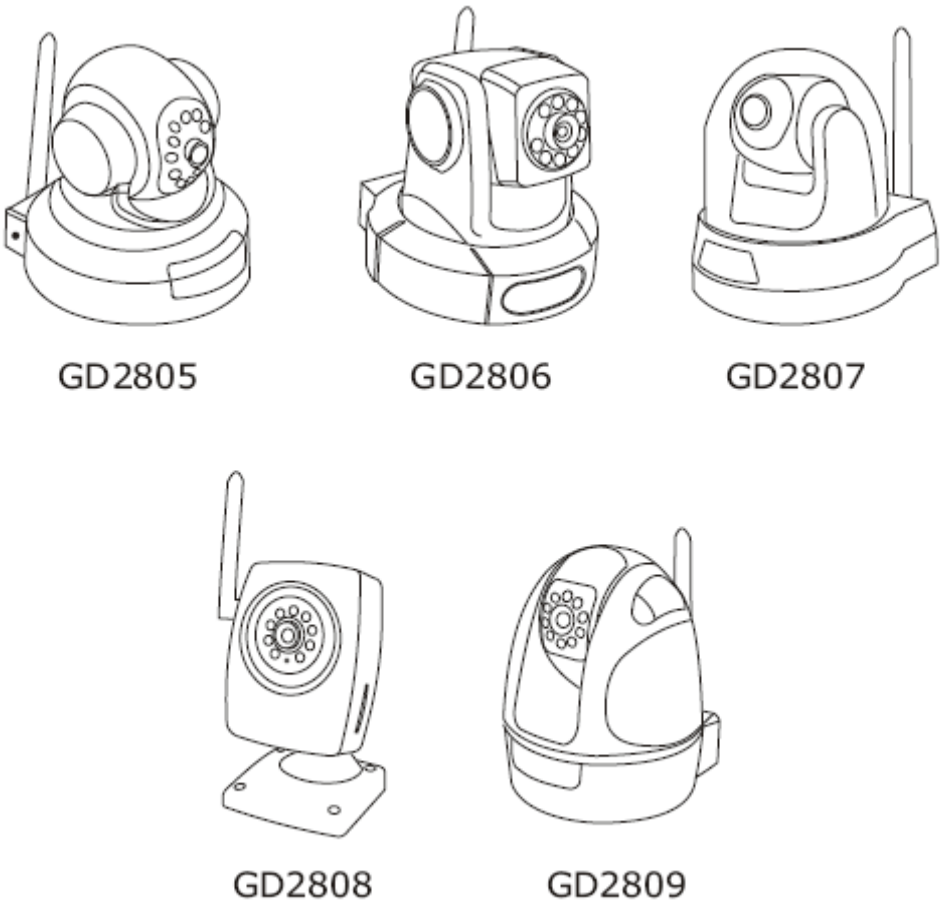
User Manual for IP Camera

Network/IP Camera

(WiFi/cable optional)



Version No.: 2.7

Please read this user manual carefully before using the product.

Contents

1. Overview

1.1 Brief Introduction

The product is a digital IP camera. With a high-integration SOC chip, it integrates video acquisition, compression and network transmission into a single device and provides a high-definition, high-integration and low-cost solution for LAN-/WAN-based remote video surveillance of users. The IP Camera is applicable to medium/small homes or business offices and various occasions needing remote network video transmission and monitoring. The product features easy installation and convenient operation.

1.2 General Features

- H.264 Integrated intelligent IP camera with high-performance programmable media processor
- Optimized H.264 video compression, easy transmission of high-definition images at low network bandwidth
- Max. 10 users simultaneous browsing online
- Embedded Web Server to facilitate real-time monitoring and setting management via IE window
- Support Wi-Fi/802.11b/g wireless network(* WiFi module for optional)
- Real-time browse/recording/snap/retrieval/replay/download
- Dynamic Domain Name Server (DDNS), supporting LAN and Internet
- Diversified network protocols: HTTP, TCP, IP, UDP, SMTP, DDNS, DNS, SNTP, DHCP, UPNP, and so on
- Network adaptation technology: automatic adjustment of video frame rate based on network width
- Motion detection alarm (settable area and sensitivity), alarm recording, and alarm mail sending
- Support Imaging area masking
- Automatic fault recovery: automatic connection after network interruption
- Remote system upgrade

Special Features for each model

	GD2805	GD2806	GD2807	GD2808	GD2809
Pan /Tilt (270/120deg.)	√	√	√		√
SD card	√	√	√	√	√
Wireless Wi-Fi	√	√	√	√	√
IR night vision (5m)	√	√		√	√
Bi-directional listening	√	√	√	√	√
Built-in microphone	√	√		√	√
External alarm input/output			√		√
Waterproof function			√		

1.3 Operating Environment

Minimum Hardware Configuration:

CPU: Pentium 2.0 GHz
Memory: 256 MB
Graphics card: TNT2
Audio card: Mandatory for listening and bidirectional intercom
Hard disk: Not less than 40G for recording images

Recommended Hardware Configuration:

CPU: Pentium 2.6 GMHz
Memory: 512 MB
Graphics card: Nvidia Geforce FX5200 or ATI RADEON 7000(9000) 128M video memory

Operating System:

32-bit Windows2000, Windows XP, Windows2003 and Windows Vista of Simplified Chinese/English Edition, and 64-bit Windows2003, Windows XP and Windows Vista of Simplified Chinese/English Edition)

Software:

Internet protocol IPv4 (Note: IPv6 not supported for the time being)
IE 5.0 or above
DirectX8.0 or above
TCP/IP

Other demands:

The graphics card of the PC running this software needs to support color conversion and zoom of images. Presently graphics cards tested included Nvidia Tnt/Tnt2, Geforce Mx200/400/420/440 Fx5200/5600, ATI Radeon 7000/7200/7500/8500\9000/9200/9500/9600, MatroxG450/550, and INTEL845G/865G. Note that the driver for the graphics card must support hardware zoom.

1.4 Technical Specifications

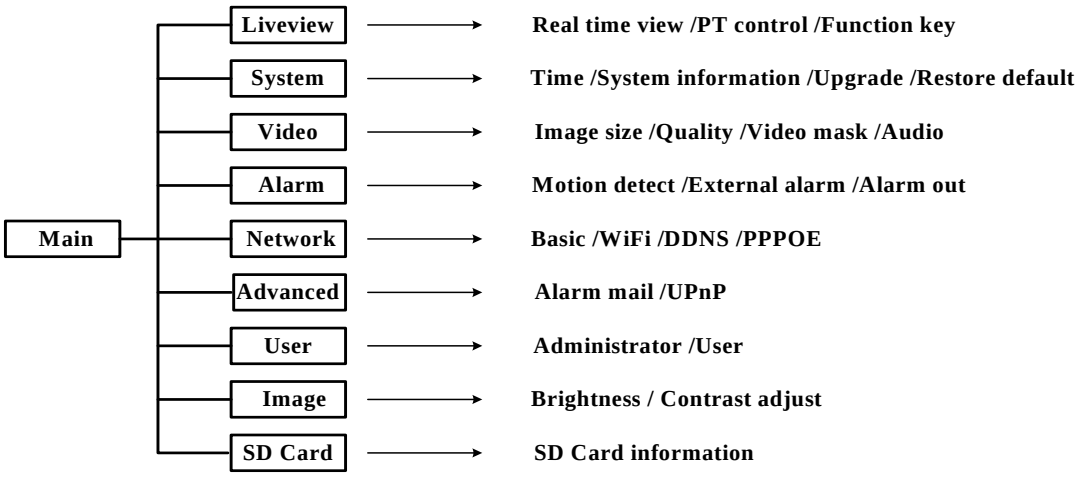
Item	Parameter
Image sensor	1/4''CMOS, 300,000 pixels, minimum illumination: 1 Lux
Video compression algorithm	H.264 baseline profile @Level 2.2
Video resolution	VGA: 640*480, QVGA: 320*240
Night vision distance	5m(not only for GD2807)
PTZ control angle	Horizontal: 270°; vertical: 120°(not only for GD2808)
Video adjustment parameters	Brightness, contrast, image quality
Stream format	Pure video stream or composite audio/video stream
Video frame rate	1~30 frame/second
Video compression bit rate	16Kbit/second ~ 4Mbit/second
Audio input	One linear input or embedded passive MIC input, MIC impedance: 1000Ω(not only for GD2807)
Audio output	One linear output (not only for GD2807)
Audio compression algorithm	G.726
Alarm input	two linear of passive digital contact inputs(only for GD2807, GD2809)
Alarm output	Two linear Relay contact outputs with a rated load of 0.5A 125V(AC) /1A 24V (DC) (only for GD2807, GD2809)
System interface	RJ-45, 10/100M Ethernet interface
	SD card slot; Maximum: 32GB (SD2.0 protocol)
Wi-Fi module	IEEE802.11b/g wireless network
Input power supply	GD2805/2806/2807: 9V/1.5A; GD2808/GD2809:5V/2A
Maximum power	6W
Waterproof capacity	IP44(only for GD2807)
Operating temperature	0~+40°C
Operating humidity	10~85%
Dimensions (D x W x H)	GD2805: 104 x 125 x 106 (mm) GD2806: 103 x 104 x 103 (mm) GD2807: 116 x 140 x 129 (mm) GD2808: 78 x 68 x 128 (mm) GD2809: 109 X 112 X 134 (mm)
Weight (approx.)	GD2805: 260g, GD2806: 298g , GD2807: 345g GD2808: 402g, GD2809: 440g

2. Structure and Installation

Please refer to the Quick Installation Guide in the packaging box.

