

**User's Manual**  
**H.264 Series 2-Megapixel**  
**Network Camera**  
**ND614/ND614E**



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# Notices

This user manual is intended for administrators and users of the ND614 Series Network Camera, including instructions for using and managing the camera on your network. The use of surveillance devices may be prohibited by law in your country. It is the user's responsibility to ensure that the operation of such devices is legal before installing this unit for its intended use.

Before the Network Camera is installed, all the safety and operating instructions should be carefully read and followed to avoid damage due to faulty assembly and installation. This also ensures the product is used properly as intended.

## Heed all warnings

- **Do not drop or strike this equipment**  
Sensitive electronics inside the camera are vulnerable to excessive strike.
- **Do not install the equipment near any flames or heat sources**  
Excessive heat could damage this equipment.
- **Do not cover cloth or to install this equipment in poorly ventilated places.**  
Overheating could damage this equipment.
- **Do not expose this equipment to rain or moisture. Do not touch the power connection with wet hands**  
Risk of short circuit, electric shock or fire
- **Do not damage the power cord or leave it under pressure**  
Risk of fire or shock circuit
- **To reduce the risk of electric shock, do not remove the Cover (or Back).**  
No user-serviceable parts inside. Misusage, improper, and negligence could damage this equipment. Need to refer servicing to qualified service personnel.
- **Do not continue to operate if there appears to be fault.**  
If the unit ceases to function, contact qualified service personnel for help.
- **All work related to the installation of this product should be made by qualified service personnel or system installers.**

# Introduction

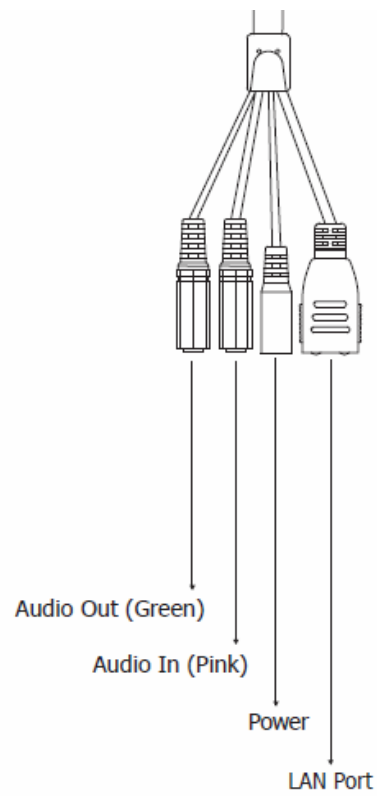
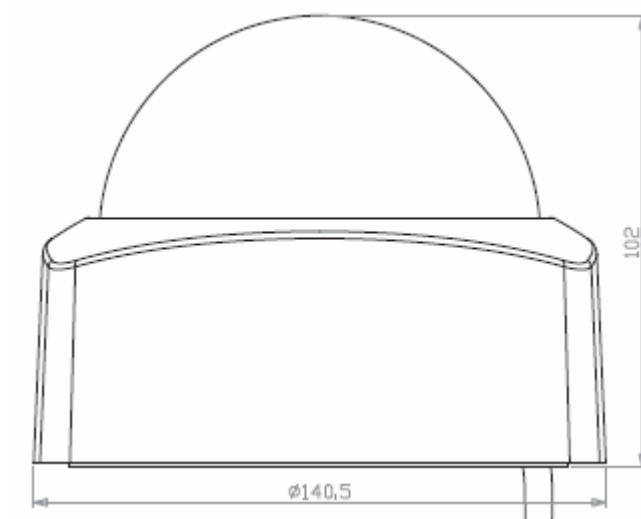
ND614 Series Network Camera delivers superior H.264-AVC performance, state of the art design and function. ND614 Series is specifically adapted for maximum performance indoor applications, such as commercial, banking, government buildings, schools, universities and airports.

H.264-AVC video compression can lower bandwidth and storage requirements without compromising image quality; Motion JPEG is supported for increased flexibility, as well as multiple independent video streaming.

ND614 value-added features include; on-board video motion detection, two-way audio, Micro SD card storage and PoE model is available with full PoE (IEEE-802.3af) feature that supplies function of power to the camera via the network, eliminating the need for power cables, reducing installation costs and complexity. Consequently, ND614 is “Best in Class” for maximum performance IP video surveillance systems, demanding superior image quality, ease of installation, and intelligent video capabilities.

# Installation

## 1. Hardware



## **2. Software Installation**

The following software is necessary for the proper display and use of the P600 from the Web site. The software will be available from the Software Package CD.

### **IP Installer**

The IP Installer is used to locate and configure network cameras and video servers on the LAN. This utility is useful for conveniently configuring the network settings of the device, or for finding a device once the network settings have been modified. To install the IP Installer, from the Software Package CD UI, select IP installer, then follow the on screen instructions.

### **VLC**

Though not necessary, this can be used for viewing the streaming without a Web browser.

### 3. Network Configuration

IP Installer is a utility that provides an easier, more efficient way to configure the IP address and network settings of the devices. It even provides a convenient way to set the network settings for multiple devices simultaneously using the batch setting function. Moreover, IP Installer can save the network settings for all devices as a backup and restore them when necessary. NOTE: Default mode is DHCP.

#### Preparation before IP Assignment

1. Always consult your network administrator before assigning an IP address to your server in order to avoid using a previously assigned IP address.
2. Ensure the device is powered on and correctly connected to the network.
3. MAC Address: Each device has a unique Ethernet address (MAC address) shown on the label of the device as the serial number (S/N) with 12 digits (e.g. 000429-XXXXXX).



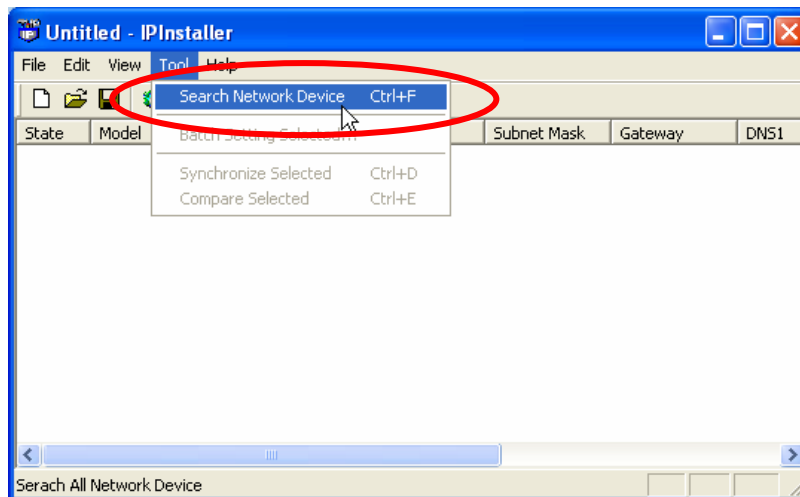
4. Although the IP Installer is able to find and configure any devices on the LAN except those that are behind a router, it is a good idea to set the host PC to the same subnet. In order to connect to the Web-based user interface of the camera, the host PC must be in the same subnet. For more information about subnets, please consult your network administrator.

