

TP-LINK®

User Guide

TL-SC2020

Wired Network Camera



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<http://www.tp-link.com>

FCC STATEMENT



This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference.
- 2) This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CE Mark Warning



This is a class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



Продукт сертифіковано згідно з правилами системи УкрСЕПРО на відповідність вимогам нормативних документів та вимогам, що передбачені чинними законодавчими актами України.



Safety Information

- When product has power button, the power button is one of the way to shut off the product; when there is no power button, the only way to completely shut off power is to disconnect the product or the power adapter from the power source.
- Don't disassemble the product, or make repairs yourself. You run the risk of electric shock and voiding the limited warranty. If you need service, please contact us.
- Avoid water and wet locations.

This product can be used in the following countries:

AT	BG	BY	CA	CZ	DE	DK	EE
ES	FI	FR	GB	GR	HU	IE	IT
LT	LV	MT	NL	NO	PL	PT	RO
RU	SE	SK	TR	UA			

DECLARATION OF CONFORMITY

For the following equipment:

Product Description: **Wired Network Camera**

Model No.: **TL-SC2020**

Trademark: **TP-LINK**

We declare under our own responsibility that the above products satisfy all the technical regulations applicable to the product within the scope of Council Directives:

Directives 2004 / 108 / EC, Directives 2006 / 95 / EC, Directives 2011/65/EU

The above product is in conformity with the following standards or other normative documents:

EN 55022:2010

EN 55024:2010

EN 61000-3-2:2006+A1:2009+A2:2009

EN 61000-3-3:2008

EN60950-1:2006+A11: 2009+A1:2010+A12:2011

The product carries the CE Mark



Person is responsible for making this declaration:

A handwritten signature in black ink, appearing to read "Yang Hongliang".

Yang Hongliang
Product Manager of International Business

Date of issue: 2014

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Package Contents

The following items should be found in your package:

- TL-SC2020 Wired Network Camera
- Power Adapter
- Mounting Bracket with three screws, a Lock Ring, a Brace and a Base Plate
- RJ45 Cable
- Quick Installation Guide
- Resource CD, including:
 - This User Guide
 - Application Guide
 - Other helpful information

 **Note:**

Make sure that the package contains the above items. If any of the listed items is damaged or missing, please contact your distributor.

Chapter 1 Safety Instructions

➤ Before you use this product

This product has been designed with safety in mind. However, the electrical products can cause fires which may lead to serious body injury if not used properly. To avoid such accidents, be sure to heed the following.

➤ Legal Caution

Video and audio surveillance can be forbidden by laws that vary from country to country. Check the laws in your local region before using this product for surveillance purposes.

➤ Don't open the housing of the product

Don't try to open the housing or remove the covers, for it may expose you to dangerous voltage or other hazards.

➤ Don't use the accessories not recommend by the manufacturer

➤ Heed the safety precautions

Be sure to follow the general safety precautions and the "Operation Notice."

➤ Operation Notice - Operating or storage location

Avoid operating or storing the Camera in the following locations:

- Extremely hot or cold places
(Operating temperature: 0 °C to + 40 °C [32 °F to 104°F])
- Exposed to direct sunlight for a long time, or close to heating equipment (e.g., near heaters)
- Close to water (e.g., near a bathtub, kitchen sink, laundry tub)
- Close to sources of strong magnetism
- Close to sources of powerful electromagnetic radiation, such as radios or TV transmitters
- Locations subject to strong vibration or shock

➤ In case of a breakdown

In case of system breakdown, discontinue use and contact your authorized dealer.

➤ In case of abnormal operation

- If the unit emits smoke or an unusual smell,
- If water or other foreign objects enter the cabinet, or
- If you drop the unit or damage the cabinet: 1. Disconnect the cable and the connecting cables.
2. Contact your authorized dealer or the store where you purchased the product.

➤ Transportation

When transporting the camera, repack it as originally packed at the factory or in materials of equal quality.

➤ Ventilation

To prevent heat buildup, do not block air circulation around the device.

➤ Cleaning

- Use a soft, dry cloth to clean the external surfaces of the device. Stubborn stains can be removed using a soft cloth dampened with a small quantity of detergent solution, then wipe dry.
- Do not use volatile solvents such as alcohol, benzene or thinners as they may damage the surface.

Chapter 2 Minimum System Requirement & Product Feature

2.1 System Requirement

For normal operation and viewing of the network camera, it's recommended that your system meets these minimum requirements for proper operation:

Item	Requirements
CPU	Pentium 4 2.8GHz (or equivalent AMD)
Graphic Card	256 MB RAM graphic cards (or equivalent on-board graphic cards)
RAM	2 GB RAM
Operating System	Windows 2000 / Windows 2003 / Windows XP / Windows Vista / Windows 7
Web Browser	Internet Explore 8 or higher

 **Note:**

Please keep updating the latest Windows software and service package. (E.g.: Net Framework, Windows Media Player, Enhance ActiveX Security)

2.2 Product Features

These easy-to-follow instructions make it quick and simple for setup and operation, so you'll also soon be enjoying the benefits of these product features:

SYSTEM	
Resolutions	Up to 640 x 480
Compressing format	Motion JPEG
Frame Rate	Up to 30 fps at 640 x 480
Image settings	Brightness / Contrast / Saturation / Sharpness/ Exposure
	Overlay capabilities: time, date, text
Image snapshot	Yes
Video Recording	Yes
Full Screen Viewing	Yes
Digital Zoom	10x digital
Audio	One-way with built-in microphone
	Audio compression: G.711 µ law
Security	Password Protection / HTTPS encryption
Alarm Buffer	Recording image and audio file pre-and-post disconnection up to 5 sec.

Supported protocols	TCP/IP, DHCP, PPPoE, ARP, ICMP, FTP, SMTP, DNS, NTP, UPnP, RTSP, RTP, RTCP, HTTP, TCP, UDP
Simultaneous Connection	Up to 3 users
Operating conditions	0°C ~ 40 °C (32°F ~ 104 °F)
HARDWARE	
Lens	F 2.4 fixed lens
Audio Output	1
Power	5V DC, 1A

2.3 Physical Overview

2.3.1 Front View



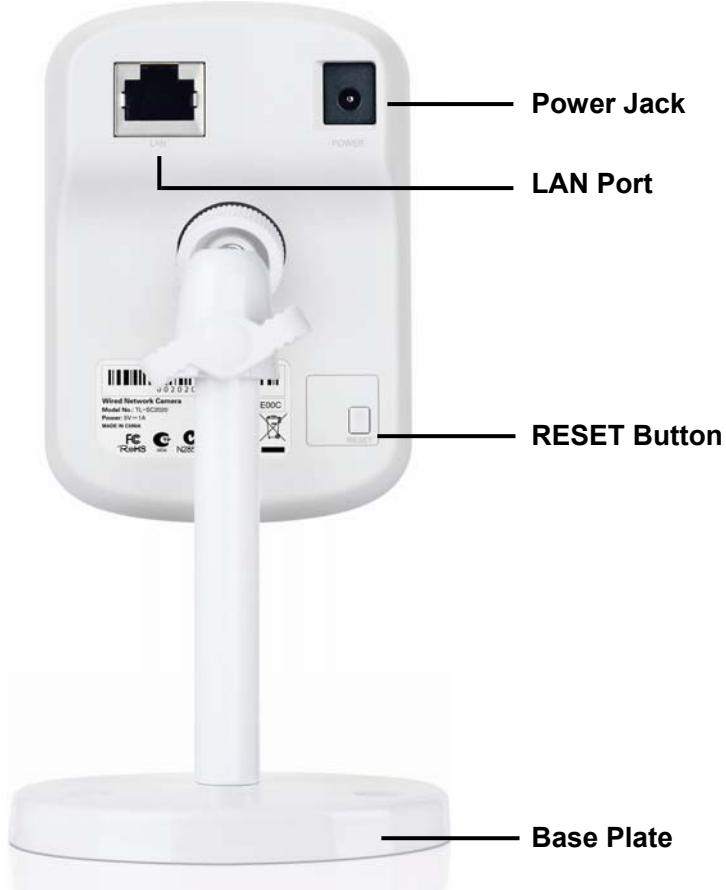
Network LED Indicator: It lights up when the Camera is well connected to the network. It flashes when there are data being transmitted.

Power LED Indicator

- **Solid Red:** The Camera boots up.
- **Flash Red:** The Camera has finished booting up, but it isn't connected to any network.
- **Solid Blue:** The Camera has been connected to a network.

Built-in Microphone: The location where the voice from your partner comes out.

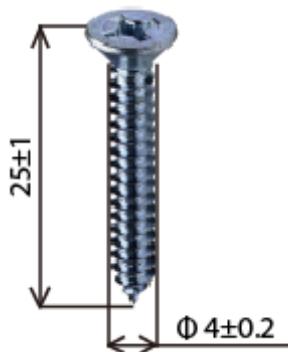
2.3.2 Rear View



- **Power Jack:** The power connector is where you connect the power adapter.
- **RESET:** Press the button for more than 15 seconds, and the Camera will be restored to factory defaults.
- **LAN Port:** Through this port, you can connect the Camera to your computer or the other Ethernet network devices.
- **Lock Ring:** It is used to adjust the angle of the Camera.
- **Base Plate:** It is used to support the Camera and can be fixed to a flat surface with the supplied screws.

2.4 Mount the Camera

2.4.1 The Screw Size



There are three supplied screws for mounting the Camera. The length of the screws is 25 ± 1 mm and the

diameter is 4 ± 0.2 mm.

2.4.2 Wall and Ceiling Mount

There are two ways to mount the Camera. See the following two pictures.



