OMNIEYE SECURITY

a brand of Spark

# Omnieye Motorized Lens Camera
# User Manual

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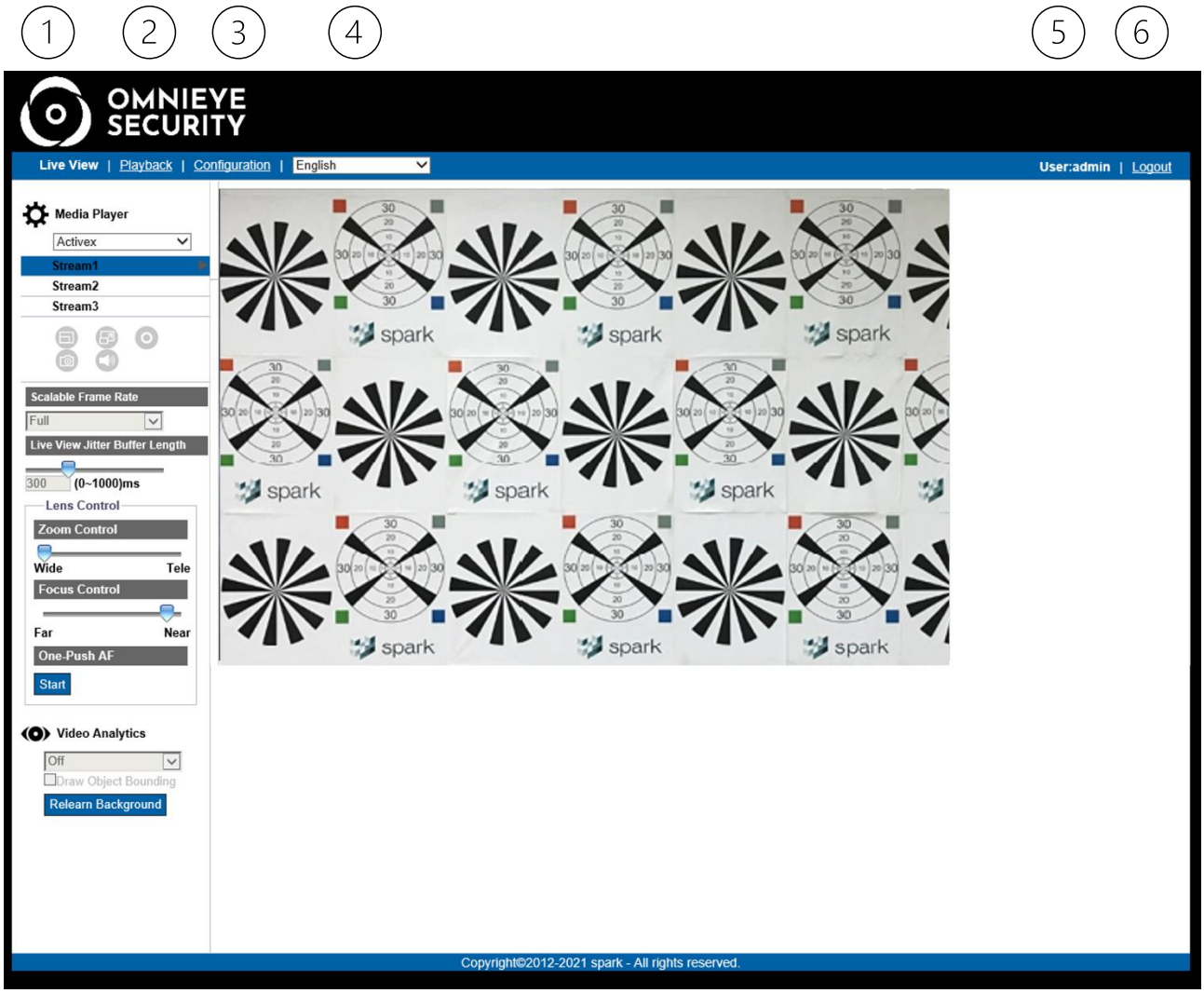
# 1. CONNECTION

## 1.1 Connecting from computer

First make sure the camera and computer are on the same subnet. Then, start a browser and enter the default IP address 192.168.1.219. A login window as shown below will pop up.

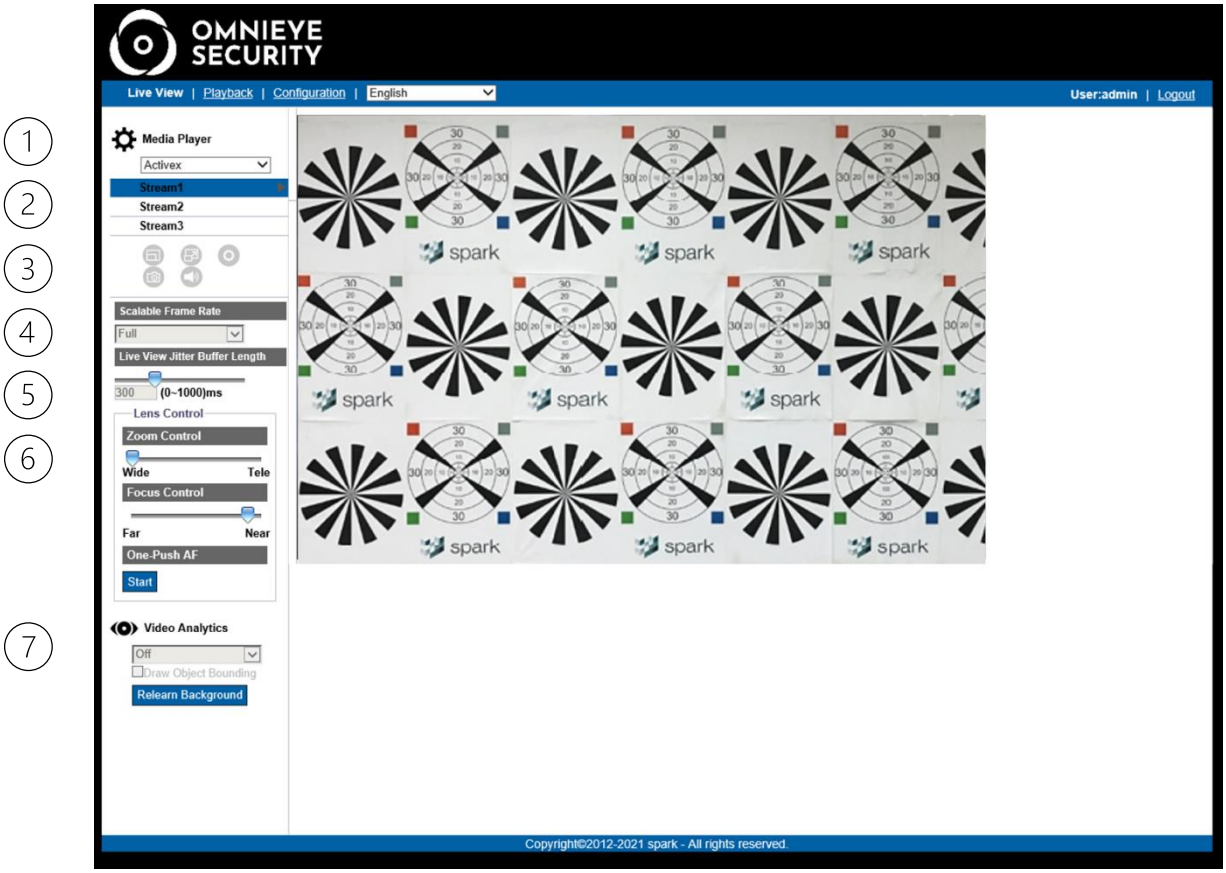
Insert username and password to access camera. Default username is admin. There is no default password for security reasons. Insert a new password for admin. The password must be at least 8 characters and must contain at least 1 uppercase letter, 1 special character and 1 alphanumeric character.

## 2. HOME PAGE




| | | |
|---|---|---|
| 1 | Live view | Click to access camera live view. Live view is also the default landing page when logging in to the camera web interface. |
| 2 | Playback | Click to access camera playback. |
| 3 | Configuration | Click to access camera configuration. |
| 4 | Language | Click the dropdown menu to select interface language. |
| 5 | User level | Displays the current user level accessing the camera. |
| 6 | Logout | Click to logout. |

## 3. LIVE VIEW

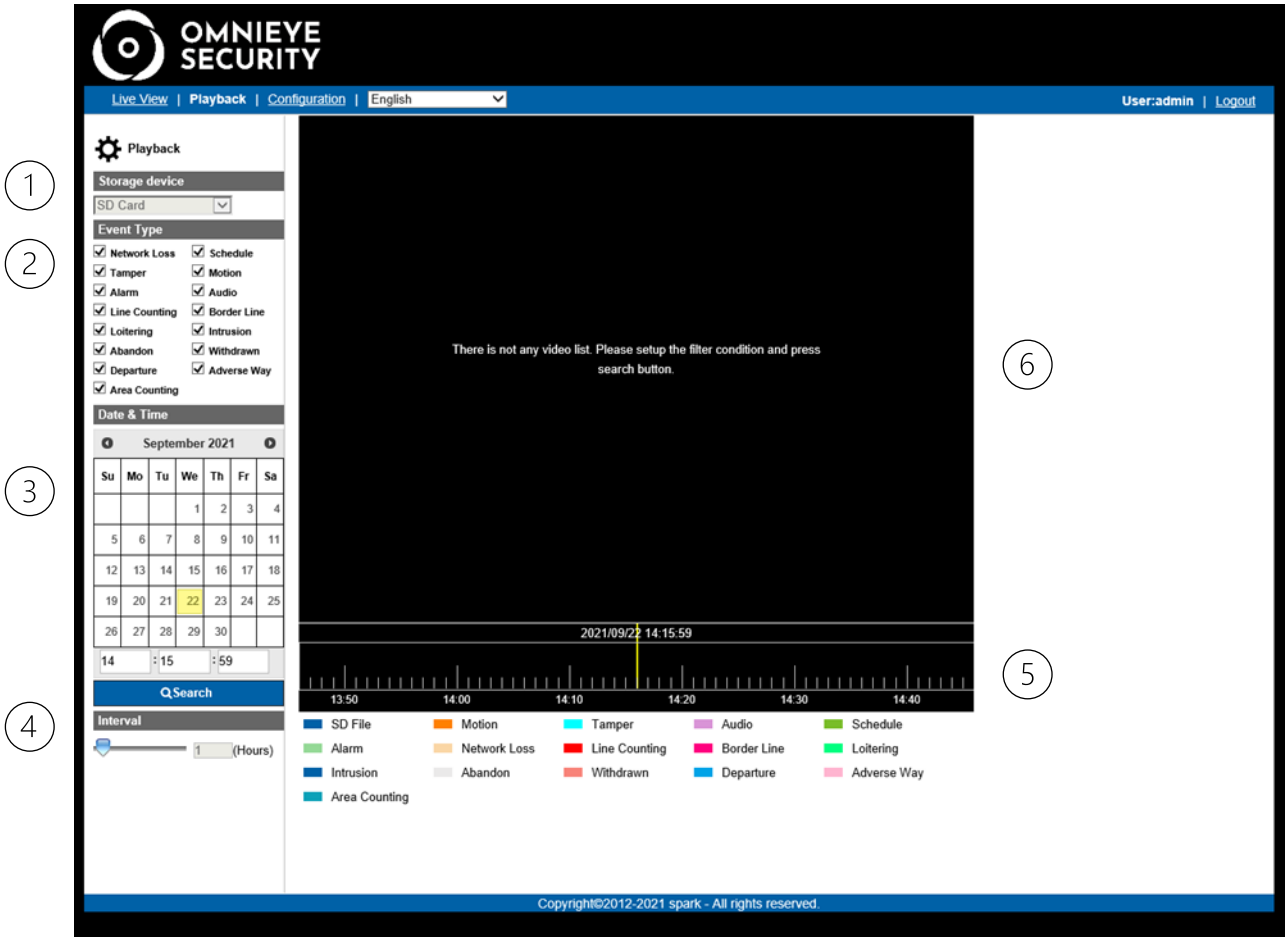



| | | |
|---|---|---|
| 1 | Media player | - ActiveX: provides full functionality, better image quality and lower bandwidth consumption in Live View page. Only available for Internet Explorer.<br>- JPEG / H.264: provides lower frame rate display but offers broader browser compatibility, including Chrome, Opera, etc. |
| 2 | Streams | Up to 3 streams available. Note: this feature is only available in ActiveX mode. |
| 3 | Icons | Snapshot: click to take a snapshot.<br>Full screen: click for full screen display. Press ESC to go back.<br>Manual recording: click to start manual recording. A red dot icon will appear on the upper-right corner to indicate live image is being recorded.<br>Zoom control: click the icon, then move the mouse over the live view image and scroll to perform digital zoom in/out.<br>Audio: click the icon to enable/disable audio output functions.<br>Note: JPEG mode only supports snapshot. Use ActiveX mode to enjoy full feature. |
| 4 | Scalable frame rate | Allows user to dynamically adjust frame rate on browser for smooth video display.<br>- Full: displays full frame rate according to settings under Encode page.<br>- 1/2: displayed frame rate will be reduced to one half.<br>- 1/4: displayed frame rate will be reduced to one quarter.<br><br>Note: Use ActiveX mode and turn on SVC-T before using this function. |

