Network Surveillance Camera

NSC 3615 / NSC 3621 / NSC 3622

User Manual

Date	Version	Description	Author
2006.09.25	1.0.0	Standard Operation	1450
2006.11.08	1.1.0	1. Installation Process Enhanced 2. Webs Enhanced with : ➢ System ■ Privacy password ➢ Network ■ DIDO ■ DDNS ■ RTP port ➢ Camera ■ Encode type	1450
2006.11.09	1.1.1	MD sensitivity modification	1450
2006.12.06	1.2.0	1. PTZ feature enhanced 2. Add in FAQs	1450
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2007.01.24	2.0.0	1. Package Contents 2. How to connect 3. Hardware Installation 4. Software Installation 5. Using Camera with a Router 6. Frequently Asked Questions	0946
2007.04.06	2.1.0	1. Update index 2. Update new web features 3. New Netcam SMC Operation	1052

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Package Contents

Contents

- NSC3615-

-NSC3621-

Leadtek Surveillance Camera

- NSC3615-

-NSC3621-

Accessories

Software CD:

Ethernet cable:

-NSC3615- / -NSC3621

Power Adaptor:

-NSC3615-

-NSC3621-

SPK-MIC-PWR 3-in-1 cable

-NSC3621-

Mounting Rack:

-NSC3615-

Please unpack the product package with caution; inspect the Items closely. If you find any damaged item, please contact your local distributor immediately. Also, please keep the box and packing material for future use in the event of future shipments.

Introduction

High-quality, high efficiency video & audio transmission via IP network

The network surveillance camera allows you to view live video over internet. Your control center can be set up anywhere with internet access without being restricted by locations. Surveillance video is processed by the most up-to date compression technology and transmitted in MPEG-4 compression format, whose transmission efficiency and video quality remain uncompromised by the network, minimizing the lagging of live surveillance video. In addition, wireless LAN is also supported. The wireless model makes the network usage more handy without the hassle of cable installation.

Great usability in every surveillance aspect

The network surveillance camera's ease of use begins with its web-based user interface, using Microsoft Internet Explorer to browse the live video or the provided Windows client Surveillance Management Center(SMC) that offers many additional benefits: its user interface can display video up to 9 camera servers at the same time. Recording can also be done simultaneously and you can use it to view recorded video from the archive and backup your recorded file with audio.

Unparalleled surveillance functions where nothing slips through your watch

The network surveillance camera's motion detection function sends out the alarm when any movement of any object occurring on the scene is detected, which makes it ideal for home and after-hour facility security. 16 preset positions can be programmed and the auto-cruise function will make the tour accordingly as if you were taking the patrol rounds in person.

You can also program the cameras to take snapshots or record video when the alarm is triggered by the event. These snapshots can be transmitted via FTP or email. Event recording is done by a client PC on the network as the camera sends snapshot in JPEG format as part of the responses to the triggered event.

Optional centralized management software for large scale surveillance services

The software suite performs as a central control station on a client PC that controls, manages, and monitors up to 9 network surveillance camera server units over the network at the same time. You can talk to your surveillance camera just by a click on the managed camera to start 2-way audio conversation. The flexible and diversified SMC offer you handy surveillance solution on Windows platform.

Key Features

Surveillance Camera NSC3615 / NSC3621

- ✓ Compact color CMOS / CCD camera
- ✓ Manual / Auto Pan and Tilt functions (Specified models)
- ✓ MPEG-4 / H.263 video and G.711 audio compression
- ✓ Internet connection compatible with Ethernet
- ✓ Support audiovisual transmission and recording
- ✓ A client viewer is able to simultaneously access multiple cameras located at different sites
- ✓ Built-in Web server for remote surveillance on network
- ✓ Complete remote surveillance and management PC software

Bundled Windows Client Surveillance and Management Center

Display

Resolution	H.263(CIF , QCIF), MPEG-4(D1, VGA, QVGA, CIF, QCIF)
Image Quality	28 level
Channel	1/4/9 (with multiple camera connections)
Connection Indication	Video, Audio and Recording
Caption	Camera number, IP Address, Frame Per Second

Easy Recorder/Player

Instant record and playback video manually

Camera Operation

Camera Connection	Up to 9 cameras
Camera Scan	Search cameras in network
Camera Configuration	Network / Video parameters

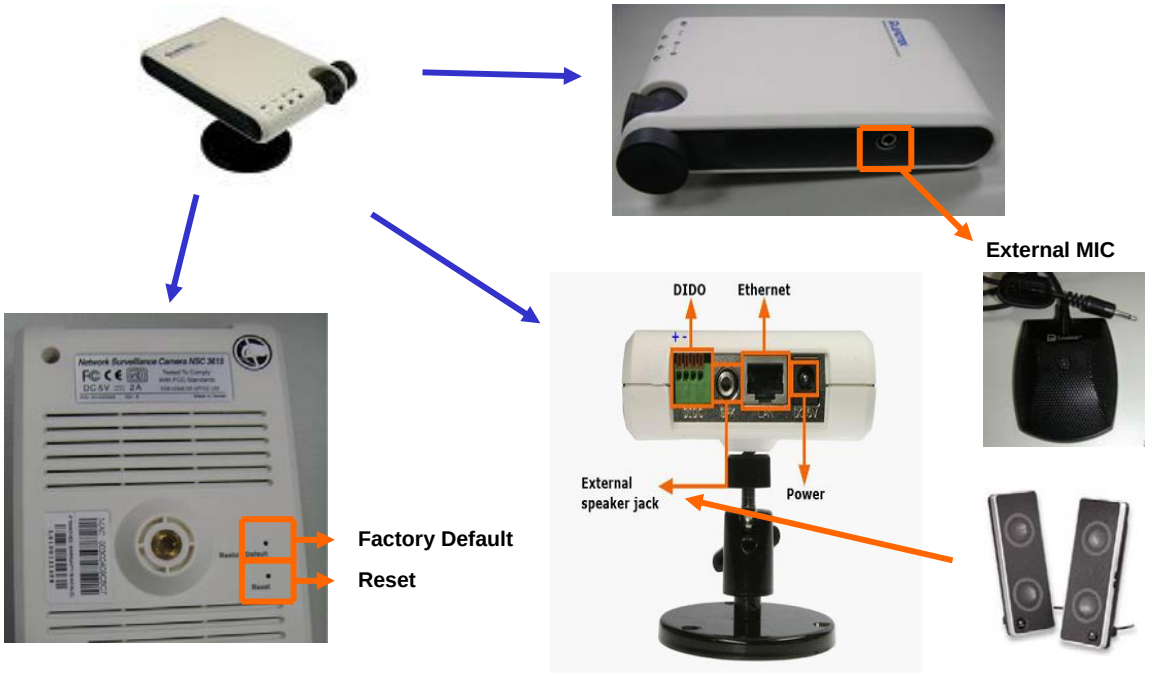
Event Record Setting

Mode	Manual / Event / Scheduler

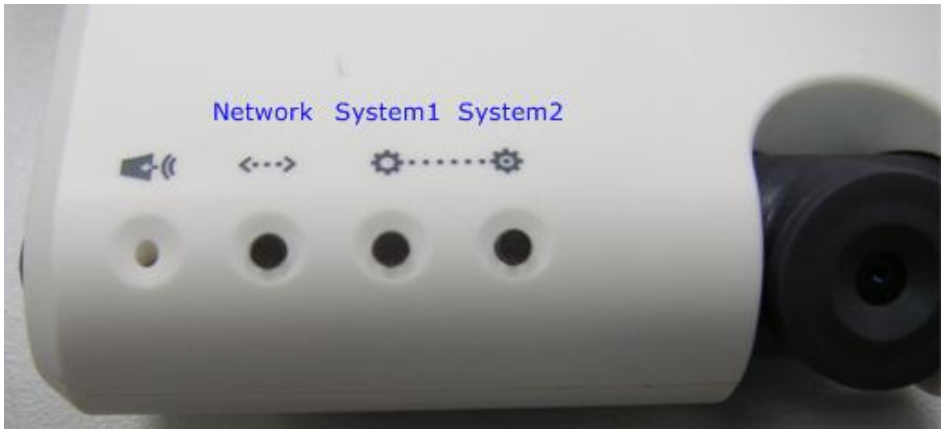
How to Connect ?

Both NSC3615 / NSC3621 equip with 1DI / 1DO connector and PC compatible mono microphone and speaker. You can also find 2 pinholes (NSC3615:rear view / NSC3621: back side view of bottom) on surveillance camera. One is **Factory Default** and the other one is **Reset**. **Factory Default** brings all camera setting to factory default setting and **Reset** triggers a warm system reboot when the pinhole is pushed by a needle for 2 seconds(and release afterwards).

- NSC3615 -



LED Indication



Network LED : BLUE
- OFF : network link down or service unavailable
- ON : network link is up
- Blinking : in/out traffic on going

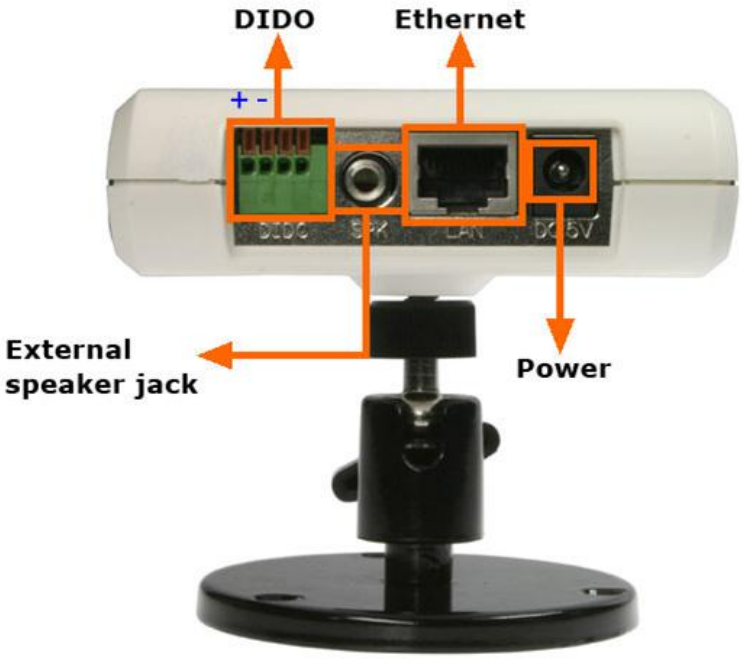
System 1 LED : YELLOW
- No RTP packet traffic
- RTP received from remote peer (periodic flashing, 0.5 second on, 0.5 second off)

System 2 LED :YELLOW
- OFF : Do not register to SIP server
- Blinking : 4 times per second
- ON : register to SIP server OK

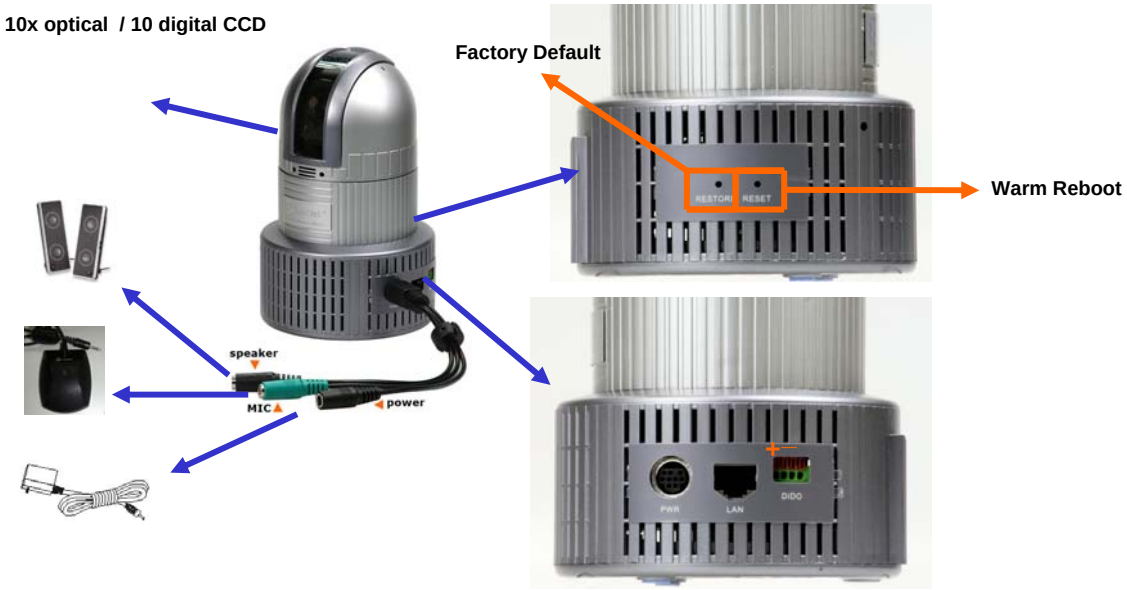
DIDO Connector

The first pinhole pair is for DI connectors and second one is for DO device connectors. Beware of the polarity of DI device(+ :first pinhole on the leftist side, - :2nd pinhole from the left, both are for DI device connectors). You don't need to care about polarity for DO device since there is a relay equipped on those 2 pinholes connections (from right hand side). The hardware specification of DI device is as the following. Connect customer-tailored DIDO device with care and make sure devices won't overload surveillance camera's DIDO interface.

DI : **0 ~ 12V**(with 5V logic trigger) / **20** mA(minimum)
DO: **30VDC** / **1A**



- NSC3621 -



DIDO Connector

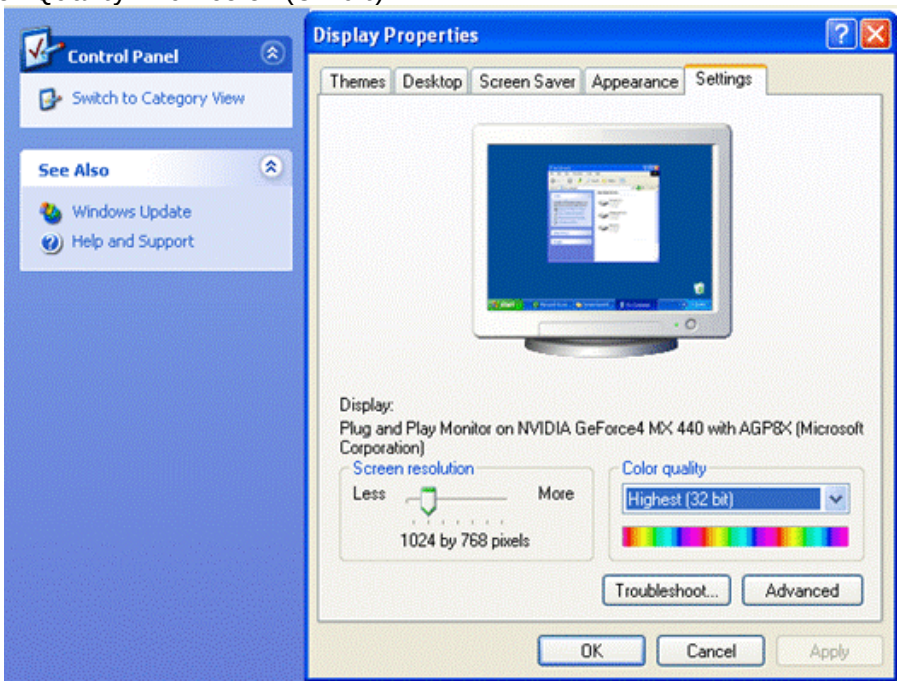
Same as NSC3615 DIDO interface.

DI : **0 ~ 12V**(with 5V logic trigger) / **20** mA(minimum)
DO: **30VDC** / **1A**

System Requirement

Before you give surveillance camera a shot, please check setting of your notebook / PC and see if following requirement is proper.

- Windows XP with service pack 2 installed or DirectX 9.0 installed
- Best Screen Resolution : 1024x768
- Color Quality : full color (32 bit)



Hardware Installation

-NSC3621-

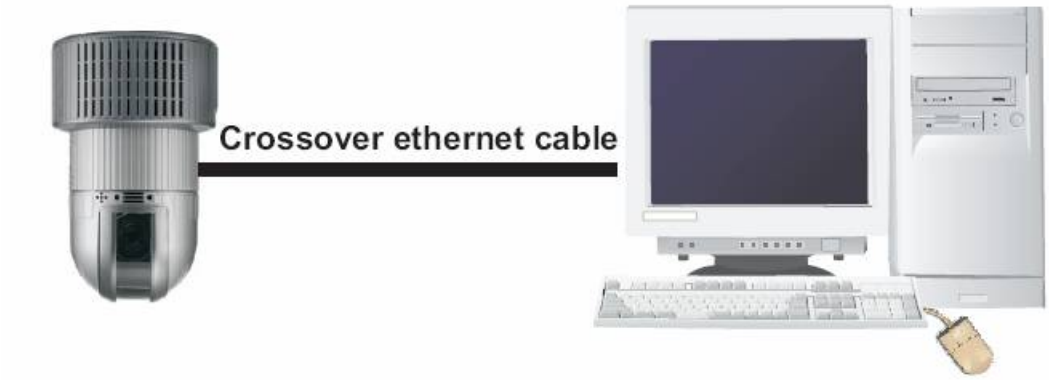
Software Installation

Follow the procedures describe bellows to do a quick installation setup / test.

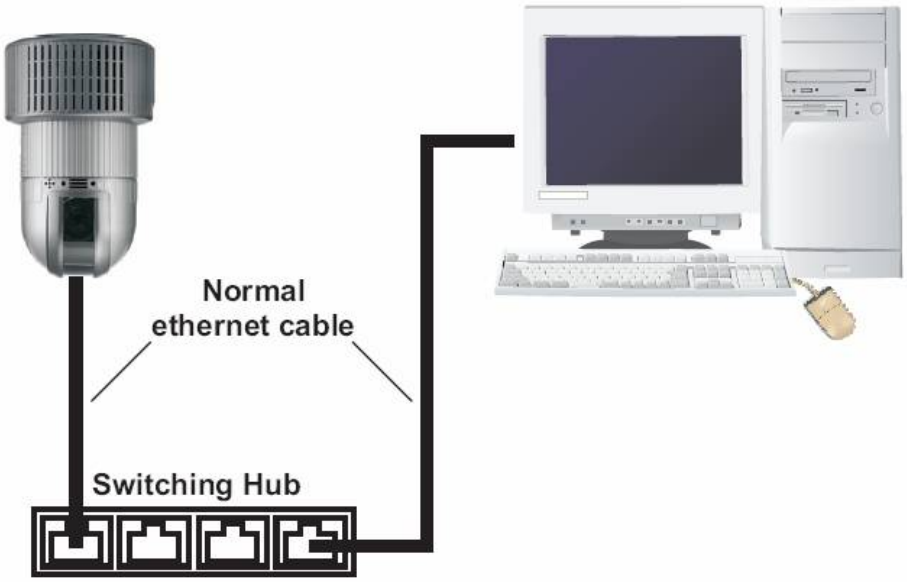
1. Device Connection:

Connect your surveillance camera to PC (NSC3621 is taken as an example)

i) Use crossover ethernet cable:



ii) Connect devices with ethernet hub / switch (normal RJ-45 cable)



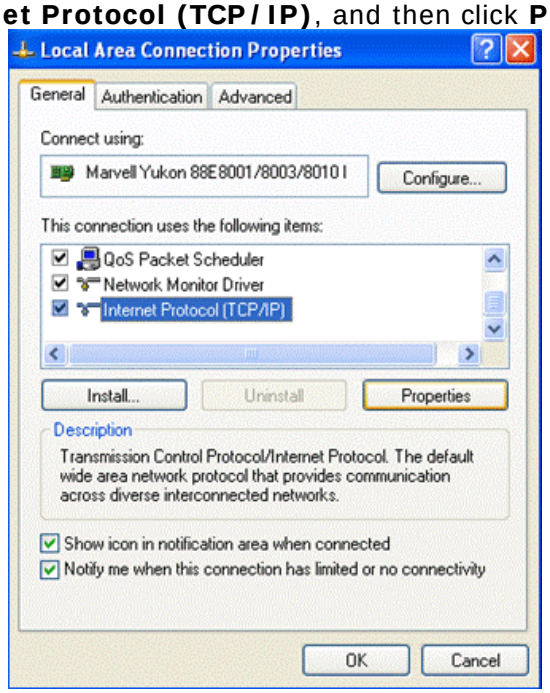
2. Configure your PC to the same subnet segment of surveillance camera.

i) The camera's default IP is 192.168.0.100. We need to change our PC's network setting first in order to connect to the camera.

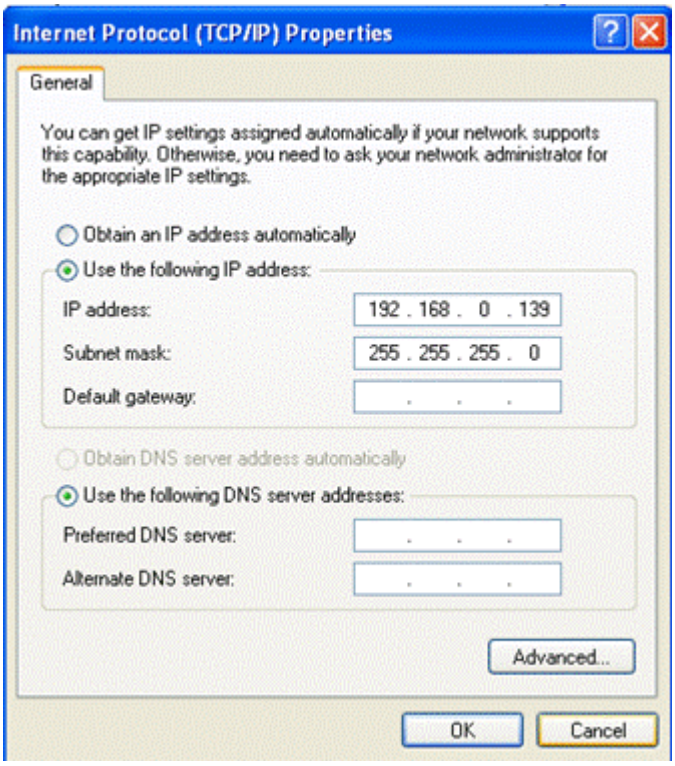
PS: if you don't know how to reset surveillance camera to factory default, please refer to **Factory Default Setting** section of Appendix FAQ part.

ii) Clicks windows **Control Panel→ Network Connections → Local Area Connection**, click mouse right button and then click **Properties**

iii) Chooses **Internet Protocol (TCP/IP)**, and then click **Properties**



iv) Chooses **Use the following IP addresses**, field, and input IP address with **192.168.0.139**, **subnet mask** with **255.255.255.0**, and then click **OK**.

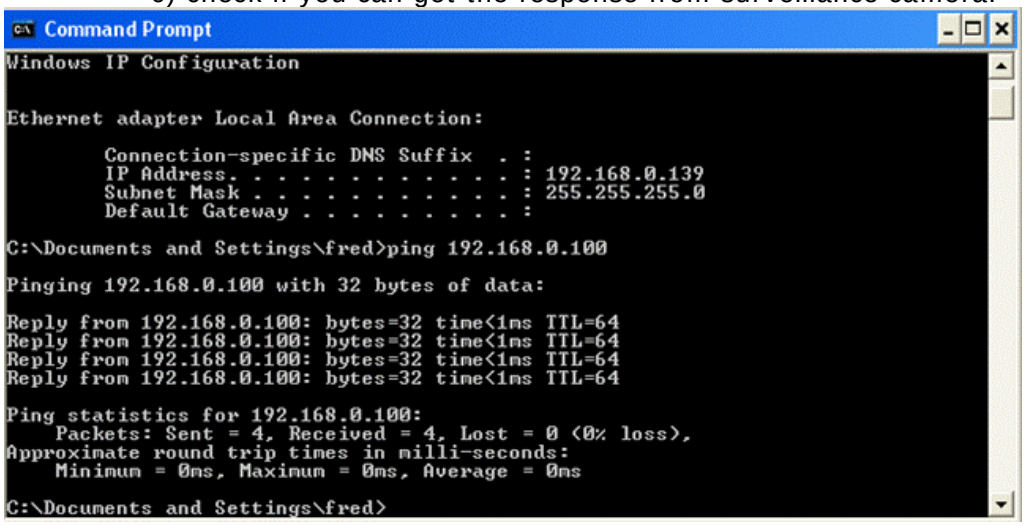


v) Verify the on-line status of your surveillance camera. Please follow the procedure bellows

a) Start **Program→ Accessories → Command Prompt** .A DOS command shell screen will appear and shows "C:\>".

b) Type **ipconfig** and press Enter.

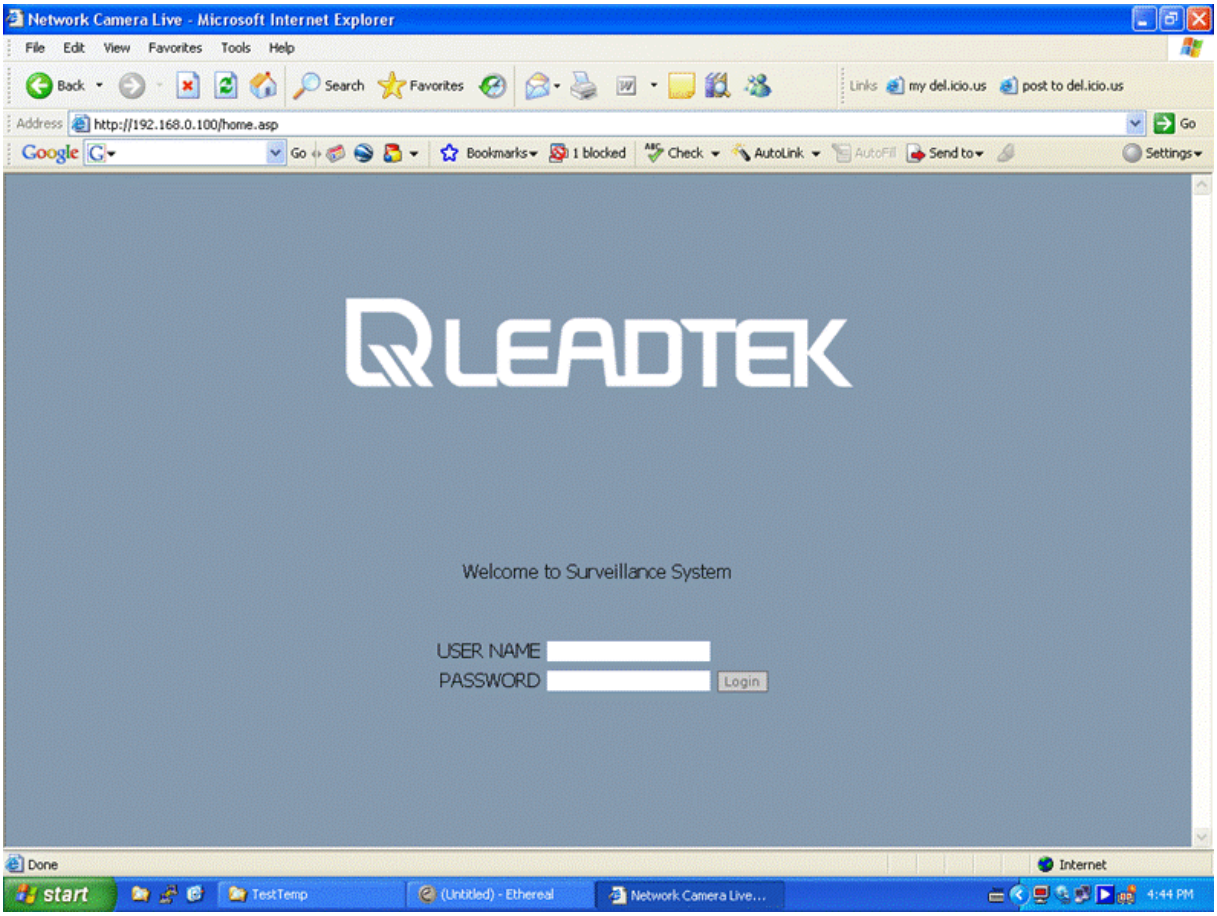
c) check if you can get the response from surveillance camera.



d) Type **ping 192.168.0.100** and press Enter. If the screen shows **Reply from 192.168.0.100...** it means the hardware installation is complete.

