

H Series—Waterproof

IP Camera

2009.10

Version: V2.1

User Manual

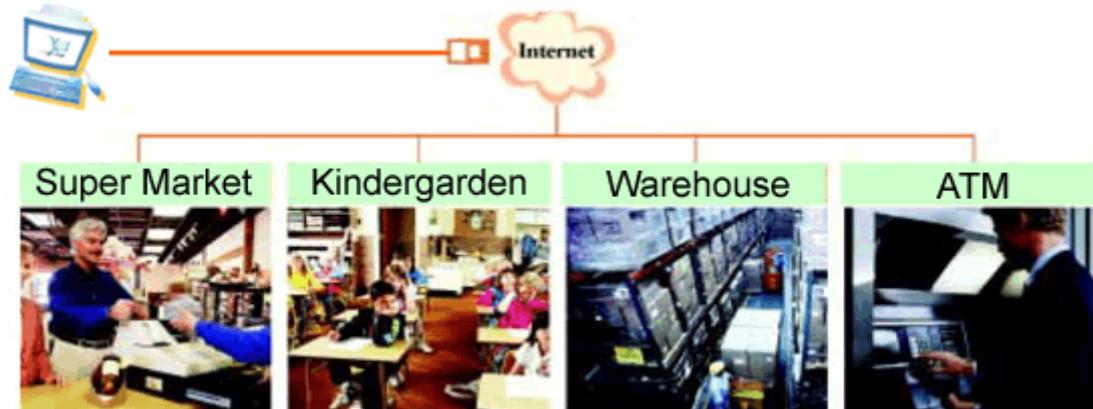
Index

1	INTRODUCTION.....	4
2	FUNCTION AND FEATURES.....	4
3	APPEARANCE AND INTERFACE.....	5
3.1	APPEARANCE	5
3.2	INTERFACE OF EQUIPMENT.....	5
3.3	INSTRUCTION.....	6
4	NETWORK CONNECTING	6
4.1	CONNECTION INSTRUCTION	6
4.2	VISIT INSTRUCTION	7
5	VISIT IP CAMERA FROM LAN.....	7
5.1	SET IP ADDRESS	7
5.2	VISIT IP CAMERA	8
5.2.1	<i>Menu column</i>	9
5.2.2	<i>Video Displaying Area</i>	10
5.2.3	<i>Browse SD Card</i>	10
5.2.4	<i>Capture</i>	10
5.2.5	<i>Record</i>	11
5.2.6	<i>Playback</i>	11
5.2.7	<i>The control of Pan/Tilt</i>	11
5.3	NOTICE (FOR THE FIRST TIME USE).....	11
6	VISIT IP CAMERA FROM WAN.....	12
6.1	PORT FORWARDING	12
6.2	DDNS	13
6.2.1	<i>Manufacturer's Domain Name</i>	13
6.2.2	<i>Third Part Domain Name</i>	13
7	OTHER SETTINGS.....	14
7.1	VIDEO SETTING PAGE	14
7.1.1	<i>Image Setting</i>	14
7.1.2	<i>Video Setting</i>	14
7.2	NETWORK SETTING PAGE	15
7.2.1	<i>Basic Network Setting</i>	15
7.2.2	<i>Remote Access Setting</i>	16
7.3	ALARM SETTING PAGE	17
7.3.1	<i>External Alarm Input</i>	17
7.3.2	<i>Motion Detection Setting</i>	17
7.3.3	<i>Alarm Mode Setting</i>	18

7.3.4	Alarm Time Setting	19
7.4	ADVANCE SETTING	19
7.4.1	User Management	19
7.4.2	Auto Capture Setting	20
7.4.3	E-mail Setting	21
7.4.4	FTP Setting	21
7.4.5	Alarm Server Setting.....	22
7.4.6	PTZ Setting.....	22
7.5	SYSTEM SETTING PAGE	23
7.5.1	Date and Time Setting	23
7.5.2	Default Setting	23
7.5.3	Device Information Checking.....	24
7.5.4	System Log Checking.....	25
7.5.5	User browsing Log Checking.....	25
8	ADVANCED APPLICATION.....	25
8.1	MOBILE PHONE BROWSING.....	25
8.2	OTHER WEB BROWSER VISIT DEVICE	26
8.3	CENTRE MANAGEMENT SOFTWARE	27
9	SPECIFICATION.....	27

1 Introduction

The IP Camera combines a high quality digital video camera with network connectivity and a powerful web server to bring clear video to your desktop from anywhere on your local network or over the Internet.



Your IP Camera package should contain the following items, If any of the listed items are missing, please contact your reseller from where you purchased the camera for assistance.

The package includes:

- ✓ IP Camera * 1
- ✓ IP Camera Utility CD *1
- ✓ 12V Power Adapter *1
- ✓ Cable * 1

2 Function and Features

- ✓ 32-bits RISC processor and special video encoder which can be up to 3M pixels encoding performance.
- ✓ Support H.264 Main Profile@Level3.0 compression format, bit rate is smaller, and the image is more clear. It is more convenient for transferring through Internet and save more storage space.
- ✓ D1/CIF/QCIF resolution optional. User can change some specification according to their demands to satisfy his own visual prefer.
- ✓ Support mobile phone watching.
- ✓ Support external microphone or line-in audio input signal to send out the live sound.
- ✓ Built-in web server, support video view and parameter settings by browser; use one port to send all the data, it facilitates network setting.
- ✓ Infrared LED for night vision covers 40m area, to realize 24 hours monitoring.

- ✓ Support UPNP, port forwarding automatically on the router.
- ✓ Motion detection to detect environmental situation.
- ✓ Alarming record can be stored by email. It also sends alarm info to the alarm server.
- ✓ Support three level of user authority.
- ✓ Support upgrading online.
- ✓ Manufacture provide a free DDNS url, when IP Camera is connected to the internet, this URL can be used to visit the device.
- ✓ Manufacture provides free software, support Multi-view, Long time recording, video replay etc.

3 Appearance and interface

3.1 Appearance



Figure 1

3.2 Interface of Equipment



Figure 2

1) Power Input Socket

Red connector - Connect DC adaptor, its output should be 12V power specification.

2) RJ45 Ethernet Socket:

Black connector - RJ45 Ethernet socket is 10/100M self-adjust. The equipment can connect to all kinds of network equipments, such as hub, router, switch, etc.

3) Audio Input Socket:

White socket is designed for connecting external microphone or line-in audio signal. If connect with line-in audio signal, you must choose line-in in Audio input mode area .Please refer to 7.1.

4) Analog signal output Socket:

Yellow Connector – Supply BNC Female connector, use to connect analog signal device.

3.3 Instruction

This device only have 4 socket which list on 3.2 , It don't support SD card , Audio out , External alarm in/out , WITI and 485 port , so the related function can't be used , we will not mention the related in the following chapters .

