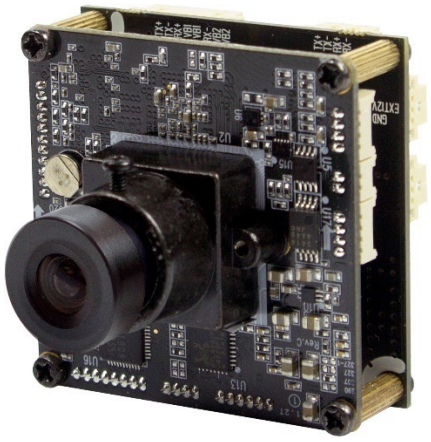
Videology®
Industrial-Grade Cameras
an inTEST Company

24M2.17IP Series
2MP IP Camera Board
Application Note

H.265

ONVIF®



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This document will not have all updates currently in process and specific for all Videology OEM's.

For technical assistance with this product, please contact the supplier from whom the product was purchased.

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Table of Contents

1. Document History

Revision	Issue Date	Reason	CN#
Rev A	06-03-2020	Initial release (24M2.16IP copy)	
Rev B	07-28-2021	Updated testing by Engineering	21-0036

2. Safety Cautions

1. This camera may be damaged by electrical and physical shock.
2. Use regulated 12V DC, 1A power supply.
3. In case the unit fails, DO NOT try to disassemble the product.
Contact or consult the distributor or an authorized technician for after-sales service. Warranty is void for the product if it is disassembled without an authorization from Videology or an authorized distributor.
4. The user assumes all responsibility for using this product.

If the product needs to be disposed, please take it to an authorized recycling facility.

Please read the instructions carefully for correct use of the product and save it for reference purposes. This specification is subject to change without any prior notice to improve the quality unless Videology has an agreed upon final OEM product contract or specification associated with your company.

3. Key Features

- Sony Exmor™ CMOS 2MP Sensor
  - IMX307LQR-C
  - 1/2.8-inch R.G.B. Bayer
  - S-LVDS
- Built-In Web Browser
  - Active X
  - Support IE/Chrome/Safari
- ONVIF Compliant
  - Profile S
  - Supports ONVIF Compatible 3rd Party VMS or NVR

4. System Requirements

- Operating System
  - Windows Vista (32 bit) Ultimate, Business Edition
  - Windows 7, 8, 10 (32/64 bit) Ultimate, Professional Edition
- Processor
  - Intel Core 2 Duo 2.4 GHz or higher
  - Intel Core i7 2.8 GHz or higher
- Memory
  - 2 GB or more
- Resolution
  - 1280X1024 pixels or higher (32-bit color)
- Web Browser
  - Microsoft Internet Explorer Ver. 9.0, 10.0 or Higher
  - Safari Ver. 4.0 (Plug-in free viewer only)
  - Google Chrome Ver. 4.0 (Plug-in free viewer only)

5. Specifications

Electrical	24M2.17IP
Imaging Sensor	1/2.8" Sony 2.16MP, RGB Bayer Array CMOS Sensor IMX307LQR-C
Effective Pixels	1945 (H) x 1097 (V) (approx. 2.13 megapixels)
Sensitivity	Color: 0.24 LUX, B/W: 0.024 LUX
Pixel Size	2.9μm (H) x 2.9μm (V)
Scanning Mode	Progressive Scan
Latency	260 msec.
Day & Night Mode	Connector is supported
WDR	DOL (Digital Overlap) WDR 120dB
DNR	3D-NR
Auto Exposure	Automatic (Priority: frame rate/low noise), manual
Shutter Speed Control	Automatic: min 1/135,000 sec ~ max 1/60 sec Manual: min 1/10,000 sec ~ max 1/30 sec
Gain Control	Automatic/ Manual - 54dB max (default: 1.2dB)
White Balance	ATW-Indoor/ Outdoor, Shade, Clear sky, fluorescent light, Light Bulb, Flame, Manual
Functions	Motion Detection, Privacy Mask, Tamper, Defog, D-Zoom (~x15), HLC/BLC, Mirror/Flip, LDC, Vertical View, DIS (Digital Image stabilization)
Power Source	12VDC, PoE is 44.0 – 57.0VDC
Power Consumption	3.12W (260mA)

Environmental	
Operating Temp.	-10°C ~ 50°C (14°F ~ 122°F)
Operating Humidity	0~90% (non-condensing)

Mechanical	
Dimensions W x H x D	42.0mm x 42.0mm x 7.3mm (w/o lens mount)
with PoE Board	42.0mm x 42.0mm x 24.5mm (w/o lens mount) ±5mm for cable overlap
Weight	N/A

Network	
Video Compression	H.265 Main Profile, H.264 (High, Main, Baseline Profile) MJPEG
Video Resolution 16:9 Formats Only	1920x1080, 1280 x 1024, 1280x720, 704x480, 704x576, 640x480, 352x288, 320x240
Video Frame Rate	30/25fps@1920x1080p Max.
Video Streaming	Simultaneously H.265 and MJPEG or H.264 and MJPEG (multi streaming)
	Independent frame rate and bandwidth control, VBR/CBR mode
FTP Uploading	MJPEG Still Image

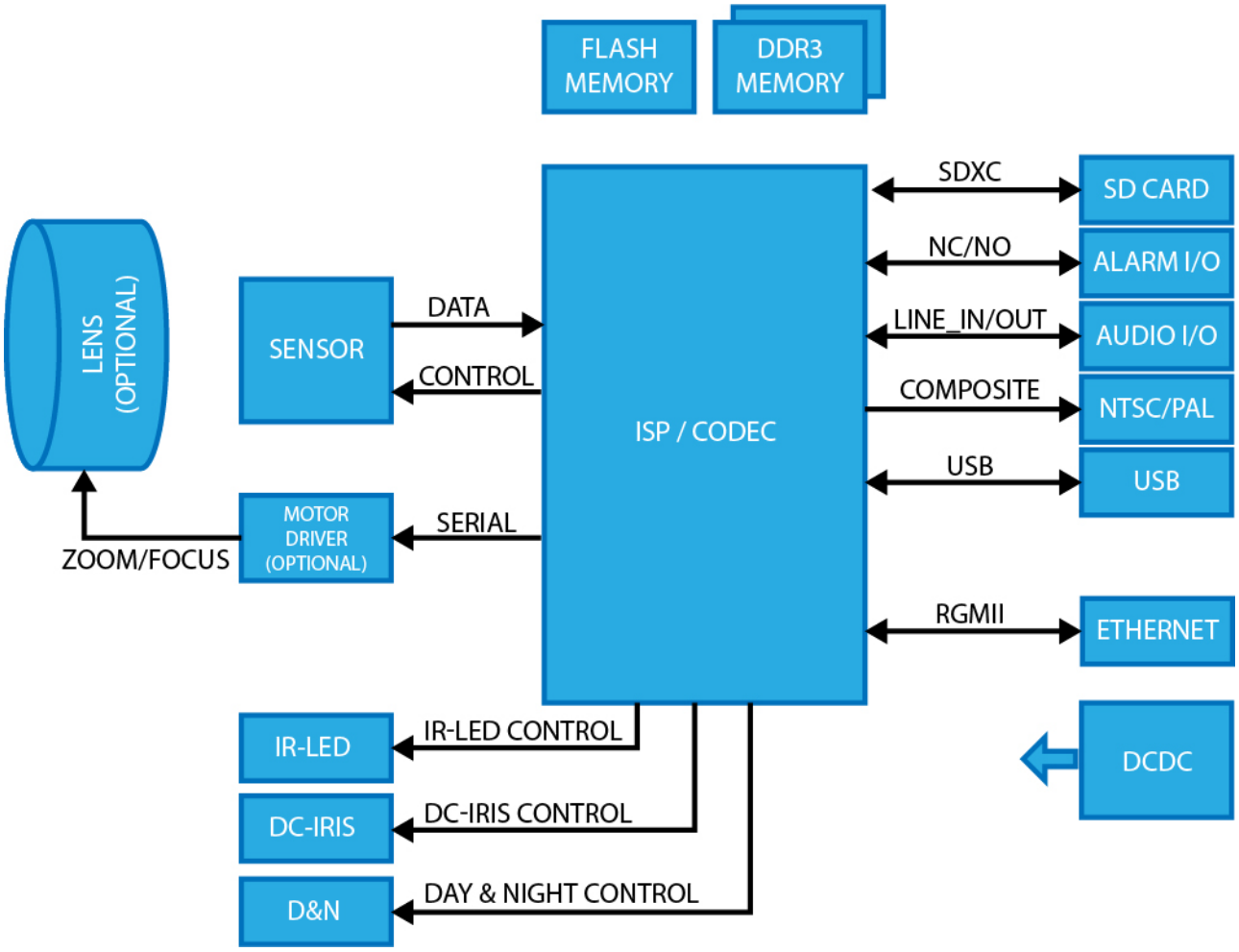
Login Authority	Administrator, Operator, Guest
Security	Multi User Authority, IP Filtering, HTTPS, Video Stream, Export/Import
Network Time Sync.	Synchronize Computer/NTP Server, Manual
Software Reset	Restart, Reset, Factory Default
Auto Recovery	Backup, Restore
System Setup	Import and Export of setting files
Remote Upgrade	Via web browser
Protocol	TCP/IP, UDP, IPv4/v6, HTTP, HTTPS, FTP, UPnP, RTP, RTSP, RTCP, DHCP, ARP, Zeroconf, Bonjour
Client Software	Built-In Web, ONVIF profile S compliant
SDK Support	API ONVIF profile S compliant
SD Memory Card	Connector is supported, 32GB Max. (Not Included)

External IN/OUT	
Ethernet Tx/Rx	RJ-45 (10/100/1000Base-T)
IR_LED Control	IR_LED Control On/Off
Day & Night Control	IR_Cut_Filter Exchange
Iris Control	DC-Iris, Fixed
Alarm Control	Alarm-In 1/Alarm-Out 1
SD Card	SDHC/SDXC
Audio	Line-In/Line-Out
Digital Zoom	1.0x – 15x zoom
Focus Control	One Push, Manual, (Automatic)
NTSC/PAL	NTSC/PAL composite Out
USB	5V connectivity for USB2 storage device
Power	+12VDC Input

HTTP Control	
Digital Zoom	8x
On Screen Display	On/Off
Back Light Compensation	On/Off
High Light Compensation	On/Off
Image Effect	Mirror, Flip
Privacy Mask	Max. 8 Area Selection
Tamper	On/Off
Video Motion Detection	Max. 4 Area Selection
Corridor Format	Yes
Lens Distortion Compensation	On/Off

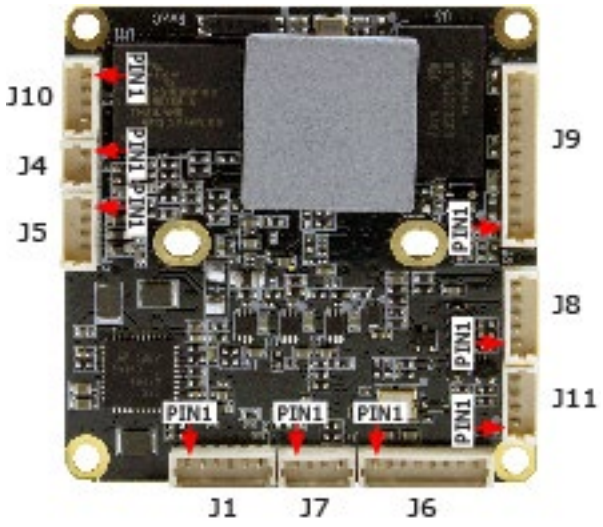
Video Content Analysis	Line Cross / Field Intrusion / Appear / Disappear

6. Block Diagram



7. Connectors and Pin Assignments

7.1. 24M2.17IP processor board pin assignments



J4 : DAY & NIGHT, Molex P/N : 53047-0210		
Pin No.	**Pin Name**	**Description**
1	Motor -	Night Mode : Active Low
2	Motor +	Day Mode : Active High

J5 : DC IRIS, Molex P/N : 53047-0410		
Pin No.	**Pin Name**	**Description**
1	Drive -	Normally connect to GND
2	Drive +	Iris motor drive
3	Control -	Iris motor control -
4	Control +	Iris motor control +

J11 : IR_LED, Molex P/N : 53047-0310		
Pin No.	**Pin Name**	**Description**
1	DC +12V	DC +12V Power output
2	IR_LED_INPUT	IR_LED CDS signal input from IR board
3	GND	GND
4	IR_LED ON/OFF OUTPUT	IR_LED_On/Off TTL signal output to IR board

***J6 : ZOOM/FOCUS, Molex P/N : 53047-0810 (Optional),* (NOT CURRENTLY SUPPORTED)**		
Pin No.	***Pin Name***	***Description***
1	*Focus A-*	*Focus In-*
2	*Focus A+*	*Focus In+*
3	*Zoom A-*	*Zoom In-*
4	*Zoom A+*	*Zoom In+*
5	*Zoom B+*	*Zoom Out+*
6	*Zoom B-*	*Zoom Out-*
7	*Focus B-*	*Focus Out-*
8	*Focus B+*	*Focus Out+*

J1 : Power & Network, Molex P/N : 53047-0610		
Pin No.	**Pin Name**	**Description**
1	+12V	DC +12V input
2	PHY_TX+	Ethernet TX+ signal output
3	PHY_TX-	Ethernet TX- signal output
4	PHY_RX+	Ethernet RX+ signal input
5	PHY_RX-	Ethernet RX- signal input
6	GND	GND

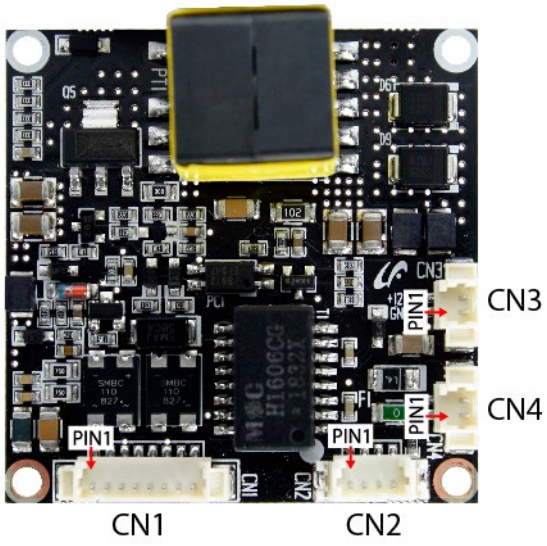
J9 : SD, Molex P/N : 53047-1110		
Pin No.	**Pin Name**	**Description**
1	DAT2	SD data2
2	DAT3	SD data3
3	CMD	Command signal
4	PWR +3.3V	Power +3.3V
5	CLK	Clock signal
6	GND	GND
7	DAT0	SD data0
8	DAT1	SD data1
9	CD	Card Detect signal
10	WP	Write Protection signal
11	FACTORY SWITCH	Factory reset signal input signal

J8 : AUDIO/ALARM, Molex P/N : 53047-0510		
Pin No.	**Pin Name**	**Description**
1	AUDIO_IN	Audio Line_In signal
2	AUDIO_OUT	Audio Line_Out signal
3	GND	GND
4	ALARM_IN	Alarm In signal
5	ALARM_OUT	Alarm Out signal

J10 : USB, Molex P/N : 53047-0410		
Pin No.	**Pin Name**	**Description**
1	VSUB +5.0V	USB power output DC5V
2	USB_DM	USB data -
3	USB_DP	USB data +
4	GND	GND

J7 : CVBS (or UART), Molex P/N : 53047-0410		
Pin No.	**Pin Name**	**Description**
1	PHY_LINK	PHY Link indication output signal
2	GPIO7_1(or UART1_TXD)	GPIO(or UART1_Tx signal)
3	CVBS_OUT(or UART1_RXD)	Composite output signal(or UART1_Rx signal)
4	GND	GND

7.2. 24M2.17 IP PoE board pin assignments



CN1

Pin Number	CN1: Network, Molex, P/N : 53047-0810
1	TxA +
2	TxA -
3	RxA +
4	VB1
5	VB1
6	RxA -
7	VB2
8	VB2

CN2

Pin Number	CN2: Network, Molex, P/N : 53047-0410
1	TxB +
2	TxB -
3	RxB +
4	RxB -

CN3

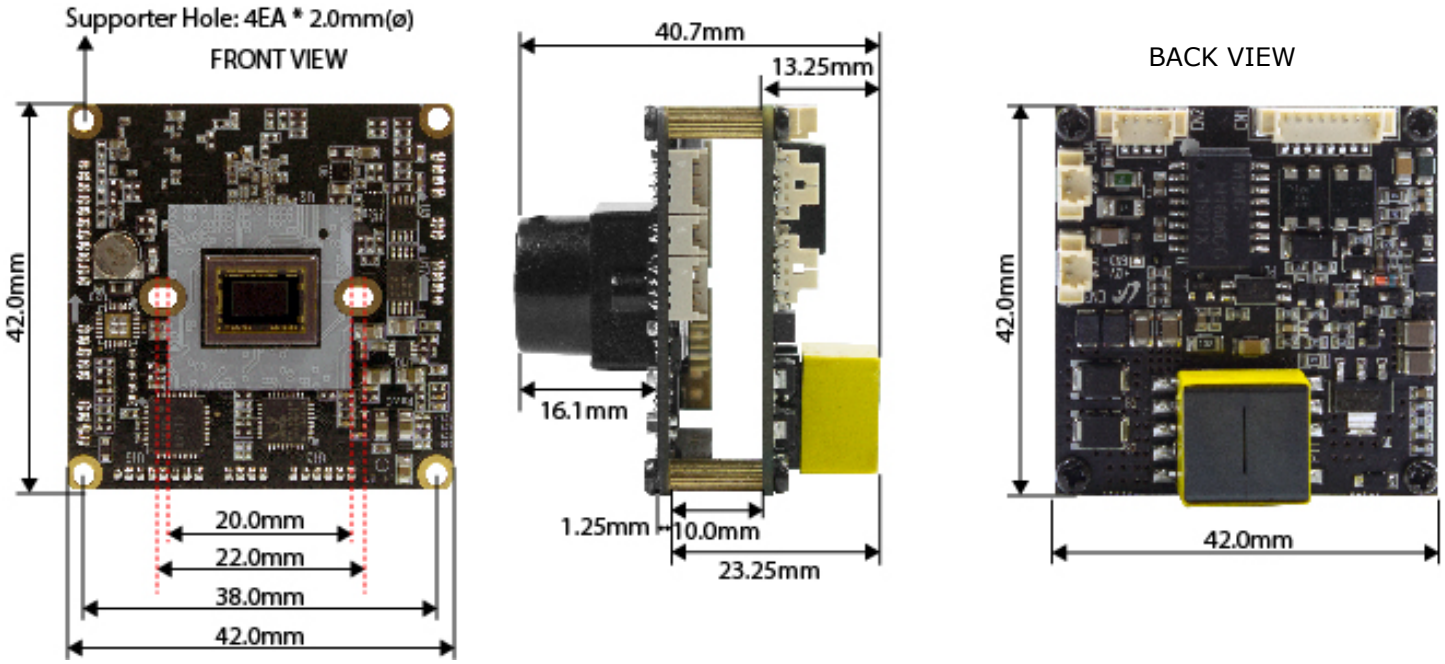
Pin Number	CN3: Power out, Molex, P/N : 53047-0210
1	GND
2	+12V Output

CN4

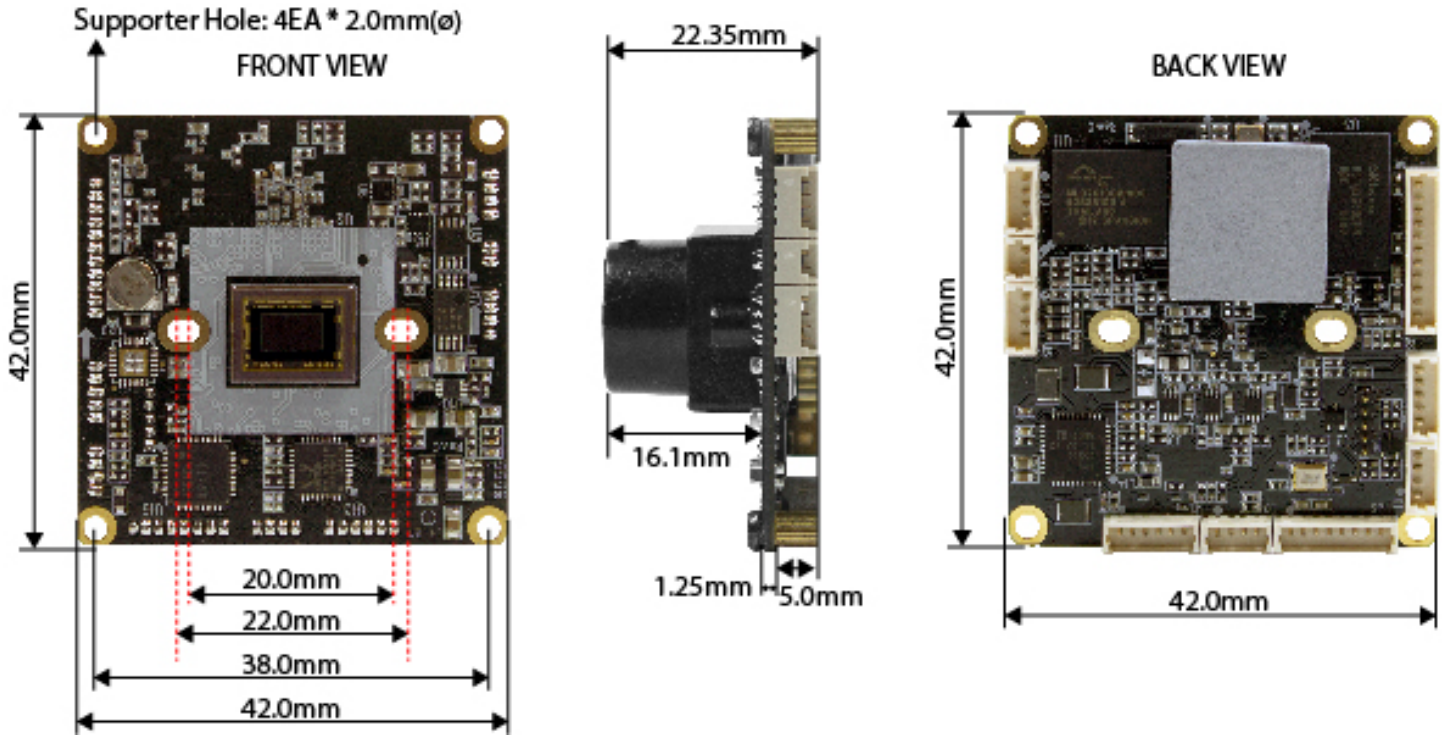
Pin Number	CN4: Aux Power In, Molex, P/N : 53047-0210
1	Aux. Input (+12V)
2	GND

8. Dimensions

24M2.17IP (IP board with PoE board)



24M2.17IP-1 (IP board only)



9. Accessing the IP camera

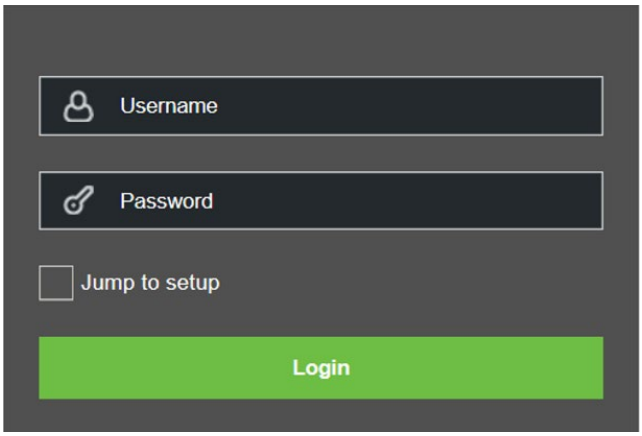
On the assumption that User PC and the camera are used under static IP, and the camera is to be directly connected with User PC or Local Network, the installation procedure is to be;

1. Connect the camera and PC with LAN cable (Direct cable or cross cable).
   (Please use direct cable if you connect to a local network)
2. Power on camera.

* Using regulated 12V DC 500mA (No IR LED model) or 1A (Built-in IR LED model)

* Using PoE (Power Over Ethernet): This camera utilizes PoE that supplies power in addition to data sending and receiving using LAN cable without need for a separate power connection It is convenient for installation purposes. IF you connect the camera with PoE and DC adaptor, only PoE is used.

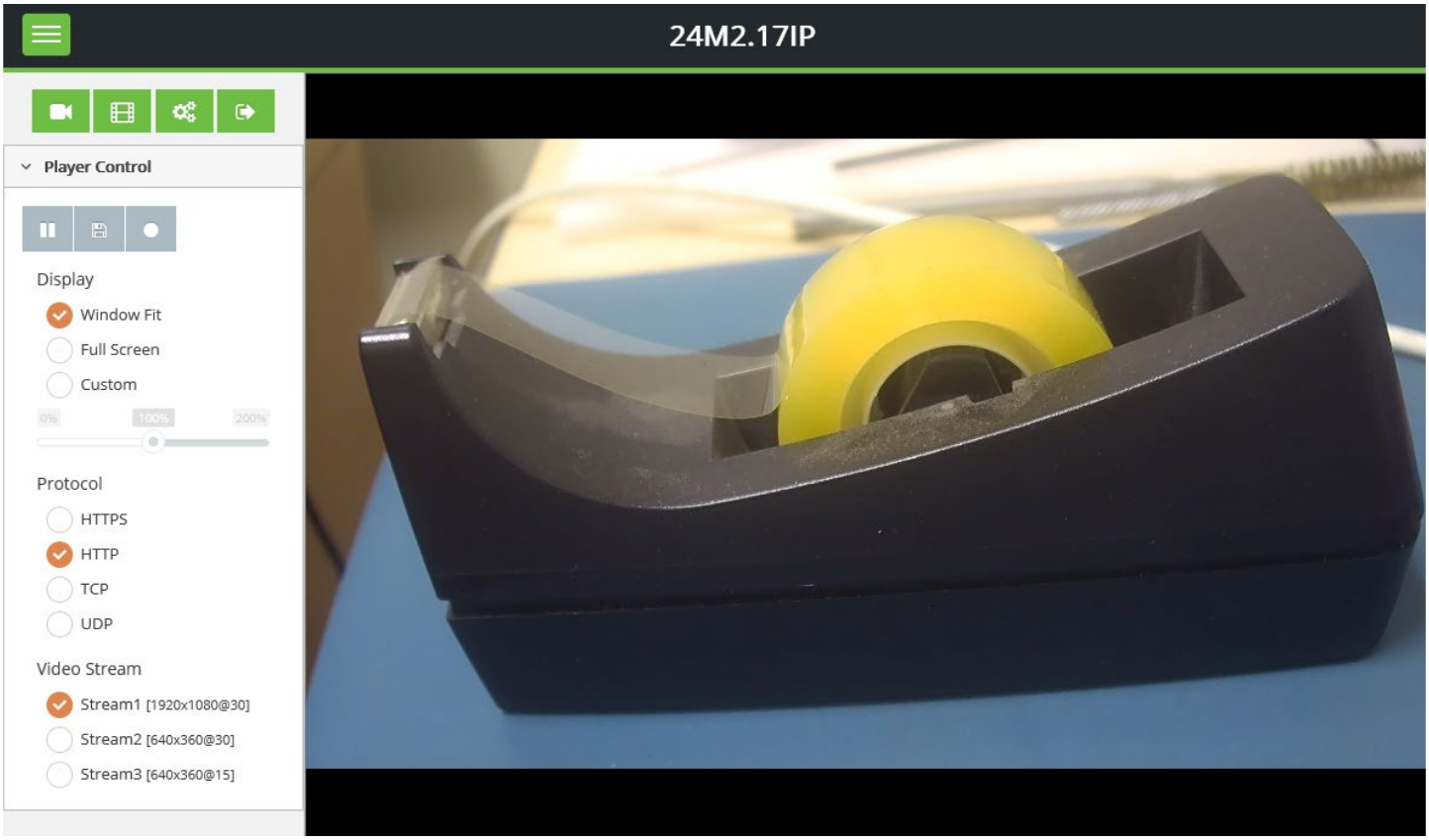
3. Wait about 2 minutes after plugging in camera for the system to boot.
4. Open Web browser
5. Type IP address



Enter the camera's IP address in the Internet Explorer® address bar.

The default IP address is: **192.168.0.10**
The default User ID and Password is:
User ID: **admin**
Password: **admin1357**

10.LIVE




Display live video.