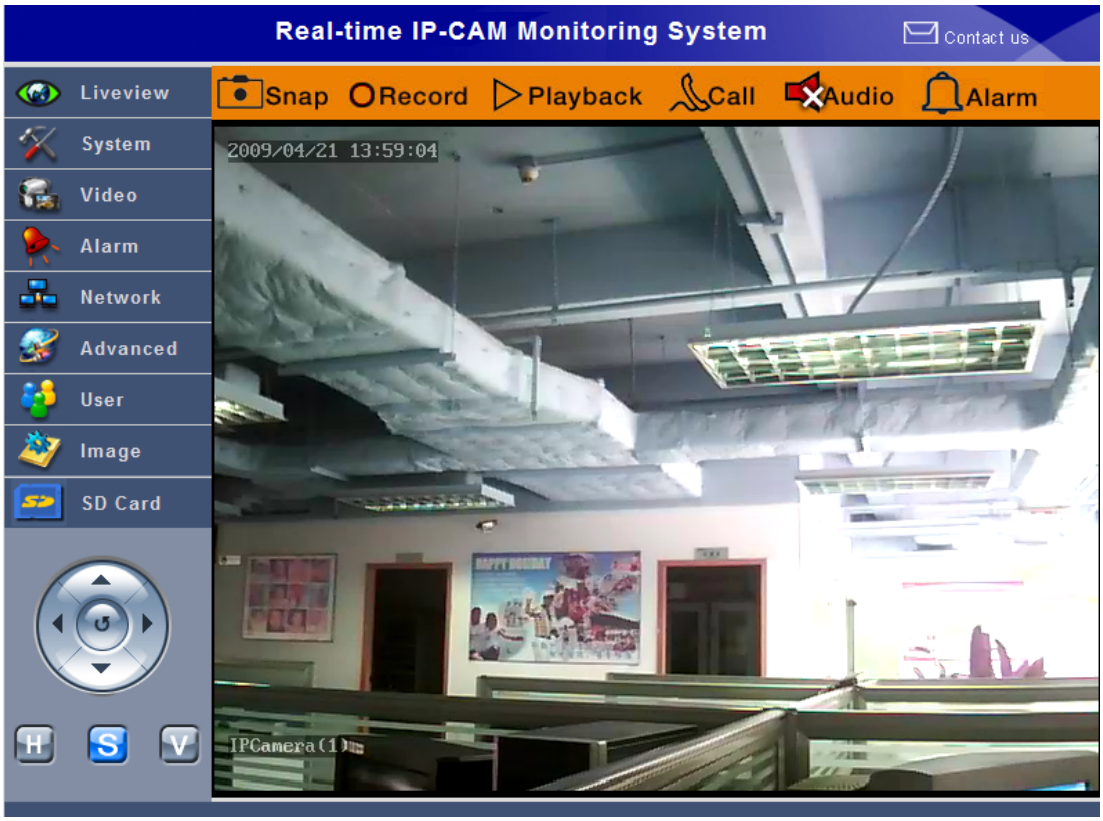
3. Software Setting

■ Setting items:

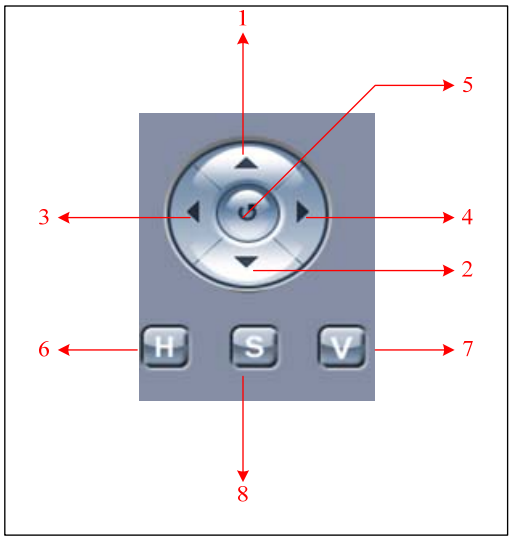


Note: Only the system administrator has the right to conduct parameter setting. An ordinary user can only implement real-time view and does not have any right to change settings.

3.1 Liveview



3.1.1 PTZ Control (Unavailable with GD2808)



■ Meaning of icons:

(1) Up (2) Down (3) Left (4) Right

Note: Click the above icons, and the IP camera will rotate to a fixed angle.

(5) Click this button to return to the default initial position

(6) Click **H** to rotate one cycle at constant speed in horizontal direction

(7) Click **V** to rotate one cycle at constant speed in vertical direction

(8) Click **S** to stop continuous rotation

3.1.3 Function Keys

Snap: Click this key to snap the current picture which will be stored in the local designated path in .jpg format.

Record: Click this key to enable video recording, and recorded files will be stored in a locally designated path in .Mp6 format. If Call or Audio function is enabled for the device, sound recording can also be made at the same time. Click once again to stop recording.

Call: Click this key to enable call function. Please correctly connect the external audio input/output device before use.

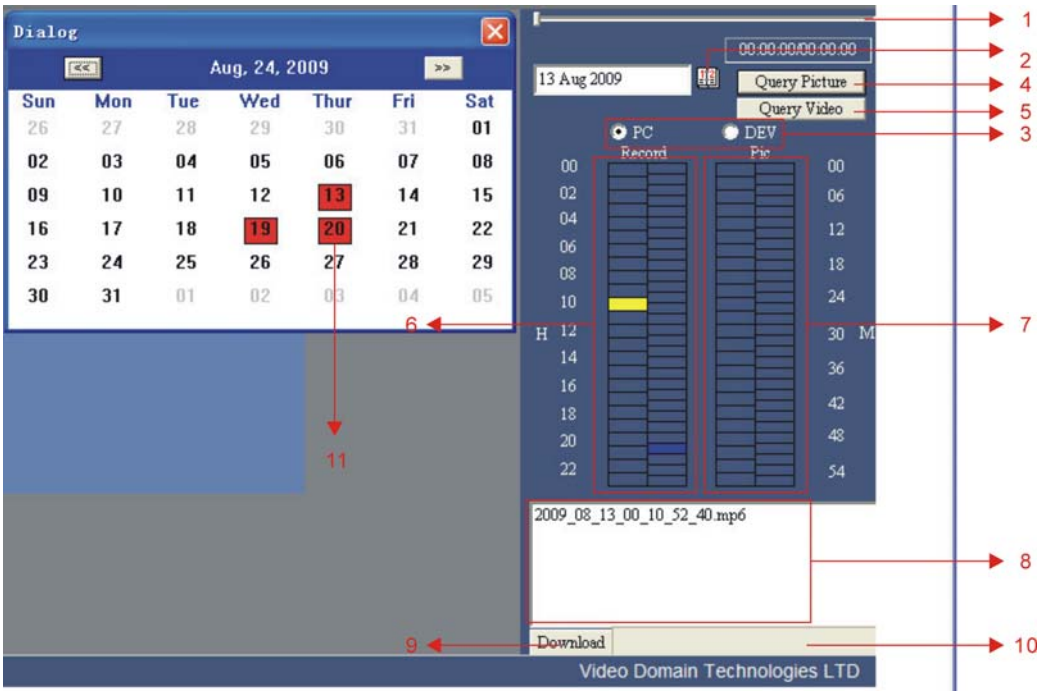
Audio: Click this key to enable listening function. The device has a built-in MIC to listen on-site voices in real time.

Alarm: This alarm ring will turn red and blink after motion detection or an external alarm is triggered. By default, the system will clear an alarm automatically after 30 seconds. Double clicking this icon can manually clear an alarm. For detailed alarm settings, please refer to the Section 3.4, “Alarm”.

Playback: Click this key to play back recorded files, as shown in the following figure:

3.1.3 Retrieving Record Files

The user can search for video and picture files stored in the local PC or SD according to the designated date and time period.



（Playback Note: no sound to play the downloaded video file from the SD card）

■ Meaning of icons:

(1) Play progress indication

(2) Date selection: the current date of the PC by default.
Click  the date table appears. The user can select the designated date.

