# **USER'S MANUAL**

# 30x Full-HD SPEED DOME NETWORK CAMERA

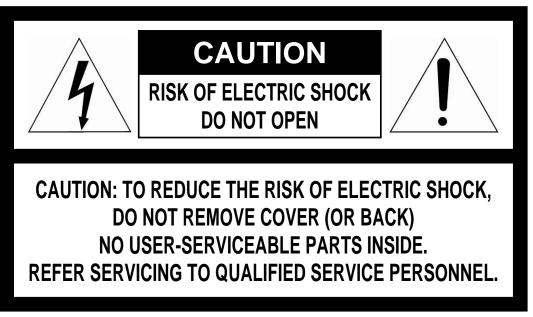


Please read this manual thoroughly before use and keep it handy for future reference.

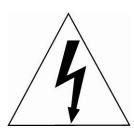
# WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECTS THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

# CAUTION



# **EXPLANATION OF GRAPHICAL SYMBOLS**



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

# FCC COMPLIANCE STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**FCC INFORMATION:** 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. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference at his own expense.

**CAUTION:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

# **CE COMPLIANCE STATEMENT**

# WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

# CAUTION RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

# **IMPORTANT SAFETY INSTRUCTIONS**

- 1. Read these instructions.
- 2. Keep these instructions.
- 3. Heed all warnings.
- 4. Follow all instructions.
- 5. Do not use this apparatus near water.
- 6. Clean only with dry cloth.
- 7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11. Only use attachments/accessories specified by the manufacturer.
- 12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13. Unplug this apparatus during lightning storms or when unused for long periods of time.



- 14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 15. CAUTION THESE SERVICING INSTRUCTIONS ARE FOR USE BY QUALIFIED SERVICE PERSONNEL ONLY. TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE OPERATING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO.
- 16. Use satisfy clause 2.5 of IEC60950-1/UL60950-1 or Certified/Listed Class 2 power source only.
- 17. ITE is to be connected only to PoE networks without routing to the outside plant.

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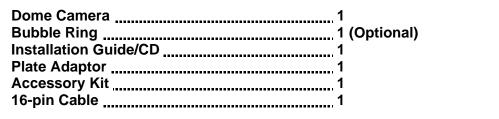
# 1. Description

The network camera supports the network service for a sensor image with progressive scan, which can be monitored on a real-time screen regardless of distances and locations. By using its dedicated program, many users are able to have an access to the network camera at once or a single user can monitor various network cameras at the same time. It also enables users to play, store and retrieve a monitoring image by using a PC. All the settings and real-time monitoring screens are also provided through an access to the web.

The network camera is fully featured for security surveillance and remote monitoring needs. It is based on the DSP compression chip, and makes it available on the network as real-time, full frame rate Motion JPEG and H.264 video streams.

# **1.1 Components**

This system comes with the following components;



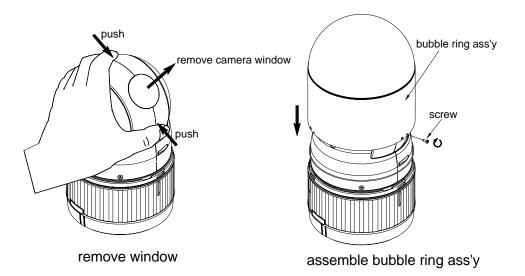


Figure 1 - Assemble bubble ring ass'y (Optional)

**NOTE:** It is recommended to remove camera window for improving picture quality when you use bubble ring assy.

# **1.2 Key Features**

#### Brilliant video quality

The network camera offers the highly efficient H.264 video compression, which drastically reduces bandwidth and storage requirements without compromising image quality. Motion JPEG is also supported for increased flexibility.

#### • Triple Streams

The network camera can deliver triple video streams simultaneously at full frame rate in all resolutions up to 1920 x 1080 using Motion JPEG and H.264. This means that several video streams can be configured with different compression formats, resolutions and frame rates for different needs.

#### Image setting adjustment

The network camera also enables users to adjust image settings such as contrast, brightness and saturation to improve images before encoding takes place.

## Intelligent video capabilities

The network camera includes intelligent capabilities such as enhanced video motion detection. The network camera's external inputs and outputs can be connected to devices such as sensors and relays, enabling the system to react to alarms and activate lights or open/close doors.

## • Improved Security

The network camera logs all user access, and lists currently connected users. Also, its full frame rate video can be provided over HTTPS.

## • PoE (Power over Ethernet)

This network camera can be powered through PoE, which simplifies installation since only one cable is needed for carrying power, as well as video controls.

# ONVIF Certificate

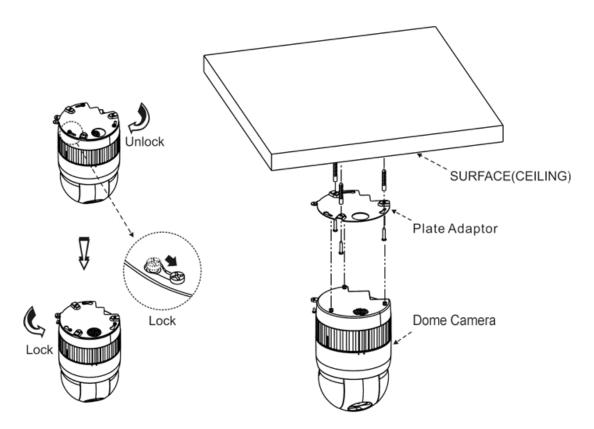
This is a global interface standard that makes it easier for end users, integrators, consultants, and manufacturers to take advantage of the possibilities offered by network video technology. ONVIF enables interoperability between different vendor products, increased flexibility, reduced cost, and future-proof systems.

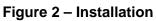
# 2. Installation

# 2.1 Installation

The dome camera is for use in surface or pendent mounting applications, and the mounting member must be capable of supporting loads of up to 10 lb (4.5 kg). (Pendent mounting must use pendent mount accessory.)

The dome camera's mounting bracket should be attached to a structural object, such as hard wood, wall stud or ceiling rafter that supports the weight of the dome camera.





# 2.2 Basic Configuration of Camera System

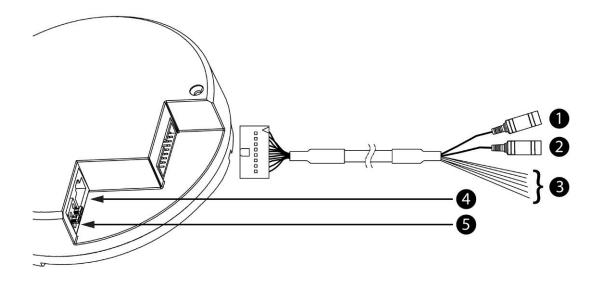


Figure	3 –	Basic	Configuration
--------	-----	-------	---------------

No.	Connector	Wire Color	Description	
1	STEREO	BLACK	AUDIO INPUT	
2	STEREO	GRAY	AUDIO OUTPUT	
		BLUE	ALARM INPUT	
	VIOLET	ALARIVI INFOT		
2	3 6-pin Cable	GREEN	ALARM OUTPUT	
3		YELLOW	ALARM OUTFUT	
		BLACK	RS485+	
			BROWN	BROWN
4	RJ-45	-	Ethernet, RJ-45 port compatible with 10/100Mbps having PoE functionality.	
5	2-pin terminal block		24VAC or 12VDC-	
		-	24VAC or 12VDC+	

The camera must be installed by qualified service personnel in accordance with all local and federal electrical and building codes.

# 2.3 Setting Dome Camera Termination

The device which is connected at end of line, whether it is a dome camera or keyboard controller, must have the cable for communication terminated by setting the appropriate DIP switch. Without proper termination, there is potential for control signal errors. Total length of the cable for communication should not exceed 4000 ft (1.2 km).

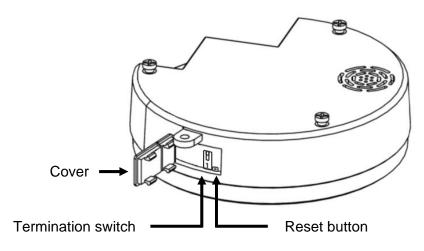


Figure 4 - Layout of DIP switch & Reset button

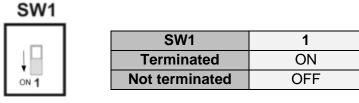


Figure 5 - Setting Dome Camera Termination

# 2.4 Connections

## Connecting the Network

Connect a standard RJ-45 cable to the network port of the camera. Generally a cross-over cable is used for directly connection to PC, while a direct cable is used for connection to a hub.

#### Connecting Alarms

## - AI (Alarm Input)

You can use external devices to signal the camera to react on events. Mechanical or electrical switches can be wired to the AI (Alarm Input) and G (Ground) connectors.

# - G (Ground)

## NOTE: All the connectors marked G or GND are common.

Connect the ground side of the alarm input and/or alarm output to the G (Ground) connector.

## - AO (Alarm Output)

The camera can activate external devices such as buzzers or lights. Connect the device to the AO (Alarm Output) and G (Ground) connectors.

## • Connecting to the RS485

The camera can be controlled remotely by an external device or control system, such as a control keyboard, using RS485 half-duplex serial communications signals.

#### • Connecting the Power

Connect power of 12VDC or 24VAC 1.5A for the camera.

When using a 12VDC adapter, connect the positive (+) pole to the '+' position and the negative (-) pole to the '-' position.

Use satisfy clause 2.5 of IEC60950-1/UL60950-1 or Certified/Listed Class 2 power source only.

- Be careful not to reverse the polarity when you connect the power cable.
- You can also use a router featuring PoE (Power over Ethernet) to supply power to the camera.
- If PoE and 12VDC are both applied, this camera will get supplied with power from PoE.
- 24VAC is recommended to use for the camera power for stable operation with heater kit. If using PoE, the heater will not operate at all.

# 2.5 Network Connection & IP assignment

The camera supports the operation through the network. When a camera is first connected to the network, it is necessary to allocate an IP address to the device with the "SmartManager" utility on the CD. (Default IP 192.168.30.220)

- 1) Connect the network camera/device to the network and power up.
- Start SmartManager utility (Start > All programs > SmartManager > SmartManager). The main window will display, and after a short while any network devices connected to the network will be displayed in the list.

🕔 SmartManager							
: <u>F</u> ile ⊻iew <u>H</u> elp							
Pevice Only	V IP Filter:	192 . 168 . 30 . 220 ~	192 . 168 . 30 . 220	Apply			
÷	💋 Model Name	Name	MAC Address	IP Address	Wireless IP Addres	s Zero Conf, IP	Version
in All Devices (1) i ← IP Camera (1) ○ ONVIF Group	子 IP Camera	H,264 Network Camera	00:07:D6:17:71:81	192, 168, 30, 220	0.0.0.0	169,254,129,230	
Ready							CAP NUM SCRL

3) Select the camera on the list and click right button of the mouse. You can see the pop-up menu as below.

Eile View Help	nly 🗸 IP Filter:	192 , 168 , 30 , 220 ~	192 , 168 , 30 , 220	Apply			
o All Devices (1) ∄ J P Camera (1) ⊃ ONVIF ⊇ Group	#     Z     Model Name       Z     IP Camera	Name H 264 Natwork Camera Bernote Setup Quick View Assign JP Maintenance Upgrade Firmware Log In Open Web Page	MAC Address	IP Address 192, 168, 30, 220	Wireless IP Addr	ess   Zero Conf, IP 169,254,129,230	Version 1,1,1

4) Select Assign IP Address. The Assign IP window will display. Enter the required IP address.

Assign IP Addres	is 🛛 🔀
Assign new IP address	
	🔲 Obtain IP address via DHCP
	192 . 168 . 30 . 220
	~
	192 . 168 . 30 . 220
Camera Information	
Model :	IP Camera
Name :	H.264 Network Camera
MAC Address :	00:07:D8:17:71:81
IP Address :	192.168.30.220
(	OK Cancel

**NOTE:** For more information, refer to the SmartManager User's Manual.

# 3. Operation

The network camera can be used with Windows® operating system and browsers. The recommended browsers are Internet Explorer®, Safari®, Firefox®, Opera<sup>™</sup> and Google® Chrome® with Windows.

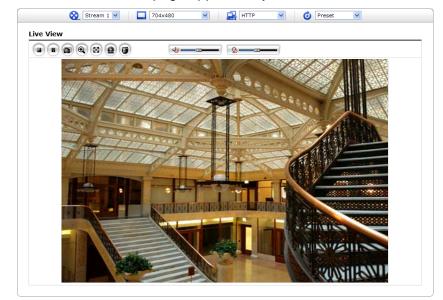
**NOTE:** To view streaming video in Microsoft Internet Explorer, set your browser to allow ActiveX controls.

# 3.1 Access from a browser

- 1) Start a browser (Internet Explorer).
- 2) Enter the IP address or host name of the network camera in the Location/Address field of your browser.
- 3) You can see a starting page. Click Live View or Setup to enter web page.



4) The network camera's Live View page appears in your browser.



# **3.2 Access from the internet**

Once connected, the network camera is accessible on your local network (LAN). To access the network camera from the Internet you must configure your broadband router to allow incoming data traffic to the network camera. To do this, enable the NAT traversal feature, which will attempt to automatically configure the router to allow access to the network camera. This is enabled from Setup > System > Network > NAT. For more information, please see "3.5.7 System > Network > NAT" of User's Manual.

# 3.3 Setting the admin password over a secure connection

To gain access to the product, the password for the default administrator user must be set. This is done in the "Admin Password" dialog, which is displayed when the network camera is accessed for the setup at the first time. Enter your admin name and password, set by the administrator.