#### Using IP Installer to Assign an IP Address to ND614

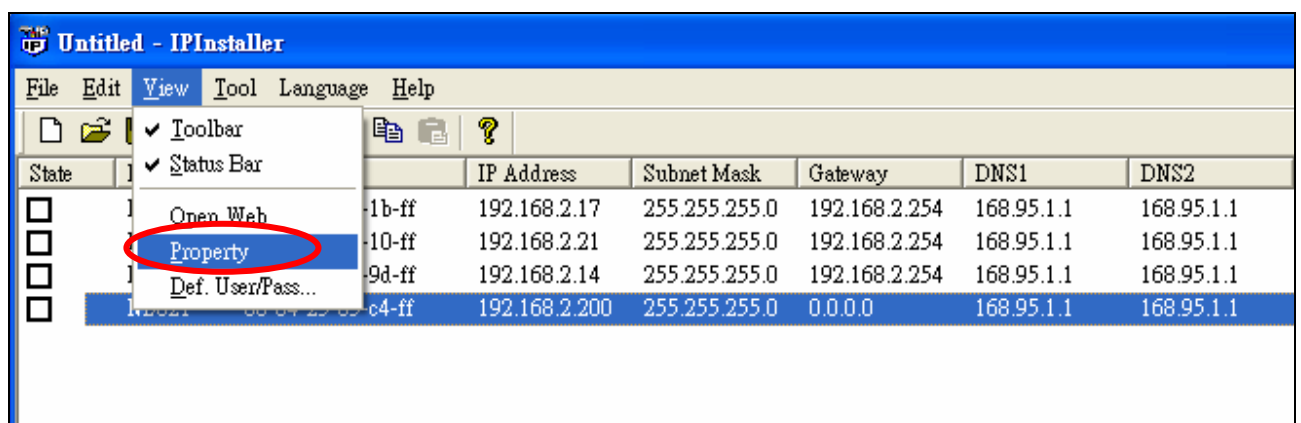
1. Once IP Installer has been successfully installed on the PC, double click the IP Installer icon on the desktop, or select it from Start > Programs > Device Search > IP Installer.



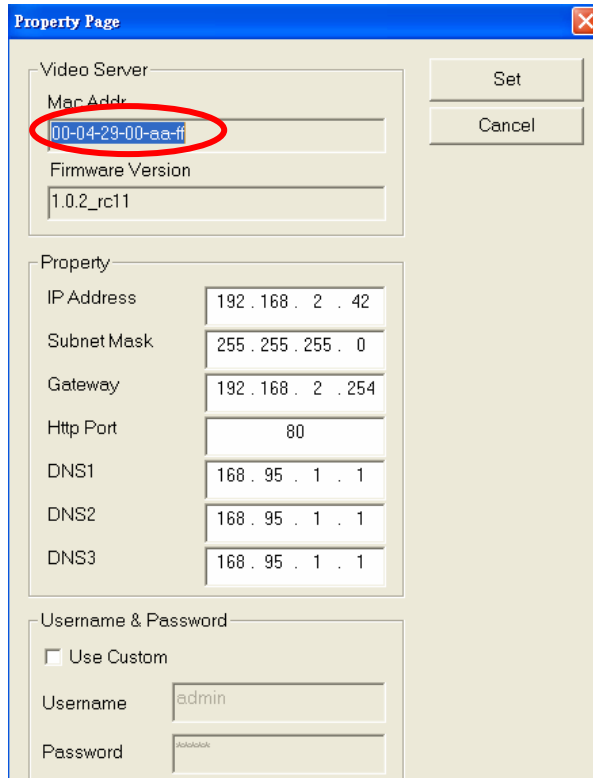
2. Click the menu bar Tool > Search Network Device to search the device in the LAN.



3. From the list, select the device with the MAC Address that corresponds to the camera that is to be configured. The MAC Address is identical to the unit's S/N (Serial Number).
4. Double click the item to open the Property Page for the selected device or click the menu bar View > Property.



5. After filling in the properties, click [Set] button to complete the configuration settings in the remote device while saving configuration in the PC.



**Property Page**

Video Server

Mac Addr: 00-04-29-00-aa-f1

Firmware Version: 1.0.2\_rc11

Property

IP Address: 192.168.2.42

Subnet Mask: 255.255.255.0

Gateway: 192.168.2.254

Http Port: 80

DNS1: 168.95.1.1

DNS2: 168.95.1.1

DNS3: 168.95.1.1

Username & Password

Use Custom

Username: admin

Password: [masked]

Set

Cancel

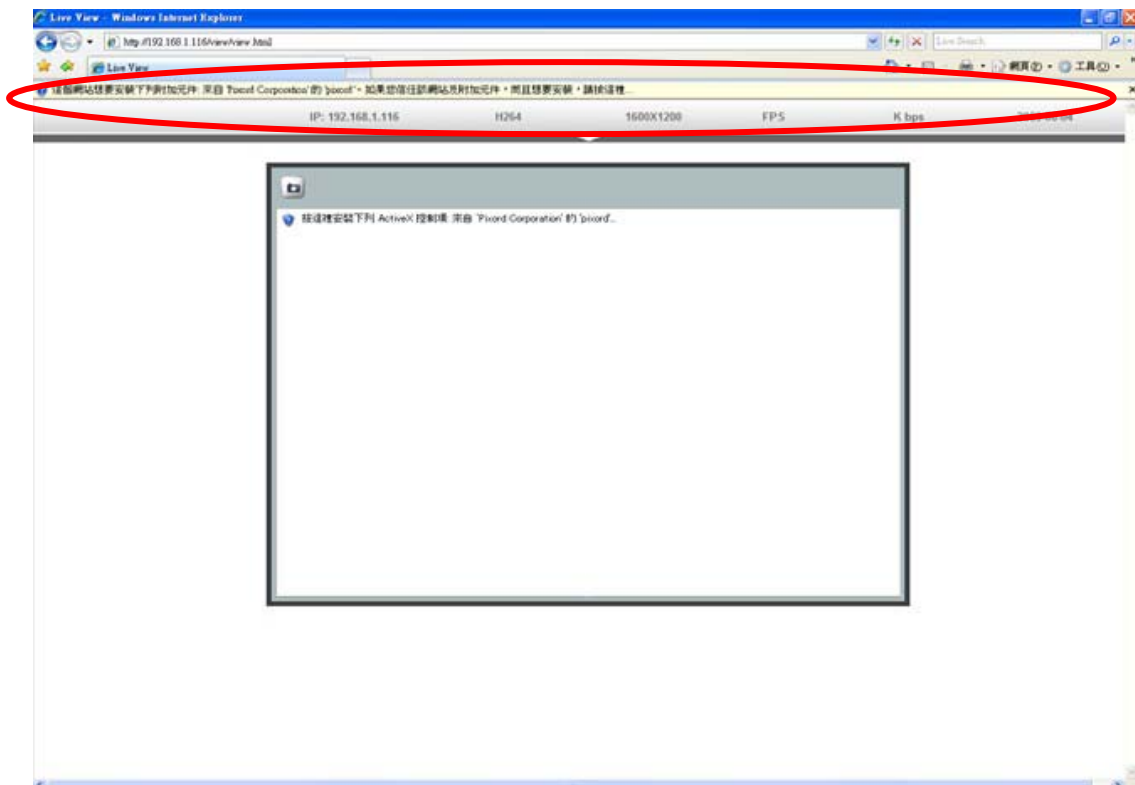
### **Open the Web-based UI of the selected camera**

1. To access the Web-based UI of the selected unit, run the View > Open Web on the menu bar.
2. If the device has been configured correctly, the default Web browser will open to the home page of the selected device.
3. If you find your browser is opened and automatically connected to the camera Home Page, it means you've assigned an IP Address to the unit successfully. Now you can close the IP Installer and start using your camera.

### **Verify and Complete the Installation from Your Browser**

When browsing the Home Page for the first time with the Microsoft Internet Explorer™, you must temporarily lower your security settings to perform a one-time-only installation of the ActiveX component onto your workstation, as described below:

1. From the Tools menu, select [Internet Options]
2. Click the [Security] tab and then click [Custom Level] button to see your current security settings.
3. Set the security level to Low and click [OK].
4. Type the URL or IP address of your camera into the Address field.
5. A dialog box will pop up asking if the ActiveX control should be installed. Click [Yes] to start the installation.