Playback saved recordings.


Enter setup menu.

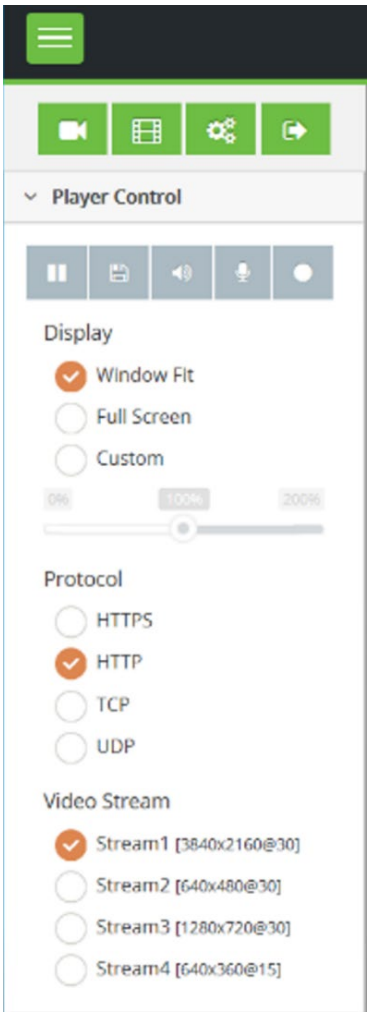

Exit current login and/or Enter new login.

10.1. Player Control


Pause: Freeze the current window


Snapshot: Take a picture of the video image currently on display.


Record: Record the streaming video image.



10.1.1. Display

Display: Shows the display mode
Window Fit: Automatically fits the live video size into the current window size.
Full Screen: Scales the current video size into full screen size.
Custom: Adjusts the video size from Min. 0% to Max. 200% where 100% is the native resolution of the stream.

10.1.2. Protocol

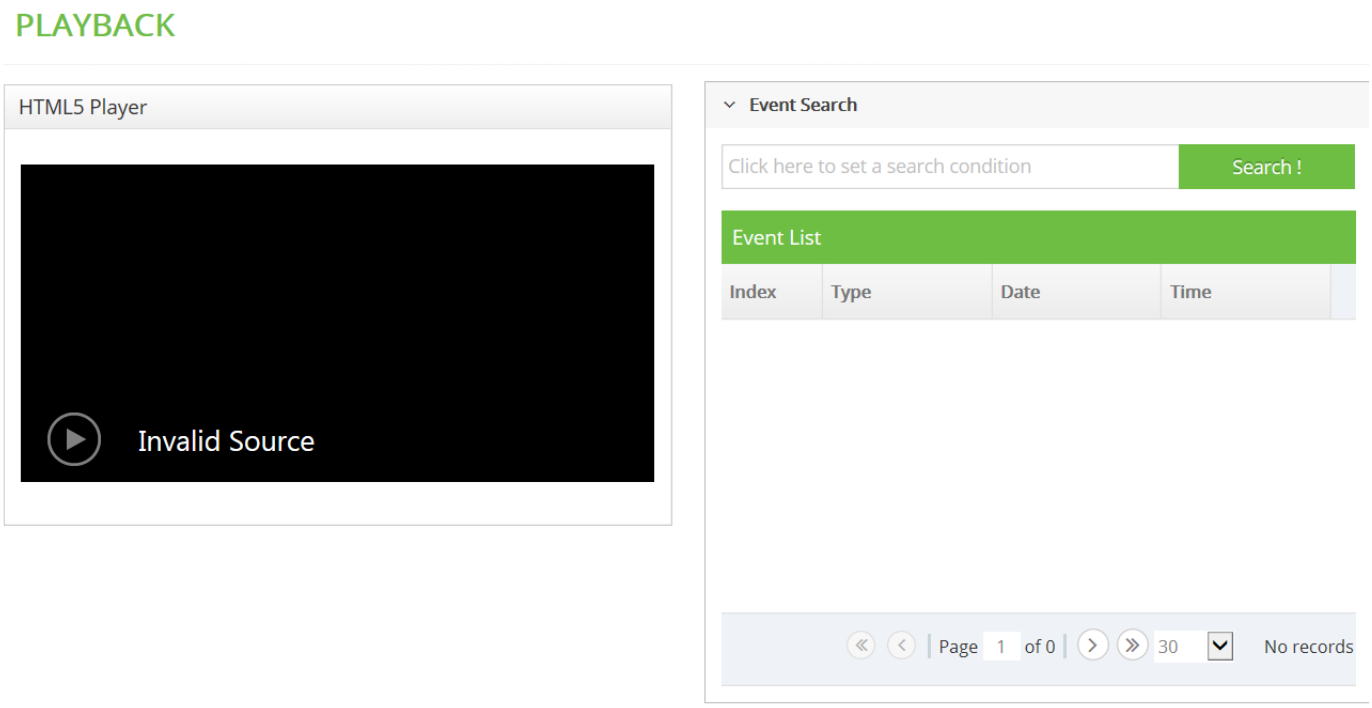
Protocol: Specify the communication protocol that is used
HTTPS: Hyper Text Transfer Protocol Secure (SSL)
HTTP: Hyper Text Transfer Protocol
TCP: Transmission Control Protocol
UDP: User Datagram Protocol

10.1.3. Video Stream

Source: Specify the video source that is used
Stream1: Show stream1 resolution and frame rate
Stream2: Show stream2 resolution and frame rate
Stream3: Show stream3 resolution and frame rate

NOTE The total number of streams is dependent on camera model.

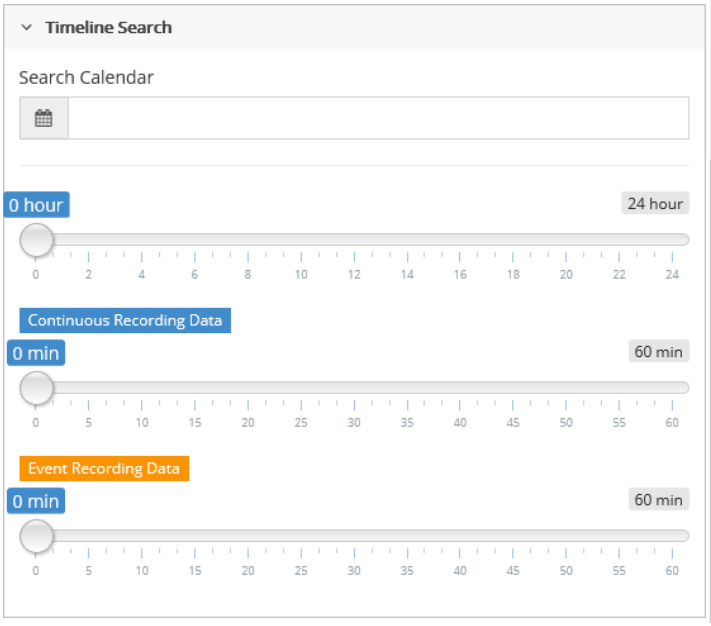
11.PLAYBACK



HTML5 Player: Display the image/video that is recorded in SD card.

Event Search: Enter an event list parameter for searching event item.

Event List: Provide event information.



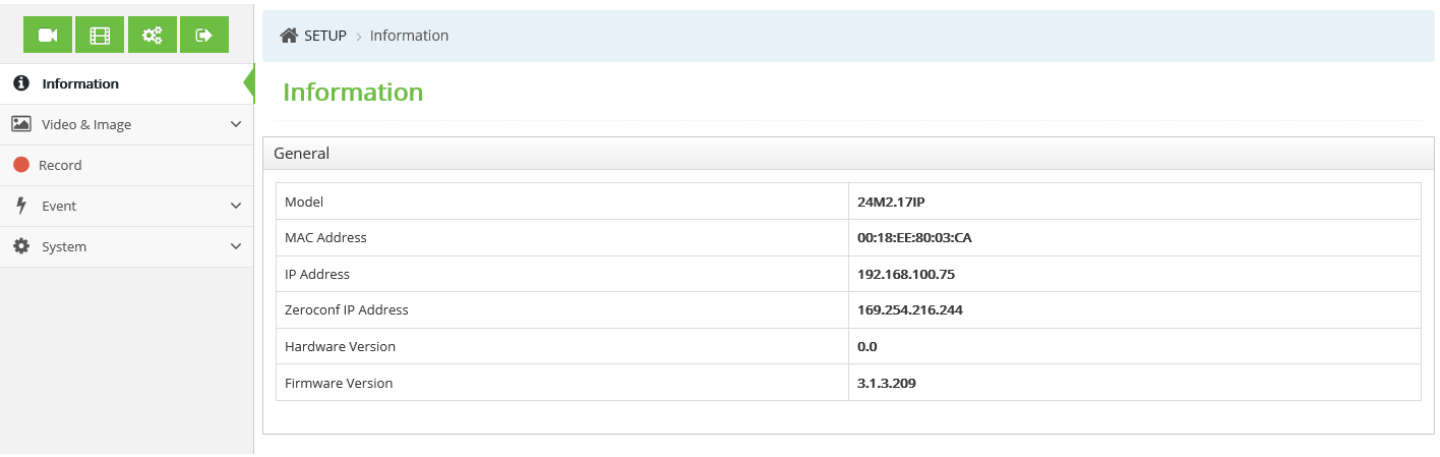
Timeline Search: Provide timeline search.

Search Calendar: Show calendar of one month.

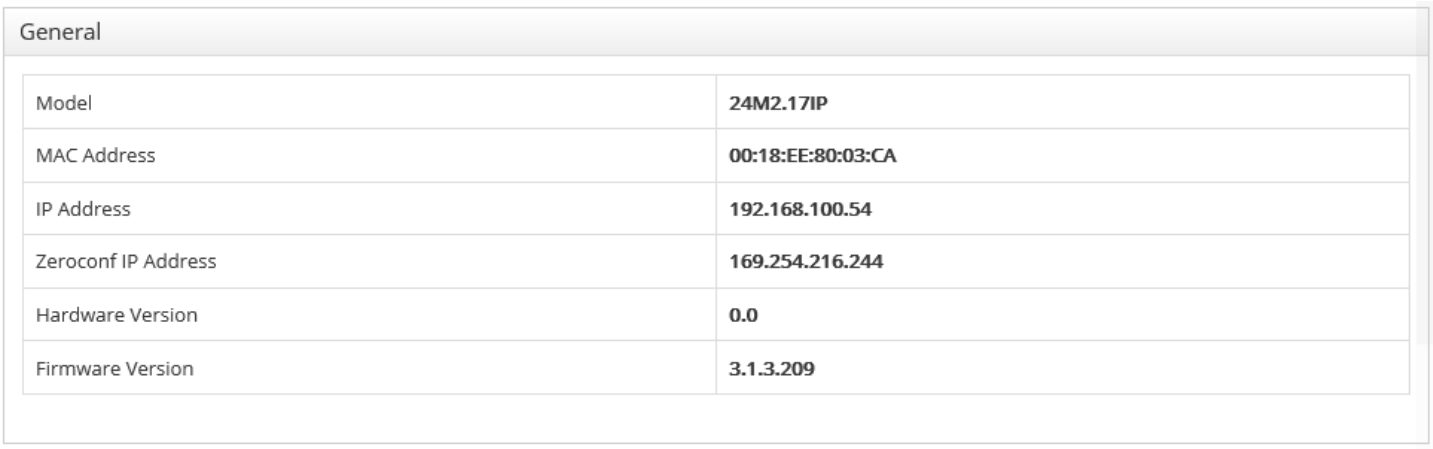
- **Hour:** Indicate 24 hours per one day.
- **Continuous Recording Data:** Indicate continuous recording data per one hour.
- **Event Recording Data:** Indicate event recording data per one hour.

12.Quick Setup

12.1. Information

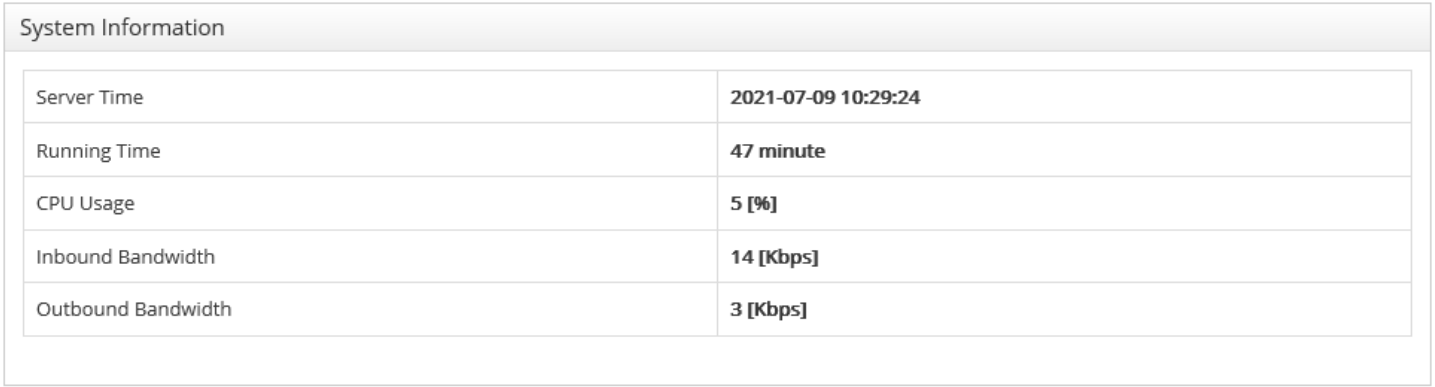


12.2. General



Shows basic camera information such as Model name, MAC address, IP address, Zeroconf IP address and Firmware version.

12.3. System Information



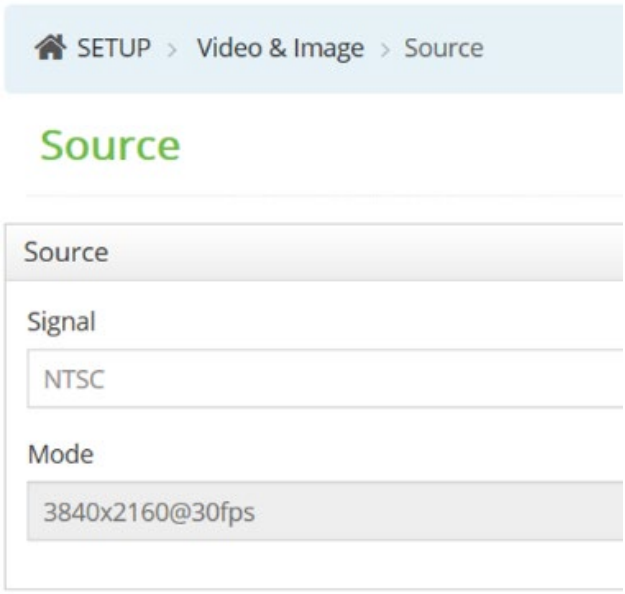
Shows the Server time, running time, CPU usage, inbound bandwidth and Outbound bandwidth.

12.4. Open Source Information

Shows the open source lists that are used in this camera.

13.Video & Image

13.1. Source

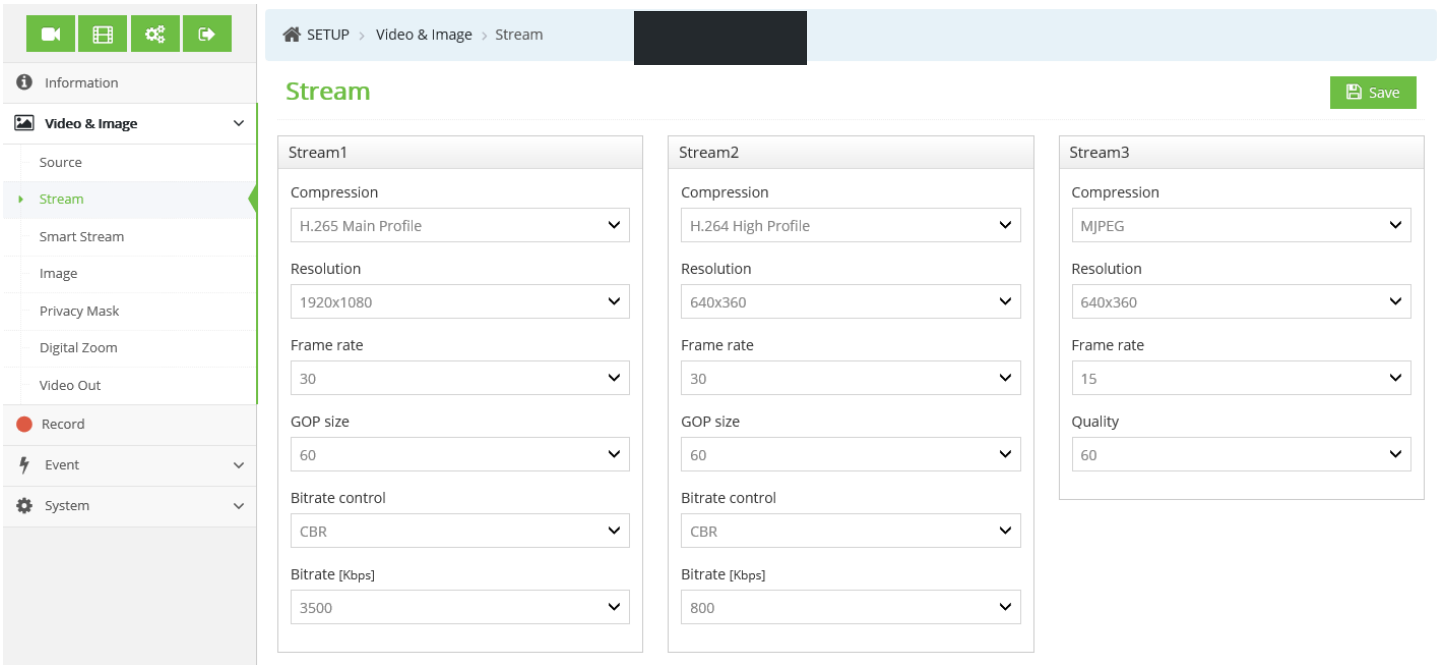


Source: Specify the video source. Depending on source signal or mode, each stream configuration will be affected, and the streaming will be adjusted under system performance automatically.

Signal: Select the video signal standard: NTSC or PAL.

Mode: Specify the video mode that is used.

13.2. Stream



Configures the H.264, H.265 and MJPEG setting value for stream.

Compression: Select the stream profile that is to be used for transmissions.

Resolution: Specify as the number of pixel-columns (width) by the number of pixel-rows (height).

Frame rate: Indicate the number of fps (frame per second) available for the video stream configuration.

GOP size: Describe 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 or H.265 compression standards. The higher value saves considerably on bandwidth but may have an adverse effect on image quality. Lower values are only recommended on networks with high reliability. Please consult with your network administrator before changing.

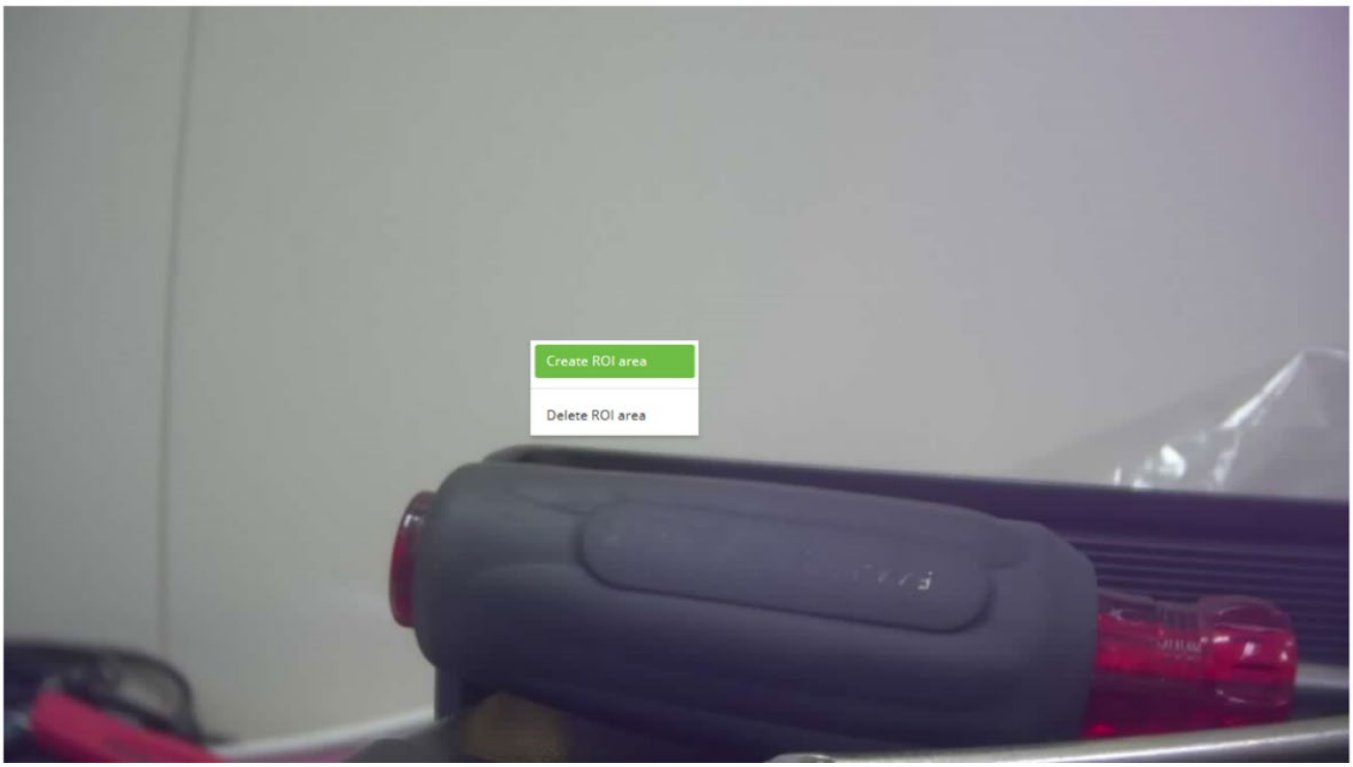
Bitrate control: The bit rate can be set as VBR (Variable Bit Rate) or CBR (Constant Bit Rate).

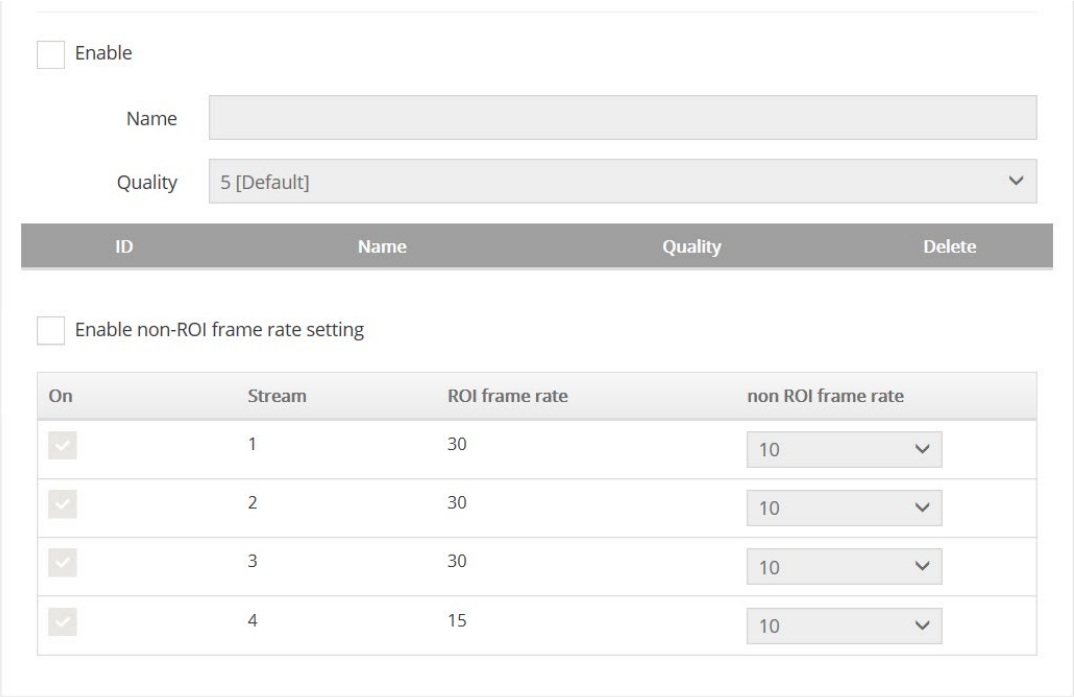
- VBR: Automatically adjusts the bit rate according to the image complexity, using up bandwidth for increased activity in the image, and less for lower activity in the monitored area.

- CBR: Allow 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 the frame rate and image quality are negatively affected.

Bitrate: Indicate the quality of the video stream (rendered in kilobits per second). The higher value means the higher video quality and bandwidth required.

14. Smart Stream





Configures the video stream for user specific transmission conditions.

ROI (Region of Interest): Set ROI area. To set the ROI

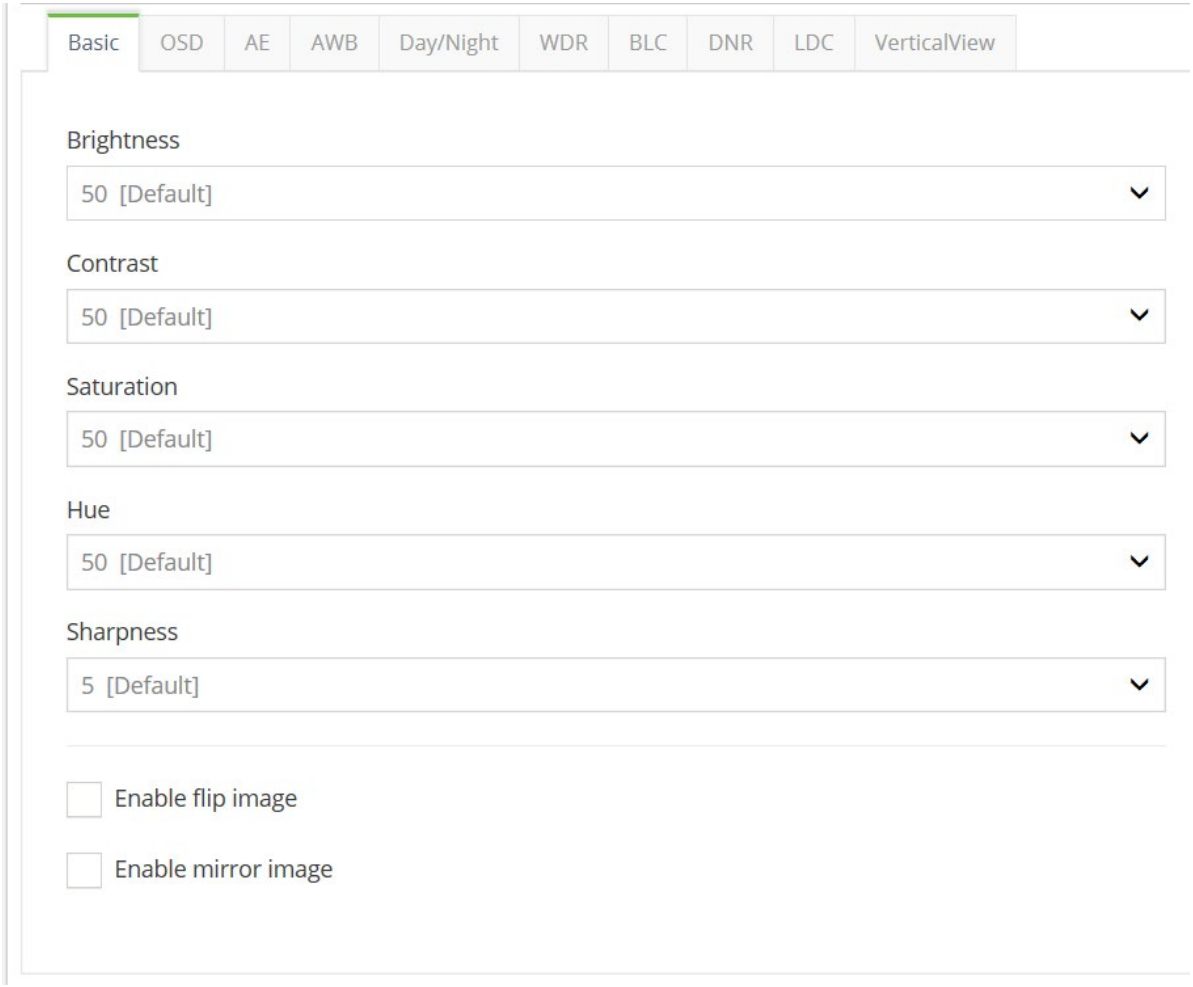
1. Check the Enable ROI checking box.
2. Click your mouse right button on the screen and then specify the area.
3. Enter the name and Select Quality and then click Save.
4. If you want to delete an ROI area in the list, click the Delete button.

