

# **Outdoor PTZ IP Camera**

**User Manual** 



## Camera CM-816

## Accessories

CA-510G CA-510W CA-510C CA-510P25 CA-510P50 CA-510PML CA-510PMS CA-510PA25 CA-510PA50

www.openeye.net

18x 2MP Outdoor IP PTZ Camera (CM-816 Rev C) User Manual

Manual Edition 30875AE - DECEMBER 2014

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### **Important Safeguards**

1. Read Instructions

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

2. **Retain Instructions** Save these instructions for future reference.

#### 3. Attachments / Accessories

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

#### 4. 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.

#### 5. Power source

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

### **Precautions**

#### 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.
- Do not block the cooling holes on the bracket. This camera has a cooling fan inside the housing. Blocking the cooling holes will cause heat to build up and cause malfunction.
- 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

- Install electricity wiring carefully. Please note that input electricity to the unit is at tolerance of DC 12V/AC 24V ± 10%. The camera is capable of surge protection; ensure AC power model unit is grounded appropriately against damage by heavy current or electric shock.
- Do not install the camera in areas of extreme temperatures in excess of the allowable range. (-50°C ~50°C / -58°F ~ 122°F)
- 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.

### Regulation

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.

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste in accordance with Directive 2002/96/EC. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By proper waste handling of this product you ensure that it has no negative consequences for the environment and human health, which could otherwise be caused if this product is thrown into the garbage bin. The recycling of materials will help to conserve natural resources.

For more details information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.



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

### Warning

DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

## Caution



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# INTRODUCTION

## **OVERVIEW**

The CM-816 IP camera can transmit video in H.264 and MJPEG, up to 2MP (1080p) high definition video. The 816 is capable of quad and dual streaming both codecs at various resolutions. The camera's IR cut filter and wide dynamic rage imaging make it perfect for installations with difficult lighting conditions. The CM-816 has an IP66 outdoor rating and integrated heater making the 816 ideal for rugged outdoor installations with temperature as low as -49°F (-45°C)

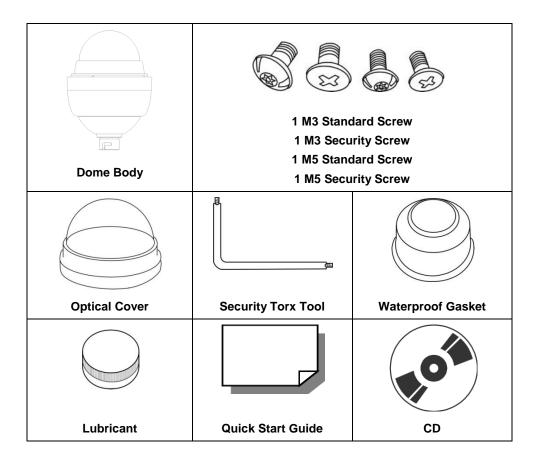
## **Product Features**

- 18x optical zoom
- 2 megapixel resolution
- Simultaneous dual streams: H.264 and MJPEG
- Full HD real-time resolution
- Two-way audio support
- Removable IR cut filter
- Motion detection
- Wide Dynamic Range (WDR)
- Digital noise reduction

# **GETTING STARTED**

## **CAMERA CONTENTS**

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.



## DOME SETUP AND CABLE CONNECTION

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

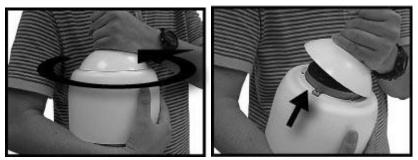
## **Preparations for Dome Setup**

The following installation procedure is for the outdoor dome equipped with the sunshield housing. Please follow the steps below to complete dome housing installation.

1. Unpack the dome package and take out the dome body.



2. Rotate the top holder and take it off from the dome body.



3. Remove the protective cover and PE sheet.



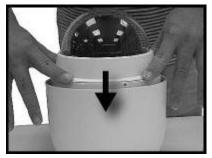
4. Apply some lubricant on the cover's waterproof gasket. This helps make the installation process smoother.



- 5. Attach the dome cover to the camera body.
- 6. Note that the tiny protrusion on the cover must align with one of the four holes on the camera body.



7. Using both hands, gently press the dome cover.



DO NOT press the dome itself as this may cause damage to the dome or camera.



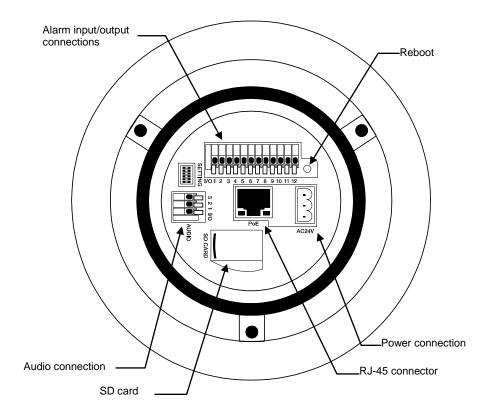
8. Screw the dome cover and body together.



## **Dome Camera Setup**

## **Switch Definition**

Please refer to the following figure for connection and switch locations and definitions.



**Note** Do not change the settings on the camera's settings switches. Leave the switches at the factory default settings.

## **Dome 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 CM-816 IP camera requires 24V AC power to the dome.

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		

#### **Power Wire Length Specifications**

**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.

### **Power Connection**

- 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** The 'notches' on the left side of the graphic above correspond to notches in the green plastic of the power connector.
- **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 AC24V 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** In some cases, you may need to use an Ethernet crossover cable when connecting the camera directly to the recorder.

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



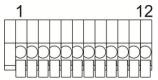
The Green link light indicates a good network connection.

The Orange activity light flashes to indicate network activity.



## **12-Pin Alarm Input/Output Connection**

Using the 12-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	Alarm OUT NO 1
2	Alarm OUT NC 1
3	Alarm OUT COM 1
4	GROUND
5	Alarm OUT NO 2
6	Alarm OUT NC 2
7	Alarm OUT COM 2
8	GROUND
9	Alarm IN 4
10	Alarm IN 3
11	Alarm IN 2
12	Alarm IN 1

## **Audio Input/Output Connection**

- 1. Line OUT
- 2. GROUND
- 3. Line IN



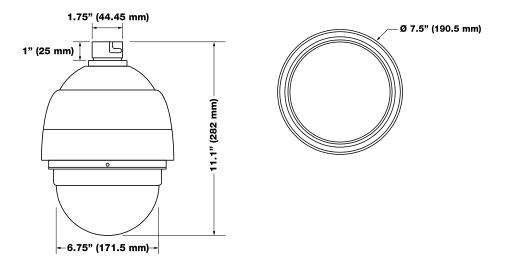
# **DOME INSTALLATION**

## **OVERVIEW**

Depending on your installation environment, the dome can be installed on the ceiling, on a wall, or a pole. The following section illustrates installation methods and procedures for installing the dome and mounting accessories.

## **DOME DIMENSIONS**

The dome dimensions are  $\emptyset$ 172 x 228.71mm (6.77 x 9.0 inches) and  $\emptyset$ 191.97 x 282.11mm (7.5 x 11.1 inches) with the sunshield.



## **OPTIONAL ACCESSORIES**

## **Dome Camera Accessories**

Transparent/Smoke Cover Part Number: CA-510-DT

## **Mounting Accessories**

Wall Mount Bracket (w/ Anti Drop) Part Number: CA-510W

Long Wall Mount Bracket (w/ Anti Drop) Part Number: CA-510WL

50 cm Pole Part Number: CA-510P50

25 cm Pole Part Number: CA-510P25

#### **Corner Mounting Plate**

Part Number: CA-510C

Small Pole Mount Part Number: CA-510PMS

Large Pole Mount Part Number: CA-510PML

**1** ¼" **Threaded Adapter** Part Number: CA-510PA25

**1** <sup>1</sup>⁄<sub>2</sub>" **Threaded Adapter** Part Number: CA-510PA50

## **Ceiling Mounting with Pole**

The pole is available in two lengths: 25 cm and 30 cm.

#### Items Needed:

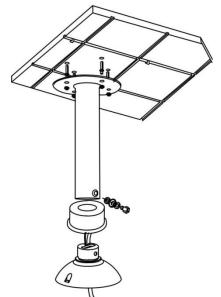
- Dome Camera
- Ceiling Pole Accessory
- Waterproof Gasket (supplied)
- Screws and Anchors appropriate for the mounting surface (not supplied)

#### **Tools Needed:**

- Drill
- Screwdriver

#### Installation Steps:

- **Note** Ensure that the ceiling can support the weight of the dome camera and the ceiling pole.
- 1. Cut a cable access hole in the ceiling.
  - Attach the ceiling pole to the ceiling with the appropriate screws and screw anchors (not provided).
  - 3. Attach the waterproof gasket to the Ceiling Pole.
  - 4. Thread the cables through the ceiling pole and the top holder
- **Note** After threading the cables through the tube, block the cable entry hole with the supplied sponges to prevent insects from entering the tube.
  - Attach the top holder to the ceiling pole with the supplied screws and washers and adjust the gasket to the junction of the ceiling pole and the top holder.
  - 6. Connect the cables to the dome camera.



7. Attach the dome to the top holder and secure them with the supplied screw.

## Wall Mounting with Wall Mount Bracket

#### **Items Needed:**

- Dome Camera
- Wall Mount Bracket or Long
   Wall Mount Bracket
- Waterproof Gasket (supplied)
- Screws and Anchors appropriate for the mounting surface (not supplied)

#### Installation:

- 1. Cut a cable access hole on the wall. Cables can also be threaded through the cable entry knockout on the tube if desired.
- 2. Thread the cables through the wall mount bracket.