Once the ActiveX installation is complete, return the security settings to their original value, as noted above.

# Access to the Camera

Following the successful installation and IP assignment, ND614 camera will be able to be accessed. The intention of accessing to the camera is most likely for the live video images; there are various configurations as well. It works with most Windows system and Browsers. The most recommended browser is Microsoft Internet Explorer (7.0 or above). Other browsers, like Mozilla Firefox, Apple Safari and Netscape Navigator, are functionalities/configurations partially supported, while live video can work on those platforms where **VLC** must be installed as the video codec.

Note: With Internet Explorer of the access, the installation of ActiveX control is required as described in the previous section.

## The Live View Page

The first view of logging into the camera web is the live video images with information including camera IP address, video format / resolution / frame rate / bit rate and system date.



The Quick Function Buttons come with the video panel for immediate functions or taking effect.



**Full screen:** enlarge the video image to the current screen size.



**Listen:** the audio sent from camera



**Talk:** the audio sent to camera



**Record:** record current live video images in ".avi" format



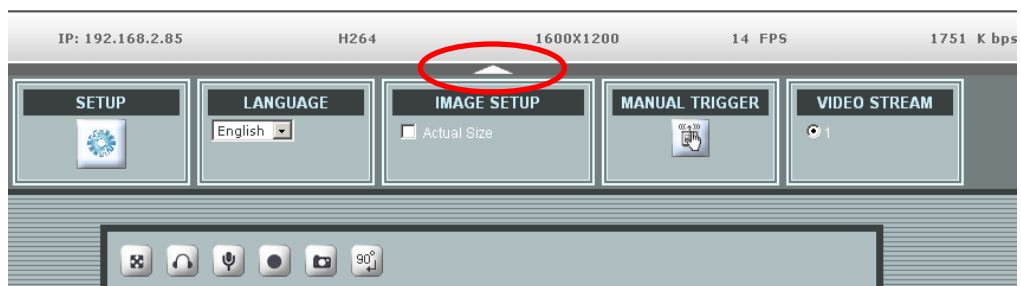
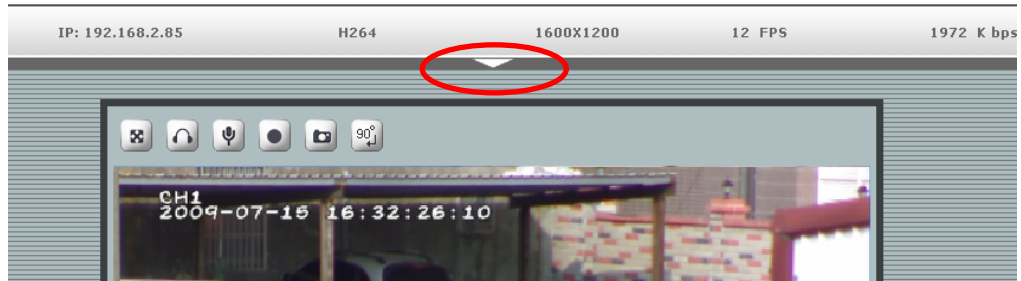
**Snapshot:** Capture a still live image in JPEG format



**Rotation:** Rotate the video image clockwise; with each click changing an

angle of 90° .

Further configurations and options; a prominent button in between is used to expand the further operations. Not all buttons of function are described below. Options appear when specified in the configuration page.



**SETUP:** Further configurations and functions

**LANGUAGE:** Language selection for the Web Interface.

**IMAGE SETUP:** An actual size check box. Default is unselected, which Image frame is scaled down or enlarged to fit the web VGA size.

**MANUAL TRIGGER:** Applied as one of the trigger conditions, see **Event Handling** for detail.

**VIDEO STREAM:** Select the current displayed stream.

# Video and Image Configuration

This section describes how to configure the video streaming from the device, and the related camera image configurations. Users with **Administrator** or **Operator** (see **Users Settings**) authority are intended for these configurations.



Click on  button to enter in the configuration pages.

## Video

There are 3 tabs,

- **General**
- **Advanced**
- **External Video Source**

## General

General	Advanced	External Video Source
<b>Video General Setting</b>		
<input checked="" type="checkbox"/> Enable Stream 1		
<input checked="" type="checkbox"/> Enable Stream 2		
<input checked="" type="checkbox"/> Enabled Digital PTZ		
<input checked="" type="checkbox"/> Enable Stream 3		
<b>OSD Setting</b>		
<input checked="" type="checkbox"/> Enable		
<input checked="" type="checkbox"/> Camera Name: <input type="text" value="CH1"/> (20 character max)		
<input checked="" type="checkbox"/> Date/Time		

### Video General Setting

The list of video streams is provided for enable/disable selection. Stream1 is default enabled (selected). Maximum 3 streams can be concurrently enabled for different client requests.

**Digital PTZ:** This function is available in stream2.

### OSD Setting

Enable the On Screen Display (OSD) information. A line of text message (e.g. Camera Name or Position) and the date/time string are available to be selected for displaying or hiding on the images.

## Advanced

The **Video Advanced** setting page provides more detail stream configurations. These settings can affect video size, quality. The expected transferring performance must be under the condition of full network bandwidth

The screenshot shows the 'Advanced' tab of a video configuration interface. It is divided into three sections: Stream 1 Setting, Stream 2 Setting, and Stream 3 Setting. Each section contains fields for RTSP Path, Image Format, Resolution, GOP, Video Mode, Frame Rates, and Target Bit Rates (or Quality Level).

Stream	RTSP Path	Image Format	Resolution	GOP	Video Mode	Frame Rates	Target Bit Rates / Quality Level
Stream 1	v00	H.264	1600 x 1200	30 (1~150)	CBR	15 (5~15 FPS)	3000 (64~6000 Kb)
Stream 2	v01	MJPEG	640 x 480	30 (1~150)	VBR	15 (5~15 FPS)	Best
Stream 3	v02	H.264	320x240	30	VBR	15 (5~15 FPS)	Standard

### RTSP Path -

The RTSP Path is the stream ID used for RTSP client streaming connection, such as VLC player. The default values are **v00**, **v01** and **v02** for the three streams respectively. The string can be any combination of number or capital/small letters. It can not be empty however.

### Resolution -

The resolution here describes an image size counted by width and height, e.g. 640x480, referring to **pixel resolution**. The 1<sup>st</sup> stream can be set from more options of resolution; 1600x1200 (2 megapixels), 1280x720(HD), 800x600(SVGA), 640x480(VGA), 320x240(QVGA). While Stream2 has the options of VGA and QVGA, stream3 is in a fixed resolution, the QVGA.

### Video Mode -

This option allows the selection of two bit rate modes, the Constant Bit Rate (CBR) or Variable Bit Rate (VBR). CBR refers to the setting of a fixed **Target Bit Rate** (configuration in the range of 64Kbps to 6Mbps) that would apply in the case of limited bandwidth or/and storage requirement. While CBR concerns a fixed data rate transmitting, the video quality is of high priority for VBR mode selected. VBR therefore is configured with the **Quality Level** (Standard,

Good, Best). In general, CBR predicts the provided condition; if image activity requires higher bit rates than configured, the frame rate and quality would be affected as not likely to increase bandwidth (bit rate). In spite of the required recording storage estimation, VBR is by way of compensation that adjustable bit rate fits the actual image activity.

#### **Image Format -**

H.264 and MJPEG are available for image format selection. The term, "image format", is referring to compression / encoding technique. The selection of image format decides the performance of bandwidth and storage requirement. In the request of same video quality, H.264 contributes to less bandwidth and storage requirement, which is more efficient than MJPEG.