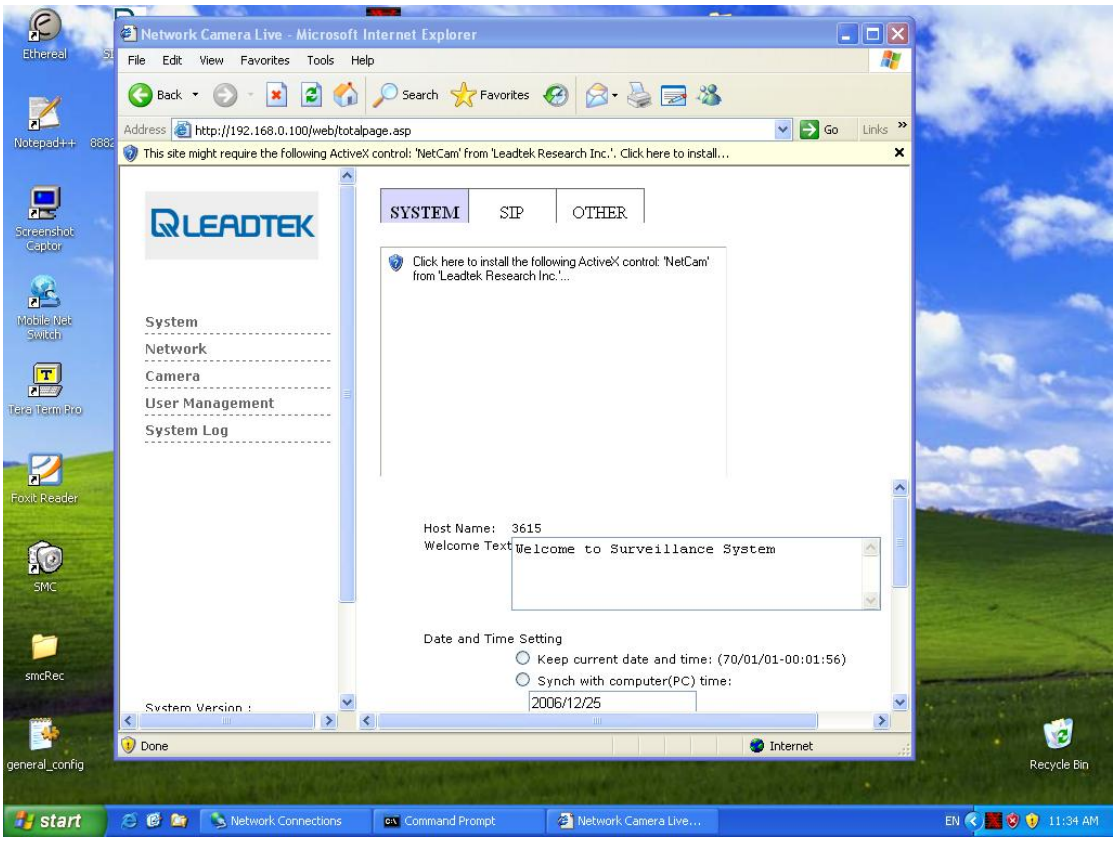
3. Connect to camera

i) Launches Microsoft Internet Explorer and type URL: http://192.168.0.100, then you shall see the home page like bellows.



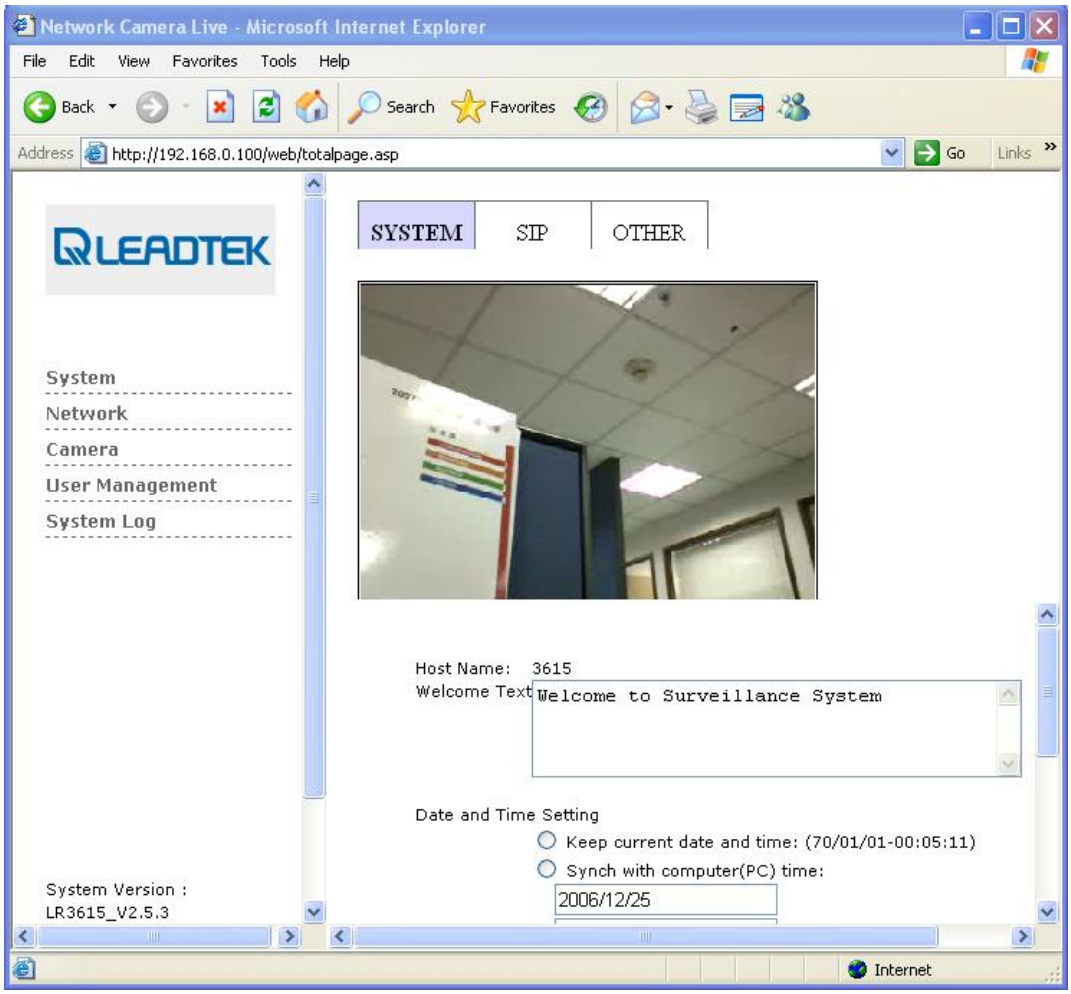
ii) The default username/ password is **admin** / **admin**, after you login to web you can get the video and find the system version on the lower-left corner

For the very first time, IE will ask for user to download a video / audio decoder (a.k.a. ActiveX control) plug-in. Beware of the reminding message on upper-left corner of IE. Right click on the warning message and allow the plug-in to be installed in your PC.

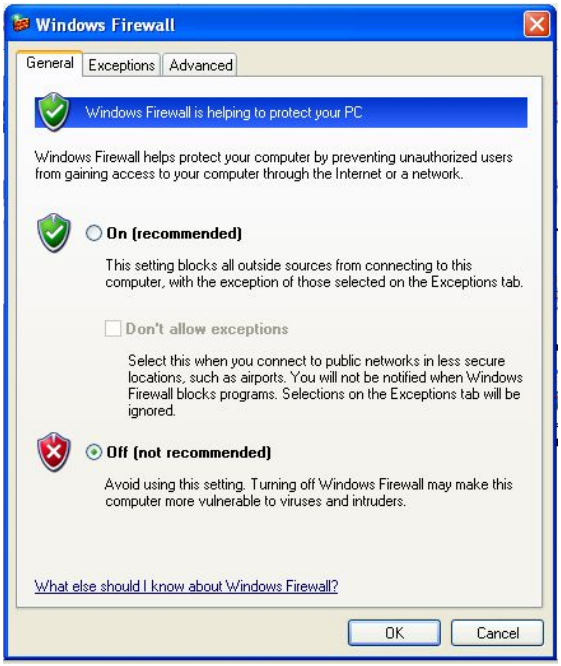


Click the **Install** button to start installation of decoder plug-in. The live video will be displayed on IE after the plug-in automatically installed.

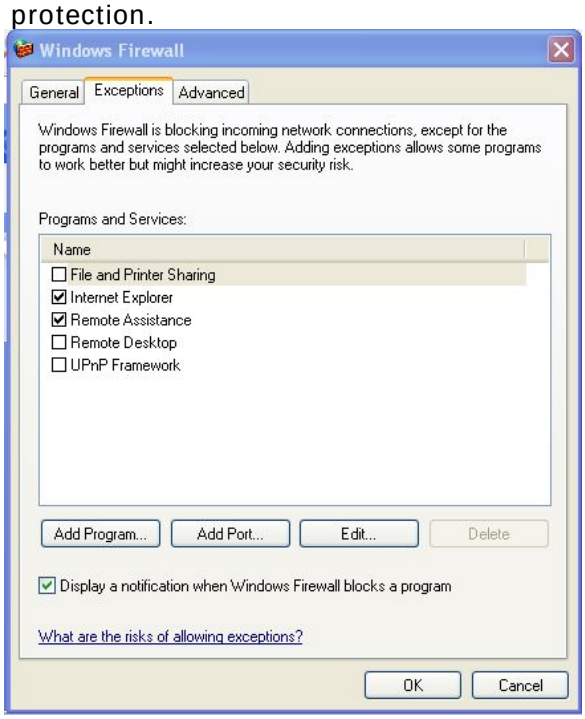
In some case, your local PC may turn on the firewall option and the following warning message will pop up. Remember to click **Unblock** to allow the in-coming packet and avoid firewall protection.



Note: In order to turn off the firewall protection, you can refer to **Control Panel → Windows Firewall → General** and turn off the Windows Firewall and permit the in-coming network packets (audio or video media packets)



Otherwise, you can discriminately allow specific application and automatically unblock the firewall protection.



You can check current firewall protection option of your network setting. If the network connection icon comes with a lock sign, that means the network interface is firewall protected by Windows Firewall.

Restore to factory default

If the system is up and running, you can push factory default button through pinhole of surveillance camera (marked as **Restore default**, the **Reset** is used to perform a warm system reboot). The firmware will recover the setting to factory default.The following configuration is the firmware factory default setting:

Default IP Setting
IP mode: Fixed IP
IP address: 192.168.0.100
Subnet mask: 255.255.255.0

Webs Default User Account
Username: admin
Password: admin

Installing Scan Utility

The following procedures guide you through the steps of scan utility installation and operation:

Step 1 : Visit WinPcap and download WinPcap version 3.1 from the website:

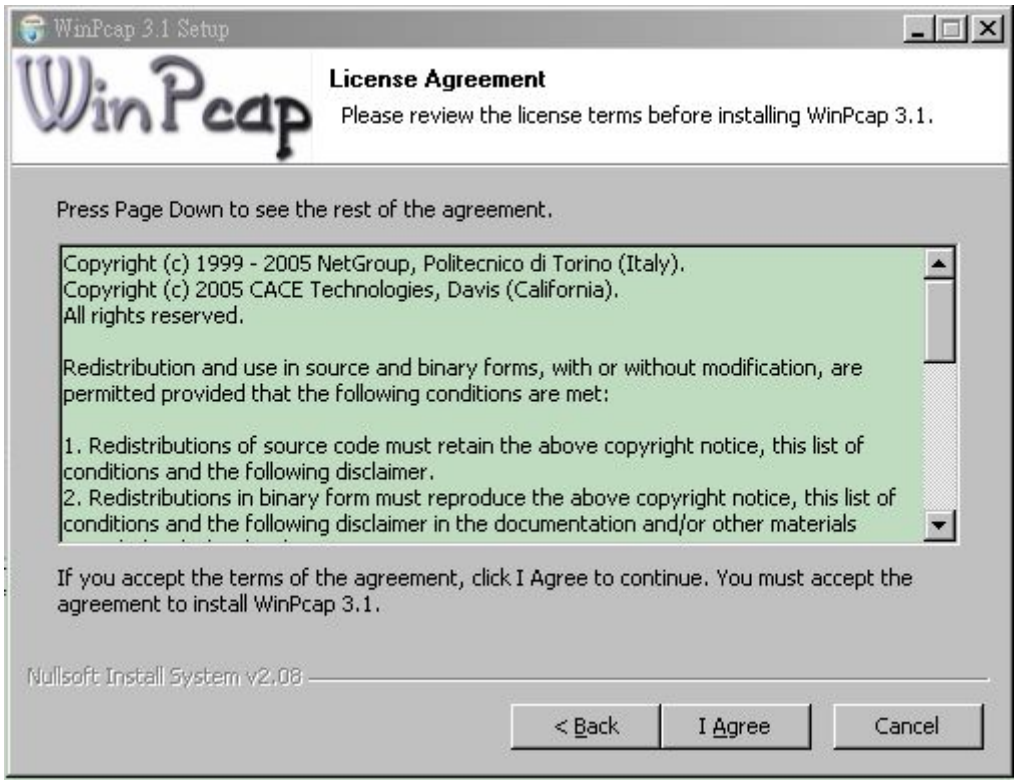
http://www.winpcap.org/

Step 2 : Install **WinPcap** version 3.1(Installer for Windows / WinPcap_3_1.exe).

i) Double click WinPcap_3_1.exe icon.

ii) Click **Next** to continue.

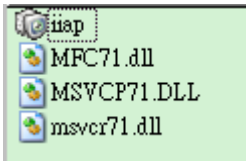
iii) Click **I Agree** to continue.



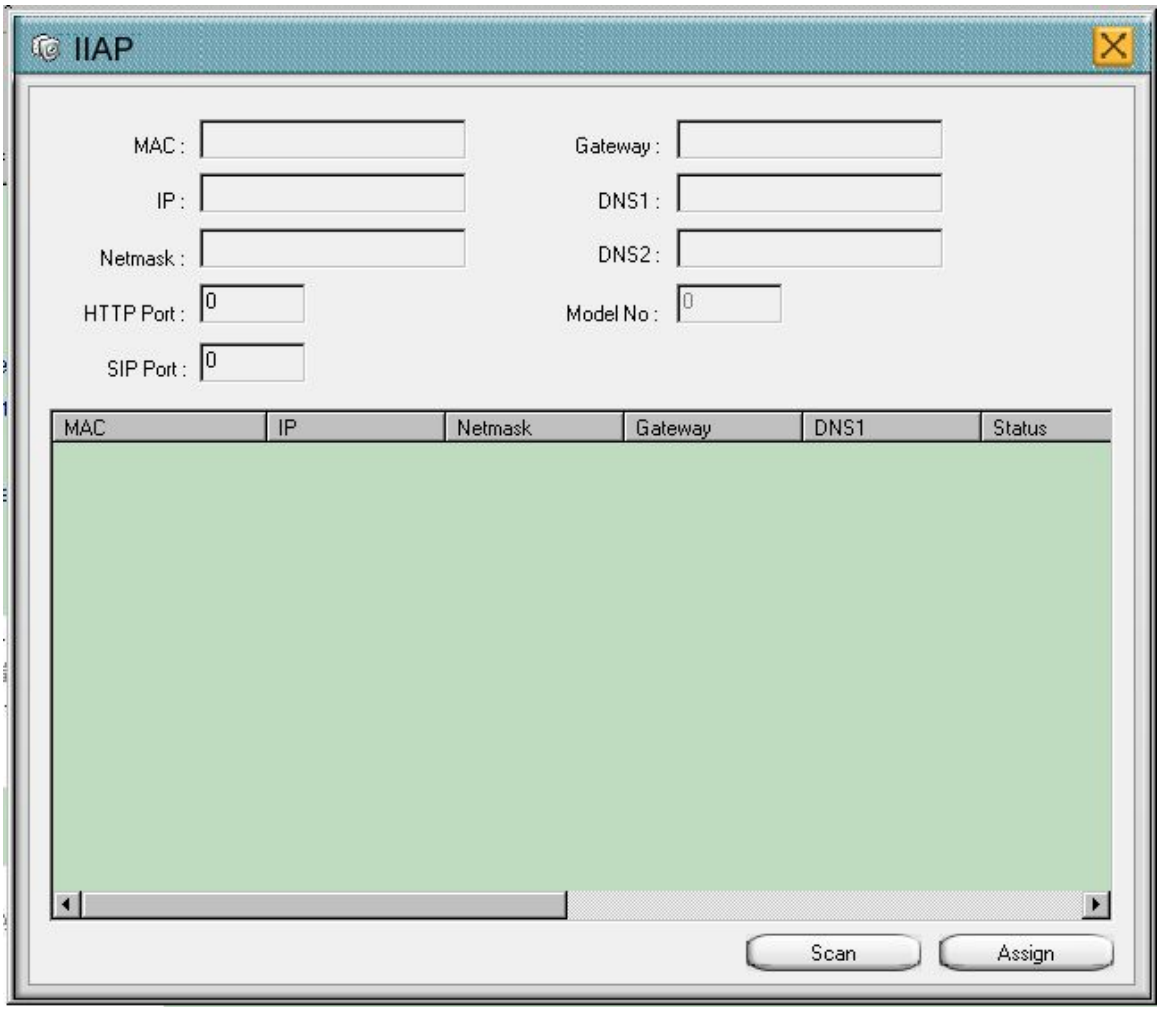
iv) Click **Finish** to complete installation.

Step 3 : Launch Scan Utility and Assign new IP address to surveillance camera

i) Double click the scan utility **iiap.exe**

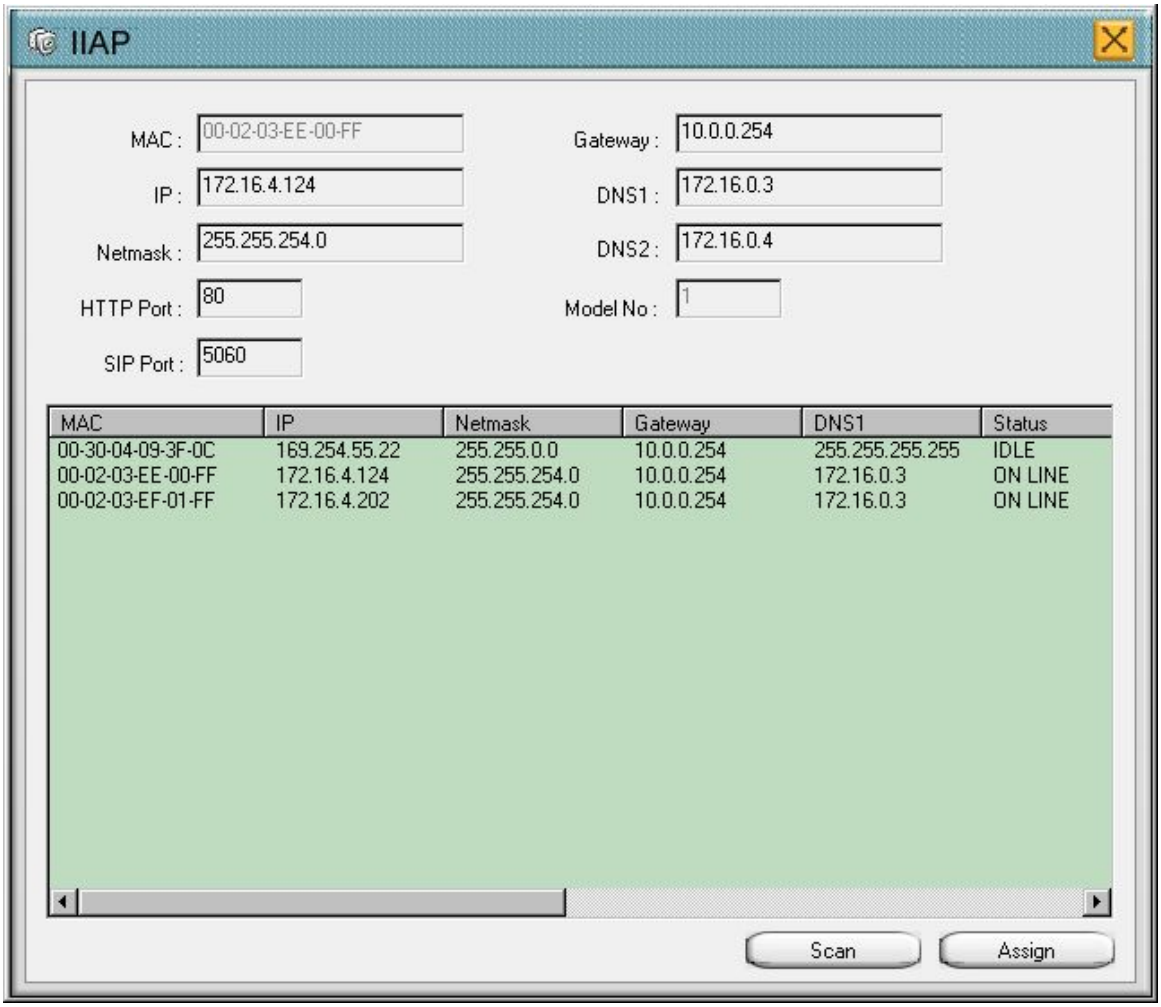


ii) Click **Scan** button to send out scan packet to the LAN.



iii) The found devices will be displayed on lower panel of utility program. The **Status** field shows you whether the device is **ON LINE**(configured in same subnet) or **IDLE**(not configured properly in the same subnet). If you want to modify the network setting of specific device, click the item to select the interested device. The detail network setting of the device will be displayed on upper part fields. Modify the necessary fields and click **Assign** to change designated device network setting. If network setting assignment is successful, a confirmation message box will pop up to indicate this. Upon a successful **Assign** operation, assigned surveillance device

will accept your designated network setting and reboot itself to be effective right away. The default IP network mode will be changed to Fixed IP mode after reboot(manually assigned by user's).

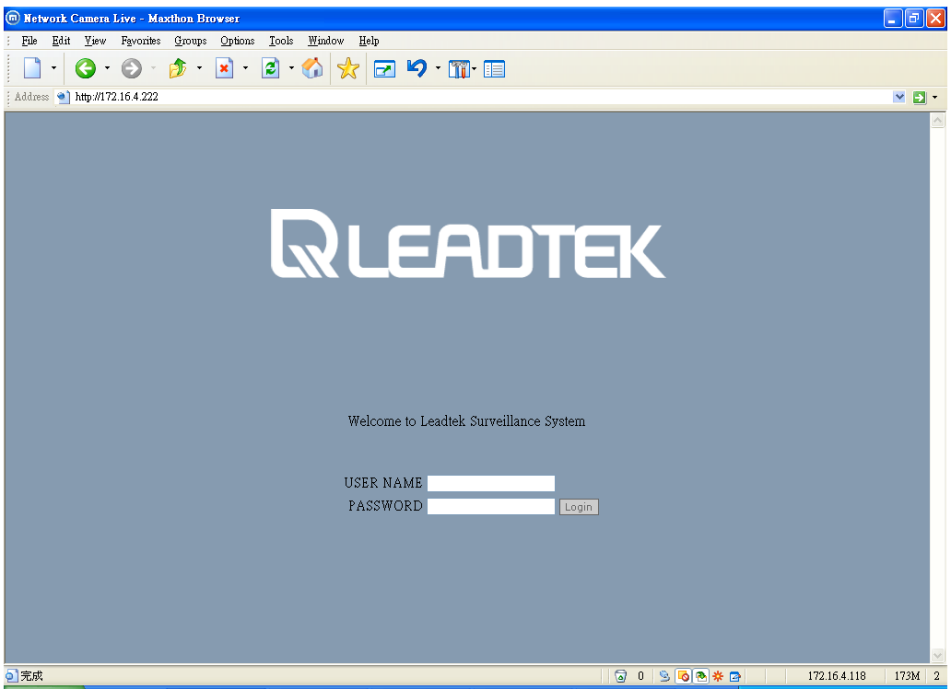


☆The standalone scan utility mentioned here can look up all the cameras in the same subnet(within same router boundary). The SMC scan function just find those camera located in the same subnet with SMC. If surveillance camera's IP address setting is not properly configured with SMC. The Status field will be IDLE and the connection to the surveillance camera via SMC may fail due to improper network setting in surveillance camera. Check your surveillance network setting and justify whether the setting is of a same subnet of SMC.

Administrating from Webs

Login

Each surveillance camera includes a web interface system. As long as you know the camera's IP, you can launch IE and access the camera's IP. Logon to the web server and the following login screen will appear:

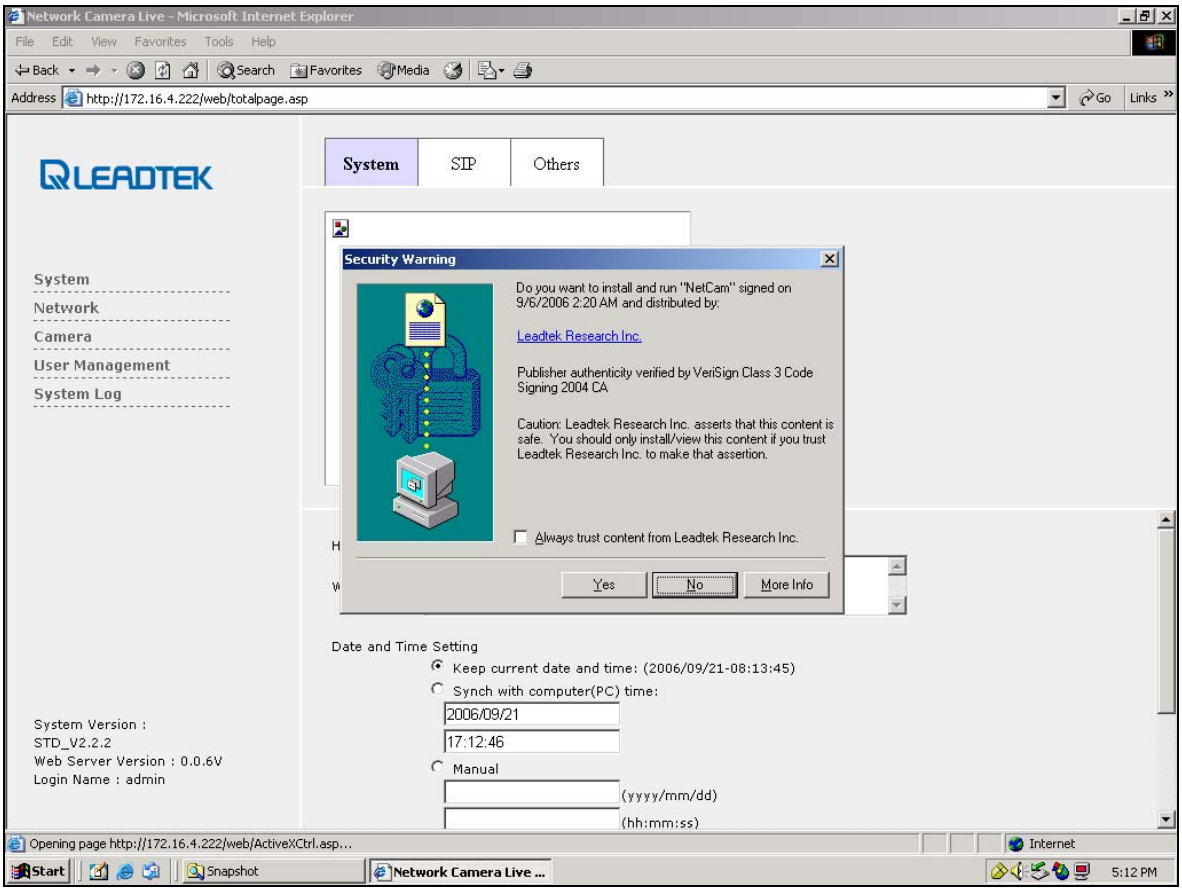


In above screen, user name and password are required for user authentication. The factory default setting is **admin**. Please enter **admin** in user name field and **admin** in password field, and then press **Login** button to enter the system, the appearing screen will show in the next page.

Note : The default IP address of IPCAM is 192.168.0.100 .

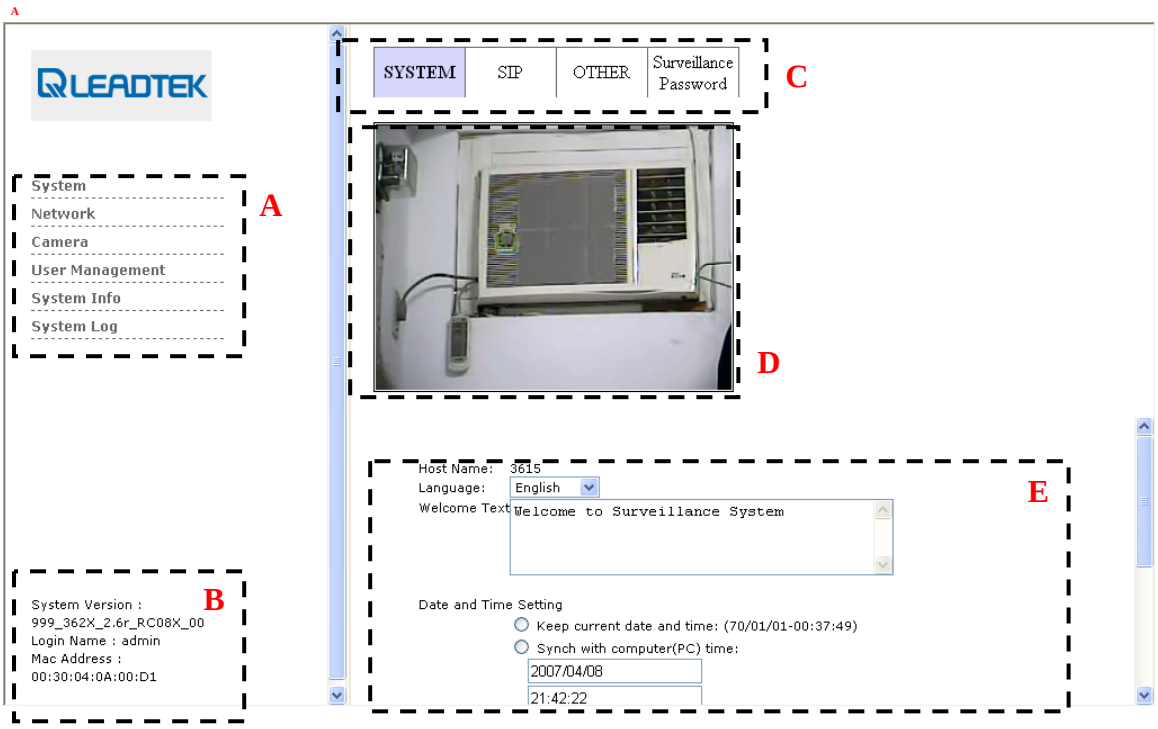
Download ActiveX Control

When you use IE to connect the web first time, the system will ask you to download an Active control. To download an ActiveX control will take about one minute and the screen below will be displayed. Just press the "**Yes**" button.to install...



