HESAVISION IP

USER MANUAL

MEGAPIXEL
IR IP CAMERA
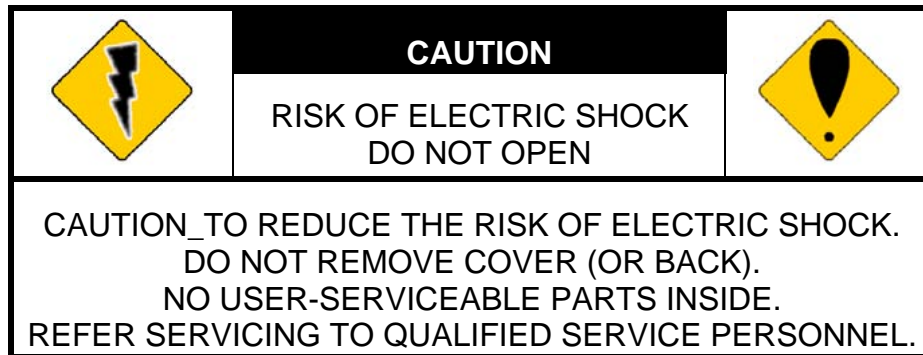
TCN-14MM *(COD. KUNTD14MM)*

DT01843HE0510R00

HESAVISION IP

WARINGS

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.
DO NOT INSERT ANY METALLIC & ELETRIC CONDUCTIVE 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.		

COPYRIGHT

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

Content

I. Preface

IR IP CAMERA is a professional MegaPixel CCD IP camera. It has built-in web server which enables user to view real-time video via IE browser. It also supports simultaneously MPEG-4&JPEG video compression and dual streaming which provides smooth and high video quality. The video can be stored in the SD card, and can be playback remotely.
IR IP CAMERA is an easy-to-use IP Camera which is designed for security application.

II. Product Specifications

- IP 66
- External Varifocal Lens adjustment
- True Day/Night Function
- Mechanism IR Cut Filter available
- IR Distance 20M
- MPEG-4/ MJPEG Compression Format
- Support Cell Phone/ PDA/ 3GPP
- Dual streaming
- SDK for software Integration
- Free Bundle 36 Channel Recording Software

Specifications

Hardware	
CPU	ARM 9 ,32 bit RISC
RAM	64MB
ROM	8MB
Image sensor	1/4" CMOS
Sensitivity	0 Lux (IR On)
Lens Type	Varifocal Auto IRIS 2.8~10mm
ICR	Mechanism IR Cut Filter
LED	IR Distance 20M
Power over Ethernet	Yes
Power Consumption	DC 12V, 450mA
Operating Temperature	-10_ ~ 40 _
Dimensions	83mm (W) x 79.5mm (H) x 182.5mm (D)
Weight	700g

Network	
Ethernet	10/ 100 Base-T
Network Protocol	HTTP, TCP/ IP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP, UPnP, 3GPP
System	
Video Resolution	1280x1024, 640x480, 350x240, 160x120
Video adjust	Brightness, Contrast, Exposure, Sharpness
Dual Streaming	Yes
Image snapshot	Yes
Full screen monitoring	Yes
Compression format	MPEG-4/ MJPEG
Video bitrate adjust	CBR, VBR
Motion Detection	Yes, 3 different areas
Triggered action	Mail, FTP
Pre/ Post alarm	Yes, configurable
Security	Password protection
Firmware upgrade	HTTP mode, can be upgraded remotely
Simultaneous connection	Up to 10
Web browsing requirement		
OS		Windows 2000/ 2003, XP, Vista, Microsoft IE 6.0 or above
Hardware		
	Suggested	Intel-C 2.0G, RAM_512MB, Graphic card_64MB
	Minimum	Intel-C 1.6G, RAM_256MB, Graphic card_32MB

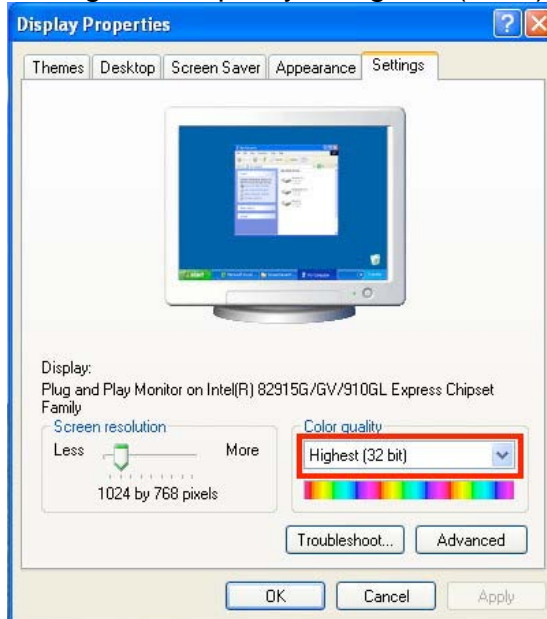* SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

HESAVISION IP
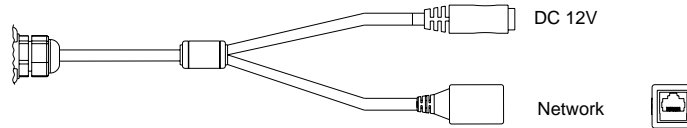
III. Product Installation

## A. Monitor Setting

i. Right-Click on the desktop. Select " Properties".