| | | |
|---|---|---|
| 5 | Live view jitter buffer length | Live View Jitter Buffer Length decides when to transmit media packets for Live View display based on packets it has collected, packets it is still waiting for, and the timing required to playback the media.<br><br>Dragging the adjustable bar of “Live View Jitter Buffer Length” to higher value lessen the negative effect, namely choppy live video display, caused by transmission delay arising from network congestion. However higher values also increase overall transmission latency.<br><br>Note: this feature is only available in ActiveX mode. |
| 6 | Lens control | Remote control of lens and focus control. |
| 7 | Video Analytics | Select a video analytics function from the dropdown menu. Make sure the selected function is enabled on the video analytics page.<br><br>Check the Draw Object Bounding box to enable the camera to frame the detected object when motion detection is activated.<br><br>Click Relearn Background to save new background to compare when motion is detected. |

## 4. PLAYBACK

After logging in to the camera, click on Playback to access videos stored on the MicroSD card. Make sure the browser supports the video and audio format. It is recommended to use Chrome or Safari.

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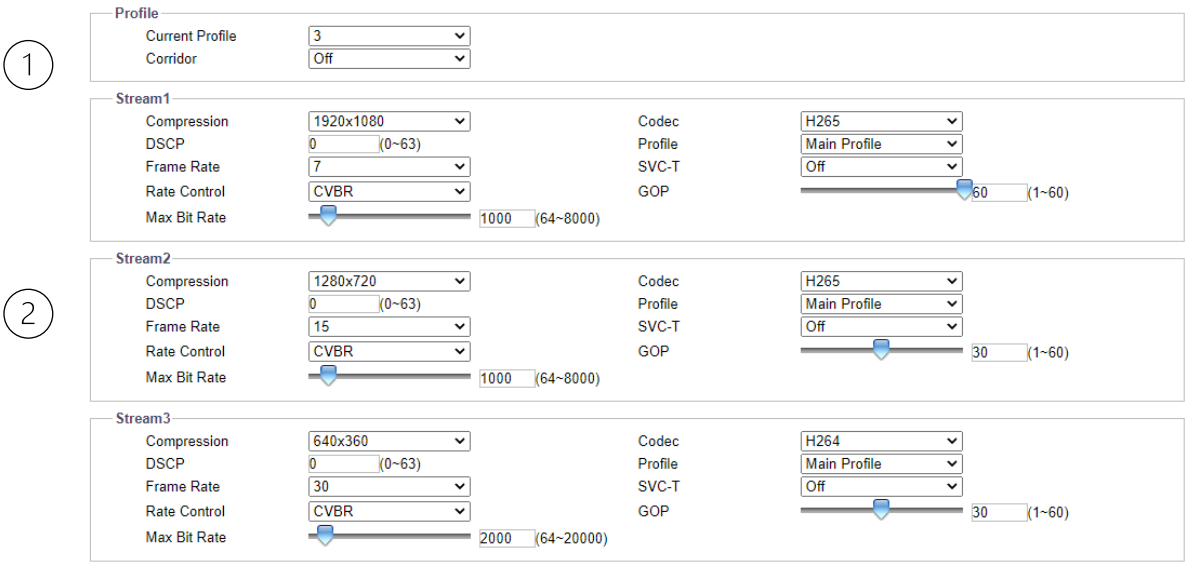
|---|---|---|
| 1 | Storage device | Supports MicroSD card from the camera. |
| 2 | Event type | Select the type of event that triggered the video recording you are searching for. Available options include motion, tamper, audio, schedule, alarm, network loss, line counting, border line, loitering, intrusion, abandon, withdrawn, departure, adverse way, area counting. |
| 3 | Date & Time | Select the date and time of the video recording you are searching for. Click the search button to start searching videos according to the above configurations. |
| 4 | Interval | Define the interval of timeline area in terms of hours. |
| 5 | Timeline | Available recordings on the selected time frame and event type will be shown on the timeline. |
| 6 | Display | Click on the colored bar on the timeline area and recorded video will automatically start playing on the display. |

# 5. CONFIGURATION

## 5.1 Encode

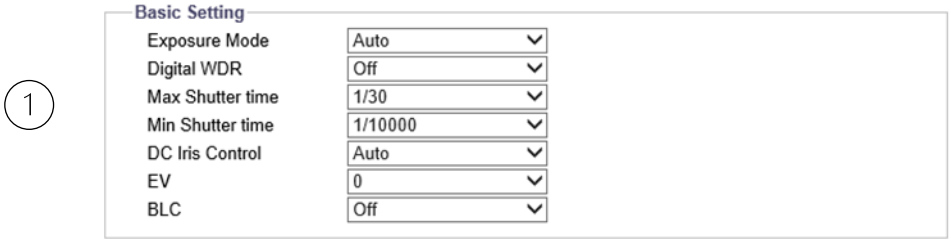


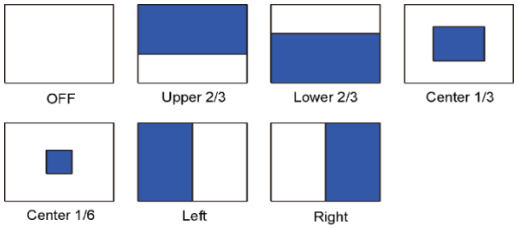

| | | |
|---|---|---|
| 1 | Profile | Select the profile to configure. |
| 2 | Stream | Configure each stream depending on the network environment and application.<br>**Compression**: select a resolution. Available options depend on camera model.<br>**DSCP**: define DSCP value for bandwidth management. Bigger value means higher priority.<br>**Frame rate**: define the frequency at which images are captured per second.<br>**Rate control**: available options include CBR, CVBR, VBR. For CBR or CVBR, please use the default bit rate for better balance between image quality and network bandwidth. For VBR, choose quality level based on your needs.<br>**Codec**: select codec. Available options include MJPEG, H.264, H.265.<br>**Profile**: available options depend on selected codec. H.264 supports Main profile and High profile. H.265 only supports Main profile.<br>**SVC-T**: enable this feature to effectively adjust video quality depending on client device.<br>**GOP**: select the value length of group of pictures. Smaller value provides better image quality but more network bandwidth. |

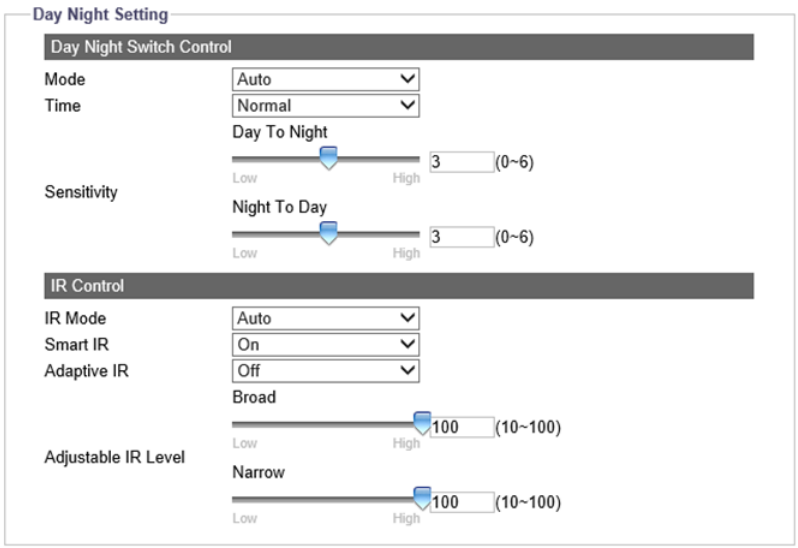
## 5.2 Image

### 5.2.1 Exposure

This section mainly allows user to control the settings pertaining to exposure mode and day night modes.



| | | |
|---|---|---|
| 1 | Basic setting | **Exposure mode**: select the exposure mode according to your needs.<br>- Auto: automatically determines the correct exposure.<br>- Flickerless: overrides the shutter speed to avoid interference of fluorescent lights.<br>- Shutter priority: allows user to select specific shutter speed.<br>- Manual: manually control gain value and shutter speed.<br>- True WDR: provides clear images even when extreme bright and dark areas exist simultaneously. Note: when enabled, max frame rate will decrease to 30fps.<br>**Digital WDR**: optimizes image quality by adjusting the gamma value, providing clear images even when extreme bright and dark areas exist simultaneously.<br>**Max shutter time**: only available when auto exposure mode is selected.<br>**Min shutter time**: only available when Auto exposure mode is selected.<br>**DC iris control**: select DC iris mode.<br>- Auto: allows DC iris opening to adjust in accordance with the lighting conditions.<br>- Full: keeps the DC iris opening to the max value regardless of the lighting conditions.<br>**EV**: define the exposure compensation. Positive number provides brighter images, while negative number provides darker images. EV is not available in manual exposure mode.<br>**BLC**: select the area for backlight compensation. Only available when auto exposure mode is selected. Below is a reference of the area size of the available options:<br>  <br><br>**Frequency**: select power line frequency. Only available on flickerless mode.<br>**Shutter speed**: define shutter speed. Only available on shutter priority or manual mode.<br>**Gain**: define intensity of lights coming into the camera. Only available on manual mode. |




2

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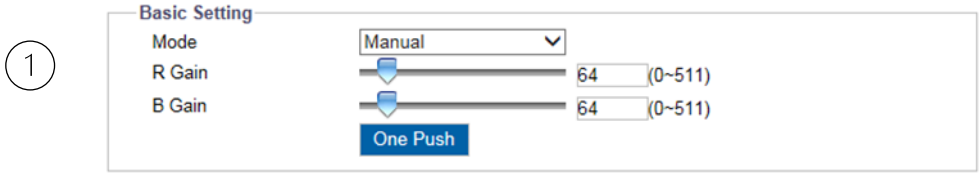
| | | |
|---|---|---|
| 2 | Day night switch control | **Mode**: select day night mode. Auto mode is not available on manual exposure mode.<br>- Auto: camera automatically switch modes depending on the lighting conditions<br>- Color or B/W: camera keeps selected mode regardless of the lighting conditions.<br>**Time**: set buffer time for switching modes. Not available on manual exposure mode.<br>**Sensitivity**: define sensitivity for switching mode. Not available on manual mode. |
| 3 | IR control | **IR mode**: select IR mode.<br>- Auto: camera automatically switch modes depending on the lighting conditions<br>- On or Off camera keeps selected mode regardless of the lighting conditions.<br>**Smart IR**: when enabled, the camera dynamically adjusts shutter speed and sensor gain to prevent overexposure. Note: digital WDR will be activated when Smart IR is enabled.<br>**Adaptive IR**: when enabled, the camera dynamically adjusts the IR intensity depending on the environment changes. Select off to manually adjust the IR level.<br>**Adjustable IR level**: manually adjust the IR level. Only available when adaptive IR is off. |