Connect to 192.1	68.30.220	? 🛛
		APA
username and passv Warning: This server	r is requesting that your an insecure manner (ba	username and
User name:	<b>£</b> 1	~
Password:		
	Remember my pass	sword
	ОК	Cancel

**NOTE:** The default administrator user name and password is "admin". If the password is lost, the network camera must be reset to the factory default settings. Please see "Resetting to the factory default settings".

To prevent network eavesdropping when setting the admin password, this can be done via an encrypted HTTPS connection, which requires an HTTPS certificate (see **NOTE** below).

To set the password via a standard HTTP connection, enter it directly in the first dialog shown below. To set the password via an encrypted HTTPS connection, please see "3.5.7 System > Security > HTTPS" of User's Manual.

**NOTE:** HTTPS (Hypertext Transfer Protocol over SSL) is a protocol used to encrypt the traffic between web browsers and servers. The HTTPS certificate controls the encrypted exchange of information.

# 3.4 Live View Page

The Live View page comes in several screen modes: 1920x1080, 1280x1024, 1280x720, 704x576, 704x480, 640x480 and 320x240. Users are allowed to select the most suitable one out of those modes. Adjust the mode in accordance with your PC specifications and monitoring purposes.



# 1) General controls

🔊 Live View Page 🛛 🔯 Setup Page 🕜 Help Page
Stream 1 The video drop-down list allows you to select a customized or pre-programmed video stream on the Live View page. Stream profiles are configured under Setup > Basic Configuration > Video & Image. For more information, please see "3.5.1 Basic Configuration > Video & Image" of User's Manual.
The resolution drop-down list allows you to select the most suitable one out of video resolutions to be displayed on Live View page.
The protocol drop-down list allows you to select which combination of protocols and methods to use depending on your viewing requirements, and on the properties of your network.
<b>O</b> Preset In Preset drop-down list allows you to select the preset number for the PTZ camera being used. This icon is inactivated if the PTZ settings are not set.
2) Control toolbar

The live viewer toolbar is available in the web browser page only. It displays the following buttons:

- The Stop button stops the video stream being played. Pressing the key again toggles the start and stop. The Start button connects to the network camera or starts playing a video stream.
- The Pause button pauses the video stream being played.
- The Snapshot button takes a snapshot of the current image. The location where the image is saved can be specified.
- The Digital Zoom button activates a zoom-in or zoom-out function for video image on the live screen.
- The Full Screen button causes the video image to fill the entire screen area. No other windows will be visible. Press the 'Esc' button on the computer keyboard to cancel full screen view.
- The Manual Trigger button activates a pop-up window to manually start or stop the event.
- The PTZ button activates a pop-up window for Pan, Tilt and Zoom control.
- Use this scale to control the volume of the speakers.
- Use this scale to control the volume of the microphone.
- Use this scale to control the volume of the speakers and microphones.

#### 3) Video Streams

The network camera provides several images and video stream formats. Your requirements and the properties of your network will determine the type you use.

The Live View page in the network camera provides access to H.264 and Motion JPEG video streams, and to the list of available video streams. Other applications and clients can also access these video streams/images directly, without going via the Live View page.

# 3.5 Network Camera Setup

This section describes how to configure the network camera, and is intended for product. Administrators, who have unrestricted access to all the Setup tools; and Operators, who have access to the settings for Basic Configuration, Live View, Video & Image, Audio, Event, Dome Configuration, System

You can configure the network camera by clicking Setup in the top right-hand corner of the Live View page. Click on this page to access the online help that explains the setup tools.

When accessing the network camera for the first time, the "Admin Password" dialog appears. Enter your admin name and password, set by the administrator.

Connect to 192.1	68.30.220		? 🛛
		G	
The server 192.168. username and passw Warning: This server password be sent in without a secure cor	vord. r is requesting that an insecure manne	t your username	
User name:	<b>Ω</b>		~
Password:			
	Remember m	y password	
	OK	Can	icel

**NOTE:** If the password is lost, the network camera must be reset to the factory default settings. Please see "Resetting to the Factory Default Settings".

# 3.5.1 Basic Configuration

You can see the device information in this information page.

Basic Configuration	Basic Configuration	
- Users	Manufacturer :	
<ul> <li>Network</li> </ul>	Manufacturer : Model name : IP Camera	
<ul> <li>Video &amp; Image</li> </ul>	Device name : H.264 Network Camera	
· Audio	Firmware version : 1.1.1	
· Date & Time	MAC address : 00:07:D8:17:71:81 IP address : 192.168.30.220	
	Link-Local IP address : 169.254.129.230	
E Live View	Video mode :	
🖾 Video & Image		
🗈 Audio		
E Event		
Dome Configuration		
System		
D About		

# 1) Users

User access control is enabled by default. An administrator can set up other users, by giving these user names and passwords. It is also possible to allow anonymous viewer login, which means that anybody may access the Live View page, as described below:

· Video & Image	User Setting		
Network     Video & Image     Audio			
	Fnable aponymous views		
Audia		er login	
Audio			
· Date & Time	User List Setting		
	User Name	User Group	Authority
Live View	admin	administrator	live, setup, system, ptz
Video & Image		Add Modify	Remove
i Audio	-		
i Event		Save Reset	
Dome Configuration			
i System			
About			

The user list displays the authorized users and user groups (levels):

User Group	Authority
Guest	Provides the lowest level of access, which only allows access to the Live View page.
Operator	An operator can view the Live View page, create and modify events, and adjust certain other settings. Operators have no access to System Options.
Administrator	An administrator has unrestricted access to the Setup tools and can determine the registration of all other users.

• Enable anonymous viewer login: Check the box to use the webcasting features. Refer to "3.5.3 Video & Image" for more details.

# 2) Network

The network camera supports both IP version 4 and IP version 6. Both versions may be enabled simultaneously, and at least one version must always be enabled. When using IPv4, the IP address for the network camera can be set automatically via DHCP, or a static IP address can be set manually. If IPv6 is enabled, the network camera an IP address according to the configuration in the network router. There is also the option of using the Internet Dynamic DNS Service. For more information on setting the network, please see "3.5.7 System > Network > Basic".

Basic Configuration	Network		
· Users			
Network	IP Address Configuratio		
<ul> <li>Video &amp; Image</li> </ul>	O Obtain IP address	s via DHCP	
· Audio	Use the following	IP address :	
· Date & Time	- IP address	192 · 168 · 30 · 220	
	- Subnet mask	255 . 255 . 255 . 0	
Live View	- Default router	192 . 168 . 30 . 1	
Video & Image			
a Audio		Save Reset	
Event			
Dome Configuration			
3 System			
About			

- Obtain IP address via DHCP: Dynamic Host Configuration Protocol (DHCP) is a protocol that lets network administrators centrally manage and automate the assignment of IP addresses on a network. DHCP is enabled by default. Although a DHCP server is mostly used to set an IP address dynamically, it is also possible to use it to set a static, known IP address for a particular MAC address.
- Use the following IP address: To use a static IP address for the network camera, check the radio button and then make the following settings:
  - IP address: Specify a unique IP address for your network camera.
  - Subnet mask: Specify the mask for the subnet the network camera is located on.
  - **Default router:** Specify the IP address of the default router (gateway) used for connecting devices attached to different networks and network segments.

#### NOTES:

- 1. DHCP should only be enabled if using dynamic IP address notification, or if your DHCP server can update a DNS server, which then allows you to access the network camera by name (host name). If DHCP is enabled and you cannot access the unit, you may have to reset it to the factory default settings and then perform the installation again.
- 2. The ARP/Ping service is automatically disabled two minutes after the unit is started, or as soon as an IP address is set.
- 3. Pinging the unit is still possible when this service is disabled.

# 3) Video & Image

Basic Configuration	Video & Image	
· Users	Sensor Setting	
<ul> <li>Network</li> </ul>	Sensor Setting	
· Video & Image	Capture mode	1920×1080
· Audio		
· Date & Time	Stream 1 Setting	
Live View	Codec	H.264 Baseline Profile
🗉 Video & Image	Resolution	1920×1080
a Audio	Bitrate control	CBR
Event	Bitrate	4000 V [Kbps]
	Framerate	×
Dome Configuration	GOP size	
System	Stream 2 Setting	
About	Stream 2 Setting	
	Codec	MJPEG 💌
	Resolution	640×480
	Framerate	
	Quality	
	Stream 3 Setting	
	Codec	H.264 Baseline Profile 💌
	Resolution	640x480
	Bitrate control	CBR
	Bitrate	2000 🔽 [Kbps]
	Framerate	V
	GOP size	
		Save Reset

#### • Sensor Setting:

- Capture mode: Use can select video frame rate at either 60/50fps or 30/25fps of resolution 1920x1080.

#### • Stream 1 Setting:

- **Codec:** The codec settings are separated into H.264. H.264 is also known as MPEG-4 Part 10. This is the new generation compression standard for digital video. This function offers higher video resolution than Motion JPEG or MPEG-4 at the same bit rate and bandwidth, or the same quality video at a lower bit rate.
- **Profile:** There are 3 pre-programmed stream profiles available for quick set-up. Choose the form of video encoding you wish to use from the drop-down list:
  - \* H.264 HP (High Profile): Primary profile for broadcast and disc storage applications, particularly for high-definition television applications (for example, this is the profile adopted by the <u>Blu-ray Disc</u> storage format and the <u>DVB</u> HDTV broadcast service).
  - \* H.264 MP (Main Profile): Primary profile for low-cost applications that require additional error robustness, this profile is used rarely in videoconferencing and mobile applications; it does add additional error resilience tools to the Constrained Baseline Profile. The importance of this profile is fading after the Constrained Baseline Profile has been defined.
  - \* **H.264 BP (Baseline Profile):** Originally intended as the mainstream consumer profile for broadcast and storage applications, the importance of this profile faded when the High Profile was developed for those applications.
- **Resolution:** This enables users to determine a basic screen size when having an access through the Web Browser or PC program. The screen size control comes in seven modes like 1920x1080, 1280x1024, 1280x720, 704x576, 704x480, 640x480 and 320x240.

Users can reset the selected screen size anytime while monitoring the screen on a realtime basis.

- Bit rate control: Limiting the maximum bit rate helps control the bandwidth used by the H.264 video stream. Leaving the Maximum bit rate as unlimited maintains consistently good image quality but increases bandwidth usage when there is more activity in the image. Limiting the bit rate to a defined value prevents excessive bandwidth usage, but images are lost when the limit is exceeded.

**NOTE:** The maximum bit rate can be used for both variable and constant bit rates.

The bit rate can be set as Variable Bit Rate (VBR) or Constant Bit Rate (CBR). VBR adjusts the bit rate according to the image complexity, using up bandwidth for increased activity in the image, and less for lower activity in the monitored area.

CBR allows you to set a fixed target bit rate that consumes a predictable amount of bandwidth. As the bit rate would usually need to increase for increased image activity, but in this case cannot, the frame rate and image quality are affected negatively. To partly compensate for this, it is possible to prioritize either the frame rate or the image quality whenever the bit rate needs to be increased. Not setting a priority means the frame rate and image quality are and image quality are equally affected.

- **Bit rate:** When it is necessary to adjust a smooth transmission status according to network situations, users can increase the compressibility to carry out the network transmission stably. On the other hand, when it is necessary to maintain a detailed monitoring screen by enhancing the image quality, users can do so by decreasing the compressibility. In each case, please adjust this function according to the network status and monitoring purposes.
- **Frame rate:** Upon the real-time play, users should select a frame refresh rate per second. If the rate is high, the image will become smooth. On the other hand, if the rate is low, the image will not be natural but it can reduce a network load.
- **GOP size:** Select the GOP (Group of Picture) size. If users want to have a high quality of fast image one by one, please decrease the value. For the purpose of general monitoring, please do not change a basic value. Such act may cause a problem to the system performance. For the details of GOP setting, please contact the service center.
- Stream 2 Setting: Sometimes the image size is large due to low light or complex scenery. Adjusting the frame rate and quality helps to control the bandwidth and storage used by the Motion JPEG video stream in these situations. Limiting the frame rate and quality optimizes bandwidth and storage usage, but may give poor image quality. To prevent increased bandwidth and storage usage, the Resolution, Frame rate, and Frame Quality should be set to an optimal value.
  - MJPEG Resolution: Same as the stream 1 settings.
  - MJPEG Frame rate: Same as the stream 1 settings.
  - MJPEG Quality: Select the picture quality. If users want to have a high quality of fast image one by one, please decrease the value. For the purpose of general monitoring, please do not change a basic value. Such act may cause a problem to the system performance.
- Stream 3 Setting: Same as the Stream 1 Setting.

When satisfied with the settings, click the **Save** button, or click the **Reset** button to revert to previously saved settings.

# 4) Audio

Basic Configuration	Audio				
· Users	Audio Setting				
Network	Audio Setting				
<ul> <li>Video &amp; Image</li> </ul>	Enable audio				
Audio	- Compression type	G.711 u-law	~		
<ul> <li>Date &amp; Time</li> </ul>	- Sample rate	8KHz	~		
	- Sound bitrate	64kbps	~		
E Live View	- Sound bitrate		1.25		
Video & Image	Audio Input				
🖾 Audio	Input	internal Amp	~		
E Event	Input volume		😽 [dB]	Mute	
Dome Configuration	Audio Output				
D System					
D About	Enable full duplex				
	- Output volume	0	[dB]	Mute	
		Save	Reset		

The network camera can transmit audio to other clients using an external microphone and can play audio received from other clients by attaching a speaker. The Setup page has an additional menu item called Audio, which allows different audio configurations, such as full duplex and simplex.