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

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B. Hardware Installation

DC 12V

Network

i.   Connect power adaptor
ii.   Connect Ethernet cable to IP Camera
iii.   Set up the network configurations according to the network environment. For further explanation, please refer to chapter VI, "Network Configuration for IP CAMERA".
iv.   PoE (Power Over Ethernet) **802.3af, 15.4W 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.


Ethernet

PoE IP Camera

PoE Switch

Ethernet Cable

Ethernet Cable

PoE IP Camera

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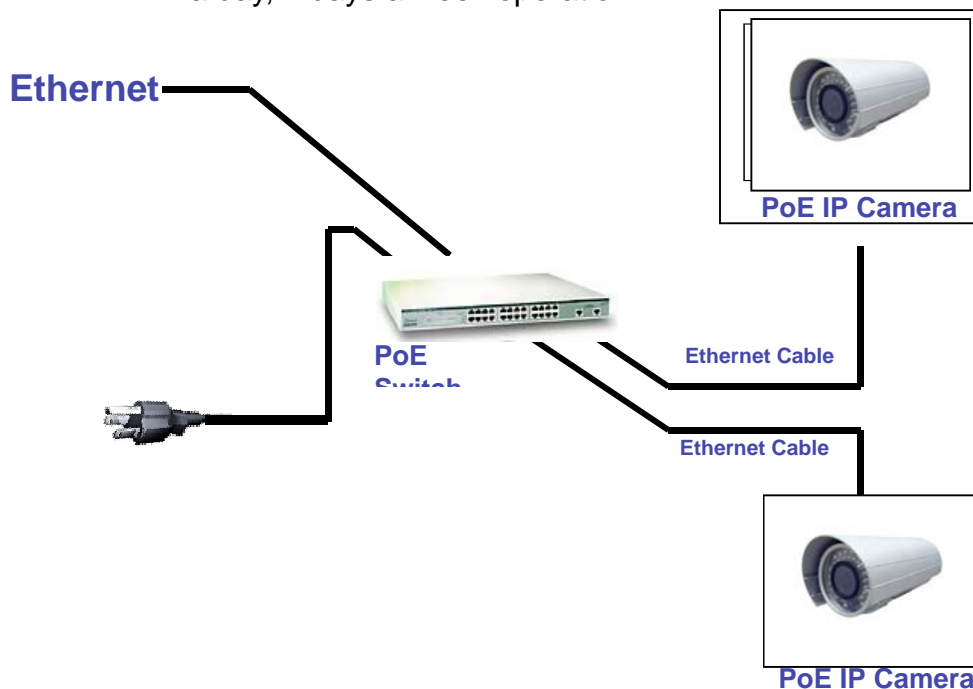
C. IP Assignment

    i.   Use the software, "IP Installer" to assign the IP address of IP Camera. The software is in the attached software CD.

  ii.   There are two languages for the IP installer
        a.   IPInstallerCht.exe_Chinese version
        b.   IPInstallerEng.exe_English version

 iii.   There are 3 kinds of IP configuration.
        a.   Fixed IP (Public IP or Virtual IP)
        b.   DHCP (Dynamic IP)
        c.   Dial-up (PPPoE)

  iv.   Please execute IP Installer

  v.   For Windows XP SP2 user, the following message box may appear. Please click "Unblock".

  vi.   IP Installer configuration:
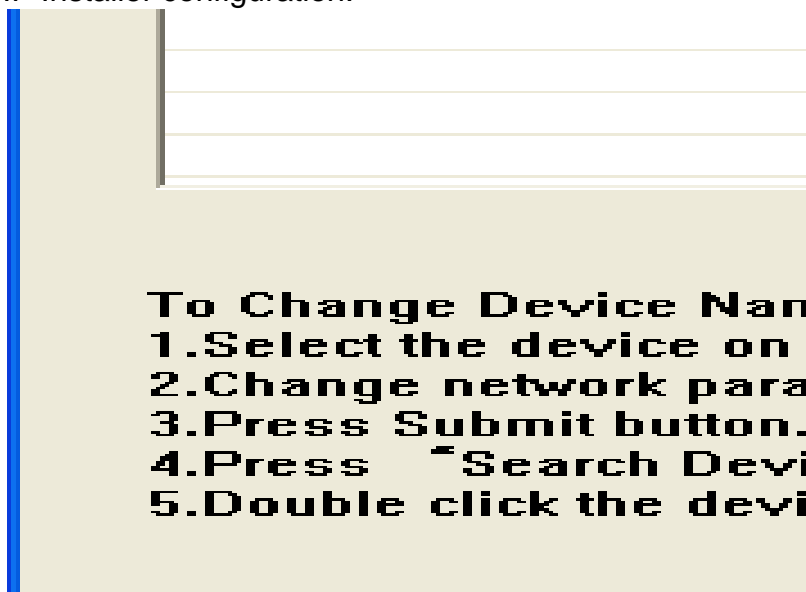
 vii.   IP Installer will search all IP Cameras connected on Lan. The user can click "Search Device" to search again.

viii. Click one of the IP Camera listed on the left side. The network configuration of this IP camera will show on the right side. You may change the "name" of the IP Camera to your preference (eg: Office, warehouse). Change the parameter and click "Submit". The following dialogue box will show. Just click "OK". It will apply the change and reboot the Device.

ix. Please make sure the subnet of PC IP address and IP CAM IP address are the same.