(3) Select the storage position for recorded files, that is, LOCAL (local PC) or SD Card.

(4) Select picture type files to be retrieved.

(5) Select picture video files to be retrieved.

(6) Indication of time segment of retrieved video files: One bar on the left stands for one hour, and one bar on the right stands for two minutes.
Blue indicates there is a recorded file during this time segment, and yellow indicates the currently selected time segment.

(7) Indication of time segment of retrieved picture files: One bar on the left stands for one hour, and one bar on the right stands for two minutes.
Blue indicates there is a recorded file during this time segment, and yellow indicates the currently selected time segment.

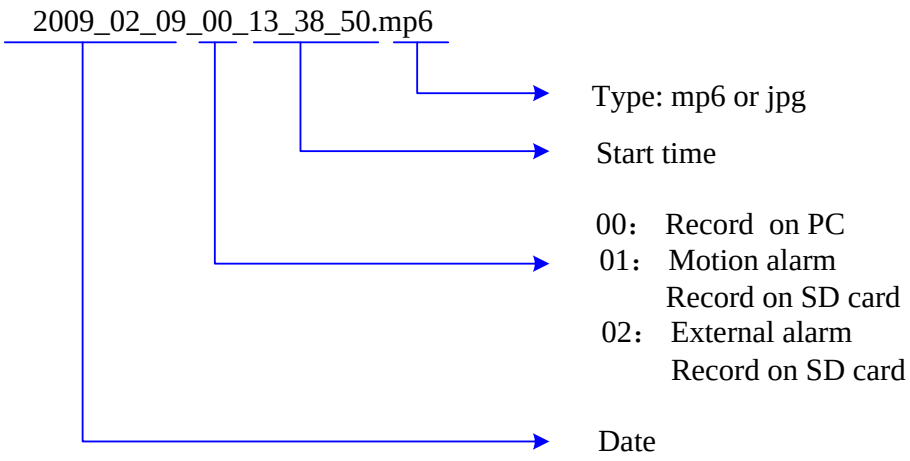
(8) List of recorded files during the designated time segment

(9) Download designated files in the SD card to the local PC.

(10) Download progress indication column of recorded files in SD card.

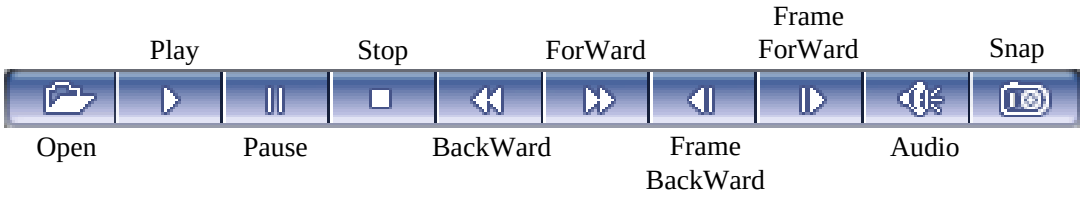
(11) the date with red background: that the local PC to save the video or picture files, you can directly click the date to retrieve file.

■ **Type of recorded files:**



3.1.4 Playing Recorded Files

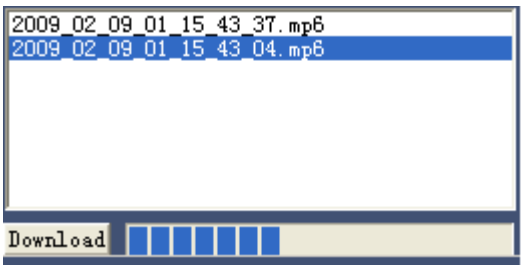
From the list of searched files, you may select a designated file and use the tool below to control play:



Note: The player can only play recorded files stored in the local PC, so only after files in the SC card are downloaded to the local PC can they be played.

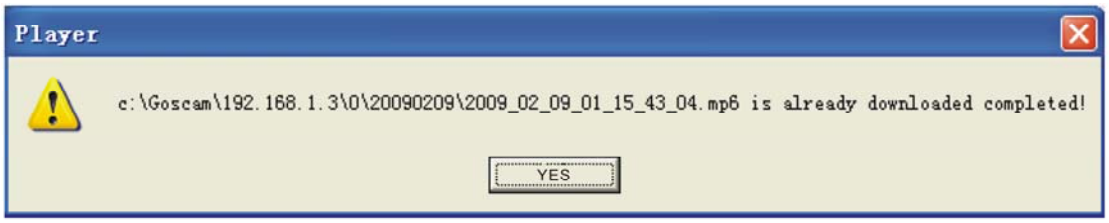
3.1.5 Downloading Files in SD Card

Select a file in the SD card, click Download, and the file will be downloaded to the designated storage path in the local PC.



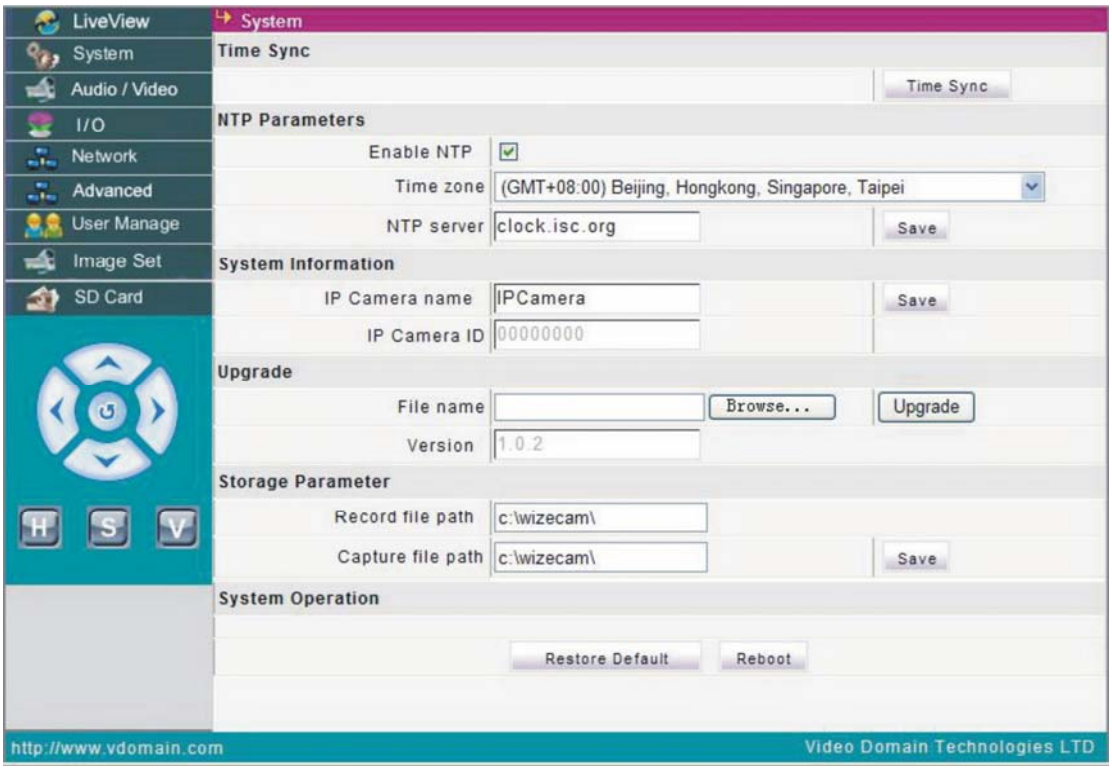
Note:

In IE8.0 version may appear character as “waiting...” ， indicating the file is being downloaded, After the download is complete will automatically pop up a dialog box：



click **YES**, the system will automatically play the downloaded file.

3.2 System



Time Sync: Click **Time Sync** to set synchronization of the system clock with the PC.

NTP Parameters: Sets synchronization of the system clock with the NTP server clock.

Enable NTP: Enables the NTP clock.

Time Zone: Selects a time zone.

NTP Server: Fill in a valid NTP server address.

After completion of setting, click **Save** to save the settings.

System Information: Basic device information.

IP Camera name: Enter device name. After completion, click **Save** to save the settings.

IP Camera ID: Displays the eight codes of the device after delivery. It is the unique identity of the device.

Upgrade: software upgrade

File name: Select a designated file to be upgraded. Click **Upgrade**. The system will display the upgrade progress.

After upgrade, the system will reboot automatically.

Version: Indicates the current software version number (please refer to the real product).

Note: Do not disconnect the power supply and network of the device during upgrade; otherwise the upgrade will fail.

If the device needs any upgrade software, please directly contact our company or our local dealer to get the upgrade files.

Our company shall not be held liable for any device failure arising from unauthorized upgrade files.

Storage Parameter: sets storage path for recorded files.

