SkyIPCam310
Power Over Ethernet Network Camera

Model # AICP310

User's Manual

Ver 1A

Table of Contents

About This Guide

This manual provides instructions and illustrations on how to use your SkyIPCam310 PoE Network Camera, includes:

- Chapter 1, **Introduction**, provides the general information on the camera.
- Chapter 2, **Installation**, describes the hardware and software installation procedure for the SkyIPCam310.
- Chapter 3, **Security**, explains the security feature of the camera.
- Chapter 4, **Application of the Camera**, provides the illustrations of the camera's applications.
- Chapter 5, **Using the Camera**, guides you through the configuration using the web browser.
- Chapter 6, **IPView Pro**, helps you to install and use the software.
- Chapter 7, **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 SkyIPCam310 PoE Network Camera, a camera device that can be connected directly to an Ethernet or Fast Ethernet network. Compared to the conventional PC Camera, the SkyIPCam310 features a built-in CPU and web-based solutions that can provide a cost-effective solution to transmit real-time high-quality video images and sounds for monitoring. It can be managed remotely, accessed and controlled from any PC/Notebook over the Intranet or Internet via a web browser.

The simple installation procedures and web-based interface allow you to integrate it into your network easily. The camera features **Power over Ethernet** (PoE) technology, allowing you to install and use it in an environment where is without power supply. In addition, with comprehensive applications supported, the SkyIPCam310 is your best solution for remote monitor, high quality, and high performance video images.

1.1 Features and Benefits

Simple To Use

The SkyIPCam310 is a standalone system with built-in CPU requiring no special hardware or software such as PC frame grabber cards. The SkyIPCam310 supports both ActiveX mode (for Internet Explorer users) and Java mode (for Internet Explorer and Netscape Navigator users). Therefore, all that is required is a web browser software such as Internet Explorer 5.0 or above or Netscape 6.0 or above. Just plug and view the picture from your SkyIPCam310 with a valid IP Address.

Next-Generation PoE Technology

Power-over-Ethernet (PoE, IEEE 802.3af standard) eliminates the need of 110/220 AC power for the wired LAN devices. With this innovative technology, the network manager can deploy these Ethernet-powered devices using only a single CAT5 Ethernet cable that carries both power and data to each device. This enables the user to build a network with greater flexibility in the Small Office/Home Office (SOHO) environments.

Support Variety of Platforms

The SkyIPCam310 supports TCP/IP networking, SMTP e-mail, HTTP and other Internet related protocols, and can be utilized in a mixed operating system environment such as Windows, Unix, and Mac. It can be integrated easily into other www/Intranet applications.

Web Configuration

Applying a standard web browser, the administrator can configure and manage the SkyIPCam310 directly from its own web page via the Intranet or Internet. Up to 32 username s and passwords are permitted with privilege setting controlled by the administrator.

RS-485 Support

The pin 1 & 2 of the I/O connectors are used for RS-485 data transmission. You can connect a special featured device (such as an external camera stand with rotation function) to meet you

needs. When the external device is connected, you could configure the settings and control the device from the **RS485** window of Web Configuration Utility.

Remote Utility

The powerful IPView Pro 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 SkyIPCam310 can provide the ideal solution for live video images over the Intranet and Internet for remote monitoring. It allows remote access from a web browser for live image viewing and allows administrator to manage and control the SkyIPCam310 anywhere and any time in the world. Apply the SkyIPCam310 to monitor various objects and places such as homes, offices, banks, hospitals, child-care centers, amusement parks and other varieties of industrial and public monitoring. It can also be used for intruder detection; in addition, it can capture still images for archiving and many more applications.

1.2 Unpacking the Package

Unpack the package and check all the items carefully. In addition to this *User's Guide*, be certain that you have:

- One SkyIPCam310 PoE Network Camera
- One Installation CD-ROM
- One Quick Installation Guide
- One AC power adapter suitable for your country's electric power
- One Camera Stand
- One RJ-45 Ethernet Cable

If any item contained is damaged or missing, please contact your local dealer immediately. Also, keep the box and packing materials in case you need to ship the unit in the future.

1.3 System Requirements

Networking

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

Accessing the Camera

For Web Browser Users

- Operating System: Microsoft® Windows® 98SE/ME/2000/XP/Vista
- CPU: Intel Celeron 1.1GHz or above (Intel Pentium 4 is preferred)
- Memory Size: 128MB or above
- Resolution: 800x600 or above
- Microsoft® Internet Explorer 5.0 or above

For IPView Pro Application Users

- Operating System: Microsoft® Windows® 2000/XP/Vista.
- CPU: Intel Celeron 1.1GHz or above (Intel Pentium 4 is preferred)
- Memory Size: 128 MB or above
- Resolution: 800x600 or above

1.4 Physical Description

This section describes the externally visible features of the SkyIPCam310.

Front Panel

1. Link LED

The Link LED is positioned on the right side of the camera's lens while facing the camera. It is located to the left of the Power LED

A steady **ORANGE** light confirms that the camera has good connection to LAN connectivity.

Dependent on the data traffic the LED will begin to flash to indicate that the camera is receiving/sending data from/to the network.

2. Power LED

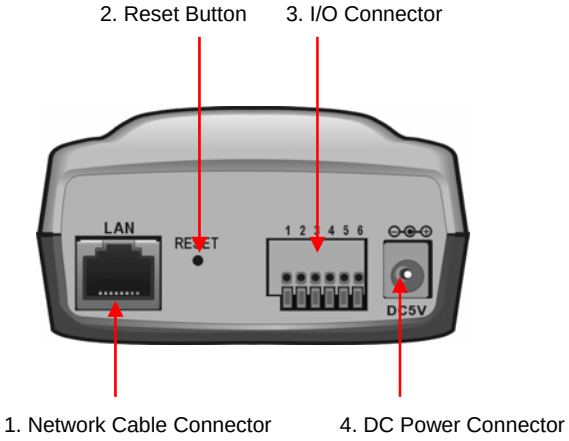
The Power LED is positioned on the right side of the camera's lens while facing the camera.

A steady **BLUE** light confirms that the camera is powered on.

3. Internal MIC

The built-in omni-directional microphone allows the camera to receive sound and voice.

Rear Panel



1. Network Cable Connector

The SkyIPCam310's rear panel features an RJ-45 connector for connections to 10Base-T Ethernet cabling or 100Base-TX Fast Ethernet cabling (which should be Category 5 twisted-pair cable). The port supports the N-Way protocol and "Auto-MDIX" function, allowing the SkyIPCam310 to automatically detect or negotiate the transmission speed of the network.

2. Reset Button

Reset will be initiated when the reset button is pressed once, and 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, indicating the SkyIPCam310 is changing to factory reset. The IP address will return to the default setting as **192.168.1.240**.

3. I/O Connector

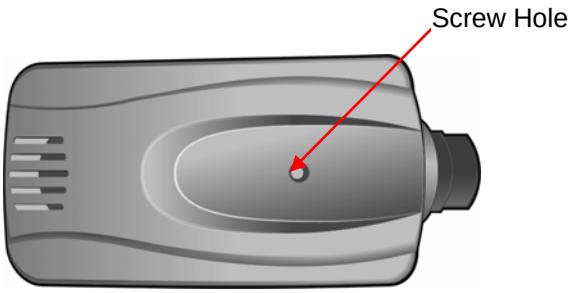
The camera provides the I/O connectors on the rear panel (pin 1/2 are for RS485, pin 3/4 are for input, pin 5/6 are for output), which provide the physical interface to send and receive digital signals to a variety of external alarm devices. For more information, refer to ***7.4 I/O Terminal Application***.

4. DC Power Connector

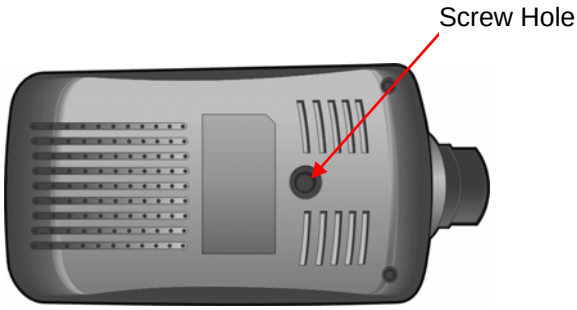
The DC power input connector is located on the SkyIPCam310's rear panel, and is labeled DC5V with a single jack socket to supply power to the SkyIPCam310. Power will be generated when the power supply is connected to a wall outlet.

Top/Bottom Panel

Top Panel



Bottom Panel



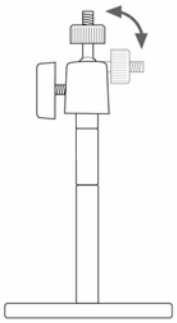
Screw Hole

Located on the top/bottom panel of the camera, the screw hole is used to connect the camera stand onto the camera by attaching the screw head on the camera stand into the screw hole of the camera.

2. Hardware Installation

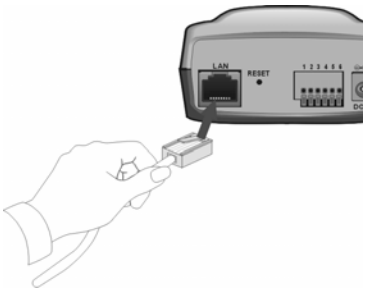
2.1 Attaching the Camera to the Stand

The SkyIPCam310 comes with a camera stand (optional), which is equipped with a swivel ball screw head that can be attached to the camera's bottom screw hole. Attach the camera stand to the camera and station it for your application. There are three holes located in the base of the camera stand allowing the SkyIPCam310 to be mounted on the ceiling or any wall securely.



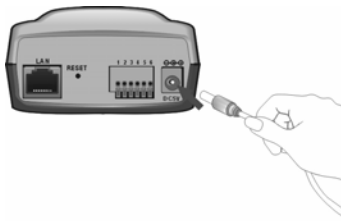
2.2 Connecting the Ethernet cable

Connect an Ethernet cable to the network cable connector located on the camera’s rear panel, and then attach it to the network.



2.3 Attaching the Power Supply

Attach the external power supply to the DC power input connector located on camera’s rear panel, and then connect it to your local power supply.



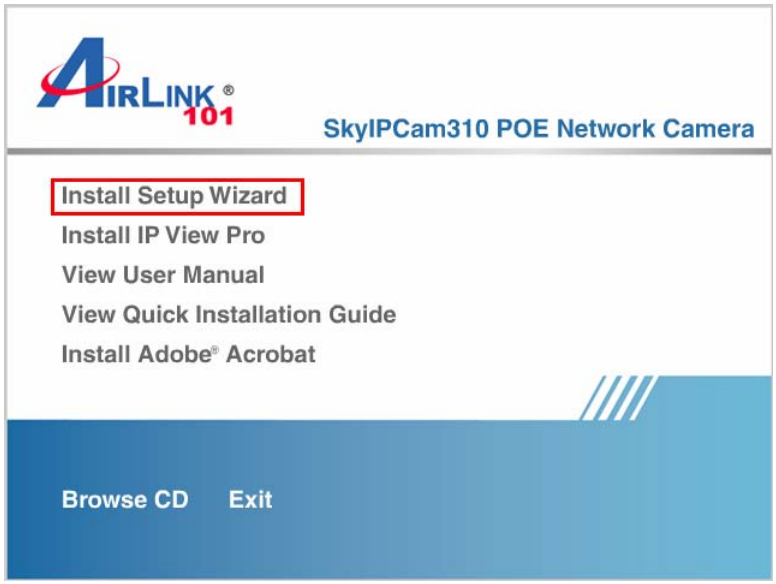
TIP: *You can confirm power source is supplied from the LED indicators label Power on the SkyIPCam310 is illuminated.*

2.4 Setting up the Camera

Installing the Setup Wizard

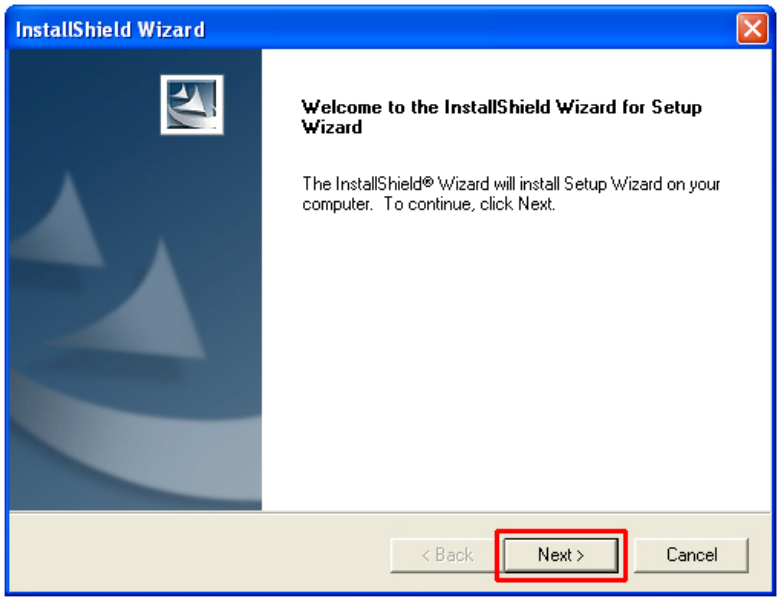
Step 1 Insert the provided CD and wait for the autorun screen to appear.

Step 2 Click on **Install Setup Wizard**.

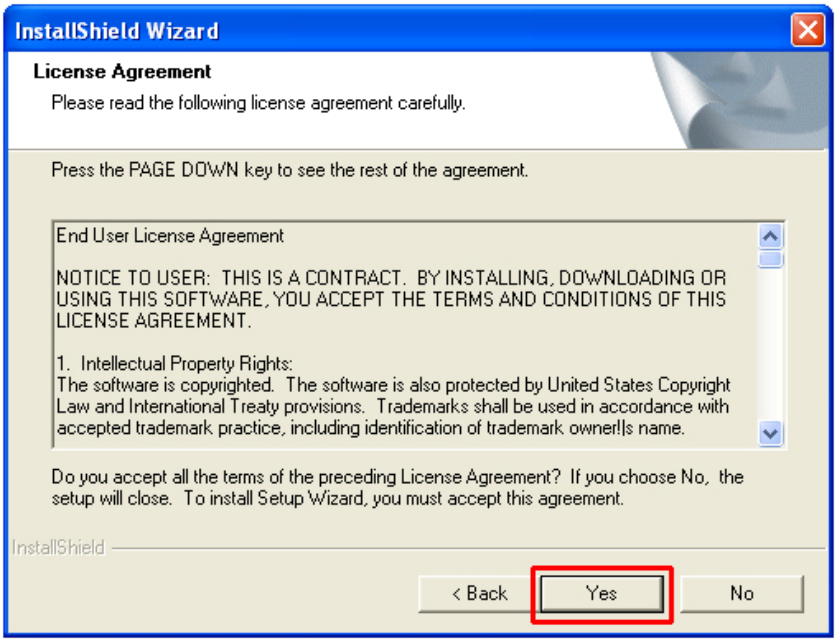


Note: *If the autorun screen does not appear automatically, go to* ***Start***, ***Run***, *type* ***D:\Wizard\Setup.exe*** *(where* ***D*** *is the letter of your CD drive) and click* ***OK***.

