



G2214H

User's Manual

Version 1.10

Table of Contents

Important Notices – Read Before Use	2
Overview	2
Package Contents	3
Installation	4
Hardware Installation	4
Software Installation	8
Discover IP Cameras	8
Assigning IP Address to the device	8
Discovering devices in Windows Network	11
Accessing the camera	14
Viewing the live video	14
The Live view page	16
Video & Audio	19
Network Configuration	26
Recording	30
Event Management	35
Configuration of Event Handling	35
Examples of Event Handling	40
System Options	42
Connectors & LED	46
Cable connectors	46
I/O connectors – Pin definitions	46
Schematic diagram of Digital I/O	47
Troubleshooting	48
Check firmware version	48
Upgrade device firmware	48
Recover device settings	50
Technical Specifications	51

Important Notices

– Read Before Use

This instruction manual is intended for administrators and users of the **Ingrasys G2214H** IP Camera, including instructions for using and managing the camera on your network. The use of video surveillance devices can be prohibited by laws that vary from country to country. It is the user's responsibility to ensure that the operation of such devices is legal before installing this unit for surveillance purposes.

Heed all warnings

Before installing the IP Camera, please read and follow all the safety and operating instructions to avoid any damages caused by faulty assembly and installation. The user must adhere to all the warnings on the product and in this manual.

Liability

Every reasonable care has been taken in the preparation of this instruction manual. Ingrasys can not be held responsible for any technical or typographical errors and reserves the right to make alterations to the product and manuals without prior notice. Ingrasys makes no warranty of any kind with regard to the material contained within this manual, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. The user should verify the relevant information is current and complete before placing orders. All products are sold subject to Ingrasys' terms and conditions of sale at the time of order acknowledgement.

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Trademarks

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CE/FCC Statement (EMC)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. If the equipment is not installed and used in accordance with the instruction, it generates, uses, and can radiate radio frequency energy which may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his/her own expense will be required to take whatever measures may be required to correct the interference.

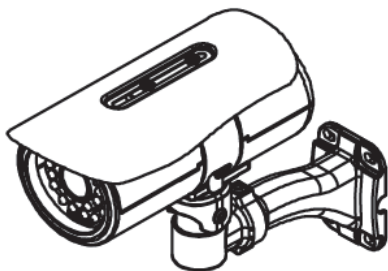
Overview

Ingrasys G2214H is a robust, weather-proof and day & night bullet type IP camera. The built-in heater enables the camera to operate in working temperatures. With own designed IR light uniformity technology allows superior video quality at night and the working distance up to 30M. In addition, the special IP66 mechanism design makes the housing ease of installation and maintenance.

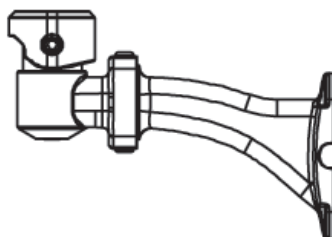
The camera is a high definition, 2 megapixel with triple codec compression and multiple video stream output. It also comes with megapixel vari-focal lens to adapt the camera to any deployment. G2214H is the best solution for outdoor applications..

Package Contents

G2214H



Camera Stand



Sunshield



Power Adapter (Optional)



Quick Installation Guide



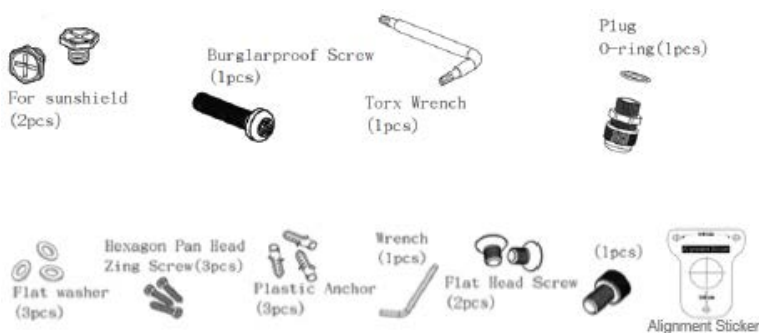
Product CD



Warranty Card



Hardware Pack



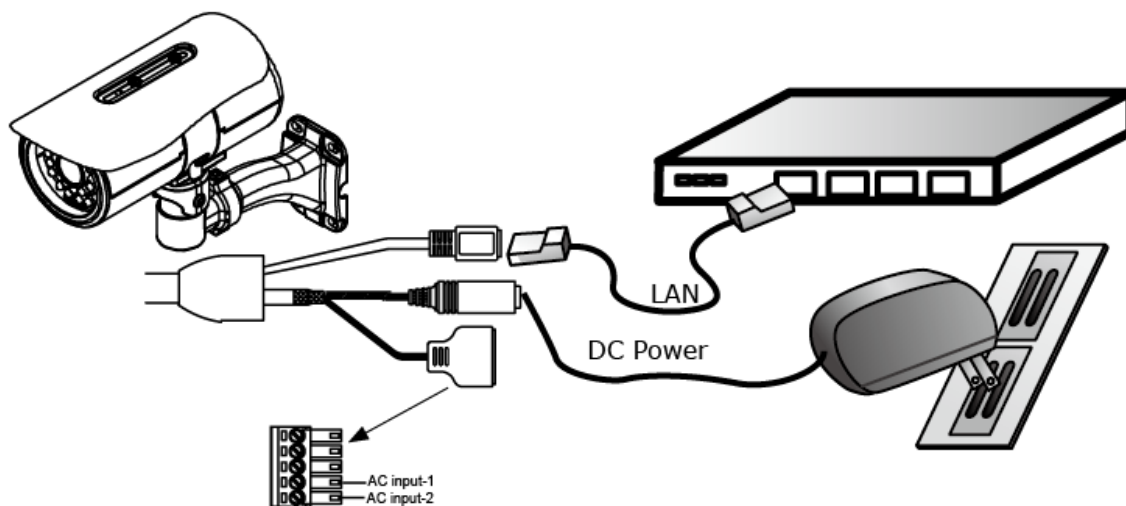
VIP Card (Optional)



Installation

Hardware Installation

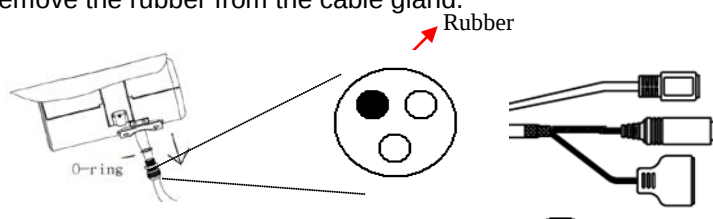
1. Identify the type of network device.
2. If the network device supports PoE (Power over Ethernet) function, simply connect the camera to it via Ethernet cable.
3. If not, both Ethernet cable and power supply (DC12V or AC24V) should connect to device.



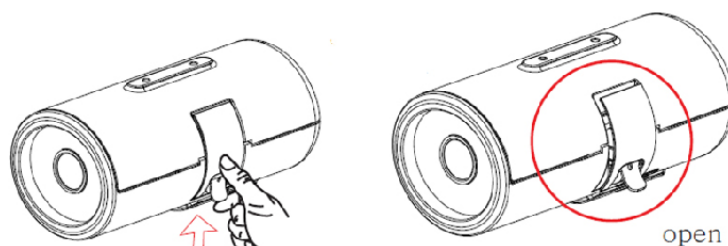
Connect to terminal block I/O

The terminal block I/O (for digital I/O, RS-485, and audio) is inside the housing. To connect the terminal block, please:

1. Remove the rubber from the cable gland.

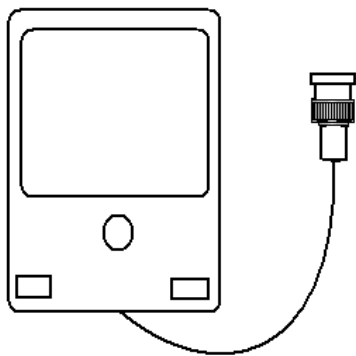
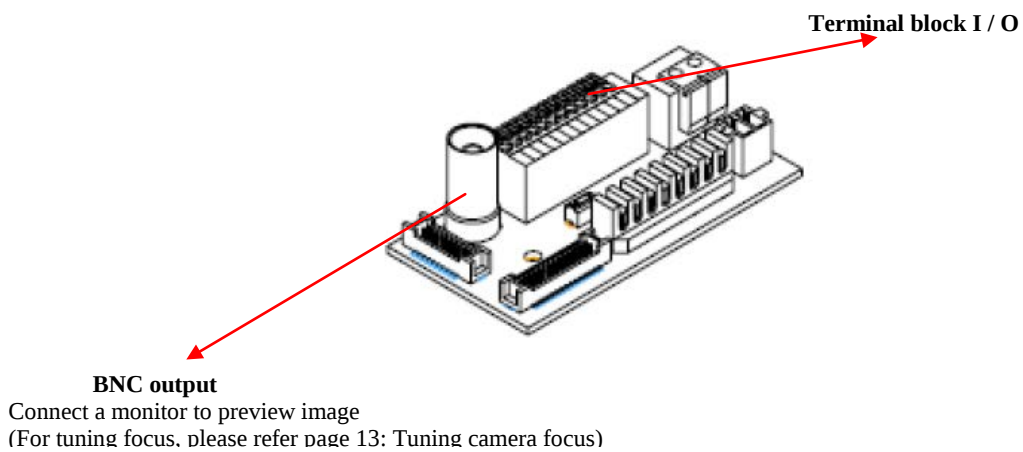


2. Open the housing (Make sure the burglarproof screw has been taken away)

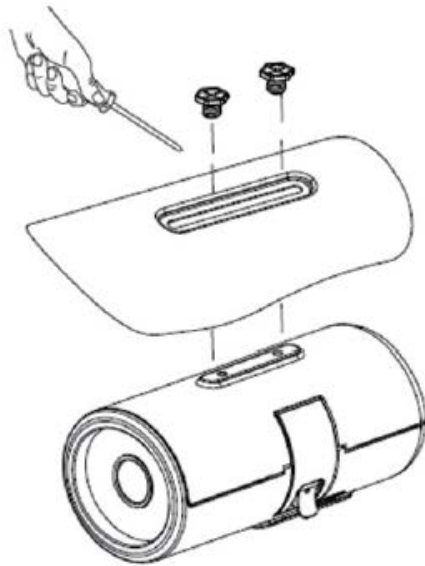


3. Draw connection wires through the hole to reach the inside of the housing.

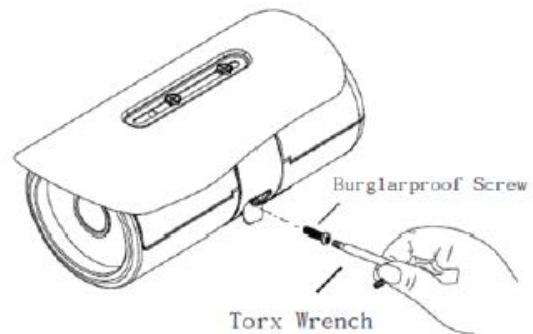
4. Connect the wires to the terminal block.
(Please refer page 48: "I/O connectors – Pin definitions")



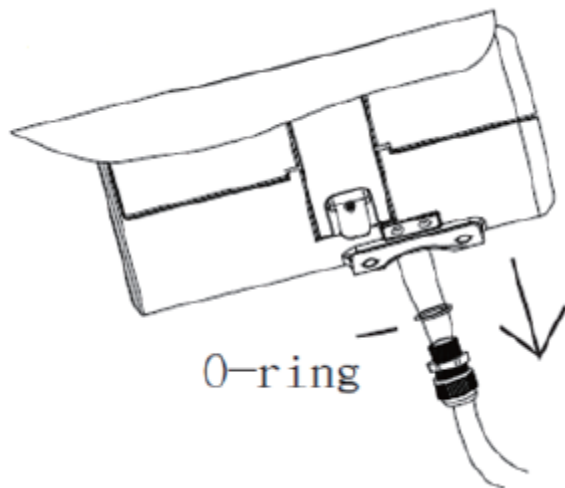
Install Sunshield and O-ring



Step 1. Install Sunshield by two screws.

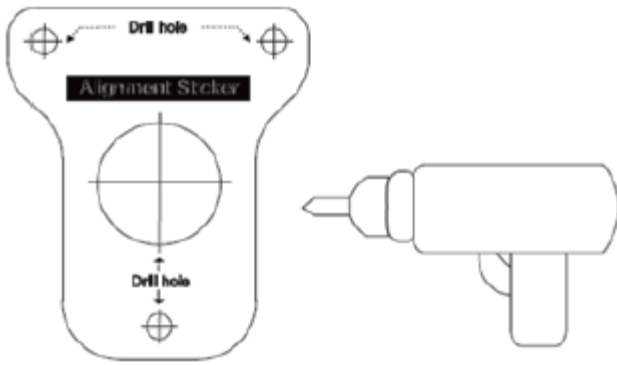


Step 2. Lock the housing by burglarproof screw.

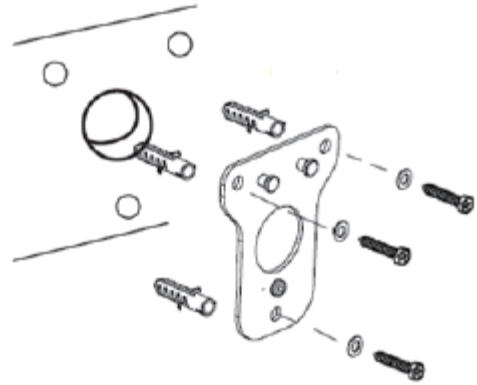


Step 3. Draw the cable through the O-ring

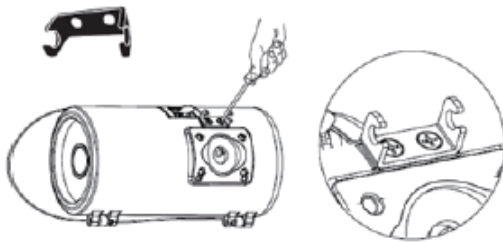
Mount Camera



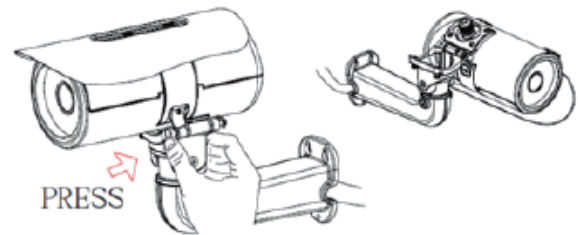
Step 1. Alignment Sticker on the wall and drill holes



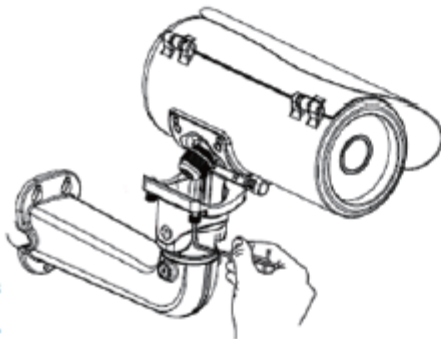
Step 2. Wall bracket holder on the wall



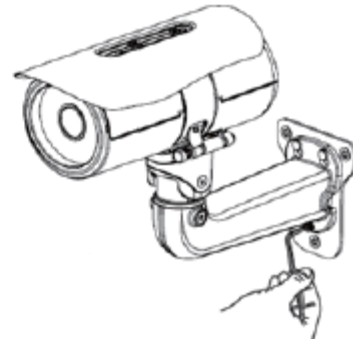
Step 3. Install U-Shaped retainer



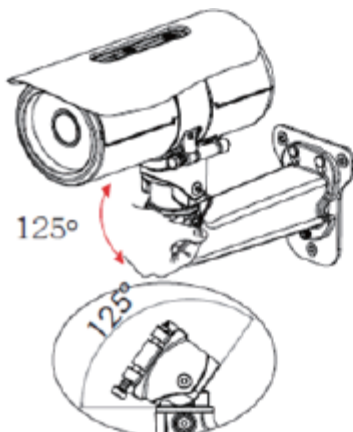
Step 4. Press the screw on the bracket to combine