To set the non-ROI frame rate

1. Check the Enable non-ROI frame rate setting.
2. Select non-ROI frame rate value for each stream.

Dynamic GOP: Set GOP value for user specific transmission conditions. Each stream can be set individually.

15. Image



15.1. Basic

The image appearance allows you to adjust the camera setting parameters and change the camera orientation. All parameters are recommended to be modified for good image quality suitable for the installation location.

Brightness: Controls the brightness of detail in a scene.

Contrast: Control the contrast of detail in a scene.

Saturation: Control the saturation of detail in a scene.

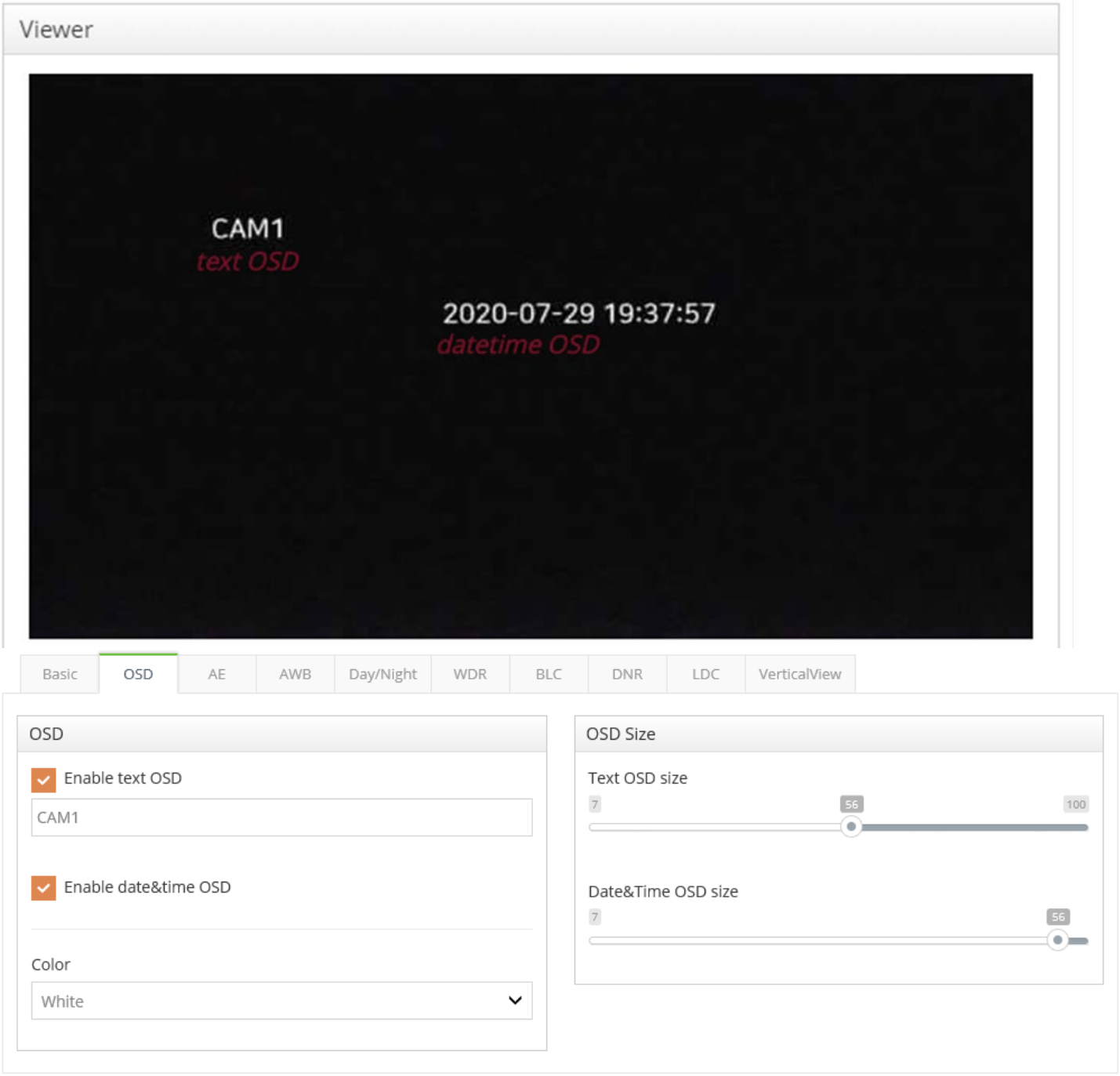
Hue: Control the hue of detail in a scene.

Sharpness: Control the sharpness of detail in a scene.

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

Enable mirror image: Rotate the camera image 180 degrees horizontally. Reflect duplication of camera image.

15.2. OSD



The On Screen Display (OSD) displays camera status information on the video stream.

Enable text OSD: Display user favorite text such as camera name.

Enable date & time OSD: Display current camera's day and time information.

Color: Selects the OSD text color that is used.

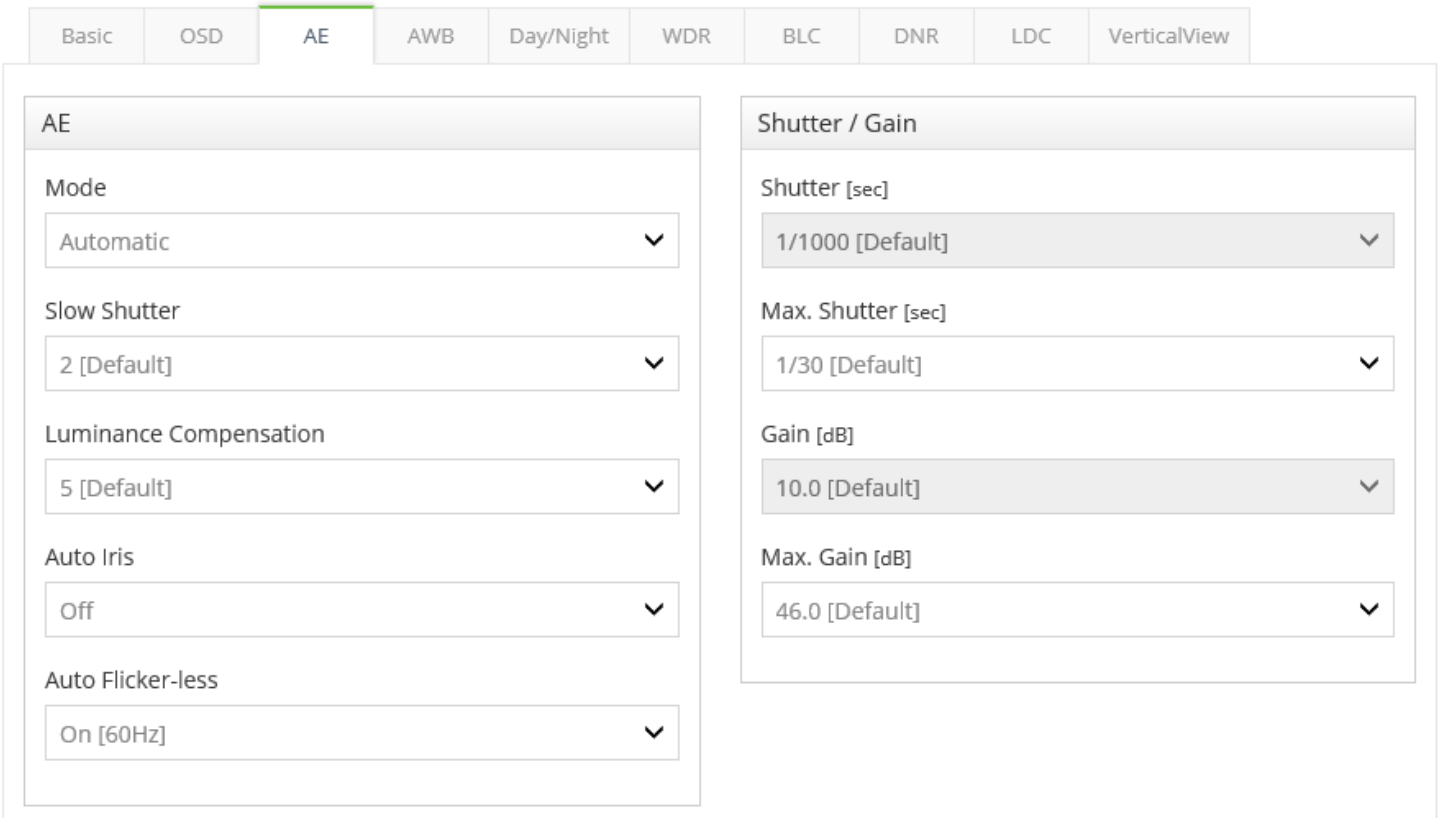
Text OSD: Red text controls the position of the text OSD on the camera view. This may be dragged around the screen and will change position when saved.

Datetime OSD: Red text controls the position of the date and time OSD on the camera view. This may be dragged around the screen and will change position when saved.

Text OSD Size: Controls the size of the text message.

Date&Time OSD Size: Controls the size of the date&time information.

15.3. AE



Configures the exposure control to suit the image quality requirements in relation to lighting considerations. This camera features automatic and manual exposure control mode.

The shutter and gain settings affect the amount of motion blur and noise in the image. To adapt to different lighting, available storage space and bandwidth, it is often necessary to prioritize either low motion blur or low noise. This camera allows using different prioritization in normal light and in low light. Shutter speed is related to the amount oftime the shutter is opened and is measured in seconds (s).

Mode: The automatic mode supports the automatic exposure function for automatically adjusting the sensor's gain, shutter time and diaphragm so that the images achieve the appropriate brightness. The manual mode supports the manual exposure control function for manually adjusting the gain and shutter time.

Slow Shutter: A slow shutter allows more light to reach the sensor and can help produce a brighter image in low light situations. On the other hand, a slow shutter speed can cause moving objects to appear blurry.

Luminance Compensation: Tunes image brightness using shutter speed while in Automatic Mode.

Auto Iris: This function is used for controlling the shutter time, gain and diaphragm of the mechanical iris lens to adjust the luminance. In this mode, it is also possible to adjust the luminance using the gain and iris diaphragm while keeping the exposure time fixed.

Auto Flicker-Less: Sets frequency of expected artificial light sources, and times the shutter accordingly to minimize flickering video.

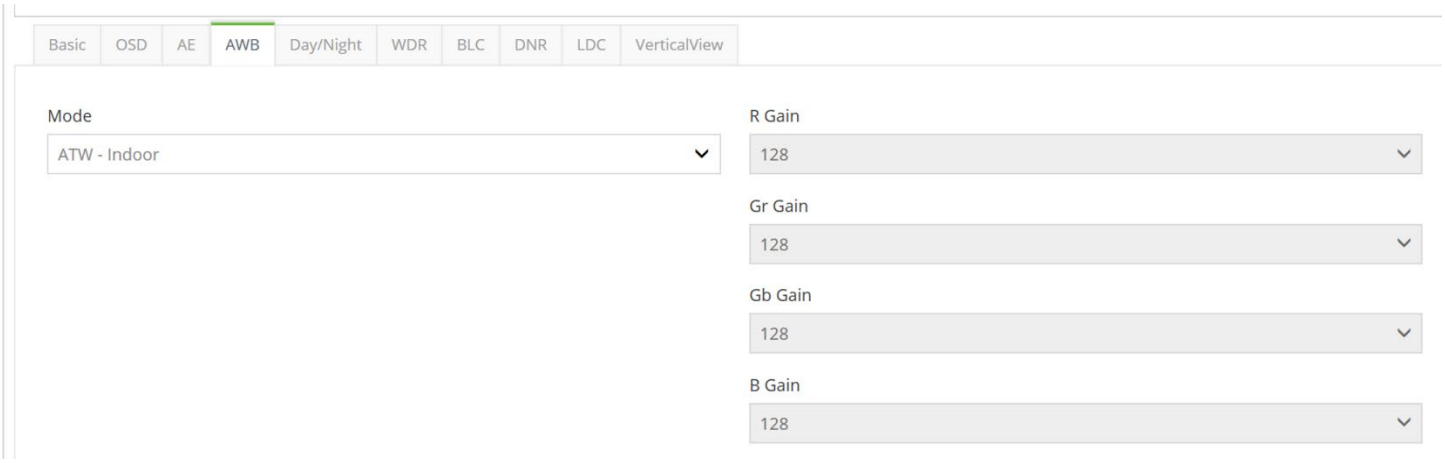
Shutter: Used to for controlling the gain while keeping the shutter time fixed to adjust the luminance.

Max. Shutter: Adjust the Max. Shutter speed in the range.

Gain: Gain is the amount of amplification applied to the image. A high gain may provide a better image in low light situations but will increase the amount of image noise.

Max. Gain: Adjust the Max. Gain in the range.

15.4. AWB



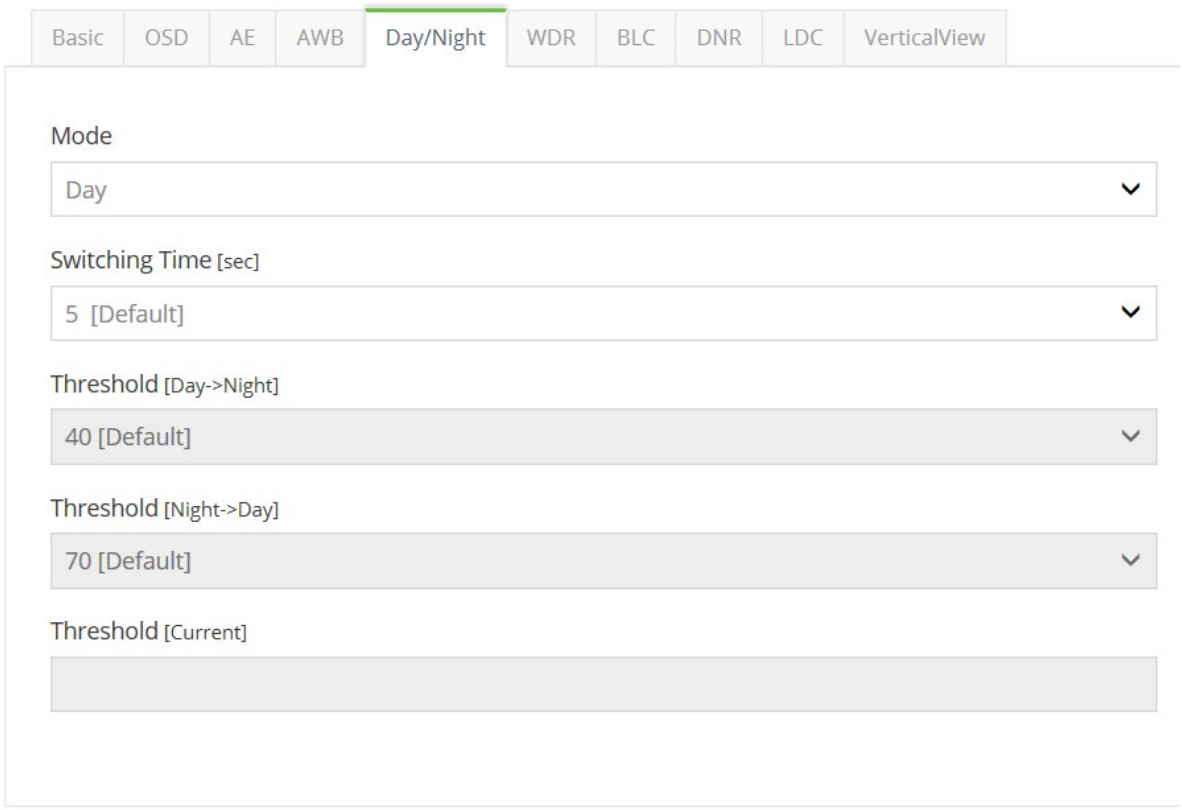
Auto White Balance control is used to make colors in the image appear the same regardless of the color temperature of the light source. This camera can be set to automatically identify the light source and compensate for its color. Alternatively, select the type of light source from the drop-down list.

Mode: Configure the options for White Balance. The default setting is ATW-Indoor.

Cb Gain: Adjusts the picture output in the blue range. The White balance B gain can be adjusted in the range, where a higher value produces a bluer image.

Cr Gain: Adjusts the picture output in the red range. The White balance R gain can be adjusted in the range, where a higher value produces a redder image.

15.5. Day/Night



The IR cut filter prevents infrared (IR) light from reaching the image sensor.

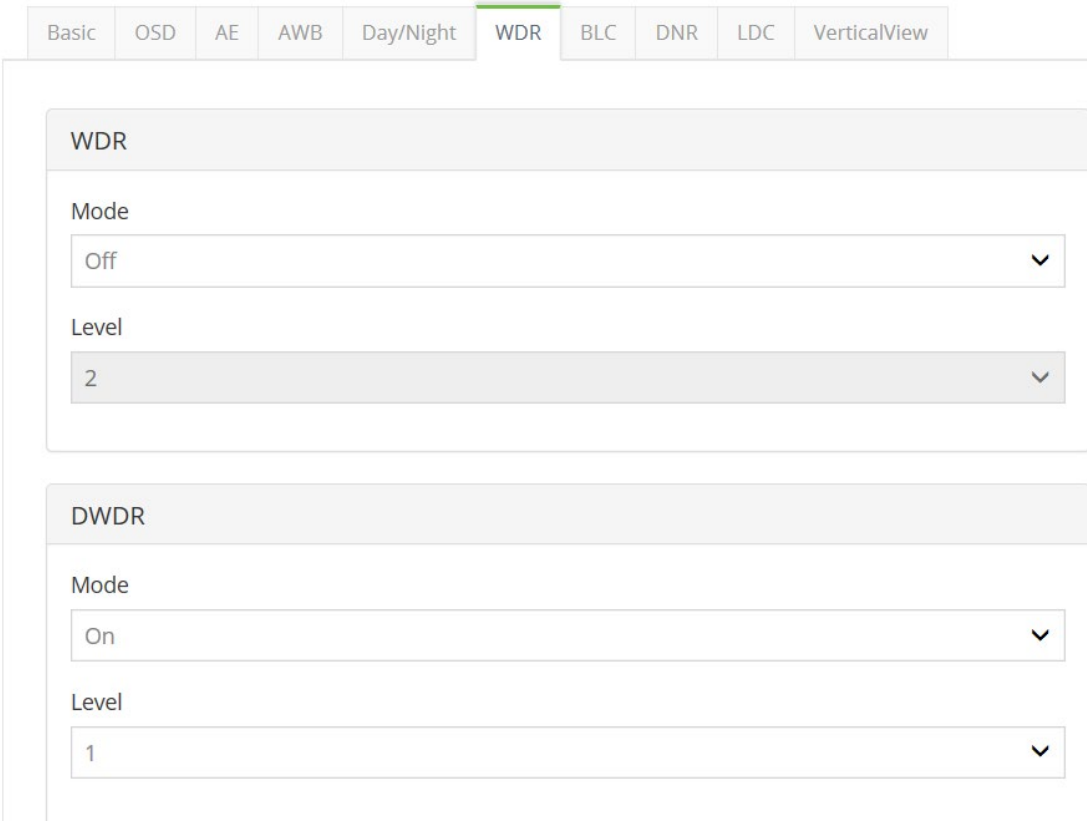
In poor lighting conditions, for example at night, or when using an IR lamp, set the mode to Night. This increases light sensitivity and allows the product to "see" infrared light. The image is shown in black and white when the mode is Night. If using Automatic Exposure control, set the mode to Automatic to automatically switch between Day and Night according to the lighting conditions.

Mode: Configure one of modes to MOVE an IR-cut filter if a "true day night" filter lens mechanism is employed

Switching Time: Configure the switching time of an IR-cut filter transition for the specified dwell time from the point of transition detection.

Threshold: Set the threshold level of IR-cut filter for installation environment.
Make sure that the "**Threshold [Night->Day]**" value must be greater than the value of "**Threshold [Day->Night]**" enough to prohibit the D/N hunting.

15.6. WDR



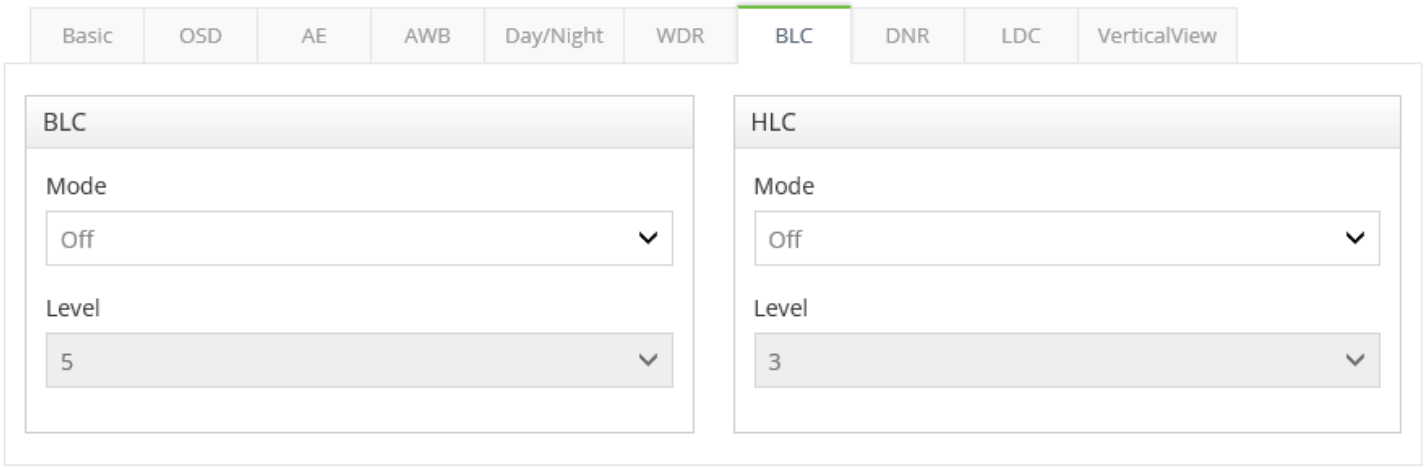
WDR is controlled by slope and contrast gain on the tone curve as tracking level grade brightness.

Mode: Select the WDR mode that is used.

Level: Configure one of levels.

NOTE The function of WDR is dependent on camera model.

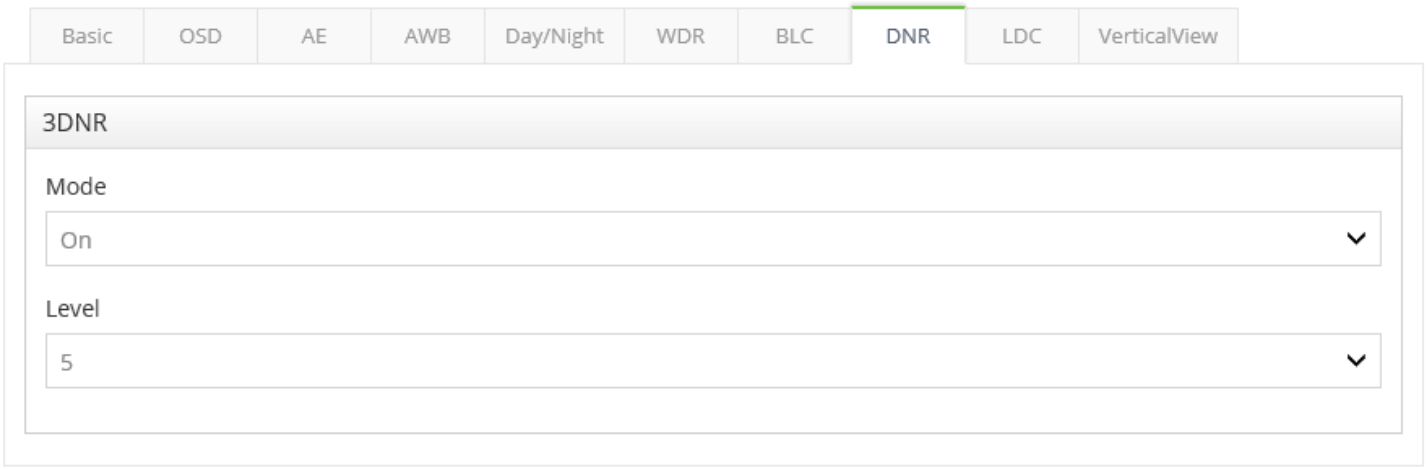
15.7. BLC



Back Light Correction (BLC): Brightens dark parts of the image to see details where shadows are too dark.

High Light Correction (HLC): Darkens bright parts of an image to see details around bright lights (i.e., flashlights).

15.8. DNR



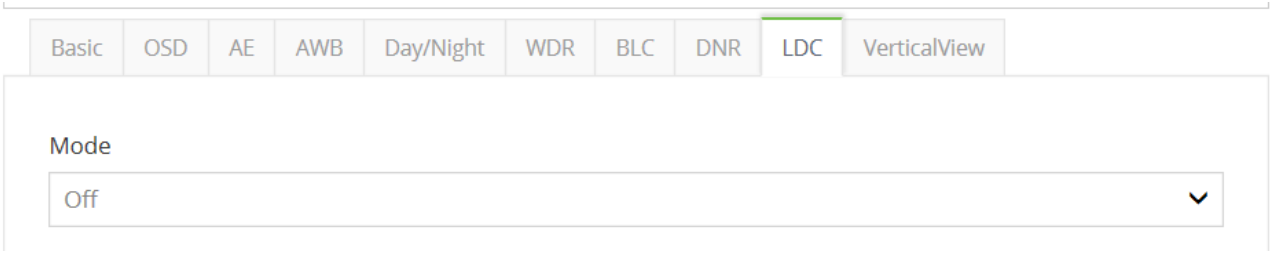
2D-NR / 3D-NR: The noise reduction (NR) function eliminates image noise in order to improve the image quality of the cameras. The 3D-NR function reduces noise using the frame memory while factoring in the correlation between multiple frames.

Mode: The default setting is off.

Level: Configure one of Level 1-10.

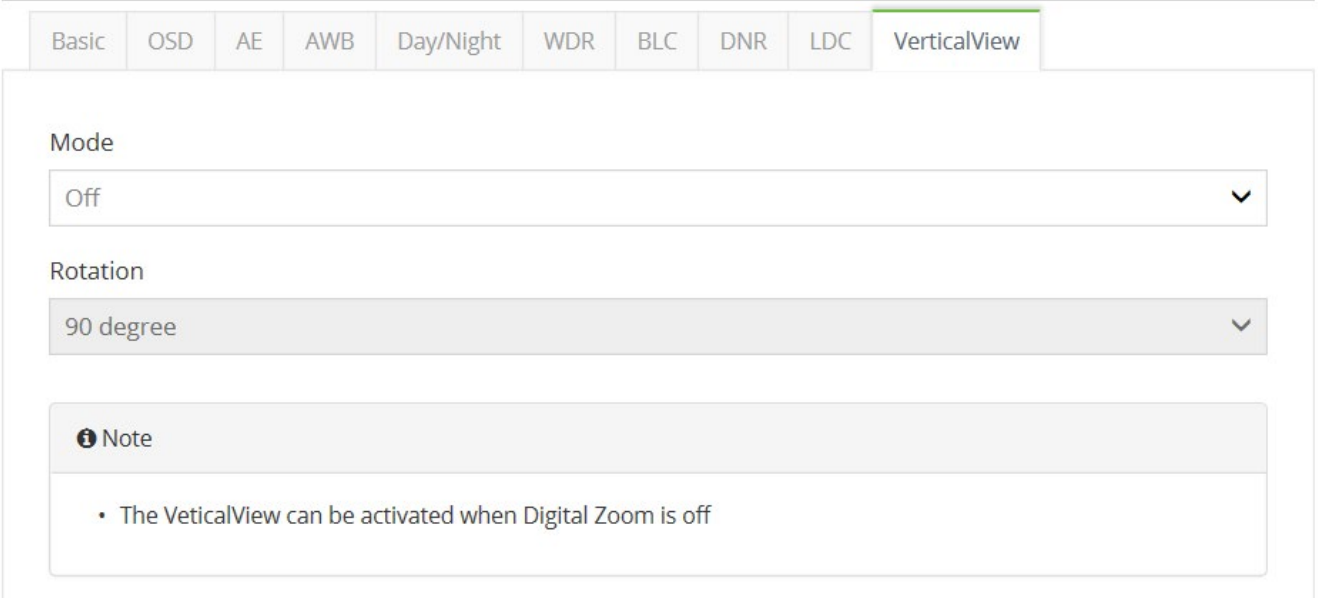
15.9. LDC

Lens Distortion Correction transforms the picture captured by wide angle lens to natural.



