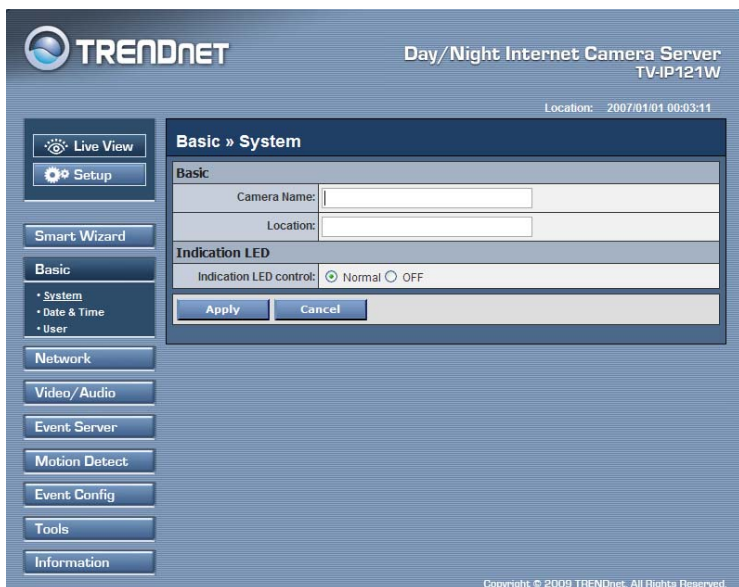
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## CONFIGURING THE CAMERA

### 4.1 Using the Web Configuration

You can access and manage the camera through the Web browser and the provided software application SecurView™ (see chapter 5 in more detail). This chapter describes the Web Configuration, and guides you through the configuration of the camera by using the web browser.

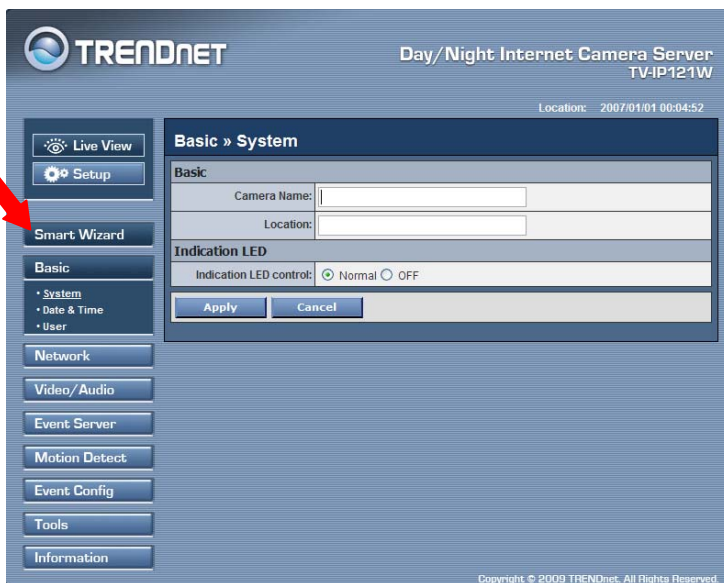
To configure the camera, click **Setup** on the main page of Web Configuration. The Web Configuration will start from the **Basic** page.



The Web Configuration contains the settings that are required for the camera in the left menu bar, including **Smart Wizard**, **Basic**, **Network**, **Video**, **Event Server**, **Motion detect**, **Event Config**, **Tools**, and **Information**.

## 4.2 Using Smart Wizard

The camera's Smart Wizard lets you configure your camera easily and quickly. The wizard will guide you through the necessary settings with detailed instructions on each step.



To start the wizard, click **Smart Wizard** in the left menu bar.

### Step 1. Camera Settings



## Camera Settings

Camera Name:	<input type="text"/>
Location:	<input type="text"/>
Admin Password:	<input type="password"/>
Confirm Password:	<input type="password"/>

Enter **Camera name**, **Location**, **New Admin password** and enter again to **confirm Admin password**

### Step 2. IP Settings

## IP Settings

DHCP  
 Static IP

IP:  .  .  .

Subnet Mask:  .  .  .

Default Gateway:  .  .  .

Primary DNS:  .  .  .

Secondary DNS:  .  .  .

PPPoE

User Name:

Password:

Select the IP setting according to your network: **DHCP**, **Static IP**, or **PPPoE**.

### Step 3. Email Settings

### Email Settings

SMTP Server Address:	<input type="text"/>
Sender Email Address:	<input type="text"/>
Authentication Mode:	<input checked="" type="radio"/> None <input type="radio"/> SMTP
Sender User Name:	<input type="text"/>
Sender Password:	<input type="password"/>
Receiver #1 Email Address:	<input type="text"/>
Receiver #2 Email Address:	<input type="text"/>

Enter the required information to be able to send email with an image

#### Step 4. Wireless Networking

### Wireless Networking

Network ID(SSID):	<input type="text" value="TRENDnet"/>	<input type="button" value="Site Survey"/>
Wireless Mode:	<input checked="" type="radio"/> Infrastructure <input type="radio"/> Ad-Hoc	
Channel:	6	
Authentication:	Open	
Encryption:	<input checked="" type="radio"/> None <input type="radio"/> WEP	
Format:	<input checked="" type="radio"/> ASCII <input type="radio"/> HEX	
Key Length:	<input checked="" type="radio"/> 64 bits <input type="radio"/> 128 bits	
<input checked="" type="radio"/> WEP Key 1:	<input type="text"/>	
<input type="radio"/> WEP Key 2:	<input type="text"/>	
<input type="radio"/> WEP Key 3:	<input type="text"/>	
<input type="radio"/> WEP Key 4:	<input type="text"/>	

Select **Enable** to enable the wireless function of the camera, and then complete the required settings.

## Step 5. Confirm Settings

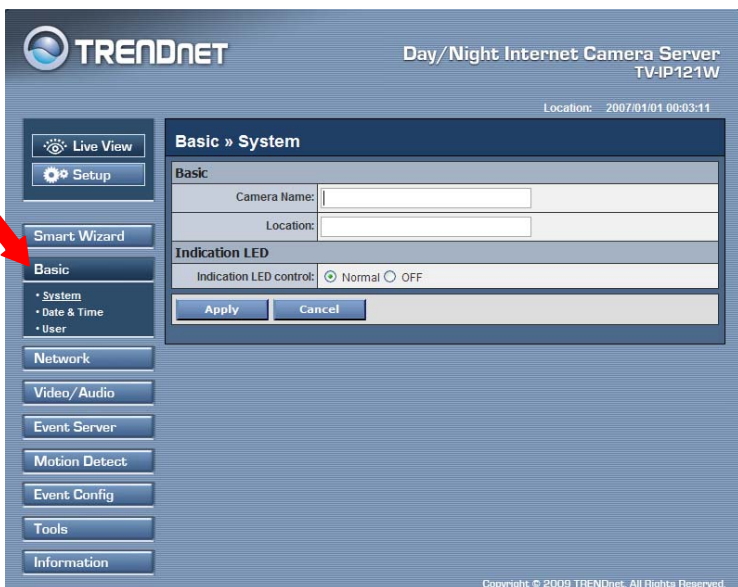
Confirm Settings	
Camera Name:	
Location:	
IP Mode:	Static
IP Address:	192.168.10.30
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.10.1
Primary DNS Address:	
Secondary DNS Address:	
SMTP Server Address:	
Sender Email Address:	
Authentication mode:	None
Sender User Name:	
Receiver #1 Email Address:	
Receiver #2 Email Address:	
ESSID:	TRENDnet
Connection:	Infrastructure
Channel:	6
Authentication :	Open
Encryption :	None
<input type="button" value=" &lt; Prev"/> <input type="button" value=" Apply"/> <input type="button" value=" Cancel"/>	

This step shows all the setting information you imputed.

This step shows the configuration of your camera. When you confirm the settings, click **Apply** to finish the wizard and reboot the camera. Otherwise, click **Prev** to go back to the previous step(s) and change the settings; or click **Cancel** to end the wizard and discard the changes.

## 4.3 Basic Setup

The Basic menu contains three sub-menus that provide the system settings for the camera, such as the Camera Name, Location, Date & Time, and User management.



The screenshot displays the Trendnet web interface for a Day/Night Internet Camera Server (TV-IP121W). The interface is divided into a left sidebar and a main content area. The sidebar contains several menu items: Live View, Setup, Smart Wizard, Basic (highlighted with a red arrow), Network, Video/Audio, Event Server, Motion Detect, Event Config, Tools, and Information. The Basic menu is expanded, showing sub-items: System, Date & Time, and User. The main content area is titled "Basic » System" and contains a form for system configuration. The form includes fields for "Camera Name" and "Location", and a section for "Indication LED" control with radio buttons for "Normal" (selected) and "OFF". "Apply" and "Cancel" buttons are located at the bottom of the form. The top right of the interface shows the device name "Day/Night Internet Camera Server TV-IP121W" and the current location and time: "Location: 2007/01/01 00:03:11". The bottom right corner contains the copyright notice: "Copyright © 2009 Trendnet. All Rights Reserved."

## Basic >> System

Basic » System	
Basic	
Camera Name:	<input type="text"/>
Location:	<input type="text"/>
Indication LED	
Indication LED control:	<input checked="" type="radio"/> Normal <input type="radio"/> OFF
<input type="button" value="Apply"/>	<input type="button" value="Cancel"/>

### ■ Basic

- **Camera Name:** Enter a descriptive name for the camera.
- **Location:** Enter a descriptive name for the location used by the camera.

### ■ Indication LED

This item allows you to set the LED illumination as desired. There are two options: **Normal** and **OFF**.

## Basic >> Date & Time

**Basic » Date & Time**

**Date and Time**

TimeZone: (GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London

Settings:

- Synchronize with PC
- Synchronize with NTP Server:
  - NTP Server Address:
  - Update Interval: 6 hours
- Manual
  - Date: 2007/08/15 (YYYY/MM/DD)
  - Time: 10:33:42 (hh:mm:ss)

Apply Cancel

### ■ Date & Time

- **TimeZone:** Select the proper time zone for the region from the pull-down menu.
- **Synchronize with PC:** Select this option and the date & time settings of the camera will be synchronized with the connected computer.
- **Synchronize with NTP Server:** Select this option and the time will be synchronized with the NTP Server. You need to enter the IP address of the server and select the update interval in the following two boxes.
- **Manual:** Select this option to set the date and time manually.

## Basic >> User

Basic » User	
User Accounts	
<b>Administrator:</b>	User Name: <input type="text"/> Confirm Password: <input type="text"/> <input type="button" value="Modify"/>
<b>General User:</b>	User Name: <input type="text"/> Password: <input type="text"/> <input type="button" value="Add/Modify"/> User List: <input type="text"/> <input type="button" value="Delete"/>
<b>Guest:</b>	User Name: <input type="text"/> Password: <input type="text"/> <input type="button" value="Add/Modify"/> User List: <input type="text"/> <input type="button" value="Delete"/>

### ■ Administrator

To prevent unauthorized access to the camera's Web Configuration, you are strongly recommend to change the default administrator password. Type the administrator password twice to set and confirm the password.

### ■ General User

- **User Name:** Enter the user's name you want to add to use the camera.
- **Password:** Enter the password for the new user.

When you are finished, click **Add/Modify** to add the new user to the camera. To modify the user's information, select the one you want to modify from **User List** and click **Add/Modify**.

- **User List:** Display the existing users of the camera. To delete a user, select the one you want to delete and click **Delete**.