- Audio Setting:
  - Enable audio: Check the box to enable audio in the video stream.
  - Compression type: Select the desired audio Compression format, G.711.
  - **Sample rate:** Select the required Sample rate (number of times per second the sound is sampled). The higher the sample rate, the better the audio quality and the greater the bandwidth required.
  - **Sound bit rate:** Depending on the selected encoding, set the desired audio quality (bit rate). The settings affect the available bandwidth and the required audio quality.
- Audio Input: Audio from an external line source can be connected to the STEREO Jack I/O of the network camera.
  - **Input volume:** If there are problems with the sound input being too low or high, it is possible to adjust the input gain for the microphone attached to the network camera.
- Audio Output:
  - Enable full duplex: Check the box to enable Full Duplex mode. This means that you can transmit and receive audio (talk and listen) at the same time, without having to use any of the controls. This is just like having a telephone conversation.

This mode requires that the client PC has a sound card with support for full-duplex audio.

Uncheck the box enable Simplex mode. The simplex mode only transmits audio from the network camera to any web client. It does not receive audio from other web clients.

- Output volume: If the sound from the speaker is too low or high it is possible to adjust the output gain for the active speaker attached to the network camera.

When satisfied with the settings, click the **Save** button, or click the **Reset** button to revert to previously saved settings.

# 5) Date & Time

Basic Configuration	Date & Time
<ul> <li>Users</li> <li>Network</li> </ul>	Current Server Time
<ul> <li>Video &amp; Image</li> </ul>	Date : 2013-11-13 Time : 11:30:23
Audio     Date & Time	New Server Time
	• Time zone
E Live View	(GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London
🖾 Video & Image	Automatically adjusts for daylight saving time changes
E Audio	• Time mode
E Event	
Dome Configuration	Synchronize with computer time
System	Date : 2013-11-13 Time : 11:31:35
E About	O Synchronize with NTP server
	NTP server : time.nist.gov NTP Interval : 12 V [hour]
	O Set manually
	Date : 2013-11-13 Time : 11:30:16
	Date & Time Format
	Date Format : YYYY-MM-DD
	Time Format : 24 Hour
	Save Reset

- Current Server Time: This displays the current date and time (24h clock). The time can be displayed in 12h clock format in the overlay (see below).
- New Server Time: Select your time zone from the drop-down list. If you want the server clock to automatically adjust for daylight saving time, select "Automatically adjustment for daylight saving time changes".

From the Time mode section, select the preferred method to use for setting the time:

- Synchronize with computer time: sets the time from the clock on your computer.
- Synchronize with NTP Server: the video encoder will obtain the time from an NTP server every 60 minutes.
- Set manually: this option allows you to manually set the time and date.
- Data & Time Format: Specify the formats for the date and time (12h or 24h) displayed in the video streams.

Select Date & Time format from the drop-down list.

- Date Format: Specify the date format. YYYY: Year, MM: Month, DD: Day
- Time Format: Specify the date format. 24 Hour or 12 Hour

# 3.5.2 Live View

Basic Configuration	Source			
Live View	Video Input Mode			
Source			_	
Video & Image	Video Mode		<b>~</b>	
Audio		Save	Reset	
Event				
Dome Configuration				
System				
About				

# • Video Input Mode:

- Video Mode: Choose Video Mode you wish to use from the drop-down list: NTSC or PAL NOTE: This function may not be applicable, depending on the model.

# 3.5.3 Video & Image

#### 1) Basic

Basic Configuration	Video & Image	- Basic
Live View	Sensor Setting	
Video & Image	Capture mode	1920×1080
Basic	Capture mode	192031080
· Image	Stream 1 Setting	
Auto Exposure		
<ul> <li>Day &amp; Night</li> </ul>	Codec	H.264 Baseline Profile
Auto Focus	Resolution	1920×1080
· DIS	Bitrate control	CBR
· Webcasting	Bitrate	4000 💌 [Kbps]
El Audio	Framerate	· · · · · · · · · · · · · · · · · · ·
E Event	GOP size	
Dome Configuration	Stream 2 Setting	
System		
E About	Codec	MJPEG
	Resolution	640x480
	Framerate	×
	Quality	
	Stream 3 Setting	
	Codec	H.264 Baseline Profile 💌
	Resolution	640x480
	Bitrate control	CBR
	Bitrate	2000 ¥ [Kbps]
	Framerate	×
	GOP size	
		Save Reset

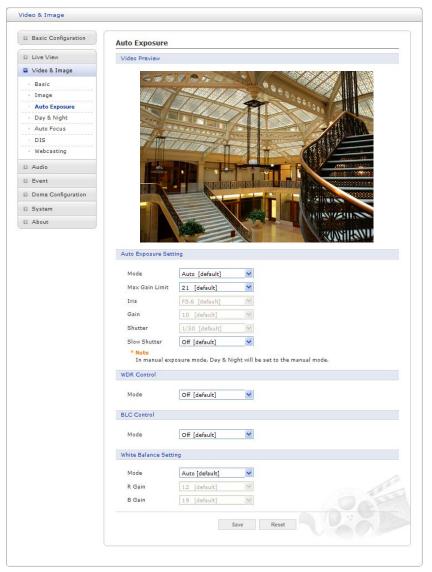
Refer to "3.5.1 Basic Configuration > Video & Image" for more details.

# 2) Image

Basic Configuration	Image	
Live View	Video Preview	
Video & Image		
Basic	- 108 Mbr.)	
Image	115	
Auto Exposure		
Day & Night		
Auto Focus	VIIII C. AL MAN	
DIS		
Webcasting		THE T
Audio	The second	
Event		
Dome Configuration		
System		
About		
	Image Appearance Brightness Sharpness	7 [default] V 1 [default] V
	High sensitivity	Off [default]
	Defog	Off [default]
	Enable flip hori:	
	Noise Reduction Contr	rol
	Level	4 [default]
	Level Zoom Control	4 [default]
		4 [default] V 6 [default] V Off [default] V

- Image Appearance:
  - Brightness: The image brightness can be adjusted in the range 1 ~ 12, where a higher value produces a brighter image.
  - Sharpness: Controls the amount of sharpening applied to the image. A sharper image might increase image noise especially in low light conditions. A lower setting reduces image noise, but the image would be less sharp.
  - High sensitivity: Produce brighter image in low light environment.
  - Defog: Produce clearer image in hazy environment.
  - Enable flip horizontally: Flip the camera image upside down.
- Noise Reduction Control: The NR (Noise Reduction) function removes noise to provide clearer image. In bright conditions, changing the NR level may not affect the image quality.
  - Level: The level can be adjusted in the range 1 ~ 10 and Off.
- Zoom Control:
  - Speed: The speed can be adjusted in the range 1 ~ 8.
  - Digital Zoom: Select On or Off.

# 3) Auto Exposure



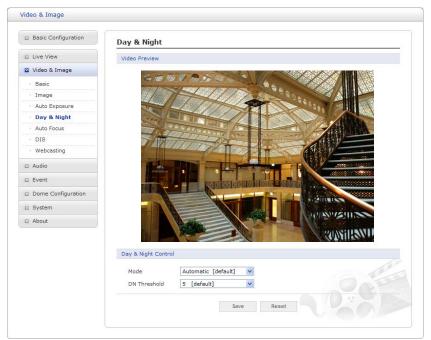
- Auto Exposure Setting: Exposure is the amount of light detected by the camera sensor. A scene with correct exposure settings has adequate detail and contrast between white and dark values. An image with too little or too much exposure may lose detail in the scene. The camera features Auto and Manual Exposure Settings.
  - Mode: Support Exposure modes to control the amount of light detected by the camera sensor base on settings for light conditions.
  - Max Gain Limit: Controls the upper limit of the gain which the camera can control. This is only available if Exposure mode is set to Auto.
  - Iris: Controls the camera iris. This is only available if Exposure mode is set to Manual.
  - Gain: Increasing exposure gain increases the brightness of image, but it also increases the amount of noise in the image. This is only available if Exposure mode is set to Manual.
  - **Shutter:** Controls the electronic shutter speed. This is only available if Exposure mode is set to Manual.
  - Slow Shutter: The camera can lower the shutter speed electronically to get brighter image when the brightness drops. This is only available if Exposure mode is set to Auto.

- WDR Control: Wide Dynamic Range (WDR) improves video exposure quality in scenes with high contrast between bright and dark areas, for example, if a shady area and a bright light area are in the same scene.
  - Mode: Select On or Off.
- **BLC Control:** Backlight Compensation (BLC) corrects the exposure of the subjects that are in a bright light source.
  - Mode: Select On or Off.
- White Balance Setting: Adjustments in the color hue (red and blue) gains for a camera so that true white appears white in the image. It is normally compensated for by the automatic gain control. In some lighting conditions, you may need to manually adjust the red and blue settings for optimal viewing. When Automatic White Balance is enabled, the camera measures the image and automatically adjusts the red and blue settings to balance white. When Automatic White Balance is disabled, the camera uses the values set for the red and blue settings to balance white.

- Mode:

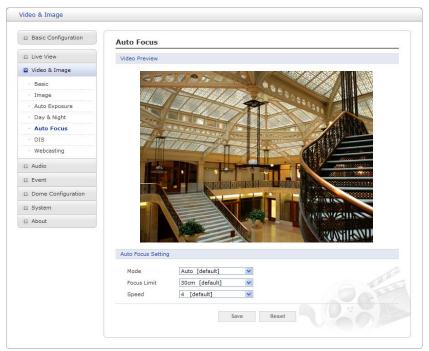
- \* **Auto:** Computes the white balance value output using color information from the entire screen automatically.
- \* Manual: Manual mode, you can change R and B Gain manually.
- R Gain: The R gain can be adjusted in the range 0 ~ 255. This is only available if exposure mode is set to Manual.
- **B Gain:** The B gain can be adjusted in the range 0 ~ 255. This is only available if exposure mode is set to Manual.

# 4) Day & Night



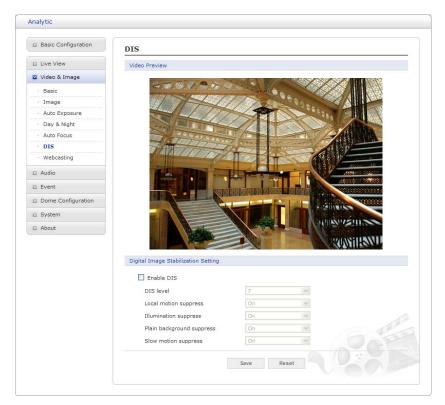
- Day & Night Control: Select the day & night mode from among three modes.
  - Mode:
    - \* Automatic: Normally displays color image, and switches automatically to black & white image after the ambient light level reaches a pre-defined threshold.
    - \* Day: Always displays color image.
    - \* Night: Always displays black & white image.
  - **DN Threshold:** Adjusts the level of light which the camera automatically switches between color and black & white image. (0 ~ 10)

# 5) Auto Focus



- Auto Focus Setting: Continuously adjusts the lens automatically to the correct focus for the sharpest picture.
  - Mode:
    - \* Auto: Auto Focus is always active.
    - \* Manual: Auto Focus is inactive.
  - Focus limit: This distance is approximate value, and the focus operates from the setting value.
  - Speed: The speed can be adjusted in the range 1 ~ 8.
- **NOTE:** Avoid continuous, 24-hour use of the auto focus. This will shorten the lifespan of the lens.

## 6) DIS



• Digital Image Stabilization Setting: Controls DIS level from 0 to 9 and usage of 4 suppress: Local motion, Illumination, Plain background, and Slow motion.

## 7) Webcasting

The network camera can stream live video to a website. Copies the HTML code generated on the screen and pastes it in page code of the website you want to display live video.

Basic Configuration	Webcasting
Live View	Webcasting HTML code
Video & Image	
· Basic	Stream 1 O Stream 2 O Stream 3
· Image	<html></html>
· Auto Exposure	<head><title> Web Viewer </title></head> <body onload="onInit()" onunload="onClose()"></body>
· Day & Night	<div></div>
· Auto Focus	<object clsid:731d29f4-2872-4542-b85f-539610d7c5db'="" codebase="http://192.168.30.220/NautilusV20_DHInc&lt;br&gt;classid=" hx_media');<="" id="HX_Media" standby="Downloa&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;DIS&lt;/td&gt;&lt;td&gt;width=512 height=368 align=center hspace=0 vspace=0&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;Webcasting&lt;/td&gt;&lt;td&gt;&lt;/OBJECT&gt;&lt;br&gt;&lt;/div&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;Audio&lt;/td&gt;&lt;td&gt;&lt;/HTML&gt;&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;Addio&lt;/td&gt;&lt;td&gt;&lt;script&gt;&lt;br&gt;var obj = document.getElementById(" td=""></object>
2 Event	function onInit()
Dome Configuration	{ obj.Initialize(1);
1 System	obj.ViewLayout = 0;
	obj.Connect(0, '192.168.30.220/1/stream1', 80, 3, 0, 0); obj.SetMenuType(0);
1 About	obj.setwendrype(0); }
	function onClose()
	t obj.Disconnect(0);
	}

**NOTE:** To use webcasting service, the Enable Anonymous viewer login option must be checked. Refer to "3.5.1 Basic Configuration > Users" for more details.