This Simple-LDC can correct distortion of vertical direction only, not horizontal direction. Although vertical direction becomes straight, horizontal direction remains distorted.
Mode: The default setting is off.
NOTE The function of LDC is dependent on camera model.

15.10.Vertical View



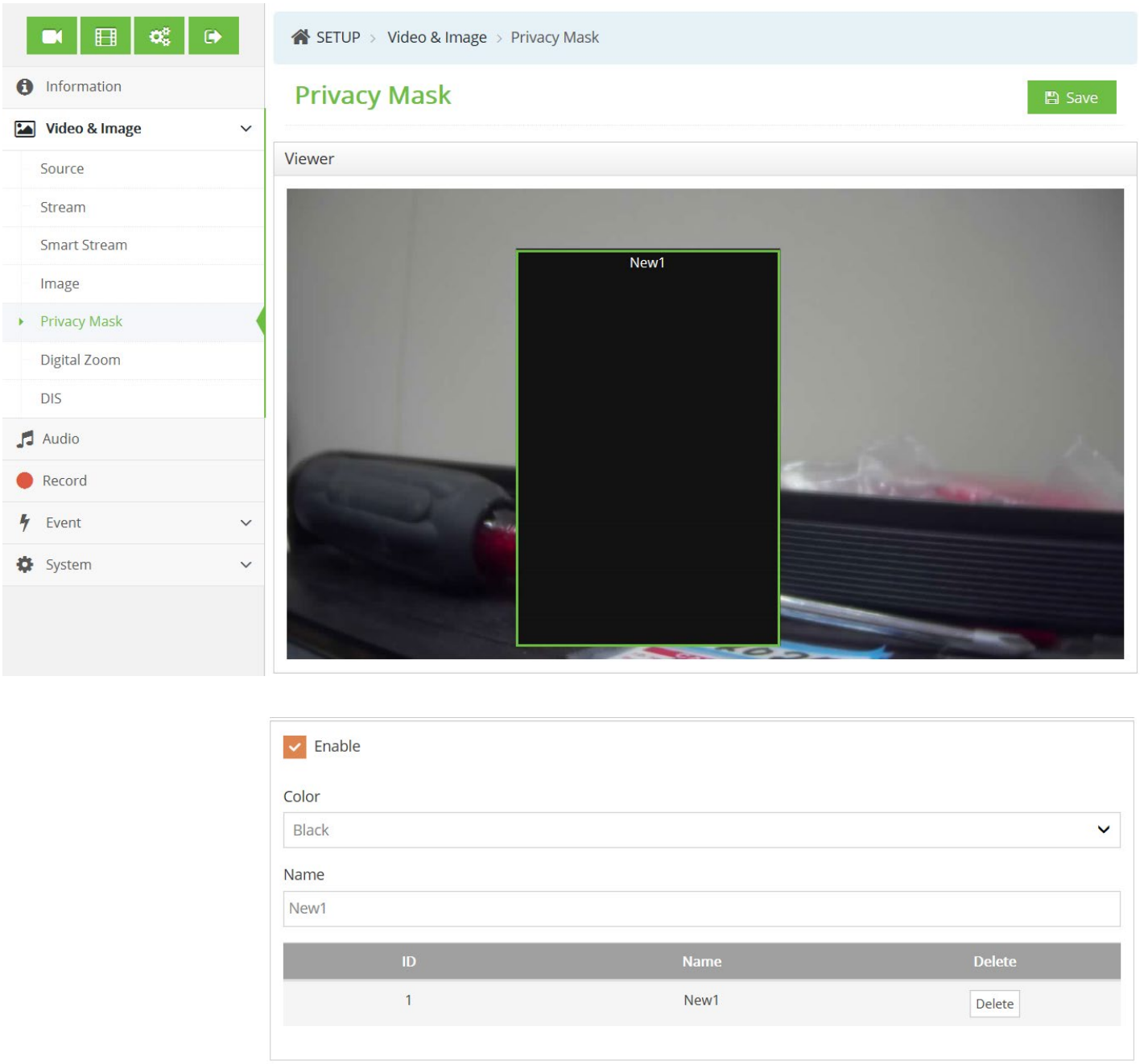
The Vertical View format allows you to get a vertically oriented video stream from the camera. The video is adapted perfectly to the monitored area, maximizing image quality while eliminating bandwidth and storage waste. The Corridor Format is even more useful for modern HDTV network cameras that deliver a 16:9 aspect ratio since the resulting image will have a 9:16 aspect ratio – just the right thing for narrow corridors, hallways or aisles.

Mode: The default setting is off.

Rotation: Configure the rotation degree.

NOTE The function of Vertical View is dependent on camera model

16. Privacy Mask



A privacy mask is an area of solid color that prohibits users from viewing parts of the monitored area. The Privacy Mask List shows all the masks that are currently configured in this product and indicates if they are enabled.

You can add a new mask, re-size the mask with the mouse, and give the mask a name. The color of privacy mask will be set automatically after Save.

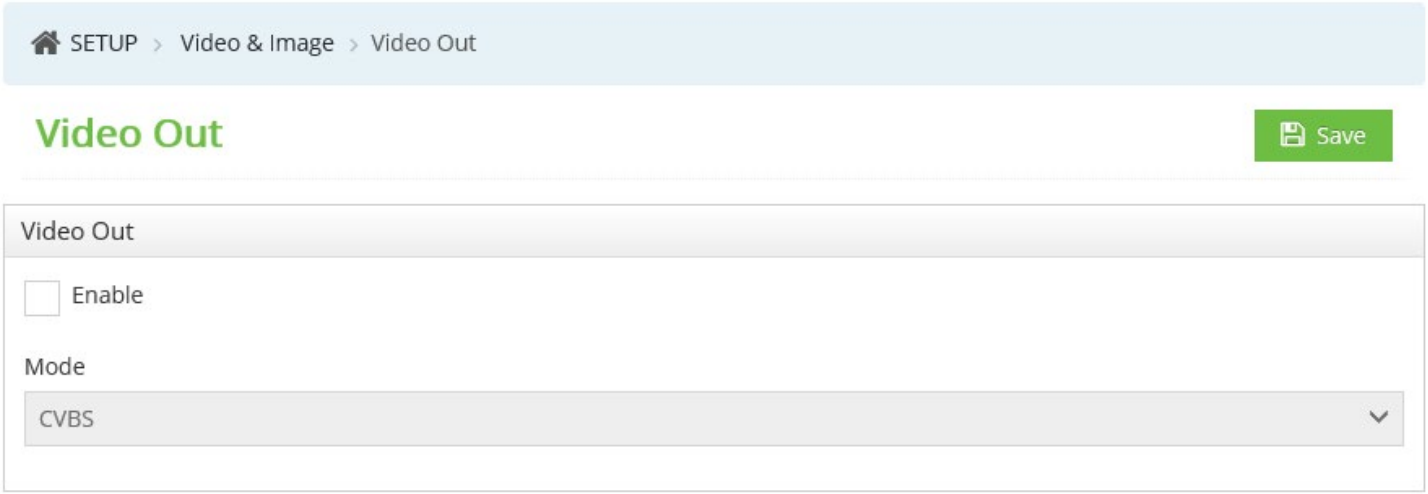
To set the privacy mask

1. Check the Enable privacy mask checking box.
2. Click your mouse right button on the screen and then specify the area.
3. Enter the name and then click Save.
4. If you want to delete a mask area in the list, click the X or delete icon.

17. Digital Zoom

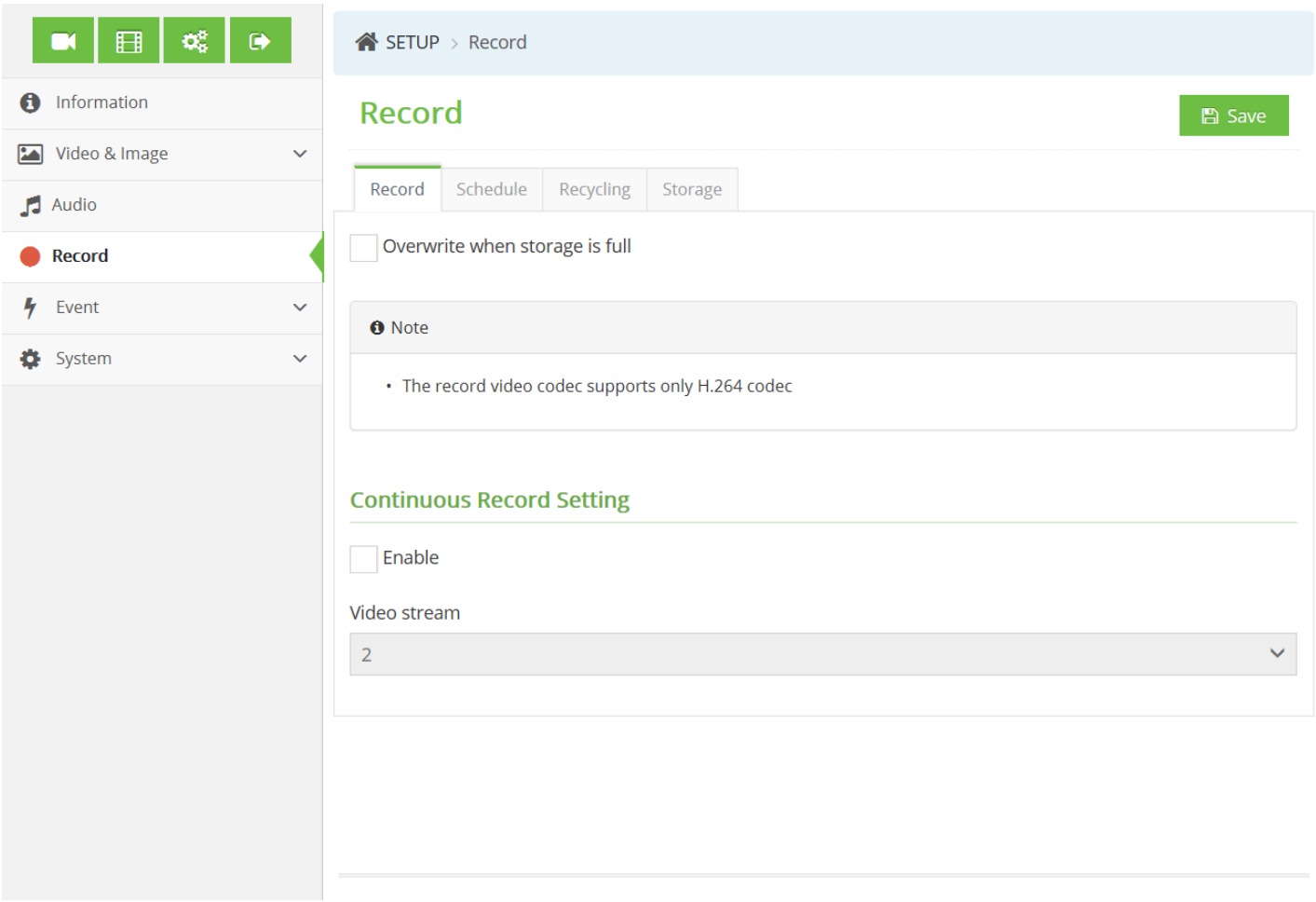
Click the checking box to activate digital zoom. The digital zoom ratio can be set from x1 to x8.

18. Video Out



Enables/Disables CVBS Output from camera. Changing this setting requires a camera reboot to take effect.

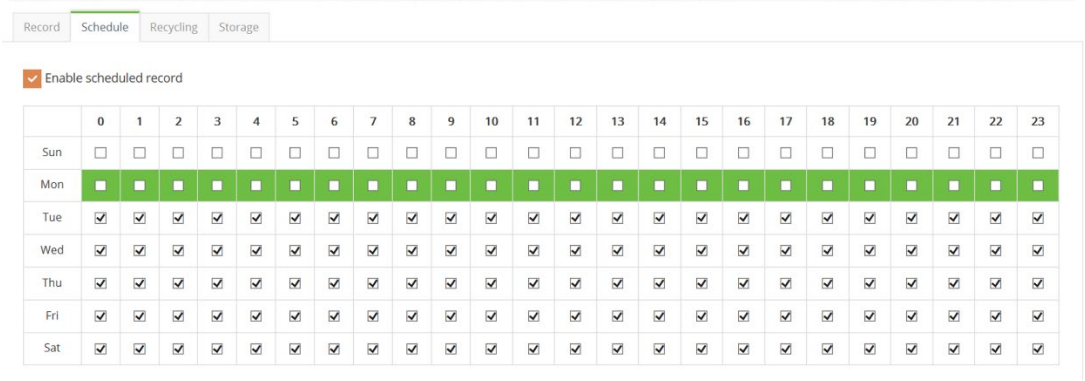
19. Record



When the network camera detects an event, it can record the video stream in the SD Memory (not supplied). Check the box to enable the service.

Continuous Recording Setting: Click the checkbox for continuous recording and then select which stream record.

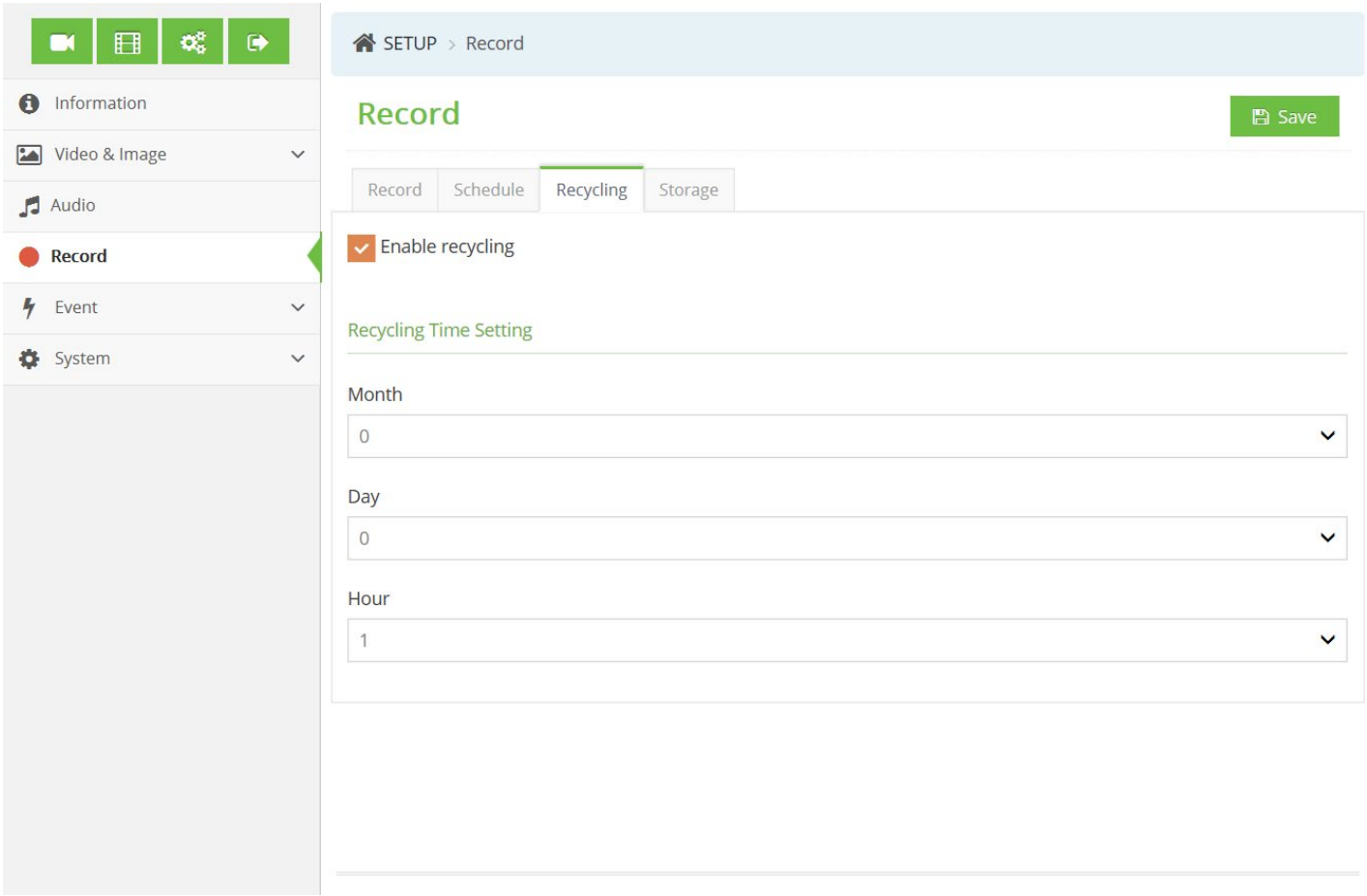
19.1. Schedule



Click the checkbox to enable the schedule recording and then select based on time and days.

- Hour: Set the recording stream time.
- Day: Set the recording stream day.

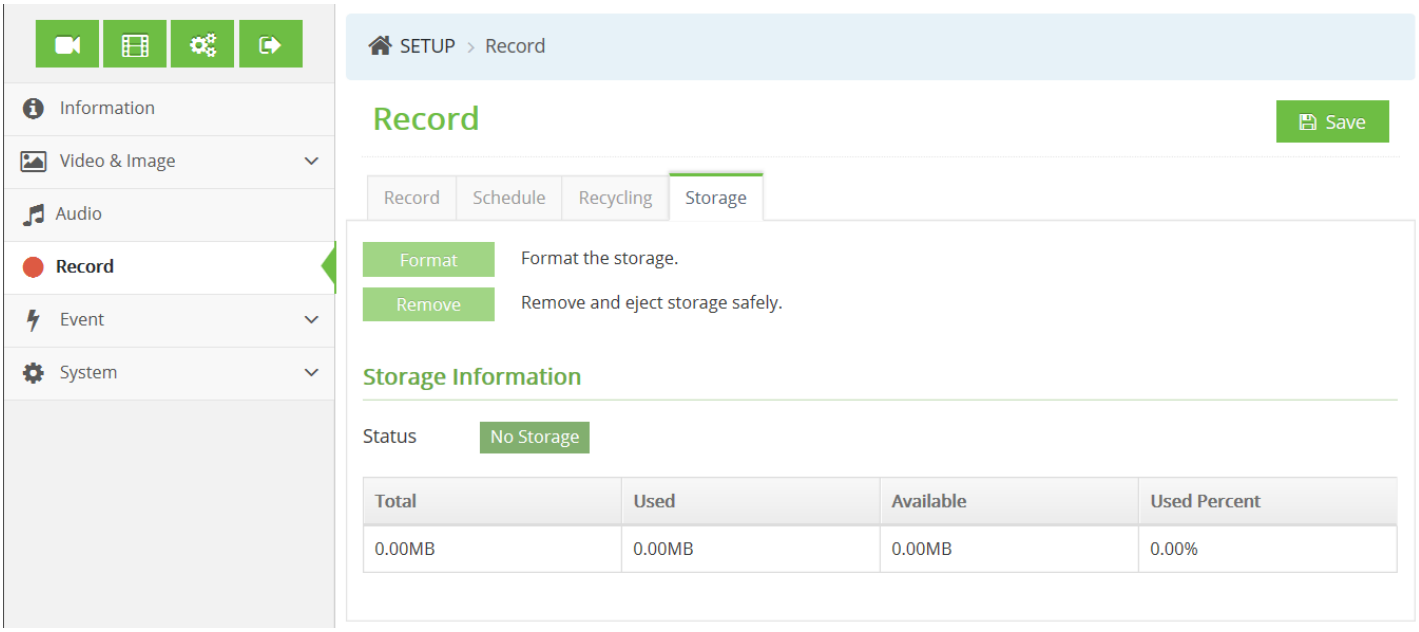
19.2. Recycling



Records over old video files when the storage fills up.

- **Recycling Time Setting**: determines how much old video will be deleted each time the storage fills.

19.3. Storage



Supports an SD card as a storage device.

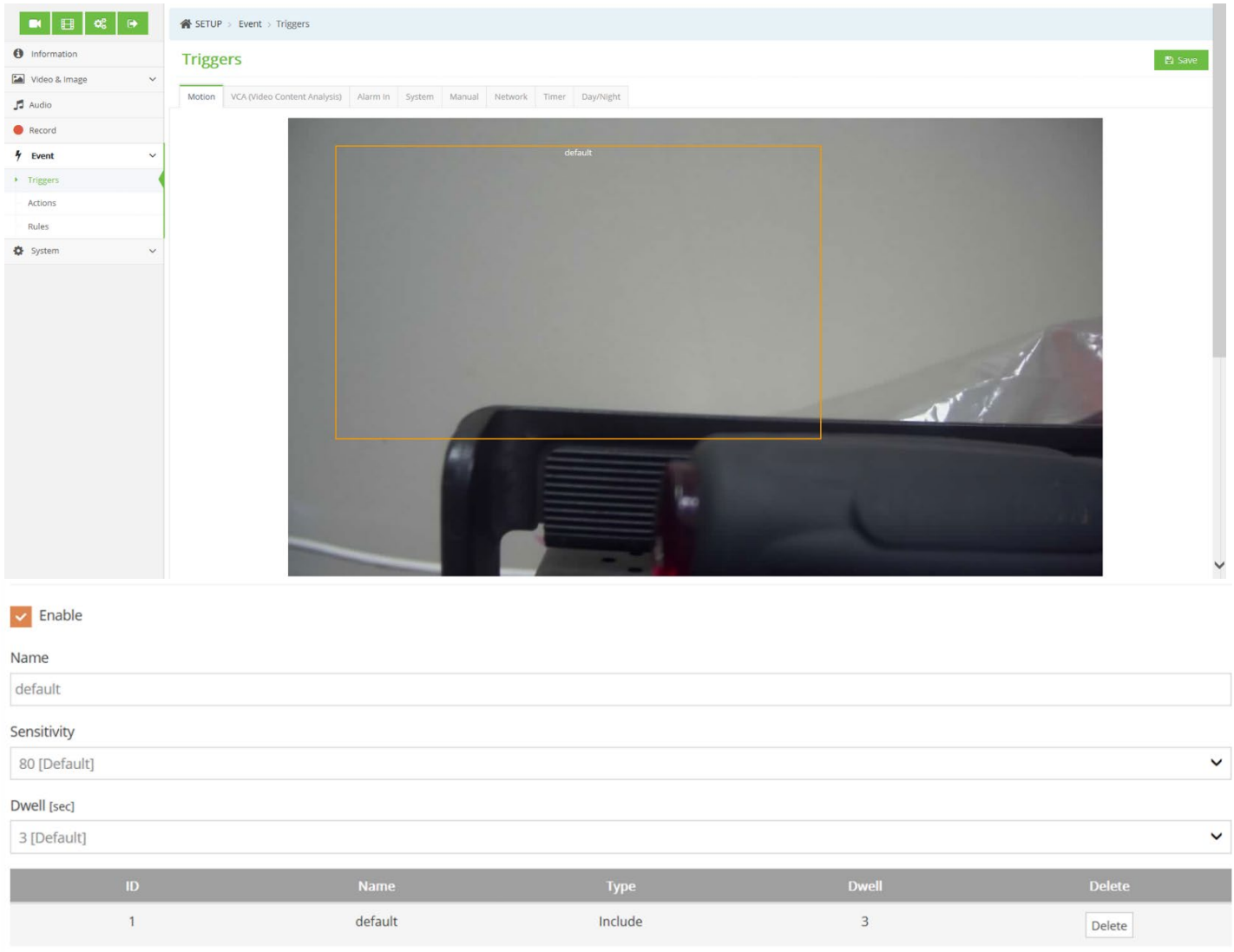
- **Format**: Click the Format button to format SD card.
- **Remove**: Remove or eject the storage device safely.

Storage Information: Show information of the current SD card status.

20. Event

20.1. Triggers

20.1.1. Motion



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

Name: Enter the name for the motion or mask area.

Sensitivity: Configure the sensitivity for the motion detection.

Dwell time: Dwell timemeans how long the motion/mask signal is held as an input signaling source.

Once the motion detection areas are configured, this camera can be configured to perform actions when motion is detected. Possible actions include uploading images, alarm out and E-mailing.

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

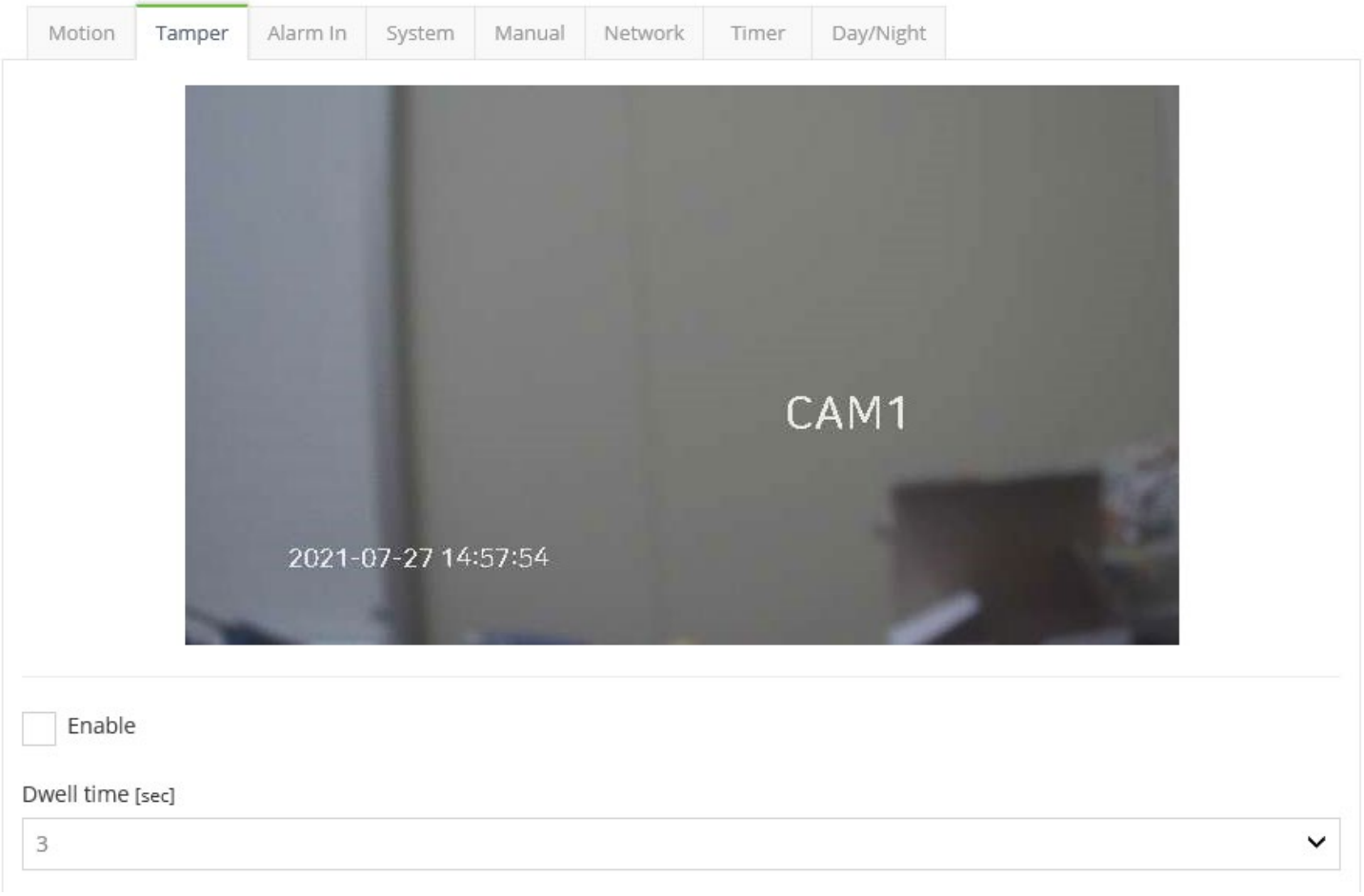
1. Click the right button of the mouse to see the menu.

2. Select Create detection area or Create masking area in the menu.

3. Click and drag mouse to designate a motion area.
   - Create detection area — define areas where motion should be detected.
   - Create masking area — define areas where motion should be ignored.