### ■ Guest

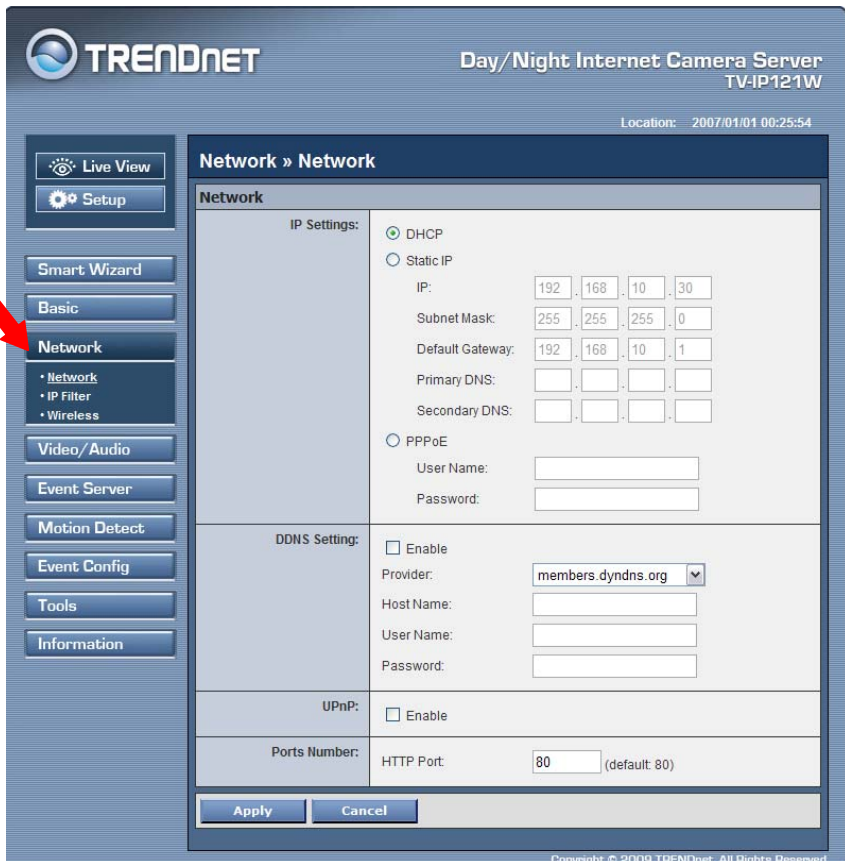
- **User Name:** Enter the guest's name you want to add to use the camera.
- **Password:** Enter the password for the new guest.
- **User List:** Display the existing guests of the camera. To delete a user, select the one you want to delete and click **Delete**.

**NOTE** The "General User" can access the camera and control the Function buttons of the camera's Web Configuration; the "Guest" can only view the live view image from the main page of the Web Configuration while accessing the camera. Only the "Administrator" is allowed to configure the camera through the Web Configuration.



## 4.4 Network Settings

The Network menu contains three sub-menus that provide the network settings for the camera, such as the IP Setting, DDNS Setting, IP Filter, and Wireless network.



The screenshot displays the web interface for a Trendnet Day/Night Internet Camera Server (TV-IP121W). The interface includes a sidebar with navigation options: Live View, Setup, Smart Wizard, Basic, Network (highlighted with a red arrow), Video/Audio, Event Server, Motion Detect, Event Config, Tools, and Information. The main content area is titled 'Network » Network' and contains the following settings:

- IP Settings:**
  - DHCP
  - Static IP
  - IP: 192 . 168 . 10 . 30
  - Subnet Mask: 255 . 255 . 255 . 0
  - Default Gateway: 192 . 168 . 10 . 1
  - Primary DNS: [ ] . [ ] . [ ] . [ ]
  - Secondary DNS: [ ] . [ ] . [ ] . [ ]
  - PPPoE
  - User Name: [ ]
  - Password: [ ]
- DDNS Setting:**
  - Enable
  - Provider: members.dyndns.org
  - Host Name: [ ]
  - User Name: [ ]
  - Password: [ ]
- UPnP:**
  - Enable
- Ports Number:**
  - HTTP Port: 80 (default: 80)

At the bottom of the settings area are 'Apply' and 'Cancel' buttons. The footer of the interface reads 'Copyright © 2009 TRENDnet. All Rights Reserved.'

## Network >> Network

Network » Network	
<b>Network</b>	
<b>IP Setting :</b>	<input type="radio"/> DHCP <input checked="" type="radio"/> Static IP IP: <input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="1"/> . <input type="text" value="170"/> Subnet Mask: <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="0"/> Default Gateway: <input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="1"/> . <input type="text" value="254"/> Primary DNS: <input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/> Secondary DNS: <input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/> <input type="radio"/> PPPoE User Name: <input type="text"/> Password: <input type="text"/>
<b>DDNS Setting:</b>	<input type="checkbox"/> Enable Provider: <input type="text" value="members.dyndns.org"/> <input type="button" value="v"/> Host Name: <input type="text"/> User Name: <input type="text"/> Password: <input type="text"/>
<b>UPnP:</b>	<input type="checkbox"/> Enable
<b>Ports Number</b>	HTTP Port: <input type="text" value="80"/> (default: 80) RTSP Port: <input type="text" value="554"/> (default: 554)
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

### ■ IP Setting

This item allows you to select the IP Address mode and set up the related configuration.

- **DHCP:** Select this option when your network uses the DHCP server. When the camera starts up, it will be assigned an IP address from the DHCP server automatically.

- **Static IP:** Select this option to assign the IP address for the camera directly. You can use IP Setup to obtain the related setting values.

<b>IP</b>	Enter the IP address of the camera. The default setting is <b>192.168.10.30</b> .
<b>Subnet Mask</b>	Enter the Subnet Mask of the camera. The default setting is <b>255.255.255.0</b> .
<b>Default Gateway</b>	Enter the Default Gateway of the camera. The default setting is <b>192.168.10.1</b> .
<b>Primary/ Secondary DNS</b>	DNS (Domain Name System) translates domain names into IP addresses. Enter the Primary DNS and Secondary DNS that are provided by ISP.

- **PPPoE:** Select this option when you use a direct connection via the ADSL modem. You should have a PPPoE account from your Internet service provider. Enter the **User Name** and **Password**. The camera will get an IP Address from the ISP as starting up.

**NOTE** Once the camera get an IP address from the ISP as starting up, it automatically sends a notification email to you. Therefore, when you select PPPoE as your connecting type, you have to set up the email or DDNS configuration in advance.

## DDNS Setting

With the Dynamic DNS feature, you can assign a fixed host and domain name to a dynamic Internet IP address. Select the **Enable** option to enable this feature. Then, select the Provider from the pull-down list and enter the required information in the **Host Name**, **User Name**, and **Password** boxes. Please note that you have to sign up for DDNS service with the service provider first.

## ■ UPnP

The camera supports UPnP (Universal Plug and Play), which is a set of computer network protocols that enable the device-to-device interoperability. In addition, it supports port auto mapping function so that you can access the camera if it is behind an NAT router or firewall. Select the **Enable** option to enable this feature.

## ■ Ports Number

- **HTTP Port:** The default HTTP port is **80**.
- **RTSP Port:** Configure the transmission of streaming data within the network. The default RTSP (Real Time Streaming Protocol) port is **554**.

**NOTE** If the camera is behind a NAT router or firewall, the suggested one to be used is from 1024 to 65535.

## Network >> IP Filter

Network >> IP Filter	
IP Filter	
IP Address Range:	Start: <input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>
	End: <input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/> <input type="button" value="Add"/>
Deny IP List:	<input type="button" value="v"/> <input type="button" value="Delete"/>

The IP Filter setting allows the administrator of the camera to limit the users within a certain range of IP addresses to use the camera.

## ■ Start/End IP Address

Assign a range of IP addresses that are not allowed to access the camera by entering the Start IP address and End IP address. When you are finished, click **Add** to save the range setting. You can repeat the action to assign multiple ranges for the camera.

For example, when you enter 192.168.10.50 in Start IP Address and 192.168.10.80 in End IP Address, the user whose IP address located within 192.168.10.50 ~ 192.168.10.80 will not be allowed to access the camera.

## ■ Deny IP List

The list displays the range setting(s) of IP addresses that are not allowed to access the camera. To clear the setting, select a range of IP addresses from the list and click **Delete**.

## Network >> Wireless Setting

Network & Wireless Setting	
Wireless	
Enable:	<input checked="" type="checkbox"/>
Network ID(SSID):	TRENDnet <input type="button" value="Site Survey"/>
Wireless Mode:	<input checked="" type="radio"/> Infrastructure <input type="radio"/> Ad-Hoc
Channel:	6
Authentication:	Open
Encryption	<input checked="" type="radio"/> None <input type="radio"/> WEP
Format	<input checked="" type="radio"/> ASCII <input type="radio"/> HEX
Key Length	<input checked="" type="radio"/> 64 bits <input type="radio"/> 128 bits
<input checked="" type="radio"/> WEP Key 1	<input type="text"/>
<input type="radio"/> WEP Key 2	<input type="text"/>
<input type="radio"/> WEP Key 3	<input type="text"/>
<input type="radio"/> WEP Key 4	<input type="text"/>
<input type="button" value="Apply"/>	<input type="button" value="Cancel"/>

## ■ Wireless

The camera supports WLAN while you use the wireless network. Select the **Enable** option to enable this feature.

- **Network ID (SSID):** Keep the default setting of this option to connect the camera to any access point under the infrastructure network mode. To connect the camera to a specified access point, set a SSID for the camera to correspond with the access point's ESS-ID. To connect the camera to an Ad-Hoc wireless workgroup, set the same wireless channel and SSID to match with the computer's configuration.

Click **Site Survey** to display the available wireless networks, so that you can easily connect to one of the listed wireless networks.

Wireless					
Enable:		<input checked="" type="checkbox"/>			
Network ID(SSID):		TRENDnet	Site Survey		
ESSID	Mac	Channel	Mode	Privacy	Signal
TRENDnet	00:11:e0:00:00:00:00:00	8	Infrastructure	No	39%
11g	00:06:c7:00:00:00:00:00	1	Infrastructure	No	70%
OMGTNET	00:18:e7:00:00:00:00:00	3	Infrastructure	No	29%
trendnetsky	00:18:e7:00:00:00:00:00	5	Infrastructure	Yes	55%
CAMTEST	00:c0:02:00:00:00:00:00	10	Infrastructure	No	55%
LAB411	00:90:4b:00:00:00:00:00	11	Infrastructure	Yes	60%
FastN	00:14:d1:00:00:00:00:00	11	Infrastructure	No	96%

#### List of searching results

- **Wireless Mode:** Select the type of wireless communication for the camera: **Infrastructure** or **Ad-Hoc**.
- **Channel:** Select the appropriate channel from the list.
- **Authentication:** Select the authentication method to secure the camera from being used by unauthorized user: **Open**, **Shared-key**, **WPA-PSK**, and **WPA2-PSK**. The following table explains the four options:

<b>Open</b>	The default setting of Authentication mode, which communicates the key across the network.
<b>Shared-key</b>	Allow communication only with other devices with identical WEP settings.

<b>WPA-PSK/ WPA2-PSK</b>	WPA-PSK/WPA2-PSK is specially designed for the users who do not have access to network authentication servers. The user has to manually enter the starting password in their access point or gateway, as well as in each PC on the wireless network.
------------------------------	--

If you select **Open** or **Shared-key** as the Authentication mode, you need to complete the following settings:

**Encryption:** Select the **WEP** option to enable the data encryption feature to secure the camera within the wireless network.

**Format:** Once you enable the Encryption feature, you need to determine the encryption format by selecting **ASCII** or **HEX**. ASCII format causes each character you type to be interpreted as an eight-bit value. Hex format causes each pair of characters you type to be interpreted as an eight-bit value in hexadecimal (base 16) notation.

**Key Length:** Select the WEP key length you use: **64 bits** or **128 bits**.

**WEP Key 1/2/3/4:** Enter the WEP key(s) in the following boxes.

If you select **WPA-PSK** or **WPA2-PSK** as the Authentication mode, you need to complete the following settings:

**Encryption:** Select **TKIP** or **AES**. TKIP (Temporal Key Integrity Protocol) changes the temporal key every 10,000 packets to insure much greater security than the standard WEP security. AES (Advanced Encryption Standard) is used to ensure the highest degree of security and authenticity for digital information.

**Pre-Shared Key:** This is used to identify each other in the network. Enter the name in the box, and this name must match the Pre-shared key value in the remote device.

## 4.5 Setting up Video & Audio

The Video & Audio menu contains three sub-menus that provide the video and audio settings for the camera.