#### **GOP -**

In MPEG4/H.264 video coding, GOP (group of pictures) describes how the different types of frames are arranged. The frame types implemented here are **I**-frame (full image information) and **P**-frame (motion-compensated difference information). This setting configures the **GOP length** which is the number of frames before next I-frame appears. Having more I-frames usually increases the stream size, and therefore more bandwidth and storage are required.

#### **Frame Rates -**

The Frame Rates defines the number of frames that will be displayed per second. The frame rate setting can affect the target bit rate (bandwidth requirement) and storage requirement.

#### **Note:**

While multiple streaming is possible, each stream has its limitation and dependency to other stream. See "**Video Stream Specification**".

## External Video Source

General	Advanced	External Video Source				
<b>External Video Source List</b>						
<table border="1"><thead><tr><th>Name</th><th>IP address</th></tr></thead><tbody><tr><td colspan="2" style="height: 80px;"></td></tr></tbody></table>			Name	IP address		
Name	IP address					
<input type="button" value="Add..."/> <input type="button" value="Remove"/>						
<small>( Note: The maximum number of external video sources is 10. )</small>						
<b>External Video Source Setup</b>						
Name:	<input type="text" value="NewVideoSource"/>					
IP address:	<input type="text" value="0.0.0.0"/>					
Video Port:	<input type="text" value="554"/>					
Product Type:	<input type="text" value="7:P600/605/606/607/614/615/616/617/621/623/625"/>					
Video Format:	<input type="text" value="H.264"/>					
Resolution:	<input type="text" value="640x480"/>					
Rotation:	<input type="text" value="0"/>					
Audio Enable:	<input type="text" value="Off"/>					
RTSP Path:	<input type="text" value="v00"/>					
Test Video:	<input type="button" value="Connect"/>					

This page is provided to configure and keep other video links (from specified video models) that will be applied in the web access of the current camera unit, for instance, the application of **video conference**.

To add an external video link, click "**Add...**" to show the configurations. The "Product Type:" lists the models that are applicable in this function. While the proper configuration is done, click "**Connect**" to test the existence of destination server and preview the images.

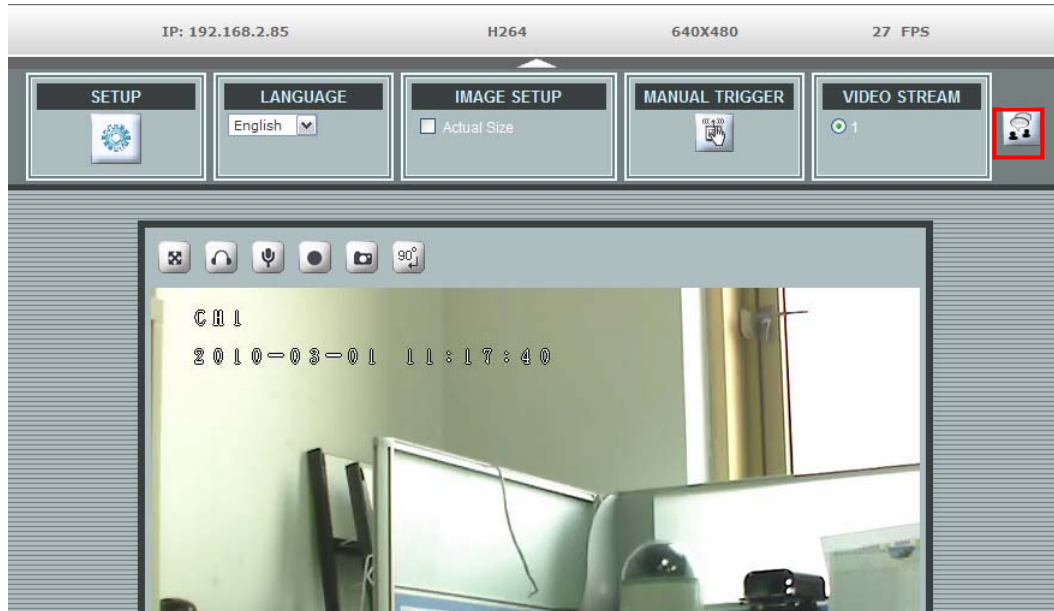


## Video Conference

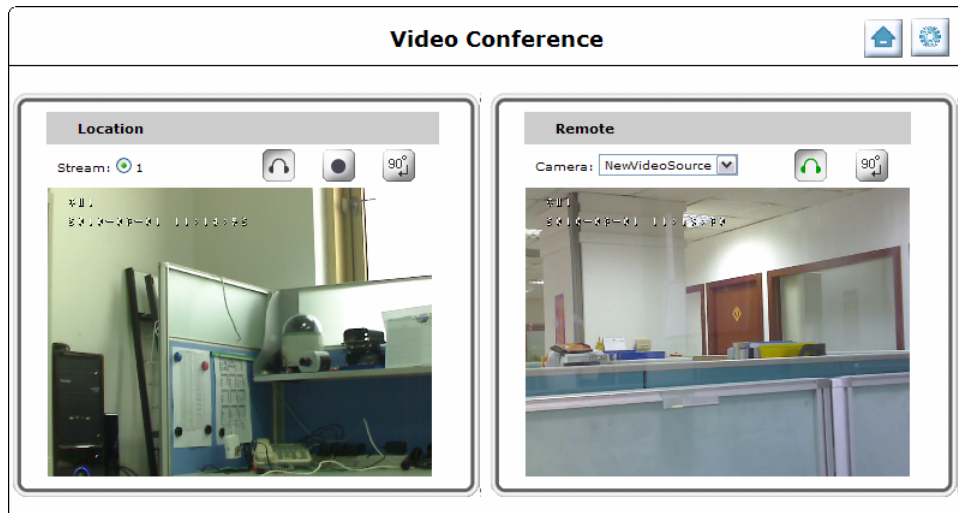
When "External Video Source" is configured with at least one link, the video conference button



can be found on the live view page.

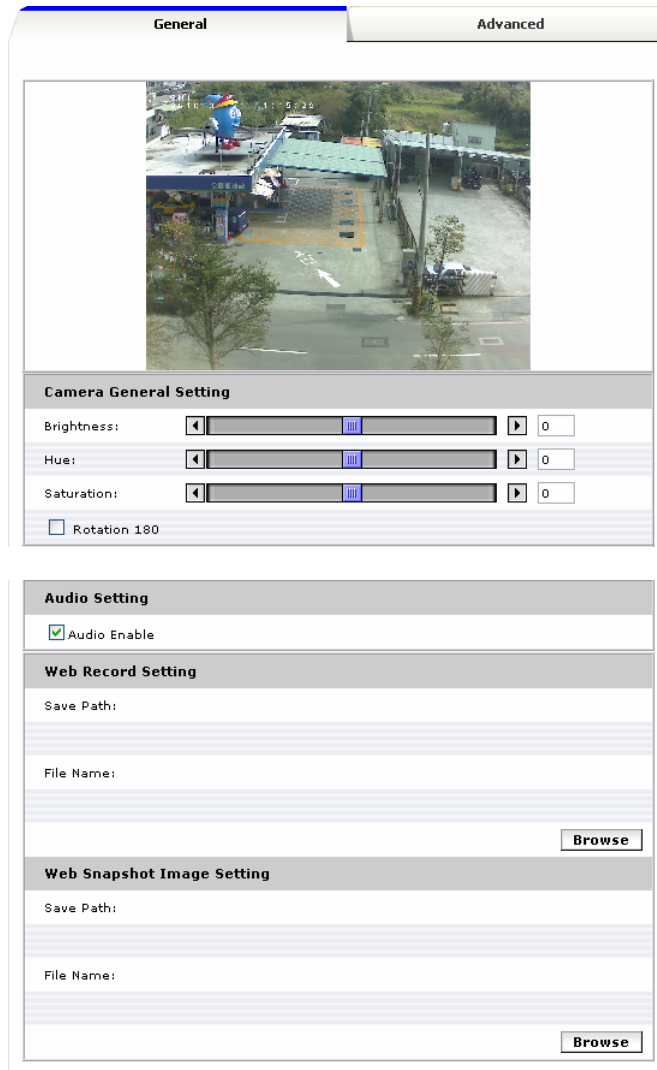


Press the button, the Video Conference will then be presented as below; the local video is showing left hand side, while right panel is displaying remote site video images.