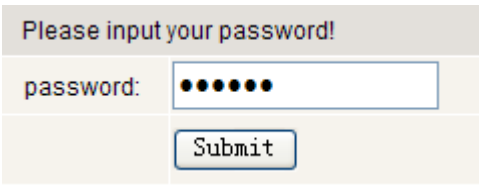
Record file path: Storage path for video files.

Capture file path: Storage path for picture files.

After completion of setting, click **Save** to save the settings.

System Operation

Click **Restore Default**. The following window appears:



Enter the administrator password. After the password is submitted, the device will restore the default parameter settings. Please be prudent in using this function!

Click **Reboot**. The device will reboot after confirmation. The device will complete reboot in about ten seconds, and you may log on again.

3.3 Video

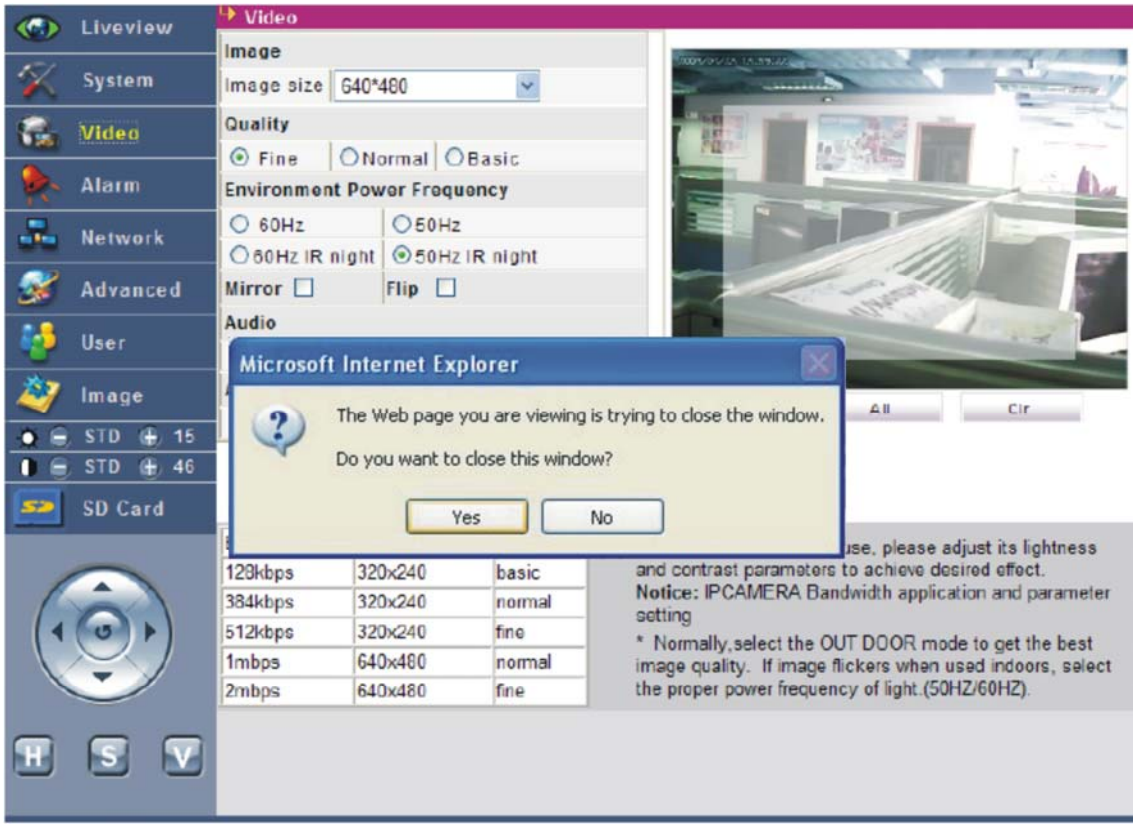


Image: Image resolution setting

Image size: Select VGA(640*480) or QVGA(320*240).

Note: After modifying image resolution, click **Save**.， then the close tips interface will appear, please click **YES**, The modified settings will take effect after automatic reboot of the device.

Quality: Image quality setting

The user may select the **Fine**/**Normal**/**Basic** mode according to the actual needs.

Note: Different image resolution and quality occupies different network bandwidth. Please refer to the network bandwidth reference table on the bottom of the Setting interface.

Environment Power Frequency: Selection of operating environment and power frequency of light

Select the light power frequency of **50Hz** or **60Hz.**

In case of poor illumination of device installation site or night use, please select the night vision mode **IR Night**.

Note: Wrong light power frequency selection may cause image flickering.

Mirror/**Flip**

If the device is installed upside down, the image may become upside down or flipped from left to right (exceptional with GD2809).

The two items may be enabled to make adjustment.

■ **Video Mask**

If partial image area needs to be masked, directly use your mouse in the right image area to frame and drag an area. After returning to the Liveview interface, the area will be masked by black.

All: Select to mask the entire picture; **Clr**: Clear the video mask area.

Mask Set: After selecting a mask area, click this button to confirm;

Audio

OFF/ON: Enables/disables audio.

Audio Mode

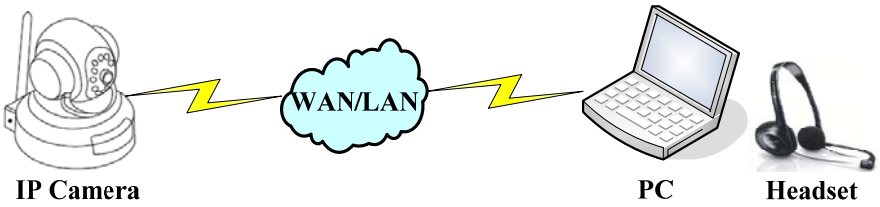
MIC: Select builtin MIC as the audio input source; (no builtin MIC with GD2807)

Line in: Select an external linear audio device or external active MIC as the audio input source.

After completion of setting, click **Save** to save the settings.

■ **Audio usage:**

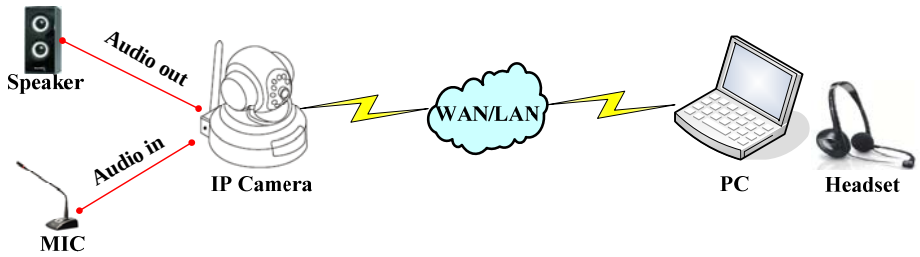
(1) Listening



Enter the Liveview interface. Click the 

icon to conduct onsite listening.

(2) Call

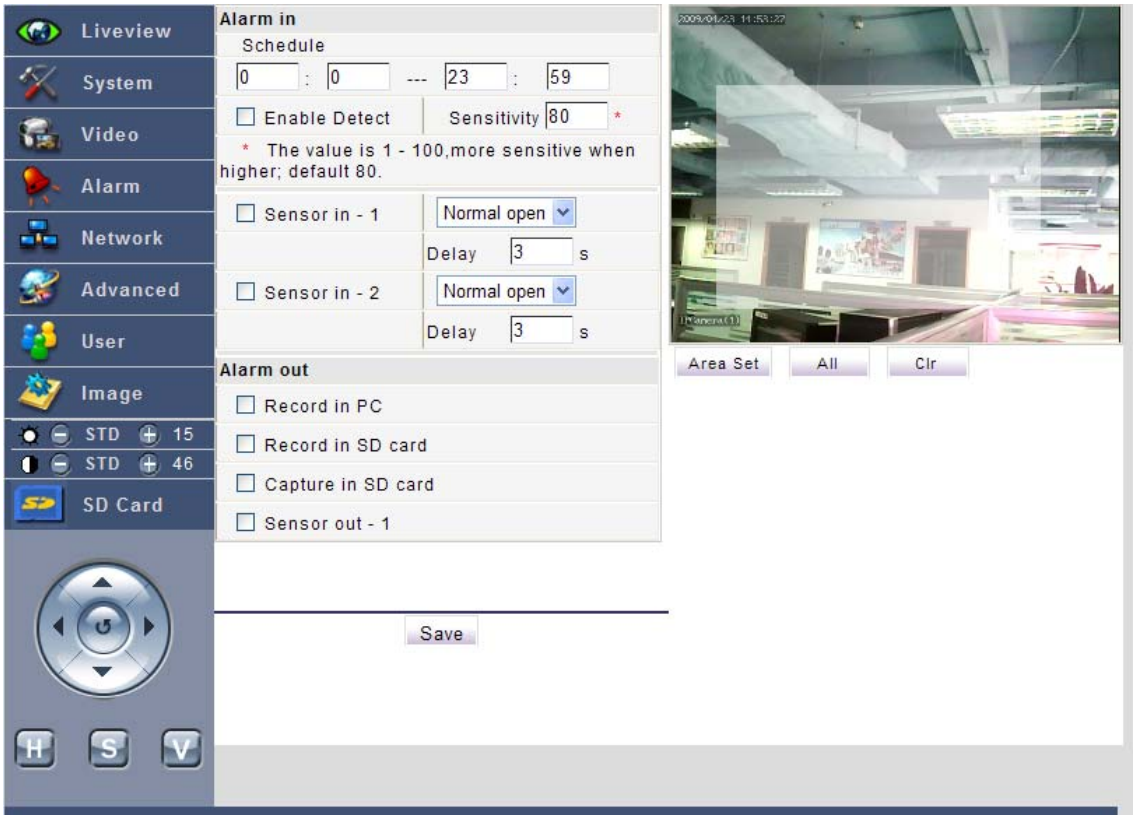


Enter the Liveview interface. Click the 

icon to implement bidirectional intercom.