# 3.5.4 Audio

Basic Configuration	Audio - Basic			
E Live View	Audio Setting			
D Video & Image	Enable audio			
🛛 Audio	- Compression type	G.711 u-law		
Basic		8KHz	141 142	
E Event	- Sample rate - Sound bitrate	64kbps	~	
Dome Configuration	- Sound bid ale	04K0ps	1000	
System	Audio Input			
	Input	Internal Amp	~	
About	Input volume		😪 [dB]	Mute
	Audio Output			
	Enable full duplex			
	- Output volume	0	[dB]	Mute
		Save	Reset	

Refer to "3.5.1 Basic Configuration > Audio" for more details.

# 3.5.5 Event

- 1) Event In
  - ▼ On Boot

Basic Configuration	Event In - On Boot
Live View	On Boot Setting
D Video & Image	Enable on boot
Audio	- Dwell time 3 [1 180] sec
Event	
Event In     On Boot     Alarm In     Manual Trigger     Motion     Network Loss     Tampering	Save Reset
<ul> <li>Event Out</li> <li>Event Map</li> </ul>	
Dome Configuration	
D System	
About	

This is used to trigger the event every time the network camera is started. Select "Enable" to activate the motion event.

# ▼ Alarm In

Basic Configuration	Event In - Alarm In	
Live View	Alarm In Port 1 Setting	F
🗈 Video & Image	Enable alarm in port 1	
🗈 Audio	- Type NO M	
Event	- Dwell time 3 [1 180] sec	
Event In     On Boot     Alarm In     Manual Trigger     Motion     Network Loss     Tampering     Event Out     Event Map     Dome Configuration	Save Reset	
System		
E About		

This page allows you to configure the input supported by the camera. The Port can be given as Normally Open or Normally Close state, and their Normal state can be configured.

An input will be inactive as long as its Normal state equals its Current state. The 2 options for Normal state are NO (Normally Open) and NC (Normally Close). The input is activated when the Current state changes so that it no longer equals the Normal state.

#### Alarm In Port 1 Setting:

Click the Enable alarm in port 1 checkbox to enable the Alarm In port 1.

- Type: The default setting is NO.
  - \* NO: Normally Open

As an example, if the Normal state for a push button connected to an input is Open circuit, this means that as long as the button is not pushed (and the Current state remains as Open circuit), the state will be inactive.

\* NC: Normally Close

When the button is pushed, the circuit is grounded, the input's state changes to Grounded circuit and the input will no longer be in its normal state - it will have become active.

An input on the camera has an Open circuit when disconnected or when there is a voltage.

- **Dwell time:** The default setting is 60 seconds. Dwell time means how long time the alarm input signal hold on as an input signaling source.

Click the **Save** button to save the settings, or click the **Reset** button to clear all of the information you entered without saving it.

## ▼ Manual Trigger

Basic Configuration	Event In - Manual Trigger
Live View	Manual Trigger 1 Setting
🛙 Video & Image	Enable manual trigger 1
🛛 Audio	- Dwell time 3 [1 180] sec
Event	
🗉 Event In	Manual Trigger 2 Setting
<ul> <li>On Boot</li> <li>Alarm In</li> <li>Manual Trigger</li> </ul>	Enable manual trigger 2 Dwell time 3 [1 180] sec
Motion     Network Loss	Manual Trigger 3 Setting
Network Loss     Tampering     Event Out	Enable manual trigger 3     Owell time 3     [1 180] sec
Event Map	
	Manual Trigger 4 Setting
Dome Configuration	Enable manual trigger 4 - Dwell time 3 [1 180] sec
About	Save Reset

This option makes use of the **Manual Trigger** button provided on the Live View page, which is used to start or stop the event type manually. Alternatively, the event can be triggered via the product's API (Application Programming Interface).

# ▼ Motion

Basic Configuration	Event In - Moti	on				
Live View	Video Preview					
🛙 Video & Image	2.0				10.00	
Audio	2	-	3	5 2 1		
Event		-		-		
🗉 Event In		2		2		1
· On Boot					100	1
· Alarm In	-81		Gates / Port	ac		
<ul> <li>Manual Trigger</li> </ul>		Т	Gates / Port	ED	-	-
Motion	Constitution of the		The second second	12	COLUMN TO A	
<ul> <li>Network Loss</li> </ul>	COLOR IN COLOR	NO THE LEG	ABOTT OF		aton 25	100
<ul> <li>Tampering</li> </ul>	$\uparrow$				-	
Event Out						
Event Map		A DECK OF THE		ALCENT TO -		
Dome Configuration		COM COMPANY	and the second			
System	- P-		20.00	-	1	
About			9		_	-
	Video Motion Detect	ion Setting				
	Enable video r	notion detection				
	- Sensitivity	55	[1 100]			
	ID	Name	Туре	Threshold	Dwell	Delete
	1	Motion 1	Include	2	3	x
	2	Motion 2	Include	2	3	x

Motion detection is used to generate an alarm whenever movement occurs (or stops) in the video image. A total of 8 Motion and/or Mask windows can be created and configured.

Motion is detected in defined **Motion** windows, which are placed in the video image to target specific areas. Movement in the areas outside the motion windows will be ignored. If part of a motion window needs to be masked, this can be configured in a **Mask** window.

• **Pre-Viewer:** Motion detection windows are configured by Motion or Mask windows. Each window can be selected by clicking with the mouse. It is also possible to **resize**, **delete** or **move** the window, by selecting the appropriate window at the mouse menu on the video screen.



To create a motion or mask window, follow these steps:

- 1. Click the right button of mouse to see the mouse menu.
- 2. Select New Motion (or New Mask) from the mouse menu.
- 3. Click and drag mouse to designate a motion area.
- Motion Detection Setting: The behavior for each window is defined by adjusting the Threshold and Sensitivity, as described below.

A motion index is a set of parameters describing Window Name, Type, Threshold and Dwell Time. Window Types is one of Motion and Mask windows.

- Threshold: Sets up the threshold for the motion detection.

- **Dwell Time:** Sets the hold time an event lasts for the specified hold time from the point of detection of a motion.

You can also modify or delete a motion index. Select an index and then, click the **Modify** or **Delete** button.

Select "Enable" to activate the motion window.

#### ▼ Network Loss

Basic Configuration	Event In - Network Loss
☑ Live View	Network Loss Setting
🗈 Video & Image	Enable network loss
🗈 Audio	- Dwell time 3 [1 180] sec
Event	
Event In     On Boot     Alarm In     Manual Trigger     Motion     Network Loss     Tampering     Event Out     Event Map     Dome Configuration     System	Save Reset
About	

This is used to trigger the event every time the network connection fails. Select "Enable" to activate the Network Loss event.

# ▼ Tampering

Basic Configuration	Event In - Tampering
D Live View	Tampering Setting
🛙 Video & Image	Enable tampering
E Audio	- Dwell time 3 [1 180] sec
Event	
	Save Reset
Dome Configuration	
D System	
About	

This is used to trigger the event when camera tampering occurs. Select "Enable" to activate the Tempering event.

# 2) Event Out

▼ SMTP (E-Mail)

Basic Configuration	Event Out - SMTP(E-Mai	il)		
Live View	SMTP(E-Mail) Setting			
🗈 Video & Image	Enable SMTP			
🖾 Audio	- Sender			
Event	- Interval	60	[1 86400] sec	
🗄 Event In			[1 100]	
🗉 Event Out	Use mail server			
SMTP(E-Mail)     FTP & JPEG	- Mail server			
HTTP Server	- Port	25		
Alarm Out     Audio Alert	- Connections security	None		
PTZ Preset	Enable use(SMTP) authentication			
Event Notification	- User name			
- Boost	- Password			
<ul> <li>Event Map</li> </ul>	- Login method	AUTH LOGIN		
Dome Configuration				
D System	SMTP(E-Mail) Receiver			
D About	Receiver 1	Receiver 2		
	Receiver 3	Receiver 4	•	
	Receiver 5	Receiver 6		
	Receiver 7	Receiver 8		
	SMTP(E-Mail) Test			
	Receiver	Test		
		Save Reset		

The network camera can be configured to send event and error email messages via SMTP (Simple Mail Transfer Protocol).

• SMTP (E-Mail) Setting: Select "Enable" to activate the SMTP operation.

- Mail Server/Port: Enter the host names (or IP addresses) and port numbers for your mail server in the fields provided to enable the sending of notifications and image email messages from the network camera to predefined addresses via SMTP.
- Sender: Enter the email address to be used as the sender for all messages sent by the network camera.
- Interval: Represents the frequency of the email notification when an event occurs.
- Aggregate events: Shows the maximum number of emails sent within each interval.

If your mail server requires authentication, check the box for use (SMTP) authentication to log in to this server and enter the necessary information.

- User name/Password: Enter the User name and Password as provided by your network administrator or ISP (Internet Service Provider).

To ensure that the login procedure is performed as securely as possible when using SMTP authentication, you must define the weakest authentication method allowed.

- Login method: Set the Weakest method allowed to the highest/safest method supported by the mail server. The most secure method is listed in the drop-down list:

#### \* AUTH LOGIN/AUTH PLAIN

- SMTP (E-Mail) Receiver:
  - Receiver: Enter an email address. You can also register the e-mail address of up to 8 recipients.

#### • SMTP (E-Mail) Test:

- Receiver: Enter an email address and click the Test button to test that the mail servers are functioning and that the email address is valid.

▼ FTP & JPEG	V	FΤ	Ρ&	JP	EG
--------------	---	----	----	----	----

Basic Configuration	Event Out - FTP & JPEG
Live View	FTP Setting
D Video & Image	Enable FTP
E Audio	- Server Passive mode
V Event	- Port 21
🗄 Event In	- Remote directory
Event Out     SMTP(E-Mail)     FTP & JPEG     HTTP Server	- User name Anonymous login - Password
Alarm Out	JPEG Setting
<ul> <li>Audio Alert</li> <li>PTZ Preset</li> <li>Event Notification</li> <li>Boost</li> </ul>	Pre-event         Time : 5         [0 30] sec         FPS : 1         [1 2] fps           Post-event         Time : 5         [0 30] sec         FPS : 1         [1 2] fps           Prefix file name         Dasename         [1 2] fps         [1 2] fps
Event Map	Additional suffix O None O Date/Time O Sequence number
Dome Configuration	
D System	Save Reset
D About	

When the network camera detects an event, it can record and save images to an FTP server. Images can be sent as e-mail attachments. Check the box to enable the service.

- FTP Setting:
  - Server: Enter the server's IP address or host name.

**NOTE:** A DNS server must be specified in the TCP/IP network settings if using a host name.

- Port: Enter the port number used by the FTP server. The default is 21.
- Use passive mode: Under normal circumstances the network camera simply requests the target FTP server to open the data connection. Checking this box issues a PASV command to the FTP server and establishes a passive FTP connection, whereby the network camera actively initiates both the FTP control and data connections to the target server. This is normally desirable if there is a firewall between the camera and the target FTP server.
- **Remote directory:** Specify the path to the directory where the uploaded images will be stored. If this directory does not already exist on the FTP server, there will be an error message when uploading.
- User name/Password: Provide your log-in information.
- JPEG Setting:
  - **Pre-event:** A pre-event buffer contains images from the time immediately preceding the event trigger. These are stored internally in the server. This buffer can be very useful when checking to see what happened to cause the event trigger.

Check the box to enable the pre-trigger buffer, enter the desired total length in seconds, minutes or hours, and specify the required image frequency.

- **Post-event:** This function is the counterpart to the pre-trigger buffer described above and contains images from the time immediately after the trigger. Configure as for pre-event.
- **Prefix file name:** This name will be used for all the image files saved. If suffixes are also used, the file name will take the form <prefix>, <suffix>, <extension>.
- Additional suffix: Add either a date/time suffix or a sequence number with or without a maximum value.

#### ▼ HTTP Server

Basic Configuration	Event Out - HTTP	Server		
Live View	HTTP Server Setting			
🗈 Video & Image	Enable HTTP set			
E Audio	URL URL	rver		
Event	Port	80		
🗄 Event In	User name			
<ul> <li>Event Out</li> <li>SMTP(E-Mail)</li> </ul>	Password			
FTP & JPEG     HTTP Server	HTTP Server Test			
Alarm Out     Audio Alert	Send message	Test		
<ul> <li>PTZ Preset</li> <li>Event Notification</li> <li>Boost</li> </ul>		Save Reset		
· Event Map				
Dome Configuration				
D System				
About				

When the network camera detects an event, the HTTP Server is used to receive uploaded image files and/or notification messages. Check the box to enable the service.

- HTTP Server Setting:
  - Name: The name of the HTTP event server. Use a descriptive name.
  - URL: The network address to the server and the script that will handle the request. For example: <u>http://192.168.12.244/cgi-bin/upload.cgi</u>
  - User name/Password: Provide your log-in information.
- HTTP Server Test: When the setup is complete, the connection can be tested by clicking the Test button.

## ▼ Alarm Out

Basic Configuration	Event Out - Alarm Out
Live View	Alarm Out Port Setting
🗈 Video & Image	Enable alarm out
🗈 Audio	- Type NO W
Event	
🗄 Event In	Save Reset
Event Out     SMTP(E-Mail)     FTP & JPEG     HTTP Server     Alarm Out     Audio Alert     PTZ Preset     Event Notification     Boost	
Event Map	
Dome Configuration	
System	
D About	

- Enable alarm out: Click the Enable alarm out checkbox to enable the Alarm Out port.
  - Type: The default setting is NO.
    - \* NO: Normally Open
    - \* NC: Normally Close

Click the **Save** button to save the settings, or click the **Reset** button to clear all of the information you entered without saving it.