# Camera

This page provides the basic image color appearance and further image settings.



The screenshot shows a camera configuration interface with two tabs: 'General' and 'Advanced'. The 'General' tab is selected and displays a live video feed of an outdoor area with a blue structure and a green roof. Below the feed are three sliders for 'Brightness', 'Hue', and 'Saturation', each with a '0' value. A 'Rotation 180' checkbox is also present. The 'Advanced' tab contains sections for 'Audio Setting' (with 'Audio Enable' checked), 'Web Record Setting' (with 'Save Path' and 'File Name' fields and a 'Browse' button), and 'Web Snapshot Image Setting' (with 'Save Path' and 'File Name' fields and a 'Browse' button).

## General

Brightness: the luminance of image view

Hue: refer to pure a pure color, or described by its name, such as red, green or blue.

Saturation: intensity of a specific color

The 3 correlates are referring image appearance in terms of color/vision. These are adjustable from this page.

Rotation: rotate the image, so it looks up-side down. This can be applied when camera unit must be ceiling mounted and the image is therefore reversed.

Audio: enable this option, so the video stream will be transferring accompanied with the audio

data.

Web Record / Snapshot: define the location where snapshot images and video clips will be stored. The file name is referring to the prefix of the actual file name of each snapshot image or video clip generated.

Camera Advanced Setting:	
White balance:	Auto
Exposure:	Flicker-free 50 Hz
Max Exposure Time:	1/30 s
Max Gain Control:	31 dB
Status LED:	On

### Advanced

White balance: the adjustment to compensate for different environments in terms of light source.

Exposure: Anti-flicker setting for image sensor to fit the frequency of light (power) source. For instance, the power frequency is 50Hz for most European countries, while 60Hz is typically for US. This setting is therefore regionally different. **Note: Default setting is 50Hz**

Max. Exposure Time: referring to the shutter speed.

Max. Gain Control: the amplification factor for the incoming light.

Status LED: Turn ON/OFF the status LED.

## Event Handling

Event Handling describes the configurations of event type and the corresponding actions. To have an insight into this function, a common example can be storing a captured image to a local storage or remote FTP server (Actions), when there is a Motion Event (Trigger Condition)

### Event Server

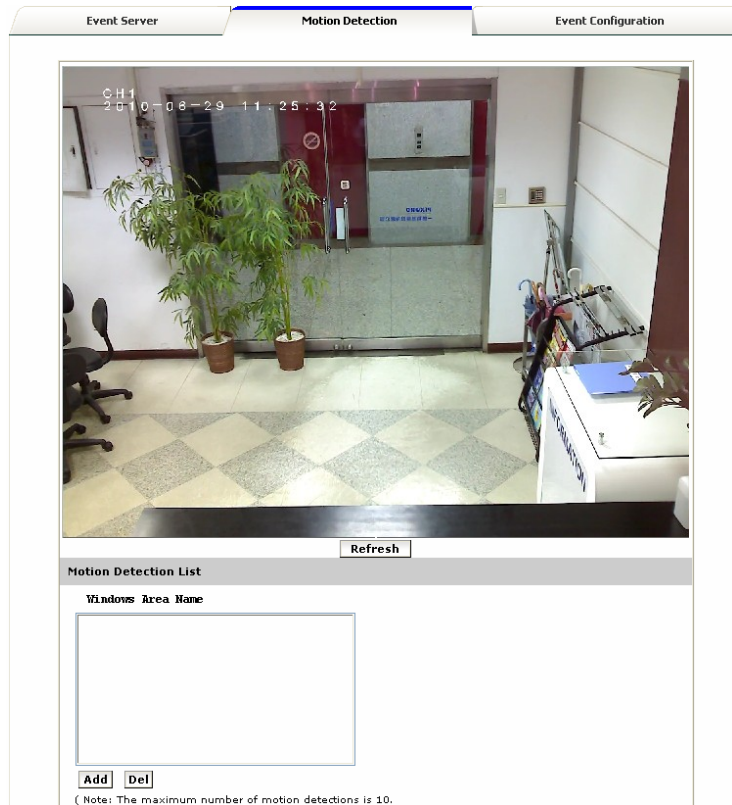
Name	Protocol	Network Address	Upload Path	User Name
------	----------	-----------------	-------------	-----------

( Note: The maximum number of event servers is 10. )

The “Event Server List” lists the configured server(s) that will act as a remote storage or a destination for handling the triggered event. Currently, FTP is the only available server type. Up to 10 FTP servers can be added in the list.

## Motion Detection

A snapshot image shows the whole view of the camera covered. To select a motion detection area, click directly on the image, then change the size and position by dragging and drawing. Up to 10 motion areas (configurations) can be added in the list. Each detection area can be set with its own sensitivity value.



## Event Configuration

The Event Configuration is to assign the actions responding to the specified events (Trigger Conditions).

The screenshot shows the 'Event Configuration' tab selected. It features three tabs: 'Event Server', 'Motion Detection', and 'Event Configuration'. Below the tabs, there are two main sections: 'Event Record File' and 'Event Type List'. The 'Event Record File' section has a 'File Format' field with radio buttons for 'JPEG' (selected) and 'H264'. The 'Event Type List' section contains a table with columns: 'Name', 'Status', 'Enable', 'Trigger', and 'Actions'. Below the table are 'Add...' and 'Remove' buttons. A note at the bottom states: '( Note: The maximum number of events is 10. Fu=FTP Upload, Eu=Email Upload, Du=Disk Upload, O=Output Port, En=Email Notification, Tn=TCP Notification. )'

The table lists the configured events. Click on “Add...” or choose an event from the list to expand the panel for detail configurations. “Remove” is to delete a selected event.

This screenshot shows the 'Event Configuration' interface with the 'Event Type Setup' section expanded. It includes the same 'Event Record File' and 'Event Type List' sections as the previous image. The 'Event Type Setup' section contains the following fields and options: 'Name' (text input with value 'NewEvent'), 'Set min time between triggers' (text input with value '00:00:00' and '(max 23:59:59)'), 'Respond to Trigger' (radio buttons for 'Always' (selected), 'During time between'), 'During time between' (radio buttons for 'Sun', 'Mon', 'Tue', 'Wed', 'Thu', 'Fri', 'Sat'), 'Start Time' (text input with value '00:00:00' and '(max 23:59:59)'), 'Duration' (text input with value '000:00:00' and '(max 168:00:00)'), 'Never' (radio button), and 'Trigger by' (dropdown menu). The 'When Triggered...' section at the bottom has two checkboxes: 'Upload Images' and 'Send Email Notification', both of which are currently unchecked.

### Trigger types (conditions)

Motion Detection: The configured detection area(s) for motion events.

Manual Trigger: a virtual trigger button embedded on the web main page.

