ICS303C

CMOS MJPEG Wireless Network Camera

Advanced Installation Guide

Version 1.0

PREFACE

Thank you for purchasing the ICS303C, a powerful and high-quality image network camera. 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 PC.

This *Advanced Installation 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 **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.

Contents

CHAPTER 1

INTRODUCTION TO YOUR CAMERA

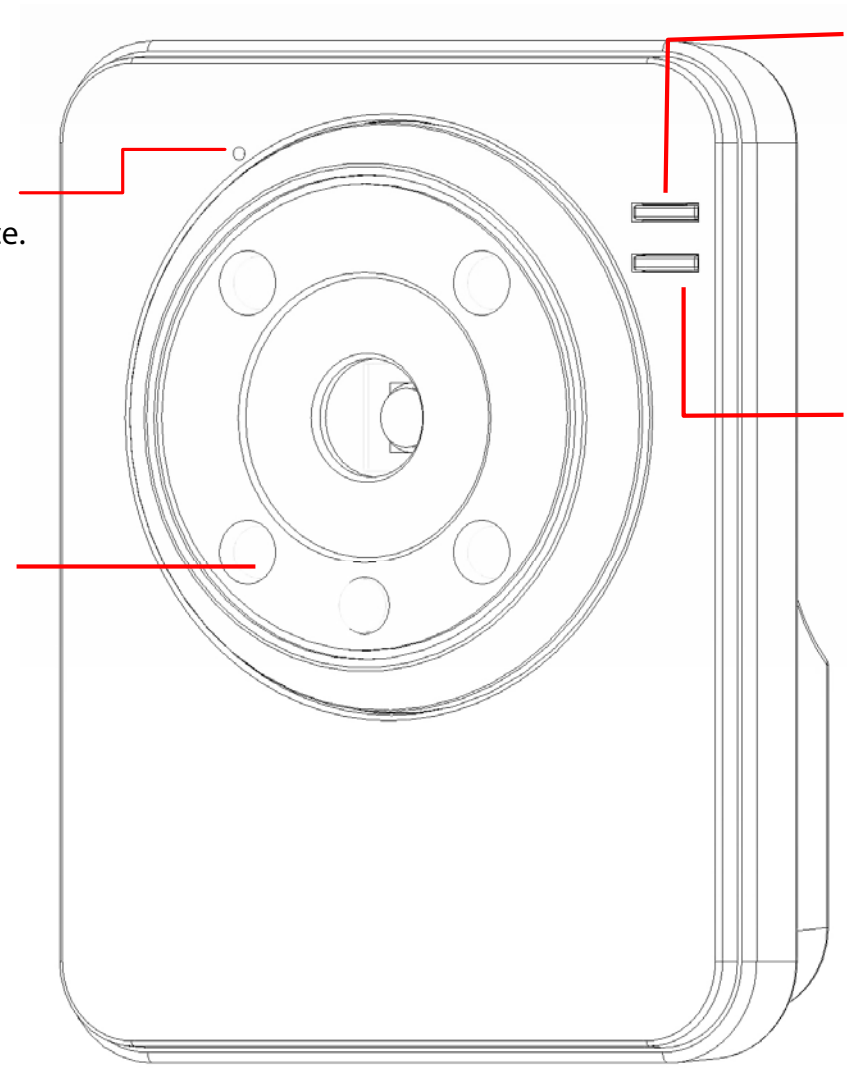
1.1 Checking the Package Contents

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

- ☑ One ICS303C.
- ☑ One AC Power Adapter.
- ☑ One Camera Stand.
- ☑ One Ethernet Cable (RJ-45 type).
- ☑ One Installation CD-ROM.3
- ☑ One *Quick Installation Guide*.

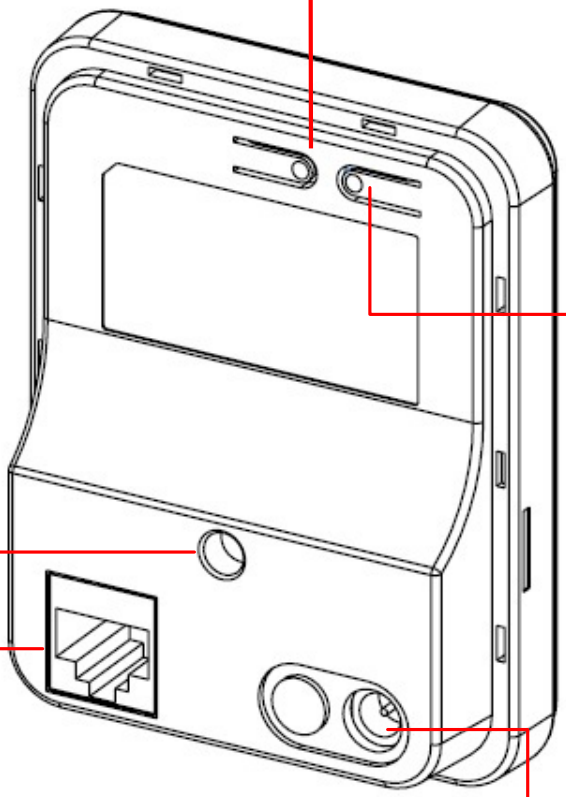
NOTE Once any item contained is damaged or missing, contact the authorized dealer of your locale.

1.2 Getting to Know Your Camera



Front View

WPS Button* (for wireless model)
is used to protect your wireless network and for easy wireless connection setup.



Screw Hole is used to connect the camera stand.

Reset Button will restart the camera when it is pressed quickly; when it is long pressed for five seconds, the camera will resume the factory default settings.

Ethernet Cable Connector
is used to connect the network cable, which supports the NWay protocol so that the camera can detect the network speed automatically.

DC Power Connector
is used to connect the AC power adapter, in order to supply power to the camera.

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* For more information of the WPS button, refer to the instruction of the Web Configuration, Network >> Wireless >> WPS Setting.

Rear View

1.3 Features and Benefits

- **MJPEG codec Supported**

  The camera provides you with VGA images by the MJPEG codec technology, allowing you to adjust image size and quality, and bit rate according to the networking environment.

- **1-way 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.

- **Remote Control Supported**

  By using a standard Web browser or the bundled UltraView Pro 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 Vista and Windows 7.

- **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, Auto-MDIX
  - **WLAN**: IEEE 802.11b/g/n
- **Accessing the Camera using Web Browser**
  - **Platform**: Microsoft® Windows® 2000/XP/Vista/Win7
  - **CPU**: Intel Pentium III 800MHz or above
  - **RAM**: 512MB
  - **Resolution**: 800x600 or above
  - **User Interface**: Microsoft® Internet Explorer 6.0 or above; Apple Safari 2 or above; Mozilla Firefox 2.00 or above; Google Chrome
- **Accessing the Camera using UltraView Pro**
  - **Platform**: Microsoft® Windows® XP/Vista/Win7
  - **Resolution**: 1024x768 or above
- **Hardware Requirement:**
  - 1~8 **cameras**: Intel Core 2 Duo 2GB RAM
  - 9~32 **cameras**: Intel Core 2 Quad 4GB RAM

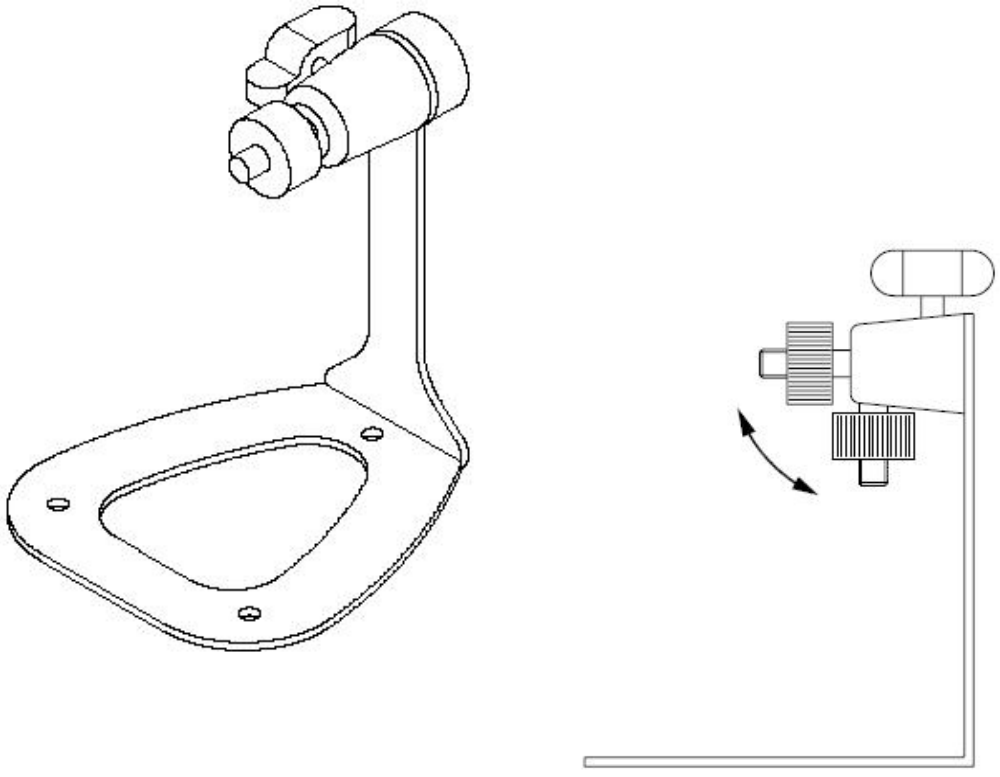
NOTE If you connect multiple cameras to monitor various places simultaneously, you are recommended to use a computer with higher performance.