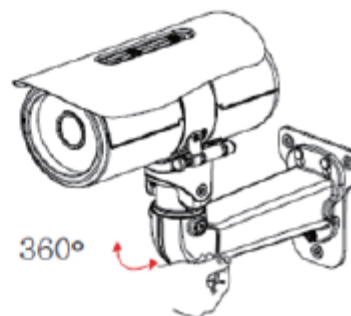
Step 5. Use wrench to lock bracket with housing



Step 6. Fix the camera into the wall



Step 7. Adjust vertical and horizontal angle

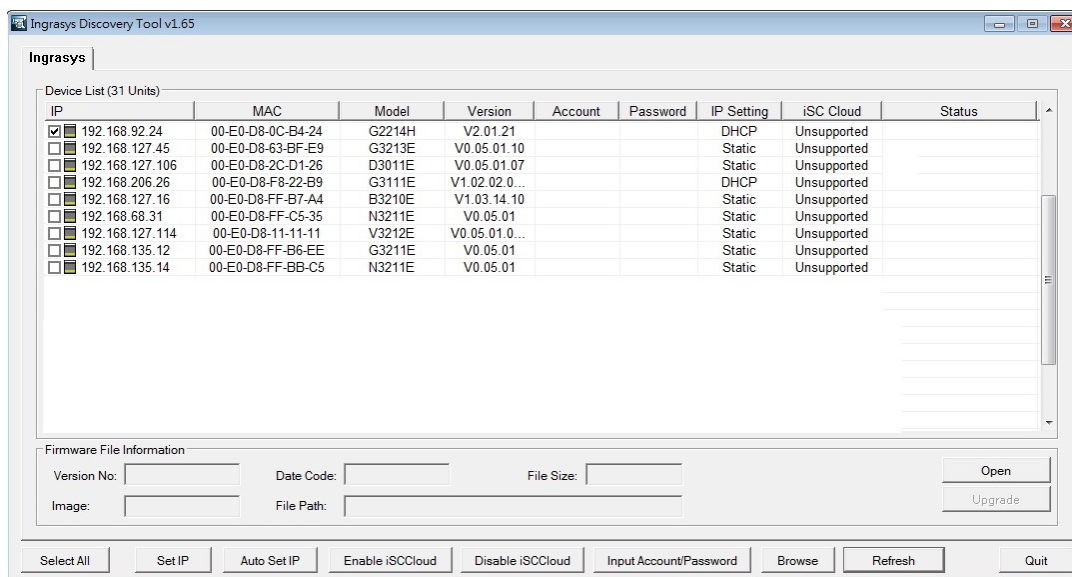


Software Installation

Discover IP Cameras

Discovery Tool is a utility provided for not only searching and displaying the available IP cameras information in a network but also managing the multiple networking settings such as static IP address assignment.

After completing the hardware installation, run ingrasysDiscovery.exe to search for the IP camera installed.



Assigning IP Address to the device

The steps of applying this search tool are described as below.

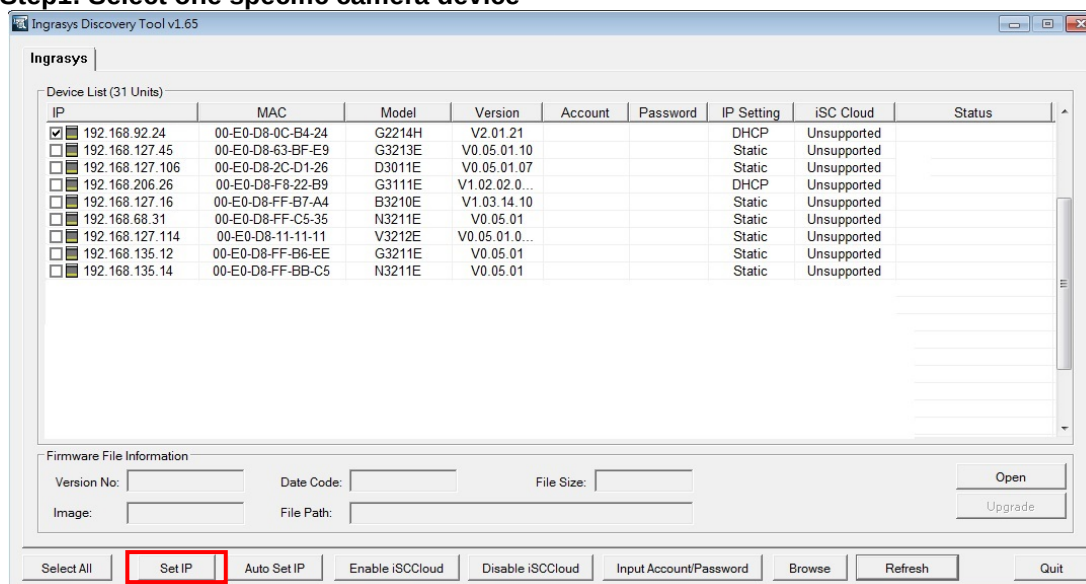
1. Launch IPCAM Discovery Tool (ingrasysDiscovery.exe)
2. Assign IP address

The selection is based on a single or multiple camera devices.

[Set IP]

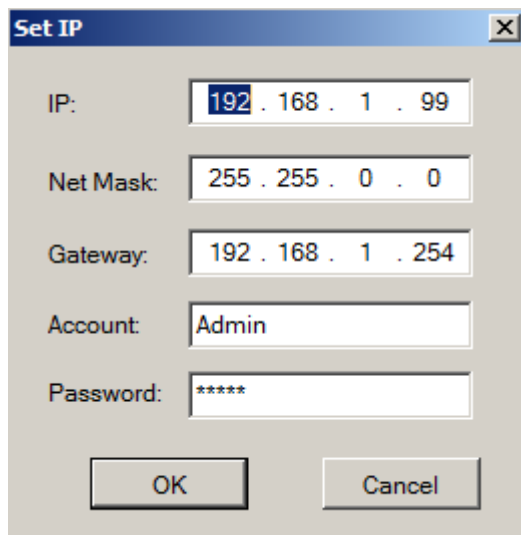
This is applied to one specific camera selected from the Device List.

Step1: Select one specific camera device



Step2: Input desired IP information

The default settings of account /password are **Admin / Admin**. If that were been changed, please enter the set values.



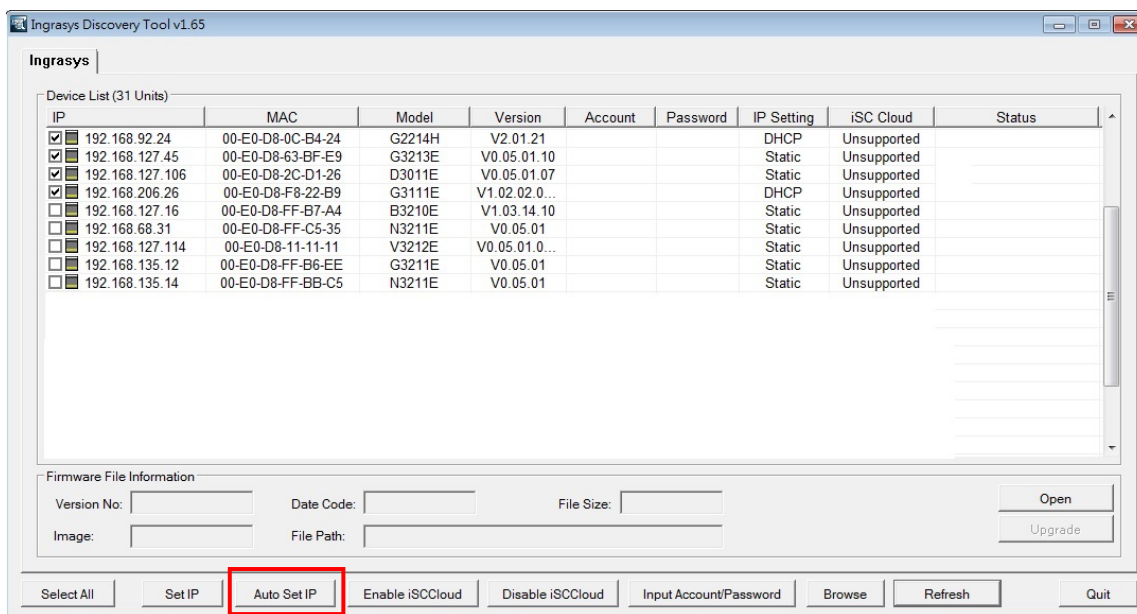
Set IP dialog box with the following fields:

- IP: 192 . 168 . 1 . 99
- Net Mask: 255 . 255 . 0 . 0
- Gateway: 192 . 168 . 1 . 254
- Account: Admin
- Password: *****
- Buttons: OK, Cancel

[Auto Set IP]

This is applied to a group of specific cameras selected from the Device List.

Step1: Select specific cameras



Ingrasys Discovery Tool v1.65 interface showing the Device List (31 Units) table. The 'Auto Set IP' button is highlighted in the bottom toolbar.

IP	MAC	Model	Version	Account	Password	IP Setting	iSC Cloud	Status
☒ 192.168.92.24	00-E0-D8-0C-B4-24	G2214H	V2.01.21			DHCP	Unsupported	
☒ 192.168.127.45	00-E0-D8-63-BF-E9	G3213E	V0.05.01.10			Static	Unsupported	
☒ 192.168.127.106	00-E0-D8-2C-D1-26	D3011E	V0.05.01.07			Static	Unsupported	
☒ 192.168.206.26	00-E0-D8-F8-22-B9	G3111E	V1.02.02.0...			DHCP	Unsupported	
☐ 192.168.127.16	00-E0-D8-FF-B7-A4	B3210E	V1.03.14.10			Static	Unsupported	
☐ 192.168.68.31	00-E0-D8-FF-C5-35	N3211E	V0.05.01			Static	Unsupported	
☐ 192.168.127.114	00-E0-D8-11-11-11	V3212E	V0.05.01.0...			Static	Unsupported	
☐ 192.168.135.12	00-E0-D8-FF-B6-EE	G3211E	V0.05.01			Static	Unsupported	
☐ 192.168.135.14	00-E0-D8-FF-BB-C5	N3211E	V0.05.01			Static	Unsupported	

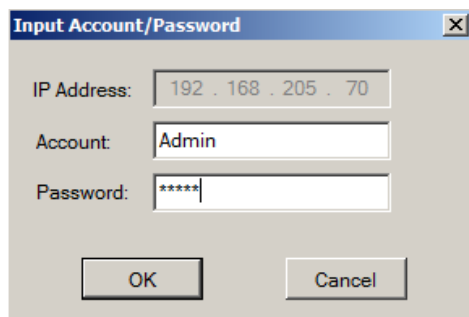
Firmware File Information section:

- Version No: [] Date Code: [] File Size: []
- Image: [] File Path: []
- Buttons: Open, Upgrade

Bottom toolbar buttons: Select All, Set IP, **Auto Set IP**, Enable iSCCloud, Disable iSCCloud, Input Account/Password, Browse, Refresh, Quit

Step 2: Input Account / Password

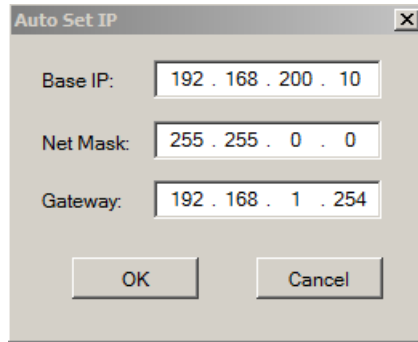
The default account information is **Admin / Admin**. If the values have been re-set, please enter the set values.



Input Account/Password dialog box with the following fields:

- IP Address: 192 . 168 . 205 . 70
- Account: Admin
- Password: *****
- Buttons: OK, Cancel

Step 3: Input IP information

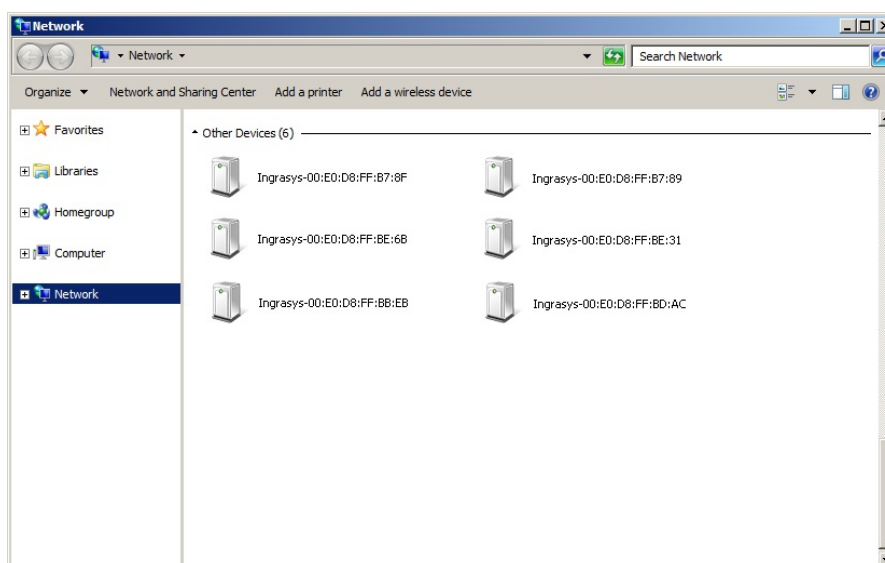
A screenshot of a Windows-style dialog box titled "Auto Set IP". It contains three input fields for network configuration. The "Base IP:" field contains "192 . 168 . 200 . 10". The "Net Mask:" field contains "255 . 255 . 0 . 0". The "Gateway:" field contains "192 . 168 . 1 . 254". At the bottom are "OK" and "Cancel" buttons.

Base IP:	192 . 168 . 200 . 10
Net Mask:	255 . 255 . 0 . 0
Gateway:	192 . 168 . 1 . 254

OK Cancel

Discovering devices in Windows Network

If the IP camera is installed in a network with DHCP and UPnP services, after obtaining an IP address from DHCP server, it can then be discovered in “Windows Network” of a client PC, see figure below. The reason for being automatically discovered is that the IP camera's UPnP is default enabled (see **Network** → **Network Connectivity**).



NOTE:

The term “**Windows Network**” in given figure above is used in Windows Vista / 7. It can be referred to Windows XP “**My Network Places**” which possesses the same capability of discovering UPnP devices.

To identify the camera from the listed devices in “Network”, utilize the UPnP name and the device's MAC address. This MAC address can be found on the label.



Right-click on the device and select “Properties”, the pop-up window shows all the information related to the device, including the **web access info**. Use the web address to connect to the IP camera. Or simply double-click on the selected device, which gets immediately access to the camera webpage.