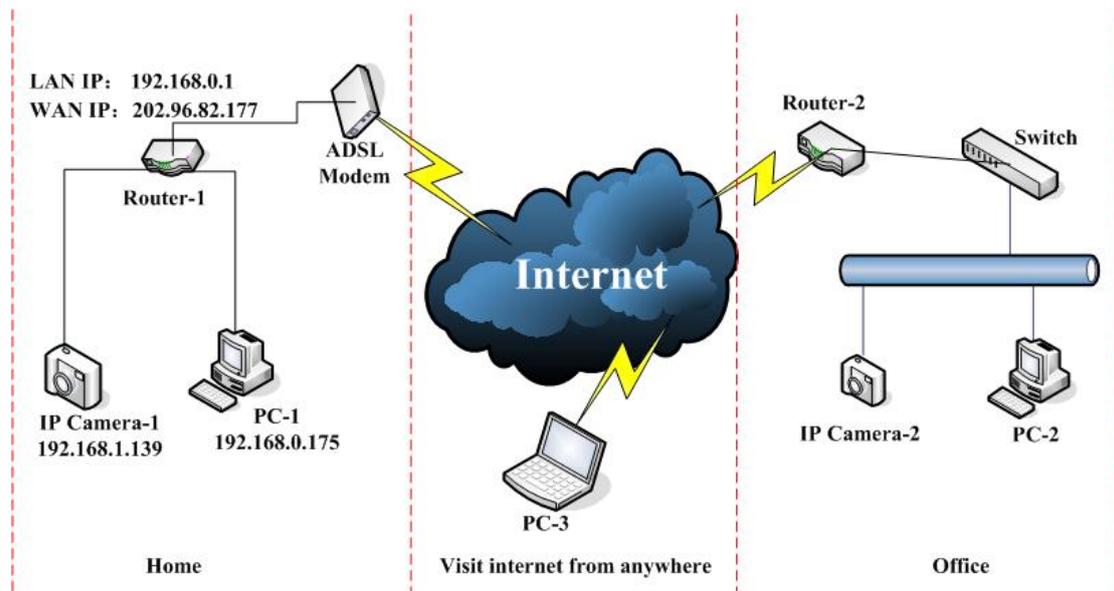
4 Network Connecting

Figure 3

4.1 Connection Instruction

Before visit the IP Camera, you should firstly connect it to the Network, supply the power to it, and check if the light of RJ45 Socket is normal to make sure all of the communication links are fluency. The connection method likes as Figure 3.

- 1) IP Camera-1 and IP Camera-2 are connected separately to 2 different LANs.
- 2) And these 2 LANs are already connected to the Internet. In order to get the LANs to be connected to the Internet, they are required to be equipped with router and to apply for the communication link from the local Internet Service Provider (ISP) and connect to it by ADSL or optical fiber, etc.
- 3) PC-3 is connected to the Internet.

4.2 Visit Instruction

To visit the IP Camera, you should do some settings of IP Camera and Internet besides getting the communication link fluency.

- 1) The PC and IP Camera are in the same LAN. If you want to use this PC to visit the IP Camera, you need to make sure their IP address is at the same segment. Otherwise you need to do the reset of the IP Camera's IP address. For example, the IP Camera-1's IP address in Figure 3 is 192.168.1.139 (at the segment of 192.168.1), while the PC-1's IP address is 192.168.0.175 (at the segment of 192.168.0), then you will be not able to visit the IP Camera through the PC-1. You need to change the IP Camera-1's IP address to 192.168.0.139 firstly.
- 2) The PC and IP Camera are in different LANs, but they are all connected to Internet. For the IP Camera-1 and PC-2 in Figure 3, if you want to visit IP Camera-1 by PC-2, you should firstly do the setting as 1) to make sure that you can visit IP Camera-1 through PC-1 and then do the setting of router-1 (do the port forwarding from the router). The PC-2's visit application could be sent through router-1 to IP Camera-1. Normally, PC-2 could only send the information to router-1, if you don't do the setting of router-1, then PC-2 could not visit IP Camera-1.

5 Visit IP Camera from LAN

5.1 Set IP Address

The IP addresses of IP Camera and PC should be at the same segment, in Figure 3, the IP Camera-1 can't be visited. Run the HSearch_en.exe in the CD, click Search button, and then select the IP Camera to reset the IP Camera's IP address, as the Figure 4.

Setting Instruction:

- ✓ Please carefully check the "Local PC information" on the top left corner which lists the PC configuration. If there are several network adapters in the PC, please select the one you are using and make sure the IP address of IP Camera is as the same segment of the PC.
- ✓ Change the content of "IP config" on the right to make sure the content is the same as "Local PC information". Only the last section of the IP address which needs setting by yourself, you can set it as 139 just like Figure 4.
- ✓ If you don't know how to fill out the content of "IP config", you could also tick the "Set IP automatically" to get the IP address from the router automatically (**If can't get IP from router, the IP Camera will set it to 192.168.0.158 for itself**).
- ✓ Put the user name and password into "Authentication" (**By default, the user name is: admin, password is: 123456**). Click "Update". The setting will take effect now. Select the device in list box, click "Browse" button, it will open the Browser automatically and pop up a window at the same time which requires to inputting the user name and password. Then you see the home page of the IP Camera-1, just as below Figure 5.

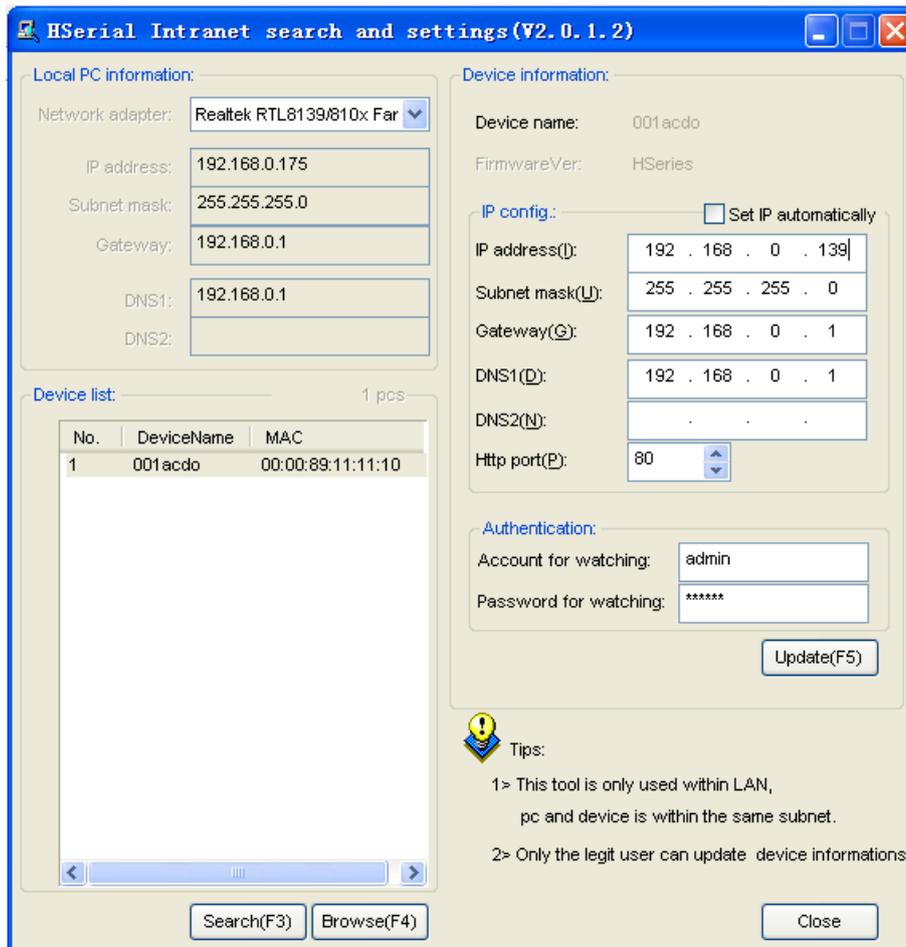


Figure 4

	<p>If you have the firewall software in your PC, when you run the HSearch_en.exe, it may pop up a window to say if you want to block this program or not, then you should choose not to block.</p>
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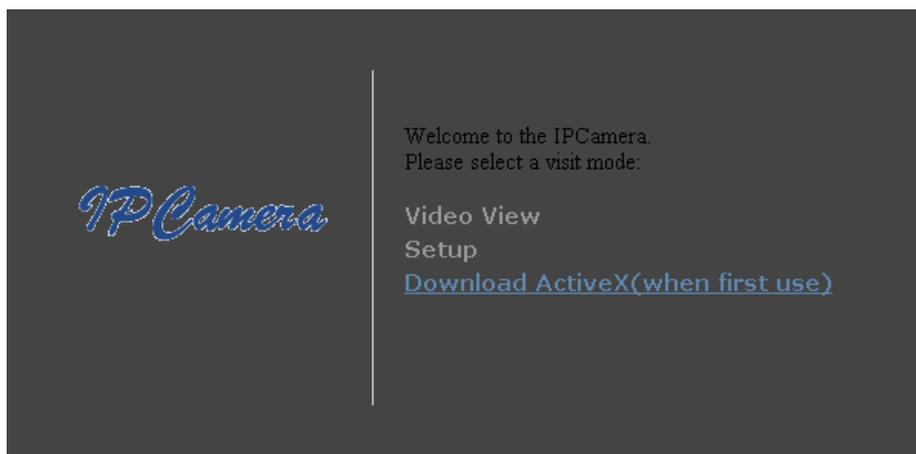