CHAPTER 2

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.



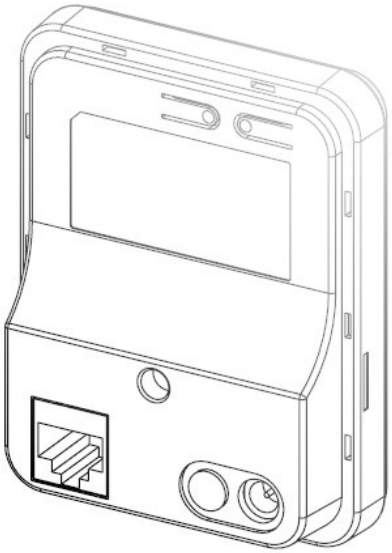
The Camera Stand

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.



Connecting the Ethernet Cable

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.

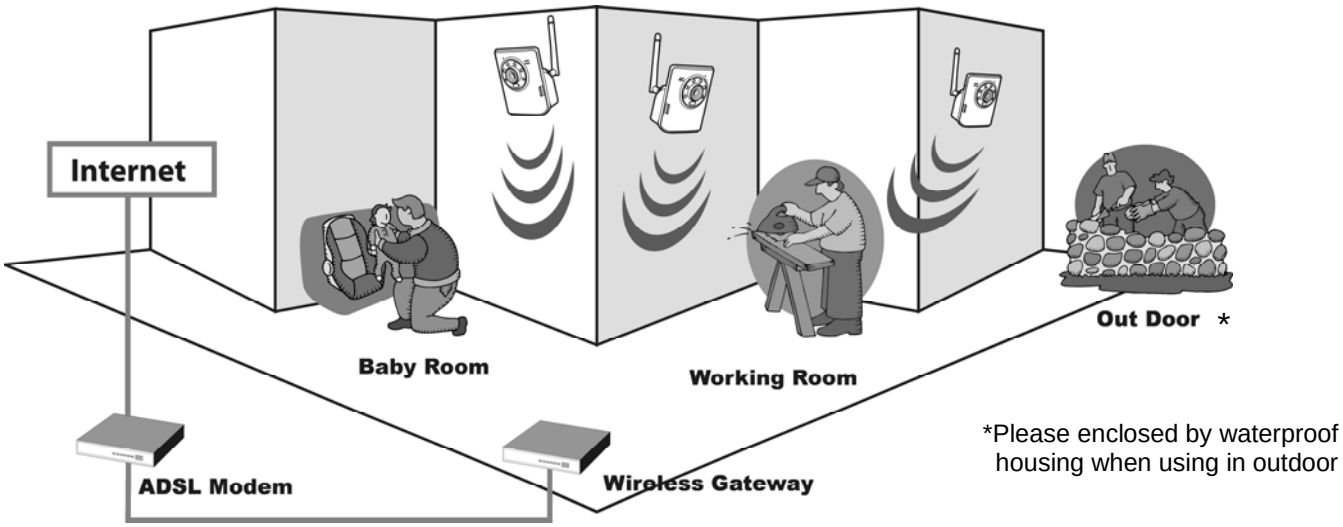
NOTE (for wireless model) If the camera cannot to your wireless network, you need to install the camera in LAN and proceed with WLAN settings.

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.



Home Applications

CHAPTER 3

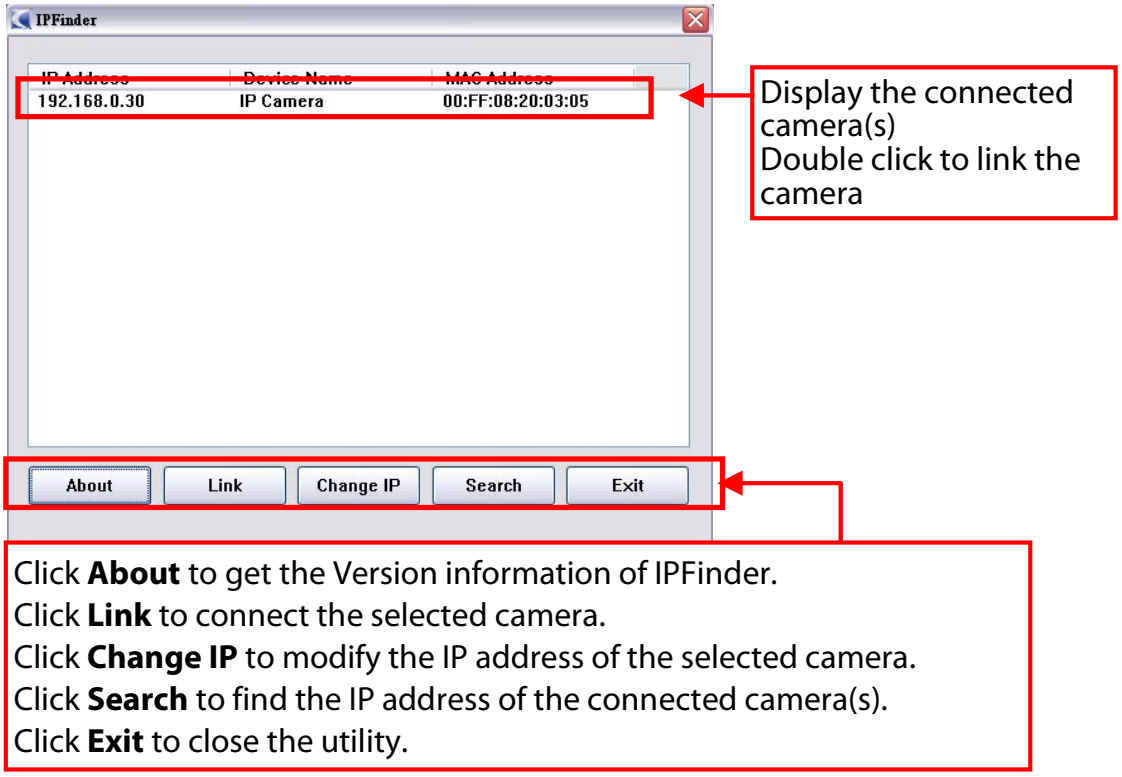
ACCESSING THE CAMERA

3.1 Using IPFinder

The camera comes with a conveniently utility, IPFinder, 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 **IPFinder** item to launch the utility. The control panel will appear as below.



3. Once you get the IP address of the camera, launch the Web browser or UltraView Pro to access your camera.

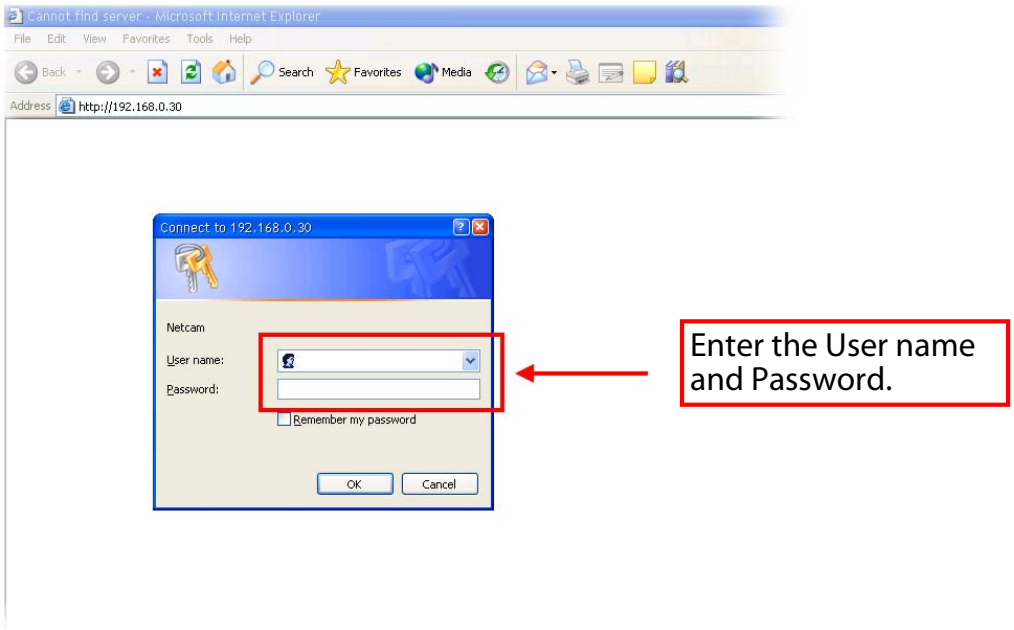
3.2 Accessing to the Camera

Whenever you want to access the camera:

1. Since the default configuration of the camera is DHCP mode enabled, you are recommended to launch IPFinder to search the IP address that is assigned to the camera by the DHCP server, and then click Link to access the camera via the Web browser.