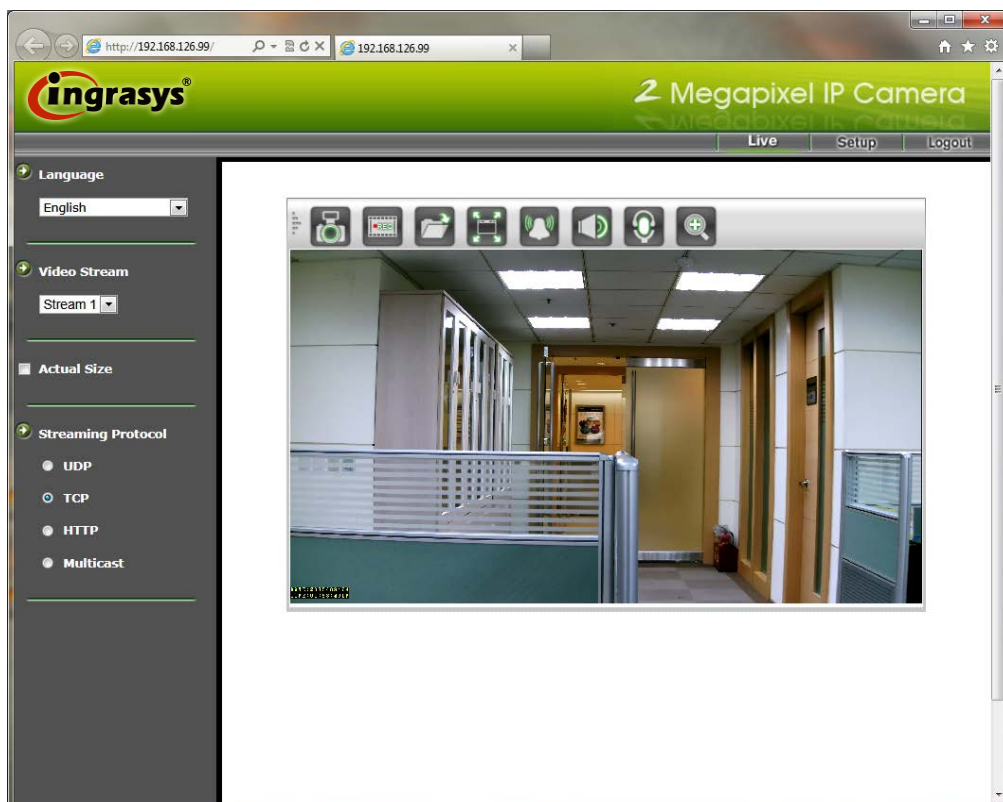


ActiveX add-on Installation

It is recommended to use Internet Explorer 8 or later as the primary browser to access the IP cameras website. The first-time access to the camera webpage will be prompted to install the ActiveX. To allow the installation, click **"Install"** on the message bar and follow the instructions to complete ActiveX installation.



When the installation is completed, IE browser can display the live video of the IP camera as the below figure.



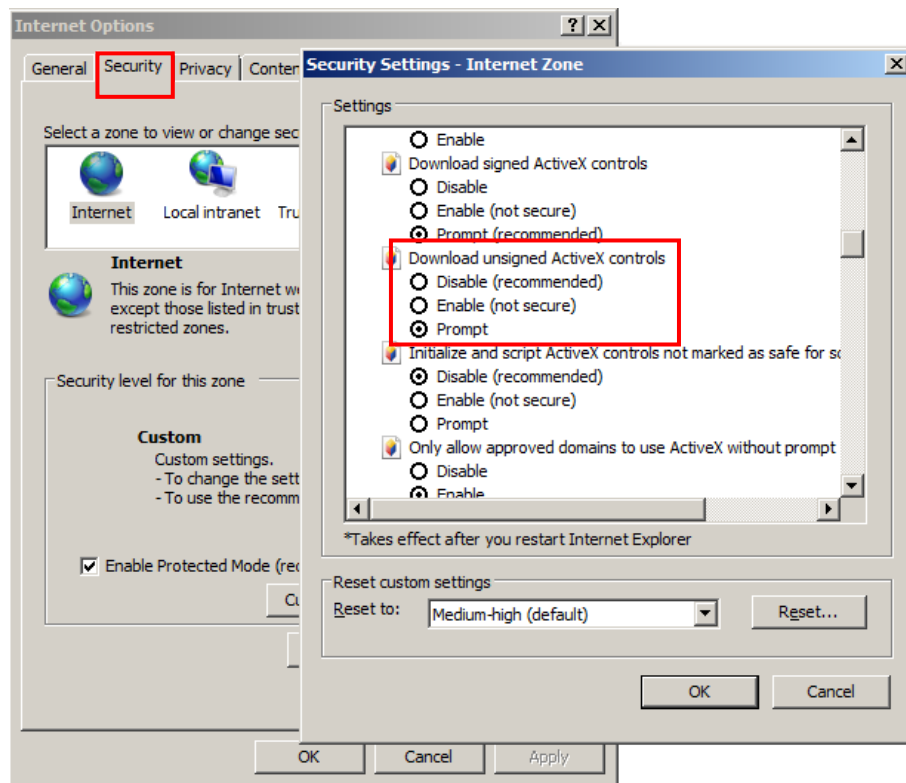
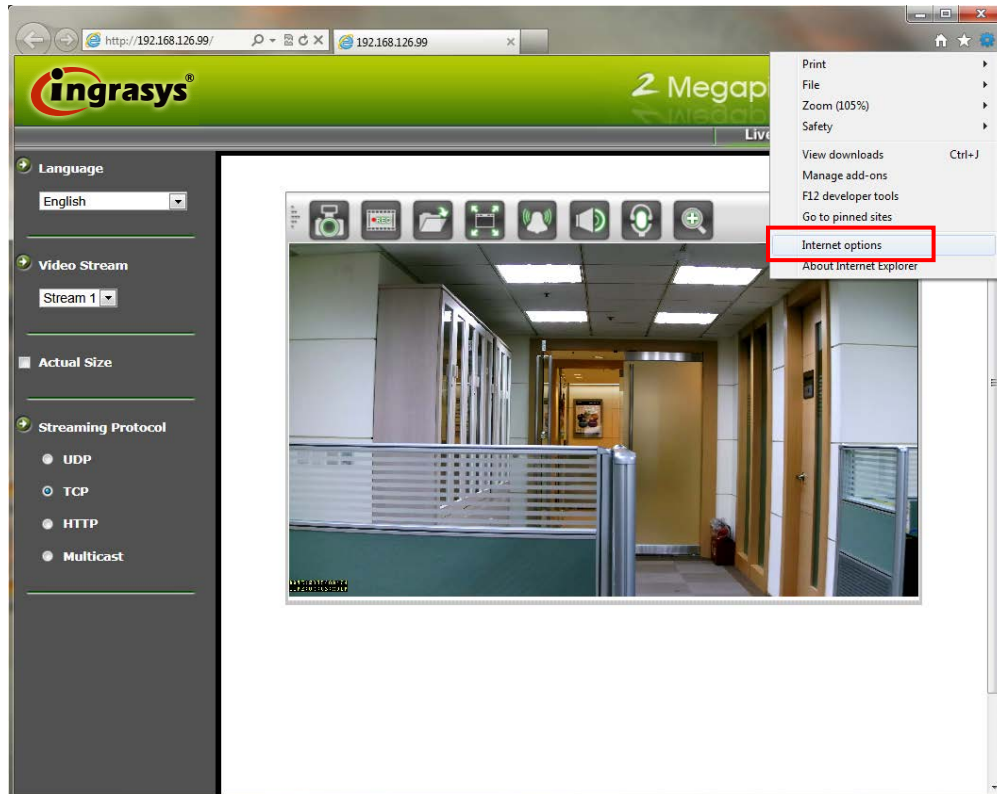
NOTE:

If, however, there is not any prompted message or ActiveX cannot be installed at all, it is needed to change the IE security level and settings.

<Example>

Internet Explorer 9: Internet Options → Security → Custom level

Ensure the “Download signed ActiveX controls” setting is either “Enable” or “Prompt” selected.



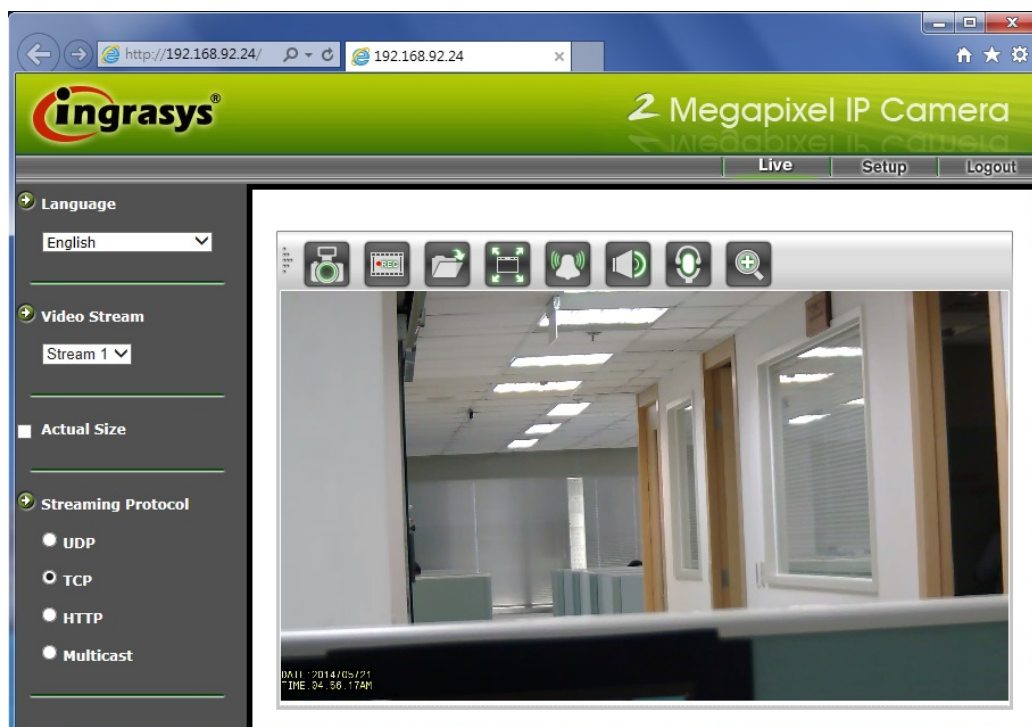
Accessing the camera

Viewing the live video

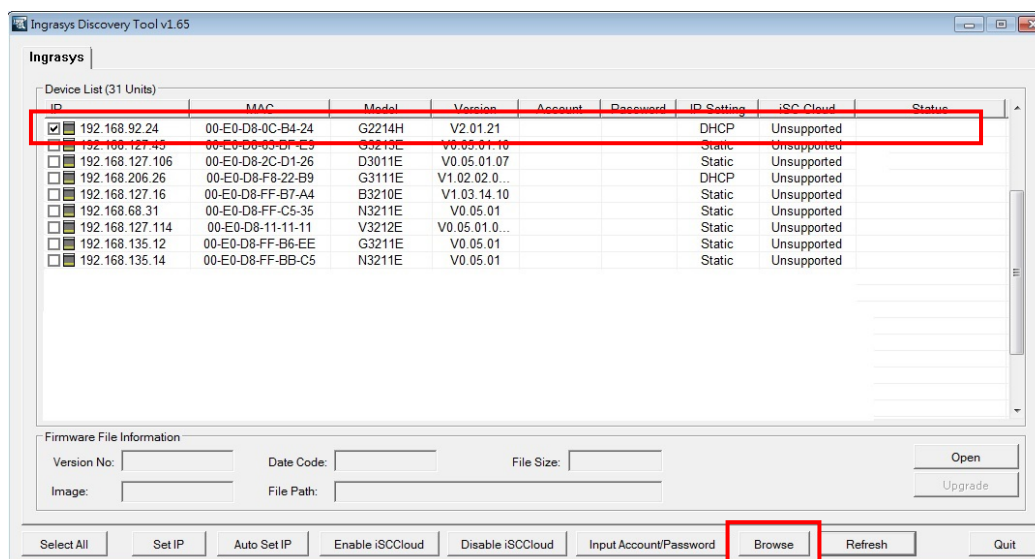
With the correct installation and IP settings, the camera device can be approached via network. There are three ways to view the live video from the camera,

1. Internet Explorer

- Launch IE browser and input the IP address of the camera or
- Click on "Browse" button on the selected IP camera address from Ingrasys Discovery Tool.



OR



NOTE:

Ingrasys IP cameras also support the other web browsers for viewing the live video such as Firefox, Google Chrome or Safari.

2. RTSP Player

The live video of the camera can be played with RTSP players, such as VLC or QuickTime.

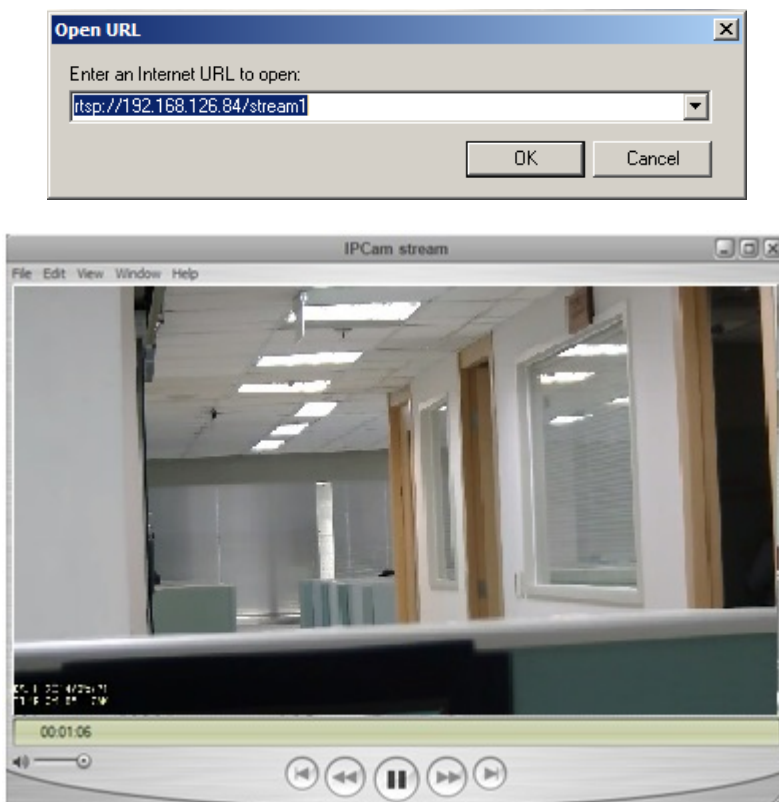
The camera supports two simultaneous video streaming (see **Video & Audio → Video Setting**). To gain access to the camera for each video stream, the **RTSP URL** will be required. The default paths for the 3 streams are “stream1”, “stream2” and “stream3”. The URL format should be input as below.

Stream1: rtsp://Camera_IP/stream1

Stream2: rtsp://Camera_IP/stream2

Stream3: rtsp://Camera_IP/stream3

The example given below is the live video displayed with QuickTime player.