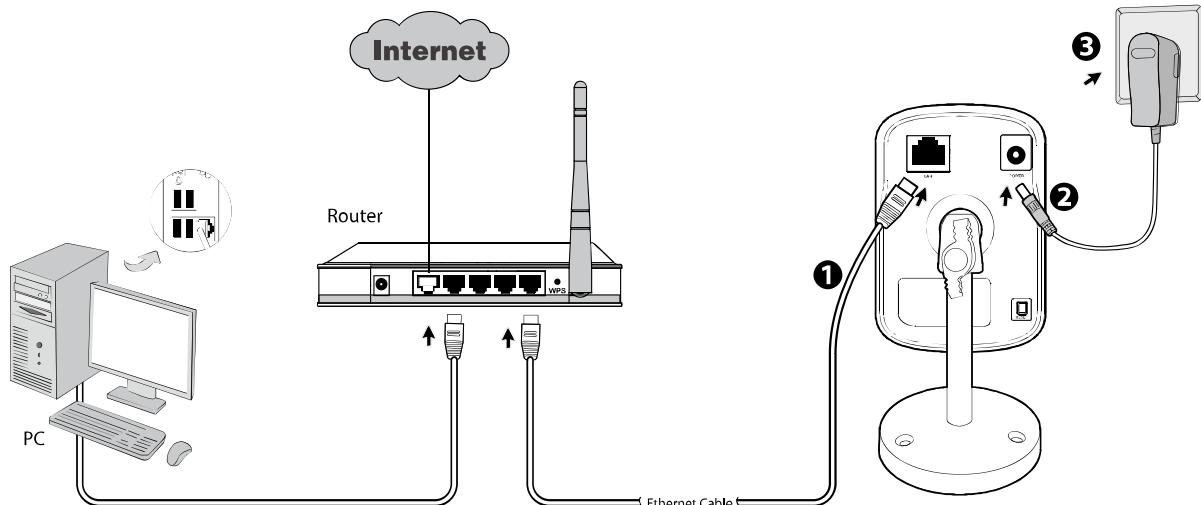
To mount the Camera, please follow the steps below:

1. Use the three supplied screws to fix the base plate to a flat surface.
2. Loosen the lock ring to adjust the desired angle of the Camera.
3. Tighten the lock ring.

2.5 Hardware Connection

Before proceeding, confirm that your PC is connected to your router and can access the Internet. Make sure that your router's DHCP feature is enabled. If not, please refer to your router's instruction to enable it.

Please connect the Camera according to the following steps.



1. Connect the Camera to the LAN network (Router or Switch) via Ethernet cable.
2. Connect the power adapter cord to the Power Jack.
3. Plug the power adapter into the power outlet.

Chapter 3 Using Camera via Web Browser

3.1 Obtain the IP Address

1. Insert the provided CD into your CD-ROM driver. The Setup Wizard will automatically pop up on your computer's screen as shown in the figure below.



Figure 3-1

2. Choose the **Intelligent IP Installer**, and then the next screen appears. Click on **Intelligent IP Installer** to begin the installation.



Figure 3-2

3. After the installation is finished, click **Start > All Programs > TP-LINK > Intelligent IP Installer** to

start using the program.

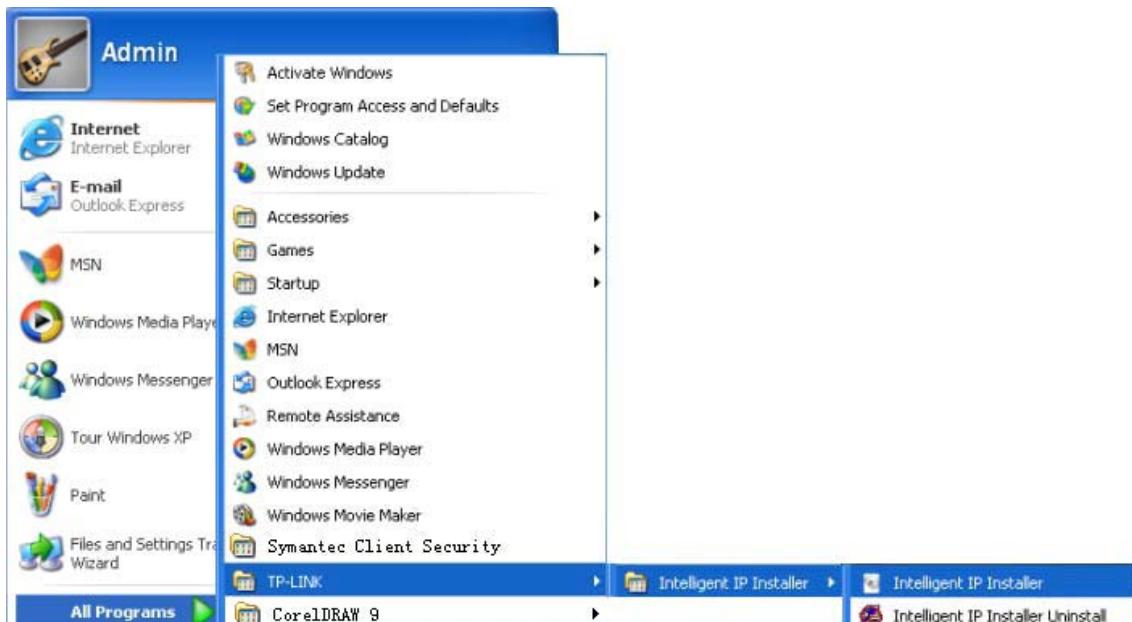


Figure 3-3

4. The following screen will then display. Click the **Search** button to search Network Cameras in the network; it displays Network Cameras information including IP Address.

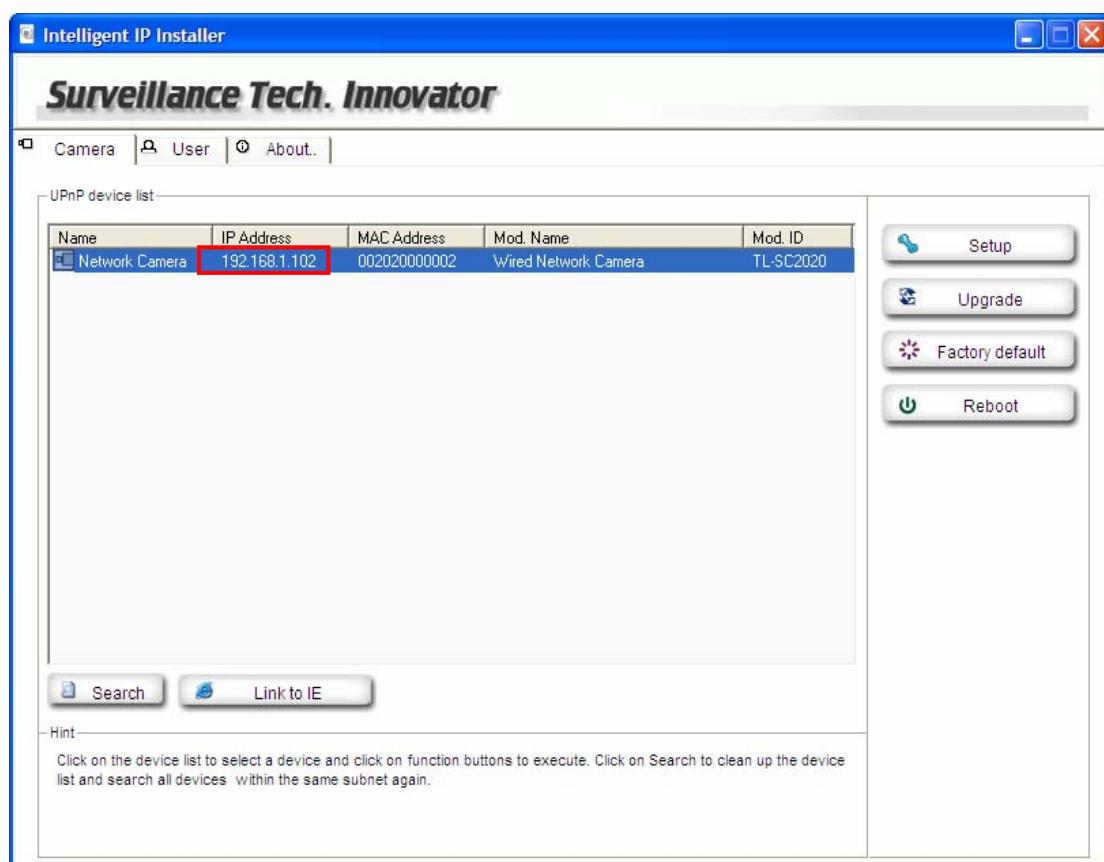
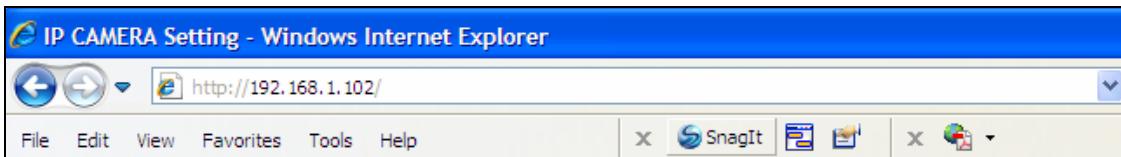


Figure 3-4

3.2 Windows Web Browser

The configuration of browser is similar in Windows XP/Vista/7. Here we take IE browser in Windows XP for example.

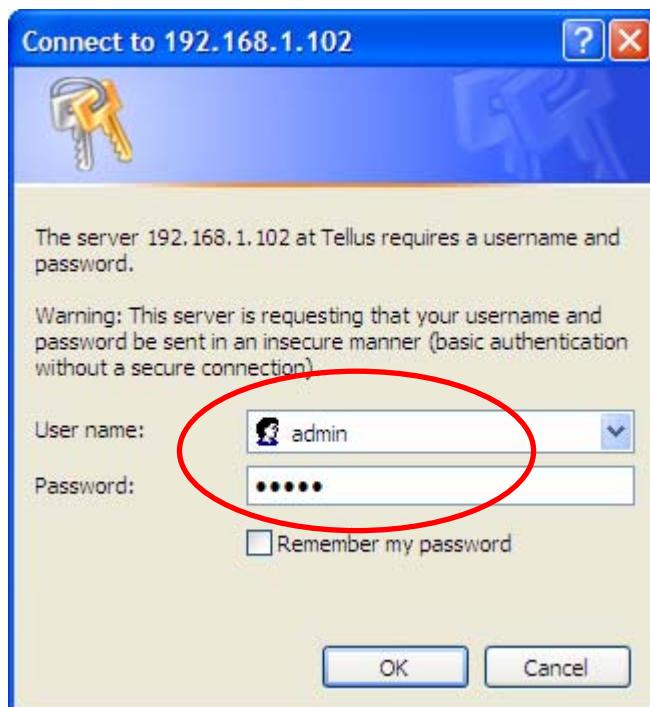
- 1 Click **Link to IE** button in Figure 3-4 directly. You can also launch your web browser and then enter the IP address or host name of the Camera in the Location / Address field of your browser.