**TRENDNET** Day/Night Internet Camera Server  
TV-IP121W  
Location: 2007/01/01 02:42:55

Video » Camera

Click to activate and use this control

**Image Setting**

Brightness:	<input type="text" value="8"/>	(0~100)
Contrast:	<input type="text" value="32"/>	(0~100)
Saturation:	<input type="text" value="36"/>	(0~100) <input type="button" value="Default"/>
Mirror:	<input type="checkbox"/> Vertical <input type="checkbox"/> Horizontal	
Light Frequency:	<input type="radio"/> 50Hz <input checked="" type="radio"/> 60Hz <input type="radio"/> Outdoor	

**Overlay Setting**

Include Date & Time	<input type="checkbox"/>
Enable Opaque	<input type="checkbox"/>

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**Video & Audio >> Camera**



Image Setting	
Brightness:	<input type="text" value="8"/> (0~100)
Contrast:	<input type="text" value="32"/> (0~100)
Saturation:	<input type="text" value="36"/> (0~100) <input type="button" value="Default"/>
Mirror:	<input type="checkbox"/> Vertical <input type="checkbox"/> Horizontal
Light Frequency:	<input type="radio"/> 50Hz <input checked="" type="radio"/> 60Hz <input type="radio"/> Outdoor
Overlay Setting	
Include Date & Time:	<input type="checkbox"/>
Enable Opaque:	<input type="checkbox"/>
<input type="button" value="Submit"/> <input type="button" value="Reset"/>	

## ■ Image Setting

- **Brightness:** Adjust the brightness level from 0 ~ 100.
- **Contrast:** Adjust the contrast level from 0 ~ 100.
- **Saturation:** Adjust the colors level from 0 ~ 100.

Click **Default** to restore the default settings of the three options above.

- **Mirror:** Select the **Horizontal** option to mirror the image horizontally. Select the **Vertical** option to mirror the image vertically.
- **Light Frequency:** Select the proper frequency according to the camera's location: **50Hz**, **60Hz**, or **Outdoor**.

## ■ Overlay Setting

- **Includes Date & Time:** Select this option to display the date & time stamp on the live view image.
- **Enable Opaque:** Select this option to set a black background to the displayed date & time stamp.

## Video & Audio >> Video

Video » Video	
MJPEG	
Video Resolution:	VGA
Video Quality:	Highest
Frame Rate:	25 fps
Apply Cancel	

### ■ MJPEG

- **Video Resolution:** Select the desired video resolution from the three formats: **VGA**, **QVGA** and **QQVGA**. The higher setting (VGA) obtains better video quality while it uses more resource within your network.
- **Video Quality:** Select the desired image quality from five levels: **Lowest**, **Low**, **Medium**, **High**, and **Highest**.
- **Frame Rate:** Select **Auto** or a proper setting depending on your network status.

## Video & Audio >> Audio

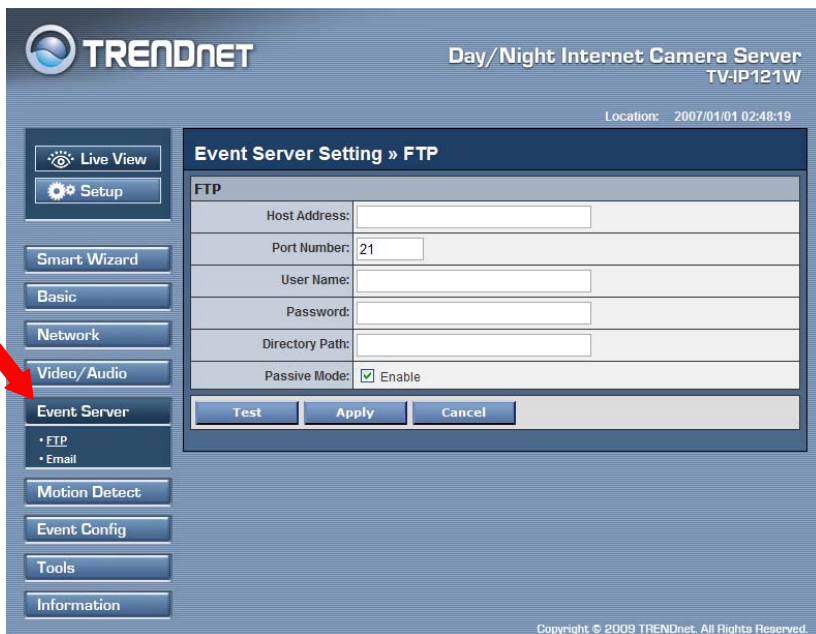
Video & Audio » Audio	
Camera Microphone In	Enable <input checked="" type="checkbox"/>
Apply Cancel	

### ■ Camera Microphone In

Select the **Enable** option to enable the camera's audio function, so that you can receive the on-site sound and voice from the camera

## 4.6 Event Server Configuration

The Event Server menu contains two sub-menus that allow you to upload images to FTP, and send emails that include still images.



The screenshot shows the configuration interface for a Trendnet Day/Night Internet Camera Server (TV-IP121W). The page title is "Event Server Setting » FTP". The interface includes a left-hand navigation menu with options: Live View, Setup, Smart Wizard, Basic, Network, Video/Audio, Event Server (highlighted with a red arrow), FTP, Email, Motion Detect, Event Config, Tools, and Information. The main content area is titled "FTP" and contains the following fields:

Host Address:	<input type="text"/>
Port Number:	<input type="text" value="21"/>
User Name:	<input type="text"/>
Password:	<input type="text"/>
Directory Path:	<input type="text"/>
Passive Mode:	<input checked="" type="checkbox"/> Enable

At the bottom of the form are three buttons: Test, Apply, and Cancel. The footer of the page reads "Copyright © 2009 TRENDnet. All Rights Reserved."

When you complete the required settings for FTP, or Email, click **Test** to test the related configuration is correct or not. Once the camera connects to the server successfully, click **Apply**.

## Event Server Setting>> FTP

Event Server Setting » FTP	
FTP	
Host Address:	<input type="text"/>
Port Number:	<input type="text" value="21"/>
User Name:	<input type="text"/>
Password:	<input type="password"/>
Directory Path:	<input type="text"/>
Passive mode:	<input checked="" type="checkbox"/> Enable
<input type="button" value="Test"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

### ■ FTP

- **Host Address:** Enter the IP address of the target FTP server.
- **Port Number:** Enter the port number used for the FTP server.
- **User Name:** Enter the user name to login into the FTP server.
- **Password:** Enter the password to login into the FTP server.
- **Directory Path:** Enter the destination folder for uploading the images. For example, */Test/*.
- **Passive Mode:** Select the **Enable** option to enable passive mode.

## Event Server Setting >> Email

Event Server Setting » Email	
<b>Email</b>	
SMTP Server Address:	<input type="text"/>
Sender Email Address:	<input type="text"/>
Authentication Mode:	<input checked="" type="radio"/> None <input type="radio"/> SMTP
Sender User Name:	<input type="text"/>
Sender Password:	<input type="password"/>
Receiver #1 Email Address:	<input type="text"/>
Receiver #2 Email Address:	<input type="text"/>
<input type="button" value="Test"/> <input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

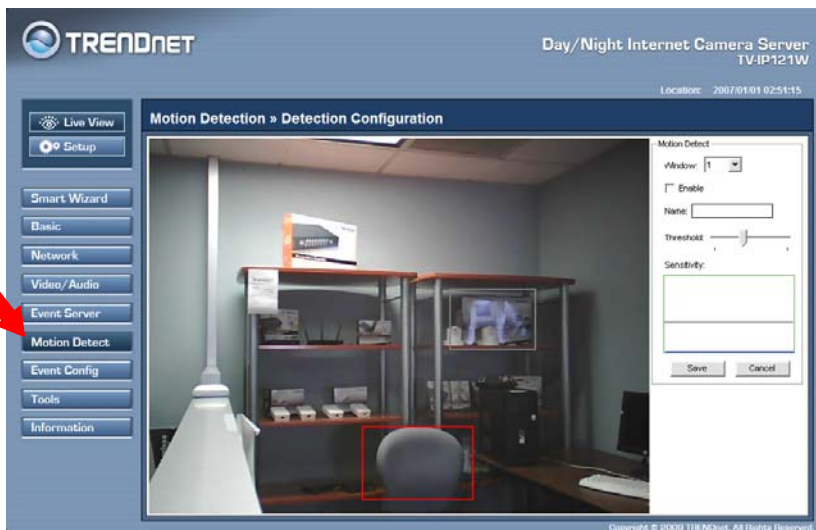
### ■ Email

- **SMTP Server Address:** Enter the mail server address. For example, [myemail.com](mailto:myemail.com).
- **Sender Email Address:** Enter the email address of the user who will send the email. For example, [John@myemail.com](mailto:John@myemail.com).
- **Authentication Mode:** Select **None** to disable the authentication feature, or select **SMTP** and then enter the **User Name** and **Password** according to the mail server configuration.
- **Sender User Name:** Enter the user name to login the mail server.
- **Sender Password:** Enter the password to login the mail server.
- **Receiver #1 Email Address:** Enter the first email address of the user who will receive the email.

- **Receiver #2 Email Address:** Enter the second email address of the user who will receive the email.

## 4.7 Motion Detect

The Motion Detect menu contains the command and option that allow you to enable and set up the motion detection feature of the camera. The camera provides two detecting areas.



To enable the detecting area, select **Window 1** or **2** from the pull-down list, and then select **Enable**. When the detecting area is enabled, you can use the mouse to move the detecting area and change the area coverage.

- **Name:** Assign a name to the detecting area.

- **Threshold:** Move the slide bar to adjust the level for detecting motion to record video.

## 4.8 Event Config

The Event Config menu contains four sub-menus that provide the commands to configure event profiles.

TRENDnet Day/Night Internet Camera Server  
TV-IP121W  
Location: 2007/01/01 02:53:28

Event Configuration » General Setting

General

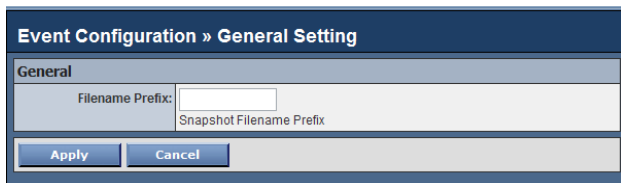
Filename Prefix:   
Snapshot Filename Prefix

Apply Cancel

Smart Wizard  
Basic  
Network  
Video/Audio  
Event Server  
Motion Detect  
Event Config  
• General  
• Schedule Profile  
• MotionDetect Trigger  
• Schedule Trigger  
Tools  
Information

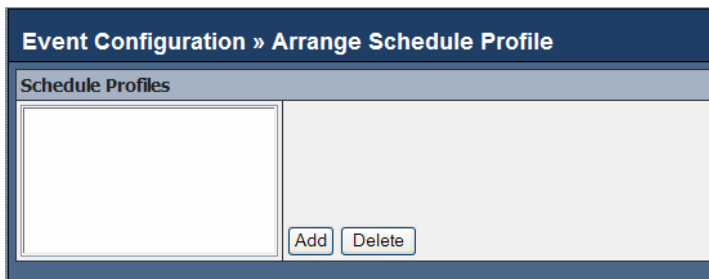
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## Event Configuration >> General Setting



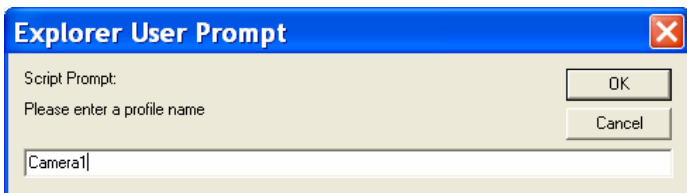
- **Snapshot/Recording Subfolder:** You can assign a given subfolder for captured file. Otherwise, leave this option blank to use the default setting.

## Event Configuration >> Arrange Schedule Profile



This sub-menu displays the scheduled profile(s). To customize the profile, click **Add** and then enter a descriptive name for the profile in the prompt dialog window.





Explorer User Prompt

Script Prompt

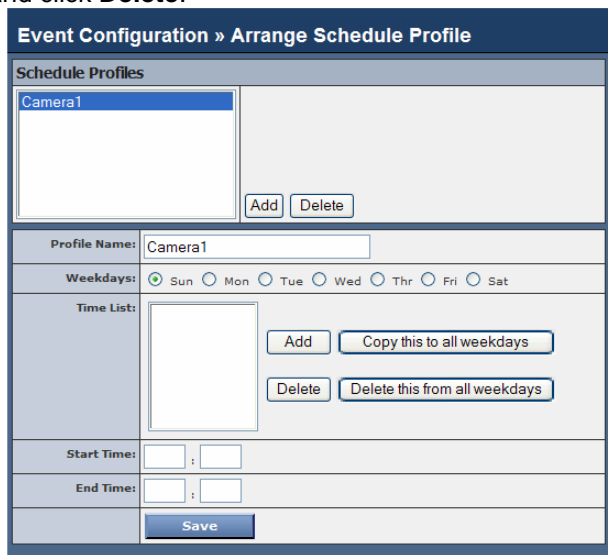
Please enter a profile name

Camera1

OK

Cancel

After entering the profile name, click **OK** and the profile is added to the Schedule Profiles list. To delete the profile, select the profile in the list and click **Delete**.