### ▼ Audio Alert

Basic Configuration	Event Out - A	udio Alert			
E Live View	Audio Alert Settin	g			
🛙 Video & Image	Enable audi	o alert			
🛙 Audio	- Audio file			Browse	Upload
Event	- Audio file	2		Browse	Upload
🗉 Event In	- Audio file	3		Browse	Upload
<ul> <li>Event Out</li> <li>SMTP(E-Mail)</li> </ul>	Audio Alert Test				
· FTP & JPEG	No.	File Name	File Size	Play Time	Bitrate
HTTP Server					
Alarm Out     Audio Alert	* Note	re must be less than 512KE	2		
· PTZ Preset	Total file Siz	e must be less than 512Kb			
Event Notification		T	est Remove		
· Boost					
Event Map		Sa	ve Reset		
Dome Configuration					
System					
E About					

When the network camera detects an event, it can output predefined audio data to an external speaker. Check the box to enable the service.

• Audio Alert Setting: To use the Audio Alert with the network camera, an audio data file made by the user must be uploaded from your PC. Provide the path to the file directly, or use the **Browse** button to locate it. Then click the **Upload** button.

An audio file for Audio Alert can be made by Audio Recorder tool in the NCTitanium software.

• Audio Alert Test: When the setup is complete, the audio output can be tested by clicking the Test button.

To remove an audio file, select index and click the **Remove** button.

**NOTE:** For the proper operation of Audio Alert, you must enable "full duplex" on the Audio setting page.

#### ▼ PTZ Preset

Basic Configuration	Event Out - PTZ Preset
Live View	PTZ Preset Setting
🗈 Video & Image	Enable PTZ preset
🗈 Audio	- Home position None
Event	
🗉 Event In	Save Reset
Event Out  SMTP(E-Mail)  FTP & JPEG  HTTP & JPEG  HTTP Server  Alarm Out  Audio Alert  PT2 Preset  Event Notification Boost  Event Map	
Dome Configuration	511
🗈 System	
About	

When the camera detects an event, you can move the camera to a predefined preset position. Check the box to enable the service and return to the Home position once the event has ended.

#### **V** Event Notification

Basic Configuration	Event Out - Event Notification	
Live View	Event Notification Setting	
🗈 Video & Image	Enable event notification	
🗈 Audio	- Notification server URL	
Event	- Notification server port 80	
🗉 Event In		
Event Out     SMTP(E-Mail)     SMTP(E-Mail)     FTP & JPEG     HTTP Server     Alarm Out     Audio Alert     PTZ Preset     Event Notification     Boost     Event Map     Dome Configuration     System	Save Reset	
E About		

When the network camera detects an event, Notification server is used to receive notification messages as a type of XML data format. Check the box to enable the service.

- Event Notification Setting:
  - Notification Server URL: The network address to the server and the script that will handle the request.

#### ▼ Boost

Basic Configuration	Event Out - Boost				
🗈 Live View	Boost Setting				
🗈 Video & Image	Enable boost				
E Audio	- Boost Stream	Stream 1 💌			
🛛 Event		Normal Condition	Boost Condition		
🗉 Event In	Framerate	30	30 🔍		
Event Out	Bitrate control	CBR M			
<ul> <li>SMTP(E-Mail)</li> </ul>	Bitrate	4000 V [Kbps]	4000 😪 [Kbps]		
· FTP & JPEG					
HTTP Server		Save Reset			
Alarm Out					
Audio Alert     PTZ Preset					
Figure Preset     Event Notification					
Boost					
<ul> <li>Event Map</li> </ul>					
Dome Configuration					
Dome Configuration					

The Boost feature is used in conjunction with event detection. When this feature is turned ON, the Frame rate and Bit rate in the boost condition can be set to a different value than the ones in the normal condition field. When an event is detected, the camera will boost the Frame rate and Bit rate from the normal condition to this boosted level for the duration of the event.

Check the box to enable the service.

- Boost Setting: You can set the condition in Normal and Boost mode.
  - Boost Stream: Select a video stream for each condition in the drop-down list.
  - Frame rate: Select a frame refresh rate per second for each condition in the drop-down list.
  - **Bit rate control:** Select VBR or CBR in the drop-down list in Normal Condition. You can't change it in Boost Condition.
  - Bit rate: Select a value for each condition in the drop-down list.

#### 3) Event Map

	Event Map		
Live View	Event Map List		
🛙 Video & Image	Event Name	Event In	Event Out
E Audio			
Event		Add Modify	Remove
🗉 Event In			
Event Out			
· Event Map			
Dome Configuration			
E System			
D About			

The event map allows you to change the settings and establish a schedule for each event trigger from the network camera. You can register the event map up to max. 15.

• Name	New Event
Event In	
• Type	Onboot
Event Out	
E-Mail	
To e-mail address 1	To e-mail address 2
To e-mail address 3	To e-mail address 4
To e-mail address 5	To e-mail address 6
To e-mail address 7	To e-mail address 8
Subject Additional info	
HTTP server	
Alarm out	
Audio alert	Nudio file 2 O Audio file 3
Audio alert  Audio file 1 0 A	audio file 2 💦 Audio file 3
Audio alert     Audio file 1 Audio file 1	udio file 2 🔿 Audio file 3
Audio alert  Audio file 1  Event Notification Boost	eseti V

Click the **Add** button to make a new event map: a popup window display as below.

- General: Enter the name for a new event map.
- Event In: Select an event type in the drop-down list.
- Event Out:
  - E-mail: Select the email addresses you want to notify via email that an event has occurred.
  - FTP: Select checkbox beside FTP to record and save images to an FTP server when an event has occurred.
  - HTTP Server: It sends notification messages to an HTTP server that listens for these. The destination server must first be configured on the Event In page. Enter a message you want to send.
  - Audio Alert: Select an Audio Alert file as the Network Transmitter output when audio alert event triggered. The Audio Alert file must first be configured on the Event In page.
  - Event Notification: It sends XML messages to an Notification server that listens for these. The destination server must first be configured on the Event In page.
  - **Boost:** when an event has occurred, the camera will boost the Frame rate and Bit rate from the normal condition to this boosted level for the duration of the event. Check the box to enable the Function.

# 3.5.6 Dome Configuration

## 1) Preset

If you need to view specific places routinely, you should program Presets. A Preset is a programmed video scene with automatic pan, tilt, zoom and focus settings.

Once programmed, clicking the Preset number or clicking the Go button in the PTZ Control Panel calls up that Preset automatically.

Basic Configuration	Preset		PTZ Control
Live View	Video Preview		Control
Video & Image	and the state of		
Audio		A Providence of the second sec	
Event	1/7		
Dome Configuration			
Preset	12 SX /-		· PAN Speed 4
• Tour	1000 115 710	The second second	· TILT Speed 4
Motor Setup	1210		· Preset
RS485			Home 🛩 Go Sav
View Angle			· Tour
· System Menu		STATEMENT CONTRACTOR OF STATEMENT	1 V Go 4
Privacy Zone			
1 System			No. No. 2 Addition of the
About			Constant Survey
			PRINSIPANIL
	Preset Setting		
	· Preset number	Home	Preset Setup
	• Title	Home	Preset Delete
	· Focus	Auto [default]	
		······································	(and a started)
		Save Reset	

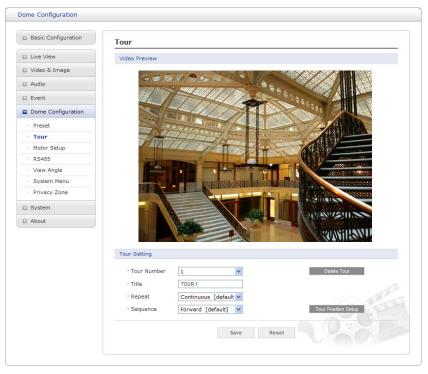
- Preset Setting:
  - **Preset number:** The Preset number can be selected in the range 1 240 or Home.
  - Title: Up to 12 characters (Alphanumeric characters and space)
  - Focus:
    - \* Auto: Auto Focus is always active.
    - \* Manual: Auto Focus is inactive.
  - Preset Setup: Activate the PTZ Control Panel.
  - Preset Delete: Delete selected Preset number.

Follow steps below to store the Preset positions:

- 1. Click the **Preset Setup** button, then shows the PTZ Control Panel.
- 2. Choose the desired Preset number from the Preset drop-down list:
- 3. After aiming the camera (view direction and lens control) by using the **Arrow** and **Zoom** button in PTZ Control Panel, click the **Save** button.
- 4. Repeat step 2 through 3 for each additional Preset position.

# 2) Tour

There are 8 programmable Tours. Each Tour consists of up to 100 Presets.



- Tour Setting:
  - Tour Number: The Tour number can be selected in the range 1 8.
  - Title: Up to 12 characters (Alphanumeric characters and space)
  - Repeat: Select number of repetition from Continuous to 90. The default is Continuous.
  - Sequence: Select either forward or backward sequence in the Tour position list.
  - Delete Tour: Delete the stored Tour Position Setup list of Tour number.
  - Tour Position Setup: Open or close the Tour Position Setup as below.

Tour Pos	ition Setup								
Tour pos	ition						Delete Positio	n	
Preset nu	umber						Set Position		
Dwell Tin	ne	3 [	default]	V					
Speed		Pan	32 [d	e v	Tilt 32	2 [de 🗸	Zoom	8 [def	- v
									-
								1	

- Tour Position Setup:
  - Tour position: The Tour position can be selected in the range 1 ~ 100.
  - Preset number: Show the selected Preset number.
  - Dwell Time: Select the Dwell Time from 0 to 99 seconds. The default is 3 seconds.
  - Speed: Adjust Pan/Tilt/Zoom Speed if you want to a slow movement. The defaults are maximum Speed.

- **Delete Position:** If you want to remove Tour position from Tour Position Setup list, select the desired Tour Position, and click the **Delete Position** button.
- Set Position: Click the Set Position button, then show the stored Presets or Home on drop-down list.

Follow steps below to program the Tours:

- 1. Click the desired Tour position of Tour Position Setup list, and click **Set Position** button, then show the saved Presets or Home on drop-down list. Click a Preset or Home.
- 2. Repeat step 1 for each desired position.
- 3. Click the **Save** button to save the settings, or click the **Reset** button to clear all of the information you entered without saving it.

### 3) Motor Setup

Motor Setup menu provides the pan and tilt speed of a camera.

Basic Configuration	Motor Setup		
E Live View	Motor Setting		
🛙 Video & Image	Proportional P/T	On [default]	
🛙 Audio	· Max. Pan Speed	9 [default]	
Event	· Max. Tilt Speed	9 [default]	
Dome Configuration			
· Preset		Save Reset	
• Tour			
Motor Setup			
· RS485			
<ul> <li>View Angle</li> </ul>			
· System Menu			
Privacy Zone			
System			
About			

- Motor Setting:
  - Proportional P/T: Select On or Off.
  - Max. Pan Speed: The maximum pan speed can be adjusted in the range 1 ~ 38.
  - Max. Tilt Speed: The maximum tilt speed can be adjusted in the range 1 ~ 30.

# 4) RS485

Basic Configuration	RS485	
Live View	RS485 setting	
Video & Image	· DOME ID	1 [1 3999]
I Audio	Protocol	Auto
Event	· Baudrate	9600
Dome Configuration	· Parity	None V
· Preset	1.733X	Hole L
• Tour		Save Reset
Motor Setup		
· RS485		
· View Angle		
· System Menu		
Privacy Zone		
System		
About		

- RS485 Setting:
  - DOME ID: Enter identification number for external PTZ device. The DOME ID can be adjusted in the range 1 ~ 3999.
  - **Protocol:** Selects PTZ protocol to communicate with external PTZ device.
  - Baud rate: Selects one of the Baud rate.
  - Parity: Selects one of the Parity bit.

# 5) View Angle

Basic Configuration	View Angle	
Live View	Video Preview	
Video & Image		
Audio	S 10 16 1 18	
Event		
Dome Configuration		
Preset		
Tour	STTT.	CALL ROOM BURGERS
Motor Setup		
RS485		
View Angle	Rear State	
System Menu		
Privacy Zone		
System		
About		SWALLEN AND STREET
	View Angle setting	
	• Tilt angle limit	0 [default]
	• Flip	90 [default]

- View Angle Setting:
  - **Tilt angle limit:** This option is designed to limit the view angle as there is some obstruction in zooming out on specific areas of the tilt angle.

- Flip:

- \* Off: The dome camera moves until 90° vertically.
- \* Auto: When the camera reaches the floor directly above the moving object, it will stop. At that time, release the Joystick instantly and pull it down again to run the auto-flip function. When you use the panning range, it is recommended to use the flip mode to Auto.
- \* **90, 100, 110, 120:** Allows the image to flip digitally when the camera moves over the setting angle vertically.

### 6) System Menu

Basic Configuration	System Menu		
Live View	Dome Information		
Video & Image	• Camera type	: 30M1-V00.32	
a Audio	Dome Hardware Version	: 30M1-V00.32 : V1.01-0197	
Event	Dome Software Version	: V1.022BHD	
Dome Configuration			
· Preset	System Menu setting		
• Tour	Dome Answer	Off	
<ul> <li>Motor Setup</li> </ul>	Origin Check		
· RS485	ongin check		
<ul> <li>View Angle</li> </ul>	<ul> <li>Re-arrange the pan and tilt post</li> </ul>	sitions. Origin Check	
System Menu			
Privacy Zone		Save Reset	
1 System			
About			

- **Dome Information:** The system information provides essential information about the dome if service is required. The information cannot be modified.
- System Menu setting:
  - **Dome Answer:** Select On or Off for acknowledge command from the dome. This option is helpful to escape the collision of the command using some DVR.
- Origin Check: If you find the dome in the wrong position during operation, execute this origin check by clicking Origin Check button and the dome camera will return to the right position after the origin check operation.