- 2 Use the default User name **admin** and default Password **admin**.

Note:

The default User name “admin” and the Password “admin” are set at the factory for the administrator. You can change them in the Account Menu. (Please check “**Basic setup → Account**”)



- 3 The monitor image will be displayed in your browser. In the far left side of main configuration are **Home**, **Information**, **Basic setup**, **System** and **Language**.



Chapter 4 Operating Camera via Mobile Phone

4.1 Mobile Phone Viewing

4.1.1 3G Mobile Phone Streaming Viewing

For 3G mobile phone viewing, type “`rtsp://<IP>:<PORT>/video.mjpg`” into your 3G Streaming Link. <IP> is the Public IP address of your Camera; <PORT> is the RTSP port of your Camera (Default value is 554.) Example: `rtsp://100.10.10.1:554/video.mjpg`.

 **Note:**

You can also use RTSP clients (RealPlayer, VLC, QuickTime Player...etc.) to view RTSP streaming, just type in “`rtsp://<IP>:<PORT>/video.mjpg`” as the Player URL.

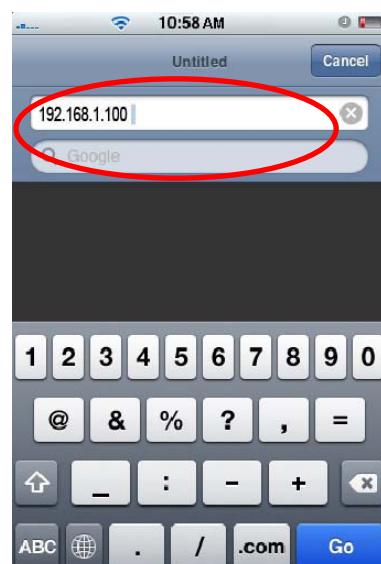
4.2 Using Camera via iPhone

You can use TP-LINK Web User Interface via iPhone. Please follow the setting process below. Then you can use TP-LINK Web UI via iPhone.

1. Select Safari function.



2. Enter IP address in your web link.



3. Enter name and password. Default values are both admin. Then click Log in



4. The TP-LINK User Interface and live image will show up in the middle of the screen.



Note:

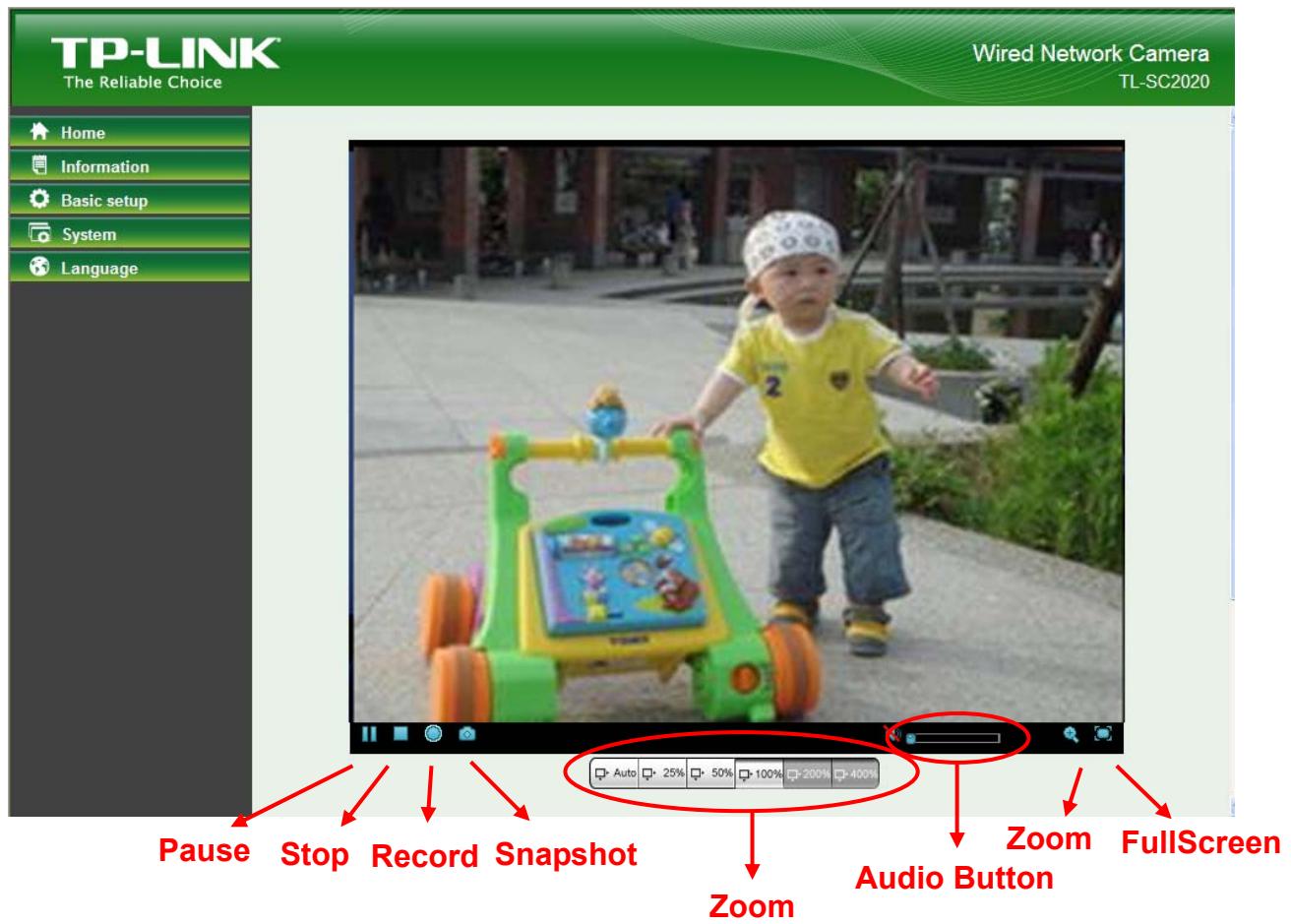
It will show continuous snapshots not a real time video streaming. Therefore, the recording feature is disabled.

Chapter 5 Configuration of Main Menu

In the left side of main configuration are **Home**, **Information**, **Basic setup**, **System** and **Language**.

5.1 Home

In the right side, you can control Live View in your main Browser. The functions include: **Snapshot**, **Open digital zoom**, **Audio**, and **Video Play**.



5.1.1 Video play buttons

Symbols	Meaning
	Pause the current video
	Stop the current video
	Record the current video
	Full Screen

Note:

Concerning the recording storage requirement of your hard disk, please refer to the [Appendix / B. Storage Requirement Table](#).

5.1.2 Snapshot

You can capture a still image shot by clicking the Camera icon and save it in the operating computer.

Symbols	Meaning
	A snapshot window appears after clicking the icon
Save Image	Save the picture captured by snapshot into your computer
Close	Return to the view screen

5.1.3 Digital zoom in/out the image via the monitor window

- Click to display the digital zoom in window.
- Pull the to adjust the digital zoom range, and it will be showed on the above window.
- Use the left click of your mouse to move to anywhere in the window area.

5.1.4 Audio buttons

Symbols	Meaning	Note
	Mute off	mean you can broadcast to the connected Camera(s) via the Ethernet using your microphone
	Mute on	mean you can't broadcast to the connected Camera(s) via the Ethernet using your microphone
	Volume control bar	mean you can adjust the sound volume by the control bar

5.2 Information

The Information screen provides the product factory information which includes **Product Name**, **Current Version**, **Firmware current Date/Time**, **Image Setting**, **Video** and **Network**.

The screenshot shows the 'Information' page with a sidebar menu on the left. The main content area is titled 'Information' and contains the following sections:

- Product name:** Wired Network Camera
- Current Version:** BP.1.5.08
- Firmware current Date/Time:** Mon Feb 20 17:12:14 CST 2012
- Image Setting:** Brightness: 50, Contrast: 0, Saturation: 64, Sharpness: 15, White Balance: auto
- Video:** Resolution: 640x480, Maximum Frame rate: 30, Light Frequency: 60, Image rotated: none
- Network:** LAN Status: DHCP, IP = 192.168.1.102

5.3 Basic setup

This function is only for the Administrator. Click **Basic setup** to display the submenus: **Account**, **Network**, **Image Setting**, **Video**, **Audio**, **Camera setting** and **Events**.

The screenshot shows the 'Basic setup' page with a sidebar menu on the left. The main content area features the TP-LINK logo and the text 'WELCOME TO CAMERA SETTING PAGE'.

5.3.1 Account

The device fault account and password setting is "admin / admin". That means everyone who knows IP address can access the device including all configuration. It is necessary to assign a password if the device is intended to be accessed by others.

User name	Viewer mode
admin	Administrator

Add modify Remove

Anonymous Viewer **Disable**

Save **Cancel**

- **Add:** Click this button to add a new account.
- **Modify:** Click this button to edit the selected account.
- **Remove:** Click this button to delete the selected account.
- **Anonymous Viewer:** Select **Disable** and the anonymous viewers cannot access the Camera. Select **Enable** to and the anonymous users can access the Camera in **Viewer** mode.

To add a new account, please follow the steps below:

1. Click the **Add** button.
2. On the account-setting window as shown in the following figure, enter a **User name** and **Password** for the account, then select a **Role** from the drop-down list. Click **Save** to apply the settings.