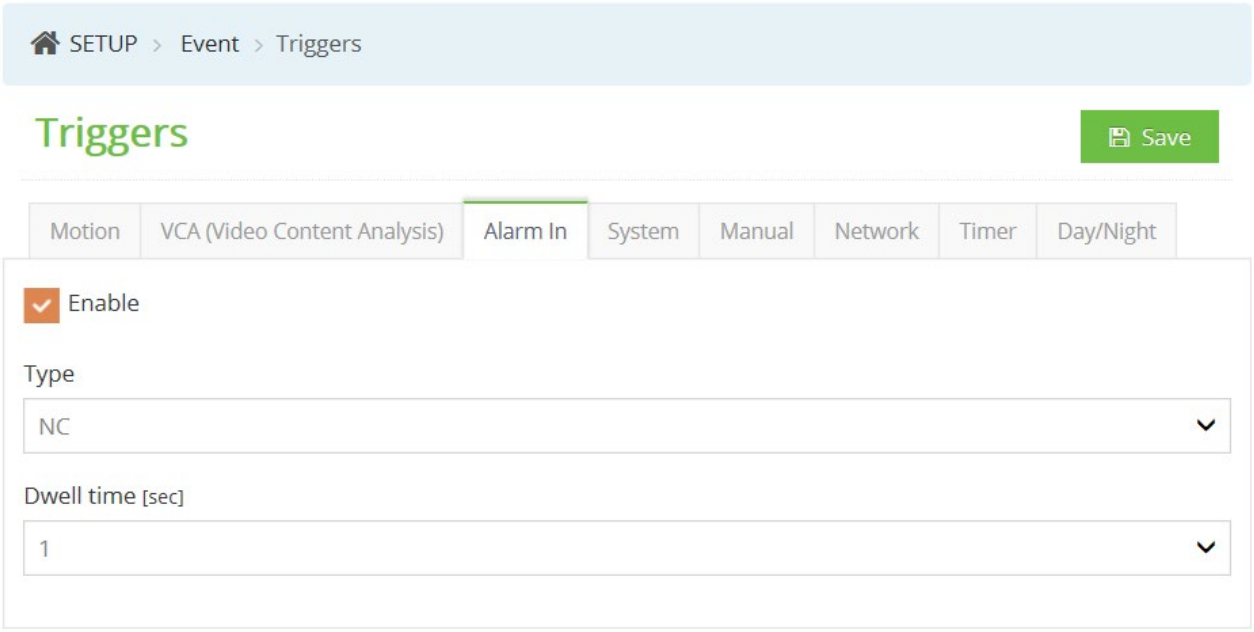
   To delete a motion or mask area, click the Delete button.

20.1.2. Tamper



Click the enable Tamper checkbox to enable tamper detection. If the lens is covered (by hand, lens cap, etc…), the camera tamper detection will trigger upon removal of the covering.

20.1.3. Alarm In



Click the Enable alarm checkbox to enable the Alarm In port.
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 if the button is not pushed (and the Current state remains as Open circuit), the state will be inactive.

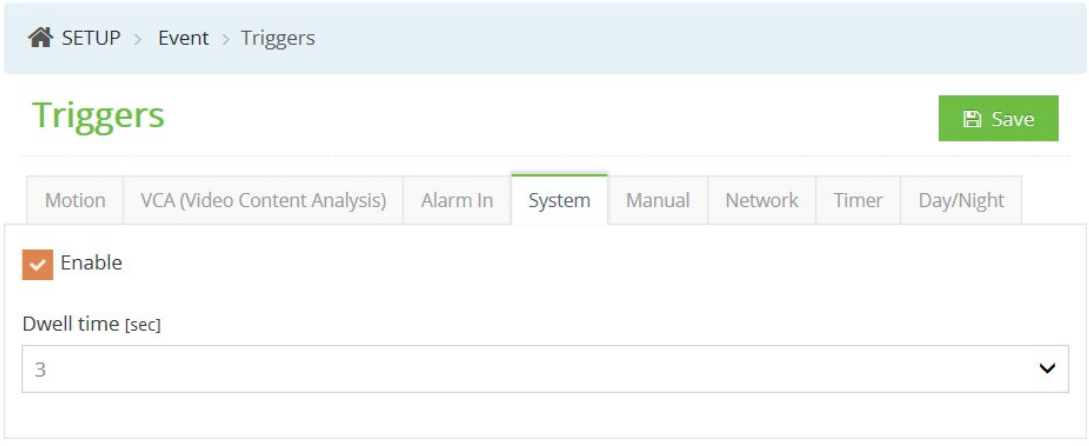
- **NC:** Normally Close

As an example, if the Normal state for a pushbutton connected to an input is a Closed circuit, this means that if the button is not pushed (and the Current state becomes an Open circuit), the state will be active.

Dwell time: Dwell time means how long the alarm input signal is held as an input signaling source.

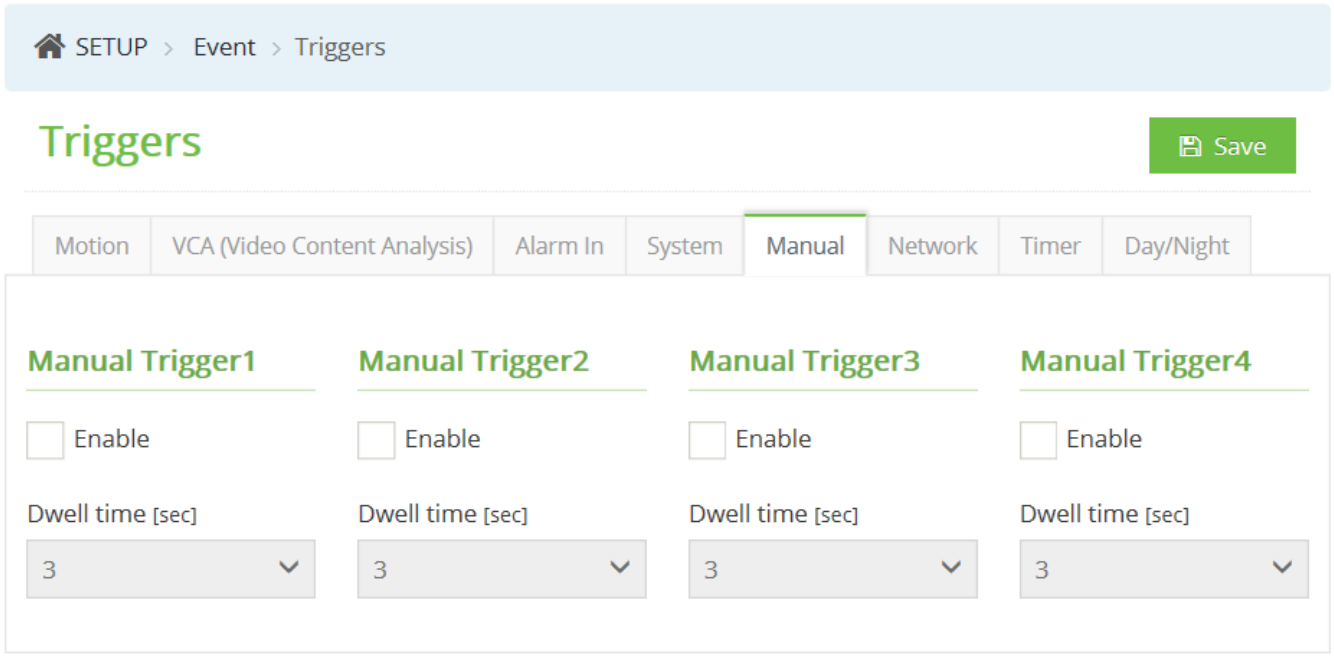
NOTE
The total number of alarms is dependent on the camera model.

20.1.4. System



This is used to trigger the event every time the Network Camera is started. Dwell time: The default setting is 3 seconds.

20.1.5. Manual

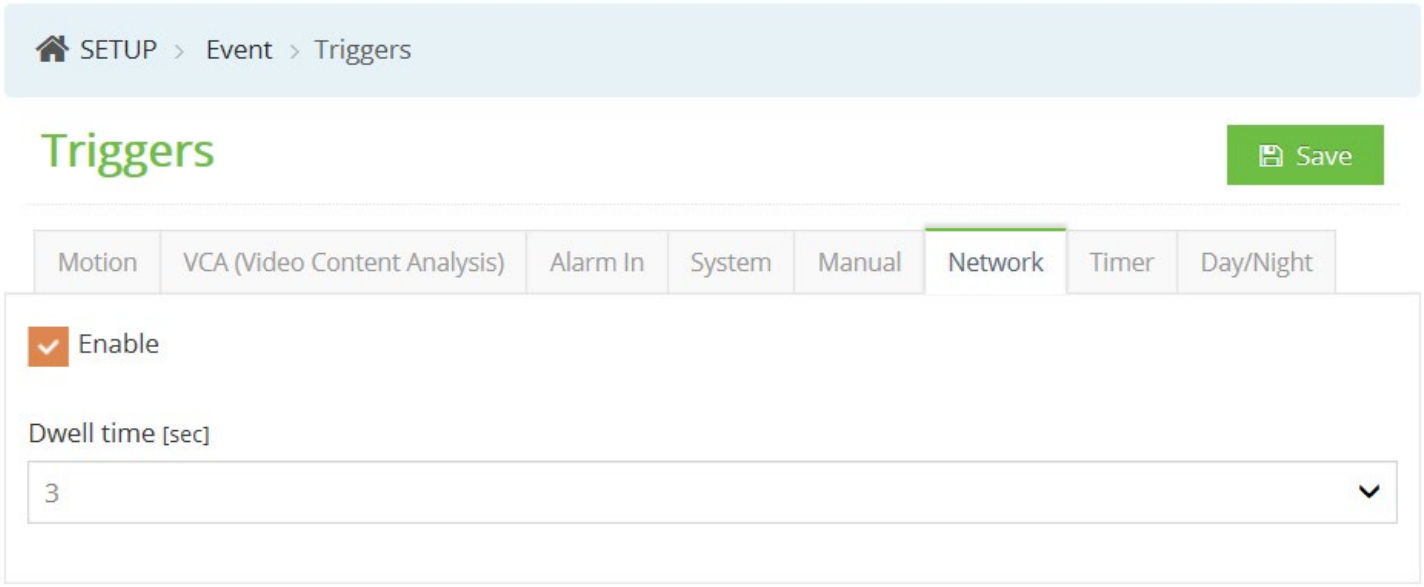


The Manual Trigger features an alarm out signaling, JPEG file transfer to FTP server, and sends an email to the SMTP server whenever an operator clicks the Manual Trigger button in the Live View window.

Dwell time: The default setting is 3 seconds.

NOTE
Dwell time means how long the alarm output signal holds is held as an output signaling source.

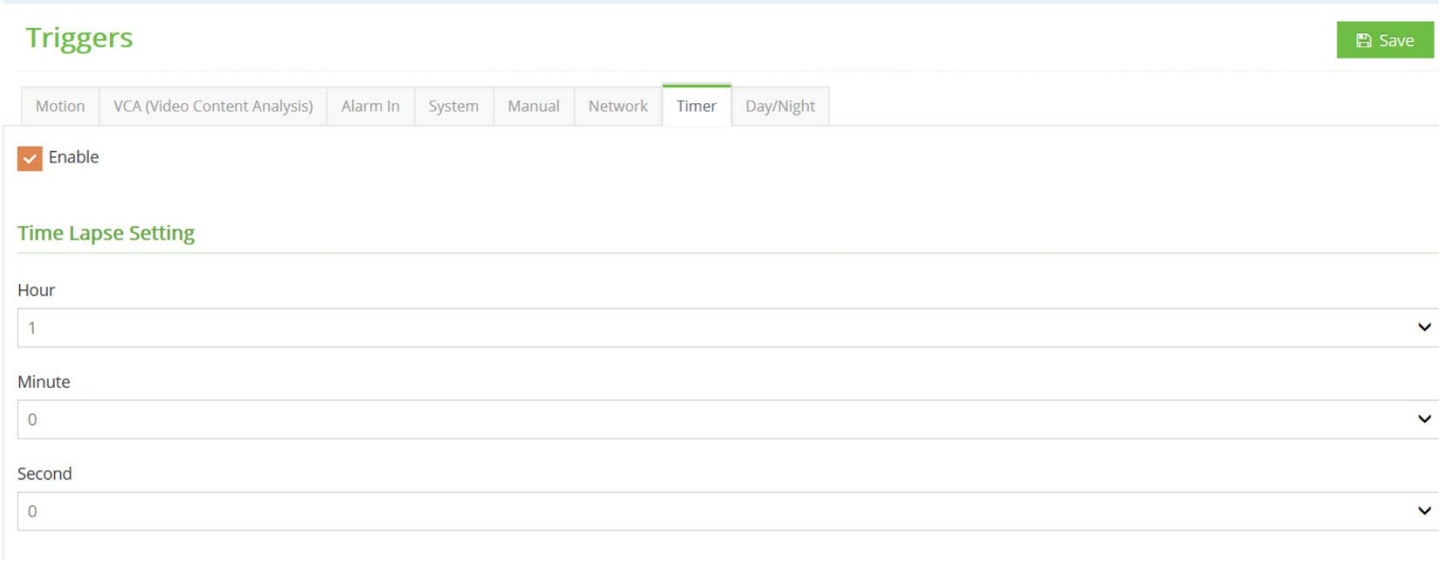
20.1.6. Network



This is used to trigger the event every time the network connection fails. Click the checkbox to activate the Network Loss event.

Dwell time: The default setting is 3 seconds.

20.1.7. Timer

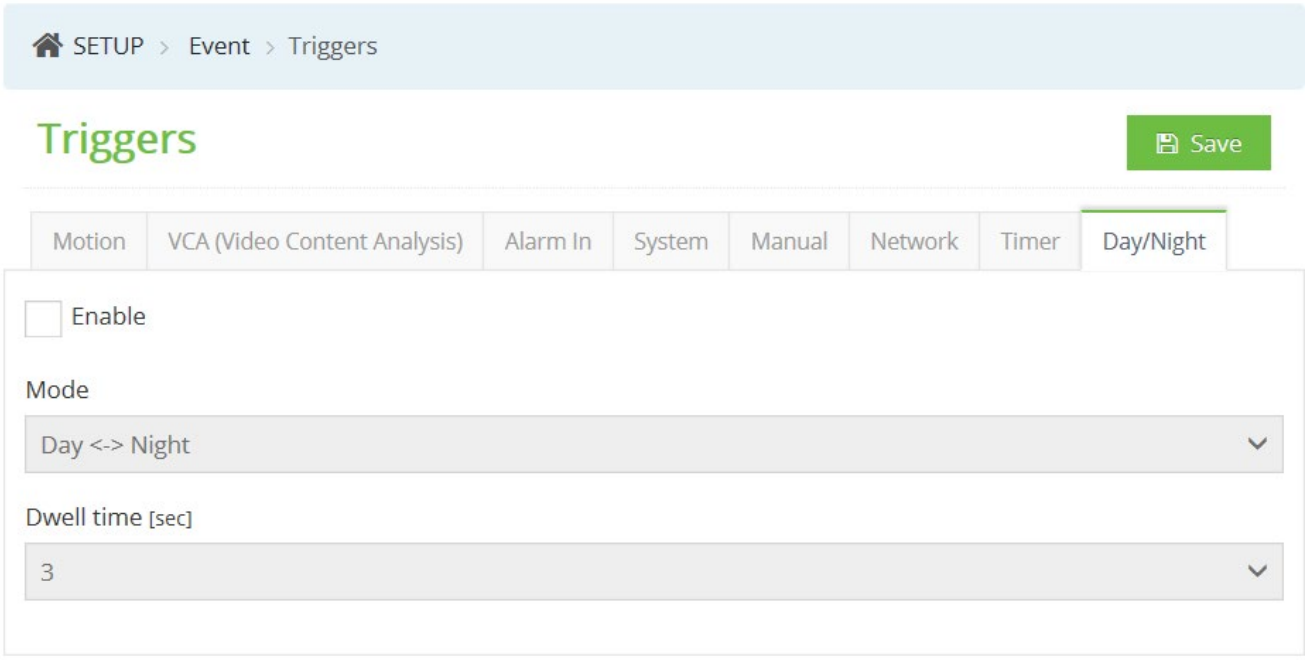


This is used to trigger the event according to the time setting.
Click the checkbox to activate the Time Lapse Setting.

Time Lapse Setting: The default setting is 3 seconds.

- **Hour**: Set the event trigger every hour.
- **Minute**: Set the event trigger every minute.
- **Second**: Set the event trigger every second.

20.1.8. Day/Night

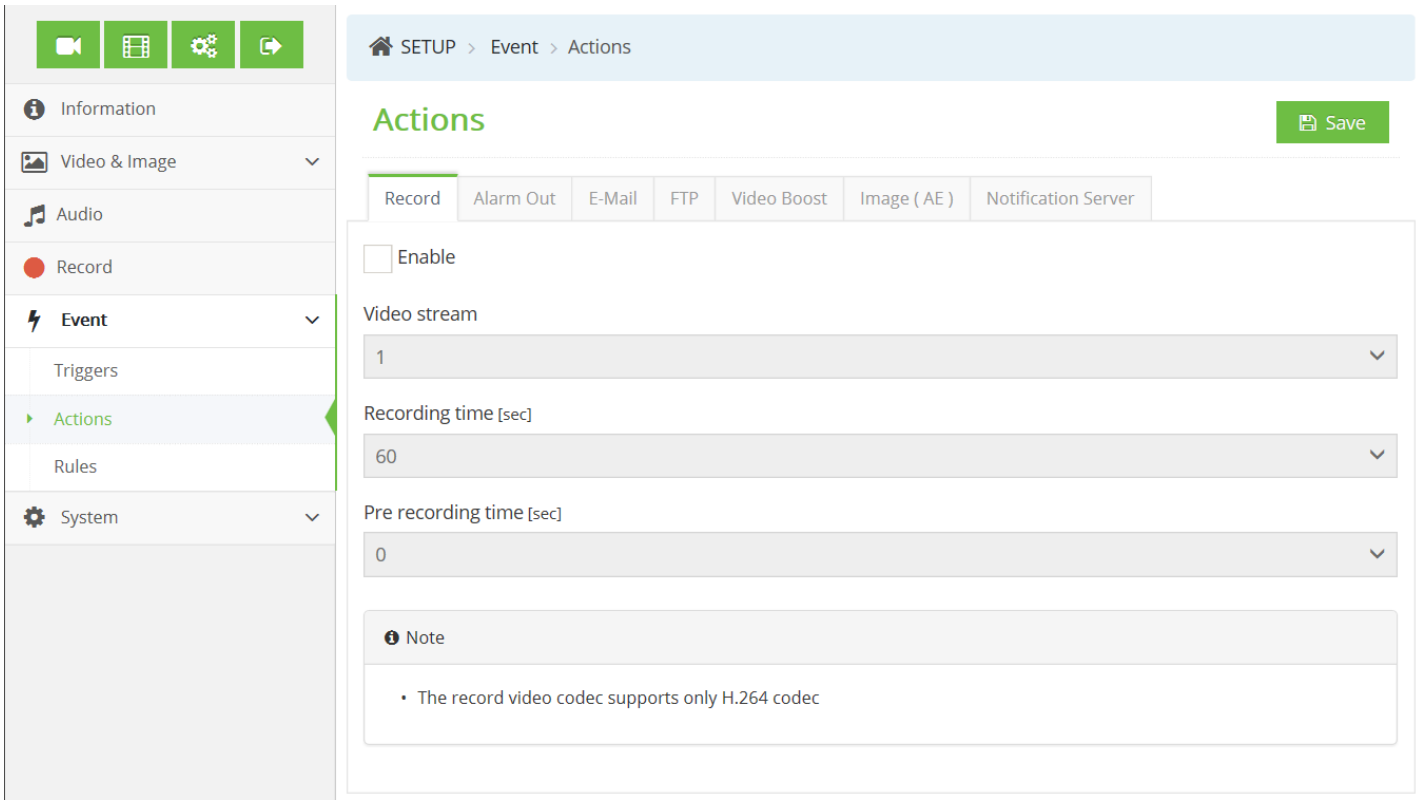


This is used to trigger the event every time Day and Night exchange.
Click the checkbox to activate the Day/Night event trigger.

Dwell time: The default setting is 3 seconds.

20.2. Actions

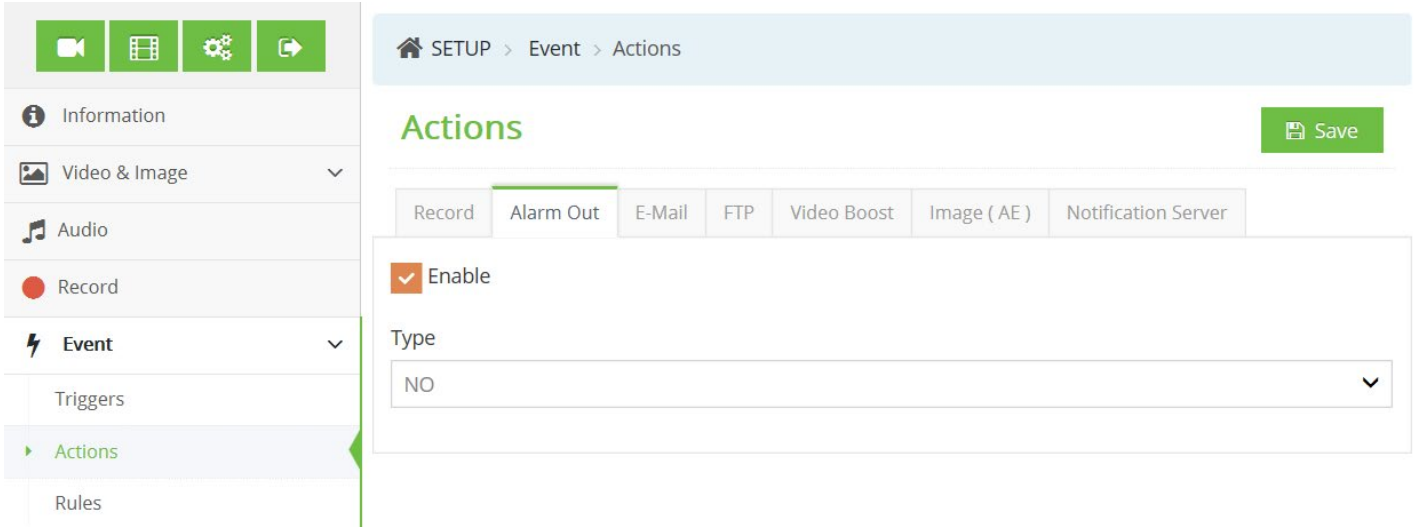
20.2.1. Record



When the network camera detects an event, it can record the video stream in the SD Memory (not supplied). Check the box to enable the service.

- Video source: Select the recording stream source.
- Recording: Set the recording time.
- Pre event recording: Set the pre-event recording time.

20.2.2. Alarm Out

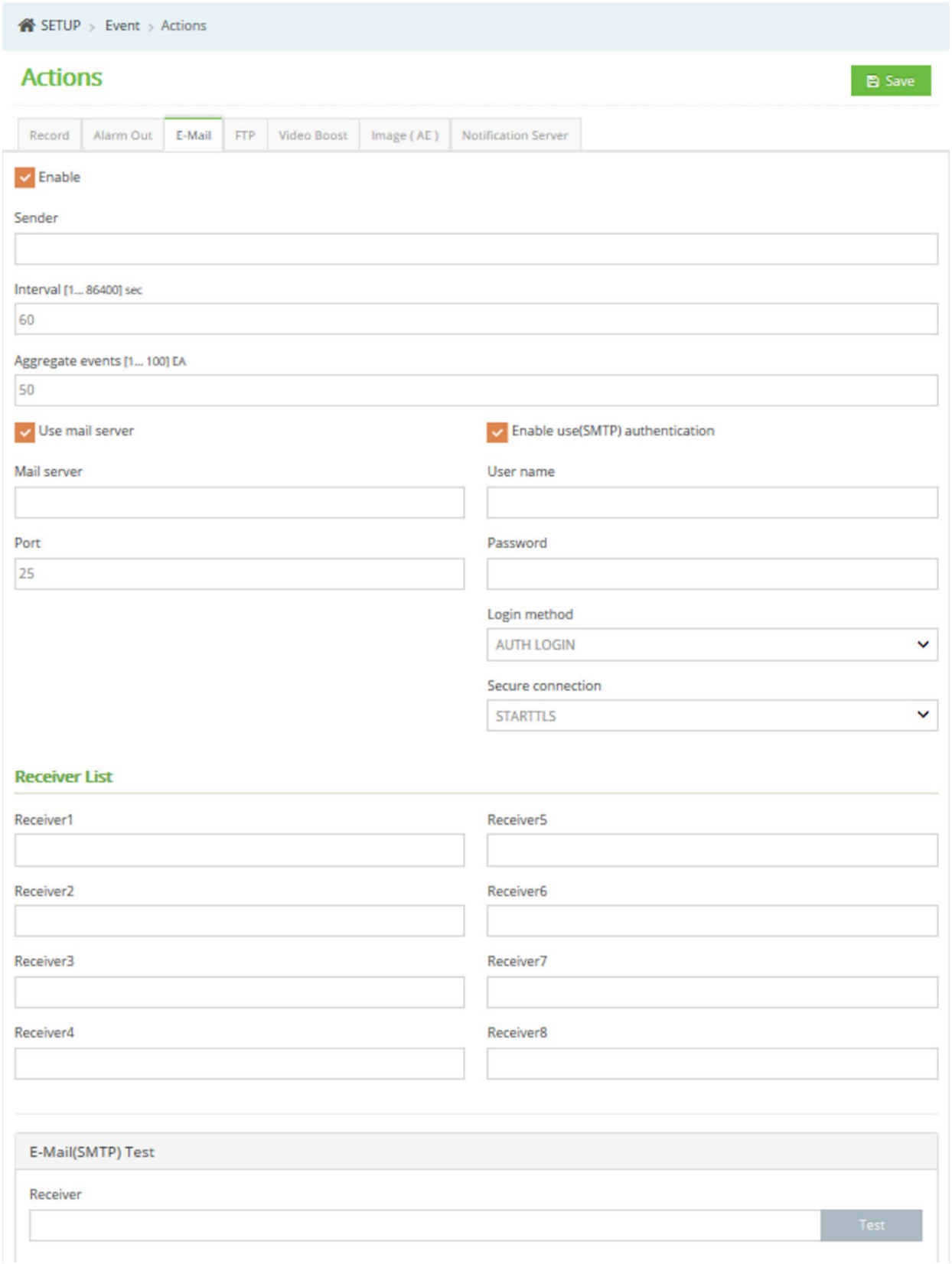


This page allows you to configure the alarm output supported by the camera. Port can be Normally Open or Normally Closed state.

Type: The default setting is NO.

NOTE
The total number of alarms out is dependent on the camera model.

20.2.3. E-Mail



Use the Simple Mail Transfer Protocol (SMTP) server to send an email notification when an event trigger is activated. The camera can be configured to send event and email messages via SMTP.

Sender: Click in the Sender box and enter the sender E-mail address.

Interval: Enter the E-mail sending time interval after the event occurred.

Aggregate events: Enter the number of events for E-mail sending. If the number of events has reached the setting value, E-mail will be sent.

Use mail server: Click the Use mail server checkbox and provide the following information for E-mail server.

Mail 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 to log in to this server.
- Please consult with your network administrator, if you want to change the port number.

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

Username: Enter the Username 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 username 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 most 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 username and password.