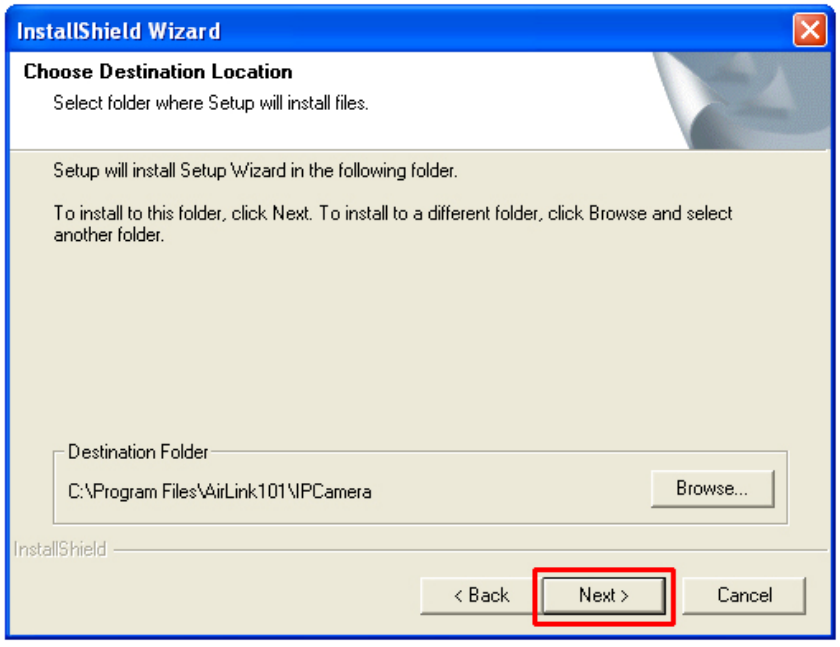
Step 3 Click **Next**.



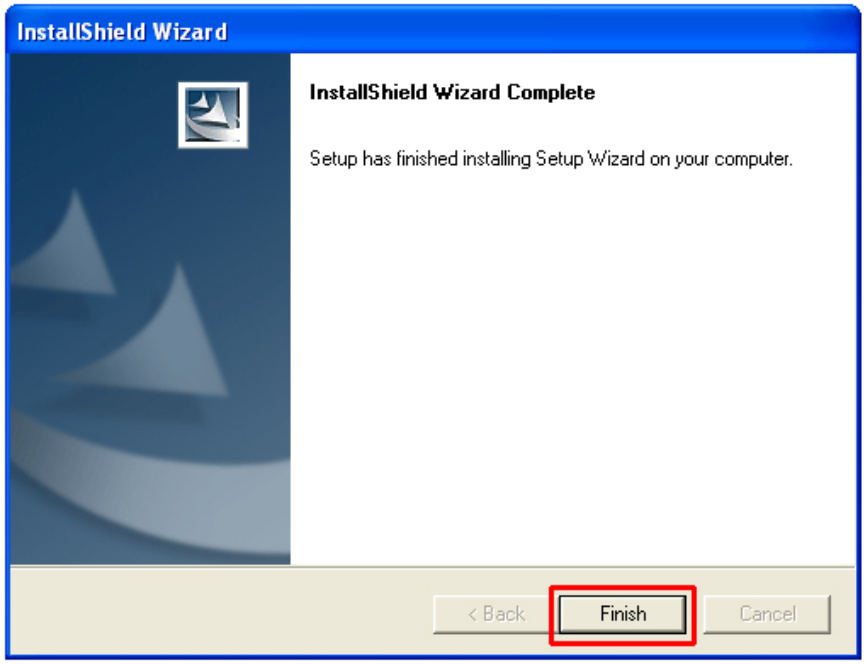
Step 4 Click **Yes** to accept the License Agreement.



Step 5 Click **Next** to accept the default Destination Folder.

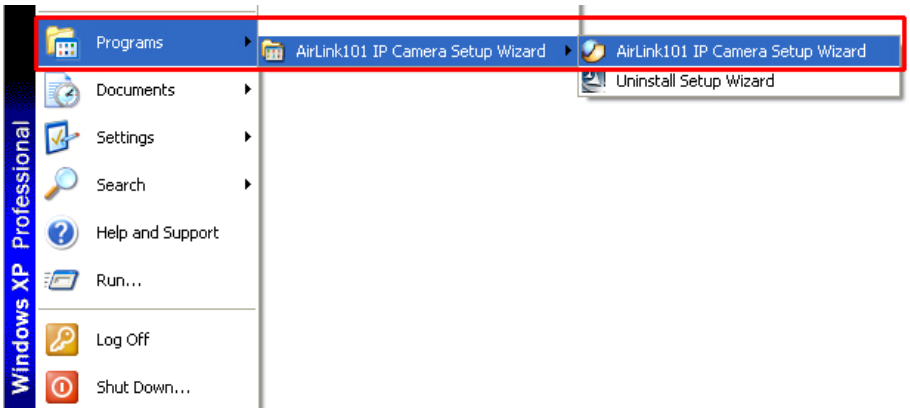


Step 6 Click **Finish** to complete the installation.

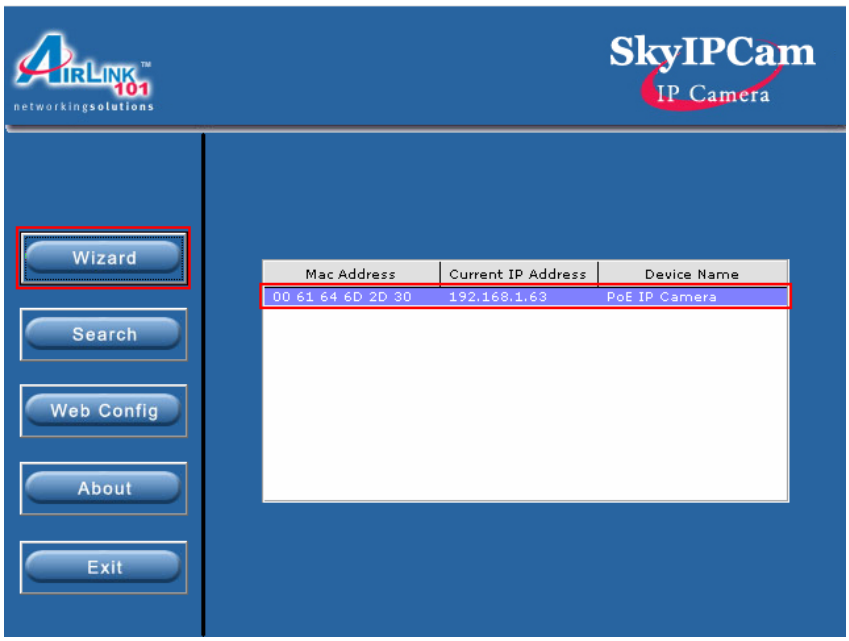


Using the Setup Wizard

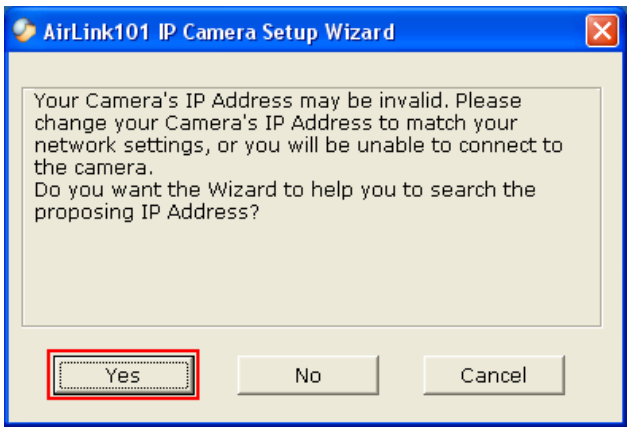
Step 1 Go to **Start > (All) Programs > AirLink101 IP Camera Setup Wizard > AirLink101 IP Camera Setup Wizard**.



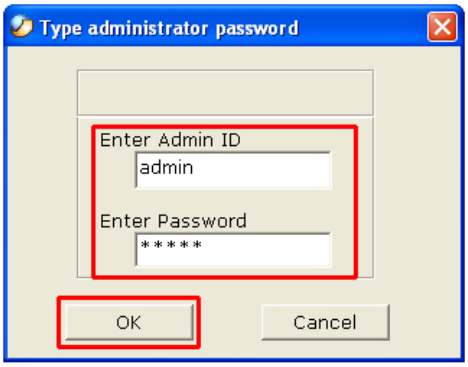
Step 2 Select the IP Camera you want to configure from the list and click on the **Wizard** button.



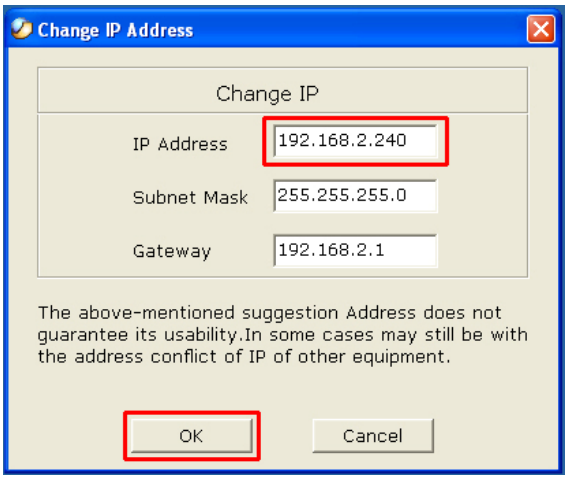
Step 3 If the Camera's default IP address is on a different subnet, the following message will appear. Click **Yes** to continue. If you do not receive this message, skip to **Step 6**.



Step 4 Enter **admin** for both the Admin ID and Password and click **OK**.



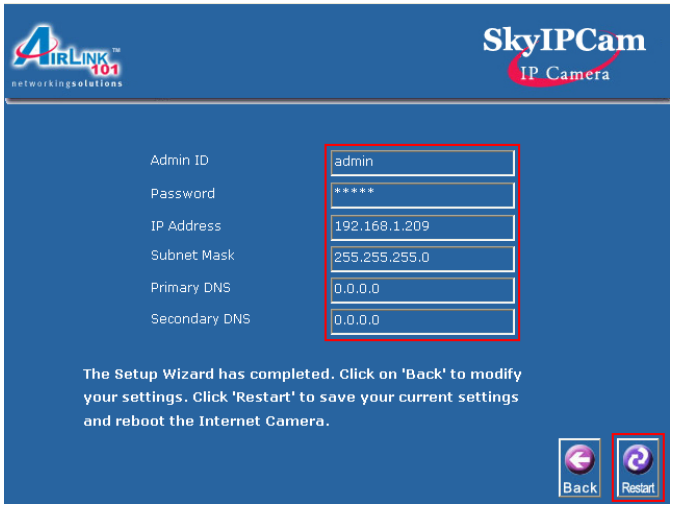
Step 5 The Wizard will automatically generate an IP address for the camera, if this address is not in use by any other device in your local network, click **OK**. Otherwise, enter an available IP address (ex. 192.168.x.240) and click **OK**.



Step 6 Enter **admin** for both the **Admin ID** and **Password** field and click **Next**. Optionally, you can change the password by checking on the **Change** box and entering the new password.

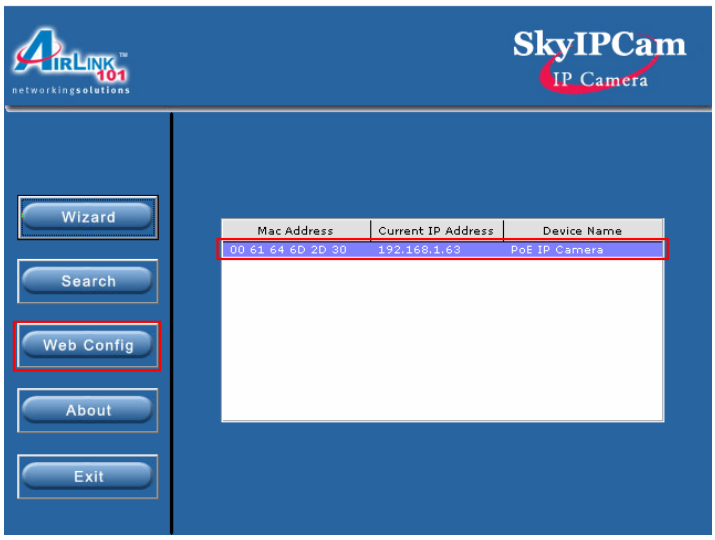
Step 7 If you need to change the Camera's IP address because another network device is already using the same address, you can assign a new address here and click **Next**.

Step 8 Verify that all the fields are correct and click **Restart** to save the settings and reboot the camera.



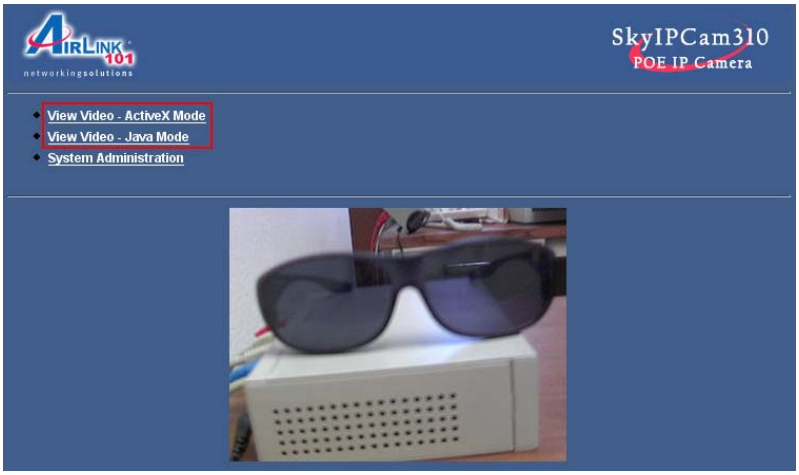
Viewing Images

Step 1 At the Setup Wizard, select the desired camera from the list and click on the **Web Config** button.

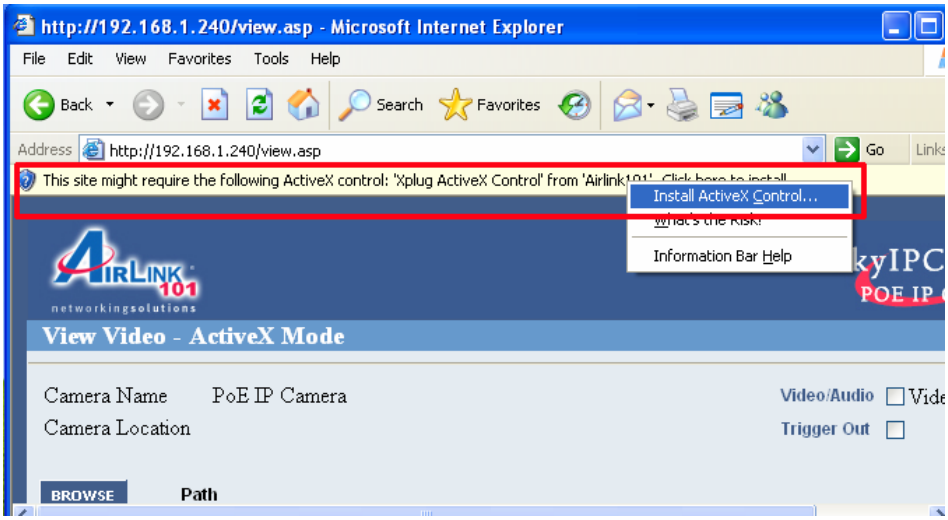


Step 2 Enter the username and password for the network camera. The default username and password are both **"admin"**.

