

**OpenEye**<sup>®</sup>  
The Cloud Video Platform

## **3MP IP PTZ DOME**

OE-C8213  
USER MANUAL



OE-C8213 3MP True Day/Night IP PTZ Dome Camera  
User Manual

Manual Edition 36847AG – January 2023

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## **Important Safeguards**

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### **Read Instructions**

Read all of the safety and operating instructions before using the product.

### **Retain Instructions**

Save these instructions for future reference.

### **Attachments / Accessories**

Do not use attachments or accessories unless recommended by the appliance manufacturer as they may cause hazards, damage product and void warranty.

### **Installation**

Do not place or mount this product in or on an unstable or improperly supported location. Improperly installed product may fall, causing serious injury to a child or adult, and damage to the product. Use only with a mounting device recommended by the manufacturer, or sold with the product. To insure proper mounting, follow the manufacturer's instructions and use only mounting accessories recommended by manufacturer.

### **Power source**

This product should be operated only from the type of power source indicated on the marking label.

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## **Precautions**

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### **Operating**

Before using, make sure power supply and other cables are properly connected.

While operating, if any abnormal condition or malfunction is observed, stop using the camera immediately and then contact your local dealer.

### **Handling**

Do not disassemble or tamper with parts inside the camera.

Do not drop or subject the camera to shock and vibration as this can damage camera.

Care must be taken when you clean the clear dome cover. Scratches and dust will ruin the image quality of your camera. Do not use strong or abrasive detergents when cleaning the camera body. Use a dry cloth to clean the camera when it is dirty. In case the dirt is hard to remove, use a mild detergent and wipe the camera gently.

### **Installation and Storage**

Do not install the camera in areas of extreme temperatures in excess of the allowable range: -40 ~ 122 °F / -40 ~ 50 °C.

Avoid installing in humid or dusty places. The relative humidity must be below 90%.

Avoid installing in places where radiation is present.

Avoid installing in places where there are strong magnetic fields and electric signals.

Avoid installing in places where the camera would be subject to strong vibrations.

Whether the camera is in use or not, never aim it at the sun or other extremely bright objects. Otherwise the camera may be smeared and damaged.

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## Regulation

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

Compliance is evidenced by written declaration from our suppliers, assuring that any potential trace contamination levels of restricted substances are below the maximum level set by EU Directive 2002/95/EC, or are exempted due to their application.

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## Warning

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DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE.

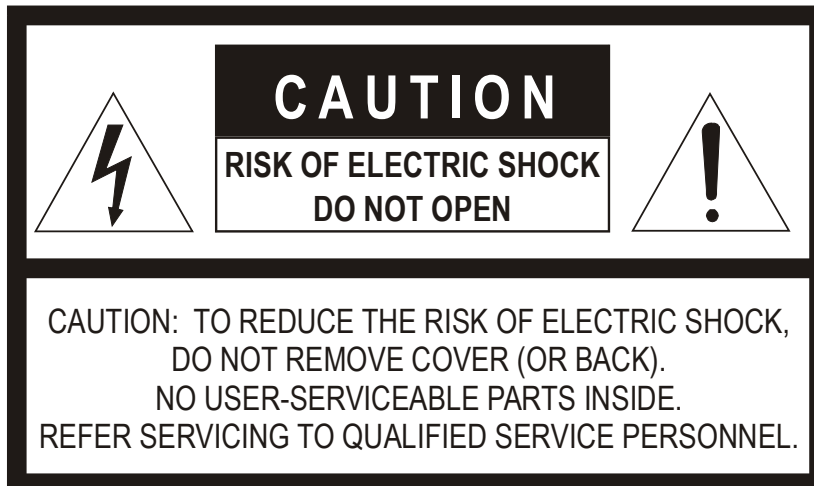
DO NOT OPEN THE CABINET.

REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

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## Caution

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# Introduction

## OVERVIEW

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OpenEye OE-C8213 IP PTZ camera provides users with crystal clear video thanks to 3MP resolution and 30x optical zoom. The cameras' continuous 360° rotation and 190° tilt range make them a versatile PTZ solution for live monitoring environments. True WDR and a true day/night IR cut filter produce superior video in a variety of lighting conditions. The Smart Compression option reduces storage requirements by up to 70% while maintaining high resolution video allowing you to meet video retention and resolution requirements for less. The OE-C8213 is IP66 rated and comes equipped with a sunshield, heater, and blowers to accommodate a variety of environmental conditions. The camera can be operated using PoE+ for easy, single cable installation.

All OpenEye cameras are fully ONVIF compliant and compatible with the OpenEye Web Services platform, allowing multiple users to view high quality images and perform setup through a remote web browser.

## PRODUCT FEATURES

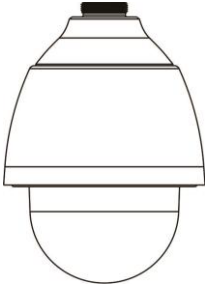
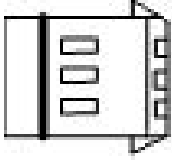
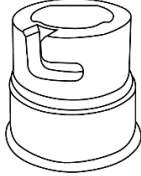

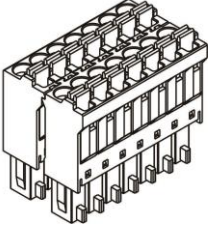

- 3MP (2048x1536) Maximum Resolution
- 30 IPS
- 4.3 – 129mm Focal Length (30x)
- True Day/Night (IR Cut Filter)
- True Wide Dynamic Range
- Full PTZ Operation Over PoE+\*
- Relay / Sensor Connections
- 1.5-inch standard threaded mount type
- ONVIF Profile S Compliant
- IP66 Outdoor Rating and Heater
- Sunshield

# Contents

## CAMERA BOX CONTENTS

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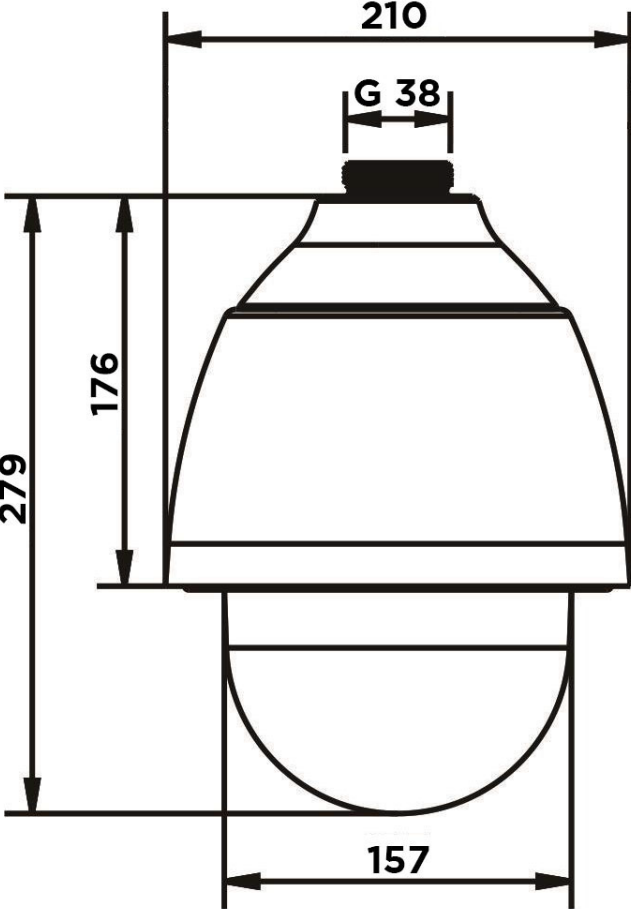
Before proceeding, please check that the box contains the items listed here. If any item is missing or has defects, do not install or operate the product and contact your dealer for assistance.