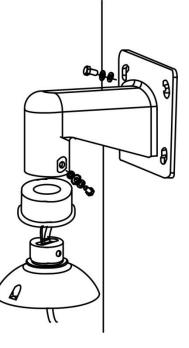


3. Block the cable entry hole with the supplied sponge.

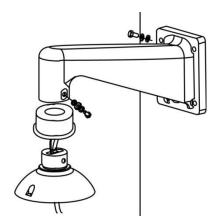


#### **Tools Needed:**

- Drill
- Screwdriver



- 4. Attach the wall mount bracket to the wall with the appropriate screws and screw anchors (not provided).
- 5. Attach the waterproof gasket to the wall mount bracket.
- 6. Thread the cables through the top holder and attach the dome to the wall mount bracket with the supplied screws and washers.
- 7. Connect the cables to the dome camera.
- 8. Attach the dome to the top holder and secure them with the supplied screw.



The corner mount must be used in conjunction with the wall mount bracket.

#### **Items Needed:**

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#### Dome Camera

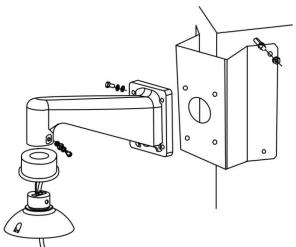
• Wall Mount Bracket Accessory

Wall Mounting with Corner Mount

- Corner Mounting Plate
- Waterproof Gasket (supplied)
- Screws and Anchors appropriate for the mounting surface (not supplied)

#### Installation:

- Cut a cable access hole on the wall. Cables can also be threaded through the cable entry knockout on the bracket if desired.
- Secure the corner mount plate on the corner wall with the appropriate screws and screw anchors.



**Tools Needed:** 

Screwdriver

Drill

- 3. Attach the wall mount bracket to the corner mount plate with the supplied screws and washers.
- 4. Thread the cables through wall mount bracket and the top holder.
- 5. Block the cable entry hole with the supplied sponge.
- 6. Attach the waterproof gasket to the wall mount bracket.
- 7. Attach the top holder to the wall mount bracket with the supplied screws and washers and adjust the gasket to the junction of the wall mount bracket and the top holder.
- 8. Connect the cables to the dome camera.
- 9. Attach the dome to the top holder and secure them with the supplied screw.

## **Pole Mounting**

The dome can be mounted on a pole with the small or large direct mounting accessory and a wall mount bracket.

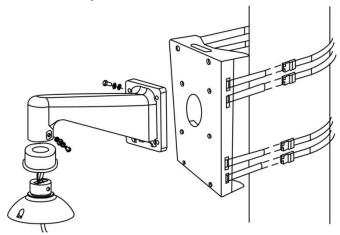
#### Items Needed:

- Dome Camera
- Wall Mount Bracket Accessory
- Small/Large Pole Mount Accessory
- Stainless Steel Straps
- Waterproof Gasket (supplied)

#### Installation Steps:

#### **Tools Needed:**

- Stainless Steel Strap Cutter
- Screwdriver



- 1. Fasten the small/large pole mount to the pole with stainless steel straps.
- 2. Attach the wall mount bracket to the pole mount with the supplied screws and washers.
- 3. Attach the waterproof gasket to the wall mount bracket.
- 4. Thread the cables through the wall mount and the top holder.
- 5. Block the cable entry hole with the supplied sponge.
- 6. Attach the top holder to the wall mount with the supplied screws and washers and adjust the gasket to the junction of the wall mount and the top holder.
- 7. Connect the cables to the dome camera.
- 8. Attach the dome to the top holder and secure them with the supplied screw.

# LOCATE CAMERA

## **OPENEYE NETWORK CAMERA MANAGER**

Use the included Network Camera Manager software to easily find your network cameras for initial setup. The OpenEye IP Finder software is included on the CD with all OpenEye IP devices.

## Installation

You can install Network Camera Manager on any personal computer (PC) or laptop using the software CD included with your OpenEye IP camera or by downloading the program from openeye.net.

**Note** Network Camera Manager will only work on PCs or laptops that use a Windows operating system. It is compatible with Windows XP, Vista, 7, and 8.

## **Starting Network Camera Manager**

After installing the program on your PC or laptop, open the program to begin configuring your cameras.

To access Network Camera Manager on an OpenEye recorder, you must operate the recorder in Windows Mode.

- 1. In the Live Screen, click Exit.
- 2. Click Restart in Windows Mode.
- 3. Click OK.
- 4. Double-click Network Camera Manager.

## **Device Addressing**

The functions on the Device Addressing tab allow you to find, configure, and view network cameras.

### **Finding Network Devices**

- 1. Click Find Devices on the Device Addressing tab.
- 2. To narrow your search by **Camera Model**, **Project**, or **Camera Name**, select your desired criteria from the appropriate lists.

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All Networks			•		Camera	login		1	Camera Mo	idel	
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Find De		ices		Password.		rd.	1234		Camera Na	me	
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Move up	Mov	re down							73	Devices discov	ere
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Gateway		2001.2001.2001.2001		O Static	O DHCP						
DNS		2000, 2000, 200	.3000					network cor	nfiguration	Undo Change	
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# **SETUP & CONFIGURATION**

## **CONNECTING TO THE CAMERA**

- 1. Locate the camera on the Network Camera Manager list.
- 2. Double-click the camera to open the Viewer software in your web browser.
- 3. Log in to the camera with the appropriate User Name and Password.
- **Note** The default User name is **Admin** and the default Password is **1234**. The username and password are case sensitive. OpenEye recommends you change the Admin password for security reasons.

## Administrator/User Privileges

The Administrator account has the authority to configure the IP camera and authorize users' access to the camera. The User accounts have access to the camera with limited authority.

## **Connecting a Stream**

OpenEye IP cameras are optimized for use with OpenEye recorders, but you can also connect to your OpenEye IP cameras using third party software like VLC media player (http://www.videolan.org).

To connect the camera you may need to provide the stream URL. All OpenEye IP cameras are capable of delivering two RTSP streams, as well as streaming MJPEG over HTTP. The stream URLs are listed below.

rtsp://<ip address>/mjpeg

rtsp://<ip address>/mpeg4

rtsp://<ipaddress>/h264

http://<ipaddress>:8008

The MJPEG over HTTP stream is identified by a port number. The default port is 8008; this port can be configured in the cameras **Network** page:

OpenEye	Home	System	Streaming	Camera	Logout				
System	Network								
Security	General								
Network		Get IP address automatically							
DDNS		Use fixed IP address     IP address     10.4.5.86							
Mail	Subnet		255.0		]				
FTP		gateway	10.0.						
нттр	Primary		10.0.						
Application	Second	ary DNS	0.0.0	.0	]				
Motion detection	🔘 Use PPPo	E							
Storage management	User na	ame							
Recording	Passwo	ord							
File location		Save							
lris adjustment	Advanced	erver port	80						
View log file			554	_					
View user information		RTSP port MJPEG over HTTP port			_				
View parameters			ort 8008						
Factory default	UPnP Setti	ng							
Software version	🗹 Ena	ble UPnP							
Software upgrade			t forwarding						
Maintenance	Friendly	y name	CM-7						
			Sav	/e					

## **Connecting Over the Internet**

There are some challenges with connecting to OpenEye IP cameras over WAN (internet) connections because the camera streams video over RTSP. RTSP is an excellent protocol for media and is now used on many IP cameras (including OpenEye) as the default streaming option.

However, RTSP is not suitable for transmission between two locations that are behind different routers. In this case, the client (for example, the OpenEye HVR or NVR server software) connects to the camera, then requests a stream. The camera uses that connection to return a stream, but since the connection originated on the client side and has now switched to the camera (remote) side, the router does not have any way to determine where the traffic should be routed, so no video appears at the recorder.

There are three solutions to this:

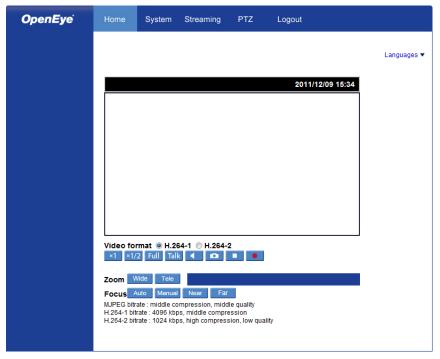
- 1. Connect modems on both sides directly to the recorder and camera. If there is no router, no network address translation is needed.
- 2. Use routers with VPN support and set up a small VPN. Once this is done, the traffic will be treated as though it were all on the local network.
- (Best solution) Use routers with connection tracking. This is quite easy; VOIP also uses RTSP and faces the same challenges. If a router is marketed as having "VOIP Support", it will have the necessary connection tracking capability to allow any type of RTSP communication (not just VOIP).

With proper planning and the correct equipment, RTSP cameras CAN stream over the WAN to a recording device for minimal additional cost and labor.

Please contact OpenEye support if you require any additional information on these topics.

## **VIEWER SOFTWARE**

To access the setup menu, you need to install the viewer software on your PC or DVR. The viewer software will install automatically the first time you connect to the camera. If your internet browser doesn't install the viewer software, check the security settings or ActiveX controls and plug-in settings. If your internet browser asks for permission to install the ActiveX control, you must allow the ActiveX control to continue the installation.



## **Viewer Tabs**

Home – Monitor live video.

