

User Manual

2-MEGAPIXEL IP CAMERA



WARNINGS

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS.

CAUTION

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK. DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		

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THE TRADEMARKS MENTIONED IN THE MANUAL ARE LEGALLY REGISTERED TO THEIR RESPECTIVE COMPANIES.

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I. Preface

This IP Camera is a 2 Megapixel CMOS IP camera with the web server built in. User can view real-time video via IE browser. IP Camera supports simultaneously H.264, Motion JPEG & MPEG4 video compression and dual streaming which provides smooth and high video quality. The video can be stored in the SD card and played back remotely. With user friendly interface, it is an easy-to-use IP camera which is designed for security application.

II. Product Specifications

Main Features:

- 2M-Pixel CMOS Sensor
- Power over Ethernet (Optional)
- H.264/ MJPEG/ MPEG4 (3GPP Only) Compression Format
- SD Card backup
- 2-way audio
- Support Cell phone/PDA/3GPP
- 2 Streaming (H.264/ M-JPEG)
- SDK for Software Integration
- Wireless (Optional)
- Free Bundle 36 Channel Recording Software

HLC-95AD Specifications

Hardware	
CPU	ARM 9 ,32 bit RISC
RAM	128MB
Flash	8MB
Image sensor	1/3" CMOS (2M-Pixel)
Lens Changeable	Yes, CS Mount
Support DC IRIS	Yes
I/O	1 in/ 1 Relay Out
RS-485	Yes
Video Out	x1
Audio in	Mic Built-in
Audio Out	x1 (RCA Type)
Power over Ethernet	Optional
Power	DC 12V, 450mA

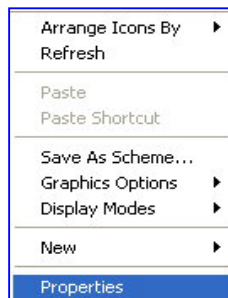
Dimensions		58mm (W) x 65mm (L) x 131.5mm (D)
Network		
Ethernet		10/ 100 Base-T
Network Protocol		HTTP, TCP/ IP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP, UPnP, 3GPP
Wireless (Optional)		
	Wireless	802.11b/g/n
	Security	WEP,WPA-PSK,WPA2-PSK
System		
Video Resolution		1600x1200, 1280x1024, 1280x960,1280x720, 800x600,640x480, 320x240, 176x144
Triple Streaming		Yes
CMOS setting		Brightness, Contrast, Sharpness, AGC, BLC, AWB R-Gain/ B-Gain, Night Mode, Flip, Mirror
Image snapshot		Yes
Full screen monitoring		Yes
Privacy Mask		Yes, 3 different areas
Compression format		H.264/ M-JPEG/ MPEG4(3GPP only)
Video bitrates adjust		CBR, VBR
Motion Detection		Yes, 3 different areas
Triggered action		Mail, FTP, Save to SD card, Relay, Samba
Pre/ Post alarm		Yes, configurable
Security		Password protection
Firmware upgrade		HTTP mode, can be upgraded remotely
Simultaneous connection		Up to 10
Audio		Yes, 2-way
SD card management		
Recording trigger		Motion Detection, IP check, Network break down (wire only), schedule, alarm
Video format		AVI, JPEG
Video playback		Yes
Delete files		Yes
Web browsing requirement		
OS		Windows 2000, XP, 2003, Microsoft IE 6.0 or above
Hardware	Suggested	Intel Dual Core 1.66G, RAM: 1024MB, Graphic card: 128MB
	Minimum	Intel-C 2.8G, RAM: 512MB, Graphic card: 64MB

*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

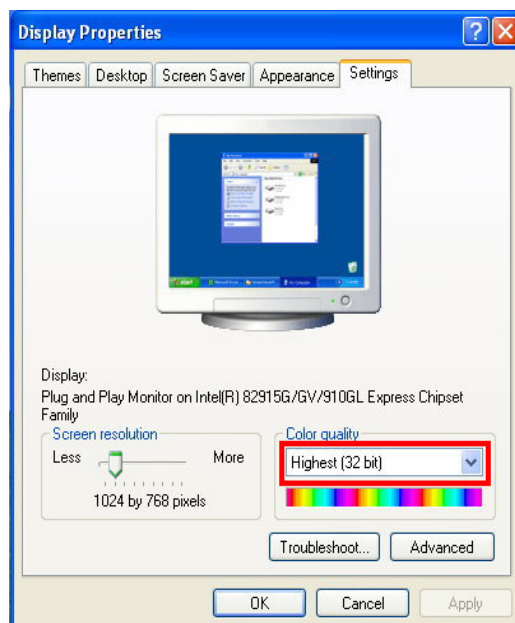
III. Product Installation

A. Monitor Setting

1. Right-Click on the desktop. Select “ Properties”



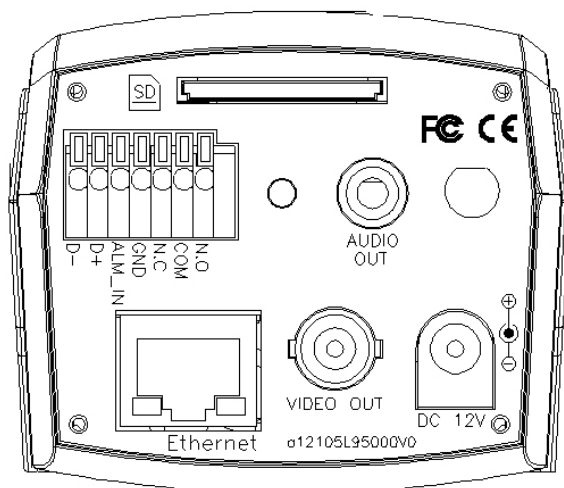
2. Change color quality to highest (32bit).



B. Hardware Installation

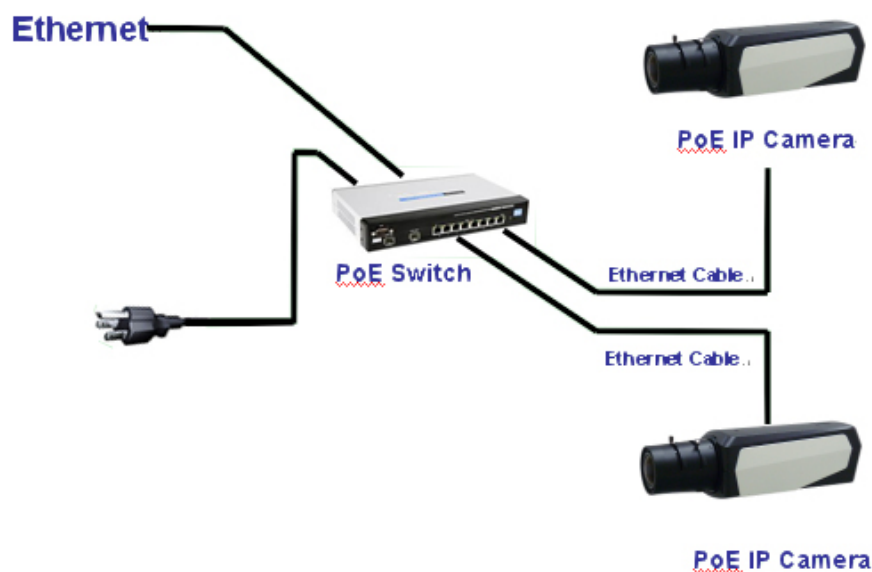
1. Connector Instruction

The connector is as below. Connect power adaptor first, then connect the IP Camera to PC or network, and set up the network configurations according to the network environment. About I/O setting, please refer to chapter VII in User Manual: "[I/O Configuration](#)" for detail.



2. PoE (Power Over Ethernet) **802.3at, 30.0W PoE Switch is recommended**

Power over Ethernet (PoE) is a technology that integrates power into a standard LAN infrastructure. It enables power to be provided to the network device, such as an IP phone or a network camera, using the same cable as that used for network connection. It eliminates the need for power outlets at the camera locations and enables easier application of uninterruptible power supplies (UPS) to ensure 24 hours a day, 7 days a week operation.

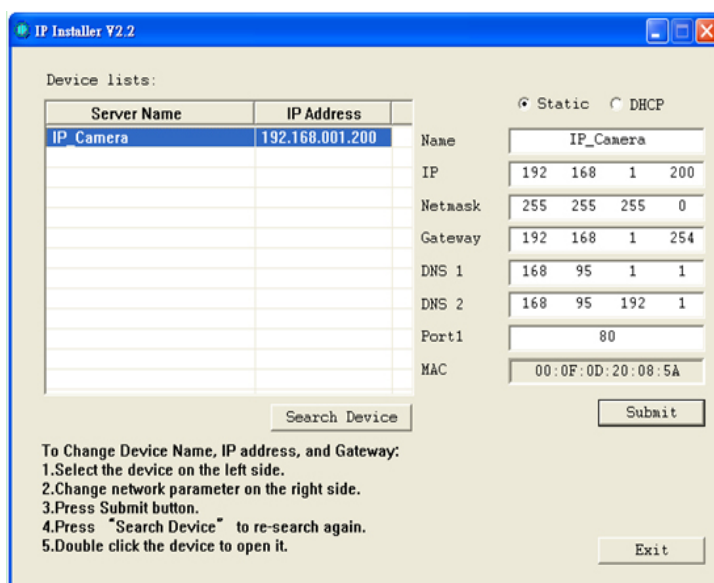


C. IP Assignment

1. You can use the software "IP Installer" to assign the IP address of IP Camera.
The software is in the attached CD.
2. There are two language versions of IP installer. Choose one as your need:
IPInstallerCht.exe: Chinese version
IPInstallerEng.exe: English version
3. There are 3 kinds of IP configuration.
 - a. Fixed IP (Public IP or Virtual IP)
 - b. DHCP (Dynamic IP)
 - c. Dial-up (PPPoE)
4. Execute IP Installer
5. For Windows XP SP2 user, the following message box may pop up. Please click "Unblock".



6. IP Installer configuration:



7. IP Installer will search for all IP Cameras connected on Lan. Click “Search Device” to refresh the result list.
8. Click one of the IP Camera listed on the left side. The network configuration of this IP camera shows on the right side. You may change the “name” of the IP Camera as your preference (eg: Office, warehouse). Change the parameter and click “Submit” . It will apply the change and reboot the Device.



9. Please make sure that the IP address of your PC and IP Camera are on the same subnet.

The same Subnet:

IP CAM IP address: 192.168.1.200

PC IP address: 192.168.1.100

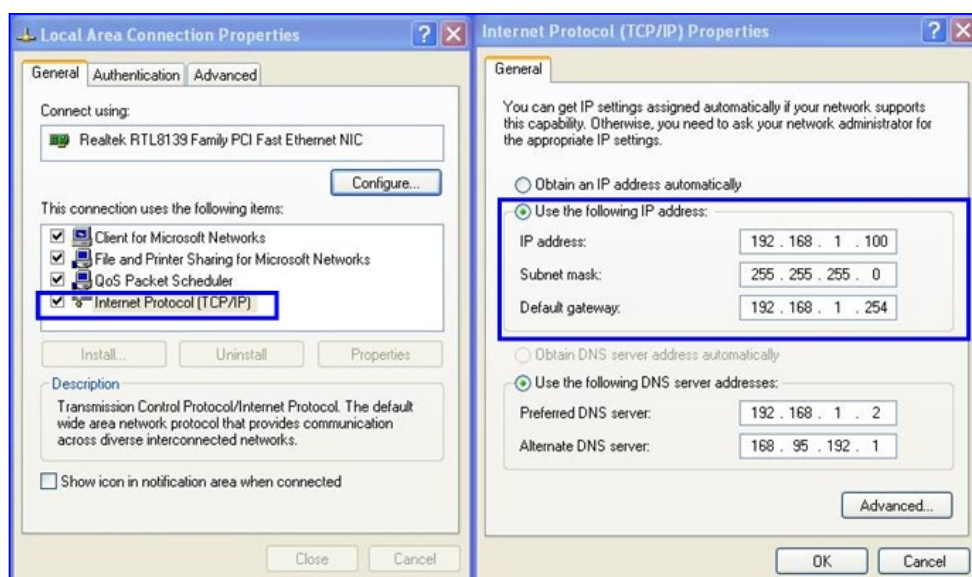
Different Subnets:

IP CAM IP address: 192.168.2.200

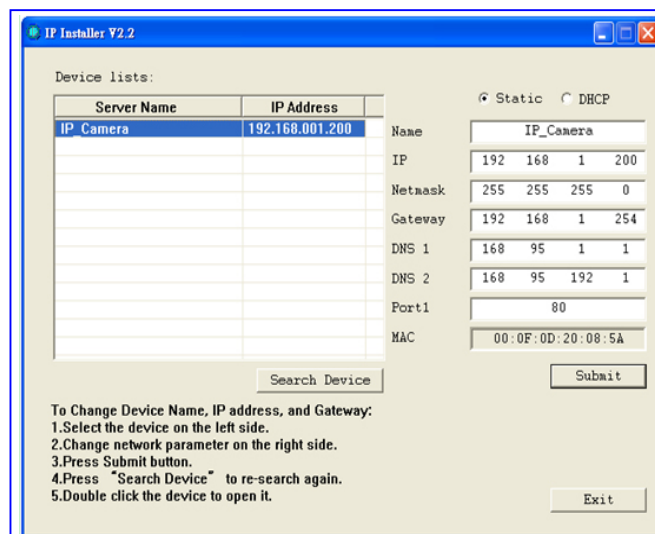
PC IP address: 192.168.1.100

To Change PC IP address:

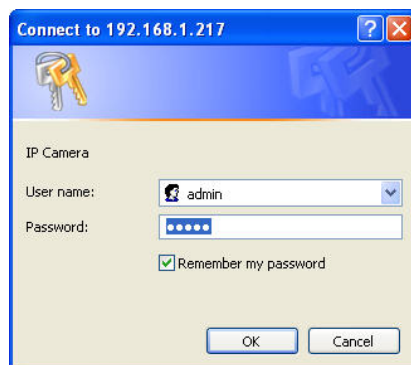
Control Panel→Network Connections→ Local Area Connection Properties→ Internet Protocol (TCP/IP) → Properties



10. A quick way to access remote monitoring is to double-click the selected IP Camera listed on “Device list” of IP Installer. An IE browser will be opened.