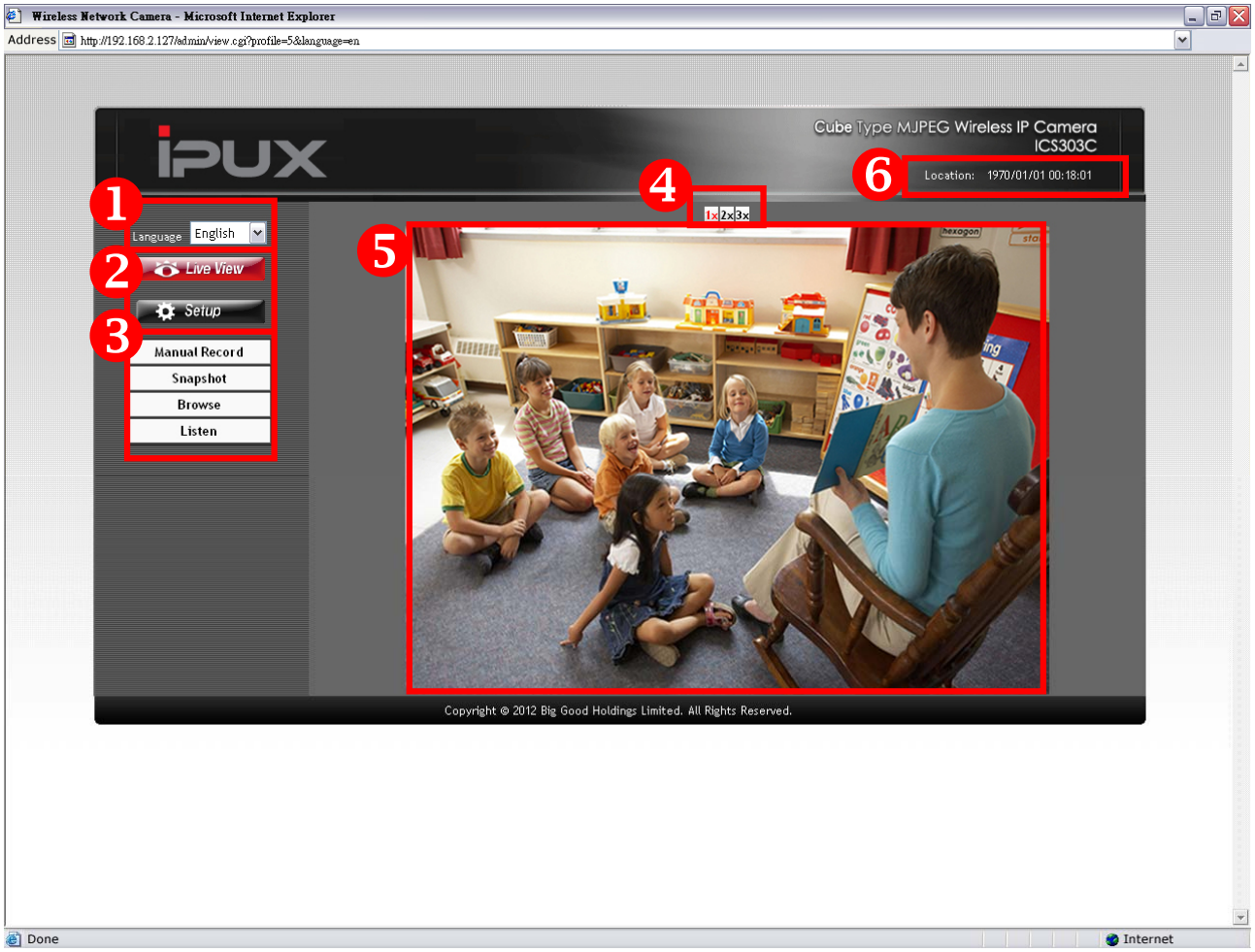
2. If Network Camera can't get IP Address under DHCP mode, the default IP Address will be 192.168.0.30.

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:

1. **Language** – Select your favorite displayed language for the system.
2. **Live View/Setup Switch** – Click Setup to configure the camera. For details, see Chapter 4 and Click the Live View button to return to the Main screen to view the live view image.
3. **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 to receive the on-site sound and voice from the camera.

4. **Zoom In Buttons** – Click the 

buttons to zoom in the live view image by 1x, 2x, and 3x.
5. **Live View Image** – Displays the real-time image of the connected camera.
6. **Camera Information** – Display the camera's location and the current date & time. The information can be modified in the Web Configuration.

NOTE If your PC use Microsoft Vista platform. Maybe you can't find these recorded files what stored by **Snapshot** or **Manual Record**. That you need to disable the protected mode of Security in the IE Browser. Please follow as 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 are failed to access to 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 192.168.0.x (x is 1~254 except 30), and the suggested Subnet mask is 255.255.255.0.
7. When you are finished, click **OK**.

CHAPTER 4

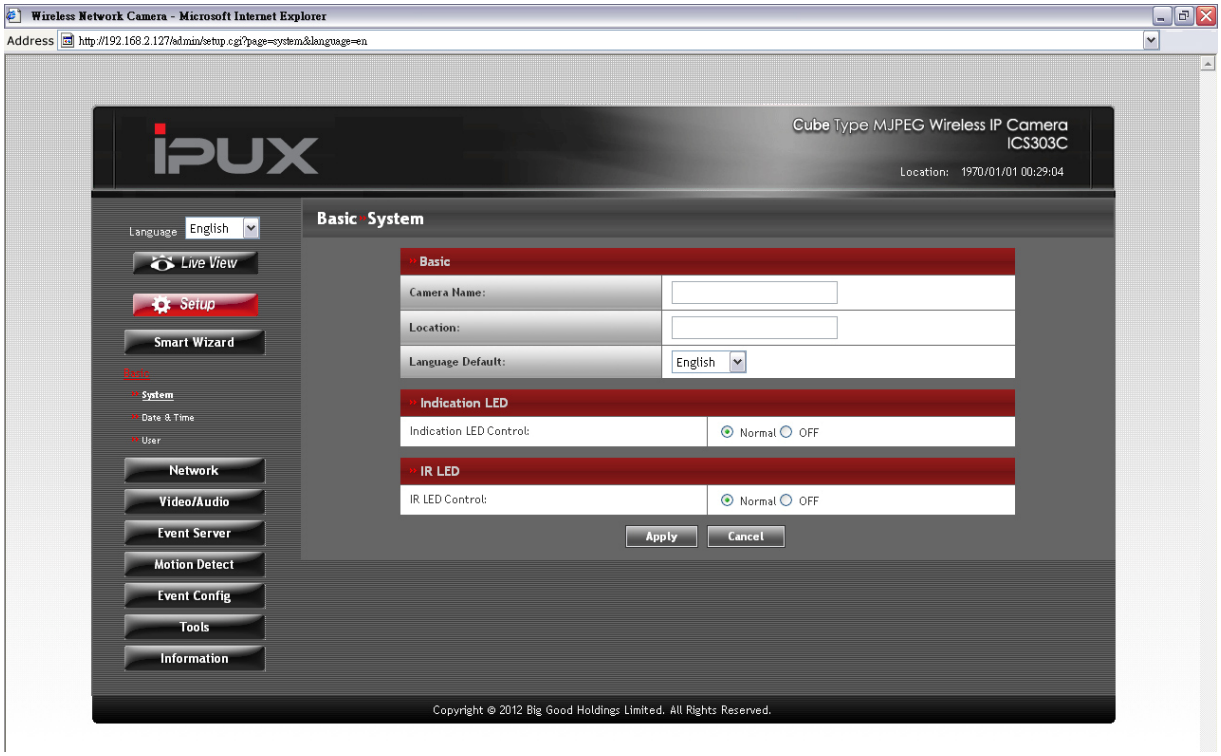
CONFIGURING THE CAMERA

4.1 Using the Web Configuration

You can access and manage the camera through the Web browser and the provided software application UltraView Pro. 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 

on the main page of Web Configuration. The Web Configuration will start from the **Basic** page.