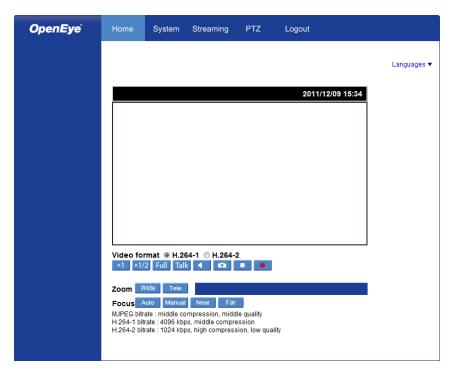
**System** – Set the host name, system time, root password, and network related settings. (Admin access only)

Streaming – Modify the video resolution and select the audio compression type.

**PTZ** – Adjust the camera parameters including Exposure, White Balance, Backlight Compensation and program functions including Presets, Pattern, Auto Scan, and Tour.

Logout – Change user.

## Home



#### Screen Size Adjustment

Image display size can be adjusted to x1/2 and full screen via the related buttons. To switch between the normal view mode and full screen view mode, users can also move the cursor to the live video pane and right-clink to display the screen options. Click Normal View or Fullscreen to set the image display mode.

## Talk Talk

The Talk function allows the local site to talk to the remote site (camera location). This function is only available if the local site has a connected microphone, the remote site has connected speakers, and the local user has been granted access. Please refer to the **Security: Add user > Talk/Listen** section for further details. This function is only available to users who have been granted this privilege by the Administrator.

## Listen

The Speaker function allows the local site to listen to audio from the remote site (camera location). This function is only available if the local site has connected speakers, the remote site has a connected microphone, and the local user has been granted access. Please refer to the **Security: Add user > Talk/Listen** section for further details. This

function is only available to users who have been granted this privilege by the Administrator.



Click the Snapshot button, and a JPEG snapshots will automatically be saved in the designated location on the local workstation. The default place of saving snapshots is: C:\. This location can be changed in File Location under the System menu.

**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 the Record button to start recording live video; press the record button again to stop recording live video, automatically saving an AVI video clip to the designated location on the local workstation. The default place of saving video clips is: C:\. This location can be changed in File Location under the System menu.

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

#### Pan/Tilt Control

To implement pan/tilt control, move the cursor to the live video pane and drag the pointer *direction*.

#### Zoom Adjustment



Click on the **wide/tele** buttons to control zoom in/out. Or move the cursor to the zoom adjustment bar and click the desired position to change the room ratio. Or you can zoom in/out by first moving the cursor to the live video pane and rotating the mouse wheel.

#### Focus Adjustment



#### Auto Focus (Continuous AF):

Click **Auto** to enable auto focus mode. In this mode, the camera will automatically and continuously adjust focus regardless of zoom changes or any view changes. The Focus status will also be displayed above the live video pane.

#### Manual Focus:

Click on **Manual** to adjust focus manually via the **Near** and **Far** buttons. The status will also be displayed above the live video pane.

## System

Note The System tab is only accessible by the Administrator.

### System

<b>OpenEye</b>	Home	System	Streaming	PTZ	Logout
System	System				
Security 🔻	Host Name	: CM-816			
Network 🔻	Time zone :	GMT+00	):00 Gambia, Lib	eria, Morocco	, England 🗸
DDN S					
Mail		e offset: 01			
FTP		art date: Ja			- Start time: 00:00:00
нттр		nd date: Ja		→ Sun	
Application	-		1100	Juli	
Motion detection	© Sync witl	n computer	time		
Storage management	-		11/12/01 [yy	w/mm/ddl	
Recording					
File location		PC time: 15	:22:13 [hh:m	im:ss]	
View log file	Manual				
View user information		Date: 20	07/01/01 [yy	/y/mm/dd]	
View parameters		Time: 00	:00:00 [hh:m	im:ss]	
Factory default	Sync with	h NTP serve	r		
Software version	NT	P server: 0.	0.0.0		[host name or IP address]
Software upgrade	Update	interval: Ev	very hour 🔻		
	-,		ave		

#### 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.

#### <u>Time Zone</u>

Select the appropriate time zone from the dropdown.

#### Enable Daylight Savings Time

Select to enable daylight savings time, then select the offset, start date and end date. In North America the typical offset is one hour (01:00:00); the start is the second Sunday in March at 2AM (02:00:00), and the end is the first Sunday in November at 2AM (02:00:00).

#### Sync with Computer Time

Select to synchronize the camera date and time with the connected PC or DVR.

#### Manual

Set video date and time manually.

#### Sync with NTP Server

Network Time Protocol (NTP) is an alternate way to set your camera's clock by synchronizing 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.

## Security

OpenEye	Home	System	Streaming	PTZ	Logout
System	Security				
Security 🔺	Admin Pas	sword			
User	A duain	password			
HTTPS		password		Save	
IP filter	Commin	password		Save	
IEEE 802.1X	Add User				
Network 🔻		Jser name			
DDNS	User	password			
Mail	🗹 I/O	access [	Camera cont	rol	
FTP	🔲 Talk	[	Listen	Add	
нттр					
Application	Manage Us User na	er me no u	iser 🔻 🛛 Del	ete Edit	
Motion detection					
Storage management					
Recording					
File location					
View log file					
View user information					
View parameters					
Factory default					
Software version					

### **Admin Password**

To change the administrator password, type a new password in the Admin Password box and confirm below.

**Note** The maximum length of the password is 14 characters. The following characters are valid: A-Z, a-z, 0-9, !#\$%&'-.@^\_~.

The user name and passwords are limited to 16 characters. There is a maximum of twenty user accounts

- 1. Type the new User name and Password
- 2. Select the appropriate check boxes to give the user Camera Control, Talk and Listen permissions.

**I/O Access** – Basic functions that enable users to view video when accessing to the camera.

**Camera Control** – Allows the User to change camera parameters on the Camera tab.

**Talk/Listen** – Talk and Listen functions allow the user at the local site (DVR) to communicate with, the administrator at the remote site.

3. Click Add.

#### **Delete User**

- 1. Select the user name on the User Name list under Manage User.
- 2. Click **Delete** to remove the user.

#### **Edit User**

- 1. Select the user name on the User Name list under Manage User.
- 2. Click Edit to edit the user password and permissions.
- 3. Type a new password or the existing password in the User password box
- **Note** You must type a password in the User password box to make any changes to an account.
- **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.

🗿 http://192.168.7.234/1	angl/server_editaccount.html - Micr 📄 🗖 🗙
User name User password	[User]
🗹 I/O access	Camera control
🗌 Talk Save	Listen

### Network

	OpenEye	Home	System	Streaming	PTZ	Logout				
Sys	item	Network								
Sec	surity 🔻	General								
Net	work 🔺	Get IP address automatically								
	Basic	Ose fixed								
	QoS	IP addr			10.253.253.1	//2				
	SNMP	Subnet			255.0.0.0					
	UPnP		gateway		10.0.0.51					
DD		Primary			10.0.0.19					
Ma			lary DNS	1	10.0.0.55					
		Ouse PPPo User na		Г						
FTF										
нп	P	Passwo	ord							
Арр	blication				Save					
Mo	tion detection	Advanced		_						
Sto	rage management	Web Se	erver port	8	30					
	ording	RTSP p	ort	5	554					
-	-	MJPEG	over HTTP po	ort 8	3008					
File	location	HTTPS	port	4	143					
Vie	w log file				Save					
Vie	w user information	IPv6 Addre	ess Configura	ation						
Vie	w parameters	🗖 Enal	ble IPv6	A	ddress :					
Fac	tory default				Save					
Sof	tware version									

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

### Get IP address automatically (DHCP)

The camera comes preconfigured with a fixed IP address.

**Note** Each camera has a unique Media Access Control (MAC) address, which can be used to identify the camera on the network. Record the IP Camera's MAC address, which can be found using the OpenEye IP Finder application and on the label of the camera, for identification in the future.

#### **Use Fixed IP Address**

To set up a new static IP address:

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

When using static IP address to log in to the IP Camera, you can access it either through OpenEye IP Finder software or type the IP address directly in the address bar of your Internet Explorer.

#### General

- 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 255.255.255.0.
- **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.

#### Advanced

• Web Server port – Defines the port that Internet Explorer uses to connect over the web and view video. If this port is changed then the new port must be defined when attempting to web connect (ex: if your camera's IP address 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).

**Note** This is also the port used in OpenEye Server Software.

- 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.

# QoS (Quality of Service)

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 values (DSCP).

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

#### **DSCP Settings**

The DSCP value range is 0 to 63. The default value is 0, which indicates the function is disabled; and rates 1 as the highest priority, and 63 as the lowest priority.

- Video DSCP: prioritize video streaming over HTTP or RTSP
- Audio DSCP: prioritize audio streaming
- Management DSCP: prioritize web interface traffic over HTTP

#### **SNMP**

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.

#### SNMP v1/v2

- Enable SNMP v1
- Enable SNMP v2
- Read Community: Specify the community name that has read-only access.
- Write Community: Specify the community name that has read/write access.

#### Traps for SNMP v1/v2

Traps are used to send a message to the network management system for important events or status changes.

- Enable Traps: enables trap reporting
- Trap Address: enter the IP address of the network management system
- Trap Community: enter the community to use when sending trap messages

# **UPnP (Universal Plug and Play)**

- **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.

### 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 Internet Service Providers use Dynamic IP Addressing that frequently changes the public IP address of your internet connection; this means 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.