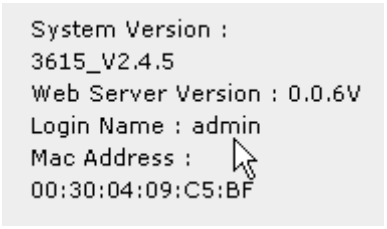
Overlook

Then the screen will appears as below:



A: Menu: There are several items in the left column for you to choose: **System**, **Network**, **Camera**, **User Management**, and **System Log**.

B: Version Information: Will list for users to know the detail information as following.



- ✓ System Version
- ✓ Web Server Version
- ✓ Login Name
- ✓ MAC address

C: Sub menu: There are several sub- items in each menu item. It can be switched by mouse click to each menu tab.

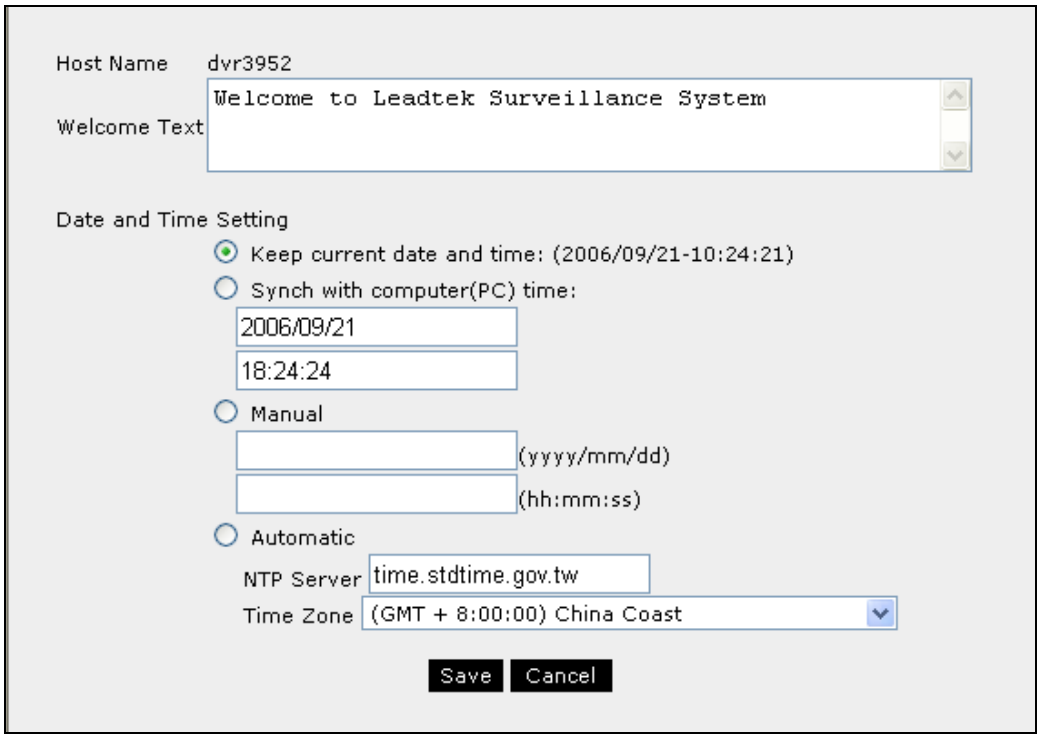
D: Live Video: After you installed the ActiveX control, you will see the live video

E: Setting page : In each item, you can see and modify server configuration.

System

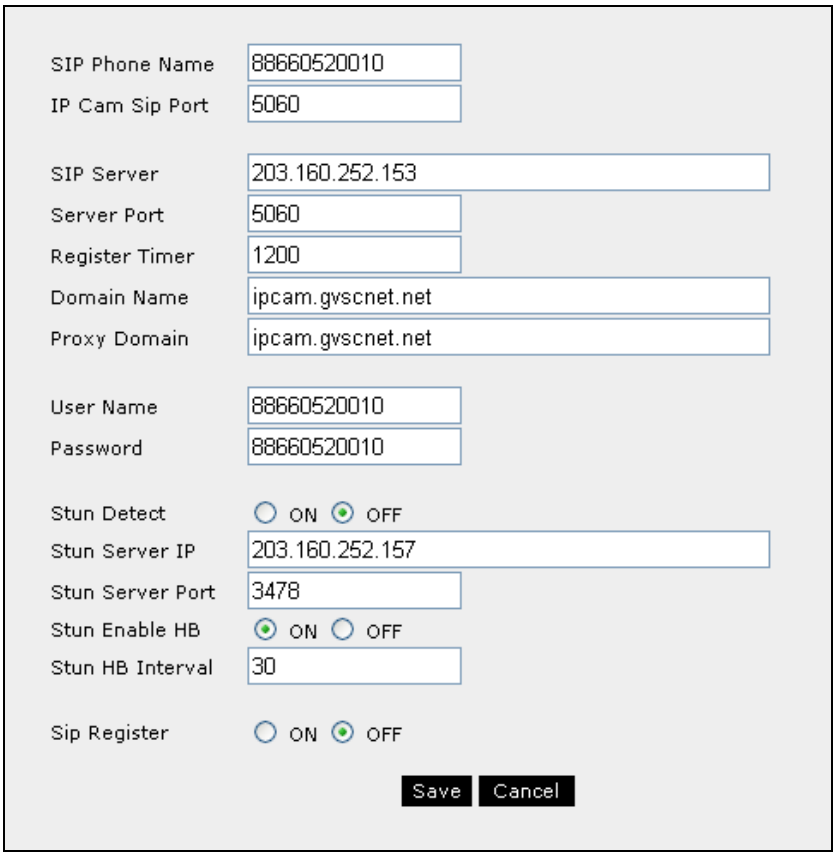
In following screen, you may see 3 different sheets for **System**, **SIP** and **Other** configuration and can be switched by mouse click to each tabs.

System



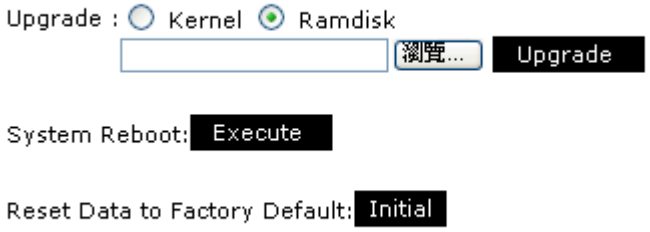
Host Name	Enter host camera name.
Welcome Text	Set your own welcome message in the login window.
Date and Time Setting	1. You can choose to keep current date and time. 2. You can choose to set the time synchronizing with computer (PC) time. 3. You can choose to set the time manually. 4. You can choose to set the time automatically via SNTP server (e.g. clock.stdtime.gov.tw) and select Time zone.

SIP



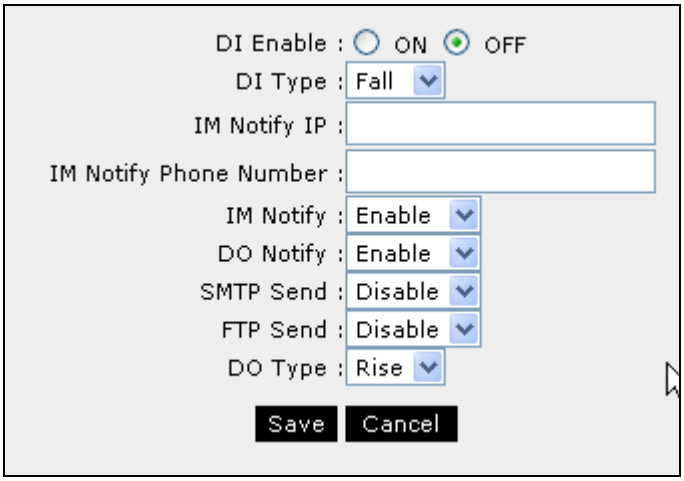
SIP Phone Name	SIP Phone Number
IP Camera SIP Port	Surveillance camera's listen port for SIP invite
SIP Server	SIP Server IP (optional)
Server Port	SIP Server listen port (optional)
Register Timer	SIP Server register timer (second)
Domain Name	Domain Name of SIP Server
Proxy Domain	Proxy Domain of SIP Server
User Name	SIP server registered user name
Password	SIP server registered user password
Stun Detect	Enable STUN detection or not
Stun Server IP	Stun Server IP
Stun Server Port	Stun Server Port
Stun Enable HB	Enable sending keep alive packet or not
Stun HB Interval	The interval of Sending keep alive packet to STUN server
SIP Register	Register to SIP server or not

Others



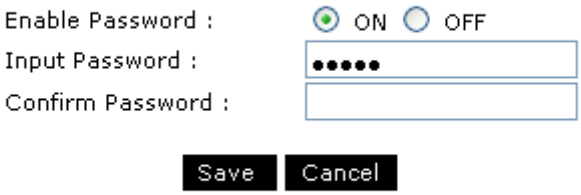
Upgrade	1. Choose “**Kernel**” or “**Ramdisk**” to upgrade 2. Click “Browse…” to choose a valid kernel or ramdisk. 3. Press “**Upgrade**” to start upgrade.
System Reboot	Press "**Execute**" button to perform a soft reboot
Reset Data to Factory Default	Press "**Initial**" button to enable this function. It will revert its configuration to factory default setting.

DIDO



DI Enable	Enable Device Input device use
DI Type	Select for **RISE** or **FALL** type of DI(trigger edge).
IM Notify IP	Notify which IP address will be notified after DI triggered . ****SMC will take action on behalf of this configuration .***
IM Notify Phone Number	Notify which number will be notified after DI triggered . ****SMC will take action on behalf of this configuration .***
IM Notify	Enable IM Notify or not. ****SMC will take action on behalf of this configuration .***
DO Notify	Enable if DO will be triggered by DI.
SMTP Send	Enable snapshot sending by e-mail(triggered by DI)
FTP Send	Enable snapshot sending by FTP (triggered by DI)
DO Type	Configuration for DO trigged type(**RISE** or **FALL**)

Surveillance Password

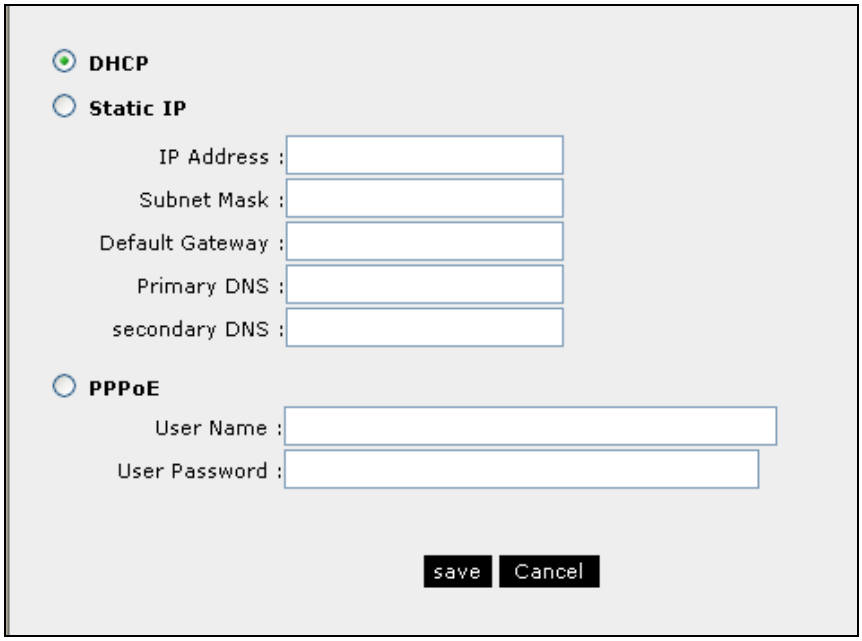


Enable Password	The password is saved for the privacy viewing of IPCAM audio/video sources. If the option is enabled, client shall provide the password and being authenticated by IPCAM.
Input Password	Password for saving privacy connection.
Confirm Password	Confirm password for saving privacy connection.

Network Control

In following screen, you may see 3 different sheets for **IP**, **FTP** and **SMTP** configuration and can be switched by mouse click to each tabs.

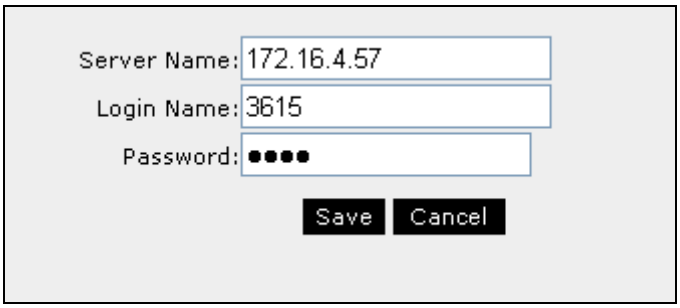
IP



DHCP	DHCP mode for acquiring an IP from DHCP server
Static IP	Assign and arrange IP setting on your plan. Including the IP address / Subnet Mask / Default gateway / Primary DNS / Secondary DNS settings
PPPoE	Especially for ADSL users who can set their account and password to get online.

☆ Need to **RESTART** the IPCAM after modifying the Network configurations .

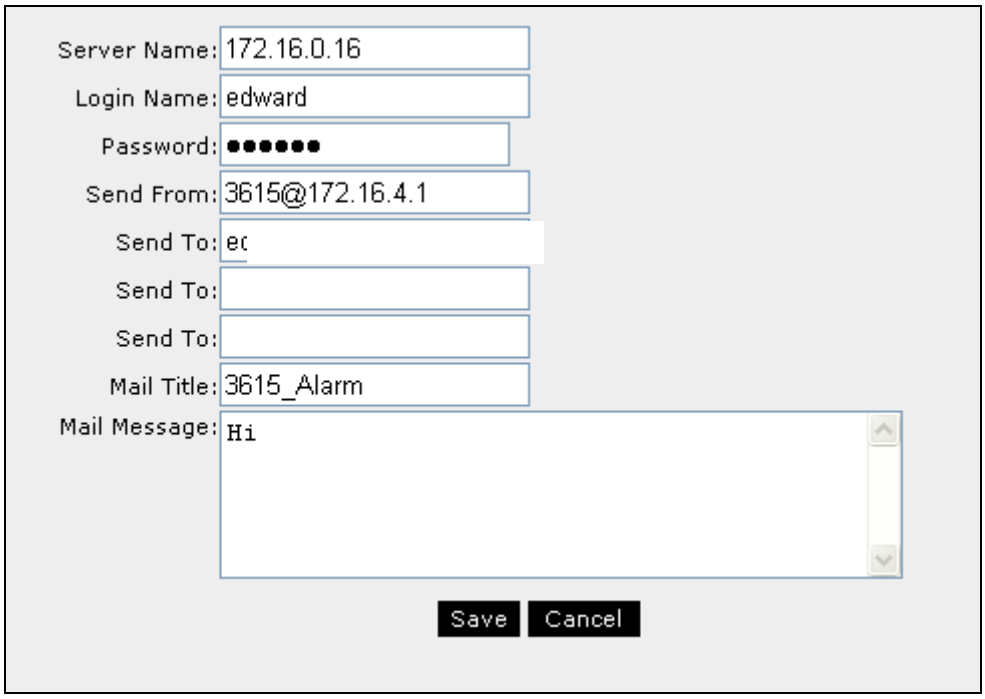
FTP



Server Name	FTP Server IP or Domain Name
Login Name	Login account for FTP server
Password	Login password for FTP server

Note: This setting is effective when a snapshot sending is triggered by surveillance camera.

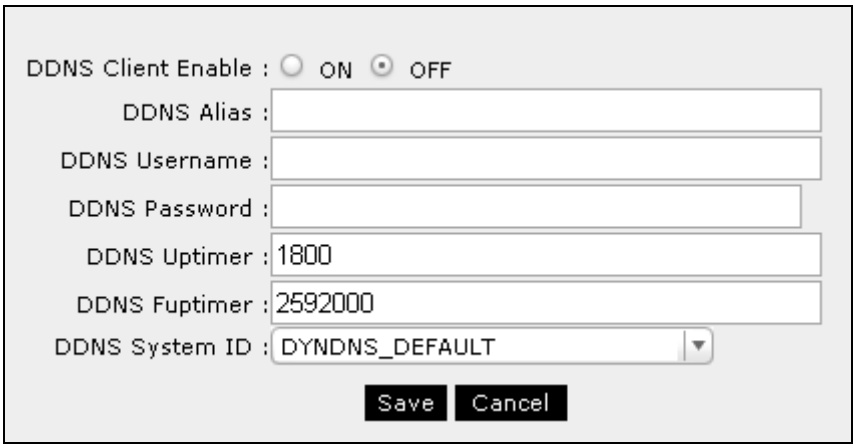
SMTP



Server Name	SMTP Server IP or Domain Name
Login Name	SMTP mail account
Password	Password for the SMTP mail account
Send From	Sender information
Send To	Receiver email address
Send To	The 2nd Receiver
Send To	The 3rd Receiver
Mail Title	Subject of the email
Mail Message	Mail content. User could write the message inside the text area.

Note: This setting is effective when a snapshot sending is triggered by surveillance camera.

DDNS



DDNS Client Enable	Enable DDNS Client Support .
DDNS Alias	Alias DNS name
DDNS Username	DDNS service account username
DDNS Password	DDNS service password
DDNS Uptimer	DDNS Uptimer setting
DDNS Fuptimer	DDNS Fuptimer setting
DDNS System ID	System ID of DDNS, please use DYNDNS_DYNAMIC

Note: For DDNS account subscription, please visit http://www.dyndns.org and subscribe the service for your surveillance camera.

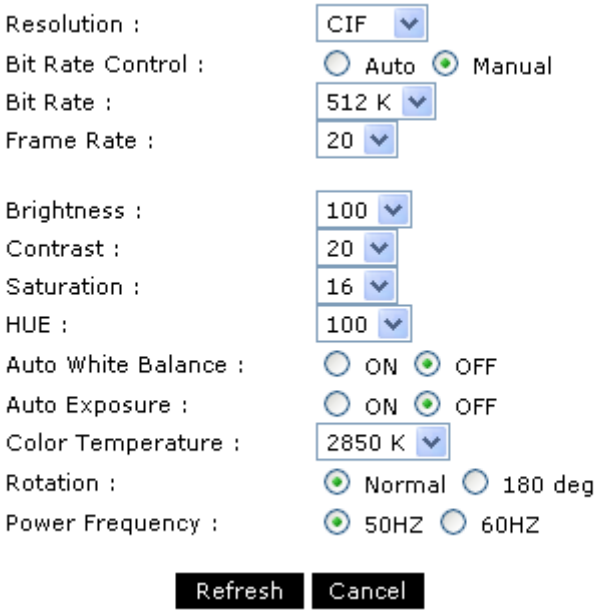
RTP Port

RTP Port range form	Allow users to specify the RTP port range to send media stream from surveillance camera

☆*Please consult IT/MIS staff before you make modification of this configuration.*

Camera

Camera

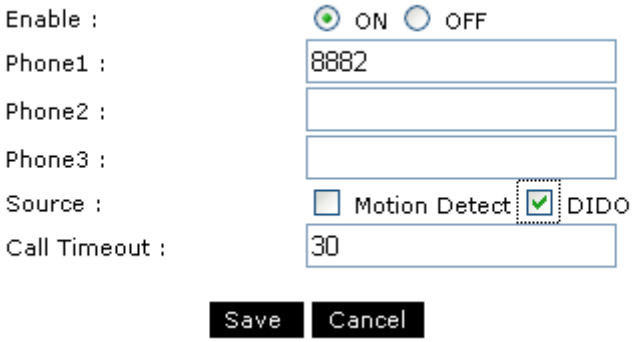


Resolution	Adjust the resolution of the image (Restart required)
Bit Rate Control	Control the bandwidth automatically or manually
Bit rate	Control the available bandwidth manually.
Frame Rate	Choose the number of maximum frames to be sent by surveillance in frame per second
Brightness	Adjust the brightness of the image.
Contrast	Adjust the contrast of the image
Saturation	Adjust the color saturation level of the image.
HUE	Adjust the hue of the image.
Auto White Balance	Adjust the white balance of the onscreen image.
Auto Exposure	Adjust the Auto Exposure of the image.
Rotation	Image rotation in 180 degree(image flip/ upside down)
Power Frequency	50MHz or 60MHz for AC power frequency.

Encode Type

Audio Type	Configure audio encode type sent by surveillance camera. - G.711 a-law - G.711 mu-law
Video Type	Configure video encode type sent by surveillance camera. - MPEG4 - H.263

Call to



Enable	Call assigned SIP agent phone number automatically
Phone1	Assigned SIP phone number 1
Phone2	Assigned SIP phone number 2
Phone3	Assigned SIP phone number 3
Source	The call triggered source
Call Timeout	The seconds of call timeout

User Management Control

In following screen, administrators could add/modify/delete extra login accounts to Manage/View the website contents .

No.	User ID	Group	Edit	Del	Privilege Control
0	admin	Administrator	Edit	Delete	Set

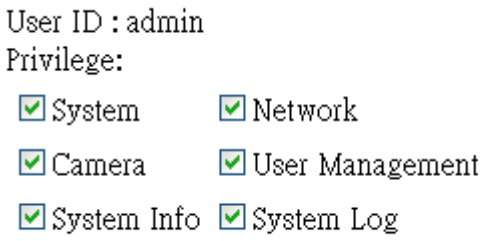
New

New User	Press New User button to add users
Edit	Edit user's privilege control
Delete	Delete users
Set	Set user's privilege control

There are 3 levels of user privilege control in Leadtek network surveillance camera:

Administrator, Guest

Each group users are authorized with different web page management permissions.

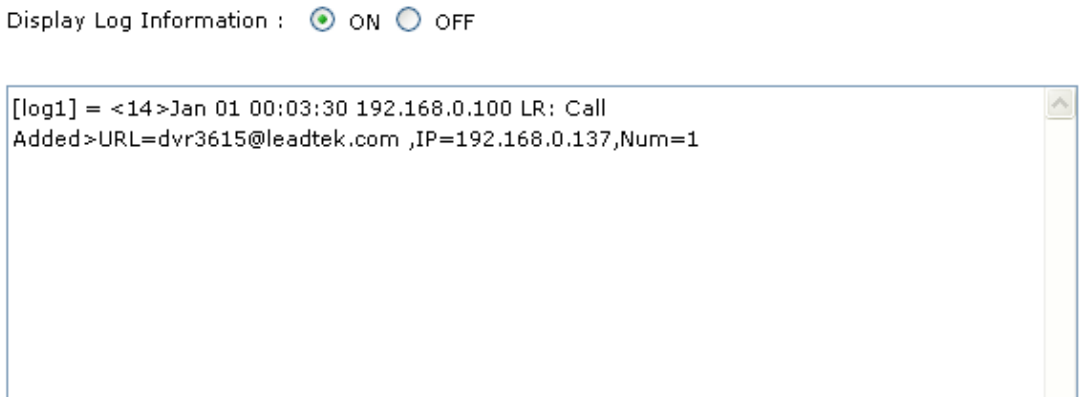


System Info

Model Name :	LR3621
Firmware Version:	999_362X_2.6r_RC08X_00
IPCAM ID :	NetCam
IPCAM IP :	192.168.0.100
Phone Number :	3713
SIP Registered Status :	OFF
SIP Registered :	NG
Online Users :	0
System Uptime :	0 min
Hardware Version:	V03
Sensor Version:	TVP5150

System Log

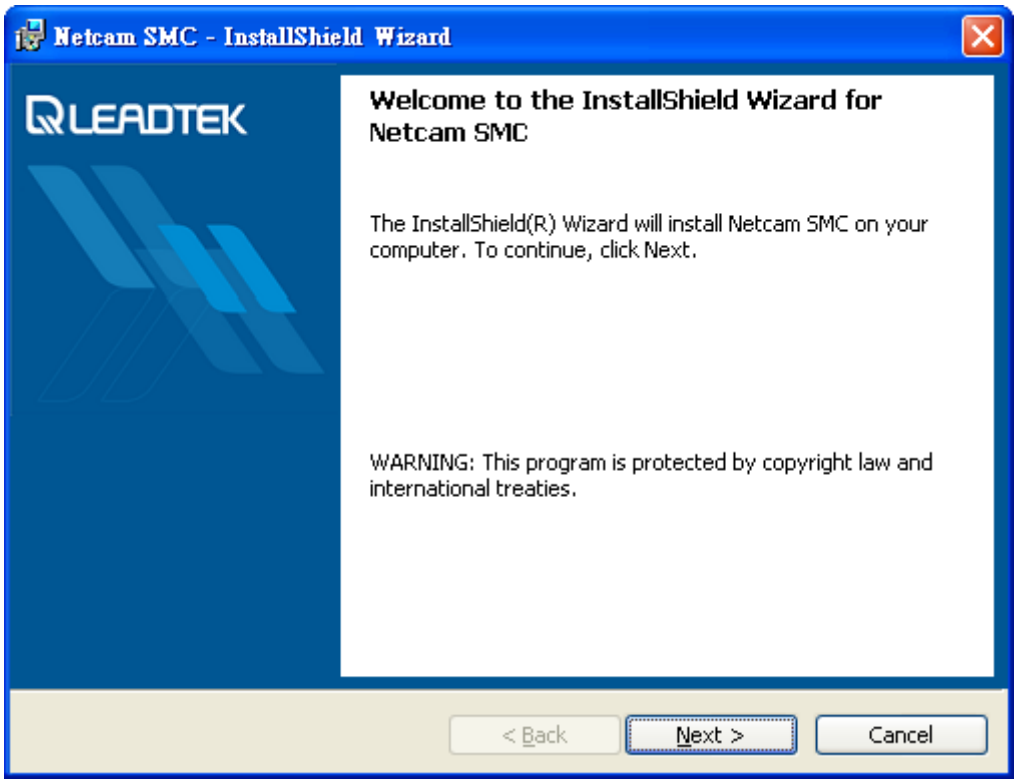
The system log book keeps system operating history in a cyclic way. The newest log record will over write the oldest log record.



Use Windows Client for IP Cam

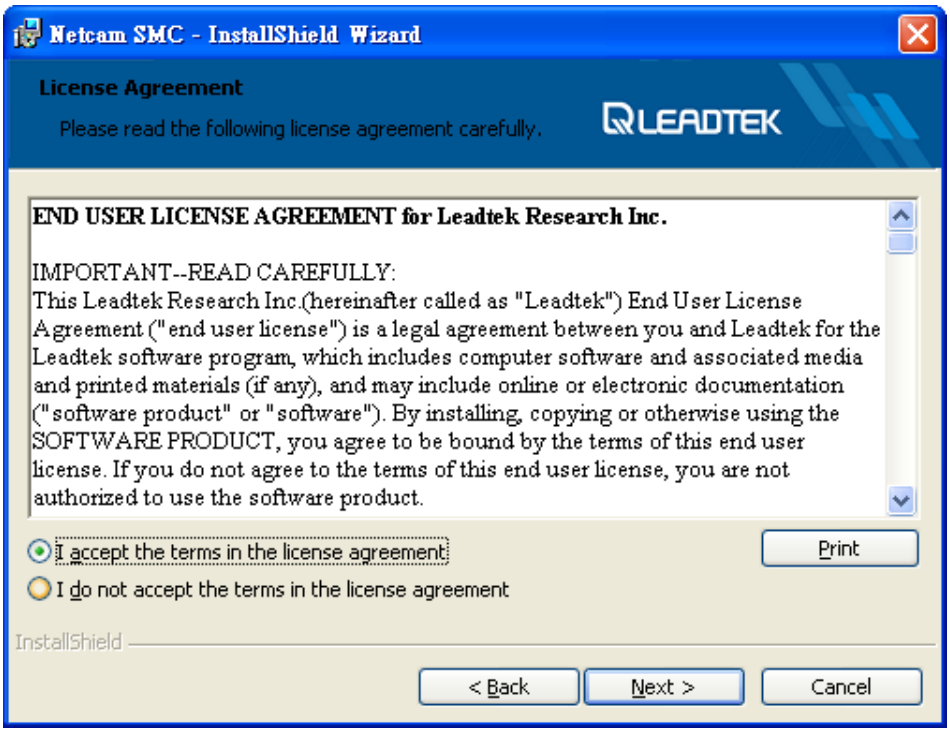
Install Netcam SMC

While inserting the **Video Surveillance Software Pack** CD into the CD-ROM , the program will self running with the following window .