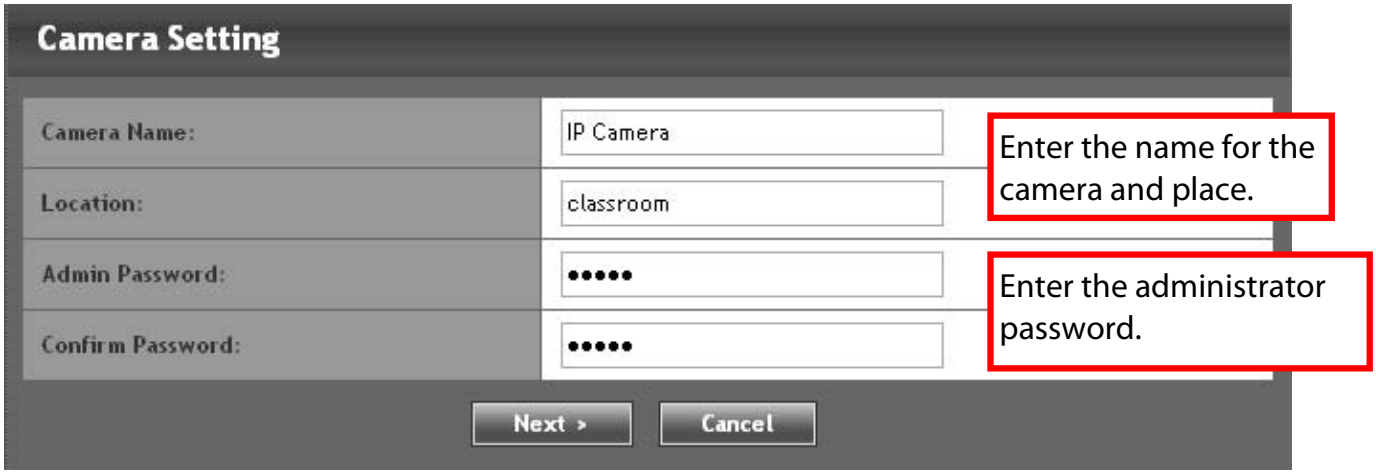
The Web Configuration contains the settings that are required for the camera in the left menu bar, including **Smart Wizard**, **Basic**, **Network**, **Video**, **Event Server**, **Motion detect**, **Event Config**, **Tools**, and **Information**.

4.2 Using Smart Wizard

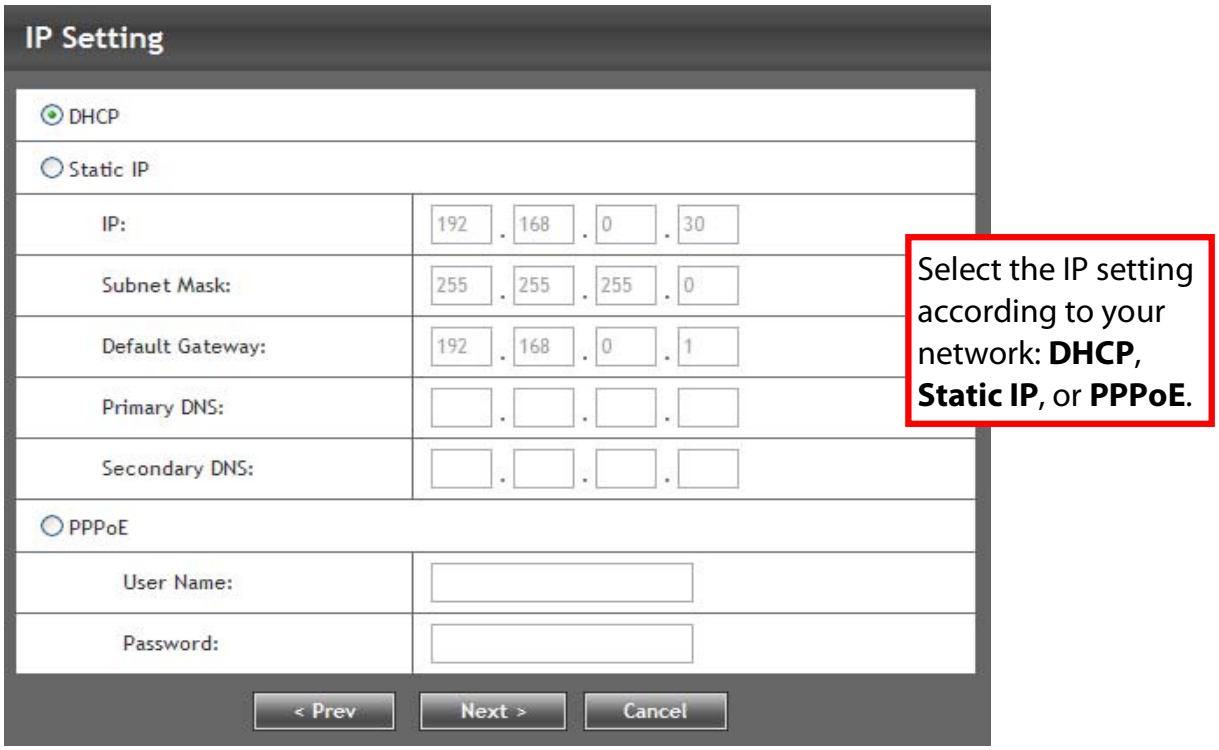
The camera's Smart Wizard lets you configure your camera easily and quickly. The wizard will guide you through the necessary settings with detailed instructions on each step.