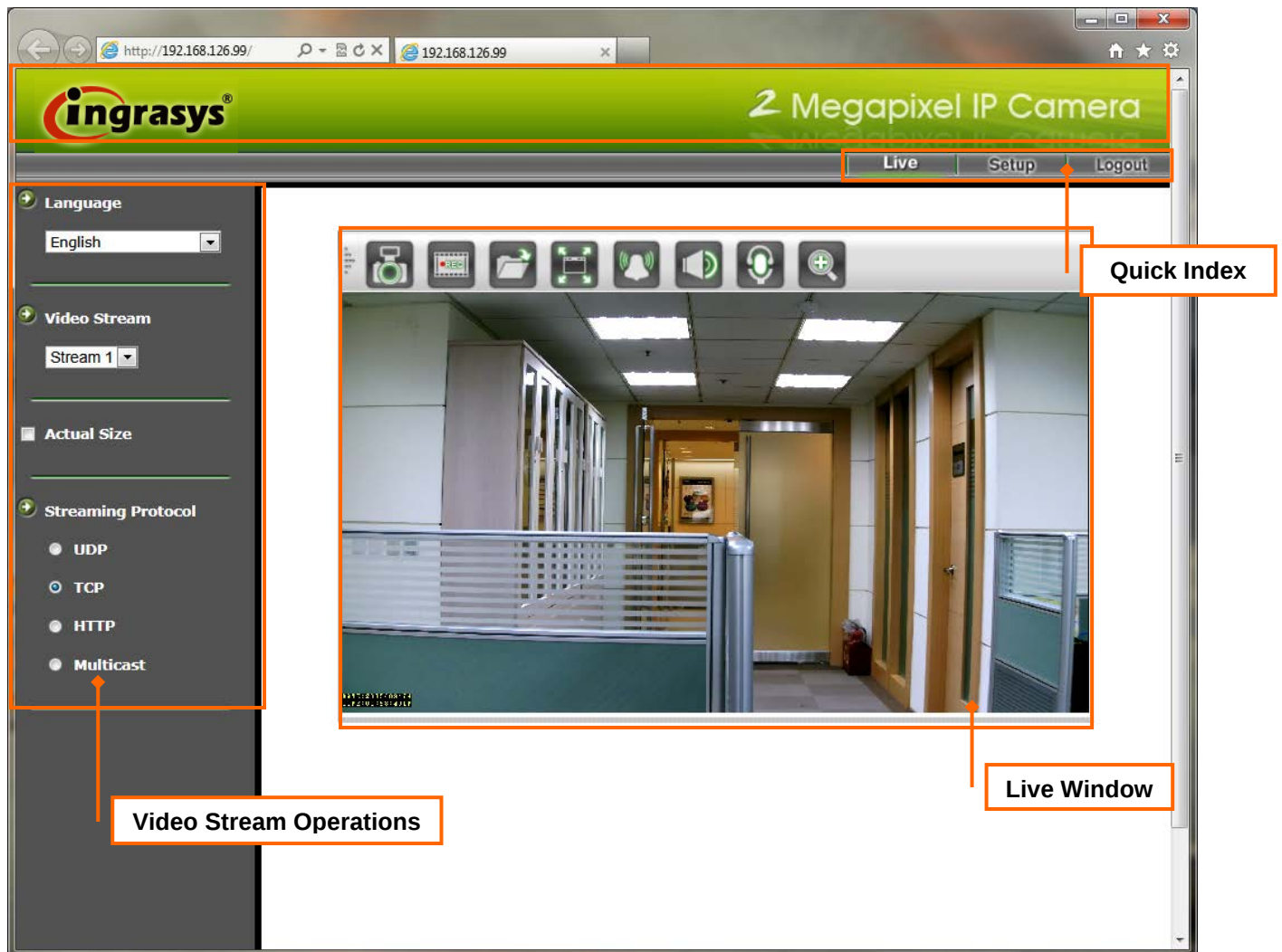


3. NVR / CMS Software

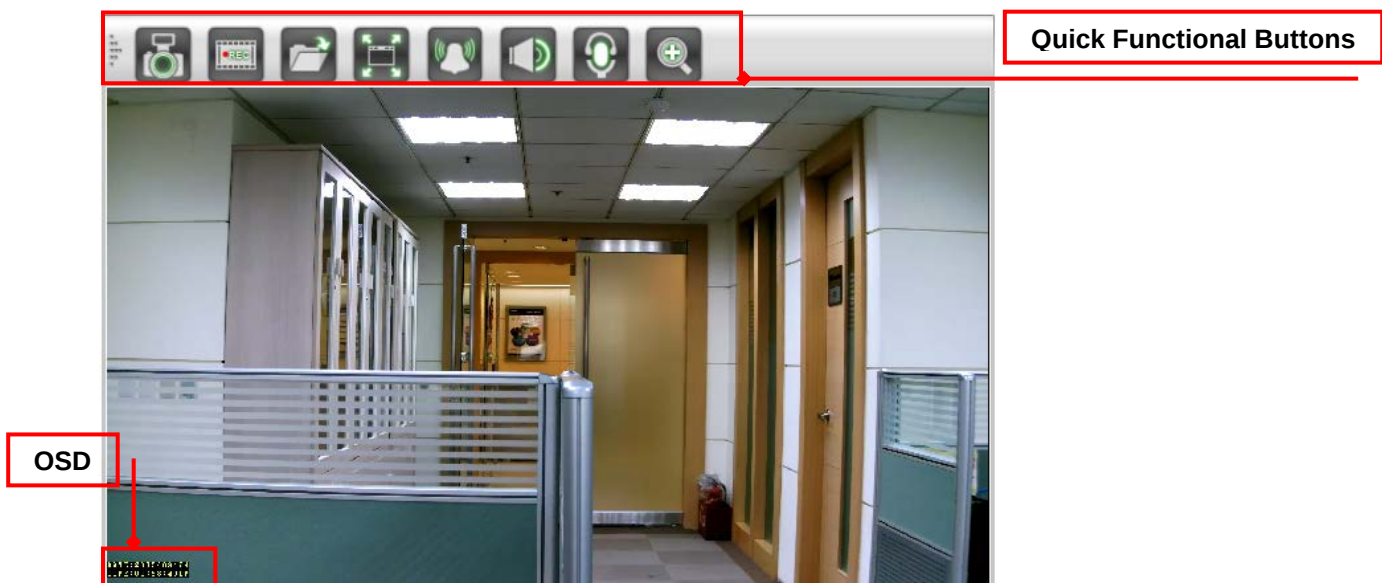
Ingrasys IP cameras are ONVIF conformant products. Most of ONVIF conformant NVR / CMS software can retrieve the video from the cameras for both live view and recording. For more details about the support information and operation, please contact the software vendors.

The Live view page

The following illustration shows you the front page of Ingrasys IP camera website.



Live Video Window





Snapshot: Press the button to capture an image photo



Record: Press the button to start recording. Press again to stop it.



Record Path: set up a file path that video clips and snapshots can be stored.



Full screen: Press the button to enter the full screen mode. Press ESC key to return.



Manual trigger: Press the button as triggering an event. See **Event Management** for detail.



Listen: Enable / Disable to receive video from camera

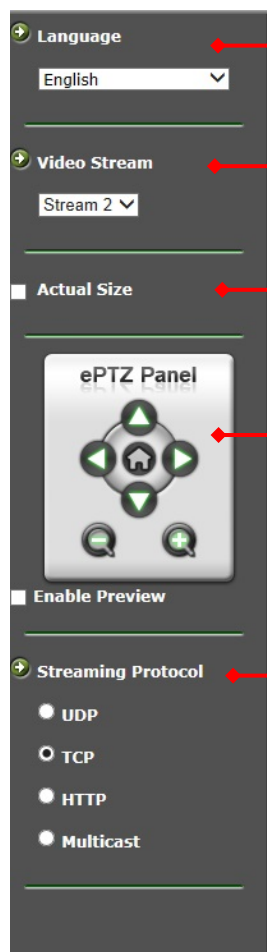


Talk: Enable / Disable to send audio to camera



Digital Zoom: toggle the digital zoom function.

Video Stream Operations



Language selection for the WEB UI

Select video stream for displaying on live video window

Display the video in actual (configured) size or digital (scaled)

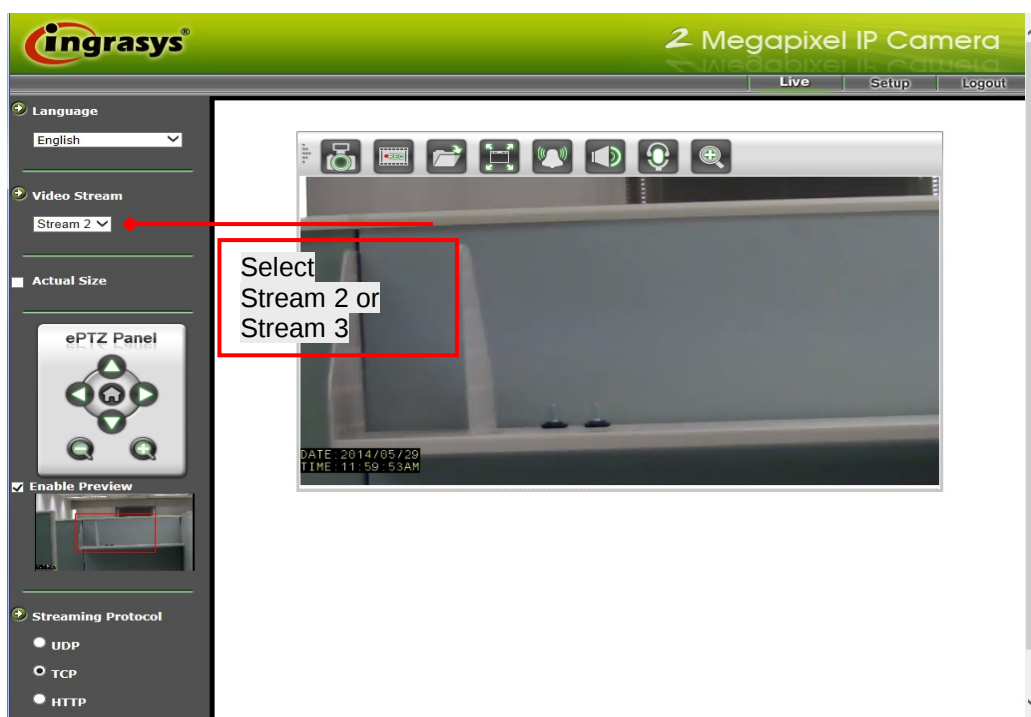
ePTZ control panel (Only shows on stream 2 and

Select the preferred streaming protocol on the client

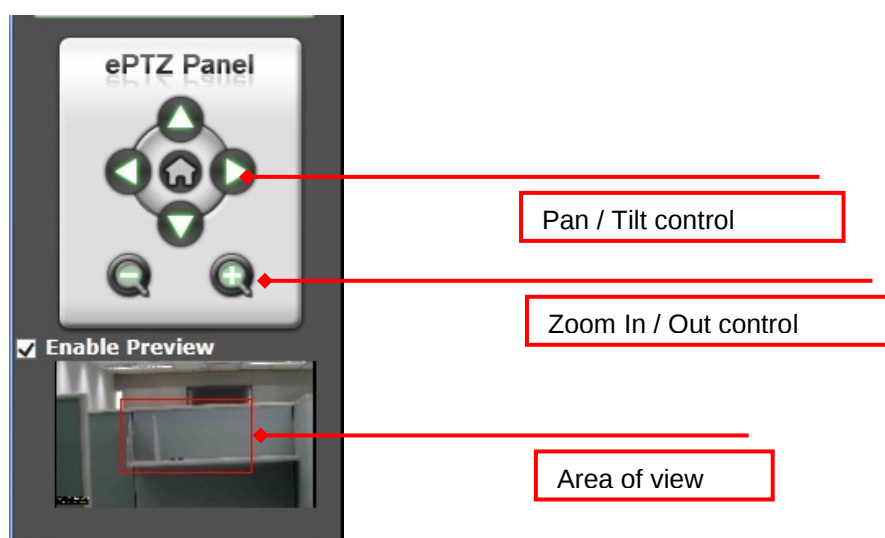
Actual size



ePTZ (only supports Stream2 and Stream3)



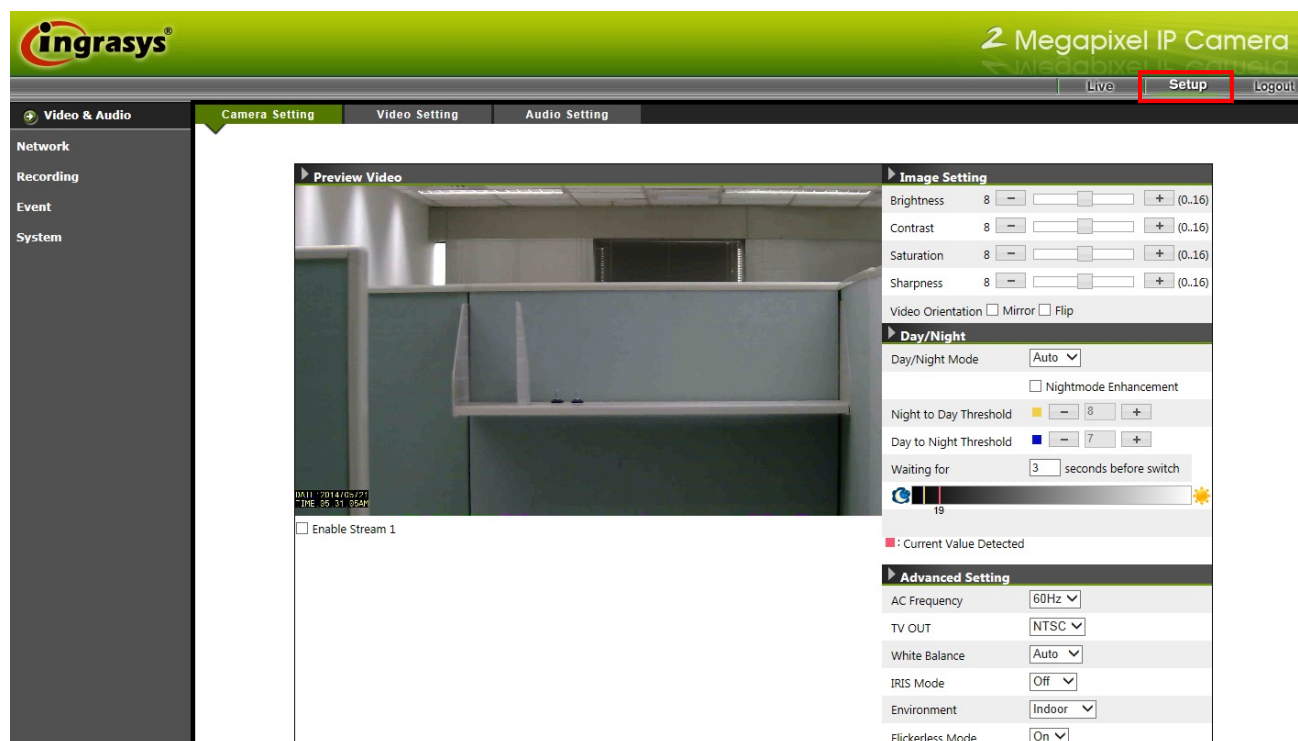
ePTZ Control Panel



Video & Audio

This section describes how to configure the video streaming of the device and the related camera image configurations. Users with Administrator or Operator authority (see **System → User Management**) are able to do these configurations.

Click on “**Setup**” of **Quick Index** to enter the **Video & Audio** page shown as below.



There are 4 sub-settings under “**Video & Audio**”:

- **Camera Setting**
- **Video Setting**
- **Audio Setting**

Camera Setting

Image Setting	
Brightness	8 - + (0..16)
Contrast	8 - + (0..16)
Saturation	8 - + (0..16)
Sharpness	8 - + (0..16)
Video Orientation ☐ Mirror ☐ Flip	
Day/Night	
Day/Night Mode	Auto v
☐ Nightmode Enhancement	
Night to Day Threshold	- 8 +
Day to Night Threshold	- 7 +
Waiting for	3 seconds before switch
 19	
: Current Value Detected	
Advanced Setting	
AC Frequency	60Hz v
TV OUT	NTSC v
White Balance	Auto v
IRIS Mode	Off v
Environment	Indoor v
Flickerless Mode	On v
Exposure & Gain Mode	Auto v
Max. Shutter Speed	 1/30s v  1/30s v
Max. Gain Value	 4X v  16X v
WDR	 Off v  Off v
Exposure Level	3 - + (1..15)
Apply Reset	

Image Setting

Brightness: the luminance of image view. Default value is 8; adjustable from 0 to 16.