 <p>OE-C8213 PTZ Camera</p>	 <p>3-Pin Power Terminal Block (AC 24V Use)</p>	 <p>Threaded Mount Adapter</p>
 <p>M4 Security Screw with rubber washer</p>	 <p>14-Pin Alarm I/O Terminal Block</p>	 <p>Security Torx Tool</p>



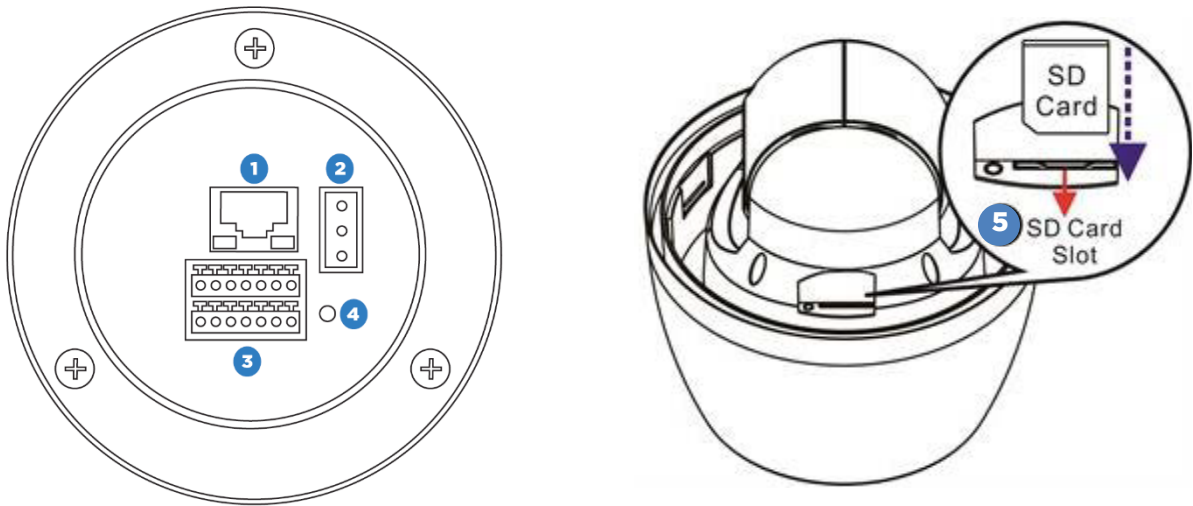
DIMENSIONS

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Unit: mm

## CONNECTIONS



Pin	Connection	Definition
1	RJ-45	For network and PoE+ connections
2	Power Connector (AC24V)	Power supply to camera for non-POE installations
3	I/O Connections	Alarm and RS 485 I/O Connections
4	Reset Button	To restore the camera to factory defaults: 1. Disconnect power for 30 seconds. 2. Reconnect power and wait 30 seconds. 3. Press the reset button with a proper tool for 20 seconds.
5	microSD Card Slot	Supports up to 128GB microSD card for Edge storage. <b>Do not add or remove the microSD card when the camera is powered on.</b>

## DOMES SETUP AND CABLE CONNECTION

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Before installing or connecting the dome camera, please refer to this section and complete preparations for dome setup and all switch settings.

### DOMES CABLE DEFINITION AND REQUIREMENTS

For operation, the IP dome camera requires a network cable to carry the video signals to the remote viewing site and a power cable to power the dome.

#### Cable Requirements

For operation, the OE-C8213 can be powered with PoE+ and/or 24vAC is the heater is used.

#### Power Wire Length Specifications

Wire Gauge	Maximum Distance	Wire Gauge	Maximum Distance
22	27 feet	14	175 feet
20	44 feet	12	279 feet
18	69 feet	10	444 feet
16	110 feet		



**Note** Ensure that the power supply corresponds with the dome's power requirement or the camera may be damaged. Contact a qualified maintenance engineer with any problems.

#### Network Cable Length Specifications

Cable Type	Maximum Distance	Wire Gauge	Maximum Distance
CAT5	300 feet	CAT6	300 feet
CAT5e	300 feet	CAT6a	300 feet



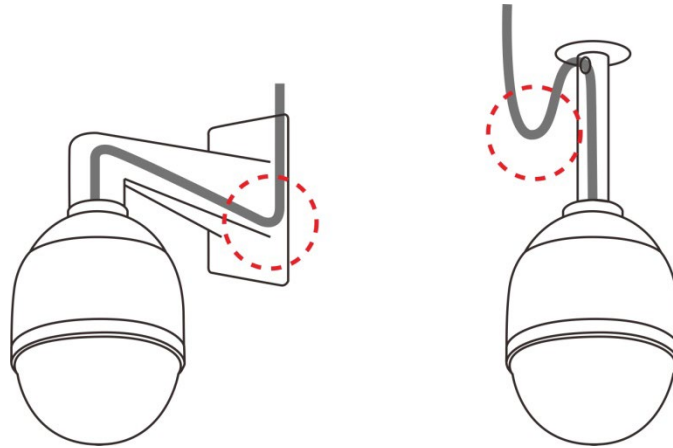
**Note** An Ethernet crossover cable can be used to connect the camera directly to a PC during configuration.

## Camera Cabling Considerations

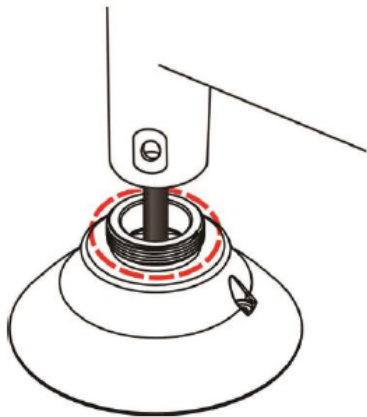
The OE-C8213 has an IP66 Outdoor rating to prevent water from entering the camera. However, proper installation is required for this rating. To ensure that the camera is as water resistant as possible, follow these tips:

Place all cables and the adaptor in a dry and well insulated environment, such as waterproof boxes. The purpose of the waterproof box is to prevent moisture accumulation inside the camera and moisture penetration into the cables.

While running cables, slightly bend the cables into a U-shaped curve to make a low point (as illustrated below). The purpose is to prevent water from entering the camera along the cables from above.



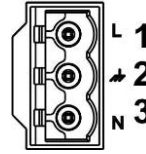
To ensure a watertight seal, the cable entry hole of the outdoor mounting kit needs to be sealed with thread seal tape to avoid water from entering the camera.



## Power Connection

This camera is compatible with 24vAC and Power over Ethernet (PoE+). Connect power to the camera using the provided power connector lead, or the terminal connector blocks. If you are connecting 24vAC power, verify the polarity of the power connection. If you are using PoE+, make sure the Power Sourcing Equipment (PSE) is in use in the Network.

1. Connect **POSITIVE** 24 volt AC power to pin 1.
2. Connect ground wire to pin 2.
3. Connect **NEGATIVE** 24 volt AC power to pin 3.



**Note** Be careful not to pull the cables improperly during installation. OpenEye suggests that you fasten the cables after installation is complete.

## Grounding Recommendation

The GND (ground) wire must be directly connected to the middle pin of the 24vAC power connector. Failure to connect the ground can cause damage and failure of the camera and may void the warranty.

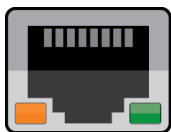
## Ethernet Cable Connection

Connect one end of the CAT 5 Ethernet cable to the RJ-45 connector of the camera and the other end of the cable to the network switch or recorder.