11. If you link to the IP Camera successfully, there pops a box asking you to log in. Please key in the default user name "admin" and password "admin" when you link to the IP Camera for the first time. You can revise the user name and password later. Please refer to Chapter V: "A.2. [User Management](#)".

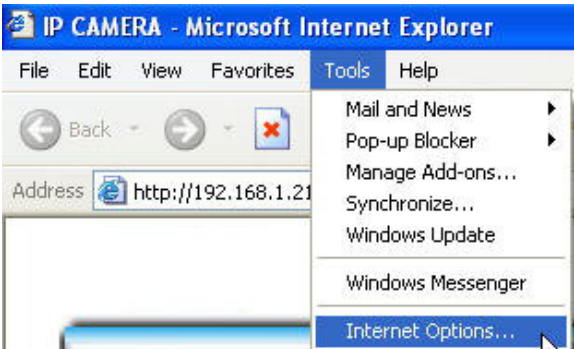
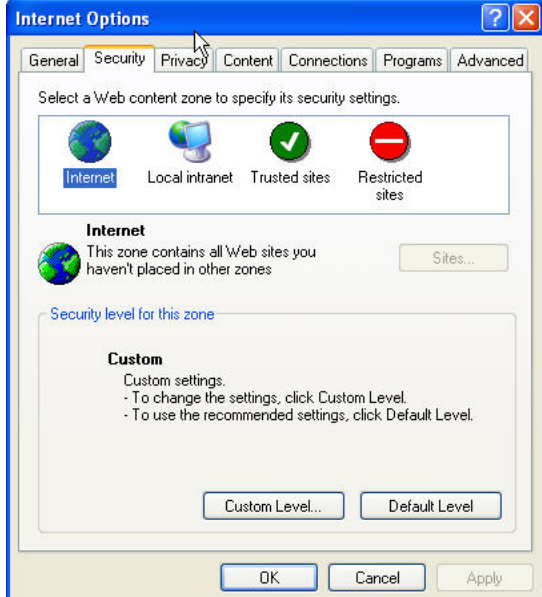
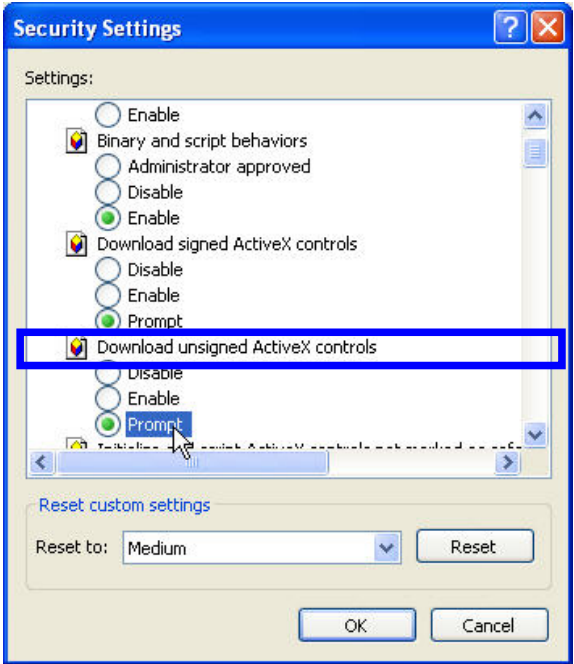
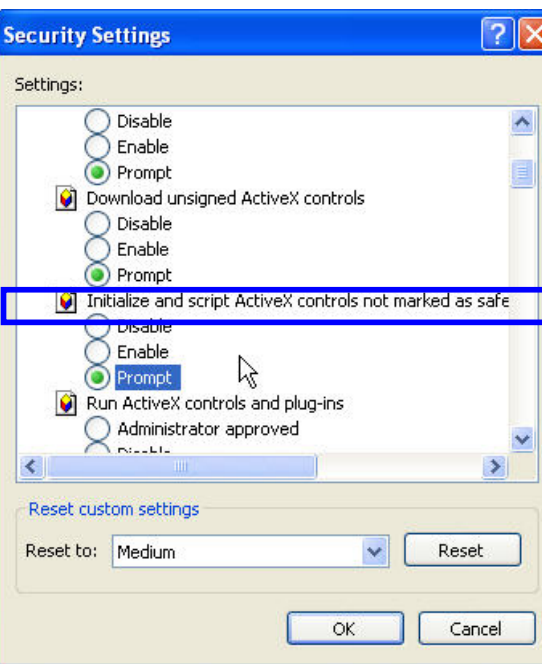
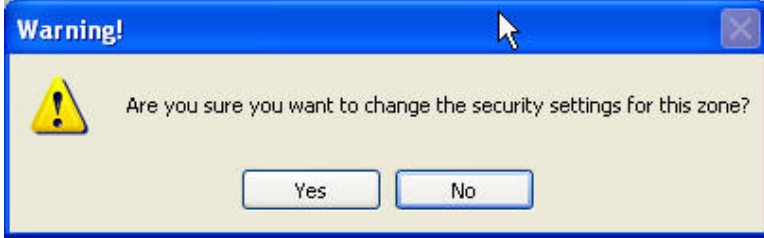


D. Install ActiveX control

For the first time to view the camera video via IE, it will ask you to install the ActiveX component.

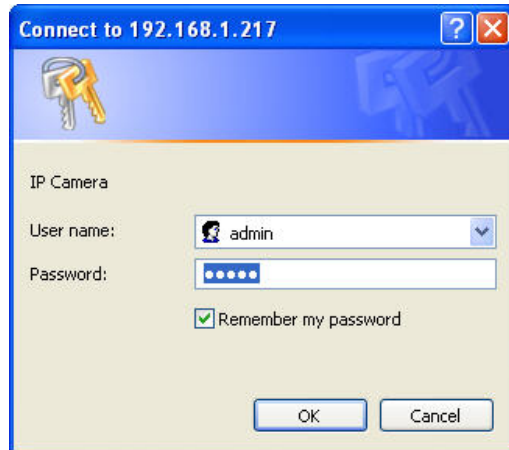
If the installation failed, please check the security setting for the IE browser.

1. IE → Tools → Internet Options... → Security Tab → Custom Level... → Security Settings → Download unsigned ActiveX controls → Select "Enable" or Prompt.
2. IE → Tools → Internet Options... → Security Tab → Custom Level... → Initialize and script ActiveX controls not marked as safe → Select "Enable" or Prompt.

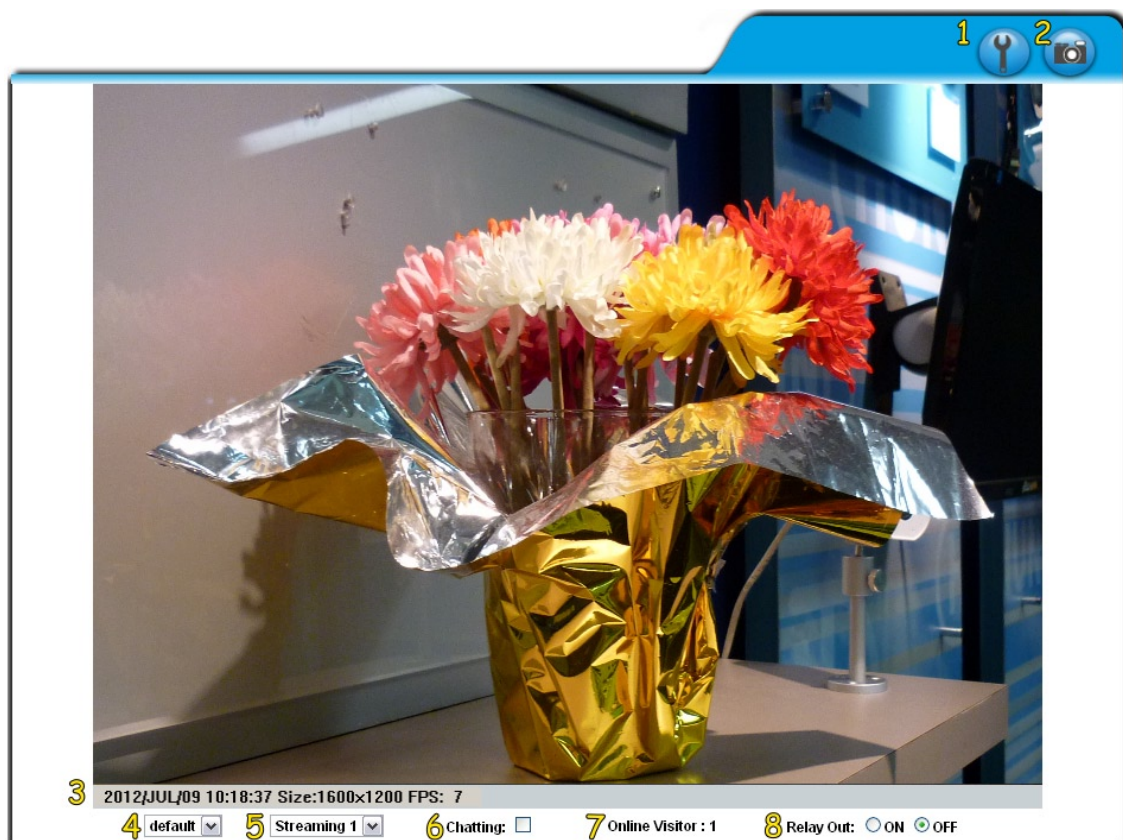
1 	2 
3 	4 
5 When popup the following dialogue box, click “Yes”. 	

IV. Live Video

Start an IE browser, type the IP address of the IP camera in the address field. It will show the following dialogue box. Key-in the user name and password. The default user name and password are “admin” and “admin”.



When the IP Camera is connected successfully, it shows the following program interface.



1.  : Get into the administration page

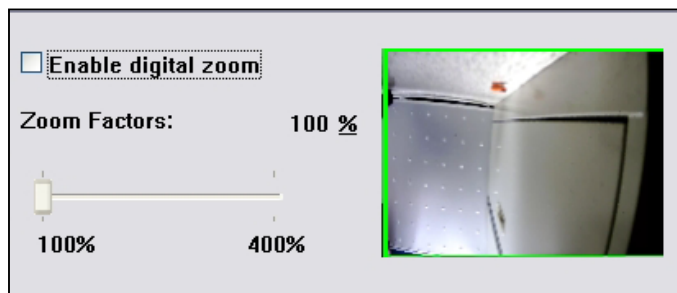
2.  : Video Snapshot
3. Show system time, video resolution, and video refreshing rate
4. Adjust image, 1/2x, 1x, 2x
5. Select video streaming source (If in "Video Setting" the streaming 2 setting is closed, this option will not appear here.)
6. IP Camera supports 2-way audio. Click the "Chatting" check box, then you can use microphone connected to the PC to talk to the Camera side.
7. Show how many people connect to this IP camera.
8. Tick the Relay out "ON" box to trigger the relay output for testing. Tick "Off" to stop triggering.