The same Subnet:
IP CAM IP address: <u>192.168.1</u>.200
PC IP address: <u>192.168.1</u>.100
Different Subnets:
IP CAM IP address: <u>192.168.2</u>.200
PC IP address: <u>192.168.1</u>.100

To Change PC IP address:
Control Panel→Network Connections→Local Area Connection Properties→ Internet Protocol (TCP/IP) → Properties
Please make sure your IP Camera and PC have the same Subnet. If not, please change IP Camera subnet or PC IP subnet accordingly.
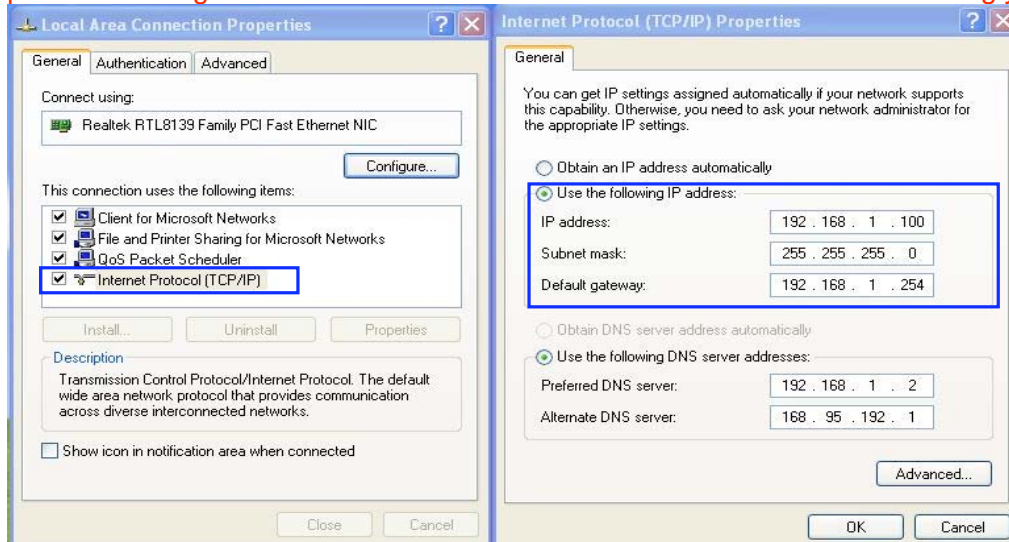
x. A quick way to access remote monitoring is to left-click the mouse twice on a selected IP Camera listed on "Device list" of IP Installer. An IE browser will be opened.
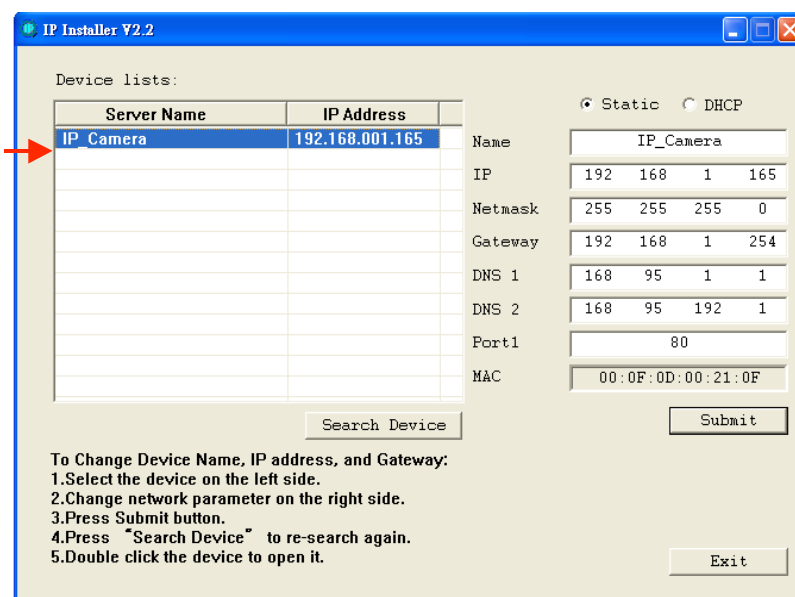
xi. Then, please key in the default "user name: admin" and "password: admin".

D. Install ActiveX control:

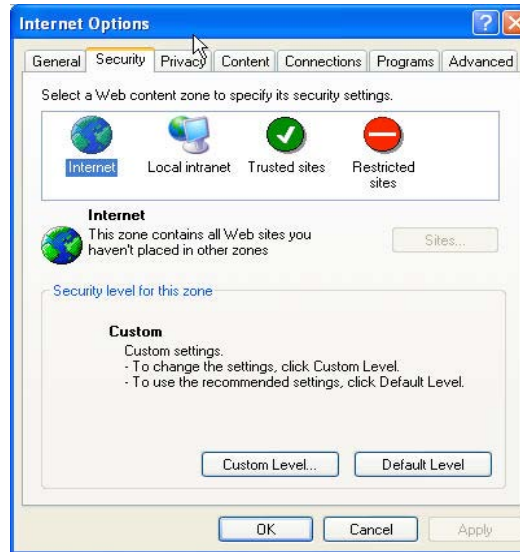For the first time to view the camera video via IE, it will ask you to install the ActiveX component.

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

i. IE → Tools → Internet Options… → Security Tab → Custom Level… → Security Settings → Download unsigned ActiveX controls→ Select "Enable" or Prompt.