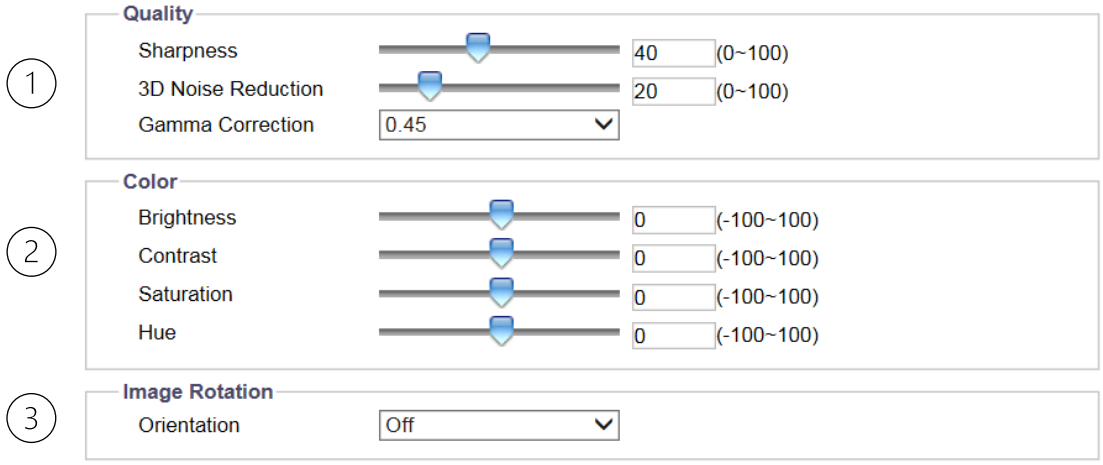
### 5.2.2 White Balance

This section allows user to set the white balance values to meet ambient conditions for best color rendition.




| | | |
|---|---|---|
| 1 | Basic setting | **Mode**: select white balance mode.<br>- Auto: adjusts color balance in accordance with any change in color temperature.<br>- ATW: automatically controls color temperature ranging from 2500°K to 10000°K.<br>- Manual: manually adjust red and blue color on the image. Click one push for camera to adjust proper gain values depending on current environment conditions. |

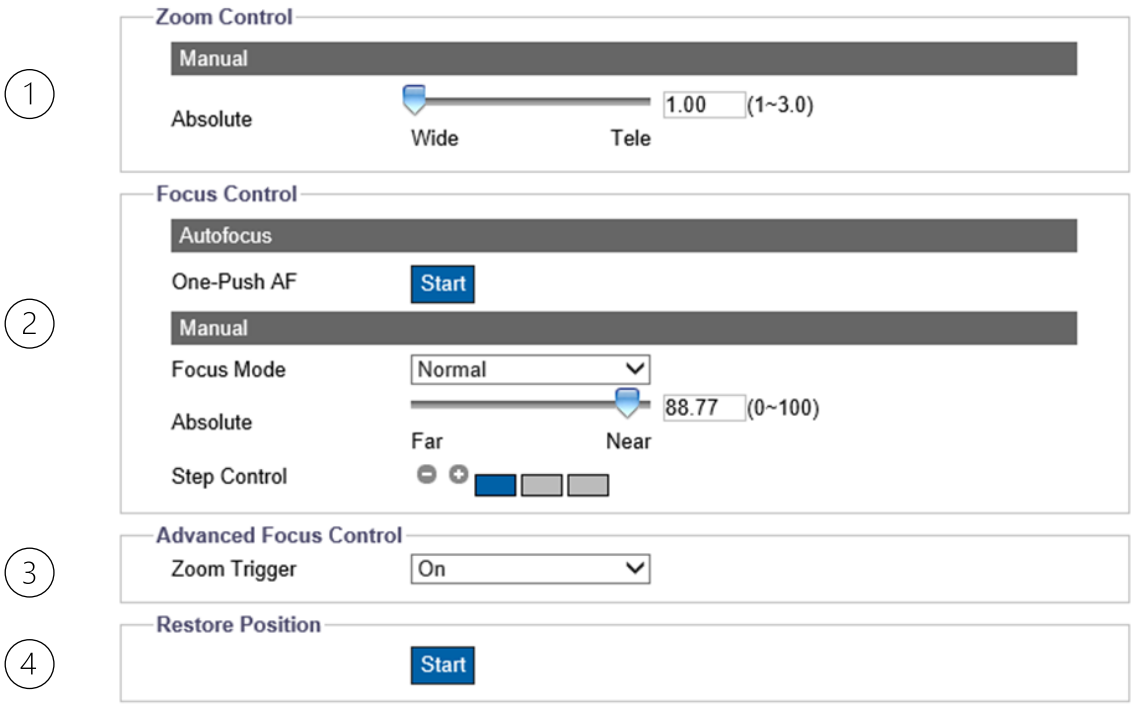
### 5.2.3 Basic Setting




| | | |
|---|---|---|
| 1 | Quality | **Sharpness**: adjust image sharpness. Higher value provides sharper images. |

| | | |
|---|---|---|
| | | **3D noise reduction**: analyzes sequence of frames to filter out pixels that likely represent noise. Higher value provides higher effect of noise reduction but may create motion blur.<br>**Gamma correction**: set gamma correction for accurate image display on different screen. |
| 2 | Color | **Brightness**: adjust image brightness. Higher value provides brighter images.<br>**Contrast**: adjust image contrast. Higher value provides higher contrast images.<br>**Saturation**: adjust image saturation. Lower value provides images in grayscale.<br>**Hue**: adjust image hue. Higher value provides deeper hue effect. |
| 3 | Image rotation | Select image orientation. |

## 5.3 Lens Control




| | | |
|---|---|---|
| 1 | Zoom control | **Manual**: drag the bar to wide/tele to zoom in/out of the image. |
| 2 | Focus control | **Autofocus**: click start on One-Push AF to perform autofocus.<br>**Manual**: select mode depending on your need.<br>- Normal: select to manually adjust back focus.<br>- Advanced: select to configure separate back focus for day / night mode. |
| 3 | Advanced focus control | **Zoom trigger**: when enabled, the camera automatically adjusts lens focus based on surrounding light intensity. |
| 4 | Restore position | Click start to restore zoom magnification and lens focus back to default settings. |

## 5.4 Video

### 5.4.1 Privacy Zone

Privacy zone enables user to black out a specific portion of the image. Privacy zone will apply to all streams, TV output, and Live View and it does not affect motion detection.

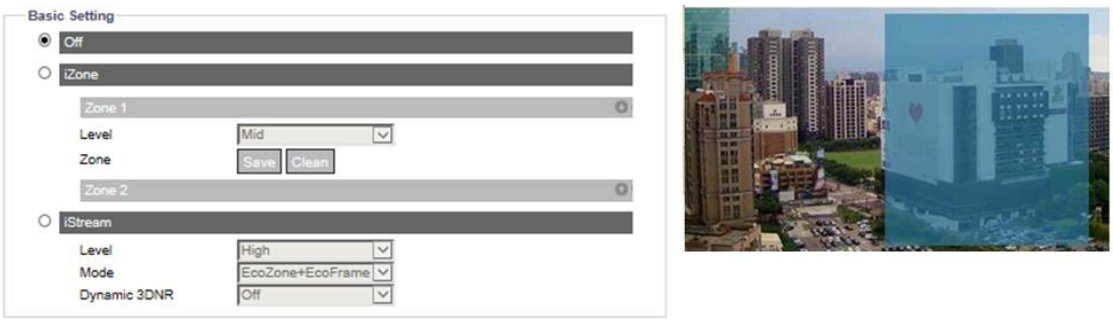
1

| | | |
|---|---|---|
| 1 | Basic setting | **Privacy color setting**: select color for the privacy zone from the dropdown menu.<br>**Enable**: select on/off to enable/disable the privacy zone.<br>**Zone setting**: click clean to delete the privacy zone. |

### 5.4.2 Enhanced Codec

Enhanced Codec features iZone and iStream technologies to exert leverage between different regions and compression level, effectively optimizing bandwidth usage.

1



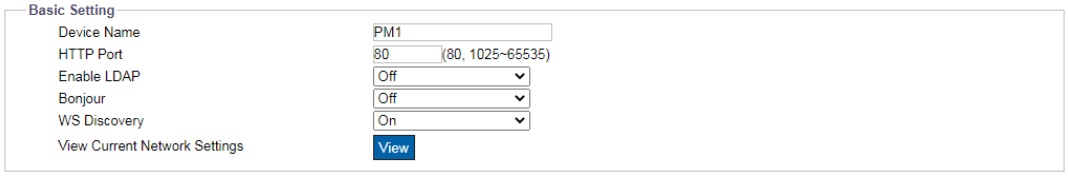

| | | |
|---|---|---|
| 1 | Basic setting | **iZone** allows users to designate an area for enhancing image quality. The undefined area will have higher compression ratio to match target bitrate. To draw an area, left click on the image and drag to outline the desired zone. Select the level for the zone and click save to apply the new changes or click clean to delete the settings.<br><br>**iStream** EcoZone mode automatically identifies dynamic motions and applies higher compression level to the static background. Rate control settings will not be available when using EcoZone. EcoZone+EcoFrame mode additionally reduces iframe on minor motions scene. When using EcoFrame, GOP settings will not be available.<br><br>Dynamic 3DNR automatically adjusts noise reduction level according to the environment conditions. When dynamic 3DNR is enabled, 3DNR under images will not be available. |

## 5.5 Network

### 5.5.1 General

This section is for user to set detailed settings related to wired network condition for the camera.

1

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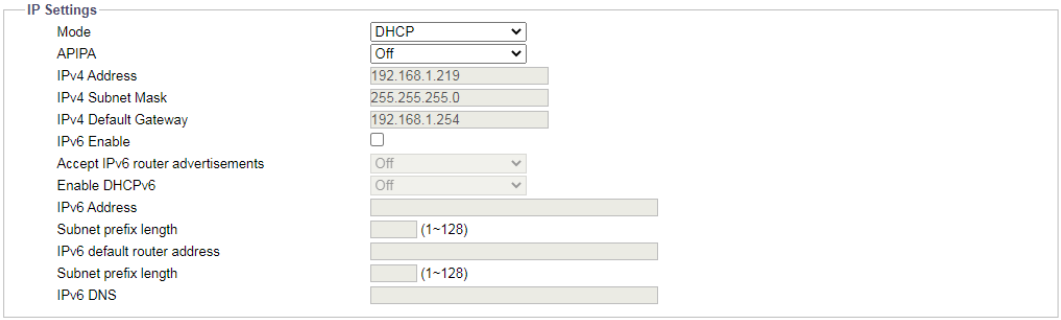
|---|---|---|
| 1 | Basic setting | **Device Name**: enter device name.<br>**HTTP Port**: insert desired HTTP port. Default port number is 80.<br>**Enable LDAP**: select on/off to enable/disable Lightweight Directory Access Protocol.<br>**Bonjour**: select on/off to enable/disable Bonjour protocol.<br>**WS Discovery**: select on/off to enable/disable web service discovery.<br>**View Current Network Settings**: click view to see current network related settings. |

2




| | | |
|---|---|---|
| 2 | IP settings | **Mode**: select mode according to your needs. Available options: manual, PPPoE, DHCP.<br>**APIPA**: select on/off to enable/disable automatic private IP addressing.<br>**IPv4 address**: insert IP address.<br>**IPv4 subnet mask**: default is 255.255.255.0.<br>**IPv4 Default Gateway/Primary DNS/Secondary DNS**: default is blank. Not mandatory field.<br>**IPv6 enable**: check box to enable IPv6 protocol.<br>**Accept IPv6 router advertisements**: select on to enable router advertisement.<br>**Enable DHCPv6**: enable for camera to obtain IPv6 address from DHCP server.<br>**IPv6 address**: insert IP address<br>**Subnet prefix length**: set prefix length for subnet.<br>**IPv6 default router address**: set a default router address under IPv6 protocol.<br>**Subnet prefix length**: set prefix length for subnet.<br>**IPv6 DNS**: set a Domain Name Server under IPv6 protocol. |
| 3 | Wired setting | **Speed & Duplex**: half duplex can only send or receive info at a time. Full duplex can receive and send info simultaneously. Auto allows camera to decide which mode to adopt. |
| 4 | UPnP | **Enable UPnP**: select on/off to enable/disable Universal Plug & Play.<br>**Mode**: select identification mode. Available options: device name and MAC, device name, user input. |

| | | |
|---|---|---|
| 5 | SSL | **Enable SSL**: select on to enable HTTP and HTTPS. Select off to enable HTTP only. Select HTTPS only to enable HTTPS only. When HTTPS only is enabled, web port 80 will be disabled. Before enabling SSL, please install or generate SSL.<br>**HTTPS Port**: define HTTPS port. It is recommended to use default port number 443. |