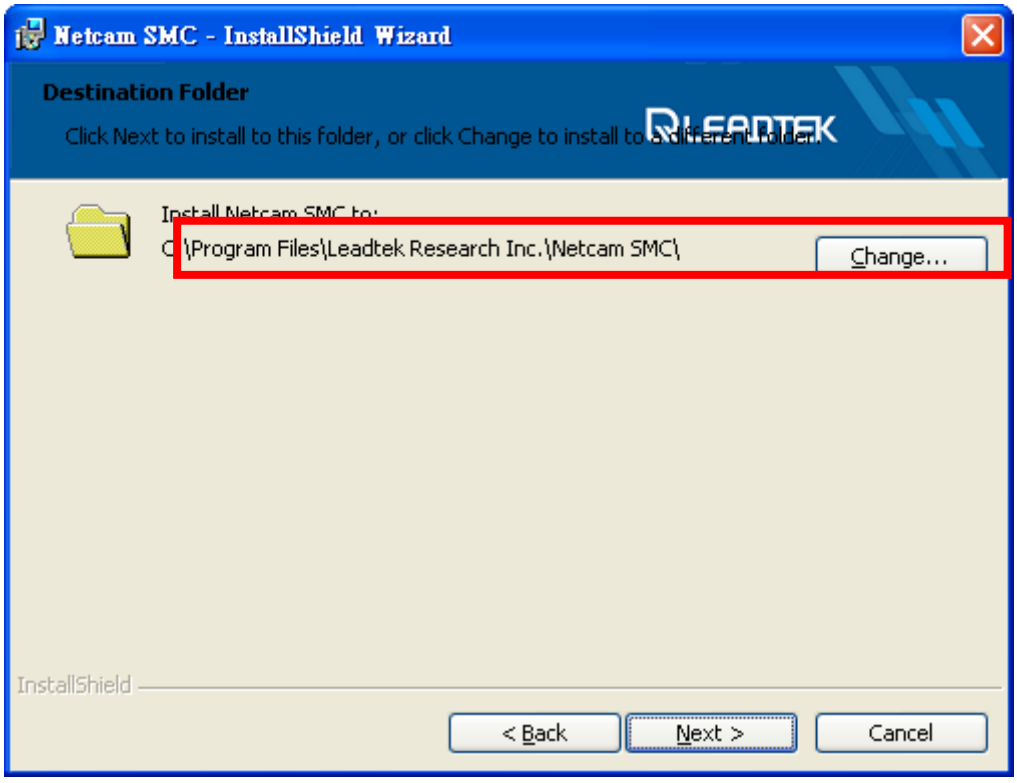
In above screen, Netcam SMC stands for Surveillance Management Center, specially designed for the Leadtek Surveillance products .You may take advantage of the software to control and manage Leadtek Surveillance products .

Press **Next** for continuing the install process.

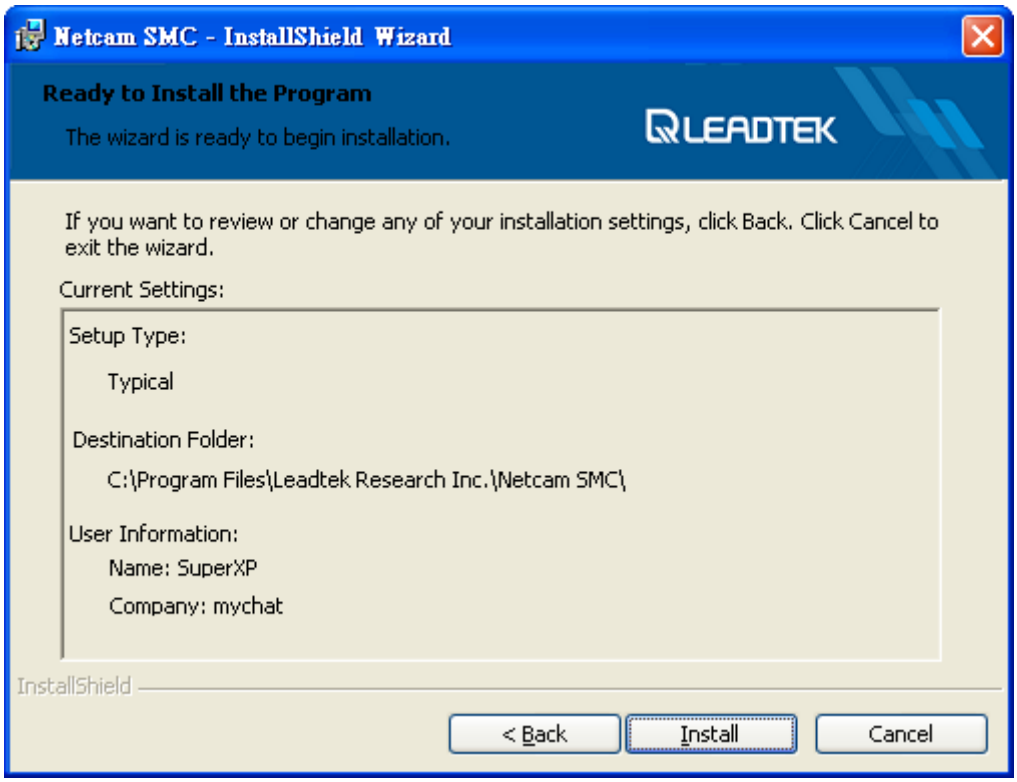


Please read the EULA carefully. Leadtek Netcam SMC is legally used for the Leadtek Surveillance Products and well-protected by the Copyright law.

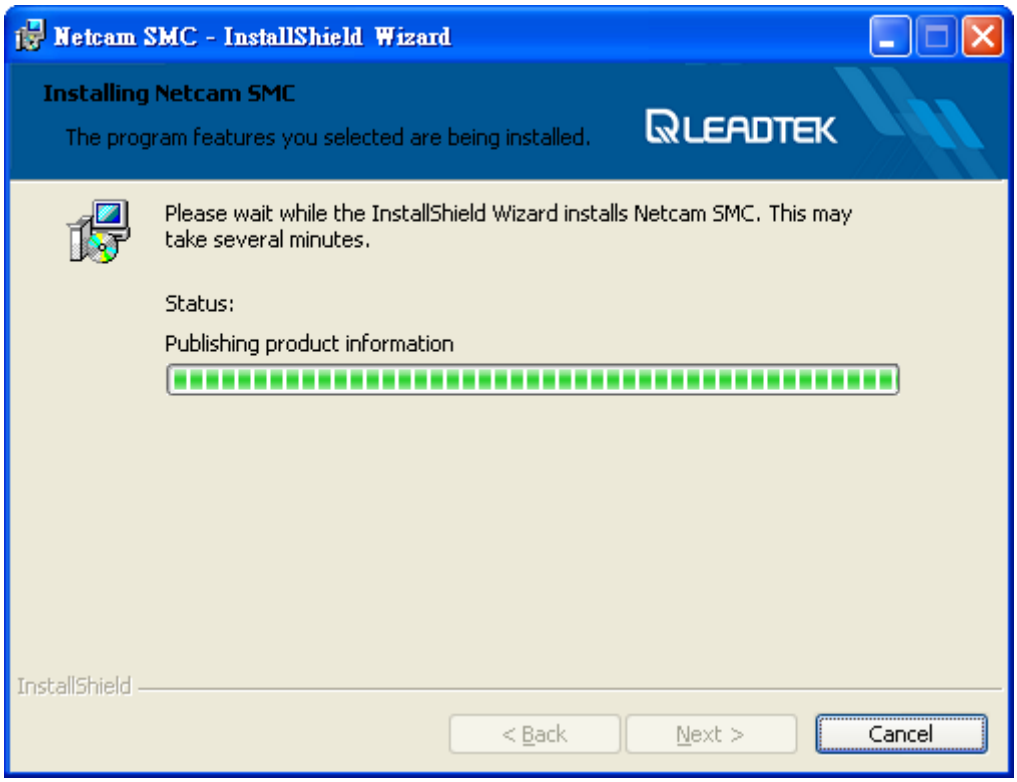
Press **Next** for continuing the installation process.



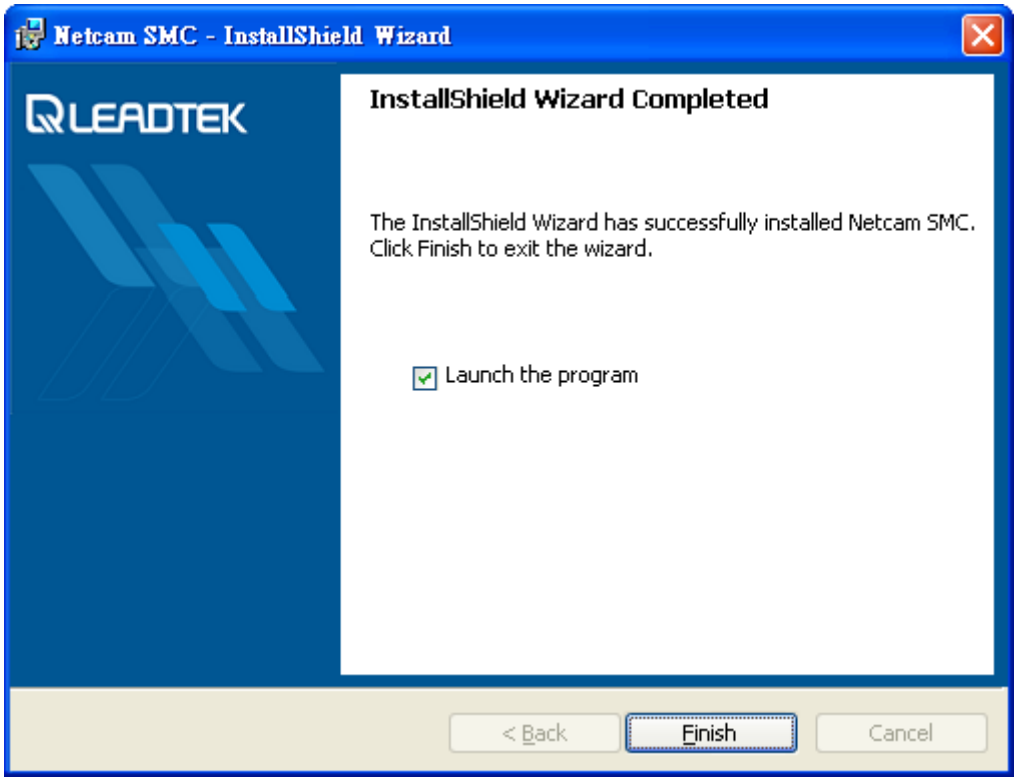
Click the button marked by RED color and choose an installation folder or click **Next** to stay the default installation folder to continue the installation process.



Click the **Install** to start the installation of Netcam SMC.

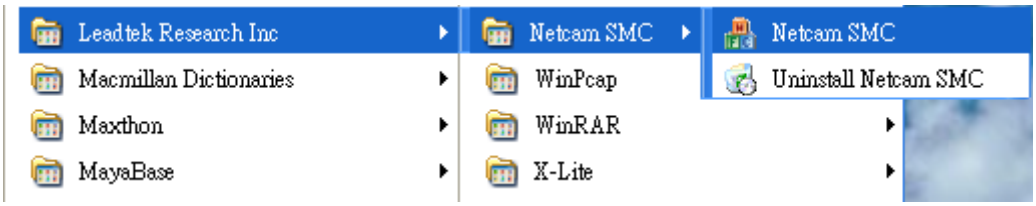


You will see the installation progress from the green progress bar. While finished, please press **Finish** when installation is complete.



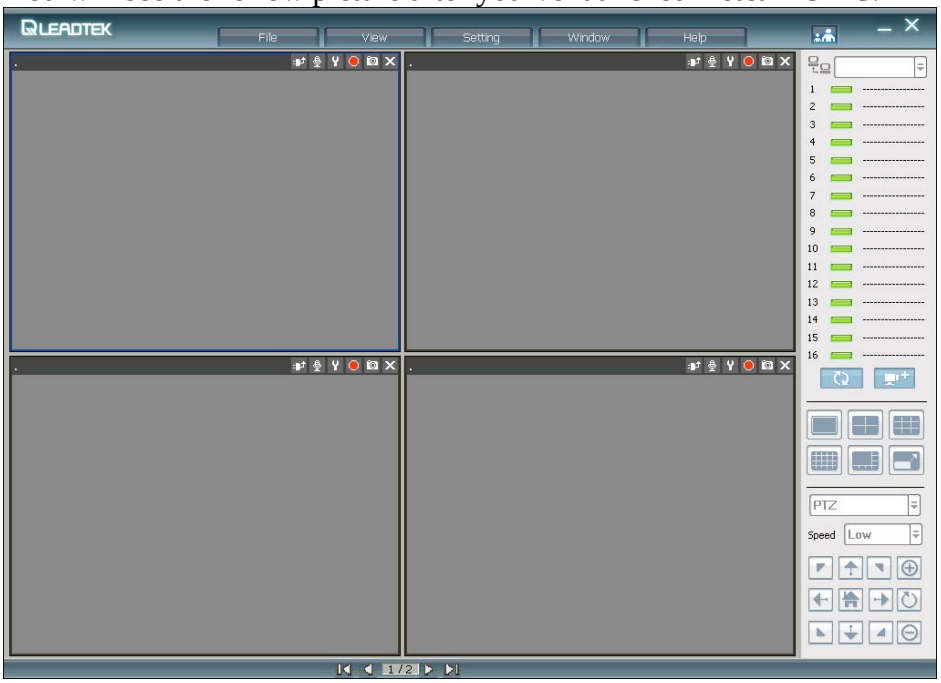
Quick Launch

You can click Windows Start->All Programs->Leadtek Research Inc->Netcam SMC->Netcam SMC to launch the application.

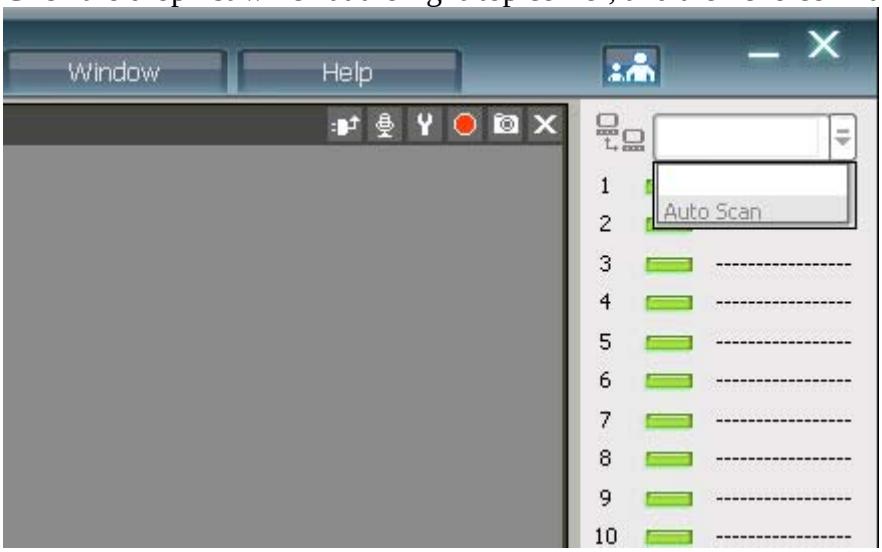


Otherwise you can click the Netcam SMC shortcut in desktop to launch the application.

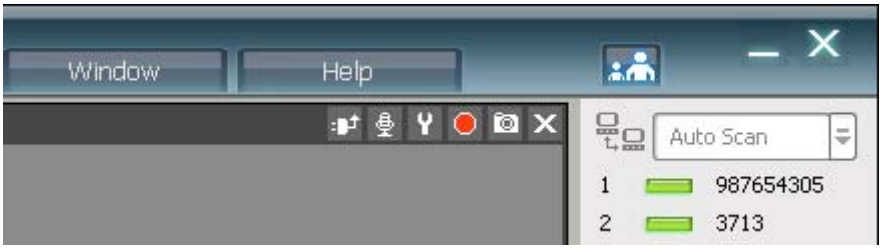
You will see the follow picture after you've launched Netcam SMC.



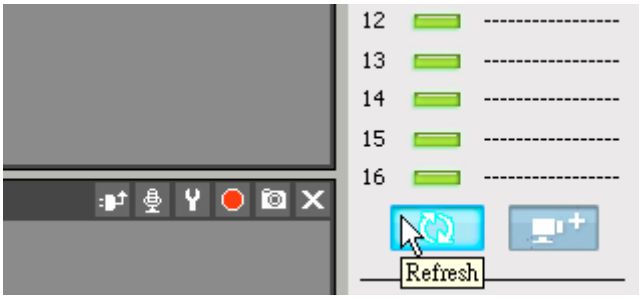
Click the drop list which at the right-top corner, and then choice ‘Auto Scan’.



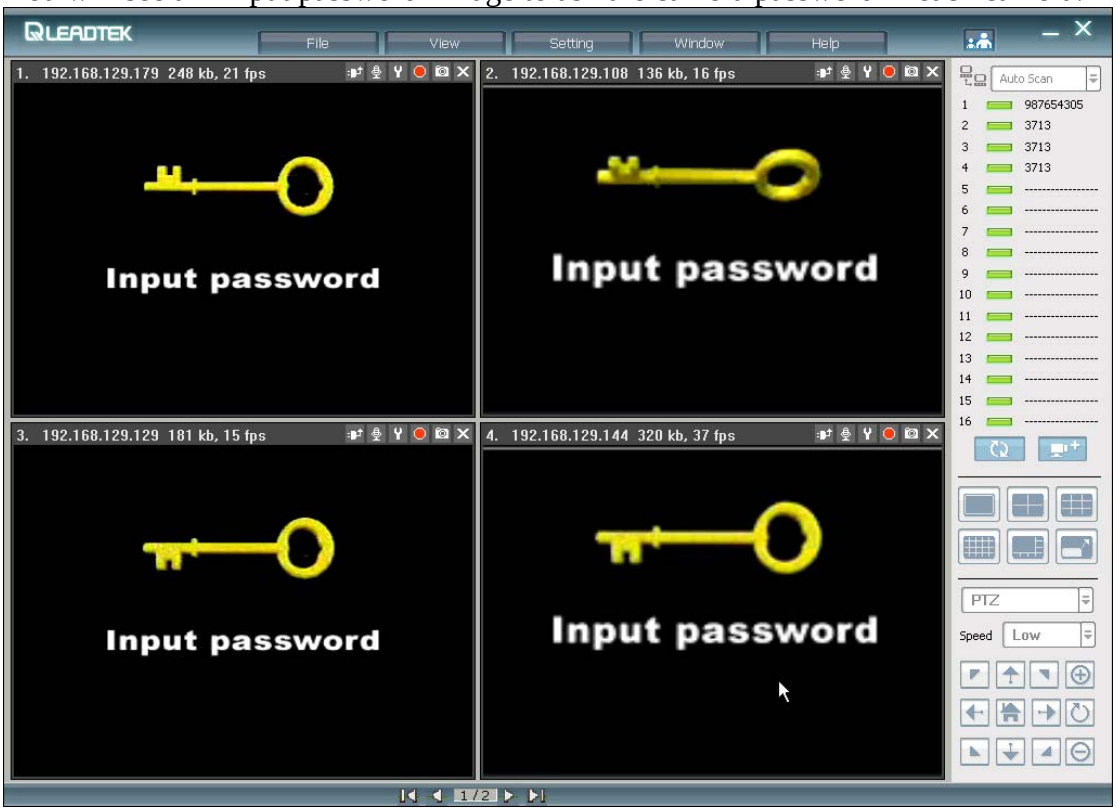
It will display all cameras in the number list which have been connected to your network.



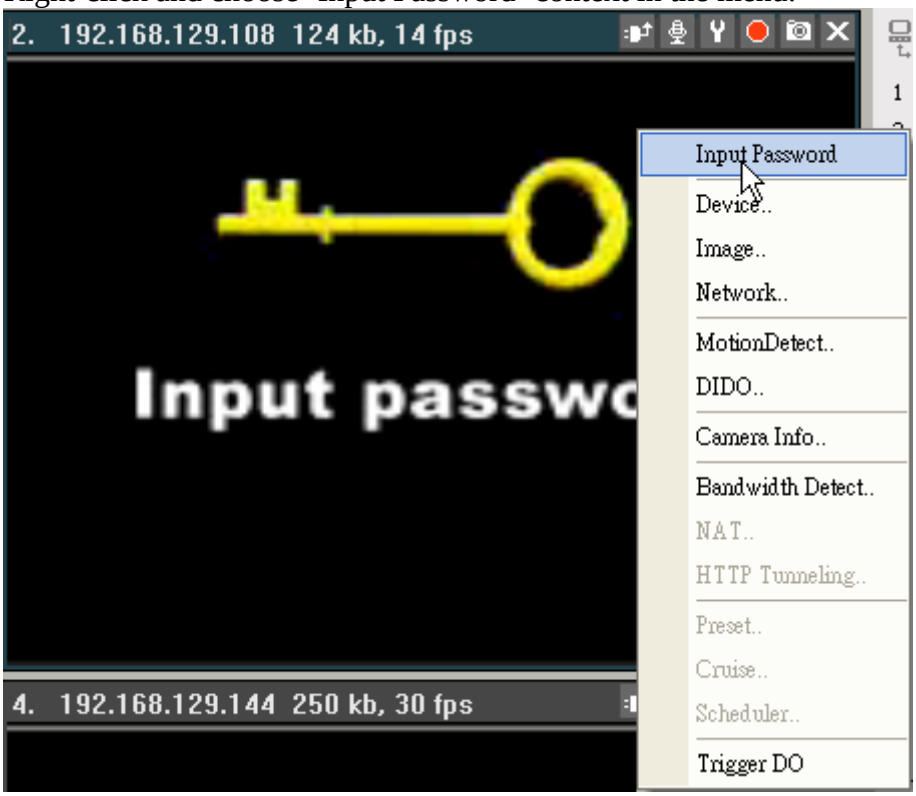
Press ‘Refresh’ button to connect those cameras which are showing in the number list.



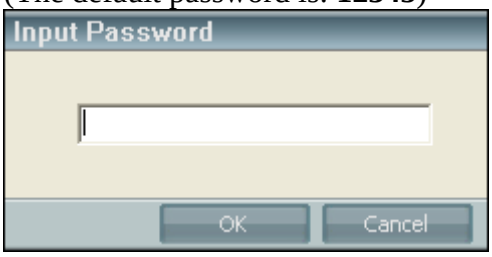
You will see an ‘Input password’ image to ask the camera password in each camera.



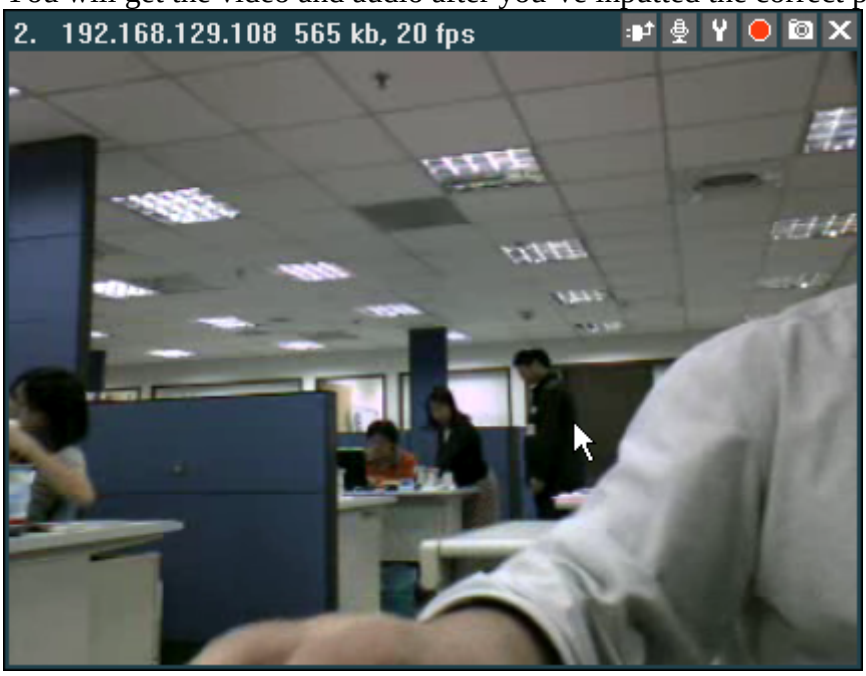
Right-click and choose ‘Input Password’ context in the menu.



It will pop up an input box to ask the password of the camera.
(The default password is: **12345**)

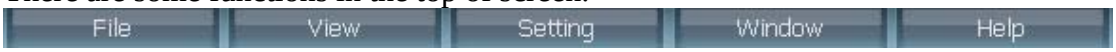


You will get the video and audio after you've inputted the correct password.

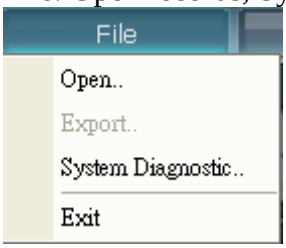


Overview

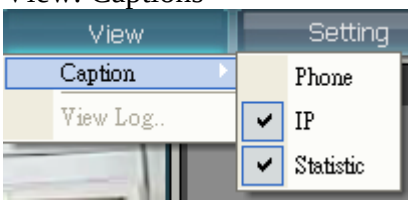
There are some functions in the top of screen.



File: Open records, System Diagnostic, Exit.



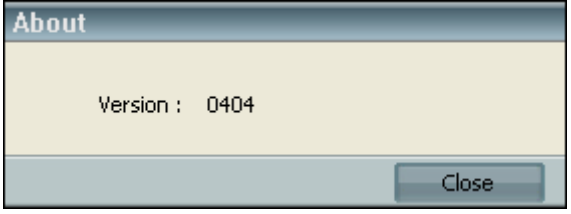
View: Captions



Setting: General Setting, Client SIP setting

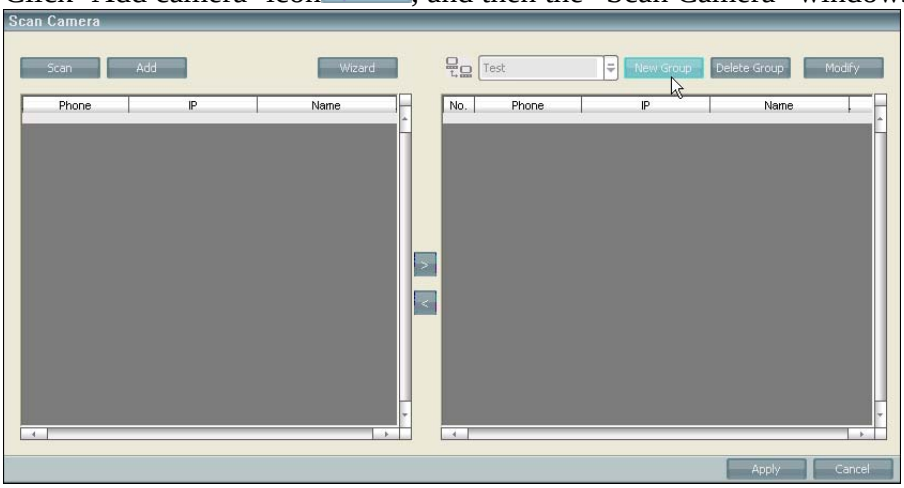
Window: Change layout

Help: Version number.

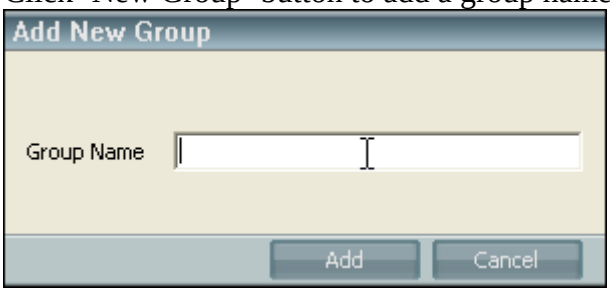


Add camera

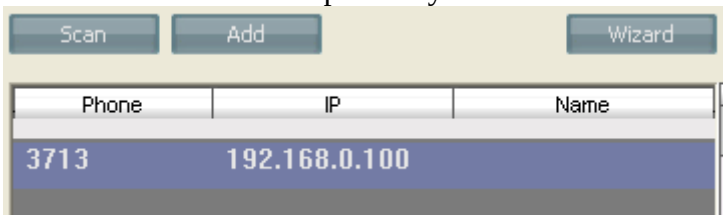
Click ‘Add camera’ icon , and then the “Scan Camera” windows will pop up.



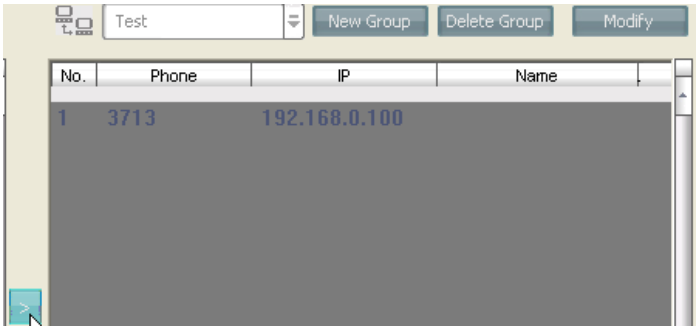
Click ‘New Group’ button to add a group name. E.g.: Text



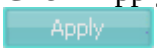
Click ‘Scan’ button to capture any camera in the network.



