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# Quasar Gen III

# User Guide



CP-6302-30-R



CP-6302-31-P



CP-6302-31-I

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## Proper Disposal of Electrical and Electronic Equipment (EEE)



The European Union (EU) has enacted Waste Electrical and Electronic Equipment Directive 2012/19/EU (WEEE), which aims to prevent EEE waste from arising; to encourage reuse, recycling, and recovery of EEE waste; and to promote environmental responsibility.

In accordance with these regulations, all EEE products labeled with the “crossed out wheeled bin” either on the product itself or in the product literature must not be disposed of in regular rubbish bins, mixed with regular household or other commercial waste, or by other regular municipal waste collection means. Instead, and in order to prevent possible harm to the environment or human health, all EEE products (including any cables that came with the product) should be responsibly discarded or recycled.

To identify a responsible disposal method nearby, please contact the local waste collection or recycling service, the original place of purchase or product supplier, or the responsible government authority in the area. Business users should contact their supplier or refer to their purchase contract.

### Document History

Version	Date	Comment
Ver. 1 UL	March 27, 2018	Third Release
Ver. 6a	December 13, 2018	QR-code access to product documentation and software downloads SD Card min/max



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# 1 Document Scope and Purpose

The purpose of this document is to provide an overall guide to the CP-6302-3x Range cameras. Basic setup procedures are provided herein. After completing physical installation as described in the relevant Installation Manual, additional setup and configurations are required before video analysis and detection can commence.



**Note:**

This document is intended for use by technical users who have a basic understanding of CCTV camera/video equipment and LAN/WAN network connections.

**Remarque:**

*Ce document est destiné aux utilisateurs techniciens qui possèdent des connaissances de base des équipements vidéo/caméras de télésurveillance et des connexions aux réseaux LAN/WAN.*



**Warning:**

Installation must follow safety, standards, and electrical codes as well as the laws that apply where the units are being installed.

**Avertissement:**

*L'installation doit respecter les consignes de sécurité, les normes et les codes électriques, ainsi que la législation en vigueur sur le lieu d'implantation des unités.*

## Disclaimer

Users of FLIR products accept full responsibility for ensuring the suitability and considering the role of the product detection capabilities and their limitation as they apply to their unique site requirements.

FLIR Systems, Inc. and its agents make no guarantees or warranties to the suitability for the users' intended use. FLIR Systems, Inc. accepts no responsibility for improper use or incomplete security and safety measures.

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Specifications and information in this guide are subject to change without notice.

## Avis de non-responsabilité

*Il incombe aux utilisateurs des produits FLIR de vérifier que ces produits sont adaptés et d'étudier le rôle des capacités et limites de détection du produit appliqués aux exigences uniques de leur site.*

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*Les spécifications et informations contenues dans ce guide sont sujettes à modification sans préavis.*



A **Warning** is a precautionary message that indicates a procedure or condition where there are potential hazards of personal injury or death.

*Attention est un message préventif indiquant qu'une procédure ou condition présente un risque potentiel de blessure ou de mort.*



A **Caution** is a precautionary message that indicates a procedure or condition where there are potential hazards of permanent damage to the equipment and or loss of data.

*Attention est un message préventif indiquant qu'une procédure ou condition présente un risque potentiel de dommages permanents pour l'équipement et/ou de perte de données.*



A **Note** is useful information to prevent problems, help with successful installation, or to provide additional understanding of the products and installation.

*Une Remarque est une information utile permettant d'éviter certains problèmes, d'effectuer une installation correcte ou de mieux comprendre les produits et l'installation.*



A **Tip** is information and best practices that are useful or provide some benefit for installation and use of FLIR products.

*Un Conseil correspond à une information et aux bonnes pratiques utiles ou apportant un avantage supplémentaire pour l'installation et l'utilisation des produits FLIR.*

## General Cautions and Warnings

This section contains information that indicates a procedure or condition where there are potential hazards.

### **SAVE ALL SAFETY AND OPERATING INSTRUCTIONS FOR FUTURE USE.**

Although the unit is designed and manufactured in compliance with all applicable safety standards, certain hazards are present during the installation of this equipment.

To help ensure safety and to help reduce risk of injury or damage, observe the following:

## Précautions et avertissements d'ordre général

*Cette section contient des informations indiquant qu'une procédure ou condition présente des risques potentiels.*

### **CONSERVEZ TOUTES LES INSTRUCTIONS DE SÉCURITÉ ET D'UTILISATION POUR POUVOIR VOUS Y RÉFÉRER ULTÉRIEUREMENT.**

*Bien que l'unité soit conçue et fabriquée conformément à toutes les normes de sécurité en vigueur, l'installation de cet équipement présente certains risques.*

*Afin de garantir la sécurité et de réduire les risques de blessure ou de dommages, veuillez respecter les consignes suivantes:*



#### **Caution:**

- The unit's cover is an essential part of the product. Do not open or remove it.
- Never operate the unit without the cover in place. Operating the unit without the cover poses a risk of fire and shock hazards.
- Do not disassemble the unit or remove screws. There are no user serviceable parts inside the unit.
- Only qualified trained personnel should service and repair this equipment.
- Observe local codes and laws and ensure that installation and operation are in accordance with fire, security and safety standards.

#### **Attention:**

- *Le cache de l'unité est une partie essentielle du produit. Ne les ouvrez et ne les retirez pas.*
- *N'utilisez jamais l'unité sans que le cache soit en place. L'utilisation de l'unité sans cache présente un risque d'incendie et de choc électrique.*
- *Ne démontez pas l'unité et ne retirez pas ses vis. Aucune pièce se trouvant à l'intérieur de l'unité ne nécessite un entretien par l'utilisateur.*
- *Seul un technicien formé et qualifié est autorisé à entretenir et à réparer cet équipement.*
- *Respectez les codes et réglementations locaux, et assurez-vous que l'installation et l'utilisation sont conformes aux normes contre l'incendie et de sécurité.*



**Caution:**

- Do not drop the camera or subject it to physical shock.
- Do not touch sensor modules with fingers. If cleaning is necessary, use a clean cloth with a bit of ethanol and wipe it gently. If the camera will not be used for an extended period of time, put on the lens cap to protect the sensor from dirt.
- Do not aim the camera lens at strong light, such as the sun or an incandescent lamp, which can seriously damage the camera.
- Make sure that the surface of the sensor is not exposed to a laser beam, which could burn out the sensor.
- If the camera will be fixed to a ceiling, verify that the ceiling can support more than 112 newtons (112-N) of gravity, or over three times the camera's weight.
- The camera should be packed in its original packing if it is reshipped.



**Caution:**

To avoid damage from overheating or unit failure, assure that there is sufficient temperature regulation to support the unit's requirements (cooling/heating). Operating temperature should be kept within the range indicated in the Technical Specifications section.

**Attention:**

*Afin d'éviter tout dommage dû à une surchauffe ou toute panne de l'unité, assurez-vous que la régulation de température est suffisante pour répondre aux exigences de l'unité (refroidissement/chauffage). La température de fonctionnement doit être maintenue dans l'intervalle indiqué dans la section Spécifications Techniques.*

## Site Preparation

There are several requirements that should be properly addressed prior to installation at the site.

The following specifications are requirements for proper installation and operation of the unit:

- Ambient Environment Conditions: Avoid positioning the unit near heaters or heating system outputs. Avoid exposure to direct sunlight. Use proper maintenance to ensure that the unit is free from dust, dirt, smoke, particles, chemicals, smoke, water or water condensation, and exposure to EMI.
- Accessibility: The location used should allow easy access to unit connections and cables.
- Safety: Cables and electrical cords should be routed in a manner that prevents safety hazards, such as from tripping, wire fraying, overheating, etc. Ensure that nothing rests on the unit's cables or power cords.
- Ample Air Circulation: Leave enough space around the unit to allow free air circulation.
- Cabling Considerations: Units should be placed in locations that are optimal for the type of video cabling used between the unit and the cameras and external devices. Using a cable longer than the manufacturer's specifications for optimal video signal may result in degradation of color and video parameters.
- Physical Security: The unit provides threat detection for physical security systems. In order to ensure that the unit cannot be disabled or tampered with, the system should be installed with security measures regarding physical access by trusted and un-trusted parties.
- Network Security: The unit transmits over IP to security personnel for video surveillance. Proper network security measures should be in place to assure networks remain operating and free from malicious interference. Install the unit on the backbone of a trusted network.
- Electrostatic Safeguards: The unit and other equipment connected to it (relay outputs, alarm inputs, racks, carpeting, etc.) shall be properly grounded to prevent electrostatic discharge.

The physical installation of the unit is the first phase of making the unit operational in a security plan. The goal is to physically place the unit, connect it to other devices in the system, and to establish network connectivity. When finished with the physical installation, complete the second phase of installation, which is the setup and configuration of the unit.



## 2 Accessing Camera Information from the Web

You will find the latest information, versions of documentation and releases of software on the FLIR website.





## 3 Overview

The Quasar Gen III CP-6302-3x Range Pan/Tilt/Zoom (PTZ) cameras provide real-time video with high-definition quality at Full HD 1080p. The CP-6302-3x Range features gyro-based electronic image stabilization, servo feedback for precise preset positioning at frames rates up to 50/60 fps, and True Shutter Wide Dynamic Range at frames rates up to 25/30 fps. With 10x digital zoom, 30x optical zoom, and high-speed PTZ functionality, the Quasar Gen III CP-6302 can quickly cover a wide monitoring area with a high level of detail. The CP-6302-31-I model also features IR illumination up to 200 meters (656 feet)

Up to four streams can be run simultaneously with H.265, H.264 or MJPEG compression, providing an ideal solution when differing levels of image quality are required. The camera can increase frame rate and level of detail when events are triggered. In addition, FLIR's adaptive streaming algorithms provide the highest image quality with the lowest bandwidth and storage requirements.



CP-6302-30-R



CP-6302-31-P



CP-6302-31-I



**Caution:**

If you are using FLIR's Latitude VMS, we recommend that you configure the camera's settings via the AdminCenter. This is because the camera's web-based interface might be overwritten by Latitude settings. Refer to the Latitude online help for information regarding configuring camera settings.

**Attention:**

*Si vous utilisez le logiciel de gestion de vidéo Latitude de FLIR, nous vous conseillons de configurer les paramètres de la caméra via l'AdminCenter. En effet, l'interface Internet de la caméra peut être remplacée par les paramètres Latitude. Veuillez consulter l'aide en ligne Latitude pour de plus amples informations sur la configuration des paramètres de la caméra.*

### 3.1 Features

- |   |  |  |
|---|--|--|
| • 10x digital zoom and 30x optical zoom                   | • 1/2.8" Sony Progressive scan CMOS sensor | • Four encoder streams                                       |
| • Low-lux mode  | • True day/night (ICR)                     | • PTZ tracking   |
| • Infrared LED illuminator (see Note 1)                   | • IR coverage up to 200m (see Note 1)      | • IR illumination adjusted by zoom ratio (see Note 1)        |
| • White Balance, Backlight Compensation, and WDR          | • 2DNR/3DNR/ColorNR                        | • Up to 50/60 fps frame rate                                 |
| • Built-in web application/web server                     | • HTTP streaming MJPEG                     | • H.265, H.264 and MJPEG compression                         |
| • Two-way audio   | • 4 alarm input driven events              | • 2 relay output actions on alarm                            |
| • Edge motion detection                                   | • Electrical Image Stabilizer              | • Six exposure modes   |
| • Detection event driven alarms                           | • Remote firmware upgrade                  | • Dual HTTP notification server support (up to two servers)  |
| • FTP upload (up to two locations)                        | • Upload alarm images to FTP               | • Send images on alarm to e-mail                             |
| • E-mail SMTP alarm notification (up to two e-mails)      | • Up to 128GB microSDXC recording support  | • Record snapshots to SD card/microSDXC card or NAS on alarm |
| • Sequential snapshot numbering                           | • SNMP v1/v2/v3 and SNMP traps             | • 20 privacy masks   |
| • ONVIF support   | • RTSP support                             | • Per-user permissions                                       |
| • Security IP restricted access allow/deny list           | • Multiple users                           | • Group permissions  |
| • UPnP support  | • Vandal-proof IP66 enclosure              | • Built-in heater  |
| • Servo motor for precise positioning and preset location | • Supports PoE++, UPOE, 12VDC, and 24VAC   | • Analog, IP and RS-485 output connections                   |

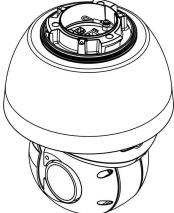
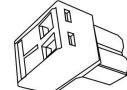
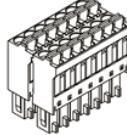
Notes:

1. Only in IR model

## 3.2 Package Contents

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

**Note:** Package Contents vary slightly between models - See Installation Manual

		
Camera Body*	Hard Ceiling Mount M4 Screw with Rubber Gasket	2-Pin 12VDC Power Terminal Block
		
3-Pin 24VAC Power Terminal Block	14-Pin Alarm/Audio I/O Terminal Block	Quick Installation Guide

*Package Contents*

**Notes:**

1. CP-6302-30-R is supplied without the upper cover.
2. CP-6302-30-R and CP-6302-31-P are supplied with transparent dome.