### 5.5.2 FTP Server

This section allows user to enable camera as FTP server. To log into the FTP server and access the SD card, open a browser and enter ftp://<Login ID>:<Password>@<ip address>. The default setting is ftp://admin:1234@192.168.0.30. The maximum connection for FTP server is 30.

| | | |
|---|---|---|
| 1 | Basic setting | **Enable**: select on/off to enable/disable FTP server.<br>**Port**: input a value or use default port 21 to activate the FTP server function. |

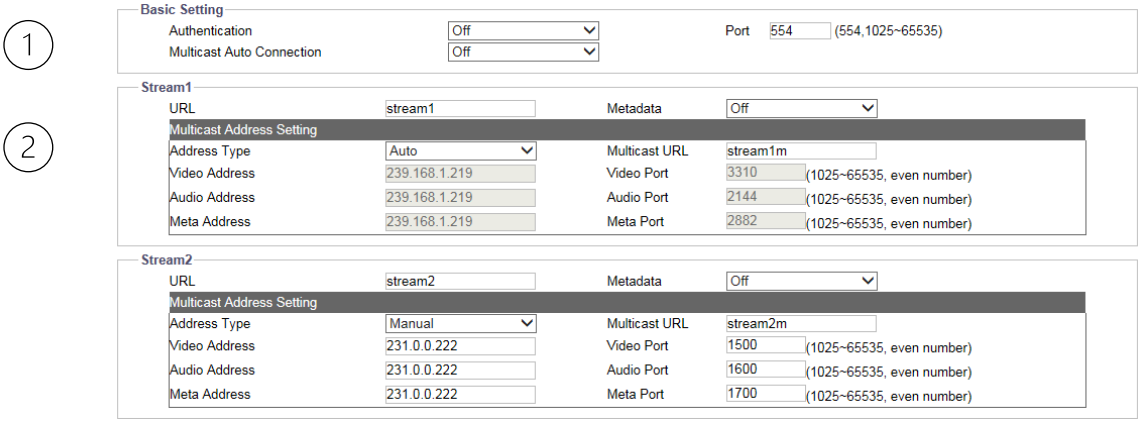
### 5.5.3 SFTP Server

SFTP is a network protocol used for transferring files via a more secure channel than FTP. To log into the SFTP server and access the SD card, open a browser and enter sftp://<Login ID>:<Password>@<ip address>. The default setting is sftp://admin:1234@192.168.0.30. The maximum connection for SFTP server is 30.

| | | |
|---|---|---|
| 1 | Basic setting | **Enable**: select on/off to enable/disable SFTP server.<br>**Port**: input a value to activate the SFTP server function. |

### 5.5.4 RTSP

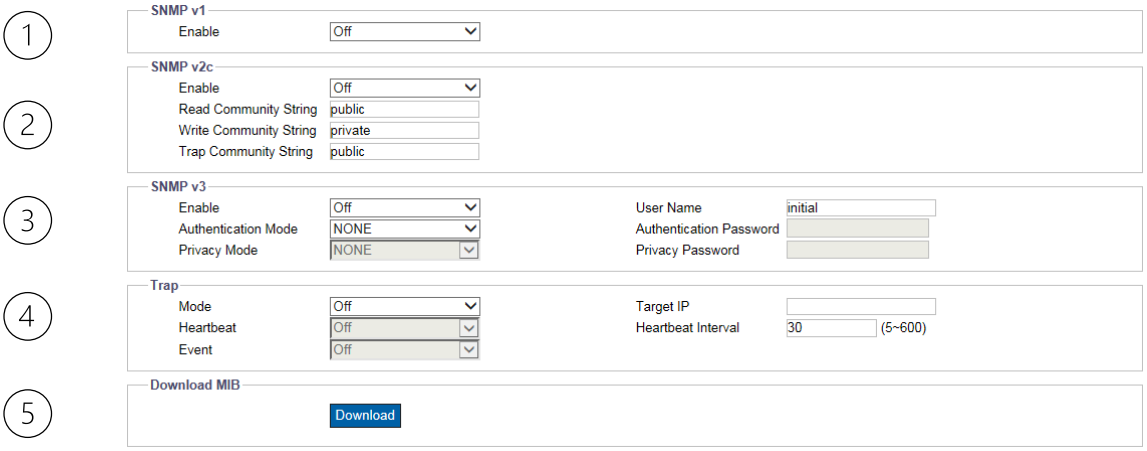
Configure RTSP to allow 3rd party devices to access the camera's stream. Note: when codec related information is changed, the RTSP server will be restarted.



| | | |
|---|---|---|
| 1 | Basic setting | **Authentication**: select on/off to enable/disable authentication on RTSP connection.<br>**Multicast auto connection**: select on/off to enable automatic multicast mode.<br>**Port**: insert port number or use default port number 554. |
| 2 | Stream | **URL**: insert name for unicast URL. To access from other device, enter the following address: rtsp://(camera IP address)/(URL name). For example: rtsp://192.168.1.219/URL stream1<br>**Metadata**: select on/off to enable/disable metadata.<br>**Multicast URL**: insert name for multicast URL. To access from other device, enter the following address: rtsp://(camera IP address)/(Multicast URL stream 1). For example: rtsp://192.168.1.219/ Multicast URL stream 1<br>**Address type**: select auto to keep original camera settings or select manual to set different address and port for video, audio and meta.<br>**Video, Audio and Meta Address/Port**: when selecting manual address type, users can define each address and port individually. |

### 5.5.5 SNMP

SNMP is a protocol used for monitoring and managing the status of devices connected to the networks.




| | | |
|---|---|---|
| 1 | SNMP v1 | Enable: select on/off to enable/disable SNMP v1. |
| 2 | SNMP v2c | Enable: select on/off to enable/disable SNMP v2c. |
| 3 | SNMP v3 | Enable: select on/off to enable/disable SNMP v3. |
| 4 | Trap | **Mode**: select SNMP mode to be enabled with trap or select off to disable trap.<br>**Target IP**: input the IP address of the SNMP server.<br>**Heartbeat**: is a communication protocol that sends notifications in a given interval to ensure network free from delayed notifications. Select on/off to enable/disable heartbeat function.<br>**Heartbeat interval**: define values in seconds for heartbeat interval.<br>**Event**: select on/off to enable/disable event logs. |
| 5 | Download MIB | Click download to get specifics of MIB. MIBs describe the structure of the management data of a device subsystem; which uses a hierarchical namespace containing object identifiers (OID). Each OID identifies a variable that can be read or set via SNMP. |

### 5.5.6 802.1X

802.1X defines the encapsulation of the EAP over LAN.

| | | |
|---|---|---|
| 1 | Basic setting | **Protocol**: select a desired EAP protocol from the dropdown menu and input required subfields to complete setup. Inner authentication mode can support CHAP, EAP-MSCHAPV2, MD5, MSCHAP, MSCHAPV2 and PAP. |

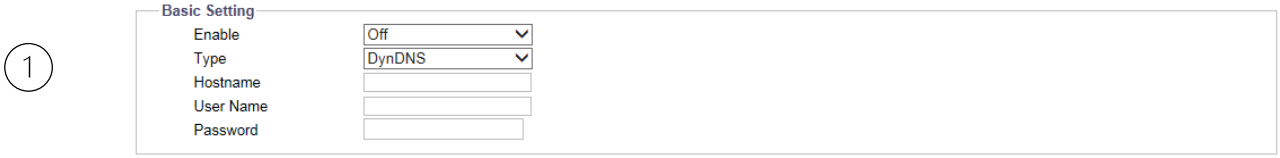
### 5.5.7 Firewall

This section allows users to manually define multiple IP addresses to be allowed or denied access to camera.

| | | |
|---|---|---|
| 1 | Basic setting | **Mode**: select allow/deny to allow/deny access to IP address or select off disable this feature.<br>**IP Address**: after selecting mode, insert IP addresses to activate the filters. |

### 5.5.8 DDNS

DDNS can automatically upgrade DSN records without further manual editing in a real time manner, therefore resulting in web address directing faster and smoother.




| | | |
|---|---|---|
| 1 | Basic setting | **Enable**: select on/off to enable/disable DDNS.<br>**Type**: select type. DynDNS provides service with fee collection, while No-IP, Two-DNS and FreeDNS provide free services, but you must register first before enabling.<br>**Hostname**: define hostname for DDNS.<br>**User name / Password**: define credentials for accessing DDNS.<br>**Hash**: mandatory field when selecting FreeDNS. |

### 5.5.9 SSL

SSL allows sensitive information such as login credentials to be transmitted securely. SSL method available options include none, self-signed, request and upload certificate.

- None: no SSL method enabled.
- Self-signed: private own key that has no connection with person or organization that performs authorized certificate signing procedure. User can create CSR by filling required fields.
- Request: provides users with a download option of the created certificate for future use.
- Upload certificate: this option allows users to upload a previously created certificate.

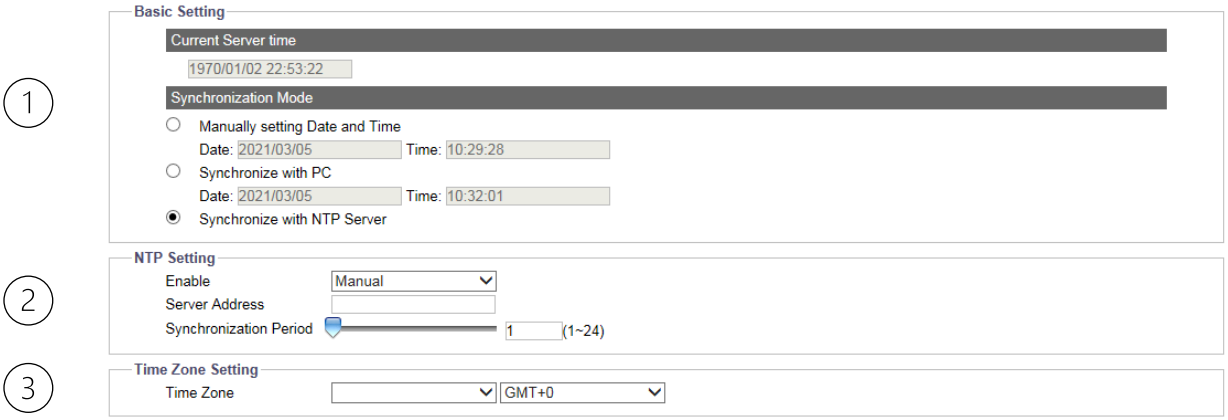
### 5.5.10 QoS

QoS allows resource control and traffic prioritization mechanisms to ensure performance on data flow.

| | | |
|---|---|---|
| 1 | Basic setting | **Enable**: select on/off to enable/disable QoS. |
| 2 | QoS priority | **IPv4 address**: input IPv4 address.<br>**Netmask bit**: Define value in response to the IPv4 address assigned. |

## 5.6 System

### 5.6.1 Date & Time




| | | |
|---|---|---|
| 1 | Basic setting | **Current server time**: displays the current date/time.<br>**Synchronization mode**: select the synchronization mode for camera date and time.<br>- Manually setting date and time: allows users to manually set date and time.<br>- Synchronize with PC: automatic sync to connected pc date and time.<br>- Synchronize with NTP server: automatic sync to assigned NTP server. |

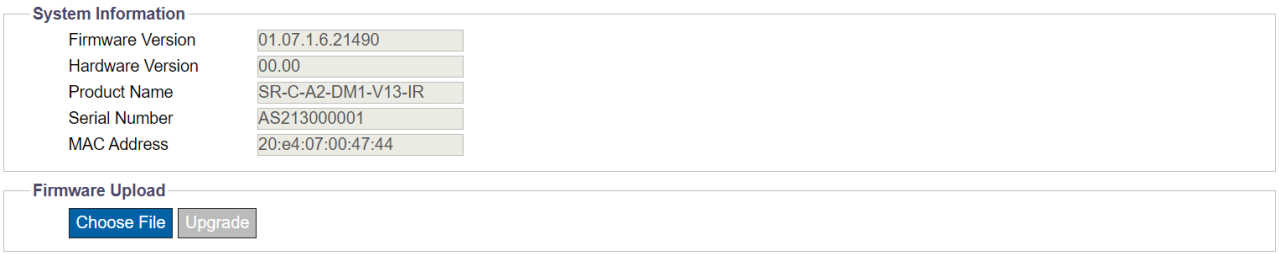
| | | |
|---|---|---|
| 2 | NTP setting | **Enable**: select enabled mode for NTP server.<br>- Manual: allows user to input desired NTP server address.<br>- From DHCP server: obtains NTP server address assigned by DCHP server.<br>**Server address**: input NTP server address.<br>**Synchronization period**: define synchronization period in terms of hour. |
| 3 | Time zone setting | **Time zone**: select a region then select the corresponding city. |