OpenEye	Home	System	Streaming	PTZ	Logout	
System	DDNS					
Security 🔻	Dynamic D Use Dynan	NS nic DNS If Y	ou Want To U	se Your DDN	5 Account.	
Network 🔻	Enable D					
DDN S	Provide		6	DynDNS.org([	waamie) -	
Mail	Provide			Dynolas.org(t	yrianic) •	
FTP	Host na	ame				
HTTP			-			
Application	Userna	me/E-mail				
Motion detection	Passwo	ord/Key				
Storage management			(	Save		
Recording			U	Save		
File location						
View log file						
View user information						
View parameters						
Factory default						
Software version						
Software upgrade						

- 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.

# Mail

The camera can send an e-mail via Simple Mail Transfer Protocol (SMTP) when motion is detected or when the sensor input is activated. 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.

OpenEye	Home	System	Streaming	PTZ	Logout	68
System	Mail					
Security 🔻	SMTP					
Network 🔻	1st SMTP	(mail) server	·			
DDNS	1st SMTP	(mail) server	port	25		
Mail	1st SMTP	account nam	ie			
FTP	1st SMTP	password				
нттр	1st recipie	ent email ado	dress			
Application	2nd SMTP	(mail) serve	r			
Motion detection	2nd SMTP	(mail) serve	r port	25		
Storage management	2nd SMTP	account nan	ne			
Recording	2nd SMTP	password				
File location	2nd recipi	ent email ad	dress			
View log file	Sender er	nail address				
View user information				Save		
View parameters						
Factory default						
Software version						
Software upgrade						

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

# FTP

OpenEye	Home	System	Streamin	g	PTZ	Logout
System	FTP					
Security 🔻	FTP		-			
Network 🔻	1st FTP					
DDN S		server port	2	21		
Mail		user name				
FTP		password				
нттр		remote fold				
Application		FTP passive	mode			
Motion detection		o server				
Storage management		server port		21		
Recording	2nd FTF	ouser name				
File location	2nd FTF	password				
View log file	2nd FTF	Premote fold	ler			
View user information	🔲 2nd	FTP passive	mode	_		
View parameters				Save	2	
Factory default						
Software version						
Software upgrade						

The camera can send alarm messages to a specific File Transfer Protocol (FTP) site when motion is detected or when the sensor input is activated. You can assign alarm messages to up to two FTP sites.

• Enter the FTP details, which include server, server port, user name, password and remote folder, in the appropriate boxes and click **Save** when finished.

# HTTP

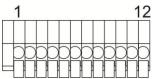
OpenEye	Home	System	Streaming	PTZ	Logout	89
System	HTTP					
Security 🔻	нттр					
Network 🔻	1st HTTP	server				
DDNS	1st HTTP	user name				
Mail	1st HTTP	password				
FTP	2nd HTTI	o server				
HTTP	2nd HTT	o user name				
Application						
Motion detection	2nd H11	<sup>o</sup> password				
Storage management			Sa	/e		
Recording						
File location						
View log file						
View user information						
View parameters						
Factory default						
Software version						
Software upgrade						

The camera can send alarm messages to a specific Hypertext Transfer Protocol (HTTP) site when motion is detected or when the sensor input is activated. You can assign alarm messages to up to two HTTP sites.

• Enter the HTTP details, which include server, user name and password, in the appropriate boxes and click **Save** when finished.

# Application

The CM-816 supports 4 digital alarm inputs and 2 digital alarm outputs. Make sure the alarm connections are properly wired before starting to configure alarm related settings on the Application screen. Refer to the pin definition table below for alarm system wiring.



Pin	Definition
1	Alarm OUT NO 1
2	Alarm OUT NC 1
3	Alarm OUT COM 1
4	GROUND
5	Alarm OUT NO 2
6	Alarm OUT NC 2
7	Alarm OUT COM 1
8	GROUND
9	Alarm IN 4
10	Alarm IN 3
11	Alarm IN 2
12	Alarm IN 1

# **Alarm Pin Selection**

OpenEye	Home	System	Streaming	PTZ	Logout
System	Application	l i			
Security 🔻	Alarm pir	1 selection			
Network 🔻	Alarm	n Swi		pe I close	
DDN S	2.	Off	Norma	l close	
Mail	3. 4.	Off Off		l close l close	
FTP	Edit				
нттр					
Application					
Motion detection					
Storage management					
Recording					
File location					
View log file					
View user information					
View parameters					
Factory default					
Software version					
Software upgrade					

Select an alarm pin from the Alarm Pin Selection box and click Edit to start alarm programming.

# **Alarm Pin Status Settings**

ОрепЕуе	Home	System	Streaming	PTZ	Logout					
System	Application									
Security 🔻	Alarm pin s Alarm	Alarm pin selection								
Network 🔻		Swit Off	ch Typ Normal							
DDNS	2. 3.	Off Off	Normal Normal							
Mail	4.	Off	Normal							
FTP	Edit									
нттр	Alarm pin1	status				*				
Application	Alarm se									
Motion detection	Alarm swi	itch Off 👻			Alarm type Normal close 👻					
Tampering	Triggeree	d action								
Storage management		ole alarm out			Enable alarm output 2					
Recording		l message b ad image by			<ul> <li>Send message by E-Mail</li> <li>Upload image by E-Mail</li> </ul>					
File location		au inlage by Function	FIF		Send HTTP notification	=				
View log file		rd stream to	sd card			=				
View user information	File name	e								
View parameters	File name	e; image.jpg								
Factory default	-	ate/time suf	fix mber suffix (no		m value)					
Software version			mber suffix up		and then start over					
Software upgrade	Overv									
Maintenance	Save									
						-				

#### Alarm Setting

- Alarm Switch Enable or disable the alarm function.
- Alarm Type Select an alarm type (Normal Close or Normal Open) that corresponds with the alarm application.

#### **Trigger Action (Multi-Option)**

Specify alarm actions that will take place when the alarm is triggered.

- Enable Alarm Output Select this option to activate the alarm output.
- **Record Stream to SD Card** Select this option to record to an internally installed SD card when this alarm is activated.

- **PTZ Function** Assign a PTZ function (Preset, Tour, Auto Scan or Pattern) for the camera to perform when this alarm is activated.
- **Note** If Preset is selected, you will be prompted to enter a Dwell Time (1~256). This is the time in seconds that the camera will remain at that Preset location, and then it will return to the location that it was pointing at the time the alarm occurred.
- **Note** Refer to the sections on Presets, Tours, Auto Scans, or Patterns later in this manual for more details.
- Send Message by FTP/E-Mail Select to send an alarm message by FTP and/or E-Mail when this alarm is activated.
- Upload Image by FTP/E-Mail Select to send an image by FTP and/or E-Mail when this alarm is activated.
- Send HTTP Notification Select to send a notification to a HTTP server.
- **Note** E-Mail, FTP, and HTTP options will also need to be configured within their corresponding menus. See the Mail, FTP or HTTP sections previously in this manual for more details.

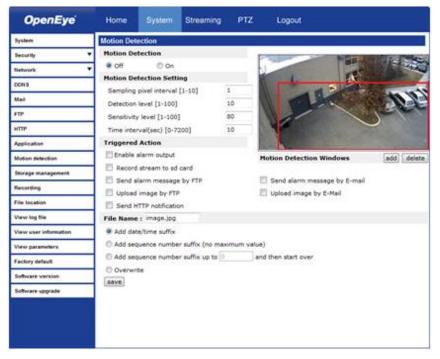
#### File Name

Enter a file name in the box (the examples below used "image.jpg" for the file name). The uploaded image's file name format can be set in this section. Please select the one that meets your requirements.

- Add date/time suffix File name: imageYYMMDD\_HHNNSS\_XX.jpg Y: Year, M: Month, D: Day H: Hour, N: Minute, S: Second X: Sequence Number
- Add sequence number suffix (no maximum value)
   File name: imageXXXXXX.jpg
   X: Sequence Number
- Add sequence number suffix (limited value)
   File Name: imageXX.jpg
   X: Sequence Number
   The file name suffix will end at the number being set. For example, if the setting is up to "10", the file name will start from 00 and end at 10, and then start all over again.
- **Overwrite** The original image on the FTP site will be overwritten by the new uploaded file with a static filename.

# **Motion Detection**

Motion Detection allows the camera to detect motion and trigger alarms when motion in the detected area exceeds the determined sensitivity threshold value.

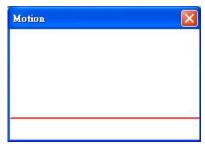


On the Motion Detection page, there is a motion detection window (red box) displayed on the Live View Pane. The Motion Detection window defines the motion detection area. To change the size of the Motion Detection window, drag the edge of the frame to resize.

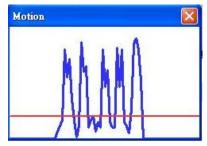
You can add up to 10 motion detection windows.

- Click Add under the Live View Pane to add a Motion Detection window.
- To delete a Motion Detection window, use the mouse to select the frame and click **delete**.

When motion detection is activated, the Motion pop-up window will open.



When motion is detected, the signals will be displayed on the Motion window as shown below



#### **Motion Detection**

Turn motion detection on or off. The default setting is Off.

#### **Motion Detection Setting**

In the Motion window the red line provides a motion detection threshold indication; and the blue line provides a representation of motion being detected. For the camera to register a motion event, the blue line must move above the red line. After changing any of these four settings you must click **Save** to apply the change.

- **Sampling pixel interval [1-10]** Default value is 10, which means system will take one sampling pixel for every 10 pixels.
- **Detection level [1-100]** Default detection level is 10. This item sets the detection level for each sampling pixel; the smaller the value, the more sensitive it is.
- Sensitivity level [1-100] The default sensitivity level is 80, which means if 20% or more sampling pixels are detected as changed, the system will detect motion. The bigger the value, the more sensitive it is. As the sensitivity value is increased, the red horizontal line in the motion indication window will be lowered accordingly.
- **Time interval (sec) [0-7200]** The default interval is 10. The value is the interval between each detected motion event.