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

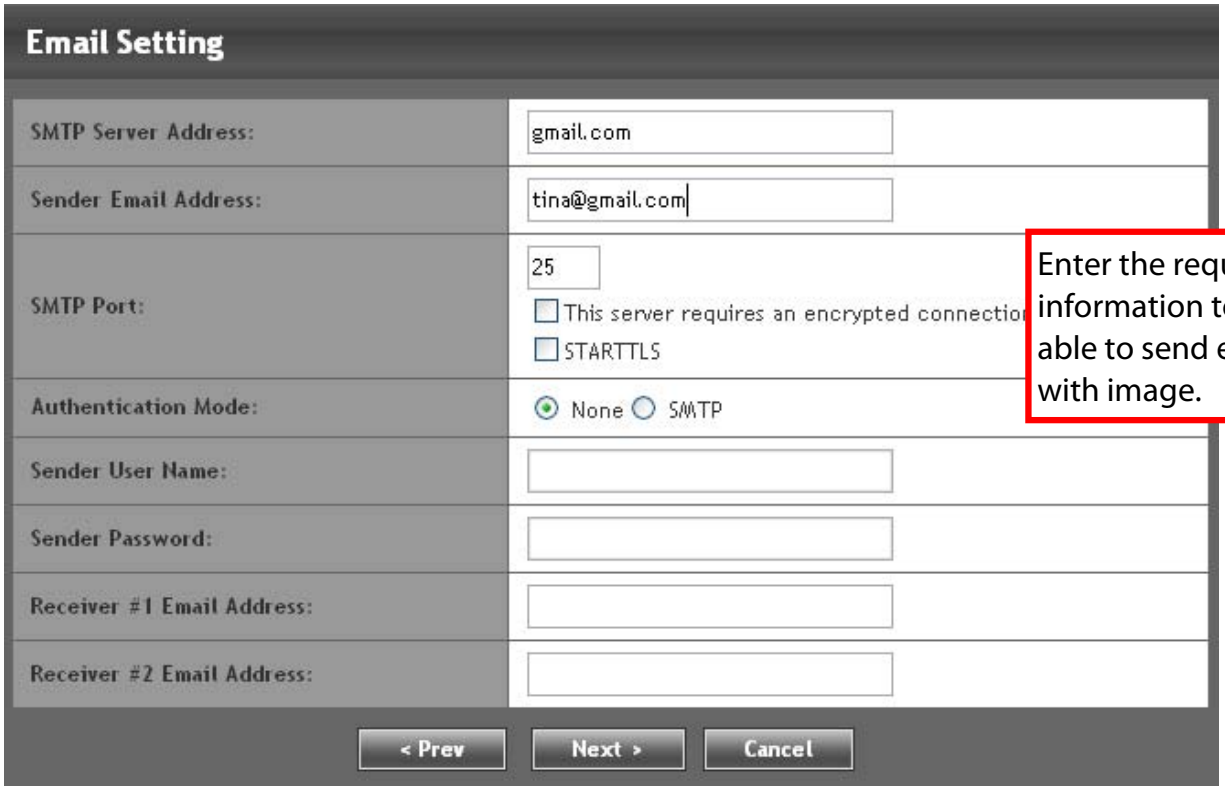
Step 1. Camera Settings



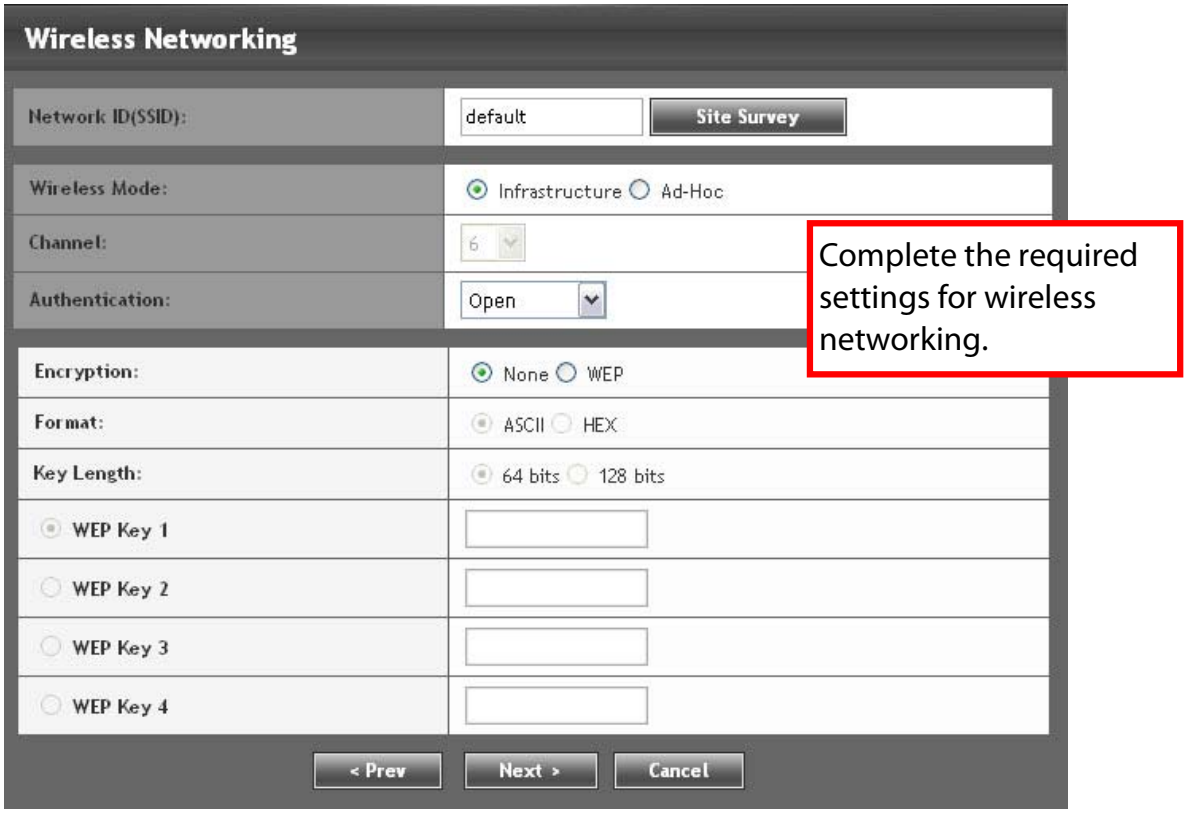
Step 2. IP Settings



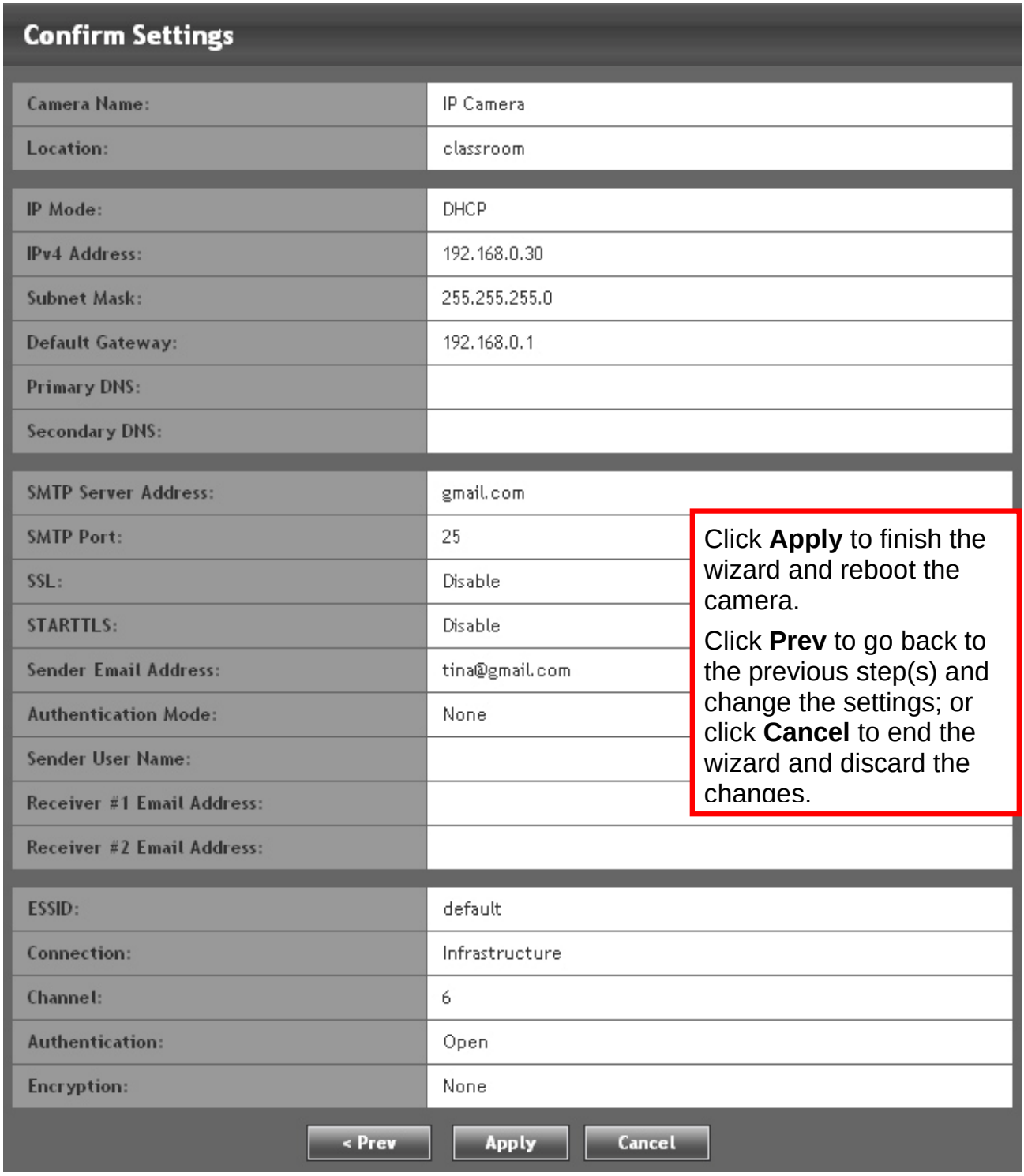
Step 3. Email Settings



Step 4. Wireless Networking (for wireless model)

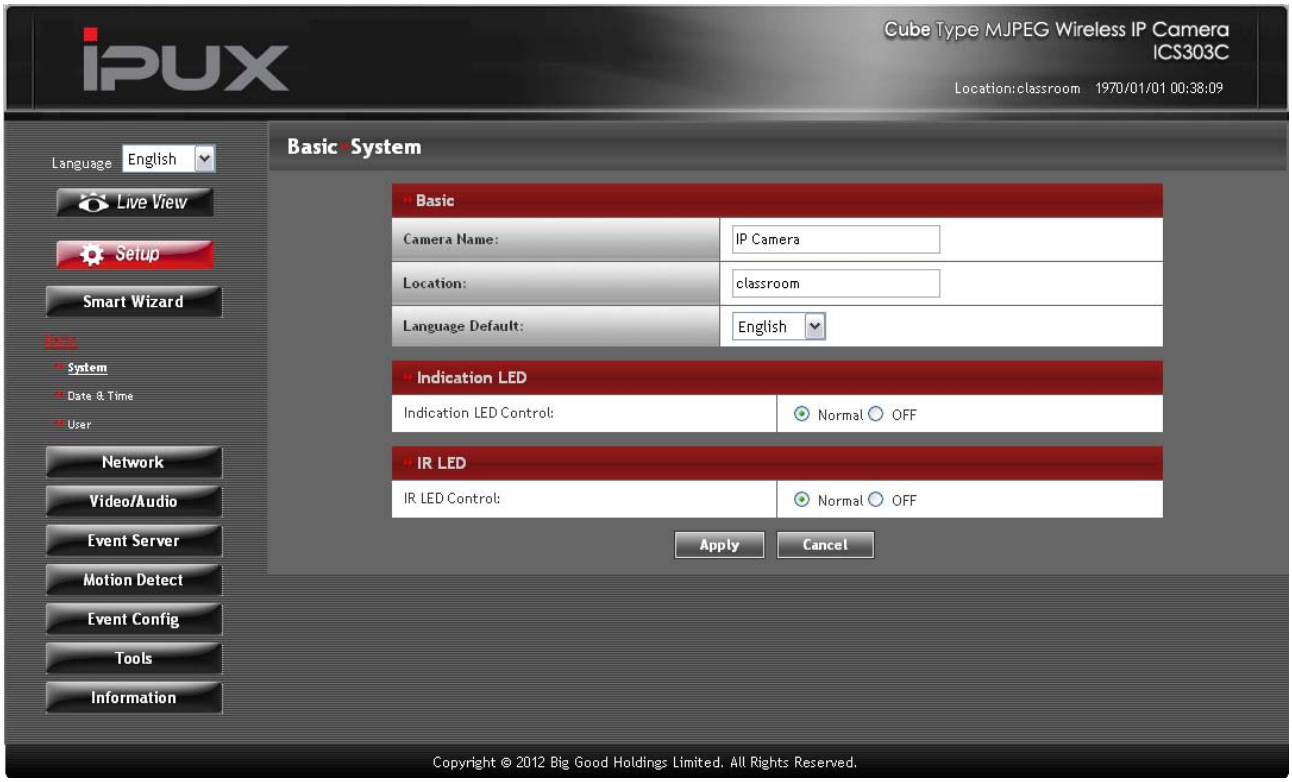


Step 5. Confirm Settings



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.