### 5.6.2 Audio

| | | |
|---|---|---|
| 1 | Audio in setting | **Source**: select audio in source.<br>**Enable**: select on/off to enable/disable audio.<br>**Encoding**: select audio encoding.<br>**Level**: select audio level. |
| 2 | Audio out setting | **Level**: select audio level. Note:<br>- Audio out only supports one user at a time.<br>- The encoding of the audio out is determined by the transmitter (NVR, ActiveX, etc.). |

### 5.6.3 Firmware

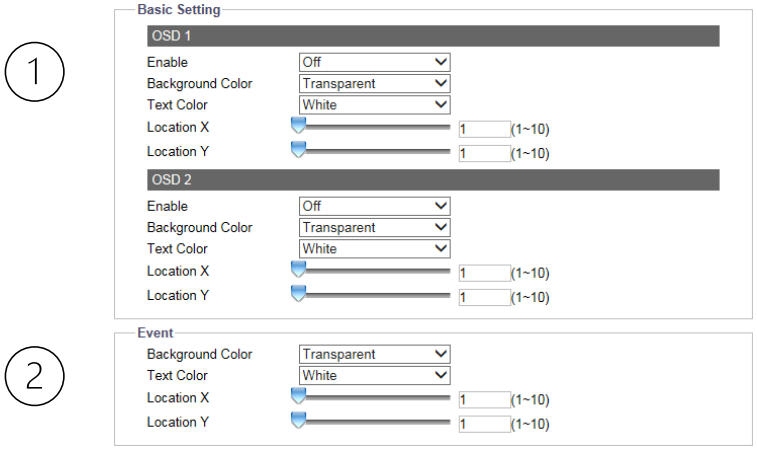
This section allows users to view system information and upgrade firmware. Camera will stop all functions during firmware upgrade and reboot itself after process is finished. When upgrading firmware, do not disconnect power or LAN cable or it will result in upgrade failure, requiring manufacturer maintenance.



### 5.6.4 Initialization

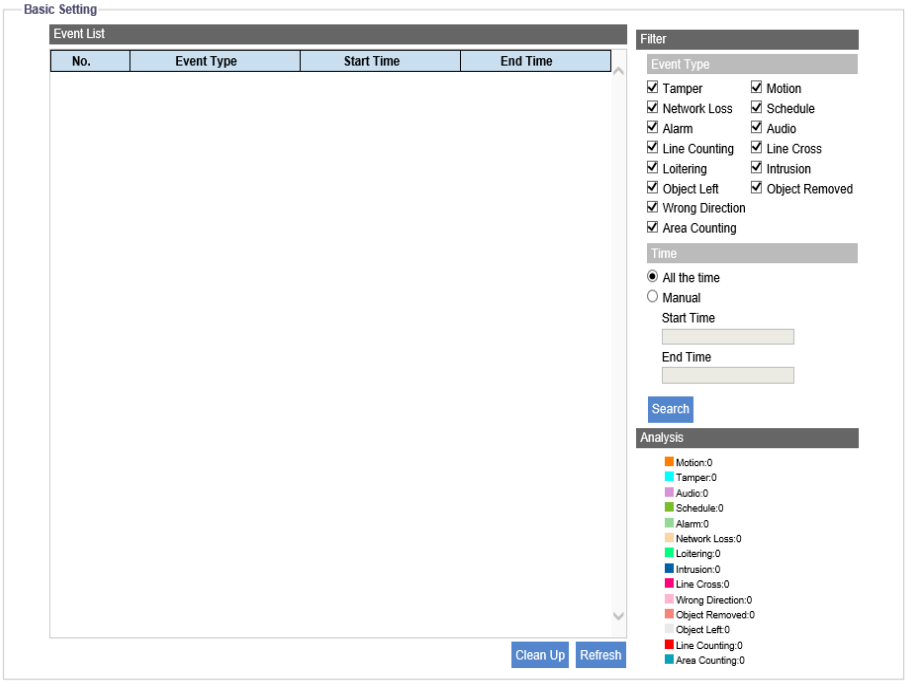
| | | |
|---|---|---|
| 1 | Camera type | Select proper power frequency to avoid flickering by fluorescent light. |
| 2 | TV format | Allows users to select the appropriate aspect ratio to fit monitor. |
| 3 | Import setting | Allows users to import previously exported camera configuration. |
| 4 | Export setting | Allows users to download camera configuration for future use. |
| 5 | Configuration setting | **Reboot**: click to reboot camera<br>**Software factory default**: reset all to factory default except network settings.<br>**Hardware factory default**: reset all configuration to factory default. |

### 5.6.5 OSD



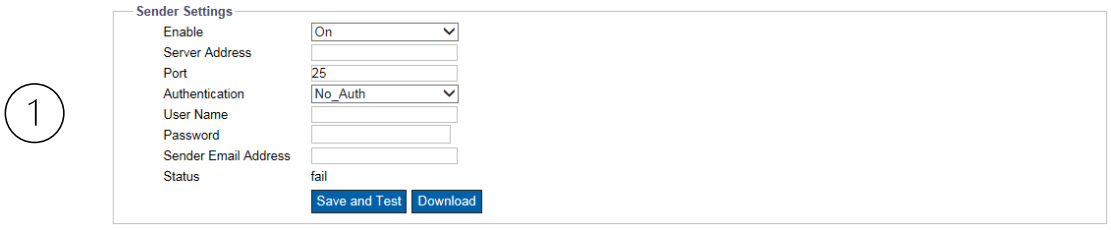

| | | |
|---|---|---|
| 1 | Basic setting | Users can setup up to 2 OSD settings concurrently.<br>- Enable: select on/off to enable/disable OSD.<br>- Background color: select OSD background color.<br>- Text color: select OSD text color.<br>- Location X/Y: define location within the x and y axis. |
| 2 | Event | Users can configure OSD triggered by event.<br>- Background color: select OSD background color.<br>- Text color: select OSD text color.<br>- Location X/Y: define location within the x and y axis. |

## 5.6.6 Events




| | | |
|---|---|---|
| 1 | Event list | Displays all events from search criteria. Click refresh to update list. Click clean up to clear. |
| 2 | Filter | Select filters then click search to look for specific events.<br>**Event type**: select the event type you would like to search.<br>**Time**: select manual to manually input time frame or select all the time to search all. |
| 3 | Analysis | Overview of how frequent each event has been triggered. |

## 5.6.7 Web Log




| | | |
|---|---|---|
| 1 | Sender settings | **Enable**: select on/off to enable/disable this function.<br>**Server address**: input a designated server address that can access camera web log.<br>**Port**: define port number or set default 25.<br>**Authentication**: select an authentication type.<br>**User name / Password**: input credentials.<br>**Sender email address**: define the sender email address.<br>**Status**: displays connection status between camera and server.<br>**Save and test**: click to check if server connection has been successfully established.<br>**Download**: click to create a system log that can be used for troubleshooting. |

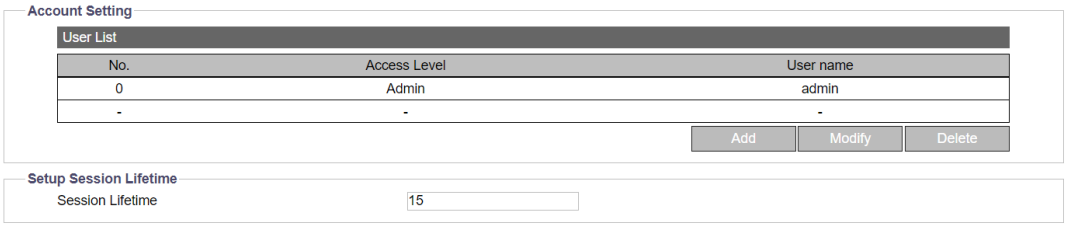
## 5.7 Account

### 5.7.1 Account Management

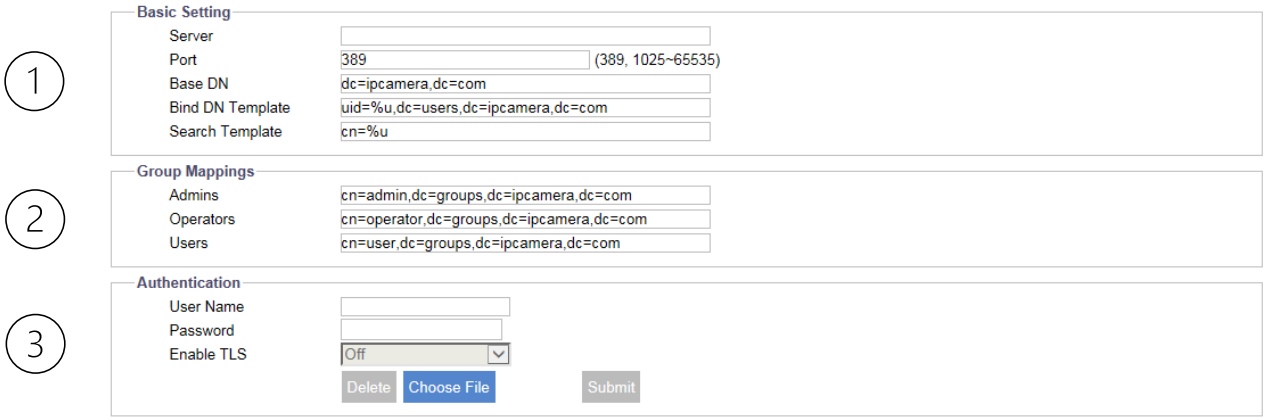
This section allows admin to manage up to 10 user accounts. Each user will be assigned an access level.

- Admin: have access to all camera configurations. Default user name admin cannot be deleted.
- Operator: can only access camera live view, storage, and remote lens control functions.
- User: can only access camera live view functions.

Note: username cannot be repeated. Password must be 4-16 characters long with valid alphanumeric value.




### 5.7.2 LDAP




| | | |
|---|---|---|
| 1 | Basic setting | **Server**: input server.<br>**Port**: input port number. Default port number is 389.<br>**Base DN/ Bind DN Template/ Search Template**: these strings are updated by the LDAP server to be accessed. Refer to these fields for future configurations. |
| 2 | Group mappings | **Admins / Operators / Users**: these strings are updated by the LDAP server to be accessed. Refer to these fields for future configurations. |
| 3 | Authentication | **User name / Password**: Enter designated credentials for authentication.<br>**Enable TLS**: select on/off to enable/disable LDAP over TLS after uploading certificate.<br>To enable TLS, users must upload a CA file first. To delete CA file, click delete.<br>Note:<br>-Before enabling TLS, please install or generate SSL certificate first.<br>-Before actually start using LDAP, user must enable LDAP. |

## 5.8 Event Source

The table below gives an overview of event source configurations and dependencies.

| Type | Event specific | Handler | Arming schedule | Not supported features |
|---|---|---|---|---|
| Alarm | NO/NC | V | V | |
| Audio | Sound Intensity | V | V | Audio alarm |
| Motion | Set zone 1~4, object size and sensitivity | V | V | |
| Network | Wired Network Loss/<br>Wired Network Conflict | V | - | Snapshot, e-mail alarm, HTTP Generic Event |
| Schedule | Regular/Persist trigger event action (without event source as premise) | V | V | OSD alarm, HTTP Generic Event |
| Tamper | Sensitivity | V | V | |
| mSD Healthiness | Free space/Mount Failure | V | - | Snapshot, recording |

### 5.8.1 Handlers

**Alarm output**: when enabled, alarm output will activate when event occurs.

**Audio**: when enabled, audio output will activate when event occurs. There are 10 sound types are available for audio output. Be sure to set up the sound file beforehand.

