# INSTALLATION / OPERATION USER'S MANUAL



IPSD202MT X20 Full HD Megapixel Speed Dome Network Camera

## 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 product.

## PRECAUTIONS

Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by the qualified personnel before operating it any further.

Unplug the unit from the wall outlet if it is not going to be used for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials(curtains, draperies) that may block the ventilation holes.

Height and vertical linearity controls located at the rear panel are for special adjustments by qualified personnel only.

## Safety ------ Installation ------

Do not install the unit in an extremely hot or humid place or in a place subject to excessive dust, mechanical vibration.

## Cleaning -----

Clean the unit with a slightly damp soft cloth. Use a mild household detergent. Never use strong solvents such as thinner or benzene as they might damage the finish of the unit.

Retain the original carton and packing materials for safe transport of this unit in the future.

# FCC COMPLIANCE STATEMENT

**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 IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE 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 are 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 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 QRE 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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# DESCRIPTION

The IPSD202MT camera is an internet protocol based megapixel network camera with a built-in web based viewer on Internet Explorer<sup>®</sup>. The camera has a connection feature for third-party applications and compatible with supplied Utility software for easy installation and Client software to search, configure, manage, live view, record and playback.

The camera supports dual compression formats and multiple streaming simultaneously. The two standard compression formats include H.264 and MJPEG. The multiple streams can be configured to a variety of resolutions, bit rates and frame rates.

The camera uses 1/2.8 inch CMOS sensor and Focal length 4.7~94mm lens and also supports PoE (Power over Ethernet), DC12V, and AC24V.

## Models

**IPSD202MT** 2 Megapixel, NTSC(PAL)

## **Key Features**

## • HDTV Video Quality

The IPSD202MT is capable of providing the outstanding image quality with HDTV performance and profiles (High, Main, and Baseline) in H.264 compression.

### • Multiple Streaming

Each stream can be programmed independently and transmitted using different configurations.

### • ROI (Region of Interest)

The ROI features that transmit specially selected area in the primary stream using different FPS, Resolution, Bit Rates and Picture Quality.

## • Dual Codec (H.264, MJPEG)

The IPSD202MT supports two standard compressions formats H.264 and MJPEG.

### • Built-in optical Zoom

Support maximum 20x optical and 12x digital zoom. (Total 240x Zoom).

### • Intelligent Video Motion Detection

The IPSD202MT offers intelligent & sophisticated video motion detection for each multiple streams.

#### • Triple Power (Power over Ethernet, DC12V, AC24V)

This camera supports Power over Ethernet (PoE), which supplies power to the camera through the network. If the network has no PoE, connect a DC12V or AC24V power connector.

#### • Day and Night

The IPSD202MT provide clear monitoring images even in low light conditions using IR-cut filter.

#### • SD Local Recording

The IPSD202MT provides local video recording function. When camera detects video motion or alarm events or manual trigger, it can record video stream by itself.

#### • Voice Alert Linked to Alarm Detection

The IPSD202MT can play the audio file stored in the camera in synchronization with alarm detection by the sensor input or the motion detection function.

#### • Network Flow Control

The IPSD202MT provides a flow control function which enhances network efficiency by significantly restricting user video streams with designating the maximum bandwidth.

#### • ONVIF Certificate

The IPSD202MT network camera complies with the ONVIF certificate. ONVIF (Open Network Video Interface Forum) is an open industry forum for the development of a global standard for the interface of network video product.

## Components

Quantity	Description
----------	-------------

1	Camera	
1	Bubble Ring	
2		c

- 3 Assembly Screws for Attaching Network Dome Camera
- 1 Installation CD
- 3 Plastic Anchor

### NOTE

Adapter for DC12V / AC24V are not supplied.

# INSTALLATION

-----

## **Before Installation**

Before installing the camera, thoroughly familiarize yourself with the information in this section of the manual.

- Recommend connecting the camera to a network that uses a DHCP (Dynamic Host Configuration Protocol) server to address devices.

- To ensure secure access to the IP camera, place the camera behind a firewall when it is connected to a network.

## **Starting Installation**

## **Base Installation**



Figure 1. Typical System Configuration



Figure 2. Assemble bubble ring ass'y(Optional)

#### NOTES

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

The Network Dome Camera is for use in surface mounting applications and the mounting surface should be capable of supporting loads up to 10lb (4.5kg).

The Network Dome Camera's base should be attached to a structural object, such as hard wood, wall stud or ceiling rafter that supports the weight of the Network Dome Camera.



Figure 3. Installation



Figure 4. Dimension

## **Basic Configuration of Fastrax X20 Network Dome Camera System**



Figure 5. Basic installation diagram

The Network Dome Camera must be installed by qualified service personnel in accordance with all local and federal electrical and building codes. The system should be installed according to Figures 5 through 8.



Figure 6. Layout of Switches

## **Setting Network Dome Camera Termination**

The device which is connected at end of line, whether it is a Network 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 1.2km (4000ft).

SW1			
	SW1	1	2
+	Terminated	ON	RESET
ON 1 2	Not terminated	OFF	OFF

Figure 7. Setting Network Dome Camera Termination

## Reset

Restore the camera's factory default settings. The dip switch 2 is on for 15s and then off. Please take steps as follows:

- 1. Power off
- 2. Press the switch 2 to On
- 3. Supply the camera with power
- 4. wait for 15 seconds and relocated SW2 off



Figure 8. Termination Diagram

## Setting Network Dome Camera Address (ID)

To prevent damage, each Network Dome Camera must have a unique address (ID). When installing multiple Network Dome Cameras using a multiplexer, it is suggested that the Network Dome Camera address match the multiplexer port number.

If you want to set the address more than 999, you should contact the service provider.

Refer to 'Dome Configuration - RS485' section for detailed information.

## **Setting Network Dome Camera Protocol**

If a Network Dome Camera is to be installed with a Fastrax keyboard controller, select the default protocol.

Consult service personnel if a Network Dome Camera is installed with device other than a keyboard controller.

Refer to 'Dome Configuration - RS485' section for detailed information.

## Connections

#### • Connecting to the RS485

The Network Dome Camera can be controlled remotely by an external device or control system, such as a control keyboard, using RS485 half-duplex serial communications signals. Connect Marked Rx+, Rx- to Tx+ and Tx- of the RS485 control system.

### • Connecting Video out connector

Connect the video out (BNC) connector to the monitor or video input.

### • Connecting Alarms

#### - AL1 to 2 (Alarm In)

You can use external devices to signal the Network Dome Camera to react on events. Mechanical or electrical switches can be wired to the AL (Alarm In) and GND (Ground) connectors.

#### GND(Ground)

Connect the ground side of the Alarm input and/or alarm output to the GND connector.

#### - NC (NO) (Normal Close or Normal Open: Alarm Out)

The Network Dome Camera can activate external devices such as buzzers or lights. Connect the device to the NC (NO) (Alarm Out) and COM (Common) connectors.

#### • Connecting the Network

The Network Dome Camera supports the operation through the network. Therefore, it is necessary to connect a standard RJ-45 cable to it. Generally a cross cable is used for directly connection to PC, while a direct cable is used for connection to a hub.

#### • Connecting the Power

Connect the power of DC 12V to the Network Dome Camera. Use certified / Listed Class 2 power supply transformer only.

## **Setting Network Dome Camera Protocol**

When a camera, Encoder or Decoder is first connected to the network it has no IP address. So, it is necessary to allocate an IP address to the device with the "Smart Manager" utility on the CD.

## Micro SD Card Installation (Optional)

Insert Micro SD card for local recording.

# **OPERATION**

Before starting the camera, installation must be complete. The camera completes a configuration sequence within approximately 40 seconds when power is supplied. The amber LED of this megapixel camera flash one time per second indicating the configuration sequence is complete.

## NOTES

- If the DHCP is enabled but the camera is not connected to a DHCP server, the camera will be set default IP 192.168.30.220 and try to get IP from DHCP server about every two seconds.
- Network and processor bandwidth limitations might cause the video stream to pause or appear pixilated when an increased number of Web-interface users connection to the camera. Decrease the images per second, resolution, compression, or bit rate settings of the Web-interface video streams to compensate for network or processor limitations.

## Minimum conditions for using web browser

The minimum system requirements to use a Web browser with this IP camera are as follows:

- CPU: Pentium<sup>®</sup> 4 microprocessor, 2.0GHz
- Operational System: Windows XP<sup>®</sup> or Windows Vista<sup>®</sup> or Windows 7<sup>®</sup>
- System Memory: RAM 512 Mbyte
- Ethernet: 100 Mbit
- Video Resolution: 1024(Horizontal) x 768(Vertical) pixels or higher
- Internet Explorer<sup>®</sup> 7 or later
- ActiveX<sup>®</sup> 1.0.0.13 or later

## Accessing the IP camera

- 1. Open Web browser
- Double click Internet Explorer<sup>®</sup> icon.
- 2. Type IP address
- Type the camera's IP address in the Internet Explorer<sup>®</sup> address bar.
- The default IP address is 192.168.30.220

### NOTES

- If you do not know the camera's IP address, install the SmartManager<sup>®</sup> utility software available on the CD supplied with the product. The utility software will locate the assigned Model name, Host name, MAC address, IP address, Version and others.
- Refer to the SmartManager<sup>®</sup> utility software manual for more detail.

3. Log On to the camera

- Click the Live View icon for default live image view or the Setup icon to change the configuration values.

## Main Menu



Figure 9. Main Menu

The dialog box will be appears.

- Type User ID and Password in the dialog box. The default User ID and Password are *admin*.

## NOTE

For security purposes, be sure to change the password after you log on for the first time.

# **LIVE VIEW**

The Live View page provides you to select the properties of video source. You can view the live image from this page and also access the Setup menu and operate the main functions.

Network Camera 🔤 🧕 🔯	
Stream1 💌 🛄 640x480 💌 🚔 UDP 💌 🛱 ROI 💌 🔞 P	reset 💌
Live View	
CONTRACTOR OF CONTRACTOR	

Figure 10. Main Live View Page

## **Live Video Page Icons**

- Hide Main Icons: Hides main icons in the live view page.
- Show Main Icons: Shows main icons in the live view page.



Q

Live view: Displays live video stream.

Playback View: Enters playback menu.



- Setup: Enters setup menu.
- lelp: Shows helpful information.
- 🕺 Source: Specify the viewable video stream source to display in live view page.
- View Size: Specify the viewable video size to display in live view page.
- 🚔 Stream Type: Specify the internet protocol to display in live view page.

ROI View: Specify the specially selected area to transfer using different stream feature in the primary video image. ROI is an abbreviation for "Region of Interest".

Pause: Pause the live video stream.

Snapshot: Take a picture of the video image currently on display. Supports the origin image size view, Print, and Save feature.

- ( Digital Zoom: Supports a digital zoom in live video image.
- 😢 Full Screen: Expands video image to the entire screen area.
- Manual Trigger: Activates the Alarm Out signaling manually.
- **ID** PTZ Control: Activates PTZ Control Panel
  - Speaker: Adjusts the volume of Speaker and switch the sound on / off.
  - Microphone: Adjusts the volume of Microphone and switch the sound on / off.

# PLAYBACK

\_\_\_\_\_

This Playback page provides current SD recorded file lists and information. It also supports easy access and how to playback the recorded stream.

## **Playback View**

User can access the recorded image in the web browser.



Figure 11. Playback View

**Event List:** Shows the recorded lists by Alarm, Trigger and Motion event.

**Event Search:** Select the start date and end date you want to playback, and then click the Go button to show the list. In case of you want to list up according to event type, click the arrow button and select event type.

**Calendar:** Shows the information about playback image.

Playback Control Buttons: Provides user favorite functions.



## Clip Copy: Provides avi format file.

Export [avi file]	J	
Start Date/Time : End Date/Time :	2011-02-15 <b>v</b>	오후 1:54:04 ; 오후 1:54:14 ;
Export Path ⊂:₩		
FPS: 7	Estimate	Size : 841 KB
	To .avi export	Export Cancel

Please step as follows;

- 1. Select Start Date/Time and End Date/Time.
- 2. Set Export Path.
- 3. Click Estimate button which is shown the file FPS and Size.
- 4. Click Export or Cancel button.

## NOTES

1. If you set successfully, the following pop-up windows will be appeared.

Export	[avi file]		
Start Date/Time: 2011-07-21  오후 5:52:22 End Date/Time: 2011-07-21  오후 5:56:22			22 <u>*</u> 22 <u>*</u>
Export	Path MPC		
	Exporti	ng OK 🛛 🛛 🔀	
FPS :	(į)	avi file export completed,	:5 KB
		[[······ 활인	Cancel

2. In case of mismatching of the Start or End Date/Time, the following windows will be appeared. Please retry to set the Start or End Date/Time.



3. In case of no image data between the Start Date/Time and End Date/Time, the following windows will be appeared.

Please retry to set the Start or End Date/Time.



4. The buttons from 0 to 23 indicate an Hours and the number from 0 to 60 indicate a minutes.

# SETUP

The SETUP pages provide you to manage the camera and change the setting values. For the easy and quick access the video, the setup menu is configured two parts, which are Basic Configuration and advanced configuration. The Basic Configuration menu allows you to setup Users, basic Network and Image. The remaining configuration parts help to setup user dependent values and provide more advanced settings.

## **Basic Configuration**

Basic Configuration supply user to access the camera image using minimum setting. Also it shows the camera basic information such as Model name, Firmware version and MAC address.

Basic Configuration	Basic Configuration	
· Users		
Network	Model name : HDS-S422W(NBAR3) Firmware version : 2.2.74	
• Image	MAC address : 00:07:D8:00:F3:C3	
· Audio		
• Date & Time		
Live View		
Video & Image		
Audio		
Event		
Dome Configuration		
System		
About		

Figure 12. Basic Configuration

## NOTE

The setting menu might not be available if the user does not have the permission to access this feature. The only required setting is the IP address, which is set on the Network page. All other settings are available with default values and optional.

## Users

Use the Users tab to manage user permission to access the camera.

Basic Configuration	Users				
· Users					
· Network	User Set	ting			
• Image	🗹 Ena	ble anonymous viewer	login		
· Audio					
· Date & Time	User List	Setting			
		User Name	User Group	User Authority	
Live View		admin	Administrator	live, setup, system	
🛛 Video & Image					
Audio					
Event					
Dome Configuration					
System			Add Modify	Remove	
D About					
			Save Res	et	

Figure 13. Basic Configuration / Users

**User Setting:** Click the Enable anonymous viewer login checkbox to enable anonymous user login to the camera. The default setting is disabled.

**User List Setting:** User accounts can be added or modified or removed. The authority depends upon user group automatically and shows the permission status to access the menus. The default user name / password is *admin*.

**User Name:** Shows the name which registered to access the camera.

**User Group:** Shows the assigned permission given to users.

**Authority:** Shows the permission status to access the menus.

- Click the Add, Modify, or Remove button for managing user account.

🖉 Network Camera - Wi	ndows Internet 🔳 🗖 🔀
💋 http://192,168,1,35/basic/u	useredit, php?user_section=ad 🔯
Add User	
User Setting	
• User name :	Alice
· Password :	•••••
<ul> <li>Confirm password :</li> </ul>	•••••
· User Group :	administrator 💌
ОК	CANCEL
	🖓 🔹 🔍 100% 👻 🛒

Figure 14. Basic Configuration / User / Add User

### To add a new user:

1. Click the Add tab, and then new pop-up window appears.

2. Click in the User name box and type a new user name (1 to 14 alphanumeric characters). User names are not case sensitive.

3. Click in the Password box and type a password (1 to 8 alphanumeric characters). Passwords are case sensitive.

4. Click in the Confirm password box and retype a password.

5. Click in the User group box and select one of the groups you wish to assign to the user.

6. Click the OK button to save the settings and add a new user.

🖉 Network Camera - Wi	ndows Internet 🔽 🗖 🔀
🔊 http://192,168,10,176/basid	:/useredit.php?user_section=r 🔯
Modify User	
User List Setting	
• User name : • Password :	Alice
• Confirm password : • User gruop :	administrator 💌
ОК	CANCEL
	🖓 🗸 🔍 100% 👻 📑

Figure 15. Basic Configuration / User / Modify User

### To modify a user:

1. Select one of the User Name in the User List Setting you want to modify.

2. Click the Modify tab, and then new pop-up window appears.

3. Click in the Password box and type a password (1 to 8 alphanumeric characters). Passwords are case sensitive.

- 4. Click in the Confirm password box and retype a password.
- 5. Click in the User group box and select one of the groups you wish to assign to the user.
- 6. Click the OK button to save the settings and modify a user.

### NOTE

The user name can't be modified.

#### To remove a user:

- 1. Select one of the User Name in the User List Setting you want to remove.
- 2. Click the Remove tab. A dialog box appears with confirmation message.
- 3. Click the OK button. The user profile is removed from the User List Setting profile.

#### NOTE

The admin user name can't be modified.