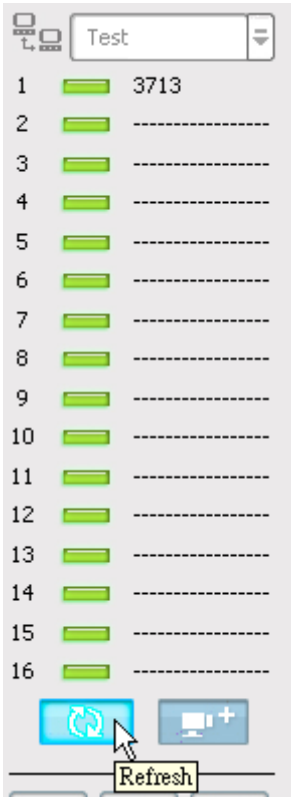
And then click to add the selected camera into ‘Test’ group.



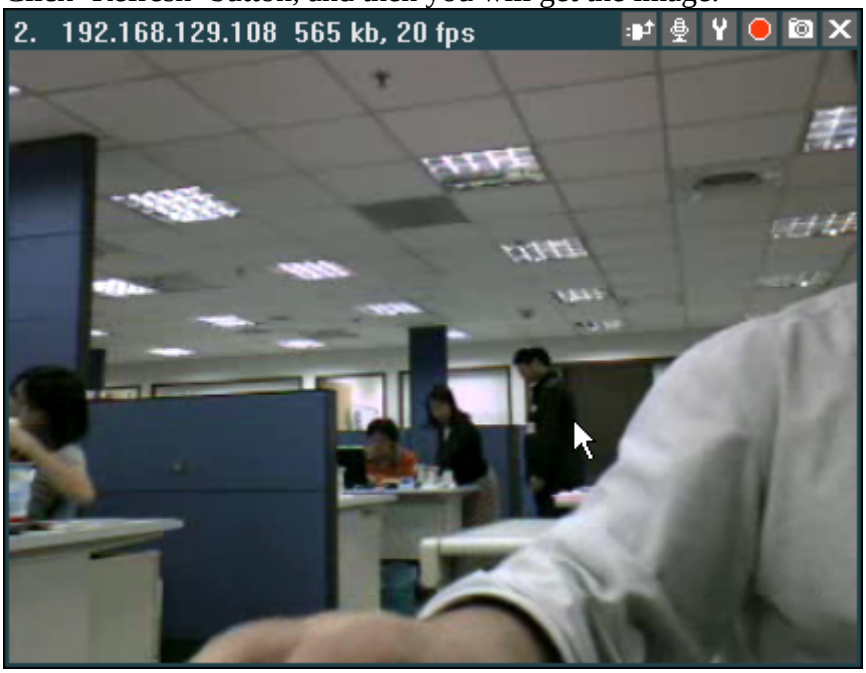
Click ‘Apply’ button



And then you will see the ‘Test’ group list like below.

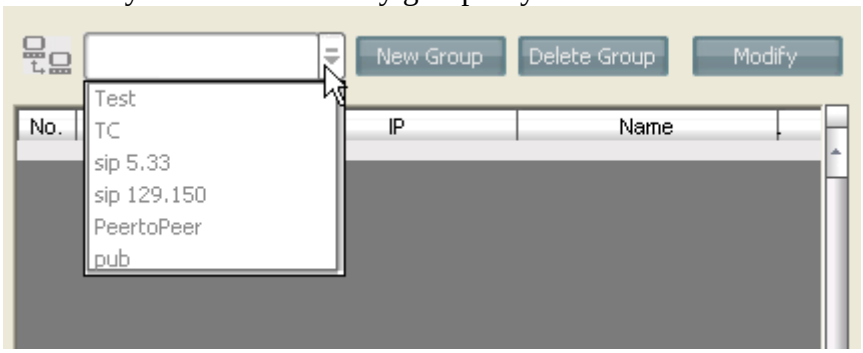


Click ‘Refresh’ button, and then you will get the image.



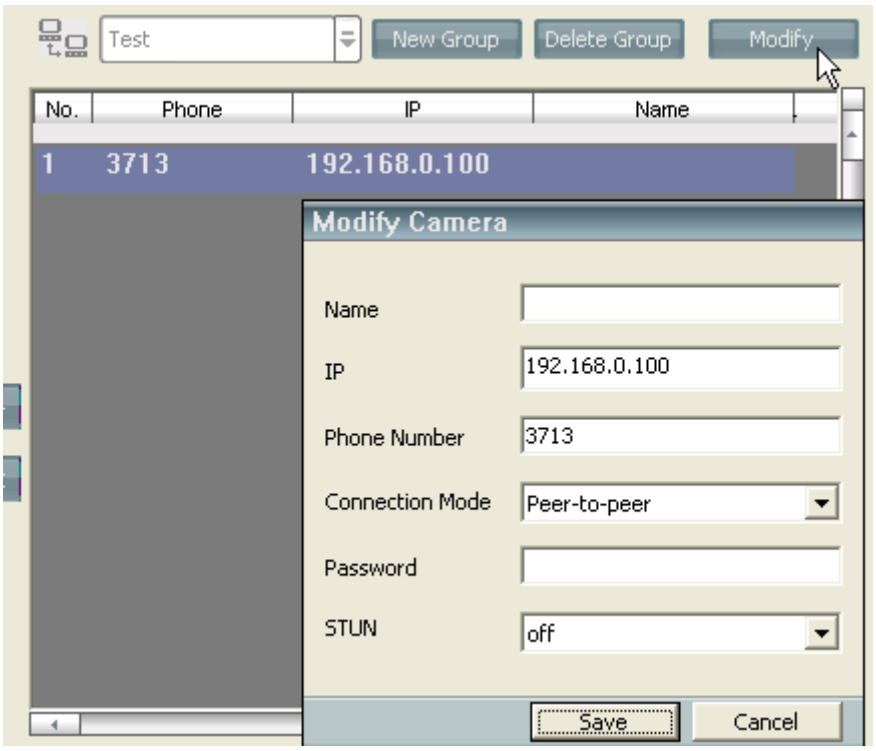
Add one more group.

Of cause you call add as many group as you want.



Modify camera's connection setting.

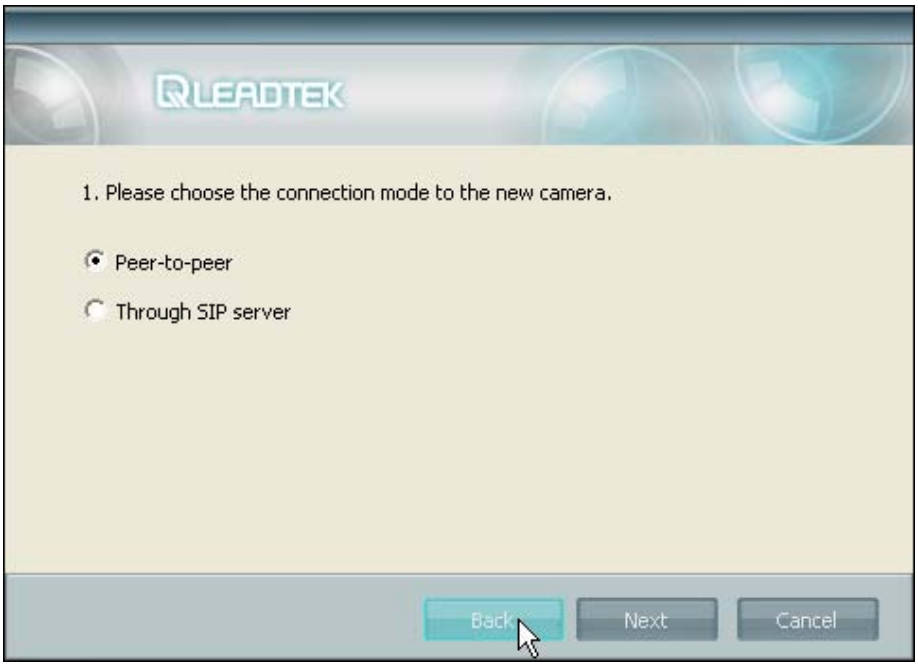
You can also modify the selected camera's connection setting by clicking 'Modify' button.



Camera Connection Wizard

You can click ‘Wizard’ button the connect cameras easily!

1. Please choose the connection mode

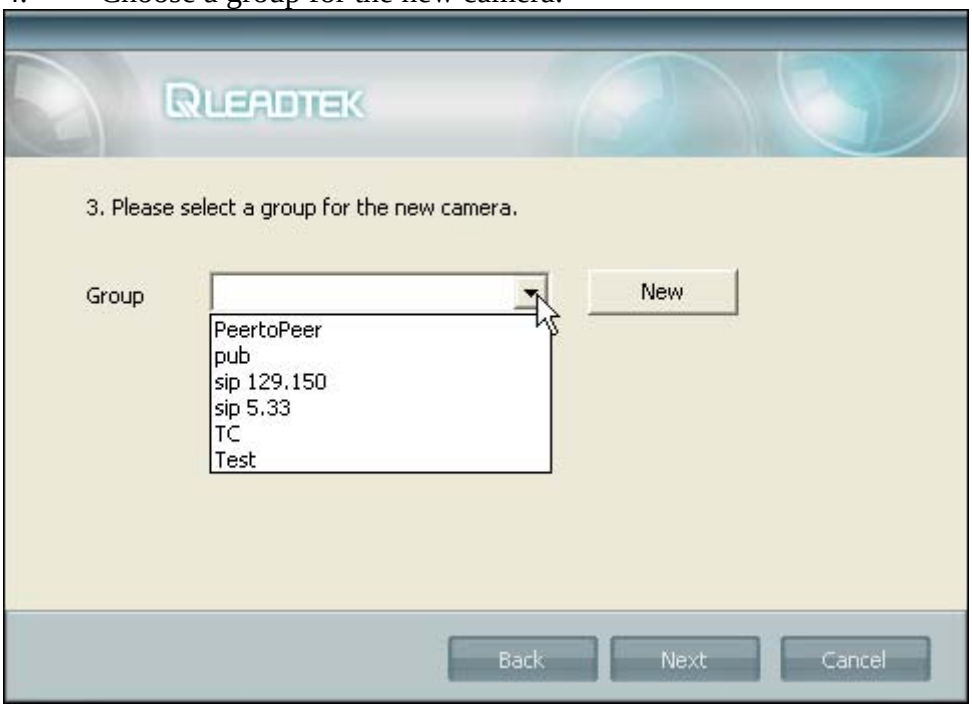


2. Fill in IP Address, Name, and Password fields if you choose ‘Peer-to-peer’.

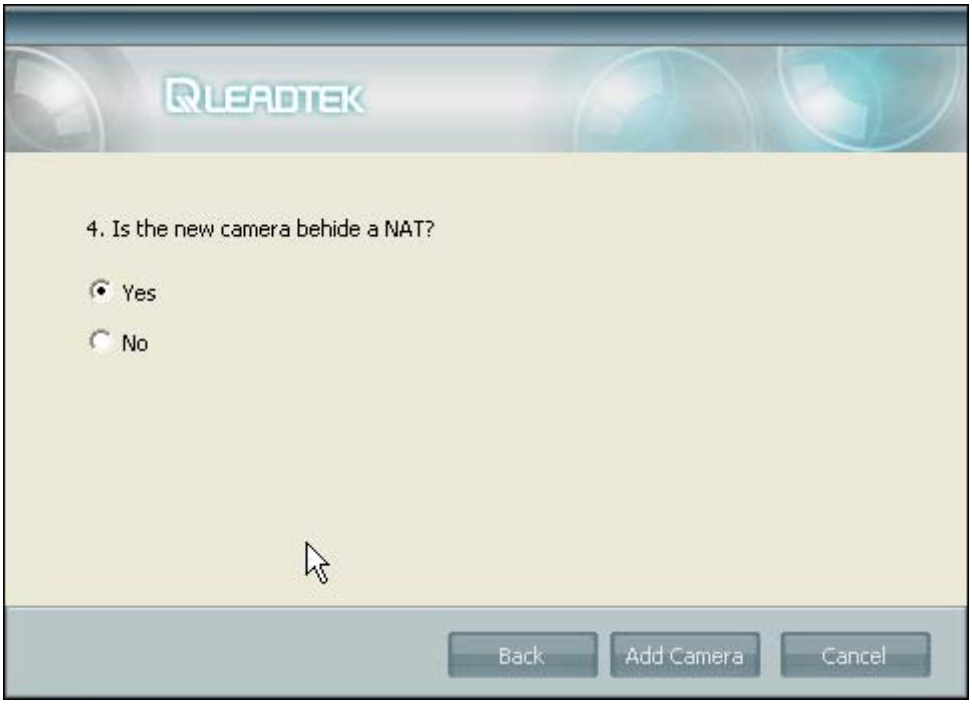
3. Fill in Phone and Password fields if you choose ‘Through SIP server’.

P.S. Please be noticed that you mush configure ‘SIP Setting’ first if you want add a camera through SIP server.

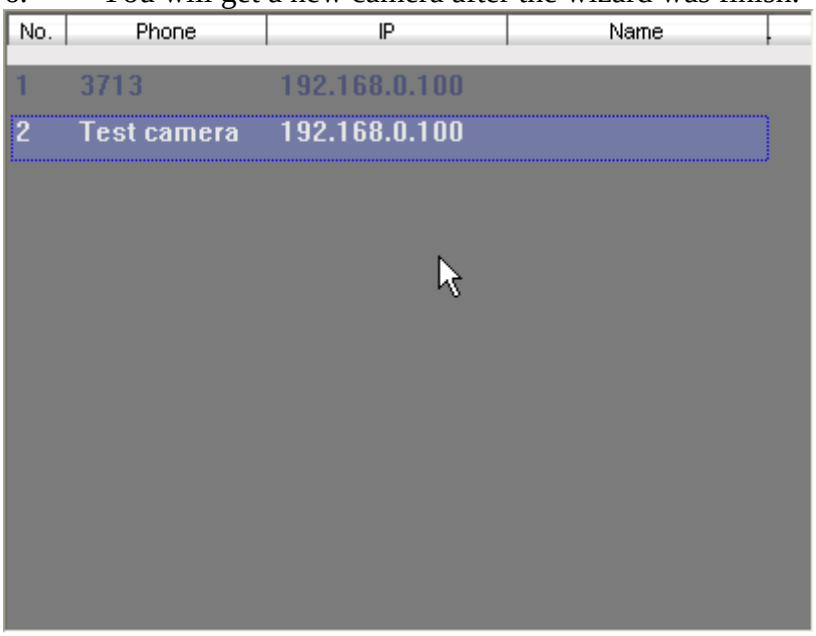
4. Choose a group for the new camera.



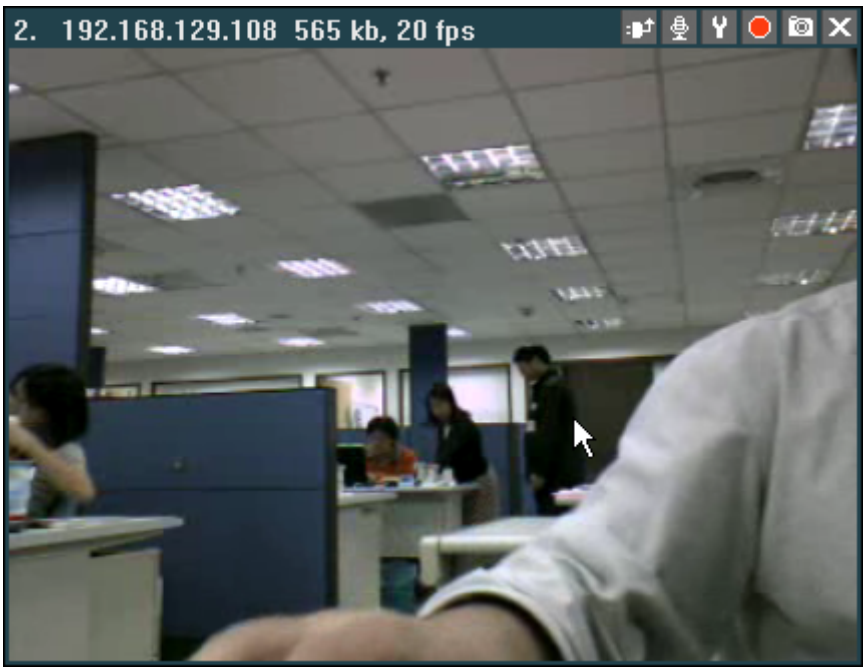
5. Choose if the new camera behind a NAT or not.



6. You will get a new camera after the wizard was finish.



Channel management



The texts that show on the image's left-top indicate the information:

2	: Number
192.168.129.108	: IP address
565 kb	: Bandwidth
20 fps	: Bit rate.

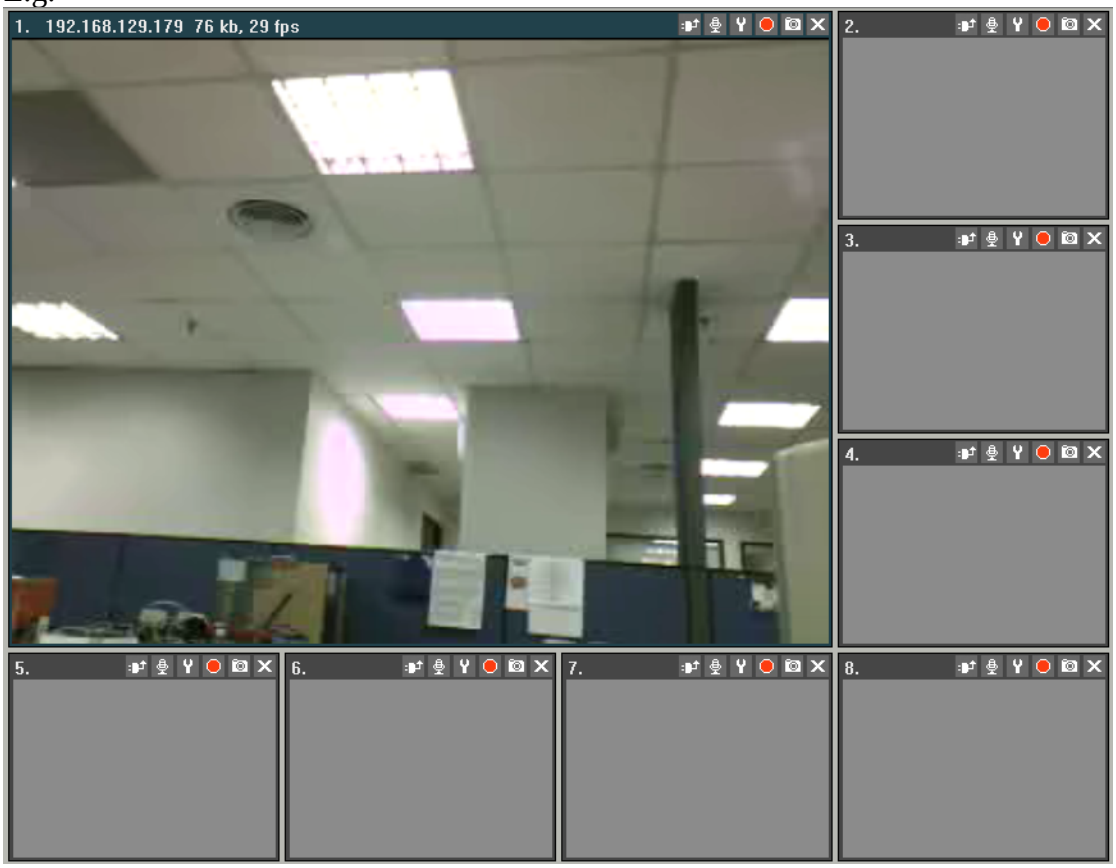
The icons that show on the image's right-top corner mean:

- : Re-connect
- : Two-way audio
- : Settings
- : Recording
- : Snapshot
- : Close SIP connection

Change channel layout

You can change channel layout in the following way.

E.g.



Change to full screen by clicking the following button.

PTZ control

Navigation

While the PTZ models being selected, the Navigation control panel can help users to do the manually control with the Pan, Tilt and Zoom features.

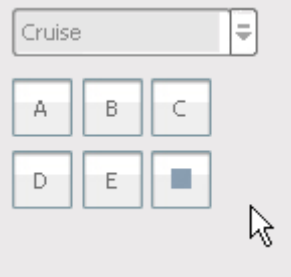
Symbol	Description
	Control the direction of UP-LEFT
	Control the direction of UP
	Control the direction of UP-RIGHT
	Control the direction of LEFT
	Control the RESET TO DEFAULT POSITION (HOME position) ***Both direction and the focus.***
	Control the direction of RIGHT
	Control the direction of DOWN-LEFT
	Control the direction of DOWN
	Control the direction of RIGHT-DOWN
	Control the ZOOM OUT
	Control the ZOOM IN
	Reset the Zoom to the default.

Preset

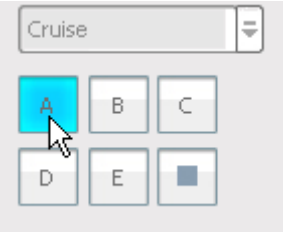
Presets are the position sets which users may pre-define the spots for the regular surveillance. Each preset can define its viewing angle and focus, a Preset Name is also included.

If users already define a Preset Name, a tooltip will pop-up while user roll their mouse over the Preset buttons, just like the following picture.

Cruise

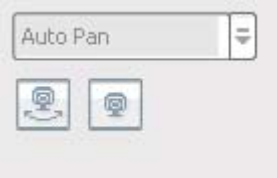


Cruise is the set of Presets; each cruise can contain 16 presets in it. If users did not define the cruise at the beginning, then the cruise button cannot be used



Press to sop the cruise.

Auto Pan

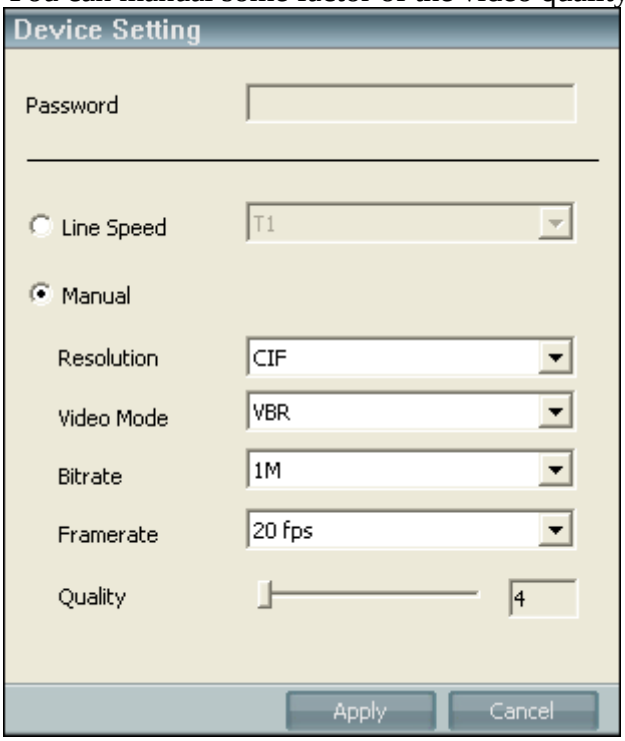


PTZ IPCAM is able to do the automatically PAN with the lowest speed. This feature is designed for users can do the surveillance and move gently via the horizontal, visible angle of the PTZ camera. To start the Auto Pan, press the button.

While the Auto Pan has been activated, the button state will switched to the pressed mode and a STOP button ( ) will be enabled. While the Auto Pan has been started, please press the STOP to terminate the control.

Device setting

Right-click a channel and choose ‘Device..’ context in the menu.
You can manual some factor of the video quality.

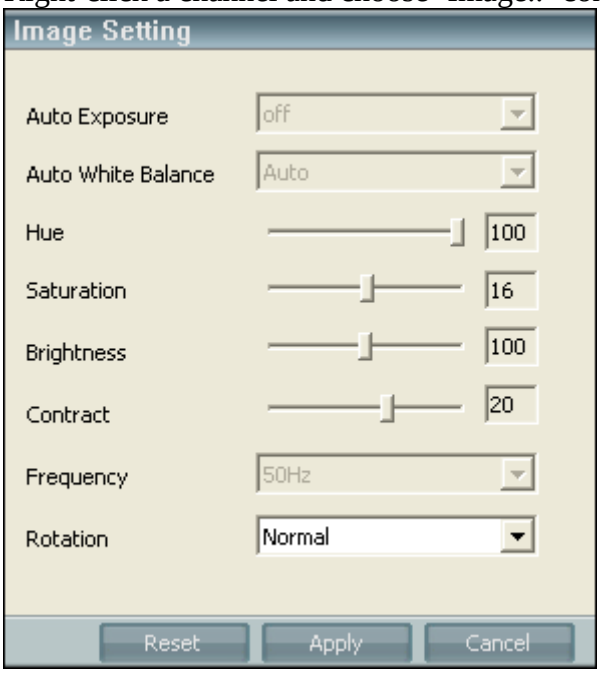


Resolution	Adjust the resolution of the image (Restart required)
Video Mode	Control the bandwidth automatically(VBR) or manually(CBR)
Bit rate	Control the available bandwidth.
Frame Rate	Choose the number of frames to be displayed in a second.
Quality	Image compression quality

Or check ‘Line Speed’ and then choose a network bandwidth.
It can adjust the factor automatically.

Image Setting

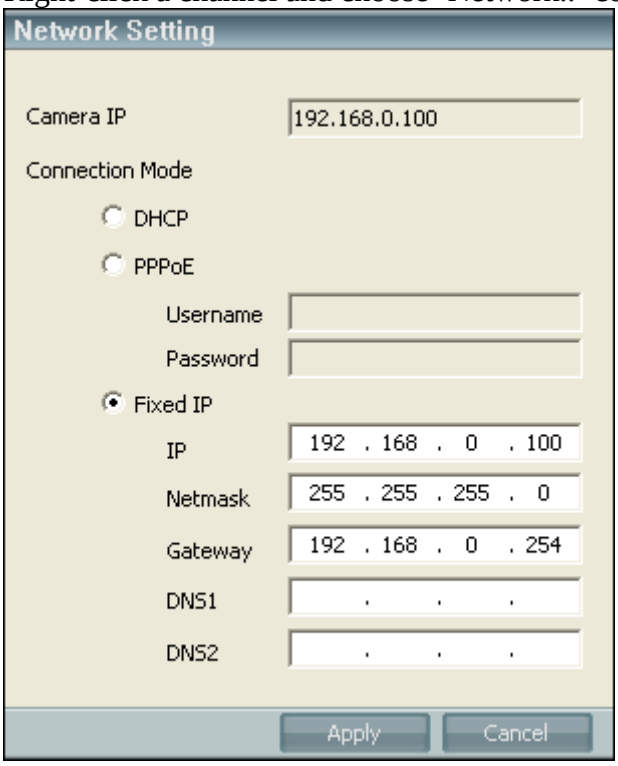
Right-click a channel and choose ‘Image..’ context in the menu.



Auto Exposure	Adjust the Auto Exposure of the image for ON/OFF.
Auto White Balance	Adjust the white balance of the onscreen image for ON/OFF.
HUE	Adjust the HUE of the image.
Saturation	Adjust the color saturation level of the image.
Brightness	Adjust the brightness of the image.
Contrast	Adjust the contrast of the image
Frequency	50MHz or 60MHz for AC power frequency.
Rotate	Image rotation if needed while IPCAM is on desktop or attached to ceiling.

Network Setting

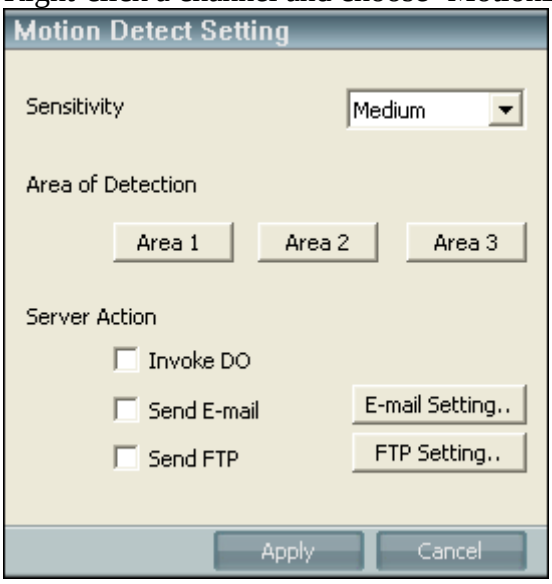
Right-click a channel and choose ‘Network..’ context in the menu.



DHCP	DHCP mode for requiring an IP from DHCP server
Fixed IP	User can configure their prefer IP. Including the IP address / Subnet Mask / Default gateway / Primary DNS / Secondary DNS settings
PPPoE	Especially for ADSL users who can set their account and password to get online.