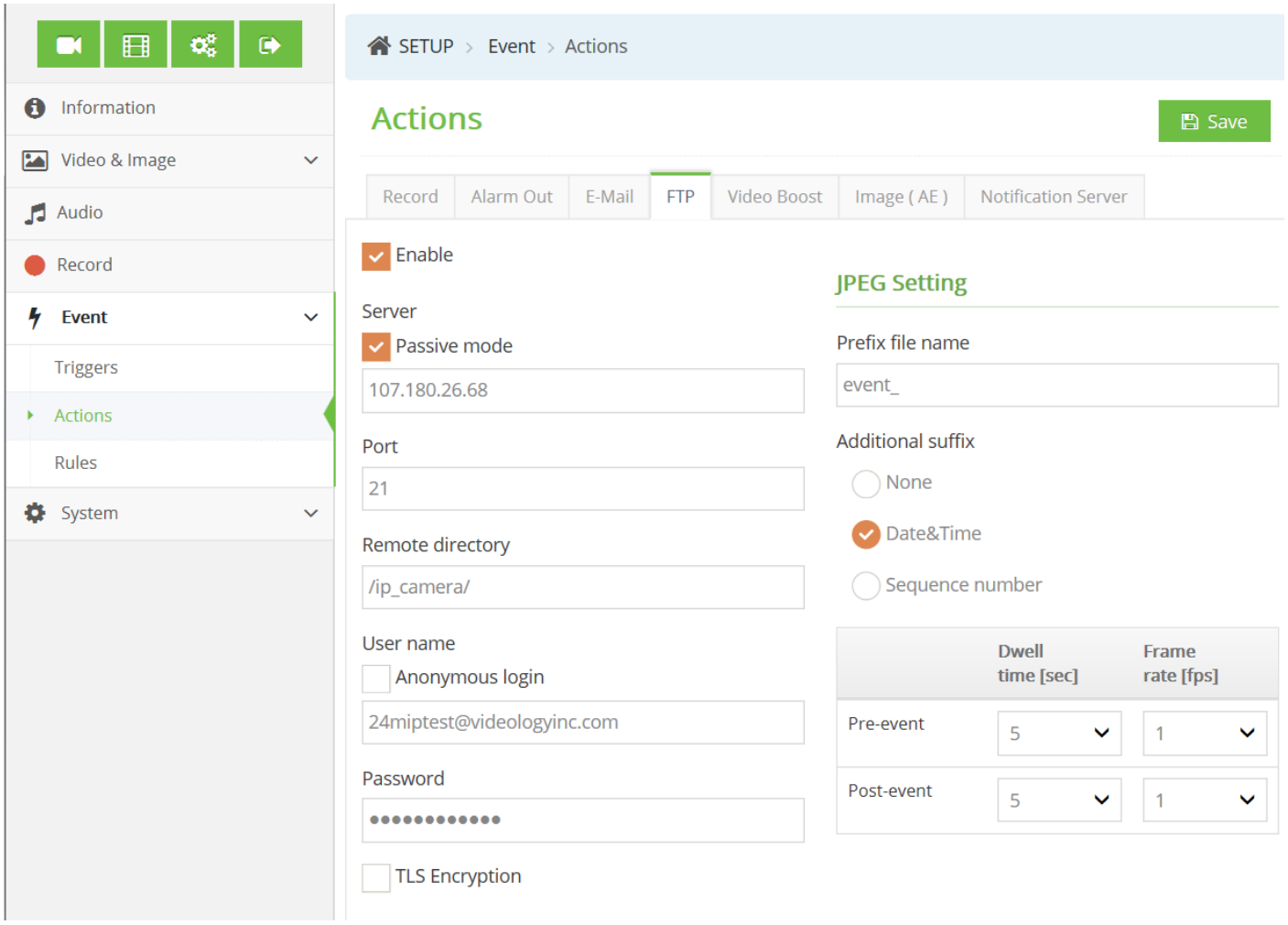
Receiver List: Enter the recipient's E-mail address as the receivers.

Receiver 1~8: Enter the recipient's E-mail address as the receiver to test.

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

Receiver: Enter the recipient's E-mail address as the receiver to test.

20.2.4. FTP



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 of 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.

Username: Enter the Username 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 anyone to log into the FTP server without a password, click the Anonymous login checkbox.

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

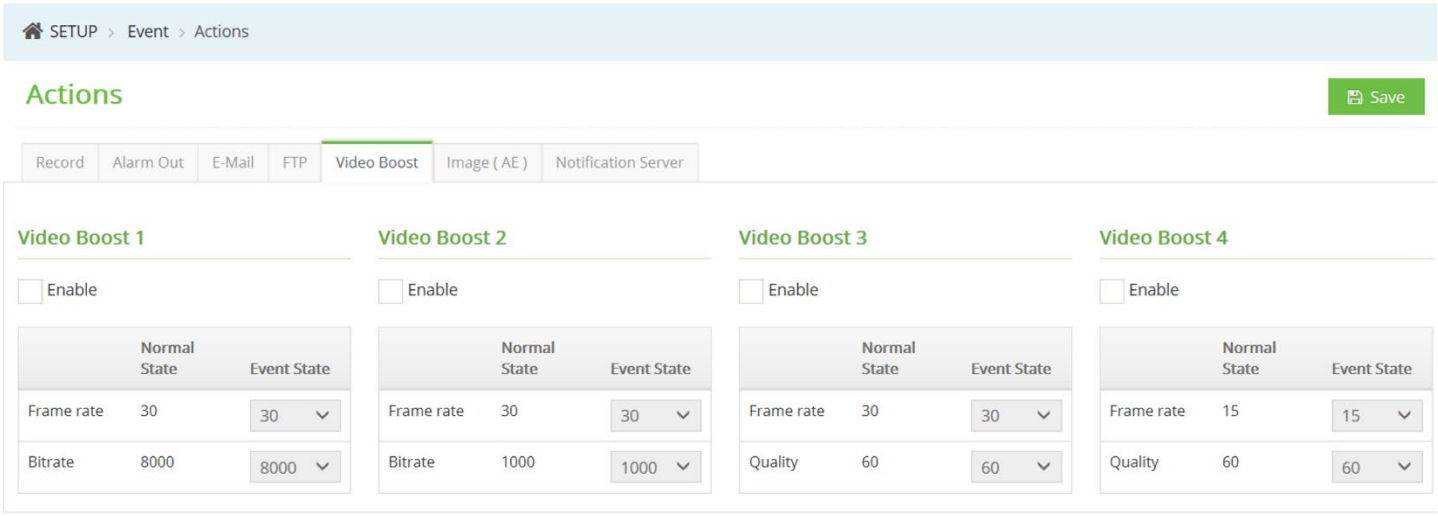
Prefix file name: Click in the Prefix file name box and type a name for the JPEG image file (1 to 32 alphanumeric characters).

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

Pre-event: Defines how many JPEG file(s) will be made for Dwell time and Frame rate before the event is generated.

Post-event: Defines how many JPEG file(s) will be made for Dwell time and Frame rate after the event is generated.

20.2.5. Video Boost

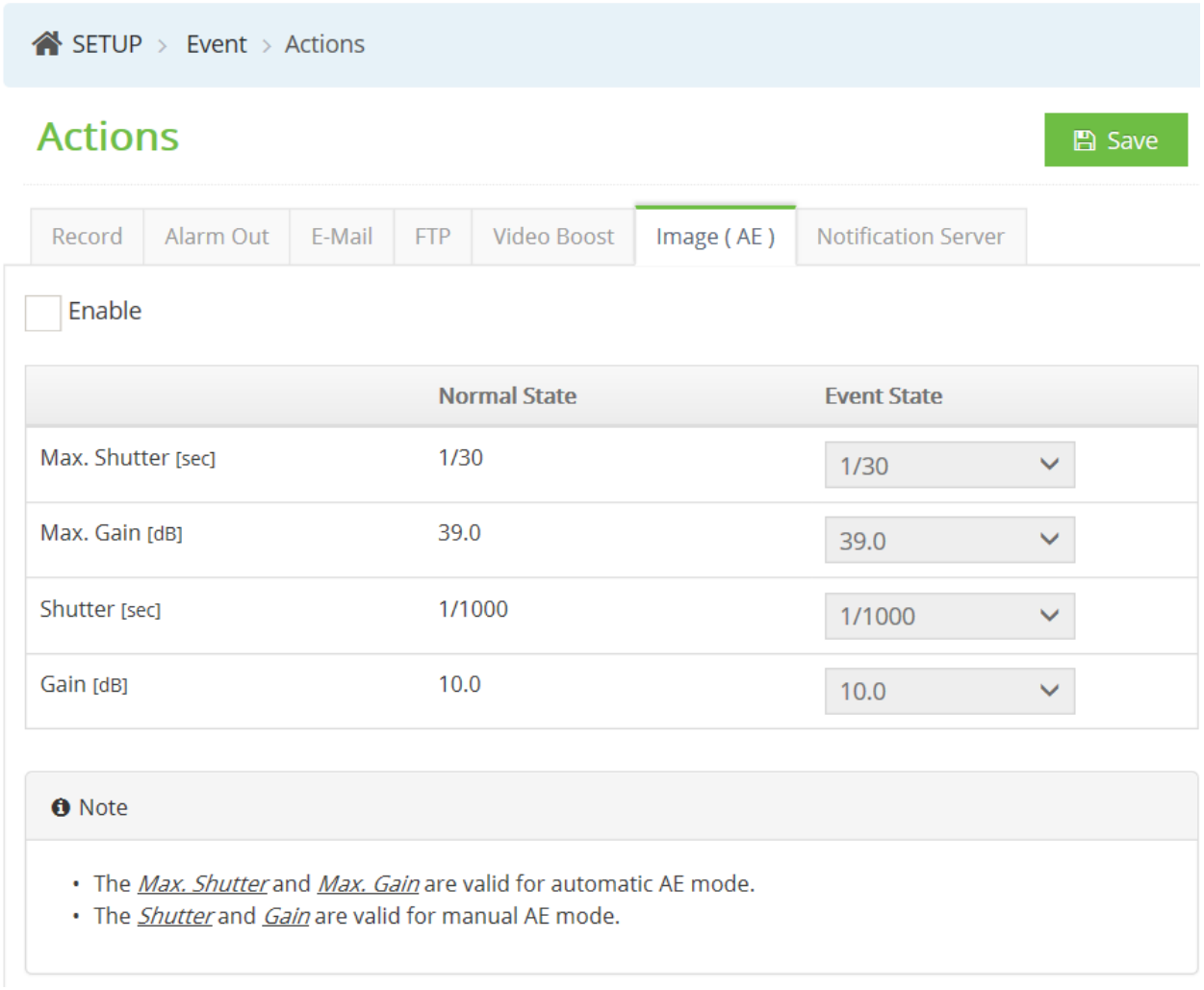


When this camera detects an event according to the event rule setting, this camera will boost the streaming performance dependent on each video stream setting.

- **Normal State:** Show the current frame rate and bitrate.
- **Event State:** Set frame rate and bitrate in the video boost mode.

NOTE
The total number of video boost is dependent on the camera model.

20.2.6. Image (AE)

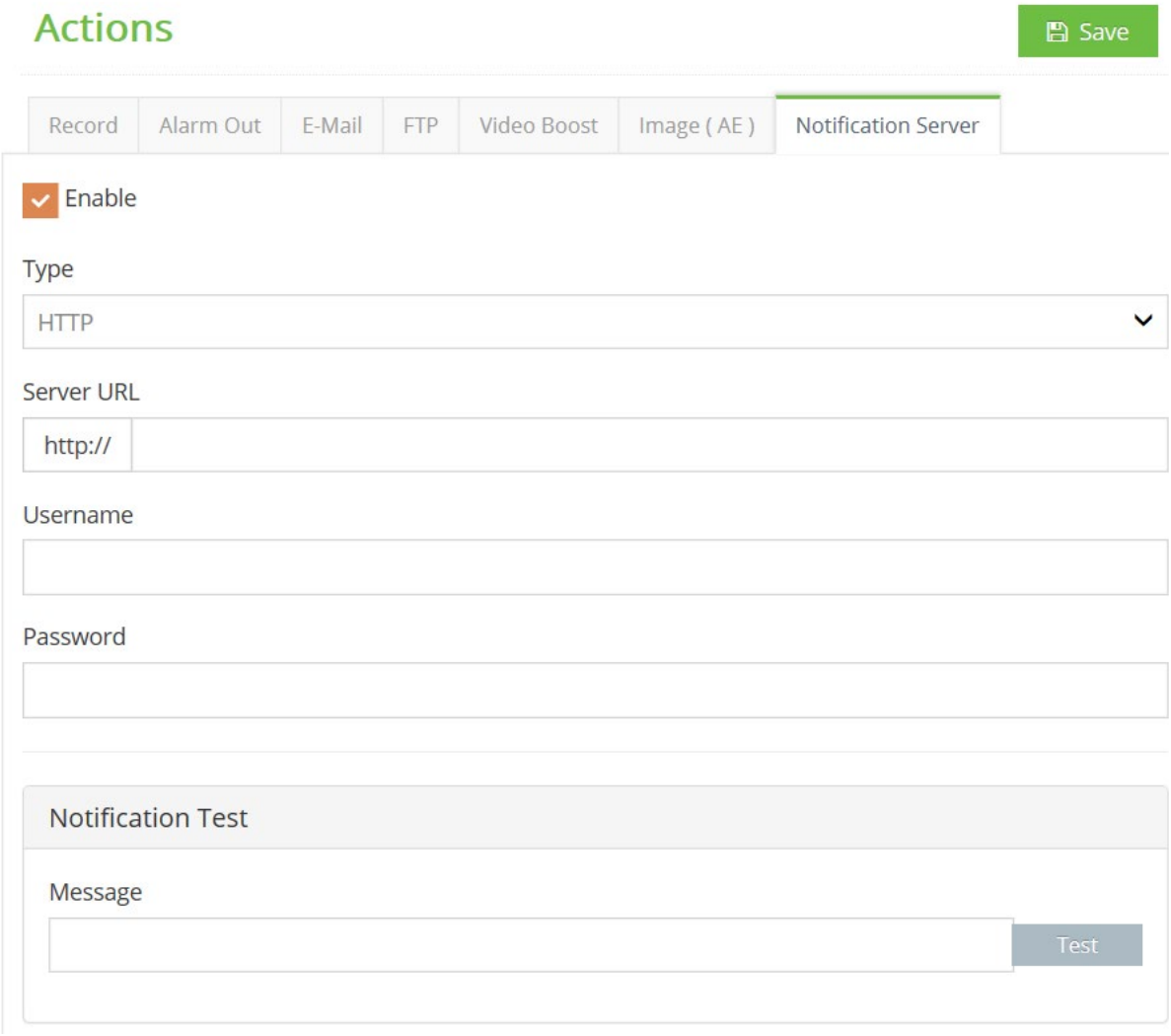


When this camera detects an event according to the event rule setting, this camera will change the Shutter and Gain state.

- **Normal State:** Show the normal state Shutter and Gain values.
- **Event State:** Set the Shutter and Gain values in the event state.

NOTE
The function of Image (AE) is dependent on the camera model.

20.2.7. Notification Server



When this camera detects an event, this camera will place the camera event into the specified server.

- **Type:** Select command type.
- **Server URL:** Enter server URL.
- **Username:** Enter server username.
- **Password:** Enter password of the server.

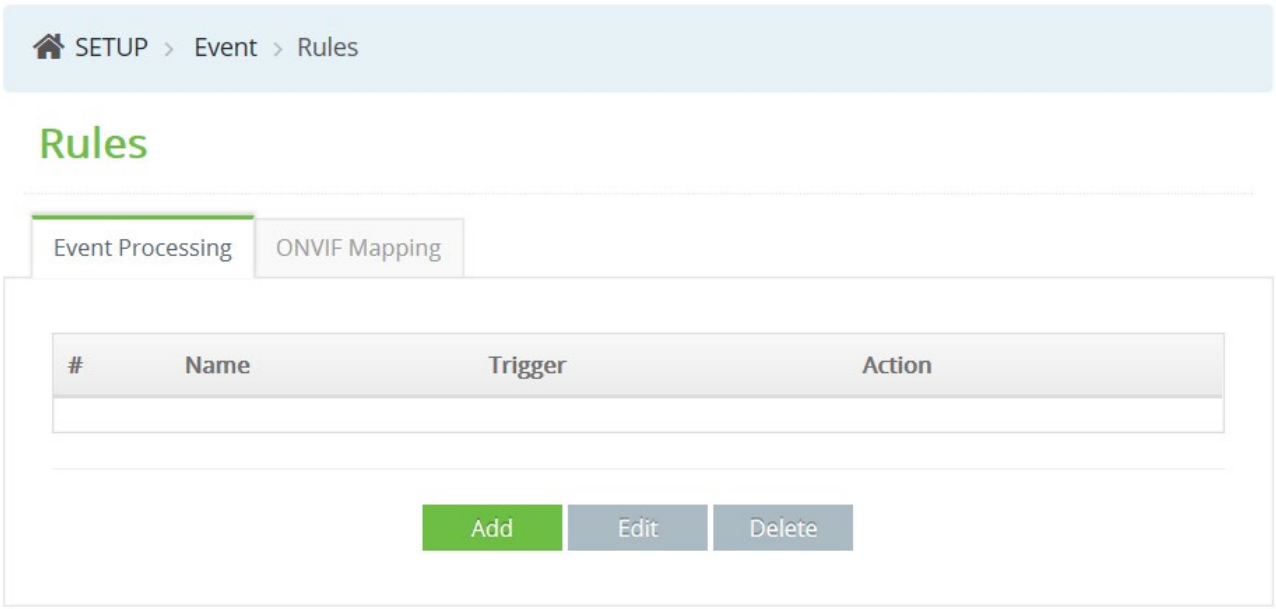
Notification Test: Enter the message and click the Test button to check that the servers are functioning.

20.3. Rules

This page shows current configuration status when the event is activated.

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

20.4. Event Processing



A RULE is a set of parameters describing how the camera will perform under certain actions. Event type may be set up as Triggered event according to the requirements.

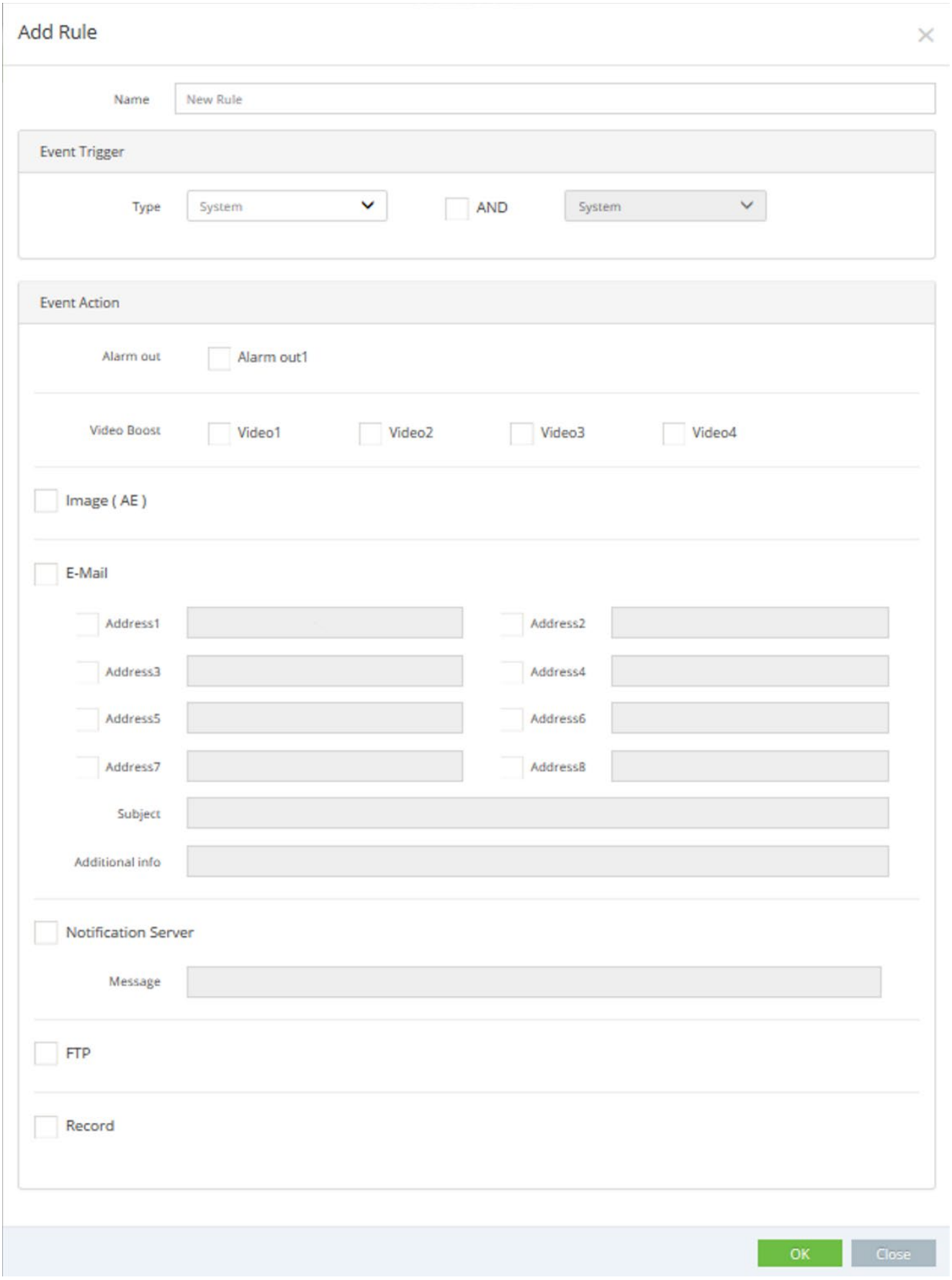
Name: Shows the descriptive name provided by the user.

Trigger: Shows the source of event type as Alarm-In, Manual Trigger, VMD, etc. configured by the user.

Action: Shows the destination of event output as SMTP server, FTP server, Alarm-out port, Audio alert and SD record.

NOTE
To add new event, click the Add button. Thisbutton opens a new dialog window, which is 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.
Edit: To modify an existing event map list, select it and click the Modify button.
Delete: To delete an event map list, select it and click the Delete button.


Add Rule
Name
New Rule
Event Trigger
Type
System
AND
System
Event Action
Alarm out
Alarm out1
Video Boost
Video1
Video2
Video3
Video4
Image (AE)
E-Mail
Address1
Address2
Address3
Address4
Address5
Address6
Address7
Address8
Subject
Additional info
Notification Server
Message
FTP
Record
OK
Close

20.5. Add Rule

Event Add Rule page: provides how to configure the event action if there is event triggering such as Alarm-In, Manual trigger, Motion, etc.

Name: Enter the user favorite event name (1 to 31 alphanumeric characters).

Event Trigger: Shows the Event source type to be configured.

Type: Select the Event source type. If you want to add the event trigger condition for the event action, click the AND checkbox and then select one of the event trigger types.

Event Action: Provides that the camera will perform certain actions.

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

Video Boost: Click the Active output port checkbox to enable the Video Boost stream.

Image (AE): Click the Active output port checkbox to enable the Shutter and Gain state change.

E-mail: Click the Email checkbox to enable the emailing below each email address.

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

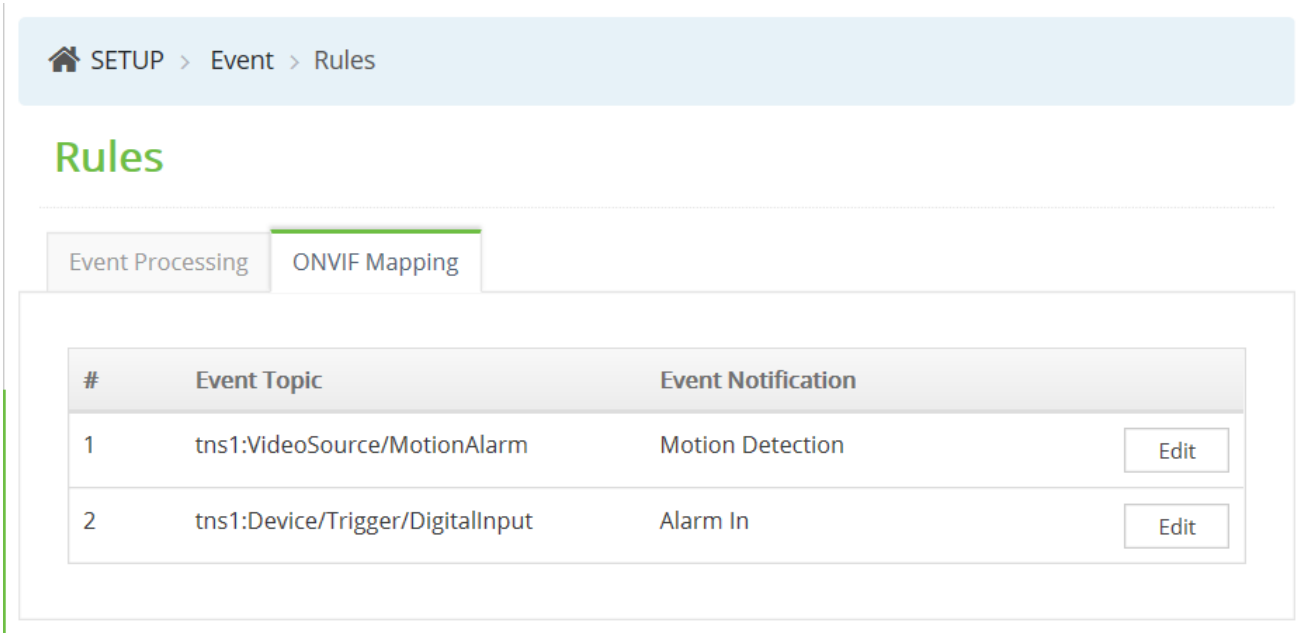
NOTE
If you want to add additional messages when emailing, click in the Subject / Additional Info box and type a description for the text you are creating (0 to 255 alphanumeric characters).

Notification Server: Enter the message to inform the server.

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

Record: Click the Record checkbox to enable the image recording to the SD Card.

20.6. ONVIF Mapping



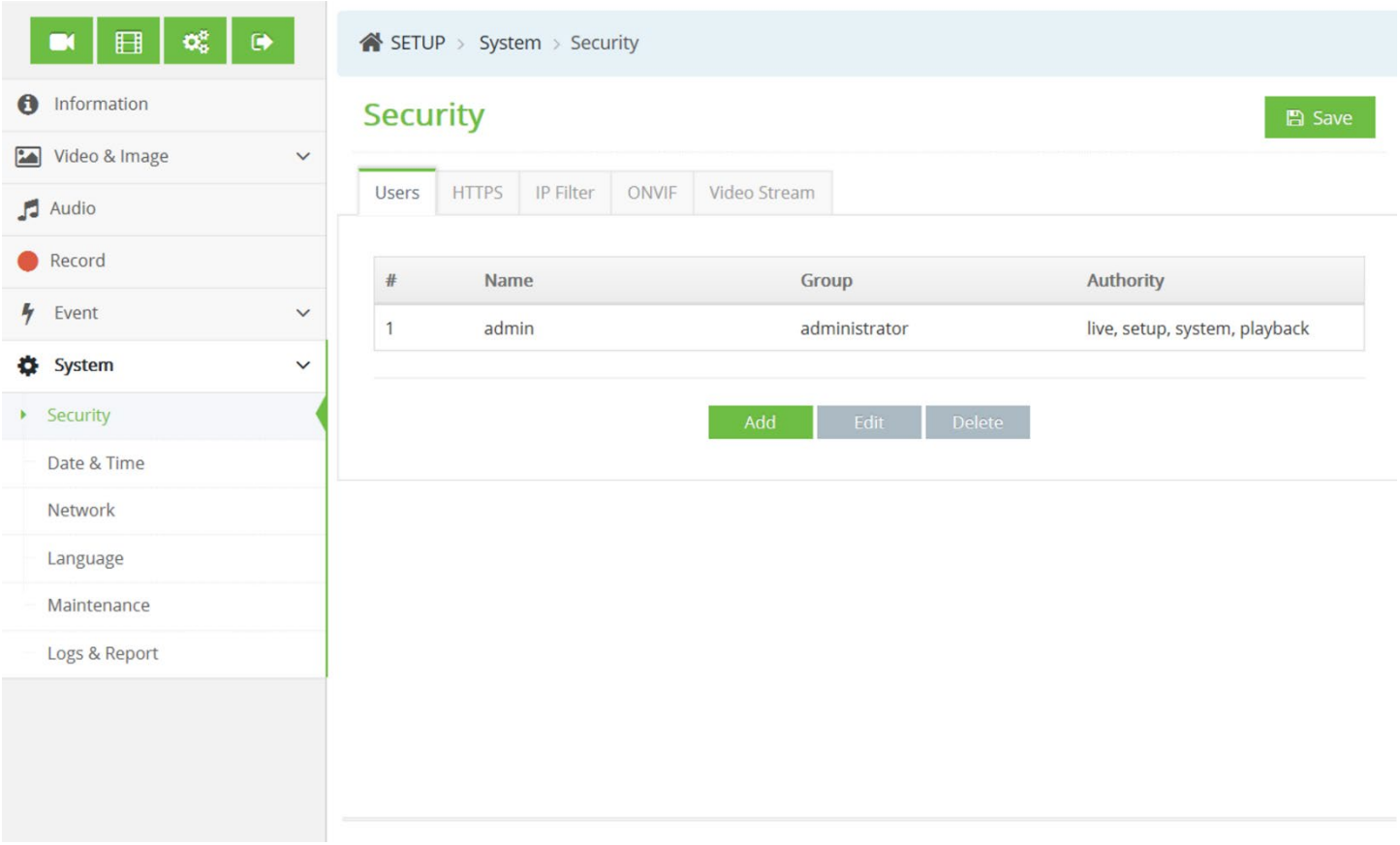
An ONVIF mapping is a set of parameters describing the ONVIF standard and how the camera will perform given certain actions.