### When triggered" Actions

Store image to FTP (Remote) / Micro SD Storage (Local)

Send Email Notification

### Event Schedule

Events may come frequently, for instance, a moving object keeps triggering as being in a detection area. False alarms can therefore occur. The “**minimum time between triggers**” setting is then for this case. System waits for the given time before the next trigger taken.

By default, each configured event is **always** effective. It can also be scheduled by selecting **start day/time** and the **duration** of effective.

## Local Storage and Schedule Recording

ND614 is equipped with a card slot for storage. This storage is applied for local video recording. The recording function can be launched according to schedule. The micro-SD card also records the JPEG images responding to an event.

### General

Define the day (specified by days of a week) and time (specified by each single hour) for that will be recording during the scheduled period. User can select which video stream should be recorded, and the size of each sliced file. When the check box is ticked, recording process starts at the scheduled hours (red blocks).

The screenshot shows the 'General' tab of a configuration window. It includes the following elements:

- Enabled
- Stream:  1  2  3
- Slice File Size: 50 (MB)
- Save Device Type: Local Disk
- A 7x24 grid for scheduling. The grid has columns for hours (0-23) and rows for days (Mon., Tue., Wed., Thu., Fri., Sat., Sun.). Red blocks are present in the Wednesday row for hours 7, 8, 9, 10, 11, 12, and 13.
- Legend: A red square followed by the text 'Scheduled'.
- A 'Save' button at the bottom.

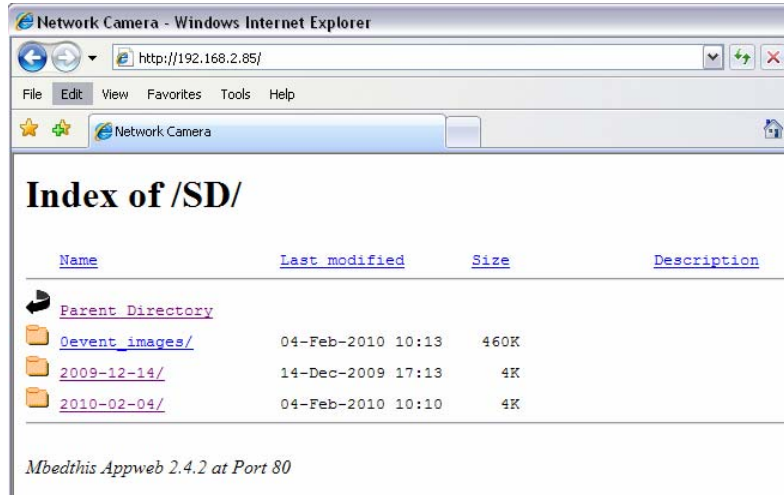
### Storage

Display the storage information, includes disk size info, type and status. The warning message (red text) shows when recording is on process; Micro-SD card should not be removed during the recording process.

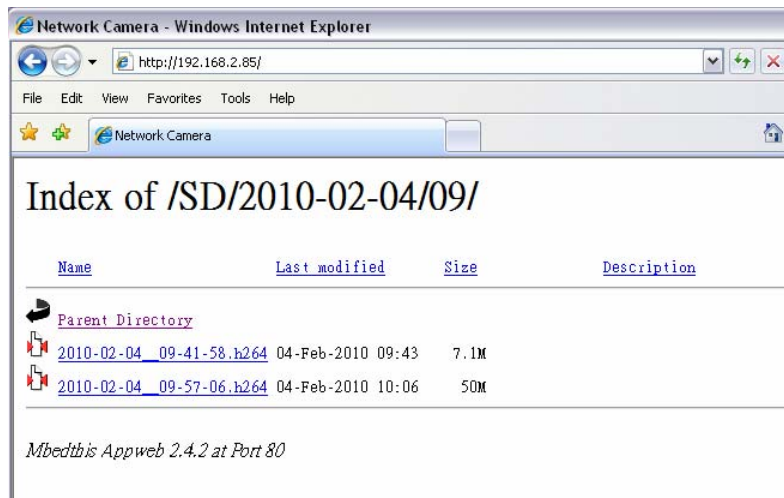
The screenshot shows the 'Storage' tab of the configuration window. It displays the following information:

- Disk Status**
- Model Name: /dev/mmcblk0p1
- Total Size: 1925500 KB
- Used Size: 1038892 KB
- Free Size: 86608 KB
- Disk Type: SD
- Disk Status: recording
- Buttons: Refresh, Browse, Remove Event Images
- Warning message: The system is recording now, please stop recording first!

The “**Browse**” button allows viewing the list of recorded files. The web page will then be redirect to the root path of the SD storage (if one is inserted). The list includes couple of folders, the **Oevent\_images** which contains all the still images captured by any event trigger, and **folders specified by date** where the recorded video files are located.



The recorded files are named in **date\_time format**, and the extension file name is “.h264”. While file is in h264 raw format, it can be played in **VLC** player. Note that the recorded file includes video only; no audio information is recorded.



## Network Configuration

IP Camera acts as one of the network devices. It is therefore allowed “IP” to be assigned, so certain network functionalities can be implementable within this device. This section describes these configurations. Fundamentally, for instance, the IP assignment of the device can be done via **DHCP server**, **manually fixed IP option** or **PPPoE** to obtain IP from service provider.

### General

Device IP configuration, includes DHCP, Static IP setting and PPPoE. “Enable ARP/Ping” enable device to accept ARP or ping packets from the network. Disable this option may provide extra security from intentional ping.

The screenshot displays the 'General' tab of a network configuration interface. It features four tabs: 'General', 'Advanced', 'SMTP(E-Mail)', and 'DDNS'. The 'General' tab is active and contains the following settings:

- DHCP Service
- Static IP Address:
  - IP Address: 192.168.2.85
  - Netmask: 255.255.255.0
  - Gateway: 192.168.2.254
  - DNS 1: 168.95.1.1
  - DNS 2: 168.95.1.1
- PPPoE:
  - User Name: username
  - Password: \*\*\*\*\*
- (Note : Please make sure 'Email Setting' has been set!)
- Enable ARP/Ping

A 'Save' button is located at the bottom center of the form.

## Advanced

General	Advanced	SMTP(E-Mail)	DDNS
<b>NTP Configuration</b>			
<input type="radio"/> Obtain NTP server address via DHCP			
<input checked="" type="radio"/> Use the following NTP server address:			
Network address: <input type="text" value="time.stdtime.gov.tw"/>			
(host name or IP address)			
<b>HTTP Setting</b>			
HTTP Port: <input type="text" value="80"/>			
<b>RTSP Setting</b>			
RTSP Port: <input type="text" value="554"/>			
<b>HTTPS Setting</b>			
<input type="checkbox"/> Enable HTTPS			
<b>Bonjour Setting</b>			
<input checked="" type="checkbox"/> Enable Bonjour			
<b>UPnP Notification</b>			
<input checked="" type="checkbox"/> Enable UPnP			
<b>NAT Traversal Setting</b>			
<input checked="" type="checkbox"/> Enable NAT Traversal			
NAT-T HTTP Port: <input type="text" value="8000"/>			
NAT-T RTSP Port: <input type="text" value="8002"/>			
NAT-T RTSP Protocol: <input type="text" value="TCP"/>			

Enable or configure other network functions.

**NTP:** Configure a NTP (Network Time Protocol) server, so that the device system date and time can be synchronized with a specified Time Server. This configuration is provided for one of the options of system date/time adjustment.