**Note** If you are connecting the camera directly to a recorder, a crossover cable is necessary for most configuration.

Check the status of the link indicator and activity indicator LEDs. If the LEDs are unlit, check the LAN connection.

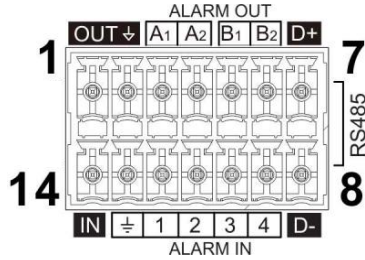


The Orange activity light flashes to indicate network activity.

The Green link light indicates a good network connection.

## 14-Pin Alarm Input / Output & RS-485 Connection

Using the 14-pin connector, installers can connect 4 digital alarm inputs and 2 digital alarm outputs. The alarm pins are serviceable for connecting alarm input and output devices such as sensors, sirens, or flashing lights to the surveillance system. For the definition of each pin, refer to the list below.



Pin	Definition
1	-
2	-
3	Alarm OUT A1
4	Alarm OUT A2
5	Alarm OUT B1
6	Alarm OUT B2
7	RS-485 D+
8	RS-485 D-
9	Alarm IN 4
10	Alarm IN 3
11	Alarm IN 2
12	Alarm IN 1
13	Ground (Alarm I/O & RS-485)
14	-

# NETWORK CAMERA MANAGER

OpenEye Network Camera Manager (NCM) is a software tool that allows you to quickly and easily connect and configure your OpenEye IP Cameras. This software allows you to apply the camera password, assign IP addresses, configure video settings, and update firmware on multiple cameras at once.

NCM is pre-installed on all OpenEye Recorders and is also available for download [www.OpenEye.net](http://www.OpenEye.net) for installation on your personal computer or laptop. Network Camera Manager is a Java application, this allows it to be installed on Windows and Linux operating systems.

## LAUNCHING NETWORK CAMERA MANAGER

### Apex Windows Platforms

Network Camera Manager can be found on the desktop.

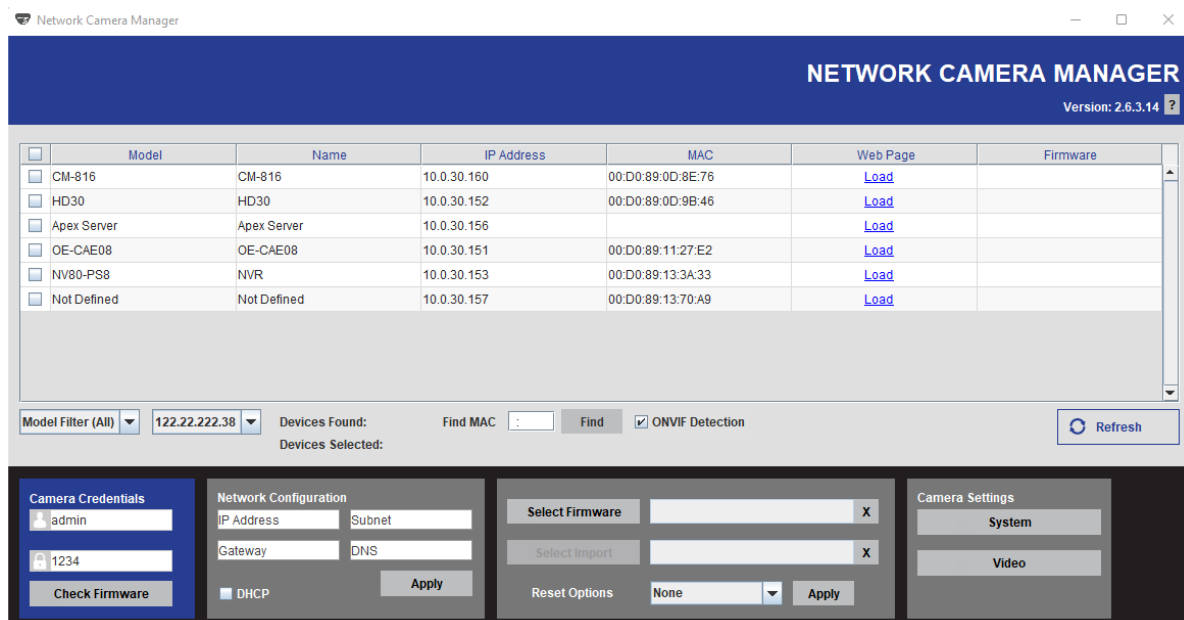
### Linux Platforms

In the Apex Settings menu, go to the **Cameras** page and click **Advanced**.

## FINDING NETWORK DEVICES

Click **Refresh** to reload the Device List.

To narrow your search by **Camera Model** or **Network**, use the **Model Filter** and **Networks** dropdowns.



A Mac Address search is also available if you are looking for a specific device.

See [Network Camera Manager](#) for more information.

## USERNAME AND PASSWORD

\*OpenEye IP cameras ship without a default password.

Username: admin

The admin user password can be set using the following methods:

1. OpenEye recorders running Apex 2.6 or newer will automatically set a new unique password when added in setup, if a new password has not already been set.

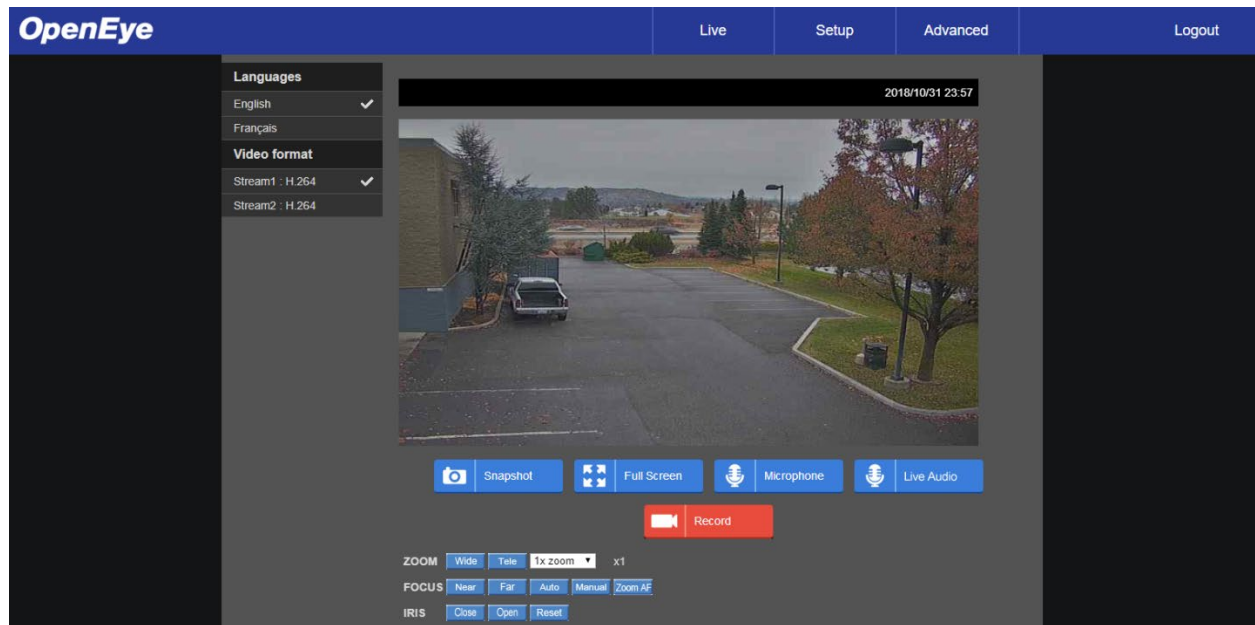
**Note** You can set your Default Camera Password under the General Settings page within Setup > System Settings > General Settings. For instructions on defining your unique camera password, visit: <https://www.openeye.net/support/faqs/default-camera-password>

2. Connect to the camera directly through a Web Browser and follow the onscreen prompts.
3. Use the Network Camera Manager (NCM) Utility.