Figure 5

5.2 Visit IP Camera

If you use internet explorer or compatible browser to visit it for the first time, you will be

required to install the ActiveX before viewing the video. As Figure 5, click “Download ActiveX (when first use)”. The dialog just as Figure 6 will pop up accordingly. Click “Run”, then it will download and install the ActiveX automatically.

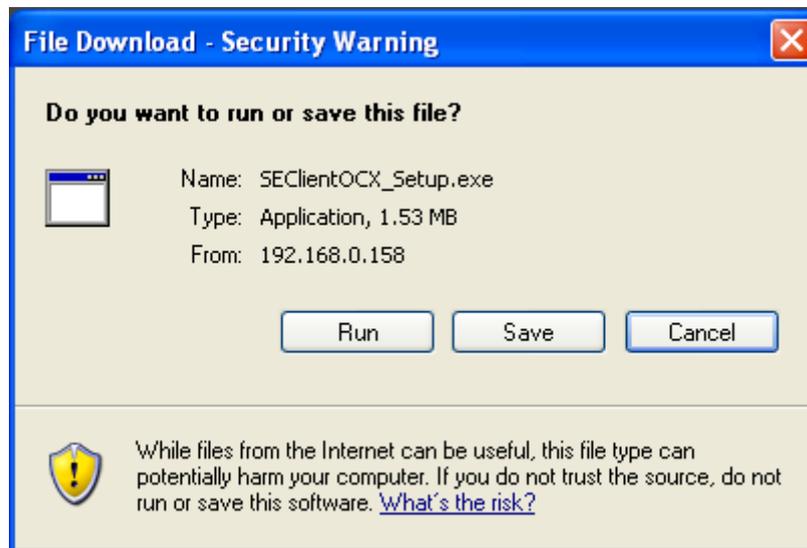


Figure 6

After the ActiveX installation, click the “Video View” as Figure 5, then you will enter the video view home page as below Figure 7.

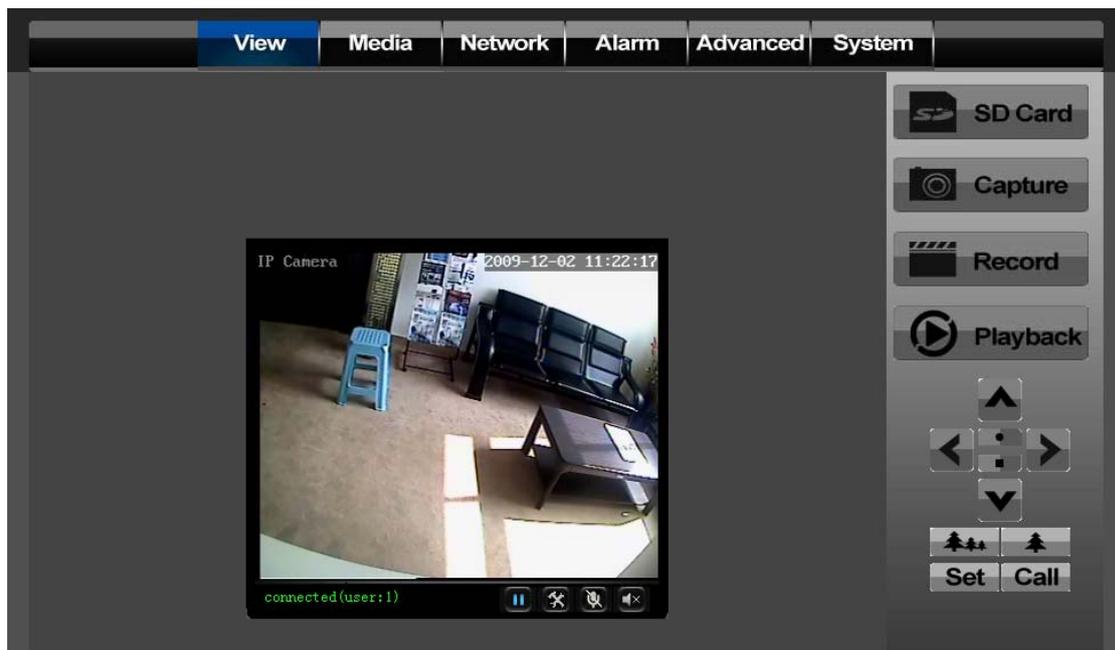


Figure 7

5.2.1 Menu column

There are 2 kinds of menu, one is main menu, the other is submenu. The main menu lies at the top of the interface, including View, Media, Network, Alarm, Advanced and System; Submenu lies on the left of the interface, and different main menu is in line with different submenu.

5.2.2 Video Displaying Area

The video displaying area is correspond to the resolution, the higher the resolution is, larger the displaying area will be. If motion detection was set, when it has detected any movements of the certain area, it will show a pane to call user's attention.

Figure 8 is status column at the bottom of video displaying area.



Figure 8

- 1) Displaying how many users are visiting this video.
- 2) If user has clicked the "Record" button in the Figure 7, here will show "Rec", means the video is being recorded. If click the "Record" button again, it will stop recording.
- 3) **Play/Pause Button:** Click it for video play or pause video play.
- 4) **File Saving Path Setting:** User can click it to browse a file saving path to save the recorded video and snapshots.
- 5) **Talk-back Button:** Click it, and the stereo equipment which was connected to the IP Camera will play the achieved audio. Click it again, the speaker will stop playing.
- 6) **Audio Play Button:** Click it to play the audio getting from IP Camera, click it again, it will disable this function.

5.2.3 Browse SD Card

When SD Card inserted, click the submenu, the pop-up page will display the content in SD Card like the Figure 9.

Index of /sd/		
Size (KByte)	Date	Name
		[Parent Folder]
	1999-12-12 01:20:13	[19991212]
	2009-07-02 11:08:51	[20090702]
Total 3 Items.		

Figure 9

In above figure, text in [] is catalog info, click sub catalog to browse the recorded images and videos. The images will be displayed when you click them and the videos will be downloaded and played by the video player in user's computer automatically when click the video.

5.2.4 Capture

Click the "Capture" button, which could take photos for the current video and store the image at the present path.

5.2.5 Record

Click “Record” button, which could record the video with audio and store it at the present path. When recording, there will be an indicated symbol in the status of video display area to show you it is recording. Click the “Record” button again, and then the record stops.

5.2.6 Playback

Click “Playback” button, it will pop up a player which could play the video stored on your PC disk.