Note: In the packaging box of the device, the delivery-attached accessories include an Audio in/out line. The Audio in line is used for connecting a linear audio device (such as CD, DVD, or MP3) or active MIC (impedance: 1KΩ). The Audio out line is used for connecting sound device, speaker, and so on.

3.4 Alarm



Alarm in: Alarm input setting

Schedule: Sets alarm time segment within 24 hours.

■ Motion Alarm

Enable Detect: Enables motion detection function.

Sensitivity: Sets **motion** detection sensitivity (80 by default). The higher the setting, the higher the sensitivity.

■ Motion Detect Area

Click and drag your **mouse** diagonally to select a detection area.

All: Sets the entire picture as the motion detection area.

Clr: Clears all motion detection areas.

Area Set: After setting **the** detection area, click this button to confirm;

■ External Alarm

Sensor in _1 / Sensor in_2: Enables external alarms 1 and 2;

Normal Open / Normal Close: Select **alarm** contact type:

Delay: Sets external alarm delay time. If an alarm still exists after period from actual trigger to the delay setting time, the device will confirm this alarm as a valid one.

Alarm out: Alarm output setting

Record in PC: Enables local PC recording after alarm trigger.

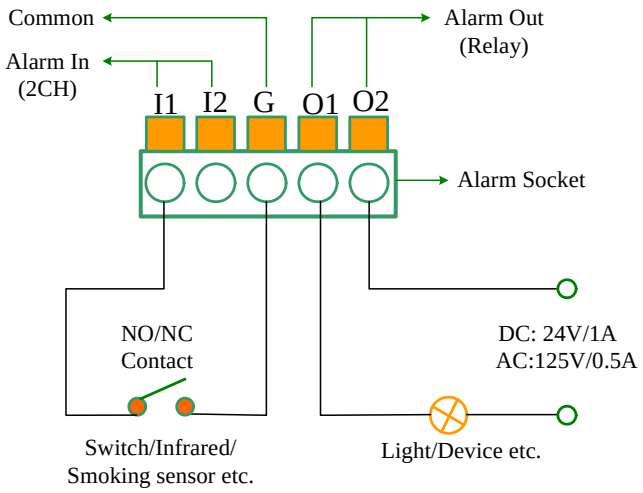
Record in SD card: Enables SD card recording after alarm trigger.

Capture in SD card: Snap site images and store them in the SD card after alarm trigger.

Sensor out _1: Enables relay signal output of the device after alarm trigger.

After completion of setting, click **Save** to save the settings.

■ Schematic diagram of external alarm hardware connection



I1/I2: Sensor in_1/Sensor in_2;

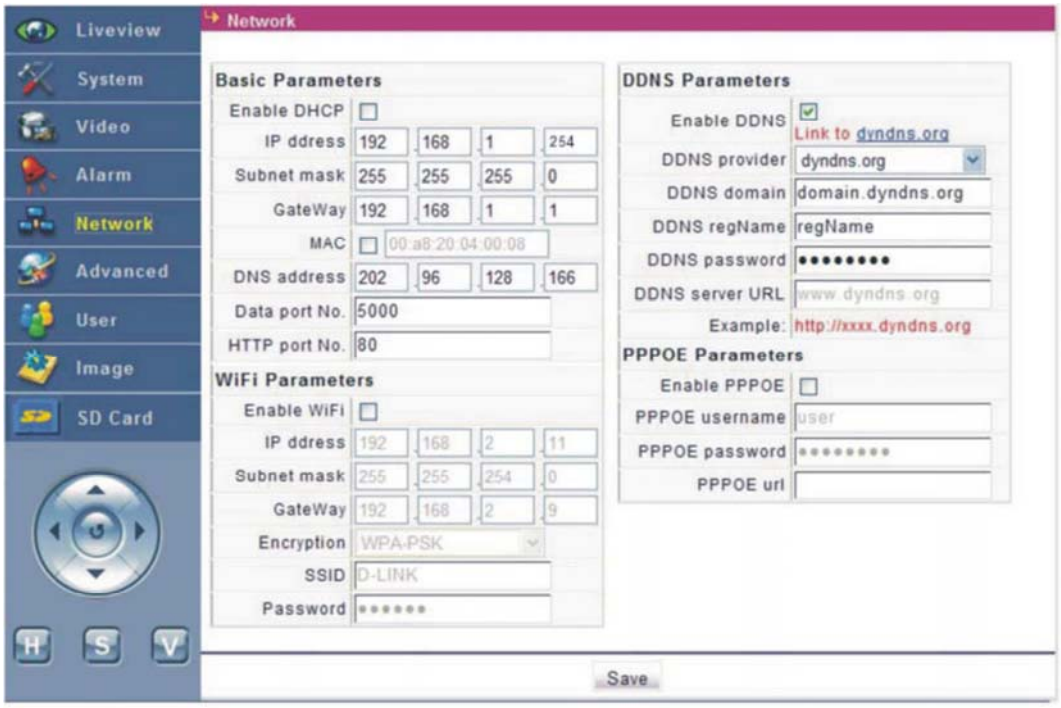
NO: Normal Open contact: normally I1/I2 is disconnected with G; short-circuiting will trigger an alarm;

NC: Normal Close contact: normally I1/I2 is short-circuited to G; disconnection will trigger an alarm;

Alarm Out: Sensor out_1;

(**Remark**： only for GD2807,GD2809 with external alarm function)

3.5 Network



3.5.1 Basic Parameters: basic parameter settings of the wired network

If a fixed IP (WAN/LAN) is used for connection of the device, the following settings are necessary:

Enable DHCP: Enables DHCP function. If a DHCP Server exists over your network (for example, the LAN has a router device providing DHCP service), after this function is enabled, the DHCP Server will automatically allocate an IP address and a DNS address to your device.

IP address: Enter the IP address of the IP camera, such as 192.168.1.100.

Subnet mask: Enter the subnet mask, such as 255.255.255.0.

GateWay: Enter the gateway address, such as 192.168.1.1.

MAC: Physical address of the IP camera, it is a unique identity of the IP camera over the network. Do not change its settings at will.

DNS address: Enter the DNS address. Please enter the locally valid DNS address;

Data port NO: Data access port, 5000 by default;

HTTP port NO: Web access port, 80 by default;

After completion of setting, click **Save** to save the settings.

3.5.2 WiFi Parameters: basic parameter settings of the wireless WiFi network

The device may be configured with a WiFi module, which supports WiFi network connection.

Enable WiFi: Enables WiFi connection.

IP address: Sets the IP address of the wireless network.

Subnet mask: Sets subnet mask of the wireless network.

Gateway: Sets the IP address of the wireless network gateway;

Encryption: Selects encryption mode. You may select WEP/WPA-PSK/WPA2-PSK.

SSID: A login name for identity verification of the wireless network. Only a user passing identity verification is authorized to access the wireless network. It shall be the same as the SSID set in the wireless AP (router).

Password: Wireless encryption password.

After setting, click **Save** to save the settings. The device will reboot automatically.