**Note** The NCM Software Manual can be found at [Network Camera Manager](#)

**Note** Refer to your Apex recorder manual or quick start guide for instruction on adding cameras.





**Snapshot** – Click the button, and a JPEG snapshot will automatically be saved in the appointed place. The default location is: C:\.

**Full Screen** – This displays the live feed in full screen. Press ESC to close full screen.



**Note** If you are using Windows Vista or 7, you will need to change the Snapshot location. Windows UAC does not allow internet programs to write directly to C:\ for security reasons.

**Record** – Click **Record** to start recording live video. Click **Record** again to stop recording video. Recorded video will be saved automatically to the designated location on the local workstation. The default location is C:/. This location can be changed in **File Location**, in the **System** menu.



**Note** If you are using Windows Vista or 7, 8, or 10, you will need to change the video clip location. Windows UAC does not allow internet programs to write directly to C:\ for security reasons.

## SETUP

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The Setup menu includes System Setting, Picture Setup, and Streaming Setting.



**Note** The Setup menu displays limited setup options. For a complete list of setup options, see the *Advanced* section.

### SYSTEM SETTING

#### CAMERA NAME

**Host Name** – The Host Name is used to identify the camera on your system. If camera-based Motion Detection is enabled, and is set to send alarm message by Mail/FTP, the host name entered here will display in the alarm message.

**Time Zone** – Select your time zone.

**Enable daylight saving time** – Set the time offset (default 01:00:00) and set the Start and End date and time for the regional daylight saving time period.

**Date Format** – Select your desired time format.

**Sync With Computer Time** – Select to synchronize the camera date and time with the connected recorder.

**Manual** – Set the current date and time manually.

**Sync with NTP Server** – Network Time Protocol (NTP) is an alternate way to synchronize your camera's clock with a NTP server. Specify the server you wish to synchronize in the **NTP Server** box. Then select an **Update Interval**. For more information about NTP, visit [www.ntp.org](http://www.ntp.org).

#### USER SETUP

##### Admin Password

Manage the password for the Administrator account.

To change the administrator password:

1. Type a new **Administrator Password**, and then type again to confirm the password.
2. Click **Save**.

##### Add User

The user name and passwords are limited to 16 characters with no spaces permitted. There is a maximum of twenty user accounts.

1. Type the new **User name** and **User password**.
2. Select I/O Access, Camera Control, Talk, and/or Listen as permissions for the User.

**I/O Access** – All functions in the Setup and Advanced menus are available to the User.

**Camera control**– Allows the User to change camera controls in the Setup menu.

3. Click **Add**.

### Delete User

1. In the **Manage User** section, select the user name on the **User Name** list.
2. Click **Delete** to remove the user.
3. Click **OK** in the confirmation window.

There is a momentary wait time while the Network Camera Manager saves parameters. When this period is complete, the User will be deleted.

### Modify User

1. In the **Manage User** section, select the user name on the **User Name** list.
2. Click **Edit**.
3. In the resulting window, modify the Password and/or feature permissions.
4. Click **Save**.



**Note** For security reasons, every time the user properties are opened the access check boxes are automatically cleared. Make sure you select any user access options each time you edit the user properties.

## IP ADDRESS

You can choose to use a fixed IP address or a dynamic IP address (assigned by a DHCP server or router) for the camera.

### Get IP an Address Automatically (DHCP)

The camera comes preconfigured with a fixed IP address, selecting **Get IP address automatically** requires a router or DHCP server to assign an IP address to the camera.

The screenshot shows the 'IP Address' configuration interface. Under the 'General' section, the 'Get IP address automatically' radio button is selected. Below it, the 'Use fixed IP address' section is visible with fields for IP address (10.0.30.104), Subnet mask (255.255.255.0), Default gateway (10.0.30.254), Primary DNS (10.0.1.27), and Secondary DNS (10.0.1.1). The 'Use PPPoE' section has fields for User name and Password, with a 'Save' button below. The 'Advanced' section includes fields for Web Server port (80), RTSP port (554), MJPEG over HTTP port (8080), and HTTPS port (443), each with a 'Save' button. At the bottom, the 'IPv6 Address Configuration' section has an unchecked 'Enable IPv6' checkbox and an 'Address' field with a 'Save' button.



**Note** Every network device has a unique Media Access Control (MAC) address that can be used for identification. The MAC address is located on the IP Address tab, the bottom of each camera, and on the box label (OpenEye Network Camera Manager also displays the MAC address for identification). Record your camera's MAC address for identification in the future.

## Use Static IP Address

To set a static IP address for the camera:

1. Select the **Use fixed IP address** option.
2. Type an IP address in the **IP address** box.
3. Type an address in the **Default Gateway** box.
4. Click **Save** to confirm the new setting.

If you have a static IP address assigned to the camera, you can access it through the Network Camera Manager software or type the IP address directly in the address bar of your web browser.

- **IP Address** – The IP Address is necessary for network identification.
- **Subnet mask** – Used to determine if the destination is in the same subnet. The default value is 255.255.252.0.
- **Default gateway** – Used to forward frames to destinations on different subnets or for internet access.
- **Primary DNS** – The primary domain name server that translates hostnames into IP addresses.
- **Secondary DNS** – A secondary domain name server that backups the primary DNS.



**Note** The Web Server port is also used in OpenEye Server Software.

- **Web Server port** – Defines the port that Internet Explorer uses to connect over the web and view video. If this port is changed (default port is 80) then the new port must be defined when attempting to web connect (ex: if the IP address of the camera is 192.168.0.100 and you change the web port to 8001, then you must type http://192.168.0.100:8001 in your browser).
- **RTSP port** – The default RTSP port is 554; setting range: 1024 ~65535.
- **MJPEG over HTTP port** – The default HTTP Port is 8008; setting range: 1024 ~65535.
- **HTTPS port** – The default HTTPS Port is 443; setting range: 1024 ~65535.



**Note** No port number can be used in duplication on more than one item.

## IPv6 Address Configuration

To enable IPv6 select **Enable IPv6** and click **Save**. See your network administrator if you are unsure of your network configuration.

## PICTURE SETUP

### Camera Tab

Use the Camera Tab section to modify picture settings for the camera. The sample image will change as you modify the picture settings.



**Note** These settings can drastically affect the camera image. OpenEye suggests that these settings are only modified by a CCTV professional, or at the instruction of a technical support representative.

### Exposure

Adjust the exposure settings to optimize the video output in accordance with the operating environment.

**Max Gain** – set the maximum limit of gain, Off,1~3. The default is 3. Higher max gain may cause more image noise.

**Auto Iris** – the camera will automatically adjust the iris depending on the available light in the environment.

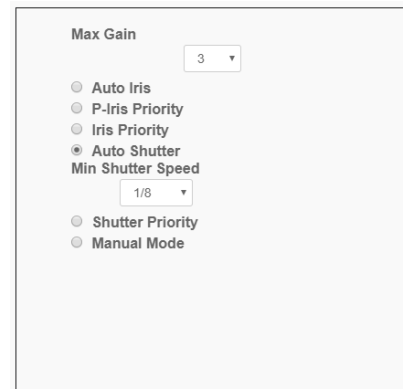
**P-Iris Priority** – select Auto Detect for the camera to automatically detect the best iris size for the environment or adjust the iris size manually.