Double-click the video to switch to full screen view. Press "Esc" or double-click the video again back to normal mode.

Right-Click the mouse on the video, it will show a pop-up menu.



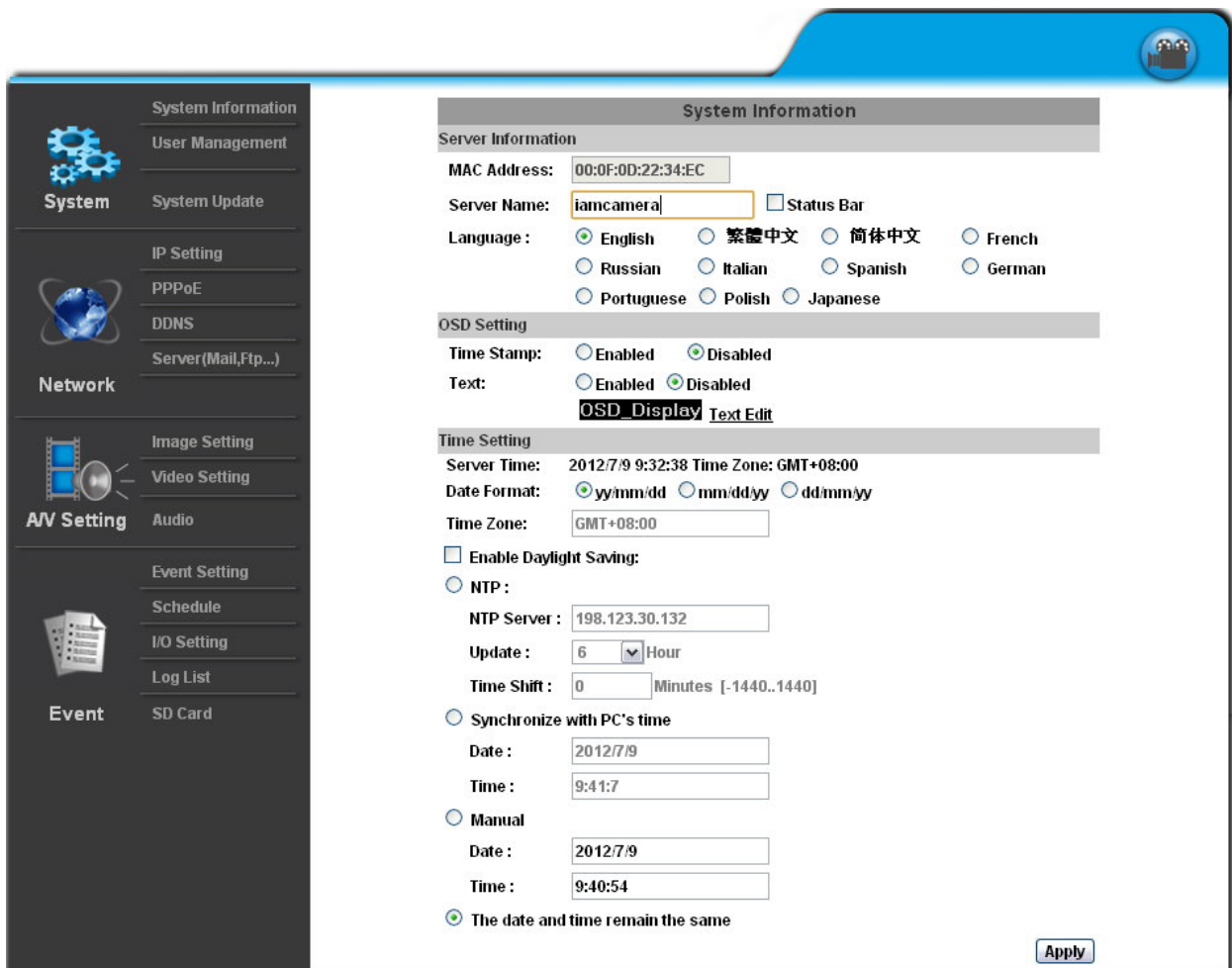
1. Snapshot: Save a JPEG picture
2. Record Start: Record the video in the local PC. It will ask you where to save the video. To stop recording, right-click the mouse again. Select "Record Stop". The video format is AVI. Use Microsoft Media Player to play the recorded file.
3. Mute: Turn off the audio. Click again to turn on it.
The "mute" button does not affect the playback recording video. As long as the "IP Camera to PC" option in the audio setting is enabled, all the audio will be recorded into the playback video even you click "mute" in the live page.
4. Full Screen: Full-screen mode.
5. ZOOM: Enable zoom-in and zoom-out functions. Select "Enable digital zoom" option first within the pop-up dialogue box and then drag and drop the bar to adjust the zoom factors.



V. IP Camera Configuration

Click  to get into the administration page as below.

Click  to back to the live video page.



The screenshot shows the IP Camera Configuration web interface. On the left is a sidebar menu with categories: System (containing System Information, User Management, System Update), Network (containing IP Setting, PPPoE, DDNS, Server(Mail,Ftp...)), AV Setting (containing Image Setting, Video Setting, Audio), and Event (containing Event Setting, Schedule, I/O Setting, Log List, SD Card). The main content area is titled 'System Information' and contains several sections: 'Server Information' with fields for MAC Address (00:0F:0D:22:34:EC), Server Name (iamcamera), and Language (English selected); 'OSD Setting' with Time Stamp and Text options (Disabled selected); 'Time Setting' with Server Time (2012/7/9 9:32:38), Date Format (yy/mm/dd selected), Time Zone (GMT+08:00), and options for Daylight Saving, NTP (NTP Server: 198.123.30.132, Update: 6 Hour, Time Shift: 0 Minutes), and Manual synchronization (Date: 2012/7/9, Time: 9:40:54). The 'The date and time remain the same' option is selected. An 'Apply' button is at the bottom right.

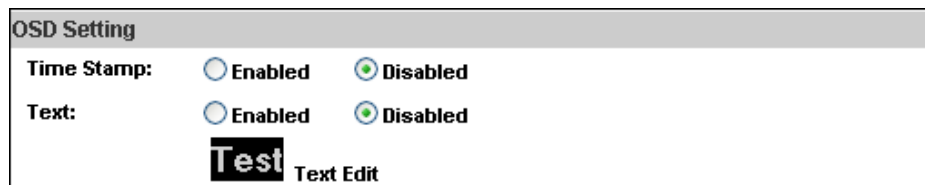
A. System

1. System Information

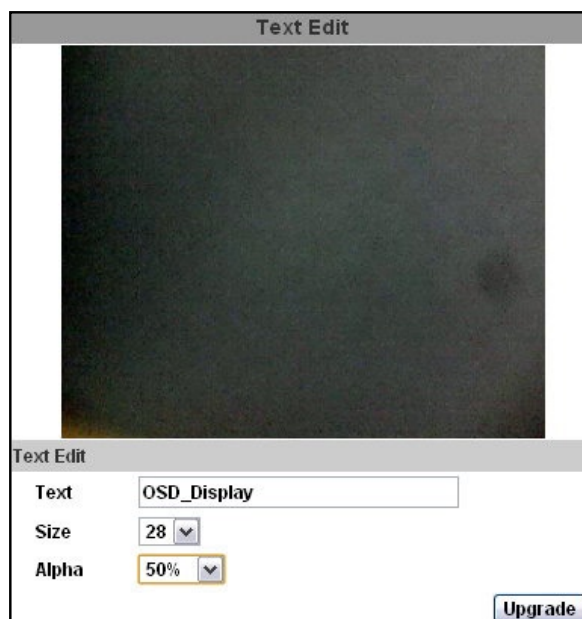
- a. Server Information: Set up the camera name, select language, and set up the camera time.
 - (i) Server Name: This is the Camera name. This name will show on the IP Installer.
 - (ii) Select language: There are 11 languages to choose from. When you change the language, it will show the following dialogue box for confirmation.



- b. OSD Setting: Select a position where date & time stamp / text showing on screen.



Moreover, click Text Edit can entry to adjust the OSD contents which is Alpha of text. Finally, click Upgrade button to save the setting.



- c. Server time setting: Select options to set up time - “NTP”, “Synchronize with PC’s time”, “Manual”, “The date and time remain the same”.

Note: To synchronize with the NTP Server, please set the IP camera up on the WAN instead of LAN.

Time Setting

Server Time: 2011/11/28 18:48:45 Time Zone: GMT+08:00

Date Format: ☒ yy/mm/dd ☐ mm/dd/yy ☐ dd/mm/yy

Time Zone:

☒ Enable Daylight Saving:

	Month	Week	Day of Week	Time
DST Start:	Mar	2nd	Sun	12 am
DST End:	Nov	1st	Sat	12 am

☐ NTP :

NTP Server :

Update : Hour

Time Shift : Minutes [-1440..1440]

☐ Synchronize with PC's time

Date :

Time :

☐ Manual

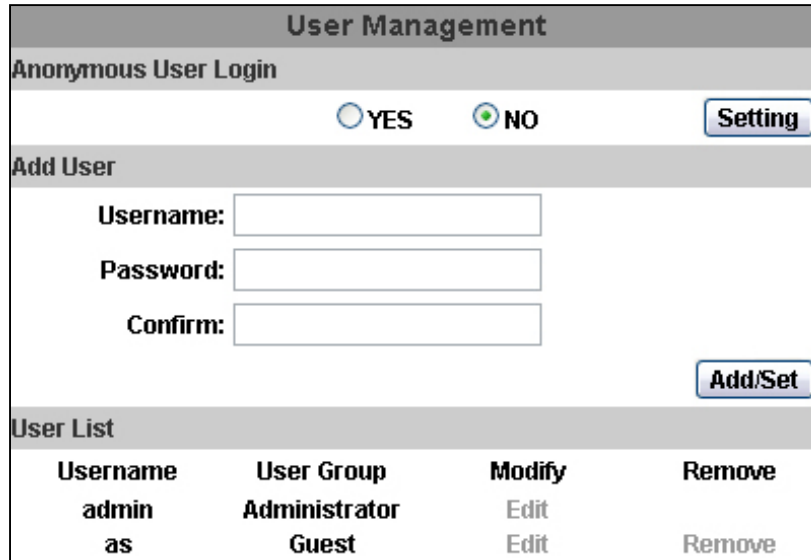
Date :

Time :

☒ The date and time remain the same

2. User Management

IP CAMERA supports three different users, administrator, general user, and anonymous user.



The **User Management** interface is divided into three main sections:

- Anonymous User Login:** Features two radio buttons, **YES** and **NO**, with the **NO** button selected. A **Setting** button is located to the right.
- Add User:** Contains three input fields labeled **Username:**, **Password:**, and **Confirm:**. An **Add/Set** button is positioned at the bottom right of this section.
- User List:** A table displaying the current user list with columns for Username, User Group, Modify, and Remove.

Username	User Group	Modify	Remove
admin	Administrator	Edit	
as	Guest	Edit	Remove

a. Anonymous User Login:

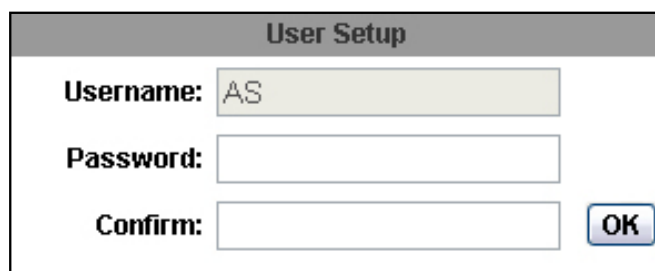
Yes: anonymous login is allowed

No: Username & password are required to access this IP camera

b. Add user:

Type the user name and password, then click “Add/Set”. The guest user can only browse the live video page and is not allowed to enter the configuration page.

c. Click “edit” or “delete” in the user list to modify them. The system will ask you to key in the password in the pop-up window before you edit the user information.



The **User Setup** pop-up window contains three input fields: **Username:** (with 'AS' entered), **Password:**, and **Confirm:**. An **OK** button is located at the bottom right.