Step 3 The web based viewing page will appear. You can view live video by selecting either the **ActiveX Mode** (Internet Explorer only) or the **Java Mode** (Internet Explorer and Netscape).



Step 4 If you select ActiveX Mode, you may be prompt to install the ActiveX Control. Click on the yellow bar to on the top of the screen and click on **Install ActiveX Control**.

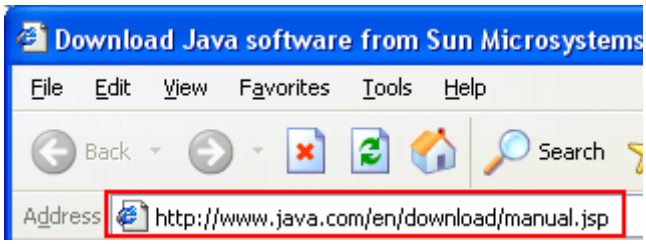


Step 5 Click on **Install**.

Step 6 You can focus the camera by turning the camera's lens clockwise or counter-clockwise.

Note: ActiveX and/or Java Applet must be installed and enabled on your Web Browser (Internet Explorer or Netscape) before you can view the live videos. For more information please refer to the User's Manual in the provided CD.

Step 7 If you need to install Java Virtual Machine on your computer, do not follow the on-screen browser instructions for installing. Instead, go to http://www.java.com/en/download/manual.jsp and follow the instructions there for installing Java.



3. Security

To ensure the highest security and prevent unauthorized usage of the SkyIPCam310 the Administrator has the exclusive privilege to access the System Administration for settings and control requirements to allow users the level of entry and authorize the privileges for all users. The SkyIPCam310 supports multi-level password protection and access to the SkyIPCam310 is strictly restricted to define the user who has a "User Name" and "User Password" that is assigned by the Administrator.

The administrator can release a public user name and password so when remote users access the SkyIPCam310 they will have the right to view the image transmitted by the SkyIPCam310.

NOTE: *Since the default settings are Null String, it is highly recommended to set the "Admin ID"*

and "Admin Password" when you are the first time to use the SkyIPCam310. Once the ID and Password are defined, only the administrator has the access to management the SkyIPCam310. This procedure should be done as soon as possible since the security features with the SkyIPCam310 will not be enabled until the "Admin ID" and "Admin Password" is defined.

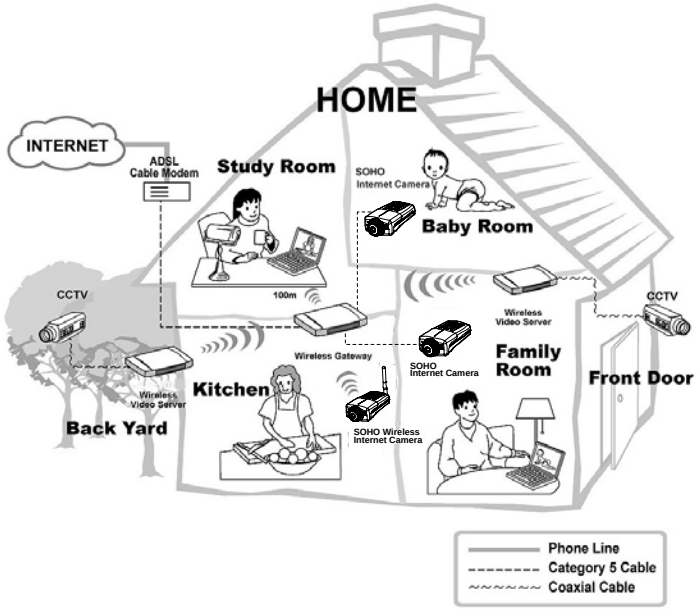
4. Application of the SkyIPCam310

The SkyIPCam310 can be applied in wide variety of applications. With the built-in CPU, it can work as a standalone system that provides a web-based solution transmitting high quality video images and sounds for monitoring purposes. It can be managed remotely, accessed and controlled from any PC desktop over the Intranet or Internet via a web browser. With the easy installation procedure, real-time live images will be available. In addition, once the SkyIPCam310 is installed coupled with the IPView Pro application, you can further expand the scope of it.

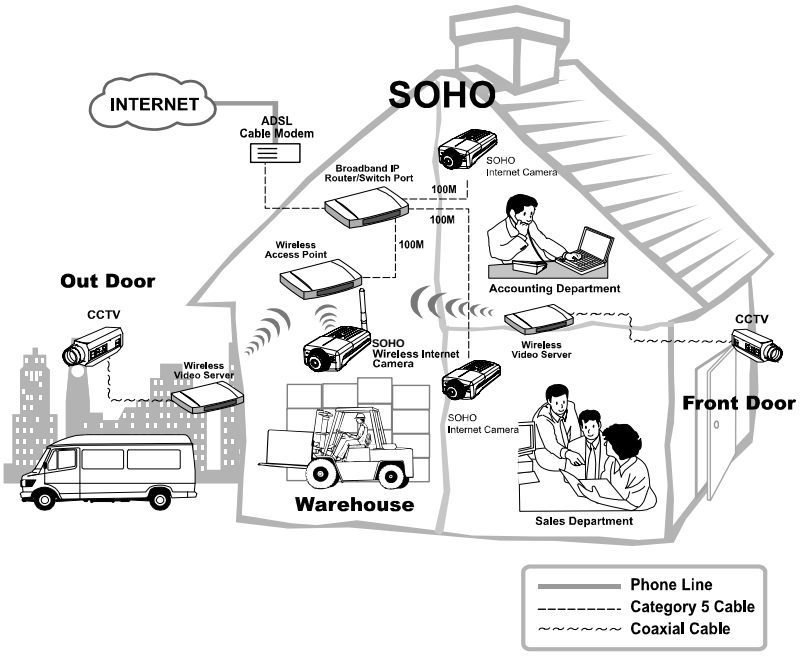
The following section will provide the typical applications for the SkyIPCam310 along with the IPView Pro application, and also includes some basic knowledge to assist in the installation and configuration.

- Monitoring of local and remote places and objects such as construction sites, hospitals, amusement parks, schools and day-care centers through the use of a web browser.
- Capture single frame images from the IPView Pro application.
- Configure the camera to upload image or send mail messages with a single frame image.

Home Applications Diagram



SOHO Applications Diagram



5. Using the Camera

You can access and manage the SkyIPCam310 through: *1)* a web browser, and *2)* the enclosed software IPView Pro. This chapter describes the Web Configuration Utility, and provides the instructions on using the camera with a web browser.

5.1 Web Configuration Utility

The SkyIPCam310 must be configured through its built-in Web-based Configuration. (*Extensive knowledge of LAN will be helpful in setting up the SkyIPCam310.*)

From the web browser, enter the default IP address **192.168.1.240** in the Address bar and then press [**Enter**] to access the Welcome screen of the Configuration Utility. The Welcome screen is shown on the next page.

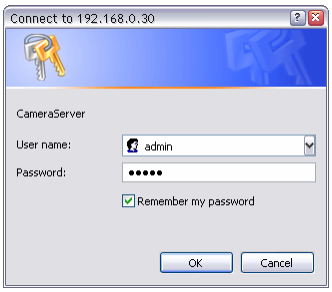
NOTE: *The computer's IP address must correspond with the camera's IP address in the same segment for the two devices to communicate.*

Welcome Screen of the Configuration Utility

In the Welcome screen, there are three options to choose to set-up and view your SkyIPCam310, including:

- **View Image – ActiveX Mode**
- **View Image – Java Mode**
- **System Administration**

Click **System Administration** to prompt a login dialog window, and type the default username/ password (**admin**/**admin**) in the corresponding boxes. Then, click **OK** to enter the Configuration Utility.



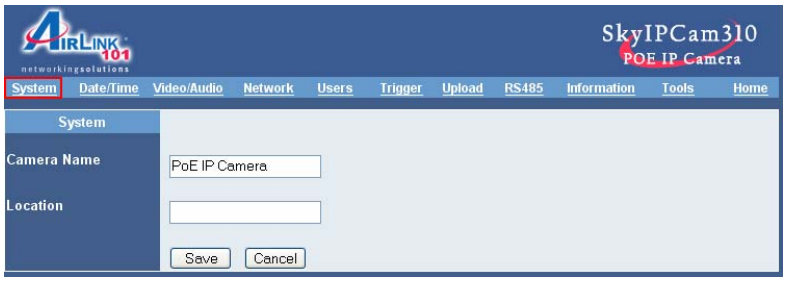
5.2 System Administration

The Configuration Utility contains eleven options in the top menu bar, including: **System**, **Date/Time**, **Video/Audio**, **Network**, **Users**, **Trigger**, **Upload**, **RS485**, **Information**, **Tools**, and **Home**.

> ***TIP:*** *Once you have changed the settings in each option, click* ***Save*** *to store the settings, or* ***Cancel*** *to abandon, or* ***Refresh*** *to reload the status. During the configuration, whenever you click* ***Home*** *in the top menu bar will make you return to the Welcome window.*

System

The **System** window contains the settings for identifying the camera, including **Camera Name** and **Location**.



Camera Name

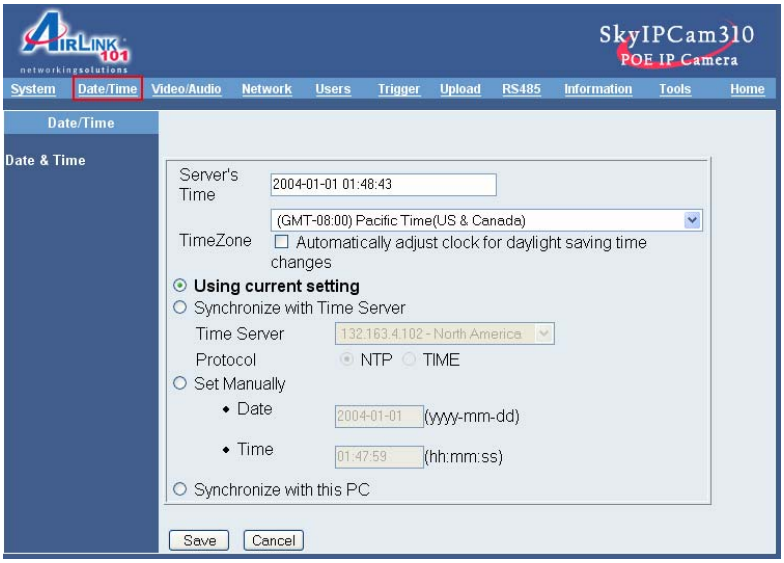
This field is used for entering a descriptive name for the device.

Location

This field is used for entering a descriptive name for the location used by the camera.

Date/Time

The **Date/Time** window contains commands to set up the camera's time and date, providing correct information to the remote users who might be thousands of miles away from the camera's location.

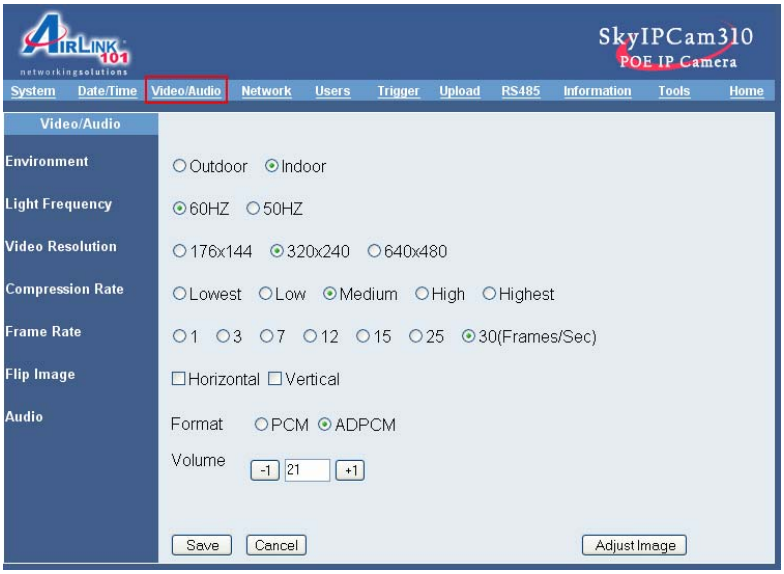


Date & Time

- **Server's Time:** Display the current date/time settings of the camera.
- **TimeZone:** Select the time zone for the region from the pull-down menu. *(Please refer to the Appendix for the time zone selection table.)*
- **Synchronized with Time Server:** Select this option and the time will be based on GMT setting. When selecting the option, you have to enter the required information in the following fields:
  - **IP Address -** Enter the IP Address of the Time Server in this field.
  - **Protocol –** Select proper protocol: **NTP** or **TIME**.
- **Set Manually:** This option allows the system administrator to set date/time manually. Select the **Change the server's time and date as below** item to enter Date and Time in the respective field manually, or select the **Synchronize with this PC** item to set up date/time according to the connected PC's configuration.

Video/Audio

The **Video/Audio** window contains commands to control the image and audio settings of the camera.



Environment

Select **Outdoor** or **Indoor** according to the installation location of the camera.

Light Frequency

Select **60HZ** or **50HZ**.

Video Resolution

Select the desired video resolution from three formats: **160x120**, **320x240**, and **640x480**. The higher setting can obtain better quality; however, it will use more resource within your network.

Compression Rate

Select the desired compression rate from five levels: **Lowest**, **Low**, **Medium**, **High**, and **Highest**. The higher compression rate can increase the data transmission speed over the network; however, it will provide poorer image quality.

Frame Rate

Select the optimal setting depending on your network status. Please note that the higher setting can obtain better quality; however, it will use more resource within your network. The available settings are **1**, **3**, **7**, **12**, **15**, **25** and **30**.

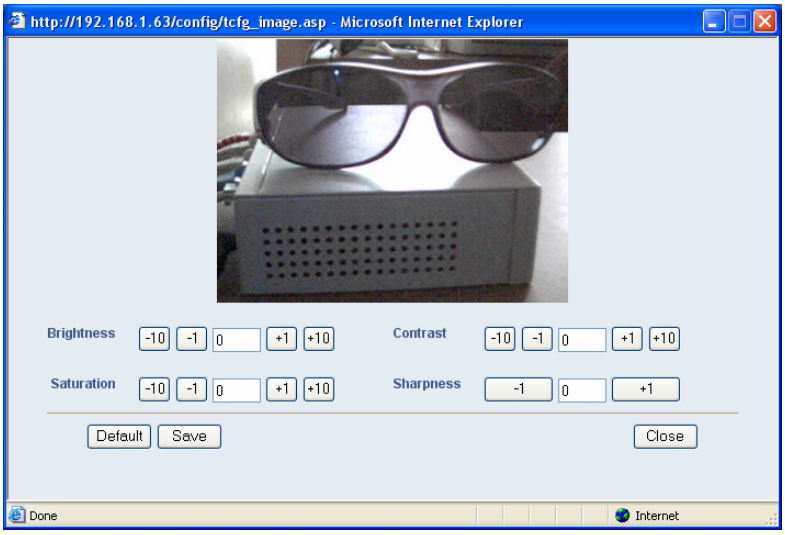
Flip Image

Select **Horizontal** to display the image in a horizontal mirror mode. Select **Vertical** to display the image in a vertical mirror mode

Audio

Select the audio format as **PCM** or **ADPCM**. Then, you can also adjust the **Volume** of the camera.