**Iris Priority** – give the iris premier priority control of exposure, adjustable from 1 ~ 10.

**Auto Shutter** – the camera will automatically adjust shutter speed and iris size according to light intensity.

**Shutter Priority** – gives shutter speed priority control of exposure.

**Manual Mode** – Changing the shutter mode to manual will allow you to select the minimum shutter speed that the camera will use. This can drastically change the amount of light entering the camera.



### White Balance

Use the white balance setting to change color representation in difficult lighting conditions.

**Auto** – White balance works within its color temperature range and calculates the best-fit white balance.

**ATW** – Auto-tracing white balance, the camera removes the signals within a range of 2000K to 10000K, which helps to even out the bright white portions of an image.

**One Push** – Balances color temperature based on a white object within the viewing area.

**Manual** – Change the white balance value by specifying the R gain and B gain.

### Picture Adjustment

Each of the Picture Adjustment settings is set to the recommended default.

**Brightness** – Adjust the image’s brightness on the camera. The Backlight value is adjustable from -12 (dim) ~ +13 (brightest).

**Sharpness** – Increasing the sharpness level can make the image looked sharper; it especially enhances an object’s edge. The value of sharpness is adjustable from 0 ~ +15 (sharpest).

**Contrast** – Adjust the contrast value from -6 ~ 19.

**Saturation** – Adjust the color saturation from -6 ~ 19 (most saturation).

**Hue** – Adjust the hue from -12 ~ 13.

**WDR Function** – Turn the Wide Dynamic Range Off, Low, Mid, or Hi

## PTZ Setup

Use the PTZ Setup tab to program Preset Points, Tours, and Auto Scan Paths via PTZ controls. Additionally, various camera settings including camera flip, privacy masks and RS485 settings. can be set here.

## Preset

Up to 256 Preset points can be programmed for the camera.

To create a Preset point:

1. Move the cursor to the live view pane.
2. Drag the blue pointer with PTZ controls to a desired position.
3. Assign a number for the current position from the **Number List** (1~10) and type a descriptive **Name**.
4. Click **Set** to save the settings.

To move the camera view to a specified Preset point:

Select the Preset number from the list under **Preset Go**. The camera will move to the target position.

## Pattern

The camera supports up to eight patterns.

To create a Pattern:

1. Select a path number from the **Pattern Path** list.
2. Move the cursor to the live view pane, and move the camera to a desired view using the PTZ controls for the start point of a Pattern.
3. Click **Set** next to **Record Start** and start programming the Pattern via the PTZ controls.
4. When you have finished the pattern, click **Set** next to **Record End**. The Pattern will be automatically recorded.

To trigger the camera to run a pattern:

Select the specified Pattern number from the **Pattern Path** list and click **Run**.

To stop running a Pattern, move the cursor to the live view pane and use the PTZ controls to move the camera in any direction.

## Auto Scan

The camera supports four Auto Scan paths.

To create an Auto Scan path:

1. Select a path number from the **Auto Scan Path** list.
2. Move the cursor to the live view pane, and move the camera to a desired view as the Start Point of an Auto Scan Path.
3. Click the “Set” button of the “Start Point”, and the current view will be automatically saved as the start point of the Auto Scan Path.



**Note** The room ratio of an Auto Scan’s Start Point will persist throughout the whole path.

4. Enter the speed ratio in the **Speed** box; the speed ratio ranges from 0 (low) to 3 (fast).
5. Select the **Direction** of the Auto Scan Path, (Left or Right).
6. Move the camera to the desired end point position and click **Set** next to **End Point**.

To run a scan path:

Select the specified path from the list under **Auto Scan Run** and click **Run**.

To stop running an Auto Scan Path, move the cursor to the live view pane and use the PTZ controls to move the camera in any direction.

## Tour

The camera supports up to eight Tours; each Tour supports up to 64 Presets.



**Note** Before setting this function, you must pre-define at least two Presets.

1. Click **Edit** under **Tour setting** to open the Tour Set options.
2. Select the number of the new tour from the **Tour Line** list at the top of the screen.
3. Select each Preset to add to the tour.
4. Enter the Dwell Time (0~127 seconds) and Speed (0~14) for each Preset.

5. Click **Save** when finished.

To run a tour:

Select the desired tour from the **Tour Line** list under **Tour Run** and click **Go**.

To stop running the tour, move the cursor to the live view pane and use the PTZ controls to move the camera in any direction.

## Home

Set up the Home function to ensure constant monitoring. If the camera idles for a period of time, the selected function will be activated automatically and return the camera to a preset point, sequence, autopan or cruise. The Home function allows constant and accurate monitoring to prevent the camera from idling or missing events.

### Activate/Disable Home Function

Select ON/OFF to activate or disable the Home function and click **Set** to save.

### Time

Specify the desired idle time (1~128 minutes) in the Time box. The Time represents the duration of time the camera can idle before performing the home function. When the Home function is activated, the camera will start to count down when it idles, and then execute the predefined action when time expires.

### Action Type

Select an action **Type** (Preset, Sequence, Autopan, or Cruise) and then specify the desired action type number from the **Line** list. Click **Set** to save your settings.

## Tilt Range

The camera's Tilt Range is adjustable. The minimum tilt angle can be set between -10° and 10°. The maximum tilt angle can be set between 80° and 100°.

Enter the desired min. and max. tilt angle into the corresponding fields respectively and click **Set** to save the tilt angle settings.



## Privacy Mask

The Privacy Mask function helps avoid any intrusive monitoring. When you create a mask, it is suggested that you set it at least twice as big (height and width) than the masked object. The camera will assume the center of the selected view as a starting point. Therefore, keep the target object/region nearly positioned in the center of the scene.



**Note** The Image Flip function (*PTZ > Camera – Misc1*) will be disabled automatically when the Privacy Mask function is enabled.

To create a Privacy Mask:

1. Set **Switch** to **On** to activate the Privacy Mask function and click **Set**.
2. Use the PTZ controls to bring the desired location of the mask into view in the preview pane.
3. Select the desired color from the **Color** list for the specified Privacy Mask and click **Set**.
4. Define a number (1~20) for the mask.
5. Turn Zoom Factor On/Off as desired.  
**Zoom Factor** – Normally a privacy mask is repositioned and resized to cover the masked area when the camera is panned/tilted/zoomed. Zoom Factor allows users to hide the mask when the zoom ration is set lower than the original ratio. For example if zoom factor is set to on, when the privacy mask is set at a certain zoom ratio (e.g. 5x), the privacy mask will be resized when the camera is zoomed in (e.g. from 5x to 20x). However, when the camera zooms out (e.g. from 5x to 2x), the privacy mask will be hidden.

Click **Add** and then drag the edges of the privacy mask outline on the preview pane to the desired location, size and dimension. If needed, use the PTZ controls to change the view in the preview pane.

Click **Set** to save the mask.

To edit a Privacy Mask:

1. Enter the number of the mask in the **Mask (1~20)** box and then click **Edit**. The camera will go to the set location and display the mask.
2. Use the cursor to change the size or location of the mask.
3. To cancel mask editing, click **Return** to exit without saving your changes.

To clear a Privacy Mask:

To delete an existing Privacy Mask select the Privacy Mask to be removed from the **Mask** list under **Mask Clearing** and click **Clear**.

## PTZ Setting

**Flip** – Track an object continuously when it passes under the camera by setting Flip to Mechanical (M.E.) mode. M.E. is a standard mechanical operation. As the camera tilts to the maximum angle, it will pan 180° and then continue tilting to keep tracking objects.