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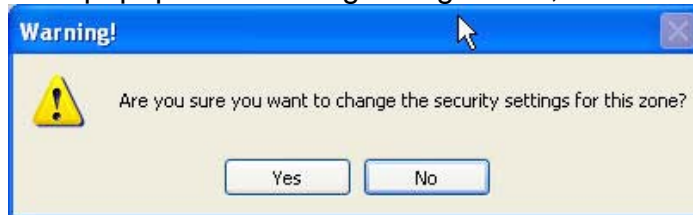
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1

IP CAMERA - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back

Address http://192.168.1.21

Mail and News
Pop-up Blocker
Manage Add-ons...
Synchronize...
Windows Update

Windows Messenger

Internet Options...

2

Internet Options

General Security Privacy Content Connections Programs Advanced

Select a Web content zone to specify its security settings.

Internet   Local intranet   Trusted sites   Restricted sites

Internet
This zone contains all Web sites you haven't placed in other zones

Sites...

Security level for this zone

Custom
Custom settings.
- To change the settings, click Custom Level.
- To use the recommended settings, click Default Level.

Custom Level...   Default Level

OK   Cancel   Apply

3

Security Settings

Settings:

○ Enable
☑ Binary and script behaviors
  ○ Administrator approved
  ○ Disable
  ◉ Enable
☑ Download signed ActiveX controls
  ○ Disable
  ○ Enable
  ◉ Prompt
☑ Download unsigned ActiveX controls
  ○ Disable
  ○ Enable
  ◉ Prompt
☑ Initialize and script ActiveX controls not marked as safe

Reset custom settings

Reset to: Medium   Reset

OK   Cancel

4

Security Settings

Settings:

○ Disable
○ Enable
◉ Prompt
☑ Download unsigned ActiveX controls
  ○ Disable
  ○ Enable
  ◉ Prompt
☑ Initialize and script ActiveX controls not marked as safe
  ○ Disable
  ○ Enable
  ◉ Prompt
☑ Run ActiveX controls and plug-ins
  ○ Administrator approved
  ○ Disable

Reset custom settings

Reset to: Medium   Reset

OK   Cancel

5

When popup the following dialogue box, click "Yes".

Warning!

⚠ Are you sure you want to change the security settings for this zone?

Yes   No

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 connect to the IP Camera ,The following program interface shows.
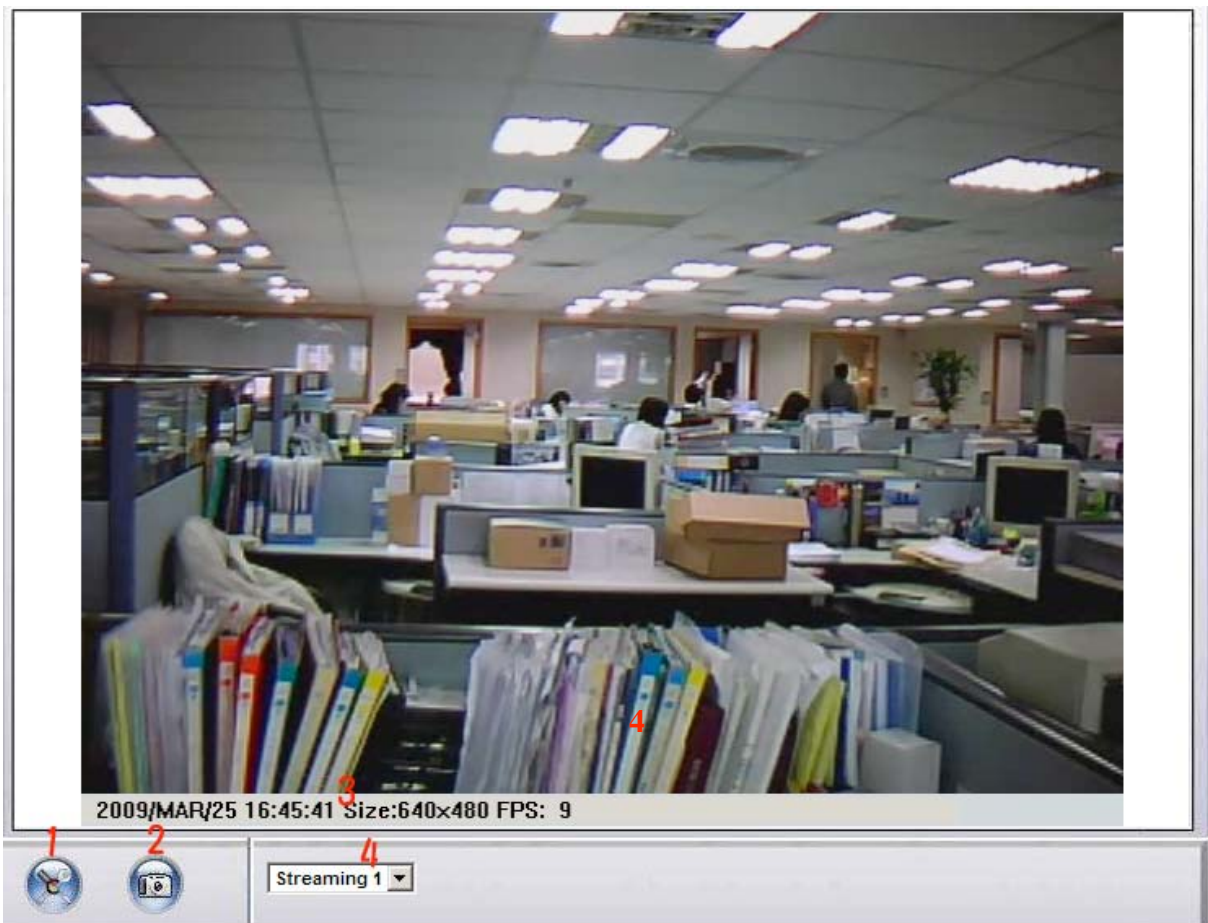
1. _Get into the administration page

2. _Video Snapshot
3. Show system time, video resolution, and video refreshing rate
4. Select video streaming source **(When streaming 2 setting in_Video Setting_ is closed, this function will not display**

Double-click the video, it will change to full screen mode. Press "Esc" or double-click the video again, it will change back to normal mode.