Motion Detect Setting

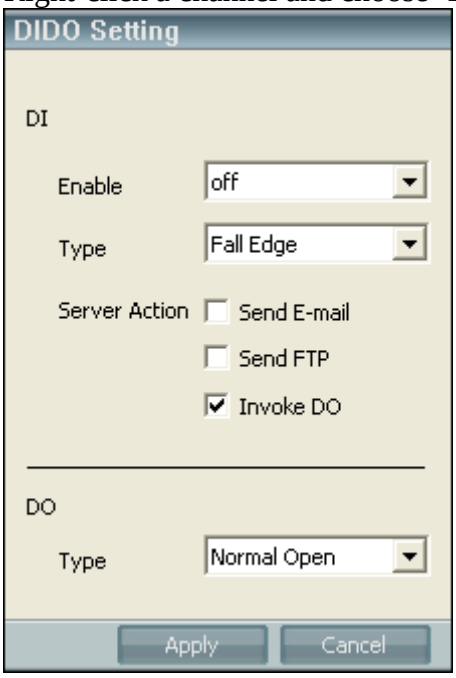
Right-click a channel and choose ‘MotionDetect..’ context in the menu.



- ✓ **Sensitivity** This parameter determines the sensitivity of embedded motion detector algorithm.
- ✓ **Area of Detection** : Define the area ; 3 areas , each needs to be defined separately
- ✓ **E-mail Setting:** Configure the SMTP for sending out the captured image
- ✓ **FTP setting: Configure** the FTP for transferring the captured images
- ✓ **Server Action** : Invoke DO/send email/send ftp
- ✓ **Client Action** : Snapshot / Recording Setting

DIDO Setting

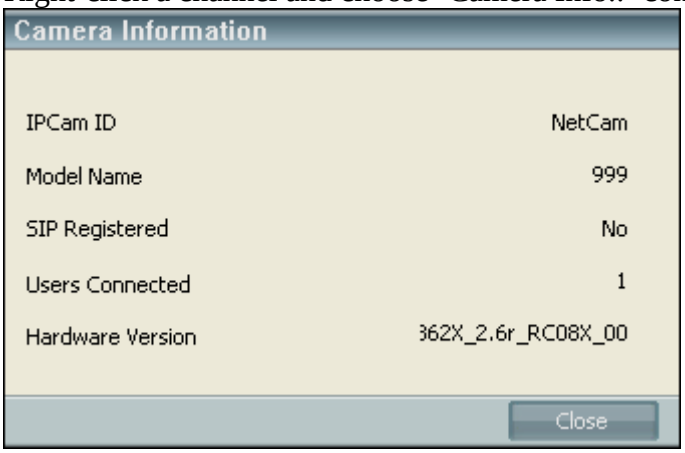
Right-click a channel and choose ‘DIDO..’ context in the menu.



- ✓ DI / **Enable**: ON/OFF for DI
- ✓ DI / **Type**: Rise Edge / Fall Edge for trigger mode.
- ✓ DI / **Server Action:** Define what action will be done if DI triggered.
- ✓ DO / **Type**: Normal open / Close open for action mode.

Camera Information

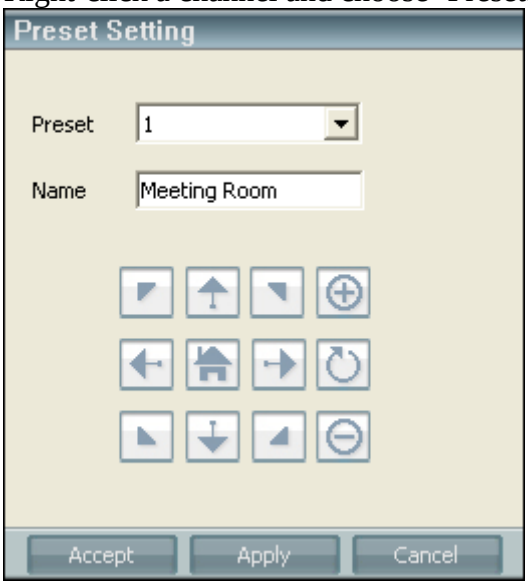
Right-click a channel and choose ‘Camera Info..’ context in the menu.



You can see some camera information in this popup window.

Preset Setting

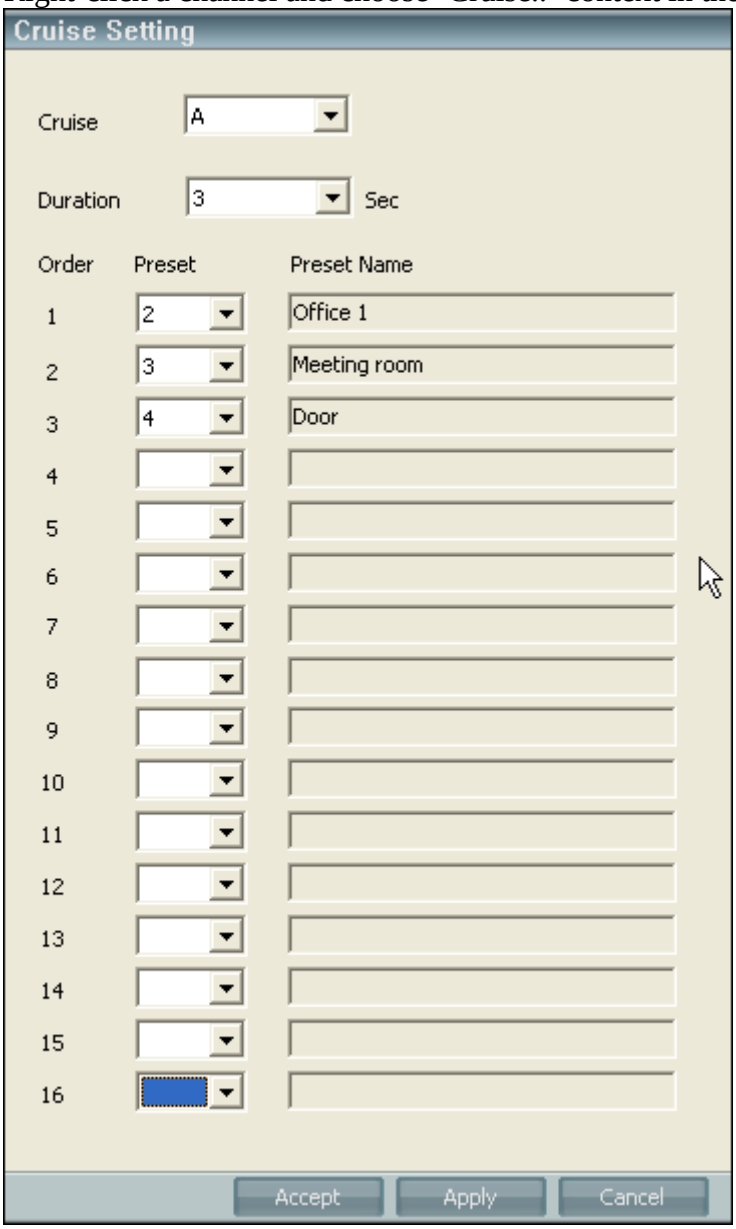
Right-click a channel and choose ‘Preset..’ context in the menu.



- There are 16 presets for users to do the presets.
- Click the drop list the preset and start the Preset Navigation adjustment (view angle and the focus adjust), the Preset Name can be also added in at this moment.
- To SAVE, please press the Accept button below or click another Preset to define next.
- Press the Apply to confirm the modification, or CANCEL to ignore that.

Cruise Setting

Right-click a channel and choose ‘Cruise..’ context in the menu.



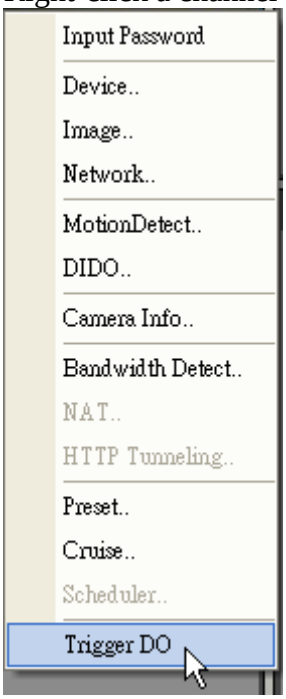
The way to define the cruise will count on a process which start with the cruise set (A, B, C, D and E)

The Duration here defines the pause time between 2 presets for users to watch/monitor the Preset more clearly.

The above snapshot defines the Preset 2, 3 and 4 for the Cruise A and the Duration time is 3 seconds. Press Apply to confirm the selection..

Trigger DO

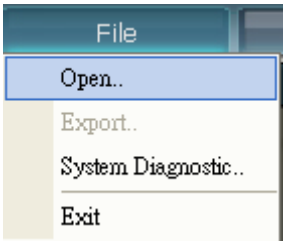
Right-click a channel and choose ‘Trigger DO..’ context in the menu.



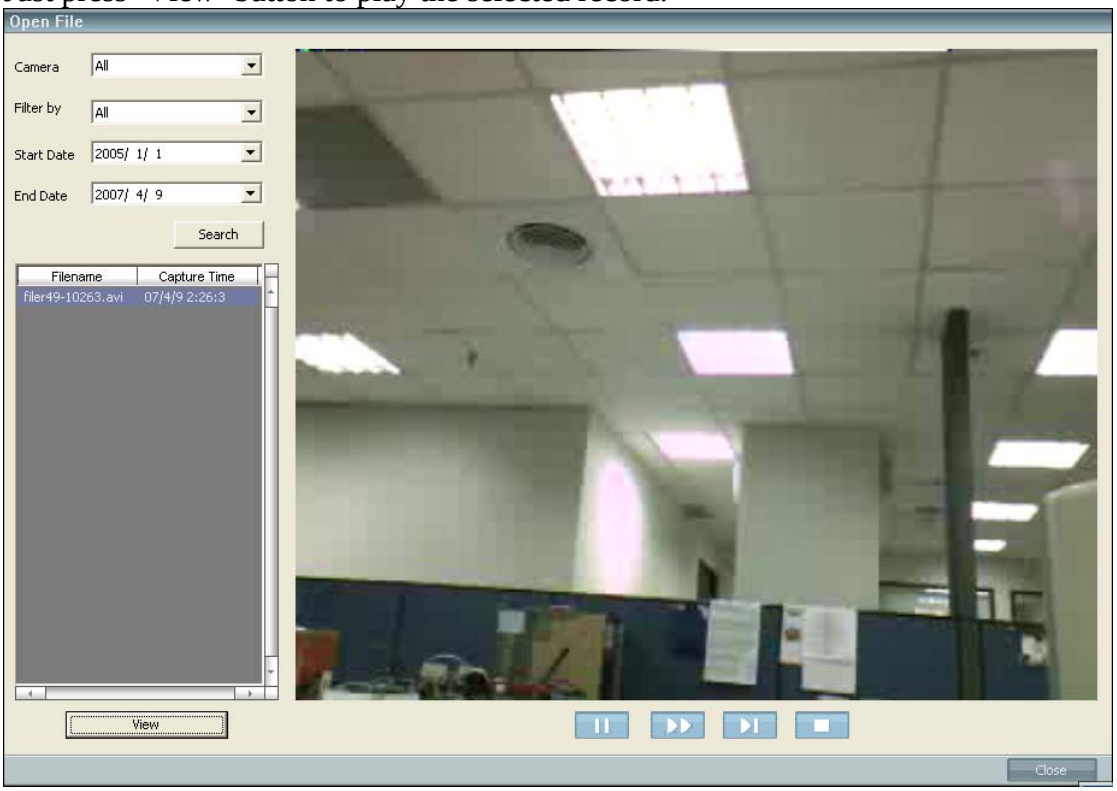
You can trigger DO device by clicking the menu text.

Open record files

Click Menu->File->Open…



You can filter records by camera, record type, and date.
Just press ‘View’ button to play the selected record.

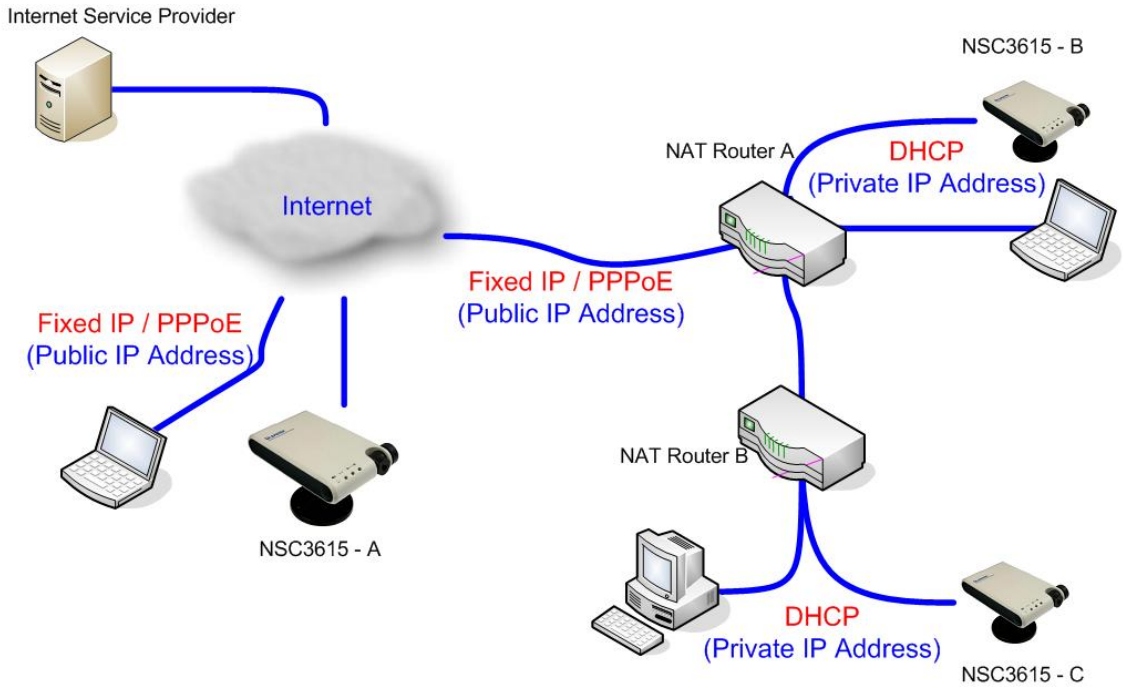


Using Camera with a Router

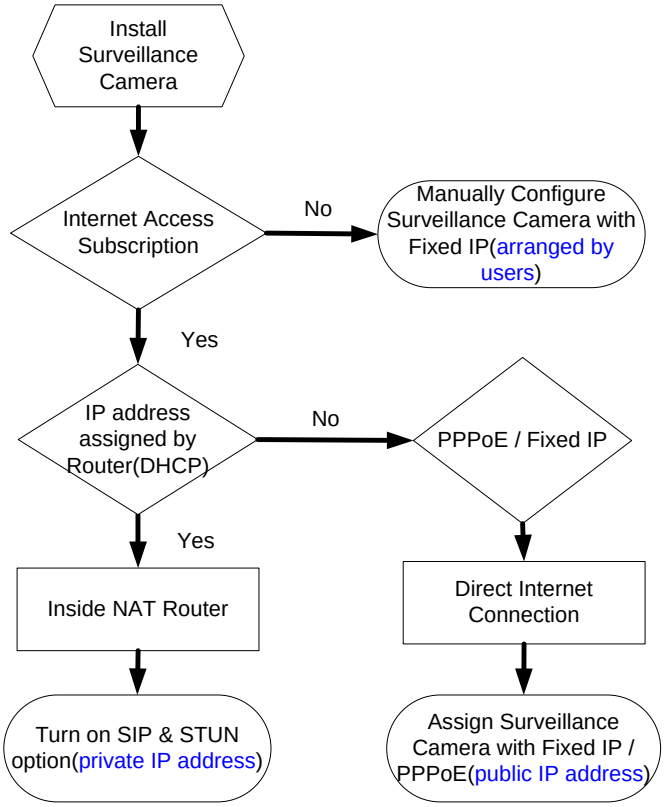
If users connect their own surveillance camera and / or PC to a router to access Internet, the router automatically assign IP address to each device. Those IP addresses assigned by the router are under private IP address range (depicted in the following figure).

Private IP address range:

- 10.0.0.0 - 10.255.255.255 : private IP address range
- 172.16.0.0 - 172.31.255.255 : private IP address range
- 192.168.0.0 - 192.168.255.255 : private IP address range
- 169.254.0.0 - 169.254.255.255 (DHCP link failure address setting)
- 0.0.0.0 : invalid IP address



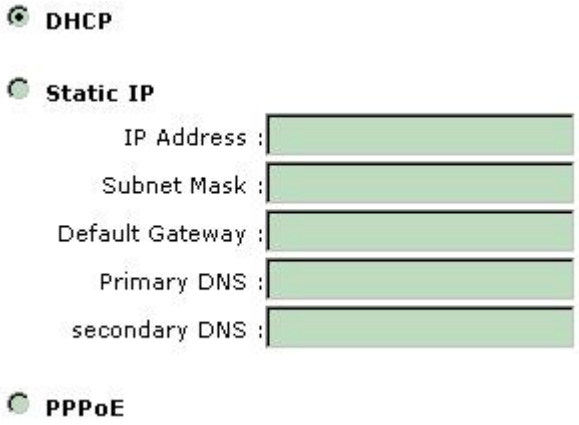
Follow up the flow chart and justify your Internet subscription from ISP. Three networking modes are deduced and proper IP address assignment should be given accordingly.



A. DHCP(private IP address):

Configure your surveillance camera with DHCP mode from web page **Network → IP**

Save and **reboot** your surveillance camera to make the setting effective.



Note: If you want to access your LAN(behind NAT router) from Internet, make sure your **STUN** and **SIP** option are both turned on(both Windows client and surveillance camera) in order pass media packets through routers.

Procedure to Turn on SIP and STUN Option:

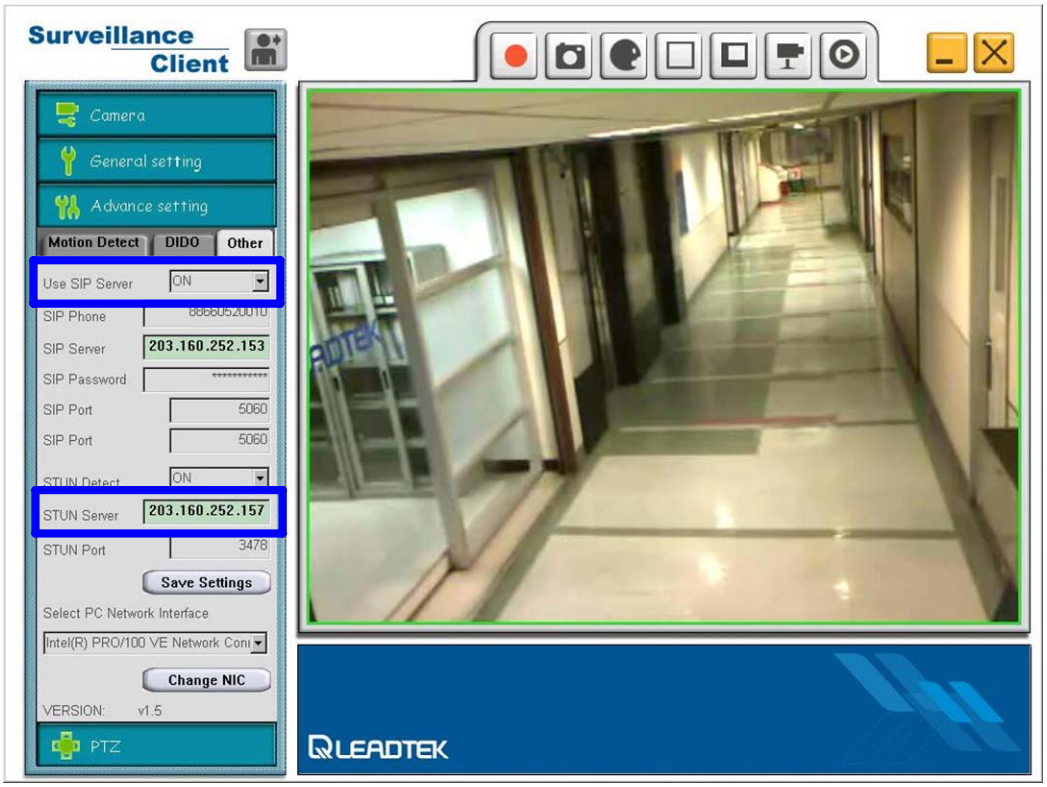
I. SIP and STUN Option on SMC:

SIP Option:

If you are making an SIP proxy connection to surveillance camera, make sure you have already configured SIP proxy setting of SMC itself. The SIP proxy setting can be modified from **Advance Setting → Other** . Make sure **Using SIP Server** option is **ON**. You need to restart SMC to make the new SIP proxy setting to be effective.

STUN Option:

From **Advance Setting → Other**, make sure **STUN Detect** is **ON**.



Note : For SIP Phone / SIP Server / SIP port / STUN Server / STUN Port parameter settings, you can contact VoIP service provider and subscribe a account to use. Please contact ipcamfae@leadtek.com.tw for further detail.

II. SIP and STUN Option in Surveillance Camera:

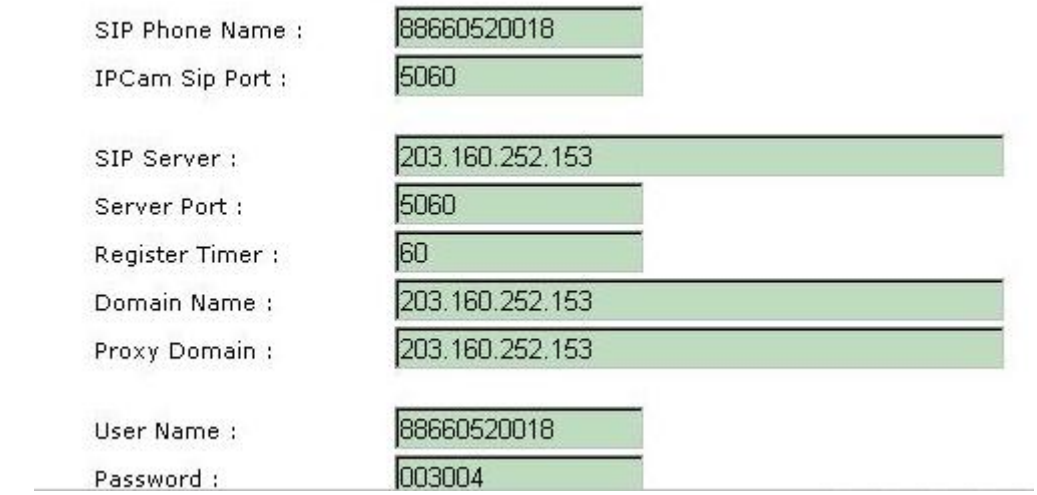
SIP Option:

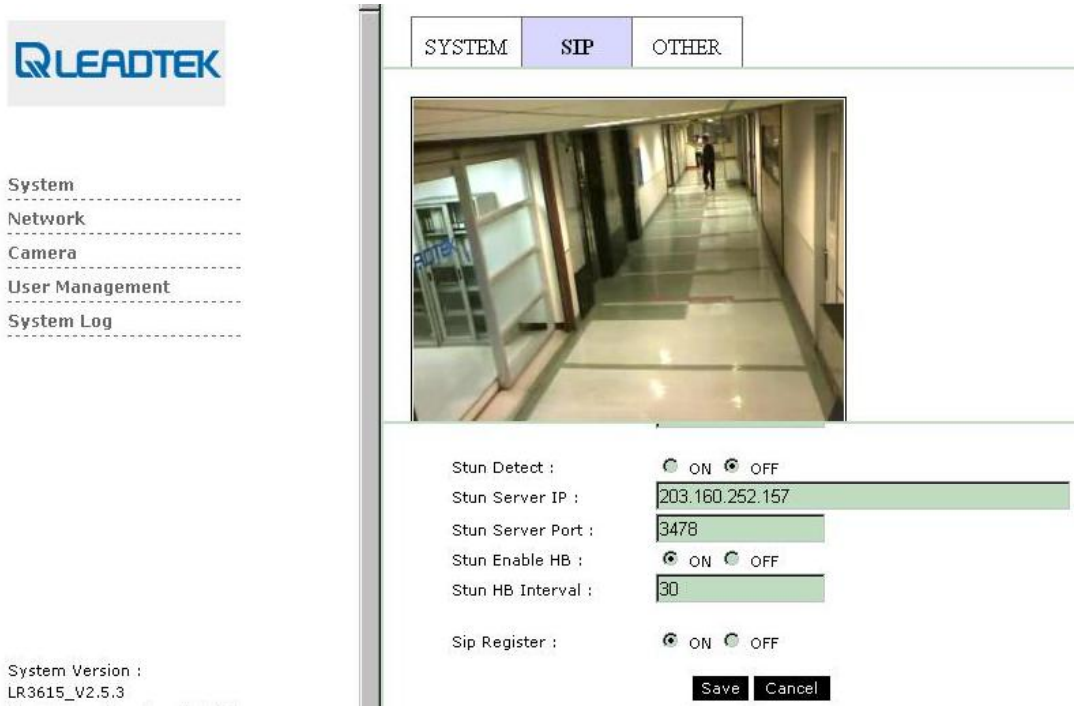
Log on to surveillance web page. From webpage **System → SIP**, ensure **Sip Register** option is **ON**.

STUN Option:

From webpage **System → SIP**, ensure **Stun Detect** option is **ON**.

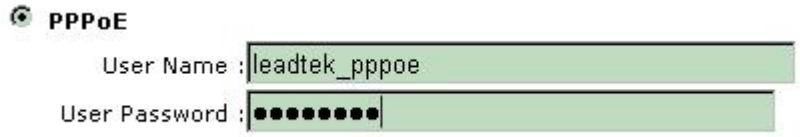
Note : For SIP Phone / SIP Server / SIP port / STUN Server / STUN Port / Stun Enable HB parameter settings, you can contact VoIP service provider and subscribe a account to use. Please contact ipcamfae@leadtek.com.tw for further detail. **The following snapshot is just an example setting for demo purpose only. You shall not input the setting to their own surveillance camera.**





B. Static IP or PPPoE(public IP address):

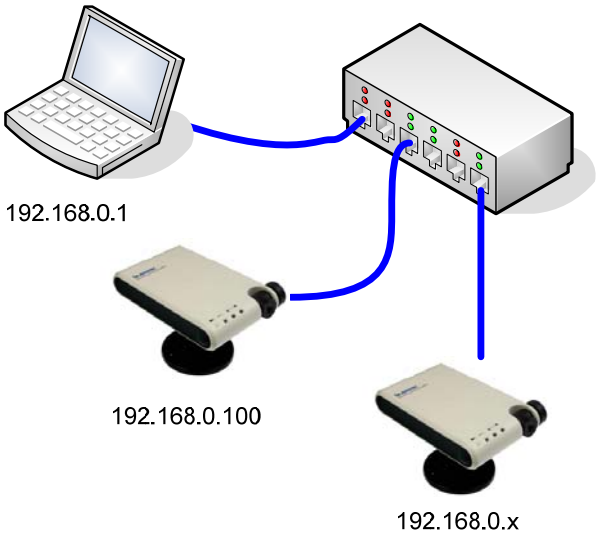
Fill the network **PPPoE** account/password provided by your ISP from web page **Network → IP. Save** and **reboot** your surveillance camera. Surveillance camera will boot up and dial-up to Internet with PPPoE account(a public IP address).



Note : The example snapshot is just an example. You shall input the setting of your PPPoE account given by your ISP.

C. Without Internet Access(arranged by users):

If you have no Internet access link, they can manually configure their networking device and make sure each device IP address is unique and is of a same subnet. The following network scenario is a quick example.