See Installation Guide for further details



**Note:**

The self-tapping screws are mainly for softer substrate/material installation such as wood. For other installation materials such as cement ceilings, it is necessary to pre-drill and use plastic anchors before fastening the supplied self-tapping screws into the wall.

**Related Documentation**

- *CP-6302 Installation Manual*
- *CP-6302 Quick Installation Guide (for the relevant model)*
- *DNA 2.1 User Manual*



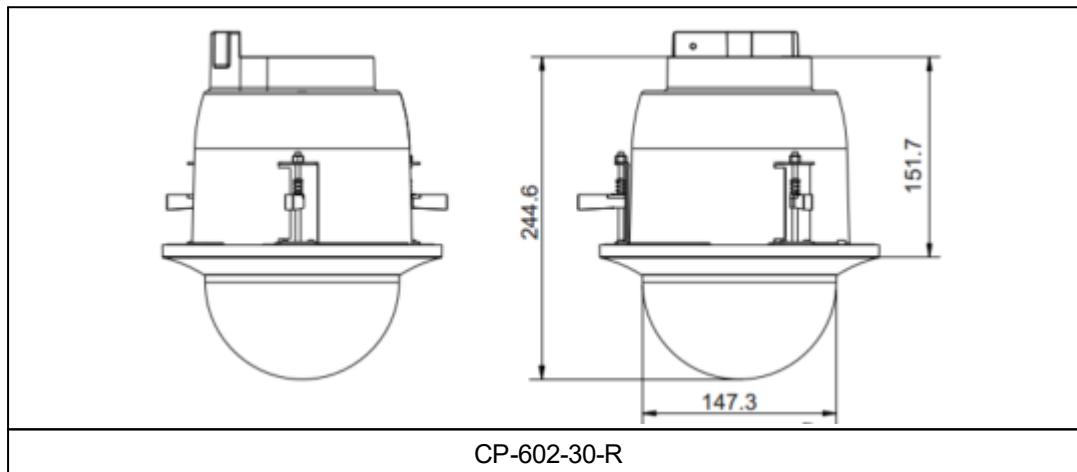
# 4 Introduction to the Quasar CP-6302 Range of PTZ Cameras

This chapter provides information about the camera hardware for reference before installation. The connectors included on the camera's system cable are described.

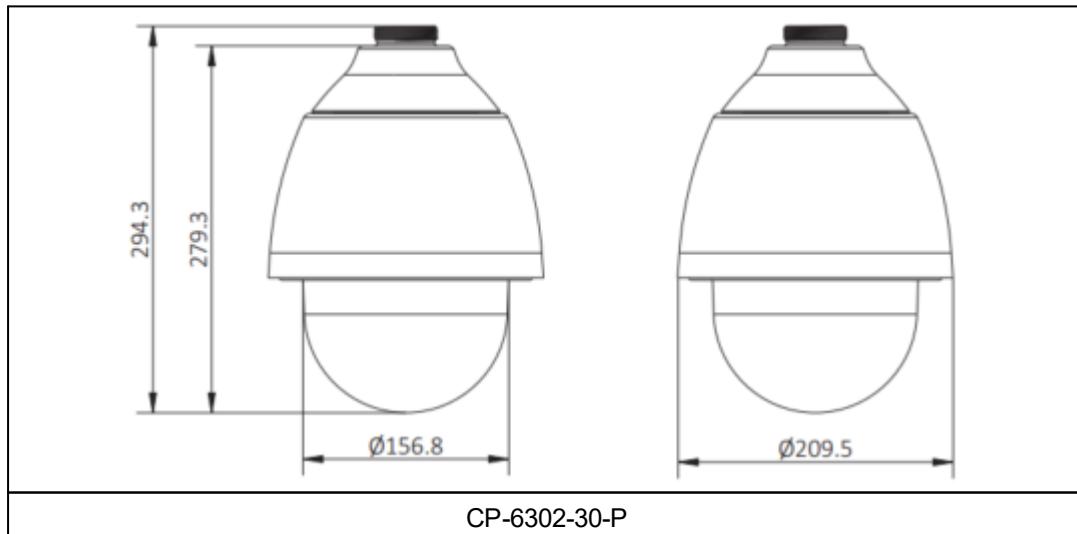
- [Camera Dimensions](#)
- [Camera Connectors](#)

## 4.1 Camera Dimensions

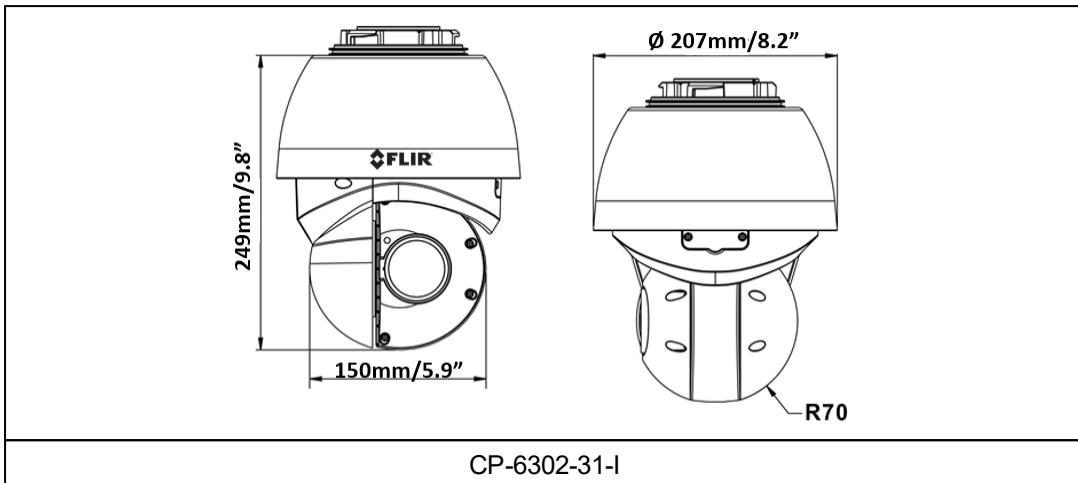
Following are the camera's dimensions.



CP-602-30-R



CP-6302-30-P

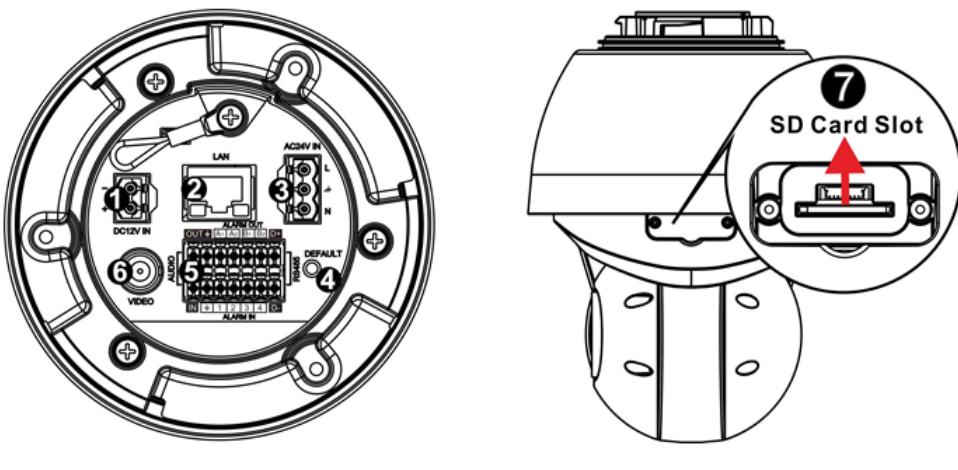


**Notes:**

1. The P and R models are supplied with a clear dome.
2. 30R Recessed model has different top cover.

## 4.2 Camera Connectors - All models

Following are an illustration and explanation of the connectors located on the PTZ camera's connector panel.



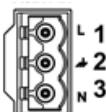
*Connector Locations  
(IR model shown)*

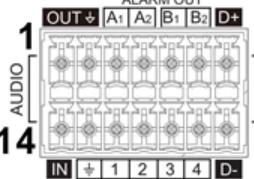
Callout	Description/Label	Comments
1	DC12V IN	12VDC two-pin terminal block connector. See pin assignment below.  ⚠ The 12VDC connector and 24VAC connector cannot be used at the same time.
2	LAN	RJ45 connector for 10/100 Mbps Network and PoE++/UPOE (IEEE 802.3bt) connections.
3	AC24V IN	24VAC three-pin power terminal block. See pin assignment below.

Callout	Description/Label	Comments
		 The 12VDC connector and 24VAC connector cannot be used at the same time.
4	DEFAULT	Factory default reset button. Press the button for at least 20 seconds to restore factory defaults.
5	AUDIO/ALARM OUT/ALARM IN/RS485	14-pin terminal block for I/O and RS-485 connections. See pin assignment below.
6	VIDEO	BNC connector for analog video output.
7	SD card slot	Insert an SD card or microSDXC card with adapter (not supplied) to store video clips and snapshots. (Min recommended 4GB, up to 128GB, Class 10)   Do not remove the card when the camera is powered on. It is not recommended to record 24/7 continuously. Refer to the card manufacturer for card stability and life expectancy.

**Note:**

This camera features Zero Downtime Power Switching (ZDT). When the 12VDC connector and RJ45 port are connected simultaneously, the power input is from the 12VDC connector. If the 12VDC power fails, the camera switches power to the RJ45 port until the 12VDC power source is restored.

Power Connector	Pin	Definition
	1	AC 24L
	2	Ground
	3	AC 24N

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

#### Safety Lanyard Connections

### 4.2.1 Connecting Power to the Camera

This product is intended to be used with a Listed Power Adapter with LPS. The camera is powered by PoE+ (IEEE802.3at, class 4, CP-6302-31-P and CP-6302-30-R only), UPOE (CP-6302-31-I, CP-6302-31-P, and CP-6302-30-R), 24VAC, or 12VDC power source (not included in the package).

- If using an external power supply, connect the power leads or three-pin power terminal block to the power supply.
- If using PoE++ or UPOE, make sure that a Power Sourcing Equipment (PSE) device is used in the network.

Make sure the camera's power cable is properly connected. All electrical work must be performed in accordance with local regulatory requirements.



### **CP-6302-31-I**

#### **Caution:**

1. If the camera is connected to a PoE network, note that the PoE supply's rated output is 55VDC, 0.91A.
2. If the camera is installed for outdoor use, the PoE supply must be installed with proper weatherproofing.
3. As a Listed Power Unit, the PoE should be marked as "LPS" or "Limited Power Source".
4. This product shall be installed by a qualified service person. Installation shall conform to all local codes.
5. If the camera is connected to a 12VDC power supply, the power rating is 4.17A
6. If the camera is connected to a 24VAC, 50-60Hz power supply, the power rating is 2.09A

#### **Attention:**

1. *Si la caméra est connectée à un réseau PoE, notez que la puissance nominale de l'alimentation PoE est 55VDC, 0.91A.*
2. *Si la caméra est installée pour une utilisation extérieure, l'alimentation PoE doit être installé avec l'étanchéisation appropriée.*
3. *Comme une unité d'alimentation «Listed», le PoE doit être marqué comme «LPS» ou «Limited Power Source».*
4. *Ce produit doit être installé par un technicien qualifié. L'installation doit se conformer à tous les codes locaux.*
5. *Si la caméra est connecté à une unité d'alimentation 12V cc, la puissance nominale est 4.17A.*
6. *Si la caméra est connecté à une unité d'alimentation 24V ca, 50-60Hz la puissance nominale est 2.09A.*

### **For CP-6302-31-P:**

#### **Caution:**

1. If the camera is connected to a PoE network, note that the PoE supply's rated output is 55VDC, 0.39A.



2. If the camera is installed for outdoor use, the PoE supply must be installed with proper weatherproofing.
3. As a Listed Power Unit, the PoE should be marked as "LPS" or "Limited Power Source".
4. This product shall be installed by a qualified service person. Installation shall conform to all local codes.
5. If the camera is connected to a 12VDC power supply, the power rating is 1.62A.
6. If the camera is connected to a 24VAC, 50-60Hz power supply, the power rating is 0.67A.

**Attention:**

1. *Si la caméra est connectée à un réseau PoE, notez que la puissance nominale de l'alimentation PoE est 55VDC, 0.39A.*
2. *Si la caméra est installée pour une utilisation extérieure, l'alimentation PoE doit être installé avec l'étanchéisation appropriée.*
3. *Comme une unité d'alimentation «Listed», le PoE doit être marqué comme «LPS» ou «Limited Power Source».*
4. *Ce produit doit être installé par un technicien qualifié. L'installation doit se conformer à tous les codes locaux.*
5. *Si la caméra est connecté à une unité d'alimentation 12V cc, la puissance nominale est 1.62A.*
6. *Si la caméra est connecté à une unité d'alimentation 24V ca,50-60Hz la puissance nominale est 0.67A.*

## **For CP-6302-30-R:**

**Caution:**

1. If the camera is connected to a PoE network, note that the PoE supply's rated output is 55VDC, 0.24A.
2. As a Listed Power Unit, the PoE should be marked as "LPS" or "Limited Power Source".
3. This product shall be installed by a qualified service person. Installation shall conform to all local codes.
4. If the camera is connected to a 12VDC power supply, the power rating is 0.91A.
5. If the camera is connected to a 24VAC, 50-60Hz power supply, the power rating is 0.38A.