**Note** The Flip setting is manually controlled only. If a Preset Position or a point for another function (E.g. Sequence) is set in the position that can only be reached through Flip motion, when the Flip function is turned Off, the position cannot be reached anymore.

**Note** To make the camera tilt between a specific range, such as -10° to +100°, go to the Tilt Range setting page to set the tilt angle range. Otherwise, the camera will tilt 90° as the default setting.

**Speed by zoom** – allows the camera to adjust the pan/tilt speed automatically using the internal algorithm when the zoom ration is changed. The rotating speed will become slower as the zoom ration gets larger.

**Auto Calibration** – integrating servo feedback technology, the camera will calibrate and precisely return to the previous position without stalling when the deviation of dome pivot is detected. Select On and then click Set to activate.

**Set Pan Zero** – set the camera's current position as the start point for panning (0 degree).

## RS485

With the correct RS-485 protocol selected, users can remotely control the PTZ function of the camera using a joystick/keyboard.

1. Check the RS-485 protocol type of the joystick/keyboard and then select that protocol (DSCP, PelcoD, PelcoP) from the **Protocol** list.

Adjust the parameters and set an ID number for the joystick/keyboard.

Click Save.

## Motion Detection

Use the Motion Detection menu to configure the motion detection areas. Here, Motion Detection can be turned On or Off, and other general settings can be specified.

To enable motion detection:

1. Use the **Motion Detection** dropdown to select a motion detection preset (1-4). If choosing an additional preset after 1, select the **On** radio button.



**Note** A motion detection preset can be turned **Off** at a later time.

2. If desired, select the **By Schedule** radio button and use the dropdown menu to select a schedule.
3. Designate the **Motion Detection Setting** values.

4. Check the appropriate boxes to designate the **Triggered Action**.
5. Click **Save**.

## Add Detection Area

1. Use the **Motion Detection** dropdown to select a motion detection preset.
2. Select the **Enable brush** check box under **Motion Region Paint** and then use the cursor on the live view pane to highlight the desired motion detection area.
3. Click **Save**.

## Delete Motion Detection Area

1. Use the **Motion Detection** dropdown to select a motion detection preset.
2. Select the **Enable brush** check box under **Motion Region Paint** and then use the cursor on the live view pane to remove the highlight area.
3. Click **Save**.

## Motion Indication Bar

The Motion Indication Bar indicates the level of motion in the live view pane.

## STREAMING SETTINGS

---

### VIDEO RESOLUTION

The camera allows you to configure each of the streams independently.

**Encoding** – enable Stream 2~Stream 4 encoding.

**Encode Type** – select the preferred encode type (H.265, H.264, MJPEG).

**Resolution** – set the resolution of stream.

**Rate Control** – select the H.265/H.264 bit rate mode: CBR (Constant Bit Rate), VBR (Variable Bit Rate), and LBR (Low Bit Rate).

**CBR** – the outgoing video bitrate will be fixed and consistent to maintain bandwidth.

**VBR** – video bitrate varies according to the activity of the monitoring environment to achieve better image quality.

**LBR** – keeps bitrate low to ensure superior image quality. To use LBR, set up the compression level and dynamic GOV for each stream first.

**Compression** – based on the current application area and streaming bitrate, select the most suitable compression level, high/mid/low.

**High** – bitrate will be vastly reduced but image quality may be degraded.

**Low** – bitrate will stay low while image quality remains high.

**Dynamic GOV/Max GOV** – According to the amount of motion in the area, the GOV length of the video will be adjusted dynamically to reduce bitrate, especially for scenes with minor changes. If there is small or zero activity in the scene, set Max GOV larger and the GOV length will be longer, resulting in lower bitrate and bandwidth. If there are constant dynamic changes in the scene, it is suggested to adjust GOV Length and disable Dynamic GOV.

**Profile** – Set H.265/H.264 to High Profile or Main Profile according to compression needs. With the same bit rate, the higher the compression ratio, the better the image quality is.

**Framerate** – Setting the camera to transmit fewer frames can save bandwidth (1 ~ 30)



**Note** Higher frame rate will increase video smoothness, as well as file size and bandwidth usage.

**Note** Lower frame rate will decrease video smoothness, as well as file size and bandwidth usage.

**Bitrate** – The default setting of the H.265/H.264 bitrate for Stream 1 / Stream 2 is 4096 kbit/s; for Stream 3 / Stream 4 is 2048 kbit/s. The setting range is from 512 to 10240, and the total bit rate should not exceed 26624 kbps.

**GOV Length** – set the GOV length to determine the frame structure (I-frames and P-frames) in a video stream to save bandwidth. Less bandwidth is needed if the GOV length is set to a high value. However, the shorter the GOV length, the better the video quality is.

**Video Configuration**

**stream 1**

Encoding	Yes	Profile	Main profile
Encode Type	H.264	Framerate	15
Resolution	2048 x 1536	Bitrate	6144
Rate Control	LBR	GOV Length	60
Compression	Mid	Max. GOV	255
Dynamic GOV	Enabled		

**stream 2**

Encoding	Yes	Profile	Main profile
Encode Type	H.264	Framerate	15
Resolution	720 x 480	Bitrate	1024
Rate Control	LBR	GOV Length	60
Compression	Mid		
Dynamic GOV	Disabled		

**stream 3**

Encoding	No
----------	----

**MJPEG**

Encode Type	MJPEG	Framerate	15
Resolution	640 x 480		

Save Reset

## VIDEO ROTATION

**Mirror** – Select yes to flip the video across the vertical axis.

**Rotate Type** – Select the number of degrees to rotate the video (0, 90, 180, 270).

# Advanced

## SYSTEM SETTING

---

### CAMERA SETUP

Refer to the Camera Name section on page Error! Bookmark not defined..

### USER SETUP

Refer to the User Setup section on page 18.

### NETWORK SETUP

The Network Setup settings will automatically be set at the recommended default after the camera connection is made.

#### IP Address

Refer to the IP Address section on page 19.

#### DDNS

DDNS (Dynamic Domain Name Service) is a service that allows a connection to an IP address using a hostname (URL) address instead of a numeric IP address. Most ISPs use Dynamic IP Addressing that frequently changes the public IP address of your internet connection; this means that when connecting to the camera over the internet, you need to know if your IP address has changed. DDNS automatically redirects traffic to your current IP address when using the hostname address.

**Enable DDNS** – Select the check box to enable DDNS.

**Provider** – Select a DDNS host from the Provider list.

**Host name** – Type the registered domain name in the field.

**Username/E-mail** – Type the username or e-mail required by the DDNS provider for authentication.

**Password/Key** – Type the password or key required by the DDNS provider for authentication.

### NETWORK ADVANCED

#### QoS

Quality of Service allows you to prioritize network traffic services of the camera's functions. The QoS function utilizes the Differentiated Services prioritized using Codepoint vales (DSCP).



**Note** Routers and switches on the network must be QoS or DSCP capable, and have these settings enable for this function to operate on your network.

## SNMP Settings

With Simple Network Management Protocol (SNMP) enabled, the camera can be monitored and managed remotely with a network management system. Contact your network administrator if you are not familiar with SNMP setup.

## UPnP

**Enable UPnP** – When enabled, the camera will appear in My Network Places on Windows computers running UPnP on the same network.

**Enable UPnP port forwarding** – When enabled, the camera will attempt to open the web server port on the router automatically.

**Friendly Name** – Set a name to easily identify the camera.

## NETWORK SECURITY

### HTTPS

Select the checkbox to enable an HTTPS secure connection.

### IP Filter

IP Filtering allows you limit access to your IP cameras by IP address. You can Allow or Deny a specific IP address access to the camera.