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

## Network

Basic Configuration	Network		
· Users			
Network	IP Address Configuration		
• Image	Obtain IP address via DHCP		
· Audio	Use the following IP address	ss :	
• Date & Time	- IP address	192 . 168 . 1 . 35	
	- Subnet mask	255 . 255 . 255 . 0	
Live View	- Default router	192 . 168 . 1 . 1	
Video & Image			
Audio	IPv6 Address Configuration		
Event	Enable IPv6		
Dome Configuration	DNS Configuration		
System	O Obtain DNS server addres	s via DHCP	
About	<ul> <li>Use the following DNS ser</li> </ul>	ver address :	
2	- Domain name		
	- Primary DNS server	0.0.0.0	
	- Secondary DNS server	0.0.0.0	
	· · · · · · · · · · · · · · · · · · ·		
		Save Reset	

Use the Network tab to manage basic network settings.

Figure 16. Basic Configuration / Network

**IP Address Configuration:** The DHCP (Dynamic Host Configuration Protocol) server has a feature that automatically assigns an IP address to the device if there is a device on the network. **Obtain IP address via DHCP:** Select the choice box if you want to assign the IP address from DHCP server automatically, and then the remaining setting are read-only text.

**Use the following IP address:** Select the choice box if you want to assign the IP address manually.

**IP address:** The address of the camera connected to the network. Specify a unique IP address for this network camera.

**Subnet mask:** The address that determines the IP network that the camera is connected to (relative to its address). Specify the mask for the subnet the network camera is located on.

**Default router:** The router that accesses other networks. Specify the IP address of the default router (Gateway) used for connecting devices attached to different networks and network segments.

**IPv6 Address Configuration:** Check the Enable IPv6 check-box to enable IPv6 address configuration. 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:** Select the choice box if you want to use the DNS server settings provided by the DHCP server automatically, and then the remaining setting are read-only text.

**Use the following DNS server address:** Select the choice box if you want to use the desired DNS server manually.

**Domain name:** Enter the domain to search for the host name used by the network camera.

Primary DNS server: Enter the IP address of the primary DNS server.

**Secondary DNS server:** Enter the IP address of the secondary DNS server.

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

## Image

Use the Image tab to adjust the camera image setting value and orientation.



Figure 17. Basic Configuration / Image

**Image Appearance:** The image appearance allows you to adjust the camera setting parameters and change the camera orientation. All of parameters are recommended to be modifying for good image quality suitable for installation place.

**Brightness:** Controls the brightness of detail in a scene. The brightness can be adjusted in the range -7~7. The default setting is 0.

**Sharpness:** Controls the clarity of detail in a scene. The sharpness can be adjusted in the range  $0 \sim 15$ . The default setting is 10.

Gain limit: Set a limit of gain when image signal-to-noise ratio is particularly important.

**Custom gamma:** Change the gamma correction. Blocked-up shadows in images will be more noticeable than usual. The default setting is Standard.

**Chroma:** Configure a chroma suppress mode for low-illumination conditions. This can be useful when color noise is particularly noticeable in such conditions. The default setting is Middle.

**Enable flip image:** Rotate the camera image 180 degrees vertically.

**Preset freeze:** The image is frozen during calling preset.

**Noise reduction Control:** The NR(Noise Reduction) function removes noise to provide clearer images. In bright conditions, changing the NR level will not have an effect.

Level: The level can be adjusted in the range 1-5 and off. The default setting is 4.

**Moving Level:** The level can be adjusted in the range 1-5 and off when Pan and Tilt are moving. The default setting is 4.

**Day & Night Control:** Day & Night controls the position of the IR (Infra Red) cut filter, which determines the color or block-white setting of the camera.

**Threshold:** Select the change level of switching from night to day mode in auto.

**Digital Zoom Control:** The digital zoom control allows you to control the digital zoom. **Digital zoom:** The digital zoom can be adjusted in the range off-Max. The default setting is off.

Off	Zoom range is limited to the optical.
x2	Zoom is extendable 2x of digital zoom range.
x4	Zoom is extendable 4x of digital zoom range.
Max	Zoom is extendable Max digital zoom range.

- 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

Basic Configuration	Audio
· Users	Audio Castina
Network	Audio Setting
• Image	Enable audio
· Audio	- Compression type G.711 u-law
• Date & Time	- Sample rate 8 kHz
Live View	Audio Input
Video & Image	Input volume 0.00 🕑 dB 🗌 Mute
Audio	Audio Output
Event	Enable full duplex
Dome Configuration	- Output volume 0.0 Mute
System	Save Reset
About	0010 11000

Use the Audio tab to manage the basic audio settings for the camera.

Figure 18. Basic Configuration / Audio

**Audio Setting:** Click the Enable audio checkbox to enable audio. This page describes how to configure the basic audio settings for the camera. This camera supports the audio full duplex that can be transmits and receives audio in both directions at a time.

**Compression type:** G.711 is the international standard for encoding wired-telephone audio on 64kBit/s channel. It is a PCM (Pulse Code Modulation) scheme operating at 8 kHz sample rate. The default setting is G.711  $\mu$ -law.

**Sample rate:** Indicates the number of times per second the sound is sampled. The default setting is 8 kHz.

#### NOTE

G.711, also known as Pulse Code Modulation (PCM), is a very commonly used waveform codec. G.711 uses a sampling rate of 8,000 samples per second, with the tolerance on that rate 50 parts per million (ppm). Non-uniform quantization (logarithmic) with 8 bits is used to represent each sample, resulting in a 64 kbit/s bit rate. There are two slightly different versions;  $\mu$ -law, which is used primarily in North America, and A-law, which is in use in most other countries outside North America. G.711  $\mu$ -law tends to give more resolution to higher range signals while G.711 A-law provides more quantization levels at lower signal levels.

Audio Input: Adjusts the audio volume especially from the Mike.

**Input volume:** The Input volume can be adjusted in the range from -21.00 to 21.00 dB. The default setting is 0 dB. Click the Mute box if you do not want the audio input.

Audio Output: Adjusts the audio volume especially to the Speaker.

Enable full duplex: Enable audio out.

**Output volume:** The Output volume can be adjusted in the range from -18.1 to 6.0 dB. The default setting is 0 dB. Click the Mute box if you do not want the audio output.

## Date & Time

Basic Configuration	Date & Time	
· Users		
• Network	Current Server Time	
• Image	Date : 2012-01-01 Time : 00:00:21	
· Audio		
· Date & Time	New Server Time	
	New Server Time	
Live View	(GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London 🗸	
Video & Image	Automatically adjust for daylight saving time changes	
Audio	• Time mode	
Event		
Dome Configuration	Date : 2011-06-08 Time : 11:29:34	
System	O Synchronize with NTP server	
About	NTP server : time.nist.gov NTP Interval : 1 💌 hour	
	Set manually	
	Date : 2012-01-01 Time : 00:00:00	
	Date & Time Format	
	Date Format : YYYY-MM-DD	
	Time Format : 24 hour	
	Save Reset	

Use the Date and Time tab to set the camera's date and time by manually or automatically.

Figure 19. Basic Configuration / Date & Time

Current Server Time: Shows the current date and time.

**Date:** The default setting is 1970-01-01.

Time: The default setting is 00:00:00.

**New Server Time:** Select the time zone where your camera is located.

Click the "Automatically adjust for daylight saving changes" checkbox to automatically update the time changes caused by daylight saving.

**Time zone:** The default setting is GMT.

**Time mode:** The default setting is Set manually.

**Synchronize with computer time:** Sets the time according to the clock on your computer.

**Synchronize with NTP Server:** This option will obtain the correct time from an NTP server every 60 minutes. The NTP server's IP address or host name is specified in the time server. **Set manually:** Using this option allows you to manually enter the date and time.

Date & Time Format: Select one of the Date and Time format. Date Format: The default setting is YYYY-MM-DD. Time Format: The default setting is 24 hours.

# **Live View**

Use the Source tab to configure the live view video source and composite video output properties.

### Source

Configure the default live view source in the web browser and composite video output source.

Basic Configuration	Source
Live View	View Size
Source	Enable cookie
Video & Image	O Use the followings :
a Audio	- Source Stream1
Event	- Stream Type UDP
Dome Configuration	
System	Default TV Out
About	Mode NTSC 💌
	Source Stream1 V
	Save Reset

Figure 20. Live View / Source

**View Size:** Select which formats do you want as default live view source.

**Enable cookie:** Click the Enable cookie box if you want to reload the last configuration settings.

**Use the followings:** Click the Use the following box to configure the video properties to be displayed in the live view page.

**Source:** Select one of the stream sources to be displayed in the live view page. The default setting is Stream1.

**View size:** Select one of the view sizes to be displayed in the live view page. The default setting is a 1280x720.

**Stream type:** Select one of the stream protocols. The default setting is UDP.

**Default TV out:** Configure the composite video output properties.

**Mode:** Check the composite video output format.

**Source:** Select one of the composite video output sources. The default setting is stream1.

**Sequence** If you select Sequence, the composite video output repeats the video images on a single video pane according to <Sequence Mode Setting>.

#### <Sequence Mode Setting>

Click the checkbox if you want to assign each stream into Sequence Mode.

Each stream dwell time shows the dwelling time / intervals of each stream when the stream set the sequence mode.

Stream1 Dwell Time	Enter stream1 dwell time. The dwell time can be adjusted in the range 3-3600 seconds. The default setting is 5 seconds.
Stream2 Dwell Time	Enter stream2 dwell time. The dwell time can be adjusted in the range 3-3600 seconds. The default setting is 5 seconds.
Stream3 Dwell Time	Enter stream3 dwell time. The dwell time can be adjusted in the range 3-3600 seconds. The default setting is 5 seconds.
Stream4 Dwell Time	Enter stream4 dwell time. The dwell time can be adjusted in the range 3-3600 seconds. The default setting is 5 seconds.

# Video & Image

Use the Video & Image tab to select a preset camera stream configuration or configure custom video stream settings. The camera features multiple video streams with selectable settings for Profile, Resolution, Bit rate control, Compression, and Frame rate. The default names for the streams are Stream1, Stream2, Stream3, and Stream4. Although each stream can be programmed independently, the settings of one stream can limit the options available for the other stream depending on the processing power used.

### NOTES

- H.264 is the new generation compression standard for digital video, also known as MPEG4 Part 10. This function offers higher video resolution than Motion JPEG or MPEG4 at the same bit rate and bandwidth, or the same quality video at a lower bit rate.

- MJPEG (Motion Joint Photographic Experts Group) is a simple compression technique for networked video. Latency is low and image quality is guaranteed, regardless of movement or complexity of the image. Image quality is controlled by adjusting the compression level, which in turn provides control over the file size, and thereby the bit rate.

### Image – Basic

Use the Image-Basic tab to adjust the camera image setting values and orientation.



Figure 21. Video & Image / Image - Basic

**Image Appearance:** The image appearance allows you to adjust the camera setting parameters and change the camera orientation. All of parameters are recommended to be modifying for good image quality suitable for installation place.

**Brightness:** Controls the brightness of detail in a scene. The brightness can be adjusted in the range -7~7. The default setting is 0.

**Sharpness:** Controls the clarity of detail in a scene. The sharpness can be adjusted in the range  $0 \sim 15$ . The default setting is 10.

Gain limit: Set a limit of gain when image signal-to-noise ratio is particularly important.

**Custom gamma:** Change the gamma correction. Blocked-up shadows in images will be more noticeable than usual. The default setting is Standard.

**Chroma:** Configure a chroma suppress mode for low-illumination conditions. This can be useful when color noise is particularly noticeable in such conditions. The default setting is Middle.

**Enable flip image:** Rotate the camera image 180 degrees vertically.

**Preset freeze:** The image is frozen during calling preset.

**Noise reduction Control:** The NR(Noise Reduction) function removes noise to provide clearer images. In bright conditions, changing the NR level will not have an effect.

Level: The level can be adjusted in the range 1-5 and off. The default setting is 4.

**Moving Level:** The level can be adjusted in the range 1-5 and off when Pan and Tilt are moving. The default setting is 4.

**Day & Night Control:** Day & Night controls the position of the IR (Infra Red) cut filter, which determines the color or block-white setting of the camera.

**Threshold:** Select the change level of switching from night to day mode in auto.

**Digital Zoom Control:** The digital zoom control allows you to control the digital zoom. **Digital zoom:** The digital zoom can be adjusted in the range off-Max. The default setting is off.

Off	Zoom range is limited to the optical.
x2	Zoom is extendable 2x of digital zoom range.
x4	Zoom is extendable 4x of digital zoom range.
Max	Zoom is extendable Max digital zoom range.

## Image – Auto Exposure

Basic Configuration	Image - Auto Expos	ure
Live View	and the second	
Video & Image	100 100 100 100 100 100 100 100 100 100	
🗉 Image		
Basic		
Auto Exposure		Aller
Auto Focus	The straight	
White Balance     Privacy Mask	DATT TO	
- HIVECY HUSK	J. The state	
Stream1		
Stream2		
Stream3		STREET, STREET
Stream4		
Webcasting		
Audio		
Event		
Dome Configuration		
System	Exposure Control	
About	Exposure mode	Manual Bright
	Slow auto exposure	1 [default]
50	Slow auto exposure Shutter speed	1 [default]
	Slow auto exposure Shutter speed Exposure	1 [default]       1/30 [default]       sec
	Slow auto exposure Shutter speed Exposure AGC gain	1 [default]       1/30 [default]       \$\vee\$       F2.0       0
	Slow auto exposure Shutter speed Exposure AGC gain Bright	1 [default]   1/30 [default]   F2.0   0   dB   6
	Slow auto exposure Shutter speed Exposure AGC gain Bright	1 [default]   1/30 [default]   Sec   F2.0   0   dB   6
	Slow auto exposure Shutter speed Exposure AGC gain Bright Slow shutter	1 [default]   1/30 [default]   sec   F2.0   0   dB   6   Off [default]
	Slow auto exposure Shutter speed Exposure AGC gain Bright Slow shutter High sensitivity	1 [default]   1/30 [default]   sec   F2.0   dB   6   Off [default]   Off [default]
	Slow auto exposure Shutter speed Exposure AGC gain Bright Slow shutter High sensitivity Day & Night Control	1 [default]   1/30 [default]   sec   F2.0   0   dB   6   Off [default]   Off [default]
	Slow auto exposure Shutter speed Exposure AGC gain Bright Slow shutter High sensitivity Day & Night Control Mode	1 [default]   1/30 [default]   sec   F2.0   0   dB   6   Off [default]   Off [default]
	Slow auto exposure Shutter speed Exposure AGC gain Bright Slow shutter High sensitivity Day & Night Control Mode	1 [default]   1/30 [default]   sec   F2.0   0   dB   6   Off [default]   Off [default]
	Slow auto exposure Shutter speed Exposure AGC gain Bright Slow shutter High sensitivity Day & Night Control Mode WDR & BLC Control	I [default]   I/30 [default]   sec   F2.0   0   dB   6   Off [default]   Off [default]
	Slow auto exposure Shutter speed Exposure AGC gain Bright Slow shutter High sensitivity Day & Night Control Mode WDR & BLC Control Mode	1 [default]   1/30 [default]   sec   F2.0   0   dB   6   Off [default]   Off [default]     Night     Off [default]
	Slow auto exposure Shutter speed Exposure AGC gain Bright Slow shutter High sensitivity Day & Night Control Mode WDR & BLC Control Mode	I [default]   I/30 [default]   I/30 [default]   I/30 [default]   I/30 [default]   I/30 [default]   I/30 [default]

Use the Auto Exposure tab to control the Auto Exposure.

Figure 22. Video & Image / Image – Auto Exposure

**Exposure Control:** 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 determines detail in the scene. The camera features auto and manual exposure settings.

**Exposure mode:** Supports exposure modes to control the amount of light detected by the camera sensor base on settings for light conditions. The default setting is Auto

Auto	Automatic Exposure.
Manual	Adjust the shutter, exposure and electronic shutter manually.
Manual Exposure	Adjust the exposure manually.
Manual Shutter	Adjust the electronic shutter manually.
Manual Bright	Adjust both gain and iris using an internal algorithm, according to a brightness level freely set by the user.

**Slow auto exposure:** Slow auto exposure allows you to reduce the exposure response speed. It allows you to lengthen the automatic exposure response speed from 1 second up to approximately 10 minutes.

**Shutter speed:** Select the electronic shutter speed. It's only available when Exposure mode is a Manual shutter mode and Manual mode.

**Exposure:** Select the Iris. It's only available when Exposure mode is a Manual Exposure and Manual mode. The Iris can be adjusted in the range F1.6-F14 and close. The default setting is F1.6.

**AGC gain:** Increasing Exposure gain increases the brightness of image, but it also increases the amount of noise in the image. The exposure gain can be adjusted in the range -3~28 dB. The default setting is 2 dB.

**Bright:** Select the bright level. As the bright level increases, gain will be increased. As the bright level decreases, iris will be closed.