# 7) Privacy Zone

Using privacy zones (masks), you can hide up to 8 unwanted scenes in a camera. The color of privacy zones is gray.

Basic Configuration	Privacy Zone						PTZ Cont	trol
Live View	Video Preview						Control	
Video & Image				_				
Audio							(-	
Event							-	
Dome Configuration								1
Preset							· PAN S	
Tour							- HEI S	peeu 4
Motor Setup							• Preset	
RS485							Home	Go S
View Angle							· Tour	
System Menu							1	Go 4
Privacy Zone							·	
System								
System	Privacy Zone setting	9						
System	Privacy Zone setting	g Title	V.o	off	Set	Delete		
System			V.o On	off	Set Set	Delete X		
System	No.	Title						
System	No.	Title MASK-1	On	~	Set	x		
Privacy Zone System About	<b>No.</b> 1 2	Title MASK-1 MASK-2	On	~	Set Set	X		
System	No.           1           2           3	Title MASK-1 MASK-2 MASK-3	On Off Off		Set Set Set	X X X		
System	No.           1           2           3           4	Title MASK-1 MASK-2 MASK-3 MASK-4	On Off Off Off		Set Set Set Set	X X X X		
System	No.           1           2           3           4           5	Title MASK-1 MASK-2 MASK-3 MASK-4 MASK-5	On Off Off Off Off		Set Set Set Set Set	X X X X X X		

- Privacy Zone Setting: Following steps below to configure the privacy zones;
  - 1. After aiming the camera (view direction and lens control) by using the **Arrow** and **Zoom** button in PTZ Control Panel, click **Set** cell of Set column at any inactive row to create privacy zone.
  - 2. You can change the Title up to 12 alphanumeric characters.
  - 3. In order to hide or display the privacy zone, choose On or Off in V.off column.
  - 4. Click X at Delete column to delete privacy zone.

## 3.5.7 System

#### 1) Information

You can enter the system information. This page is very useful when you require device information after installation.

Basic Configuration	Information		
Live View	Device Name Configura	tion	
🛛 Video & Image			
🛙 Audio	Device name	H.264 Network Camera	
E Event	Location Configuration		
Dome Configuration	Location1		
System	Location2		
· Information	Location3		
I Security	Location4		
• Date & Time			
I Network		Save Reset	
· Language			
· Maintenance			
· Support			
E About			

- Device Name Configuration: Enter the device name.
- Location Configuration: Enter the location information. You can enter up to four locations.

#### 2) Security

#### ▼ Users

Basic Configuration	Security - Users		
E Live View	User Setting		
🛙 Video & Image	Enable anonymous viewe		
🗈 Audio	Enable anonymous viewe	riogin	
E Event	User List Setting		
Dome Configuration	User Name	User Group	Authority
System	admin	administrator	live, setup, system, ptz
· Information		Add Modify	Remove
Security			
		Save Reset	£.
Users			
· Users · HTTPS			
· HTTPS			
· HTTPS · IP Filtering			
· HTTPS · IP Filtering · Date & Time			
HTTPS     IP Filtering     Date & Time     Network			

User access control is enabled by default when the administrator sets the root password on first access. New users are authorized with user names and passwords, or the administrator can choose to allow anonymous viewer login to the Live View page, as described below:

• User Setting: Check the box to enable anonymous viewer login to the network camera without a user account. When using the user account, users have to log-in at every access.

• User List Setting: This section shows how to register a user account. Enter a user name and password to be added, and register them by pressing the Add button. You will see the pop-up window as below.

	User Setting
	User Setting
	· User name :
	* Password :
	Confirm password :
	· User group : guest
	OK Cancel
System	
for passed in the contract of the property can be a former of the contract of	
Basic Configuration	Security - HTTPS
Basic Configuration     Live View	Security - HTTPS HTTPS Connection Policy
D Live View	
<ul> <li>☑ Live View</li> <li>☑ Video &amp; Image</li> </ul>	HTTPS Connection Policy
<ul> <li>☑ Live View</li> <li>☑ Video &amp; Image</li> <li>☑ Audio</li> </ul>	HTTPS Connection Policy Connection Mode HTTPBHTTPS  Private Certificate
Live View Video & Image Audio Event	HTTPS Connection Policy Connection Mode HTTP8HTTPS
Live View  Video & Image  Audio  Event  Dome Configuration	HTTPS Connection Policy Connection Node HTTP&HTTPS  Private Certificate Browse and click Uplead Note
Live View Video & Image Audio Event Dome Configuration System	HTTPS Connection Policy Connection Mode HTTP&HTTPS Private Certificate Browse and click Upload
Live View Video & Image Audio Event Dome Configuration System Information	HTTPS Connection Policy Connection Node HTTP&HTTPS  Private Certificate Browse and click Upload Note
Live View Video & Image Audio Event Dome Configuration System Information Security	HTTPS Connection Policy Connection Mode HTTP&HTTPS  Private Certificate Browseand click Upbad * Note
<ul> <li>Live View</li> <li>Video &amp; Image</li> <li>Audio</li> <li>Event</li> <li>Dome Configuration</li> <li>System         <ul> <li>Information</li> <li>Security             <ul></ul></li></ul></li></ul>	HTTPS Connection Policy Connection Mode HTTP&HTTPS Private Certificate Browse_ and click Upbad  * Note When private certificate does not exist, default certificate is used.
Live View Video & Image Audio Event Dome Configuration System Information Security Users HTTPS	HTTPS Connection Policy Connection Mode HTTP&HTTPS Private Certificate Browse_ and click Upbad  * Note When private certificate does not exist, default certificate is used.
<ul> <li>Live View</li> <li>Video &amp; Image</li> <li>Audio</li> <li>Event</li> <li>Dome Configuration</li> <li>System         <ul> <li>Information</li> <li>Security             <ul></ul></li></ul></li></ul>	HTTPS Connection Policy Connection Mode HTTP&HTTPS Private Certificate Browse and click Upload * Note When private certificate does not exist, default certificate is used.
Live View Video & Image Audio Event Dome Configuration System Information Security Users HTTPS IP Filtering Date & Time	HTTPS Connection Policy Connection Mode HTTP&HTTPS Private Certificate Browse_ and click Upbad  * Note When private certificate does not exist, default certificate is used.
Live View Video & Image Audio Event Dome Configuration System Information Security Users HTTPS IP Filtering Date & Time Network	HTTPS Connection Policy Connection Mode HTTP&HTTPS Private Certificate Browse and click Upbad * Note When private certificate does not exist, default certificate is used.
Live View Video & Image Audio Event Dome Configuration System Information Security Users HTTPS IP Filtering Date & Time Network Language	HTTPS Connection Policy Connection Mode HTTP&HTTPS Private Certificate Browse and click Upbad * Note When private certificate does not exist, default certificate is used.

For greater security, the network camera can be configured to use HTTPS (Hypertext Transfer Protocol over SSL (Secure Socket Layer)). Then all communication that would otherwise go via HTTP will instead go via an encrypted HTTPS connection.

- HTTPS Connection Policy: Choose the form of connection you wish to use from the drop-down list for the administrator, Operator and Viewer to enable HTTPS connection (set to HTTP by default).
  - HTTP
  - HTTPS
  - HTTP & HTTPS
- Upload Certificate: To use HTTPS for communication with the network camera, an official certificate issued by a CA (Certificate Authority) must be uploaded from your PC. Provide the path to the certificate directly, or use the **Browse** button to locate it. Then click the **Upload** button.

Please refer to the home page of your preferred CA for information on where to send the request. For more information, please see the online help.

## ▼ IP Filtering

Basic Configuration	Security -	IP Filte	ring			
Live View	IP Filtering Se	etting				
🛛 Video & Image	Enable	ID filtering				
Audio		Priority		Start IP	End IP	
Event		1	ALLOW 🗸	0.0.0.1	0.0.0.0	
Dome Configuration		2	ALLOW 😽	0.0.0.1	0.0.0.0	
System		3	ALLOW 🛩	0.0.0.1	0 . 0 . 0 . 0	
· Information		4	ALLOW 🖂	0.0.0.	0.0.0.0	
Security		5	ALLOW 😪	0.0.0.1	0 0 . 0 . 0 . 0	
· Users						
· HTTPS			L	Save Reset		
· IP Filtering						
· Date & Time						
I Network						
· Language						
Maintenance						
· Support						
About						

Checking the **Enable IP address filtering** box enables the IP address filtering function. Up to 256 IP address entries may be specified (a single entry can contain multiple IP addresses). Click the **Add** button to add new filtered addresses.

When the IP address filter is enabled, addresses added to the list are set as allowed or denied addresses. All other IP addresses not in this list will then be allowed or denied access accordingly, that is, if the addresses in the list are allowed, then all others are denied access, and vice versa. Also see the online help for more information.

**NOTE:** Users from IP addresses that will be allowed must also be registered with the appropriate access rights. This is done from Setup > System > Security > Users.

Basic Configuration	Date & Time
E Live View	Current Server Time
🛛 Video & Image	Date : 2013-11-13 Time : 11:32:58
🛛 Audio	
Event	New Server Time
Dome Configuration	Time zone
-	(GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London
System	Automatically adjusts for daylight saving time changes
Information	
I Security	• Time mode
· Date & Time	Synchronize with computer time
I Network	Date : 2013-11-13 Time : 11:34:11
· Language	Date : 2013-11-13
· Maintenance	O Synchronize with NTP server
· Support	NTP server : time.nist.gov NTP Interval : 12 💌 [hour]
D About	O Set manually
	Date : 2013-11-13 Time : 11:32:51
	Date & Time Format
	Date Format : YYYY-MM-DD
	Time Format : 24 Hour
	Save Reset

#### 3) Date & Time

• Current Server Time: This displays the current date and time (24h clock). The time can be displayed in 12h clock format in the overlay (see below).

• New Server Time: Select your time zone from the drop-down list. If you want the server clock to automatically adjust for daylight saving time, select "Automatically adjustment for daylight saving time changes".

From the Time mode section, select the preferred method to use for setting the time:

- Synchronize with computer time: Sets the time from the clock on your computer.
- Synchronize with NTP server: The network camera will obtain the time from an NTP server every 60 minutes.
- Set manually: This option allows you to manually set the time and date.
- **NOTE:** If using a host name for the NTP server, a DNS server must be configured under TCP/IP settings.

#### 4) Network

Basic Configuration	Network - Basic	
E Live View	IP Address Configuratio	n
🗈 Video & Image	0	
Audio	<ul> <li>Obtain IP addres</li> <li>Use the following</li> </ul>	
E Event	- IP address	192 • 168 • 30 • 220
Dome Configuration	- Subnet mask	255 - 255 - 255 - 0
System	- Default router	192 - 168 - 30 - 1
Information		
E Security	IPv6 Address Configura	ltion
Date & Time	Enable IPv6	
Network	IPv6 address : fe80:	:207:d8ff:fe17:7181/64
Basic	DNS Configuration	
DDNS		
· RTP	O Obtain DNS serve	
· UPnP		DNS server address :
· QoS	- Domain name	
· NAT	- Primary DNS ser	rver 168 - 126 - 63 - 1
· Zeroconf	- Secondary DNS	server 0 . 0 . 0 . 0
• Bonjour	Host Name Configuratio	-
• Language	Host Name Comiguratio	
Maintenance	Host Name	IPCamera10007D8177181
<ul> <li>Support</li> </ul>		
E About	Services	
	HTTP port	80
	HTTPS port	443
	RTSP port	554
	ARP/Ping setting	
	Enable ARP/Ping	setting
		Save Reset

Settings in regard to network can be executed. Settings for IP, DNS, Host Name, Port, and ARP/Ping can be established, along with setting for DDNS, uPnP, QoS, Zeroconfig and Bonjour.

#### ▼ Basic

- IP Address Configuration:
  - Obtain IP address via DHCP: Dynamic Host Configuration Protocol (DHCP) is a
    protocol that lets network administrators centrally manage and automate the
    assignment of IP addresses on a network. DHCP is enabled by default. Although a
    DHCP server is mostly used to set an IP address dynamically, it is also possible to use
    it to set a static, known IP address for a particular MAC address.

- Use the following IP address: To use a static IP address for the network camera, check the radio button and then make the following settings:
  - \* IP address: Specify a unique IP address for your network camera.
  - \* **Subnet mask:** Specify the mask for the subnet the network camera is located on.
  - \* **Default router:** Specify the IP address of the default router (gateway) used for connecting devices attached to different networks and network segments.
- IPv6 Address Configuration: Check this box to enable IPv6. Other settings for IPv6 are configured in the network router.
- DNS Configuration: DNS (Domain Name Service) provides the translation of host names to IP addresses on your network.
  - Obtain DNS Server via DHCP: Automatically use the DNS server settings provided by the DHCP server. Click the View button to see the current settings.
  - Use the following DNS server address to enter the desired DNS server by specifying the following:
    - \* **Domain name:** Enter the domain(s) to search for the host name used by the network camera. Multiple domains can be separated by semicolons (;). The host name is always the first part of a Fully Qualified Domain Name, for example, my server is the host name in the Fully Qualified Domain Name myserver.mycompany.com where mycompany.com is the Domain name.
    - \* DNS servers: Enter the IP addresses of the primary and secondary DNS servers.
- Host Name Configuration:
  - Host Name: Enter the host name to be used as device information in the client software or SmartManager.
- Services:
  - HTTP port:

Enter a port to receive a service through the HTTP. Default Port Number is '80'.

- HTTPS port:

Enter a port to receive a service through the HTTPS. Default Port Number is '443'.