**HTTP:** set the HTTP port that will be applied for Web UI access.

**RTSP:** set the RTSP (Video) port for video data transmission.

**HTTPS:** Enable/Disable Http security function.

**Bonjour:** Enable Bonjour service, so that the device can be discovered with “Bonjour” service applied.

**UPnP:** Enable UPnP, so that the device can be discovered in an UPnP Compliant Network.

**NAT Traversal:** Enable NAT traversal, so that client from Internet can have access to the devices behind the Router.

**Note:** with UPnP enabled, the IP Sharing device (Router) capable of UPnP function will automatically be noticed with the device’s NAT port.

## SMTP(E-Mail)

Configure an email host in the device that will send email on behalf of the configured email account in a circumstance like sending an email notice to a specified mail address (Event Configuration).

**Sender:** Complete the Mail Server, Server Port, Authentication information (if required) and the sender's email address.

**Receiver:** The receiver email address

The screenshot shows the 'SMTP(E-Mail)' configuration page. It has four tabs: 'General', 'Advanced', 'SMTP(E-Mail)', and 'DDNS'. The 'SMTP(E-Mail)' tab is active. The page title is 'SMTP (email) Setting'. The form contains the following fields:

- Mail Server:  (host name or IP address)
- Server Port:  [0..65535]
- Authentication
- User Name:
- Password:
- From ( Email Address ):
- Send email to:

There is a 'Test' button at the bottom right of the form and a 'Save' button below the form.

## DDNS

Dynamic DNS configuration; the network device can be assigned and accessed with a host name instead of IP address by registering this service (Internet access required).

**Host Name:** Assigned name that will be used for access to the device

**User Name/Password:** Account authentication for logging to this service

**Update Time:** Periodically, the device updates its access info to sever in the configured time.

**Response:** the device responds the connection info.

The screenshot shows the 'DDNS' configuration page. It has four tabs: 'General', 'Advanced', 'SMTP(E-Mail)', and 'DDNS'. The 'DDNS' tab is active. The page title is 'Dynamic DNS Setting'. The form contains the following fields:

- DDNS Enable
- Host Name:  (Link to <http://www.dyndns.org>)
- User Name:
- Password:
- Update Time:  ( 600~86400 Seconds )
- Response: no

There is a 'Save' button at the bottom of the form.

# System Options

## Information

Lists of System and Network configurations

Information	User	Date & Time	Server Maintenance	Log Service
<b>System</b>				
Model:	PD614			
System up time:	2000-01-30 01:48:34			
Firmware version:	1.2.4_210			
MAC Address:	00:40:ab:cd:a0:ac			
ActiveX Control version:	1.0.1.134			
<b>Ethernet</b>				
Status:	Connected			
Mode:	Static			
IP Address:	192.168.2.156			
Netmask:	255.255.255.0			
Default Gateway:	192.168.2.254			
<b>PPPoE</b>				
Status:	No connection			
IP Address:	none			
<b>DNS Server</b>				
Primary DNS IP address:	168.95.1.1			
Secondary DNS IP address:	168.95.1.1			
<b>DDNS</b>				
Status:	no			

## User

Login users for Web access and operations; authentication required. The Check box is for anonymous logging on to the live view page. Logging for further configurations will still require user name and password.

Information	User	Date & Time	Server Maintenance	Log Service				
<b>User Setting</b>								
<input checked="" type="checkbox"/> Enable anonymous login (no user name or password required)								
<b>User List</b>								
<table border="1"><thead><tr><th>User Name</th><th>User Group</th></tr></thead><tbody><tr><td>admin</td><td>Administrator</td></tr></tbody></table>					User Name	User Group	admin	Administrator
User Name	User Group							
admin	Administrator							
<input type="button" value="Add..."/> <input type="button" value="Remove"/>								
<input type="button" value="Save"/>								

## Date & Time

System date/time configuration. Options of synchronizing with PC and NTP server are provided for automatic adjustment.

Information	User	Date & Time	Server Maintenance	Log Service
<b>Current Server Time</b>				
Date:	<input type="text" value="2010-02-08"/>	Time:	<input type="text" value="18:03:14"/>	
<b>Set Server Time</b>				
<input checked="" type="checkbox"/> Automatically adjust for daylight saving time changes.				
Time Mode:				
<input type="radio"/> Synchronize with computer time				
Date:	<input type="text" value="2010-02-08"/>	Time:	<input type="text" value="18:04:12"/>	
<input type="radio"/> Synchronize with NTP server				
Time zone:				
<input type="text" value="GMT+08 (Beijing, Hong Kong, Shanghai, Taipei)"/>				
<input checked="" type="radio"/> Set Manually				
Date:	<input type="text" value="2010-02-08"/>	Time:	<input type="text" value="18:04:07"/>	
(ex: 2008-01-01)		(ex: 01:00:00)		
<input type="button" value="Save"/>				

## Server Maintenance

This page provides tools for system maintenance; Reboot and Load default settings, as well as functionalities of launching upgrade process, backup/restore user settings and language defines.

The screenshot shows the 'Server Maintenance' tab selected in a navigation menu. The interface is divided into several sections:

- Maintain Server:** Contains 'Reboot' and 'Load default' buttons.
- Firmware Upgrade:** Displays system information: Model: PD614, Firmware Version: 1.2.4\_210, MAC Address: 00:40:ab:cd:a0:ac, and ActiveX Version: 1.0.1.134. It includes a text input field for specifying the firmware to upgrade and an 'Upgrade' button.
- Backup:** Includes the instruction 'Save all parameters and user-defined scripts to a backup file.' and a 'Backup' button.
- Upload Setting:** Includes the instruction 'Use a saved backup file to return the unit to a previous configuration.' and a text input field for specifying the backup file to use, with an 'Upload' button.
- Add Language:** Features a 'Choose language:' dropdown menu currently set to '日本語', a link to 'Get a language file from /lang/en/lang.js', and a text input field for selecting a language file to upload, with an 'Upload Language' button.

## Log Service

Most system operations and / or process will be kept in a log system. The link provides the review of these records.

The screenshot shows the 'Log Service' tab selected in a navigation menu. The interface contains two main sections:

- Logs:** A section with a blue link labeled 'Logs'.
- Reports:** A section with two blue links: 'Server Report' and 'Parameter List'.

## Web Interface Customization

This page provides the function of adjusting the look of live view page. There are two types of layout settings; use default look or use custom settings.

The screenshot shows the 'Live View Layout Setting' configuration page. At the top, there is a navigation bar with tabs for 'Live View', 'Video', 'Camera', 'Event', 'Schedule', 'Network', 'System', and 'Customize'. The 'Customize' tab is selected. Below the navigation bar, the page title is 'Live View Layout Setting'. There are two radio buttons: 'Use Default Look' (selected) and 'Use Custom Settings'. Below this, there is a section titled 'User Defined Links' with four entries. Each entry has a checkbox to 'Show Custom Link' (all are unchecked), a 'Name' field, and a 'URL' field. The names are 'Custom Link 0', 'Custom Link 1', 'Custom Link 2', and 'Custom Link 3'. The URLs are all 'http://'. A 'Save' button is at the bottom.

**Use Default Look:** the default layout of live/configuration pages

**Use Defined Links:** Web link(s) will be presented on the live page when enabled. It can be a link to another IP camera for instance, or other preferred web link.

Use Custom Settings: The modifications allowed are change of Background / Text Color, Background picture, Title, Description, Logo and etc.