- **Event Topic:** Describe the event topic on this camera.

- **Event Notification:** Indicate the selected event type.
- **Edit:** Select one of the event(s) notification types.

21. System

21.1. Security Users



User accounts can be added, modified or removed. The authority depends upon the user group which automatically shows the permission status to access the menus.

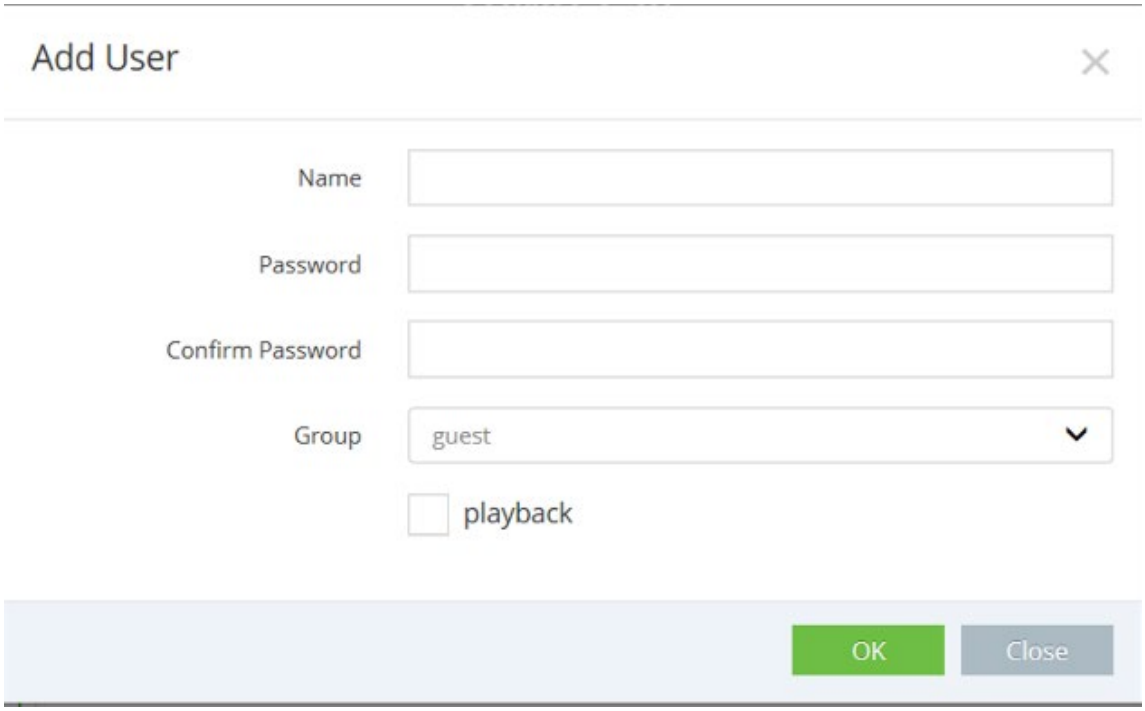
Name: Show the name which is registered to access the camera.

Group: Show the assigned permission given to users.

Authority: Show the permission status to access the menus.

- Click the Add, Edit, or Delete button for managing the user account.

21.1.1. Users-Add



1. Click the Add tab, and then a new pop-up window appears.
2. Click in the Name box and type a new username (1 to 14 alphanumeric characters). Usernames 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 the password.
5. Click in the 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.

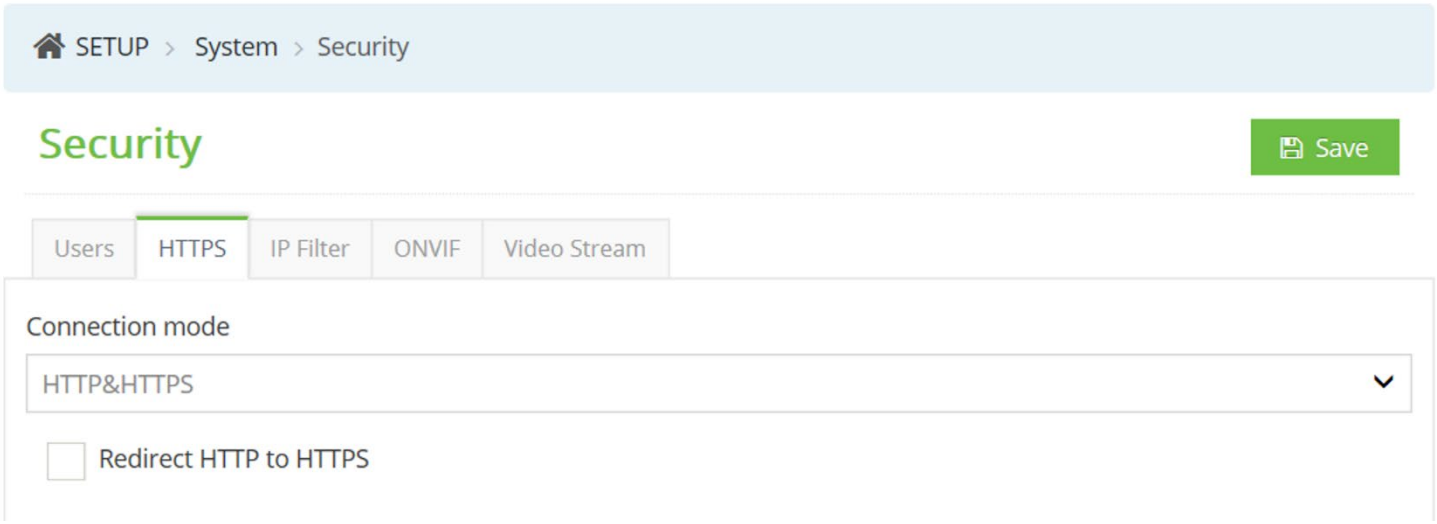
21.1.2. Edit User

1. Select one of the Username in the User List you want to modify.
2. Click the Edit tab, and then a 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 the 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.

21.1.3. To delete a user:

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

21.2. HTTPS

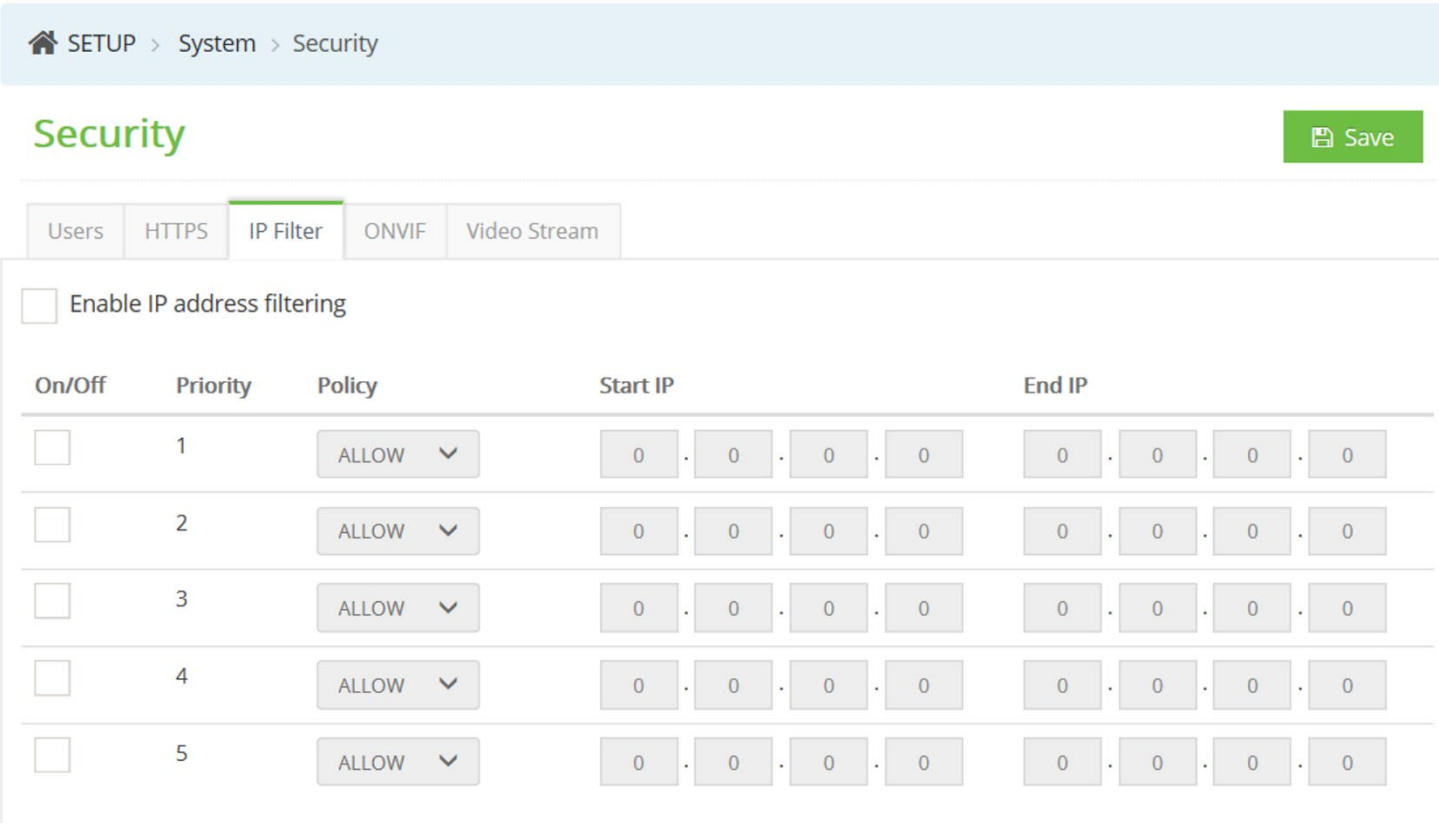


- **Connection mode:** The default setting is HTTP&HTTPS.
- **HTTP**: The sensitive data will be transferred without encryption during transmission. Support a URL that only starts with "HTTP: "
- **HTTPS**: HTTPS (Hypertext Transfer Protocol over SSL) is a protocol used to provide the encrypted transmission. 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 usernames 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.

21.3. IP Filter



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

Enable IP address 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. Whole range (subnets) of IP address can be added directly.

On/Off: Click the checkbox to activate the settings (Priority, Policy, and IP ranges). **Priority:** The number means a priority if there are duplicated IP addresses and IP ranges. **Policy:** Determines the filtering attribute of the IP address selected.

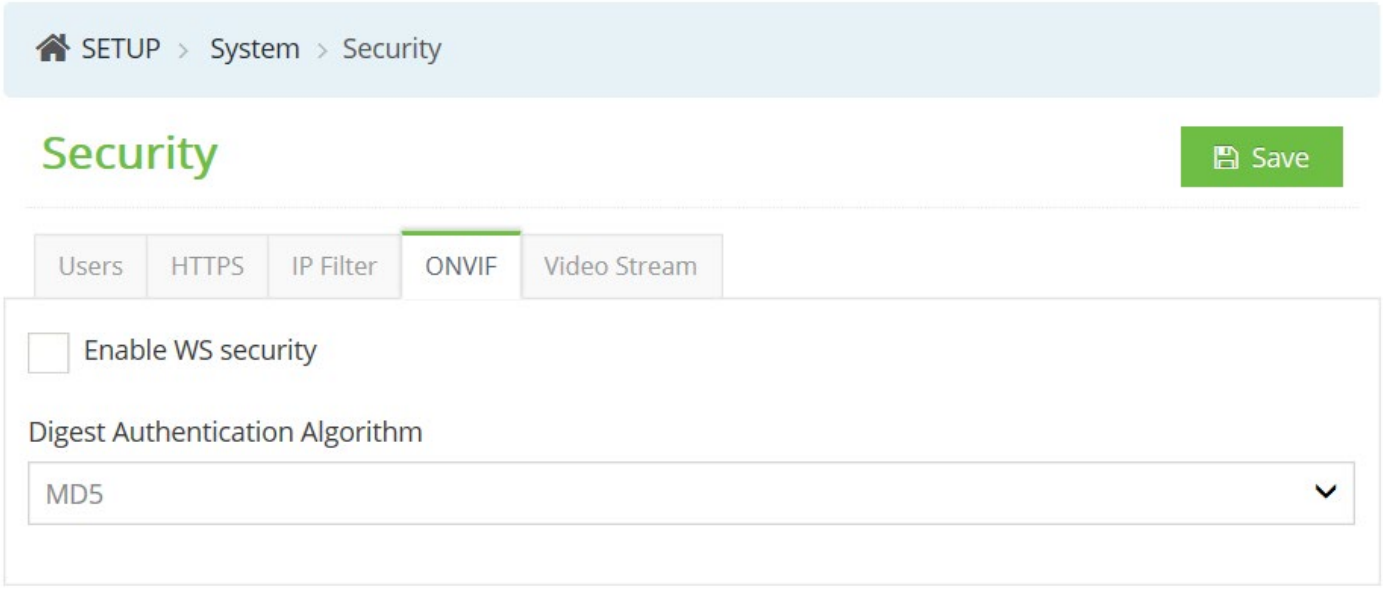
Start IP: Enters the start IP address to ALLOW/ DENY in the IP range selected.

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 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.

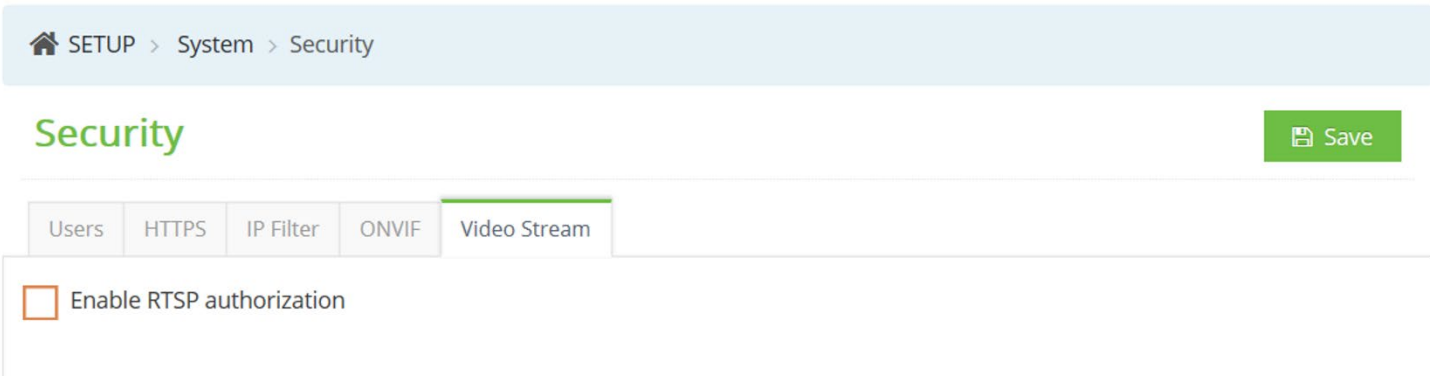
21.4. ONVIF



This camera supports an authentication processes (Web Service security protocol) using user ID/Password to connect to ONVIF devices.

Enable WS security: It defines a standard command set that can be used to provide Web Services message integrity and confidentiality. If you want to use this, click the check box. The default setting is off. It means this camera tries to connect with other ONVIF devices without a user ID/Password.

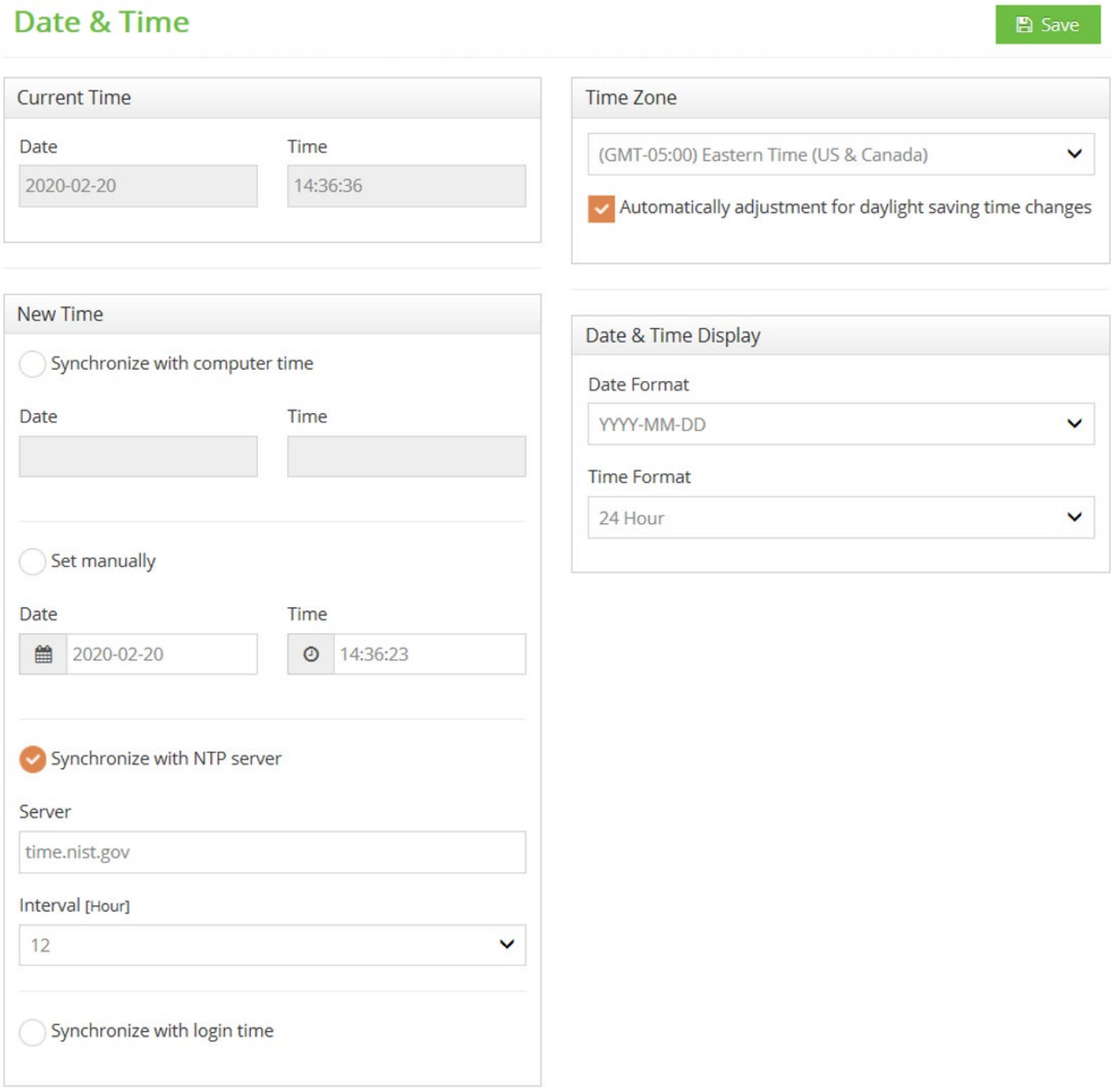
21.5. Video Stream



Determines video stream security settings

- Enable RSTP (Real Time Streaming Protocol) authorization: Check box to activate. RTSP enables TCP between camera and client streaming. The default setting is off.

21.6. Date & Time



Current Time: Show the current date and time.
Date: The default setting is 1970-01-01.

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

New Time: Select one of the server time.
Synchronize with computer time: Set the time according to the clock on your computer.

Set manually: Using this option allows you to enter the date and time manually.

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 server.
Time Zone: 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.

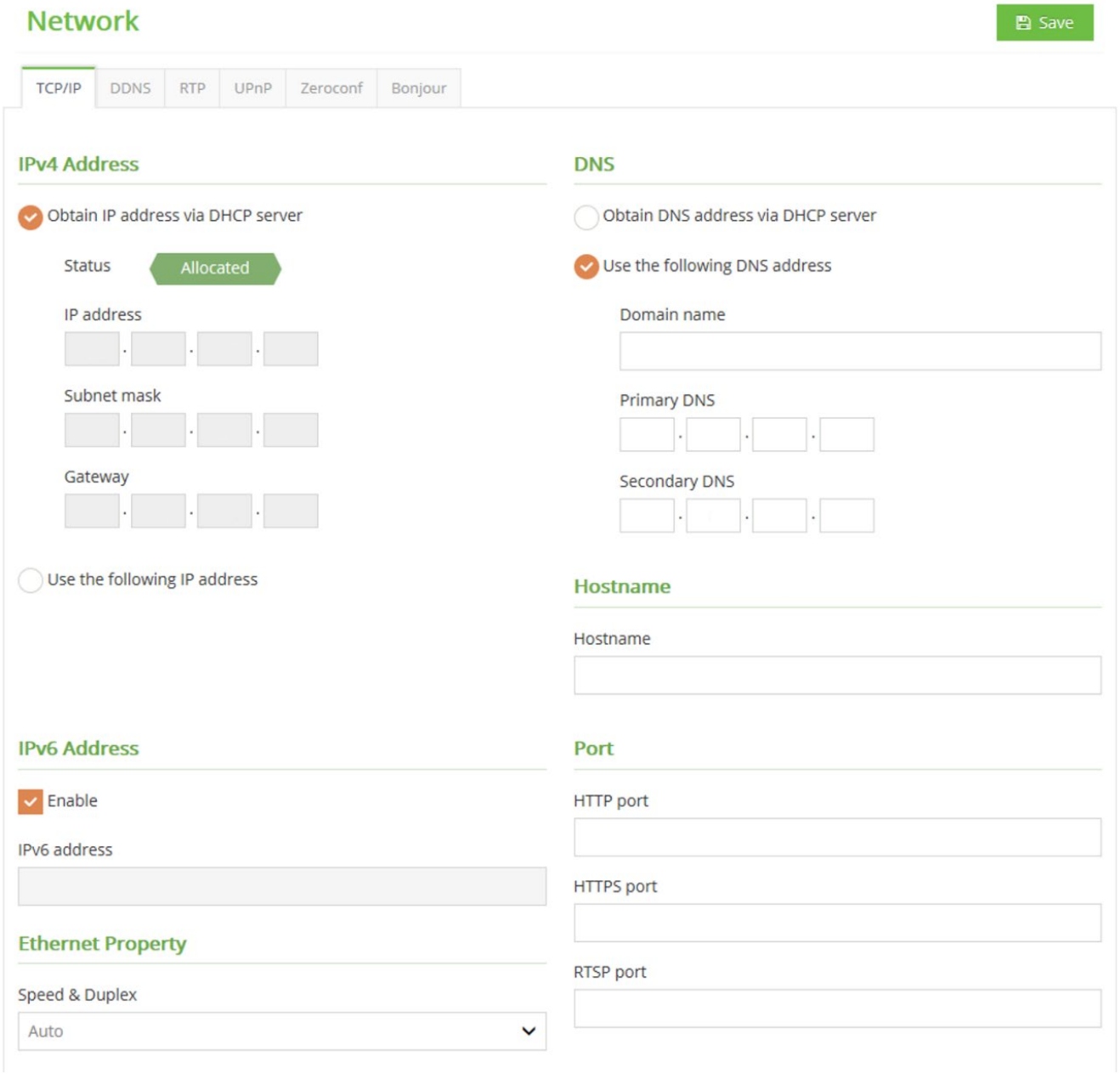
Time zone: The default setting is GMT.

Date & Time Display: 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.

22. Network

22.1. TCP/IP



IPv4 Address: 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 server: Select the choice box if you want to assign the IP address from the DHCP server automatically, and then the remaining setting are read-only text.

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 that the network camera is located on.

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

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

ICMP: Check this box to allow the camera to respond to ICMP ping requests. ARP requests are still usable when unchecked.

IPv6 Address: Check this box to enable IPv6 address configuration. Other settings for IPv6 are configured in the network router.

Ethernet Property: Select the max transfer speed and duplex mode used by the camera.

DNS: DNS (Domain Name Service) provides the translation of host names to IP addresses on your network.

Obtain DNS server via DHCP server: Select the choice box if you want to use the DNS server settings provided by the DHCP server automatically, and then the remaining settings 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.

Hostname: This camera can be accessed using a host name instead of an IP address. The host name is usually the same as the assigned DNS name.

Port: Allow the user to access the camera using web browser encrypted communication.

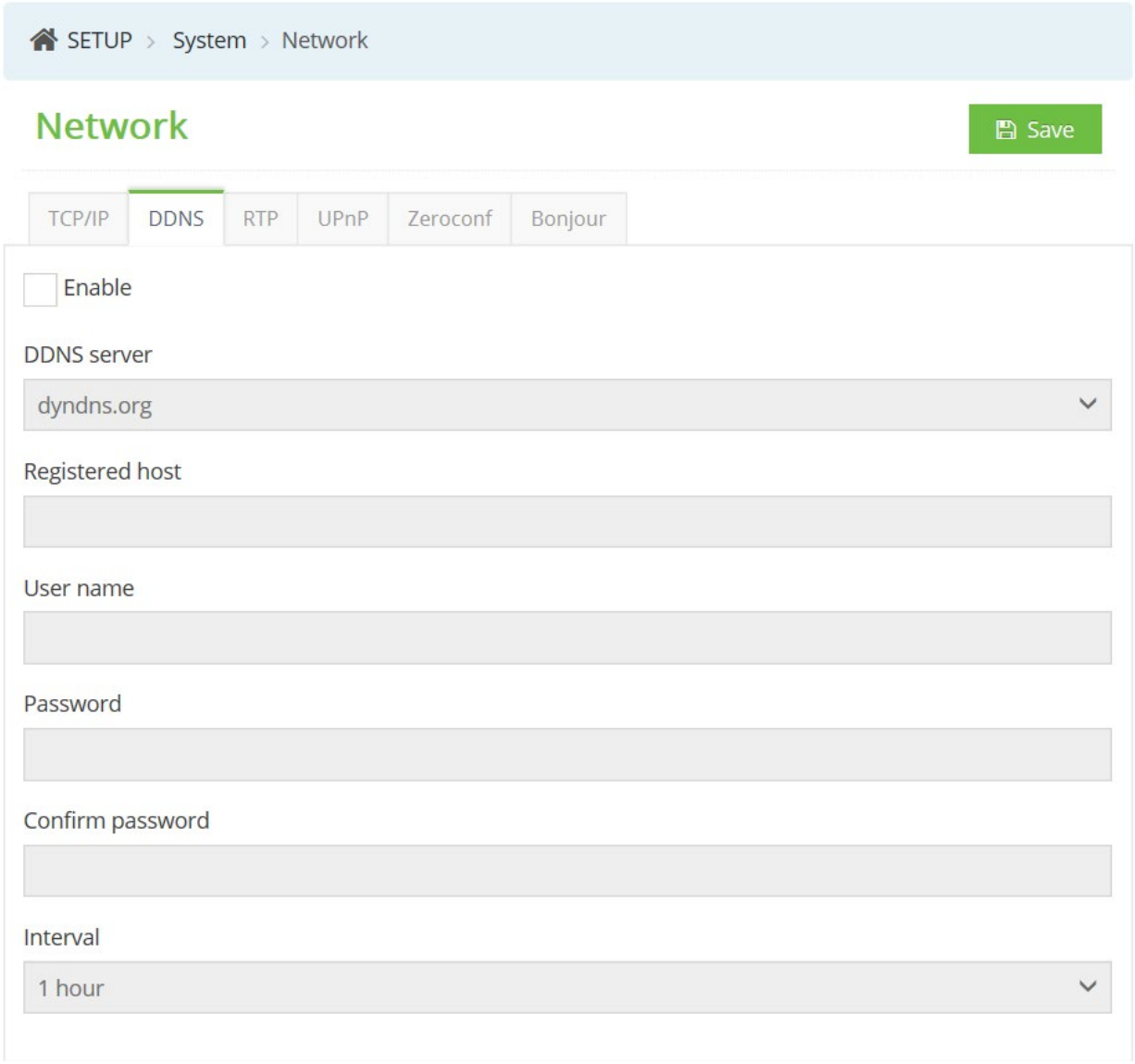
HTTP port: The default HTTP (Hypertext Transfer Protocol) port number is 80 and can be changed to any port within the range 1024-65535.