3. System update:

System Update	
Firmware Upgrade	
Firmware Version:	V1.0.30
New Firmware:	選擇檔案 未選擇檔案
Upgrade	
Reboot System	
Start	
Factory Default	
Start	
Setting Management	
Save As a File:	Right click the mouse button on <u>Setting Download</u> and then select Save As to save current system's setting in the PC.
New Setting File:	選擇檔案 未選擇檔案
Upgrade	

- a. To update the firmware online, click “Browse...” to select the firmware. Then click “Upgrade” to proceed.

Note: The firmware upgrade might be accompanied by the changing of some setting and function, and the setting options might become different to the user manual that you're reading now.

- b. Reboot system: Re-start the IP camera
- c. Factory default: Delete all the settings in this IP camera.
- d. Setting Management: User may download the current setting to PC, or upgrade from previous saved setting.
- (i) Setting download:
Right-click the mouse button on Setting Download → Select “Save AS...” to save current IP CAM setting in PC → Select saving directory → Save
 - (ii) Upgrade from previous setting:
Browse → search previous setting → open → upgrade → Setting update confirm → click [index.html](#) to return to main page

B. Network

1. IP Setting

a. IP Assignment

IP Setting	
IP Assignment	
☐ DHCP	
☒ Static	
IP Address:	192.168.40.150
Subnet Mask:	255.255.255.0
Gateway:	192.168.40.254
DNS 0:	168.95.1.1
DNS 1:	168.95.192.1

IP Camera supports DHCP and static IP.

- (i) DHCP: Using DHCP, IP CAMERA will get all the network parameters automatically.
- (ii) Static IP: Please type in IP address, subnet mask, gateway, and DNS manually.

b. Port assignment

Port Assignment	
Web Page Port:	80

- (i) Web Page Port: setup web page connecting port and video transmitting port (Default: 80)

c. UPnP (Universal Plug and play)

UPnP	
UPnP:	☒ Enabled ☐ Disabled
UPnP Port Forwarding:	☐ Enabled ☒ Disabled
External Web Port:	80
External RTSP Port:	554

This IP camera supports UPnP, If this service is enabled on your computer, the camera will automatically be detected and a new icon will be added to "My Network Places."

- (i) UPnP Port Forwarding:

When the camera is installed under a router, Enable UPnP Port

Forwarding to let the router open ports so that the video streams can be sent out from a LAN. Set Web Port and RTSP port, and make sure your router supports UPnP/TM and the function has been activated.

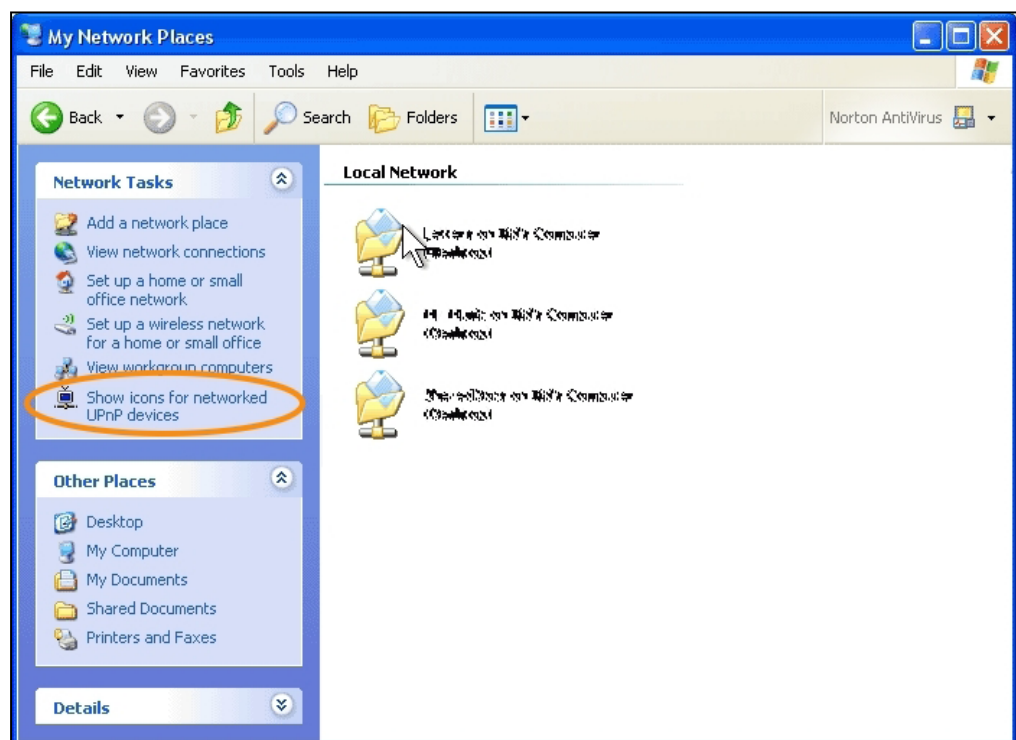
- (ii) Note: UPnP must be enabled on your computer. Please follow the procedure to activate UPnP.

<Approach 1>

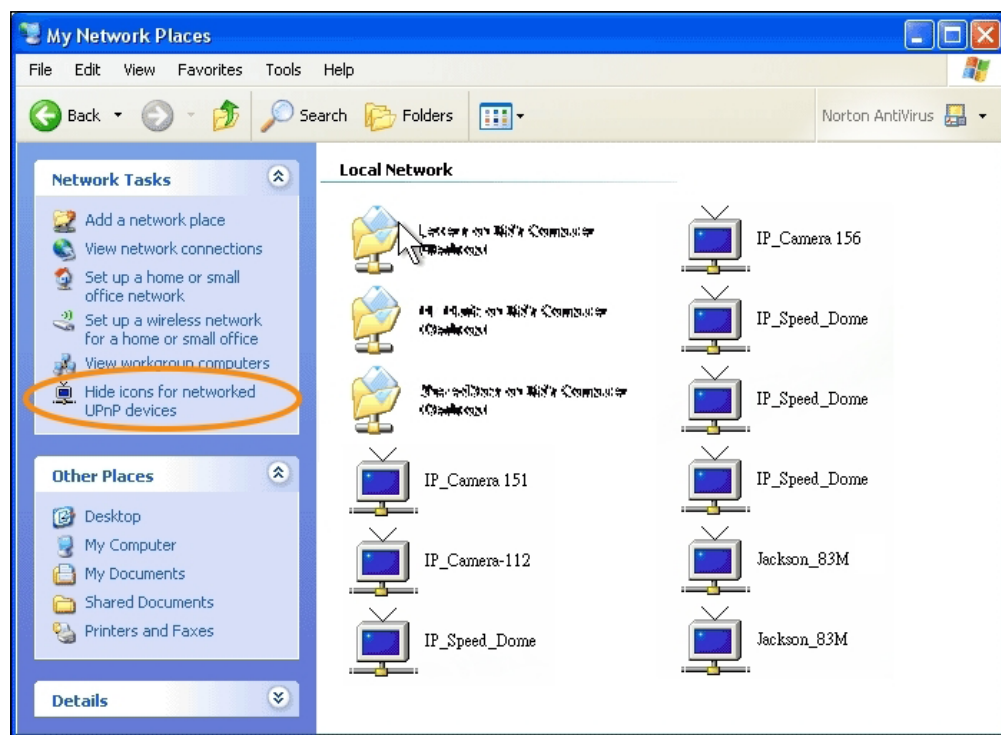
- Open the Control Panel from the Start Menu
- Select Add/Remove Programs
- Select Add/Remove Windows Components and open Networking Services section
- Click Details and select UPnP to setup the service
- The IP device icon will be added to "MY Network Places"
- User may double click the IP device icon to access IE browser

<Approach 2>

- Open "My Network Space", and click "Show icons for networked UPnP devices" in the tasks column on the left of the page. Windows may ask your confirmation for enabling the components. Click "Yes".



- Now you can see the IP device under the LAN. Double-click the icon to access the camera via web browser. To disable the UPnP, click "Hide icons for networked UPnP devices" in the tasks column.



d. RTSP setting

Rtsp Setting		
Rtsp Server:	☒ Enabled ☐ Disabled	
RTSP Port :	554	
RTP Start Port:	5000	[1024..9997]
RTP End port:	9000	[1027..10000]

If you have a media player that supports RTSP protocol, you can use it to receive the video streaming from IP camera. The RTSP address can be set for two streamings respectively. Please jump to Chapter V-C: "[Video Setting](#)". There're setting field for RTSP address of two streamings.

- (i) RTSP Server: enable or disable
- (ii) RTSP Port: setup port for RTSP transmitting (Default: 554)
- (iii) RTSP Start and End Port: in RTSP mode, you may use TCP and UDP for connecting. TCP connection uses RTSP Port (554). UDP connection uses RTSP Start and End Port.

e. Multicast Setting (Based on the RTSP Server)

Multicast Setting (Based on the RTSP Server)		
Streaming 1:		
IP Address:	234.5.6.78	[224.3.1.0 ~ 239.255.255.255]
Port:	6000	[1 ~ 65535]
TTL:	15	[1 ~ 255]
Streaming 2:		
IP Address:	234.5.6.79	[224.3.1.0 ~ 239.255.255.255]
Port:	6001	[1 ~ 65535]
TTL:	15	[1 ~ 255]

Multicast is a bandwidth conservation technology. This function allow several user to share the same packet sent from IP camera. To use Multicast, appoint IP Address and port here. TTL means the life time of packet, The larger the value is, the more user can receive the packet.

To use Multicast, be sure to enable the function "Force Multicast RTP via RTSP" in your media player. Then key in the RTSP path of your camera: "rtsp://(IP address)/" to receive the multicast.

f. ONVIF

ONVIF		
ONVIF:	☒ v1.02	☐ v1.01 ☐ Disabled
Security:	☐ Enabled	☒ Disabled
RTSP Keepalive:	☒ Enabled	☐ Disabled

(i) Choose your ONVIF version and settings.

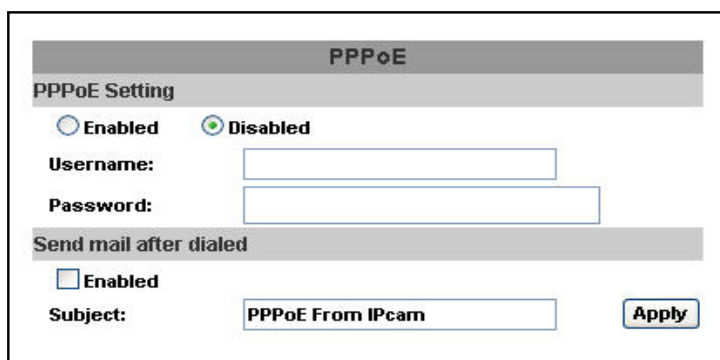
Under ONVIF connection, the video will be transmitted by RTSP. Be sure to enable the RTSP server in IP setting, or you're not able to receive the video via ONVIF.

(ii) RTSP Keepalive:

When the function is enabled, the camera checks once in a while if the user who links to the camera via ONVIF still keeps connecting. If the connection had been broken, the camera stop transmitting video to user.

2. PPPoE

a. PPPoE

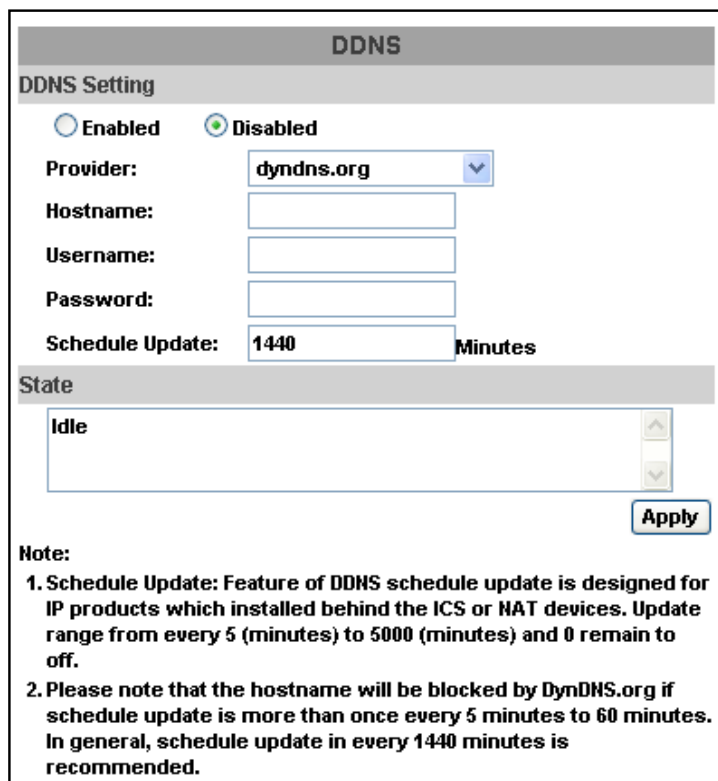


The screenshot shows a web-based configuration interface for PPPoE. At the top, there is a header bar with the text "PPPoE". Below this, a section titled "PPPoE Setting" contains two radio buttons: "Enabled" (which is unselected) and "Disabled" (which is selected). Underneath these are two text input fields labeled "Username:" and "Password:". Below the password field is another section titled "Send mail after dialed", which contains a checkbox labeled "Enabled" (which is unselected). Below this checkbox is a "Subject:" label followed by a text input field containing the text "PPPoE From IPcam". To the right of this field is an "Apply" button.