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


```
Snapshot
Record Start
Full Screen
Zoom
```
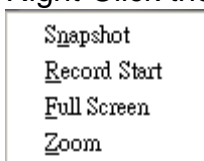
1. Snapshot_Save a jpg picture
2. Record Start_Record video in the local PC. It will ask you where to save the video. To stop recording, right-click the mouse again. Select "Record Stop". The video format is AVI. Use Microsoft Media Player to play the recorded file.
3. Full Screen_Full-screen mode.
4. 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.
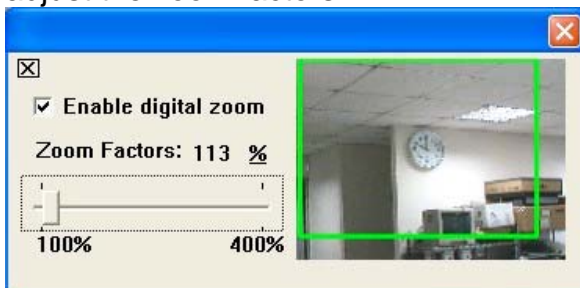
V. IR IP CAMERA Configuration

Click ![icon] to get into the administration page. Click ![icon] to back to the live video page.

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A.System

i_ System Information

    a. Server Information_Set up the camera name, select language, and set up the camera time.

        1. Server Name_This is the Camera name. This name will show on the IP Installer.

        2. Select language_There are English, Traditional Chinese, and Simple Chinese to select. When changed, it will show the following dialogue box for the confirmation of changing language.

    b. OSD Setting_select a position where date & time display on screen.

    c. Server time setting_Select options to set up time - "NTP", "Synchronize with PC's time", "Manual", "The date and time remain the same".

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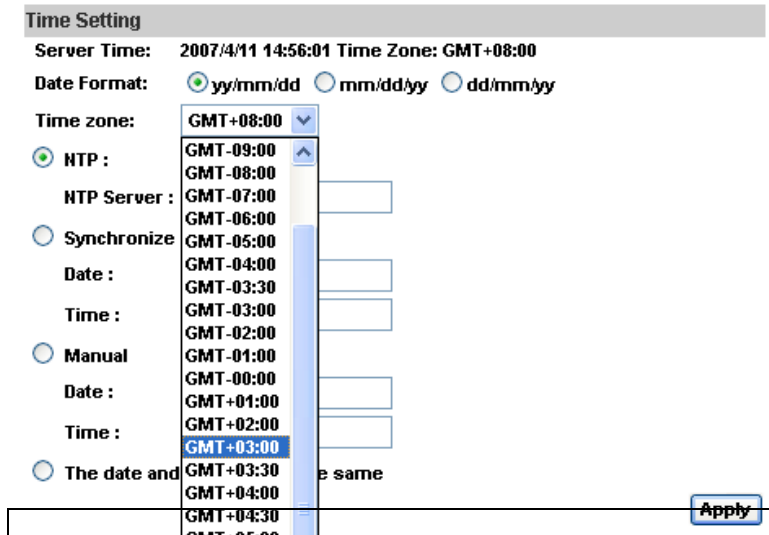
ii_ User Management
IP Camera supports three different users, administrator, general user, and anonymous user.

a. Anonymous User Login_
Yes_Allow anonymous login
No_Need user name & password to access this IP camera
b. Add user_
Type the user name and password, then click "Add/Set".
c. Click "edit" or "delete" to modify the user.

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iii_ System update_

System Update
Firmware Upgrade

Firmware Version: V3.2.11

New Firmware: [_____] [瀏覽…]

[Upgrade]

Reboot System

[Start]

Factory Default

[Start]

Setting Management

Save As a File: Right click the mouse button on Setting Download and then select Save As··· to save current system's setting in the PC.

New Setting File: [_____] [瀏覽…]

[Upgrade]

a. To update the firmware online, click "Browse…" to select the firmware. Then click "Upgrade" to the proceed.

b. Reboot system_re-start the IP camera

c. Factory default_delete all the settings and restore defaults system.

d. Setting Management_User may download the current setting to PC, or upgrade from previous saved setting.
   1. 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
   2. Upgrade from previous setting
      Browse → search previous setting → open → upgrade → Setting update confirm → click **index.html**. to return to main page

B.Network

i_ IP Setting
   IR IP CAMERA supports DHCP and static IP.