**Slow shutter:** Ensures that the slow shutter is set automatically when the brightness drops. **High sensitivity:** Higher sensitivity gain is applied as standard gain increases, reaching a gain level as MAX gain of up to 4x the standard gain. In such cases, however, there will be a high volume noise in the image. The default setting is Off.

**Day & Night Control:** Day & Night controls the position of the IR (Infra Red) cut filter, which determines the color or block-white setting of the camera.

**Day & Night mode:** Supports Day & Night mode to transit the IR cut filter. The default setting is auto.

- **Auto** Automatically controls the IR cut filter depending on the light conditions.
- Day Deliver color image regardless of light.
- **Night** Deliver B/W image regardless of light.
- **Global** Control the Day & Night mode by the keyboard.

**WDR & BLC Control:** The backlight compensation is an ability of a camera to balance the lighting in a scene with an extremely bright background such as sunlight. It helps to obtain the

finest light contrast and get clear image. On the other hand, the wide dynamic range (WDR) function provides clear images even under back light circumstances where intensity of illumination can vary excessively, namely when there are both very bright and very dark areas simultaneously in the field of view of the camera.

**Mode:** WDR cannot be set simultaneously with BLC. The default setting is off.

## Image – Auto Focus



Use the Auto Focus tab to control the Auto Focus.

Figure 23. Video & Image / Image – Auto Focus

**Focus Control:** Auto focus intelligently adjusts the camera lens to obtain focus on the subject. **Focus mode:** IPSD202MT provide various focus mode.

Auto	Focus is automatically adjusted always.
Manual	Focus is automatically adjusted during zoom or PTZ position is changed. When 3 seconds have passed after zoom or PTZ position is changed, focus is changed in manual mode.
One Push	Focus is automatically adjusted just once, after zoom or PTZ position is changed. Focus is changed into manual focus.
Constant Manual	Focus can be manually adjusted with using FAR or NEAR button.

**Sensitivity:** AF sensitivity can be set to either Normal or LOW.

Normal	Reaches the highest focus speed quickly
Low	Improves the stability of the focus.

**Focus limit:** Set the minimum focus length under 20x zoom ratio. The Focus limit can be adjusted in the range 1cm-25m. The default setting is 30cm.

#### NOTE

Avoid continuous, 24-hour use of the auto focus. This will shorten the lifespan of the lens.

## Image – White Balance

Basic Configuration	Image - White Balan	ce	
Live View	The MAN OF W	A CONTRACTOR	
Video & Image			
🗆 Image	LAT	41/2000	3 8 2
- Basic			
<ul> <li>Auto Exposure</li> </ul>			
Auto Focus	1000		
· White Balance	17	The same sealer	
<ul> <li>Privacy Mask</li> </ul>		THE	
Stream1			
Sueami			E Contractor and
· Stream2			
· Stream3			
· Stream4			
• Webcasting	STATE OF STATE		A SHINELS
Audio			A A A A A A A A A A A A A A A A A A A
Event			MASILANI
Dome Configuration			
System	White Balance Control		
About	White balance mode	ATW [default]	
	White balance R gain	202 [0255]	
	White balance B gain	[160 [0255]	
		Save Reset	
		, , , , , , , , , , , , , , , , , , ,	

Use the White Balance tab to control the white balance.

Figure 24. Video & Image / Image – White Balance

White Balance Control: White Balance Control defines how the camera processes video images to render true colors in a scene. White balance is especially effective in scenes with changing lighting conditions or in scene with more than one type of light source.White balance mode: Provides the options for White Balance. The default setting is Auto.

Auto	Automatically delivers the best possible image by adjusting the white balance based on the colors in the scene.
Indoor	Select when the camera is installed at indoor.
Outdoor	Select when the camera is installed at outdoor.

ATW	The white balance in a scene will be automatically adjusted while temperature color is changing and suitable for environment with light source having color temperature in the range roughly from $2000 \sim 10000$ K.
Manual gain	Enter to the manual gain setting mode.
Outdoor Auto	Select when the camera is installed at outdoor. It allows to capture images with natural white balance in the morning and evening.
Sodium Lamp Auto	Automatically delivers the best image by adjusting the white balance with sodium vapor lamps.
Sodium Lamp	Fix the white balance specifically for sodium vapor lamps.

#### NOTE

In some installations, use manual white balance to render the most accurate image color possible.

**White balance R gain:** Adjusts the picture output in the red range. The White balance R gain can be adjusted in the range 0-255, where a higher value produces a higher red image. The default setting is 100.

**White balance B gain:** Adjusts the picture output in the blue range. The White balance B gain can be adjusted in the range 0-255, where a higher value produces a higher blue image. The default setting is 100.

## Image – Privacy Mask

Use the Privacy Mask tab to hide up to 12 unwanted screens in a camera.



Figure 25. Video & Image / Image – Privacy Mask

**Privacy Mask Setting:** The following step describes how to configure the privacy mask zone. 1. Move the position and zoom position where you unwanted screens in a camera by using arrow keys in the PTZ control panel.

2. Click Create cell to create privacy mask zone.

- 3. In order to change color of privacy mask, choose the color in Color cell.
- 4. In order to hide or display the privacy mask, choose on or off in Enable cell.
- 5. Click the privacy mask ID to move specific privacy mask zone.
- 6. Click Delete cell to delete privacy mask zone

## Stream1

Basic Configuration	Stream1	
E Live View	H.264 Setting	
<ul> <li>Video &amp; Image</li> <li>Image</li> <li>Stream1</li> <li>Stream3</li> <li>Stream4</li> <li>Webcasting</li> </ul>	Profile Resolution Bitrate control Bitrate Quality Frame rate GOP structure	Baseline   1280x720  CBR  2000  kbps  Middle  J
<ul> <li>Audio</li> <li>Event</li> <li>Dome Configuration</li> </ul>	GOP size	60 [160] Save Reset
<ul><li>System</li><li>About</li></ul>		
		2028

The Stream1 features the H.264 compression standard for primary stream.

Figure 26. Video & Image / Stream1

**H.264 Setting:** Configures the H.264 setting value for stream1.

**Profile:** Selects the stream profile that is to be used for transmissions. The default setting is High.

High	The primary profile for broadcast and disc storage applications, particularly for HDTV (High-Definition television) or Blu-ray Disc applications.
Main	Originally intended as the mainstream consumer profile for broadcast and storage applications. Additional tools over baseline profile include: B slice type.
Baseline	Primarily for low-cost applications that requires additional error robustness such as video conferencing, video over-IP and mobile applications. Tools used by baseline profile include: I and P slice types.

**Resolution:** Specified as the number of pixel-columns (width) by the number of pixel-rows (height). The Resolution can be adjusted in the range from 320x240 to 1920x1080. The default setting is 1920x1080.

### NOTE

The maximum resolution setting might not be obtainable due to programmed compression standard and processor power.

**Bit rate control:** The bit rate can be set as VBR (Variable Bit Rate) or CBR (Constant Bit Rate).

- **VBR** Automatically 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 can not, the frame rate and image quality are affected negatively.

**Bit rate:** Indicates the quality of the video stream (rendered in kilobits per second). The higher value means the higher video quality and bandwidth required. The Compression can be adjusted in the range from 100 to 6000 kbps. The default setting is 4000 kbps.

**Quality:** Automatically adjusts the compression rate to guarantee the image quality at only VBR mode. The default setting is Middle.

**Frame rate:** Indicates the number of fps (frame per second) available for the video stream configuration. The Frame rate can be adjusted in the range from 1 to 30 fps. The default setting is 30 fps.

### NOTES

network administrator before changing.

- The maximum frame rate setting might not be obtainable due to programmed compression standard, resolution of the stream, and processor power.

- A higher frame rate is advantageous when there is movement in the video stream, as it maintains image quality throughput.

**GOP structure:** Describes the composition of the video stream. This GOP (Group of Picture) setting configures the number of partial frames that occur between full frames in the video stream. For example, in a scene where a door opens and a person walks through, only the movements of the door and the person are stored by the video encoder. The stationary background that occurs in the previous partial frames is not encoded because no changes occurred in that part of the scene; the stationary background is only encoded in the full frames. Partial frames improve video compression rates by reducing the size of the video. As the GOP increases, the number of partial frames increases between full frames. This setting is only available with H.264 compression standards. The default setting is IP. Please consult with your network administrator before changing. **GOP size:** The higher value saves considerably on bandwidth but may have an adverse effect on image quality. Higher values are only recommended on networks with high reliability. The GOP size can be adjusted in the range from 1 to 60. The default setting is 30. Please consult with your

## Stream2

Basic Configuration	Stream2	
Live View	MJPEG Setting	
Video & Image	Enable stream	
🗄 Image	- Resolution	640x480 💌
· Stream1	- Bitrate	2000 💌 kbps
Stream2	- Frame rate	30
· Stream3		
• Stream4	Text Overlay Setting	
· Webcasting	Enable text overlay	/
Audio	- Content	STREAM2
. Event	- Location	Тор
	- Display timer	On 💉
Dome Configuration		
3 System	ROI Setting	
About	Set ROI	Open ROI Viewer
		Save Reset

The Stream2 features the MJPEG compression standard for ROI.

Figure 27. Video & Image / Stream2

**MJPEG Setting:** Configures the MJPEG setting value for stream2.

**Resolution:** Specified as the number of pixel-columns (width) by the number of pixel-rows (height). The Resolution can be adjusted in the range from 320x240 to 720x576. The default setting is 320x240.

#### NOTE

The maximum resolution setting might not be obtainable due to programmed compression standard and processor power.

**Bit rate control:** The bit rate can be set as VBR (Variable Bit Rate) or CBR (Constant Bit Rate).

**VBR** Automatically 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 can not, the frame rate and image quality are affected negatively.

**Bit rate:** Indicates the quality of the video stream (rendered in kilobits per second). The higher value means the higher video quality and bandwidth required. The Compression can be adjusted in the range from 100 to 6000 kbps. The default setting is 2000 kbps.

**Frame rate:** Indicates the number of fps (frame per second) available for the video stream configuration. The Frame rate can be adjusted in the range from 1 to 30 fps. The default setting is 30 fps.

### NOTES

- The maximum frame rate setting might not be obtainable due to programmed compression standard, resolution of the stream, and processor power.

- A higher frame rate is advantageous when there is movement in the video stream, as it maintains image quality throughput.

**Text Overlay Setting:** Allows you to overlay user favorite text into image. Click the Enable text overlay box to enable text overlay.

**Content:** Click in the Content box and type a description for the text you are creating (from 1 to 20 alphanumeric characters).

Location: Select the appropriate place to locate the Content description.

Display timer: Provides the device timer setting value. The default setting is OFF.

**ROI Setting:** ROI (Region of Interest) features that transmit the specially selected area in the primary stream using different channel, resolution, and frame rate.

**Open ROI viewer:** Click the Open ROI viewer box and then appears the new popup window to assign the ROI stream.



Figure 28. Video & Image / Stream2 ROI Setting

Configure ROI as follows:

1. Click Enable ROI ZOOM check box, if you want to resize ROI area.

2. Move the square box to specific region or adjust the size of square box if you want.

3. User can configure ROI setting using arrow key to move the position of square box or using scroll bar to adjust the size of square box.

4. User can save the ROI as a preset and access to preset position in easy way. First, selects the preset position and then just click "Go" button.

### NOTES

- The ROI setting values in this page are applied as soon as clicking / moving.
- ROI ZOOM function can slow down the performance of the camera

## Stream3

Basic Configuration	Stream3	
Live View	H.264 Setting	
Video & Image		
🗄 Image	- Profile	Baseline
· Stream1	- Resolution	320x240 V
· Stream2	- Bitrate control	CBR
Stream3	- Bitrate	500 v kbps
· Stream4	- Quality	Middle
• Webcasting	- Frame rate	30
Audio	- GOP structure	IP 🗸
Event	- GOP size	60 [160]
Dome Configuration	Text Overlay Setting	
System	Enable text overlav	
About	- Content	STREAM3
	- Location	Bottom
	- Display timer	On 💌
	ROI Setting	
	Set ROI	Open ROI Viewer
		Save Reset

The Stream3 features the H.264 compression standard for ROI.

Figure 29. Video & Image / Stream3

**H.264 Setting:** Configures the H.264 setting value for stream3. **Profile:** Choose a profile. The default setting is High.

- HighThe primary profile for broadcast and disc storage applications,<br/>particularly for HDTV (High-Definition television) or Blue-ray Disc<br/>applications.
- Main Originally intended as the mainstream consumer profile for broadcast and storage applications. Additional tools over baseline profile include: B slice type.
- **Baseline** Primarily for low-cost applications that requires additional error robustness such as video conferencing, video over-IP and mobile applications. Tools used by baseline profile include: I and P slice types.

**Resolution:** Specified as the number of pixel-columns (width) by the number of pixel-rows (height). The Resolution can be adjusted in the range from 320x240 to 720x576. The default setting is 320x240.

### NOTE

The maximum resolution setting might not be obtainable due to programmed compression standard and processor power.

Bit rate control: The bit rate can be set as VBR (Variable Bit Rate) or CBR (Constant Bit Rate).

VBR	Automatically 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 can not, the frame rate and
	image quality are affected negatively.

**Bitrate:** Indicates the quality of the video stream (rendered in kilobits per second). The higher value means the higher video quality and bandwidth required. The Compression can be adjusted in the range from 100 to 2000 kbps. The default setting is 500 kbps.

**Quality:** Automatically adjusts the compression rate to guarantee the image quality at only VBR mode. The default setting is Middle.

**Frame rate:** Indicates the number of fps (frame per second) available for the video stream configuration. The Frame rate can be adjusted in the range from 1 to 30 fps. The default setting is 30 fps.

#### NOTES

- The maximum frame rate setting might not be obtainable due to programmed compression standard, resolution of the stream, and processor power.

- A higher frame rate is advantageous when there is movement in the video stream, as it maintains image quality throughput.

**GOP structure:** Describes the composition of the video stream. This GOP (Group of Picture) setting configures the number of partial frames that occur between full frames in the video stream. For example, in a scene where a door opens and a person walks through, only the movements of the door and the person are stored by the video encoder. The stationary background that occurs in the previous partial frames is not encoded because no changes occurred in that part of the scene; the stationary background is only encoded in the full frames. Partial frames improve video compression rates by reducing the size of the video. As the GOP increases, the number of partial frames increases between full frames. This setting is only available with H.264 compression standards. The default setting is IP. Please consult with your network administrator before changing.

**GOP size:** The higher value saves considerably on bandwidth but may have an adverse effect on image quality. Higher values are only recommended on networks with high reliability. The GOP size can be adjusted in the range from 1 to 60. The default setting is 30. Please consult with your network administrator before changing.

**Text Overlay Setting:** Allows you to overlay user favorite text into image. Click the Enable text overlay box to enable text overlay.

**Content:** Click in the Content box and type a description for the text you are creating (from 1 to 20 alphanumeric characters).

**Location:** Select the appropriate place to locate the Content description.

**Display timer:** Provides the device timer setting value. The default setting is OFF.

**ROI Setting:** ROI (Region of Interest) features that transmit specially selected area in the primary stream using different channel, resolution, and frame rate.

**Open ROI viewer:** Click the Open ROI viewer box and then appears the new popup window to assign the ROI stream.



Figure 30. Video & Image / Stream3 ROI setting

Configure ROI as follows:

1. Click Enable ROI ZOOM check box, if you want to resize ROI area.

2. Move the square box to specific region or adjust the size of square box if you want.

3. User can configure ROI setting using arrow key to move the position of square box or using scroll bar to adjust the size of square box.

4. User can save the ROI as a preset and access to preset position in easy way. First, selects the preset position and then just click "Go" button.

#### NOTES

- The ROI setting values in this page are applied as soon as clicking / moving.
- ROI ZOOM function can slow down the performance of the camera
- Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

### Stream4

The Stream4 features the H.264 compression standard for ROI.

Basic Configuration	Stream4	
Live View	H.264 Setting	
Video & Image	✓ Enable stream	
🗄 Image	- Profile Baseline	
· Stream1	- Resolution 320x240	
· Stream2	- Bitrate control CBR	
· Stream3	- Bitrate 500 💌 kbps	
• Stream4	- Quality Middle	
· Webcasting	- Frame rate 30 💌	
Audio	- GOP structure	
Event	- GOP size 60 [160]	
Dome Configuration	Text Overlay Setting	
System	Enable text overlay	
About	- Content STREAM4	
	- Location	
	- Display timer Off	
	ROI Setting	
	Set ROI Open ROI Viewer	
	Save Reset	

Figure 31. Video & Image / Stream4

**H.264 Setting:** Configures the H.264 setting value for stream4.

**Profile:** Choose a profile. The default setting is High.

High	The primary profile for broadcast and disc storage applications, particularly for HDTV (High-Definition television) or Blue-ray Disc applications.
Main	Originally intended as the mainstream consumer profile for broadcast and storage applications. Additional tools over baseline profile include: B slice type.
Baseline	Primarily for low-cost applications that requires additional error robustness such as video conferencing, video over-IP and mobile applications. Tools used by baseline profile include: I and P slice types.