■ **Precautions on use of WiFi**

(1) First enable the wireless function of the wireless AP (router), and set the SSID and password;

(2) Upon delivery of the device, the WiFi function is disabled by default. Therefore, you must first log on to the device via the wired network, enable the WiFi function, and then set related parameters;

(3) The wireless IP address/gateway shall be in different network section from the wired IP address/gateway. If the wireless IP address/gateway is 192.168.1.XXX, the wired IP address/gateway in **Basic Parameters** shall be set in another network section such as 192.168.2.XXX;

(4) Among the **Basic Parameters** of the wired network, the DHCP function shall be disabled;

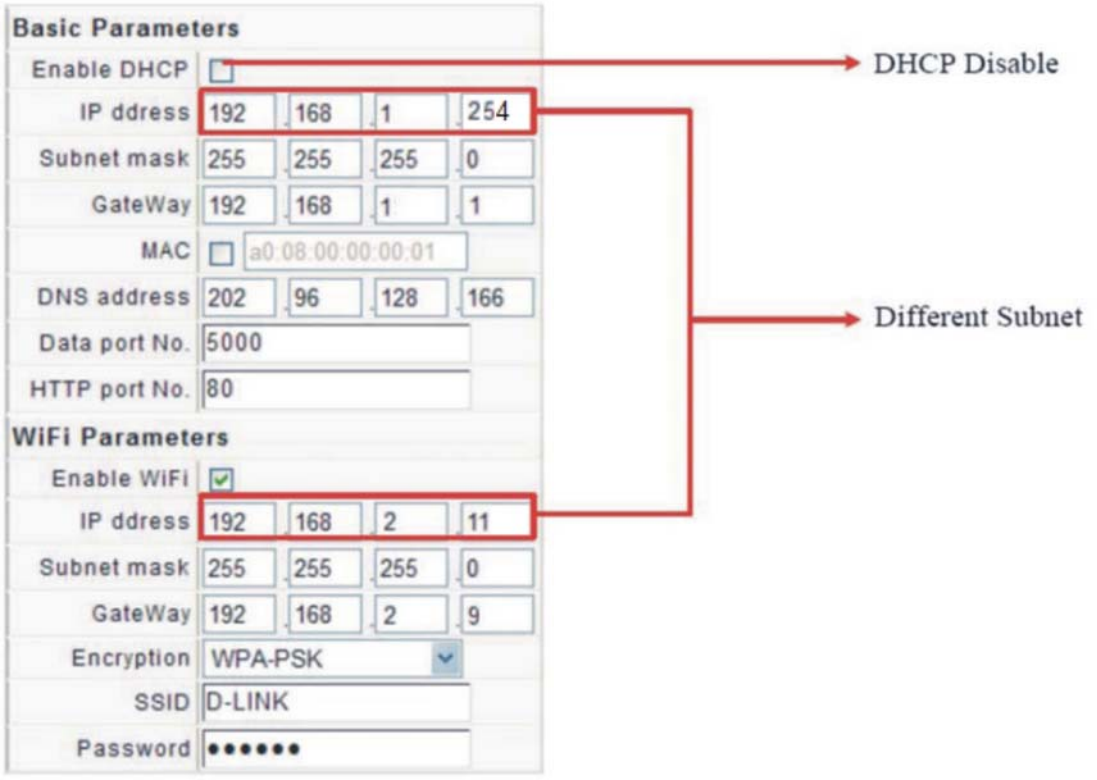
(5) The DNS address/Data port No./HTTP port no of the wireless network are consistent with related parameters in **Basic Parameters**, so no additional setting is needed;

(6) The SSID name and encryption password shall be consistent with the wireless AP (router);

(7) The use of WiFi connection may lead to the phenomenon of image delay or stagnation. It is recommended that when using WiFi connection, the image resolution of the IP camera be set to QVGA;

(8) WiFi transmission distance of the device: about 30 meters in open area; and 15 meters in wall-blocked area;
Other 2.4GHz wireless products on site may affect the WiFi transmission effect of the device.

■ **WiFi Setting Example**



3.5.3 DDNS Parameters: DDNS parameter setting

The device supports dynamic IP domain name resolution. By binding with a fixed domain name, the device can access via the fixed domain name, regardless of any change of the IP address of the public network of the IP camera.

Before setting DDNS parameters of the device, please first log on to the designated DDNS server website (www.3322.org, www.dyndns.org, www.no-ip.com) to complete user registration and application for a DDNS domain name.

Enable DDNS: Enables the DDNS domain name service.

DDNS provider: Select the DDNS Server. The device supports three DDNS Server addresses:
www.3322.org , www.dyndns.org, www.no-ip.com ;

DDNS domain: Domain name applied from the DDNS server;

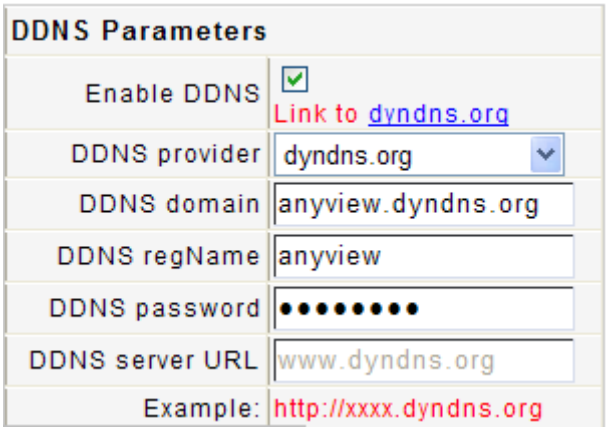
DDNS regName: User name registered with the DDNS server;

DDNS password: Password registered with the DDNS server;

DDNS server URL: Displays the current address of the DDNS server;

After completion of setting, click **Save** to save the settings.

■ **DDNS Setting Example**



Note: In case of access via domain name, “www” shall not appear before the address. As shown in the above figure, to access, enter the following address in the IE address bar:
http://anyview.dyndns.org .

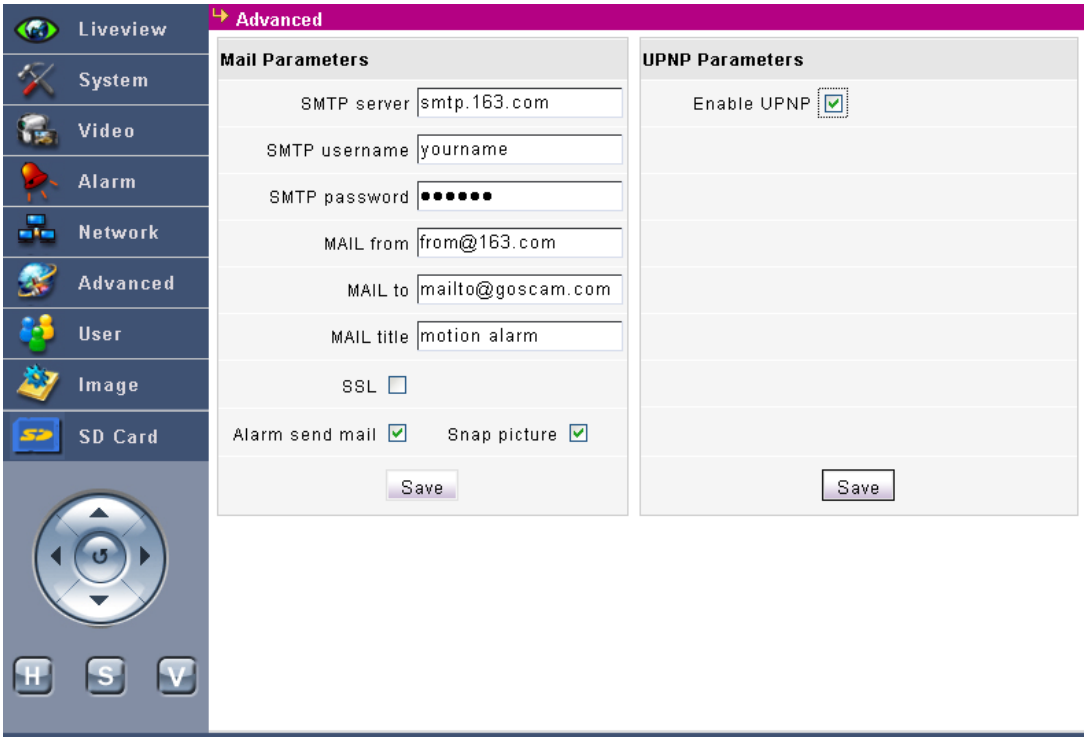
3.5.4 PPPOE parameters: Setting of PPPOE dial-up Internet access parameters

The device supports PPPOE dial-up Internet access, for example, an ADSL Modem can independently complete Internet access connection. The IP address for dial-up Internet access is a dynamic one, so please first apply for and set a DDNS domain name. refer to Section 3.5.3, “**DDNS Parameters**”.

Enable PPPOE: Enables PPPOE function;
PPPOE username: Enter the user name;
PPPOE password: Enter the user password;
(For details of username and password, please consult the local ISP.)
PPPOE url: Displays the current IP address after successful dial-up connection;

After completion of setting, click **Save** to save the settings.
Connect your device to the ADSL Modem. Turn on power supply again, and the dial-up connection will succeed after about two to three minutes.
If a DDNS domain name has been set, the device will automatically connect to the DDNS Server, and the user can access via the domain name.