Contrast: the ratio of luminance of white to black. Default value is 8; adjustable from 0 to 16.

Saturation: colorfulness of a color related to its own brightness. Default value is 8, adjustable from 0 to 16.

Sharpness: refer to image acutance, which presents in the edges contrast of an image. Default value is 8, adjustable from 0 to 16.

The 4 correlates are referring image appearance in terms of color/vision that is adjustable according to user preferences.

Video Orientation: change the image orientation

- **Mirror:** rotate the image horizontally
- **Flip:** rotate the image vertically

NOTE:

These operations are usually applied when camera must be installed in an exceptional position. For the example of ceiling installation, camera must be installed upside-down.

Day/Night

Day/Night Mode:

Switch the video images for **Day** (plenty of light) or **Night** (Low light) scene. In default “Auto” mode, camera will switch to Day or Night vision according to the light intensity. The Day / Night modes contain 2 actions: switching IR Filter **On / Off**, and image hue **Color / Mono**.

In day mode, the IR filter is switched in to avoid the image sensor from receiving the infrared, thus the true color image is provided. When camera enters night mode, IR filter is switched off to allow IR illuminations going into the sensor, thus increasing the images light level. The image color is switched to B/W (Mono mode).

Nightmode Enhancement

With this function enabled, the better night vision will be obtained. However, the number of FPS may drop depends on the actual environmental illuminations.

Light Sensor Sensitivity

The value reflects to adjust the sensitivity of Light Sensor.

Night to Day Threshold

The value reflects the timing switching from night to day.

Day to Night Threshold

The value reflects the timing switching from day to night.

Switch Time

The value reflects the delay time for both ways of day and night switch.

Waiting for	3	seconds before switch
-------------	---	-----------------------

Advanced Setting

AC Frequency: Anti-flicker setting for environment with fluorescent light sources, image sensor needs 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.

TV OUT: Option of NTSC or PAL.

White Balance: The selections for different lightening condition, which is refereeing to color temperature. The default value is set to AUTO.

IRIS Mode: Enable auto IRIS mode when DC-Iris lens is installed. System will enable auto exposure and gain control.

Environment: Select an environmental lightening. This gives an overall exposure condition.

Flickerless Mode: Flickering can also present in various exposure level. Set “Flickerless” Mode “On” to fix the maximum shutter speed (auto exposure control). Thus, the flickers can be eliminated.

Exposure & Gain Mode: Select auto / manual Exposure & Gain control mode. The selection defines the controlling in a range of or fixed value, according to the following two items (**Shutter Speed** and **Gain Value**). The configurations will be limited at selected maximum rates when AUTO mode is on.

Max. Shutter Speed: Also refer to the exposure time. Higher shutter speed is normally applied under strong light circumstance, so the image won’t be overexposure. Lower shutter speed, on the other hand keeps image luminance in low light environment.

Max. Gain Value: Also refer to the amplification factor for the incoming light. Increasing the gain value provides a brighter image, but the noises may also be increased.

WDR: Enable this function for image objects under backlight circumstances.

Exposure Level: Adjust Exposure level for a target level of sensed brightness. Auto exposure function will adjust to exposure time to make the sense image brightness close to the target.

NOTE

The “**Shutter Speed**”, “**Gain Value**” and “**WDR**” can be configured for daytime and nighttime. The configurations will be applied according to the current status of “**Day/Night Mode**”.

 : represents the Day mode

 : represents the Night mode

The setting items with the Day or Night mode symbol will be altered along with the setting of Day/Night mode. The examples are illustrated as below.

Day/Night	
Day/Night Mode	Day ▼
☐ Nightmode Enhancement	
Advanced Setting	
AC Frequency	60Hz ▼
TV OUT	NTSC ▼
White Balance	Auto ▼
IRIS Mode	Off ▼
Environment	Indoor ▼
Flickerless Mode	On ▼
Exposure & Gain Mode	Auto ▼
Max. Shutter Speed	 1/30s ▼
Max. Gain Value	 4X ▼
WDR	 Off ▼
Exposure Level	3 – + (1..15)
Apply Reset	

Day/Night	
Day/Night Mode	Night ▼
☐ Nightmode Enhancement	
Advanced Setting	
AC Frequency	60Hz ▼
TV OUT	NTSC ▼
White Balance	Auto ▼
IRIS Mode	Off ▼
Environment	Indoor ▼
Flickerless Mode	On ▼
Exposure & Gain Mode	Auto ▼
Max. Shutter Speed	 1/30s ▼
Max. Gain Value	 16X ▼
WDR	 Off ▼
Exposure Level	3 – + (1..15)
Apply Reset	

Video Setting

Video & Audio	Camera Setting	Video Setting	Audio Setting
Network Recording Event System	Video Stream ☒ Enable Stream 1 ☒ Enable Stream 2 ☒ Enable Stream 3 Video Overlay ☒ Enable OSD Privacy Mask ☐ Enable Privacy Mask Apply		

Video Stream

This tab provides detailed stream configurations. These settings can affect resolution ratio, video size, quality. The maximum transmission performance can be expected under the condition of full network bandwidth.

The camera supports up to 3 video streams. Each stream can be configured with following items.

Video Stream	
☒ Enable Stream 1	
Video Format	H.264
Resolution	1920x1080
Frame Rate	10 fps
Intra Frame Period	1 S
Video Quality	Variable Bit Rate Quality Level Excellent
☒ Enable Stream 2	
Video Format	H.264
Resolution	800x450
Frame Rate	10 fps
Intra Frame Period	1 S
Video Quality	Variable Bit Rate Quality Level Excellent
☒ Enable Stream 3	
Video Format	H.264
Resolution	800x450
Frame Rate	10 fps
Intra Frame Period	1 S
Video Quality	Variable Bit Rate Quality Level Excellent

Video Format: H.264, MPEG4 and MJPEG are available for the selection. The demand of bandwidth and storage requirement differs from the selection of video format. In the request of same video quality, H.264 contributes to less bandwidth and storage requirement, which can be more efficient than MPEG4 or MJPEG.

Resolution: The resolution here describes an image size counted in width by height, e.g. 1280x720, referring to **pixel resolution**.

The available resolutions for Stream 1 to Stream 3 are listed in the following table.

Resolution	Stream 1	Stream 2	Stream 3
1920 x 1080	V		
1280 x 720	V		
800 x 450	V	V	V
640 x 360	V	V	V
480 x 270	V	V	V
320 x 180	V	V	V

"V": available

"-": not available

The table for Stream 1 to Stream 3 enable list .

H.264 Table

Stream 1	Stream 2	Stream 3
1920 x 1080 @30FPS	-	-
1920 x 1080 @15FPS	800 x 450 @15FPS	-
1920 x 1080 @10FPS	800 x 450 @10FPS	800 x 450 @10FPS
1280 x 720 @30FPS	-	-
1280 x 720 @15FPS	800 x 450 @15FPS	-
1280 x 720 @10FPS	800 x 450 @10FPS	800 x 450 @10FPS
800 x 450 @10FPS	800 x 450 @10FPS	800 x 450 @10FPS

"-": not available

Frame Rate: It represents the number of frames that are displayed per second. The higher the frame rate is the better/smoothen the video stream can be obtained. However, it would be the tradeoffs for the higher network bandwidth and storage requirement.

Intra Frame Period: This is applied only in MPEG4 / H.264 which the video stream is composed of I-frames (full image information) and P-frames (motion-compensated difference information).

This setting configures the time period between 2 I-frames. The shorter period means the higher frequency of I-frame. Video can then be well handled whereas the bit rate may increase.

Video Quality: There are two types of bit rate controls for video quality adjustment, Constant Bit Rate (CBR), Variable Bit Rate (VBR), Enhanced Constant Bit Rate and Enhanced Variable Bit Rate.

CBR mode concerns about the circumstances of fixed data rate transferring. However, VBR is utilized when network bandwidth is less concerned.

NOTE:

CBR is not applicable in MJPEG video mode.

Video Overlay

Video Overlay

☒ Enable OSD

☒ Include Timestamp

Date & Time

☐ Include Text

The camera supports stamping text information on the video images. The options of the date/time string or/and a line of text message (e.g. camera name or location) are available for displaying on the images. Also, you may adjust the transparent percentage of the OSD background.

Privacy Mask

Privacy Mask

☒ Enable Privacy Mask



☒ Enable Stream 1

Privacy Mask List

Index	Name	Modify
1	Demo	Edit Delete

Privacy Mask Name

Privacy Mask can block out the specific areas from view. The blocked areas will not be seen in both live view and recorded video clips and the total of 8 profiles can be created to the list.

To create Privacy Mask, simply input Privacy Mask Name and click “**Add New**” button and then apply it to complete the addition.

Audio Setting

Check the “Enable Audio” checkbox to enable the video streaming with audio. The audio encoding supports G.711 ulaw. For Audio Input Setting, the input source can only be External Microphone.

Camera Setting
Video Setting
Audio Setting

Audio Setting

☐ Enable Audio

Audio Encoding

Encoding

ulaw

Audio Input Setting

Source

External Microphone

Audio Volume Setting

Volume

Network Configuration

The IP Camera acts as one of the network devices. It allows user to configure the network functionalities based on applications. This section will describe the network configurations. Fundamentally, for instance, the IP assignment of the device can be done via **DHCP server**, **static IP option** or **PPPoE** to obtain IP from the service provider.

Video & Audio

➔ Network

Recording

Event

System

There are 5 subdirectories in "Network":

- Network Type
- Network Connectivity
- Quality Service
- Access Port
- Access IP Filter

Network Type

Network Type	Network Connectivity	Quality Service	Access Port	Access IP Filter										
IPv4 ☐ Enable DHCP Service ☒ Use Static IP <table border="1"> <tr> <td>IP Address</td> <td>192.168.135.139</td> </tr> <tr> <td>Subnet Mask</td> <td>255.255.0.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.254</td> </tr> <tr> <td>Primary DNS Server</td> <td></td> </tr> <tr> <td>Secondary DNS Server</td> <td></td> </tr> </table>					IP Address	192.168.135.139	Subnet Mask	255.255.0.0	Gateway	192.168.1.254	Primary DNS Server		Secondary DNS Server	
IP Address	192.168.135.139													
Subnet Mask	255.255.0.0													
Gateway	192.168.1.254													
Primary DNS Server														
Secondary DNS Server														
IPv6 ☒ Obtain IPv6 address automatically ☐ Use Static IP <table border="1"> <tr> <td>Address</td> <td></td> </tr> <tr> <td>Gateway</td> <td></td> </tr> <tr> <td>DNS</td> <td></td> </tr> </table>					Address		Gateway		DNS					
Address														
Gateway														
DNS														
PPPoE ☐ Enable PPPoE Service <table border="1"> <tr> <td>Account</td> <td></td> </tr> <tr> <td>Password</td> <td></td> </tr> </table>					Account		Password							
Account														
Password														

Network Type

There are 3 ways to configure IP address for the IP camera device, including **DHCP**, **Static IP** and **PPPoE**.

Enable DHCP Service: The default setting is DHCP, which camera will be automatically given an IP address in a network with DHCP server.

Use Static IP: Camera may also be manually assigned with a static IP address. Subnet mask, Gateway and DNS server(s) will also need to be specified for certain network function properly executed.

Enable PPPoE Service: This service is usually provided by an ISP (Internet Service Provider). IP Camera can establish a dial-up connection to the ISP and then get connected to Internet.

Network Connectivity

This page provides the connectivity configuration, so that IP camera can be accessed without necessarily providing the numerical IP address.

Network Type	Network Connectivity	Quality Service	Access Port	Access IP Filter
Network Connectivity ☒ Enable UPnP Service UPnP Name Ingrasys ☐ Enable DDNS Service Service Provider dyndns.org Hostname Account Password Apply				

Enable UPnP Service: with UPnP enabled, IP camera device can be easily discovered in Windows Network (My Network Places). See “Discover devices in Windows Network” in previous section.

Enable DDNS Service: By registering this sort of service, camera can be assigned and accessed over Internet with a hostname instead of IP address. To enable the services, visiting the website of the service provider and registering an account are required.

Dyndns.org: <http://www.dyndns.com/>

Quality Service

Quality Service provides network traffic management to guarantee the quality of services in higher priority, especially when network is insufficient. DSCP (Different Service Code Point) is a 6-bit IP header which defines the service level of the packet. According to the DSCP value, routers with PHB (Per-Hop Behavior) will define a specific class of traffic for the packet, in terms of bandwidth, latency, or loss rate, etc. Enable QoS and set DSCP value for the service to ensure its quality to be maintained.

Network Type	Network Connectivity	Quality Service	Access Port	Access IP Filter
Quality Service ☐ Enable QoS / DSCP RTSP (0 to 63) 0 Event (0 to 63) 0 HTTP (0 to 63) 0 Apply				

NOTE:

To make the QoS function work, all the switches and routers in the network must support QoS.

Access Port

This page provides the ports configuration for requesting the services from the camera device. These services include Web Page access, HTTP and RTSP streaming services.

Network Type	Network Connectivity	Quality Service	Access Port	Access IP Filter
Access Port HTTP Setting HTTP Port 80 HTTPS Setting HTTPS Port 443 RTSP Setting RTSP Port 554 Multicast Setting ☐ Always Multicast Stream 1 Multicast Group Address 239.128.1.99 Multicast Video Port 5560 Multicast Audio Port 5562 Multicast TTL [1~255] 15 ☐ Always Multicast Stream 2 Multicast Group Address 239.128.1.100 Multicast Video Port 5564 Multicast Audio Port 5566 Multicast TTL [1~255] 15 ☐ Always Multicast Stream 3 Multicast Group Address 239.128.1.101 Multicast Video Port 5568 Multicast Audio Port 5570 Multicast TTL [1~255] 15 Apply				

HTTP port / HTTPS port: By default, the HTTP and HTTPS ports are set to 80 and 443 respectively. They can also be assigned to another port number between 1025 and 65535.

The HTTP port is basically provided for device's webpage access. When the video format is set to MJPEG, user is able to retrieve the live video via HTTP URL, e.g.

Http://<ip_address>/operator/get_video.cgi?channel=[1, 2]
 , where channel is to specify stream1 or stream2

RTSP port: RTSP (Real-Time Streaming Protocol) is used to control the live media streaming. This port is provided to request the streaming service. By default, the port number is set to 554. It can also be assigned to another port number between 1025 and 65535.

Multicast: Multicast is a streaming method with bandwidth conserving technology. By delivering a single video stream to multiple network clients, the bandwidth utilization can be reduced.

Select the Always multicast option to enable multicast for stream 1 ~ 2.

Multicast Group Address – Set the IP address for multicast streaming. The Multicast IP address must be in the range from 224.0.1.0 to 239.255.255.255.

Multicast Ports – Set the port for multicast streaming.

Multicast TTL – The multicast Time-To-Live (TTL) gives the range of routers that multicast traffic can pass through in the networks.

NOTE:

The multicast stream can be triggered by a network client (e.g. choosing “Multicast” from the live view page) whereas “Always Multicast” option is not enabled. This mechanism is known as “Multicast On Demand”. In this mode, multicast stream starts when one or more clients request. It stops automatically when the last client leaves the multicast group. “Always Multicast”, on the other hand, starts or stops multicast stream by enabling/disabling this function. It doesn’t matter whether there is client request or not.



Access IP Filter

This setting also provides a basic security by filtering the accesses from other hosts. Enable this function and choose “Allow / Deny” of the listed IP addresses. Up to 15 IP address can be added in the list.