- RTSP port:

Enter a port to receive a service through the RTSP. Default Port Number is '554'.

## • ARP/Ping Setting:

- Enable ARP/Ping setting of IP address: The IP address can be set using the ARP/Ping method, which associates the unit's MAC address with an IP address. Check this box to enable the service. Leave disabled to prevent unintentional resetting of the IP address.

**V** DDNS

Audio Audio Enable DDNS  Event Dome Configuration System System Dome Configuration Security Date & Time Audio Registered host RTP Registered IP address RTP Registered IP address : UnPP QoS NAT	Basic Configuration	Network - DDNS	
Audio  Audio  Audio  Note  Note  Note  Please remember you have to configure at least primary DNS server in DNS configuration  settings to use Dynamic DNS.  System  DDNS Server  Registered host  Basic  Date & Time  Password  Network  Confirm password  Maximum time interval  DDNS  RTP  Register local network IP address  RTP  Registered IP address :  NAT  Network  Registered IP address :  Nat	Live View	Internet DDNS (Dynamic Domain I	Name Service)
Event     Event     Dome Configuration     System     Dome Configuration     System     Dome Server     DoneS Server     DoneS Server     Cov-network.co.kr     Covinguration     Security     Date & Time     Password     Network     Confirm password     Basic     Maximum time interval     Dons     Register local network IP address     RTP     Registered IP address :     UPnP     QoS     NAT	Video & Image	Enable DDNS	
2 Event       Please remember you have to configure at least primary DNS server in DNS configuration settings to use Dynamic DNS.         2 System       - DDNS Server         • Information       - Registered host         • Date & Time       - Password         • Date & Time       - Confirm password         • Basic       - Confirm password         • DDNS       - Maximum time interval         • UPnP       Register local network IP address         • QoS       Save         • NAT	Audio		
Dome Configuration       settings to use Dynamic DNS.         System       - DDNS Server         Information       - Registered host         Security       - User name         Date & Time       - Password         Network       - Confirm password         Basic       - Maximum time interval         DDNS       - Register local network IP address         RTP       Registered IP address :         UPnP       Save         NAT	Event		
Information     - Registered host       Security     - User name       Date 8. Time     - Password       Network     - Confirm password       Basic     - Maximum time interval       DDNS     - Register local network IP address       RTP     Registered IP address :       UPnP     - QoS       NAT     Save	Dome Configuration		
Security     - User name       Date & Time     - Password       Network     - Confirm password       Basic     - Maximum time interval       DDNS     Register local network: IP address       RTP     Registered IP address :       UPnP	System	- DDNS Server	cctv-network.co.kr
Date & Time     -Password     Network     -Confirm password     Basic     -Maximum time interval     Dobs     RTP     Register local network IP address     RTP     QoS     NAT     Save     Reset	Information	- Registered host	
Network     - Confirm password       Basic     - Maximum time interval       DDNS     - Maximum time interval       RTP     Register local network IP address       UPnP     Registered IP address :       QoS     Save       NAT     Save	Security	- User name	
Basic     Contrm password     Contrecontrm password     Contrm password     Contrm password     Contr	Date & Time	- Password	
• Maximum time interval     1 hour       • DDNS     • Maximum time interval       • RTP     Register local network IP address       • UPnP     Registered IP address :       • QoS     Save       • NAT     Save	Network	- Confirm password	
• DDNS     Register local network IP address       • RTP     Register local network IP address       • UPnP     Registered IP address :       • QoS     Save       • NAT     Save	· Basic	- Maximum time interval	1 hour
- RTP Registered IP address : - UPnP - QoS - NAT Save Reset	DDNS	Register local network I	P address
· QoS Save Reset			
NAT Keset			
	1-000		Save Reset
	· Zeroconf		
Bonjour	· Bonjour		
Language	Language		
Maintenance	Maintenance Support		

• Internet DDNS (Dynamic Domain Name Service): When using the high-speed Internet with the telephone or cable network, users can operate the network camera even on the floating IP environment in which IPs are changed at every access.

Users should receive an account and password by visiting a DDNS service like <u>http://www.dyndns.com/</u> or <u>http://www.cctv-network.co.kr/</u>.

- Enable DDNS: Check to get DDNS service to be available.
  - \* DDNS Server: Select the DDNS server.
  - \* Registered host: Enter an address of the DDNS server.
  - \* User name: Enter an ID to access the DDNS server.
  - \* Password: Enter a password to be used for accessing the DDNS server.
  - \* Confirm password: Enter the password again to confirm it.
  - \* **Maximum time interval:** Set a time interval to synchronize with the DDNS server. Select an item in the interval drop-down list.
  - \* **Register local network IP address:** Register a Network Video Server IP address to the DDNS server.

▼ RTP

Basic Configuration	Network - RTP
Live View	Port Range
Video & Image	
Audio	Start port [30000 [30000 39920; only even values are available]
Event	End port 30199
Dome Configuration	Multicast (Stream 1)
System	Enable multicast
· Information	- Multicast destination IP 231 - 1 - 128 - 20 [224.0.0.0 239.255.255.255]
E Security	- RTP port [1024 65530; only even values are available]
· Date & Time	- RTP TTL [1 255]
Network     Basic	Enable always multicast
DDNS	Multicast (Stream 2)
- RTP - UPnP - QoS - NAT - Zeroconf - Bonjour	Enable multicast         - Multicast destination IP       231 . 1 . 128 . 21       [224.0.0.0 239.255.255.255]         - RTP port       40000       [1024 65530; only even values are available]         - RTP TTL       1       [1 255]         Enable always multicast
· Language	Multicast (Stream 3)
Maintenance Support	Enable multicast         - Multicast destination IP       231 · 1 · 128 · 22       [224.0.0.0 239.255.255.255]         - RTP port       40000       [1024 65530; only even values are available]         - RTP TTL       1       [1 255]         Enable always multicast
	Save Reset

Users can configure settings for sending and receiving audio or video on a real-time basis. These settings are the IP address, port number, and Time-To-Live value to use for the media stream(s) in multicast H.264 format. Only certain IP addresses and port numbers should be used for multicast streams. For more information, please see the online help.

- Port Range:
  - Start port: Enter a value between 30000 and 39920.
  - End port: Enter a value between 30000 and 39920.
- Multicast: This function is for sending Video to Multicast group.
  - Enable Multicast: Check the box to enable multicast operation.
  - Multicast destination IP: Enter an IP between 224.0.0.0 and 239.255.255.255. Although it is empty, an IP will be entered automatically.
  - RTP port: Enter a value between 1024 and 65530.
  - **RTP TTL:** Enter a value between 1 and 255. If the network status is smooth, enter a lower value. On the other hand, if the network status is poor, enter a higher value. When there are many network cameras or users, a higher value may cause a heavy load to the network. For a detailed explanation, please consult with a network manager.

▼ UPnP

Basic Configuration	Network - UPnP		
2 Live View	UPnP Configuration		
Video & Image	Enable UPnP		
Audio	- Friendly name	IP Camera-0007D8177181	
Event			
Dome Configuration		Save Reset	
System			
· Information			
E Security			
· Date & Time			
Network			
· Basic			
DDNS			
RTP			
UPnP			
· QoS			
· NAT			
• Zeroconf			
- Bonjour			
· Language			
Maintenance			
<ul> <li>Support</li> </ul>			

The network camera includes support for UPnP<sup>™</sup>. UPnP is enabled by default, and the network camera is then automatically detected by operating systems and clients that support this protocol.

NOTE: UPnP must be installed on your workstation if running Windows XP. To do this, open the Control Panel from the Start Menu and select Add/Remove Programs. Select Add/Remove Windows Components and open the Networking Services section. Click Details and then select UPnP<sup>™</sup> as the service to add.



Quality of Service (QoS) provides the means to guarantee a certain level of a specified resource to selected traffic on a network. Quality can be defined as a maintained level of bandwidth, low latency, and no packet losses.

The main benefits of a QoS-aware network are:

- The ability to prioritize traffic and thus allow critical flows to be served before flows with lesser priority.
- Greater reliability in the network, because of the control of the amount of bandwidth an application may use, and thus control over bandwidth races between applications.

Basic Configuration	Network - QoS
Live View	DSCP Setting
Video & Image	
Audio	Live stream DSCP 0 [0 63]
Event	Event/Alarm DSCP 0 [0 63]
Dome Configuration	Management DSCP 0 [0 63]
System	Automatic Traffic Control
Information	Enable automatic traffic control
E Security	Maximum bandwidth
· Date & Time	1 Mbit/s V Priority Framerate V
Network	Automatic framerate control
· Basic	
DDNS	Save Reset
· RTP	
· UPnP	
QoS	
· NAT	
· Zeroconf	
• Bonjour	
· Language	
Maintenance	
<ul> <li>Support</li> </ul>	

- DSCP Settings: For each type of network traffic supported by your network video product, enter a DSCP (Differentiated Services Code Point) value. This value is used to mark the traffic's IP header. When the marked traffic reaches a network router or switch, the DSCP value in the IP header tell the router or switch which type of treatment to apply to this type of traffic, for example, how much bandwidth to reserve for it.
- **NOTE:** DSCP values can be entered in decimal or hex form, but saved values are always shown in decimal.

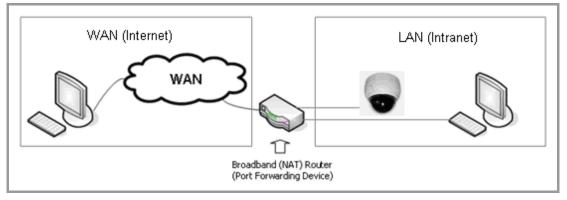
The following types of traffic are marked:

- Live Stream DSCP
- Event/Alarm DSCP
- Management DSCP
- Automatic Traffic Control: Set a limitation on user network resources by designating the maximum bandwidth. Check to enable automatic traffic control.
  - Maximum bandwidth: In case of sharing other network programs or equipment, it is
    possible to set a limitation on the maximum bandwidth in the unit of Mbit/s or Kbit/s.
  - Automatic frame rate: Selected if not influenced by a network-related program or equipment without a limitation on the network bandwidth.

# ▼ NAT

A broadband router allows devices on a private network (LAN) to share a single connection to the Internet. This is done by forwarding network traffic from the private network to the "outside," that is, the Internet. Security on the private network (LAN) is increased since most broadband routers are pre-configured to stop attempts to access the private network (LAN) from the public network/Internet.

Use NAT Traversal when your network cameras are located on an intranet (LAN) and you wish to make it available from the other (WAN) side of a NAT router. With NAT traversal properly configured, all HTTP traffic to an external HTTP port in the NAT router is forwarded to the network camera.



#### NOTES:

- 1. For NAT traversal to work, this must be supported by the broadband router.
- The broadband router is known by many different names: "NAT router," "Network router," "Internet Gateway," "Broadband sharing device" or "Home firewall" but the essential purpose of the device is the same.

Basic Configuration	Network - NAT (Port Mapping)
Live View	Wire NAT traversal Setting
3 Video & Image	Wire NAT traversal Setup : Enable
Audio	External http port : 10000 [1024 65535]
2 Event	External rtsp port : 10000 [1024 65535]
Dome Configuration	External rap port . 10001 [1024 05555]
System	* Note
Information	If the Port is 0, the assigned port of network camera will be set automatically.
I Security	HTTP URL :
· Date & Time	RTSP URL :
Network	
· Basic	Save Reset
DDNS	
· RTP	
· UPnP	
· QoS	
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# ▼ Zeroconfig

Zeroconfig allows the network camera to create and assign the IP address for network cameras and connect to a network automatically.

Basic Configuration	Network - Zeroconf
Live View	Zeroconf Configuration
Video & Image	✓ Enable Zeroconf
I Audio	IP address : 169.254.129.230
Event	
Dome Configuration	Save Reset
System	
Information	
E Security	
· Date & Time	
Network	
· Basic	
DDNS	
· RTP	
· UPnP	
· QoS	
· NAT	
· Zeroconf	
· Bonjour	
· Language	
Maintenance	
· Support	

Zero configuration networking (zeroconf) is a set of techniques that automatically creates a usable <u>Internet Protocol</u> (IP) network without manual operator intervention or special configuration servers.

Zero configuration networking allows devices such as computers and printers to connect to a network automatically. Without zeroconf, a network administrator must set up services, such as <u>Dynamic Host Configuration Protocol</u> (DHCP) and <u>Domain Name System</u> (DNS), or configure each computer's network settings manually, which may be difficult and time-consuming.

Zeroconf is built on three core technologies:

- Assignment of numeric network addresses for networked devices (<u>link-local address</u> auto configuration)
- Automatic resolution and distribution of computer hostnames (multicast DNS)
- Automatic location of network services, such as printing devices through DNS <u>service</u> <u>discovery</u>.

## ▼ Bonjour

The network camera includes support for Bonjour. When enabled, the network camera is automatically detected by operating systems and clients that support this protocol.

Basic Configuration	Network - Bonjour		
Live View	Bonjour Configuration		
Video & Image	🗹 Enable Bonjour		
1 Audio	- Friendly name	IP Camera-0007D817718	1
Event			
Dome Configuration		Save Reset	
System			
Information			
E Security			
· Date & Time			
Network			
· Basic			
DDNS			
· RTP			
· UPnP			
· QoS			
· NAT			
· Zeroconf			
Bonjour			
· Language			
Maintenance			
· Support			

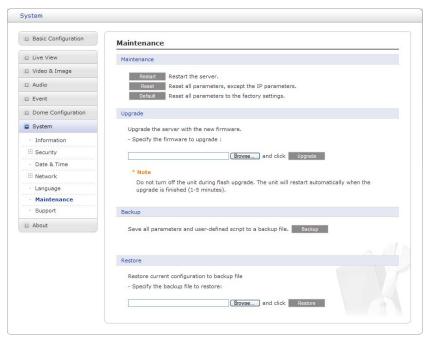
**NOTE:** Bonjour - Also known as zero-configuration networking, Bonjour enables devices to automatically discover each other on a network, without having to enter IP addresses or configure DNS servers. Bonjour is a trademark of Apple Computer, Inc.