Event Configuration » Arrange Schedule Profile

Schedule Profiles

Camera1

Add Delete

Profile Name: Camera1

Weekdays:  Sun  Mon  Tue  Wed  Thr  Fri  Sat

Time List:

Add Copy this to all weekdays

Delete Delete this from all weekdays

Start Time: :

End Time: :

Save

- **Profile Name:** Display the profile name that you select in the Schedule Profiles list.

- **Weekdays:** Select the weekday(s) that you want to separately assign in the schedule profile. The weekday that has been assigned will be displayed with green color.
- **Time List:** Display the time period that you have assigned within the selected weekday. To assign the same time period to every weekday, click **Add this to all weekdays**; click **Delete this from all weekdays** to remove the selected time period from every weekday. Click Delete to remove the selected time period.
- **Start/End Time:** Enter the start and end time and then click **Add** to assign a time period within in the selected weekday.

## Event Configuration >> Motion Detect Trigger

Event Configuration » Motion Detect Trigger	
Motion Detect Trigger (*Please set the corresponding server setting first)	
Enable	<input type="checkbox"/>
Schedule Profile:	always ▼
Action:	<input type="checkbox"/> Send Email <input type="checkbox"/> FTP Upload
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

Select the **Enable** option to enable the trigger function of the camera, so that you can send captured images within the detecting area to the FTP server, or email receiver. You have to configure corresponding settings, such as FTP server and email server, to enable this feature.

- **Schedule Profile:** Select a schedule profile from the pull-down list.

- **Action:** Select the destination that the captured images will be sent to: **Send Email**, or **FTP Upload**.

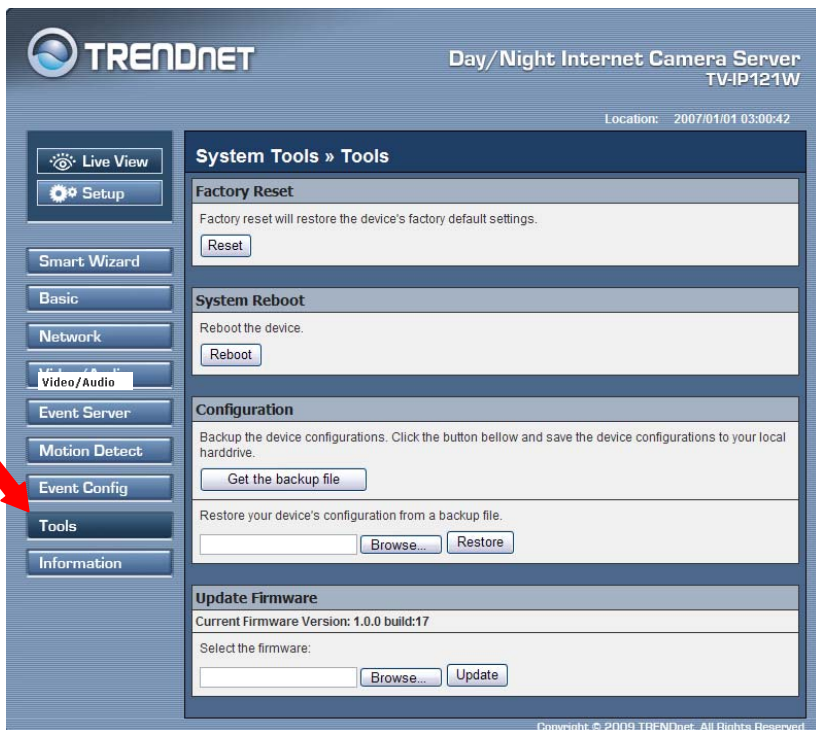
## Event Configuration >> Schedule Trigger

Event Configuration » Schedule Trigger	
<b>Email Schedule</b>	
Enable	<input type="checkbox"/>
Schedule Profile:	always ▼
Interval:	20 sec(s)
<b>FTP Schedule</b>	
Enable	<input type="checkbox"/>
Schedule Profile:	always ▼
Interval:	<input checked="" type="radio"/> 30 sec(s)/frame
	<input type="radio"/> 1 frame(s)/sec
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

You can separately configure the schedule for trigger function of the camera by **Email**, or **FTP**. Select the **Enable** option on each item, and then select a **Schedule Profile** from the pull-down list and set the **Interval** time.

## 4.9 Tools

The Tools menu provides the commands that allow you to restart or reset the camera. You can also backup and restore your configuration, and upgrade the firmware for the camera.



**TRENDNET** Day/Night Internet Camera Server  
TV-IP121W  
Location: 2007/01/01 03:00:42

**System Tools » Tools**

**Factory Reset**  
Factory reset will restore the device's factory default settings.

**System Reboot**  
Reboot the device.

**Configuration**  
Backup the device configurations. Click the button bellow and save the device configurations to your local harddrive.  
  
Restore your device's configuration from a backup file.

**Update Firmware**  
Current Firmware Version: 1.0.0 build:17  
Select the firmware:

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## ■ **Factory Reset**

Click **Reset** to restore all factory default settings for the camera.

## ■ **System Reboot**

Click **Reboot** to restart the camera just like turning the device off and on. The camera configuration will be retained after rebooting.

## ■ **Configuration**

You can save your camera configuration as a backup file on your computer. Whenever you want to resume the original settings, you can restore them by retrieving the backup file.

- **Backup:** Click **Get the backup file** to save the current configuration of the camera.
- **Restore:** Click **Browse** to locate the backup file and then click **Restore**.

## ■ **Update Firmware**

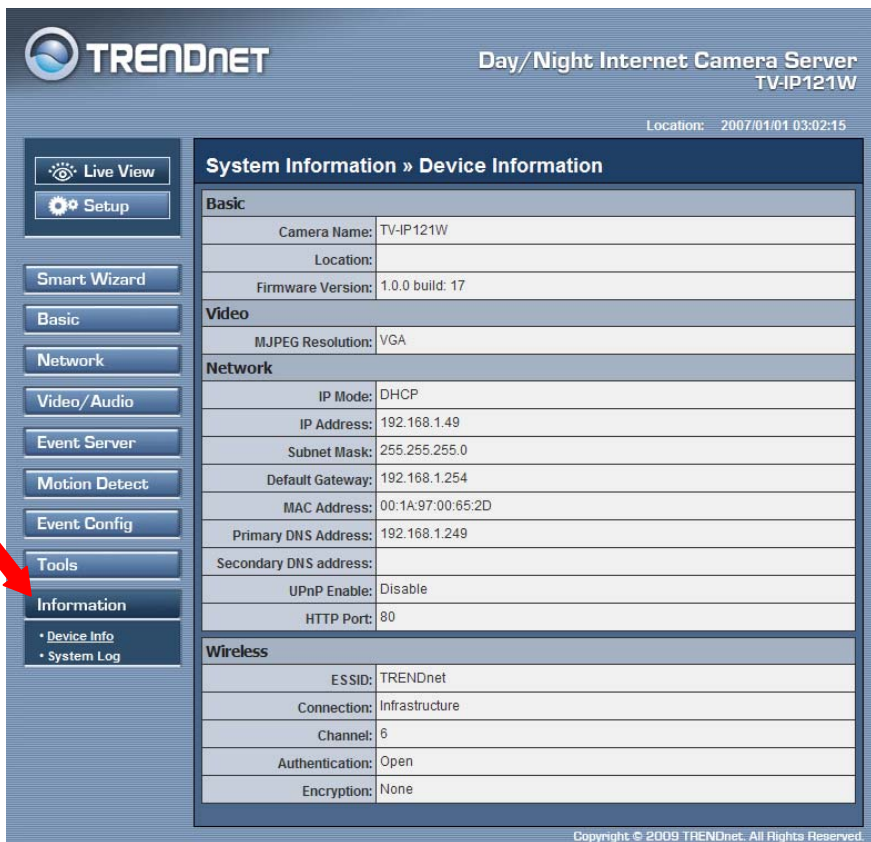
This item displays the current firmware version. You can upgrade the firmware for your camera once you obtained a latest version of firmware.

- **Select the firmware:** Click **Browse** to locate the backup file and then click **Update**.

**WARNING: Firmware upgrade failure may permanently damage the unit and cause it to malfunction. Do not interrupt the firmware upgrade process by disconnecting it from the network or unplugging its power from the power outlet once the firmware upgrade process has begun. Never perform a firmware upgrade over wireless connections or via remote access connections.**

## 4.10 Information

The Information menu displays the current configuration and events log of the camera.



**TRENDNET** Day/Night Internet Camera Server  
TV-IP121W

Location: 2007/01/01 03:02:15

**System Information » Device Information**

**Basic**

Camera Name:	TV-IP121W
Location:	
Firmware Version:	1.0.0 build: 17

**Video**

MJPEG Resolution:	VGA
-------------------	-----

**Network**

IP Mode:	DHCP
IP Address:	192.168.1.49
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.1.254
MAC Address:	00:1A:97:00:65:2D
Primary DNS Address:	192.168.1.249
Secondary DNS address:	
UPnP Enable:	Disable
HTTP Port:	80

**Wireless**

ESSID:	TRENDnet
Connection:	Infrastructure
Channel:	6
Authentication:	Open
Encryption:	None

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### ■ Device Info

Display the Basic, Video, Network, and Wireless settings of the camera.

## ■ **System Log**

The Logs table displays the events log recorded by the system.

# CHAPTER 5

---

## SECURVIEW™ SOFTWARE

This chapter describes detailed instructions on operating SecurView™ software, a useful friendly application for ease of control and navigation requirement.

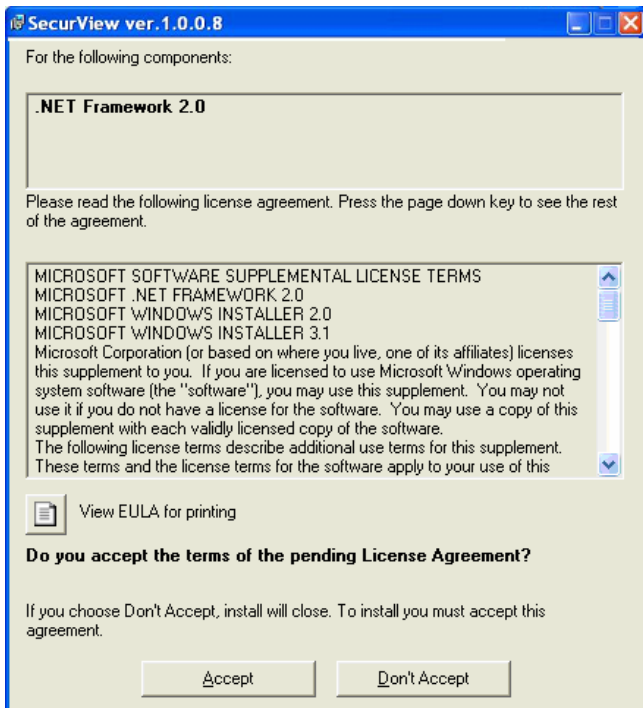
### 5.1 Installation

1. Insert the Installation CD-ROM into your computer's CD-ROM drive to initiate the Auto-Run program.
2. Click the **SecurView** From the Auto-Run menu screen

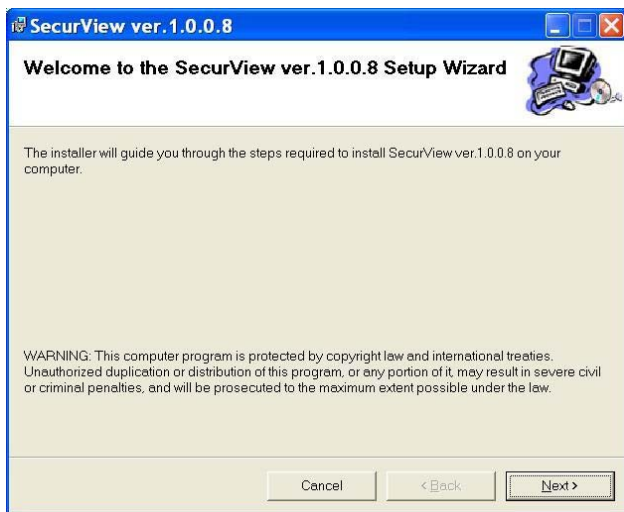




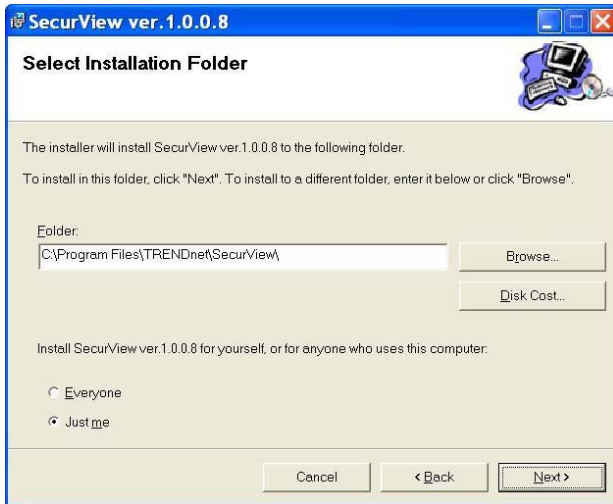
**NOTE** To use SecurView™, you must have Microsoft .NET Framework 2.0 installed in the computer. The setup wizard will detect it and, if the program is not installed yet, ask you to install it during the process of installing SecurView™.