**Snapshot**: when enabled, users can choose to store event snapshot to edge (SD card) or remote FTP server. Note that under Handler, the camera act as FTP client and remote device as FTP server. FTP server path must be configured in advance.

**Recording**: when enabled, camera can save recorded video to the SD card when event occurs.

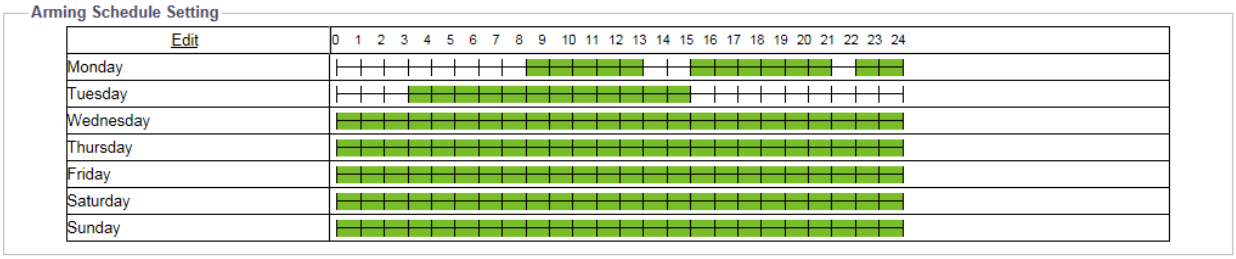
**Email**: when enabled, an email will be sent to a predefined user when event occurs. Users can configure email subject and message content.

**OSD**: when enabled, OSD will display on screen when event occurs. Users can configure OSD text.

**HTTP generic event**: when enabled, HTTP generic event function will activate when event occurs. There are 10 method types available to choose for message notification.

### 5.8.2 Arming Schedule Setting

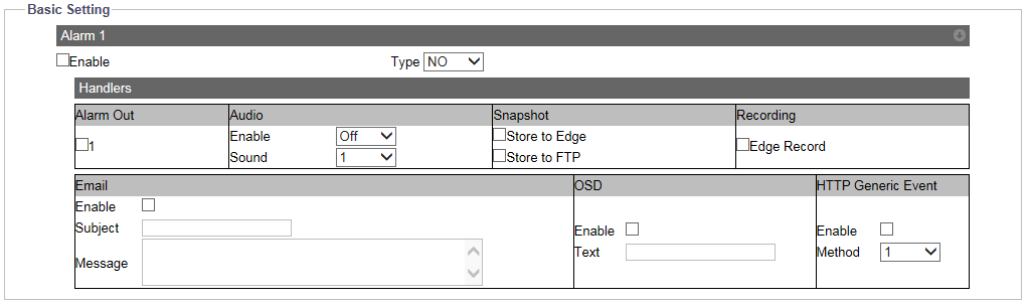
This section allows user to set up a schedule for recording video when alarm input signal occurs.




The table displays the 7days of the week in a 24hrs format, highlighting the alarm recording schedule. To configure the schedule, click on edit. Users can configure up to 3 individual time range per day by defining start and end time. Click apply for the new configuration to take effect.

### 5.8.3 Alarm

This page is designed to establish related actions when the camera receives alarm input signal.

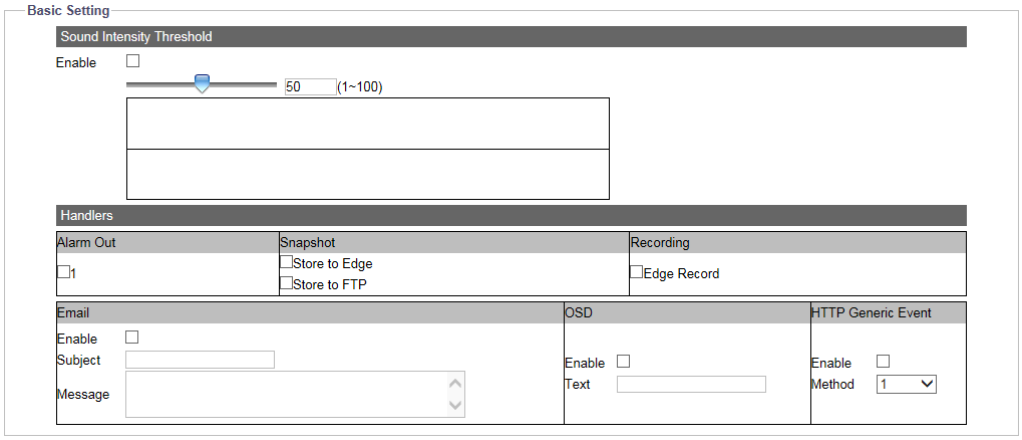



1

| | | |
|---|---|---|
| 1 | Basic setting | **Enable**: check the box to enable the alarm input function.<br>**Type**: select condition type.<br>- NO (Normally Opened): An alarm will be triggered when the external contact closes.<br>- NC (Normally Closed): An alarm will be triggered when the external contact opens. |

### 5.8.4 Audio

This page is designed to establish related actions when the camera receives audio input signal.

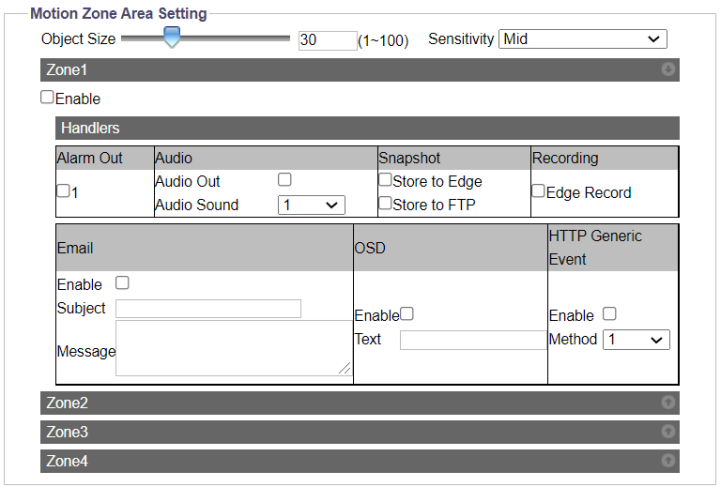



1

| | | |
|---|---|---|
| 1 | Basic setting | **Enable**: check the box to enable the audio input function.<br>**Sound intensity threshold**: define intensity threshold to trigger the actions when camera receives audio signal from the connected input device. |

### 5.8.5 Motion

This page is designed to establish related actions when the camera detects motion. Users can configure up to 4 motion detection areas.

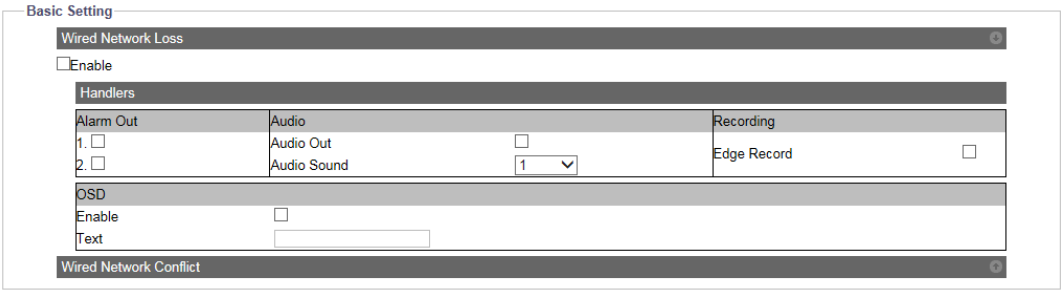



1

| | | |
|---|---|---|
| 1 | Basic setting | **Enable**: draw the motion detection area on the image then enable and click save.<br>**Object Size**: define object size for triggering motion detection.<br>**Sensitivity**: define motion detection sensitivity.<br>**Zone**: check the box to enable each zone setting. |

### 5.8.6 Network

This page is designed to configure related actions when the camera is subject to network related issues.

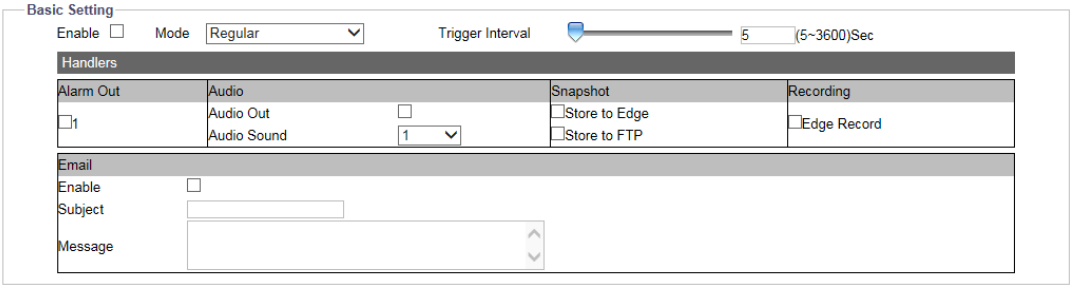



1

| | | |
|---|---|---|
| 1 | Basic setting | **Wired network loss**: check the box to enable the detection of network lost.<br>**Wired network conflict**: check the box to enable the detection of IP address conflict. |

### 5.8.7 Schedule

This page is designed to configure related actions for recording schedule, independently of any event.

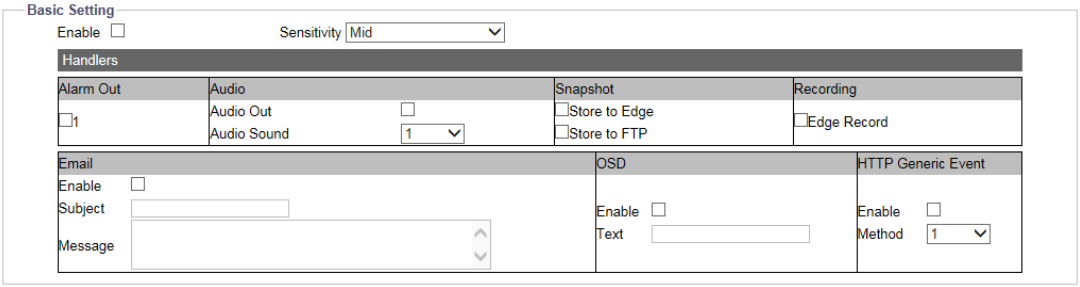



1

| | | |
|---|---|---|
| 1 | Basic setting | **Enable**: check the box to enable recording schedule function.<br>**Mode**: Under regular mode, the camera will record only when event is triggered within the scheduled time frame, while persistent mode will always record within the schedule time.<br>**Trigger interval**: define the event trigger interval in terms of seconds. |

### 5.8.8 Tamper

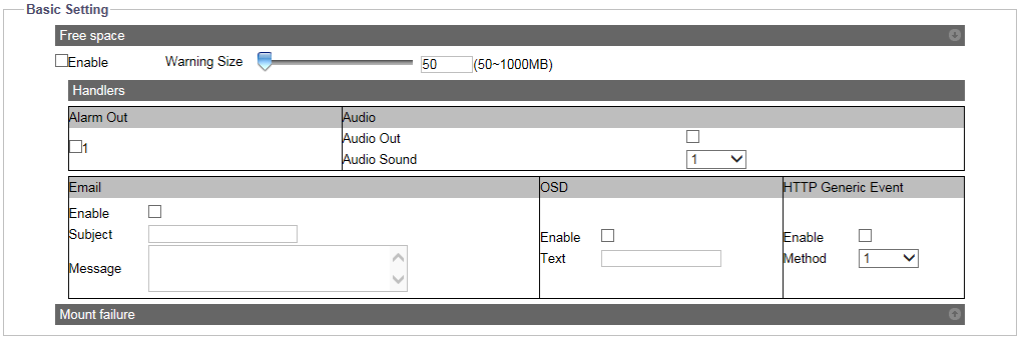
This page is designed to configure related actions when the camera is subject to tamper events.




| | | |
|---|---|---|
| 1 | Basic setting | **Enable**: check the box to enable tamper detection.<br>**Sensitivity**: define tamper sensitivity. |

### 5.8.9 MSD Healthiness

This page is designed to configure related actions regarding MicroSD issues.