**Live View Layout Setting**

Use Default Look  Use Custom Settings

**User Defined Links**

Show Custom Link 1  
Name: Custom Link 0 URL: http://

Show Custom Link 2  
Name: Custom Link 1 URL: http://

Show Custom Link 3  
Name: Custom Link 2 URL: http://

Show Custom Link 4  
Name: Custom Link 3 URL: http://

**Custom Settings**

Modify the Default Look:

Background Color:  Default  Own: White

Text Color:  Default  Own: Black

Background picture:  None  External: http://

Title:  None  Default  Own: Title

Description:  None  Default  Own: Description

Logo Link:  None  Default  Own: http://

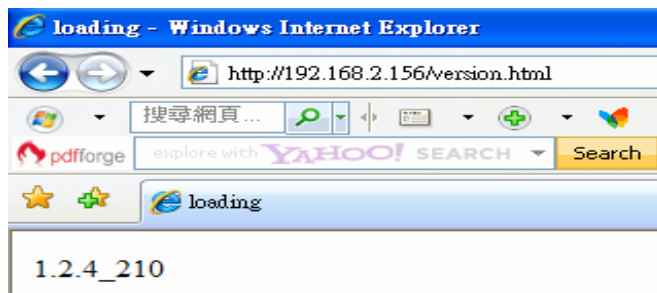
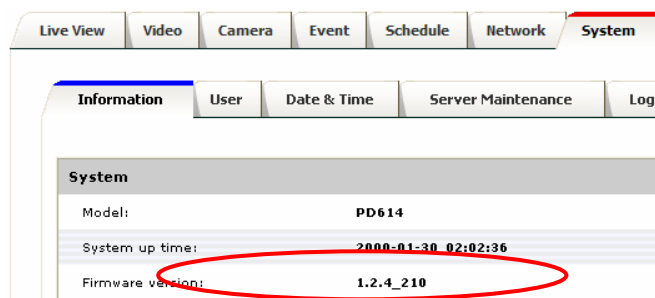
Logo:  None  Default  External: http://  Own

Select image file to upload:

# Troubleshooting

## Check firmware version

The version code can be found in Setup -> System -> Information, or simply type "version.html" after the URL address, e.g. <http://192.168.0.200/version.html>. Firmware version indicates the functionalities' updates or availability in the camera system. Therefore, in the first step of troubleshooting and then reporting, it helps to locate the found issues. Newer version firmware may have corrected the current bugs.



## Upgrade device firmware

Firmware upgrade process should be done via the web configuration; **Setup -> Server Maintenance -> Firmware Upgrade**. Before the process, read the instructions and release notes coming with each new released version. For the steps,

1. Check and retrieve the latest firmware bin file.
2. Disconnect all clients (e.g. streaming requests) to the device that will be firmware upgrading.
3. Stop the local (schedule) recording if it was enabled.
4. Go to the Firmware Upgrade page, browse and locate the downloaded firmware bin file, then click on "Upgrade" button.

Firmware Upgrade	
Model:	<b>P600</b>
Firmware Version:	<b>1.0.3_pc5</b>
MAC Address:	<b>00:04:29:01:a0:ff</b>
ActiveX Version:	<b>1.0.1.132</b>
Specify the firmware to upgrade:	
C:\Documents and Settings\PC\Desktop\H.2i	<input type="button" value="Browse..."/>
<input type="button" value="Upgrade"/>	

5. The upgrade should start in minutes, depending on file transferring status. The web will then be directed to the system writing progress. Overall upgrading process takes about 5~10 minutes. In this period, **DO NOT DISCONNECT** the power. System of the unit can be damaged otherwise.

---

### Firmware Upgrade

It is strongly recommended to stop any unnecessary jobs while updating firmware.  
Please be patient and the updating process may take a long time.  
Please waiting about two or three minutes!

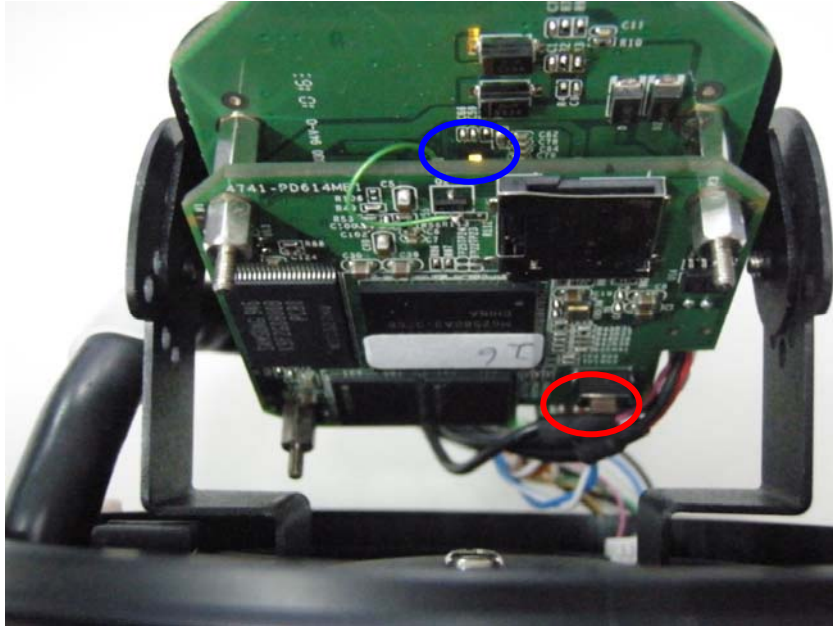
Writing Progress:



6. The power LED (orange one) will be quick/slow flashing during the upgrading process. When it becomes again steady on, camera is ready to be accessed. Check the firmware version. If somehow system is not upgraded, redo above steps. In the case, restore factory default process may be required.

## Restore Factory Default Settings

In some cases, system does not respond to any operation, this process gets the unit back to initial status, so that it can be reconfigurable for up and running again.



To restore factory default, follow the steps below:

1. Unplug the power jack to turn off the camera
2. Press the button (circle in red) and keep it pressed until instructed to release.
3. Plug in the power jack to turn on the camera. The LED will start flashing in a short while.
4. Release the button when the LED starts quick flashing. The device should be set back to factory default.

## Video Streams Specification

### The availabilities

1. Each stream can be switched to either H.264 or MJPEG mode.
2. Each steam can be configured to either CBR or VBR mode.
3. Stream1 (main stream) is available from all the resolutions listed.
4. The maximum resolution setting for Stream2 is 640x480.
5. Stream3 is fixed in 320x240.
6. The maximum frame rate for transferring 1600x1200 is 15fps. Others can reach up to 30fps.

	STREAM1	STREAM2	STREAM3
Encoding Mode			
<i>H.264 / MJPEG</i>	V	V	V
Transferring Mode			
<i>CBR / VBR</i>	V	V	V
Resolution @ Max. FPS			
<i>1600x1200@15</i>	V		
<i>1280x720@30</i>	V		
<i>800x600@30</i>	V		
<i>640x480@30</i>	V	V	
<i>320x240@30</i>	V	V	V

### Dependency

1. **Max. FPS dependency:** when **Stream1** is set to **1600x1200**, the maximum frame rate is **15fps**. Accordingly, both **Stream2** and **Stream3** can be configured with the frame rate from 5 to 15 fps.
2. **Resolution dependency:** The maximum resolution of **Stream2** is depending on the resolution setting of **Stream1**. When Stream1 is set to 320x240, Stream 2 is limited in 320x240.
3. **Frame rate independent:** Frame rate setting for each stream can be independent, for instance, **Stream2** can be set **15fps** and **Stream3** is **30fps** while **Stream1** (1280x720 or below) is set to **5fps**.

STREAM1	STREAM2		STREAM3
		640x480	320x240
<i>1600x1200, 5~15 fps</i>	5~15 fps		5~15 fps
<i>1280x720, 5~30 fps</i>	5~30 fps		5~30 fps
<i>800x600, 5~30 fps</i>			
<i>640x480, 5~30 fps</i>			
<i>320x240, 5~30 fps</i>		5~30 fps	

Note the resolution setting must follow the sequence: Stream1  $\geq$  Stream2  $\geq$  Stream3.