**Enable IP Filter** – when enabled, the listed IP addresses in the Filtered IP addresses box will be allowed / denied access to the camera.

Adding IP addresses:

Enter an IP address in the box below the Filtered IP Address list and click Add. The address will display in the list. Up to 256 IP addresses can be specified.

Filter a group of IP addresses:

Enter an address in the box below the Filtered IP Address list followed by a slash and a number between 1 ~ 31 (e.g. 192.168.2.81/30). The number after the slash defines how many IP addresses will be filtered.

Delete an IP address:

Use the cursor to select an IP address in the Filtered IP Address list and then click Delete.

### IEEE 802.1X/EAP-TLS

IEEE 802.1X is a well supported security protocol commonly used by wireless vendors. This security method requires a valid CA certification and key. When properly configured, all communication between the client (usually a recorder) and the camera is encrypted.



## ALARM APPLICATION

The alarms menu is where alarm connections are configured.

**Alarm Switch** – Designate when the alarm will be active; Off, On, or By Schedule.

**Alarm Type** – Designate if the alarm is normally open or normally closed.

*Example:* A door sticker consists of two contacts that are connected when under normal conditions. This type of input would be a normally closed alarm. The alarm will trigger when the two contacts are no longer connected, such as an abnormal condition when the door is opened.

**Trigger Action** – Specify which actions the camera should take when motion is detected.

**Enable alarm output** – select high or low.

**Send message by FTP / E-mail** – Select to send an alarm message to a configured FTP and/or e-mail address when motion is detected. When sending to email, the alarm notification is text only. When sending to FTP, the alarm notification will upload a text file to the FTP location.

**Upload Images by FTP** – Select to assign an FTP site and configure various parameters as shown in the figure below. When motion is detected, event images will be uploaded to the appointed FTP site.

**Upload Image by E-mail** – Select to assign an e-mail address and configure various parameters as shown in the figure below. When motion is detected, event images will be sent to the appropriate e-mail address.

The screenshot shows the 'Application' configuration page. It includes sections for 'Alarm Switch' (with a dropdown set to '1'), 'Alarm Type' (radio buttons for 'Normal close', 'Normal open', and 'By schedule'), and 'Triggered Action' (checkboxes for 'Enable alarm output 1' and '2', both set to 'high', and various notification options like 'Send message by FTP', 'Upload image by FTP', 'Send message by E-Mail', 'Upload image by E-Mail', 'Send HTTP notification', 'PTZ Function', and 'Record video clip'). A 'File Name' section contains a text box with 'image.jpg' and radio buttons for 'Add date/time suffix', 'Add sequence number suffix (no maximum value)', and 'Add sequence number suffix up to [ ] and then start over'. An 'Overwrite' checkbox and a 'Save' button are also visible.



**Note** Make sure SMTP or FTP configuration has been completed. See the Mail, HTTP and FTP Setup section on **page 35** for more information.

**File Name** – Enter a file name in the box, ex. Image.jpg. The uploaded image's file name format can be set in this section. Select the one that meets your requirements.

Consult the documentation to the sensor input device to determine which of these to use.

## NETWORK FAILURE DETECTION

**Network Failure Detection** – Turn the network Detection Switch On, Off, or On By Schedule.

**Detection Type** – Designate the IP Address that will be tested and how often (in minutes).

**Triggered Action** – Designate the actions that will occur upon Network Failure Detection.

### Network Failure Detection

**Network Failure Detection**

**Detection Switch**

Off     On     By schedule

**Detection Type**

Ping the IP address  every  minutes

**Triggered Action**

Enable alarm output 1      Enable alarm output 2

Send message by FTP     Send message by E-Mail

Record video clip

## MAIL, HTTP AND FTP SETUP

The camera can send an e-mail via Simple Mail Transfer Protocol (SMTP) when a variety of events occur. SMTP is a protocol for sending e-mail messages between servers. SMTP is a relatively simple, text-based protocol, where one or more recipients of a message are specified and the message text is transferred. The configuration page is shown as follows:

Two sets of SMTP accounts can be configured. Each set includes SMTP Server, Account Name, Password and E-mail Address settings. For SMTP server, contact your network service provider for more specific information.

## MICROSD CARD

OpenEye IP cameras include an integrated microSD™ card slot that can be used to record video or images. The card slot is compatible with a microSD™ card up to 128GB.

**Device Information** – Displays the storage total size and free space information of the included microSD™ card.

**Recording Source** – Set the stream to record to the microSD card.

**Recording filename format** – Select the format for the recording file name to be Start time only or Start time + End time.

**Device Setting** – Allows you to format the microSD card.

**Disk Cleanup Setting** – Allows you to enable and configure automatic disk cleanup to set the max number of days of recording or to remove older recording when the disk is x% full.

**Recording List** – Displays a list of files saved to the card. You can delete files from the card, or save them to your local PC.



**Note** Video recorded to the microSD card cannot be accessed through Video Management Software. Video recorded to the microSD card must be accessed and exported directly from the camera's web interface.

## NETWORK SHARE

Network Share is a network protocol that runs a variety of different system platforms, allowing for file sharing between computers operating on Windows and computers operating on Unix. This serves as an additional storage type.

Configuration requires the host IP address, share name, and credentials. Once configured, cameras can record events to the network share.



**Note** Network Share can be hosted on a Windows, Mac, or Linux system.

**Device Information** – Displays the storage total size and free space information of the Network Share location.

**Storage Settings** – Enter the configuration settings for the network location.

**Recording Source** – Set the stream to record to the network location.

**Recording filename format** – Select the format for the recording file name to be Start time only or Start time + End time.

**Device Setting** – Allows you to format the network share drive.

**Disk Cleanup Setting** – Allows you to enable and configure automatic disk cleanup to set the max number of days of recording or to remove older recording when the disk is x% full.

**Recording List** – Displays a list of files saved to the card. You can delete files from the card, or save them to your local PC.

## RECORDING SCHEDULE

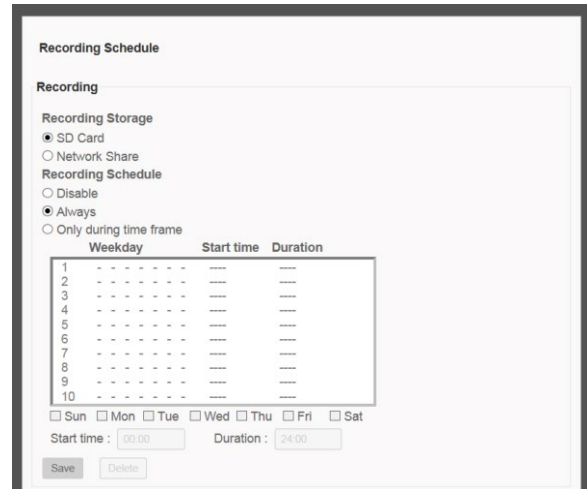
The recording schedule allows you to set up scheduled recording to the microSD™ card or to Network Sharing.

### Recording

This section allows you to define recording schedules for the camera.

For continuous recording:

1. Select type of **Recording Storage**.
  - **SD card:** save recorded data to the microSD™ card located in the camera.
  - **Network Share:** save recorded data to the designated Network Share location.
2. Select **Always** as the type of **Recording Schedule**.
3. Click **Save**.



The screenshot shows the 'Recording Schedule' configuration window. It has two main sections: 'Recording Storage' and 'Recording Schedule'. Under 'Recording Storage', 'SD Card' is selected with a radio button. Under 'Recording Schedule', 'Always' is selected with a radio button. Below these are checkboxes for 'Only during time frame' and a table for scheduling. The table has columns for 'Weekday' (1-10), 'Start time', and 'Duration'. At the bottom, there are checkboxes for days of the week (Sun-Sat), 'Start time' (00:00), and 'Duration' (24:00) input fields, and 'Save' and 'Delete' buttons.