3.6 Advanced



Mail parameters: sets alarm mail

SMTP server: SMTP mail server address, such as “smtp.gmail.com”;

SMTP username: Login username of the sending mailbox;

SMTP password: Login password of the sending mailbox;

MAIL from: Outbox address;

MAIL to: Inbox address;

MAIL title: The title of a mail;

SSL: Enables mail SSL security authentication;

Alarm send mail: An alarm mail will be sent after an alarm is triggered.

Snap picture: Upon alarming, snapshots will be sent as an attachment to the alarm mail.

Note: 1) If an alarm mail needs snapshots as an attachment, you must insert the valid SD card.

2) If you send E-mail failed, please make sure the DNS settings in the “Basic parameter” are the same as with the DNS of your local telecommunications department.

3) If the “SMTP server” was set as smtp.gmail.com, you need to select SSL, otherwise NOT select.

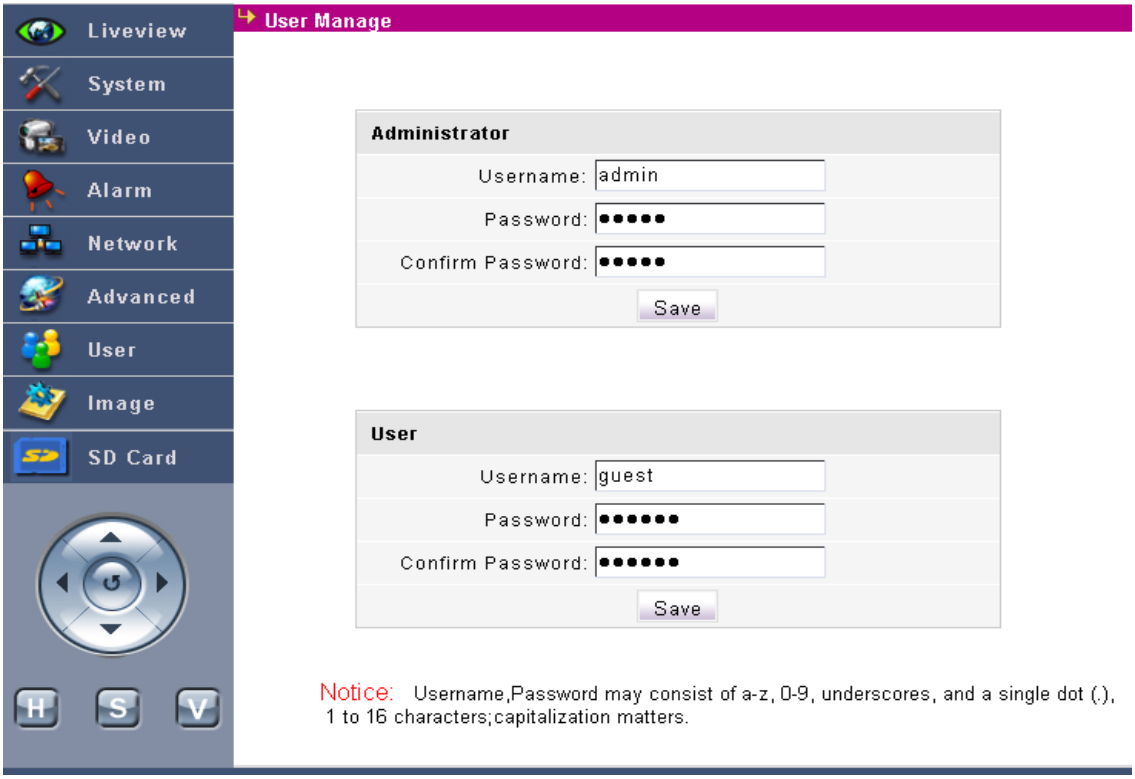
UPNP parameters

Automatic port mapping setting: this function is enabled if the LAN has a server (such as a router) with UPNP function, so the server will automatically map the two ports (Web/Data) of the device into an external network.

Enable UPNP: Enables UPNP function.

After completion of setting, click **Save** to save the settings.

3.7 User



The device supports user rights of two levels.

Administrator: system administrator setting; The system administrator has the highest right and can access the device and modify all of its parameters.

Username: Enter the name of the administrator;

Password: Enter the password of the administrator;

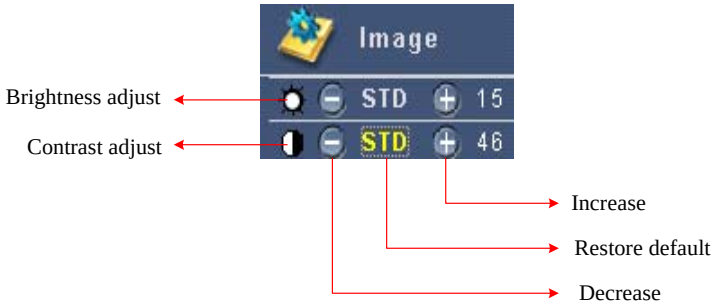
Confirm Password: Password confirmation;

User: ordinary user setting, an ordinary user can log in to access the device, but cannot set and modify its parameters. The parameter setting method is the same as that for **Administrator**.

After completion of setting, click **Save** to save the settings.

3.8 Image

The user can adjust the brightness and contrast of images to suit different operating environments. Click the **Image** icon. The following window appears:

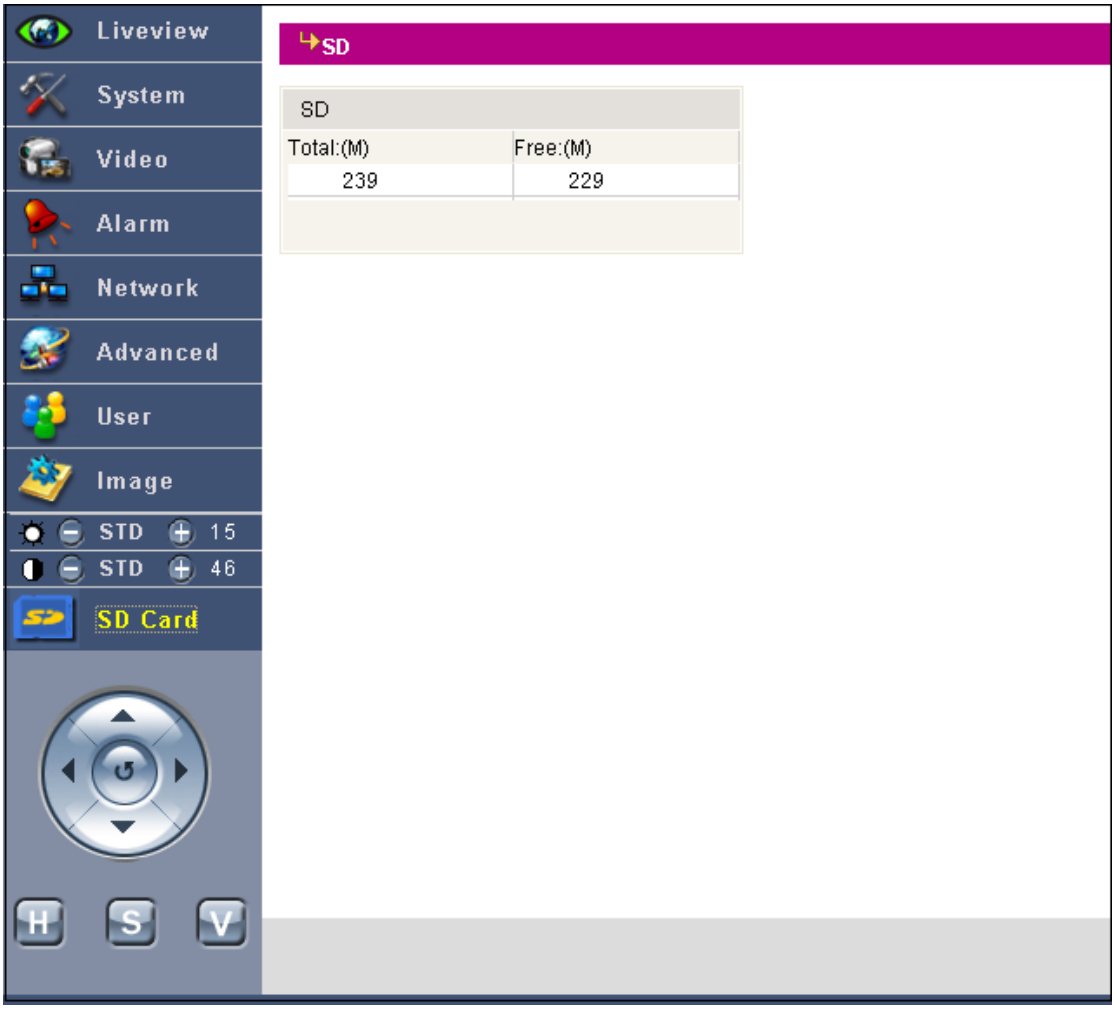


The user can observe the brightness and contrast adjustment effect in the **Liveview** window in real time.