PC Setting:

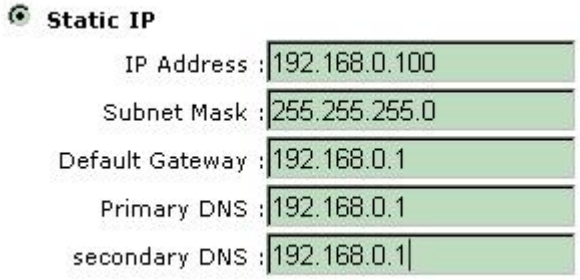
IP address : 192.168.0.1
Subnet mask : 255.255.255.0

Surveillance Camera Setting:

IP address : 192.168.0.100
Subnet mask : 255.255.255.0

Available IP address range : 192.168.0.2 ~ 192.168.0.254 (exclude 192.168.0.100)

From web page **Network → IP**

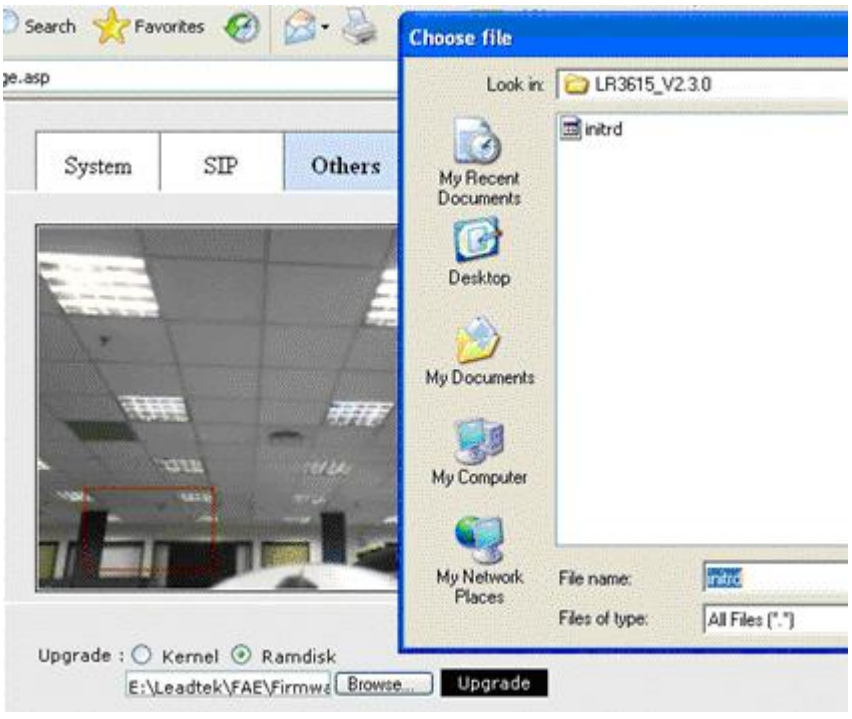

Static IP
IP Address : 192.168.0.100
Subnet Mask : 255.255.255.0
Default Gateway : 192.168.0.1
Primary DNS : 192.168.0.1
secondary DNS : 192.168.0.1

Firmware Upgrade

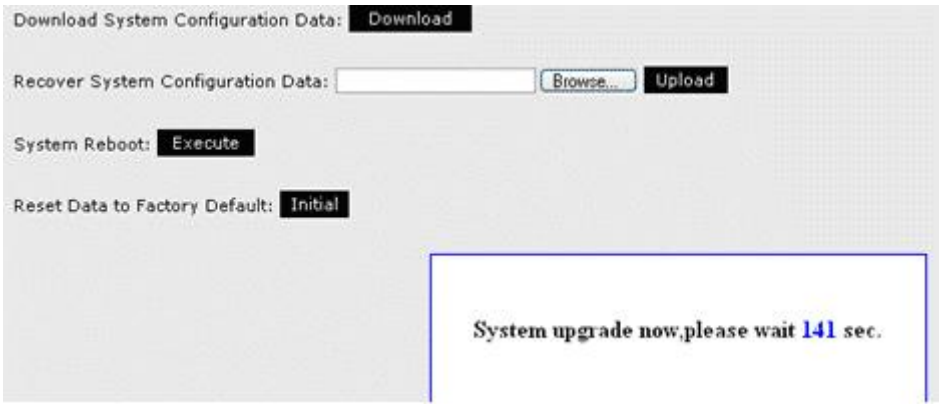
Surveillance camera firmware can be upgraded via Microsoft Internet Explorer. Prepare the firmware file and follow the procedure as the following:

1) Login on to web, and click **System** → **Others** page.

2) Ensure **Ramdisk** radio button is selected. Click **Browse** button to choose the firmware file and then click **Upgrade** button to kick start firmware upgrade procedure.



3) A message box pops up and a down counter shows the remaining time left of the whole upgrade procedure. The surveillance camera will reboot itself automatically when the upgrade procedure is done.



4) The surveillance camera rolls back its configuration to factory default when this procedure is done.

Note: Depends on firmware version to be upgraded, surveillance camera may reboot itself with factory default or maintain its original setting.

Note: Check the NSC3615 LED to ensure the surveillance camera reboot itself properly.

Frequently Asked Questions

Network Configuration

Category : IPCAM / Installation / General

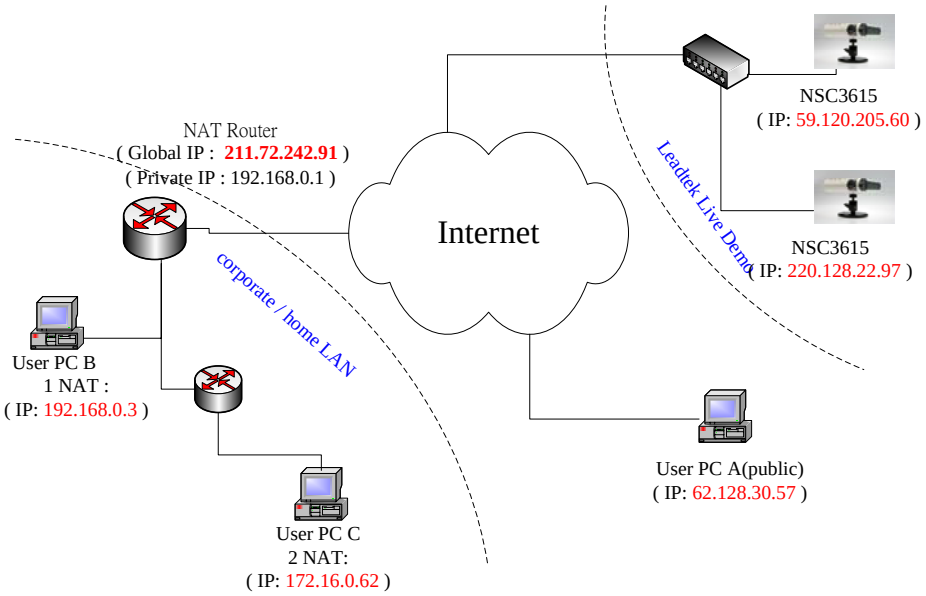
Question:

How can I determine my network setting / configuration ?

Answer:

You shall verify what kind of your user PC network access point are you in(public/private IP address).

The following figure is an example. Justify your network access point(User PC A /B/C)



If you do not know your IP address of PC / notebook, enter the command as the snapshot to find out:

```
C:\>ipconfig

Windows IP Configuration

Ethernet adapter 區域連線:

        Connection-specific DNS Suffix  . : leadtek.com.tw
        IP Address. . . . . . . . . . . . : 172.16.4.5
        Subnet Mask . . . . . . . . . . . : 255.255.254.0
        Default Gateway . . . . . . . . . : 172.16.5.254

C:\>
```

If the “IP Address” field displayed is included in the following range, your PC is located in a private LAN

Private IP address range:

- 10.0.0.0 - 10.255.255.255 : private IP address range
- 172.16.0.0 - 172.31.255.255 : private IP address range
- 192.168.0.0 - 192.168.255.255 : private IP address range
- 169.254.0.0 - 169.254.255.255 (DHCP link failure address setting)

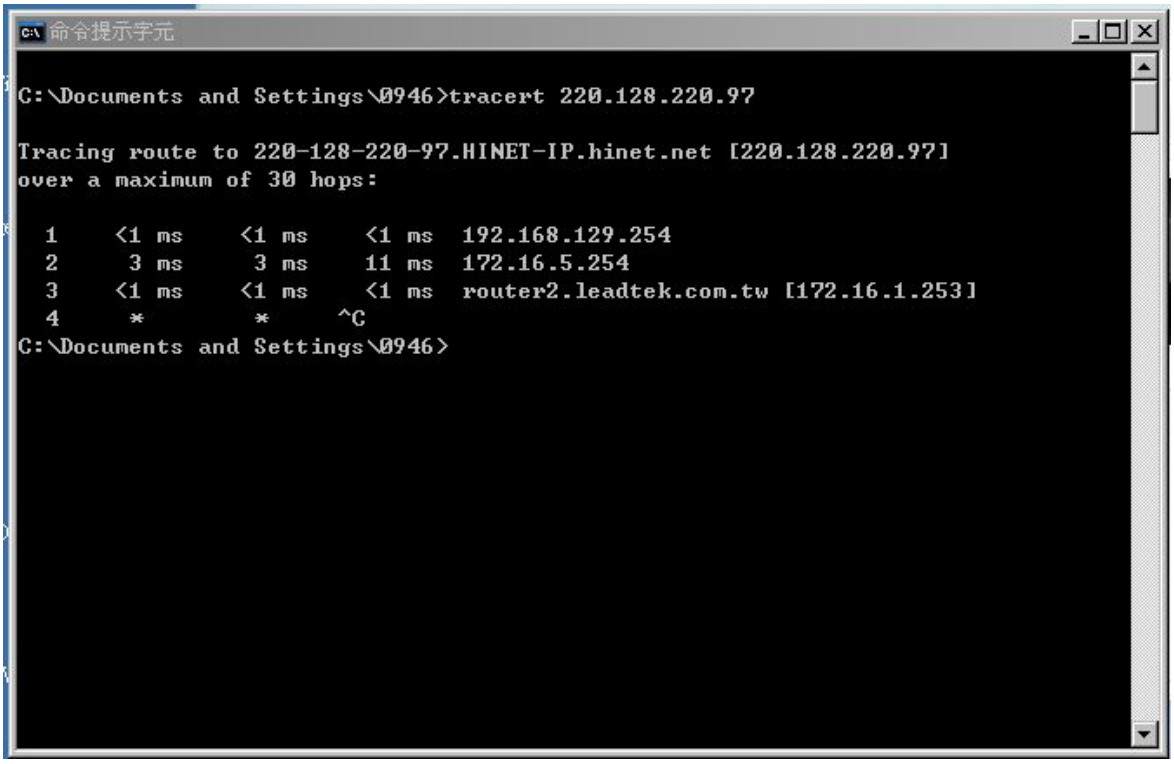
- 0.0.0.0 : invalid IP address

If you have direct Internet access(e.g. IP address 61.128.30.57) without an firewall or NAT router installed, you possibly can directly link to Leadtek IPCAM live demo site(IP address : 220.128.220.97, etc on the figure above) and get a real-time live view.

From dos shell command, you can input “tracert” command and see how your packet goes to Internet. Take our IPCAM Internet live demo as an example, you can find out how many router hop are there and thus learn your network configuration.

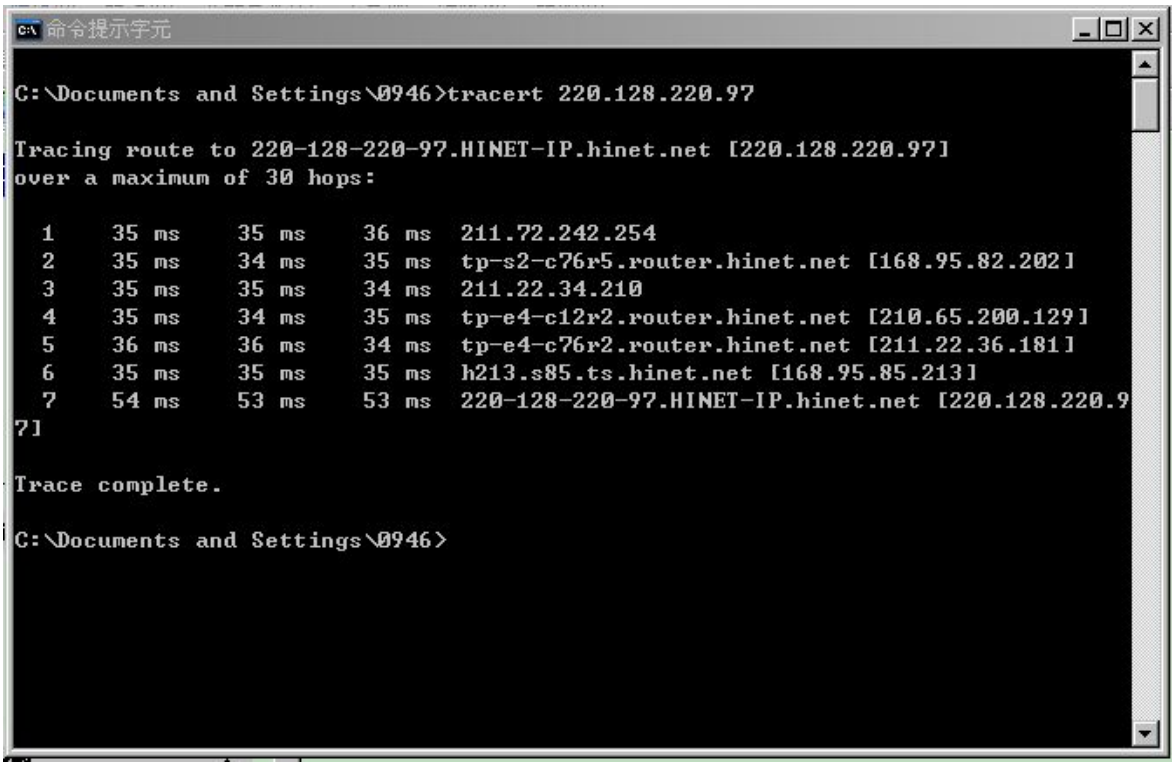
3 Router to Internet Case

Local PC → 192.168.129.254(Router 1/private IP address)
→172.16.5.254(Router 2/private IP address)
→172.16.1.253(Router 3/private IP address)→ …



Direct Internet Connection Case

Local PC → 211.72.242.254(Router 1/public IP address)
→168.95.82.202(Router 2/public address) → …


命令提示字元
C:\Documents and Settings\0946>tracert 220.128.220.97
Tracing route to 220-128-220-97.HINET-IP.hinet.net [220.128.220.97]
over a maximum of 30 hops:
1 35 ms 35 ms 36 ms 211.72.242.254
2 35 ms 34 ms 35 ms tp-s2-c76r5.router.hinet.net [168.95.82.202]
3 35 ms 35 ms 34 ms 211.22.34.210
4 35 ms 34 ms 35 ms tp-e4-c12r2.router.hinet.net [210.65.200.129]
5 36 ms 36 ms 34 ms tp-e4-c76r2.router.hinet.net [211.22.36.181]
6 35 ms 35 ms 35 ms h213.s85.ts.hinet.net [168.95.85.213]
7 54 ms 53 ms 53 ms 220-128-220-97.HINET-IP.hinet.net [220.128.220.97]
Trace complete.
C:\Documents and Settings\0946>

SIP Configuration

Category : SMC / Configuration / General

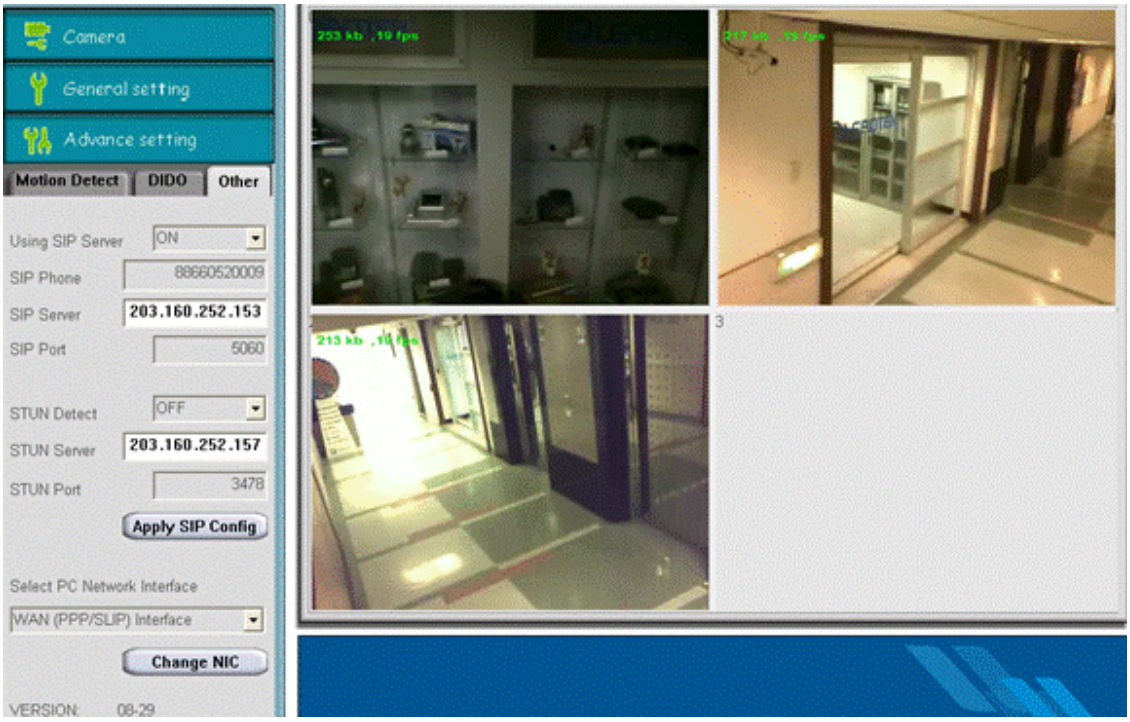
Question:

How to verify SIP connection mode for A/V transmission in NSC3615(Peer-to-peer or SIP proxy) ? How do I configure SIP connection mode on SMC?

Answer:

SMC supports 2 mode of SIP connection, i.e. peer-to-peer or via SIP proxy. A SIP phone number shall be pre-configured before make the SIP call to IPCam server. For a peer-to-peer mode, the IP address of target IPCam shall be designated before launching IPCam connection.

If you are making an SIP proxy connection to IPCam server, make sure you have already configured SIP proxy setting of SMC itself. The SIP proxy setting can be modified from “Advance Setting” →”Other” Make sure “Using SIP Server” option is “ON”.
You need to restart SMC to make the new SIP proxy setting to be effective.



Motion Detection

Category : SMC / Operation / General

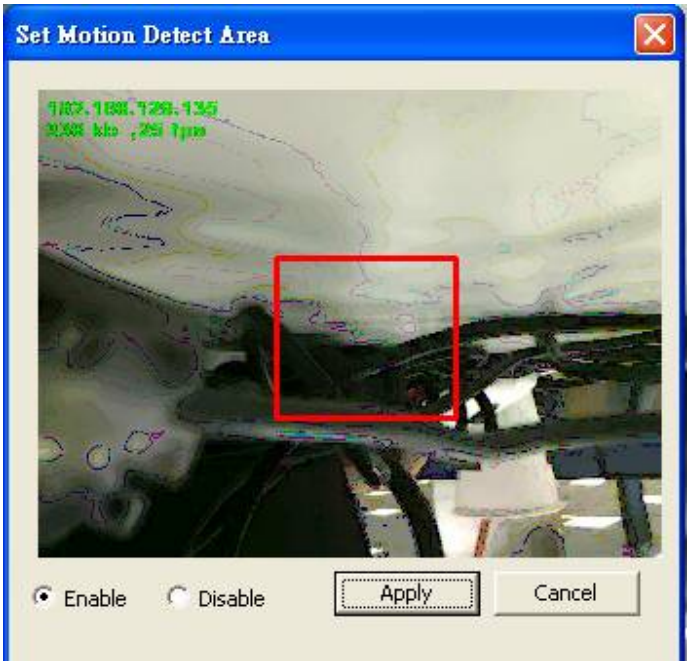
Question:

How do I configure the Motion Detection of IPCAM ?

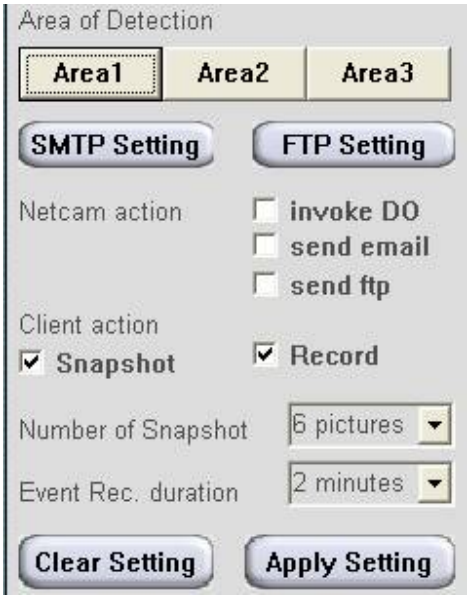
Answer:

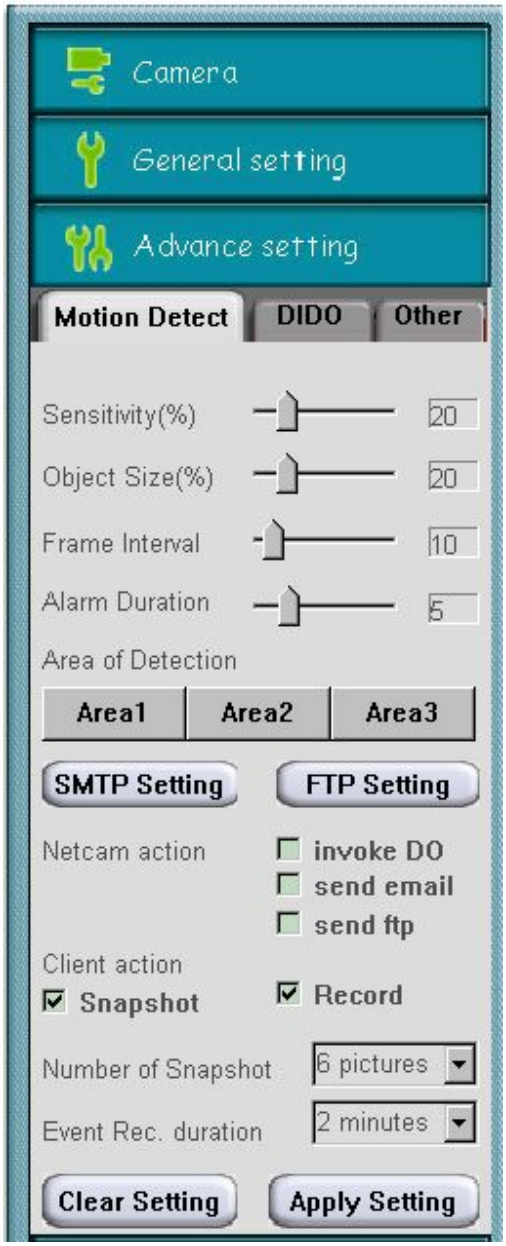
Configure motion detection from “Advanced Setting”→”Motion Detection”→”Area 1”

Use the mouse to make the selection of motion detection block and apply the “Enable” radio button.



The rest of the setting determines what actions will be taken by SMC(snapshot, record) or IPCam device(send snapshot by email or FTP, trigger DO) when motion alarm triggered.





Four parameters (Sensitivity / Object Size / Frame Interval / Alarm Duration) need to configured before turning on the motion detection function.

- Sensitivity:

This parameter determines the sensitivity of embedded motion detector algorithm. The higher the value, the more sensible to the motion object change.

- Object Size:

This parameter determines the pixel change percentage of motion interest area. If more pixels(vs configured value) are justified and declared as changed by embedded motion detector algorithm, motion is reported by the device.

- Frame Interval:

The frame interval check the number of required video frames in a row to confirm the motion condition. The smaller the value, the higher motion probability.

- Alarm Duration:

The “Alarm Duration” parameter specifies period of interval to start next motion detection. If one motion event is confirmed and declared, it is required to wait for the time specified by “Alarm Duration” so that the next motion event can be start to detect.

The motion detection parameters are configured via Windows client SMC. The surveillance camera will save the setting in its own permanent storage and start performing the motion monitoring task. The parameters will be still effective after a device reboot.

Video Quality Setting

Category : SMC / Configuration / General

Question:

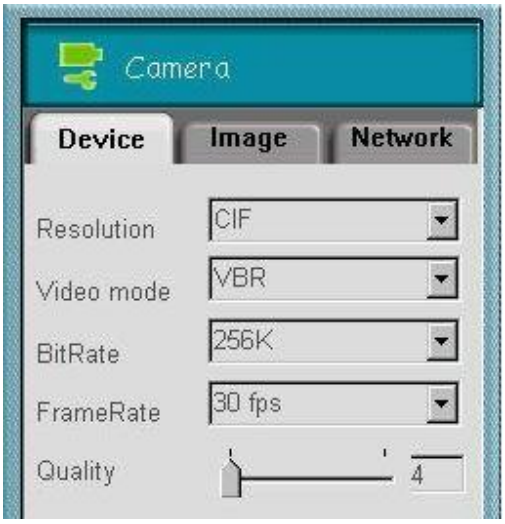
How can I configure the IPCAM to get the best of video quality ? What factors may dominate the video quality of IPCAM performance ?

Answer:

The following configurable parameters have dominant effects on user video quality feeling:

- Video Resolution
- Video Mode
- Bit Rate
- Frame Rate
- Quality

Those parameters are closely linked and there is a tradeoff between setting of each parameters. For example, there is no guaranteed setting to satisfy user (Bit Rate, Frame Rate, Quality) setting under desired video resolution. The final effect also needs to take complexity of live image coding into account. For example, a big scene change will take more bitstream to reconstruct the image frame and thus more network bandwidth is required.



1) Video Resolution:

The actual video resolution configured determines the viewable image delivered by the surveillance camera.

CIF : 352 x 288
QCIF : 176 x 144
VGA : 640 x 480

QVGA : 320 x 240
D1 : 702 x 480

The higher resolution configuration makes surveillance camera codec engine to pump out more bitstream data for reconstruction of image frame in Windows client.

2) Video Mode

Leadtek surveillance camera supports 2 video mode for rate control, i.e. Variable Bit Rate (VBR) and Constant Bit Rate(CBR). The VBR setting honors the frame rate and quality setting and thus pump out as much as bitstream to satisfy those 2 parameter setting(frame rate , quality). As dramatic scene change in surveillance camera side, you will observe the running video bit-rate is going up(mostly out of user bit rate control) to maintain the better frame rate and quality setting. The CBR setting honors the bit rate setting and thus frame rate and quality setting are sacrificed to maintain the consistent network bandwidth usage.

3) Video Bit Rate

The video bit rate describes / places an upper bound limit on how much video bitstream will be generated by codec engine. This parameter is cross-related to video mode setting. Please also refer to video mode setting for details.

4) Frame Rate

The frame rate parameter describes / places an upper bound limit on how much video frame per second are generated by surveillance codec engine. The actual frames received in Windows side may be lower than user's configuration due to network packet loss, congestion , computing power of PC and etc.

5) Video Quality

The quality parameter describes the quantization level of MPEG-4 macro block. User may observe the block / mosaic effect of video image if the parameter setting is high. The lower the video quality value the finer block will be observed on image reconstruction.

Configuration Setting:

Video Resolution / Video Mode / Bit Rate / Frame Rate / Video Quality
Scene without moving object

- CIF / VBR / 256 k / 30fps / 4

Running bitrate 214 k/ 28 fps

- CIF / VBR / 256 k / 30fps / 31

Running bit rate 138k / 28 fps

The blocked image will be observed on the image.

Scene with moving object

- CIF / CBR / 256 k / 30fps / 4

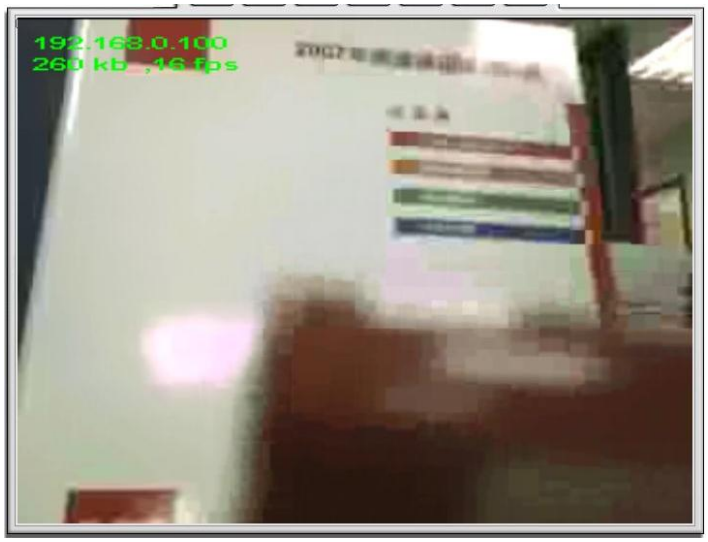
Running bit rate 284k / 8fps

The actual running frame rate is lower than 30 fps due to the constraint of available network bandwidth.

- CIF / CBR / 256 k / 30fps / 31

Running bit rate 260 k / 16 fps

The video quality is lower and thus the network bandwidth requirement is less. The side effect of this is the poor video quality (mosaic effect on moving object)



- CIF / VBR / 256 k / 30fps / 4

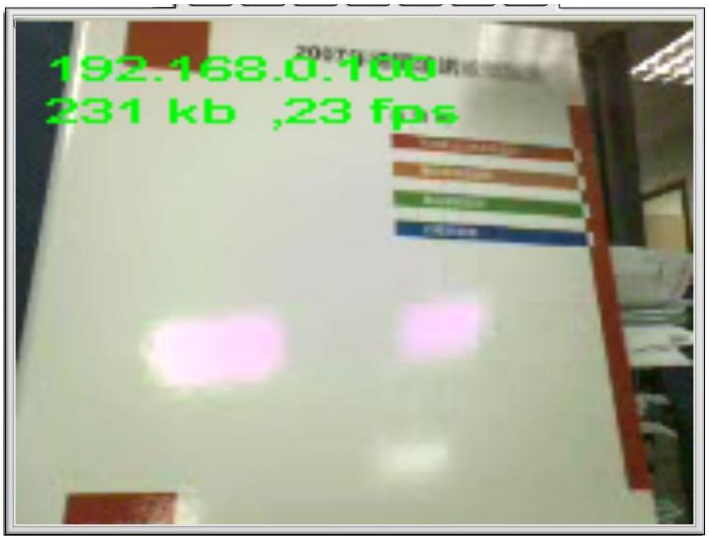
Running bit rate 926 k / 28 fps

The VBR setting ensures a better video quality and thus over bandwidth traffic is the result.