User name

Password

Re-type password

Role **Viewer**

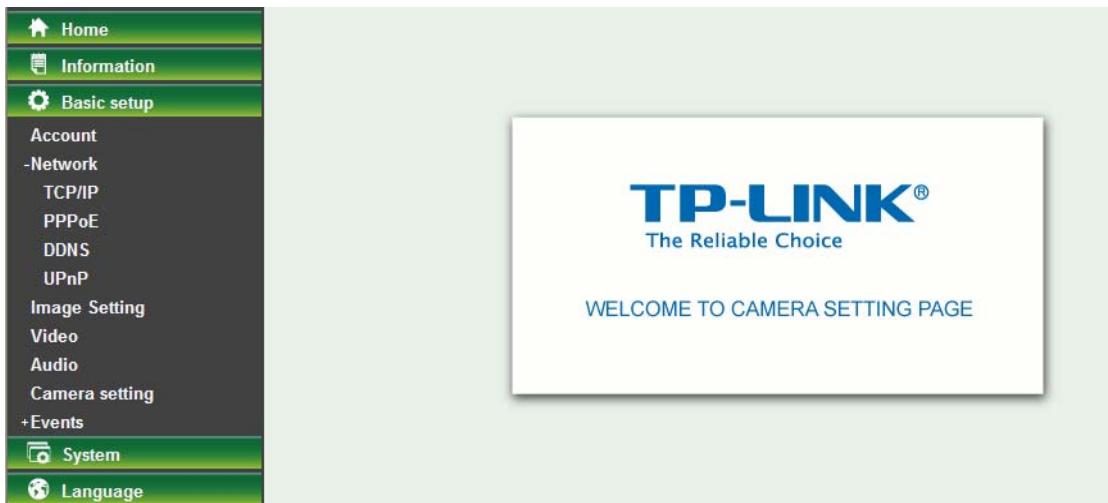
Save **Cancel**

- **User Name:** Set a user name for the account.
- **Password:** Set a password for the account.
- **Re-type Password:** Re-type the password to confirm.

- **Viewer Mode:** Set the user mode among **Viewer**, **Operator** and **Administrator**. Different viewer mode has different limits of authority.
 - The **Viewer** mode only can view the Live View.
 - The **Operator** mode can not only view the Live View but also the **Information** page.
 - The **Administrator** mode has all authority of configuration.

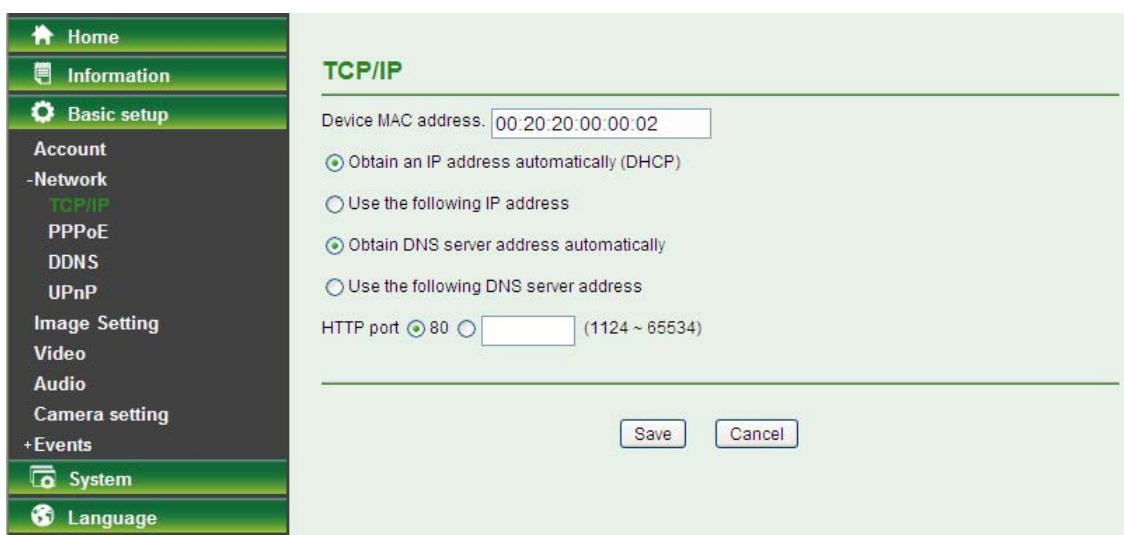
5.3.2 Network

Click the Network to display the submenus including **TCP/IP**, **PPPoE**, **DDNS** and **UPnP**.



5.3.2.1 TCP/IP

This page displays the MAC address of the Camera and it's also used for the TCP/IP configuration.



- **Obtain an IP address automatically (DHCP):** If a DHCP server is installed on the network, select this option and the IP address is assigned by the DHCP server.
- **Obtain DNS server address automatically:** Select this option to obtain the address of DNS server automatically.

- **Use the following IP address:** Select this option when the fixed IP address is set as the IP address.
 - **IP address:** Enter the IP address of the device.
 - **Subnet mask:** Enter the subnet mask.
 - **Default gateway:** Enter the default gateway.
- **Use the following DNS server address:** Select this option when you set the fixed address as the IP address of DNS server.
 - **Preferred DNS server:** Enter the IP address of the Preferred DNS server.
 - **Alternate DNS Server:** Enter the IP address of the Alternate DNS Server, if necessary.
- **HTTP Port Number:** Select **80** in general situations. If you want to use a port number other than **80**, select the text box and enter a port number between 1124 and 65534.

When you have set the HTTP port number to a number other than 80 on the Network setting page or in the Setup Program, access the device by typing the IP address of the device on the web browser as follows: for example, when HTTP port number is set to 2000 and the IP address of your camera is set to 192.168.1.100, you should type in <http://192.168.1.100:2000> to access the device.

5.3.2.2 PPPoE

If your ISP provides Dynamic IP with authentication by username and password, type all PPPoE information in this part. When using the PPPoE function, you need to turn on the DDNS or IP Notification function at same time.

PPPoE

PPPoE On Off

IP address	0.0.0.0
User ID	[]
Password	[]
Re-type password	[]

Obtain DNS server address automatically
 Use the following DNS server address

Save **Cancel**

- **IP Address:** The IP address obtained at the PPPoE connecting with network.
- **User ID:** Enter the user ID for authentication necessary for PPPoE connections. Type it up to 64 characters.
- **Password:** Enter the password for authentication necessary for PPPoE connections. Type it up to 32 characters.
- **Re-type Password:** Re-type the password to confirm.
- **Obtain DNS server address automatically:** Select this to obtain the address of DNS server automatically.
- **Use the following DNS server address:** Select this when you set the fixed address as the IP address of DNS server.

PPPoE

PPPoE On Off

IP address	0.0.0.0
User ID	[]
Password	[]
Re-type password	[]

Obtain DNS server address automatically
 Use the following DNS server address

Primary DNS server	172	.	31	.	1	.	1
Secondary DNS server	172	.	31	.	1	.	2

Save **Cancel**

- **Primary DNS server:** Enter the IP address of the primary DNS server.
- **Secondary DNS server:** Enter the IP address of the secondary DNS server.

Note:

- 1) **PPPoE (Point-to-Point Protocol over Ethernet):** PPPoE is a network protocol for encapsulating Point-to-Point Protocol frames inside Ethernet frames. PPPoE connection is used mainly with ADSL service where individual users connect to the ADSL transceiver (modem) over Ethernet work. It also widely used in XDSL (digital affiliate line such as ADSL, VDSL or SDSL)

- 2) The Camera needs to be rebooted after it finishes changing the network completely. For more details, please refer to [5.4.1 Initialize](#).
- 3) You can reset the Camera to its factory default settings by pressing the Reset button. Then the Camera can be found by Intelligent IP Installer.

5.3.2.3 DDNS (Dynamic DNS)

DDNS is a system which allows the domain name data held in a name server to be updated in real time. The most common use for DDNS is allowing an Internet domain name to be assigned to a computer with a varying/dynamic IP Address. This makes it possible for other sites on the Internet to establish connection to the machine without needing to track the IP Address themselves.

The screenshot shows the camera's configuration interface. The left sidebar has a tree view with 'Basic setup' expanded, showing 'Network' as the current section. Under 'Network', 'DDNS' is selected. The main content area is titled 'DDNS'. It contains the following fields:

- DDNS:** A radio button group where 'On' is selected.
- Server name:** A dropdown menu set to 'http://www.dyndns.org'.
- User ID:** An input field.
- Password:** An input field.
- Re-type password:** An input field.
- Host name:** An input field.
- Periodical Update:** A radio button group where 'Auto' is selected. There is also an option for 'Periodical' with a dropdown menu set to '5 min'.

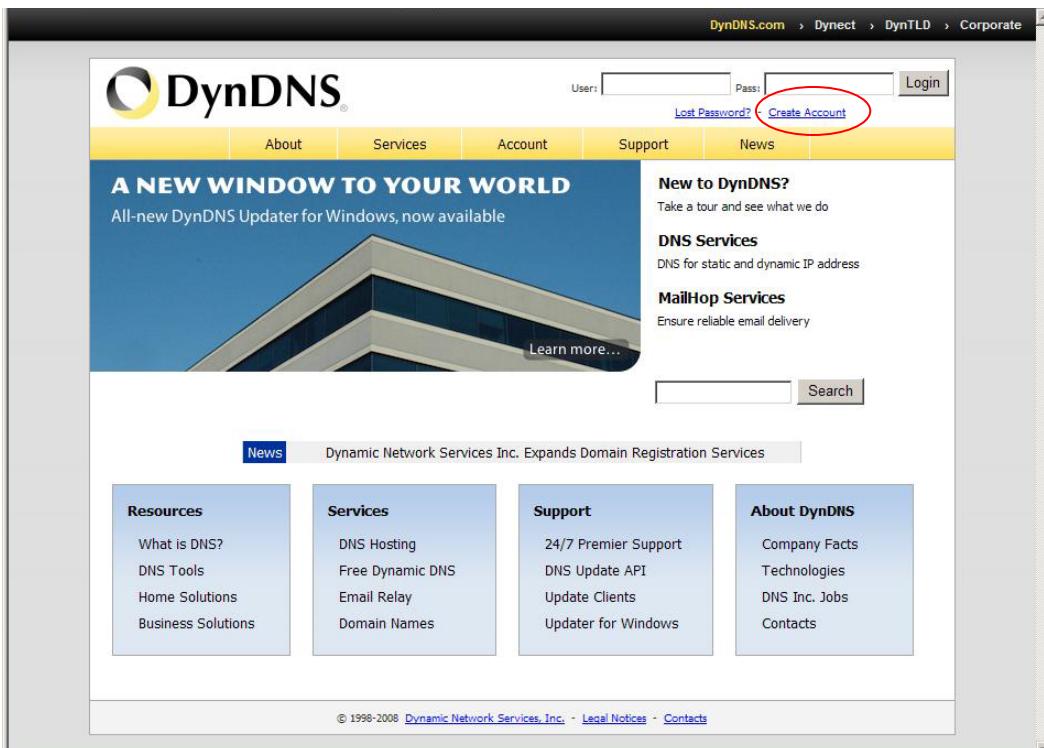
At the bottom are 'Save' and 'Cancel' buttons.