## 5) Language

Select the desired language.

Basic Configuration	Language	
D Live View	Language Setting	
🗈 Video & Image	Language	
E Audio	Language	
E Event	Save Reset	
Dome Configuration		
System		
· Information		
I Security		
· Date & Time		
🗄 Network		
· Language		
· Maintenance		
· Support		
About		

#### 6) Maintenance



#### • Maintenance:

- **Restart:** The unit is restarted without changing any of the settings. Use this method if the unit is not behaving as expected.
- Reset: The unit is restarted and most current settings are reset to factory default values. The settings that are not affected are:
  - \* the boot protocol (DHCP or static)
  - \* the static IP address
  - \* the default router
  - \* the subnet mask
  - \* the system time
- **Default:** The **Default** button should be used with caution. Pressing this will return all of the network camera's settings to the factory default values (including the IP address).
- **Update:** Upgrade your camera by importing an upgrade file and pressing the **Upgrade** button. During the upgrade, do not turn off the power of the network camera. Wait at least five minutes and then try to access the camera again.
- Backup:
  - Save the setting values that users have entered to the network camera to a user PC.
- Restore: Import and apply a setting value previously saved to a user PC.
- **NOTE:** Backup and Restore can only be used on the same unit running the same firmware. This feature is not intended for multi-configurations or for firmware upgrades.

# 7) Support

The support page provides valuable information on troubleshooting and contact information, should you require technical assistance.

Basic Configuration	Support
Live View	The log and report files can be useful for troubleshooting or contacting the support team.
🛙 Video & Image	Logs
🛙 Audio	System Log System log information
E Event	Event Log Event log information
Dome Configuration	Reports
System	
· Information	Server Report Important information of the server status. Parameter List The unit's parameters and their current settings.
I Security	Parameter List The unit's parameters and their current settings.
· Date & Time	Health Check
I Network	System Check Important information of system resources.
· Language	Media Check Video and audio stream information.
Maintenance	Network Check Network setting and traffic information.
Support	Hardware Check Hardware diagnostic check.
About	

- Logs: The network camera supports system and event log information. Click the System Log button to get the system log data or the Event Log button to get information on events.
- Reports:
  - Server Report: Click the Server Report button to get the important information about the server's status; this should always be included when requesting support.
  - Parameter List: Click the Parameter List button to see the unit's parameters and their current settings.
- Health Check:
  - System Check: Click the System Check button to get the important information about the camera's system resources. You can see the pop-up window below.

System Che	:k	
Model Firmware	1.1.1	
Date & Time		
. Date . Time . Running time		
CPU		
. Usage	: 48 %	
		ОК

- Media Check: Click the Media Check button to get the information about the camera's video and audio stream. You can see the pop-up window below.

Stream	On/Off	Codec	Size	FPS	Bitrate
Stream1	On	H.264 Baseline Profile	1920×1080	30	3902 Kbps
Stream2	On	MJPEG	640x480	30	2744 Kbps
Stream3	On	H.264 Baseline Profile	640x480	30	419 Kbps
stream					
stream Type	On/Off	Codec	Sample	Volume	Bitrate
am					

- Networks Check: Click the Network Check button to get the information about the camera's network setting and traffic. You can see the pop-up window below.

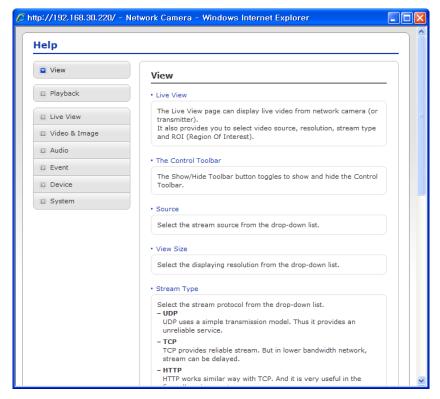
Wired configu	ration		
	tus : Connected		
. DHCP			
	: 192.168.30.220 k : 255.255.255.0		
	: 192.168.30.1		
	: 168.126.63.1		
1 5110	1 100/120/00/1		
Wireless conf	guration		
. Current Sta	tus : Disconnected		
Traffic			
. Wired	: 8585 Kbps		
Streaming se	rvice		
Number of	users currently live	: 2	
	users currently playback	: 0	
Server conne	ction		
. Live Push	: Disconnected		
. Event Push	: Disconnected		

- Hardware Check: Click the Hardware Check button to diagnose the camera's hardware like video.

Hardwar	re Check
Image	
	Connect • Result Successful • Result Successful
Speaker	
• Test	Play · Result Not Tested
Mic	
• Test	Activate Mic · Result Not Tested
	ОК

# 3.6 Help

The Help information window will be provided as a popup window so that users can open and read it without needing to log-in. It will offer a description of the setting and Help page so that users can manipulate the network camera without a reference to the manual.



# 3.7 Resetting to the factory default settings

To reset the network camera to the original factory settings, go to the Setup > System > Maintenance web page (described in "3.5.7 System > Maintenance" of User's Manual) or use the **Reset** button on the network camera, as described below:

## • Using the Reset button:

Follow the instructions below to reset the network camera to the factory default settings using the Reset button.

- 1. Switch off the network camera by disconnecting the power adapter.
- 2. Press and hold the Reset button (SW1) on the board with your finger while reconnecting the power. Refer to "Figure 4 Layout of DIP switch & Reset button".
- 3. Keep the Reset button (SW1) pressed for about 2 seconds.
- 4. Release the Reset button (SW1).
- 5. The network camera resets to factory defaults and restarts after completing the factory reset.
- **CAUTION:** When performing a Factory Reset, you will lose any settings that have been saved. (Default IP 192.168.30.220)

# 4. Appendix

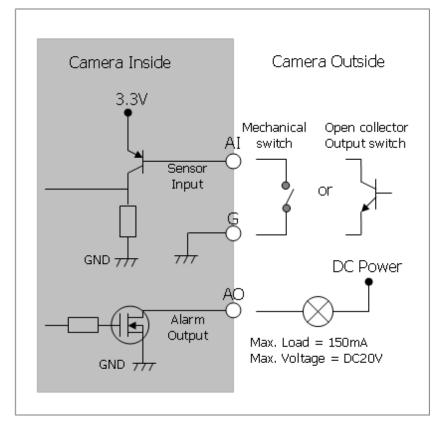
# 4.1 Troubleshooting

Troubleshooting if problems occur, verify the installation of the network camera with the instructions in this manual and with other operating equipment. Isolate the problem to the specific piece of equipment in the system and refer to the equipment manual for further information.

Problems/Symptoms	Possible Causes or Corrective Actions
The camera cannot be accessed by some clients.	If using a proxy server, try disabling the proxy setting in your browser. Check all cabling and connectors.
The camera works locally, but not externally.	Check if there are firewall settings that need to be adjusted. Check if there are router settings that need to be configured.
Poor or intermittent network connection.	If using a network switch, check that the port on that device uses the same setting for the network connection type (speed/duplex).
The camera cannot be accessed via a host name.	Check that the host name and DNS server settings are correct.
Not possible to log in.	When HTTPS is enabled, ensure that the correct protocol (HTTP or HTTPS) is used. When attempting to log in, you may need to manually type in http or https in the browser's address bar.
No image using Refresh and/or slow updating of images.	If images are very complex, try limiting the number of clients accessing the camera.
Images only shown in black & white.	Check the Video & Image setting.
Blurred images.	Refocus the camera.
Poor image quality.	Increased lighting can often improve image quality. Check that there is sufficient lighting at the monitored location. Check all image and lighting settings.
Rolling dark bands or flickering in image.	Try adjusting the Exposure Control setting under AE and AWB part.
H.264 not displayed in the client.	Check that the correct network interface is selected in the Video & Image/Stream.
Multicast H.264 not displayed in the client.	Check with your network administrator that the multicast addresses used by the camera are valid for your network. Check that the Enable multicast checkbox are enabled in the System/Network/RTP tab. Checks with your network administrator to see if there is a firewall preventing viewing.
Multicast H.264 only accessible by local clients.	Check if your router supports multicasting, or if the router settings between the client and the server need to be configured. The TTL value may need to be increased.
Color saturation is different in H.264 and Motion JPEG.	Modify the settings for your graphics adapter. Please see the adapter's documentation for more information.

# 4.2 Alarm Connection

The following connection diagram gives an example of how to connect a network camera.



# **4.3 Preventive Maintenance**

Preventive maintenance allows detection and correction of minor that faults before they become serious and cause equipment failure.

Every three-month, perform the following maintenance.

- 1. Inspect all connection cables for deterioration or other damage.
- 2. Clean components with a clean damp cloth.
- 3. Verify that all the mounting hardware is secure.

# 4.4 Product Specification

30x Full-HD SPEED DOME NETWORK CAMERA

MODEL	30x
IMAGE	
Image Sensor	1/2.8" SONY Exmor CMOS
Lens	4.3mm ~ 129.0mm 30x A/F Optical Zoom, 16x Digital Zoom
Scanning Mode	Progressive Scan
Min. Illumination	Color: 0.5Lux, B/W: 0.1Lux
AE/AWB	Yes
DNR	Yes
D&N	True D&N (IR-cut filter)
WDR	Yes
DIS	Yes
BLC	Yes
VIDEO	
Progressive Encoding	Yes
Compression	H.264 (BP/MP/HP), MJPEG
Resolution Supported	1920 x 1080p
Max. Frame Rate	1080p@60/50fps, 1080p@30/25fps
Multiple Streaming	Triple Stream (2x H.264 and 1x MJPEG)
IN/OUT	
Audio In/Out	In x 1 / Out x 1 (G.711)
Alarm In/Out	In x 1 / Out x 1
RS485	RS485
Ethernet	10/100Mbps
FEATURE	
Motion Detection	Yes
Event Buffering (Pre & Post)	Yes
Privacy Masking	Yes
PrVA (Pre-recorded Voice Alert)	Yes (3 files)
Video Analytics	Yes
Cross Web Browser	Yes
FTP Image Upload	Yes
ONVIF Certificate	Yes (Profile S)
SYSTEM	
Network Time Sync	Yes
Zero Configuration	Yes
Security	Password Protection, IP Filtering, HTTPS, SSL

NETWORK	
Max. Connections	10
Protocols	IPv4/IPv6, Manual, TCP/IP, UDP, HTTP, RTP, RTSP, NTP, DHCP, SMTP, DDNS, HTTPS, RTCP, FTP, Bonjour
NAS Support	Yes
JPEG push	Yes
DDNS	Yes
Remote Client	Web browser, SmartManager, NCTitanium
Installation Tool	SmartManager, NCTitanium
MISCELLANEOUS	
PoE	802.3af Class 3
Power	PoE, 12VDC, 24VAC $\pm$ 10%
Power Consumption	250mA (12W) @ PoE, 1.0A (12W) @ 12VDC or 24VAC
Operating Temperature	0°C ∼ 50°C (32°F to 122°F)
Operating Humidity	0 ~ 90% RH
External Dimension	See dimension drawing
Weight	Approx. 1.2 kg for dome
PTZ FUNCTION	
Pan Range	360° Endless
Pan Speed	Preset: Max. 380°/sec, Manual: Max. 380°/sec
Tilt Range	180° (0° ~ 180°)
Tilt Speed	Preset: Max. 380°/sec, Manual: Max. 300°/sec
Preset	240

\* Specifications are subject to change without notice \*

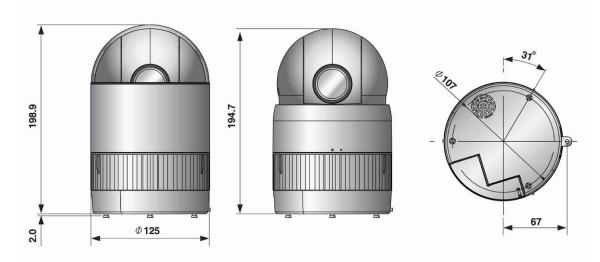


Figure – Dimension

# 4.5 System Requirement for Web Browser

- Operating System: Microsoft Windows OS Series
- CPU: Intel Core 2 Duo 2Ghz or higher, 1GB RAM or more, 10GB free disk or higher
- VGA: AGP, Video RAM 32MB or higher (1024x768, 24bpp or higher)

# 4.6 General Performance Considerations

When setting up your system, it is important to consider how various settings and situations will affect performance. Some factors affect the amount of bandwidth (the bit rate) required, others can affect the frame rate, and some affect both. If the load on the CPU reaches its maximum, this will also affect the frame rate.

The following factors are among the most important to consider:

- High image resolutions and/or lower compression levels (or high bitrates) result in larger images. Frame rate and Bandwidth affected.
- Accessing both Motion JPEG and H.264 video streams simultaneously. Frame rate and bandwidth affected.
- Heavy network utilization due to poor infrastructure. Frame rate and Bandwidth affected.
- Heavy network utilization via wireless router due to poor infrastructure. Frame rate and bandwidth affected.
- Viewing on poorly performing client PCs lowers perceived performance. Frame rate affected.



# 30x Full-HD SPEED DOME NETWORK CAMERA