IP Setting

IP Assignment

- ○ DHCP
- ⊙ Static

IP Address:	192.168.1.200
Subnet Mask:	255.255.255.0
Gateway:	192.168.1.254
DNS 0:	168.95.1.1
DNS 1:	168.95.192.1

Port Assignment

Web Page Port:	80	
RTSP Port :	554	
RTP Start Port:	5000	[1024..10000]
RTP End port:	9000	[1025..10000]

UPnP

UPnP: ⊙ Enabled ○ Disabled

[Apply]

a. DHCP_Using DHCP, IR IP CAMERA will get all the network parameters automatically.

b. Static IP_Please type in IP address, subnet mask, gateway, and DNS manually.

c. Port Assignment: user may need to assign different port to avoid conflict when setting up IP assignment.
   1. Web Page Port: setup web page connecting port and video transmitting port (Default: 80)
   2. RTSP Port: setup port for RTSP transmitting (Default: 554)
   3. RTP Start and End Port: in RTSP mode, you may use TCP and UDP for connecting. TCP connection uses RTSP Port (554). UDP connection uses RTP Start and End Port.

d. UPnP
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."
Note: UPnP must be enabled on your computer.
Please follow the procedure to activate UPnP
1. open the Control Panel from the Start Menu
2. select Add/Remove Programs
3. Select Add/Remove Windows Components and open Networking Services section
4. Click Details and select UPnP to setup the service
5. The IP device icon will be added to "MY Network Places"
6. User may double click the IP device icon to access IE browser

ii PPPoE_

Select "Enabled" to use PPPoE.
Key-in Username and password for the ADSL connection.
Send mail after dialed_When connect to the internet, it will send a mail to a specific mail account. For the mail setting, please refer to "Mail and FTP" settings.

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iii_ DDNS_
     IR IP camera supports DDNS (Dynamic DNS) and Manual Built-in
     DDNS services.
     a. DynDNS_

1. Please enable this service
2. Key-in the DynDNS server name, user name, and password.
3. Set up the IP Schedule update refreshing rate.
4. Click "Apply"
5. If setting up IP schedule update too frequently, the IP may be blocked. In general, schedule update every day (1440 minutes) is recommended.

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b. Camddns service_

DDNS

DDNS Setting

○ Enabled   ⦿ Disabled

Provider: ddns.camddns.com ▾

Username:

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.

1. Please enable this service
2. Key-in user name.
3. IP Schedule update is default at 5 minutes
4. Click "Apply".

c. DDNS Status
  1. Updating_Information update
  2. Idle_Stop service
  3. DDNS registration successful, can now log by http://<username>.ddns.camddns.com_Register successfully.
  4. Update Failed, the name is already registered_The user name has already been used. Please change it.
  5. Update Failed, please check your internet connection_Network connection failed.
  6. Update Failed, please check the account information you provide_The server, user name, and password may be wrong.
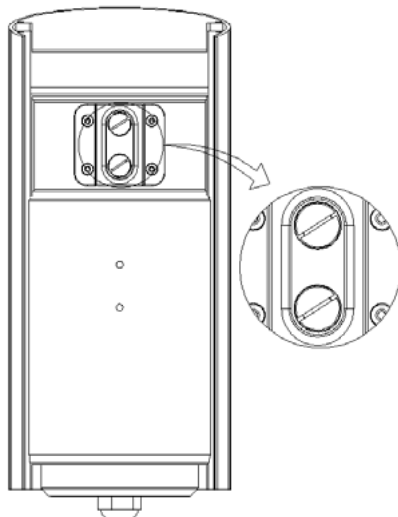
C.A/V Setting

i Image Setting
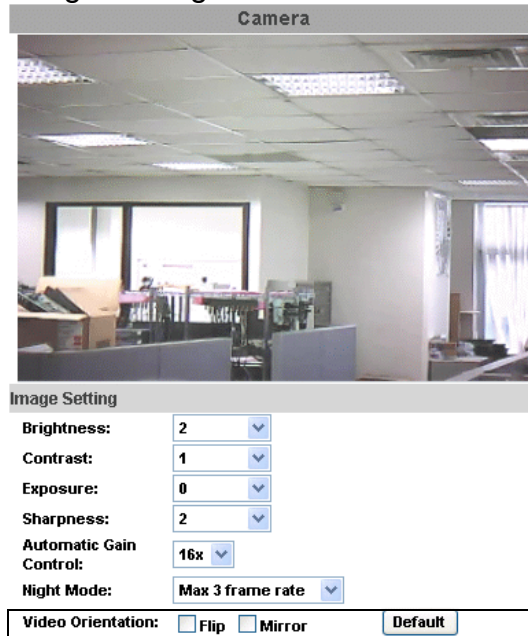
Adjust "Brightness", "Contrast", "Hue", "Saturation" to get clear video. If needed, please select "Back Light Compensation" ON to compensate back light situation

ii This IP camera belongs to external varifocal lens adjustment camera. Please adjust "**ZOOM**" first and "**FOCUS**" in the following to complete the adjustment.

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iii_ Video Setting
User may select 2 streaming output simultaneously:
Streaming 1 Setting: Basic mode and Advanced mode
Streaming 2 Setting: Basic mode, Advanced mode, and 3GPP mode
(Max Video Frame Rate for both streaming combined is 30 FPS)

a. Streaming 1 Basic Mode_

1. Resolution_
   There are 4 resolutions to choose.
   NTSC and PAL
   SXGA – 1280_1024
   VGA – 640_480
   QVGA – 320_240
   QQVGA – 160_120
2. Quality_
   There are 5 levels to adjust:
   Best/ High/ Standard/ Medium/ Low
   The higher the quality is, the bigger the file size is.
   Also not good for internet transmitting
3. Video Frame Rate_The video refreshing rate per second.
4. Video Format_MPEG4 or JPEG.
5. RTSP Path: RTSP output name

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b. Streaming 1 Advanced Mode_