After setting, click the **Image** icon. The widow closes.

3.9 SD Card

Display the information about the current SD card.



On the blank of the interface, right click. A dialog appears. Select **Refresh** to view the total size and free size of the SD card. If **Empty** is displayed, it indicates SD card is not inserted.

Note:

(1) SD cards from such brand manufacturers as SanDisk/KingSton/KingMax are recommended.

(2) The SD card serves as an emergency storage device. It only supports recording enabling after alarm trigger.
It only supports recording of videos and pictures instead of audios.

(3) Do not pull out the SD card during recording to avoid affecting normal recording of files and normal reading of the SD card.

(4) The SD card uses cyclic recording mode. If the system detection shows that the free capacity of the SD card is less than about 50 MB, the system will automatically delete recorded files on the earliest day in the SD card to release some space. Therefore, please download and back up recorded files in your SD card in time to avoid loss of important recorded alarm files.

4 FAQs

◆ How to restore default settings?

If the administrator forgets the login username and password or cannot log on to the IP camera due to such causes as wrong parameter settings during use, you may solve this problem by restoring the default settings.

Restoration method: At the same time when turn on the power supply for the IP camera, press the RESET button of the device for over 5 minutes and release, and the system will automatically restore the default settings.

Default administrator login parameters of the device:
Username: admin
Password: admin

Default network parameters of the device:

IP address: 192.168.1.254	Subnet mask: 255.255.255.0
Gateway: 192.168.1.1	DNS address: 202.96.128.166
Data port: 5000	HTTP port: 80
DHCP: disable	WiFi: disable

◆ How shall we do if there is no video image in the Internet Explorer (IE)?

Possible cause: the plug-in is not installed. If it is the first time to use the Internet Explorer (IE) to access the IP camera, you must download and install the OCX plug-in.

◆ Which ports does the IP camera need to use to access an extranet via a router?

If the IP camera accesses to an extranet via a router, the following ports of the router needs to be enabled:

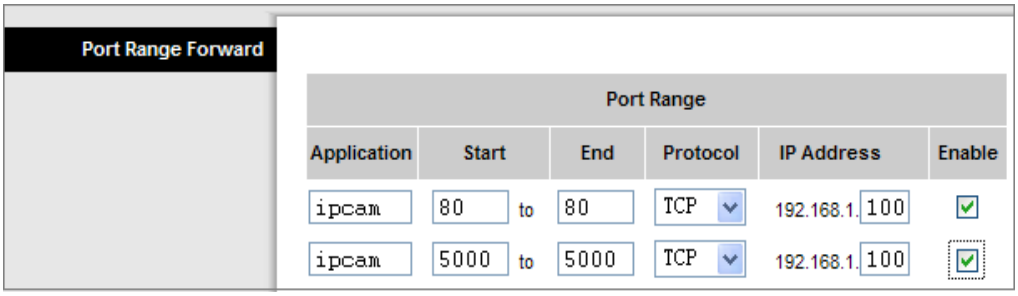
(1) HTTP port (80 by default); transfer protocol: TCP;

(2) Data port (5000 by default); transfer protocol: TCP;

◆ How to enable ports of the router for IP camera when a router is used for access to an extranet?

One of the following three methods may be selected (Linksys WRT54GL is taken as an example):

(1) Port Range Forward

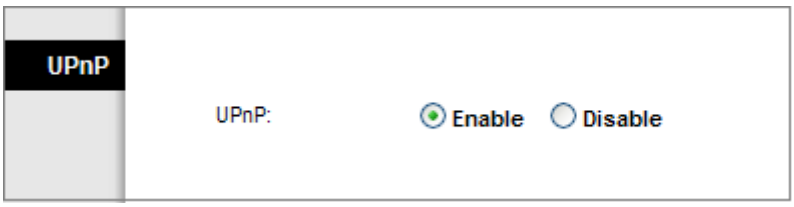


(2) DMZ

(3) UPnP

Enable the UPnP function of the IP camera. For details, refer to "**UPNP parameters**" in Section 3.6, **"Advanced".**

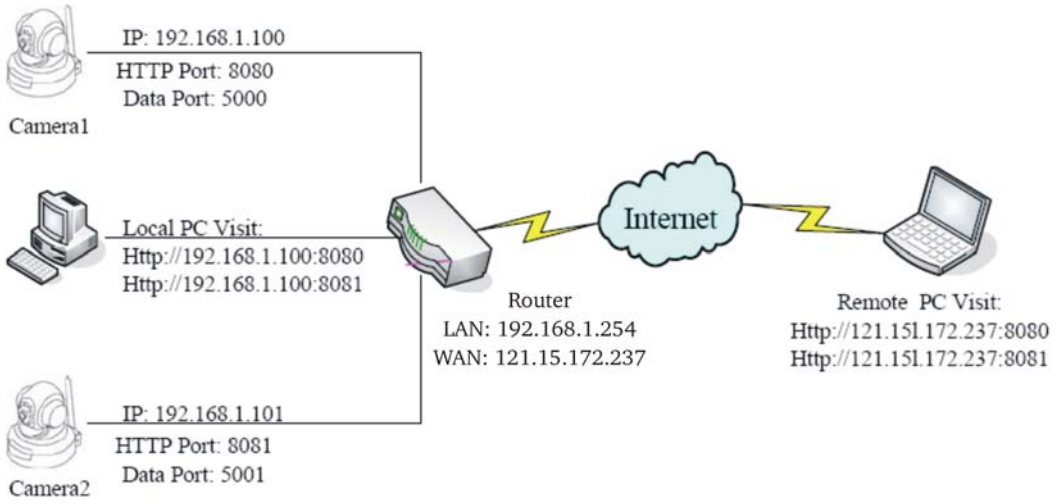
Enable the UPnP function of the router, as shown in the following figure:



◆ If multiple IP cameras are installed under the router, how to access via an extranet?

First set different Web ports and HTTP ports for IP cameras in the LAN. For details, refer to Section 3.5.1, "**Basic Parameters".**

And then, enable different ports for different IP cameras in the router, as shown in the following figure:



For an extranet to access IP cameras via IE, use different HTTP numbers to different IP cameras.

Note: If the HTTP port is not 80, a port number shall be added upon access, such as http://121.15.172.237:8080.

◆ Why images can be seen over the LAN, but cannot be seen over the Internet?

The Data port (5000 by default) of the router is not enabled for the IP camera. Please enable the port.

◆ Why does a black screen occur to image display?

Possible cause 1: Too many users are using the function. Please turn off some clients.

Possible 2: the Internet access rate is too low; it is recommended that the IP camera uses the resolution of QVGA.

◆ Why cannot the WiFi network be connected?

For setting methods and precautions, refer to Section 3.5.2, “WiFi Parameters: basic parameter settings of the wireless WiFi network**”.**

◆ Why can’t recorded files be saved under the Vista operating system?

Solution: Cancel the IE protection mode in the Security settings of the Windows IE.

◆ How shall we do if access to the IP camera via the Internet Explorer fails?

Possible cause 1: network interruption.

Use a PC to access the network to test network access. First exclude cable fault and network fault caused by viruses until PCs can ping each other successfully.

Possible cause 2: the IP address is occupied by other devices.

Disconnect the connection between the IP camera and the network. Connect the IP camera to a PC independently. Reset the IP address according to recommended operations.

Possible cause 3: The IP address is in a different subnet.

Check the IP address and subnet mask address of the Server, as well as the gateway settings.

Possible cause 4: conflict between the physical address and the IP camera

Change the physical address of the IP camera.

Possible cause 5: The Web port has been changed.

Contact the administrator to get related port information.

Possible cause 6: unknown.

Press the **Reset** button on the tail of the IP camera to restore the default settings. Make reconnection. Default settings of the system: IP address: 192.168.1.10; subnet mask: 255.255.255.0; and gateway: 192.168.1.1.

◆ Why cannot the DDNS domain name be used normally?

Possible cause 1: wrong settings of DDNS domain name parameters. **For details, refer to Section 3.5.3, "DDNS Parameters:** DDNS parameter setting".

Possible cause 2: **Improper** DNS address setting of the IP camera. Please set the DNS address to a locally valid DNS address.

Possible cause 3: the **HTTP** port is not 80. Please add the HTTP port number after the domain name address, such as, http://anyview.dyndns.org:8080.

◆ Why is not the external audio effect not so good?

Possible cause: In case of excessive noises or serious distortion, check whether the input signal level is line input. In most cases, when the input signal is not line input (such as amplified active microphone), mismatch with the input level of the IP camera may cause saturation distortion. Please use an appropriate line input based on the acceptable range of the IP camera.