Select "Enabled" to use PPPoE. Key-in Username and password for the ADSL connection.

Send mail after dialed: When connecting to the internet, it will send a mail to a specific mail account. For the mail setting, please refer to Server settings.

3. DDNS:



DDNS

DDNS Setting

☐ Enabled ☒ Disabled

Provider: dyndns.org

Hostname:

Username:

Password:

Schedule Update: 1440 Minutes

State

Idle

Apply

Note:

1. Schedule Update: Feature of DDNS schedule update is designed for IP products which installed behind the ICS or NAT devices. Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.

2. Please note that the hostname will be blocked by DynDNS.org if schedule update is more than once every 5 minutes to 60 minutes. In general, schedule update in every 1440 minutes is recommended.

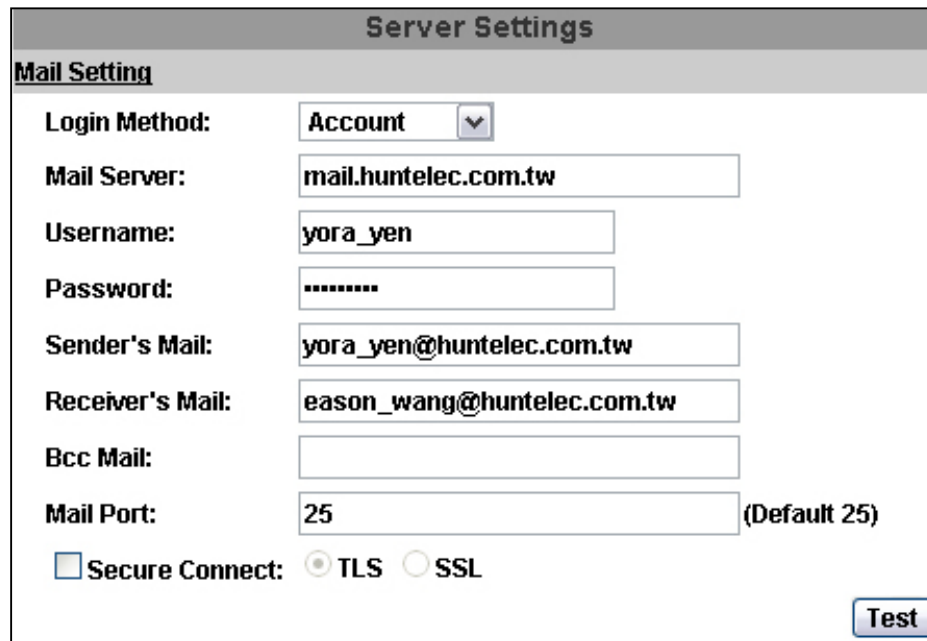
The camera supports DDNS (Dynamic DNS) service.

- (i) Enable this service
- (ii) Key-in the DynDNS account host name, user name, and password that you had applied to the service provider . (If you choose to use Camddns, just key in any user name as you like.)
- (iii) Set up the IP Schedule update refreshing rate.
- (iv) Click “Apply”
- (v) If setting up IP schedule update too frequently, the IP may be blocked.
In general, schedule update every day (1440 minutes) is recommended
- (vi) DDNS Status
 - Updating: Information update
 - Idle: Stop service
 - DDNS registration successful, can now log by <http://<username>.ddns.camddns.com>: Register successfully.
 - Update Failed, the name is already registered: The user name has already been used. Please change it.
 - Update Failed, please check your internet connection: Network connection failed.
 - Update Failed, please check the account information you provide: The server, user name, and password may be wrong.

4. Server setting

The settings of Email, FTP and SAMBA are used when the event happens, schedule snapshot executes, or the alarm input is triggered. Select the item to display the detailed configuration options. You can configure either one or all of them.

a. Mail Setting:

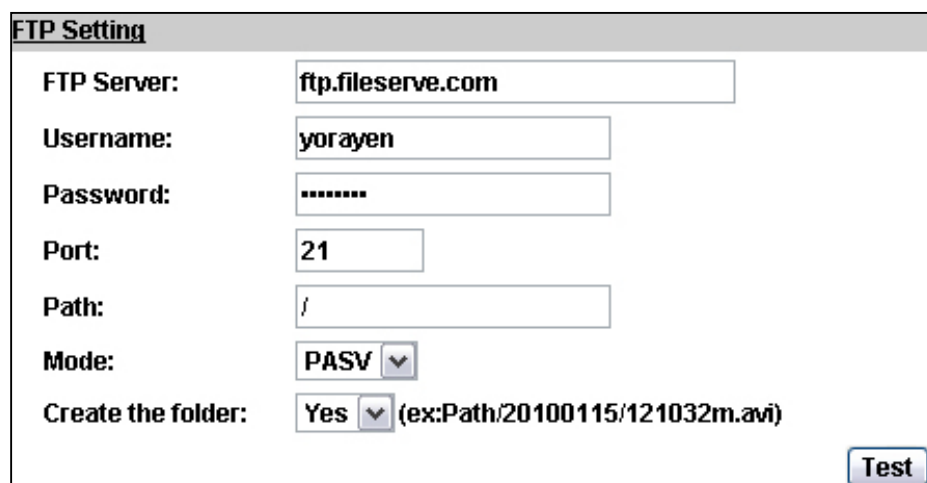


The 'Mail Setting' window is part of the 'Server Settings' section. It contains the following fields and options:

- Login Method:** A dropdown menu set to 'Account'.
- Mail Server:** A text box containing 'mail.huntelec.com.tw'.
- Username:** A text box containing 'yora_yen'.
- Password:** A text box with masked characters '.....'.
- Sender's Mail:** A text box containing 'yora_yen@huntelec.com.tw'.
- Receiver's Mail:** A text box containing 'eason_wang@huntelec.com.tw'.
- Bcc Mail:** An empty text box.
- Mail Port:** A text box containing '25', with '(Default 25)' noted to the right.
- Secure Connect:** A checkbox that is unchecked, followed by two radio buttons: 'TLS' (selected) and 'SSL'.
- Test:** A button located at the bottom right of the window.

Set up the server address and account information of your e-mail. Click "Apply" to save the setting, then use "Test" button to test the server connection. A message box will tell you "OK!" if it works, and a test e-mail will be sent to receiver's mail address.

b. FTP:



The 'FTP Setting' window contains the following fields and options:

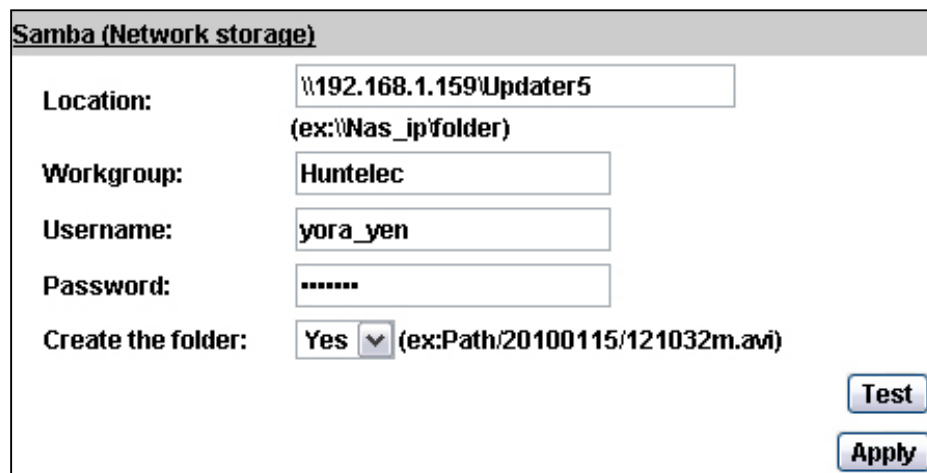
- FTP Server:** A text box containing 'ftp.fileserve.com'.
- Username:** A text box containing 'yorayen'.
- Password:** A text box with masked characters '.....'.
- Port:** A text box containing '21'.
- Path:** A text box containing '/'.
- Mode:** A dropdown menu set to 'PASV'.
- Create the folder:** A dropdown menu set to 'Yes', with '(ex:Path/20100115/121032m.avi)' shown to the right.
- Test:** A button located at the bottom right of the window.

Set up the server address and account information of your FTP. Click "Apply" to save the setting, then use "Test" button to test the server

connection. A message box will tell you “OK!” if it works, and a test file will be uploaded to FTP space.

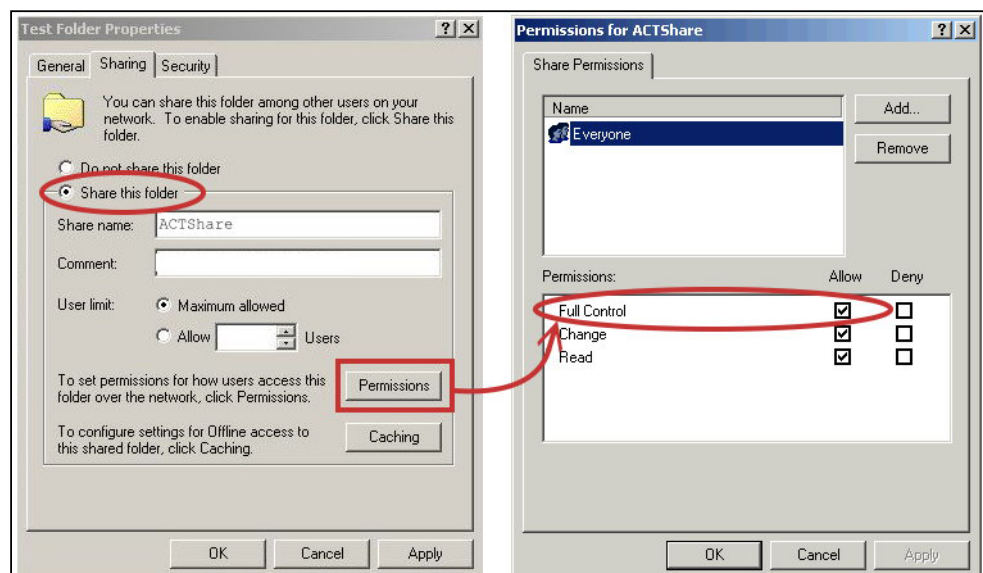
In PORT mode, the FTP server builds the connection to the user's data port actively. However, from the user-side firewall's standpoint, the action of connecting from FTP server is often considered to be dangerous and should be blocked. In PASV mode, the problem is solved: The FTP server waits for the data transmission connection built by the user. Make sure that the server supports the mode you select.

c. Samba:



Select this option to send the media files via a network neighborhood when an event is triggered. Click “Apply” to save the setting, then use “Test” button to test the server connection. A message box will tell you “OK!” if it works, and a test document will be created in the location.

If the test failed, check the sharing setting of your location folder. The folder properties must be “shared” and the permissions must be “Full Control” as the picture.



Permissions:	Allow	Deny
Full Control	☒	☐
Change	☒	☐
Read	☒	☐

5. Wireless Setting (Optional): Support 802.11 b/g/n

To set up the IP camera via wireless network, use ethernet cable to connect the camera first. After you finish the wireless setting and save it, remove the ethernet cable.