Network Type	Network Connectivity	Quality Service	Access Port	Access IP Filter																																																
Access IP Filter ☐ Enable IP Filter Filter Type ☐ Allow ☒ Deny <table border="1"> <thead> <tr> <th>No.</th> <th>IP Address</th> <th>Enable</th> </tr> </thead> <tbody> <tr><td>1</td><td> </td><td>☐</td></tr> <tr><td>2</td><td> </td><td>☐</td></tr> <tr><td>3</td><td> </td><td>☐</td></tr> <tr><td>4</td><td> </td><td>☐</td></tr> <tr><td>5</td><td> </td><td>☐</td></tr> <tr><td>6</td><td> </td><td>☐</td></tr> <tr><td>7</td><td> </td><td>☐</td></tr> <tr><td>8</td><td> </td><td>☐</td></tr> <tr><td>9</td><td> </td><td>☐</td></tr> <tr><td>10</td><td> </td><td>☐</td></tr> <tr><td>11</td><td> </td><td>☐</td></tr> <tr><td>12</td><td> </td><td>☐</td></tr> <tr><td>13</td><td> </td><td>☐</td></tr> <tr><td>14</td><td> </td><td>☐</td></tr> <tr><td>15</td><td> </td><td>☐</td></tr> </tbody> </table> Apply					No.	IP Address	Enable	1		☐	2		☐	3		☐	4		☐	5		☐	6		☐	7		☐	8		☐	9		☐	10		☐	11		☐	12		☐	13		☐	14		☐	15		☐
No.	IP Address	Enable																																																		
1		☐																																																		
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Recording

This section provides the recording configuration on the camera. Unlike the recording function (Quick Functional Button) on the live view page, video can also be recorded to the storage attached to the local network storage (Samba) according to a time based schedule.

Video & Audio

Network

Recording

Event

System

There are 4 subdirectories in the "Recording" category:

- Recording Plan
- SD Storage
- SD File List
- Samba

Recording Plan

Recording Plan
SD Storage
SD File List
Samba

Recording Plan List

Name	Status	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.	Src.	Dest.	Remove													
Add/Edit Recording Plan																								
☐ Enable This Recording Plan																								
Plan Name																								
Video Source		None																						
Maximum File Size		200MB																						
Destination		None																						
2012/10/01 13:57:27 Mon. ☒ Select All ☐ Scheduled Pattern																								
All	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon.																								
Tue.																								
Wed.																								
Thu.																								
Fri.																								
Sat.																								
Sun.																								
Apply Remove all schedule																								

Recording Plan List

Recording Plan List											
Name	Status	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.	Src.	Dest.	Remove
Off_Duty	Enabled				00:00 ~ 09:00 19:00 ~ 24:00				Stream 2	Samba	

It lists the created/scheduled recording plan(s). The details of a recording plan include:

Plan Name: Identifier of the recording plan

Status: Enable or Disable the recording plan

Mon ~ Sun: Displays the hours in days of a week that recording is effective

Src. (Source): The video source selected to be recorded

Dest. (Destination): The stored path for the recording file

Remove: Click to delete this recording plan.

Add / Edit Recording Plan

Add/Edit Recording Plan

☒ Enable This Recording Plan

Plan Name
Off_Duty

Video Source
Stream 2

Maximum File Size
200MB

Destination
Samba

2013/05/14 16:19:57 Tue.
☐ Select All
☒ Scheduled Pattern

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

Plan Name: Identifier of the recording plan

Video Source: The selection of the video source to be recorded. Options: Stream1 / Stream 2 / Stream 3.

Maximum File Size: This option defines the maximum file size of each video clip.

Destination: The stored path for the recording file

Select All: 24 hrs/ 7days (Mon-Sun) continuous recording

Scheduled Pattern: User-defined time frame

SD Storage

This page shows the SD card information when it is attached to the IP camera.

Recording Plan
SD Storage
SD File List
Samba

SD Card

SD Card Status	Ready	Remove
Total Size	1.84 GBytes	
Free Size	1.56 GBytes	
Used Size	284.74 MBytes	
Used (%)	15.14%	Refresh
Disk Format	Format	

Normally, inserting the micro SD card will be done before entering this page and obtain the card information as below. However, if it is the other way around, click SD storage tab to refresh it.

SD Card Status:

- **Syncing:** Display when the card database is in the process of synchronization

- **Ready:** Display when the micro SD card has been detected successfully is in a ready state
- **Detached:** Display when there is no micro SD card detected
- **Recording:** The micro SD card is being recording recorded
- **Remove button:** Remove the micro SD card
- **Mount button:** Mount the micro SD card

Used (%): Display the used space in percentage. Click Refresh button to obtain the up-to-dated value

Disk Format: Click Format button to format the micro SD card

NOTE:

1. It is recommended to insert the micro SD card before powering up the system. This is to ensure that the attached device is properly detected in the initial stage.
2. When the card storage is full, the system will automatically launch overwrite process from the earliest recording files.

SD File List

This page provides the search of records. The SD storage may contain both “**triggered-by-schedule**” recordings and “**triggered-by-events**” snapshot / video. There are search conditions used to narrow down the search results.

▶ Latest 10 Records		
File Name	Trigger Type	File Size
▶ Searching the Records		
Search Criteria		
Trigger Type		
☐ Motion Detection	☐ Schedule Recording	
☐ Manual Trigger	☐ Network Fail	
☐ Digital Input 1	☐ Digital Input 2	
☐ Periodically		
Trigger Time		
From Date		Time
To Date		Time
(yyyy-mm-dd)		(hh:mm:ss)
File Type		
☐ AVI	☐ JPEG	
Search		

The latest 10 Records

The most recent 10 records are listed in this table. Each record name is a link to view this video or image. Following the “Record Name”, each record is listed with its “Trigger Type” and “Record Size” details

▶ Latest 10 Records		
File Name	Trigger Type	File Size
20121001155228 S.avi	Schedule Recording	2.21 MB
20121001155106 S.avi	Schedule Recording	5 MB
20121001154949 S.avi	Schedule Recording	5 MB
20121001154837 S.avi	Schedule Recording	5 MB
20121001154717 S.avi	Schedule Recording	5 MB
20121001154601 S.avi	Schedule Recording	5 MB
20121001154436 S.avi	Schedule Recording	5 MB
20121001154311 S.avi	Schedule Recording	5 MB
20121001154152 S.avi	Schedule Recording	5 MB
20121001154031 S.avi	Schedule Recording	5 MB

Samba

This page allows user to configure the file storage via Samba. To begin with it, click Enable Samba and then input the related information.

Samba	
Samba Status	Ready <button>Remove</button>
Total Size	686.33 GBytes
Free Size	438.19 GBytes
Used Size	248.14 GBytes
Used (%)	36.15% <button>Refresh</button>
Samba Setting	
☒ Enable Samba	
Path	//10.32.79.90/Off_Duty *Note: Backslashes will replace the slashes
User Name	admin
Password	••••

NOTE:

Samba can only support mounting a shared folder located in the root directory. For example, to mount a folder called "Shared" can be input the path as below.

\\<IP>\Shared

Event Management

Event management describes the handling of events with the corresponding actions. A common case can be exemplified is storing a captured image to a local storage (Actions), when there is a Motion Event (Trigger Condition). This chapter gives the configurations of **Triggers** (what to detect?) and **Actions** ("what to send" and "where to send"). A time based schedule can also be applied.

Video & Audio

Network

Recording

Event

System

Configuration of Event Handling

There are 4 subdirectories in the "Event" category. The 4 configuration groups are correlated. A completed event setting may need to configure each part in sequence.

- Event Server & Media
- Motion Configuration
- DI/DO Setting
- Event List

Event Server & Media

The "Event Server" is the configuration of "where to send", e.g. FTP server, while Media is the sending file type. The combination of file type and the remote servers will then be applied as an event action.

Event Server List

Click on "Add New" button to add the remote servers. These are email recipients and FTP server.

Event Server List

Server Name	Server Type	Address	Remove
Add New Note: Maximum number of event server list is 2			

Add Event Server

Server Name

Email

Server Type

☒ Email

Mail Server Address

MAIL.INGRASYS.COM

User Name

UserName

Password

....

Server Port Number

25

Sender's E-mail Address

UserName@INGRASYS.COM

Mail Subject Prefix

Alarm Notification

SSL/TLS

None

Receiver Table

Index	Email Address	Description
1		
2		
3		
4		
5		

☐ FTP

FTP Server Address

User Name

Password

Server Port Number

21

Upload Path

*Note: Backslashes will repalce the slashes

Test

Apply

Cancel

Server Name: Identifier of the event server

Server Type

Email: Send the media file via email when an event is triggered.

- **Mail Server Address:** Enter a host name or IP address of the email server.
- **User Name:** Enter the user name of the email account.
- **Password:** Enter the password of the email account.
- **Server Port Number:** Enter the server port of the mail server. The default is 25.
- **Sender's E-mail Address:** Enter the email address of the sender
- **Mail Subject Prefix:** Enter the subject description for the mail.
- **SSL/TLS :** Select None/SSL/TLS for secure your mail transmission
- **Receiver Table:** Enter the recipients' email address. The mail can be sent to up to 5 recipients.

FTP: Send the media file to a FTP server when an event is triggered.

- **FTP Server address:** Enter the FTP server's address.
- **User Name:** Enter the user name of the FTP login account.
- **Password:** Enter the user name of the FTP login password.
- **Server Port Number:** Enter the server port of the FTP server. The default is 21.
- **Upload Path:** Enter the file path that files will be sent to.

Media Type

There are 2 types of media (file) available, **snapshot** (.jpg image) and **video clip** (.avi).

Media Type	
Snapshot	
Send	0 pre-alarm image(s) [0~2]
Send	1 post-alarm image(s) [1~3]
Video Clip	
Video Source	Stream 1
Pre-alarm record	0 seconds [0~3]
Post-alarm record	5 seconds [1~5]
Maximum file size	5000 KBytes [500~5000]

Video Source: Select the video source to be captured

Pre-alarm / Post-alarm image(s): Enter the numbers of images that will be captured before and after trigger is activated.

Pre-alarm / Post-alarm record: Enter the numbers of seconds that video will be recorded before and after trigger is activated.

Maximum file size: Define the maximum file size that a video clip is generated.

Motion Configuration

There are three MD (Motion Detection) areas can be enabled. Each MD can be individually enabled/disabled, defined the covering range and trigger sensitivity.

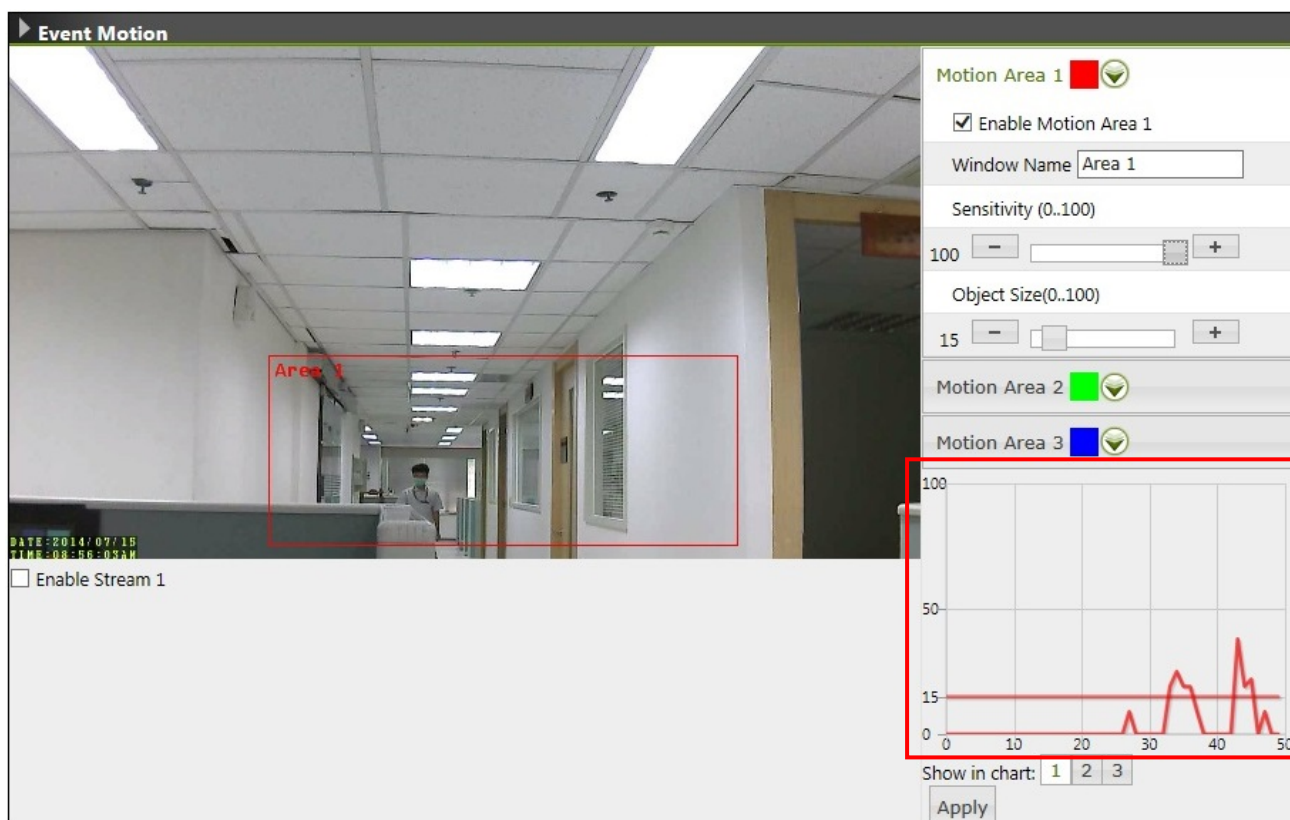
To enable and verified the MD, follow the steps provided below.

1. Check the box to enable the motion area
2. Drag and drop to move the motion window
3. Hold and drag any corner of the rectangle to resize the window.
4. By dragging the pin of the slider bars, adjust the detection “Sensitivity” and “Object Size” of the rectangle covered area.

NOTE:

By name implying, the “**Sensitivity**” setting means the sensitivity level to the motion detection; the higher value given makes the motion window more sensitive to the moving object. “**Object Size**” stands for the percentage threshold of moving object size verse motion window size. For example, the “**Object Size**” set as 50 that means the “size of detected moving object” must larger than 50% of the motion window to trigger the motion event.

5. The status chart shows the motion activities. When the motion vector exceeds a threshold (the Object Size), the motion trigger is activated. The index number of “Show in chart” reflects the number of Motion Area.
6. To enable other motion area, repeat above steps.
7. Click on “Apply” button to save the settings.



DI/DO Setting

The DI/DO setting provides the function of Digital I/O's trigger condition configuration and current status information. The trigger condition can be configured while current status is detected by the IP camera system.

Digital input (DI) can be configured as Open Trigger, Close Trigger, or disable. When its current status fits the trigger condition, the trigger is activated. Digital output (DO), can be one of the responding actions, when event it triggered, the DO will change output from Open to 12VDC when Trigger condition configured as 12VDC.

Digital Input/Output Status			
Sensor	Sensor Name	Trigger Condition	Current Status
Digital Input		Open ▾	Open
Digital Input 2		Open ▾	Open
Digital Output	do	12VDC ▾	No trigger

Digital Output Interval	
Trigger digital output for	1 seconds

Event List

List a summary of configured events. That is the selection of trigger condition(s) and the corresponding actions, as well as the scheduling. Up to 10 event objects can be configured.

To begin with it, click on “Add New” button to extend for the detailed configurations.

Event List											
Name	Status	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Sun.	Trigger	Action	Modify
Periodically trigger the event every 1 minute(s) (1~60) apply											
Add New		*Note: Up to 3 events can be configured									

Add / Edit Event List

☐ Enable This Event

Event Name

2014/05/27 02:13:10 PM Tue.