**Resolution:** Specified as the number of pixel-columns (width) by the number of pixel-rows (height). The Resolution can be adjusted in the range from 320x240 to 720x576. The default setting is 320x240.

#### NOTE

The maximum resolution setting might not be obtainable due to programmed compression standard and processor power.

**Bit rate control:** The bit rate can be set as VBR (Variable Bit Rate) or CBR (Constant Bit Rate).

VBR Automatically 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 can not, the frame rate and image quality are affected negatively.

**Bitrate:** Indicates the quality of the video stream (rendered in kilobits per second). The higher value means the higher video quality and bandwidth required. The Compression can be adjusted in the range from 100 to 2000 kbps. The default setting is 500 kbps.

**Quality:** Automatically adjusts the compression rate to guarantee the image quality at only VBR mode. The default setting is Middle.

**Frame rate:** Indicates the number of fps (frame per second) available for the video stream configuration. The Frame rate can be adjusted in the range from 1 to 30 fps. The default setting is 30 fps.

#### NOTES

- The maximum frame rate setting might not be obtainable due to programmed compression standard, resolution of the stream, and processor power.

- A higher frame rate is advantageous when there is movement in the video stream, as it maintains image quality throughput.

**GOP structure:** Describes the composition of the video stream. This GOP (Group of Picture) setting configures the number of partial frames that occur between full frames in the video stream. For example, in a scene where a door opens and a person walks through, only the movements of the door and the person are stored by the video encoder. The stationary background that occurs in the previous partial frames is not encoded because no changes occurred in that part of the scene; the stationary background is only encoded in the full frames. Partial frames improve video compression rates by reducing the size of the video. As the GOP increases, the number of partial frames increases between full frames. This setting is only available with H.264 compression standards. The default setting is IP. Please consult with your network administrator before changing. **GOP size:** The higher value saves considerably on bandwidth but may have an adverse effect on image quality. Higher values are only recommended on networks with high reliability. The GOP size can be adjusted in the range from 1 to 60. The default setting is 30

**Text Overlay Setting:** Allows you to overlay user favorite text into image. Click the Enable text overlay box to enable text overlay.

**Content:** Click in the Content box and type a description for the text you are creating (1 to 20 alphanumeric characters).

**Location:** Select the appropriate place to locate the Content description.

**Display timer:** Provides the device timer setting value. The default setting is OFF.

**ROI Setting:** ROI (Region of Interest) features that transmit specially selected area in the primary stream using different channel, resolution, and frame rate.

**Open ROI viewer:** Click the Open ROI viewer box and then appears the new popup window to assign the ROI stream.



Figure 32. Video & Image / Stream4 ROI Setting

Configure ROI as follows:

1. Move the square box to specific region or adjust the size of square box if you want.

2. User can configure ROI setting using arrow key to move the position of square box or using scroll bar to adjust the size of square box.

3. User can save the ROI as a preset and access to preset position in easy way. First, selects the preset position and then just click "Go" button.

### NOTE

The ROI setting values in this page are applied as soon as clicking / moving.

## Webcasting

The IPSD202MT can stream live video to a website. Copy the HTML code generated on the screen and paste it in page code of the website you want to display live video.



Figure 33. Video & Image / Webcasting

**Webcasting HTML code:** Supports 4 streams for webcasting service. First, selects one from the Stream1 to Stream4 and then copy the HTML code and paste them to your website page code.

#### NOTE

To use webcasting service, the Enable Anonymous viewer login option must be enabled.

# Audio

This camera supports the audio full duplex that can be transmits and receives audio in both directions at a time.

## Basic

Use the Audio tab to manage and configure the basic audio settings for the camera.

Basic Configuration	Basic
Live View	Audio Setting
🗈 Video & Image	
Audio	- Compression type G.711 u-law
Basic	- Sample rate 8 kHz
Event	Audio Input
Dome Configuration	Input volume 0.00 🕑 dB 🗌 Mute
System	Audia Outsut
D About	- Output volume     O.O     dB     Mute
	Save Reset
	5350

Figure 34. Audio / Basic

**Audio Setting:** Click the Enable audio checkbox to enable audio. This page describes how to configure the basic audio settings for the camera. This camera supports the audio full duplex that can be transmits and receives audio in both directions at a time.

**Compression type:** G.711 is the international standard for encoding wired-telephone audio on 64kBit/s channel. It is a PCM (Pulse Code Modulation) scheme operating at 8 kHz sample rate. The default setting is G.711  $\mu$ -law.

**Sample rate:** Indicates the number of times per second the sound is sampled. The default setting is 8 kHz.

### NOTE

G.711, also known as Pulse Code Modulation (PCM), is a very commonly used waveform codec. G.711 uses a sampling rate of 8,000 samples per second, with the tolerance on that rate 50 parts per million (ppm). Non-uniform quantization (logarithmic) with 8 bits is used to represent each sample, resulting in a 64 kbit/s bit rate. There are two slightly different versions;  $\mu$ -law, which is used primarily in North America, and A-law, which is in use in most other countries outside North America. G.711  $\mu$ -law tends to give more resolution to higher range signals while G.711 A-law provides more quantization levels at lower signal levels.

Audio Input: Adjusts the audio volume especially from the Mike.

**Input volume:** The Input volume can be adjusted in the range from -21.00 to 21.00 dB. The default setting is 0 dB. Click the Mute box if you do not want the audio input.

Audio Output: Adjusts the audio volume especially to the Speaker.

Enable full duplex: Enable audio out.

**Output volume:** The Output volume can be adjusted in the range from -18.1 to 6.0 dB. The default setting is 0 dB. Click the Mute box if you do not want the audio output.

# Event

The Event tabs describe how and when the unit will perform certain actions. Alarm In, Manual Trigger and VMD may be set up as alarm sources. Event Out is often set up to upload images, send email and activate output ports. Many event actions require an Event server for their function. This server is used to receive uploaded Motion JPEG images.

#### NOTE

The VMD for Stream2 (MJPEG) does not support.

### Event In – Alarm In

This page allows you to configure the 2 inputs supported by the camera. Ports 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.

Basic Configuration	Event In - Alarm In
E Live View	Alarm In Port 1 Setting
🗈 Video & Image	Enable alarm is port 1
Audio	- Type
V Event	- Dwell time 60 [1180] sec
🗆 Event In	Alarm In Port 2 Setting
Alarm In     Manual Triagon	Enable alarm in port 2
VMD Stream1	- Type NO
• VMD Stream3	- Dwell time 60 [1180] sec
<ul> <li>VMD Stream4</li> </ul>	
🗄 Event Out	Save Reset
• Event Map	
Dome Configuration	
System	
About	

Figure 35. Event / Event In – Alarm In

**Alarm In Port 1 Setting:** Click the Enable alarm in port1 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 pushbutton 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.

### NOTE

Dwell time means how long time the alarm input signal hold on as an input signaling source.

**Alarm In Port 2 Setting:** Click the Enable alarm in port2 checkbox to enable the Alarm In port 2.

**Type:** The default setting is NO.

-- NO: Normally Open

As an example, if the Normal state for a pushbutton 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.

### NOTE

If the normal state equals the current state, then the port is inactive.
# Event In – Manual Trigger

The Manual Trigger features an alarm out signaling, JPEG file transfer to FTP server, and sends email to SMTP server whenever operator clicks Manual Trigger button in the Live View window.

Basic Configuration	Event In - Manual Trigger
Live View	Manual Trigger Setting
🛛 Video & Image	Enable manual trigger
I Audio	- Dwell time 60 [1180] sec
Event	Caup Docot
<ul> <li>Event In</li> <li>Alarm In</li> <li>Manual Trigger</li> <li>VMD Stream1</li> <li>VMD Stream3</li> <li>VMD Stream4</li> </ul>	
Event Out	
• Event Map	
Dome Configuration	
System	
D About	

Figure 36. Event / Event In – Manual Trigger

**Manual Trigger Setting:** Click the Enable manual trigger checkbox to enable manual trigger. **Dwell time:** The default setting is 60 seconds.

#### NOTE

Dwell time means how long time the alarm output signal hold on as an output signaling source.

# **Event In – VMD Stream1**

The VMD (Video Motion Detection) feature generates an alarm whenever movement occurs in the image. Motion is detected in selected windows, which are placed in the video image to target specific areas. Movement in the areas outside the selected windows will be ignored. The camera can be configured with up to maximum 4 include windows. Windows can be moved, resized, or deleted at any time. The behavior for each window is defined by adjusting the Sensitivity, Threshold and Motion dwell time. The VMD feature is only available in the H.264 stream.



Figure 37. Event / Event In – VMD Stream1

**Pre-Viewer:** Provides live video image to configure VMD area.

Video Motion Detection Setting: The following step describes how to configure the

camera for motion detection.

First, Click the Enable VMD stream1 checkbox to enable the VMD settings.

1. Move the mouse to Pre-Viewer window and then click the right button of the mouse. A new popup menu window appears.

- 2. Click the New tab, and then configure, resize, and place the VMD area.
- 3. Click in the Windows title box and type a title (1 to 31 alphanumeric characters).
- 4. Adjust the Sensitivity, Threshold, and Motion dwell time setting values.
- 5. The VMD listed shows and their setting values also show every time if you select one of the lists.
- 6. Click the Save button to save the settings.

#### NOTES

- If you want to configure more VMD area, repeat above step.

- If you want to delete VMD area, select one of the Windows title listed and then click the Remove button.

**Windows title:** Click in the Windows title box and type for a window's title you are creating (1 to 31 alphanumeric characters).

Sensitivity: Ordinary colored objects on ordinary backgrounds will trigger motion detection.

### NOTE

To only detect flashing light, select a low sensitivity. In other cases, a high sensitivity level is recommended.

Threshold (Object Size): Only very large objects cause motion detection.

## NOTE

To avoid triggering on small objects in the image, a high level can be selected. Set a low level to also trigger for small objects.

**Motion dwell time:** Means how long time the alarm output signal hold on as an output signaling source. The default setting is 5 seconds.

# **Event In – VMD Stream3**

The VMD (Video Motion Detection) feature generates an alarm whenever movement occurs in the image. Motion is detected in selected windows, which are placed in the video image to target specific areas. Movement in the areas outside the selected windows will be ignored. The camera can be configured with up to maximum 4 include windows. Windows can be moved, resized, or deleted at any time. The behavior for each window is defined by adjusting the Sensitivity, Threshold and Motion dwell time. The VMD feature is only available in the H.264 stream.

Live View	Pre-Viewer			
Video & Image	150%			
Audio		STATISTICS &		
Event	1.1	A THE		
<ul> <li>Event In</li> <li>Alarm In</li> <li>Manual Trigger</li> <li>VMD Stream1</li> <li>VMD Stream3</li> <li>VMD Stream4</li> <li>Event Out</li> <li>Event Map</li> <li>Dome Configuration</li> <li>System</li> </ul>	Video Motion Detection Setti	ng		
About	VMD 5-3 No.1	- Windows title	VMD S-3 No.1	
		- Sensitivity	90	[1100]
		- Threshold	10	[1100]
		- Motion dwell time	5	[1180] sec
	* Note Please turn off PTZ	preset or the other PTZ function	ons, when you tur	n on the VMD.

Figure 38. Event / Event In – VMD Stream3

**Pre-Viewer:** Provides live video image to configure VMD area.

Video Motion Detection Setting: The following step describes how to configure the

camera for motion detection.

First, Click the Enable VMD stream3 checkbox to enable the VMD settings.

1. Move the mouse to Pre-Viewer window and then click the right button of the mouse. A new popup menu window appears.

- 2. Click the New tab, and then configure, resize, and place the VMD area.
- 3. Click in the Windows title box and type a title (1 to 31 alphanumeric characters).
- 4. Adjust the Sensitivity, Threshold, and Motion dwell time setting values.
- 5. The VMD listed shows and their setting values also show every time if you select one of the lists.
- 6. Click the Save button to save the settings.

### NOTES

- If you want to configure more VMD area, repeat above step.

- If you want to delete VMD area, select one of the Windows title listed and then click the Remove button.

**Windows title:** Click in the Windows title box and type for a window's title you are creating (1 to 31 alphanumeric characters).

**Sensitivity:** Ordinary colored objects on ordinary backgrounds will trigger motion detection.

## NOTE

To only detect flashing light, select a low sensitivity. In other cases, a high sensitivity level is recommended.

Threshold (Object Size): Only very large objects cause motion detection.

## NOTE

To avoid triggering on small objects in the image, a high level can be selected. Set a low level to also trigger for small objects.

**Motion dwell time:** Means how long time the alarm output signal hold on as an output signaling source. The default setting is 5 seconds.

# **Event In – VMD Stream4**

The VMD (Video Motion Detection) feature generates an alarm whenever movement occurs in the image. Motion is detected in selected windows, which are placed in the video image to target specific areas. Movement in the areas outside the selected windows will be ignored. The camera can be configured with up to maximum 4 include windows. Windows can be moved, resized, or deleted at any time. The behavior for each window is defined by adjusting the Sensitivity, Threshold and Motion dwell time. The VMD feature is only available in the H.264 stream.

- Educ Configuration	Event In - VMD Strea	m4		
Live View	Pre-Viewer			
Video & Image	NOT N		NAME	and the second s
Audio		PT CON		
Event	2		(Internet	***** ***
<ul> <li>Event In         <ul> <li>Alarm In</li> <li>Manual Trigger</li> <li>VMD Stream1</li> <li>VMD Stream3</li> <li>VMD Stream4</li> </ul> </li> <li>Event Out         <ul> <li>Event Map</li> </ul> </li> <li>Dome Configuration</li> <li>System</li> </ul>	Video Motion Detection Settin	Ig		
and the second	VMD S-4 No.1		[	
About		- Windows title	VMD S-4 No.1	[100]
About		- Sensitivity	an	
About		Threehold	10	1 1 1 1 1 1 1
About		- Threshold	10	[1100]
About	* Note Please turn off PTZ	- Threshold - Motion dwell time preset or the other PTZ function	5	[ [1100] ] [1180] sec

Figure 39. Event / Event In – VMD Stream4

**Pre-Viewer:** Provides live video image to configure VMD area.

Video Motion Detection Setting: The following step describes how to configure the

camera for motion detection.

First, Click the Enable VMD stream4 checkbox to enable the VMD settings.

1. Move the mouse to Pre-Viewer window and then click the right button of the mouse. A new popup menu window appears.

- 2. Click the New tab, and then configure, resize, and place the VMD area.
- 3. Click in the Windows title box and type a title (1 to 31 alphanumeric characters).
- 4. Adjust the Sensitivity, Threshold, and Motion dwell time setting values.
- 5. The VMD listed shows and their setting values also show every time if you select one of the lists.
- 6. Click the Save button to save the settings.

### NOTES

- If you want to configure more VMD area, repeat above step.

- If you want to delete VMD area, select one of the Windows title listed and then click the Remove button.

**Windows title:** Click in the Windows title box and type for a window's title you are creating (1 to 31 alphanumeric characters).

**Sensitivity:** Ordinary colored objects on ordinary backgrounds will trigger motion detection.

## NOTE

To only detect flashing light, select a low sensitivity. In other cases, a high sensitivity level is recommended.

Threshold (Object Size): Only very large objects cause motion detection.

## NOTE

To avoid triggering on small objects in the image, a high level can be selected. Set a low level to also trigger for small objects.

**Motion dwell time:** Means how long time the alarm output signal hold on as an output signaling source. The default setting is 5 seconds.

# Event Out – SMTP (Email)

Use the Simple Mail Transfer Protocol (SMTP) server to send an email notification when an event server is activated. The camera can be configured to send event and email messages via SMTP. If your mail server requires authentication, click the Use (SMTP) authentication checkbox for use authentication to log in to this server.

Basic Configuration	Event Out - SMTP(Emai	il)	
Live View	SMTP(Email) Setting		
🛛 Video & Image	Enable SMTP		
Audio	- Sender		
Event	- Interval	300	[186400] sec
🕀 Event In	- Aggregate events	50	[1100] ea
🗆 Event Out	Use email server		
• SMTP(Email)	- Email server		
FTP & JPEG	- Port	.25	
HTTP Server     Audio Alert	Use(SMTP) authentio	cation	
PTZ Preset	- User name		
· Record	- Password		
• Event Map	- Login method	AUTH LOGIN	*
Dome Configuration	SMTP(Email) Receiver		
System			
E About	- 1. Receiver	- 2.	Receiver
- and the second s	- 3. Receiver	- 4.	Receiver
	- 5. Receiver	- 6.	Receiver
	- 7. Receiver	- 8.	Receiver
	SMTP(Email) Test		
	Receiver	Tes	t
	18 Min.		
	SMTP(Email) Test will take	about 15w20 seconds	
	Sin rectinally rest will take	. 65000 13**20 Seconds.	

Figure 40. Event / Event Out – SMTP (Email)

**Sender:** Click in the Sender box and enter the Email address as the sender.

Interval: Enter the Email sending time interval after event occurred.