- **Server Name:** Choose the DDNS Server from the list.
- **User ID:** Enter the user ID for authentication necessary for DDNS connections. Type it up to 64 characters.
- **Password:** Enter the password for authentication necessary for DDNS connections. Type it up to 32 characters.
- **Re-type Password:** Re-type the password to confirm.
- **Host Name:** Enter the host name that is registered to the DDNS server.
- **Periodical Update:**
 - **Auto:** The domain name data will be updated automatically.
 - **Periodical:** The domain name data will be updated once in a period. The period can be chosen among 5, 10, 15, 30 and 60 minutes.

Note:

How to apply DDNS username and Host name? You can apply DDNS username and Host name by the following steps:

1. Login <http://www.dyndns.org>, click the **Create Account**.



2. Input all information and follow step by step with DynDNS.

A screenshot of the 'Create Your DynDNS Account' form. On the left, there is a sidebar with links for 'My Account', 'Create Account' (which is selected and highlighted in yellow), 'Login', and 'Lost Password?'. Below the sidebar is a 'Search' input field with a 'Search' button. The main form area has a title 'Create Your DynDNS Account' and a sub-instruction 'Please complete the form to create your free DynDNS Account.' It contains several input fields grouped under sections: '-User Information' (Username, Email Address, Confirm Email Address, Password, Confirm Password), '-About You (optional)' (How did you hear about us, Details), and '-Terms of Service' (a checkbox). A note on the right states 'We do not sell your account information to anyone, including your email address.'

3. Login with new account and click **Account → My Hosts → Add Host Services**.

Logged In User: Sunny
My Services - My Cart - Log Out

About Services Account Support News

Increase your update abuse threshold. Consider an [Account Upgrade](#).

Account Summary for Sunny

My Services	Billing	Account Settings
View, modify, purchase, and delete your services.	Update your billing information, complete a purchase, and view invoices.	Update your email address, set preferences, and delete your account.
My Zones	View Shopping Cart	Change Email Address
Add Zone Services	Active Services	Change Password
My Hosts	Order History	Change Username
Add Host Services	Billing Profile and Vouchers	Contact Manager
Account Upgrades	Renew Services	Mailing Lists
MailHop Outbound	Auto Renew Settings	Move Services
Network Monitoring	Sync Expirations	Preferences
SSL Certificates		Close Account
Recursive DNS		
Support		
DNS Service Level Agreement		
Premier Support		

4. Type domain in the Hostname field and select sub-domain.

About Services Account Support News

Access to more domains, [Premium Domains](#). Consider an [Account Upgrade](#).

Add New Hostname

[↑ Host Services](#)

Note: You currently don't have Account Upgrades in your account. You cannot use some of our Host Service features. Please consider buying Account upgrade that make this form full-functional and will add several other features. [Learn More...](#)

Hostname:	<input type="text"/> . servebbs.org
Wildcard:	<input type="checkbox"/> Yes, alias "*.hostname.domain" to same settings.
Service Type:	<input checked="" type="radio"/> Host with IP address <input type="radio"/> WebHop Redirect <input type="radio"/> Offline Hostname
IP Address:	<input type="text"/> Use auto detected IP address 202.114.6.36 TTL value is 60 seconds. Edit TTL .
Mail Routing:	<input type="checkbox"/> Yes, let me configure Email routing.
Create Host	

5. After typing information, check your DDNS service

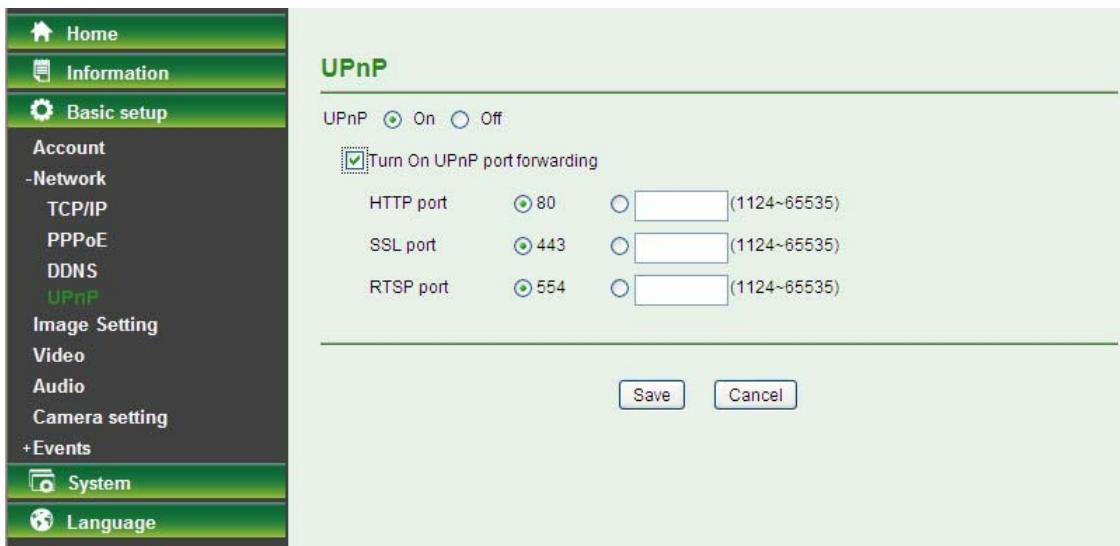
The screenshot shows the DynDNS.com website interface. At the top, there's a navigation bar with links for Dynect, DynTLD, and Corporate. Below that is a yellow header bar with links for About, Services, Account, Support, and News. A message in the center says "Access to more domains, [Premium Domains](#). Consider an [Account Upgrade](#)". On the left, there's a sidebar with "My Account" sections for My Services, Account Upgrades, SLA, Premier Support, Zone Services, Host Services, MailHop Outbound, Recursive DNS, Network Monitoring, SSL Certificates, Renew Services, Auto Renew Settings, Sync Expirations, Account Settings, and Billing. It also includes a "My Cart" section with a small icon and "0 items". Below that is a "Search" field. The main content area is titled "Host Services" and contains a message about reaching the maximum number of hosts. It has a table showing two hosts: "cmos.dyndns.org" (Host, IP 61.137.216.170, Last Updated May. 29, 2010 6:41 AM) and "inc.dyndns.org" (Host, IP 202.114.6.36, Last Updated May. 29, 2010 3:22 PM). There are also links for "Bulk Update IP Address And Service Type" and "Host Update Logs".

- Type your DDNS User ID, Password and Host name in **Setting → Network → DDNS**. After completing setting, reboot the Camera.

The screenshot shows the camera's web-based configuration interface. The left sidebar has a green header with "Home", "Information", "Basic setup", "Account", "Network" (with "DDNS" highlighted in green), "TCP/IP", "PPPoE", "UPnP", "Image Setting", "Video", "Audio", "Camera setting", "+Events", "System", and "Language". The main content area is titled "DDNS". It has fields for "Server name" (set to "http://www.dyndns.org"), "User ID", "Password", "Re-type password", "Host name", and "Periodical Update" (set to "Auto"). Below these are "Save" and "Cancel" buttons.

5.3.2.4 UPnP (Universal Plug and Play)

If you have a Router to access to Internet and the Router supports UPnP IGD function, you need to turn on the UPnP Port Forwarding function.



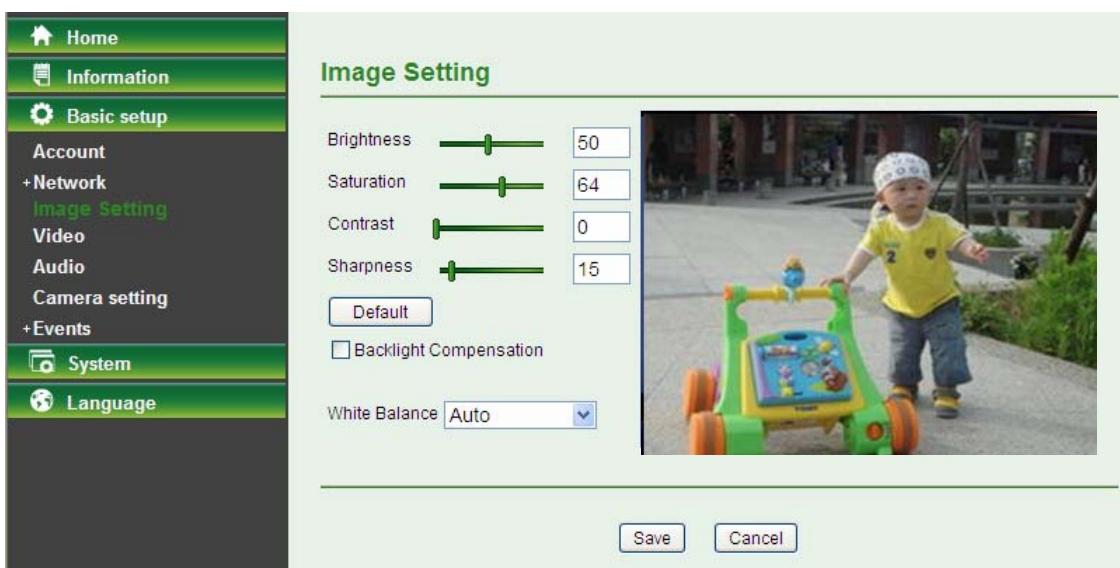
- **HTTP Port:** Enter the HTTP port number and default HTTP port is 80.
- **SSL Port:** Enter the SSL port number and default SSL port is 443.
- **RTSP Port:** Enter the RTSP port, default value is 554 for computer view.