**Attention:**

1. *Si la caméra est connectée à un réseau PoE, notez que la puissance nominale de l'alimentation PoE est 55VDC, 0.24A.*
2. *Comme une unité d'alimentation «Listed», le PoE doit être marqué comme «LPS» ou «Limited Power Source».*
3. *Ce produit doit être installé par un technicien qualifié. L'installation doit se conformer à tous les codes locaux.*
4. *Si la caméra est connecté à une unité d'alimentation 12V cc, la puissance nominale est 0.91A.*
5. *Si la caméra est connecté à une unité d'alimentation 24V ca,50-60Hz la puissance nominale est 0.38A.*



**Note:**

An ITE PoE injector should be connected only to a PoE network inside a building and not routed outside the building.



**Warning:**

1. This product contains a battery that is soldered to the PCB. There is a risk of explosion if the battery is replaced by an incorrect type. **Do not replace the battery.** The battery should be disposed of in accordance with manufacturer's instructions, local codes, or WEEE standards. Replacement of the battery by the customer will void the product warranty.

**Avertissement:**

1. Ce produit contient une batterie soudée à la PCB. Il y a un risque d'explosion si la batterie est remplacée par un type incorrect. **Ne pas remplacer la batterie.** La batterie doit être éliminée conformément aux instructions du fabricant, aux codes locaux, ou aux normes WEEE. Le remplacement de la batterie par le client annulera la garantie du produit.

#### 4.2.2 Connecting the Unit to the Network

A Cat 5 or Cat 6 Ethernet cable is recommended for network connection. To ensure transmission quality, cable length should not exceed 100 meters (328 feet). Connect one end of the Ethernet cable to the RJ45 connector of the system cable. Plug the other end of the cable into the network switch or PC. Check the status of the link and the activity LEDs. If the LEDs are unlit, check the LAN connection.



A steady green link LED indicates a good network connection.  
The yellow activity LED flashes to indicate network activity.



**Note:**

An Ethernet crossover cable might be needed when connecting the camera directly to the PC.

#### 4.3 System Requirements

To access the camera via a web browser, ensure that your PC has the proper network connection and meets system requirements as described below.

Item	Minimum System Requirement
Personal Computer	Minimum: Intel® CoreTM i5-2430M, 2.4 GHz; 2GB RAM or more Recommended: Intel® CoreTM i7-870, 2.93 GHz; 8GB RAM
Operating System	Windows Server 2012; Windows 7, 8, 8.1, and 10
Web Browser	Microsoft Internet Explorer 10 and above (32-bit version). IE 11 is recommended.
Network Card	10BaseT (10 Mbps) or 100Base-TX (100 Mbps)
Viewer	ActiveX control plug-in for Microsoft IE



## 5 Installation

This camera is designed for indoor and outdoor installation\*. Observe the following installation recommendations:

- Always use weatherproof equipment, such as boxes, receptacles, connectors, etc. where appropriate.
- For electrical wiring, use the properly rated sheathed cables for conditions to which the cable will be exposed (for example, moisture, heat, UV, physical requirements, etc.).
- Plan ahead to determine where to install infrastructure weatherproof equipment. Whenever possible, ground components to an outdoor ground.
- Use best security practices to design and maintain secured camera access, communications infrastructure, tamper-proof outdoor boxes, etc.
- All electrical work must be performed in accordance with local regulatory requirements.

\* The CP-6302-30-R (Recessed) model will normally be installed indoors



### Note:

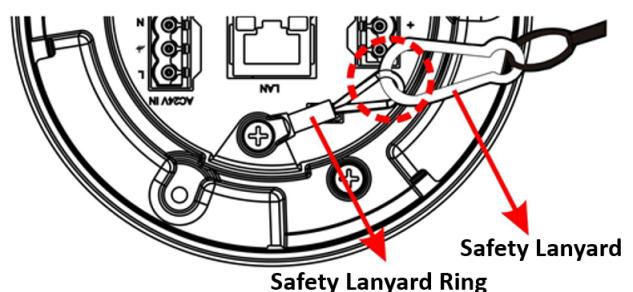
For detailed information about installation accessories and their installation, refer to the *CP-6302 Installation Manual*.

### Related Links

[Waterproofing the Camera Cables](#)    [Initial Camera Configuration](#)

#### 5.1 Safety Lanyard

For safety reasons, the camera includes a safety lanyard ring which should be connected to the safety lanyard coming from the pendant.

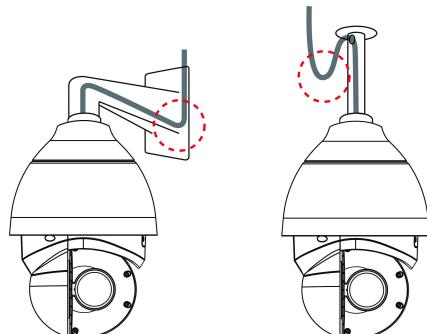


#### 5.2 Waterproofing the Camera Cables

The camera is IP66-rated to prevent water from entering the camera. Nevertheless, water can enter the camera if it is not installed properly. Please make sure the warnings below are strictly followed when installing the camera.

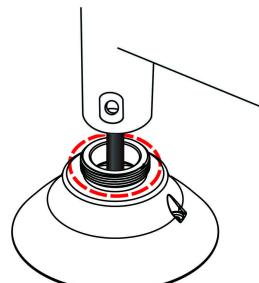
Place all cables and the adaptor in dry and well-waterproofed environments, e.g. waterproof boxes. This prevents moisture accumulation inside the camera and moisture penetration into cables.

While running cables, slightly bend the cables in a U-shaped curve to create a low point (see figures below). This prevents water from entering the camera along the cables from above.



*U-Shaped Cable Installation*

Seal the cable entry hole of the outdoor mounting kit (see figure below) with thread seal tape to keep water from entering the camera.



*Sealing Cable Entry Hole*

## 5.3 Initial Camera Configuration

### To perform the initial camera configuration

1. Unpack the camera. Rotate and remove the protective cover.
2. Remove the PE cloth sheet and lens cap. Attach the dome cover to the body.
3. On the camera back plate, plug the Cat 5 cable into the camera's Ethernet port. If the network does not use IEEE 802.3bt PoE++ or UPOE, plug a properly rated 24VAC power supply into the cameras' power connector terminal block.



#### **Caution:**

Make sure that the power supply connection matches the positive and negative polarity on the unit.

#### **Attention:**

Assurez-vous que le branchement à l'alimentation corresponde aux polarités positive et négative sur l'unité.

4. Verify that the LEDs on the RJ45 connector illuminate green (indicating a stable network connection) and flashing yellow (to indicate network activity).
5. Do the following:
  - a. Download and run `dna.exe` (see note below) from the link [Accessing Camera Information from the Web](#)



b. Click the icon.

a. Select the unit requiring IP assignment.

Discovery Network Assistant (DNA) - v2.1.2.0										
Device type	Model name	Status	Login Status	IP address	Name	Firmware version	MAC address	Port	Up time	
CP camera	CB-5222-11	Online	Authenticated	10.70.20.39	ioHD	d120160330N6X	00:1B:D8:80:70:AF	6666	1 days 22:10:00	
CP camera	CB-5222-11	Online	Authenticated	10.70.20.42	ioHD	d120160330N6X	00:1B:D8:80:AD:B7	6666	1 days 21:46:00	
CP camera	CB-5222-31	Online	Authenticated	10.70.20.23	ioHD	d120160330N6X	00:1B:D8:80:70:E3	6666	2 days 04:14:00	
CP camera	CF-3211-00	Online	Authenticated	10.70.20.57	QuasarHDIPCamera	d120141119NSA	00:1B:D8:80:0B:22	6666	6 days 06:03:00	
CP camera	CF-5222-00	Online	Authenticated	10.70.20.32	ioHD	d120160121N6X	00:1B:D8:80:2B:13	1900	2 days 04:12:00	
CP camera	CP-4221-201	Online	Authenticated	10.70.20.22	QuasarHDIPCamera	d120141119NSA	00:1B:D8:10:75:AB	6666	1 days 23:00:00	
CP camera	CP-4221-201	Online	Authenticated	10.70.20.56	QuasarHDIPCamera	d120141119NSA	00:D0:89:0A:8F:5D	6666	6 days 06:06:00	
CP camera	CP-4221-301	Online	Authenticated	10.70.20.43	QuasarHDIPCamera	d120141119NSA	00:D0:89:0F:88:80	6666	6 days 06:04:00	
CP camera	EV-208-A	Online	Not authenticated	10.70.20.241	EV-20800079a189600	2.4.17.128.178473	00-07-9A-18-95-00	5510	4 days 05:17:04	
	EV-216	Online	Not authenticated	10.70.20.243	EV-216-00079a18b...	2.4.17.128.178473	00-07-9A-18-8A-82	5510	4 days 05:17:24	

*Discovered IP Devices*

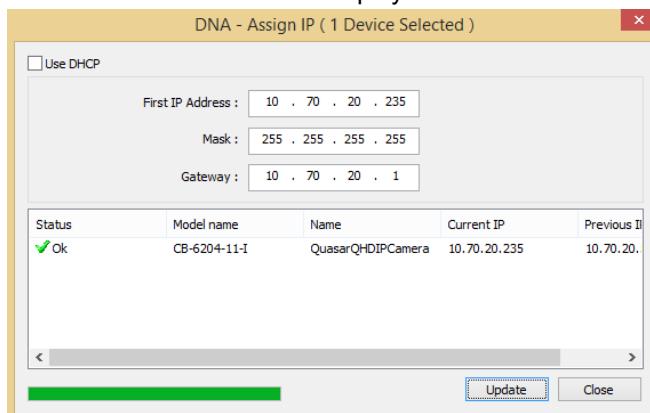
6. Right-click the mouse and select the assigned IP address or click the **Assign IP** button to open the **DNA Assign IP** dialog box.



#### Note:

The camera default IP Address and the subnet mask IP Address are automatically supplied by the DHCP server.

7. In the dialog box that is displayed, enter values for the *IP Address*, *Gateway* and *Netmask*.  
 8. Click **Update** and wait for **OK** status to be displayed.



*DNA Assign IP Dialog Box*

9. Disconnect the Ethernet cable. The camera is ready for deployment (mounting) in a site installation.



#### Note:

1. The camera can be connected to a PC for bench installation via an Ethernet cross-cable.
2. The camera default IP Address is automatically set by the DHCP server. If using Latitude, the Address must be set manually.



**Tip:**

A camera setup adapter, such as Veracity Pinpoint, can be used to connect a laptop directly to the camera when using PoE++.

## 6 Using DNA to Access the Camera

To view and configure the camera via a LAN, you must attach the camera via the network switch or router to the same subnet (network segment or VLAN) as the computer that manages the unit. If the PC is on a different subnet than the camera, you will not be able to access the camera via a web browser.

If there is a DHCP server on the network, it is recommended to use FLIR's Discovery Network Assistant (DNA) utility to search for and change the camera's initial IP address.

DNA is a user-friendly utility that is designed to easily discover and configure FLIR Professional Security edge devices on a network. The DNA tool has a simple user interface and does not require any installation. The software is provided as a single, standalone executable. It runs on any PC.

DNA provides a central location for listing all the supported FLIR Professional Security camera models accessible over the network. Once listed, each camera can be right-clicked to access and change the network settings. If the network settings are changed for some reason, a new search will relist the units. The units may then be configured via the web interface.

If FLIR's Latitude VMS is being used, configure the unit with a static IP address rather than with DHCP. This ensures that the IP address will not automatically change in the future and interfere with configurations and communication.

The camera must be made accessible for setting network addresses.



**Note:**

For detailed guidelines about DNA and its usage, refer to the *DNA 2.2 User Manual*, which can be accessed from the link [Accessing Camera Information from the Web](#).



# 7 Configuring Communication Settings

## To configure communication settings on the camera

1. Connect the camera to the network on the same VLAN/LAN as the workstation.
2. If the network supports the default, open the DNA utility by running `dna.exe` which can be found in the DNA utility folder which can be downloaded from the link [Accessing Camera Information from the Web](#), or click the DNA icon 
3. In the DNA application, click the **DNA** button.
4. If the Windows Firewall is enabled, a security alert window pops up.
5. To continue, click **Allow Access**. Latitude users should consult the Latitude installation instructions on disabling the Windows Firewall.