#### **Triggered Action**

Once motion detection has been fine tuned, the Triggered Action can be configured if you want the camera to take one of these actions upon sensing motion.

- Enable Alarm Output Select to trigger the alarm output on the camera on motion detection.
- **Record Stream to SD Card** Select this option to record to an internally installed SD card when this alarm is activated.
- Send Alarm Message by FTP/E-Mail Select to send an alarm message by FTP and/or E-Mail when this alarm is activated.
- Upload Image by FTP/E-Mail Select to send an image by FTP and/or E-Mail when this alarm is activated.
- Send HTTP Notification Select to send a notification to a HTTP server.
- **Note** E-Mail, FTP, and HTTP options will also need to be configured within their corresponding menus. See the Mail, FTP or HTTP sections previously in this manual for more details.

**File Name** – Enter a file name in the box (the examples below used "image.jpg" for the file name). The uploaded image's file name format can be set in this section. Please select the one that meets your requirements.

- Add date/time suffix
   File name: imageYYMMDD\_HHNNSS\_XX.jpg
   Y: Year, M: Month, D: Day
   H: Hour, N: Minute, S: Second
   X: Sequence Number
- Add sequence number suffix (no maximum value)
   File name: imageXXXXXXX.jpg
   X: Sequence Number
- Add sequence number suffix (limited value)
   File Name: imageXX.jpg
   X: Sequence Number
   The file name suffix will end at the number being set. For example, if the setting is up to "10", the file name will start from 00 and end at 10, and then start all over again.
- **Overwrite** The original image on the FTP site will be overwritten by the new uploaded file with a static filename.

# **Storage Management**

Storage Management allows you to view information about an inserted Micro SD/SDHC card (up to 32GB), format the SD card, adjust cleanup settings, and download or delete files stored on the SD card.

<b>OpenEye</b>	Home	System	Streaming	PTZ	Logout			
System	Storage Ma	inagement						
Security 🔻		Device information						
Network 🔻	Device ty Free spa		SD card 0 KB		Total size:	0 KB		
DDNS	Status:	ce.	No		Full:	No		
Mail	Device set	ting						
FTP	Format d	evice :	Format					
нттр	Disk clean	up setting						
Application	🔳 Enabl	e automatic	disk cleanup					
Motion detection		e recordings			1 day(s) 🔻			
Storage management			ordings when di	sk is:	85 % full			
Recording	Save	,						
File location	Recording FileNam			Size				
View log file	FileNalli	e		5120				
View user information								
View parameters								
Factory default			ant Day	vnload				
Software version	Remo	ve	Sort Dov	vnioad				
Software upgrade								

**Device Information –** When a compatible Micro SD/SDHC card is inserted into the camera, information about the card will be displayed in this section.

**Device Setting –** The Micro SD/SDHC card can be formatted using the **Format** button. A newly inserted card should always be formatted upon insertion before recording to it is configured.

**Disk Cleanup Setting** – An automatic cleanup can be configured so that once the available storage on the Micro SD/SDHC card reaches a percentage of use, older items will be removed. To enable Disk Cleanup:

- 1. Select Enable automatic disk cleanup.
- 2. Enter a percentage of use threshold needed to trigger the cleanup.
- 3. Enter a number of days or weeks as a deletion point
- 4. Data older than the specified number of days or weeks will be automatically deleted when the percentage of use threshold is triggered.

**Recording List -** Each file recorded to the Micro SD/SDHC card will be listed in the Recording List.

- **Note** The maximum file is 60MB per file.
- **Note** The letters A/M/R appear at the beginning of each file, denoting the type of recording. A for alarm; M for motion; and R for regular recording.
- To remove a file, select the file from the list and click **Remove**.
- Click **Sort** to sort the list.
- To download a file, select the file from the list and click **Download**.

# Recording

The recording schedule allows you to set up scheduled recording to a local Micro SD/SDHC card.

OpenEye	Home	System	Streaming	PTZ	Logout
System	Recording				
Security 🔻	Recording	Schedule			
Network 🔻	Oisable				
DDNS	O Always				
Mail		iring time fra			
FTP	Sun	Mon ne : 00:00	Tue W	/ed Thu ation : 00:0	
HTTP	Save	ne: [00.00	Dura		0
Application					
Motion detection					
Storage management					
Recording					
File location					
View log file					
View user information					
View parameters					
Factory default					
Software version					
Software upgrade					

## **Activating Micro SD/SDHC Card Recording**

To set up continuous micro SD/SDHC card recording:

- 1. Select Always to continually record until the card is full.
- 2. To set the camera to overwrite old data, see the instructions for Disk Cleanup Setting earlier in this section.

To create a recording schedule:

- 1. Select Only during time frame.
- 2. Select the days of the week you want to record
- 3. Specify the **Start Time** and **Duration** of each recording.

To stop recording data to the micro SD/SDHC card, select **Disable**.

#### Snapshot

The CM-816 camera supports JPEG snapshot function. You can specify a storage location for the snapshots. The default setting is: C:\.

- **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.
- **Note** Make sure the selected file path contains valid characters such as letters and numbers.

OpenEye ⊦	ome System	Streaming	PTZ	Logout
stem Fil	e Location			
curity 🔻 Se	t the destination of	f snapshot photo	s and recor	ded video files
twork 🔻	All files stored at:	C:\		Select
NS	Save			
ii -				
,				
(P				
plication				
tion detection				
rage management				
cording				
e location				
w log file				
w user information				
w parameters				
ctory default				
ftware version				
ftware upgrade				
rage management cording e location w log file w user information w parameters clory default thvare version				

# Information

The **Information** page to contains the System Log, User Information, and Parameter List.

### System Log

Click **System Log** to view the system log file. The content of the file provides useful information about configuration and connections.

OpenEye	Home System Streaming Camera Logout
System	System log
Security 🔻	[Wed Apr 18 21:30:00 2012]Network interface initialized start [Wed Apr 18 21:30:01 2012]Network interface initialized end
Network 🔻	[Wed Apr 18 21:30:01 2012]Host IP = 10.253.253.69
DDNS	[Wed Apr 18 21:30:01 2012]Subnet Mask = 255.0.0.0 [Wed Apr 18 21:30:01 2012]Gateway = 10.0.0.51
Mail	[Wed Apr 18 21:30:01 2012]MAC address = 00:D0:89:09:28:71 [Tue Apr 24 00:12:17 2012]Admin@::fff:10.1.1.105 GET / HTTP/1.1
FTP	[Tue Apr 24 00:12:18 2012]Admin@::ffff:10.1.1.105 GET /cgi-bin/setlogout [Tue Apr 24 00:12:18 2012]Admin@::ffff:10.1.1.105 GET /cgi-bin/ret.cgi HT
нттр	[Tue Apr 24 00:12:18 2012]Admin@::ffff:10.1.1.105 GET /cgi-bin/top.cgi H ≡ [Tue Apr 24 00:12:18 2012]Admin@::ffff:10.1.1.105 GET /cgi-bin/center.cg
Application	[Tue Apr 24 00:12:21 2012]Admin@::fff:10.1.1.105 GET /cgi-bin/showdate [Tue Apr 24 00:12:35 2012]Admin@::fff:10.1.1.105 GET /cgi-bin/showdate
Motion detection	[Tue Apr 24 00:16:54 2012]Admin@::ffff:10.1.1.105 GET / HTTP/1.1
Network failure detection	[Tue Apr 24 00:16:57 2012]Admin@::ffff:10.1.1.105 GET / HTTP/1.1 [Tue Apr 24 00:16:58 2012]Admin@::ffff:10.1.1.105 GET /cgi-bin/setlogout
Tampering	[Tue Apr 24 00:16:58 2012]Admin@::ffff:10.1.1.105 GET /cgi-bin/ret.cgi HT [Tue Apr 24 00:16:58 2012]Admin@::ffff:10.1.1.105 GET /cgi-bin/top.cgi HT
Storage management	[Tue Apr 24 00:16:58 2012]Admin@::ffff:10.1.1.105 GET /cgi-bin/center.cg [Tue Apr 24 00:17:01 2012]Admin@::ffff:10.1.1.105 GET /cgi-bin/showdat(
Recording	[Tue Apr 24 00:17:12 2012]Admin@::ffff:10.1.1.105 GET /cgi-bin/camset.c [Tue Apr 24 16:31:02 2012]Admin@::ffff:10.253.253.49 GET /cgi-bin/admir
Snapshot	[Tue Apr 24 23:50:55 2012]Admin@::ffff:10.11.105 GET / HTTP/1.1
Iris adjustment	۲. III کې د ا
Information	
Software version	
Maintenance	
	System Log User Info Parameter List

### **View User Information**

The Administrator can view each user's login information and privileges on the **View User Information** page

All the users in the network are listed under **User information**. The example below shows that the Admin password is 1234.

OpenEye	Home	System	Streaming	Camera	Logout	
System	User inform					
Security		n:1234 :4321				*
Network						
DDNS						
Mail						
FTP						
Application						
Motion detection						
Storage management						
Recording						
File location						
Iris adjustment						
View log file						
View user information	4					
View parameters		get user inform	nation		get user privacy	
Factory default		-				
Software version						
Software upgrade						
Maintenance						

### **View User Privilege**

Select a user account from the list and click **get user privacy** to view the permissions for the user account.