Basic >> System

- **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

- **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

- **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 **UserList** and click **Add/Modify**.

- **UserList:** 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.
- **UserList:** 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 (for wireless model).

Network >> Network

■ 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 IPFinder to obtain the related setting values.

IP	Enter the IP address of the camera. The default setting is 192.168.0.30.
Subnet Mask	Enter the Subnet Mask of the camera. The default setting is 255.255.255.0.
Default Gateway	Enter the Default Gateway of the camera. The default setting is 192.168.0.1.
Primary/ Secondary DNS	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.

NOTE Here is provided a free of iPUX DDNS service by my.ipux.net. And the Host Name requires within 8 characters in numbers or alphabet in lowercase for process.

■ 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**.

NOTE If the camera is behind an NAT router of firewall, the suggested to be used is from 1024 to 65535.

● HTTPS

- **Enable:** Select this option to enable HTTPS, which is a secure protocol to provide authenticated and encrypted communication within your network.
- **HTTPS Port:** Assign a HTTPS port in the text box. The default HTTPS port is **443**.

Network >> IP Filter

The IP Filter setting allows the administrator of the camera to limit the users within a certain range of IP addresses to access the camera. To disable this feature, select the **Disable** option; otherwise, select the **Accept** option to assign the range of IP addresses that are allowed to access the camera, or select the **Deny** option to assign the range of IP addresses that are blocked to access the camera.

- **Disable:** Select this option to disable the IP Filter function of the camera.
- **Accept**
  - **IPv4:** Assign a range of IP addresses that are allowed to access the camera by entering the **Start IP address** and **End IP address** options. When you are finished, click **Add** to save the range setting. You can repeat the action to assign multiple ranges for the camera.
  - **IPv6:** Enter the **IP Address** that is allowed to access the camera.
- **Deny**
  - **IPv4:** Assign a range of IP addresses that are blocked to access the camera by entering the **Start IP address** and **End IP address** options. When you are finished, click **Add** to save the range setting. You can repeat the action to assign multiple ranges for the camera.
  - **IPv6:** Enter the **IP Address** that is not allowed to access the camera.

For example, when you enter *192.168.0.50/192.168.0.80* in **Start/End IP Address** of **Accept > IPv4**, the user whose IP address located within *192.168.0.50 ~ 192.168.0.80* will be allowed to access the camera. On the other hand, if you enter the IP range in **Start/End IP Address** of **Deny > IPv4**, the user whose IP address located within the range will not be allowed to access the camera.

Network >> Wireless Setting (for wireless model)

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

■ Wireless

- **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.

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:

Open	The default setting of Authentication mode, which communicates the key across the network.
Shared-key	Allow communication only with other devices with identical WEP settings.
WPA-PSK/ WPA2-PSK	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:

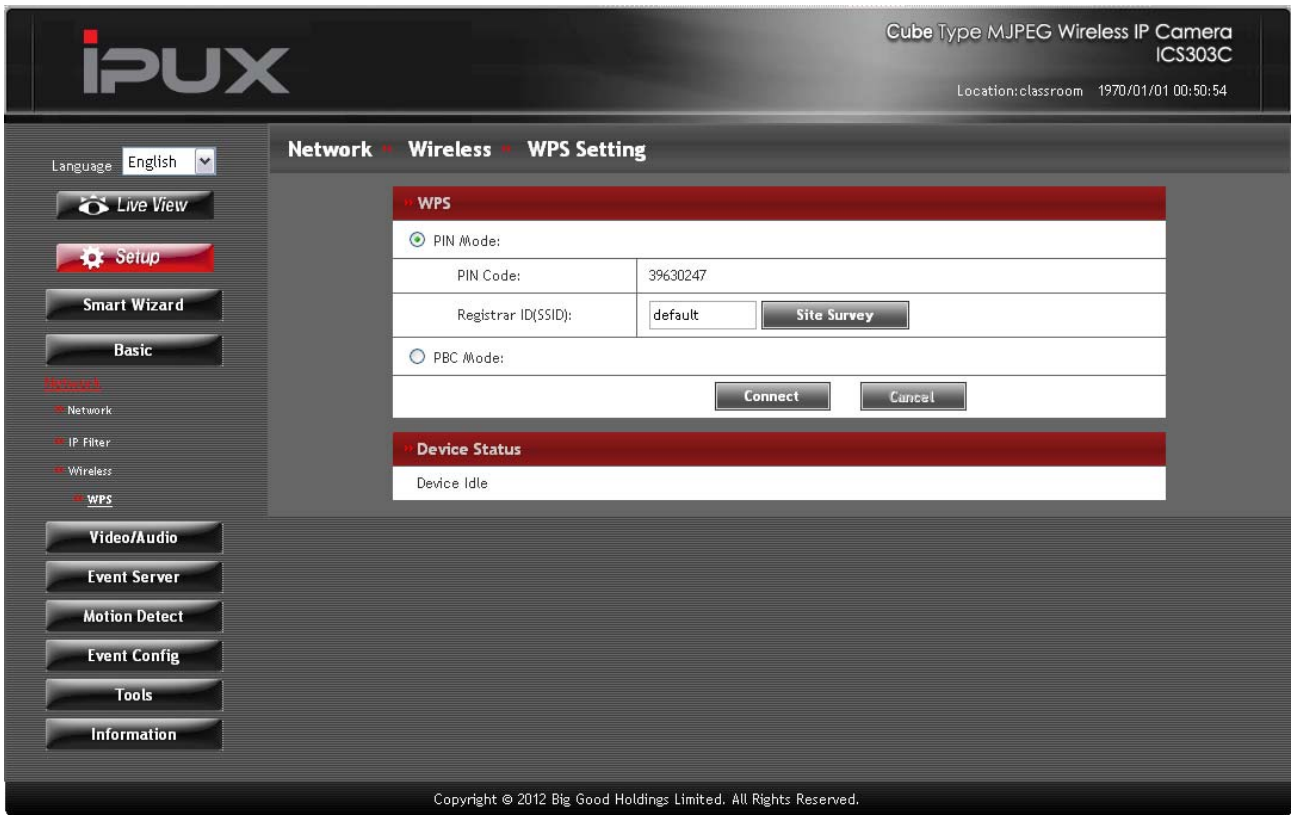
Encryption: Select **TKIP** or **AES**. TKIP (Temporal Key Integrity Protocol) changes the temporal key every 10,000 packets to insure much greater security than the standard WEP security. AES (Advanced Encryption Standard) is used to ensure the highest degree of security and authenticity for digital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

Network >> Wireless >> WPS Setting

WPS (Wi-Fi Protected Setup) sets a new standard of Wi-Fi security, providing a simplified secure network setup solution for the end users. WPS can be enabled by the following two options:

1. PIN Mode
2. PBC Mode (or WPS button on the device, depending on hardware design)



■ **PROTECTED SETUP**

Press the **Reset To Unconfigured** button to reset the WPS configuration of the camera.

■ **WPS**

- **PIN Mode:** The PIN (Personal Information Number) mode builds the connection by entering the PIN Code directly.

a. Click the **PIN Mode** option.
b. Click **Site Survey** button to select the router (or access point) you want to connect.
c. Click the **Connect** button to start WPS function of the camera.
d. You need to enter the PIN Code displayed on the camera to the router (or access point) within **120 seconds** to complete the setup.

- **PBC Mode:** The PBC (Push-Button-Configuration) mode builds the connection by simply pressing a button on the device.

a. Click the **PBC Mode** option.
b. Click the **Connect** button to start WPS function of the camera.

TIP Instead of clicking the **Connect** button of Configuration Utility, you can press the WPS button if the camera is designed with a hardware button of WPS function.

c. You need to press the WPS button on the router (or access point) within **120 seconds** to complete the setup.

■ **Device Status**

Display the WPS configuration of the camera.

TIP The Power LED indicates the WPS connection status by:

- blinking 3 times when the connection is built successfully.
- repeating 3 times of short-short-long blink when the connection is failed.

4.5 Setting up Video & Audio

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

Video & Audio >> Camera

■ 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.