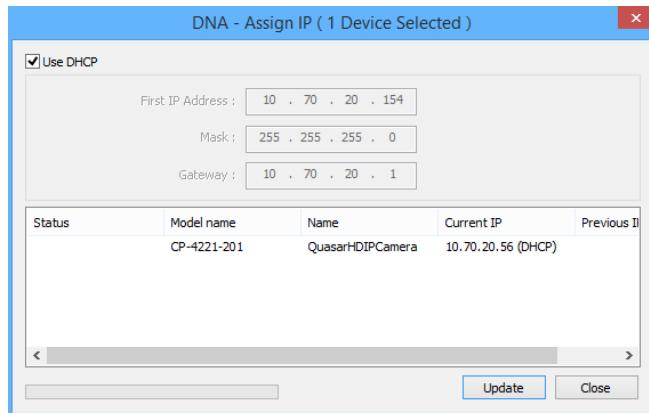
*Windows Firewall Screen*

6. Click **Assign IP**. All the discovered IP devices will be listed in the page, as shown in the figure below. The camera's default IP Address is automatically supplied by the DHCP server.

Discovery Network Assistant (DNA) - v2.1.2.0								
Device type	Model name	Status	Login Status	IP address	Name	Firmware version	MAC address	Port
IP camera	CB-5322-11	Online	Authenticated	10.70.20.39	ioHD	d20160320NEX	00:1B:00:80:70:AF	6666
IP camera	CB-5322-11	Online	Authenticated	10.70.20.42	ioHD	d20160320NEX	00:1B:00:80:AD:87	6666
IP camera	CB-5322-31	Online	Authenticated	10.70.20.23	ioHD	d20160320NEX	00:1B:00:80:70:E3	6666
IP camera	CF-3211-00	Online	Authenticated	10.70.20.57	QuasarHDIPCamera	d20141119NSA	00:1B:00:80:08:22	6666
IP camera	CF-5222-00	Online	Authenticated	10.70.20.32	ioHD	d20160121NS	00:1B:00:80:28:13	1900
IP camera	CP-4221-201	Online	Authenticated	10.70.20.22	QuasarHDIPCamera	d20141119NSA	00:1B:00:10:75:AB	6666
IP camera	CP-4221-201	Online	Authenticated	10.70.20.56	QuasarHDIPCamera	d20141119NSA	00:00:89:0A:Bf:SD	6666
IP camera	CP-4221-301	Online	Authenticated	10.70.20.43	QuasarHDIPCamera	d20141119NSA	00:00:89:0F:BB:80	6666
IP camera	EV-208-A	Online	Not authenticated	10.70.20.241	EV-20800079a189600	2.4.17.128.178473	00-07-9A-18-95-00	\$510
IP camera	EV-216	Online	Not authenticated	10.70.20.249	EV-216-00079a18b...	2.4.17.128.178473	00-07-9A-18-6A-82	\$510

*Discovered IP Devices*

7. Right-click the camera whose network property is to be changed. From the context menu that opens, select **Assign IP**. The **Assign IP** dialog is displayed.



DNA Assign IP – Use DHCP Dialog Box



**Tip:**

Record the camera's MAC address for future reference.

8. To access DNA, do one of the following:

- a. For DHCP (not supported by Latitude):

- i. Select *Use DHCP*.

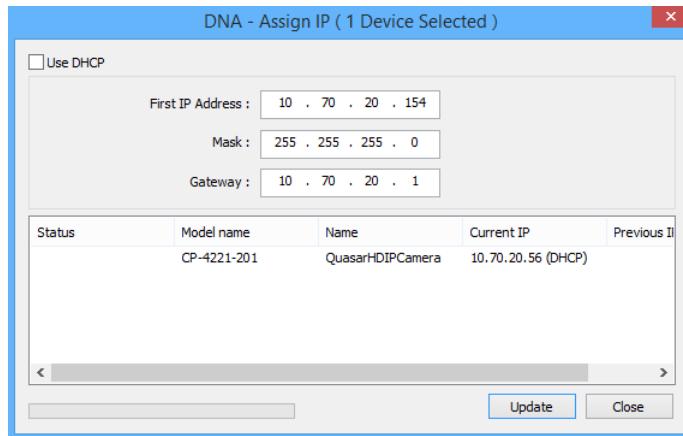


**Caution!**

**Do NOT use this setting on Latitude.**

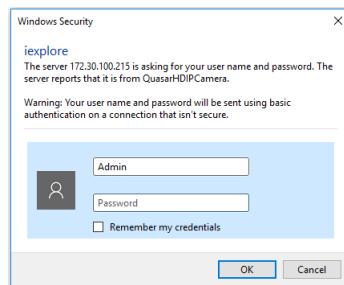
- ii. Click **Update** and wait for status.

- b. For Static IP (recommended for Latitude users):



DNA Assign IP – Static IP Dialog Box

- i. Do not select the *Use DHCP* checkbox.
  - ii. In the IP Address, Gateway, and Netmask, enter the respective LAN/VLAN (optional DNS) values.
  - iii. Click **Update** and wait for OK status to be displayed.
9. Right-click and select **Web** to directly access the camera via a web browser. The web browser opens on the unit's **Login** dialog box.



*Login Dialog Box*

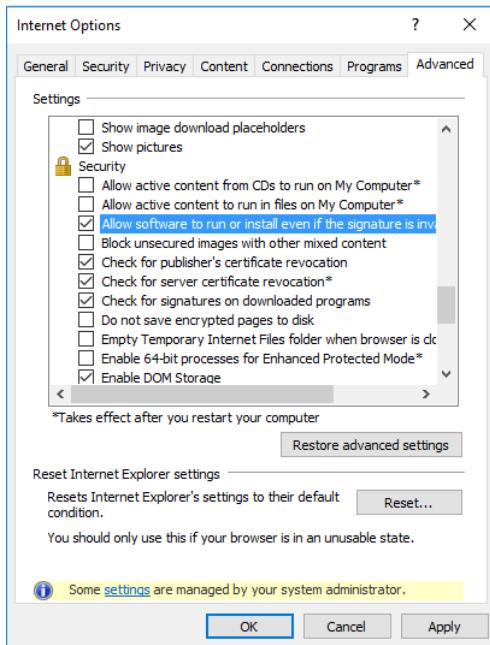
10. Log into the unit with the default user name *Admin* and password *1234*.

A screenshot of a web browser window. The title bar is orange with a circular icon containing a wrench and screwdriver. The main content area has a white background. A blue-bordered box contains the following text:

**Note:**

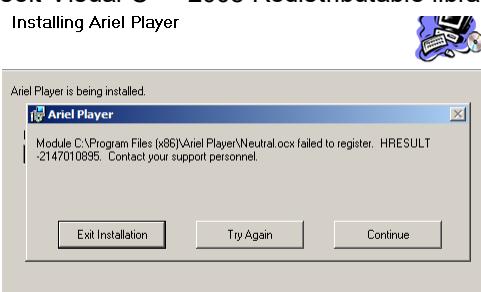
1. Both the user name and password are case-sensitive.
2. It is strongly advised that administrator's password be altered for security reasons.

- If the **User Account Control** dialog opens and requests you to install the `install.cab` file, click **Yes**.
- If the ActiveX installation is not successful after performing the previous step, in the Internet Explorer **Tools > Internet Options > Advanced** Security settings section, select the “Allow software to run or install even if the signature is invalid” checkbox. Uncheck the checkbox after installing ActiveX. Then click **OK**.



*IE Tools > Internet Options > Advanced Window*

- If you are using ActiveX and the system displays the message below, your system does not have the required Microsoft Visual C++ 2008 Redistributable libraries.



*MS Visual C++ 2008 Redistributable Error Message*

Download and install the `vcredist_x86.exe` file from the Internet, or contact your Network Administrator or [FLIR Support](#).

11. If a popup message appears for running the ActiveX add-on, click **Allow**.



**Note:**

If the password is changed and the Latitude AdminCenter Discovery feature is in use, deselect all other proprietary types. Select "Dvtel Quasar Gen II" for Latitude 7 or "FLIR" and "Auto Select" for Latitude 8 as the Unit Type so that the new password can be configured in the Discovery tab settings.

Additionally, you can change the camera's network properties (either DHCP or Static IP) directly from the camera's web interface on the [System > Network > Basic](#) screen.

12. Install the web player.



**Note:**

If you have previously installed a web player application on the PC, you should delete the existing web player from the PC before accessing the camera. For information on how to install the new player, uninstall a previous player, and clear temporary Internet files, see [Installing and Deleting the Web Player](#).



## 8 Adjusting and Framing-Up the Camera View

After the camera is connected to the network and running, it is necessary to frame-up the scene and adjust the camera settings to optimize the picture for the individual scenes. If Latitude is being used, consider scheduling different settings for changing ambient conditions throughout the day, week, month or seasons.

### To adjust and frame-up the camera view

1. In the DNA application, click **DNA**.
2. In the Discovery list, click to select the camera.
3. Right-click the context menu and select **Web**, or enter the camera's IP address in your browser's URL address bar.
4. When the browser connects to the camera and prompts for login, do the following:
  - a. Log in using the default user name *Admin* and password *1234*. If the password has previously been changed, use the new password.

**Note:**

Both the user name and password are case sensitive.

- b. Allow the ActiveX to download and choose to install the Quasar Web Player.
- c. After the unit's web interface opens, use the function buttons on the **Live** page to adjust the zoom or focus.

**Tip:**

To view greater image detail for more accurate high-definition focusing, on the web-based Viewer **Home** page, right-click the image, click **Full Screen**, and check the focus.

**Note:**

Best focusing results can be achieved when the lens iris is fully open (such as at night in low light). This prevents loss of sharpness if light levels are reduced at night.



# 9 Configuration and Operation

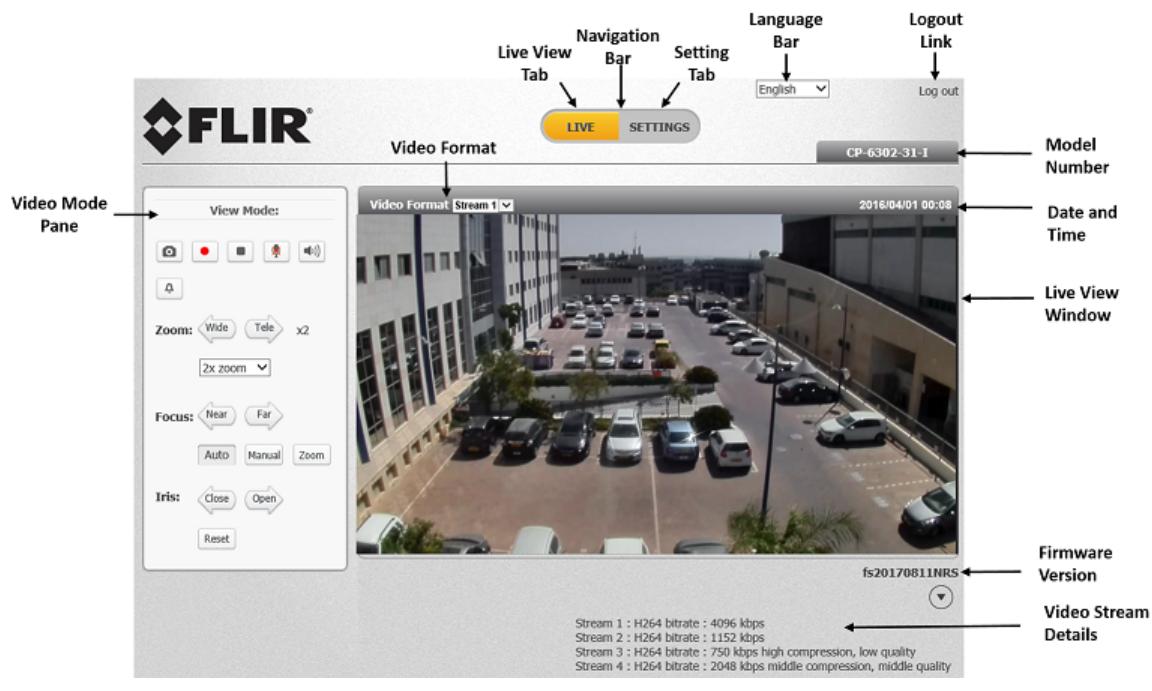
The Quasar Gen III CP-6302 camera is provided with a browser-based configuration interface for video playback and recording. This section includes the following information:

- [Browser-Based Viewer Introduction](#)
- [Live Screen](#)
- [System Tab](#)
- [Streaming Tab](#)
- [PTZ Tab](#)
- [Logout](#)

Additionally, if FLIR's Latitude VMS is used, many of the configurations and features of FLIR's VMS provide configuration and automation of the camera.

## 9.1 Browser-Based Viewer Introduction

The figure below illustrates the camera's browser-based user interface.