# **Parameter List**

Click Parameter List to view the system parameter settings.

Open <b>Ey</b> e	Home	System	Streaming	Camera	Logout					
System	Parameter	Parameter list								
Security 🔻	Mega	Mega Pixel Camera Initial Configuration File								
Network 🔻	====	[Camera setting] exposure mode = <auto></auto>								
DDNS										
Mail										
FTP		min shutter speed = <5>								
нттр	fixed	fixed shutter speed = <56>								
Application	white	e balance mo	ode = <auto></auto>							
Motion detection	white	white balance rgain = <57>								
Network failure detection	white	white balance bgain = <54>								
Tampering	brigh	brightness value = <128>								
Storage management	sharpness value = <3>									
Recording	contr	ast value =	<64>							
Snapshot						*				
Iris adjustment										
Information										
Software version										
Maintenance										
		Sys	stem Log	User Info	Parameter List					

# Software Upgrade

OpenEye	Home	System	Streaming	Camera	Logout
System	Version				
Security 🔻					
Network	The softwa	re version is			pc20120406NSA
DDNS				-	
Mail	Follow the	se steps to i	update the car	nera firmwa	are
FTP	Colorthead	îrmware upd	laha fila		
нттр	Select the I	irmware upo	Browse		
Application	Click Upgra	do to bogin l		ndata the c	amera will restart during this process
Motion detection	Click Opgra	de to begin	ule lilliwale u	puace, the c	amera wiii restart during tiis process
Network failure detection	Upgrade	1			
Tampering		J			
Storage management					
Recording					
Snapshot					
Iris adjustment					
Information					
Software version					
Maintenance					

### Upgrading the Camera Viewer Software

- **Note** Make sure the software upgrade file is available before starting the software upgrade.
  - 1. Click **Browse** 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.
  - Go to the Windows Control Panel 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 software version.
  - 6. Open the internet browser again and log in to the CM-816. The system will automatically download the new version of the Camera Viewer software.

#### **Maintenance**

On the Maintenance page you can export the cameras current configuration, 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 different models of cameras.

Open <b>Ey</b> e	Home	System	Streaming	Camera	Logout					
System	Maintenanc	e								
Security 🔻	Factory de									
Network 🔻	System will	Restore factory settings and lose any changes? System will restart and need installer program to setup network.								
DDNS	Set Defau	ılt								
Mail	Reboot the	austom								
FTP	Reboot	system.								
нттр										
Application	Export File	5								
Motion detection	Export c	onfiguration	files 📃	Export						
Network failure detection	Upload File	-								
Tampering		s onfiguration	files		Browse Upload					
Storage management		2								
Recording										
Snapshot										
lris adjustment										
Information										
Software version										
Maintenance										

**Set Default** –To reset the IP camera to the factory default settings, including the default IP address, click Set Default. The system will restart after 30 seconds. If you cannot access the camera menu, you can return the camera to the factory default settings by holding down the reset button on the camera connection board for 30 seconds. See **Error! Reference source not found.** for the button location.

**Reboot** – To restart the IP camera without changing the current camera settings, Click **Reboot.** 

**Export** – You can save the system settings by exporting the configuration file (.bin) to a specified location for future use. Click **Export**, then **Save**, and specify the desired location.

**Upload** – To copy an existing configuration file to the IP camera, click **Browse**, select the desired configuration file, then click **Upload**.

# Video and Audio Streaming Settings

On the Streaming tab, the Administrator can configure specific video resolution, video compression mode, video protocol, audio transmission mode, etc.

### **Video Format**

Select the desired video resolution for the camera on the Video Format page. The recorder will record video based on the resolution selected here.

OpenEye	Home	System	Streaming	Camera	Logout					
Video Format	Video Form	at								
Video Compression	Video Rese	Video Resolution :								
Video OCX Protocol		H.264 + MJF	PEG	-						
Frame Rate Control		H.264 forma	t: 192	0 × 1080 (15	fps) 🔻					
Video Mask		MJPEG forma		x 480 (30 fps	s) 🔻					
Audio		BNC support	:: Yes							
	Text Över Video Rotz GOP Settin H.264 Pro	ay Settings Include d Include ta Save Normal vide Save ngs : H.264-1 GOF H.264-3 GOF Save	: ate ext string: > Length : 60 > Length : 30 ain profile	<ul> <li>Include ti</li> <li>H.264-</li> <li>H.264-</li> <li>H.264-</li> </ul>	able only while MJPEG streaming is selected. me -2 GOP Length : 60 -4 GOP Length : 30 2 : Main profile • 4 : Main profile •					

### **Video Resolution**

The camera provides four codec options under video resolution (two single streaming options and two sets of dual streaming options):

- MJPEG only
- H.264 only
- MJPEG + H.264
- H.264 + H.264

Once a codec option is selected, multiple resolutions are available for each stream.

MJPEG Resolutions*	H.264 Resolutions*
1920x1080	1920x1080
	1920x1080 (@ 15 FPS)
1280x1024	1280x1024
1280x720	1280x720
1024x768	1024x768
800x600	800x600
720x480	720x480
640x480	640x480
352x240	352x240

\*All resolutions are at 30 Frames Per Second (FPS) unless otherwise noted.

- **Note** Due to resource management, some resolutions may be unavailable when selecting a dual stream option.
- **Note** Due to resource management, the Motion Detection, 3DNR, and Privacy Mask functions are not available when using the **H.264 Only** codec option and selecting the **Low Latency** H.264 format.

### **Text Overlay Settings**

Text Overlay allows you to select text to be display over the video. Three options are available: Date, Time, and a Custom String (up to 20 alphanumeric characters).

### Video Rotate Type

You can change the orientation of the video output if necessary.

**Normal Video** – This is the default rotation designed for a normal setup with the camera mounted with the dome facing down.

**Flip Video** – This option will vertically flip the video image (without the intervention of another device this may cause the reversal of perceived left and right when viewing the image).

**Mirror Video** – This option will horizontally flip the video image (without the intervention of another device this may cause the reversal of perceived left and right when viewing the image).

90 Degree Clockwise - This option will rotate the video image 90 degrees to the right.

**180 Degree Rotate –** This option will rotate the video image 180 degrees (this is the option most commonly needed if the image appears upside-down when the camera is first installed).

**90 Degree Counterclockwise –** This option will rotate the video image 90 degrees to the left.

### **GOP Settings**

The Group of Pictures settings allow you to modify the frame structure of the video stream. This setting changes the frequency of the I-frames that occur within the stream of P-frames (2~64). Increasing this number increases the number of P-frames between each I-frame; decreasing the file size of the stream, but increasing the risk of video decoding errors. Decreasing this number decreases the number of P-Frames between each I-frame; increasing the file size of the stream, but decreasing the risk of video decoding errors.

#### H.264 Profile

The H.264 Profile may need to be changed if you are using a third party recorder that is not capable of decoding H.264 Main Profile video compression. Select the compatible compression type for each stream if necessary.

# **Video Compression**

You can select an MJPEG/H.264 compression mode on the video compression page appropriate for your application. You can also select to display compression information on the Home page.

OpenEye	Home System Streaming PTZ Logout						
Video Format	Video Compression						
Video Compression	MJPEG Compression setting :						
Video OCX Protocol	MJPEG Q factor : 35						
Frame Rate Control							
Audio	H.264-1 Compression setting : H264-1 bit rate : 4096 kbit/s Save						
	H.264-2 Compression setting : H264-2 bit rate : 1024 kbit/s Save						
	Compression information setting :						
	CBR mode setting : V enable H.264-1 CBR mode V enable H.264-2 CBR mode Save						

#### **MJPEG Compression settings include:**

- high compression, low bit rate, low quality
- middle compression, default
- low compression, high bit rate, high quality

#### H.264 Compression settings include:

- 1024kbps, highest compression, lowest quality
- 2048kbps
- 4096kbps, middle compression, default
- 6144kbps
- 8192kbps, low compression, highest quality

#### **CBR Mode Setting**

• The Constant Bit Rate mode allows you to lock in the bit rate of the H.264 stream. If this setting is not enabled bit rate may fluctuate based on available bandwidth.

# Video OCX Protocol

On the Video OCX protocol page, you can select different protocols for streaming media over the network. In the case of multicast networking, you can select the Multicast mode.

OpenEye	Home	System	Streaming	PTZ	Logout				
Video Format	Video OCX Protocol								
Video Compression		Video OCX protocol setting :							
Video OCX Protocol		RTP over UDP     RTP over RTSP(TCP)							
Frame Rate Control		RTSP over HTTP							
Audio	© MJPEG	over HTTP							
	Multica	ast mode							
	Mult	ticast IP Addı	ess	0.0.0					
	Mul	ticast H.264-	1 Video Port	)					
			2 Video Port	)					
		ticast MJPEG		)					
		ticast Audio F							
	Mul	ticast TTL	1						
	Save								
	Note:								
	This page only applies to video streams going to a DC Viewer.								

Video OCX protocol setting options include:

- RTP over UDP
- RTP over RTSP(TCP)
- RTSP over HTTP
- MJPEG over HTTP

Select a mode according to your data delivery requirements. If you are transmitting over the internet using a router and port forwarding, you need to use RTP over RTSP(TCP). You also need to forward the RTSP port to the camera (see the Network Setup page to find the RTSP port).

#### **Multicast Mode**

- 1. Enter all required data, including multicast IP address, H.264 video port, MJPEG video port, audio port and TTL into each box.
- 2. Click Save to confirm the setting.

# Frame Rate Control

Setting the camera to transmit fewer frames can save bandwidth.