Streaming 1 Setting

○ Basic Mode ⦿ Advanced Mode

Resolution: VGA - 640x480

Bitrate Control Mode: ○ CBR ⦿ VBR

Video Quantitative: 9

Video Bitrate: 1.5Mbps

Video Frame Rate: 10 FPS

GOP Size: 1 X FPS GOP = 10

Video Format: MPEG4

Video System: 60 Hz

RTSP Path: ⬚ ex:rtsp://<>/ Audio:G.711

1. Resolution_
   There are 4 resolutions to choose.
   NTSC and PAL
   SXGA   –   1280_1024
   VGA   –   640_480
   QVGA   –   320_240
   QQVGA –   160_120
2. Bitrate Control Mode
   There are CBR_Constant Bit Rate_ and VBR_Variable Bit
   Rate_to use.
   CBR_32Kbps~4Mbps – Increase CBR to increase the picture
   qulity; vise versa
   VBR_1(Low)~10(High) – Compression rate, the higher the
   compression rate, the lower the picture quality is; vise versa.
   The balance between VBR and network bandwidth will affect
   picture quality. Please carefully select the VBR rate to avoid
   picture breaking up or lagging.
3. Video Frame Rate
   Picture display frame per second
   NTSC: Max 30 frames/second PAL: Max 25 frames/second
4. GOP Size
   It means "Group of Pictures". The higher the GOP is, the
   better the quality is.

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5. **Video Format_**
   There are 2 Video Format to choose
   MPEG4 or JPEG.
6. **RTSP Path:** RTSP output connecting route

c. Streaming 2 Basic Mode_

1. **Resolution_**
   There are 3 resolutions to choose.
   NTSC and PAL
   VGA   –   640_480
   QVGA   –   350_240
   QQVGA –   160_120
2. **Quality_**
   There are 5 levels to adjust:
   Best/ High/ Standard/ Medium/ Low
   The higher the quality is, the bigger the file size is. Also not
   good for internet transmitting
3. **Video Frame Rate :**
   Picture display frame per second.
   Max 30 frames/second (1280x960 Max FPS :15)
4. **Video Format_**MPEG4 or JPEG
5. **RTSP Path:** RTSP output connecting route

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d. Streaming 2 Advanced Mode_

1. Resolution_
There are 3 resolutions to choose.
NTSC and PAL
VGA – 640_480
QVGA – 350_240
QQVGA – 160_120

2. Bitrate Control Mode
There are CBR_Constant Bit Rate_ and VBR_Variable Bit Rate_to use.
CBR_32Kbps~4Mbps (the higher the CBR is, the better the video quality is)
VBR_1~10 (Compression Rate)

3. Video Frame Rate
The video refreshing rate per second.

4. GOP Size
It means "Group of Pictures". The higher the GOP is, the better the quality is.

5. Video Format_MPEG4 or JPEG

6. RTSP Path: RTSP output name

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e. Streaming 2, 3GPP mode:

3GPP default value is QQVGA_128Kbp_5FPS_GOP=1XFPS
3GPP mode suggested setting: QQVGA, lower than 128kbps, 5FPS, GOP= 1x FPS or 2x FPS, MPEG4 format
3GPP can achieve up to 10FPS, In 3GPP mode, Stream 1 & Stream 2 combined frame rate is 20FPS

1. Fix Resolution_
   QQVGA –　160_120
2. Bitrate Control Mode
   There are CBR_Constant Bit Rate_ and VBR_Variable Bit Rate_to use.
   CBR_32Kbps~320bps (the higher the CBR is, the better the video quality is)
   VBR_1~10 (Compression Rate)
3. Video Frame Rate **(5 FPS is recommended)**
   The video refreshing rate per second.
4. GOP Size
   It means "Group of Pictures". The higher the GOP is, the better the quality is.
5. Video Format_MPEG4 or JPEG
6. 3GPP: 3GPP output name

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D.Event List

IR IP CAMERA provides multiple event settings.

i_ Event Setting

a. Motion Detection
IP CAMERA allows 3 areas motion detection. When motion is triggered, it can send video to some specific mail addresses, transmit video to remote ftp server. To set up the motion area, click "Area Setting". Using mouse to drag and set the area. The same operation for area 2 and 3.

b. Record File Setting: IP CAMERA allows 3 different types of recording file to change its record size.
When motion/alarm is triggered, there are 3 different types of record mode.
  1. AVI File (With Record File Setting)
  2. Multi-JPEG (With Record File Setting), only with JPEG compression format.
  3. Single JPEG (Single File with Interval Setting)

c. Record Time Setting_Pre Alarm and Post Alarm setups for video start and end time when motion detected, I/O, or other devices got triggered.
Note: Pre/Post Alarm record time is base on record time setting and IP Cam built-in Ram memory. Limited by IP Cam built-in Ram Memory, When information is too much or video quality set too high, it will cause recording frame drop or decrease on post alarm recording time.

ii_ Schedule

a. Schedule : Use the mouse to perform the schedule setting. The set up date will be shown in green.

b. Snapshot: the snapshot file can be send by E-mail and FTP. Moreover, the snapshot interval cab be set from 1 ~50000 sec.

iii_ Mail & FTP

To send out the video via mail of ftp, please set up the configuration first.