Note:

UPnP (Universal Plug and Play): UPnP is a set of computer network protocol. It allows devices to connect seamlessly and simplify the implementation of networks in the home and corporate environments.

5.3.3 Image Setting

The tool bar can be adjusted to optimize video **Brightness**, **Saturation**, **Contrast**, **Sharpness** and **White Balance**.

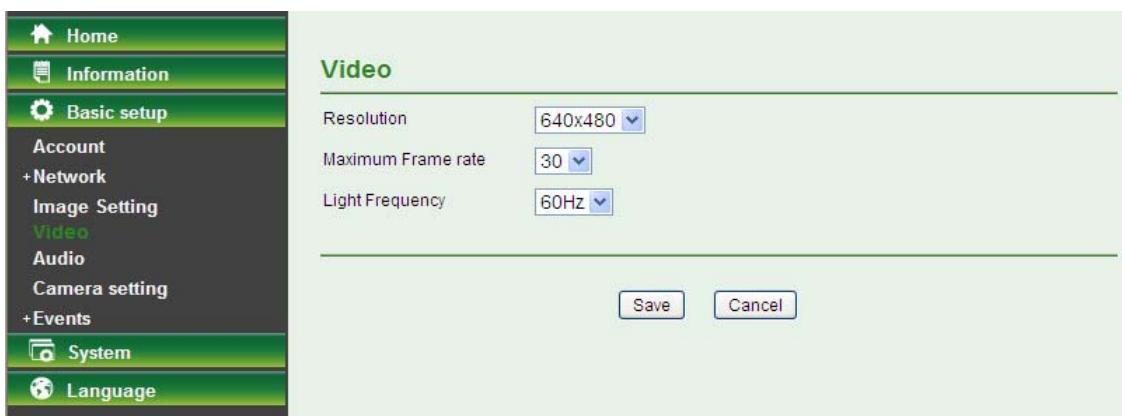


- **Brightness:** The value range is 0~100. The higher value the brightness is, the brighter the image is.
- **Contrast:** The value range is 0~100. The contrast is a measure of a display system, defined as the ratio of white to black that the system is capable of producing. The higher value the contrast is, the more delicate of color you can have.
- **Saturation:** The value range is 0~100. The saturation of a color is determined by a combination of light intensity and how much it is distributed across the spectrum of different wavelengths. The higher value the saturation is, the more colorful the image will be.

- **Sharpness:** The value range is 0~100. It applies image processing techniques to adjust the sharpness of live view. However, the higher the value is, more the noise is.
- **Default:** After the adjustment of all setting, you can still click Default to make the setting back to the original setting.
- **Backlight Compensation:** Tick the box to enable the backlight compensation function.
- **White Balance:** Choose the white balance among **Auto**, **Florescent**, **Incandescent**, **Sunny** and **Cloudy**.

5.3.4 Video

On this page, you can optimize the video by adjusting its **Resolution**, **Maximum Frame rate** and **Light Frequency**.



- **Resolution:** Select the video resolution among 640×480, 320×240 and 160×120.
- **Maximum Frame rate:** Select the maximum frame rate among 30, 20, 15, 10, 7, 5 and 1.
- **Light Frequency:** Select the light frequency among Auto, 60Hz and 50Hz.

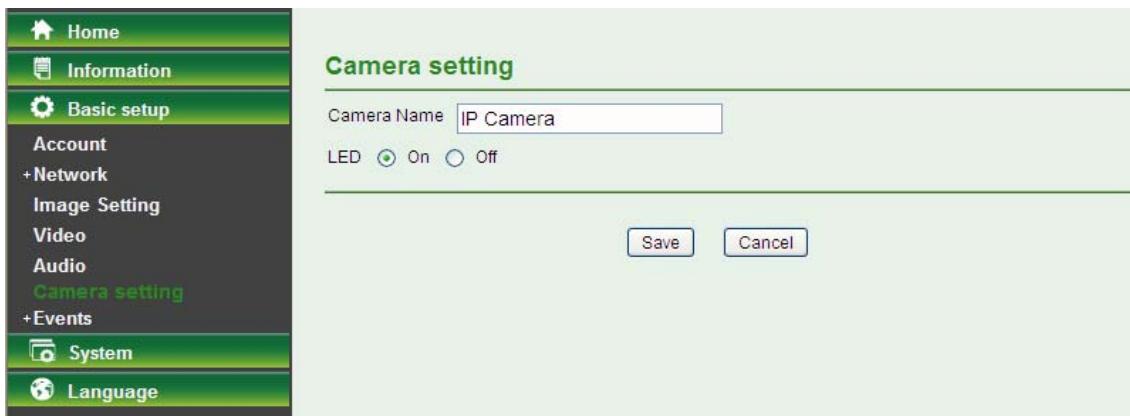
5.3.5 Audio

Select **On** to enable the audio; select **Off** to disable it.



5.3.6 Camera setting

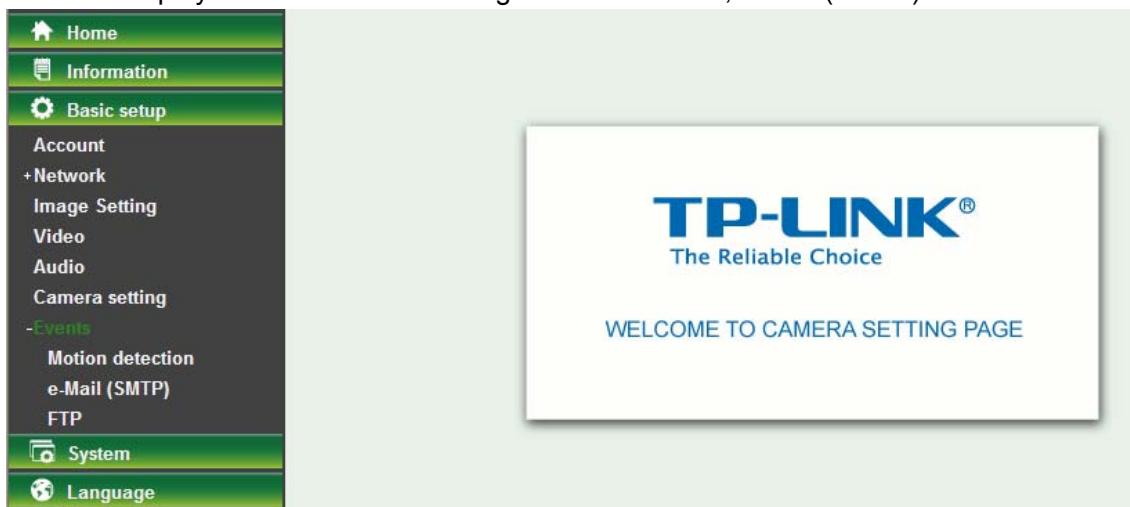
On this page, you can set the Camera Name and whether the LED is on or off.



- **Camera Name:** You can enter a new name for the Camera.
- **LED:** Select **On** to enable the LEDs; select **Off** to disable the LEDs.

5.3.7 Events

Click Events to display the submenus including Motion detection, e-Mail (SMTP) and FTP.



5.3.7.1 Motion detection

There are three Motion Detection functions as sensors to set for different detecting zones. Each one has Threshold and Sensitivity inputs which you can adjust to specific zone sequentially.



- **Motion Detection:** Click to select motion detection.
 - **Motion Detection 1:** Click it on for using **Motion Detection 1** function as a sensor. You can adjust and move the detecting zone by using mouse.
 - **Motion Detection 2:** Click it on for using **Motion Detection 2** function as a sensor. You can adjust and move the detecting zone by using mouse.
 - **Motion Detection 3:** Click it on for using **Motion Detection 3** function as a sensor. You can adjust and move the detecting zone by using mouse.
- **Enable:** Tick the box to enable the selected motion detection.
- **Threshold:** It means the extent to which the alarm will be triggered. The default value is 50 and the value range is 0~100. The larger the value, the higher the threshold.
- **Sensitivity:** It means that how often the sensor will scan the image different. The higher sensitivity it is and the more frequently it scans. The default value is 50 and the value range is 0~100. The larger the value, the higher the sensitivity.

5.3.7.2 e-Mail (SMTP)

Set the e-Mail (SMTP) menu when you want to send an image or video clip via e-mail. By using e-Mail (SMTP) function, you can send a mail with attached file which has been shot linked with the external sensor input or with the built-in motion detection function. The file can also be sent periodically.

e-Mail (SMTP)

e-Mail (SMTP) On Off

SMTP server name:

SMTP server port: 25 (1 ~ 65535) SSL

Authentication: On Off

Recipient e-Mail address:

Administrator e-Mail Address:

Subject:

Message:

Effective Period: Always Schedule

Test

Save **Cancel**

Select **On** when you use the e-Mail (SMTP) function. The common setting options are displayed below. Select **Off**, if you do not wish to use the e-Mail (SMTP) function.

- **SMTP Server Name:** Type the SMTP server name up to 64 characters, or the IP address of the SMTP server.
- **SMTP Server Port:** You can set port number from 1~65535 according to your mail server. The default value is 25.
 - **SSL:** Tick SSL box if the mail server you use has security restriction.

Note:

If you use g-mail as your mail server, you should set 25 as your port number and tick SSL box.

- **Authentication:** Select the authentication required when you send an email.
 - **Off:** Select if no authentication is necessary when an email is sent.
 - **On:** If authentication is necessary when an e-mail is sent, select one of the authentication methods from the followings.
- **SMTP:** Select if SMTP authentication is necessary for sending e-mail.
- **POP Before SMTP:** Select when POP before SMTP authentication is necessary for sending e-mail.