To set up scheduled recording:

1. Select type of **Recording Storage**.
2. Select **Only during time frame** as the type of **Recording Schedule**.
3. Use the appropriate check box to designate a day of the week.
4. Type a **Start Time** and **Duration**.
5. Click **Save**.
6. Repeat steps 3-5 for each desired day of the week until the desired schedule is completed.



**Note** Start Time and Duration are measured in 24-hour format (HH:MM).

To delete a recording schedule:

Select **Disable** for the type of **Recording Schedule**.

—OR—

Click on the desired weekday schedule and then click **Delete**.

## Schedule

This section allows you to establish schedules for recording.

Weekday	Start time	Duration
1	----	----
2	----	----
3	----	----
4	----	----
5	----	----
6	----	----
7	----	----
8	----	----
9	----	----
10	----	----

Sun  Mon  Tue  Wed  Thu  Fri  Sat

Day  
 Night  
 Time

Start time : 00:00      Duration : 24:00

Save      Delete

To create a schedule:

1. Select a Schedule set (1-10).
2. Check the desired **week day** check boxes.
3. Select **Day** or **Night**.
4. Designate a **Start Time** and **Duration**.
5. Click **Save**.

## Interval Recording

Interval recording allows you to record in consistent intervals and save the files for later viewing.

1. Turn Interval Recording **On** or **Off**.
2. Designate the **Time Interval** (seconds).
3. Designate the **Trigger Action** using the appropriate checkbox, and then use the dropdown menus to further manage the Trigger Action.
4. Type a **file name**, and then choose how the file name is multiplied for multiple files.

Interval Recording

Off       On

Time Interval

Minimum interval 60 sec

Triggered Action

Upload image by FTP       Upload image by E-Mail

Upload image to SD card

File Name

File Name : image.jpg

Add date/time suffix  
 Add sequence number suffix (no maximum value)  
 Add sequence number suffix up to 0 and then start over

Overwrite

Save

**Add date/time suffix** – add the date/time to the end of the file name for each interval file saved.

**Add sequence number suffix** – add a sequence number suffix to the end of the file name for each interval file saved.

**Add sequence number suffix up to x and start over** – add a sequence number suffix to the end of the file name for each file saved up to *x*, and then start over.

**Overwrite** – overwrite each previous interval file with the new interval file.

## MAINTENANCE

On the Maintenance page you can export the current configuration of the camera, or import the configuration for a camera. Use the factory default page to reset the IP Camera to factory default settings if necessary.



**Note** Do not import configuration files from a different camera model.

### Configuration

Export Configuration:

1. Click **Export** under **Export Files**.
2. The .bin file will be saved.



**Note** The default location for exported configurations is C:\

Upload (Import) Configuration:

1. Click **Choose File** in the **Upload Files** box.
2. Select a .bin file that you want to import.
3. Click **Upload**.
4. Click **Yes** when prompted that the import will cause a system reboot.

### Factory Default

There are two factory default settings available: Full Restore that restores default settings including network settings, and a Partial Restore that restores default settings excluding network settings. A system reboot is also available; this preserves all settings.



**Note** If a Full Restore is used, you will need to use the Network Camera Manger to find the desired camera again.



## SOFTWARE



**Note** Make sure the software upgrade file is available before starting the software upgrade.

1. Click **Choose File** and find the upgrade file.



**Note** Do not change the file name, or the system will fail to find the file.

2. Select the file name from the list under **Step 2**.
3. Click **Upgrade**. The system will check to find the upgrade file, and then start to upload the upgrade file. The upgrade status bar will display on the page. When it reaches 100%, the viewer will return to Home page.
4. Close the internet browser.
5. Go to the **Control Panel** (in Microsoft Windows) and double-click **Add or Remove Programs**. Locate the **Camera Viewer** software on the **Currently Installed Programs** list and click **Remove** to uninstall the previous version of Camera Viewer.
6. Open the internet browser again and log in to the camera. The system will automatically download the new version of the Camera Viewer software.

## PICTURE SETTING

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### CAMERA SETUP

These are enhanced functions to set Camera Settings.

Refer to the **Camera Tab** section on **page 21** for information on the Exposure, White Balance, and Picture Adjustment settings.

#### IR Function

**Day / Night Function** – set the Day / Night function to automatically transition, or be permanently set to Day mode or Night mode.

**Auto Mode** – the camera will automatically remove the IR cut filter when the light reaches the Day/Night threshold.

**Night Mode** – use for areas where the available light level is low. The IR cut filter will be removed to allow the camera to deliver clear images in black and white.

**Day Mode** – the camera will not switch to black and white.

**Light Sensor Mode** (default) – The camera will use the built in light sensor to adjust the IR cut filter depending on the available light.

**Smart Mode** – the camera will judge whether the main light source is from IR illumination, and if it is IR illumination the IR cut filter will be removed (black and white night mode)



**Note** It is recommended to select Smart Mode when the camera sets high zoom ration for close up view.

**Day / Night Threshold** – set the transition sensitivity needed for a specific environment. The camera will sense the surrounding brightness and the threshold value stands for the level of the light. Once the camera the light level detected by the camera reaches the threshold, the camera will automatically switch to Day/Night Mode. (0=darker, 10=brighter)

**IR Light Compensation** – the camera can prevent the center object close to the camera from being too bright caused by IR illumination

**Noise Reduction** – allows you to set the Noise Reduction levels for the camera.

**Profile** – allows you to set and save profiles based on different settings.

### PTZ SETUP

Refer to the PTZ Setup section on page 22 for more information.

### MOTION DETECTION

Refer to the Motion Detection section on page 26 for more information.

## TEXT OVERLAY

Text Overlay allows you to select text to be displayed over the video.

**Overlay Type** – Select and define the text to be displayed on the camera image.

**Text overlay setting** – Set the color and size of the text overlay.

**Image overlay setting** – Select an image to overlay on the camera video such as a company logo.

## TV SYSTEM

Set the desired TV mode for your camera. The default setting is NTSC60, which is optimal for scenes that do not have high contrast.

WDR2 enables WDR mode which is the optimal mode for high contrast scenes.

## STREAMING SETTING

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### VIDEO RESOLUTION

Refer to the Video Resolution section on page 28 for more information.

### VIDEO ROTATION

Refer to the Video Rotation section on page 29 for more information.

### WEB VIEWER

Select the desired Video OCX protocol setting to transmit video over the network

**RTP over UDP** – Provides an up-to-date video stream although some images may be dropped. Suitable for both an intranet and the Internet where there is no NAT firewall.

**RTP over RTSP (TCP)** – Uses TCP for increased delivery reliability. Suitable for internet where firewalls are used and where an RTSP proxy is available.

**RTSP over HTTP** – Tunnels RTSP by HTTP. Able to pass through firewalls between the camera and the viewer.

**MJPEG over HTTP** – Streams a sequence of JPEG images by HTTP. Able to pass through firewalls between the camera and the viewer.

**Multicast mode** – Provides the most efficient use of bandwidth when a large number of viewers are viewing video simultaneously. Suitable for a subnet or intranet. Will not broadcast over the internet.

# Logout

The Logout tab allows you to switch between users.

1. Click **Logout**.
2. If prompted to close the browser window, click **Yes**.
3. Using the Network Camera Manager Software, select the camera you wish to view in the Viewer Software.
4. Click **Browse**.
5. Login as the appropriate user.

[www.openeye.net](http://www.openeye.net)

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