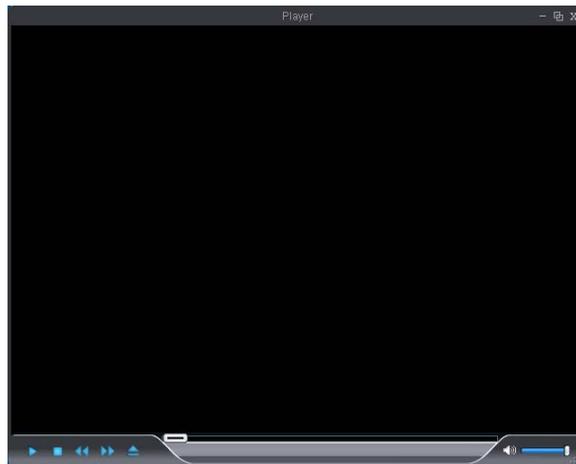


Figure 10



, these buttons are for play, stop, the previous recorder, the next recorder, open the recorder file. Please click the button of “open the recorder file” first, and select the file you want to play, you can playback the recorder.

5.2.7 The control of Pan/Tilt

For the control of PTZ, 485 interface of the equipment must be connected with the PTZ decoder. Please refer to the 7.4.6 part for configuration and make sure the communication between equipment and PTZ decoder goes well.

In the PTZ control area, the user can control PTZ by click the arrow rotation direction (up, down, left, right). If the PTZ adopts the pelco-p protocol, click , it can realize automatic cruise, click , it will stop automatic cruise. If the PTZ use other protocols, it does not support the auto-cruise and stop cruising.

User can click **Set** button when PTZ move to a desired location. When the control of PTZ rotate to another location, just click on **Call** button, the PTZ will be moved immediately back to the pre-set position.

Note:  and  are used for zoom, only used in some model.

5.3 Notice (for the first time use)

Please change the following 2 settings when using for the first time:

- 1) Please refer to the content of part 7.4.1 to change the initial passwords of admin, user,

and guest. Their initial passwords are respectively “123456”, “user”, “guest”.

2) Refer to the content of part 7.5.1 to set the system time.

6 Visit IP Camera from WAN

6.1 Port forwarding

Follow the “Visit IP Camera from LAN” steps; make sure PC-1 can visit IP Camera-1. In Figure 3, before the computers in WAN (PC-2, PC-3) can visit the IP Camera-1, must put the IP Camera -1 into WAN. You can set port forwarding on Router-1 to put IP Camera-1 into WAN.

Open the Router Setting interface on PC-1. The interfaces for different routers are different, and the port forwarding settings are different, please refer the router manual to set. For most routers, “Virtual server” option can be found in setting interface. Fill the IP address and port of IP Camera-1 into corresponding blank. Figure 11 is an example.

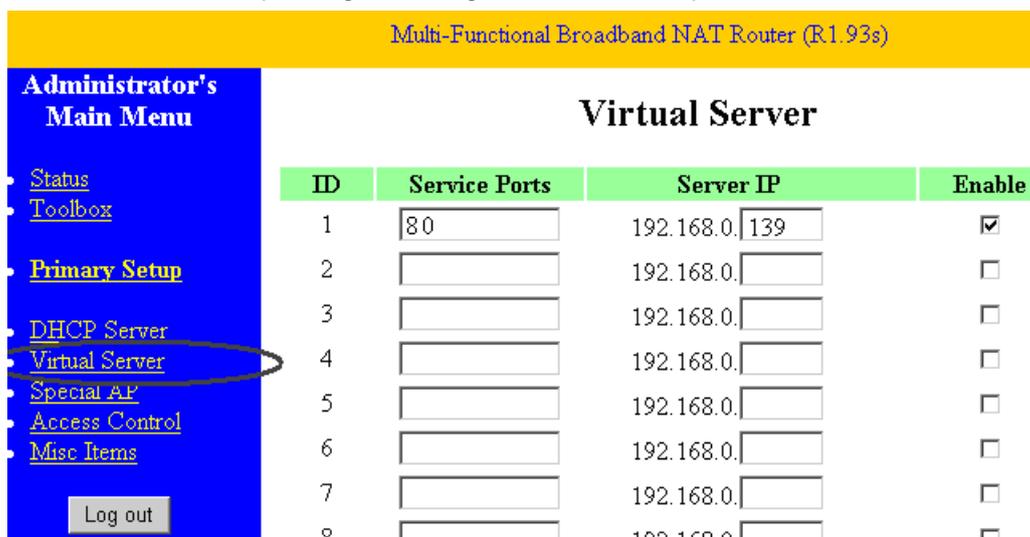


Figure 11

Select “status” option and remember the WAN IP address, enter the IP address in browser of PC-1, if IP Camra-1 can be visited via PC-1, the port forwarding is success. And PC-2 and PC-3 can also visit the IP Camera-1.

WAN IP address is allotted by ISP, please make sure it's an available WAN IP address. As WAN IP address is lack, many WAN IP address are available in limited area. If PC-2 and PC-3 are not in this area, the IP Camera-1 won't be visited by them.

If user wants to put several IP Cameras into WAN, every device should set the port forwarding. In order to distinguish these devices, every device should set a different port. If the port of the device is not 80, should add the port to IP address with colon to visit the IP Camera. Example: <http://202.96.82.177:81>.

6.2 DDNS

In Figure 3, Router-1 get WAN IP address via ADSL, these WAN IP address is always changing, so, the IP address can't be confirmed when visit the device in WAN. We need the dynamic domain name server (DDNS). IP Camera-1 send IP configuration to DDNS every few time, DDNS can recognize the WAN IP address of the router-1 which connected with IP Camera-1. The WAN IP address can be searched on DDNS by domain name. Herein, domain name substitute the dynamic IP address. If the device can't be visited by IP address, this domain name is also unavailable.

6.2.1 Manufacturer's Domain Name

Device manufacturer has established a DDNS, and allotted a dynamic domain name to every device, the domain name has been integrated into devices when producing. For example, enter domain name of Figure 12, the browser will connect the device and display the IP address.

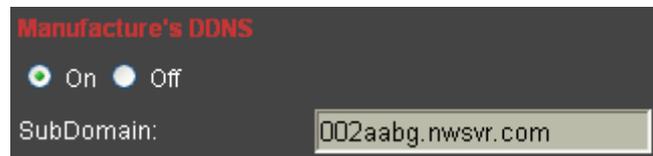


Figure 12

	The domain name is realized by forward manner, the domain name will change into the IP address and port number of the device when visit by domain name.
--	---

	If the device can be visited by IP address but can't be visited by manufacturer's domain name, please check the DNS info is available or not and make sure the DNS setting is the same with the DNS setting of PC in LAN.
--	---

6.2.2 Third Part Domain Name

User can also use third part DDNS, such as www.3322.org. User should apply a free domain name from this website and fill the info into the below blanks (Figure 13) and save the settings. Then the domain name can be used.

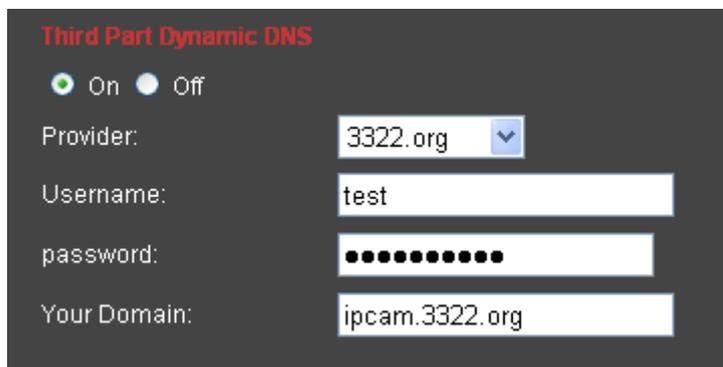


Figure 13

	<p>The third party domain name is realized by analysis manner, the domain name will be displayed in the browser all the time when visit camera. If the port is not 80, the port number should be add to the domain name with colon. Example: http://ipcam.3322.org:81</p>
---	--

7 Other Settings

7.1 Video Setting Page

7.1.1 Image Setting



Figure 14

Drag the glide bar showed as above Figure 14, user can adjust the brightness, saturation, contrast, hue.