In addition, clicking ***Adjust Image*** will bring up the following window, which allows you to adjust the image settings:



- **Brightness:** Adjust the brightness level ranging from -64 to +64.
- **Saturation:** Adjust the colors level ranging from -64 to +64.
- **Contrast:** Adjust the contrast level ranging from -64 to +64.
- **Sharpness:** Adjust the sharpness level ranging from -6 to +6.

Network

The **Network** window contains commands that allow you to set up networking configuration of the camera.

IP Assignment

- **Use Static IP Address:** You can select this option and enter the IP address directly. The default settings are:
    - IP Address – 192.168.1.240
    - Subnet Mask – 255.255.255.0
    - Default Gateway – 192.168.1.1
- **Obtain IP address automatically via DHCP:** If your network uses the DHCP server, select this option. According to this setting, the camera will be assigned an IP address from the DHCP server automatically. Every time when the camera starts up, please make sure that the DHCP server is set to assign a static IP address to your camera.
- **Obtain IP address automatically via 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 into the respective boxes. (*Note: You should have an ISP PPPoE account.*) The camera will get an IP address from the ISP as starting up. You will receive an email automatically regarding to your camera's IP address. Please kindly note that the email will be sent according to "Receiver e-mail" you filled from **Trigger** web page. Moreover, this feature only applied to PPPoE mode.

DNS IP Address

DNS (Domain Name System) server is an Internet service that translates domain names into IP addresses. Enter at least one DNS IP address.

Dynamic DNS

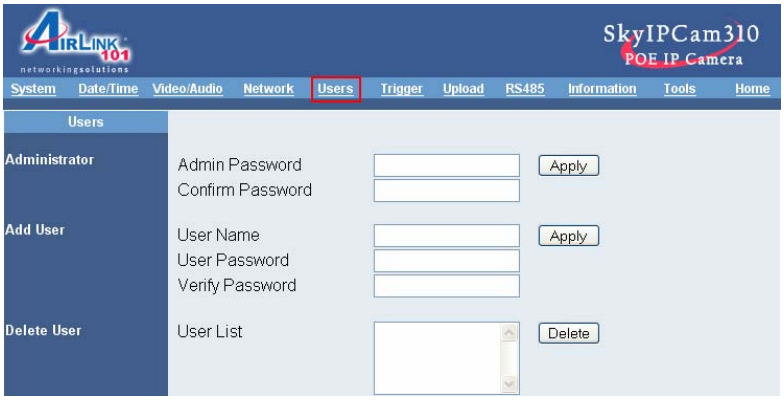
Check the **Enable Dynamic DNS** item to enable the Dynamic DNS function, which allows you to run your domain over a changing IP address. Select one Dynamic DNS provider from the pull-down menu, and then enter the required information in the following fields, including the ***Domain Name***, ***User Name***, and ***Password***.

Http port

The default HTTP Port is **80**.

Users

The **Users** window contains commands that allow the system administrator to assign legal users who are permitted to monitor the camera from the remote site.



Administrator

This field is used for entering the administrator password to access the settings. Enter the password in the **Admin Password** box, and then enter the same one again in the **Confirm Password** box to confirm the password.

The default setting for Admin is blank space (Null String). For security purpose, you are strongly recommended to set the Admin Password (a maximum of 16 characters) as soon as possible to enable security function for the camera.

Add User

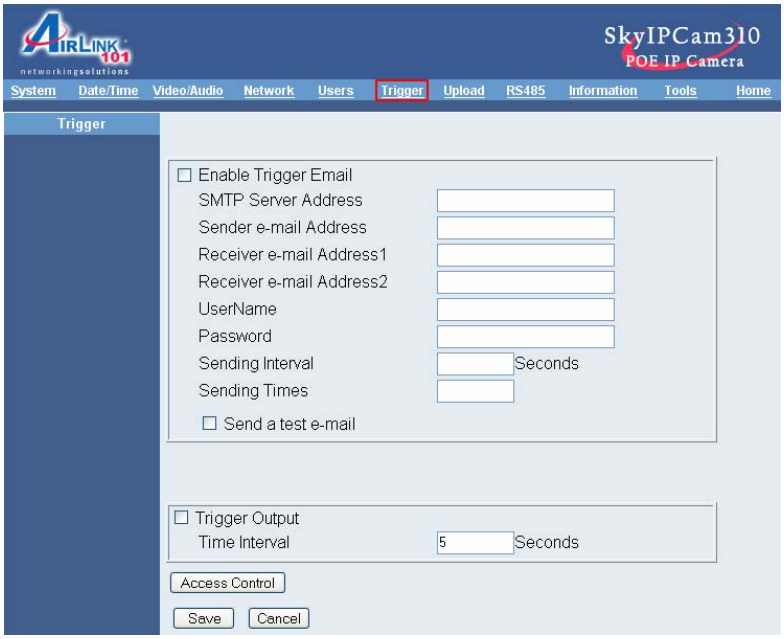
- **User Name:** Enter the user name in this field (a maximum of 32 characters, printable ASCII code).
  A maximum of **32** users names are allowed; however, each users name must be different. Each user name can be used as a group given the password. For example, if the User Name is “Guest” and the **User Password** is “Guest”, anyone can access the camera with these details used as a group of users under the User Name “Guest”.

Delete User

Select the user you want to delete from the pull-down menu, and then click ***Delete***.

Trigger

The **Trigger** window contains the control settings for external device through the I/O port, and the settings required for e-mail.



Enable Trigger Email

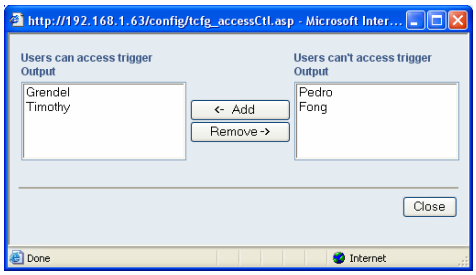
- **SMTP Server Address:** To use the e-mail alert function, you must enter the mail server address in the field.
- **Sender e-mail Address:** Enter the e-mail Address of sender.
- **Receiver e-mail Address 1/2:** Enter the e-mail Address of receiver(s).
- **User Name:** Enter the user name in this field to login sender's mail server.
- **Password:** Enter the user password in this field.
- **Sending Interval**: Enter the time interval to send next e-mail; the unit is by second.
- **Sending Times**: Enter the sending times for every e-mail alert.
- **Send a test e-mail**: When completed, you can do a test to confirm the related settings by checking this option.

Trigger Output

Check the item to enable the camera to receive the signal from specified detection area, and then enter the proper settings in the **Time Interval** field.

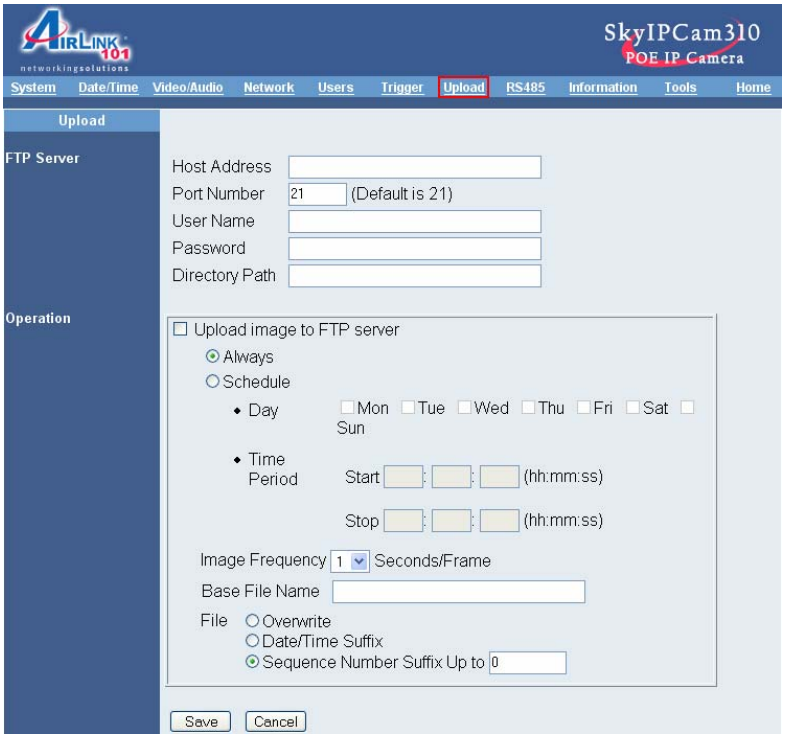
Access Control

Click the ***Access Control*** button to bring up a dialog window that contains list of users, allowing the administrator to assign legal users who are permitted to control the trigger output.



Upload

To upload the image to FTP server, you need to configure the related settings in the **Upload** window.



FTP Server

This field contains the following five basic settings for your FTP server.

- **Host Address:** The IP Address of the target FTP server.
- **Port Number:** The standard port number for the FTP server is Port ***21***, and it's also the default setting. If the FTP server uses a specific port, please confirm the IT manager.
- **User Name:** Enter the user name in this field.
- **Password:** Enter the user password in this field to login the FTP server.

- **Directory Path:** Enter an existing folder name in this field, and the images will be uploaded to the given folder.

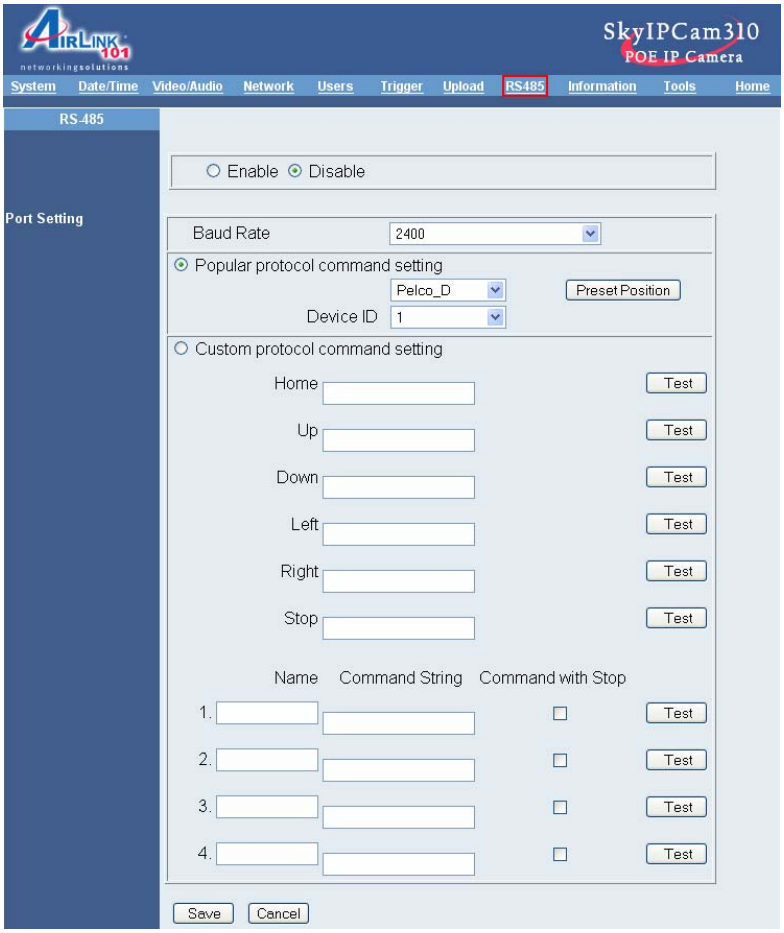
Operation

To enable the FTP upload function, check the **Enable upload video to FTP server** option, and then configure the following settings according to your necessary.

- **Always:** Allows you to upload the video to FTP server continuously.
- **Schedule:** Allows you to manage the uploading task. In the Schedule option, you can set the ***Day*** and ***Time Period*** option.
  - **Image Frequency:** There are two ways to set the video frequency: 1.) Set the frame(s) per second, or 2.) Set the time for every frame.
  - **Base File Name:** Enter the file name to make sure that the images could be saved as the base file name.
  - **File:** Since you may not upload only one image to the FTP server, you can choose the filing rule, including ***Overwrite***, ***Date/Time Suffix***, and set up the ***Sequence Number***.

RS485

The **RS485** window contains the control settings for external device through the I/O port. You have to configure the respective settings in this window.



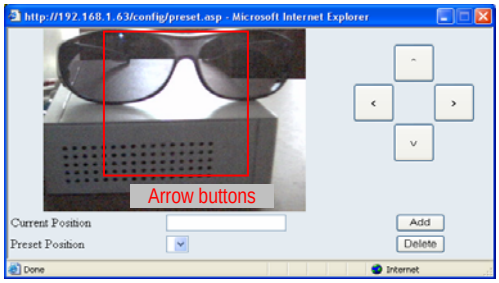
Check the **Enable** item to enable the function of your camera, and configure the related settings in the following fields.

> ***NOTE:*** *When RS485 function is enabled, the system will provide the additional control buttons on the View Image screen (ActiveX mode and Java mode). See the illustrations on page 44and 47.*

Port setting

Select the proper protocol setting from the two options: **Popular protocol command setting** or **Custom protocol setting**.

- **Popular protocol command setting:** Select the proper protocol from the pull-down menu. Click the ***Preset Position*** button to bring up a control window, which allows you to control the camera with more options.



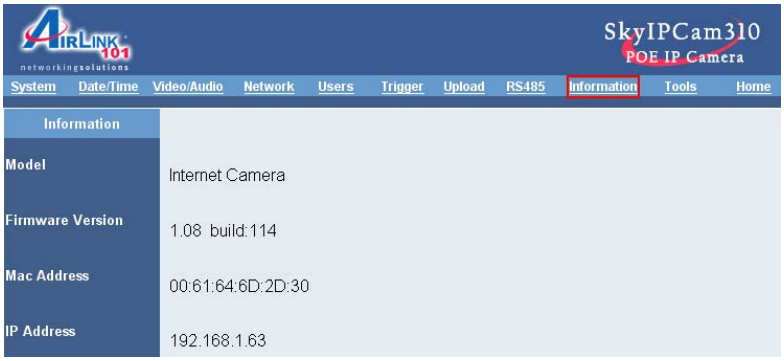
  - **Arrow buttons:** Use these buttons to move the camera's lens to your desired position. Click the center button to return to the default home position.
  - **Current Position:** When you move the camera's lens to your desired position, assign the position by entering a name (a maximum of 16 characters) in this box, then click ***Add***. The position will be saved in the **Preset Position** with a number.
  - **Preset Position:** When you have saved position(s) in the camera, select the position number from the pull-down list; the camera's lens will move to the position immediately. You can use the ***Add*** and the ***Delete*** buttons to add/remove the preset position(s). You can save up to 8 positions.