☒ Select All
☐ Scheduled Pattern

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

Triggered by

☐ Motion Detection

☐ Motion Area 1 ☐ Motion Area 2 ☐ Motion Area 3

☐ Digital Input 1 ☐ Digital Input 2

☐ Manual Trigger

☐ Network Fail

☐ Periodically

Action

☐ Trigger digital output.

Upload files to a server

Event Server	Media Type
☐ -Select Event Server-	☐ -Select Media Type-
☐ -Select Event Server-	☐ -Select Media Type-
☐ -Select Event Server-	☐ -Select Media Type-
☐ -Select Event Server-	☐ -Select Media Type-

Event Name: Enter an event name, e.g. Motion Detection, to identify this configured event.

Select All: 24 hrs/ 7days (Mon-Sun) continuous recording

Scheduled Pattern: User-defined time frame

Triggered by: This describes the selection of trigger conditions which include:

- **Motion Detection:** Select the motion detection area(s) used for trigger condition. To enable and configure the motion detection areas, go to **Motion Configuration**.
- **Digital Input:** Enable the system to detect the DI (Digital Input) status as a trigger condition. For more details about the DI setting, go to **DI/DO Setting**.
- **Manual Trigger:** Enable the system to detect the user input action (press the alarm button,  on the live view page).
- **Network Fail:** Enable the system to detect the network connection status.
- **Periodically:** Enable the system to perform the set Action periodically

Action: The selection of responding actions

- **Digital output:** Check the box to enable the digital output as a responding action. For detailed configurations, go to **DI/DO Setting**.
- **Upload files to a server:** There are two drag-down selections, Event Server and Media Type. The Event Server indicates the file destination such as local network storage Samba, and the file type includes snapshot image and video clip. For the snapshot / video clip configurations, go to **Event Server & Media**.

NOTE

The dependency of **Event Server** and **Media Type** is described as below.

- When **Event Server** is either Samba or SD card, the selection of **Media Type** will be either Image or Video
- When **Event Server** is either Mail or FTP, the selection of **Media Type** will only be image

Examples of Event Handling

The following cases are provided as the examples of **Event Handling**.

Scenario

While viewing live video, user can manually trigger an event anytime simply by pressing the button,  on the web page. It will send email to the specified email accounts with the captured pictures.

The configurations are illustrated as below:

Step 1: Add Event Server

- Go to **Event → Event Server & Media → Event Server List**
- Click on “**Add New**”
- Choose “**Email**” and fill in the email server and recipients’ information.

Add Event Server		
Server Name	Email	
Server Type	☒ Email	
Mail Server Address	MAIL.INGRASYS.COM	
User Name	UserName	
Password		
Server Port Number	25	
Sender's E-mail Address	UserName@INGRASYS.COM	
Mail Subject Prefix	Alarm Notification	
SSL/TLS	None	
Receiver Table		
Index	Email Address	Description
1		
2		
3		
4		
5		

Step 2: Configure Media Type

- On the same web page, configure the Media Type. For the following example, the system is configured to capture 1 picture before (pre-alarm) the event and 2 pictures for the event and after (post-alarm). For video clip, pre-alarm and post-alarm could be configured for event video record.

Media Type	
Snapshot	
Video Source	Stream 1
Send 0	pre-alarm image(s) [0~2]
Send 1	post-alarm image(s) [1~3]
Video Clip	
Video Source	None
Pre-alarm record 0	seconds [0~3]
Post-alarm record 5	seconds [1~5]
Maximum file size 5000	KBytes [500~5000]

- Click on “Apply” to save the email server and media settings.

Step 3: Configure Event List

- On Event List page, click on “Add New” button.
- Enable and configure this event

Add / Edit Event List

☐ Enable This Event **a**

Event Name **b**

2014/08/04 01:13:57 Mon.

☒ Select All
 ☐ Scheduled Pattern

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

Triggered by

☐ Motion Detection
 ☐ Motion Area 1 ☐ Motion Area 2 ☐ Motion Area 3

☐ Digital Input 1 ☐ Digital Input 2

☐ Manual Trigger

☐ Network Fail

☐ Periodically

Action

☐ Trigger digital output.

Upload files to a server

Event Server	Media Type
☐ -Select Event Server- ▼	☐ -Select Media Type- ▼
☐ -Select Event Server- ▼	☐ -Select Media Type- ▼
☐ -Select Event Server- ▼	☐ -Select Media Type- ▼
☐ -Select Event Server- ▼	☐ -Select Media Type- ▼

- Event of manual triggering -

- Click the check box to enable this event.
- Give a name of this event setting; e.g. MTrigger. This is an identity of event handling.
- Choose “Select All” for 24 hrs/ 7days (Mon-Sun), as this event is required to be triggered anytime.
- Select “Manual Trigger” as this event’s trigger source. This will activate manual trigger button in the live view.
- Click the check box to enable the function and select “Mail” for Event Server and “Image” for the Media Type

- Click on “Apply” to save the settings of this page.

System Options

System Options provide users to obtain and configure the system settings of the IP camera system. It contains the page of **System Information**, **Date and Time**, **User Management**, **Maintenance** and **Log Service**. The details about each subcategory will be described as below.

Video & Audio

Network

Recording

Event

System

System Information

The page gives the general information of the IP camera system.

In **System Status**, the Model ID, Firmware Version and MAC Address are listed. The Camera Name and Location fields are revisable to identify a unit among multiple cameras installed.

The IP address information of this IP camera is listed in **Network Status**. The RTSP Status field shows the video stream(s) being requested by the listed client(s).

System Information	Date and Time	User Management	Maintenance	Log Service																										
System Status <table border="1"> <tr> <td>Camera Name</td> <td> Ingrasys </td> </tr> <tr> <td>Location</td> <td> </td> </tr> <tr> <td>Model ID</td> <td>G2214H</td> </tr> <tr> <td>Firmware Version</td> <td>V2.01.21</td> </tr> </table> Network Status <table border="1"> <tr> <td>MAC Address</td> <td>00:E0:D8:0C:B4:24</td> </tr> <tr> <td>IP Address</td> <td>192.168.92.24</td> </tr> <tr> <td>IPv6 Address</td> <td></td> </tr> <tr> <td>Subnet Mask</td> <td>255.255.0.0</td> </tr> <tr> <td>Gateway</td> <td>192.168.1.254</td> </tr> <tr> <td>DNS Server</td> <td></td> </tr> <tr> <td>PPPoE IP Address</td> <td></td> </tr> <tr> <td>DDNS Domain Name</td> <td></td> </tr> </table> Stream Status <table border="1"> <tr> <td>RTSP Status</td> <td></td> </tr> </table>					Camera Name	Ingrasys	Location		Model ID	G2214H	Firmware Version	V2.01.21	MAC Address	00:E0:D8:0C:B4:24	IP Address	192.168.92.24	IPv6 Address		Subnet Mask	255.255.0.0	Gateway	192.168.1.254	DNS Server		PPPoE IP Address		DDNS Domain Name		RTSP Status	
Camera Name	Ingrasys																													
Location																														
Model ID	G2214H																													
Firmware Version	V2.01.21																													
MAC Address	00:E0:D8:0C:B4:24																													
IP Address	192.168.92.24																													
IPv6 Address																														
Subnet Mask	255.255.0.0																													
Gateway	192.168.1.254																													
DNS Server																														
PPPoE IP Address																														
DDNS Domain Name																														
RTSP Status																														

Apply

Date and Time

This section describes the date/time adjustment for the IP camera system. The ways to adjust the IP camera's date/time can be Synchronize with NTP Server, Synchronize with PC or Set Manually.

System Information	Date and Time	User Management	Maintenance	Log Service
Current Date & Time				
Date (yyyy/mm/dd)		2014/01/20		
Time (hh:mm:ss)		08:52:33 PM		
Configure Date & Time				
☐ Keep Current Date & Time				
☐ Synchronize with NTP Server				
NTP Server Address		time.windows.com		
Update Interval		Daily		
☒ Synchronize with PC				
Computer Date		2014/01/20		
Computer Time		08:52:36 PM		
☐ Set Manually				
Date				
Time		20:52:25		
Date & Time Display Format		YYYY/MM/DD 12H		
Time Zone		GMT +08 Taipei, Beijing, Hong Kong		
☐ Daylight Saving Time Enable Automatically				
Start		MTH Jan WK 1st - SUN Time 0 : 0		
End		MTH Jan WK 1st - SUN Time 0 : 0		

Current Date & Time

Display current system date/time of the IP camera. The date format can be changed from the drop-down list under **Configure Date & Time**.

Current Date & Time

Keep Current Date & Time: The option of keeping current date and time, not to be adjusted.

Synchronize with NTP Server: Automatic date/time adjustment. The IP Camera must be able to access to the given NTP server (e.g. time.windows.com).

NOTE: To apply "synchronize with NTP Server", a **Time Zone** must be selected for referencing to the local time.

Synchronize with PC: The PC linked to the web page of the IP camera can also be a date/time synchronizer. However, if the PC is linked from a **time zone** which is different from the one where camera is installed, the web page will pop up a warning message for time zone difference.

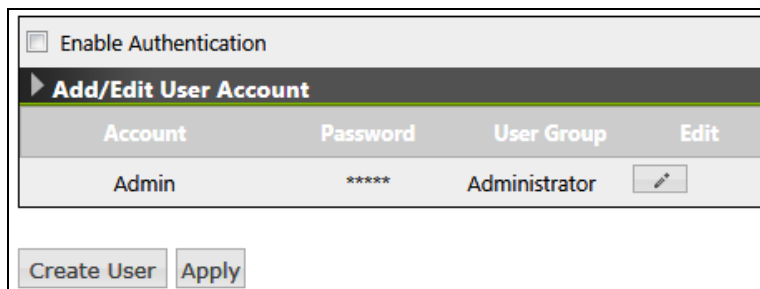
Set Manually: Manually adjust the date / time.

Date & Time Display Format: The system date can be displayed in the format of DD/MM/YYYY, MM/DD/YYYY or YYYY/MM/DD. The system time can be displayed in the format of 12H or 24H

Time Zone: Select an appropriate time zone for local where IP camera is installed. The automatic adjustments will be applied based on the selected time zone. Click the "**Daylight Saving Time Enable Automatically**" checkbox to enable the daylight saving function and user could select the day light saving start time and end time based on the DST rule where camera installed.

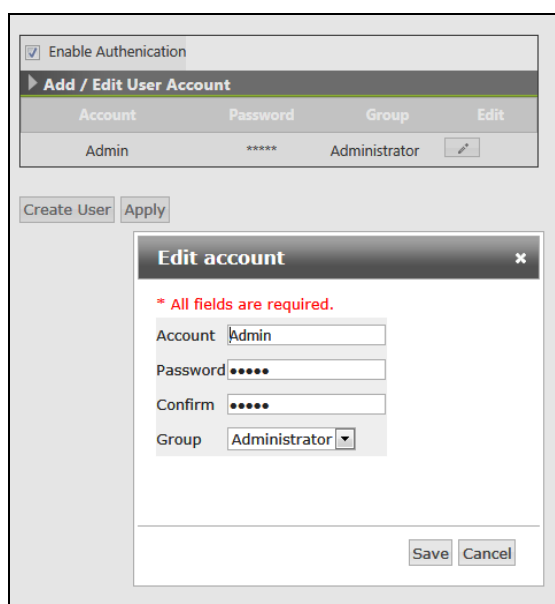
User Management

By default, the access to the camera is not user authenticated. For security, the IP camera should be restricted only authenticated accounts to access. It is able to enable/disable user accounts, as well as to manage the added users in this page.



Account	Password	User Group	Edit
Admin	*****	Administrator	

Initially, there is a default account, **Admin** in the “User List”. To enable this account, click on “Enable Authentication” and then apply. To edit password for the default account, click “Edit” to enter the configuration window.



☒ Enable Authentication

Add / Edit User Account

Account	Password	Group	Edit
Admin	*****	Administrator	

Edit account ✕

** All fields are required.*

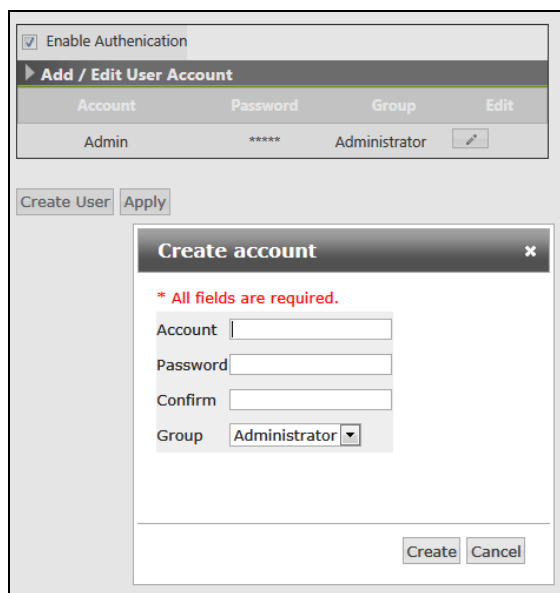
Account

Password

Confirm

Group

To create a new account, click “Create User” button. Enter Account / Password for this account with the group type on the “Create account” window.



☒ Enable Authentication

Add / Edit User Account

Account	Password	Group	Edit
Admin	*****	Administrator	

Create account ✕

** All fields are required.*

Account

Password

Confirm

Group

The user account with “**Administrator**” authentication can do all the configurations. “**Operator**” has the same rights as Administrator, except for **User Management**. “**Viewer**” is allowed only the access to live view page. Up to 8 user accounts can be added in the User List.

Maintenance

This page provides tools for camera system maintenances.

Reboot
Reboot Note: Restart system (Please wait 20 seconds for reboot)
Restore to Factory Default
Restore to Factory Default ☐ Except Network Type
Backup Configurations
Backup
Upload Configurations
Note: Return system configuraiton. Use a backup file to return the camera to a previous configuration. Configurations
Firmware Upgrade
Current Version: V0.01.06 Firmware

Reboot: Restart the camera system

Restore to Factory Default: Restore camera factory default settings. The network setting can be kept by checking the “**Except Network Type**” checkbox.

Backup Configurations: The system settings can be backed up and exported to a file. The file can be applied to upload the previous user settings to the camera, or other cameras.

NOTE:

The backup file can be applied to other Ingrasys IP cameras, so users won't need to configure each device. It is recommended to switch the IP setting to DHCP mode before exporting the backup file. Otherwise, all IP cameras will have the same IP address.

Firmware Upgrade: There may be new released firmware for features update or issues fixed. To upgrade the firmware for the system, retrieve the firmware image file, import to the system and then do the upgrade process.

LOG service

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

System Log
System Log
Event Log
Event Log
Parameter List
Parameter List

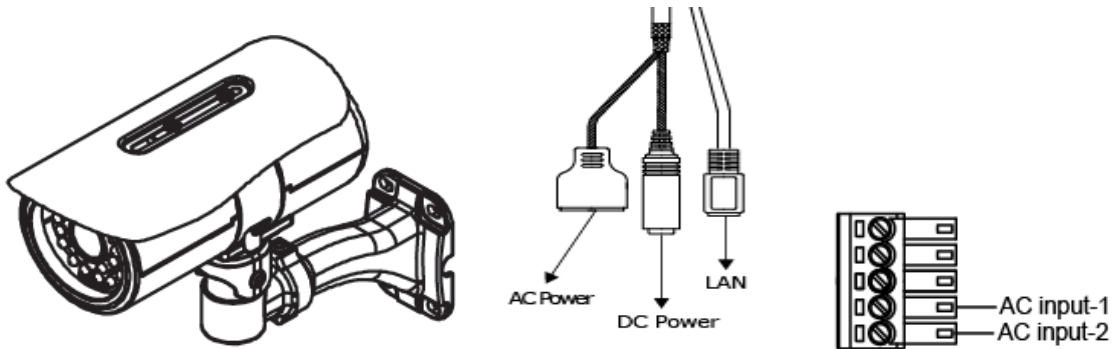
System Log: It contains records of system changes such as login failed or link on/off.