Note: The IP address is the same under both wireless and wired network. If the ethernet cable is plugged in the camera, the IP camera will use it to link to the Internet instead of wireless router.

a. Status of Wireless Networks

Wireless Setting			
Status of Wireless Networks			
SSID	Mode	Security	Signal Strength
RHOSON	Infrastructure	WEP	47
hunt-ZyXEL	Infrastructure	WPA1PSKWPA2PSK/TKIPAES	42
hunt_sal4_showroom	Infrastructure	WPA1PSKWPA2PSK/TKIPAES	68
HUNT_MIS	Infrastructure	WPA2PSK/AES	52
fan	Infrastructure	WPAPSK/TKIP	52
MLink	Infrastructure	WPA1PSKWPA2PSK/TKIPAES	31
sales-4 second	Infrastructure	WPAPSK/TKIP	47
eCoffee	Infrastructure	WPA2PSK/TKIPAES	31
ZyXEL-NVR	Infrastructure	WPA1PSKWPA2PSK/TKIPAES	13
Lanner Wireless	Infrastructure	WPA/TKIPAES	26

The camera scans and shows the SSID, Mode, Security, and Signal Strength of wireless network here.

b. Wireless Setting

Wireless Setting	
MAC Address:	00:0D:F0:64:27:AC
Mode:	Ad-hoc ▼
Operation Mode:	Auto ▼
SSID:	Default
Domain:	FCC (1~11Ch) ▼
Channel:	6 ▼
Security:	None ▼
Apply	

- (i) Mode: Infrastructure mode is used to link to the wireless router. Ad-hoc mode is used to link to the PC directly. "Domain" and "Channel" options appear only in the Ad-hoc mode.
- (ii) SSID: The ID of wireless network service.
- (iii) Domain: The wireless network standards are different in each region.

Please select as the wireless system in your location. FCC is American standard. ETSI is European standard. JP is Japan standard.

(iv) Channel: Assign a channel for the camera in order to avoid interference.

(v) Security: Select WEP, WPA-PSK, or WPA2-PSK according to your wireless router setting.

c. WEP Setting

WEP Setting	
Authentication:	Shared Key ▼
Encryption:	64 bit ▼
Key Type:	HEX ▼ (10 character max)
Key 1:	☐
Key 2:	☒
Key 3:	☐
Key 4:	☐

(i) Authentication: Open System or Shared Key, according to your wireless router.

(ii) Encryption: The option determine the length of key password. In HEX type, 10 characters are allowed if you select 64 bit while 26 characters are allowed if selecting 128bit; In ASCII type, 5 characters are allowed if you select 64 bit while 13 characters are allowed if selecting 128bit.

(iii) Key Type: In HEX type, the key password can only be hexadecimal numbers. In ASCII type, the key password can be any letters and numbers. (Capital and lowercase letters are regarded as different.)

(iv) Key 1~4: Key in the key password. The length and type must be consistent with the settings above.

d. WPA-PSK Setting

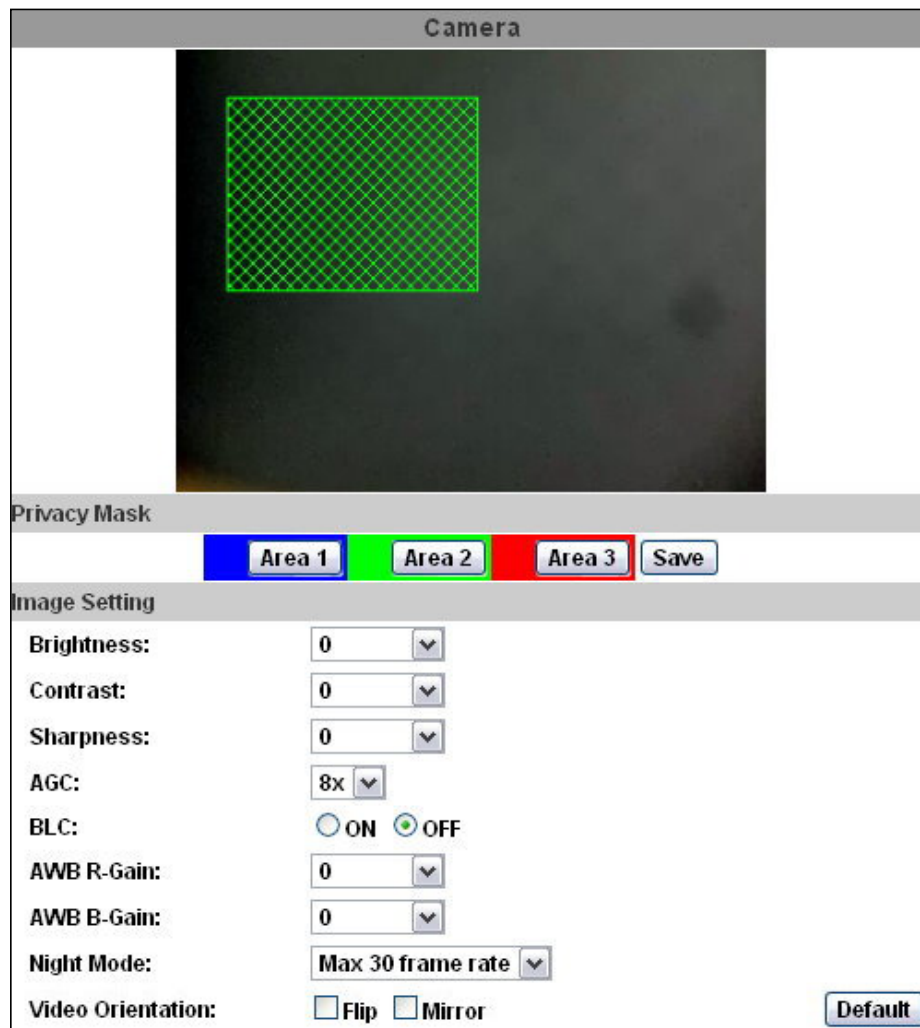
WPA-PSK Setting	
Encryption	TKIP ▼
Pre-Shared Key:	23133690 (ASCII format, 8~63)

(i) Encryption: TKIP or AES, according to your wireless router.

(ii) Pre-Shared Key: Key in the key password here. Any letters and numbers are allowed. (Capital and lowercase letters are regarded as different.)

C. A/V Setting

1. Image Setting



a. Privacy Mask:

For the security purpose, there are three areas can be setup for privacy mask. Click Area button first and drag an area on the above image. Finally, click Save button to reserve the setting.

b. Brightness, Contrast, and Sharpness can be adjusted here.

c. AGC: The sensitivity of camera can adjusts with the environmental light in order to avoid the images too light or too dark.

d. BLC: To make the dark zone resulting from back light lighter and clearer.

e. AWB R-Gain / B-Gain: Enhance red / blue color in the image.

f. Night Mode: This function increases the sensitivity of camera to get brighter image at night. The smaller the Max frame rate you select, the slower the shutter speed becomes so that the image will get lighter, and moving subjects might be blurred.

g. Video Orientation: Flip or mirror the image as your requirement.

2. Video Setting

a. Video System Setting:

The Input resolution affects the video resolution and the frame rate options. Choose the Video System (digital signal) and TV Output (analog signal).

Video Setting	
Input Resolution:	1600x1200 @ 15fps ▼
Video System:	NTSC ▼
TV Output:	Auto ▼ (Auto : Based on the Video System)

b. Basic Mode of Streaming 1 and Streaming 2:

Streaming 1 Setting	
☒ Basic Mode ☐ Advanced Mode	
Resolution:	1600x1200 ▼
Quality:	Best ▼
Video Frame Rate:	15 FPS ▼
Video Format:	H.264 ▼
RTSP Path:	 ex:rtsp://IP_Adress/ Audio:G.711

Streaming 2 Setting	
☒ Basic Mode ☐ Advanced Mode ☐ Close	
Resolution:	320x240 ▼
Quality:	Standard ▼
Video Frame Rate:	15 FPS ▼
Video Format:	JPEG ▼
RTSP Path:	 ex:rtsp://IP_Adress/v2 Audio:G.711

- (i) Resolution: 1600x1200, 1280x1024, 1280x960, 1280x720, 800x592, 640x480, 320x240, or 176x144
- (ii) Quality: The higher the quality is, the bigger the file size is. It might affect Internet transmitting speed if the file gets too large.
- (iii) Video Frame Rate: The video refreshing rate per second. The max value is affected by the input resolution you choose.
- (iv) Video Format: H.264 or M-JPEG
- (v) RTSP Path: Set the RTSP output connecting route

c. Advanced Mode of Streaming 1 and Streaming 2:

Streaming 1 Setting	
☐ Basic Mode ☒ Advanced Mode	
Resolution:	1600x1200 ▼
Bitrate Control Mode:	☒ CBR ☐ VBR
Video Quantitative:	7 ▼
Video Bitrate:	3Mbps ▼
Video Frame Rate:	15 FPS ▼
GOP Size:	1 X FPS ▼ GOP = 15
Video Format:	H.264 ▼
RTSP Path:	 ex:rtsp://IP_Adress/ Audio:G.711

Streaming 2 Setting	
☐ Basic Mode ☒ Advanced Mode ☐ Close	
Resolution:	320x240 ▼
Quality:	Standard ▼
Video Frame Rate:	15 FPS ▼
Video Format:	JPEG ▼
RTSP Path:	v2 ex:rtsp://IP_Adress/v2 Audio:G.711

- (i) Resolution: 1600x1200, 1280x1024, 1280x960, 1280x720, 800x592, 640x480, 320x240, or 176x144
- (ii) Bitrate Control Mode: In CBR(Constant Bit Rate) mode, the bitrate keeps consistent all over the video. In VBR(Variable Bit Rate) mode, the bitrate changes with the complexity extent of the video data. VBR provides a better compression way and the file may be smaller. However, the VBR file size cannot be predicted.
- (iii) Video Quantitative: The quality parameter of VBR. You can choose 1~10 compression rate
- (iv) Video Bitrate: The quality parameter of CBR. You can choose 32kbps~8Mkbps. The higher the value is, the higher the image quality is.
- (v) Video Frame Rate: The video refreshing rate per second. The max value is affected by the input resolution you choose.
- (vi) GOP Size: It means "Group of Pictures". The higher the GOP is, the better the quality is.
- (vii) Video Format: H.264 or M-JPEG
- (viii) RTSP Path: RTSP output connecting route

d. 3GPP Streaming mode:

3GPP Streaming Setting
☒ Enabled ☐ Disabled
Resolution: 176x144
Video Bitrate: 1Mbps
Video Frame Rate: 15 FPS
Video Format: H.264
RTSP Path: v3
ex:rtsp://IP_Address/v3 Audio:AMR

The rtsp here is separated from the rtsp setting in the "IP SETTING". 3GPP Streaming can still work even you select "disabled" in the rtsp server option of IP Setting.

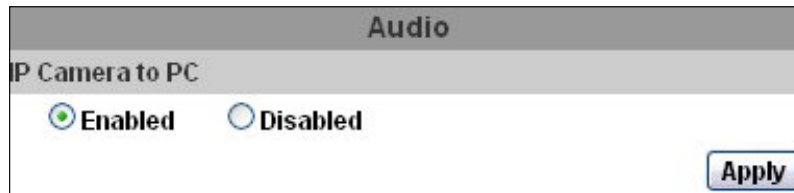
3GPP mode fixed setting: 176x144 resolution, 5FPS, Video compression: MPEG4, Audio compression: AMR.

- (i) Enable or Disable 3GPP Streaming
- (ii) 3GPP Path: 3GPP output connecting route. If the IP address of your camera is 192.168.40.150, and you key in "3g" in the column, the 3GPP path will be rtsp://192.168.40.150/3g.

3. Audio:

IP Camera supports 2-way audio. Audio can be received by the built-in mic in the IP camera and transmitted to remote PC. User can also send audio from remote PC mic to IP Camera's external speaker.

a. IP Camera to PC



To receive Audio from IP camera, select "Enable".

b. PC to IP Camera

Tick "chatting" box in the browsing page, then your voice can be propagated from PC to camera.



If "Chatting" and "Save to SD card" are enabled simultaneously, the sound quality might be affected and becomes not smooth.

D. Event List

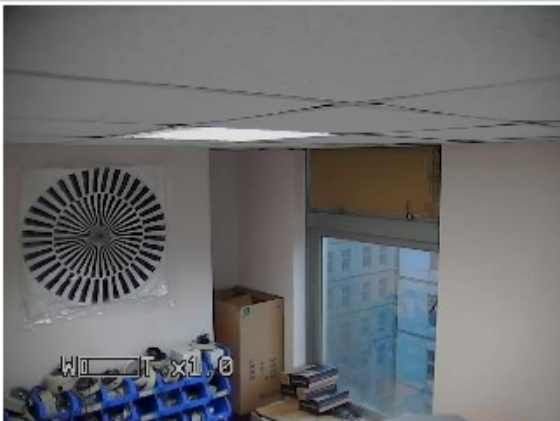
IP Camera provides multiple event settings.