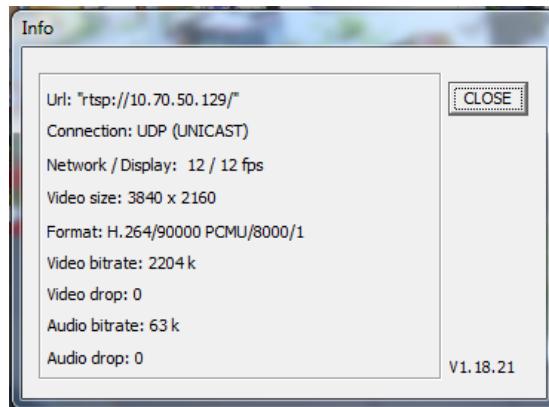
*Browser-Based User Interface*

The user interface displays the following information:

1. The Navigation Bar is displayed in the center of the screen containing Live and Settings buttons.
  - **Live Button**  
The **Live** screen opens by default when the camera logs on. It is used to monitor live video of the targeted area, adjust the display size, take snapshots of the view area, stop/start video streaming, record video in a designated file location, activate or de-activate a loudspeaker (audio function), and to perform a digital zoom. An explanation of the items on the screen is included below and in the [Live Screen](#) section.
  - **Settings Button**  
Clicking the **Settings** button opens the **Settings** screen, whose sidebar which includes four tabs – **System**, **Streaming**, **Camera**, and **PTZ** – that are used for to configure system settings.
    - [\*\*System\*\*](#)  
The administrator can configure settings for basic system parameters, security, network operation, events, recording, storage, system maintenance, and more.
    - [\*\*Streaming\*\*](#)  
The administrator can modify video and audio settings on this page.
    - [\*\*Camera\*\*](#)  
The administrator can adjust many of the camera settings on this page, such as Exposure, Picture Adjustment, Advanced Picture Settings, IR Function, and Miscellaneous settings.
    - [\*\*PTZ\*\*](#)  
The administrator can configure all the PTZ settings in this section.
2. The *Language Bar* is displayed to the right of the Navigation Bar. Supported languages include English, German, Spanish, French, Italian, Japanese, Korean, Portuguese, Russian, Simplified Chinese, and Traditional Chinese.
3. The *Log out* link is located to the right of the Language Bar. Click the *Log Out* link to exit the application or log into the camera with a different username and password. See [Log Out](#).
4. The camera *Model Number* is displayed under the *Log out* link.
5. The current *Date and Time* are displayed under the model number.
6. In the center of the interface is the **Live View** window, which displays the image that the camera is monitoring.
7. The *Firmware Version* of the camera is displayed under the **Live View** window on the right side.
8. The *Video Stream Details* are displayed under the Firmware Version.
9. The *Video Format* is displayed and can be selected to the left of the *Date and Time*.
10. The *View Mode* pane to the left of the **Live View** window contains function buttons which facilitate camera control. This pane is discussed in the following section.

## 9.2 Live Screen

The camera's **Live** screen is used to monitor live video. See [Browser-Based User Interface](#). Double-clicking the Live window opens the **Info** dialog box, which displays key details about the video stream:



*Live Video Info Dialog Box*

Two viewing modes are available: Fullscreen and Center Mode

### To view the Live View screen in Fullscreen mode

1. Right-click the screen.
2. Click **Fullscreen**. The image is displayed in the entire monitor screen.

### To exit Fullscreen mode

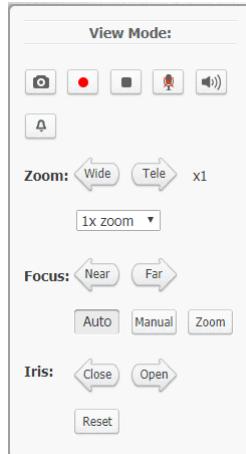
1. Do one of the following:
  - a. Press the Escape key on your keyboard. The **Live View** screen is displayed in the monitor screen.
  - b. Right-click the screen.
    - i. Click **Normal view**. The **Live View** screen is displayed in the monitor screen.

### To view the Live View screen in Center mode

1. Right-click the screen.
2. Click **Set center mode**. The camera automatically centers on the crosshair location.
3. Click **Set emulated joystick mode** to return to the normal viewing mode. In this mode, the PTZ controls emulate a joystick (default mode).

## View Mode Pane

The View Mode pane includes buttons that enable convenient camera control from the **Live** screen.



*View Mode Pane*

The *View Mode* pane includes the following function buttons:



The **Microphone** button allows the local site to talk to the remote site. Click the button to switch it on/off. This function is available only to a user who has been granted this privilege by the Administrator. Refer to [User](#) in the Security section for further details.



Click the **Speaker** button to mute/activate the audio. This function is available only to a user who has been granted this privilege by the Administrator. Refer to [User](#) in the Security section for further details.



Click this button to automatically save the JPEG snapshots in the specified location. The default location to save snapshots is: C:\. To change the storage location, refer to [File Location](#).



Press the **Stop** button to disable video streaming and to display the live video as black. Press **Restart** to show the live video again.



Pressing the **Recording** button stores recordings from the Live View in the location specified on the local hard drive, which can be configured in the **File Location** screen. The default storage location for the web recording is: C:/. Refer to [File Location](#) for details.

**Zoom:**  
**Wide/Tele**



Press the **Tele** or **Wide** button to control zoom in/out, or move the zoom adjustment bar to the desired zoom ratio. The range is from x1 to x30 and is displayed next to the zoom bar. The default is 1x.

**Focus: Auto/Manual/Near/Far**



Press the **Near** or **Far** button to implement continuous focus adjustment.

Following is an explanation of the function buttons listed above:

- **Optical/Digital Zoom Control**

In Normal View display mode, you can zoom in/out by moving the cursor to the Live Video pane and scrolling the mouse wheel. Digital zoom is only available when the function is activated and set up on the [Camera > Misc](#) screen. When the camera reaches the limit of its optical range, it automatically switches to digital zoom.

- **Focus Adjustment**

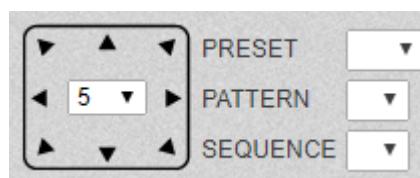
- Auto Focus (Continuous AF) – Click the **Auto** button to enable AF mode. In this mode, the camera automatically and continuously maintains focus regardless of zoom or view changes.
- Manual Focus – Click the **Manual** button to adjust focus manually using the **Near** and **Far** buttons.
- Zoom – Clicking the **Zoom** button causes the camera to focus when the zoom changes.

An additional function button is located under the **Live View** window:

**Display/Hide PT Controls**



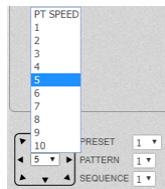
Press the **Arrow Up** button to display the PT (Pan/Tilt) control panel. Press the **Arrow Down** button to hide the PT control panel. The following controls are available:



*PT Control Panel*

- Use the PT control panel to move the camera and to run Presets, Pattern lines, and Sequence paths.
- Select a Preset/Pattern/Sequence line.
  - Preset - Select a number from 1-10 from the drop-down menu. Click [here](#) for details about this function.
  - Pattern - Select a number from 1-8 from the drop-down menu. Click [here](#) for details about this function.
  - Sequence - Select a number from 1-8 from the drop-down menu. Click [here](#) for details about this function.

- To stop running a Pattern or Sequence path, move the cursor to the Live View pane and move the camera in any direction.
- The PT Speed setting controls the rate at which the pan and tilt changes. Set a number between 1 and 10 as the PT Speed every time users pan or tilt the camera via the PT control panel.



PT Speed Drop-Down Menu

- **Live View Pane Pan/Tilt Control**

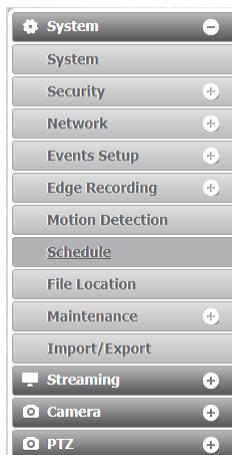
Control pan/tilt by left-clicking the cursor in the Live View pane and dragging the pointer in any direction. Placing the pointer close to the center of the image results in a slow rate of change. Placing the pointer further from the center results in a more rapid rate of change.

**Fullscreen Mode**


Click this button to view the monitored image in full screen mode when using Digital Zoom Control. Use the mouse to control zoom effects in Full Screen mode: scroll the mouse wheel (for zoom in/out), and drag the mouse into any direction. Double-click on the screen to exit Full Screen mode and return to the **Home** page.

## 9.3 System Tab

The **Settings** tab in the Navigation Bar opens the sections in the sidebar that are used for configuring the camera. It opens on the **System** section, which includes the following tabs:



System Section Tabs

Details of these settings are specified in the following sections:

[System](#)

[Security](#)

[Network](#)

[Events Setup](#)

[Edge Recording](#)

[Motion Detection](#)

[Schedule](#)

[File Location](#)

[Maintenance](#)

[Import/Export](#)

**Note:**  
The **System** screen is accessible only by the Administrator.

### 9.3.1 System

The **System** screen is used for entering the camera's friendly name and date and time settings. Click the **System** tab in the sidebar. The **System** screen is displayed.

**SYSTEM**

Host Name :

Time zone :

Enable daylight saving time  
 Time offset:   
 Start date: Jan 1st Sun Start time: 00:00:00  
 End date: Jan 1st Sun End time: 00:00:00  
 Time format: yyyy/mm/dd

Sync with computer time  
 PC date: 2017/09/05 [yyyy/mm/dd]  
 PC time: 10:18:39 [hh:mm:ss]

Manual  
 Date: 2016/04/01 [yyyy/mm/dd]  
 Time: 00:00:00 [hh:mm:ss]

Sync with NTP server  
 NTP server: 0.0.0.0 [host name or IP address]  
 Update interval: Every hour

**SAVE**

System Screen

The **System** screen includes the following fields:

#### Host Name

The host name is for camera identification. If the alarm function is enabled and is set to send an alarm message by Mail or FTP, the host name entered here is displayed in the alarm message.

#### Time Zone

Select the time zone from the drop-down menu.

#### Enable Daylight Saving Time

To enable daylight saving time, check the box and then specify time offset (number of hours or minutes difference between daylight saving time and standard time), start date and time for daylight saving time, and end date and time for daylight saving time. The format for time offset is [hh:mm:ss]. For example, if the amount of time offset is one hour, enter 01:00:00 in the field.

### Time format

Enables a choice of formats: either year, month and day (yyyy/mm/dd) or day, month and year (dd/mm/yyyy).

#### Sync with Computer Time

Select this button to synchronize video date and time display with the PC. You can change the PC date and time in the respective text box.

#### Manual

The Administrator can set video date and time manually. Entry format should be identical with that displayed to the right of the text box.

#### Sync with NTP Server

Network Time Protocol (NTP) is an alternate way to synchronize the camera's clock with an NTP server. Enter the network time server host name or IP address to synchronize in the text box. Then select an update interval (every hour, day or week) from the drop-down menu. For further information about NTP, visit [www.ntp.org](http://www.ntp.org).

Click **SAVE** when finished.

### 9.3.2 Security

Clicking the **Security** tab in the **System** sidebar opens a drop-down menu with the following screens:

[User](#)    [HTTPS](#)    [IP Filter](#)    [IEEE 802.1X](#)

#### 9.3.2.1 User

The **User** screen is used for entering and managing user credentials and privileges, as well as configuring authentication settings.

The screenshot shows the 'User' configuration screen with the following sections:

- ADMIN PASSWORD**: Fields for 'Admin password' and 'Confirm password' with a **SAVE** button.
- ADD USER**: Fields for 'User name' and 'User password'. Checkboxes for 'I/O access' (checked), 'Talk' (unchecked), 'Camera control' (unchecked), and 'Listen' (unchecked). A **ADD** button.
- Manage User**: A dropdown for 'User name' with options like '-- no user --', a **DELETE** button, and a **EDIT** button.
- HTTP AUTHENTICATION SETTING**: A dropdown for 'Type' set to 'basic', with a **SAVE** button.
- STREAMING AUTHENTICATION SETTING**: A dropdown for 'Type' set to 'disable', with a **SAVE** button.

User Screen

## Admin Password

Change the administrator's password by entering the new password in both text boxes. The input characters/numbers are displayed as dots for security purposes. After clicking **SAVE**, the web browser asks the Administrator for the new password (maximum 14 digits).

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

## Add user

The user name and passwords are limited to 14 characters. There is a maximum of 20 user accounts.

### To add a new user

1. Type the new user name and password in the respective fields.
2. Select the appropriate check boxes to give the user Camera Control, Talk and Listen permissions.
  - *I/O access* – Basic functions that enable you to view video when accessing to the camera.
  - *Camera control* – Allows you to change camera parameters on the **Camera** tab.
  - *Talk* – *Talk* allows the user at the local site to talk from the remote site to the administrator
  - *Listen* – *Listen* allows the user at the local site to listen from the remote site to the administrator.
3. Click **ADD**.

## Manage User

- To delete a user, select the *User name* drop-down list and select the user. Click **DELETE** to remove the user.
- To edit a user, select the *User name* drop-down list and select the user. Click **EDIT** to edit the user's password and privileges.