7.1.2 Video Setting

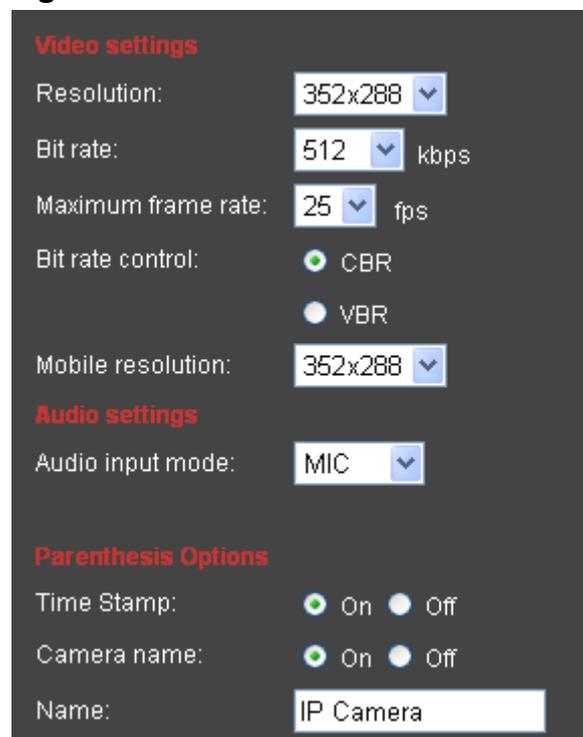


Figure 15

- 1) **Resolution Adjustment:** There are D1、CIF、QCIF three resolution options. The bigger the resolution is, more clear the image will be. On the other hand the bit rate is bigger and

takes more bandwidth.

- 2) **Bit Rate Adjustment:** User can choose a certain bit rate, generally speaking, the bigger the bit rate is, the more clear the image will be. Please choose the suitable bit rate according to your bandwidth. If you select a big bit rate, while the bandwidth is worse, it will cause the video stream can't be transferred smoothly, the video quality will be not perfect too.
- 3) **Max Frame Rate Adjustment:** User can choose a certain frame rate, when the bandwidth is limited, suggest reducing the value. Generally, the video is fluency if the value is more 15 frames.
- 4) **Bit Rate Control:** There are two modes for bit rate control, CBR and VBR. If user choose CBR mode, the video encoder will encode according to the bit rate you have selected. If user choose VBR mode, the video encoder will consider to the image quality and encode according to the bit rated have been selected, but not strictly according to this bit rate.
- 5) **Mobile Resolution:** If using mobile visiting the IP camera, you should set the resolution of the image send to your mobile. For the bandwidth of the mobile is worse, we suggest you to select the lower resolution. Please refer to the Part 8 on how to visit the IP camera using mobile.
- 6) **Audio input mode:** If user use microphone, please select "MIC"; if use line-in audio signal, please select "Line in".
- 7) **OSD Setting:** User can add the equipment's name and the time on the video page through this setting.

7.2 Network Setting Page

7.2.1 Basic Network Setting

LAN Settings

IP Configuration Type: Fixed IP Address

IP Address: 192.168.0.158

Subnet Mask: 255.255.255.0

Gateway: 192.168.0.1

DNS Configuration Type: Manual DNS

Primary DNS: 192.168.0.1

Secondary DNS:

HTTP

HTTP Port number: 80 (80 or 1024~65535)

Figure 16

- 1) **LAN Setting:** The default setting of this equipment is showed as above Figure 16, user can change it according to your network environment.
- 2) **HTTP Port:** The IP address Identity one IP camera in the network, you can run several

programs on this equipment, and every program will transfer the data through some port, in fact data is transferred from one port to another. The port setting of this page is asking user choose which port to transfer the data for the web server.

- 3) **WIFI Setting:** The wireless setting page is showed as below Figure 17, user can click the “Search” button, it will show you the page telling you the WIFI network it has detected. Please choose one of it, and the network data will filled in the blanks automatically. (For example, SSID, encryption algorithm etc). User only needs to fill in the password and retype the password. After you configured it, you can click the “Check” button to check if there is any mistake.

	Make sure the IP camera you are using is /W model before configuring the WIFI setting.
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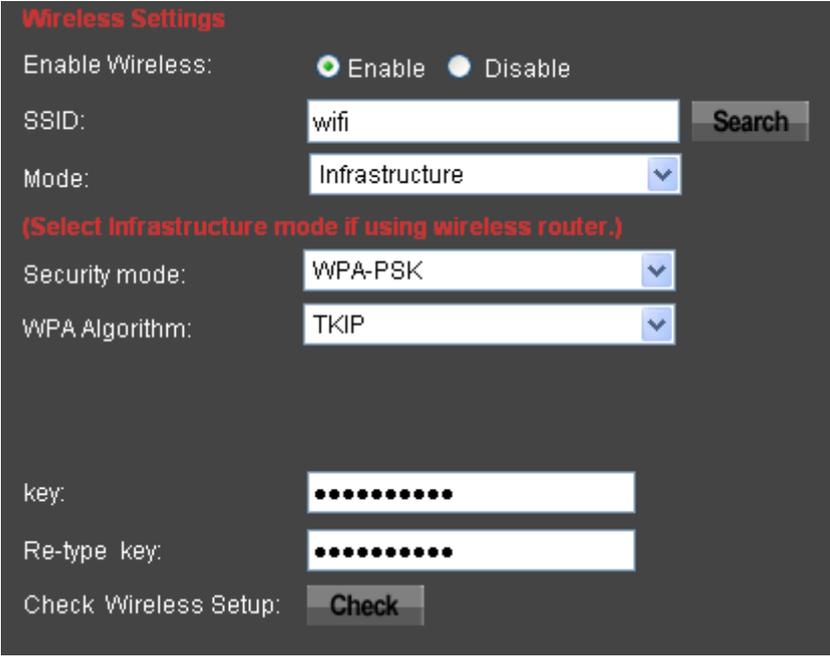


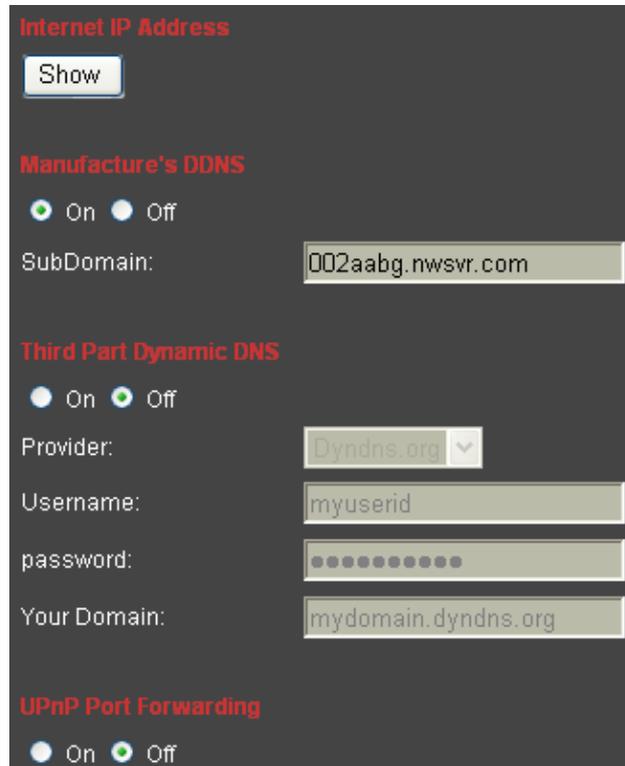
Figure 17

	If the equipment has been linked to the Ethernet cable, and the WIFI function was started. The equipment will choose the wire connection with the network first. If the connect does not work, it will choose WIFI connection. No matter choose Ethernet cable to connect or WIFI to connect, the IP address and port number of it are the same.
---	--

7.2.2 Remote Access Setting

- 1) **WAN IP Test:** Click the “Show” button as above Figure 18, it will show you another new page displaying the WAN IP address when it is connected to the Internet.
- 2) **Manufacturer’s DDNS and Third Part Dynamic DNS:** Please refer to the content of the part 6.2.
- 3) **UPNP:** UPNP stands for universal plug and play, if you started UPNP, once the IP camera was connected into the LAN, it will communicate with the router of the LAN. It will request the router to open a port to forward its own port. User doesn’t need to log in the router to set the port forwarding.