**Aggregate events:** Enter the number of events for Email sending. If the event numbers are reached the setting value, Email sending is available.

**Use Email server:** Click the Use Email server checkbox and provide the following information for Email server.

**Email server:** Enter the host names or IP addresses for your mail servers in the fields provided.

#### NOTE

If a host name is used, a valid DNS server must be specified in the Network-Basic settings.

**Port:** Enter the SMTP server port number for the SMTP Server. The Port number can be adjusted in the range 1-65535. The default setting is 25.

### NOTES

- If your mail server requires authentication, click the Use (SMTP) authentication checkbox for use authentication to log in to this server.

- Please consult with your network administrator, if you want to change the port number.

**Use (SMTP) authentication:** If your mail server requires authentication, click the Use (SMTP) authentication checkbox for use authentication to log in to this server.

**User name:** Enter the User name as provided by your network administrator.

Password: Enter the Password as provided by your network administrator.

Login method: Select one for SMTP authentication method allowed.

#### NOTES

- If a PLAIN or LOGIN mechanism is negotiated, the camera sends user name and password to the SMTP server.

- The LOGIN mechanism is supported by Microsoft, as well as by some other clients. Most other clients support the PLAIN authentication mechanism.

- Since the vast majority of Email clients support *only* PLAIN or LOGIN, mail server administrators will probably want to consider using STARTTLS to provide an encryption "tunnel" between the client and server, to protect the user name and password.

**SMTP (Email) Receiver:** Click the each Receiver box which you wish to send Email and enter Email address.

**Receiver:** Enter the recipient's email address as the receivers.

#### NOTE

The Sender email address will be used as the sender for all receivers sent by this camera and the Receivers listed here will be received same email by this camera. The maximum number of Receivers is eight.

**SMTP (Email) Test:** Enter the recipient's email address and click the Test button to test that the mail servers are functioning and that the email address is valid. When the setup is complete, the connection can be tested by clicking the Test button.

**Receiver:** Enter the recipient's email address as the receiver to test.

#### NOTE

Consult with your network administrator for more information on configuring email notification on your local network.

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

# Event Out – FTP & JPEG

Save the JPEG of the activated event to a defined FTP server.

Basic Configuration	Event Out - FTP & JPEG
Live View	FTP Setting
🗈 Video & Image	
Audio	Server Passive mode
V Event	Port 21
🗉 Event In	Remote directory
<ul> <li>Event Out</li> <li>SMTP(Email)</li> <li>FTP &amp; JPEG</li> </ul>	User name guest Anonymous login Password
HTTP Server	JPEG Setting
· PTZ Preset	Pre-event Time : 1 [03] sec FPS : 2 [13] fps
· Record	Post-event Time : 1 [03] sec FPS : 2 [13] fps
· Event Map	Quality middle
Dome Configuration	Image size 640X480
System	Prefix file name EventCapture_
D About	Additional suffix O None O Date & Time O Sequence number
	Save Reset

Figure 41. Event / Event Out – FTP & JPEG.

**FTP Setting:** FTP notification will save a file on the specified FTP server. Click the Enable FTP checkbox and provide the following information for FTP notification:

**Server:** Enter the IP address or host name of the target FTP server.

-- **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 network camera and the target FTP server.

**Port:** Enter the port number used by the FTP server. The Port number can be adjusted in the range 1-65535. The default setting is 21.

**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:** Enter the User name as provided by your network administrator.

-- Anonymous login: Click the Anonymous login checkbox to permit anyone to access FTP server.

**Password:** Enter the Password as provided by your network administrator.

### NOTE

If you permit to login FTP server by anyone without password, click the Anonymous login checkbox.

**JPEG Setting:** Configure the JPEG to send the FTP server.

**Pre-event:** Defines how many JPEG file will be made during 0-3 seconds before the event is generated.

**Post-event:** Defines how many JPEG file will be made during 0-3 seconds after the event is generated.

**Quality:** Automatically adjusts the compression rate to guarantee the image quality at only VBR mode. The default setting is Middle.

**Image size:** Selects the JPEG file size to send the FTP server. The default setting is a 640x480. **Prefix file name:** Click in the Prefix file name box and type a name for JPEG image file (1 to 32 alphanumeric characters).

**Additional suffix:** Provide additional information for JPEG image file.

None	Not add additional suffix.
Date/Time	Add the date and time information as JPEG image file suffix.
Sequence number	Add the sequence number as JPEG image file suffix.

# **Event Out – HTTP Server**

Use the HTTP (Hypertext Transfer Protocol) server to send an event notification when camera detects an event. The camera can be configured to send an event to the HTTP server.

Basic Configuration	Event Out - HTTP Server
Live View	HTTP Server Setting
🛛 Video & Image	Foable HTTP server
Audio	- URL
V Event	- Port 80
🗉 Event In	- User name
<ul> <li>Event Out</li> <li>SMTP(Email)</li> </ul>	- Password
· FTP & JPEG	HTTP Server Test
HTTP Server     Audio Alert     PTZ Preset	Send message Test
- Record	Save Reset
• Event Map	
Dome Configuration	
System	
About	

Figure 42. Event / Event Out – HTTP Server.

**HTTP Server Setting:** Click the Enable HTTP server checkbox and provide the following information for HTTP server.

**URL:** Enter the IP address to the HTTP server and the script that will handle the request. For example: http://192.168.30.112/cgi-bin/upload.cgi

**Port:** Enter the port number used by the HTTP server. The Port number can be adjusted in the range 1-65535. The default setting is 80.

**User name:** Enter the user name used by the HTTP server.

**Password:** Enter the password used by the HTTP server.

**HTTP Server Test:** Enter the test message and click the Test button to test that the HTTP servers are functioning. When the setup is complete, the connection can be tested by clicking the Test button.

**Send message:** Enter the test message.

#### NOTE

Consult with your network administrator for more information on configuring HTTP notification on your local network.

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

# Event Out – Audio Alert

When the network camera detects an event such as Alarm or Motion, it can output a predefined audio data to external speaker.

Basic Configuration	Event Out - Audio Alert
Live View	Audio Alert Setting
Video & Image	Enable audio alert
Audio	- Audio file 1 및 Upload
Event	- Audio file 2 및 및 및 및 및 및 및 및 및 및 및 및 및 및 및 및 및 및
Event In	- Audio file 3 고한 전자보기 Upload
Event Out	Audio Alert Test
FTP & JPEG     HTTP Server	
· Audio Alert	No File Name File Size Play Time Bitrate
· PTZ Preset	
- Record	Tast Demove
• Event Map	
Dome Configuration	Saus Depart
System	Jave neset
About	

Figure 43. Event / Event Out – Audio Alert.

**Audio Alert Setting:** To use the audio alert function, an audio data file made by 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 eVideoClient16 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 then click the **Remove** button.

#### NOTE

For a proper operation of audio alert function, you must check the Enable audio in the Audio setting page.

- 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 Recorder**

To use Audio Recorder tool to make an audio file for Audio Alert function, you must install the eVideoClient16 on the installation CD at first. The eVideoClient16 program (All Programs>eVideoClient16> eVideoClient16) in your PC, the main window will be displayed as below.

🔓 e-Video Client 16CH			-795					
<u>File</u> <u>View</u> <u>Control</u> <u>₩</u> ind	ow Layout Backup	<u>T</u> ool <u>H</u> elp						
i i i i i i i i i i i i i i i i i i i		Audio Recorder	F dx 0	- %				
MAP ×					Event			×
					Start	2009-08-26	• 오전 12	00:00
					End	2000.08.27	· · · · · ·	50-50
					Crist I	2003-00-27		39.39
					Ala	m 🗆	Notion	Search
					Page		Y	
W. Contra Maria					CH	Event	Date & Time	6
PIZ control ×								
					<			>
					Log	-		×
					Syste	m		
					Date	k Time	Event	_
Alarm OUT ×					2009-0	8-27 15:	System started	
1 2 3 4								
On On On On								
08 08 08 08								
5 6 7 8								
					<			>
Search list			Camera status					×
			le					
// 0012000 >>		05 06 07 08 09 10	123	45678	9 10 1	1 12 13	14 15 16	
<< us/2009 >>		15 20 25	14 14 14					
SunMon TueWed Thu Fri Sat	[		- a a a i					
26 27 28 29 30 31 1 2 3 4 5 6 7 8							000	
9 10 11 12 13 14 15			03 03 03 0	X 10X 10X 10X 10X 10		1 KO KO 1		
16 17 18 19 20 21 22			ରେ ରେ ରେ ର	त ल ल ल ल ल	A 60 6		<b>M M</b>	
30 31 1 2 3 4 5								
		16						

Figure 44. Event / Event Out - Audio Alert / Audio Recorder

Click "Tool" in the menu of the main window and select Audio Recorder to start Audio Recorder. Audio Recorder window will be appeared.

👍 ARecorder - v1.0.0.1	🖢 ARecorder - v1.0.0.1
0 SEC 30 SEC	0 SEC 30 SEC

Figure 45. Event / Event Out - Audio Alert / ARecoder window

The description of each button in the ARecorder window follows.

- Open: Open an audio file.
- Capture: Capture audio from the microphone in your PC.
- Save: Save a captured file to your PC. (PCM format)
- Encode: Encode a current capture file or opened PCM file to G.711 file for Audio Alert.
- Play: Play a current audio file.
- Stop: Stop playing audio.

Procedures to make an audio file in G.711 format for Audio Alert.

- 1. Connect the microphone in your PC.
- 2. Click the Capture button and talk to the microphone to record the audio or voice. You can record up to 30 seconds. Click the Stop button to stop on capturing.
- 3. Click the Save button and then set the file name to save a current capture file with PCM format.
- If you don't need to make any PCM file, skip this step and then go to the step 5 directly.
- 4. Click the Open button and then select the file name to open an audio file in PCM format.
- 5. Click the Encode button to encode a current audio file to G.711 format for Audio Alert.

Set the file name and encode parameters.

ENCODE SETUR	, 🔀	ENCODE SETU	P 🔀
MODEL	H.264 Mega-pixel IP Camera 💌	MODEL	H.264 Mega-pixel IP Camera 💌
CODEC	G.711 aLaw	CODEC	G.711 uLaw
SAMPLE RATE	8.000 kHz	SAMPLE RATE	8.000 kHz 💌
BITS PER SAMPLE	16 bits	BITS PER SAMPLE	16 bits
CHANNELS	Mono	CHANNELS	Mono
BITRATE	8 kbps	BITRATE	8 kbps
ок		0	

Figure 46. Event / Event Out – Audio Alert / Encode Setup

### NOTE

All parameters must be synchronized with ones in audio setting page of network devices for a proper operation.

# **Event Out – PTZ Preset**

The IPSD202MT supports preset position moving with event.

Basic Configuration	Event Out - PTZ Preset
Live View	PTZ Preset Setting
🛛 Video & Image	Enable PTZ preset
Audio	- Home position None 💌
Event	Devis Devis
🗄 Event In	Save Reset
<ul> <li>SMTP(Email)</li> <li>FTP &amp; JPEG</li> <li>HTTP Server</li> <li>Audio Alert</li> <li>PT2 Preset</li> <li>Record</li> <li>Event Map</li> </ul>	
Dome Configuration	
System	
About	

Figure 47. Event / Event Out – PTZ Preset

**PTZ Preset Setting:** Click the Enable PTZ preset checkbox to enable the PTZ preset. When the camera detects an event, you can make a PTZ camera connected to its RS485 port to move to a predefined preset position. Check the Enable PTZ preset checkbox to enable the service and return to the Home position once the event has ended.

**Home position:** Provides total 256 home positions to return after the event finished. Choose appropriate preset number.

# **Event Out – Record**

When the network camera detects an event such as Alarm or Motion, it records the stream1 according to user settings.

	Event Out - Record
Live View	Record Setting
Video & Image	Enable Record
Event	Overwrite
🗄 Event In	- Post-event 0 [060] sec
Event Out SMTP(Email)	Device Setting
<ul> <li>FTP &amp; JPEG</li> <li>HTTP Server</li> <li>Audio Alert</li> <li>PTZ Preset</li> <li>Record</li> </ul>	Device Type SD 💌 * Note It must 'Remove' current device to select other 'Device Type'.
• Event Map	Format
	122202020
Dome Configuration	Device Status : No Storage Format
Dome Configuration System About	Device Status : No Storage Format Device Remove
Dome Configuration System About	Device Status : No Storage Format Device Remove Remove Device Information
Dome Configuration System About	Device Status : No Storage Format Device Remove Remove Device Information Total Used Available Used Percent Bad Sector
Dome Configuration System About	Device Status : No Storage       Format         Device Remove

Figure 48. Event / Event Out – Record

Record Setting: Click the Enable record checkbox to activate SD recording function.
Enable overwrite mode: Click checkbox to overwrite SD card
Pre-event: Enter pre-event time value for SD pre-recording.
Post-event: Enter post-event time value for SD post-recording.

Format: Shows the SD card status and supports format functionality.

### **Device Status**

Check and notice below information before use:

- 1. No Storage: Shows that no SD card inserted.
- 2. Unformatted: Need to format SD card before use.

- 3. Available: Shows that SD card is ready to use.
- 4. Device Locked (need unlock): Shows that current SD card was locked. Unlock SD card before use.

**Device Remove:** If you want to remove SD card from camera, click the Remove button first and then remove SD card.

**Remove:** Click the Remove button to remove SD card.

**Device Information:** Shows current SD card information.

# **Event Map**

This page shows current configuration status when event is activated.

The common event actions will upload images to a specified destination or send an email or active an output port

Basic Configuration	Event I	Мар			
Live View	Event Ma	ap List			
Video & Image					
Audio		Event Name Alarm Input 1	Event In Alarm Input 1	Event Out Alarm Out, Audio	
Event					
E Event In					
Event Out					
Event Map					
Dome Configuration		M			
System				-	
About			Add Modify	Remove	

Figure 49. Event / Event Map

**Event Map List:** An event type is a set of parameters describing how the camera will perform certain actions. Event type may be set up as Triggered according to requirements

**Event Name:** Shows the descriptive name provided by the user.

**Event In:** Shows the source of event type as Alarm-In-1, Alarm-In-2, and VMD configured by the user.

**Event Out:** Shows the destination of event output as SMTP server, FTP server, Alarm-out port, Audio alert, PTZ preset and SD record.

### NOTE

To add new event, click the Add button. This button opens new dialog window, which are used to make all the necessary settings for the new event map.

**Add:** To add a new event map list, select it and click the Add button.

**Modify:** To modify an existing event map list, select it and click the Modify button. **Remove:** To delete an event map list, select it and click the Remove button.

# Event Map - Add

Event Map page provides how to configure the event action if there is event triggering such as Alarm-In and Manual trigger.

ieneral	
Name	Alarm Input 1
vent In	
Туре	Alarm Input 1
vent Out	
Active output port	
] Email	
To email address 1	To email address 2
To email address 3	To email address 4
To email address 5	To email address 6
To email address 7	To email address 8
] FTP & JPEG	[ 0/254]
HTTP Server	
Message	
Audio Alert	
Audio file 1	Audio file 2 O Audio file 3
	Preset1 🗸
PTZ Preset	
PTZ Preset Failed to get preset n	umber.

Figure 50. Event / Event Map – Add

**General:** Enter the user favorite event name.

**Name:** Click in the Name box and type a user favorite event name (1 to 31 alphanumeric characters).

**Event In:** Shows the Event source type to be configured.

**Type:** Selects the Event source type.

**Event Out:** The Event Out provides that the camera will perform certain actions.

Active output port: Click the Active output port checkbox to enable the Alarm out port.

**Email:** Click the Email checkbox to enable the emailing below each email address.

-- To email address: Click the each email addresses checkbox.

#### NOTE

If you want to additional message when emailing, click in the Subject / Additional Info box and type a description for the text you are creating (0 to 255 alphanumeric characters).

**FTP & JPEG:** Click the FTP & JPEG checkbox to enable the image uploading to FTP server using JPEG image.

**HTTP Server:** Click the HTTP Server checkbox to enable the message sending to FTP server.

### NOTE

If you want to additional message, click in the Message Info box and type a description for the text you are creating (0 to 255 alphanumeric characters).

Audio Alert: Click the Audio Alert checkbox to enable the Audio Alert function.

**PTZ Preset:** Click the PTZ Preset checkbox to enable the PTZ Preset function.

**Record:** Click the Record checkbox to enable the SD Record function.

**Day & Night:** Click the Day & Night checkbox to enable the Day & Night function due to Alarm input triggering.

### NOTE

If you click the Day & Night checkbox in the Event Map, the default Day & Night Control setting values of Image - Day & Night page will be disabled.

# **Dome Configuration**

# Auto Scan

Auto scan is to scan pre-defined area at the same frequency. This function supports up to 17 programmed angles at user-programmable speeds.