- **Custom protocol setting:** Selecting this field allows you to configure the commands protocol manually. You can click ***Test*** to test each command that you have assigned.

  In the **Name** and **Command String** boxes, you can customize more buttons for your needs. Please note that the setting values in the **Command String** boxes should be from the connected external device (please refer to the manual of connected device).

Information

The **Information** window provides general information of the camera, including the Model name, Firmware Version, Mac Address, and IP Address.



Model

The camera's model name will be display here.

Firmware Version

The field displays the firmware version of the camera.

MAC Address

This field displays the MAC Address of the camera.

IP Address

This field displays the IP Address of the camera.

Tools

The **Tools** window contains commands for restarting the camera and upgrading firmware.

Reboot

Do you really want to reboot this device? Click ***YES*** from this option, and you can restart the camera just like turning the device off and on and saved settings are retained.

Factory Reset

Do you really want to factory reset this device? Click ***YES*** from this option, and you can resume all factory default settings for the camera.

> ***NOTE:*** *You have to configure the network settings again after a Factory Reset.*

LED Control

The LED control allows user to setup the LED illumination as desired. This feature provides the flexibility when surveillance activity is ON. There are three options: ***Normal***, ***ON***, and ***OFF***.

Update Firmware

This option allows you to update the firmware of the camera once you obtained a latest version of firmware. Click ***Browse*** to find the firmware file saved in your computer, and then click ***Update***.

> ***NOTE:*** *It will take a few minutes to update firmware. Please wait to complete the procedure; you can then reboot the camera.*

Once the configuration is completed, click **Home** to return to the Welcome screen and select the desired View Video option either through **ActiveX Mode** or **Java Mode** as described in the next section.

Then, position the camera to the desired location appropriately for your purpose. Followed by adjustment of the camera focus, done manually by turning the lens clockwise or anti-clockwise to the desire image quality. Please refer to ***Appendix E*** for detailed instruction.

5.3 View Image – ActiveX Mode

To view video images from the browser, click **View Image -ActiveX Mode** from the Welcome screen to access the video images from Internet Explorer as illustrated below:

Camera Name/Location: The Camera name and location will be displayed when the Camera Name/Location fields are entered in the Web Configuration Utility.

Video/Audio: You can enable/disable the video and audio function by clicking the desired selection***.***

Trigger Out: you can turn on/off the output device manually by clicking the ***OFF*** button.

Browse/Capture: Allow you to capture and save the video image.
At Active X mode: the “Browse” function can select path. The
"Capture" function can capture and save image into the selected path, and the file name is given automatically.

When you enable RS485 function of the camera, the system will provide the additional control buttons on the screen (as show below).

You can use the ***Up***, ***Down***, ***Left***, and ***Right*** buttons to move the camera’s lens to your desired position. Click the ***Home*** button to return to the default home position.

When you select **Popular protocol command setting** in RS485 configuration window (see page37), you can use the **Preset Position** pull-down menu to select one position, then click ***Go To*** to move the camera's lens to your desired position.

If you select **Custom protocol setting** in RS485 configuration window (see page37), you can use the **Custom Command** pull-down menu to select one position, then click ***Go To*** to move the camera's lens to your desired position.

> ***NOTE:*** *In the View Image screen (ActiveX mode and Java mode),* ***Preset Position*** *will be unavailable when you select to use* ***Custom Command****.*

5.4 View Image – Java Mode

To view video images from the browser, click **View Image – Java Mode** from the Welcome screen to access the video images from Internet Explorer or Netscape browser as illustrated below:

Camera Name/Location: The Camera name and location will be displayed when the Camera Name/Location fields are entered in the Web Configuration Utility.

Video/Audio: You can enable/disable the video and audio function by clicking the desired selection***.***

Trigger: you can turn on/off the output device manually by clicking the ***OFF*** button.

Browse/Capture: Allow you to capture and save the video image.
At Java mode: the "Browse" function includes path selection and file name input. And the "Capture" function includes path selection, file name input and image capture and save.

When you enable RS485 function of the camera, the system will provide the additional control buttons on the screen (as show below).

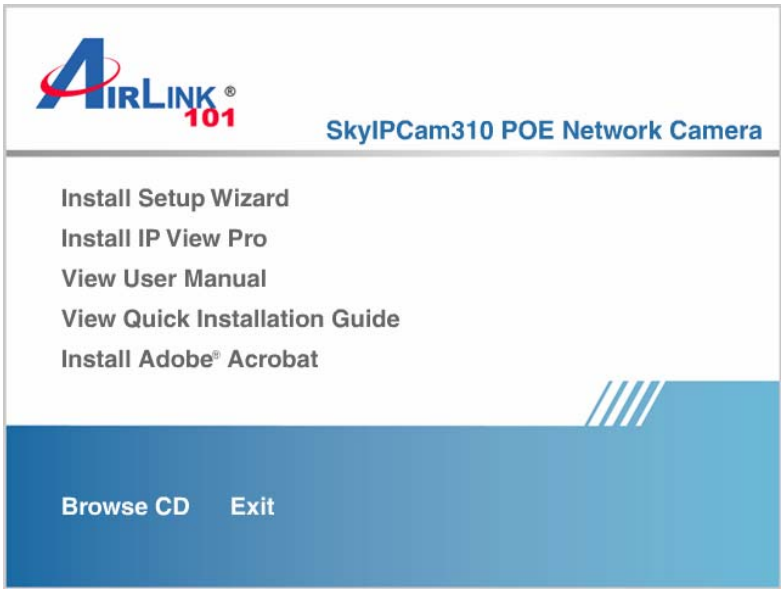
The function of these control buttons are the same as they are in ActiveX mode screen (see page 44).

6. IPView Pro

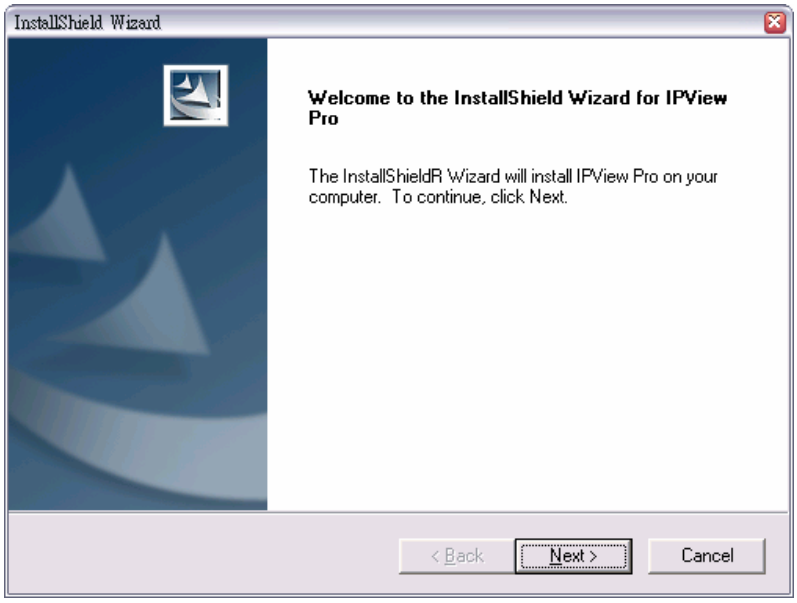
This chapter describes IPView Pro, which is a powerful software application designed with a user-friendly interface for ease of control and navigation requirements.

6.1 Installation

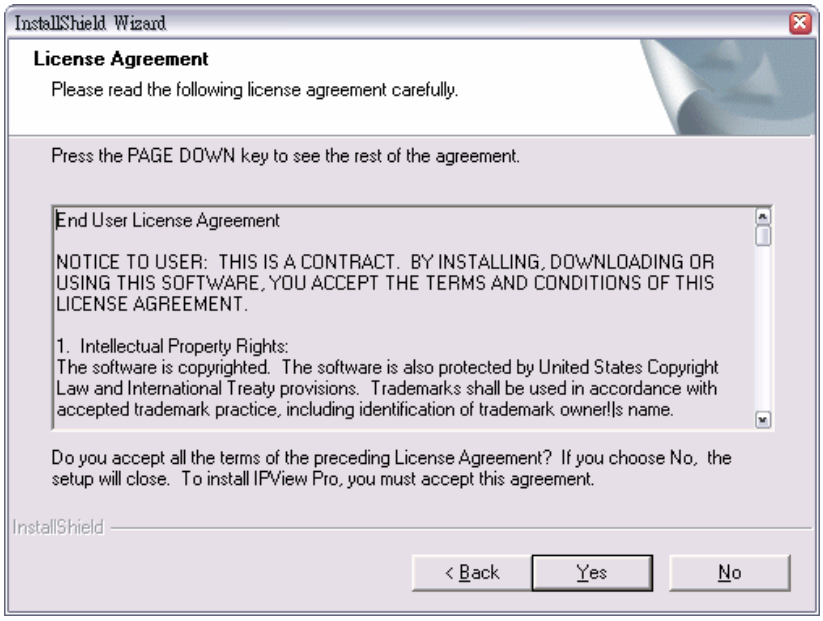
Step 1 Insert the CD-ROM into the CD-ROM drive to initiate the auto-run program. The menu screen will appear as below:



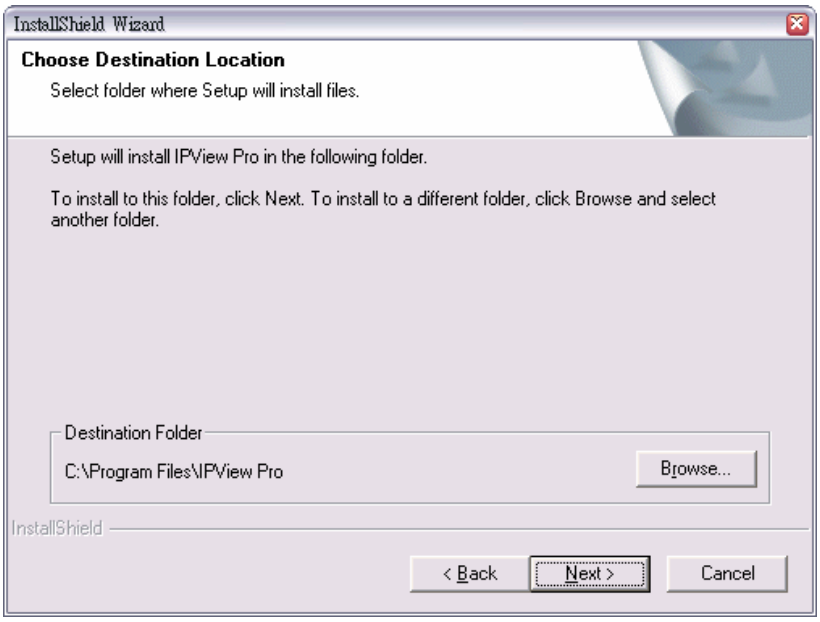
Step 2 Click the **IPView Pro** item to activate the InstallShield Wizard. Click ***Next*** in the welcome screen.



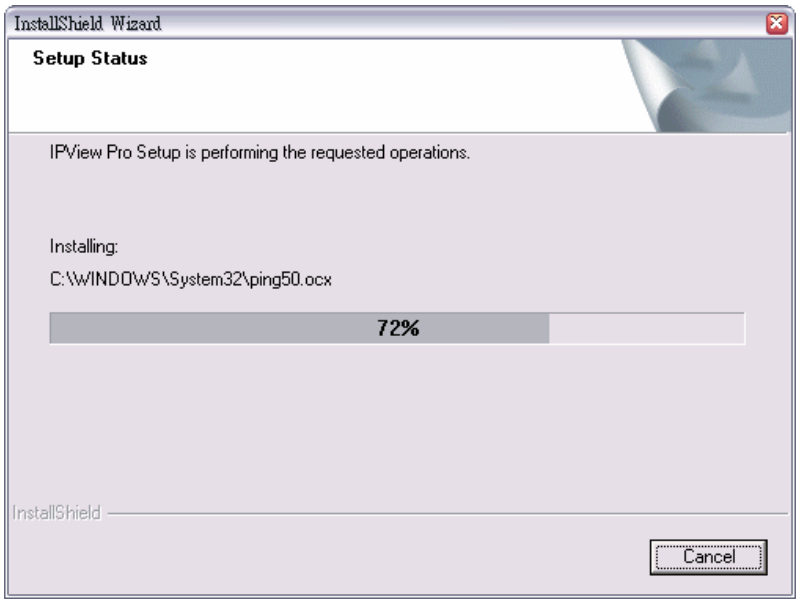
Step 3 Read and accept the License Agreement; then, click ***Yes***.



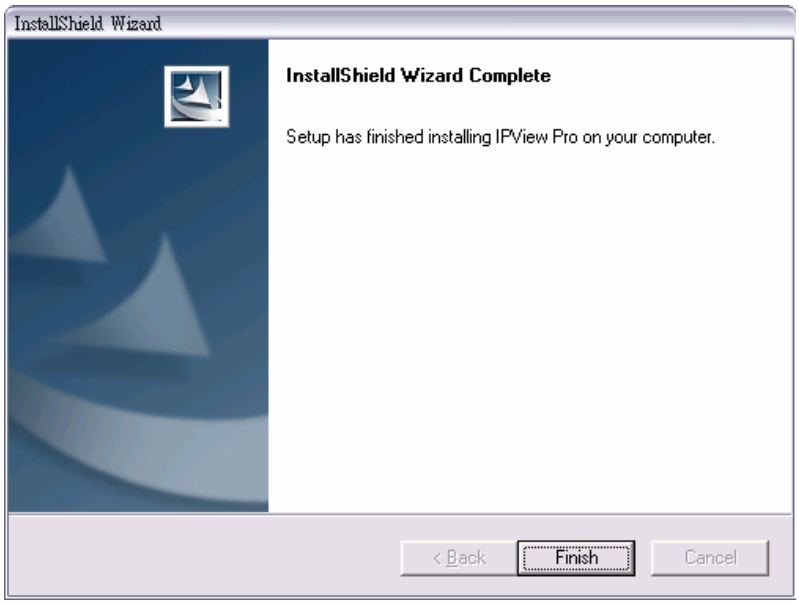
Step 4 Choose the destination location. If no specific requirement, leave the default setting and click ***Next***.



Step 5 The InstallShield Wizard starts to install the software, and the progress bar indicates the installation is proceeding.



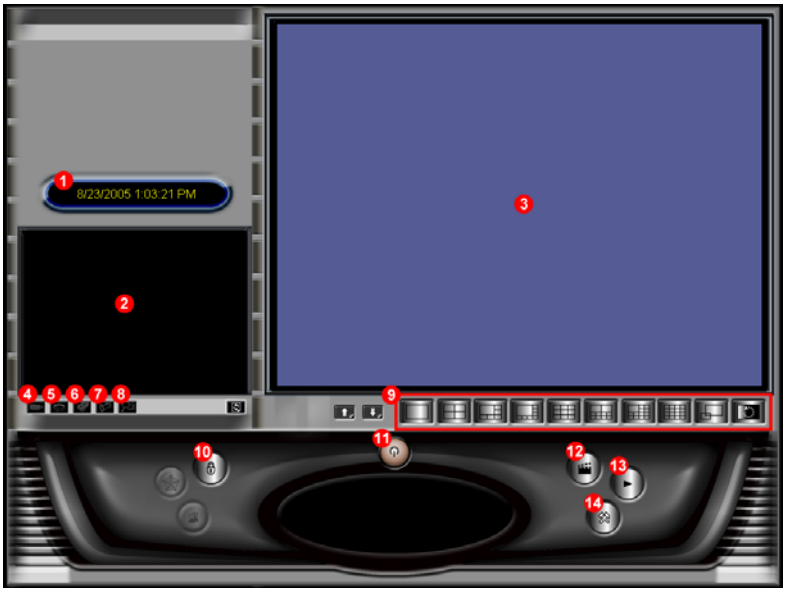
Step 6 Click ***Finish*** to complete the installation.