| | | |
|---|---|---|
| 1 | Basic setting | **Free space**: check the box to enable the detection of insufficient space of the inserted microSD card. Define the threshold for trigger by sliding the warning size bar.<br>**Mount failure**: check the box to enable the detection of failure of the inserted microSD card. |

## 5.9 Video Analytics

Video Analytics configurations consist of VA specific, Profile, Handler and Arming Schedule. Table below give the overview of event source configuration and dependency.

| Type | VA Specific | Handler | Arming Schedule |
|---|---|---|---|
| General | Motion sensitivity and object size. | - | - |
| Line Counting | Set line 1~3 and direction. | V | V |
| Border Line | Set line 1~3 and direction. | V | V |
| Loitering | Set area and trigger interval. | V | V |

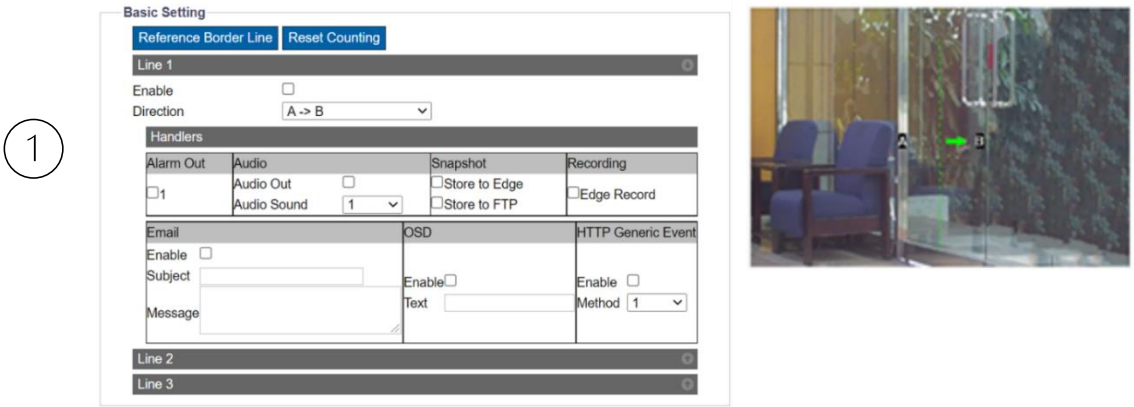
| | | | |
|---|---|---|---|
| Area Counting | Set area. | V | V |
| Intrusion | Set area. | V | V |
| Departure | Set area. | V | V |
| Withdraw | Set object and trigger interval. | V | V |
| Adverse Way | Set line and angle. | V | V |
| Abandon | Set area and trigger interval. | V | V |

### 5.9.1 General

| | | |
|---|---|---|
| 1 | Basic setting | **Sensitivity**: choose sensitivity threshold for triggering all video analytics functions. |
| 2 | Size setting | **Max object size**: draw the maximum object size on preview image then click save. Any object larger than the maximum size defined will not be triggered.<br>**Min object size**: draw the minimum object size on the preview image then click save. Any object smaller than the minimum size defined will not be triggered. |

### 5.9.2 Line Counting

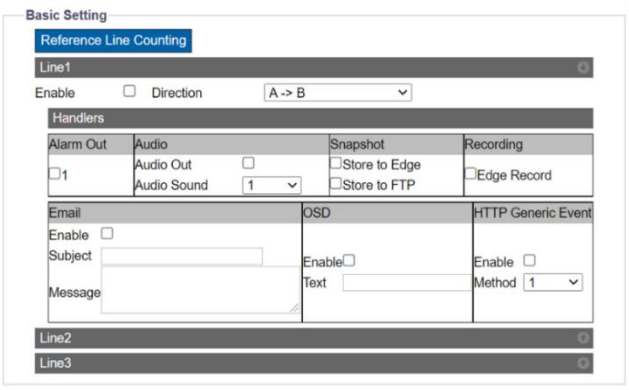
This page is designed to count the moving objects that passed through the designated line.




| | | |
|---|---|---|
| 1 | Basic setting | **Reference border line cross**: click to apply same configurations as border line settings.<br>**Reset counting**: click reset the accumulated counting records.<br>**Line**: enable and set up each line individually. Users can configure up to 3 lines concurrently.<br>**Method**: press and hold on the image to draw a line on the desired area, then click save. |

### 5.9.3 Border Line

This page is designed to establish borderlines to guard certain alerted zones within the camera coverage.




1

| | | |
|---|---|---|
| 1 | Basic setting | **Reference line counting**: click to apply same configurations as line counting settings.<br>**Line**: enable and set up each line individually. Users can configure up to 3 lines concurrently.<br>**Method**: press and hold on the preview to draw a line on the desired area, then click save. |

### 5.9.4 Loitering

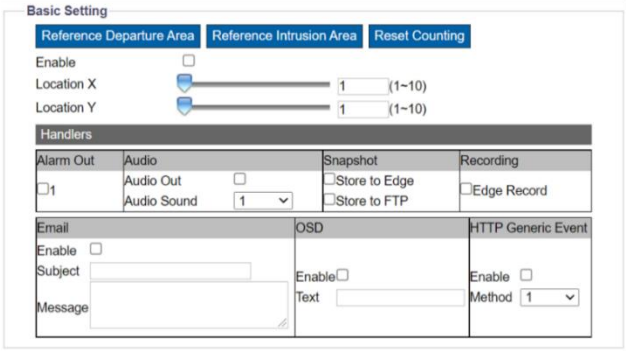
This page is designed to detect suspicious objects that enter and lingers within the predefined area.

1

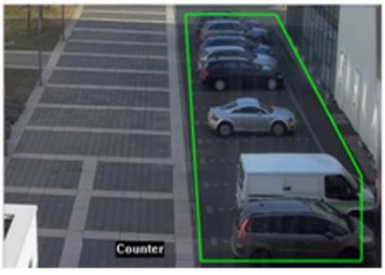
| | | |
|---|---|---|
| 1 | Basic setting | **Trigger interval**: define a value for the threshold period to trigger loitering alarm.<br>**Method**: draw a shape covering the key zone for detection then click save. |

### 5.9.5 Area Counting

This page is designed to compile statistics of objects getting into or out of a designated area.



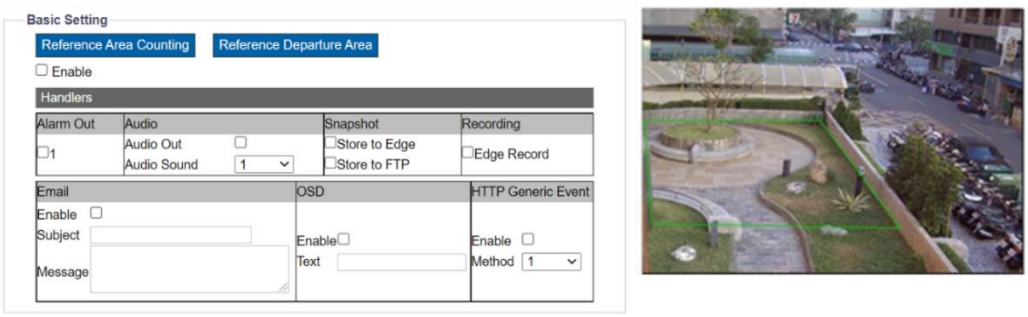

1



| | | |
|---|---|---|
| 1 | Basic setting | **Reference departure area**: click to apply same configurations as departure area settings.<br>**Reference intrusion area**: click to apply same configurations as intrusion area settings.<br>**Reset counting**: click reset the accumulated counting records.<br>**Location X / Location Y**: define the location for the OSD counter.<br>**Method**: draw a shape covering the desired area and define OSD location, then click save. |

### 5.9.6 Intrusion

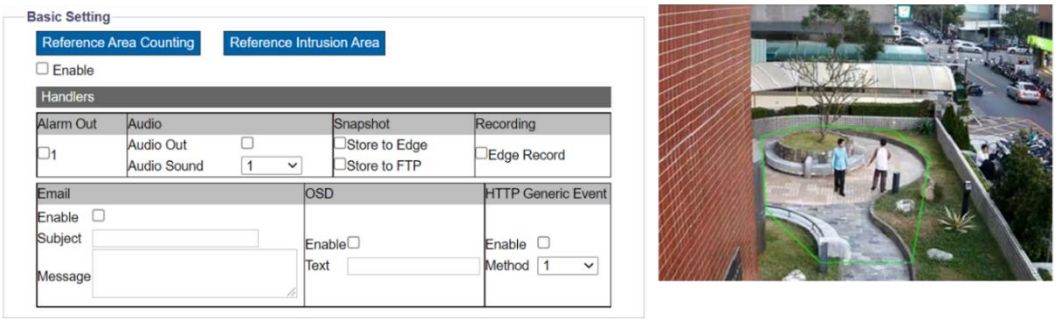
This page allows users to assign an irregular shape to fence off any suspicious object from entering.




| | | |
|---|---|---|
| 1 | Basic setting | **Reference area counting**: click to apply same configurations as area counting settings.<br>**Reference departure area**: click to apply same configurations as departure area settings.<br>**Method**: draw a shape covering the desired zone for intrusion detection, then click save. |

### 5.9.7 Departure

This page allows users to configure departure detection to a designated area.




| | | |
|---|---|---|
| 1 | Basic setting | **Reference area counting**: click to apply same configurations as area counting settings.<br>**Reference intrusion area**: click to apply same configurations as intrusion area settings.<br>**Method**: draw a shape covering the desired zone for departure detection then click save. |

### 5.9.8 Withdrawn

This page allows users to assign an area of withdrawn detection, protecting valuables from being removed.

| | | |
|---|---|---|
| 1 | Basic setting | **Trigger interval**: Define threshold of time period to trigger withdrawn detection.<br>**Zone**: Check the box to enable each zone setting. Users can configure up to 3 zones.<br>**Method**: draw a shape covering the desired area for withdrawn detection, then click save. |

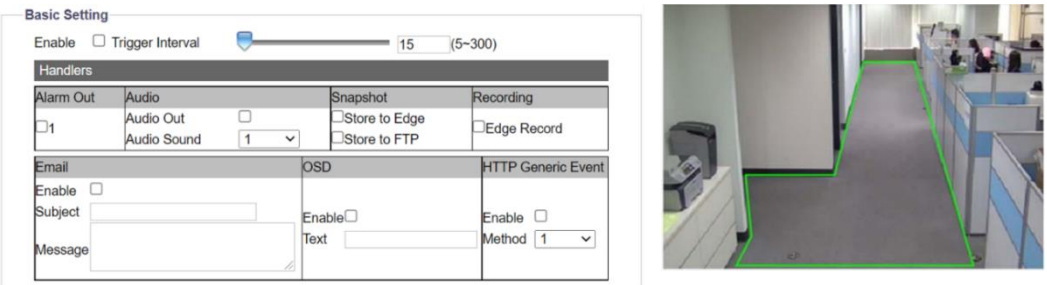
### 5.9.9 Adverse Way

This page allows users to configure adverse way detection.

| | | |
|---|---|---|
| 1 | Basic setting | **Method**: press and hold the mouse on the image to draw a line on the targeted area. A blue angle will appear to configure the permitted range (15°-180°). Any object passing through, not following the configured angle, will trigger adverse way detection. |

### 5.9.10 Abandon

This page allows users to assign an area for detecting abandoned objects.