Figure 51. Dome Configuration / Auto Scan

Auto scan number: Select auto scan number to save or delete auto scan information. The auto scan number can be adjusted in the range 1-17. Auto scan number 9 is AUTO PAN.
Title: Up to 6 characters. (alphanumeric characters and space)
Mode: Normal, Vector, Random (AUTO PAN mode: Normal, Random only).

Normal	Move from start point to end point in panning only.						
Vector	Move from start point to end point including tilt and zoom simultaneously and linearly. In some model, the zoom is fixed at wider angle and the zoom.						
Random	Move randomly between the start point and the end point.						

Direction: Set the scan direction

CW	Clock Wise
CCW	Counter Clock Wise

**Swap:** Swap the start point for the end point.

**Speed:** 1~13 step, the lower number means the slower speed.

**Dwell time:** Set the dwell time at the both end, 03-99 seconds.

**Start angle setup:** Click Auto scan setup button to open PTZ control panel. Select the start position using the arrow keys. And then click Start angle setup to complete the selection of the start position.

**End angle setup:** Click Auto scan setup button to open PTZ control panel. Select the end position using the arrow keys. And then click End angle setup to complete the selection of the end position.

**Auto scan delete:** Click the Auto scan delete button to delete the scan information of selected auto scan number.

**Auto scan setup:** Click Auto scan setup button to open PTZ control panel and control Pan, Tilt and Zoom.



Figure 52. Dome Configuration / Auto Scan / PTZ Control Panel

### NOTE

09: AUTO PAN mode (Endless panning)

## 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, focus and AE settings. Once programmed, placing the number position and pressing go button on PTZ Control panel calls up that preset automatically. In addition, presets may be assigned to alarm actions or as the "home" position for the dome camera. As many as 240 presets, whose positions are saved in the dome's firmware, may be programmed.

Basic Configuration	Preset			
Live View	100 mm 100	averein		
Video & Image			· Charles	
Audio	1/20		10000	
Event	The second second	400	STIC	Con / Mul
Dome Configuration	The second s	The second	ALA	- ANILLINA
· Auto Scan		TTTT		
Preset	the state of the s	1/1/1	THE T	
Tour		Contract of the		194 1 Anno 100
Pattern				
OSD		Sale Sale		A Stationer
Home				
	STATES OF A			A CHINELES
Motor Setup				CONTRACTOR OF
View Angle				WILLIN'S III
Motor Setup View Angle System Menu				Nul Surgenso
View Angle System Menu RS485				Wantes N
Motor Setup View Angle System Menu RS485 System	Preset Setting			WANILSN'
Motor Setup View Angle System Menu RS485 System About	Preset Setting			(WINING)
Motor Setup View Angle System Menu RS485 System About	Preset Setting Preset number		<u> </u>	Preset setup
Motor Setup View Angle System Menu RS485 System About	Preset Setting Preset number Title	1 PRST01		Preset setup Preset delete
Motor Setup View Angle System Menu RS485 System	Preset Setting Preset number Title Dwell time	1 PRST01 3	[399] sec	Preset setup Preset delete
Motor Setup View Angle System Menu RS485 System About	Preset Setting Preset number Title Dwell time Focus	1 PRST01 3 Auto	✓ [399] sec	Preset setup Preset delete Hide AE setup
Motor Setup View Angle System Menu RS485 System About	Preset Setting Preset number Title Dwell time Focus Exposure Control	1 PRST01 3 Auto	✓ [399] sec	Preset setup Preset delete Hide AE setup
Motor Setup View Angle System Menu RS485 System About	Preset Setting Preset number Title Dwell time Focus Exposure Control - Exposure mode	1 PRST01 3 Auto	[399] sec	Preset setup Preset delete Hide AE setup
Motor Setup View Angle System Menu RS485 System About	Preset Setting Preset number Title Dwell time Focus Exposure Control - Exposure mode - Shutter speed	1 PRST01 3 Auto	(399] sec Slow auto exposure ac - Exposure	Preset setup Preset delete Hide AE setup
Motor Setup View Angle System Menu RS485 System About	Preset Setting Preset number Title Dwell time Focus Exposure Control - Exposure mode - Shutter speed - AGC gain	1 PRST01 3 Auto	Slow auto exposure ac B B B B B B B B B B B B B B B B B B	Preset setup Preset delete Hide AE setup
Motor Setup View Angle System Menu RS485 System About	Preset Setting Preset number Title Dwell time Focus Exposure Control - Exposure mode - Shutter speed - AGC gain - Slow shutter	1 PRST01 3 Auto	Slow auto exposure ac a - Exposure ac b - Exposure ac b - Exposure ac b - Bright - High sensitivity	Preset setup Preset delete Hide AE setup
Motor Setup View Angle System Menu RS485 System About	Preset Setting Preset number Title Dwell time Focus Exposure Control - Exposure mode - Shutter speed - AGC gain - Slow shutter Day & Night Control	1         PRST01         3         Auto	(399] sec (399] sec (399] sec (4) (5) (5) (5) (5) (5) (5) (5) (5	Preset setup Preset delete Hide AE setup

- Mode	WDR	~		
	Landrensen	Margare -		
		Save	Reset	

Figure 53. Dome Configuration / Preset

**Preset number:** Select preset number to save or delete programmed preset. The preset number can be adjusted in the range 1-240.

**Title:** Up to 6 characters. (alphanumeric characters and space)

**Dwell time:** Set the Dwell Time that the PTZ will remain in a preset. 03-99 seconds.

**Focus:** Set the focus mode in a preset.

Auto	Focus is automatically adjusted always.
Manual	Focus is automatically adjusted during zoom or PTZ position is changed. When 3 seconds have passed after zoom or PTZ position is changed, focus is changed in manual mode.
One Push	Focus is automatically adjusted just once, after zoom or PTZ position is changed. Focus is changed into manual focus.
Constant Manual	Focus can be manually adjusted with using FAR or NEAR button.

Show/Hide AE setup: Open or close AE control menu.

**Exposure Control:** 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 determines detail in the scene. The camera features auto and manual exposure settings.

**Exposure mode:** Supports exposure modes to control the amount of light detected by the camera sensor base on settings for light conditions. The default setting is Auto

Auto	Automatic Exposure.
Manual	Adjust the shutter, exposure and electronic shutter manually.
Manual Exposure	Adjust the exposure manually.
Manual Shutter	Adjust the electronic shutter manually.
Manual Bright	Adjust both gain and iris using an internal algorithm, according to a brightness level freely set by the user.

**Slow auto exposure:** Slow auto exposure allows you to reduce the exposure response speed. It allows you to lengthen the automatic exposure response speed from 1 second up to approximately 10 minutes.

**Shutter speed:** Select the electronic shutter speed. It's only available when Exposure mode is a Manual shutter mode and Manual mode.

**Exposure:** Select the Iris. It's only available when Exposure mode is a Manual Exposure and Manual mode. The Iris can be adjusted in the range F1.6-F14 and close. The default setting is F1.6. **AGC gain:** Increasing Exposure gain increases the brightness of image, but it also increases the amount of noise in the image. The exposure gain can be adjusted in the range -3~28 dB. The default setting is 2 dB.

**Bright:** Select the bright level. As the bright level increases, gain will be increased. As the bright level decreases, iris will be closed.

**Slow shutter:** Ensures that the slow shutter is set automatically when the brightness drops.

**High sensitivity:** Higher sensitivity gain is applied as standard gain increases, reaching a gain level as MAX gain of up to 4x the standard gain. In such cases, however, there will be a high volume noise in the image. The default setting is Off.

**Day & Night Control:** Day & Night controls the position of the IR (Infra Red) cut filter, which determines the color or block-white setting of the camera.

**Day & Night mode:** Supports Day & Night mode to transit the IR cut filter. The default setting is auto.

Auto	Automatically controls the IR cut filter depending on the light conditions.
Day	Deliver color image regardless of light.
Night	Deliver B/W image regardless of light.
Global	Control the Day & Night mode by the keyboard.

**WDR & BLC Control:** The backlight compensation is an ability of a camera to balance the lighting in a scene with an extremely bright background such as sunlight. It helps to obtain the finest light contrast and get clear image. On the other hand, the wide dynamic range (WDR) function provides clear images even under back light circumstances where intensity of illumination can vary excessively, namely when there are both very bright and very dark areas simultaneously in the field of view of the camera.

**Mode:** WDR cannot be set simultaneously with BLC. The default setting is off.

# Tour

There are 8 programmable Tours. Each Tour consists of up to 40 Preset positions, Patterns, Scans or other Tours (second-level). Using second-level tours, it can be expanded to over 300 functions in a single tour.



Figure 54. Dome Configuration / Tour

**Tour number:** Select tour number to save or delete programmed tour. The tour number can be adjusted in the range 1-8.

Title: Up to 6 characters. (alphanumeric characters and space)

**Scan type:** Select the scan type for moving between presets. In the Tour mode, in conjunction with preset and Auto Scan, you can make the camera travel from a preset position to another preset position at a specific speed.

Normal	Move immediately to the next preset position
Vector	Move to the next preset position with scanning

**Speed:** Set the speed for moving between presets. The speed applies in the vector mode only. **Tour delete:** Remove the stored Tour.

**Tour list setup:** Open or close Tour list panel.

**Tour list:** To add Preset position, Pattern, Scan or other Tour, click desired sequence tour list and then appears the new popup window to assign the Tour.

On the new popup window, click the button what you want to stored PTZ function and then select PTZ function number.

ØN	Network Camera – Windows Internet Explorer								
e) †	http://192,168,1,35/ptz/tour_list,php?select_id=1&tour_number=1								
	Tour lis	t setup							
	-								
	Function		_						
	Preset Tour								
	F	Pattern			Auto S	can			
	Preset lis	st							
	001	002							
		·							
							2222		
		1000			0.00		2575		
		0.000							
		0.000				-			
		2000							
				100		212			
		36555					20075		
							00000		
out.		S							
완되			- 😝 인터	벳		- A	- 🔍 100%	•	

Figure 55. Dome Configuration / stored PTZ function list

Preset	Click preset button for searching the stored preset.
Tour	Click tour button for searching the stored tour.
Pattern	Click pattern button for searching the stored pattern.
Auto Scan	Click pattern button for searching the stored auto scan.

# Pattern

The Pattern feature records user control of the selected dome camera.



Figure 56. Dome Configuration / Pattern

Pattern Setting: The following step describes how to configure the pattern

1. Click in the Title box and type a title (1 to 6 alphanumeric characters and space).

2. Click the Set cell and then appears the PTZ control panel.

3. Move the position and zoom position by using arrow keys, the dome will be automatically recorded the moving path of it into the selected pattern.

3. Click the Done cell to save pattern.

4. Click "X" cell to delete pattern.

### NOTES

- If the total recording time reaches 500 seconds, it will automatically stop for the moment.

# OSD

Basic Configuration	OSD		
Live View	OSD Setting		
🛛 Video & Image	Display	On 🗸	
Audio	Focus exposure	Off	
Event	Camera title	BH6300	
Dome Configuration			
· Auto Scan		Save Reset	
• Preset			
• Tour			
• Pattern			
· OSD			
· Home			
<ul> <li>Motor Setup</li> </ul>			
<ul> <li>View Angle</li> </ul>			
<ul> <li>System Menu</li> </ul>			
· RS485			
System			
About			

OSD Setup menu provides control of displaying OSD.

Figure 57. Dome Configuration / OSD

**Display:** All display or title will disappear when Display option sets Off. **Focus exposure:** Focus and Exposure display when this option sets On. (AF AE) **Camera Title:** Up to 6 characters. (alphanumeric characters and space)

## Home

The Home function can be set so that the camera automatically goes to Preset, Tour, Pattern or Auto Scan after the keyboard controller has been idle for a amount of time. For example, if the controller is idle for 120 seconds, the camera goes to preset 1.

Basic Configuration	Home		
Live View	Home Setting		
🛛 Video & Image	Function	Auto Scar V	
🛙 Audio	Function number	A01	
Event	Waiting time	10 💌 sec	
Dome Configuration	Function use	Off	
· Auto Scan	a		
· Preset		Save Reset	
• Tour			
· Pattern			
· OSD			
Home			
Motor Setup			
<ul> <li>View Angle</li> </ul>			
<ul> <li>System Menu</li> </ul>			
· RS485			
System			
About			

Figure 58. Dome Configuration / Home

**Home Setting:** The following step describes how to configure the home

- 1. Select Auto Scan, Preset, Tour or Pattern in the function combo box.
- 2. Click the function number button and then appears the stored list of what you selected.
- 3. Select waiting time in the waiting time combo box.
- 4. Select on in the Function use combo box for using Home function. The default setting is off.
- Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

# **Motor Setup**

Basic Configuration	Motor Setup					
Live View	Motor Setting					
🛙 Video & Image	Proportional P/T	On 🗸	1	P/T mode	Normal	~
Audio	Slow Pan max	19 🗸	°/sec	Slow Tilt max	19	▼ °/sec
Event	Normal Pan max	40 🗸	°/sec	Normal Tilt max	40	v/sec
Dome Configuration	Turbo Pan max	200 💌	°/sec	Turbo Tilt max	90	✓ °/sec
· Auto Scan			-			
• Preset			Save	Reset		
• Tour						
• Pattern						
· OSD						
• Home						
Motor Setup						
<ul> <li>View Angle</li> </ul>						
<ul> <li>System Menu</li> </ul>						
· RS485						
System						
About						

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

Figure 59. Dome Configuration / Motor Setup

**Proportional P/T:** Select on for using Proportional P/T mode. The default setting is on.

**P/T mode:** Select Slow, Normal or Turbo for P/T mode.

**Slow Pan max:** Select Pan maximum speed for slow P/T mode. The slow pan max can be adjusted in the range 19°-90°/second. The default setting is 40°/second.

**Slow Tilt max:** Select Tilt maximum speed for slow P/T mode. The slow tilt max can be adjusted in the range 19°-90°/second. The default setting is 40°/second.

**Normal Pan max:** Select Pan maximum speed for normal P/T mode. The normal pan max can be adjusted in the range 40°-360°/second. The default setting is 90°/second.

**Normal Tilt max:** Select Tilt maximum speed for normal P/T mode. The normal tilt max can be adjusted in the range 40°-360°/second. The default setting is 90°/second.

**Turbo Pan max:** Select Pan maximum speed for turbo P/T mode. The turbo pan max can be adjusted in the range 200°-390°/second. The default setting is 360°/second.

**Turbo Tilt max:** Select Tilt maximum speed for turbo P/T mode. The turbo tilt max can be adjusted in the range 90°-300°/second. The default setting is 100°/second.
- Click the Save button to save the settings, or click the Reset button to clear all of the information you entered without saving it.

### **View Angle**

View Angle menu provides the pan and tilt range of a camera.

Basic Configuration	View Angle				
Live View	100 mil 100				₽ ₽
Video & Image	Test fel les in		· contraction		<b>唐</b>
Audio			1		1
Event			XALX		
Dome Configuration	The second se			A SALLINA	
<ul> <li>Auto Scan</li> </ul>	T	1111	19-2 - 1,0,0 - 1 - H		
• Preset	and some first some	TOT		TAR SAL	
• Tour		1	2		
• Pattern					
· OSD		STATE STATE			
· Home					
· Motor Setup				S. SILVERED	
View Angle				A HENRY SHIN	
· System Menu		Catton .			
· RS485		ALC: NO		Save Han	
System	View Angle Setting	1			
D About	Tilt over angle	W/O Bubb	e 💌		
	Panning range				
	Enable	Off 🔽	Swap	Off 💌	
		Off 🗸	Range se	tup	
	Auto pan			20 B	
	Auto pan Right limit	051.4	Right angle	setup	
	Auto pan Right limit Left limit	051.4	Right angle	setup	
	Auto pan Right limit Left limit	051.4	Right angle Left angle s	setup	-

Figure 60. Dome Configuration / View Angle

**Tilt over angle:** This option is used to set the limit of the horizontal view angle so that the trim ring or ceiling does not obstruct the horizontal image when zooming out (wide angle).

On	In some installations it is describe for the dome camera to be
	able to see above the horizon. When this option is chosen, the
	dome will tilt up over the horizon (About -10 degrees). When the
	lens is zoomed out, you can see the ceiling line. But when the
	lens is zoomed in, the viewing angle is narrower, and the ceiling
	line disappears.
Without Bubble	The tilt range of the camera is limited to see the horizon so the
	picture shows part of the ceiling line.
With Bubble	The title range of the camera is limited to see below the
	horizon(10 degrees).

**Panning range:** When the dome camera is installed near a wall, panning range can be limited by user.

**Enable:** Select on or off for limiting the panning range. The default setting is on.

**Swap:** Select on or off for exchanging the right and the left limit. The default setting is off.

**Auto pan:** Select on or off for applying limits on the auto pan(endless panning). The default setting is on.

**Right limit:** Select the right limit of panning range.

**Left limit:** Select the left limit of panning range.

#### NOTES

- To enable the panning range, right limit should be different from left limit.