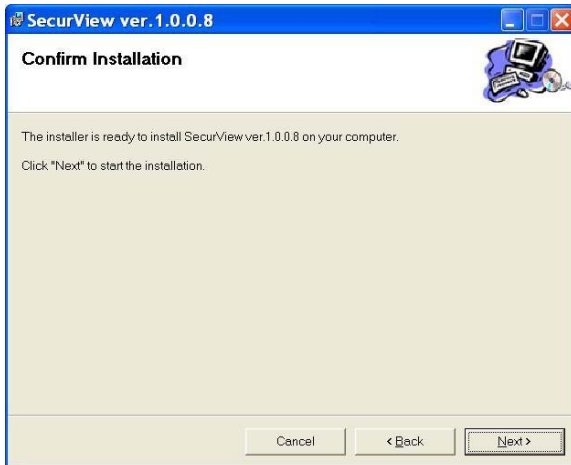
3. Then SecurView Setup Wizard will appear. Click **Next** when the **Welcome to the SecurView Setup Wizard** appears.



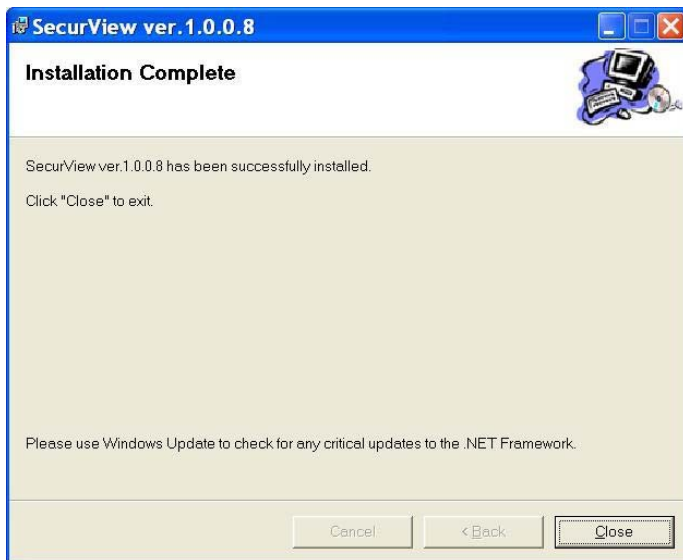
4. Click **Browse** to choose the desired destination location. By default, the destination location is C:\Program Files\TRENDnet\SecurView. Then click **Next**.



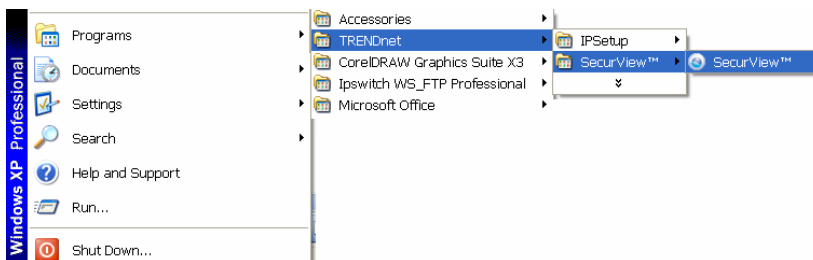
5. Click **Next** to confirm the SecurView software to be installed to the computer



6. When the **Installation Complete** window appears, click **Close**.

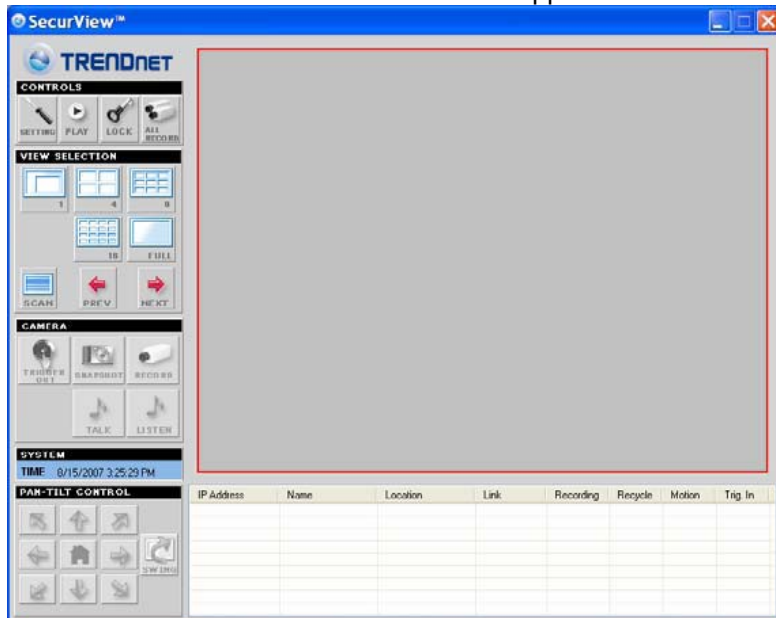


7. After installing the IPSetup utility, the application is automatically installed to your computer, and creates a folder in **Start\Program\TRENDnet\SecurView**.



## 5.2 Using Installation

1. To launch the program, click **Start>Program>TRENDnet>SecurView**, and then click **SecurView™**. The main screen will appear as below.



**NOTE** Please set the resolution to 1024 x 768 or above on your computer while using SecurView™; otherwise, the displayed main screen may be distorted.

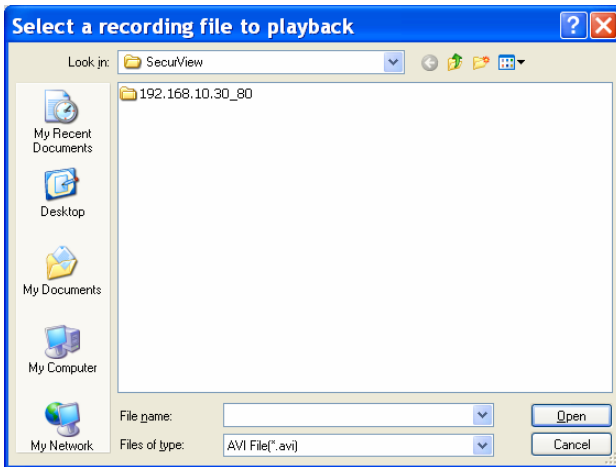
## Item Features

The following describes the function of each item on the main screen:


### ■ CONTROLS Panel



- **SETTING:** Click to enter the Setting screen of SecurView™. Click again to return to the main screen of SecurView™.
- **Play:** Click to play the recorded video file using the media player on the computer (for example, Windows Media Player by default).

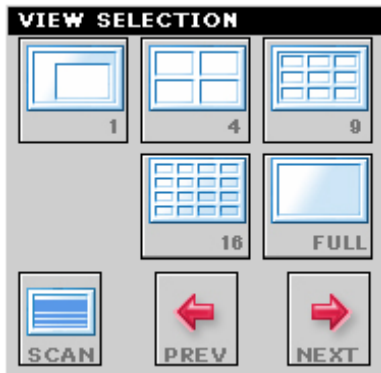


- **Lock:** Click to lock the camera controls. Click again to resume controls for the camera. If you have set ID and Password in **Setting>Account**, you will be asked to enter the required information to unlock.

- **ALL RECORD:** Click to start recording video clips using ALL connected cameras. To stop recording, please click Record button  to stop the individual camera. Please note: stop recording only stops the manual recording camera. For Schedule recording, please change the setting on configuration.

**TIP** By default, the ID and Password boxes are “blank.” Click **Setting>Account** to change the ID and Password of the lock/unlock function.

■ **VIEW SELECTION Panel**



- **View mode buttons:** SecurView™ provides multiple view modes, including 1/4/9/16 windows and Full screen mode.
- **Scan:** When multiple cameras connected, click this button to display the video views between cameras. Click the Scan button again to stop scanning.
- **PREV:** When multiple cameras connected, click this button to
- switch the video view to the previous camera.

- **NEXT:** When multiple cameras connected, click this button to switch the video view to the next camera.

**TIP** To set the time interval of scanning, click **SETTING > Other** and then adjust the time from 1 to 10 seconds in the **Time interval of scan** option.

## ■ CAMERA Panel

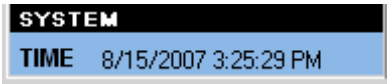


- **TRIGGER OUT:** Click to turn on the trigger out connector of the camera. This button is available only when the connected camera supports the trigger out connector, which is used to control the external device connected to the camera, such as a light.
- **SNAPSHOT:** Click to capture a still image using the selected camera and save the file in the computer.
- **RECORD:** Click to start recording a video clip using the selected camera. Click again to stop recording and save the file in the computer.
- **TALK:** Click to speak out through the camera. Please note only one user is allowed to use this function at the same time.



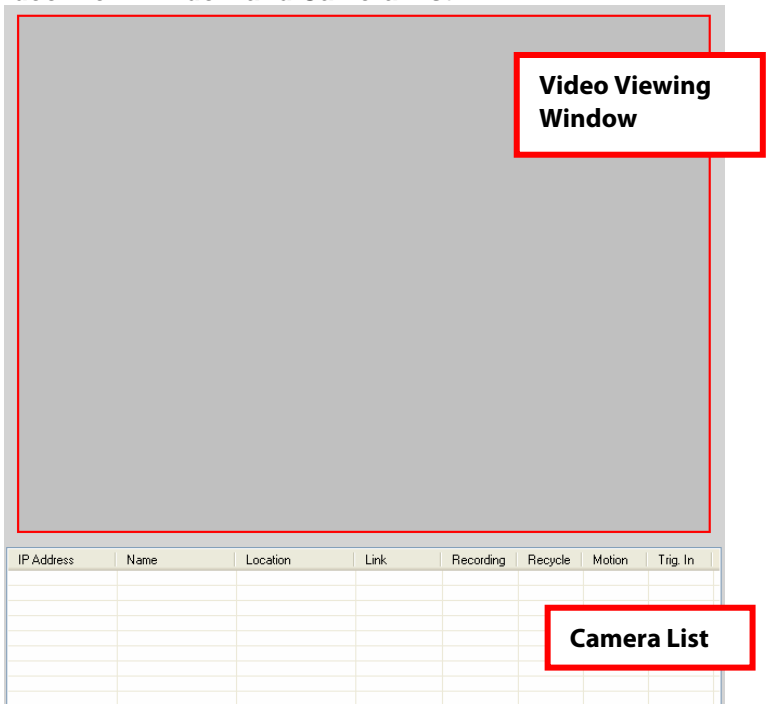
- **LISTEN:** Click to receive the on-site sound and voice from the camera.

- **SYSTEM Panel**



This panel displays the current date and time.