6.2 Getting Started

This section describes the User Interface of IPView Pro, with detailed procedures for using the application.

To launch IPView Pro, click **Start** > **Programs** > **IPView Pro** > **IPView Pro**. The main screen will appear as below:



NOTE: *IPView Pro requires the system's resolution setting up to 1024x768. Please configure the resolution to 1024x768 or higher; otherwise, it may shows incomplete screen when launching the program.*

Item Feature

NO.	Item	Description
1	**Date/Time**	Show current date/time.
2	**Status Mode Window**	Show the camera's status in this window. Click the ***Change Status Mode*** button ( ) on the right lower corner of the window to change the display mode:  **Camera list mode** **Camera information mode**
3	**View Window**	Show the camera's view in this window.
4	**Connect/ Disconnect**	Click to connect/disconnect the camera.

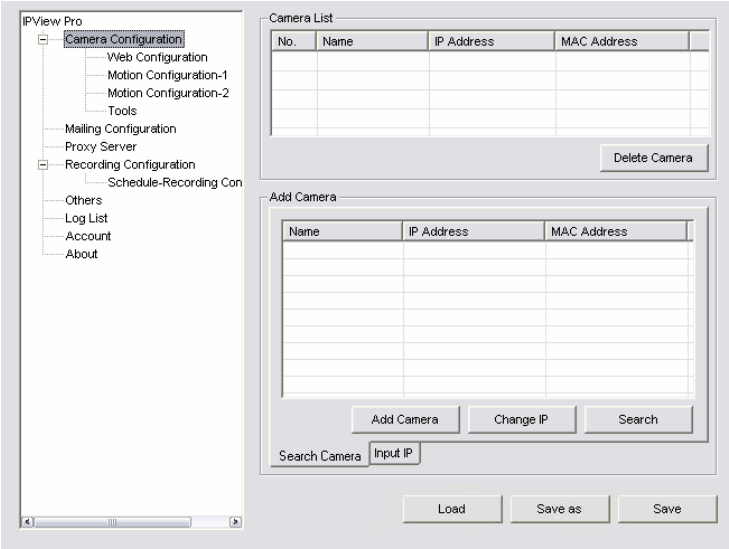
5	**Rotate image angle**	Click to rotate the image shown in the View Window.
6	**Snapshot**	Click to capture a still image from the View Window.
7	**Audio ON/OFF**	Click to turn on/off the camera's audio.
8	**Zoom Mode**	Click to zoom in/out the image in the View Window.
9	**View Mode Buttons**	Select the view mode from these buttons.  Show one camera in View Window.  Show four cameras in View Window.  Show six cameras in View Window with the first one as the major view.  Show eight cameras in View Window with the first one as the major view.  Show nine cameras in View Window.  Show ten cameras in View Window with the first two as the major views.  Show thirteen cameras in View Window with the first one as the major view.  Show sixteen cameras in View Window.  Show the selected camera in full screen view.  Enable displaying the video views in circles.
10	**Key Lock Button**	Click to lock/unlock the camera. When locked, the user cannot operate any camera.
11	**Power Button**	Click to exit or minimize IPView Pro.
12	**Record Button**	Record video clip of the selected camera and save it in the computer. The storage position can be configured in System Configuration. When you click the button, you can select ***Manual Record***, ***Schedule Record***, or ***Motion Record***.
13	**Play Button**	Play the recorded video file in the computer.
14	**System Configuration**	Click to enter the System Configuration.

6.3 Using IPView Pro

Adding a Camera

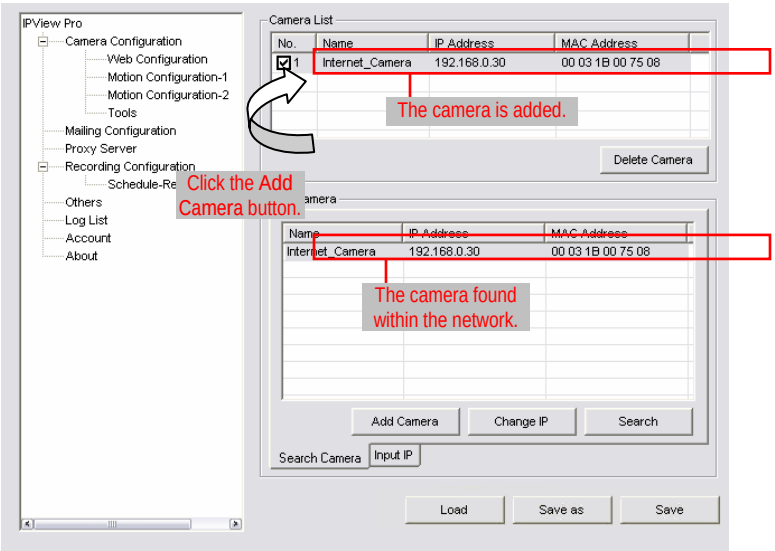
To add a camera:

1. Click the ***System Configuration*** button to enter the System Configuration.



If you are not sure of the camera's IP address, you can click ***Search*** to search the available camera(s) within the network.

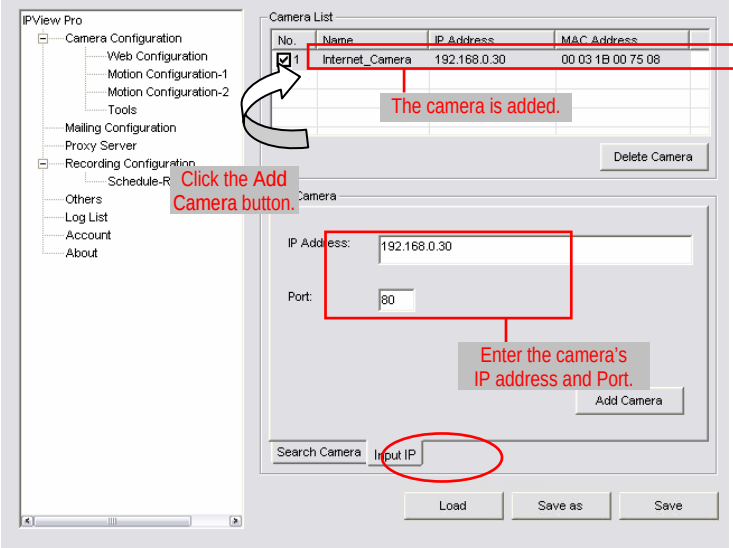
2. Select the camera you want by highlighting it, and then click ***Add Camera***.



3. Click ***Save***, and then click the ***System Configuration*** button to return to View Window. The selected camera's video will be displayed now. You can click ***Save as*** to save the selected cameras into the desired path and the selected cameras can be reloaded by ***load*** button.

Alternately, you can add a camera by entering the its IP address directly:

4. Select the **Input IP** tab.

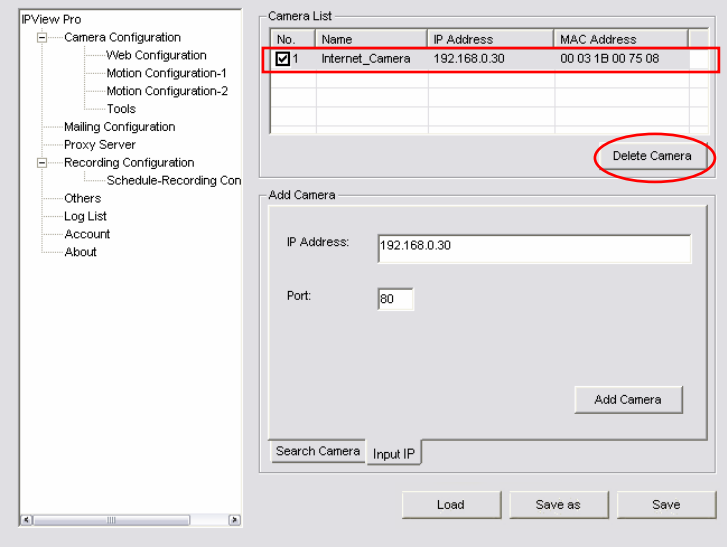


5. Enter the camera's IP address (you can get this from the AirLink101 camera setup wizard application) and Port (default: 80), and then click ***Add Camera***.
6. Click ***Save***, and then click the ***System Configuration*** button to return to View Window. The selected camera's video will be displayed now.

Removing a Camera

To remove the camera from the list:

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

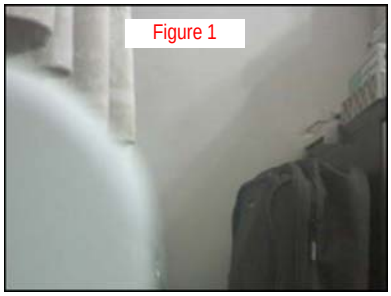


Viewing a Camera

From the View Modes of the panel, you can select one-camera mode or other modes to display your video. IPView Pro allows a maximum of 16 cameras for viewing.

For example, if you use only one camera, select one-camera mode ( ), and the View Window will display the view as *figure 1*.

If there are four cameras, select four-camera mode ( ), and the View Window will display the view as *figure 2*.



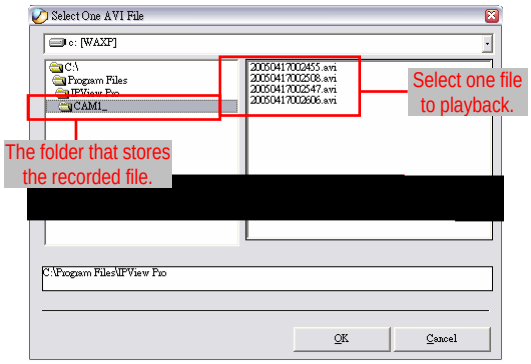
Recording Video

IPView Pro allows you to record the video clip and save it in your computer through the following methods: **Manual Record**, **Schedule Record**, and **Motion Record**.

When you click the ***Record*** button and select **Manual Record**, it will start recording. Click the button again to stop. If you select **Schedule Record** or **Motion Record**, the system will record the video clip according to the settings in System Configuration.

Playing Recorded Video

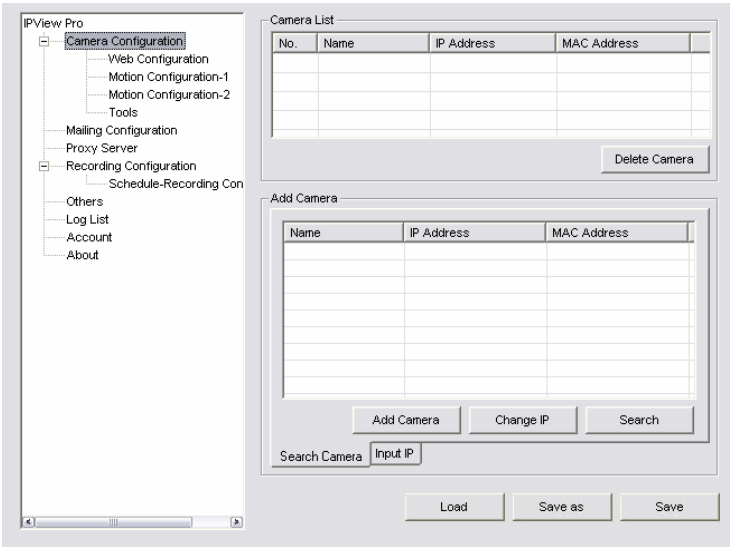
The recorded video clips are saved in your computer, and can be played using Windows Media Player. To start playback, simply click the ***Play*** button on the panel, and the following dialog screen will appear, allowing you to select the file to playback.



Select the recorded file in the computer, and then click ***OK***.

6.4 Configuring the System

Clicking the ***System Configuration*** button on the panel allows you to configure the system settings, and the **System Configuration Screen** will appear in the View Window as shown below. Once configured, click ***Save*** to save the settings, and then click the ***System Configuration*** button again to exit configuration.



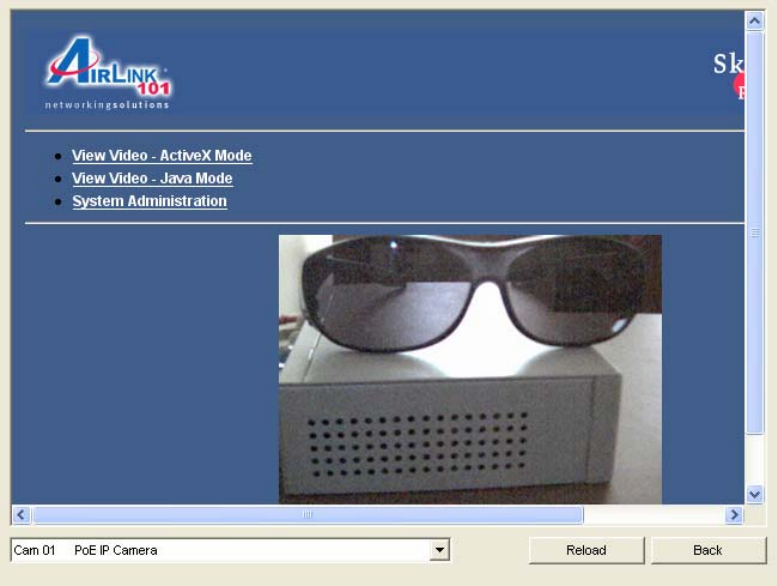
System Configuration Screen

Camera Configuration

In this field, you can add/delete the camera (as described in the previous section). Also, you can configure the following settings:

Web Configuration

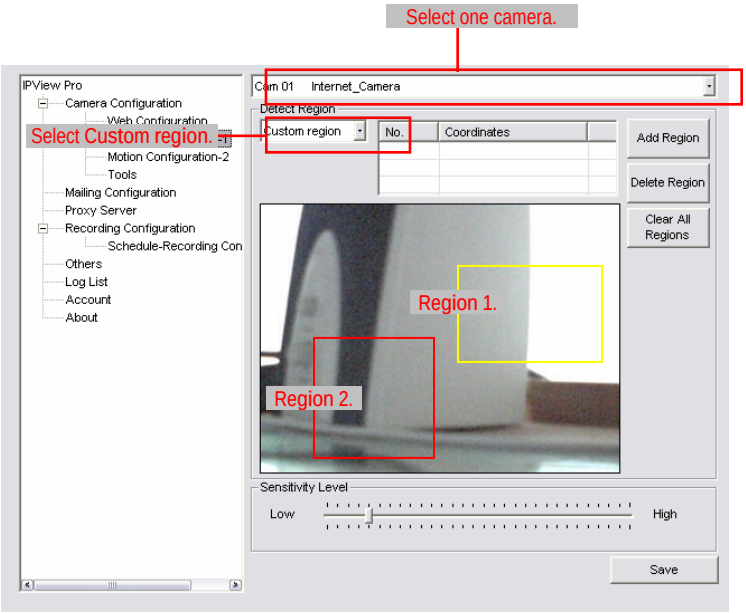
In the left column, selecting the **Web Configuration** item will launch the Web Configuration Utility in View Window.