### System Menu

Basic Configuration	System Menu
Live View	Dome Information
Video & Image	
Audio	Camera type : Mega EH-6300 Dome type : Network MegaPixel F3
Event	Hardware version : 1.1
Dome Configuration	Firmware version : 1.2
· Auto Scan	System Menu Setting
• Preset	
• Tour	
• Pattern	Dome answer On
· OSD	Dome answer time 3
• Home	Dome Configuration Backup
Motor Setup	
<ul> <li>View Angle</li> </ul>	Save all parameters and user-defined scripts to a backup file. Backup
· System Menu	
• RS485	Dome Configuration Restore
System	Restore current configuration to backup file.
About	- Specify the backup file to restore. :
	주까보기 Restore
	Save Reset

System menu provides the dome information and control the dome answer.

Figure 61. Dome Configuration / System Menu

**Dome Information:** The system information provides essential information about the dome if service is required. The information cannot be modified.

Calibration: Select on or off for auto origin check. The default setting is on.

**Dome answer:** Select on or off for acknowledge command from the dome. This option is helpful to excape the collision of the command using some DVR.

**Dome answer time:** Select the dome answer time. The dome answer time can be adjusted in the range 1-8. The default setting is 3.

**Dome Configuration Backup:** Save all parameters and user-defined scripts to a backup file for dome configuration.

**Backup:** Click the Backup button to take a backup of all the parameters, and any user-defined script.

**Restore:** Use a saved backup file to return the unit to a previous configuration. **Restore:** Click the Browse button to locate the saved backup file and then click the Restore button.

### **RS485**

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

Basic Configuration	RS485		
Live View	RS485 Setting		
🛿 Video & Image	ID	1 [1 3999]	
D Audio	Protocol	Auto	
E Event	Baudrate	9600	
Dome Configuration	Parity	NONE	
· Auto Scan			1
• Preset		Save Reset	
• Tour			
· Pattern			
· OSD			
· Home			
<ul> <li>Motor Setup</li> </ul>			
· View Angle			
· System Menu			
· RS485			
System			
About			

Figure 62. Dome Configuration / RS485

**ID:** Enter identification number for external PTZ device. The ID can be adjusted in the range 1-3999. The default setting is 1.

**Protocol:** Selects PTZ protocol to communicate with external PTZ device.

**Baudrate:** Selects one of the Baudrate. The default value is 9600.

**Parity:** Selects one of the Parity bit. The default value is NONE.

# System

The System tabs features various system information especially network security, advanced network setting parameters, system configurations and maintenance.

### **Security - Users**

Use the Users tab to provide user permission to access the camera and lists User name and User Group accounting.

Basic Configuration	Security - Users
Live View	User Setting
🛛 Video & Image	
Audio	
Event	User List Setting
Dome Configuration	User Name User Group User Authority
System	admin Administrator live, setup, system
<ul> <li>Security</li> <li>Users</li> <li>HTTPS</li> <li>IP Filtering</li> </ul>	
• Date & Time	Add Modify Remove
🗄 Network	
· Language	Save Reset
· Maintenance	NOUL NOUL
· Support	
About	

Figure 63. System / Security – Users

**User Setting:** Click the Enable anonymous viewer login checkbox to permit the anonymous user login to the camera. The default setting is disabled.

**User List Setting:** User accounts can be added or modified or removed. The authority depends upon user group automatically and shows the permission status to access the menus. The default User Name is *admin* and the password of admin is *admin*.

**User Name:** Shows the names which registered to access the camera. **User Group:** Shows the assigned permissions given to users. **Authority:** Shows the permission status to access the menus.

🖉 Network Camera - Wi	ndows Internet 🔳 🗖 🔀
🔊 http://192, 168, 10, 176/basic	:/useredit.php?user_section=: 🔯
Add User	
User List Setting	
• User name :	Alice
· Password :	•••••
· Confirm password :	•••••
· User gruop :	administrator 💌
ОК	CANCEL
. 😜 인터넷	🖓 🖬 🍕 100% 🔹 📑

Figure 64. System / Security / Users - Add User

#### To add a new user:

1. Click the Add tab, and then new pop-up window appears.

2. Click in the User name box and type a new user name (1 to 14 alphanumeric characters). User names are not case sensitive.

3. Click in the Password box and type a password (1 to 8 alphanumeric characters). Passwords are case sensitive.

- 4. Click in the Confirm password box and retype a password.
- 5. Click in the User group box and select one of the groups you wish to assign to the user.
- 6. Click the OK button to save the settings and add a new user.

🖉 Network Camera - Windows Internet 🔳 🗖 🛛	3
🔊 http://192, 168, 10, 176/basic/useredit, php?user_section=r 🛛 😣	
Modify User	
User List Setting	
· User name : Alice	
· Password :	
Confirm password :	
• User gruop : administrator 💌	
OK CANCEL	
😜 인터넷 🦛 🗸 🔍 100% 🔻	.:

Figure 65. System / Security / Users - Modify User

#### To modify a user:

1. Select one of the User Name in the User List Setting you want to modify.

2. Click the Modify tab, and then new pop-up window appears.

3. Click in the Password box and type a password (1 to 8 alphanumeric characters). Passwords are case sensitive.

- 4. Click in the Confirm password box and retype a password.
- 5. Click in the User group box and select one of the groups you wish to assign to the user.
- 6. Click the OK button to save the settings and modify a user.

#### NOTE

The user name can't be modified.

#### To remove a user:

- 1. Select one of the User Name in the User List Setting you want to remove.
- 2. Click the Remove tab. A dialog box appears with confirmation message.
- 3. Click the OK button. The user profile is removed from the User List Setting profile.

#### NOTE

The admin user name can't be deleted.

### **Security - HTTPS**

Basic Configuration	Security - HTTPS
Live View	HTTPS Connection Policy
Video & Image	
Audio	
Event	Install
Dome Configuration	주마보기 Upload
System	Installed Certificate
Security	File Name Time
· Users	No installed certificate
• HTTPS • IP Filtering	* Note
• Date & Time	When installed certificate do not exist, default certificate will be used.
🗄 Network	
· Language	Save Reset
· Maintenance	
· Support	
About	

Use the HTTPS tab to allow user access to the camera using web browser encrypted communication.

Figure 66. System / Security – HTTPS

**HTTPS Connection Policy:** Provides the connection policy when user access to the camera using web browser.

**Connection mode:** The default setting is HTTP&HTTPS.

НТТР	The sensitive data will be transfer without encrypted during transmission. Supports a URL that only starts with "HTTP: "
HTTPS	HTTPS (Hypertext Transfer Protocol over SSL) is a protocol used to provide the encrypted transmission. Supports a URL that only starts with "HTTPS: "
HTTP&HTTPS	Supports both HTTP and HTTPS simultaneously. You can access the camera using a standard "HTTP:" URL, but sensitive data is not encrypted during transmission. To ensure that sensitive data is encrypted, you must use a secure "HTTPS: " URL.

NOTES

- To ensure security on the internet, all web browsers provide several security levels that can be adjusted for site that use SSL (Secure Socket Layer) technology to transfer data. SSL encrypts communications, making it difficult for unauthorized users to intercept and view user names and passwords.
- SSL requires signed certificates to determine if the web browser accessing the camera has a required authentication. This camera can generate a self-signed certificate using Open SSL.
- If you select the HTTP connection policy to HTTP, you cannot access the camera using a URL beginning with "HTTPS:"
- Self-signed certificates are valid for 10 years.

**Install:** 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.

**Installed Certificate:** In case of all the processing succeed, the name of official certificate will be displayed and also its installed time.

#### NOTES

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.

### Security – IP Filtering

Use the IP Filtering tab to active the IP address filtering function that decides which IP address will be allowed normally and which will be denied.

Basic Configuration	Security - IP Filter	ing		
Live View	IP Filtering Setting			
Video & Image	Enable IP filtering			
Audio	On/Off Priority	Policy	Start IP	End IP
Event	1	DENY 😽	0.0.0.0	0.0.0.0
Dome Configuration	2	DENY V	0.0.0.0	0.0.0.0
2 Dome Configuration	3	DENY 😒	0.0.0.0	0.0.0.0
System	4	DENY 😽	0.0.0.0	0.0.0.0
Security	5	DENY 😽	0.0.0.0	0.0.0.0
• Users				
· HTTPS			Save Reset	
· IP Filtering				
· Date & Time				
I Network				
· Language				
Maintenance				
Current				
Support				

Figure 67. System / Security – IP Filtering

**IP Filtering Setting:** Provides the IP filtering elements such as On/Off, Priority, Policy and IP Ranges. The default setting is disabling.

**Enable IP filtering:** Click the Enable IP filtering checkbox to enable the IP address filtering function. This dialog allows you to add new allowed/denied IP addresses. These can be added whole ranges (subnets) of IP address can be added directly.

On/Off: Click the checkbox to active the settings (Priority, Policy, and IP ranges).
Priority: The number means a priority if there are duplicated IP address each IP ranges.
Policy: Determines the filtering attribute of the IP address selected.
Start IP: Enters the start IP address to ALLOW/ DENY in the IP range selected.
End IP: Enters the end IP address to ALLOW/ DENY in the IP range selected.

#### NOTES

- To add a subnet of network addresses, these must be added in CIDR (Classless Inter-Domain Routing) notation.

For example: entering 192.168.1.0/24 will add all the addresses in the range 192.168.1.1 to 192.168.1.254. Please contact with your network administrator for more detail.

- If you are accessing the network camera via a proxy server, the IP address for the proxy server must be added as an allowed address.

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

### Date & Time

Sustam

Use the Date and Time tab to set the camera's date and time values, manually or automatically

Basic Configuration	Date & Time
Live View	Current Server Time
Video & Image	Date : 2012-01-06 Time : 01:30:19
Audio	
Event	New Server Time
Dome Configuration	New Server Time
	(GMT) Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London 💌
System	Automatically adjust for daylight saving time changes
Security	
Date & Time	· Time mode
1 Network	O Synchronize with computer time
· Language	Date : 2011-06-13 Time : 12:59:13
• Maintenance	O Synchronize with NTP server
· Support	NTP server : time.nist.gov NTP Interval : 1 🖌 hour
About	• Set manually
	Date : 2012-01-06 Time : 01:30:14
	Date & Time Format
	Date Format : YYYY-MM-DD
	Time Format : 24 hour
	Save Reset

Figure 68. System / Date & Time

**Current Server Time:** Shows the current date and time.

Date: The default setting is 1970-01-01.

**Time:** The default setting is 00:00:00.

**New Server Time:** Select the time zone where your camera is located.

Click the Automatically adjust for daylight saving changes checkbox to automatically update the time changes caused by daylight saving.

**Time zone:** The default setting is GMT.

**Time mode:** The default setting is Set manually.

**Synchronize with computer time:** Sets the time according to the clock on your computer. **Synchronize with NTP Server:** This option will obtain the correct time from an NTP server every 60 minutes. The NTP server's IP address or host name is specified in the time server. **Set manually:** Using this option allows you to manually enter the date and time.

**Date & Time Format:** Select one of the Date and Time format.

**Date Format:** The default setting is YYYY-MM-DD.

**Time Format:** The default setting is 24 hours.

# Network

Contact with your network administrator to avoid any network conflicts before setting or changing the IP address of the camera.

### **Network - Basic**

Use the Network-Basic tab to manage the network settings.

Basic Configuration	Network - Basic			
Live View	IP Address Configuration			
🛿 Video & Image				
Audio	<ul> <li>Use the following IP address :</li> </ul>			
Event	- IP address 192 . 168 . 33 . 31			
Dome Configuration	- Subnet mask 255 . 255 . 0			
System	- Default router 192 . 168	. 33 . 1		
	IPv6 Address Configuration			
Date & Time				
Network				
Basic	DNS Configuration			
DDNS	O Obtain DNS server address via DHCP			
· RTP	<ul> <li>Use the following DNS server address :</li> </ul>			
• UPnP	- Domain name			
· QoS	- Primary DNS server 0 . 0	. 0 . 0		
• Bonjour	- Secondary DNS server 0 . 0	. 0 . 0		
• Zeroconf				
· Language	Host Name Configuration			
Maintenance	Host name HDS-S422WNBA	R30007D800F3C3		
· Support				
🗈 About	Services			
	Http port 80			
	Https port 443	]		
	Rtsp port 554			
	Network Traffic			
	Maximum bandwidth			
	Unlimited			
	C Limited to Kbit/s	[500 ]Kbit		
	Save	Reset		

Figure 69. System / Network – Basic

**IP Address Configuration:** The DHCP (Dynamic Host Configuration Protocol) server has a feature that automatically assigns an IP address to the device if there is a device on the network.

**Obtain IP address via DHCP:** Select the choice box if you want to assign the IP address from DHCP server automatically, and then the remaining setting are read-only text.

**Use the following IP address:** Select the choice box if you want to assign the IP address manually.

**IP address:** The address of the camera connected to the network. Specify a unique IP address for this network camera.

**Subnet mask:** The address that determines the IP network that the camera is connected to (relative to its address). Specify the mask for the subnet the network camera is located on.

**Default router:** The router that accesses other networks. 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 address configuration. 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:** Select the choice box if you want to use the DNS server settings provided by the DHCP server automatically, and then the remaining setting are read-only text.

**Use the following DNS server address:** Select the choice box if you want to use the desired DNS server manually.

**Domain name:** Enter the domain to search for the host name used by the network camera. **Primary DNS server:** Enter the IP address of the primary DNS server.

Secondary DNS server: Enter the IP address of the secondary DNS server.

**Services:** Allows the user to access the camera using web browser encrypted communication. **HTTP port:** The default HTTP (Hypertext Transfer Protocol) port number is 80 and can be changed to any port within the range 1024-65535.

**HTTPS port:** The default port number is 443 and can be changed to any port within the range 1024-65535.

**RTSP port:** RTSP (Real Time Streaming Protocol) allows a connecting client to start a video stream. The default setting is 7070 and can be changed to any port within the range 1024-65535.

**Network Traffic:** Specify the maximum bandwidth of this camera. This is a useful function when connecting the camera to busy or heavily loaded networks. The default setting is Unlimited. **Unlimited:** Provides consistently good image quality at the expense of increased bandwidth and storage usage during low light.

**Limited to:** Provides the optimized bandwidth and storage usage, but gives poor image quality. To prevent increased bandwidth and storage usage, the optimized bandwidth should be set.

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

### **Network – DDNS**

The DDNS (Dynamic DNS) service can provide the camera with its own URL (web address), which can then be used to access it over the Internet. Use the DDNS service to assign a host name for easy access to your network camera.

#### NOTES

- If the camera has not previously been registered at the Dynamic DNS Service, you need the registration process first. You will then need to visit *http://www.security-device.name* to complete the process.

- If the camera is already registered at the Dynamic DNS Service and its IP address changes, the DNS service must be updated with this new IP address.

- These regular updates will always occur at the set interval, with no regard to whether automatic updates have been configured or not.

Basic Configuration	Network - DDNS		
Live View	Internet DDNS(Dynamic Domain Name Service)		
🛛 Video & Image	Enable DDNS		
E Audio	* Note		
Event	Please remember you have to configure at least primary DNS server in DNS configuration		
Dome Configuration	settings to use Dynamic DNS.		
System	- DDNS server cctv-network.co.kr		
⊕ Security	- Registered host		
• Date & Time	- User name		
Network Basic DDNS OTD	- Password  - Confirm password  - Maximum time interval  Register local network IP address		
· UPnP · QoS · Bonjour · Zeroconf	Save Reset		
· Language			
· Maintenance			
· Support	<u></u>		

Figure 70. System / Network – DDNS

### Internet DDNS (Dynamic Domain Naming Service): Provides user with host name

to access the camera.

**Enable DDNS:** Click the Enable DDNS checkbox to active DDNS service.

**DDNS server:** Enter the DDNS server name. The default DDNS server is security-device.name **Registered host:** Enter the registered host name.

**User name:** Enter the registered user name to be used for accessing the DDNS server.

**Password:** Enter user password to be used for accessing the DDNS server.

**Confirm password:** Enter user password again to confirm.

**Maximum time interval:** Set the interval at which to regularly update the Dynamic DNS service. The default setting is 10 minutes.

□ **Register local network IP address:** Register a network camera IP address to the DDNS server.

### Network – RTP

These RTP settings concern the IP addresses and port numbers to use for video and audio stream(s).