- **Video View Window and Camera List**

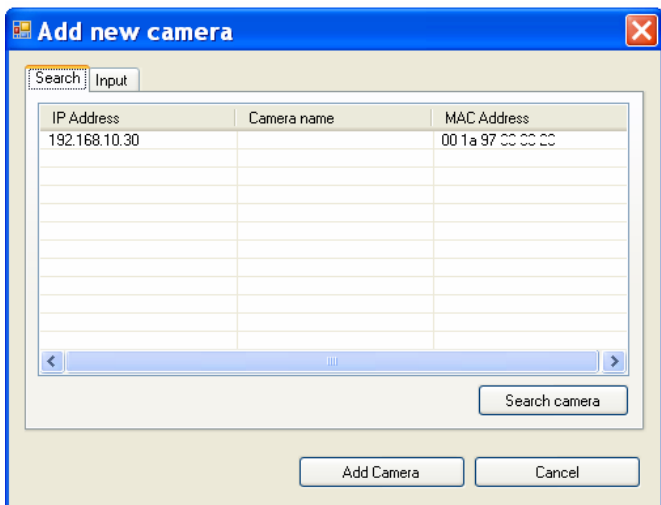


- **Video Viewing Window:** This window displays the video view of the selected camera, which can be divided into 4/9/16 windows according to your selection in VIEW SELECTION panel.
- **Camera List:** This list displays the information of the connected camera(s).

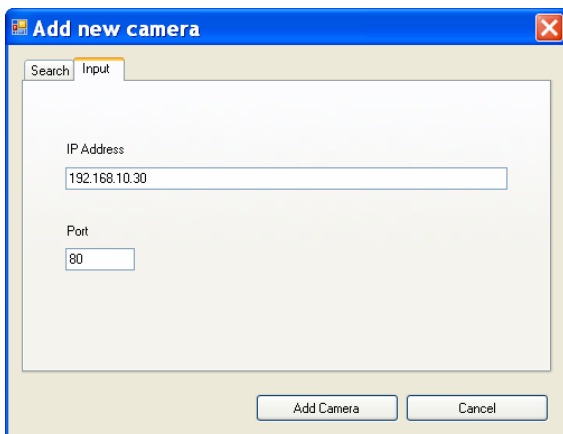
## To add a camera

1. Click **SETTING** in the CONTROLS panel to display the Setting screen.
2. Click **Add New Camera.**

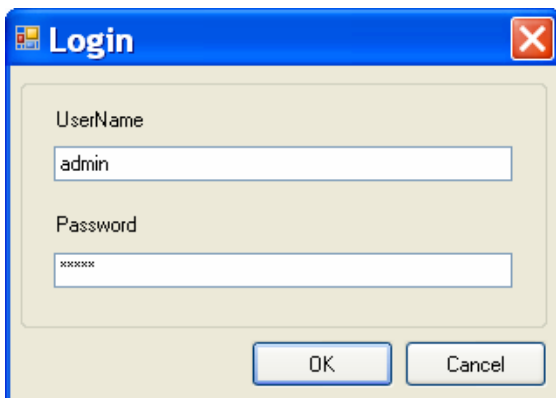
3. In the pop-up Add New Camera dialog window, you can:
- Select the **Search** tab if you are not sure of the camera's IP Address. Click **Search camera** to search for an available camera within the network. Once the camera is found and is shown in the list, select it and click **Add Camera**.



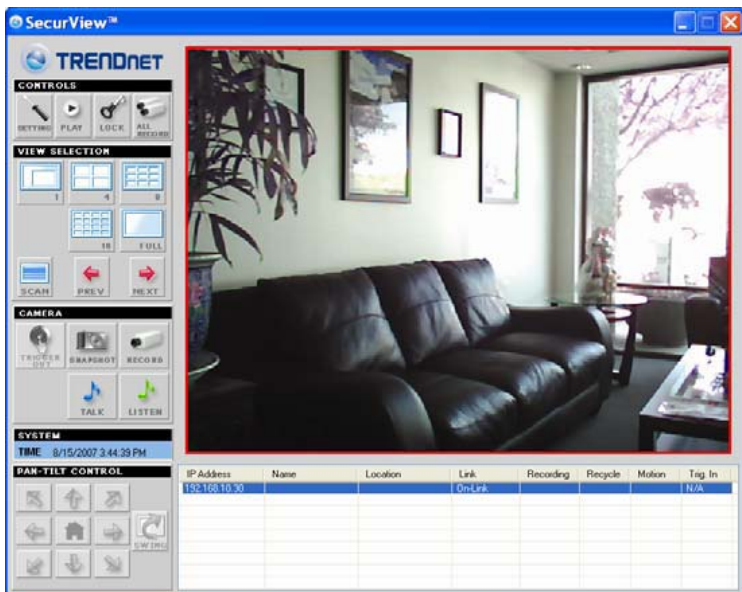
- Select the **Input** tab to add a camera by entering its IP Address directly. Enter the camera's IP Address (default: **192.168.10.30**) and Port (default: **80**), and then click **Add Camera**.



4. Enter the User name and Password for the camera, and then click OK. The connected camera will be displayed in the Camera's List.

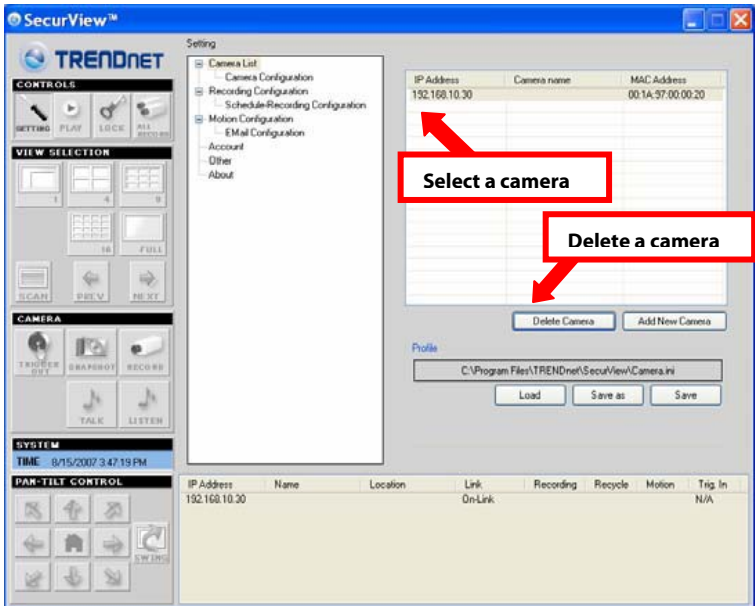


5. Click **SETTING** to return to the Video View Window. The video view of the selected camera will be displayed now.



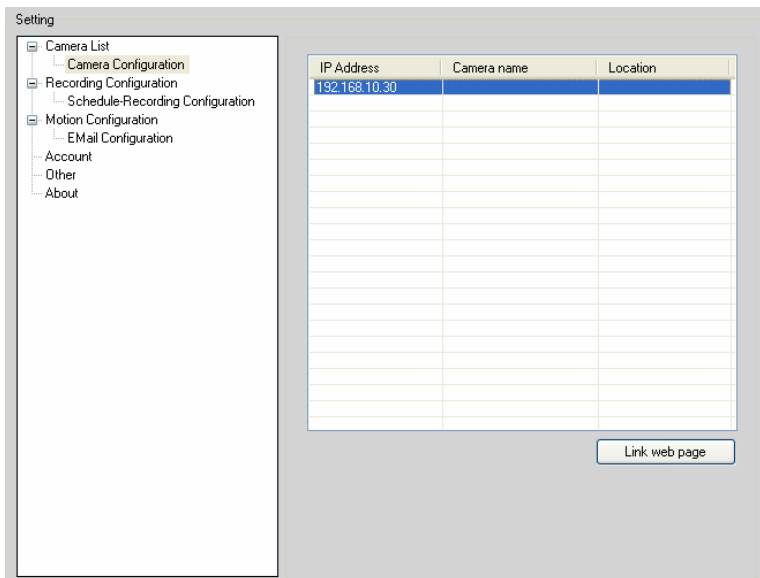
## To remove a camera

1. Click **SETTING** in the CONTROLS panel to display the Setting screen.
2. Select a camera from the list and click **Delete Camera**.



## To link to the Web page of the camera

Click **SETTING>Camera List>Camera Configuration** and then **Link web page** to launch the Web browser that displays live view image and Web Configuration of the selected camera.



## To Record Video

SecurView™ provides three methods to record video clips: one is to click the **RECORD/All Record** button to record manually; the second is to record by motion detection; the third is to set the recording schedule in **Setting>Recording Configuration>Schedule Recording Configuration**.

- **Manually record**

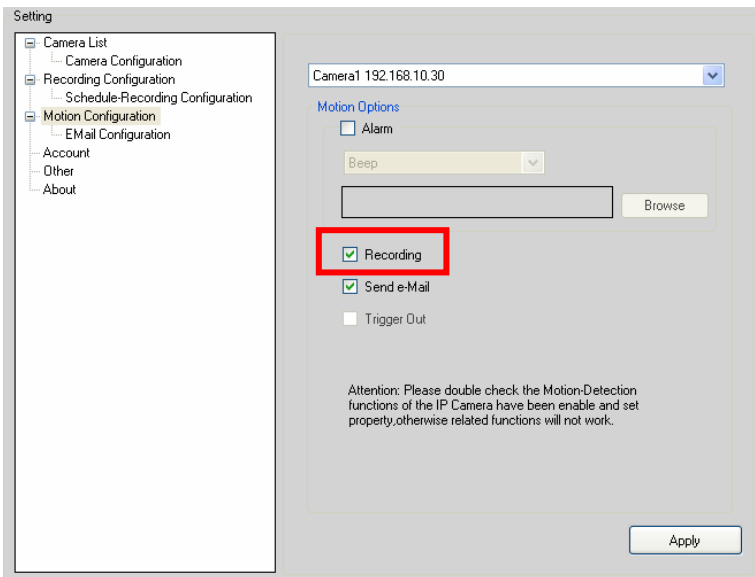
Click **RECORD/All record** and it starts recording. Click the button again to stop



- **Trigger recording by motion detection**

When the motion detection function of the selected camera is enabled, you can configure the camera to start recording triggered by the motion detected. Click **SETTING>Motion Configuration**, and then select the **Recording** option to enable the selected camera to record by motion detection.

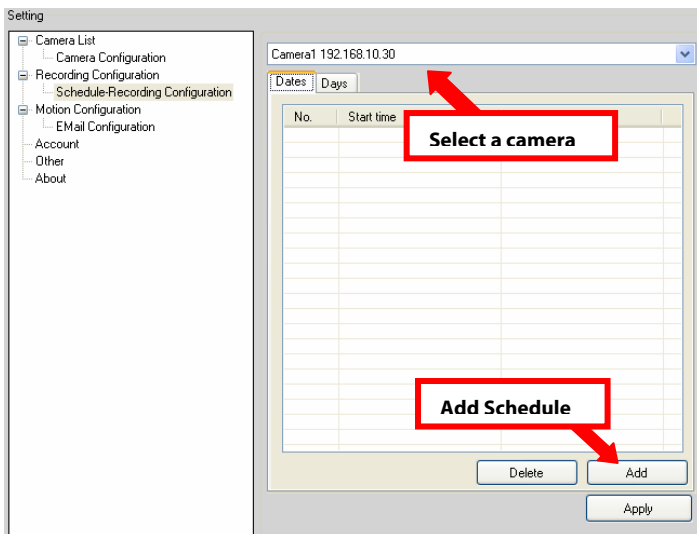




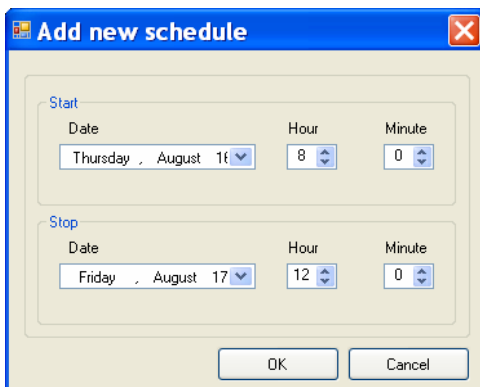
## ● Schedule Recording Configuration

This recording method will work after you have completed the required settings in the **Schedule Recording Configuration**. The recording schedule can be defined by **Dates** or **Days**.

- **Dates:** Select the camera from the pull-down list.



- Then, click **Add** to set the Start/Stop date and time and then click **OK** to add the recording schedule to the list.



- Click **Apply** to save the settings.