You can configure these settings according to the description in ***Chapter 5, Using the Camera***. Click ***Back*** to exit the Web Configuration Utility.

Motion Configuration-1

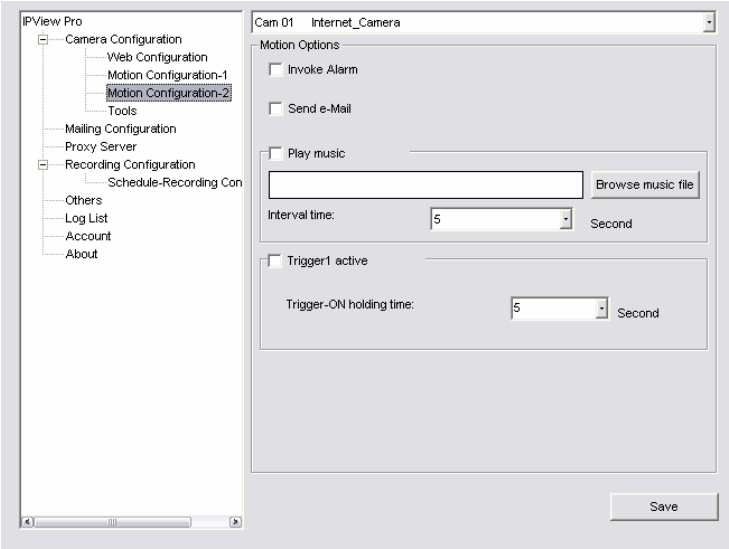
The **Motion Configuration-1** item provides the commands for motion detection control. Before configuring, you should select one camera from the pull-down menu.



- **Detect Region:**
  - **Full picture –** When you select this option, the camera will monitor the whole area.
  - **Custom region –** Click **Add Region**, and then use mouse to draw an area in the view screen; when some motion detected within the area, the camera starts recording automatically. You can set multiple areas in the view screen. Click **Delete Region** to remove the area selected. Click **Clear All Region** to remove all areas in the view screen.
- **Sensitivity Level:** Move the slide bar to adjust the sensitivity level for detecting motion to record video.

Motion Configuration-2

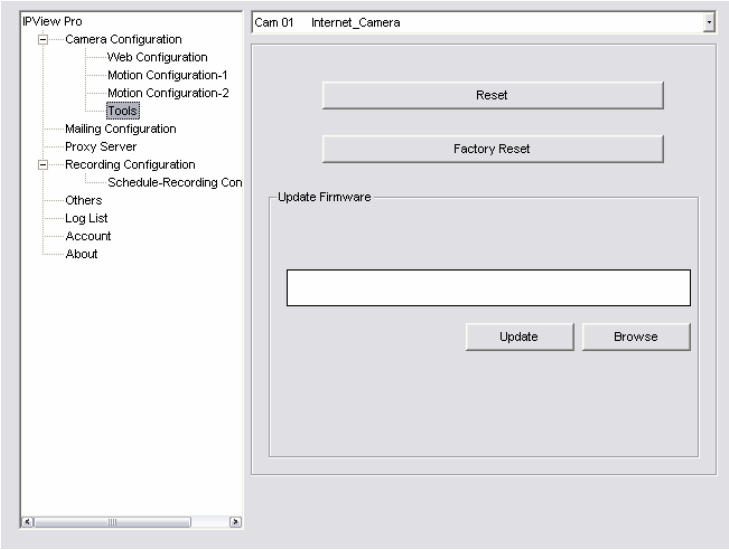
The **Motion Configuration-2** item allows you to configure to the alarm and e-mail setting.



- **Invoke Alarm:** Select this option to enable alarm when some motion detected by the system.
- **Send e-mail:** When this option is checked, click the **Mailing Configuration** in the left column to enter the required information (see the following section).
- **Play music:** You can use the music file to alert the event. Click ***Browse music file*** to select the desired music, and set the **Interval time**.
- **Trigger1 active:** You can check this option to set the **Trigger-On holding time**.

Tools

The **Tools** item allows you to configure to the alarm and e-mail setting.

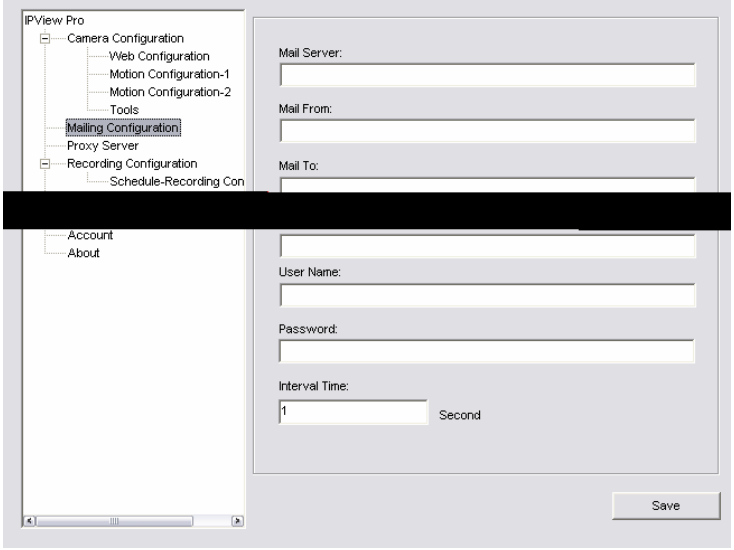


- **Reset:** Restore the original setting of your camera. Do you really want to reset this device? Click ***Yes*** in the pop-up dialog box to confirm.

- **Factory Reset:** Restore the factory default settings of the camera. Do you really want to factory reset this device? Click ***Yes*** in the pop-up dialog box to confirm.
- **Update Firmware:** When new firmware is available, you can upgrade it using this option. Click ***Browse*** to find the firmware file, and then click ***Update***.

Mailing Configuration

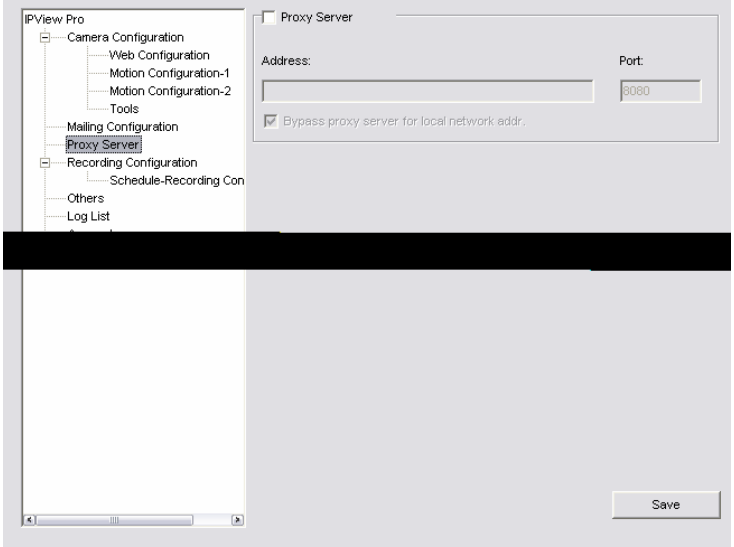
When Motion Detection function is enabled and the **Send e-mail** option is checked, you should enter the required information in the respective fields.



- **Mail Server:** Enter the mail server address that is used to send your e-mail.
- **Mail From/To:** Enter the sender's/receiver's e-mail address.
- **Subject:** Enter the title of the e-mail.
- **User Name/Password:** Enter the user name/password to login the mail server.
- **Interval Time:** Enter a number in this box to setup the time (in second) to send e-mail regularly.

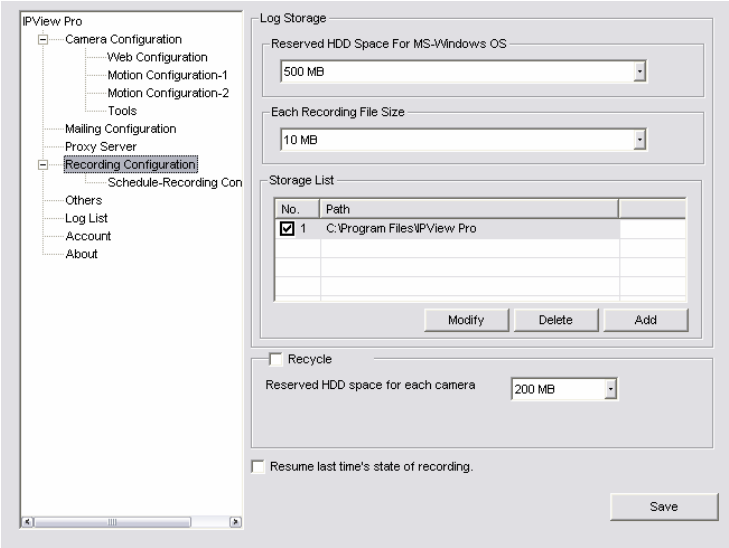
Proxy Server

Check the Proxy Server option and enter the required settings in the **Address** and **Port** boxes to enable and use the Proxy Server function.



Recording Configuration

In this field, you can configure the storage settings.



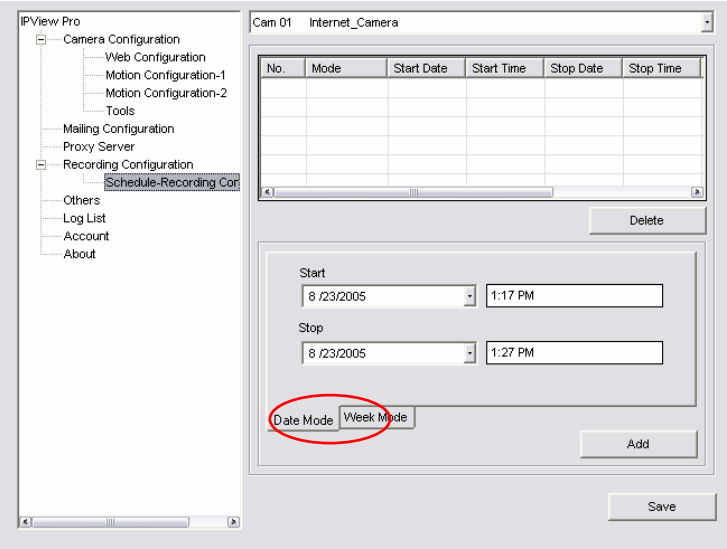
- **Log Storage:**
  - **Reserved HDD Space For MS-Windows OS –** You can reserve **500 MB** to **10000 MB** hard disk space for the program.
  - **Each Recording File Size –** If the recorded video files reach the file size limit, video images will be recorded into another file automatically. The available settings are from **10 MB** to **50 MB**.
  - **Storage List –** The destination folder to save the recorded video file can be specified here. Click ***Modify*** to change the current path setting; click ***Add*** to add a new destination

folder; click ***Delete*** to remove a selected path setting. Please note that you are not allowed to delete a path setting if there is only one setting in the list.

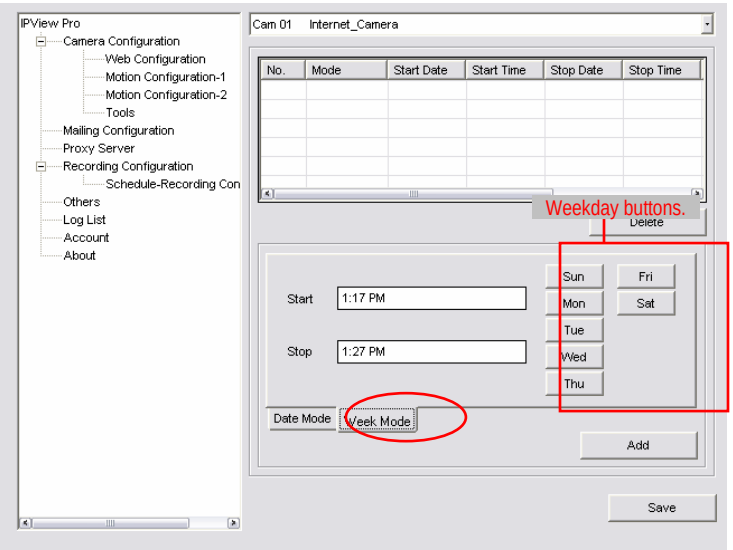
- **Recycle:** You can check this option to clear the files when the unreserved space of your hard disk is filled. The available settings are from **200 MB** to **50000 MB**.
- **Resume last time's state of recording:** You can check this option to store the recording state, and resume the recording state on the next time you record.

Schedule-Recording Configuration

This recording function will work after you have enabled respective settings in the Schedule mode. The recording schedule can be defined by **Date Mode** or **Week Mode**.



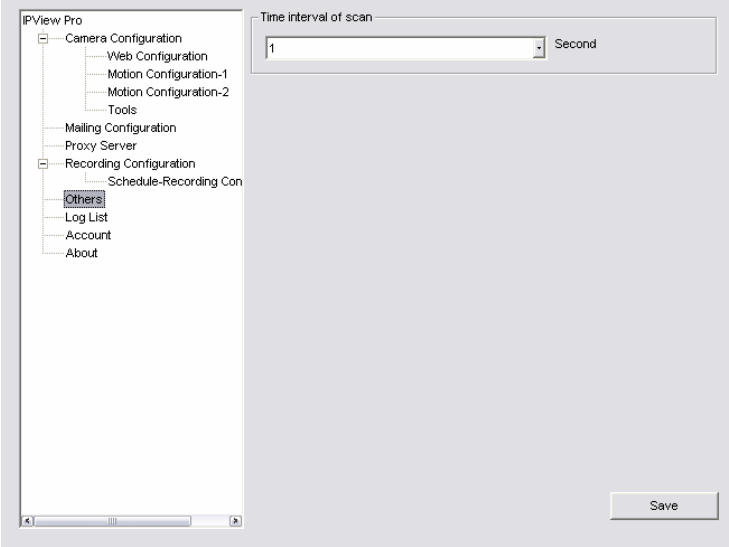
- **Date Mode:** First, select the camera desired from the pull-down menu. Then, setup the time in the **Start**/**Stop** fields. Click ***Add*** to add the recording schedule to the list. Click ***Save*** to save the settings.



- **Week Mode:** First, select the camera desired from the pull-down menu. Then, setup the time in the **Start**/**Stop** fields, and select the weekday from the buttons. Click ***Add*** to add the recording schedule to the list. Click ***Save*** to save the settings.