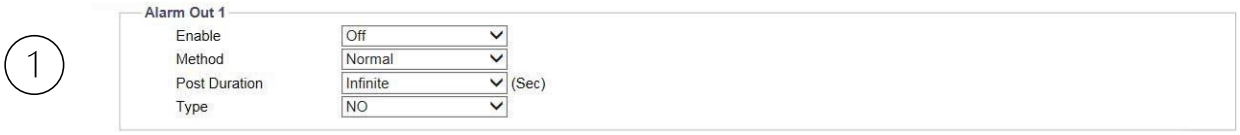



| | | |
|---|---|---|
| 1 | Basic setting | **Trigger interval**: Define threshold of time period to trigger abandon detection.<br>**Method**: draw a shape covering the desired area for abandon detection, then click save. |

## 5.10 Event Setting

### 5.10.1 General

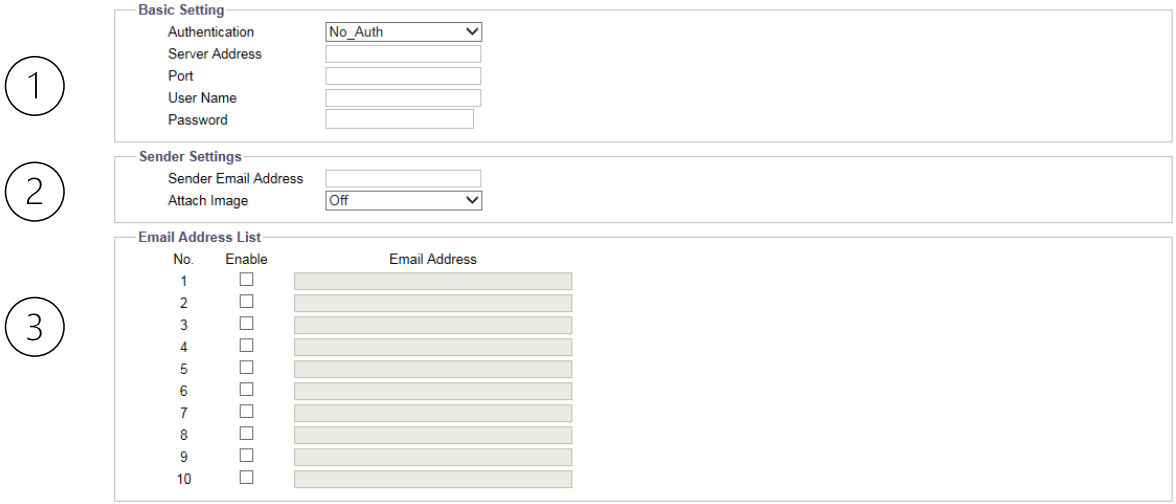
This page allows users to set up alarm output(s) when event occurs. Make sure you have enabled alarm output in each event section to activate this function.




| | | |
|---|---|---|
| 1 | Alarm out 1 | **Enable**: select on/off to enable/disable alarm out.<br>**Method**: select method for alarm output.<br>- Normal: the standard method, which allows users to define a period of duration.<br>- Pulse: allows users to define duration, interval time and counts for alarm output.<br>**Type**: select which type to be adopted for triggering alarm output.<br>- NO (Normally Opened): an alarm will be triggered when the external contact closes.<br>- NC (Normally Closed): an alarm will be triggered when the external contact opens. |

### 5.10.2 Email

This page allows users to set up email notification when event occurs. Make sure you have enabled email sending in each event section to activate this function.




| | | |
|---|---|---|
| 1 | Basic setting | **Authentication**: select an authentication type.<br>**Server address**: input a designated server address for email notification.<br>**Port**: set default port number 25 or change to dedicated number.<br>**User Name / Password**: input credentials with privilege to access the server. |
| 2 | Sender setting | **Sender email address**: define the sender email address.<br>**Attach image**: select on/off to enable/disable attaching the event image on the email. |
| 3 | Email address list | **Enable**: check the box to send email to the selected address.<br>**Email address**: input an email address to which events notifications will be sent. |

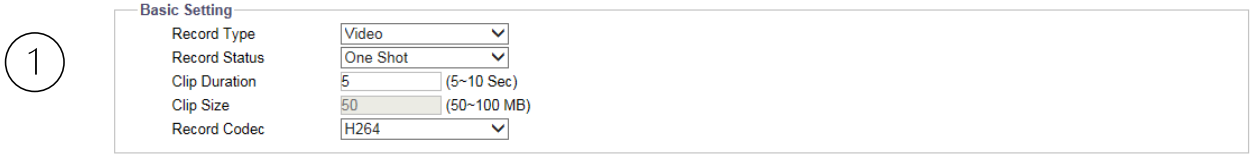
### 5.10.3 FTP

This page allows users to set up FTP image storing when event occurs. Make sure you have enabled FTP function in each event section to activate this function.

| | | |
|---|---|---|
| 1 | Basic setting | **Server address**: input FTP server address.<br>**Port**: set default port 21 or change to dedicated number.<br>**Username / Password**: input credentials with privilege to access the server.<br>**Mode**: select connection mode to be use.<br>- Active: the camera maintains connection with the designated FTP site, which provides instant response to FTP.<br>- Passive: the camera connects with the designated FTP site only when necessary, which reduces network bandwidth. |

### 5.10.4 Record Setting

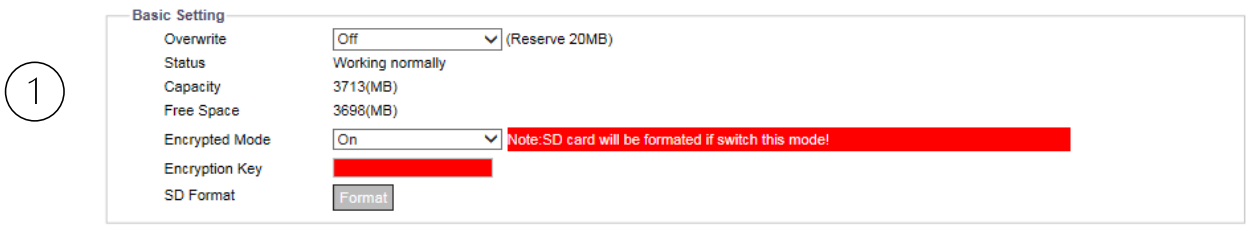
This page allows users to configure recording. Make sure you have enabled recording in each event section to activate this function.




| | | |
|---|---|---|
| 1 | Basic setting | **Record type**: choose recording type. Select video to record video only or select audio and video to record both.<br>**Record status**: define the method of recording. Select one shot for camera to record video with designated duration and file size or select continuous for camera to record continuously.<br>**Clip duration**: set the length limit for recording file.<br>**Clip size**: define the file size for recording file.<br>**Record codec**: choose type of video codec. |

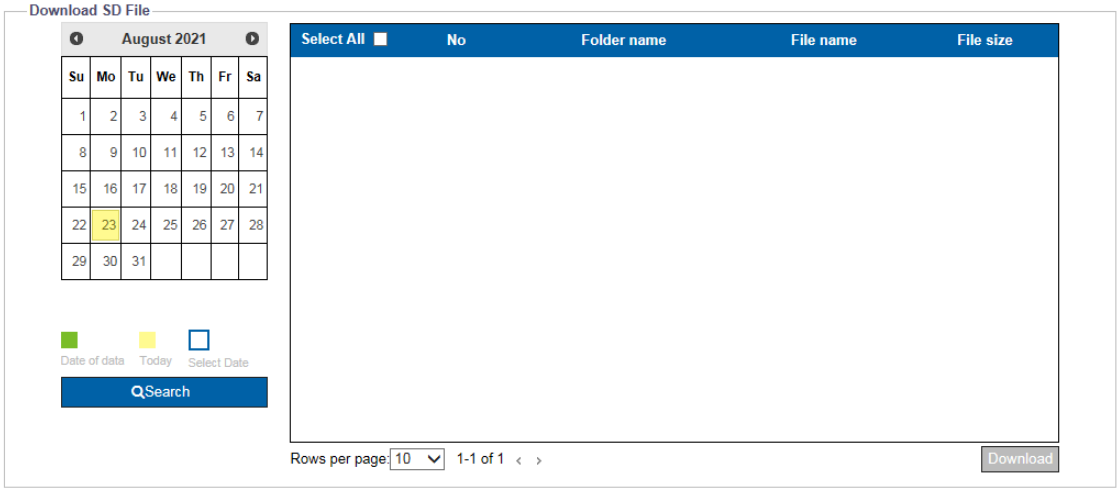
### 5.10.5 SD card

This page allows users to configure edge recording when event occurs. Make sure you have enabled edge recording in each event section to activate this function.



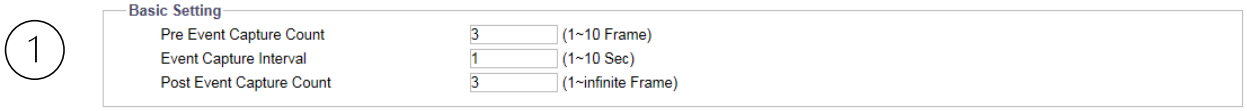
| | | |
|---|---|---|
| 1 | Basic setting | **Overwrite**: select on/off to enable/disable overwrite. When enabled and SD card capacity is below 20MB, old files will be overwritten to store new ones.<br>**Status**: shows the status of SD Card. Possible status includes: (1) SD card not inserted, (2) working normally, (3) unsupported filesystem, please format the SD card to ext4.<br>**Capacity**: shows the capacity of the inserted SD card.<br>**Free space**: shows the available space of the inserted SD card.<br>**Encrypted mode**: select on/ off to enable/disable encryption for the data on the SD card.<br>**Encryption key**: available when encryption mode is enabled. Encryption key allows user to enter a password, which will be used for decrypting and access the video file.<br>**SD format**: click to start formatting the mounted SD card. All data in the SD card will be deleted, regardless of encryption mode. |

Recorded files on SD card can be download. To download, select date on calendar and click search. Available videos will be displayed on the right. Select the videos you want to download then click download.




## 5.10.6 Snapshot

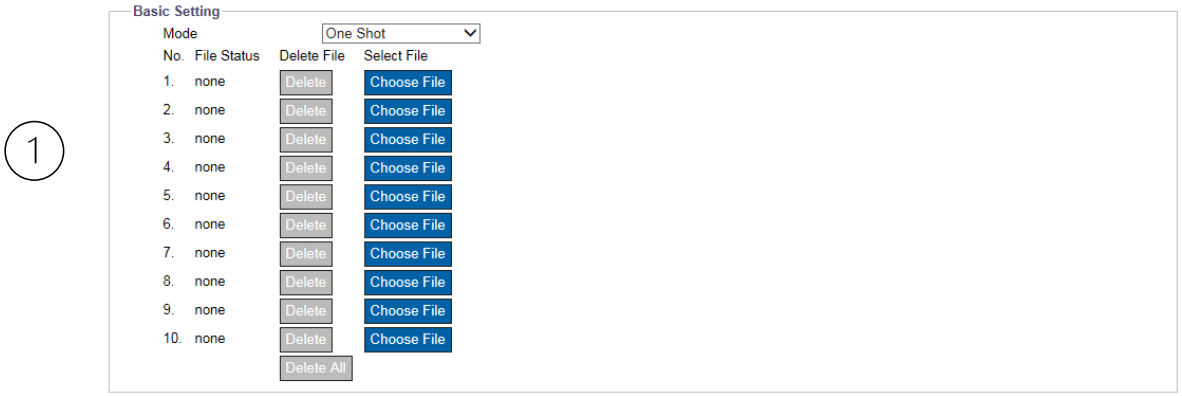
This page allows users configure snapshots when event occurs. Make sure you have enabled snapshot in each event section to activate this function.




| | | |
|---|---|---|
| 1 | Basic setting | **Pre event capture count**: set a number of frames to be captured prior to an event.<br>**Event capture interval**: set a time interval ranging between each snapshot capture.<br>**Post event capture count**: set a number of frames to be captured after an event occurs. |

## 5.10.7 Sound

This page allows users configure audio output when event occurs. Make sure you have enabled audio out in each event section to activate this function.




| | | |
|---|---|---|
| 1 | Basic setting | **Mode**: select audio out mode. One shot plays audio once, infinite plays audio repeatedly.<br>**File status**: displays current status of each sound file.<br>**Select file**: click choose file to upload a sound file from your local computer.<br>**Delete file/all**: click delete file/all to remove selected/all sound file. |

### 5.10.8 HTTP Generic Event

This page allows users to configure messages and commands directly to Network Video Recorder (NVR) which supports CGI command function.

| | | |
|---|---|---|
| 1 | Basic setting | **Method**: select the type of method for the trigger event.<br>**Title**: insert the title for the messages.<br>**URL**: Input the NVR's URL. Please follow NVR's user manual.<br>**Option**: select the mode of notification transmission as needed.<br>- Get: simple and fast method to transmit messages but less secure than post.<br>- Post: more complex way to transmit messages, but safer than get.<br>**User Name / Password**: enter designated credentials for authentication to the NVR.<br>**Active message**: camera will send an active message to NVR when the event occurs.<br>**Inactive Message**: camera will send an inactive message to NVR when the event ends. |

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