Basic Configuration	Network - RTP	
Live View	Port Range	
Video & Image		
Audio	Start port	5008 [102465532; only even values are available]
Event		[102465552, only even values are available]
Dome Configuration	Multicast (Stream1)	
System	Enable multicast	
Security	- Multicast destination IP	231 . 1 . 128 . 20 [224.0.0.0239.255.255.255]
Date & Time	- RTP port	5000 [102465532; only even values are available]
Network	- RTP TTL	1 [1255]
• Basic	Multicast (Stream2)	
DDNS		
· RTP	Enable multicast	
• UPnP	- Multicast destination IP	231 . 1 . 128 . 21 [224.0.0.0239.255.255.255]
· QoS	- RTP port	5000 [102465532; only even values are available]
Bonjour	- RTP TTL	1 [1255]
Zeroconf	Multicast (Stream3)	
Language		
Maintenance	Enable multicast	
Support	- Multicast destination IP	231 . 1 . 128 . 22 [224.0.0.0239.255.255.255]
About	- RTP port	5000 [102465532; only even values are available]
	- RTP TTL	1 [1255]
	Multicast (Stream4)	
	Enable multicast	
	- Multicast destination IP	231 . 1 . 128 . 23 [224.0.0.0239.255.255.255]
	- DTD part	5000 [1024_65532; only even values are svalable]
	- RTP TTL	1 [1255]
		Save Reset

Figure 71. System / Network – RTP

**Port Range:** The RTP Port range defines the range of ports from which the video/audio ports are automatically selected. This feature is useful if the camera is connected to a NAT router with manually configured port mapping.

#### NOTE

Limit the range of ports permitted for RTP unicast/multicast by entering the Start port and End port in the provided fields.

**Start port:** The Start port can be entered in the range 1024-65532. The default setting is 5008. **End port:** The End port can be entered in the range 1024-65532. The default setting is 50999.

#### Note

The video/audio ports entered here must be even values.

### **Multicast:**

Only IP addresses within certain ranges can be used for multicasting. The camera has been preconfigured with addresses from these ranges, and does not normally need to be reconfigured. If an address does need to be changed, please contact your network administrator.

Multicast destination IP: Click in the Multicast destination IP box and type IP address.

#### NOTES

- Multicast addresses are allocated according to these IANA policies.

- The default setting IP address is 231.1.128.20

**RTP port:** The RTP port can be entered in the range 1024-65532. The default setting is 5000.

#### NOTE

The RTP port entered here must be even values.

**RTP TTL:** The RTP TTL can be entered in the range 1-255. The default setting is 1.

#### NOTES

- TTL (Time To Live) If IP packets (i.e. data) fail to be delivered to their destination within a reasonable length of time (which could be for various reasons), this setting tells network routers when to discard the packet.

- The value is usually measured in 'hops', i.e. the number of network routers that can be passed before the packet arrives at its destination or is dropped.

### Network – UPnP

UPnP is enabled by default, and the network camera then is automatically detected by operating systems and clients that support this protocol.

Basic Configuration	Network - UPnP		
Live View	UPnP Setting		
🛛 Video & Image	Enable UPnP		
🛙 Audio	- Friendly name	HDS-S422W(NBAR3)0007D800	
Event			
Dome Configuration		Save Reset	
System			
🗄 Security			
• Date & Time			
Network			
Basic			
DDNS			
· RTP			
UPnP			
· QoS			
· Bonjour			
• Zeroconf			
· Language			
· Maintenance			
Support	<u>k</u>		

Figure 72. System / Network – UPnP

**UPnP Setting:** Click the Enable UPnP checkbox to disable the UPnP. The default setting is enabling.

**Friendly name:** Click in the Friendly name box and type a description for the text you are creating (1 to 32 alphanumeric characters). If your computer is also enabled, the camera is automatically detected and a new icon is added to "Model Name-MAC address".

#### NOTE

UPnP must also be enabled on your Windows XP computer. To do this, open the Control Panel from the Start Menu and select Add/Rename programs. Select Add/Remove Windows Components and open the Networking Services section. Click Details and then select UPnP as the service to add.

### Network – QoS

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

Basic Configuration	Network - QoS	
Live View	DSCP Setting	
Video & Image	Live stream DSCP	
Audio	Event/Alarm DSCP 0 [063]	
Event		
Dome Configuration	Save Reset	
System		
E Security		
· Date & Time		
<ul> <li>Network</li> <li>Basic</li> <li>DDNS</li> <li>RTP</li> <li>UPnP</li> <li>QoS</li> <li>Bonjour</li> <li>Zeroconf</li> <li>Language</li> <li>Maintenance</li> </ul>		
· Support		

Figure 73. System / Network – QoS

### **DSCP Setting**

For each of the supported types of network traffic, enter a value for the **DSCP** (Differentiated Services Code Point) field in the data packet's IP header. This value marks the network traffic so that network routers know which service(s) to apply to the packet, for example, the amount of bandwidth reserved for the type of traffic.

The QoS in the HEV Series Network Camera marks the data packets belonging to various types of network traffic originating from the unit. QoS-enabled network routers and switches then use these markings to apply particular treatment to these types of traffic, for example, to reserve a fixed amount of bandwidth.

The types of traffic that can be marked are video, audio, event/alarm traffic and management network traffic.

#### NOTES

The main benefits of a QoS-aware network can be summarized as:

- The ability to prioritize traffic and thus allow critical flows to be served before flows with lesser priority.

- Greater reliability in the network, thanks to the control of the amount of bandwidth an application may use, and thus control over bandwidth races between applications.

### Network – 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		
Audio	- Friendly name	HDS-S422WNBAR30007D800F3C3	
Event			
Dome Configuration		Save Reset	
System			
🗄 Security			
• Date & Time			
<ul> <li>Network</li> <li>Basic</li> <li>DDNS</li> <li>RTP</li> <li>UPnP</li> <li>QoS</li> <li>Bonjour</li> <li>Zeroconf</li> <li>Language</li> <li>Maintenance</li> </ul>			
· Support	<u>b</u>		

Figure 74. System / Network – Bonjour

### NOTES

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

### Network – Zeroconf

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

Basic Configuration	Network - Zeroconf
Live View	Zeroconf Configuration
🛙 Video & Image	Enable Zeroconf
🛙 Audio	IP address : 0.0.0.0
Event	Provide State
Dome Configuration	Save Reset
System	
🗄 Security	
• Date & Time	
Network     Basic	
· DDNS · RTP	
· QoS · Bonjour	
· Zeroconf · Language	
Maintenance	
Support	<u>}</u>

Figure 75. System / Network - Zeroconf

Zero configuration networking(zeoconf), is a set of techniques that automatically creates a usable Internet Protocol(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 Dynamic Host Configuration Protocol(DHCP) and Domain Name System(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 address for networked devices(link-local address auto configuration)
- Automatic resolution and distribution of computer hostnames(multicast DNS)
- Automatic location of network services, such as printing devices through DNS service discovery

### Language

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

Use the Language tab to configure the language supported.

Figure 76. System / Language

Language Setting: Provides the option of language supported.

**Language:** The default setting is English.

### Maintenance

Use Maintenance tab to maintain the camera especially software reset, upgrade, backup parameters and restore parameters.



Figure 77. System / Maintenance

**Maintenance:** Provides software reset of the camera when troubleshooting.

**Restart:** The camera is restarted without changing any of the setting. 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, but the following settings does not reset.

- 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 causion. Pressing this returns the camera's settings to the factory default values including the IP address.

**Upgrade:** Provides the latest firmware into this camera. When you upgrade the firmware with a file, your camera receives the latest available functionality and unparalleled reliability.

### NOTE

Always read the upgrade instructions and release notes before upgrading the firmware.

#### **Upgrade:** Upgrades the new firmware as follows.

- 1. Save the firmware file to your computer.
- 2. Browse to the desired firmware file on your computer.
- 3. Click the Upgrade button.

### NOTES

- Do not disconnect power to the unit during the upgrade. The unit restarts automatically after the upgrade has completed. (3-4 minutes)

- After starting the upgrade process, always wait about 3-4 minutes before restarting the camera, even if you suspect the upgrade has failed.

Backup: Save all parameters and user-defined scripts to a backup file.

**Backup:** Click the Backup button to take a backup of all the parameters, and any user-defined script.

**Restore:** Use a saved backup file to return the unit to a previous configuration. **Restore:** Click the Browse button to locate the saved backup file and then click the Restore button.

#### NOTE

Backup and Restore can only be used on the same unit with running the same firmware. This feature is not intended for the configuration of multiple units or for firmware upgrades.

### Support

The Log and Reports provides variable information on troubleshooting and contact information, should you require technical assistances.

Basic Configuration	Support
Live View	The log and report files can be useful when troubleshooting or contacting the support team.
D Video & Image	Log
D Audio	Sustan Les Sustan les information
E Event	System Log System log information.
Dome Configuration	Reports
System	Server Report Important information of the server status.
⊞ Security	Parameter List The unit's parameters and their current settings.
• Date & Time	
🗉 Network	
· Language	
· Maintenance	
Support	
D About	

Figure 78. System / Support

**Log:** The log file records event in the unit since the last system restart and can be a useful diagnostic tool when troubleshooting.

**System Log:** Provides information about system events.

**Reports:** The Report contains important information about the server.

**Server Report:** Provides information about the server status and should be included when requesting report. Information be found here includes the camera's firmware version, MAC address, system information, IP address and network connections.

**Parameter List:** Shows the server's parameters and their current settings.

# About

About		
Basic Configuration	About	
Live View	- Full HD / Megapixel Network Camera	
Video & Image	Firmware version : 2.2.75	
Audio	MAC address : 00:07:D8:00:F3:C3	
Event		
Dome Configuration		
System		
About		
About		
		Fi.
	<b>.</b>	

Here you can fine basic information about this camera.

Figure 79. About

The About page shows basic information about this camera as follows:

- Full HD / Megapixel Network Camera
- Firmware version:
- MAC address:

# **Technical Specifications**

-----

### Image

- Lens ------ Optical Zoom 20x (f= 4.7 ~ 94.0mm)
- Imaging Device ----- 1/2.8 Inch
- Imager Type ----- CMOS Sensor
- Imager Readout ----- Progressive Scan
- Resolution ------ Maximum 1920(H) x 1080(V)
- Practical H-Angle ------ Approx. 55.4° (w) 2.9° (t)
- White Balance Range ----- 2500°K 9600°K
- Low Light Sensitivity ------ F1.6, 50IRE
  - -- Day Mode (Colour) ------ 1.7Lux
  - -- Night Mode (B/W) ------ 0.26Lux

### **Electrical / Connector**

- Ethernet Connector ------ RJ-45 for 10Base-T/100Base-T
- Ethernet Cabling Type ----- Cat5
- BNC Connector ------ Composite analog video output
- Local Recording ------ Micro SD card
- Power connector ------ Terminal block for DC12V or AC24V input
- Power Input ------ DC12V or AC24V or PoE (IEEE802.3at Compliant, Class4)
- Power Consumption ------ Under 1.3A, 16W (Max Load)
  - -- PoE ------ 0.28A, 13.8W (Max Load)
  - -- DC12V ------ 1.1A, 13.2W (Max Load)
- -- AC24V ------ 0.93A, 13.8W (Max Load)
- Alarm Input ------ Terminal block for two Alarm inputs
- Alarm Output ------ Terminal block for one Alarm output
- Audio Input / Output ------ 3.5mm Microphone and 3.5mm Speaker out
- Day and Night ------ True Day and Night IR Cut Filter

### Video

- Compression ------ H.264 High / Main / Baseline profile and MJPEG
- Multiple streams ------ Up to 4 simultaneously
  - -- Stream1: H.264
    - -- Stream2: MJPEG
    - -- Stream3: H.264

#### -- Stream4: H.264

- Frame Rate ------ 30fps@1920 x1080p, 30pfs@1280x1024p, 30fps@1280x960p, 30fps@1152x864p, 30fps@1280x720p, 30fps@720x576p, 30fps@720x480p, 30fps@640x480p, 30fps@320x240p

STREAM1 H.264	STREAM2 JPEG	STREAM3 H.264	STREAM4 H.264	Maximum Frame Rate (NTSC/PAL)
1920x1080	320x240	320x240	320x240	30/25
1280x1024	320x240	320x240	320x240	30/25
1280x960	320x240	320x240	320x240	30/25
1152x864	640x480 ↓	320x240	320x240	30/25
1280x720	640x480 ↓	320x240	320x240	30/25
720x576	720x576 ↓	720x576 ↓	720x576 ↓	30/25
720x480	720x480 ↓	720x480 ↓	720x480 ↓	30/25
640x480	640x480 ↓	640x480 ↓	640x480 ↓	30/25
320x240	320x240	320x240	320x240	30/25

#### - Available Resolutions and Maximum Frame Rate

- Protocols ------ TCP/IP, UDP/IP (Unicast, Multicast), UPnP, DNS, DHCP, RTP, RTSP, NTP, IPv4, IPv6, HTTP, HTTPS, SSL, SMTP, FTP

- Users

-- Unicast ------ Up to 10 simultaneously

-- Multicast ------ Unlimited users H.264

- Security Access ------ Multilevel Access, Data Encryption, Password protection, IP filtering

- Features ------- WDR, BLC, FNR, ROI, Digital PTZ, VMD, Image Effect, Multiple Streaming, AF, AE, AWB, Snapshots, Manual Trigger, Audio Mute, Audio Alert, Record and Playback, Software Reset, Remote Upgrade.

## PTZ

- Pan angle	360° Continuous Rotation
- Speed	380° / sec Maximum (with CTRL Key pressed)
- Auto scan	4 Auto scan and Endless panning
- Preset position	160 Positions with camera status
- Tour	4 Tours
- Pattern	4 Patterns up to 200 seconds
- OSD	Displays camera ID and Area name on screen

# Audio

- Compression ------ G.711 PCM 8 kHz (µ-law or A-law)
- Streaming ------ Full duplex
- Input/Output ------ External Microphone in / External Speaker out

# **System Integration**

- Alarm Trigger ------ External Alarm input signals, VMD, Manual
- Alarm Events
  - -- JPEG file upload via FTP
  - -- Notification via Email
  - -- External device activation
- Intelligent Video ------ Video Motion Detection
- Software Interface ------ NCTitanium, Smart Manager Utility, Nautilus Server
- System Integration ------ Supported Open API, ONVIF compatible

# Environmental

- Storage Humidity ------ 0 % ~ 96 %

# Physical

- Camera Dimension (H x Ø) ----- 202 mm x 125 mm
- Shipping Dimension (H x W x D) ----- 390 mm x 210 mm x 270 mm
- Camera Weight ----- 1200 g
- Shipping Weight ----- 2200 g
- Included accessory ------ Installation CD, Accessory kit for installation, Template sheet, Extension connector kit

#### NOTE

Specifications are subject to change without notice.

# Troubleshooting

If you suspect a problem is being caused by incorrect configuration or some other minor problem, consult the troubleshooting guide below.

# **Upgrading the Firmware**

Firmware is software that determines the functionality of the network camera. One of your first actions when troubleshooting a problem should be to check the current firmware. The latest version may contain a correction that fixes your particular problem. The current firmware version in your camera is displayed on the Basic Configuration or about. For the latest firmware of the camera, please contact with your product administrator.

Detailed instructions on how to perform the upgrade process are provided with each new release. See also the Maintenancen/ Upgrade for more information.

# **General Troubleshooting**

The following list covers some of the problems that may be encountered and suggests how to remedy them:

### Symptom $\rightarrow$ Possible Causes or Corrective Actions

1. The camera cannot be accessed by some clients.

 $\rightarrow$  If using a proxy server, try disabling the proxy setting in your browser. Check all cabling and connectors.

2. The camera works locally, but not externally.

 $\rightarrow$  Check if there are firewall settings that need to be adjusted. Check if there are router settings that need to be configured.

3. Poor or intermittent network connection.

 $\rightarrow$  If using a network switch, check that the port on that device uses the same setting for the network connection type (speed/duplex).

- 4. The camera cannot be accessed via a host name.
- $\rightarrow$  Check that the host name and DNS server settings are correct.
- 5. Not possible to log in.

 $\rightarrow$  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.

- 6. No image using Refresh and/or slow updating of images.
- $\rightarrow$  If images are very complex, try limiting the number of clients accessing the camera.
- 7. Images only shown in black & white.

 $\rightarrow$  Check the Video & Image setting.

8. Blurred images.

 $\rightarrow$  Refocus the camera.

9. Poor image quality.

 $\rightarrow$  Increased lighting can often improve image quality. Check that there is sufficient lighting at the monitored location. Check all image and lighting settings.

10. Rolling dark bands or flickering in image.

 $\rightarrow$  Try adjusting the Exposure Control setting under AE and AWB part.

11. H.264 not displayed in the client.

 $\rightarrow$  Check that the correct network interface is selected in the Video & Image/Stream.

12. Multicast H.264 not displayed in the client.

 $\rightarrow$  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.

13. Multicast H.264 only accessible by local clients.

 $\rightarrow$  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.

14. Color saturation is different in H.264 and Motion JPEG.

 $\rightarrow$  Modify the settings for your graphics adapter. Please see the adapter's documentation for more information.

15. Poor audio quality.

 $\rightarrow$  Too many users/clients connected to the camera may affect the sound quality adversely. Try limiting the number of clients allowed to connect.

16. Distorted audio.

 $\rightarrow$  Check that the correct Audio Input source is selected. Select Microphone for a connected external microphone. Select Line for a connected line in source.

### NOTE

If you cannot find the help you require, please see the User's Manual, or contact with your network administrator.