Event Log: It records the log message of triggered event, for instance, motion detection is asserted.

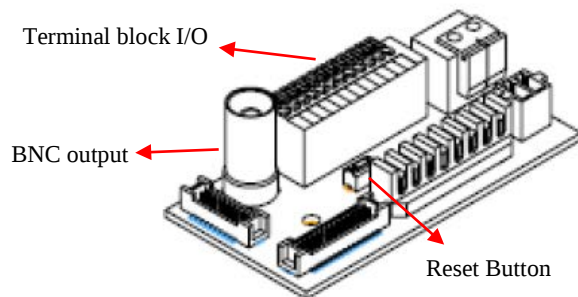
Parameter List: It lists all the system parameters with the current value.

Connectors & LED

Cable connectors



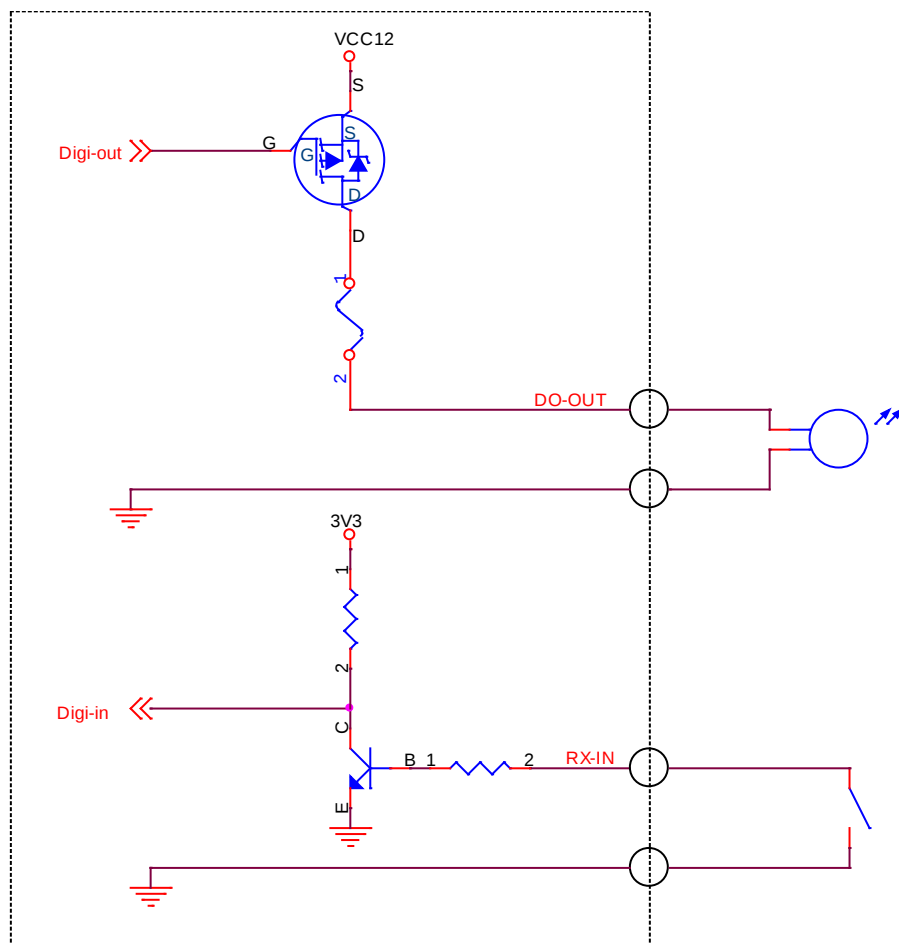
Connection board inside the housing



I/O connectors – Pin definitions

Pin	Signals	Function
1	GND	Digi-out (12VDC/100mA)
2	DO-Out	
3	GND	Digi-in 1
4	RX_IN1	
5	GND	Digi-in 2
6	RX_IN2	
7	RS-485_D +	RS-485 Data +
8	RS-485_D -	RS-485 Data -
9	AGND	Audio line-out
10	Line Out	
11	AGND	Audio line-in
12	Line In	

Schematic diagram of Digital I/O



Troubleshooting

Check firmware version

Firmware version may imply 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 these issues corrected.

The version code can be found in **Setup -> System -> System Information**, see figure below.

System Information	Date and Time	User Management	Maintenance	Log Service
System Status				
Camera Name	Ingrasys			
Location				
Model ID	G2214H			
Firmware Version	V2.01.21			
Network Status				
MAC Address	00:E0:D8:0C:B4:24			
IP Address	192.168.92.24			
IPv6 Address				
Subnet Mask	255.255.0.0			
Gateway	192.168.1.254			
DNS Server				
PPPoE IP Address				
DDNS Domain Name				
Stream Status				
RTSP Status				
Apply				

Upgrade device firmware

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

[Read Before Upgrade]

1. The latest firmware image is available on our official website.
2. Make sure all other client connections are disconnected and current jobs such as recording are required to terminate.
3. During the upgrading period, **DO NOT** disconnect the power of the camera. Otherwise the unit might be damaged.

[Steps of Firmware Upgrade]

1. Go to firmware upgrade page on the web. **Figure 1**
2. Click "Firmware" button to load the firmware image. **Figure 1**
3. Click "Upgrade" to begin (the upgrade progress bar will pop up). **Figure 2**

4. Once it is done, the system will reboot automatically.
5. Go back to firmware upgrade page and confirm if the “current version” is up-to-dated. **Figure 3**

Figure 1

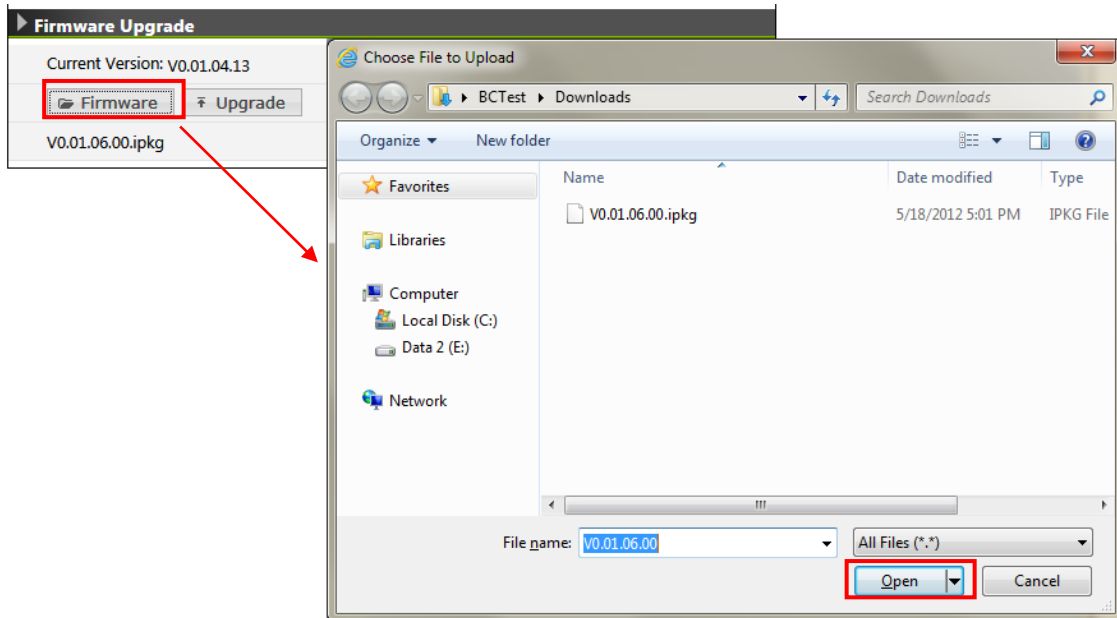


Figure 2

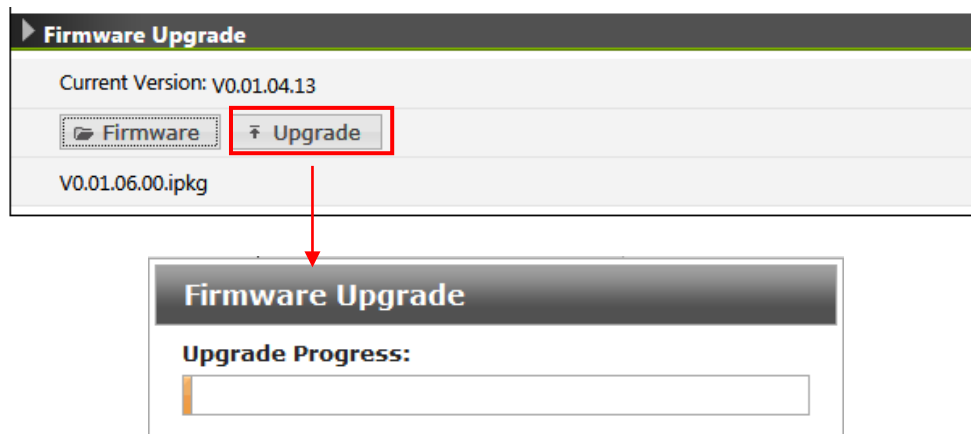
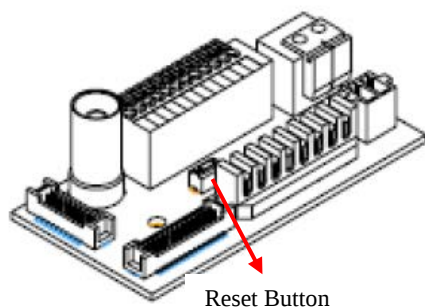


Figure 3



Recover device settings

In some cases, camera system does not respond to any operation. A certain recovering processes would help to get the unit back to initial status, so that it can resume operable / configurable. This will be the operations on the “Reset Button”.



Connection Board
(Inside the housing)

Before executing hardware reset, please make sure the system booting process is completed. Normally, it takes 30 seconds to complete the process.

1. Restart / Reboot the device

Press and release the **Reset Button** within 1~5 second, the system will be restarted.

2. Reset User Management

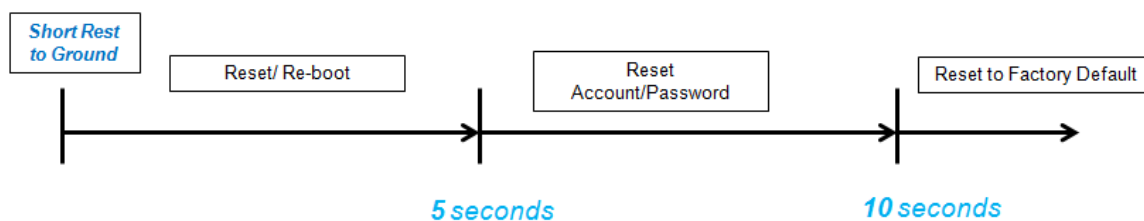
Press and hold the **Reset Button** for 6~10 seconds; User management settings will be reset to default and the system will be restarted.

3. Reset to factory default settings

Press and hold the **Reset Button** for over 10 seconds; the system will be reset to factory default and the system will be restarted.

The system will enter the restoring process automatically and complete it in 30 seconds after reset button released.

The following chart illustrates the reset behaviors.



Technical Specifications

*Design and specifications are subject to change without notice.

Types of camera	Model No.	G2214H-FVF
	Description	2MP 30M IR Bullet IP Camera
System Information	Processor	ARM based 32-Bit RISC Processor
	Flash	32MB
	RAM	128MB
	Real Time Clock	Yes
Camera	Image Sensor	1/2.7" progressive scan CMOS sensor
	Maximum Resolution	1920 x 1080
	Lens type	Board mount, Auto IRIS ,with IR-cut filter
	Focal Length	f=9-22mm
	Aperture	F1.5 (Wide) F2.8 (Tele)
	Field of View	H=37.7°~15.7°, V=20.6°~8.8°, D=43.7°~18.0°
	IR Distance	Effective up to 30 meters (98.43ft.) with uniformity lighting
	IR LED	850nm, IR LED x 36pcs
	D/N control	Auto Mode, Day Mode, Night Mode.
	Min illumination	IR LED OFF (Color): 0.5 Lux. IR LED ON (Mono): 0 Lux.
	Shutter Time	1/7 sec. to 1/30,000 sec.
Video	Video Compression	H.264 / MPEG4 / MJPEG
	Maximum Video Stream	3 simultaneous streams
	Maximum Frame Rate	H.264: 30fps@1920 x 1080 MPEG4: 20fps@1920 x 1080 MJPEG: 20fps@1920 x 1080
	Bit Rate Mode	Constant Bit Rate(CBR)/Variable Bit Rate (VBR) bit rate control
	Image Orientation	Mirror, Flip
	Image Setting	Exposure Mode: Auto/Manual, White Balance Mode: Auto/Fixed, Gain Mode: Auto/Manual, Configurable Sharpness, Saturation, Brightness, Contrast with 17 levels (0-16).
	Privacy Mask	Support 8 privacy mask zones.
	OSD	Time Stamp and Text caption overlay.
	Analog Video Port	BNC connector, 1.0Vp-p, 75Ω.
	Analog Video Format	NTSC: 720 X 480 @30fps; PAL: 720 X 576 @25fps
Audio	Audio In	Support external microphone input
	Audio Out	Support line out
	Compression	G.711 PCM 8kHz

	Two ways audio	Full-duplex
Network	Users	Live view for up to 6 clients.
	Ethernet	10Base-T/100Base-TX
	ONVIF	Supported
	Supported protocols	IPv4,IPv6,HTTP,HTTPS, SMTP,FTP,DHCP,NTP,TCP/IP, UPnP,RTSP/RTCP/RTP,DNS,DDNS, PPPoE, IGMP, QoS, Bonjour, Samba, Multicast
Local Storage	Memory Card	SD/ SDHC Card up to 32 GB
	Store Category	Stores snapshots and video clips
Event Management	Event Triggers	Motion detection, Manual Trigger, External alarm, Network Fail, Periodically Trigger.
	Event Actions	File upload via FTP, SMTP and SAMBA and Micro SD Card; Notification via FTP, email and external output activation; Video and audio recording to SD or SAMBA.
I/O Connectors & Indicators	Network Connector	RJ-45
	RS485	Terminal block
	Power Input	PoE (IEEE 802.3at), DC 12V (Ø 5.5mm power jack), AC 24V (power terminal IO)
	Power Consumption	20W max
	Alarm Port	Terminal block x2 In / x1 Out.
	Audio In / Out	Terminal block x1 In / x1 Out
	Analog Video Out	Video out x1, BNC video out.
	Reset	Reset button on board
	Memory Card	SD/SDHC card slot
General	Weight	Net: 2000 g (4.41 lb)
	Dimensions (L x W x H) (w/o bracket)	8.85" x 4.33"x 4.25" / 225 mm x 110 mm x 108 mm
	Operating temperature	-40°C ~ 50°C (-40°F~122°F)
	Storage Temperature	-20°C ~ 60°C (-4°F~140°F)
	Operating Humidity	20% ~ 90% RH
	Certifications	CE, FCC (class A)
	OS	Microsoft Windows XP/ Vista/ 7/ 2K
	Browser	Microsoft IE 8.0 or above, Chrome, Firefox, Safari
Other Value-added Features	Software	Free bundled 32CH software
	WDR	Digital WDR
	Water Resistant	IP66
Package Contents	Component	1 x Wall Mount Bracket and screw pack 1 x Quick Installation Guide (QIG) 1 x Warranty Card 1 x Product CD (Camera discovery tool, Users manual, Recording software) 1 x Power adaptor (Option)