	<p>Before using UPNP function, please make sure the router's UPNP function has been triggered. Because there are so many different routers, and not all of them can support UPNP. Please test if the router work well with the equipment, if not, we would suggest you don't enable this function.</p>
---	--



The screenshot shows a configuration page with the following sections:

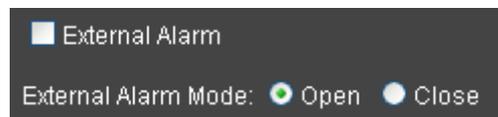
- Internet IP Address:** A 'Show' button.
- Manufacture's DDNS:** Radio buttons for 'On' (selected) and 'Off'. A 'SubDomain:' field contains '002aabg.nwsvr.com'.
- Third Part Dynamic DNS:** Radio buttons for 'On' and 'Off' (selected). A 'Provider:' dropdown menu is set to 'Dyndns.org'. A 'Username:' field contains 'myuserid'. A 'password:' field is masked with dots. A 'Your Domain:' field contains 'mydomain.dyndns.org'.
- UPnP Port Forwarding:** Radio buttons for 'On' and 'Off' (selected).

Figure 18

7.3 Alarm Setting Page

7.3.1 External Alarm Input

Figure 19 below has listed the external alarm input setting. If the alarm input pins have connected with an alarm detector, please tick the “External Alarm”, and then you will have enabled external alarm function. If the external alarm detector is open mode, please tick “Open”, vice versa.



The screenshot shows the following settings:

- External Alarm
- External Alarm Mode: Open Close

Figure 19

7.3.2 Motion Detection Setting

If user wants to monitor a certain area's movement, please select the motion detection to trigger alarm. The motion detection setting page is showed in Figure 20. This equipment supports four areas settings. By ticking the options, on the screen, it will show you the area frame, and the areas are numbered. Using the mouse to drag the area frame, you can change the position of the frame, and to drag the right bottom corner of frame, you can change the size of frame. After setting is finished, click “Apply” button, then the motion

detection is enabled.

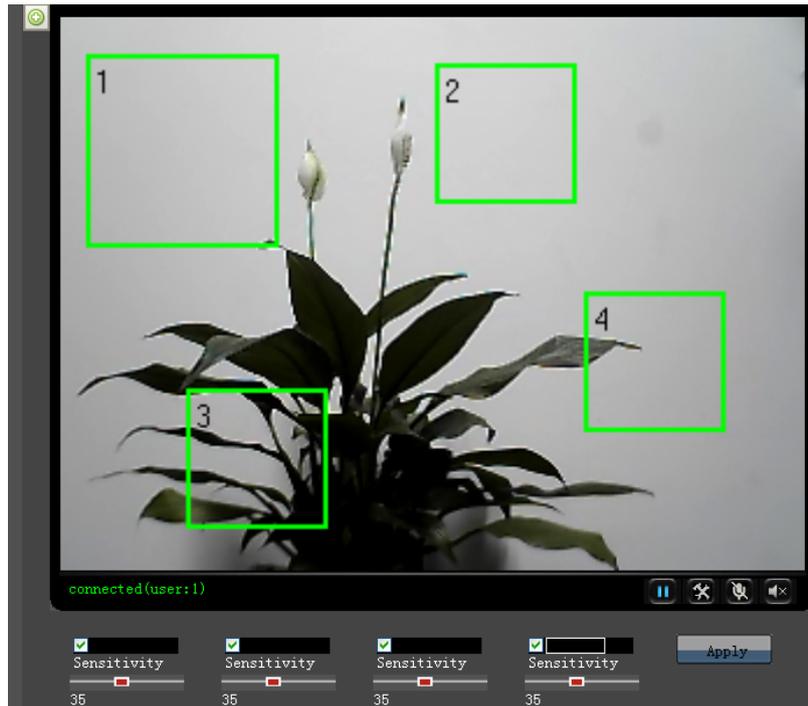


Figure 20

7.3.3 Alarm Mode Setting

When the alarm is triggered, user can adopt several ways to alarm.

- Snapshot a live picture of the site on the SD card.
- Record a 30 seconds long video on the SD card (including 5 seconds long video before the alarm was triggered).
- Send the recorded video on the SD card to the FTP server (Please enable “save the video on SD card” function and insert the SD card first).
- Relay on, enable external alarm function and set the time.
- Send alarm info to the alarm server.
- Send alarm info to E-mail.

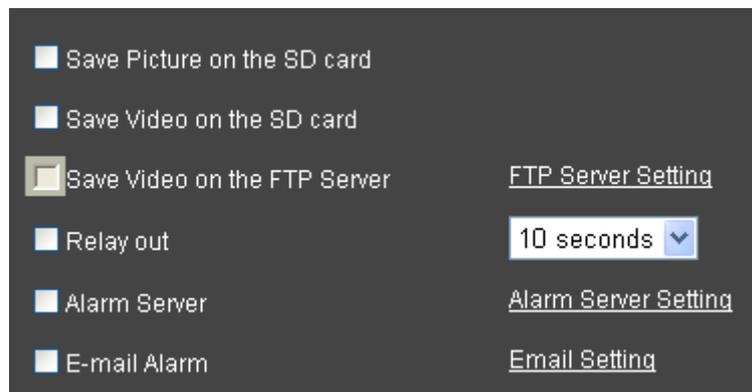


Figure 21

7.3.4 Alarm Time Setting

Figure 22

IP Camera will trigger alarm only on the time set by Figure 22.

	<p>Please adjust the system time first. Refer to Part 7.5.1</p>
---	---

7.4 Advance Setting

7.4.1 User Management

There have three level of authority; they are admin/user/guest. Admin have the highest authority, it can do any change to the settings. User account only can operate the IP camera, can't do changes to the settings, and please refers to Figure 24. Guest account only can watch the video, can't do any operation to the IP camera, and please refers to Figure 25.