Note:

When you set to On, be sure to select either or both SMTP or / and POP before SMTP.

- **POP server name:** It is necessary when the **POP before SMTP** is selected in **Authentication**. Type the POP (receiving mail) server name up to 64 characters, or type the IP address of the POP server. This setting is necessary when the SMTP server which sends e-mails performs authentication using the POP user account.
- **User name, Password:** Type the user name and Password of the user who has the mail account. This setting is necessary when the SMTP server which sends e-mails performs authentication.

- **Recipient E-mail Address:** Type the recipient e-Mail address up to 64 characters. You can specify up to three recipient E-mail addresses.
- **Administrator E-mail Address:** Type the Administrator e-Mail address up to 64 characters. This address is used for reply mail and sending system messages from the SMTP server.
- **Attached File Type:** You can choose snapshot or video clip for alarm sending. Select “Snapshot,” one snapshot will be transmitted to the administrator’s e-mail address while motion detection / audio detection triggered. Select “Video Clip,” one 5-seconds video clip will be transmitted.
- **Subject:** Type the subject/title of the e-Mail up to 64 characters. With respect to mail which is sent according to the alarm detection when **Alarm sending** of the alarm tab is set to **On**, the characters standing for the sensor type added to the subject.
- **Message:** Type the text of the E-mail up to 384 characters. (A line break is equivalent to 2 characters.)
- **Test:** After setting the SMPT server information, you can tick the test key to test if the connection between IP CAM and the SMPT server work.
- **Effective Period:** Set the period when the periodical sending is effective.
 - **Always:** The periodical sending is always effective.
 - **Schedule:** You can specify the period when the periodical sending is effective in the schedule setting in the other section.

Select Schedule and click the **Schedule** button, and the Schedule setting page will appear.

Schedule selection		e-Mail(SMTP) - Alarm	
Start time	00 : 00	- End time	24 : 00
Mon	(Empty)	Add	Remove
Tue	(Empty)	Add	Remove
Wed	(Empty)	Add	Remove
Thu	(Empty)	Add	Remove
Fri	(Empty)	Add	Remove
Sat	(Empty)	Add	Remove
Sun	(Empty)	Add	Remove
<input checked="" type="checkbox"/> Use the same time schedule every day.			
<input type="button" value="Save"/> <input type="button" value="Cancel"/>			

- **Schedule Selection:** Select the list box to specify the schedule you want to set.
 - ✓ FTP -Alarm / E-mail (SMTP) -Alarm
- **Start Time, End Time:** Specify the **Start Time** and the **End Time**.
- **Use the same time schedule every day:** When this is checked, the **Start Time** and **End Time** set to **Mon** (Monday) are applied to all days. In this case, the **Start Time** and **End Time** of the other days than **Mon** (Monday) cannot be input.
 - ✓ **Mon (Monday) to Sun (Sunday):** The time period on the right of the checked day is the effective period of the schedule.

5.3.7.3 FTP

Use this menu to set up for capturing and sending an image or video clip to an FTP server. By using FTP client function, you can send files which has been shot and recorded linked with the external sensor input or with the built-in motion detection function to FTP server.



Select **On** when you use FTP function. The FTP client Setting screen appears.

Select **Off**, when you do not wish to use the FTP client function.

Note:

The frame rate and operability on the main viewer may decrease while a file is being transmitted by the FTP client function.

- **FTP Server Name:** Type the FTP server name to upload still images up to 64 characters, or the IP address of the FTP server.
- **User Name:** Type the user name for the FTP server.
- **Password:** Type the password for the FTP server.
- **Re-type Password:** To confirm the password, type the same characters as you typed in the Password box.
- **Passive Mode:** Set whether you use the passive mode of FTP server or not when connecting to FTP server. Select **On** to connect to FTP server using the passive mode.
- **Test:** After setting the FTP server information, you can tick the test key to test if the connection between IP CAM and FTP server works.
- **Effective Period:** Set the period when the periodical sending is effective.
 - **Always:** The periodical sending is always effective.
 - **Schedule:** You can specify the period when the periodical sending is effective in the schedule setting in the other section.

Select Schedule and click the **Schedule** button, and the Schedule setting page will appear.

Schedule

Schedule selection e-Mail(SMTP) - Alarm

Start time 00 : 00 - End time 24 : 00

Mon	(Empty)	Add	Remove	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Tue	(Empty)	Add	Remove																								
Wed	(Empty)	Add	Remove																								
Thu	(Empty)	Add	Remove																								
Fri	(Empty)	Add	Remove																								
Sat	(Empty)	Add	Remove																								
Sun	(Empty)	Add	Remove																								

Use the same time schedule every day.

Save Cancel

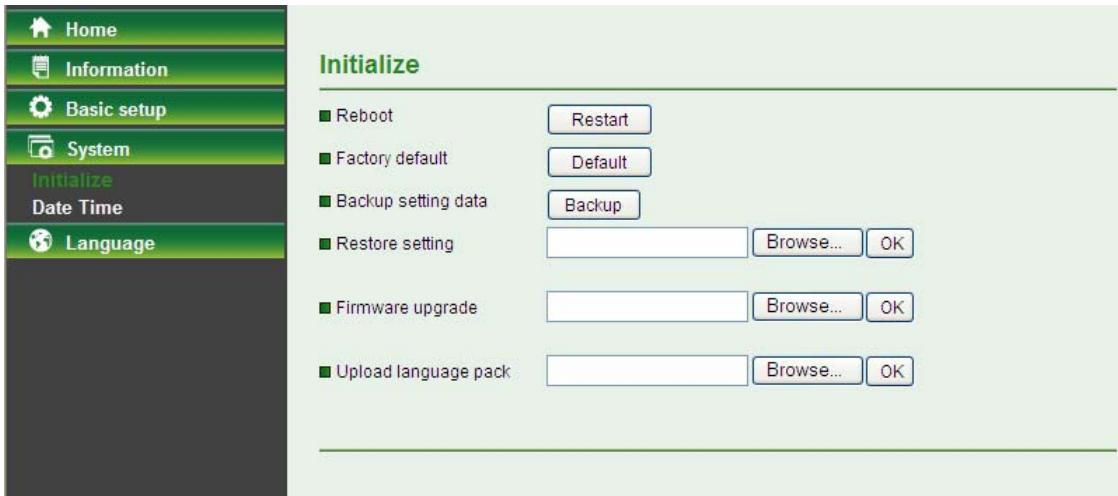
- **Schedule Selection:** Select the list box to specify the schedule you want to set.
 - ✓ FTP -Alarm / E-mail (SMTP) -Alarm
- **Start Time, End Time:** Specify the **Start Time** and the **End Time**.
- **Use the same time schedule every day:** When this is checked, the **Start Time** and **End Time** set to **Mon** (Monday) are applied to all days. In this case, the **Start Time** and **End Time** of the other days than **Mon** (Monday) cannot be input.
 - ✓ **Mon (Monday) to Sun (Sunday):** The time period on the right of the checked day is the effective period of the schedule.

5.4 System

Click **System** to display the sub-folders including **Initialize** and **Date Time**.

The screenshot shows the left sidebar of the camera's web-based configuration interface. The sidebar has a dark grey background with green horizontal bars at the top. The menu items listed are Home, Information, Basic setup, System, Initialize, Date Time, and Language. The 'System' item is currently selected, indicated by a white background. To the right of the sidebar, there is a large white rectangular area containing the TP-LINK logo ('TP-LINK® The Reliable Choice') and the text 'WELCOME TO CAMERA SETTING PAGE'.

5.4.1 Initialize



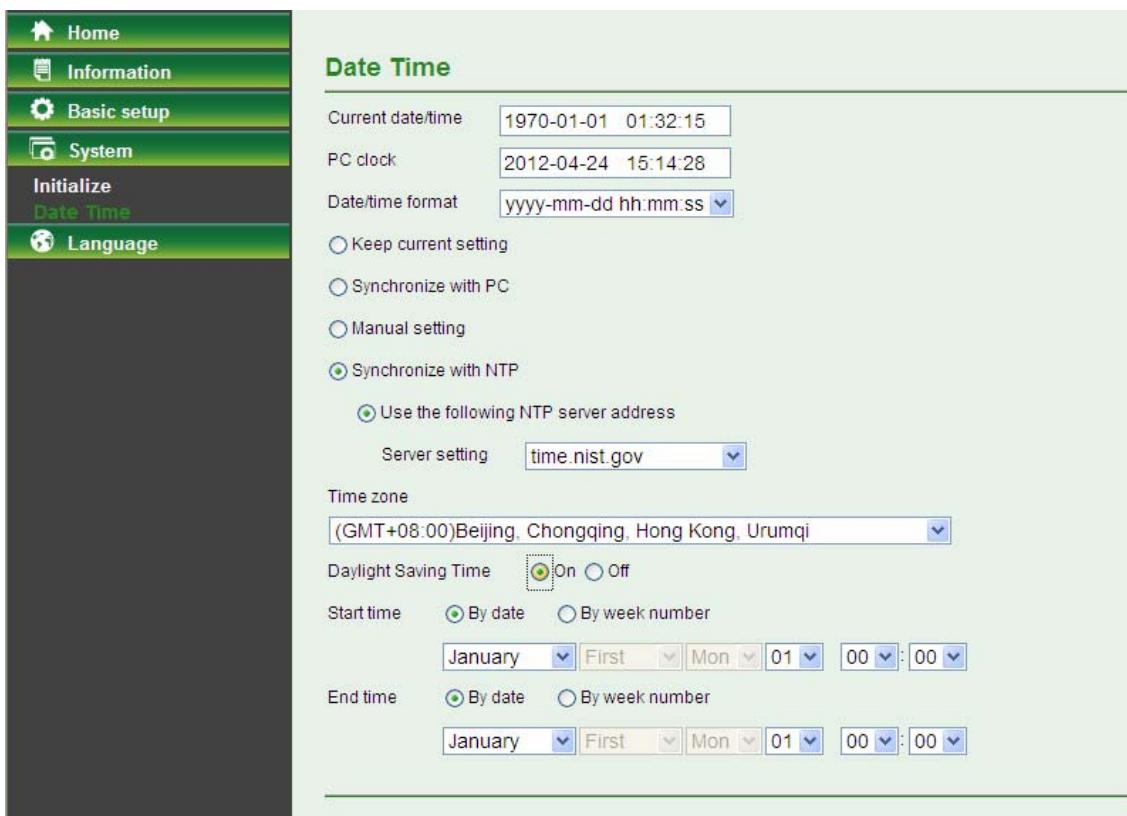
- **Reboot:** Click this button to reboot this Camera. It takes one minute to complete the reboot process.
- **Factory Default:** Click this button to recover this Camera to the factory default setting. A confirmation dialogue will appear and then click “OK” to execute. The network indicator on this Camera will start to blink. This Camera will reboot automatically after completing adjustments to the default setting. Don't turn off this Camera until the device finish rebooting.
- **Backup Setting:** Click this button to save the setting data of this Camera into a file. Click “Save” and follow the instructions on the browser to save the setting data file to the location you specified.
- **Restore Setting:** Download the saved setting data of this Camera. Click “Browse” and select saved file. Click “OK” and this Camera is adjusted according to the loaded data and then restarted.
- **Firmware Update:** Update the device software. Click “Browse” and select the file for updating. A confirmation dialogue will appear. Click “OK” to start. This Camera will reboot upon completion.
- **Upload language pack:** Click “Browse” and select the file for updating, and then the present language display of WEB User Interface could be changed. A confirmation dialogue will appear. Click “OK”, then the update will be applied immediately. The default language is “English”.