**Note:**  
You must enter the user password and also select the authorized function(s).



*Edit User Account Dialog Box*

- Click **Save** to modify the account credentials and privileges, or **Close** to discard changes.

## HTTP Authentication Setting

From the drop-down list, select one of the following options:

- *Basic* – A form of authentication that uses unencrypted base64 encoding. Basic Authentication should generally only be used where transport layer security, such as HTTPS, is provided.
- *Digest* – A form of authentication used over RTSP in which credentials are encrypted when transmitted.

Click **SAVE**.

## Streaming Authentication Setting

From the drop-down list, select one of the following options:

- *Disable* – Do not use streaming authentication (default setting).
- *Basic* – A form of authentication that uses unencrypted base64 encoding. Basic Authentication should generally only be used where transport layer security, such as HTTPS, is provided.
- *Digest* – A form of authentication used over RTSP in which credentials are encrypted when transmitted.

Click **SAVE**.

### 9.3.2.2 HTTPS

To use HTTPS on the camera, an HTTPS certificate must be installed. The HTTPS certificate can be obtained either by creating and sending a certificate request to a Certificate Authority (CA) or by creating a self-signed HTTPS certificate as described below.



#### Note:

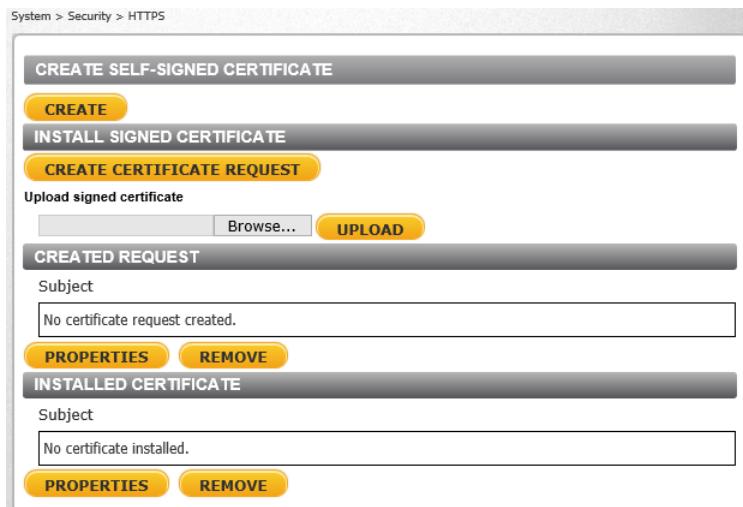
The self-signed certificate does not provide the same level of security as a CA-issued certificate.

HTTPS allows secure connections between the camera and web browser using Secure Socket Layer (SSL) or Transport Layer Security (TLS) to protect camera settings and username/password info. A self-signed certificate or a CA-signed certificate is required to implement HTTPS.

## To create a self-signed certificate

Before a CA-issued certificate is obtained, users can first create and install a self-signed certificate. Under the **Security** category, click the **HTTPS** tab in the sidebar.

1. On the **HTTPS** page, click **CREATE** under *Create Self-Signed Certificate*. The **Create Self-Signed Certificate** dialog box opens.



*Create Self-Signed Certificate Request Dialog Box*

2. Enter the information in the appropriate field. A definition of each of the required fields follows.
  - **Country** – Enter a two-letter combination code to indicate the specific country in which the certificate will be used. For instance, type “US” to indicate United States.
  - **State or province** – Enter the local administrative region.
  - **Locality** – Enter other geographical information.
  - **Organization** – Enter the name of the organization to which the entity identified in **Common Name** belongs.
  - **Organizational Unit** – Enter the name of the organizational unit to which the entity identified in the **Common Name** field belongs.
  - **Common Name** – Indicate the name of the person or other entity that the certificate identifies (often used to identify the website).
  - **Valid days** – Enter the period in days (1 ~ 9999) to indicate the valid period of certificate.
3. Click **OK** to save the certificate request after completion. The details are displayed in the *Subject* field of the *Installed Certificate* section.
4. To view the details of the Installed Certificate, click **PROPERTIES**. The details are displayed in the **Certificate Properties** dialog box. If you want to remove the certificate, click **REMOVE**.
5. When the signed certificate is returned from the CA, click **Browse** in the *Install Signed Certificate* section to locate the file.
6. Click **UPLOAD** to install the certificate.

### To create a certificate request

1. Click **Create Certificate Request** to create and submit a certificate request in order to obtain a signed certificate from a CA. The **Create Certificate Request** dialog box opens.



*Create Certificate Request Dialog Box*

2. Enter the information in the appropriate field. A definition of each of the required fields follows.
  - *Country* – Enter a two-letter combination code to indicate the specific country in which the certificate will be used. For instance, type "US" to indicate United States.
  - *State or province* – Enter the local administrative region.
  - *Locality* – Enter other geographical information.
  - *Organization* – Enter the name of the organization to which the entity identified in Common Name belongs.
  - *Organizational Unit* – Enter the name of the organizational unit to which the entity identified in the Common Name field belongs.
  - *Common Name* – Indicate the name of the person or other entity that the certificate identifies (often used to identify the website).
3. Click **OK** to save the details of the certificate request after completion. When the request is complete, the subject of the Created Request is displayed in the Subject field.
4. To view details of the Certificate Request, click **PROPERTIES** below the *Subject* field. The **Certificate Request Properties** dialog box opens. If you want to remove the certificate, click **REMOVE**.
5. Copy the PEM-formatted request and send it to your CA.

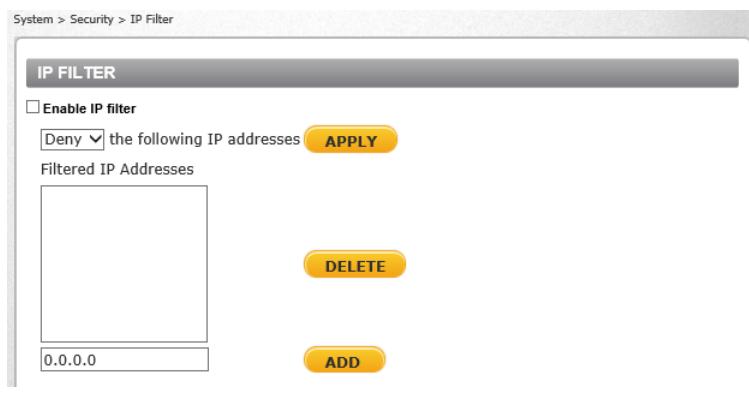


**Note:**

The self-signed certificate does not provide the same level of security as a CA-issued certificate.

### 9.3.2.3 IP Filter

The IP filter restricts access to the camera by denying/allowing specific IP addresses. Click the **IP Filter** tab under the category **Security** in the sidebar to display the following page.



IP Filter Screen

#### To enable the IP filter

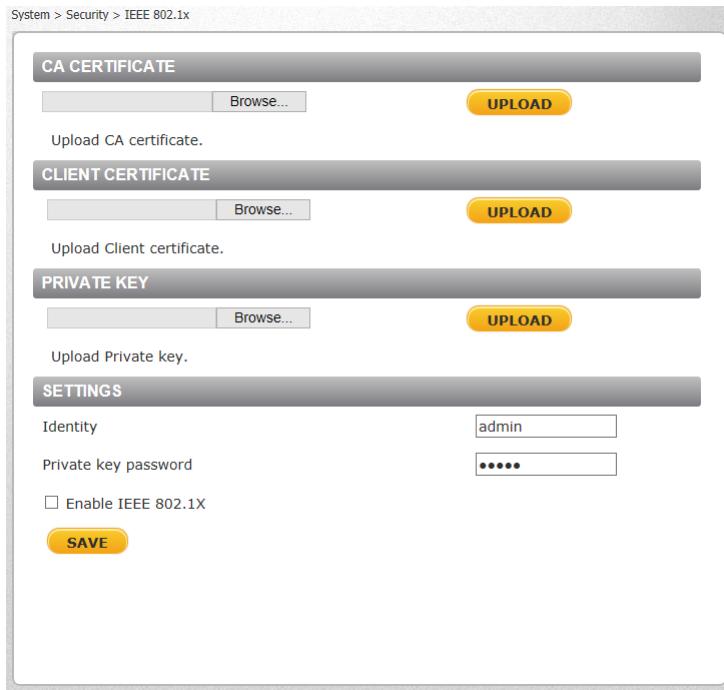
1. Check the box to enable the IP filter function. Once enabled, the listed IP addresses (IPv4) are allowed or denied access to the camera.
2. Select *Allow* or *Deny* from the drop-down list. The default setting is *Deny*.
3. Click **APPLY** to determine the IP filter behavior.

#### To add or delete an IP address

1. Enter the IP address in the *Filtered IP Addresses* text box.
2. Click **ADD** to add a new filtered address. The *Filtered IP Addresses* box shows the currently configured IP addresses. Up to 256 IP address entries may be specified.
3. To remove an IP address from the list, select the IP address and then click **DELETE**.

### 9.3.2.4 IEEE 802.1X

The camera is allowed to access a network protected by 802.1X/EAPOL (Extensible Authentication Protocol over LAN). Users must contact the network administrator to obtain certificates, user IDs, and passwords.



IEEE 802.1X/EAP-TLS Screen

#### CA Certificate

The CA certificate is created by the Certificate Authority for the purpose of validating itself. Click **Browse** to locate the file and **UPLOAD** to upload the certificate to check the server's identity.

#### Client Certificate

Upload the Client Certificate to authenticate the camera. Click **Browse** to locate the file and **UPLOAD** to upload the certificate.

#### Private Key

Upload the Private Key to authenticate the camera. Click **Browse** to locate the file and **UPLOAD** to upload the private key.

#### Settings

- *Identity* – Enter the user identity (user name) associated with the certificate. Up to 16 characters can be used.
- *Private Key Password* – Enter the password associated with the user identity. Up to 16 characters can be used.
- *Enable IEEE 802.1X* – Select the checkbox to enable IEEE 802.1X security. The setting is disabled by default.

Click **SAVE** to save the IEEE 802.1X/EAPTLS setting.

### 9.3.3 Network

From the **System** screen, click the **Network** tab. The following screens are available:

[Basic](#)    [QoS](#)    [SNMP](#)    [UPnP](#)    [DDNS](#)    [Mail](#)    [FTP](#)    [HTTP](#)

#### 9.3.3.1 Basic

The **Basic** screen is used to configure the camera's basic network settings.

System > Network > Basic

**GENERAL**

- Get IP address automatically
- Use fixed IP address
 

IP address	10.130.0.60
Subnet mask	255.255.0.0
Default gateway	10.130.0.1
Primary DNS	172.20.10.6
Secondary DNS	172.20.10.5
- Use PPPoE
 

User name	
Password	

**ADVANCED**

Web Server port	80
RTSP port	554
MJPEG over HTTP port	8008
HTTPS port	443
MTU	1500
RTSP URL	
stream 1	stream1
stream 2	stream2
stream 3	stream3
stream 4	stream4

**IPv6 ADDRESS CONFIGURATION**

Enable IPv6      Address :

**SAVE**

Network > Basic Screen

It is possible to connect to the camera with either fixed or dynamic (DHCP) IP address. The camera also provides PPPoE (Point-to-Point Protocol over Ethernet) support for users who connect to the network via PPPoE.

The **Basic** screen is divided into three sections: *General*, *Advanced* and *IPv6 Configuration*.

#### General

Select one of the following options in the *General* area for configuring network settings:

- *Get IP address automatically*
- *Use fixed IP address*
- *User PPPoE*

### **Get IP address automatically**

If you select *Get IP address automatically*, you can use the DNA utility, which can be accessed from the FLIR website - see [Accessing Camera Information from the Web](#), to obtain the IP address from a DHCP server on the network. See [Using the DNA Utility to Search and Access the Camera](#).



#### **Note:**

For future reference, record the camera's MAC address, which is found on the camera label.

### **Use fixed IP address**

The camera's default setting is *Use fixed IP address*. Refer to [Using the DNA Utility to Search and Access the Camera](#) to log in with the default IP address. You may use DNA or enter the IP address in your Internet browser's URL address bar.

### **To set up a new static IP address**

1. Select the *Use fixed IP address* option.
2. Enter the following information:
  - *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 in a different subnet. An invalid gateway setting causes transmission to destinations in other subnets to fail.
  - *Primary DNS* – The primary domain name server that translates host names into IP addresses.
  - *Secondary DNS* – A secondary domain name server that backs up the primary DNS.

### **Use PPPoE**

If you wish to use PPPoE to configure network settings, select the *Use PPPoE* radial button.