Figure 23

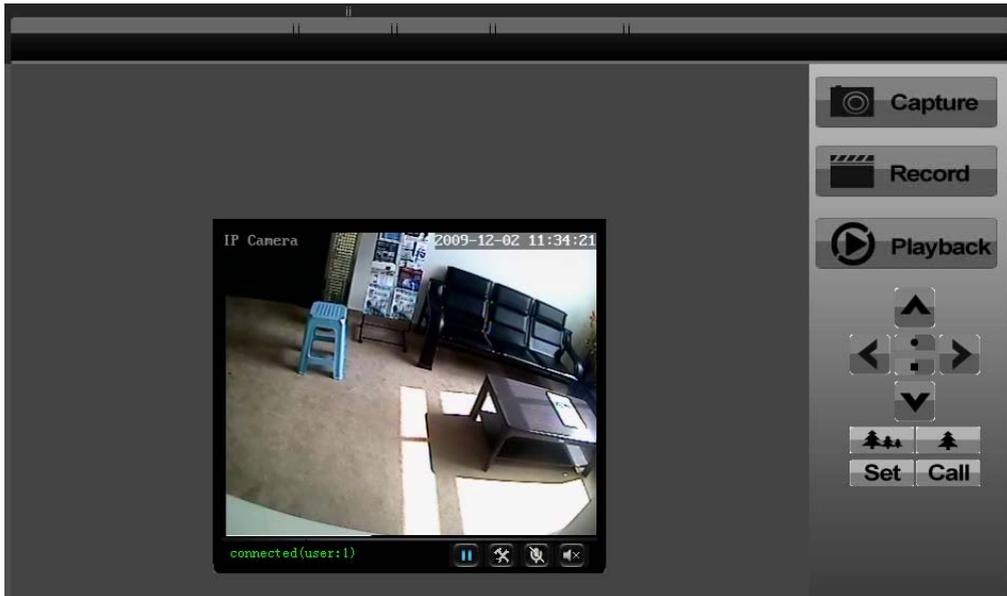


Figure 24

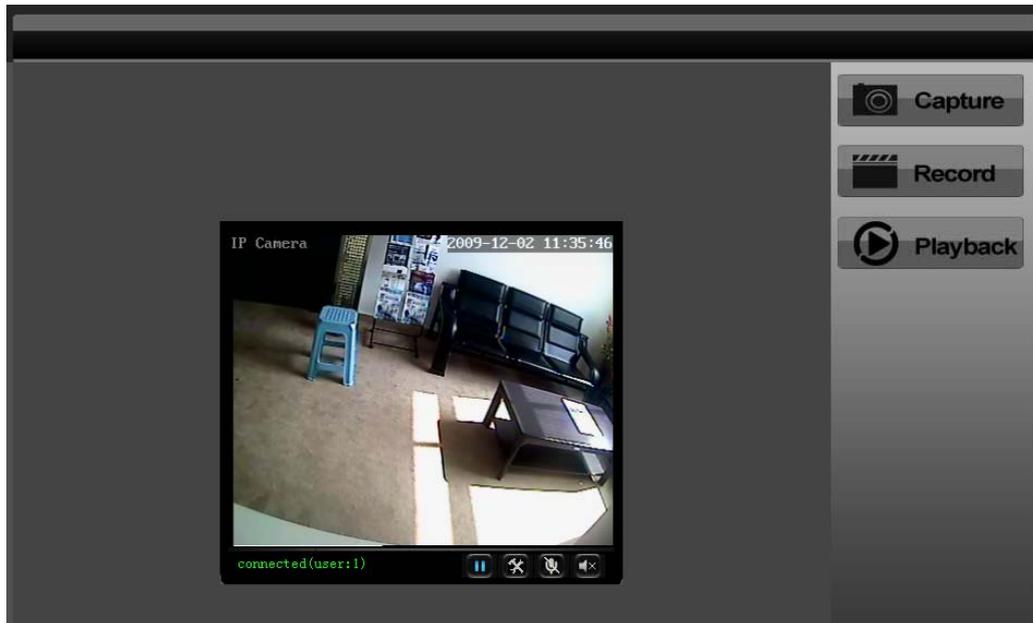


Figure 25

7.4.2 Auto Capture Setting



Figure 26

Please tick “save picture on the SD card”, the equipment will snapshot every short time (for example, showed as Figure 26, every 60 minutes)

7.4.3 E-mail Setting

e-Mail Setting

SMTP server name: server port ssl

Authentication On Off

User name:

Password:

Send To: (e-Mail Address 1)
 (e-Mail Address 2)
 (e-Mail Address 3)

Sender: (Return e-Mail address)

Subject:

Message:
 (the max length is 255)

Figure 27

In Figure 27, the blanks which have been filled with info should be filled. If any info is not filled right, the setting will fail.



Before setting these parameters, please refer the settings of Outlook Express.

7.4.4 FTP Setting

FTP Setting

Server Address:

Server Port:

User name:

password:

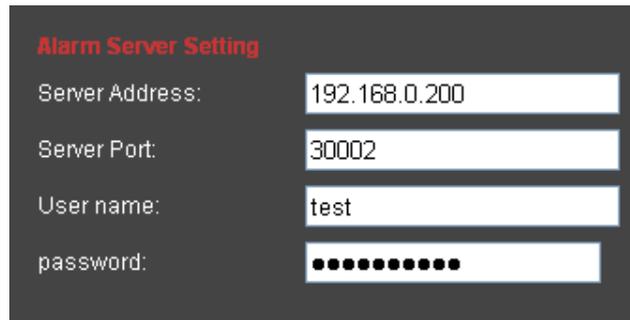
Passive mode: On Off

Figure 28



In order to use FTP function, user should apply username and password on the FTP server first. And please apply some storage, and the authority to write and create sub-category into it.

7.4.5 Alarm Server Setting



Alarm Server Setting

Server Address: 192.168.0.200

Server Port: 30002

User name: test

password: ●●●●●●●●●●

Figure 29

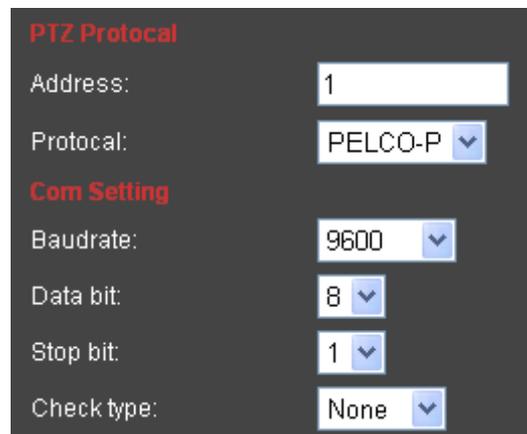
Please confirm if you have connected to alarm server. The alarm message format as follow:

```
GET /api/alarm.asp?  
username=username&  
userpwd=password&  
rea=alarm type (1=Motion Detection, 2 =Alarm from Alarm in port, 3 =Other Type)&  
io=0
```

Alarm server need develop by customer; user can extend other functions on this server, like SMS, MMS alarm, and mobile phone etc.

7.4.6 PTZ Setting

Before buying the PTZ, please check this device supporting which PTZ protocol (you can check from Figure 30). Read the manual of PTZ, and set PTZ address, baud rate, data bit, stop bit, check type in Figure 30.



PTZ Protocol

Address: 1

Protocol: PELCO-P

Com Setting

Baudrate: 9600

Data bit: 8

Stop bit: 1

Check type: None

Figure 30

7.5 System Setting Page

7.5.1 Date and Time Setting

Current date & time: 2009-07-02 19:29:54

Time zone: (GMT-08:00) Pacific Time (US & Canada); Tijuana

Automatically adjust clock for daylight saving time changes

Adjust

Manual setting

Date: 2009-07-02 (yyy-mm-dd) Time: 19:29:48 (hh:mm:ss)

(1971-01-01 ~ 2036-12-31)

Sync with computer time

PC Time: 2009-07-02 19:29:55

Network Time Protocol

NTP server name:

Interval: 02 hours

Keep current setting

Figure 31

Please refer to above Figure 31. Select the time zone first. There are three options to set the time and date. One is manually, another is keeping the same as the time and date on the computer, and the third one is getting it from the NTP server.

7.5.2 Default Setting

Initialize

Reboot:

Factory default:

Backup setting data:

Restore:

Upgrade:

Figure 32

- Reboot button to restart the equipment, if you have set the pre-position, and it will turn

this position.

- Click “Factory Default” button, equipment will restart and back to all the default settings.
- Click “save”, it will save all the present settings.
- “Restore” part, select the setting file you have saved, click OK, it will recover all the settings.
- “Upgrade” part, select the firmware file for upgrading, click OK, and you are able to upgrade the equipment. After the upgrading, equipment will restart. Upgrading took a little long, please wait patiently. If upgrading is finished, it will show you a message to remind you.