TIP Click **Default** then **Apply** 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** or **60Hz**.

Video & Audio >> Video

■ **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**, **Normal**, **High**, and **Highest**.
- **Frame Rate:** Select a proper setting depending on your network status. The available setting value includes: 5, 10, 15, 20, or 25.

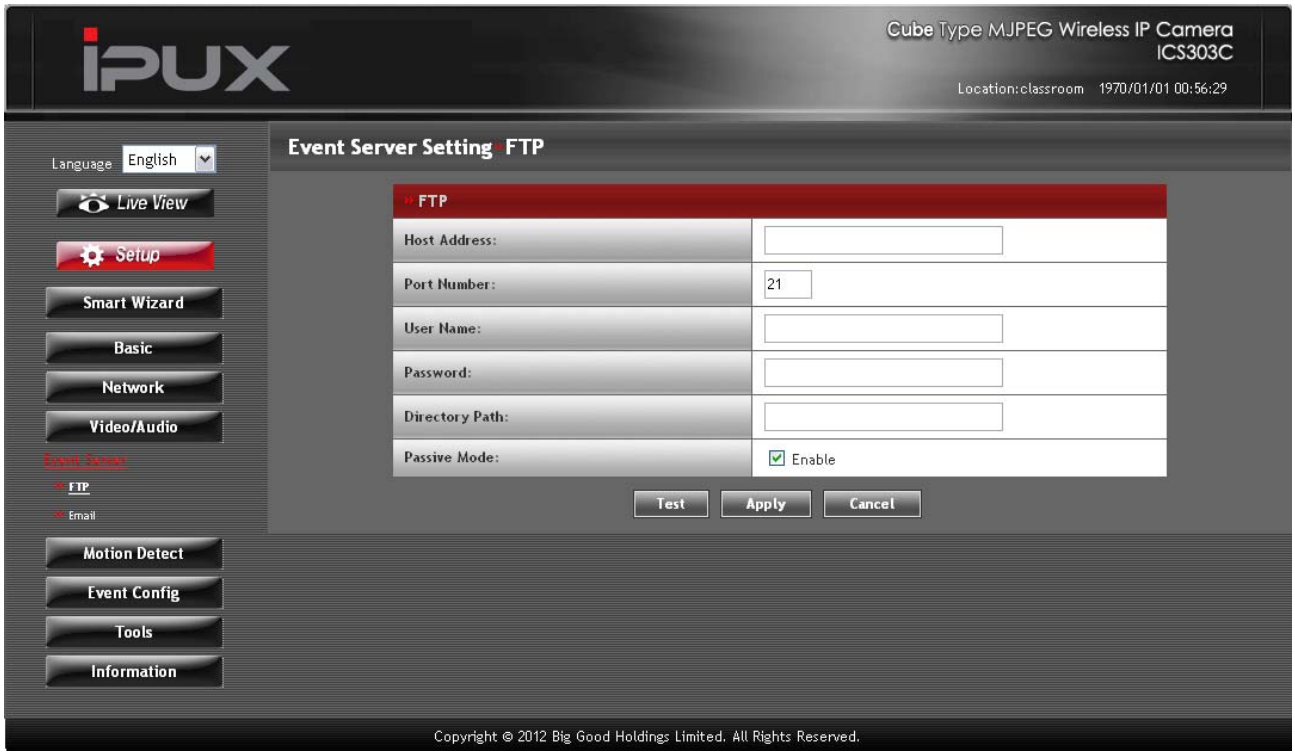
Video & Audio >> Audio

■ **Camera Microphone In:**

- **Enable:** 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.



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

- **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

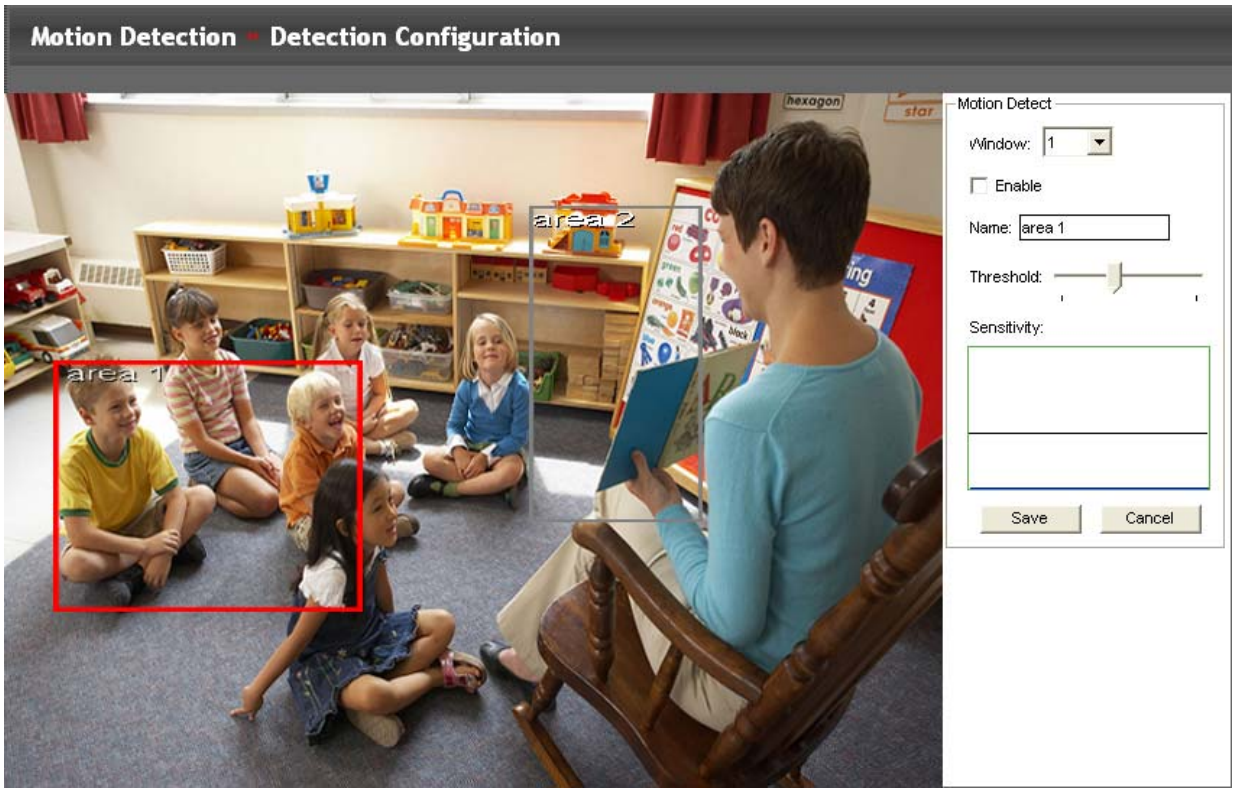
- **Email**
  - **SMTP Server Address:** Enter the mail server address. For example, gmail.com.
  - **Sender Email Address:** Enter the email address of the user who will send the email. For example, tina@gmail.com.
  - **SMTP Port:** Assign the SMTP port in the text box. The default SMTP port is **25**. If the mail server requires an encrypted connection, you should check the **SSL** option. **STARTTTLS** is an extension to plain text communication protocols. It offers a way to upgrade a plain text connection to an encrypted (TLS or SSL) connection instead of using a separate port for encrypted communication.
  - **Authentication Mode:** Select **None** or **SMTP** 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.
- **WAN IP Change Notification:** Select the option to enable the system to notify you when the WAN IP address changed.

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.