OpenEye	Home	System	Streaming	PTZ	Logout					
Video Format	Frame Rat	e Control								
Video Compression		me Rate Set								
Video OCX Protocol	MJPEG fra Save	MJPEG frame rate : 30								
Frame Rate Control										
Audio		ame Rate Se ame rate :								
		ame Rate Se								

Each of the MJPEG and H.264 streams can have a separate frame rate setting from 1 to 30 frames per second.

- **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.

# Audio

On the audio page, the Administrator can select an audio transmission mode and audio bit rate.

OpenEye	Home	System	Streaming	PTZ	Logout		
Video Format	Audio						
Video Compression	Transmissi						
Video OCX Protocol			id listen simul r listen, not at		me)		
Frame Rate Control	Simplex (Talk only)						
Audio	Simplex (Listen only)						
	Disabl Server Gai Input gai Output ga Bit Rate:	in Setting: n: 3 ain: 3 ul	▼ ▼ AW ▼ Save				

**Note** Audio monitoring and recording laws vary from location to location. It is highly recommended that you consult your local, state, and federal laws to verify that you are in compliance before implementing audio recording.

#### **Transmission Mode**

- Full-duplex (Talk and Listen simultaneously) In Full-duplex mode, the local and remote sites can communicate with each other simultaneously, i.e. both sites can speak and be heard at the same time.
- Half-duplex (Talk or Listen, not at the same time) In Half-duplex mode, the local/remote site can only talk or listen to the other site at a time.
- Simplex (Talk only) In Talk only Simplex mode, the local/remote site can only talk to the other site
- Simplex (Listen only) The local/remote site can only listen to the other site.
- **Disable** Turn off the audio transmission function.

#### **Server Gain Settings**

Set the audio input/output gain levels for sound amplification. The audio gain values are adjustable from 1 to 6, and will be turned off if 'Mute' is selected.

#### **Bit Rate**

Selectable audio transmission bit rate include:

16 kbps (G.726)	40 kbps (G.726)
24 kbps (G.726)	uLAW (G.711)
32 kbps (G.726)	ALAW (G.711).

Both uLAW and ALAW signify 64 kbps but in different compression formats. Higher bit rate will provide higher audio quality and require more bandwidth.

# PTZ SETTINGS

Use the PTZ tab to program Presets, Patterns, Auto Scans and Tours via PTZ controls. Additionally, various camera settings including Auto Exposure (AE), White Balance (WB), Back Light Compensation (BLC), Sharpness, Exposure Compensation, etc. also can be set here.

## Preset

OpenEye	Home	System	Streaming	PTZ	Logout				
Preset	Preset Point								
Pattern	Preset setti	ng							
Auto Scan	PrePage	Nex	tPage						
Tour	Num(1~10):		1 -						
Home	Name:								
Tilt Range		Set	Delete						
Privacy Mask									
Camera - Exposure	Preset go								
Camera - WB		Presetlist	t 🔻						
Camera - Misc1									
Camera - Misc2				Zoom Wide	Tele				
Camera - Default			I	Focus Auto	Manual Near Far				

**Note** Up to 256 Presets can be programmed for the camera.

### **Preset Setting**

To create a Preset Point:

- 1. Move the pointer to the live view pane.
- 2. Drag the red 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.

# Preset Go

To move the camera view to a specified Preset position:

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

# Pattern

OpenEye	Home	System	Streaming	PTZ	Logout	
Preset	Pattern Lin	e				
Pattern	Pattern set	ting				
Auto Scan	Pattern pat	h:	1 🔻			
Tour	Record start	:	Set			
Home	Record end:		Set			
Tilt Range						
Privacy Mask	Pattern run Pattern pat		1 -			
Camera - Exposure			Run			
Camera - WB						
Camera - Misc1						
Camera - Misc2			Z	oom Wide	Tele	
Camera - Default			F	ocus Auto	Manual Near Far	

**Note** The camera supports up to eight patterns.

## **Pattern Setting**

To create a Pattern:

- 1. Select a path number from the Pattern Path list.
- 2. Move the pointerr 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.

### **Pattern Run**

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

To view the camera in full screen mode, move the pointer onto the live view pane, rightclick and select **Fullscreen**.

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**

OpenEye	Home	System	Streaming	PTZ	Logout	
Preset	Auto Scan					
Pattern	Auto Scan s	etting				
Auto Scan	Auto Scan p	ath:	1 👻			
Tour	Speed:	_	0 🕶			
Home	Direction: Start point:		Left -			
Tilt Range	End point:		Set			
Privacy Mask	End point:		Set			
Camera - Exposure	Auto Scan r	un				
Camera - WB	Auto Scan p	ath:	1 🔻			
Camera - Misc1			Run			
Camera - Misc2			Z	oom Wide	Tele	
Camera - Default			F	ocus Auto	Manual Near Far	

**Note** The camera supports four Auto Scan paths.

## **Auto Scan Setting**

To create an Auto Scan path:

- 1. Select a path number from the Auto Scan Path list.
- 2. Move the pointerr 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**.

## Auto Scan Run

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

To view the camera in full screen mode, move the cursor onto the live view pane, rightclick and select **Fullscreen**.

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

OpenEye	Home	System	Streaming	PTZ	Logout
Preset	Tour Line				
Pattern	Tour setting				
Auto Scan			Edit		
Tour					
Home	Tour run Tour line:		1 -		
Tilt Range			Go		
Privacy Mask					
Camera - Exposure					
Camera - WB					
Camera - Misc1					
Camera - Misc2			Z	oom Wide	Tele
Camera - Default			F	ocus Auto	Manual Near Far

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.

# Tour Set

OpenEye	Home	System	St	reaming	PTZ
Preset	Tour Set				
Pattern	<b>_</b>				
Auto Scan	Tour line:	1 🔻			Save
Tour	Preset	Name		Dwell time	Speed
Home	1.	3(office)	•	10	14
Tilt Range	2.	1(door)	•	30	7
Privacy Mask	3.	3(office)	•	10	14
Camera - Exposure	4.	2(door2)	•	30	7
Camera - WB	5.	no setting	•		
Camera - Misc1	6.	no setting	•		
Camera - Misc2	7.	no setting	•		
Camera - Default	8.	no setting	•		
	9.	no setting	•		
	10.	no setting	•		
	11.	no setting	•		
	12.	no setting	•		
	13.	no setting	•		
	14.	no setting	•		
	15.	no setting	•		
				Pre page	Next pag

- 1. On the **Tour** screen, click **Edit** 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.

## Tour Run

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

To view the camera in full screen mode, move the cursor onto the live view pane, rightclick and select **Fullscreen**.

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

OpenEye	Home	System	Streaming	PTZ	Logout
Preset	Home Fun	ction			
Pattern	Home setti	ng			
Auto Scan	Switch:		Off 👻		
Tour			Set		
Home	Time: 1	[1128Min]	1		
Tilt Range	Type:	Pres	et 👻		
Privacy Mask	Line:	1(door)			
Camera - Exposure			Set		
Camera - WB					
Camera - Misc1					
Camera - Misc2			z	oom Wide	Tele
Camera - Default			F	ocus Auto	Manual Near Far

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 the home function setting. The Home function allows constant and accurate monitoring to prevent the camera from idling or missing events.

## **Home Settings**

## 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, Pattern, Auto Scan, or Tour) and then specify the desired action type number from the **Line** list. Click **Set** to save your settings.

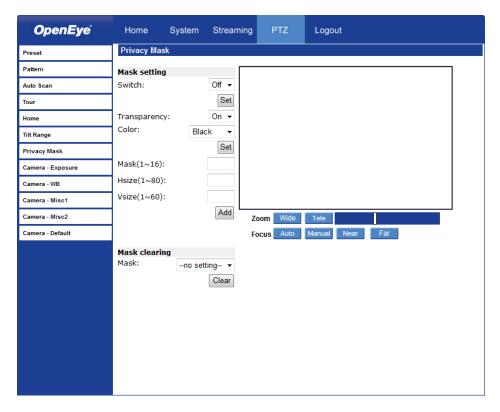
# **Tilt Range**

Home	System	Streaming	PTZ	Logout
Tilt Angle				
Angle Setti	ng			
Min: 0	[-1010]			
Max: 90	[170190]			
		Set		
		Z	oom Wide	Tele
		F	ocus Auto	Manual Near Far
	Tilt Angle Angle Setti Min: 0	Tilt Angle       Angle Setting       Min:     0	Tilt Angle           Angle Setting           Min:         0           [-1010]           Max:         90           [170190]             Set	Tilt Angle           Angle Setting           Min:         [-1010]           Max:         90         [170190]           Set

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 170° and 190°.

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

# **Privacy Mask Settings**



The Privacy Mask function helps avoid any intrusive monitoring. When you create a mask, OpenEye recommends that you set it at least twice as big (height and width) as 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.

## **Mask Setting**

## Activate/Disable Privacy Mask Function

Set to On/Off to activate or disable the Privacy Mask function and click Set.

## Activate/Disable Transparency Mask

Set the transparency of the Privacy Mask if necessary.

## **Color Setting**

Select the desired color from the Color list for the specified Privacy Mask and click Set.

#### Mask Number

Specify the number of the programmed Privacy Mask in the corresponding field.

#### Mask Size

Specify the horizontal (Hsize: 1~80) and vertical (Vsize: 1~60) size of the Privacy Mask.

Click Add to save the programmed Privacy Mask.