1. Event Setting

a. Motion Detection

Event Setting

Motion Detection



Area Setting:

Sensitivity:

☐ Area 1:

☐ Area 2:

☐ Area 3:

Subject:

Interval:

☐ Based on the schedule

Area 1	Area 2	Area 3
5	5	5
☐ E-mail ☐ FTP ☐ Out1 ☐ Save to SD card ☐ Samba	☐ E-mail ☐ FTP ☐ Out1 ☐ Save to SD card ☐ Samba	☐ E-mail ☐ FTP ☐ Out1 ☐ Save to SD card ☐ Samba

IP Camera Warning!

10 sec a period of time between every two motions detected.

(i) Motion Detection Area:

IP CAMERA allows 3 areas motion detection. When motion is detected, it can send video to specific mail addresses, trigger the output device, or save video to remote FTP / SD card / Samba. To set up the motion area, click "Area Setting". Use mouse to drag and draw the area.

Note the following conditions when you set up the motion detection area:

- We recommend the motion detection area cover part of the view instead of covering the whole view.
- Only when the moving objects covers more than 70%~80% of the motion detection area that the user drew, the motion can be detected.
- Regardless of the dimension of motion detection area, the moving objects must cover more than 1/15 of the full view so that the motion can be detected.

(ii) Interval:

For example, if you select "10 sec" here, once the motion is detected and action is triggered, it cannot be triggered again within 10 seconds.

(iii) Based on the schedule:

When the option box is ticked, only during the selected schedule time the motion detection is enabled. That is, for example, the 11th hour of Monday has not been colored in the schedule table, then no action will be triggered even the camera detects motion during 11:00~12:00 on Monday.

b. Record File

Record File	
File Format:	AVI File(with Record Time Setting) ▼

Choose one of the format, AVI or JPEG.

c. Record Time Setting

Record Time Setting			
Pre Alarm:	5 sec ▼	Post Alarm:	5 sec ▼

Set up the video recording time for Pre Alarm and Post Alarm when motion is detected, I/O, or other devices is triggered.

Note: Pre/Post Alarm record time is base on record time setting and restricted to IP Cam built-in Ram memory. If the quantity of data is too huge or video quality too high, recording frame might drop or decrease on post alarm recording time.

d. Network Dis-connected

Network Dis-connected	
Dis-connected:	☐ Save to SD card

To avoid video loss, the camera will start to save the video to local SD card when it detect no network connection. The video recording will continuously be saved into SD card and divided into every 5 minutes a file until the network is reconnected successfully. The oldest file will be deleted if the capacity of SD card is full.

This function is only enabled under wire connection.

e. Network IP check:

Network IP Check	
IP Check:	☐ Enabled ☒ Disabled
IP Address:	www.google.com
Interval:	30 sec ▼
IP Check:	☐ Save to SD card

Key in the target IP address and interval. The camera checks once in a while according to the setting interval time that if itself can linked to the target IP address. If connection failed, the camera starts to save the video to SD card.

2. Schedule

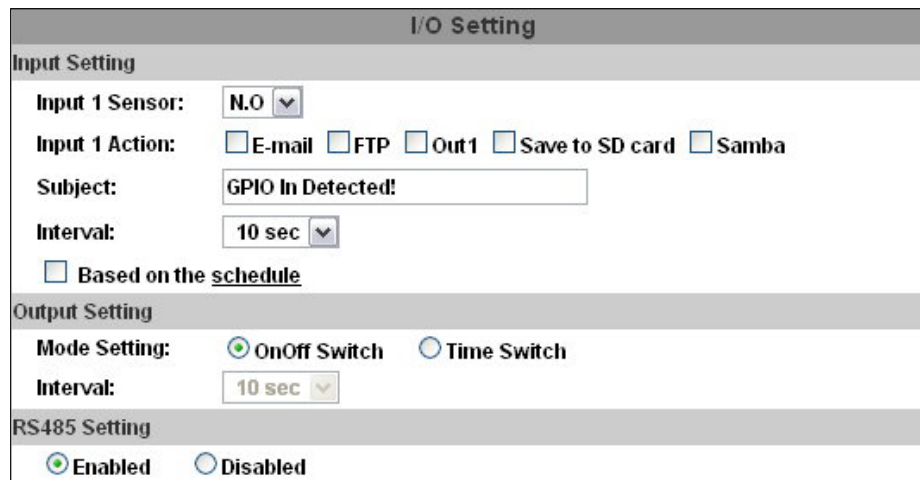
Schedule																								
All	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon.																								
Tue.																								
Wed.																								
Thu.																								
Fri.																								
Sat.																								
Sun.																								

 With schedule setup.

Snapshot	
☐ Enabled	☒ Disabled
Snapshot:	☐ E-mail ☐ FTP ☐ Out1 ☐ Save to SD card ☐ Samba
Interval:	10 Second(s) [1..50000]
File Name:	Snapshot

- Schedule: After complete the schedule setup, the camera data will be recorded according to the schedule setup.
- Snapshot: After enable the snapshot function, user can select the storage position of snapshot file, the interval time of snapshot and the reserved file name of snapshot.
- Interval: The interval between two snapshots.

3. I/O Setting



a. Input Setting:

IP Camera supports input and output. When the input condition is triggered, it can trigger the relay, send the video to mail addresses /FTP server / SAMBA.

- Interval:

For example, if you select "10 sec" here, once the motion is detected and action is triggered, it cannot be triggered again within 10 seconds.

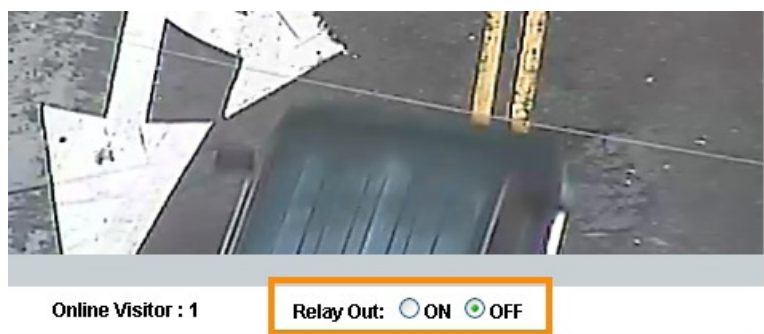
- Based on the schedule:

When the option box is ticked, only during the selected schedule time the I/O is enabled. That is, for example, the 11th hour of Monday has not been colored in the schedule table, then no action will be triggered even the camera detects input signal during 11:00~12:00 on Monday.

b. Output Setting:

The output mode affect the DO or relay out duration.

- (i) OnOff Switch: The camera triggers the external devise and lasts for 10 seconds. You can turn off the alarm manually by click "off" at the right bottom of the live video page.

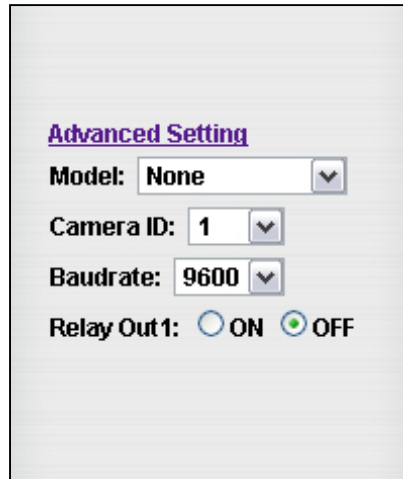


- (ii) Time Switch: The camera triggers the external devise and lasts for certain of time according to the interval setting, and the user is not

allowed to break off the alarm manually.

c. RS485 Setting

If the RS485 is enabled, the related options shows in the live video page.



The screenshot shows a web interface for RS485 settings. At the top, the text "Advanced Setting" is displayed in purple. Below it, there are four configuration items: "Model:" with a dropdown menu showing "None"; "Camera ID:" with a dropdown menu showing "1"; "Baudrate:" with a dropdown menu showing "9600"; and "Relay Out1:" with two radio buttons, "ON" and "OFF", where "OFF" is selected.

- (i) Model: Select the model of the connected device.
- (ii) Camera ID: To connect successfully, the ID must be the same with the connected device.
- (iii) Baudrate: It means the data transfer rate. The Baudrate must be the same with the connected device.

4. Log List

Log List	
System Logs	Logs
Motion Detection Logs	Logs
I/O Logs	Logs
All Logs	Logs

Sort by System Logs, Motion Detection Logs and I/O Logs. In addition, System Logs and I/O Logs won't lose data due to power failure.

System Log
[2012/07/03 16:22:39] 192.168.40.159 login by admin.
[2012/07/03 11:54:22] 192.168.40.132 login by admin.
[2012/07/02 19:08:52] 192.168.40.132 login by admin.
[2012/07/02 18:24:50] 192.168.40.132 login by admin.
[2012/07/02 14:37:05] 192.168.40.132 login by admin.
[2012/07/02 14:18:26] 192.168.40.132 login by admin.
[2012/07/02 09:00:25] 192.168.40.132 login by admin.
[2012/06/29 19:51:34] Streaming 2 going to Close.
[2012/06/29 19:51:34] Streaming 1 Video bitrate going to 5000 Kbps.

5. SD card

a. Playback

Please Insert SD card before use it. Make sure pushing SD card into the slot completely.

Click the date listed on this page, and it shows the list of the video. The video format is AVI. Click the video to start Microsoft Media Player to play it. To delete the video, check it, then click "Del".

2006/04/17			Del
Time	Video	Event Type	☐
09:05:22	090522f.avi	Network Dis-connected	☐
09:05:52	090552f.avi	Network Dis-connected	☐
09:06:22	090622f.avi	Network Dis-connected	☐
09:06:52	090652f.avi	Network Dis-connected	☐
09:07:22	090722f.avi	Network Dis-connected	☐
09:07:52	090752f.avi	Network Dis-connected	☐
09:08:22	090822f.avi	Network Dis-connected	☐
09:08:51	090851f.avi	Network Dis-connected	☐
09:09:21	090921f.avi	Network Dis-connected	☐
09:09:51	090951f.avi	Network Dis-connected	☐

b. SD Management

Choose "The 1st day" means the recoding file will be keep one day. Example: It is five o'clock now. Choose "The 1st day". The files will be kept from five o'clock yesterday to five o'clock today.

The oldest file will be deleted if the SD card is full.

Playback

No SD card

SD Management

Auto Deletion:

Off

Off
The 1st day
The 2nd day
The 3rd day
The 4th day
The 5th day
The 6th day
The 7th day
The 8th day
The 9th day
The 10th day
The 15th day
The 20th day
The 25th day
The 30th day

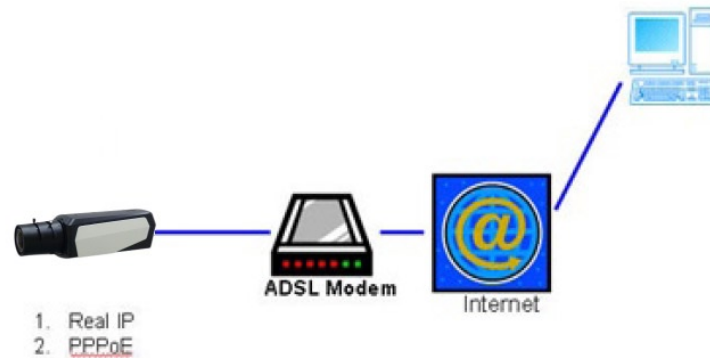
(Keep 1/ 2/ 3/ 4...days)

Apply

Note : The use of the SD card will affect the operation of the IP Camera slightly, such as affecting the frame rate of the video.