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.

22.2. 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 to register first.
- 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.
  Click the Enable checkbox to active DDNS service.

DDNS server: Enter the DDNS server name.

Registered host: Enter the registered host name.

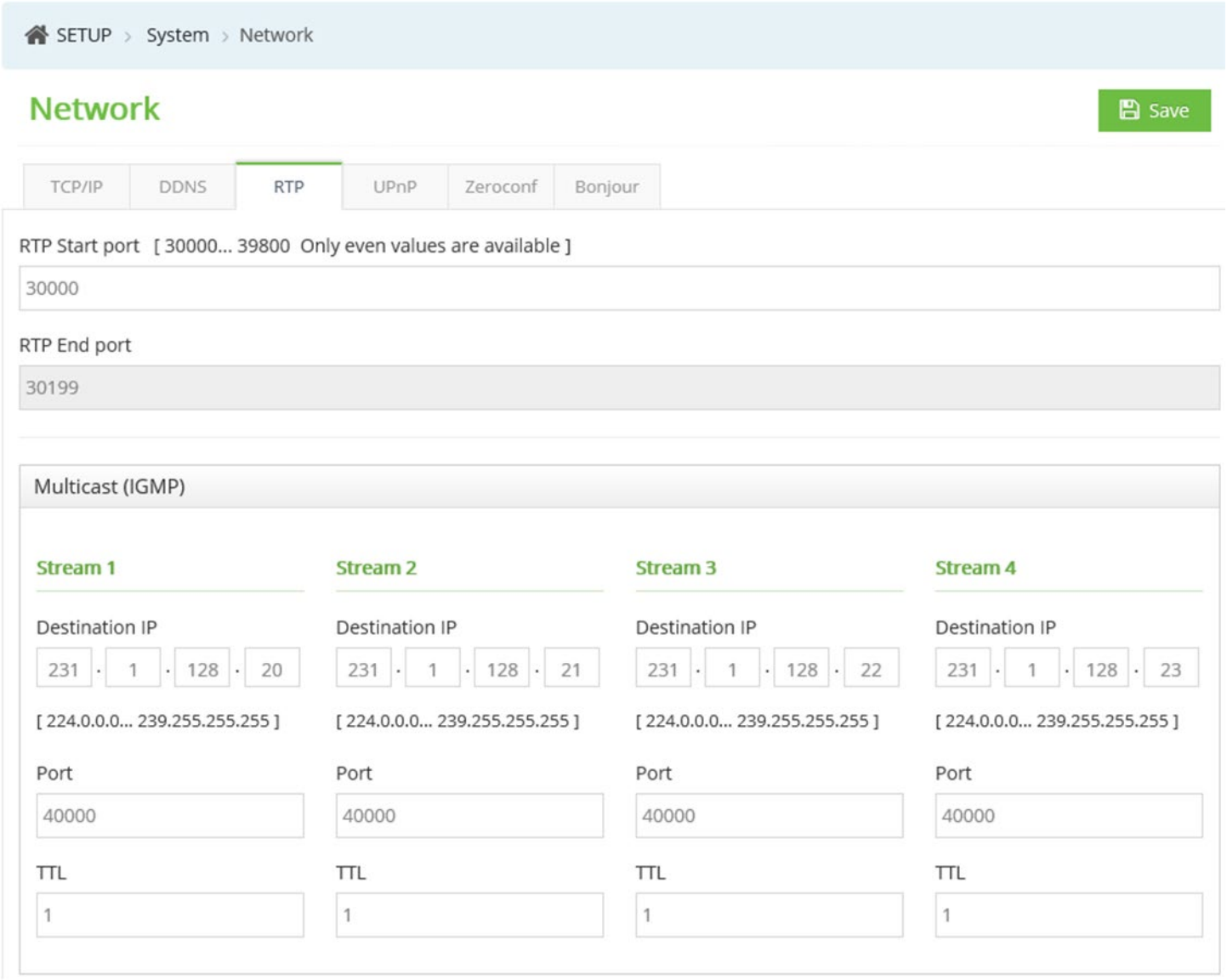
Username: Enter the registered username to be used for accessing the DDNS server.

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

Confirm password: Enter the user password again to confirm.

Interval: Set the interval to regularly update the Dynamic DNS service. The default setting is 1 hour.

22.3. RTP



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 3000-39800. The default setting is 3000.

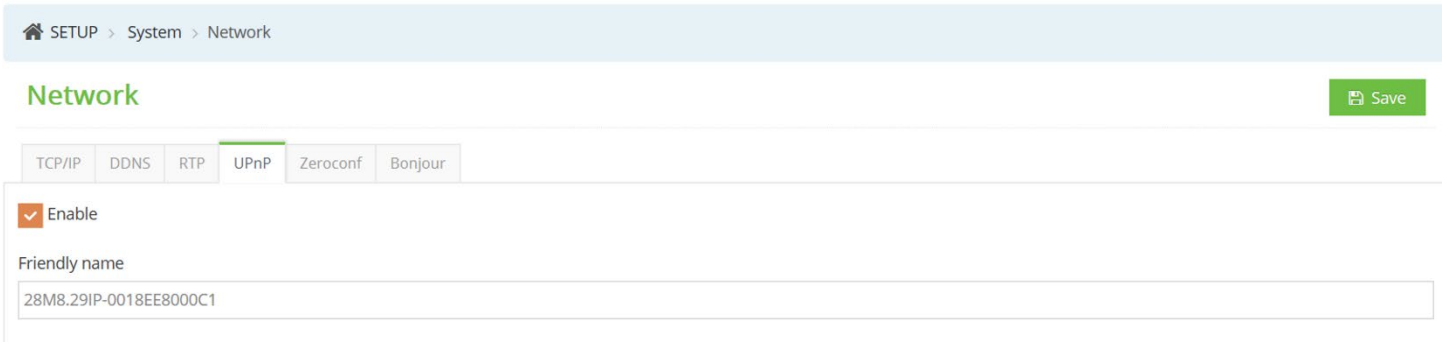
End port: The End port can be entered in the range 3000-39800. The default setting is 30199.
The value is usually measured in 'hops', i.e. the number of network routers that can be passed before the packet arrives at its destination or is dropped.

Destination IP: The destination IP can be between 224.0.0.0 and 239.255.255.255 as shown in the OSD.

Port: The port of the IP address that the stream can be viewed on.

TTL (Time-To-Live): The amount of time/hops the streamed rtp video packets will take before being discarded.

22.4. UPnP



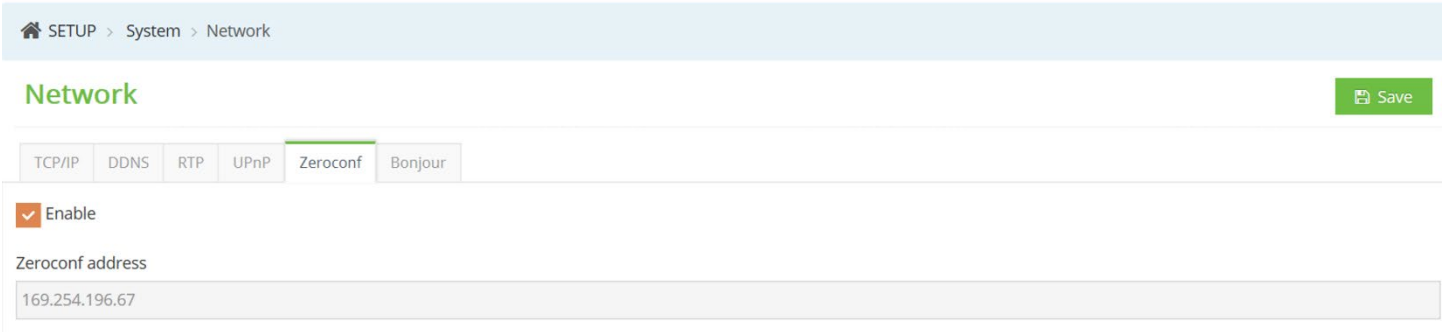
UPnP is enabled by default, and the network camera is automatically detected by operating systems and clients that support this protocol.

UPnP (Universal Plug & Play): 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 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.

22.5. Zeroconf



Zero configurations networking (zeroconf) 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. The default setting is enabling.

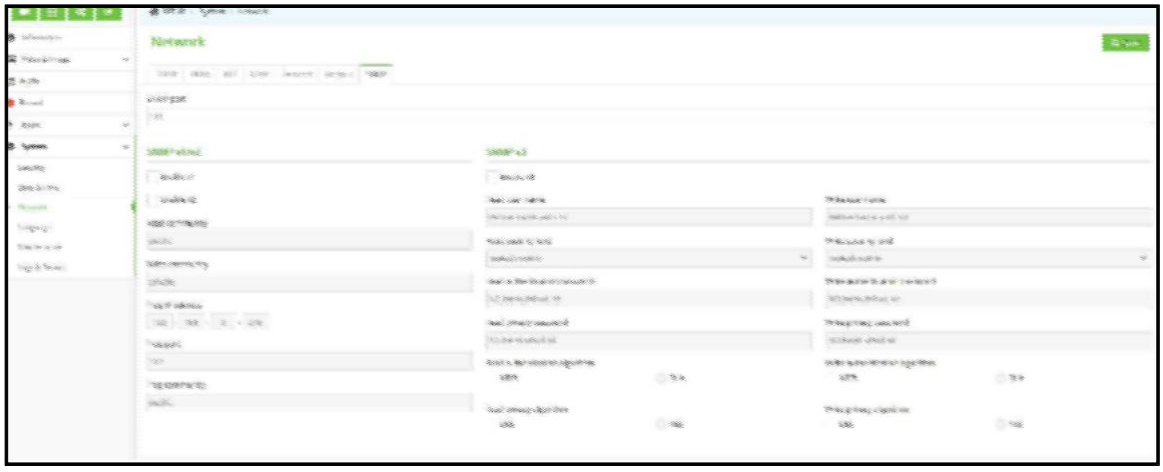
Zeroconf address: The default zeroconf ip is 169.254.xxx.xxx

22.6. Bonjour

Bonjour is Apple Inc.'s version of zero-configuration networking (zeroconf), a set of protocols that allows a network device to automatically recognize and communicate with another device on the network. This streamlined technology allows users with no experience to set up and use devices on a network.

Friendly name: Enter your favorite name.

22.7. SNMP



Simple Network Management Protocol (SNMP) is an application-layer protocol used to manage and monitor network devices and their functions. SNMP provides a common language for network devices to relay management information within single- and multivendor environments in a local area network (LAN) or wide area network (WAN).

This camera supports multiple versions: SNMPv1, SNMPv2, and SNMPv3

SNMP port: The default port is 161.

SNMP v1/v2: SNMP version 1 (SNMPv1) is the initial implementation of the SNMP protocol. SNMPv1 may be carried by transport layer protocols such as User Datagram Protocol (UDP), Internet Protocol (IP). SNMPv2 revises version 1 and includes improvements in the areas of performance, security, confidentiality, and manager-to-manager communications. Trap means asynchronous notification from agent to manager.

Read community: The default value is public.

Write community: The default value is private.

Trap IP address: The default IP address is 192.168.0.248

Trap port: The default port is 162.

Trap community: The default value is public.

SNMP v3: The most visible change was to define a secure version of SNMP, by adding security and remote configuration enhancements to SNMP.

Read username: The default value is defusername_auth_rd.

Read security level: Select one of the options. The default value is noAuth noPriv.

Read authentication password: The default value is NCUserAuthPwd_rd.

Read privacy password: The default value is NCUserPrivPwd_rd.

Read authentication algorithm: Select one of the options. The default value is SHA.

Read privacy algorithm: Select one of the options. The default value is AES.

Write username: The default value is defusername_auth_wr.

Write security level: Select one of the options. The default value is noAuth noPriv.

Write authentication password: The default value is NCUserAuthPwd_wr.

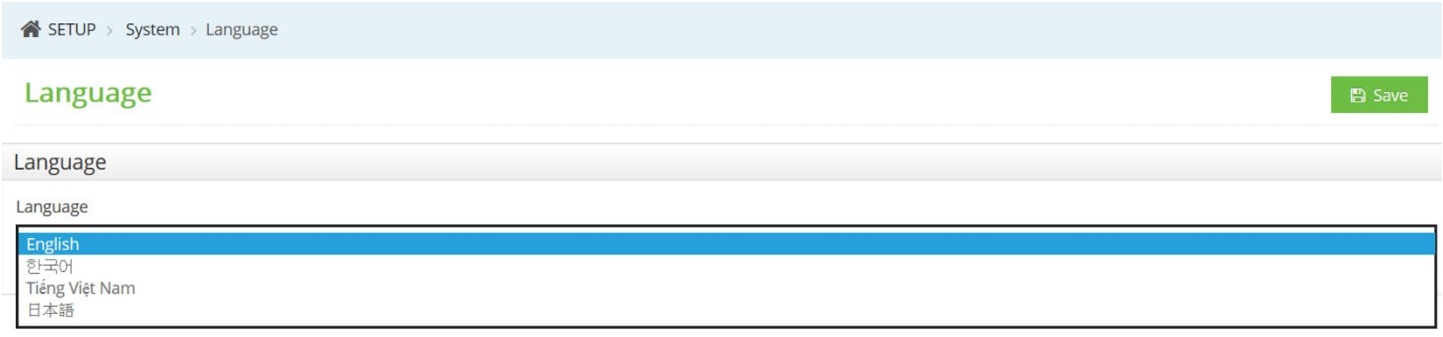
Write privacy password: The default value is NCUserPrivPwd_wr.

Write authentication algorithm: Select one of the options. The default value is SHA.

Write privacy algorithm: Select one of the options. The default value is SHA.

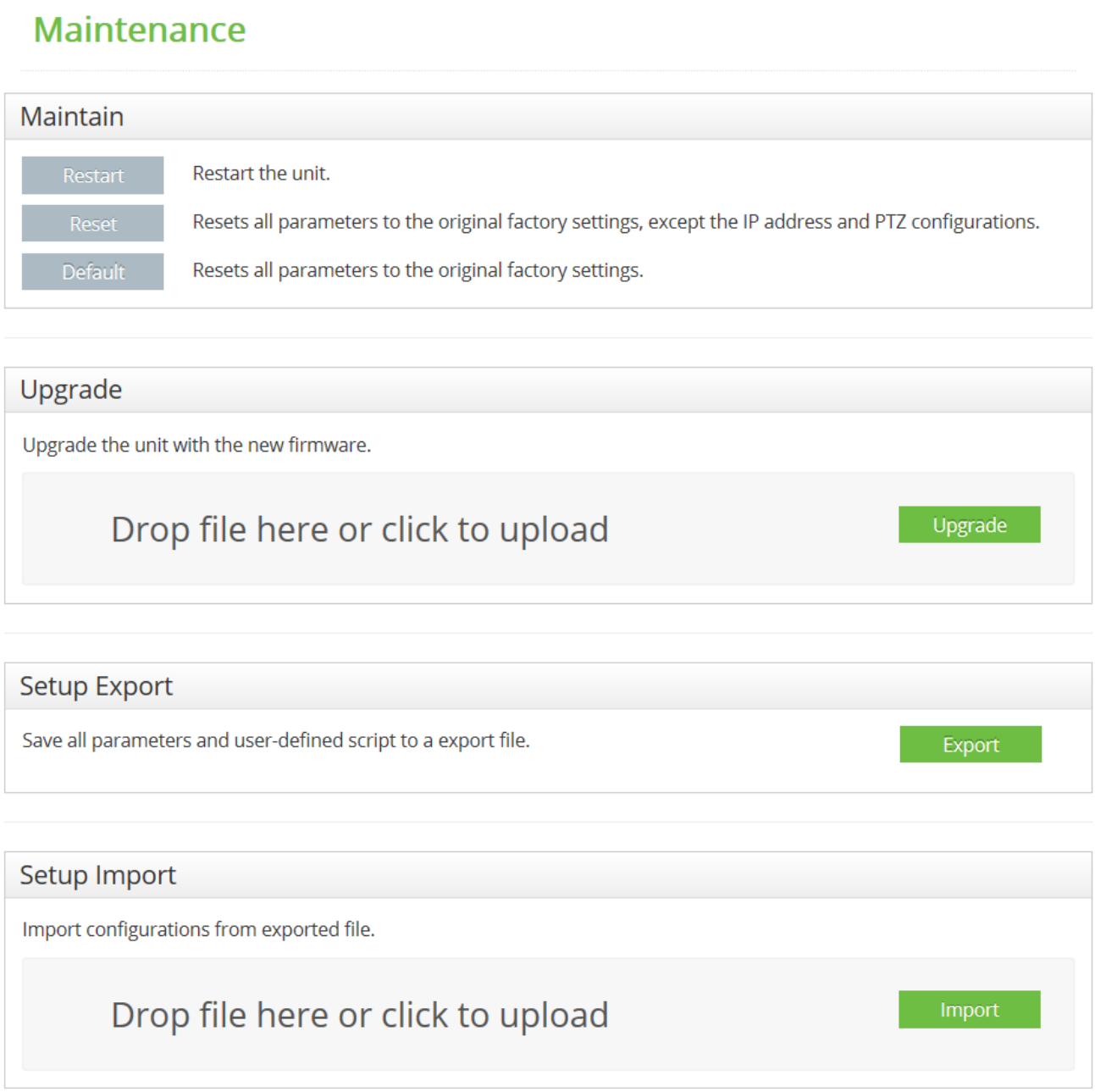
NOTES
If you cannot find the help you require, please contact your network administrator.
The function of SNMP is dependent on the camera model.

23. Language



The default setting is English.

24. Maintenance



Provide software reset of the camera when troubleshooting.

Restart: Camera is restarted without changing any of the settings. Use this method if the unit is not behaving as expected.

Reset: Camera is restarted, and most current settings are reset to factory default values, but the following settings does not reset.

- Boot protocol (DHCP or static)
- Static IP address
- Default router
- Subnet mask
- System time

Default: The Default button should be used with caution. Pressing this returns the camera's settings to the factory default values including the IP address.

Upgrade: Provide the latest firmware into this camera. When you upgrade the firmware with a file, your camera receives the latest available functionality and unparalleled reliability. Upgrades the new firmware as following steps;

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

NOTE
Do not disconnect power to the camera during the upgrade. Camera restarts automatically after the upgrade has completed. (2~3 minutes)

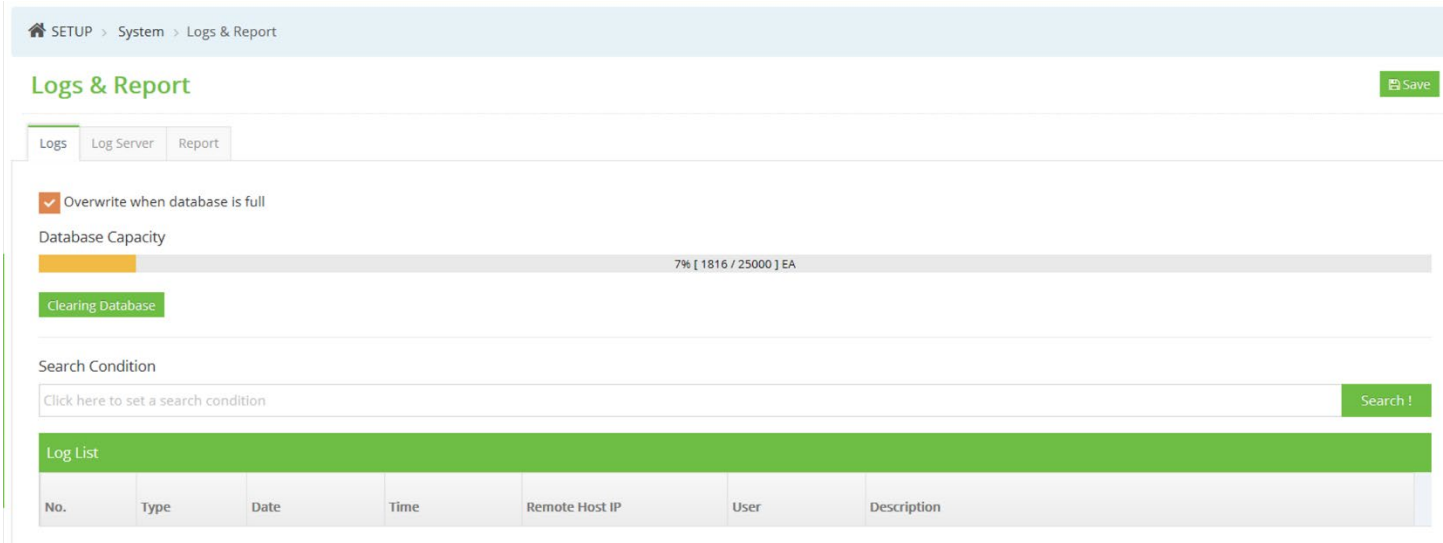
Setup Export: Save all parameters and user-defined scripts to a backup file. Click the Backup button to take a backup of all the parameters, and any user-defined script.

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

NOTE
Setup Export and Import function 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.

24.1. Logs & Report

Logs
The log files record events in the unit since the last system restart and can be a useful diagnostic tool when troubleshooting. The Report contains important information about the system.



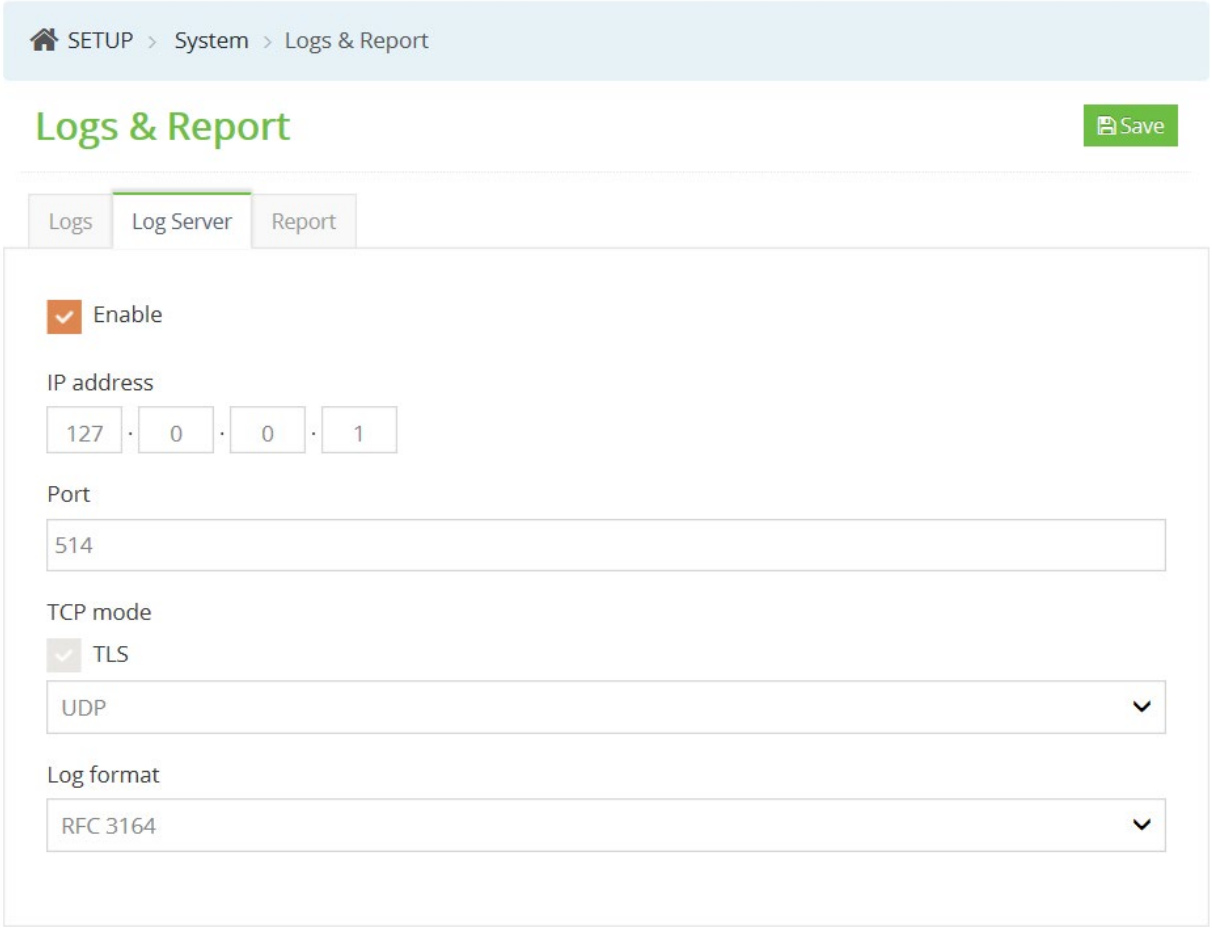
Database Capacity: Indicate the log file capacity.

Clearing Database: Delete a log files in the database.

Search Condition: Enter a log parameter for searching log item.

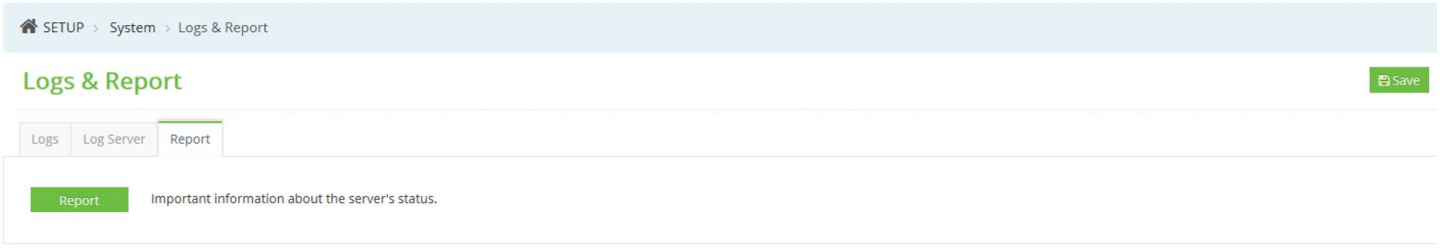
Log List: Provide log information.

24.2. Log Server



IP address: Enter IP address for the server.
Port: Enter port number of the server.
TCP Mode: Choose communication protocol from camera to server.
Log Format: Choose format of message delivered to the server.

24.3. Report



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

25. Troubleshooting

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

25.1. 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 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 n/ Upgrade for more information.

25.2. General Troubleshooting

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

Symptom → Possible Causes or Corrective Actions

1. The camera cannot be accessed by some clients.
   → if using a proxy server, try disabling the proxy setting in your browser. Check all cabling and connectors.
2. The camera works locally, but not externally.
   → Check if there are firewall settings that need to be adjusted. Check if there are router settings that need to be configured.
3. Poor or intermittent network connection.
   → if using a network switch, check that the port on that device uses the same setting for the network connection type (speed/duplex).
4. The camera cannot be accessed via a host name.
   → Check that the host name and DNS server settings are correct.
5. Not possible to log in.
   → When HTTPS is enabled, ensure that the correct protocol (HTTP or HTTPS) is used. When attempting to log in, you may need to manually type in http or https in the browser's address bar.
6. No image using Refresh and/or slow updating of images.
   → if images are very complex, try limiting the number of clients accessing the camera.
7. Images only shown in black & white.
   → Check the Video & Image setting.
8. Blurred images.
   → Refocus the camera.
9. Poor image quality.
   → Increased lighting can often improve image quality. Check that there is enough lighting at the monitored location. Check all image and lighting settings.
10. Rolling dark bands or flickering in image.
    → Try adjusting the Exposure Control setting under AE and AWB menu.
11. H.264/H.265 not displayed in the client.
    → Check that the correct network interface is selected in the Video & Image/Stream.
12. Multicast H.264/H.265 not displayed in the client.
    → Check with your network administrator that the multicast addresses used by the camera are valid for your network. Check that the Enable multicast checkbox are enabled in the System/Network/RTP tab. Checks with your network administrator to see if there is a firewall preventing viewing.
13. Multicast H.264/H.265 only accessible by local clients.
    → Check if your router supports multicasting, or if the router settings between the client and the server need to be configured. The TTL value may need to be increased.

14. Color saturation is different in H.264/H.265 and Motion JPEG.
    → Modify the settings for your graphics adapter. Please see the adapter's documentation for more information.
15. Poor audio quality.
    → Too many clients connected to the camera may affect the sound quality adversely. Try limiting the number of clients allowed to connect.
16. Distorted audio.
    → Check that the correct input 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.

26.Contact Information

For technical assistance with this product, please contact the supplier from whom the product was purchased.

For OEM inquiries, contact Videology:

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