## **Mask Clearing**

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

# Camera — Exposure

<b>OpenEye</b>	Home Sys	stem Stream	ing PTZ	Logout	
Preset	Exposure				
Pattern	Exposure mode	[			
Auto Scan	Full auto				
Tour	Shutter priorit				
Home		1/60 👻			
Tilt Range	Manual Shutter	1/60 -			
Privacy Mask					
Camera - Exposure	]	Set			
Camera - WB	]				
Camera - Misc1	]				
Camera - Misc2	]		Zoom Wide	Tele	
Camera - Default	]		Focus Auto	Manual Near Far	
Privacy Mask Camera - Exposure Camera - WB Camera - Misc1 Camera - Misc2	Shutter Gain				

On the Exposure screen you can select **Full Auto** mode or adjust the parameters manually for optimized video output in accordance with the operating environment.

## **Shutter Priority**

When **Shutter Priority** is selected the shutter speed takes control of exposure. Shutter speed range is  $1/60 \sim 1/10000$ .

#### Manual Mode

Select **Manual** mode to adjust the **Shutter** speed and **Gain** manually. When manual is selected the Shutter speed range is  $1 \sim 1/10000$ ; and Gain range is  $1 \sim 15$ .

# Camera — White Balance

OpenEye	Home	System	Streaming	PTZ	Logout
Preset	WB			_	
Pattern	White bala	ıce			
Auto Scan	Auto				
Tour	<ul> <li>Indoor</li> <li>Outdoor</li> </ul>				
Home	© ATW				
Tilt Range	Manual	10			
Privacy Mask	Rgain: Bgain:	10 [02 19 [02			
Camera - Exposure	byanı.	[0	Set		
Camera - WB					
Camera - Misc1					
Camera - Misc2			Z	oom Wide	Tele
Camera - Default			F	ocus Auto	Manual Near Far

A camera uses a reference color temperature, which is a way of measuring the quality of a light source, to calculate all the other colors. The unit for measuring this ratio is degrees Kelvin (K). You can select the White Balance Control according to the operating environment. The following table shows the color temperature of some light sources for reference.

Light Sources	Color Temperature in K
Cloudy Sky	6,000 to 8,000
Noon Sun and Clear Sky	6,500
Household Lighting	2,500 to 3,000
75-watt Bulb	2,820
Candle Flame	1,200 to 1,500

### Auto Mode

In Auto mode, white balance works within its color temperature range and calculates the best-fit white balance.

## Indoor/outdoor Mode

Select for indoor or outdoor mode.

#### ATW Mode (Auto Tracing White Balance)

The Dome Camera takes out the signals in a screen in the range from 2000 K to 10000 K.

#### Manual Mode

In Manual mode, you can change the White Balance value manually by a specifying the R gain and B gain; the R/B gain range is from 0 to 255.

# Camera — Misc1

OpenEye	Home System Streaming PTZ Logout
Preset	Misc
Pattern	Misc
Auto Scan	BLC Off 🗸
Tour	Set
Home	Sharpness 3 -
Tilt Range	(Default is 3) Set
Privacy Mask	ExpComp 8 •
Camera - Exposure	(Default is 8)
Camera - WB	Flip Off •
Camera - Misc1	Set
Camera - Misc2	Speed by zoom Off  Zoom Wide Tele
Camera - Default	Set Focus Auto Manual Near Far
	ICR function Auto
	Set

In Camera—Misc1, you can set various camera parameters including Backlight Compensation, Sharpness, Exposures Compensation, Image Freeze, Image Flip, Digital Zoom, Speed by Zoom and ICR Function.

- BLC Activate or disable the Backlight Compensation function (On/Off).
- **Sharpness** Increasing the sharpness level (1~15) can make the image looked sharper; especially enhancing the object's edge.
- **ExpComp** Define the value of Exposure Compensation (1~15).
- **Freeze** Freeze function allows you to hold the image while the camera is moving between preset positions such as in Preset mode and Tour mode (On/Off).

- Flip Track an object continuously when it passes under the camera by setting Flip to Mechanical (M.E.) mode or Digital Flip (Image) mode.
- **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.
- Image Mode Image represents digital IMAGE FLIP, which enables the camera to keep tracking objects seamlessly. With the Image mode, almost no delay occurs in comparison to the M.E. mode.
- **Note** Flip setting is manual-controlled only. If a Preset Position or a point for other function (ex. Tour) is set in the position that can only be reached through FLIP motion, the Flip function must be enabled for the camera to move to that position.
- **Note** To make the Dome Camera tilt between a specific range, such as -10° or +190°, please go to the **Tilt Range** setting page to set the tilt angle range. Otherwise, the Dome Camera will tilt 90° as the default setting.
- **Note** The Privacy Mask function will be automatically disabled if the Image Flip function is enabled.
- **Speed by Zoom** Enable this function to have the pan and tilt speed (angle distance) automatically scaled down when the camera is zoomed in. Enabling this function will cause pan and tilt movements to be done in smaller increments the further in the camera is zoomed, making movement while zoomed much easier.
- **ICR Function** The camera uses the IR cut filter to capture a clear image at night time or in low light conditions. In the Auto mode, the internal circuit will automatically decide when to remove the IR cut filter according to the image brightness level.

# Camera — Misc2

OpenEye	Home	System	Streaming	P	ΓZ	Logout
Preset	Misc					
Pattern	Misc					
Auto Scan	WDR		Off 🔻			
Tour			Set			
Home	Auto calibratio	on	Off 👻			
Tilt Range			Set			
Privacy Mask	2DNR		Off 🔻			
Camera - Exposure			Set			
Camera - WB	TV System	30 fps(N				
Camera - Misc1			Set			
Camera - Misc2			2	Zoom	Wide	Tele
Camera - Default			1	Focus	Auto	Manual Near Far

In Camera—Misc2, you can set up various functions such Auto Calibration, Wide Dynamic Range, 2D Noise Reduction and TV System.

- **WDR** Wide Dynamic Range is especially effective in an environment with extreme contrast.
- Auto Calibration Auto Calibration function automatically calibrates the camera when the deviation of dome pivot is detected.
- **2DNR** 2D Noise Reduction function analyzes pixel by pixel and frame by frame to eliminate environmental noise signal so that the highest quality image can be produced even in low light conditions.

# Camera — Default

Click Set Default to reset the camera back to factory default settings.

ОрепЕуе	Home	System	Streaming	PTZ	z	Logout
Preset	Default					
Pattern	Default					
Auto Scan	Restore car lose any ch	nera setting: anges?	s and			
Tour		Set D	efault			
Home						
Tilt Range						
Privacy Mask						
Camera - Exposure						
Camera - WB						
Camera - Misc1						
Camera - Misc2			Z	loom 🚦	Wide	Tele
Camera - Default			F	ocus 🛛	Auto	Manual Near Far

# LOGOUT

Click the Logout tab to open the login window and log in with a different user name and password.

R	GR.
MegapixelIPCam	era I V
Password:	Remember my password
	OK Cancel

# **SPECIFICATIONS**

# **CAMERA SPECIFICATIONS**

Model	CM-816 Rev C			
Maximum Resolution	1080p (2MP)			
Image Sensor	1/2.8" Sony Progressive CMOS			
Video Compression	H.264 / MJPEG			
Frame Rate	30 IPS @ 1080P [1920 x 1080 / 2MP] 30 IPS @ 1280 x 1024 / 1.3MP 30 IPS @ 720P [1280 x 720 / 1MP] 30 IPS @ 1024 x 768 30 IPS @ 800 x 600 30 IPS @ 720 x 480 30 IPS @ 640 x 480 30 IPS @ 352 x 240			
ONVIF	Profile S			
Streaming	Up to 4 simultaneous streams			
Browser Support	Internet Explorer (ActiveX), Chrome, Firefox, Safari (Quicktime)			
Day / Night	True Day/Night (IR Cut Filter)			
Wide Dynamic Range	Digital WDR			
Lens	4.7 ~ 84.6 mm (18x zoom)			
Horizontal Field of View	55.2° ~ 5.2°			
Iris	F1.6 ~ F2.8			
Minimum Illumination @ 50IRE	0.1 (Color) & 0.03 (B/W) lux@ F1.6			
Minimum Illumination @ 30IRE	0.05 (Color) & 0.01 (B/W) lux @ F1.6			
White Balance	Auto, Manual, ATW, Presets			
Auto White Balance Range	Auto: 2700K ~ 7500K ATW: 2500K ~ 10000K			

Backlight Compensation	Yes
Auto Gain Control	Yes
IP Rating	IP66 (Outdoor)
Operating Temperature	-40°F ~ 122°F (-40°C ~ 50°C)
Heater	Yes
Heater Operation Threshold	ON: -7°C ~ OFF: 3°C
Active/Passive Cooling	Active (Fan)
Power Consumption	59W Max (Heater On)
Rated Amperage	2.38A
Input Voltage	24vAC / PoE+ (802.3at)
PoE Class	4 (Heater requires 24vAC)
Audio In/Out	1/1
Alarm In/Out	2/4
microSD Card Slot	microSD / microSDHC 32GB max
Weight	5.11 lb (2.32 kg)
Dimensions	Ø 7.5" (191 mm) H: 11.1" (282.11 mm)
Housing / Dome Cover	White / Clear
Tilt/Rotation	360º Endless / -10º ~190º

# **PTZ SPECIFICATIONS**

Control Type	PTZ control via network only
Zoom Factor	18x
Presets	256
Preset Accuracy	±.0225°
Preset Speed	5° ~ 400° / sec
Pattern	8
Tour (Group)	8
Auto Scan	4
Privacy Mask	16
Home Function	Preset, Pattern, Tour, Auto-scan
Auto Flip	Image / Mechanical
Focus Mode	Auto / Manual

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