Camera1 192.168.10.30

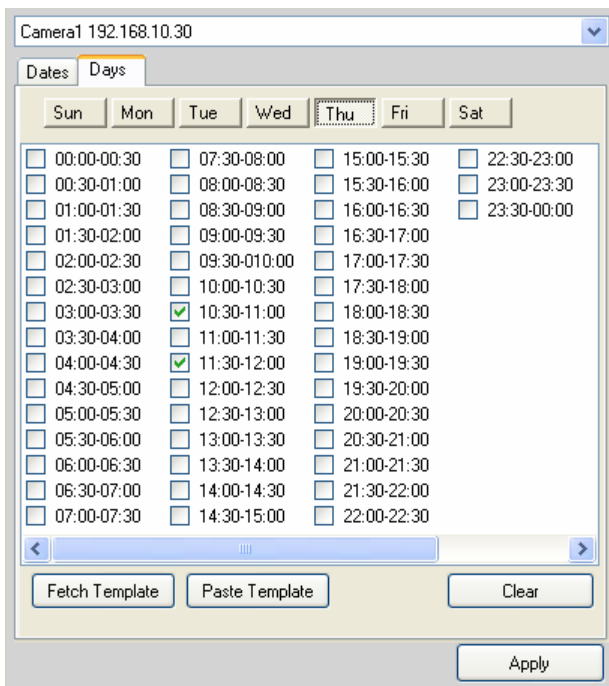
**Dates** Days

No.	Start time	Stop time
1	8/16/2007 8:00:00 AM	8/17/2007 12:00:00 PM

Delete Add

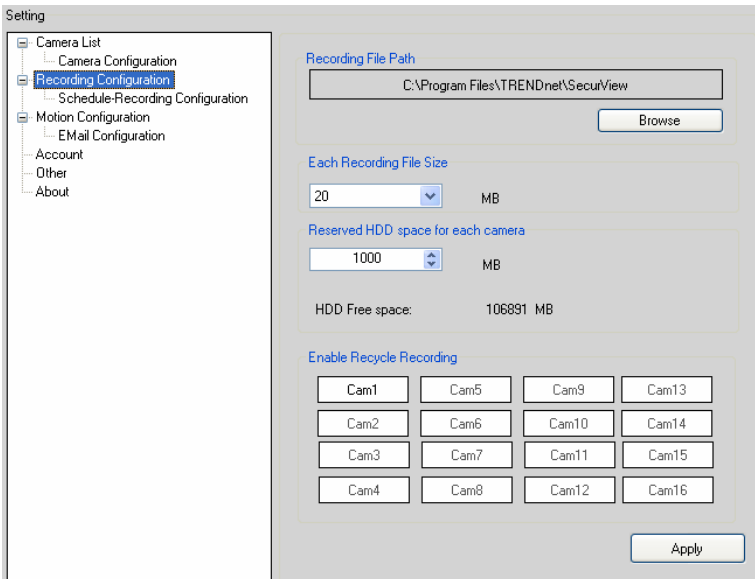
Apply

**Days:** First, select the camera from the pull-down list and select **Days** tab. Then, select the weekday from the day buttons and then set the time period. Click **Apply** to save the settings.



## To configure the recording settings

To configure the recording settings, including the storage folder and storage options, click **SETTING>Recording Configuration**.



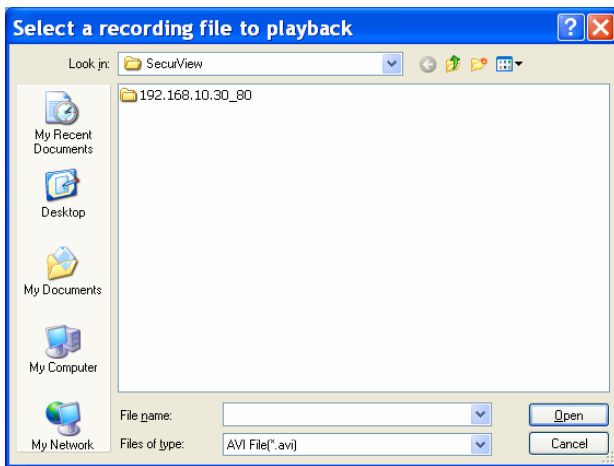
- **Recording File Path:** To change the destination folder to save the recorded video file, click Browse under the **Recording File Path** box to assign a new folder.
- **Each Recording File Size:** This option allows you to select from 20 to 100 MB so that the video will be recorded as another file automatically when the recording file reaches the specified size limit.
- **Reserved HDD space for each camera:** This option allows you to set to reserve the storage space on the hard disk drive for the recording of each camera. Before setting the reserve space on the hard disk drive, you can check the available storage space that is displayed in the **HDD Free space** field.

- **Enable Recycle Recording:** Click on the camera number to clear the files when the unreserved space of the hard disk drive is full.

## To playback the recorded video

The recorded video clips are saved in your computer, and can be played using the media player on the computer, such as Windows Media Player.

To start playback, simply click the **PLAY** button on the CONTROLS panel, and the following dialog screen will appear, allowing you to select the file to playback.



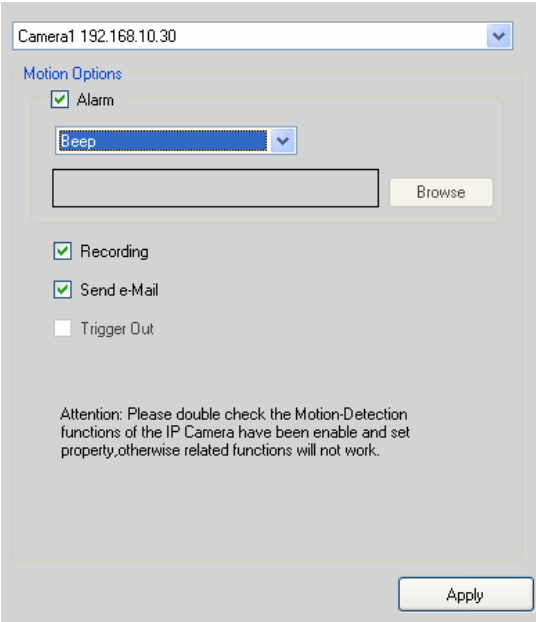
Select the recorded video file under the [camera] path and then click **Open** to launch the media player to playback.

**NOTE** If your player on the computer does not have a video codec to playback the recorded video, you can download the video

code from <http://www.xvid.org/downloads.15.0.html> to support.

## To set up motion detection options

When the motion detection function of the selected camera is enabled, you can set the Motion Options by selecting **Alarm**, **Recording**, **Send e-Mail**, and **Trigger Out** under **SETTING> Motion Configuration**.



Camera1 192.168.10.30

Motion Options

Alarm

Beep

Browse

Recording

Send e-Mail

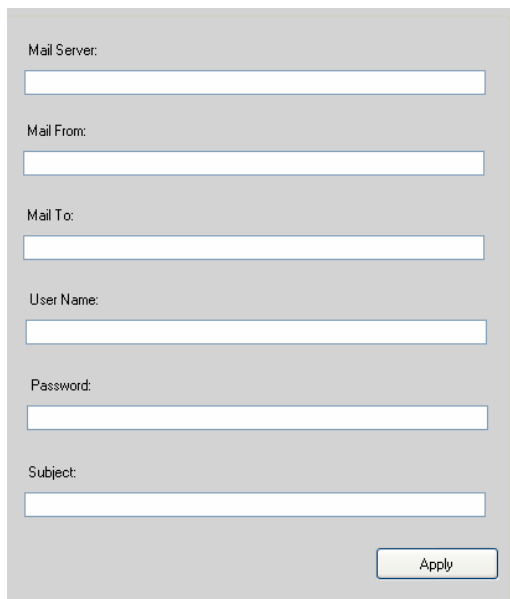
Trigger Out

Attention: Please double check the Motion-Detection functions of the IP Camera have been enable and set property, otherwise related functions will not work.

Apply

- **Alarm:** Select **Beep** or **Music** to alert you for the motion detected. When you select **Music**, you can customize the sound by clicking **Browse** and then selecting your favorite music (\*.wav or \*.mp3 file) in the computer.

- **Recording:** Select this option to enable the camera to record by motion detected.
- **Send Email:** Select this option so that the system will be able to send an email to the specified receiver. Once the option is selected, you have to complete the required information in **SETTING>Motion Configuration>Email Configuration**.



The image shows a screenshot of a web-based configuration interface for email settings. It features a light gray background with several white input fields, each preceded by a label. The labels are: 'Mail Server:', 'Mail From:', 'Mail To:', 'User Name:', 'Password:', and 'Subject:'. Each label is followed by a horizontal white text box with a thin blue border. At the bottom right of the form area, there is a button with the text 'Apply' inside it.

- **Mail Server:** Enter the mail server address. For example, [mymail.com](http://mymail.com).
- **Mail From:** Enter the email address of the user who will send the email. For example, [John@mymail.com](mailto:John@mymail.com).
- **Mail To:** Enter the email address of the user who will receive the email.



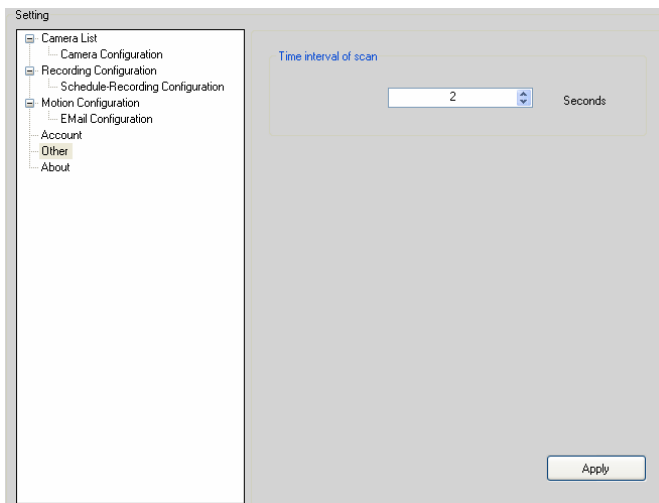
- **User Name:** Enter the user name to login the mail server.
- **Password:** Enter the password to login the mail server.
- **Subject:** Enter a subject for the notification email.
- **Trigger Out:** If the selected camera supports Trigger Out connector, select this option to enable the Trigger out function.

## Account

Click **SETTING>Account** to setup the username & password to lock & unlock the main screen of the SecurView.

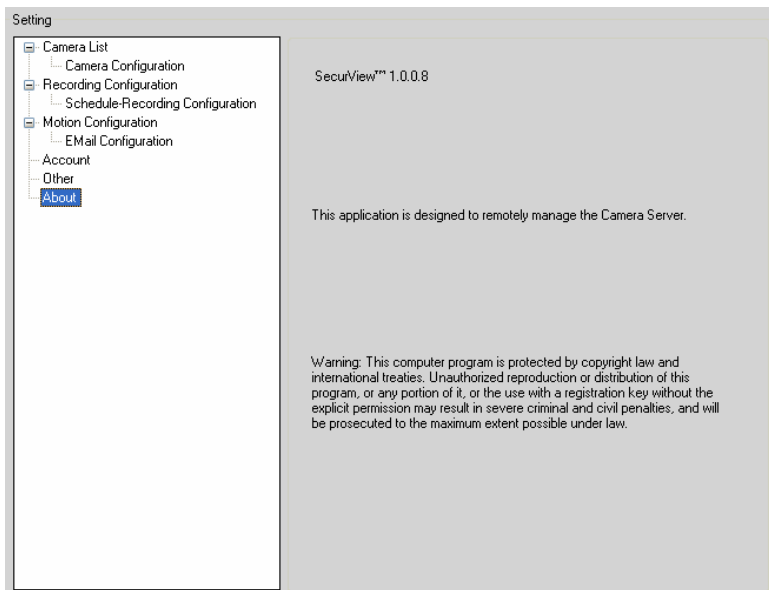
## Other

Click **SETTING>Other** to setup the scanning time between cameras. The default setting is 2 seconds. You can set the interval time between 2 ~ 20 seconds.



## Information

Click **SETTING>About** to display the information of the software application.



# CHAPTER 6

## APPENDIX

### A.1 Specification

#### ■ Image Sensor

<b>Sensor</b>	1/4" color CMOS
<b>Resolution</b>	640x480

#### ■ Video

<b>Compression</b>	MJPEG
<b>Video resolution</b>	VGA/QVGA/QQVGA; 30fps max.