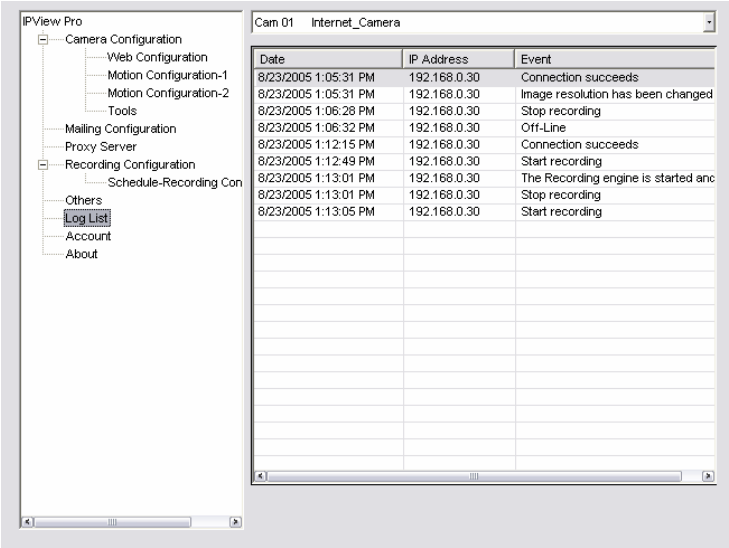
Others

When multiple cameras connected, this option allows the system to display these views as the main view in circles according to your time settings. The range of **Time interval of scan** is from **1** to **20** seconds.



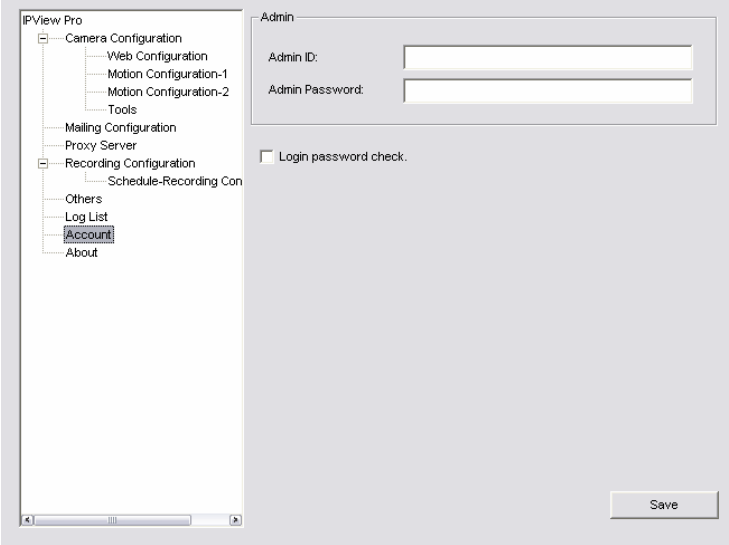
Log List

This filed displays the user(s) information, which include the Date, MAC address, and the brief description of events.



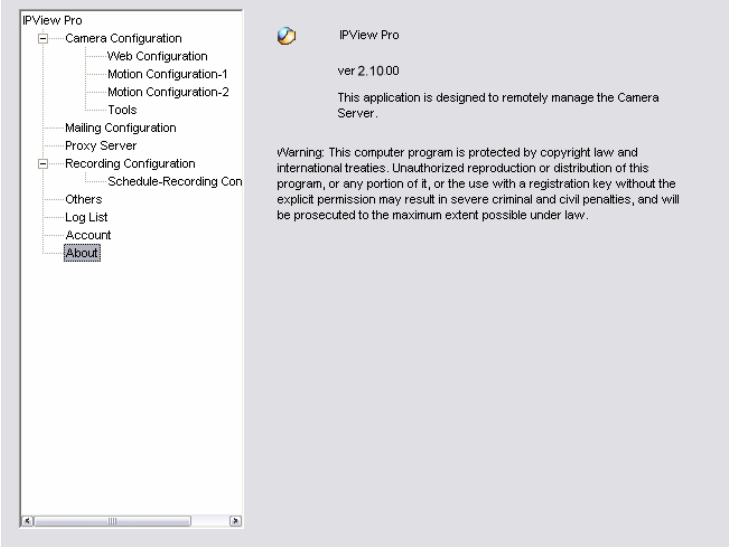
Account

This filed allows you to set the **Admin ID** and **Admin Password**. You can also check the **Login password check** option to secure your camera by checking the login password.



About

This filed provides information of the software application.



7. Appendix

7.1 Frequently Asked Questions

SkyIPCam310 Features

Q: What is a Network Camera?
A: The Network Camera (Internet Camera) is a standalone system connecting directly to an Ethernet or Fast Ethernet network. It is different from the conventional PC camera, the SkyIPCam310 is 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 SkyIPCam310 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 can be allowed to access the SkyIPCam310 simultaneously?
A: Maximum number of users that can log onto the SkyIPCam310 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.

Q: What algorithm is used to compress the digital image?
A: The SkyIPCam310 utilizes the JPEG image compression technology providing high quality images for users. JPEG is adopted since it is a standard for image compression and can be applied to various web browser and application software without the need to install extra software.

SkyIPCam310 Installation

Q: Can the SkyIPCam310 be used out-doors?
A: The SkyIPCam310 is not weatherproof. It needs to be equipped with a weatherproof case to be used outdoors and it is not recommended.

Q: What network cabling is required for the SkyIPCam310?
A: The SkyIPCam310 uses Category 5 UTP cable allowing 10 Base-T and 100 Base-T networking.

Q: Can the SkyIPCam310 be setup as a PC-cam on the computer?
A: No, the SkyIPCam310 is a network camera used only on Ethernet and Fast Ethernet network.

Q: Can the SkyIPCam310 be connected on the network if it consists of only private IP addresses?
A: The SkyIPCam310 can be connected to LAN with private IP addresses.

Q: Can the SkyIPCam310 be installed and work if a firewall exists on the network?
A: If a firewall exists on the network, port 80 is open for ordinary data communication. However, since the SkyIPCam310 transmits image data, the default port 8481 is also required.

Therefore, it is necessary to open port 8481 of the network for remote users to access the camera.

7.2 PING Your IP Address

The PING (Packet Internet Groper) command can determine whether a specific IP address is accessible by sending a packet to the specific address and waiting for a reply. It can also provide a very useful tool to confirm if the IP address conflicts with the camera over the network.

Follow the step-by-step procedure below to utilize the PING command. However, you must disconnect the camera from the network first.

Start a DOS window.
Type ping x.x.x.x, where x.x.x.x is the IP address of the camera.

The succeeding replies as illustrated below will provide useful explanation to the cause of the problem with the SkyIPCam310 IP address.

7.3 Troubleshooting

Q: I cannot access the SkyIPCam310 from a web browser.
A1: The possible cause might be the IP Address for the SkyIPCam310 is already being used by another device. To correct the possible problem, you need to first disconnect the SkyIPCam310 from the network. Then run the PING utility (follow the instructions in Appendix B - PING Your IP Address).

A2: Another possible reason is the IP Address is located on a different subnet. To fix the problem, run the PING utility (follow the instructions in Appendix B - PING Your IP Address). If the utility returns “no response” or similar, the finding is probably correct, then you should proceed as follows:

In Windows 98 / 2000 / XP / Vista and Windows NT, double check the IP Address of the SkyIPCam310 is within the same subnet as your workstation.

Click “Start”, “Setting”, “Control Panel”, and the “Network” icon. Select TCP/IP from the “Network” dialog box and from the “TCP/IP Properties” dialog box click “Specify an IP address”. If the camera0 is situated on a different subnet than your workstation, you will not be able to set the IP address from this workstation. To verify make sure the first 3 sections of the IP address of the camera corresponds to the first 3 sections of the workstation. Therefore the IP address of the SkyIPCam310 must be set from a workstation on the same subnet.

A3: Other possible problems might be due to the network cable. Try replacing your network cable. Test the network interface of the product by connecting a local computer to the unit, utilizing a standard Crossover (hub to hub) Cable. If the problem is not solved the camera might be faulty.

Q: Why does the Power LED not light up constantly?
A: The power supply used might be at fault. Confirm that you are using the provided power supply DC 5V for the SkyIPCam310 and verify that the power supply is well connected.

Q: Why does the Link LED not light up properly?
A1: There might be a problem with the network cable. To confirm that the cables are working, PING the address of a know device on the network. If the cabling is OK and your network is reachable, you should receive a reply similar to the following (…bytes = 32 time = 2 ms).

Q: Why does the SkyIPCam310 work locally but not externally?
A1: Might be caused from the firewall protection. Need to check the Internet firewall with your system administrator.

A2: The default router setting might be a possible reason. Need to double check if the configuration of the default router settings is required.

Q: Why does a series of broad vertical white line appears through out the image?
A: A likely issue is that the CMOS sensor becomes overloaded when the light source is too bright such as direct exposure to sunlight or halogen light. You need to reposition the SkyIPCam310 into a more shaded area immediately as this will damage the CMOS sensor.

Q: There is bad focus on the SkyIPCam310, what should be done?
A1: The focus might not be correctly adjusted for the line of sight. You need to adjust the SkyIPCam310 focus manually as described in Adjust SkyIPCam310 Focus.

A2: There is no adaptor fitted with your C-type lens. If you have previously changed the supplied CS-type lens, you may have unintentionally installed a C-type lens without fitting the adaptor first.

Q: Noisy images occur how can I solve the problem?
A: The video images might be noisy if the SkyIPCam310 is used is a very low light environment. To solve this issue you need more lighting.

Q: There is poor image quality, how can I improve the image?
A1: A probable cause might be the incorrect display properties configuration for your desktop. You need to open the Display Properties on your desktop and configure your display to show at least 65'000 colors for example at least 16-bit.

NOTE: *Applying only 16 or 256 colors on your computer will produce dithering artifacts in the image.*

A2: The configuration on the SkyIPCam310 image display is incorrect. Through the Web Configuration Image section you need to adjust the image related parameter for improve images such as brightness, contrast, hue and light frequency. Please refer to the Web Configuration section for detail information.

Q: There are no images available through the web browser?
A: The ActiveX might be disabled. If you are viewing the images from Internet Explorer make sure ActiveX has been enabled in the Internet Options menu. Alternatively, you can use the Java Applet for viewing the required images.

7.4 Adjust SkyIPCam310 Focus

To adjust the focus of the lens, you need to turn the lens slowly in either clockwise or anti-clockwise direction until the desired image appears. DO NOT over turn the lens in either of the directions, as it will be out of focus.

NOTE: *You can further adjust the SkyIPCam310's image quality through System Administration – Image of Web Configuration. Please refer to Web Configuration section for further details.*

Warning

Direct exposure to sunlight may cause permanent damage to the CMOS sensor. Therefore do not expose the SkyIPCam310's lens directly to sunlight. When operation is required in glaring light environment, it is recommended to use an iris lens.

The SkyIPCam310 is designed for indoor usage and if your application requires prolong exposure to sunlight, a sun visor is recommended to protect the SkyIPCam310.

7.5 I/O Terminal Application

Typically used in association with programming scripts for developing applications for motion detection, event triggering, alarm notification via e-mail, and a variety of external control functions. The 6-pin I/O Terminal Block is located on the rear panel and provides the interface to: a photo-coupled switch output, a photo-coupled input, and RS-485 interface. The RS-485 is typically used for pan/tilt/zoom control.

Connector Pin Assignment

PIN No.	FUNCTION	SPECIFICATION
1	RS-485 (+) or (A)	Compliant to RS-485
2	RS-485 (-) or (B)	
3	Photo-Relay INPUT (+)	Active High voltage 9~40VDC
4	Photo-Relay INPUT (-)	Dropout voltage 0 VDC
5	Photo-Relay OUTPUT (Normal Open)	Close circuit current maximum 70 mAAC, or 100 mADC.
6	Photo-Relay OUTPUT (Common)	Output resistance 30 Ohm. Open circuit voltage maximum 240VAC or 350VDC

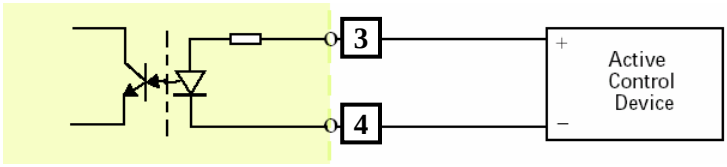
Monitoring and Controlling

By entering http requests in your browser's URL field, you can:

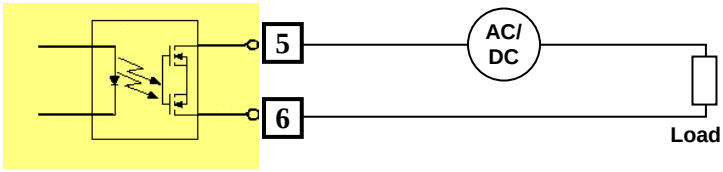
- Monitor the status of digital input
- Drive the output switch on or off
- Control the speed/position of pan/tilt/zoom motors in a swivel stand or a speed dome camera.

Interface Schematic

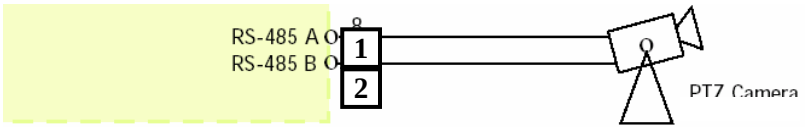
1. Input device (active control device) has independent power supply.



2. Output device (load) is driven by external power supply.



3. RS485 Interface



PTZ Camera

7.6 Specifications

Video specification

Resolution:	640 x 480 pixel
Sensor:	Color CMOS sensor
Lens:	f: 6.0 mm, F: 1.8
Gain control:	Automatic
Exposure:	Automatic
White Balance:	Automatic

Image (Video Setting)

Compression:	M-JPEG
Image frame rate:	CIF, QCIF, VGA @ 30fps Support different frame rate for different connections depending on connection bandwidth: Lowest/Low/ Medium/High /Highest
Compression rate:	Auto/20/15/10/7/4/1
Frame rate:	160x120/320x240/640x480
Video resolution:	Outdoor/Indoor/50Hz/60Hz

Audio

MIC Input:	Internal MIC (mono)
Compression:	ADPCM/PCM

Hardware Interface

LAN Connector:	One RJ-45 port, 10/100M auto-sensed, Auto-MDIX
Communication protocol:	HTTP, FTP, TCP/IP, UDP, ARP, ICMP, DHCP, PPPoE, DDNS, SMTP, UPnP
CPU:	ADMtek 5120
RAM:	16MB
Flash ROM:	4MB
Power Supply:	5VDC/2.5A, 100~240VAC, 50/60Hz
Power consumption:	6 Watt max.
LED Indicator:	Power LED (Blue) Activity LED (Orange)
I/O port pin assignment:	
Input:	1 set, 2-pin (photo relay; Active High: 9~40VDC; Dropout: 0 VDC)
Output:	1 set, 2-pin (photo relay, Close circuit current: 70mA or 100mA; 30Ohm; Open circuit voltage: 240 VAC or 350VDC)
RS-485:	Half duplex (to control external pan/tilt device)

Software

Browser:	Internet Explorer 5.0 or above; Netscape 6.0 or above
Application Software:	IPView Pro

Operating environment

Operating temperature:	$5^{O}C$ ~ $40^{O}C$
Storage temperature:	$-25^{O}C$ ~ $50^{O}C$
Humidity:	5% ~ 95%, non-condensing

EMI

FCC and CE

Technical Support

E-mail: support@airlink101.com

Toll Free: 1-888-746-3238

Web Site: www.airlink101.com

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