### **To use PPPoE**

1. Enter your PPPoE user name and password into the respective fields.
2. Click **SAVE** to confirm the settings.

### **Advanced**

Enter the following advanced parameters in the *Advanced* section of the screen:

- *Web Server port* – The default web server port is 80. Once the port is changed, the user must be notified the change for the connection to be successful. For instance, when the Administrator changes the HTTP port of the camera whose IP address is 192.168.0.100 from 80 to 8080, the user must type in the web browser `http://192.168.0.100:8080` instead of `http://192.168.0.100`.
- *RTSP port* – The default setting of the RTSP port is 554. The range is from 1024 to 65535.
- *MJPEG over HTTP port* – The default setting of MJPEG over HTTP port is 8008. The range is from 1024 to 65535.
- *HTTPS port* – The default setting of HTTPS port is 443. The range is from 1024 to 65535.
- *MTU* – The MTU (Maximum Transmission Unit) is the greatest amount of data that can be transferred in one physical frame on the network. For Ethernet, the MTU is 1500 bytes (default setting). For PPPoE, the MTU is 1492. The range is from 1200 to 1500 bytes.
- *RTSP URL* – Enter a friendly name for each stream in the text box.

**Note:**

Be sure to assign a different port number for each service mentioned above.

Click **SAVE** when finished.

## IPv6 Address Configuration

### To enable IPv6

1. Check *Enable IPv6*.
2. In the *Address* text box, enter the unit's IPv6 IP Address.

### 9.3.3.2 QoS

QoS (Quality of Service) provides differentiated service levels for different types of traffic packets and guarantees delivery of priority services during periods of network congestion. Adapting the Differentiated Services (DiffServ) model, traffic flows are classified and marked with DSCP (DiffServ Code point) values, and as a result receive the corresponding forwarding treatment from DiffServ-capable routers. DSCP configuration settings are entered in the **System > Network > QoS** screen:

DSCP SETTINGS	
Video DSCP	<input type="text" value="0"/>
Audio DSCP	<input type="text" value="0"/>
Management DSCP	<input type="text" value="0"/>
<b>SAVE</b>	

*QoS Screen*

### DSCP Settings

The DSCP value range is from 0 to 63. The default DSCP value is 0 (DSCP disabled). The camera uses the following QoS classes: Video, Audio, and Management.

- *Video DSCP* – This class consists of applications such as MJPEG over HTTP, RTP/RTSP and RTSP/HTTP.
- *Audio DSCP* – The camera supports audio.
- *Management DSCP* – This class consists of HTTP traffic (web browsing).

Click **SAVE** when finished.

**Note:**

To enable this function, make sure the switches/routers in the network support QoS.

### 9.3.3.3 SNMP

The Simple Network Management Protocol (SNMP) enables the camera to be monitored and managed remotely by the network management system. SNMP configuration settings are entered in the **System > Network > SNMP** screen.

SNMP Settings Screen

#### SNMP v1/v2

- *Enable SNMP v1* or *Enable SNMP v2* – Select the version of SNMP (v1 or v2) to use by checking the relevant box.
- *Read Community* – Specify the community name that has read-only access to all supported SNMP objects. The default value is *public*.
- *Write Community* – Specify the community name that has read/write access to all supported SNMP objects (except read-only objects). The default value is *private*.

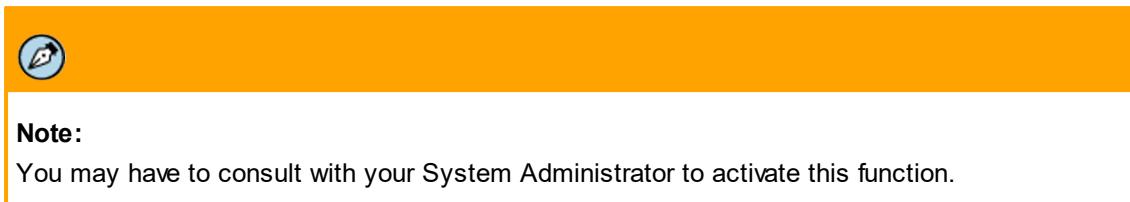
#### SNMP v3

SNMP v3 provides important security features including:

- Confidentiality – Encryption of packets to prevent snooping by an unauthorized source.
- Integrity – Message integrity to ensure that a packet has not been tampered with in transit including an optional packet replay protection mechanism.
- Authentication – To verify that the message is from a valid source.

To enable the SNMP v3 protocol, enter the appropriate data and passwords requested:

- *Enable SNMP v3* – Select the checkbox.
- *Security Name* – See note below.
- *Authentication Type* – Select *MD5* or *SHA* from the drop-down list. The default setting is *MD5*. See note below.
- *Authentication Password* – See note below.
- *Encryption Type* – Select *DES* or *AES* from the drop-down list. The default setting is *DES*. See note below.
- *Encryption Password* – See note below.



### Traps for SNMP v1/v2/v3

Traps are used by the camera to send messages to a management system for important events or status changes.

- *Enable traps* – Check this box to activate trap reporting.
  - *Trap address* – Enter the IP address of the management server.
  - *Trap community* – Enter the community to use when sending a trap message to the management system. The default value is *public*.
- Trap Option
  - *Warm start* – A warm start SNMP trap signifies that the SNMP device, such as the camera, performs a software reload.

Click **SAVE** when finished.

#### 9.3.3.4 UPnP

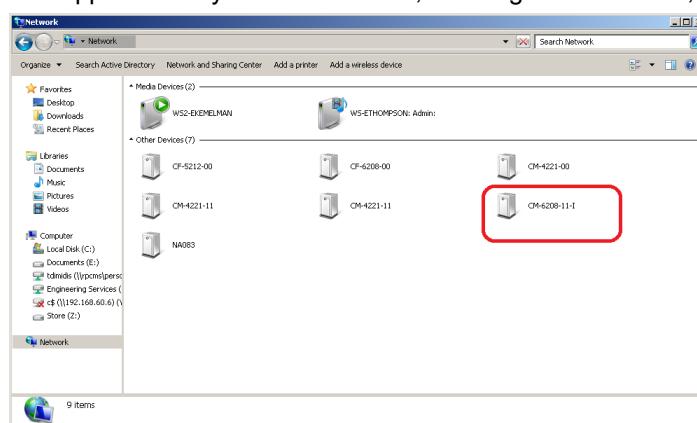
The **System > Network > UPnP** screen enables the Universal Plug-and-Play protocol on your network devices.



UPnP Screen

#### UPnP Settings

- *Enable UPnP* – If UPnP is enabled and a camera is discovered on the LAN, the icon of the connected camera appears in My Network Places, allowing direct access, as seen below.



Direct Access to Camera with UPnP Enabled



**Note:**

To enable this function, make sure the UPnP component is installed on your computer. Refer to [Install UPnP Components](#) for the Windows 7, 8, 8.1, and 10 procedure.

- *Enable UPnP port forwarding* – When UPnP port forwarding is enabled, the camera is allowed to open the web server port on the router automatically.



**Note:**

To enable this function, make sure that your router supports UPnP and that it is activated.

- *Friendly name* – Enter the name for the camera for identification.

Click **SAVE** when finished.

### 9.3.3.5 DDNS

Dynamic Domain Name System (DDNS) allows a host name to be constantly synchronized with a dynamic IP address. This permits those using a dynamic IP address to be accessed by a static domain name. DDNS configuration settings are entered in the **System > Network > DDNS** screen:

System > Network > DDNS

**DYNAMIC DNS**

Use Dynamic DNS If You Want To Use Your DDNS Account.

Enable DDNS

Provider: DynDNS.org(Dynamic)

Host name: [ ]

Username/E-mail: [ ]

Password/Key: [ ]

**SAVE**

*DDNS Screen*

### To use DDNS

1. Select the *Enable DDNS* checkbox.
2. From the *Provider* drop-down list, select a DDNS host provider name. The default setting is *DynDNS.org (Dynamic)*.
3. In the *Host name* text box, enter the registered domain name.
4. In the *Username/E-mail* text box, enter the username or e-mail address required by the DDNS provider for authentication.
5. In the *Password/Key* text box, enter the password or key required by the DDNS provider for authentication.
6. Click **SAVE** when finished.

### 9.3.3.6 Mail

Simple Mail Transfer Protocol (SMTP) is a protocol for sending e-mail messages between servers. It is a relatively simple, text-based protocol, where a text message is transferred to one or more specified recipients. The Administrator can send an e-mail via Simple Mail Transfer Protocol (SMTP) when an alarm is triggered. E-mail notifications are set by selecting the checkbox for an e-mail-related triggered action on the [IO](#), [Network Failure Detection](#), and [Motion Detection](#) screens.

SMTP (E-mail) server configuration settings are entered in the **System > Network > Mail** screen:

*Mail Screen – SMTP*

Two SMTP server accounts can be configured with or without SSL encryption. Enter the settings for the 1<sup>st</sup> SMTP server and 2<sup>nd</sup> SMTP server in the appropriate fields. Settings include SMTP server, server port (the default port is 25), account name, password, and recipient e-mail address settings. To encrypt e-mail with SSL, select the 1<sup>st</sup> SMTP SSL and/or 2<sup>nd</sup> SMTP SSL checkbox. For SMTP server details, contact your network service provider.

Click **SAVE** when finished.

### 9.3.3.7 FTP

The Administrator can send an alarm message to one or two File Transfer Protocol (FTP) sites when motion is detected. FTP notifications are set by selecting the checkbox for an FTP-related triggered action on the [IO](#), [Network Failure Detection](#), and [Motion Detection](#) screens.

For each server, enter the server IP address, server port number, user name, password, and remote folder path. Settings are entered in the **System > Network > FTP** screen:

System > Network > FTP

FTP	
1st FTP server	<input type="text"/>
1st FTP server port	21
1st FTP user name	<input type="text"/>
1st FTP password	<input type="text"/>
1st FTP remote folder	<input type="text"/>
<input type="checkbox"/> 1st FTP passive mode	
2nd FTP server	<input type="text"/>
2nd FTP server port	21
2nd FTP user name	<input type="text"/>
2nd FTP password	<input type="text"/>
2nd FTP remote folder	<input type="text"/>
<input type="checkbox"/> 2nd FTP passive mode	
<b>SAVE</b>	

FTP Screen

To use passive mode, select the *1st FTP passive mode* or *2nd FTP passive mode* checkbox for the respective server. In passive mode, FTP the client initiates both connections to the server, solving the problem of firewalls filtering the incoming data port connection to the client from the server.

In order to support passive mode FTP on the server-side firewall, the following communication channels must be opened:

- FTP server's port 21 from anywhere (client initiates connection)
- FTP server's port 21 to ports > 1023 (server responds to client's control port)
- FTP server's ports > 1023 from anywhere (client initiates data connection to random port specified by server)
- FTP server's ports > 1023 to remote ports > 1023 (server sends ACKs and data to client's data port)

Click **SAVE** when finished.

### 9.3.3.8 HTTP

An HTTP notification server detects notification messages of triggered events sent from cameras. HTTP notifications are set by selecting the *Send HTTP notification* checkbox on the [Motion Detection](#) screen.

Two notification server accounts (Alarm Triggered and Motion Detection) can be set up and sent to the specified HTTP servers. For each server, enter the HTTP details, including server IP address, user name, and password. Settings are entered in the **System > Network > HTTP** screen:

The screenshot shows the 'HTTP' configuration screen. At the top, there is a header bar with the title 'HTTP'. Below the header, there are two sections for '1st HTTP server' and '2nd HTTP server'. Each section contains three input fields: 'user name', 'password', and 'server'. A large blue rectangular box highlights the '2nd HTTP server' section. At the bottom of the screen is a yellow 'SAVE' button.

HTTP Screen

Click **SAVE** when finished.

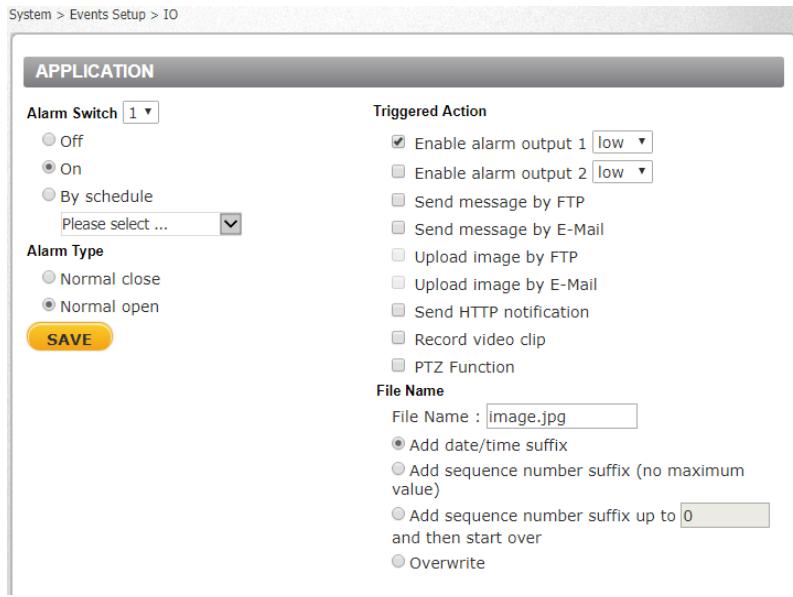
### 9.3.4 Events Setup

The **Events Setup** tab is used for configuring general settings related to event notification. It includes the following screens:

[IO](#)    [Network Failure](#)    [Periodic Event](#)    [Manual Trigger](#)    [Audio Detection](#)    [Tampering Detection](#)

### 9.3.4.1 IO

The **IO** screen is used to control input and output alarms and messages, which are generated when an event is recognized by the system.