#### ■ System Hardware

<b>Processor</b>	ARM9 base
<b>RAM</b>	16MB SDRAM
<b>ROM</b>	4MB NOR Flash
<b>Power</b>	DC 5V

#### ■ Communication

<b>LAN</b>	10/100Mbps Fast Ethernet, auto-sensed, Auto-MDIX
<b>WLAN</b>	IEEE 802.11b/g
<b>Protocol support</b>	TCP/IP, UDP, ICMP, DHCP, NTP, DNS, DDNS, SMTP, FTP, PPPoE, UPnP

#### ■ User Interface

<b>LAN</b>	One RJ-45 port
<b>Antenna</b>	One external antenna
<b>Reset</b>	One Reset button

**LEDs** Power LED (amber); Link LED (green)

■ **Audio**

**Input** Built-in MIC  
**Codec** PCM

■ **Software**

**OS Support** Windows 2000/XP/Vista  
**Browser** Internet Explorer 6.0 or above  
Apple Safari 2 or above  
Mozilla Firefox 2.00 or above

**Software** Ultra View for playback/recording/  
configuration features

■ **Operating Environment**

**Temperature** - Operation: 5°C ~ 45°C  
- Storage: -15°C ~ 60°C

**Humidity** - Operation: 20% ~ 85% non-condensing  
- Storage: 0% ~ 90% non-condensing

■ **EMI**

FCC Class B, CE Class B

## A.2 Glossary of Terms

### NUMBERS

- 10BASE-T** 10BASE-T is Ethernet over UTP Category III, IV, or V unshielded twisted-pair media.
- 100BASE-TX** The two-pair twisted-media implementation of 100BASE-T is called 100BASE-TX.

### A

- ADPCM** Adaptive Differential Pulse Code Modulation, a new technology improved from PCM, which encodes analog sounds to digital form.
- AMR** AMR (Adaptive Multi-Rate) is an audio data compression scheme optimized for speech coding, which is adopted as the standard speech codec by 3GPP.
- Applet** Applets are small Java programs that can be embedded in an HTML page. The rule at the moment is that an applet can only make an Internet connection to the computer from that the applet was sent.
- ASCII** American Standard Code For Information Interchange, it is the standard method for encoding characters as 8-bit sequences of binary numbers, allowing a maximum of 256 characters.
- ARP** Address Resolution Protocol. ARP is a protocol that resides at the TCP/IP Internet layer that delivers data on the same network by translating an IP address to a physical address.
- AVI** Audio Video Interleave, it is a Windows platform audio and video file type, a common format for small movies and videos.

### B

- BOOTP** Bootstrap Protocol is an Internet protocol that can automatically configure a network device in a diskless

workstation to give its own IP address.

## C

**Communication** Communication has four components: sender, receiver, message, and medium. In networks, devices and application tasks and processes communicate messages to each other over media. They represent the sender and receivers. The data they send is the message. The cabling or transmission method they use is the medium.

**Connection** In networking, two devices establish a connection to communicate with each other.

## D

**DHCP** Developed by Microsoft, DHCP (Dynamic Host Configuration Protocol) is a protocol for assigning dynamic IP addresses to devices on a network. With dynamic addressing, a device can have a different IP address every time it connects to the network. In some systems, the device's IP address can even change while it is still connected. It also supports a mix of static and dynamic IP addresses. This simplifies the task for network administrators because the software keeps track of IP addresses rather than requiring an administrator to manage the task. A new computer can be added to a network without the hassle of manually assigning it a unique IP address. DHCP allows the specification for the service provided by a router, gateway, or other network device that automatically assigns an IP address to any device that requests one.

**DNS** Domain Name System is an Internet service that translates domain names into IP addresses. Since domain names are alphabetic, they're easier to remember. The Internet however, is really based on IP addresses every time you use a domain name the DNS will translate the name into the corresponding IP address. For example, the domain name *www.network\_camera.com* might translate to *192.167.222.8*.

## E

### **Enterprise network**

An enterprise network consists of collections of networks connected to each other over a geographically dispersed area. The enterprise network serves the needs of a widely distributed company and operates the company's mission-critical applications.

### **Ethernet**

The most popular LAN communication technology. There are a variety of types of Ethernet, including 10Mbps (traditional Ethernet), 100Mbps (Fast Ethernet), and 1,000Mbps (Gigabit Ethernet). Most Ethernet networks use Category 5 cabling to carry information, in the form of electrical signals, between devices. Ethernet is an implementation of CSMA/CD that operates in a bus or star topology.

## F

### **Fast Ethernet**

Fast Ethernet, also called 100BASE-T, operates at 10 or 100Mbps per second over UTP, STP, or fiber-optic media.

### **Firewall**

Firewall is considered the first line of defense in protecting private information. For better security, data can be encrypted. A system designed to prevent unauthorized access to or from a private network. Firewalls are frequently used to prevent unauthorized Internet users from accessing private networks connected to the Internet, especially Intranets all messages entering or leaving the intranet pass through the firewall, which examines each message and blocks those that do not meet the specified security criteria.

## G

### **Gateway**

A gateway links computers that use different data formats together.

### **Group**

Groups consist of several user machines that have similar characteristics such as being in the same

department.

## H

### **HEX**

Short for hexadecimal refers to the base-16 number system, which consists of 16 unique symbols: the numbers 0 to 9 and the letters A to F. For example, the decimal number 15 is represented as F in the hexadecimal numbering system. The hexadecimal system is useful because it can represent every byte (8 bits) as two consecutive hexadecimal digits. It is easier for humans to read hexadecimal numbers than binary numbers.

## I

### **Intranet**

This is a private network, inside an organization or company that uses the same software you will find on the public Internet. The only difference is that an Intranet is used for internal usage only.

### **Internet**

The Internet is a globally linked system of computers that are logically connected based on the Internet Protocol (IP). The Internet provides different ways to access private and public information worldwide.

### **Internet address**

To participate in Internet communications and on Internet Protocol-based networks, a node must have an Internet address that identifies it to the other nodes. All Internet addresses are IP addresses

### **IP**

Internet Protocol is the standard that describes the layout of the basic unit of information on the Internet (the *packet*) and also details the numerical addressing format used to route the information. Your Internet service provider controls the IP address of any device it connects to the Internet. The IP addresses in your network must conform to IP addressing rules. In smaller LANs, most people will allow the DHCP function of a router or gateway to assign the IP addresses on internal networks.

### **IP address**

IP address is a 32-binary digit number that identifies each sender or receiver of information that is sent in packets across the Internet. For example 80.80.80.69 is an IP address. When you “call” that number, using any connection methods, you get connected to the computer



that “owns” that IP address.

## **ISP**

ISP (Internet Service Provider) is a company that maintains a network that is linked to the Internet by way of a dedicated communication line. An ISP offers the use of its dedicated communication lines to companies or individuals who can't afford the high monthly cost for a direct connection.

## **J**

### **JAVA**

Java is a programming language that is specially designed for writing programs that can be safely downloaded to your computer through the Internet without the fear of viruses. It is an object-oriented multi-thread programming best for creating applets and applications for the Internet, Intranet and other complex, distributed network.

## **L**

### **LAN**

Local Area Network a computer network that spans a relatively small area sharing common resources. Most LANs are confined to a single building or group of buildings.

## **M**

### **MJPEG**

MJPEG (Motion JPEG) composes a moving image by storing each frame of a moving picture sequence in JPEG compression, and then decompressing and displaying each frame at rapid speed to show the moving picture.

### **MPEG4**

MPEG4 is designed to enable transmission and reception of high-quality audio and video over the Internet and next-generation mobile telephones.

## N

### **NAT**

Network Address Translator generally applied by a router that makes many different IP addresses on an internal network appear to the Internet as a single address. For routing messages properly within your network, each device requires a unique IP address. But the addresses may not be valid outside your network. NAT solves the problem. When devices within your network request information from the Internet, the requests are forwarded to the Internet under the router's IP address. NAT distributes the responses to the proper IP addresses within your network.

### **Network**

A network consists of a collection of two or more devices, people, or components that communicate with each other over physical or virtual media. The most common types of network are:

**LAN** – (local area network): Computers are in close distance to one another. They are usually in the same office space, room, or building.

**WAN** – (wide area network): The computers are in different geographic locations and are connected by telephone lines or radio waves.

### **NWay Protocol**

A network protocol that can automatically negotiate the highest possible transmission speed between two devices.

## P

### **PCM**

PCM (Pulse Code Modulation) is a technique for converting analog audio signals into digital form for transmission.

### **PING**

Packet Internet Groper, a utility used to determine whether a specific IP address is accessible. It functions by sending a packet to the specified address and waits for a reply. It is primarily used to troubleshoot Internet connections.

### **PPPoE**

Point-to-Point Protocol over Ethernet. PPPoE is a specification for connecting the users on an Ethernet to

the Internet through a common broadband medium, such as DSL or cable modem. All the users over the Ethernet share a common connection.

## **Protocol**

Communication on the network is governed by sets of rules called protocols. Protocols provide the guidelines devices use to communicate with each other, and thus they have different functions. Some protocols are responsible for formatting and presenting and presenting data that will be transferred from file server memory to the file server's network adapter. Others are responsible for filtering information between networks and forwarding data to its destination. Still other protocols dictate how data is transferred across the medium, and how servers respond to workstation requests and vice versa. Common network protocols responsible for the presentation and formatting of data for a network operating system are the Internetwork Packet Exchange (IPX) protocol or the Internet Protocol (IP). Protocols that dictate the format of data for transfers over the medium include token-passing and Carrier Sense Multiple Access with Collision Detection (CSMA/CD), implemented as token-ring, ARCNET, FDDI, or Ethernet. The Router Information Protocol (RIP), a part of the Transmission Control Protocol/Internet Protocol (TCP/IP) suite, forwards packets from one network to another using the same network protocol.

## **R**

### **RJ-45**

RJ-45 connector is used for Ethernet cable connections.

### **Router**

A router is the network software or hardware entity charged with routing packets between networks.

### **RTP**

RTP (Real-time Transport Protocol) is a data transfer protocol defined to deliver **live media** to the clients at the same time, which defines the transmission of video and audio files in real time for Internet applications.

### **RTSP**

RTSP (Real-time Streaming Protocol) is the standard used to transmit **stored media** to the client(s) at the same time, which provides client controls for random

access to the content stream.

## S

### **Server**

It is a simple computer that provides resources, such as files or other information.

### **SIP**

SIP (Session Initiated Protocol) is a standard protocol that delivers the real-time communication for Voice over IP (VoIP), which establishes sessions for features such as audio and video conferencing.

### **SMTP**

The Simple Mail Transfer Protocol is used for Internet mail.

### **SNMP**

Simple Network Management Protocol. SNMP was designed to provide a common foundation for managing network devices.

### **Station**

In LANs, a station consists of a device that can communicate data on the network. In FDDI, a station includes both physical nodes and addressable logical devices. Workstations, single-attach stations, dual-attach stations, and concentrators are FDDI stations.

### **Subnet mask**

In TCP/IP, the bits used to create the subnet are called the subnet mask.

## T

### **(TCP/IP)**

Transmission Control Protocol/Internet Protocol is a widely used transport protocol that connects diverse computers of various transmission methods. It was developed by the Department of Defense to connect different computer types and led to the development of the Internet.

### **Transceiver**

A transceiver joins two network segments together. Transceivers can also be used to join a segment that uses one medium to a segment that uses a different medium. On a 10BASE-5 network, the transceiver connects the network adapter or other network device to the medium. Transceivers also can be used on 10BASE-2 or 10BASE-T networks to attach devices with AUI

ports.

## U

### **UDP**

The User Datagram Protocol is a connectionless protocol that resides above IP in the TCP/IP suite

### **User Name**

The USERNAME is the unique name assigned to each person who has access to the LAN.

### **Utility**

It is a program that performs a specific task.

### **UTP**

Unshielded twisted-pair. UTP is a form of cable used by all access methods. It consists of several pairs of wires enclosed in an unshielded sheath.

## W

### **WAN**

Wide-Area Network. A wide-area network consists of groups of interconnected computers that are separated by a wide distance and communicate with each other via common carrier telecommunication techniques.

### **WEP**

WEP is widely used as the basic security protocol in Wi-Fi networks, which secures data transmissions using 64-bit or 128-bit encryption.

### **Windows**

Windows is a graphical user interface for workstations that use DOS.

### **WPA**

WPA (Wi-Fi Protected Access) is used to improve the security of Wi-Fi networks, replacing the current WEP standard. It uses its own encryption, Temporal Key Integrity Protocol (TKIP), to secure data during transmission.

### **WPA2**

Wi-Fi Protected Access 2, the latest security specification that provides greater data protection and network access control for Wi-Fi networks. WPA2 uses the government-grade AES encryption algorithm and IEEE 802.1X-based authentication, which are required to secure large corporate networks.

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<b>TV-IP121W</b>	<b>3 years</b>
------------------	----------------

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.

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