7.5.3 Device Information Checking

- Device ID is set by factory. Every ID is unique
- Network Connection status will display “LAN” when connected by wired cable and display “Wireless LAN” connected by wireless Router.
- SD status will remind if SD card inserted and display the free capacity. Click “Browse” to view the contents in SD card and, “Format SD Card as fat32” to format SD Card and, “Unplug SD Card” to stop the work of SD Card.



The device supports max 32G SD card. Please format the SD card to FAT32 before use the card on Camera. Please check if the SD Card matches the camera or not before purchase the SD Card.

Device information	
Device ID:	001acdo
Network connection:	LAN
Software Version:	V2.0.1.1-R01:20090728
Mac address:	00:00:89:11:11:10
IP address:	192.168.0.158
Subnet mask:	255.255.255.0
Gateway:	192.168.0.1
Primary DNS:	192.168.0.1
Secondary DNS:	
Start Time:	2009-8-4 16:48:59 week:2
SD status:	no devices Browser SD Card... Format SD Card as FAT32 Unplug SD Card

Figure 33

When visit the device by the first and second methods, the device will send the pictures by MJPEG compression format to the mobiles. The size of the pictures will be depended on the mobile resolution mentioned in 7.1.2. The third method to visit it, the whole operation will be the same as visiting by PC.

8.2 Other web browser visit device

Using browser with IE kernel, user must download the ActiveX. Using other web browser like Safari or Firefox, it will use Quicktime to play. Safari for example, you can find the player interface as the below Figure 36.

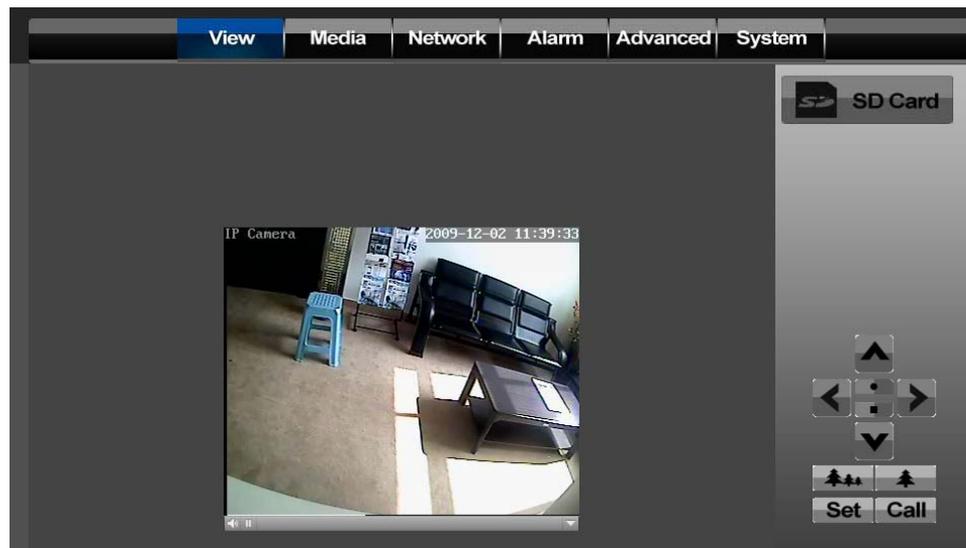


Figure 36

The software will trigger the QuickTime as player when the browsing interface opened. If there is no QuickTime in computer, a wizard will pop up to ask user set up the QuickTime. After set up finished, please click the down right corner and select "Setting"

- 1) Select "Advanced" option in the pop-up dialog.
- 2) Select "custom" in "Transmit Setting", and then select "HTTP", set the port as device http port. Then click "OK"
- 3) Set the "Transmit Setting" in "Auto" Status and click "OK". Then the device can be visited. Record, Snap, Record Play and Audio functions are not available in this interface.

8.3 Centre Management Software

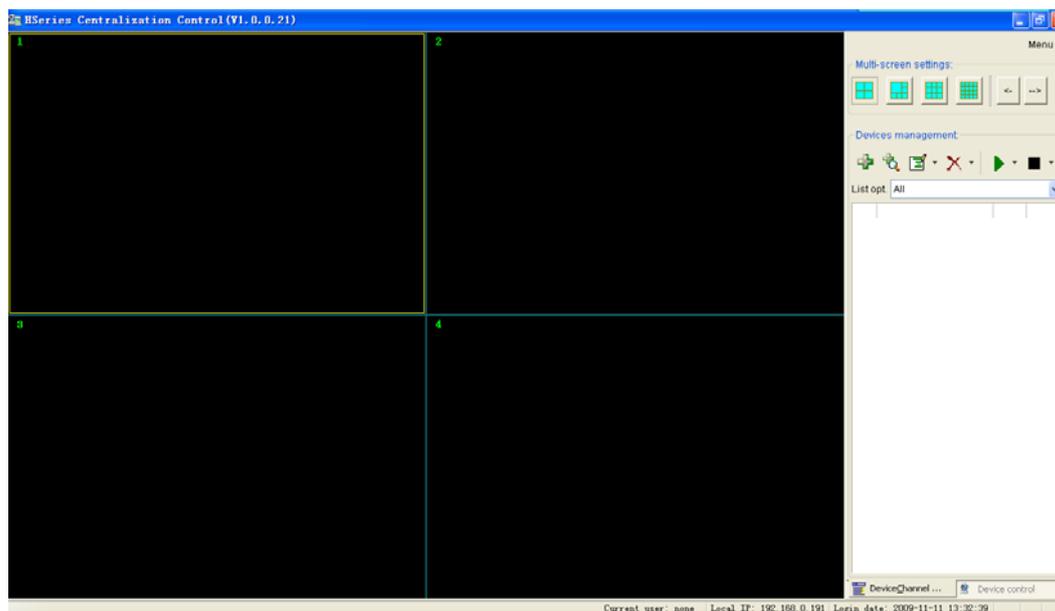


Figure 37

HSView_en.exe is a free software offered by factory, several devices on LAN and WAN can be browsed at the same time. The software also support snap, video record and so on. The below Figure 37 is the interface.

For more information, pls. refer the <<HSView User Manual>> in CD.

9 Specification

Item	Sub Item	Description
Image Capture	Sensor	SONY 420TVL 1/3' CCD color Sensor (520TVL Optional)
	Minimum illumination	0.1 Lux
Video and Audio	Resolution	D1/CIF/QCIF
	Compression	H.264
	Frame rate	25fps(PAL)/ 30fps(NTSC)
	Bit rate	128kbps ~ 2.048Mbps
	OSD	Support
	Audio Compression	G.711
Network	Basic Protocol	TCP/IP、UDP/IP、HTTP、SMTP、FTP、DHCP、DDNS、UPNP、NTP
Other Features	Mobile Phone View	M-JPEG and H.264 dual streaming, M-JPEG Streaming sent to mobile phone
	Video control	support
	Motion Detection	yes(4 zone detection)

	Triggered Actions	Email/ send message to alarm server
	User Setting	Three levels
	Date/ Time Setting	support
	Upgrade	Upgrade from network
	DDNS	A free DDNS provided by manufacturer
Hardware Interface	Ethernet	10Base-T/100base-TX
	Audio In	audio input interface x 1
Physical Index	Weight	1240g
	Dimension	216mm(L)*90mm(W)*90mm(H)
	Power	DC 12V
	Power consumption	<12W
	Operating temperature	0℃~ 45℃
	Humidity	10% ~ 80% non-condensing
Software(PC Side)	OS Supported	Microsoft Windows 98/2000/XP/Vista, Mac OS
	Browser	Internet Explorer6.0 and Above or Compatible Browser, Safari/Firefox etc.
	Application Software	HSView_en.exe