iv_ Log List

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.
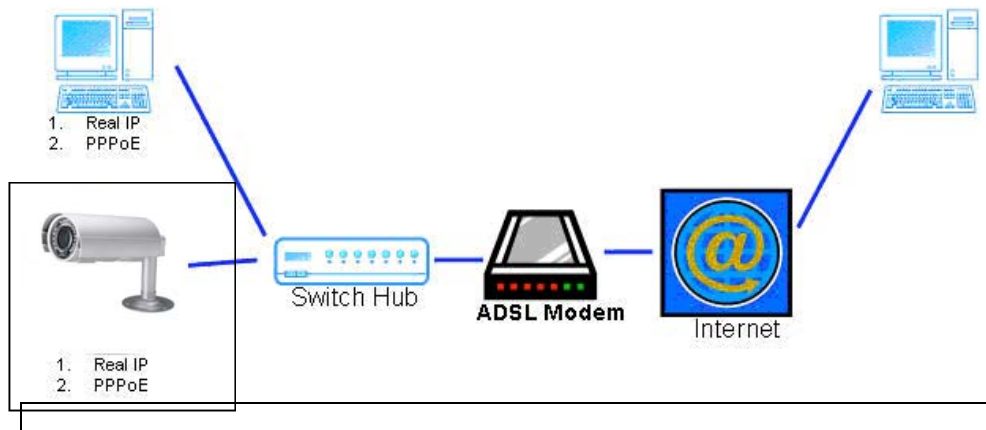
Network Configuration

i_ Configuration 1_
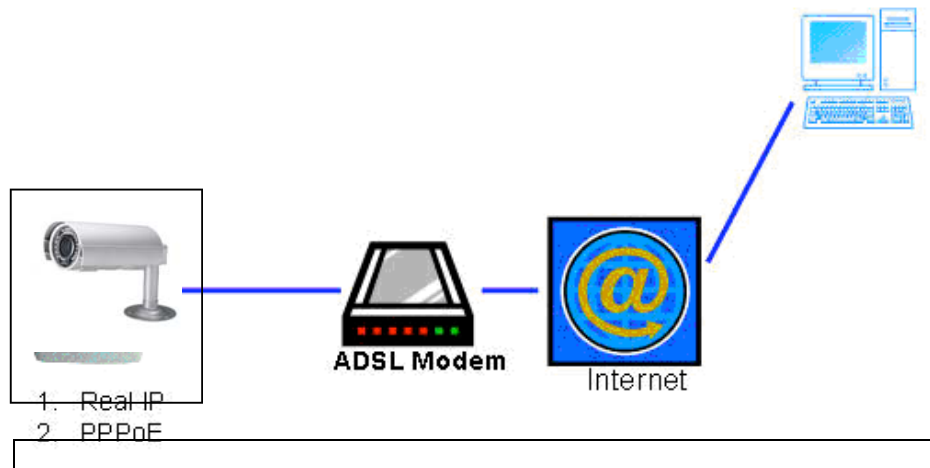
1. Real IP
2. PPPoE

   a. Internet Access_ADSL or Cable Modem
   b. IP address_One real IP or one dynamic IP
   c. Only IR IP CAMERA connects to the internet
   d. For fixed real IP, set up the IP into IR IP CAMERA. For dynamic IP, start PPPoE.

ii_ Configuration 2_

1. Real IP
2. PPPoE

   a. Internet Access_ADSL or Cable Modem
   b. IP address_More than one real IP or one dynamic IP
   c. IR IP CAMERA and PC connect to the internet
   d. Device needed_Switch Hub
   e. For fixed real IP, set up the IP into IR IP CAMERA and PC. For dynamic IP, start PPPoE.

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iii_ Configuration 3_
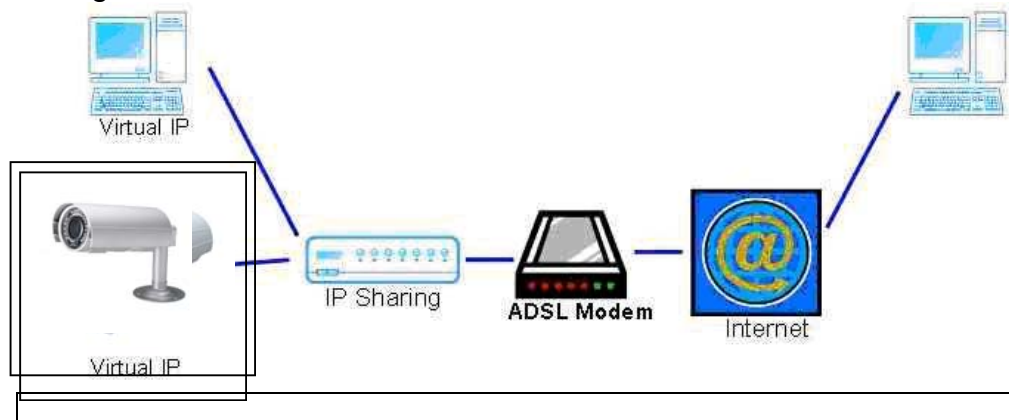
a. Internet Access_ADSL or Cable Modem
b. IP address_one real IP or one dynamic IP
c. IR IP CAMERA and PC connect to the internet
d. Device needed_IP sharing
e. Use virtual IP, set up port forwarding in IP sharing.

VI. Package contents

i_ IR IP CAMERA Network Camera
ii_ Adaptor
iii_ Ethernet Cable
iv_ CD title (User manual, IP installation Utility)

Appendix I

SD Card Recommended_

SanDisk 128M	Transcend 128M 80X
SanDisk 256M	Transcend 256M 80X
SanDisk 512M	Transcend 512M 80X
SanDisk 1G	Transcend 1G 80X
SanDisk 2G	Transcend 2G 80X
SanDisk 4G	Transcend 4G 80X

HESAVISION IP