- QCIF / CBR / 256 K / 30fps / 4

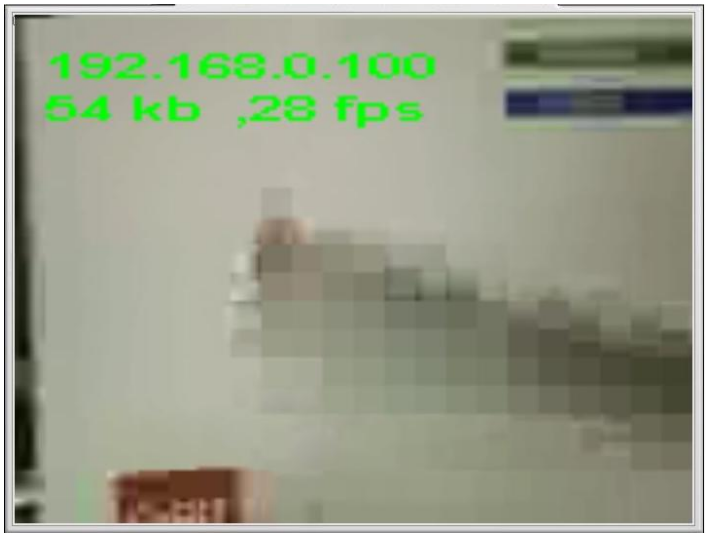
Running bit rate 231 k / 23 fps

The viewable region is less than CIF and network usage is also less.



- QCIF / CBR / 256 K / 30fps / 31

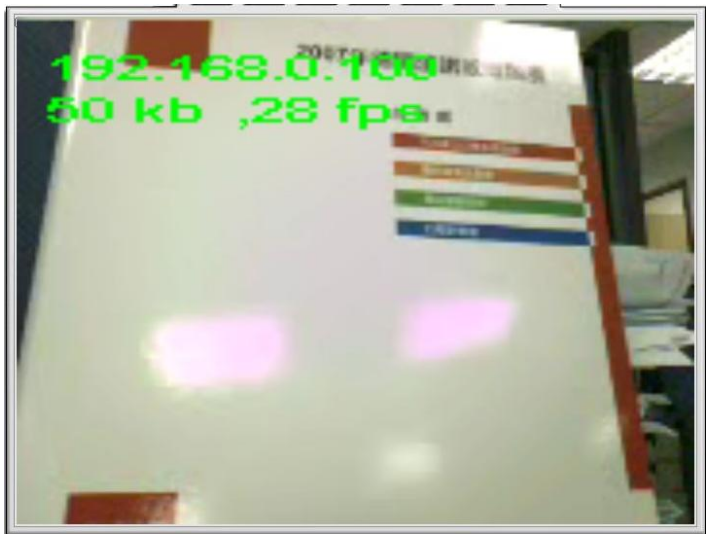
Running bit rate 54 k / 28 fps



- QCIF / VBR / 256 K / 30fps / 4

Running bit rate 50 k / 28 fps

The actual network bandwidth usage is less due to QCIF resolution.



- QCIF / VBR / 256 K / 30fps / 31

Running bit rate 59 k / 28 fps

The poor video quality setting make the text a little fuzzy.

Bandwidth Usage

Category : IPCAM / Connection / General

Question:

What's the network bandwidth requirement of each IPCAM connection? How can I estimate or configure the video parameters to get a better video quality and performance ?

Answer:

If you have an ADSL network connection to surf the internet, please ensure your available bandwidth before configure you surveillance camera video quality parameters.

The bit rate configuration in surveillance camera shows how much network bandwidth is reserved for each client connection.

For example, your ADSL network bandwidth is 512K/1M. The surveillance camera is installed in your home. That means your upstream bandwidth is 512kbps for your surveillance camera. Ensure your surveillance camera video mode is CBR so that you can better estimate the network usage. The surveillance camera will not run over your ADSL bandwidth capacity. If your video mode configuration is VBR, the surveillance camera may pump out more than what your ADSL line can afford. The packet loss will occur and poor video quality will be observed in Windows client side.

Case 1 : surveillance camera video parameter setting:

i) CIF / CBR / bit rate 256 k
ii) 3 active client connections on the go

bottom line video bandwidth usage will be 256 k * 3 = 768 k
If G.711 audio codec is also enabled for each connection, an extra 64k for each connection shall be included in final bandwidth usage.

(Video 256k + audio 64k) * 3 = 960 k

Dynamic Domain Name Service

Category : IPCAM / Configuration / General

Question:

How can I find out IPCAM IP address if I my IPCAM connect to Internet via PPPoE mode?

Answer:

Please subscribe an account from www.dyndns.org and use the DDNS client service in NSC3615 . You shall be able to use the registered domain name to visit your NSC3615.

Configure the DDNS setting from webpage “Network” →”DDNS”

DDNS Client Enable :

Enable or disable the usage of DDNS client function. If this function is enabled, users can access the device by FQDN specified by the registered DDNS Alias bellows.

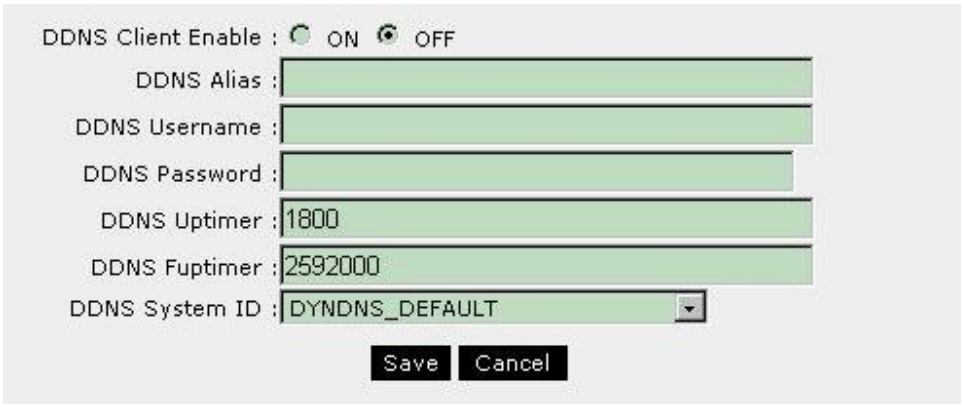
DDNS Alias :

the dynamic domain name used for your registration from www.dyndns.org

DDNS Username :

Account username subscribed from registered DDNS alias name
DDNS Password :

Account password subscribed from registered DDNS alias name


DDNS Client Enable : ON OFF
DDNS Alias :
DDNS Username :
DDNS Password :
DDNS Uptimer : 1800
DDNS Fuptimer : 2592000
DDNS System ID : DYNDNS_DEFAULT
Save
Cancel

Factory Default Setting

Category : / IPCAM / Installation / NSC3615

Question:

What's the factory default setting of NSC3615? How can I reset NSC3615 to factory default ?

Answer:

- NSC3615 Factory Defaut Setting:

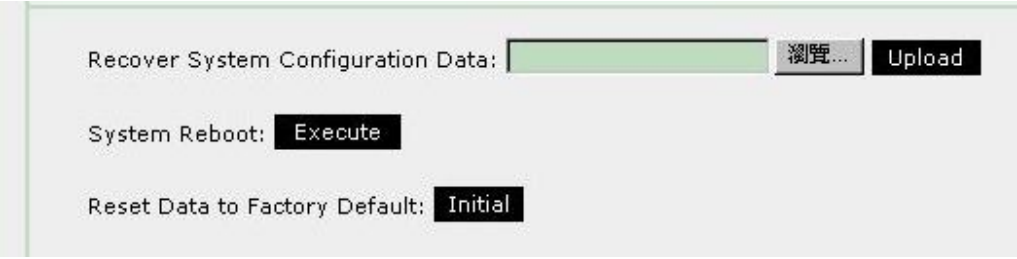
Fixed IP mode :
IP address : 192.168.0.100
Subnet mask : 255.255.255.0

Default admin account :
Username : admin
Password : admin

- Roll back to Factory Default

By Webpage :

Use IE and login to IPCam server. Follow the instructions shown below:
Webpage : System→Others→Reset Data to Factory Default



By Hardware push button :

Push the button underneath(marked “Restore Default”) the pinhole at the bottom of NSC3615 case.

Version Information

Category : IPCAM / Installation / General

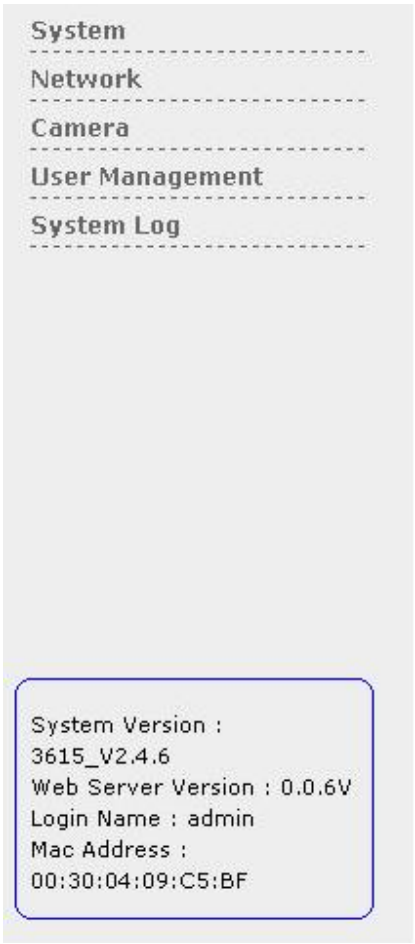
Question:

How can I find out NSC3615 firmware version information and ethernet MAC address?

Answer:

1) log on to web server

2) Refer to left-hand side of main webpage as shown belows



Video Decoder Plug-in

ActiveX Control Download

Category : IPCAM / Operation / General

Question:

How do I know the video NSC3615 video decoder is not installed in my local PC ?

Answer:

If the local PC does not install SMC software or video decoder is not installed in the PC, the IE will pop up the message and ask user to download the ActiveX control for the very first time.

ActiveX Control Download Indication :

A) *When a red cross appeared at the top-left hand corner of the ActiveX viewer(IE), what can I do?*

i) Make sure your local PC specification meets the bottom line requirement of SMC

ii) Go to browser's Internet options→under Security tab→Internet→Custom Level. Set the security level to Medium-High (default) and check settings for ActiveX control and plug-ins, make sure none is disabled, change them to "Prompt". Close the IE browser, and refer to IPCam webpage again.

If there is still a red cross appeared at the top-left hand corner of the activex viewer, verify 2 system files are installed in local PC(msvcp71.dll, msvc71.dll in c:\windows\system32 folder).

B) *while opening the webpage, a banner appeared on the top of the page saying the browser had blocked the unsafe component, what can I do?*

i) Right-click on the banner, and select the option to unblock it.

ii) If the unblock option does not exist, go to browser's Internet options → Security tab→ Internet → Custom Level. Set the security level to Medium-High (default) and check settings for ActiveX control and plug-ins, make sure none is disabled, change them to "Prompt". Close the browser, and re-open the page.

C) when no image is coming through, what can I do?

i) Make sure your IPCam is in the same subnet as your local PC.

ii) Make sure your firewall and port-blocking antivirus programs are turned off.

iii) Go to the Start Menu, Run dxdiag, click on the Display tab, make sure DirectX is enabled(DirectX9).

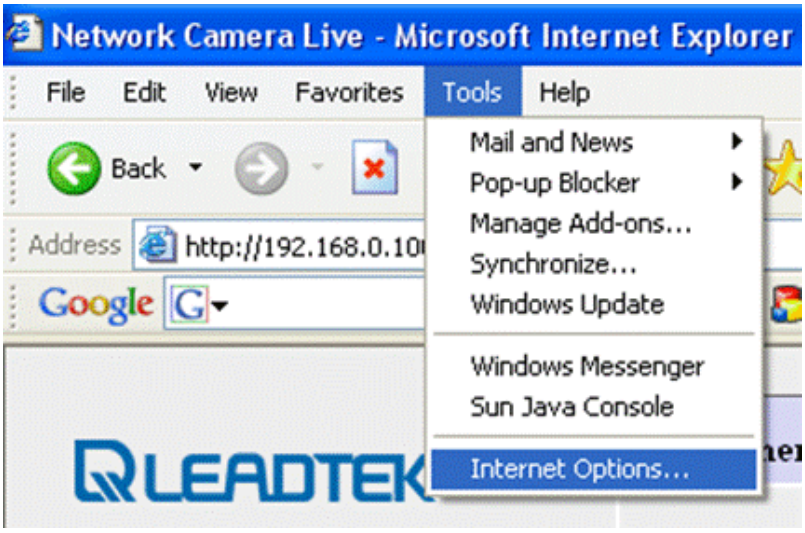
Remove Old ActiveX Controls

Category : IPCAM / Operation / General

Question:

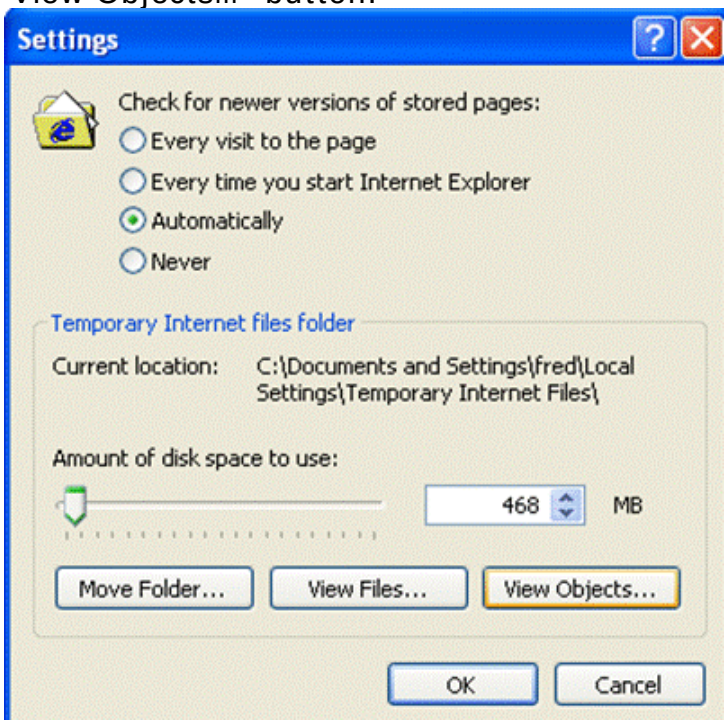
How do I uninstall the old video decoder of NSC3615 ?

1. Launch Internet Explorer and Click “Internet Options…”

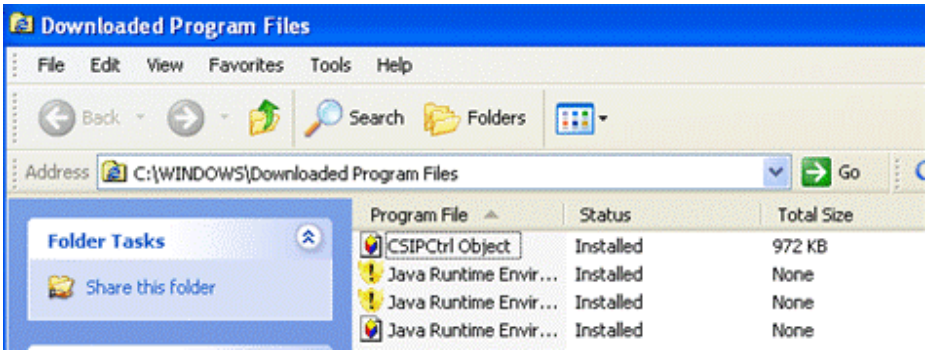


2. Click “Setting…” button.

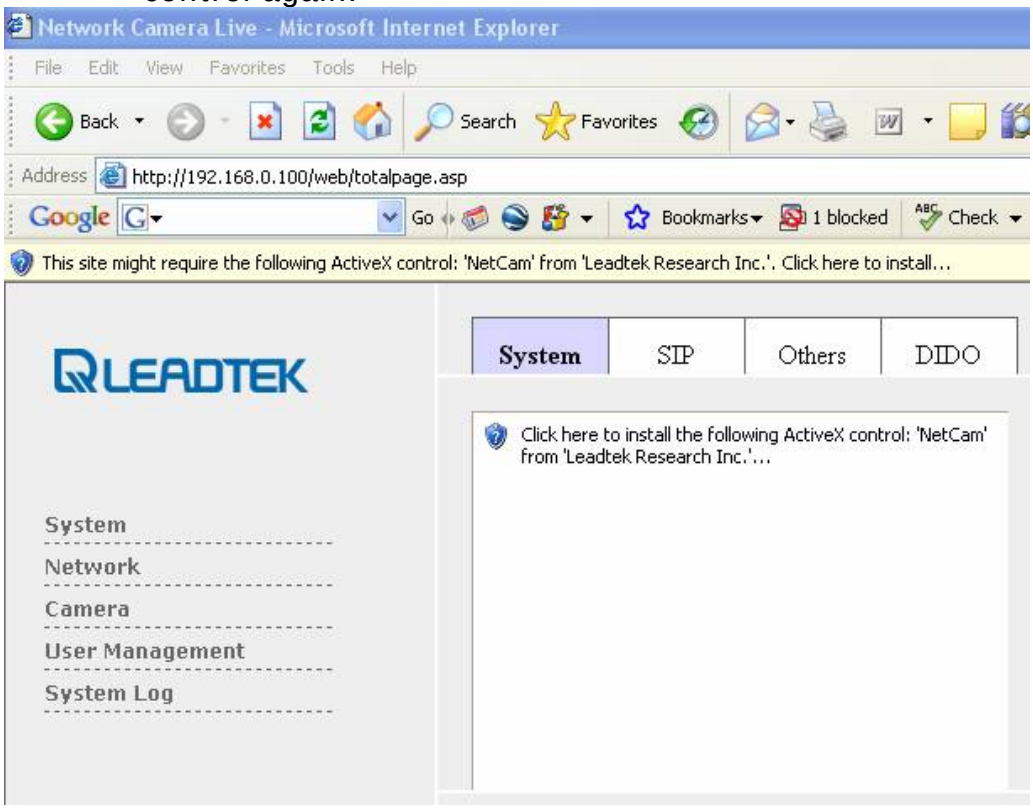
3. Click “View Objects…” button.

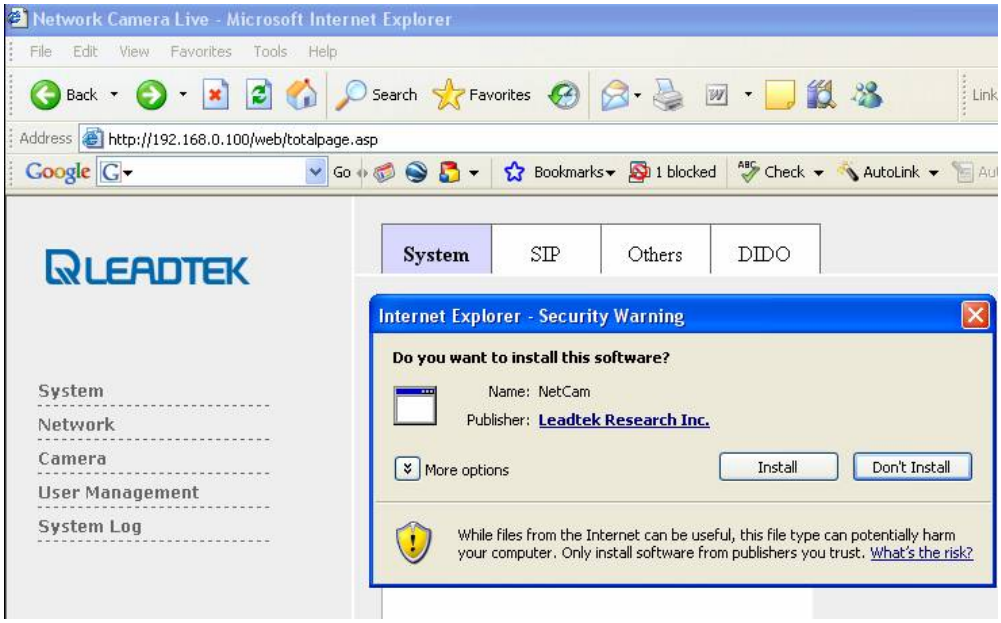


i. Select the item “CSIPCtrlObject” and press “delete” key.

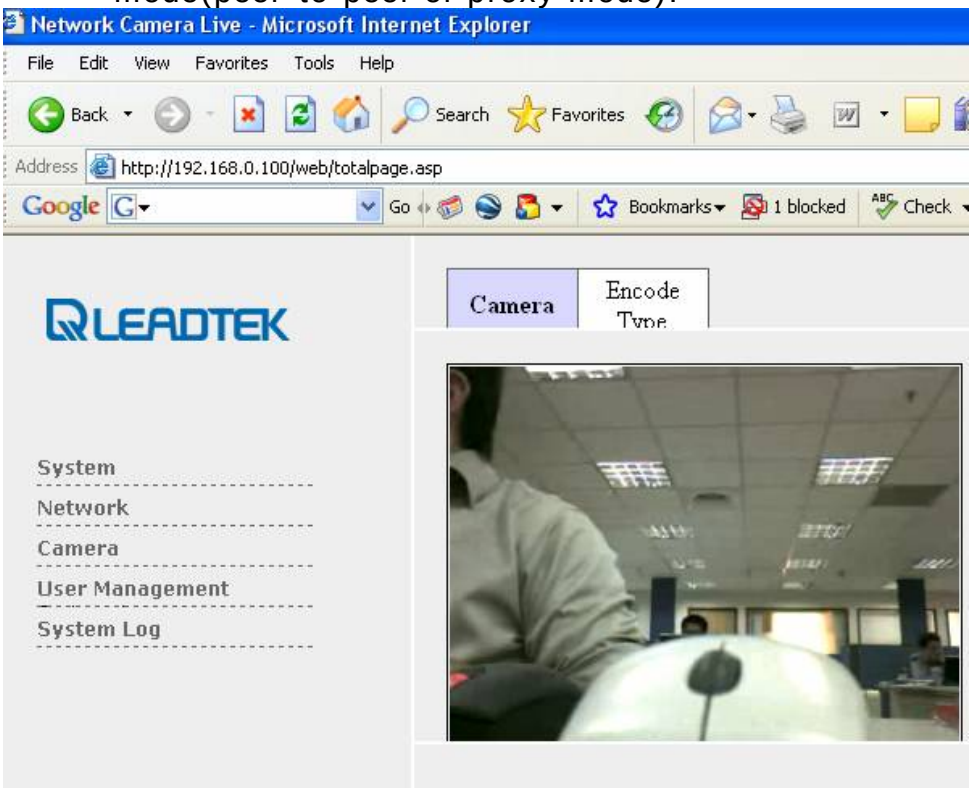


ii. Restart IE and Login to web again, then you will be asked to install a new ActiveX. Answer “Yes” to download ActiveX control again.





iii. Check your webpage setting and clarify the SIP connection mode(peer-to-peer or proxy mode).



Bandwidth Configuration

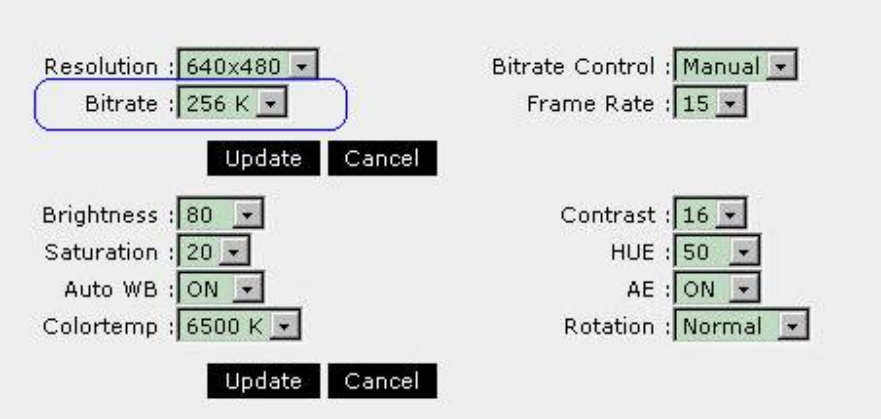
Category : IPCAM / Connection / General

Question:

What's the network bandwidth usage in IPCAM? How do I configure IPCAM bandwidth setting properly?

Answer:

You can control the network bandwidth of each connection by web page. Please refer to webpage "Camera" and set the "Bitrate" option. This option will place an upper limit on video codec rate control. For example, a Windows client connection with audio(G.711A) and video as the following example. The network bandwidth usage of that connection is around 320K(i.e. 256K + 64K) . If 10 client connections to IPCam server are made, there shall be 10*320 K network bandwidth available. Otherwise, the packet loss or traffic congestion will be occurred. Ensure your available network bandwidth before setting the bandwidth to the proper value to gain the best network performance.



SIP Connection Mode

Category : IPCAM / Configuration / General

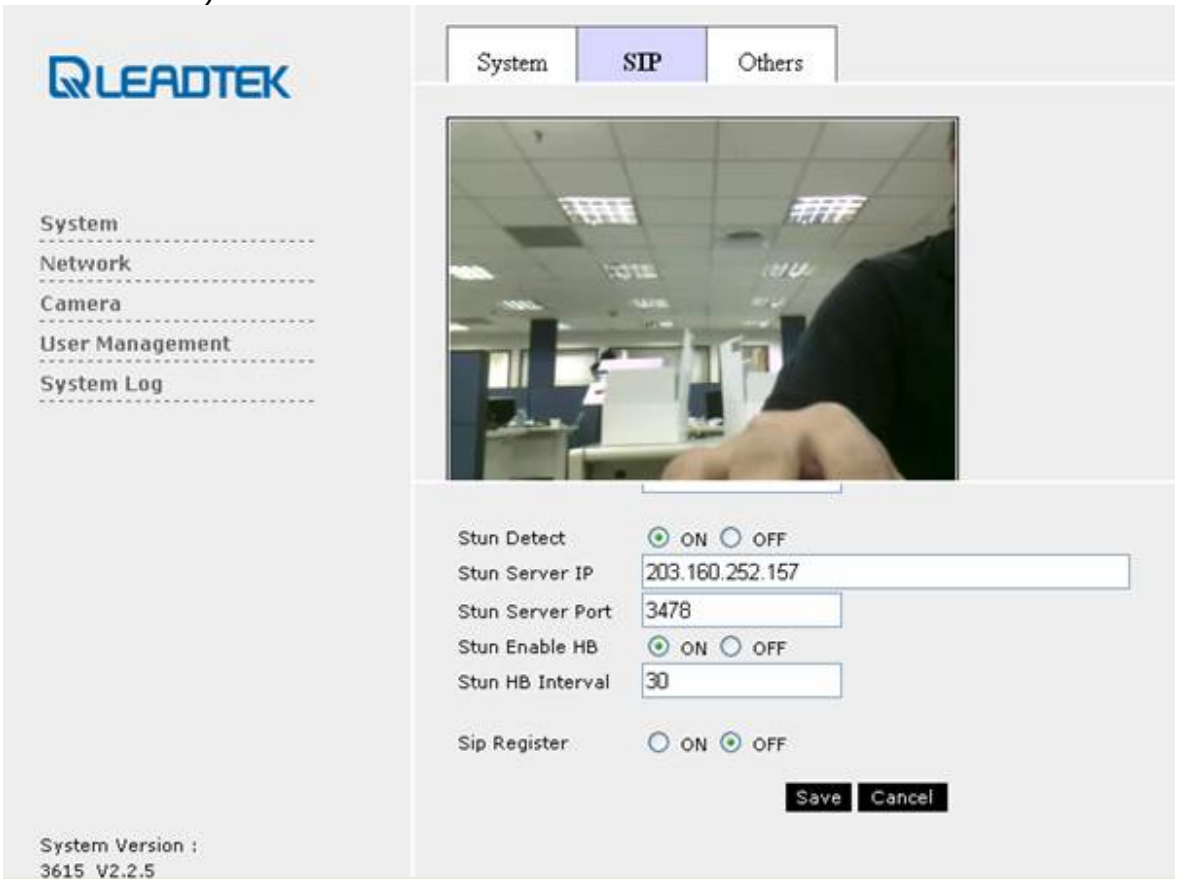
Question:

How do I configure NSC3615 SIP connection mode on web?

Answer:

1) peer-to-peer

Ensure the SIP configuration : SIP Register is OFF (Select OFF and Press “Save”)



2) SIP Proxy Mode

Ensure the “SIP Register” option is “ON” and also check SIP Server IP address, SIP port configuration are proper.

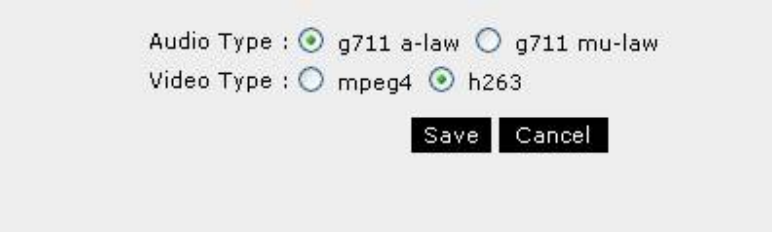
Codec Select

Category : IPCAM / Configuration / General

Question:

Can I select audio / video codec used in NSC3615? How to do it?

Answer:

NSC3615 supports multiple audio / video codec type. The default setting is G.711A(audio) and H.263(video). The Codec configuration can be reconfigured from Camera→Encode Type

Remember to reboot the device so that new codec setting will be effective.