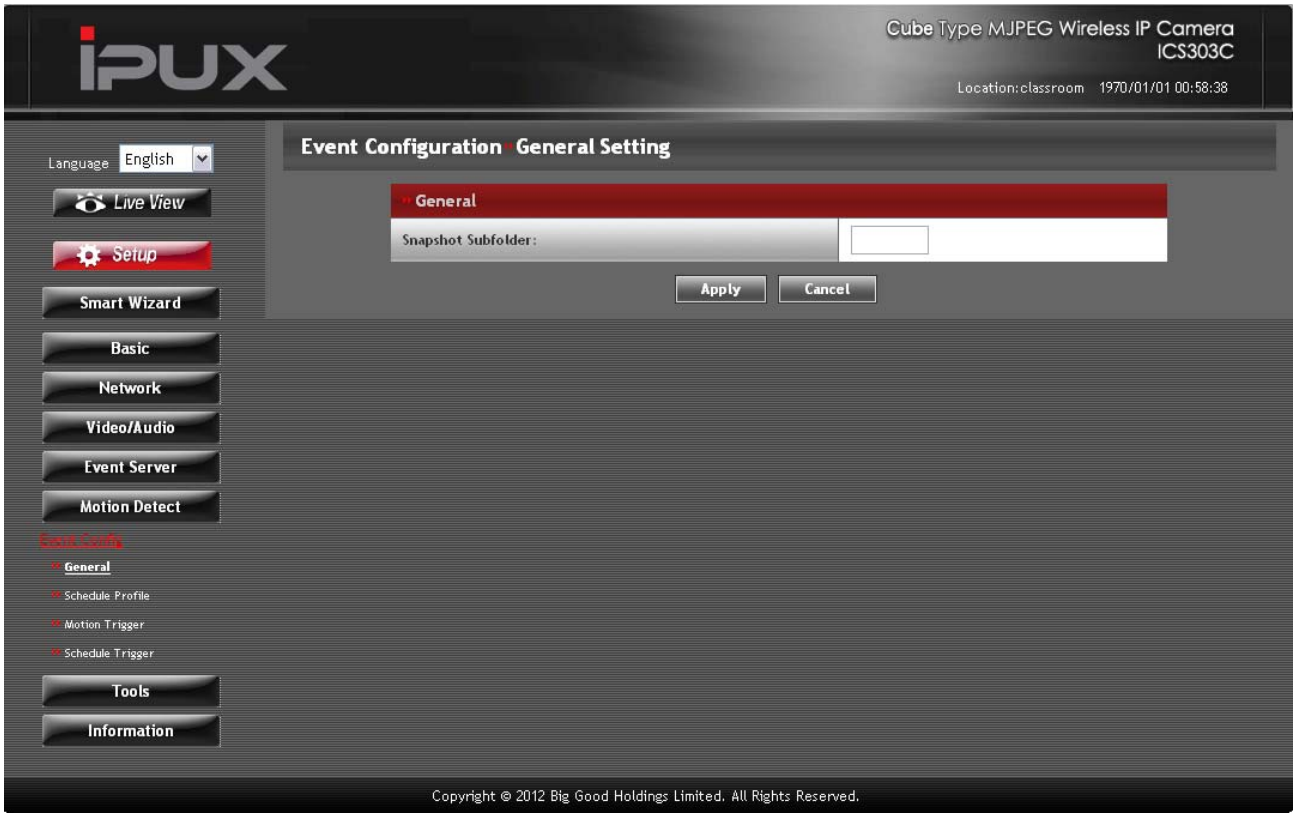
To enable the detecting area, select **Window 1** or **2** from the pull-down list, and then select **Enable**. When the detecting area is enabled, you can use the mouse to move the detecting area and change the area coverage.



- **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.

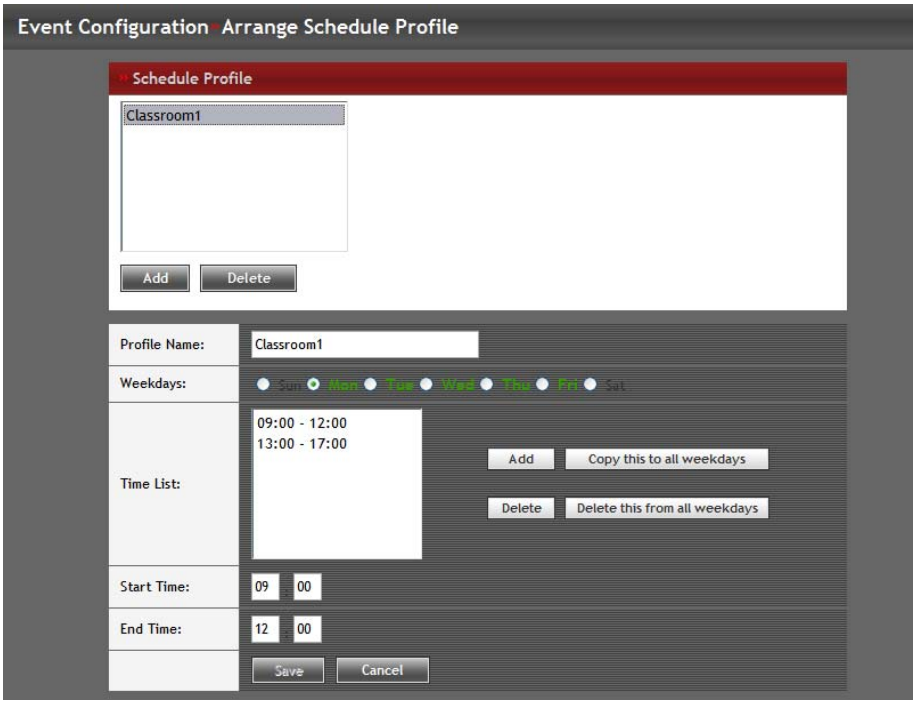


Event Configuration >> General Setting

- **Snapshot/Recording Subfolder:** You can assign a given sub-folder 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. 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**.



- **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

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.

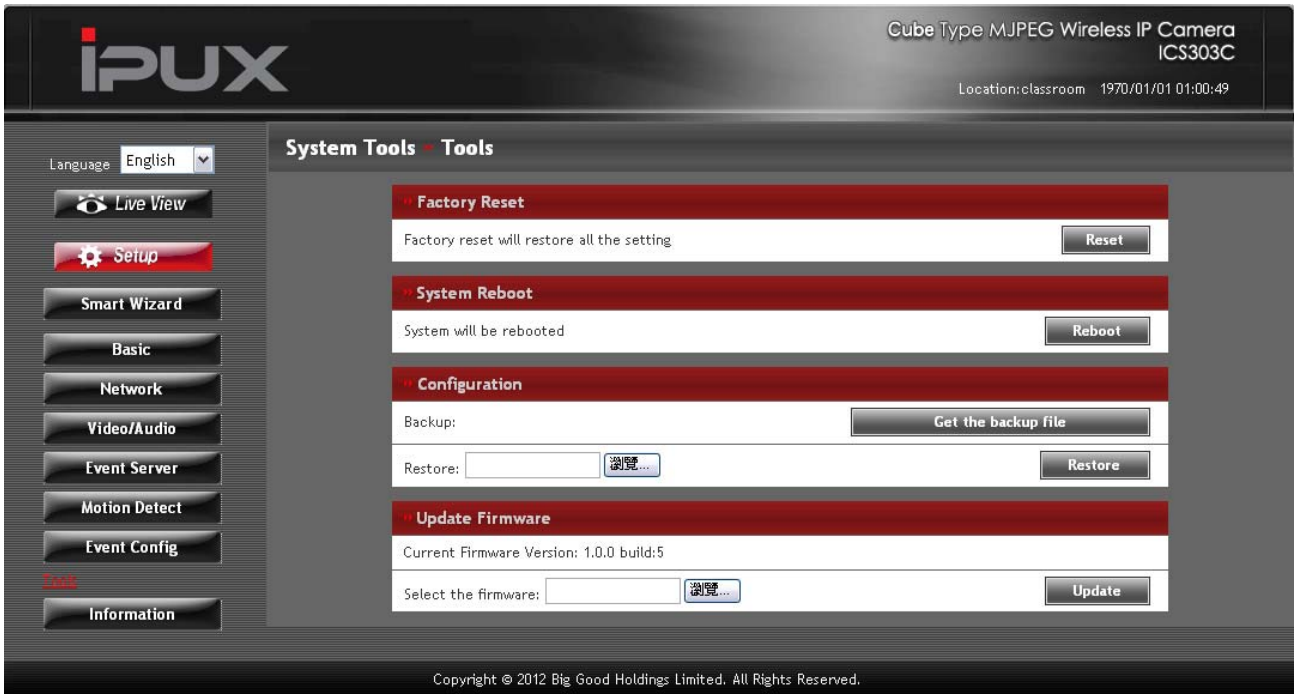
- **Schedule Profile:** Select a schedule profile from the pull-down list.
- **Action:** Select the destination that the captured images will be sent to: **Send Email**, or **FTP Upload**.

Event Configuration >> Schedule Trigger

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.



- **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**.

NOTE Make sure to keep the camera connected to the power source during the process of upgrading firmware. Otherwise, the camera might be damaged because of failure of upgrading firmware.

4.10 Information

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

- **Device Info**

  Display the Basic, Video, Network, and Wireless settings (for wireless model) of the camera.

- **System Log**

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

CHAPTER 5

APPENDIX

A.1 Specification

- **Image Sensor**

Sensor	1/4" color CMOS
Resolution	640x480

- **Video**

Compression	MJPEG
Video resolution	VGA/QVGA/QQVGA; 25fps max.

- **System Hardware**

Processor	MIPS base
RAM	32MB SDRAM
ROM	4MB NOR Flash
Power	DC 5V

- **Communication**

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

- **User Interface**

LAN	One RJ-45 port
Antenna	One external antenna
WPS	One WPS button
Reset	One reset button
LEDs	Power LED (amber); Link LED (green)

- **Software**

OS Support	Windows XP/Vista/Win7
Browser	Internet Explorer 6.0 or above Apple Safari 2 or above Mozilla Firefox 2.00 or above Google Chrome
Software	UltraView Pro for playback/recording/ configuration features

- **Operating Environment**

Temperature	Operation: 0°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 form 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 net work 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 transferors 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 y 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.