 **Note:**

When updating the firmware version, please use the file specific for the model. Otherwise, some problems may occur. Unless the updating completed, please don't turn off the power or disconnect the network.

5.4.2 Date Time

The Date Time screen displays all options of time setting.



- **Current Date / Time:** This displays the current date and time of this Camera.
- **PC Clock:** This displays the date and time of the monitoring PC clock.
- **Date/Time Format:** You can click the drop-down list to select different time display formats.
- **Keep current setting:** Select this mode to keep the current date and time of this Camera.
- **Synchronize with PC:** Select this mode to keep the date and time of this Camera is the same as the monitoring PC.
- **Manual setting:** Select this mode to adjust manually the date and time of this Camera.
- **Synchronize with NTP:** Specify the NTP server name and the Refresh Interval to synchronize the date and time of this Camera with those of the time server, known as the NTP server.

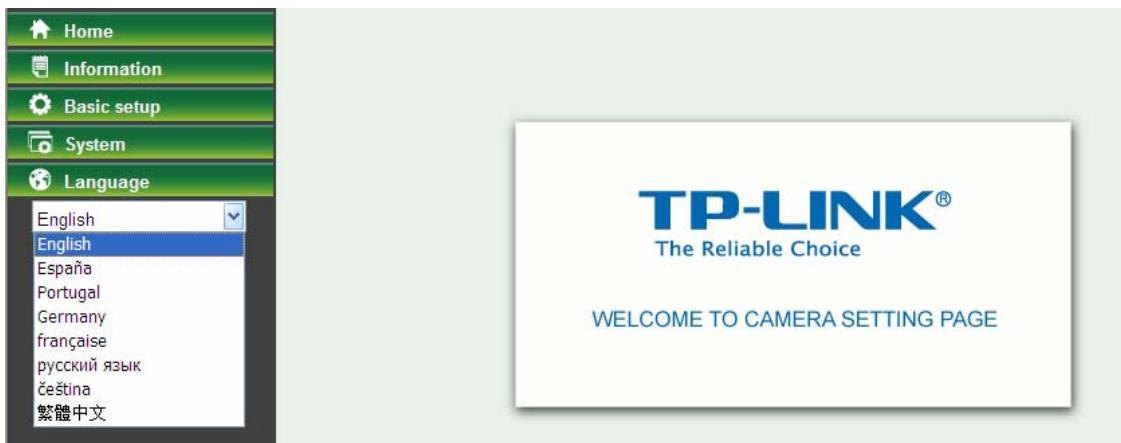
Note:

The NTP server (Network Time Protocol) is the time server which is an Internet standard protocol built on the top of TCP / IP. This assures accurate synchronization to the millisecond of computer clock times in a network of computers.

- **Time Zone:** Select the Time Zone format of Greenwich Mean Time among different cities. The time display will be the same as the current date / time option.
- **Daylight Saving Time:** There are two modes to choose for setting up daylight saving time.
 - **By Date:** Set the start and end time by select month, day, hour, and minute.
 - **By Week Number:** Set the start and end time by select month, week, hour, and minute.

5.5 Language

Select a language from the drop-down list, the present display language of WEB User Interface will be changed.



Appendix

A. Frame-rate and Bitrate Table – Help to set Camera with your network environment to access Internet.

Base on your network upload environment to choose the suitable Image-Quality setting. For example, if the network environment is ADSL 256Kb (upload) / 2Mb (download), the most fluent Image-Quality needs to set up under 256Kb situation.

MJPEG / Kbps, fps

Image Size	Frame Rate Setting(FPS)	Current Bitrate(Kbps)	Current Frame Rate(FPS)
640*480	30	9746	29
640*480	20	6419	19
640*480	15	4970	14
640*480	10	3162	9
640*480	7	2427	7
640*480	5	1961	5
640*480	1	392	1
320*240	30	3416	29
320*240	20	2270	19
320*240	15	1770	14
320*240	10	1188	9
320*240	7	900	7
320*240	5	706	5
320*240	1	147	1
160*120	30	1493	29
160*120	20	989	19
160*120	15	756	14
160*120	10	499	9
160*120	7	346	7
160*120	5	302	5
160*120	1	62	1

B. Storage Requirement Table - Help to set Recording Storage System

Please refer to the following table to find out the capability for recording into your hard disk.

MJPEG Storage Requirement GB /1 Channel / Day

Image Size	Frame Rate Setting(FPS)	Current Bitrate(Kbps)	GB /1Channel / 1Day
640*480	30	9746	100.4
640*480	20	6419	66.1

640*480	15	4970	51.2
640*480	10	3162	32.6
640*480	7	2427	25.0
640*480	5	1961	20.2
640*480	1	392	4.0
320*240	30	3416	35.2
320*240	20	2270	23.4
320*240	15	1770	18.2
320*240	10	1188	12.2
320*240	7	900	9.3
320*240	5	706	7.3
320*240	1	147	1.5
160*120	30	1493	15.4
160*120	20	989	10.2
160*120	15	756	7.8
160*120	10	499	5.1
160*120	7	346	3.6
160*120	5	302	3.1
160*120	1	62	0.6

C. System Requirement – Help to setup System

Item	Requirements
CPU	Pentium 4 2.8GHz (or equivalent AMD)
Graphic Card	256 MB RAM graphic cards (or equivalent on-board graphic cards)
RAM	2 GB RAM
Operating System	Windows 2000 / Windows 2003 / Windows XP / Windows Vista / Windows 7
Web Browser	Internet Explore 8 or higher

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

Clause	Description
EN 60950-1: 2001	Safety of Information Technology Equipment
EN 50392: 2004	Generic standard to demonstrate the compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz - 300 GHz)
EN 300 328 V1.6.1 (2004-11)	Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive
EN 301 489-17 V1.2.1 (2002-08) and EN 301 489-1 V1.5.1 (2004-11)	Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

<input checked="" type="checkbox"/> Česky [Czech]	[Jméno výrobce] tímto prohlašuje, že tento [typ zařízení] je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
<input checked="" type="checkbox"/> Dansk [Danish]	Undertegnede [fabrikantens navn] erklærer herved, at følgende udstyr [udstyrets typebetegnelse] overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EU.
<input checked="" type="checkbox"/> Deutsch [German]	Hiermit erklärt [Name des Herstellers], dass sich das Gerät [Gerätetyp] in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
<input checked="" type="checkbox"/> Eesti [Estonian]	Käesolevaga kinnitab [tootja nimi = name of manufacturer] seadme [seadme tüüp = type of equipment] vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
<input checked="" type="checkbox"/> English	Hereby, [name of manufacturer], declares that this [type of equipment] is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Español [Spanish]	Por medio de la presente <i>[nombre del fabricante]</i> declara que el <i>[clase de equipo]</i> cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ <i>[name of manufacturer]</i> ΔΗΛΩΝΕΙ ΟΤΙ <i>[type of equipment]</i> ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
Français [French]	Par la présente <i>[nom du fabricant]</i> déclare que l'appareil <i>[type d'appareil]</i> est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]	Con la presente <i>[nome del costruttore]</i> dichiara che questo <i>[tipo di apparecchio]</i> è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo <i>[name of manufacturer / izgatavotāja nosaukums]</i> deklarē, ka <i>[type of equipment / iekārtas tips]</i> atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo <i>[manufacturer name]</i> deklaruojama, kad šis <i>[equipment type]</i> atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart <i>[naam van de fabrikant]</i> dat het toestel <i>[type van toestel]</i> in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]	Hawnhekk, <i>[isem tal-manifattur]</i> , jiddikjara li dan <i>[il-mudel tal-prodott]</i> jikkonforma mal-ħtiġijiet essenziali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, <i>[gyártó neve]</i> nyilatkozom, hogy a <i>[... típus]</i> megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Polski [Polish]	Niniejszym <i>[nazwa producenta]</i> oświadcza, że <i>[nazwa wyrobu]</i> jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
Português [Portuguese]	<i>[Nome do fabricante]</i> declara que este <i>[tipo de equipamento]</i> está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	<i>[Ime proizvajalca]</i> izjavlja, da je ta <i>[tip opreme]</i> v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	<i>[Meno výrobcu]</i> týmto vyhlasuje, že <i>[typ zariadenia]</i> spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]	<i>[Valmistaja = manufacturer]</i> vakuuttaa täten että <i>[type of equipment = laitteet tyypipimerkintä]</i> tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

Svenska
[Swedish]

Härmed intygar *[företag]* att denna *[utrustningstyp]* står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IEEE 802.11b or 802.11g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.