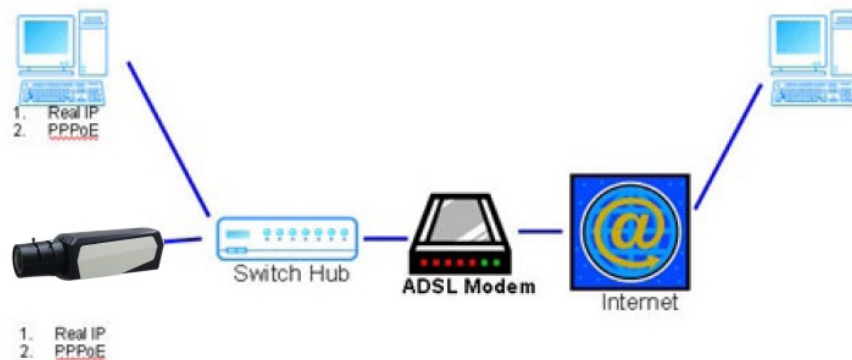
VI. Network Configuration

- Configuration 1:



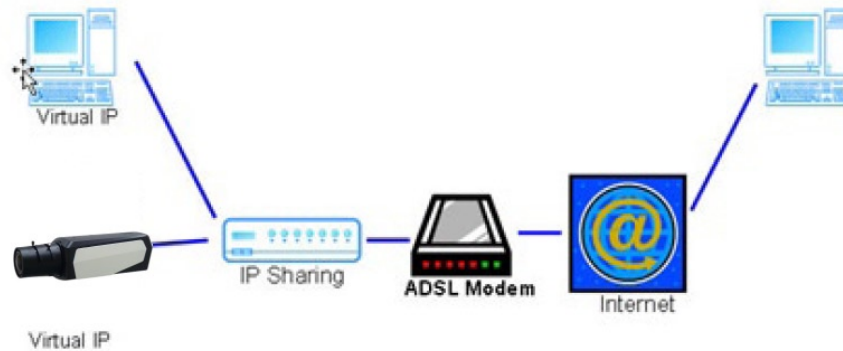
- a. Internet Access: ADSL or Cable Modem
- b. IP address: One real IP or one dynamic IP
- c. Only IP Camera connects to the internet
- d. For fixed real IP, set up the IP into IP Camera. For dynamic IP, start PPPoE.

- Configuration 2:



- a. Internet Access: ADSL or Cable Modem
- b. IP address: More than one real IP or one dynamic IP
- c. IP Camera and PC connect to the internet
- d. Device needed: Switch Hub
- e. For fixed real IP, set up the IP into IP Camera and PC. For dynamic IP, start PPPoE.

- Configuration 3:

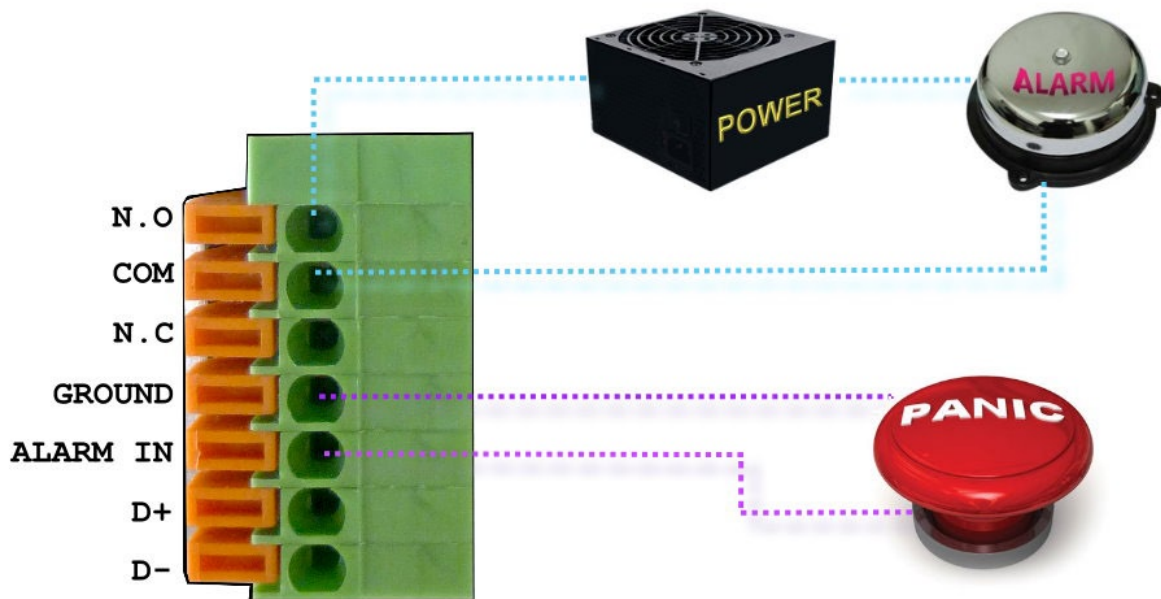


- a. Internet Access: ADSL or Cable Modem
- b. IP address: one real IP or one dynamic IP
- c. IP Camera and PC connect to the internet
- d. Device needed: IP sharing
- e. Use virtual IP, set up port forwarding in IP sharing.

VII. I/O Configuration

1. I/O Connection

- Please connect the the external output device (ex.siren) to N.O & COM or N.C & COM. (Depends on the output devise)
- Please connect the GND & ALARM pin to the external trigger device.



c. I/O PIN definition

- GND (Ground) : Initial state is LOW
- Alarm : Max. 50mA, DC 3.3V
- N.C. (Normally Close): Max. 1A, 24VDC or 0.5A, 125VAC
- COM (Common)
- N.O. (Normally Open): Max. 1A, 24VDC or 0.5A, 125VAC

2. I/O Setup

- Click I/O Setting from the system setup page via IE, and check “Out1” to enable I/O signal.

I/O Setting

Input Setting
 Input 1 Sensor: N.O
 Input 1 Action: ☒ E-mail ☒ FTP ☐ Out1 ☐ Save to SD card ☒ Samba
 Subject: GPIO In Detected!
 Interval: 10 sec
☐ Based on the schedule

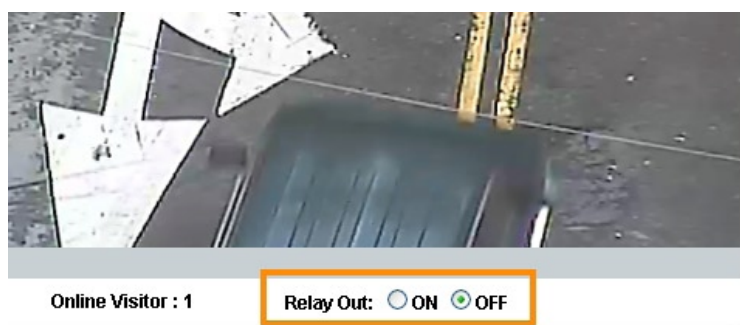
Output Setting
 Mode Setting: ☒ OnOff Switch ☐ Time Switch
 Interval: 10 sec

b. Output Test

After the external input and output hardware is installed, you can use the "Relay Out" bottom on the live video page to test if DO / Relay Out works.

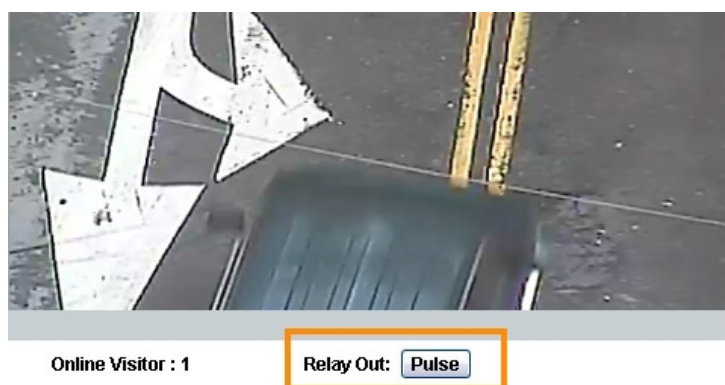
(i) OnOff Switch mode:

Click "ON", the camera will trigger the external output device for 10 seconds. For example, your alarm buzzer will continuously ring for 10 seconds. After 10 seconds the buzzer stops ringing, or you can manually break off the output signal by clicking "OFF".



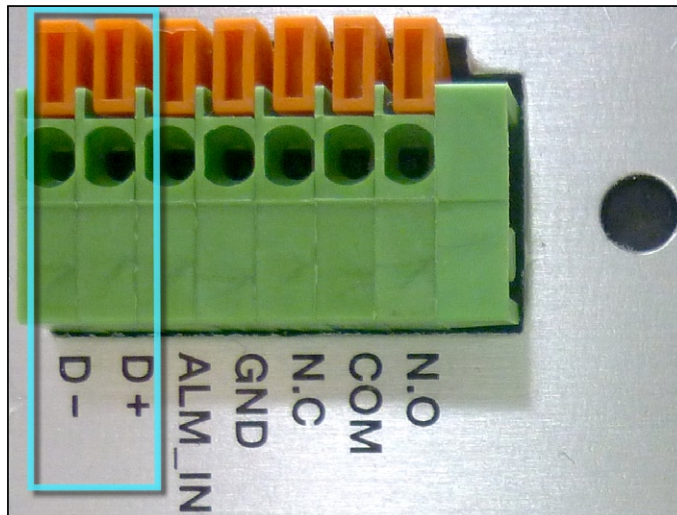
(ii) Time Switch mode:

Click "Pulse", the camera will trigger the external output device for several seconds. The duration length is according to the "interval" setting in Output Setting.

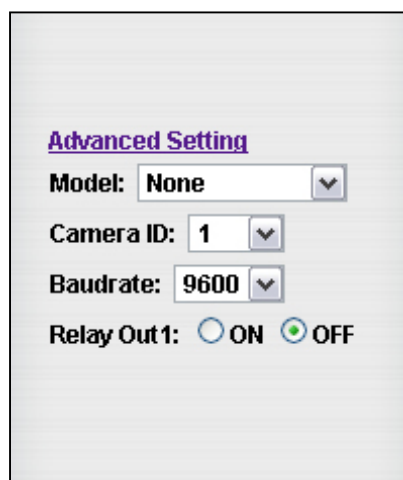


3. RS485

You can link the IP camera to DVR/NVR, cradle head, or joystick controller by RS-485. Please use cable to connect D+ with D+ of two device, and connect D- with D-.



After the RS485 Setting in I/O Setting is enabled, you can turn to the live video page and check the related options.



VIII. Factory Default

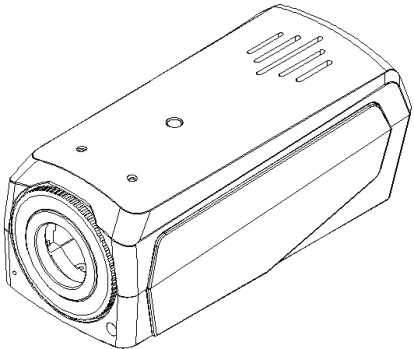
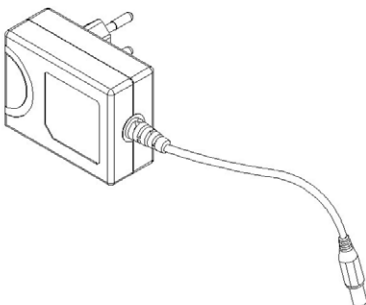
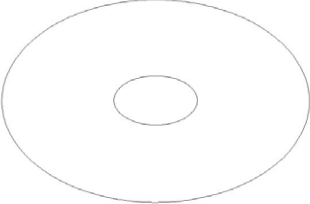
If you forget your password, please follow the steps to revert back to default value.

- Remove the power and ethernet cable. Press and hold the button as the picture below.



- Connect power to the camera again, and do not release the button during the system booting.
- It will take around 30 seconds to boot the camera.
- Release the button when camera finishes proceed.
- Plug in the ethernet cable. Re-login the camera using the default IP (<http://192.168.1.200>), and user name (admin), password (admin).

IX. Package Contents

IP Camera	Adaptor
	
Quick Installation Guide	CD
	

- Adaptor: AC100-240V DC12V/1A
- The CD includes User manual and software tools.

X. SD Card Compatibility

The following is the compatible SD Card, and those in red are especially recommended:

SD CARD	
ADATA 4G	SanDisk 512M
ADATA 512M	SanDisk 8G
Blast 128M	SiliconPower 128M
GiGATEK 128M	SiliconPower 256M
Kingmax 256M	TEKQ 128M
Kingston 128M	TEKQ 256M
Kingston 1G	Toshiba 128M
Kingston 256M	Toshiba 256M
Kingston 32G	Toshiba 4GB
Kingston 512M	Tracend 128M 80X
Phast 256M	Tracend 1G 80X
Photofast 256M	Tracend 256M 80X
PK 128M	Tracend 2G 150X
PRETEC 128M	Tracend 4G 150X
READY 128M	Tracend 512M 80X
SanDisk 128M	Transcend 16G
SanDisk 16G	Transcend 32G
SanDisk 1G	Transcend 4GB
SanDisk 256M	Transcend 8G
SanDisk 2G	TwinMOS 128M
SanDisk 32G	TwinMOS 256M
SanDisk 4GB	UMAX 128M
	U-TEK 128M
SDHC CARD	
SanDisk 4GB	Transcend 4GB
SanDisk 8G	Transcend 8G
SanDisk 16G	Transcend 16G
SanDisk 32G	Transcend 32G
Toshiba 4GB	Kingston 32G