*IO Screen*

#### Alarm Switch

Four alarms are available. For each alarm, the Administrator can select from the following options:

- Select *Off* to disable an alarm.
- Select *On* to enable an alarm (default setting).
- Select *By Schedule* to set a schedule. Then click *Please Select* to select up to 10 schedules from the drop-down list that opens. The selected schedules are displayed in the *Please Select* text box. To set a schedule, open the [Schedule](#) tab.

Click **SAVE** after configuring the settings.

#### Alarm Type

Select an alarm type (*Normal close* or *Normal open*) that corresponds to the alarm application. *Normal open* is the default setting. Click **SAVE** after configuring the settings.

#### Alarm Output

Define the normal alarm output signal as *Output high* or *Output low*, according to the current alarm application. The default setting is *high*. Click **SAVE** after configuring the settings.

## Triggered Action

The Administrator can specify various alarm actions to take when an alarm is triggered. See the [Triggered Actions](#) section for a detailed description of the actions. The following options are available:

- *Enable alarm output 1* – Check this box and select the predefined type of alarm output (*low* or *high*) to enable alarm relay when a network failure is detected.
- *Enable alarm output 2* – Check this box and select the predefined type of alarm output (*low* or *high*) to enable alarm relay when a network failure is detected.
- *Send Message by FTP* – The Administrator can select whether to send an alarm message by FTP when an alarm is triggered.
- *Send message by E-Mail* – The Administrator can select whether to send an alarm message by e-mail when an alarm is triggered.
- *Upload Image by FTP* – Selecting this option enables you to assign an FTP site and configure various parameters.
- *Upload image by E-Mail* – Select this checkbox to assign an e-mail address for sending the image captured by a triggered alarm. The e-mail address is entered in the [Mail](#) screen.
- *Send HTTP notification* – Select this checkbox to send a notification by HTTP.
- *Record video clip* – Select this box in order to save the alarm-triggered recording to your microSDXC card or to the NAS.
- *PTZ Function* – Select this checkbox to set a Preset, Sequence, Auto Pan, or Pattern; Function line; or Dwell time. These functions can be configured in more detail from the [Settings > PTZ](#) tab.

Click **SAVE** after configuring the settings.

## File Name

- *File Name* – Enter a file name in the field, for example *image.jpg*. The uploaded image's file name format is set in this section. Select one that meets your requirements.
- Add date/time suffix (default setting)  
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

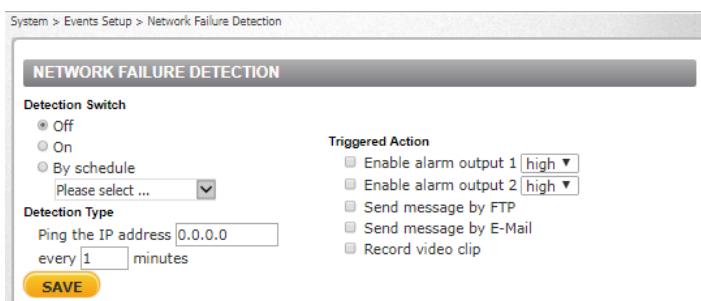
The file name suffix ends at the number being set. For example, if the setting is up to "10," the file name will start from 00, end at 10, and then start over again.

- Overwrite  
The original image in the FTP site will be overwritten by the new uploaded file with a static filename.

Click **SAVE** after configuring the settings.

### 9.3.4.2 Network Failure Detection

Settings on the **Network Failure Detection** screen enable the camera to periodically ping another IP device within the network to detect a network failure, for example, if a video server is disconnected. By implementing local recording through an SD or microSDXC card, the camera can operate as a backup recording device for the surveillance system if network communication is lost due to a network failure.



*Network Failure Detection Screen*

#### Detection Switch

The Administrator can select from the following options:

- Select *Off* to disable an alarm (default setting).
- Select *On* to enable an alarm.
- Select *By Schedule* to set a schedule. Then click *Please Select* to select up to 10 schedules from the drop-down list that opens. The selected schedules are displayed in the *Please Select* text box. To set a schedule, open the [Schedule](#) tab.

Click **SAVE** after configuring the settings.

#### Detection Type

In the text box, enter the IP address to ping and the time interval (in minutes) between pings. Click **SAVE** after configuring the settings.

#### Triggered Action

The Administrator can specify various alarm actions to take when an alarm is triggered. See the [Triggered Actions](#) section for a detailed description of the actions. The following options are available:

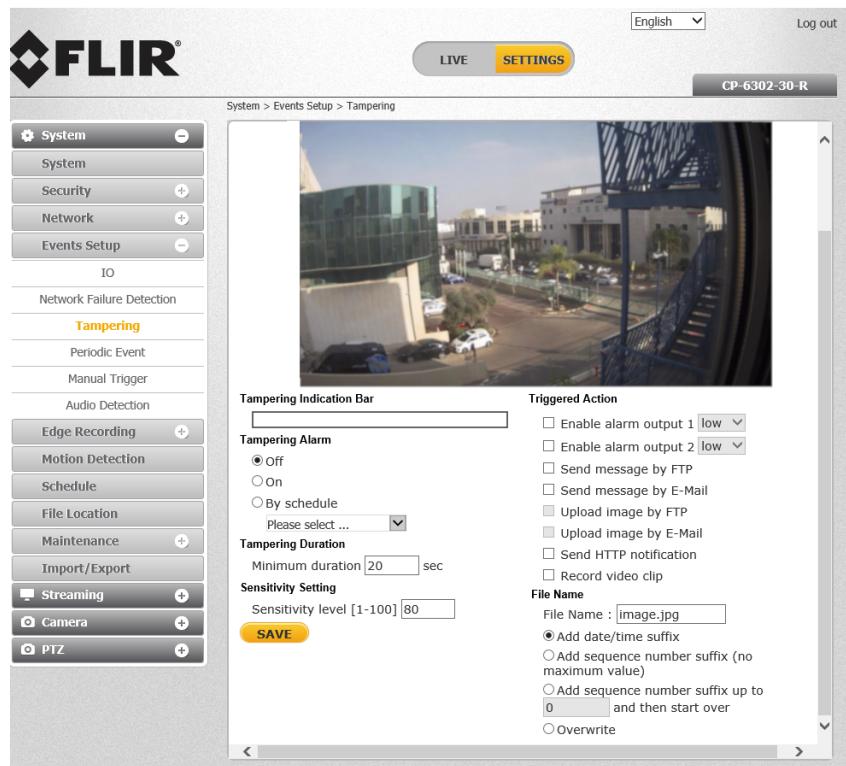
- *Enable alarm output 1*– Check this box and select the predefined type of alarm output (*low* or *high*) to enable alarm relay when a network failure is detected.
- *Enable alarm output 2*– Check this box and select the predefined type of alarm output (*low* or *high*) to enable alarm relay when a network failure is detected.
- *Send message by FTP* – Select whether to send an alarm message by FTP when a network failure is detected.
- *Send message by E-Mail* – Select whether to send an alarm message by e-mail when a network failure is detected.
- *Record video clip* – Select this box in order to save the alarm-triggered recording into an SD or microSDXC card.

Click **SAVE** to save the network failure detection settings.

### 9.3.4.3 Tampering

The **Tampering** screen is used to configure settings for tamper detection alarms. Tampering alarm is defined by a minimum duration of a tampering action and a sensitivity level. When triggered, the tampering event can perform several actions in response.

**Note:** Tampering is only effective when the camera is stationary.



#### Tampering Indication Bar

The Tampering Indication bar gives the user a visual display of the threshold for how much Tampering is accruing. This indication bar will be effected by the sensitivity settings mentioned below.

#### Tampering Alarm

Four alarms are available. For each alarm, the Administrator can select from the following options:

- Select *Off* to disable an alarm.
- Select *On* to enable an alarm (default setting).
- Select *By Schedule* to set a schedule. Then click *Please Select* to select up to 10 schedules from the drop-down list that opens. The selected schedules are displayed in the *Please Select* text box. To set a schedule, open the [Schedule](#) tab.

Click **SAVE** after configuring the settings.

#### Tampering Duration

The minimum duration set for tampering indicates the amount of time tampering must take place before the camera considers it a tampering event.

#### Sensitivity Setting

Setting the sensitivity [1-100] determines the amount of tampering that will trigger an event (i.e. how much movement of the camera).

## Triggered Action

The Administrator can specify various alarm actions to take when an alarm is triggered. See the [Triggered Actions](#) section for a detailed description of the actions. The following options are available:

- *Enable alarm output 1* – Check this box and select the predefined type of alarm output (*low* or *high*) to enable alarm relay when a network failure is detected.
- *Enable alarm output 2* – Check this box and select the predefined type of alarm output (*low* or *high*) to enable alarm relay when a network failure is detected.
- *Send Message by FTP* – The Administrator can select whether to send an alarm message by FTP when an alarm is triggered.
- *Send message by E-Mail* – The Administrator can select whether to send an alarm message by e-mail when an alarm is triggered.
- *Upload Image by FTP* – Selecting this option enables you to assign an FTP site and configure various parameters.
- *Upload image by E-Mail* – Select this checkbox to assign an e-mail address for sending the image captured by a triggered alarm. The e-mail address is entered in the [Mail](#) screen.
- *Send HTTP notification* – Select this checkbox to send a notification by HTTP.
- *Record video clip* – Select this box in order to save the alarm-triggered recording to your microSDXC card or to the NAS.

Click **SAVE** after configuring the settings.

## File Name

- *File Name* – Enter a file name in the field, for example *image.jpg*. The uploaded image's file name format is set in this section. Select one that meets your requirements.
- Add date/time suffix (default setting)  
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 ends at the number being set. For example, if the setting is up to "10," the file name will start from 00, end at 10, and then start over again.

- Overwrite  
The original image in the FTP site will be overwritten by the new uploaded file with a static filename.

Click **SAVE** after configuring the settings.

### 9.3.4.4 Periodic Event

The **Periodic Event** screen is used to specify an alarm to be triggered at a specified time interval.

The screenshot shows the 'PERIODIC EVENT' configuration screen. It includes fields for 'Periodic Event' (radio buttons for 'Off' and 'On'), 'Time Interval' (minimum interval set to 60 seconds), and a 'SAVE' button. On the right, there's a 'Triggered Action' section with three checkboxes: 'Upload Image by FTP', 'Upload Image by E-Mail', and 'Overwrite'. Below that is a 'File Name' section with a field containing 'image.jpg', a radio button for 'Add date/time suffix', and three other options for sequence number suffixes.

*Periodic Event Screen*

#### Periodic Event

Select *Off* or *On* to activate this function. The default is *Off*.

#### Time Interval

In the *Minimum interval* text box, enter the number of seconds for the minimum interval between alarms. The range is from 20 to 3600 seconds. The default is 60.

#### Triggered Action

The Administrator can specify various alarm actions to take when an alarm is triggered. See the [Triggered Actions](#) section for a detailed description of the actions. The following options are available:

- *Upload Image by FTP* – Selecting this option enables you to assign an FTP site and configure various parameters.
- *Upload Image by E-Mail* – Selecting this option enables you to assign an e-mail address and configure various parameters.

Click **SAVE** to save the network failure detection settings.

#### File Name

- *File Name* – Enter a file name in the field, for example *image.jpg*. The uploaded image's file name format is set in this section. Select one that meets your requirements.
- Add date/time suffix (default setting)  
File name: imageYYMMDD\_HHNSS\_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 ends at the number being set. For example, if the setting is up to "10," the file name will start from 00, end at 10, and then start over again.

- Overwrite  
The original image in the FTP site will be overwritten by the new uploaded file with a static filename.

Click **SAVE** after configuring the settings.

### 9.3.4.5 Manual Trigger

The **Manual Trigger** screen is used to specify an alarm to be manually triggered. You can define action to take when an alarm occurs from the [System > Events Setup > IO](#) screen.

*Manual Trigger Screen*

#### Manual Trigger

Select *Off* or *On* to activate this function. The default is *Off*.

#### Triggered Action

The Administrator can specify various alarm actions to take when an alarm is triggered. See the [Triggered Actions](#) section for a detailed description of the actions. The following options are available:

- *Enable alarm output 1* – Check this box and select the predefined type of alarm output (*low* or *high*) to enable alarm relay when a network failure is detected.
- *Enable alarm output 2* – Check this box and select the predefined type of alarm output (*low* or *high*) to enable alarm relay when a network failure is detected.
- *Send Message by FTP* – The Administrator can select whether to send an alarm message by FTP when an alarm is triggered.
- *Send message by E-Mail* – The Administrator can select whether to send an alarm message by e-mail when an alarm is triggered.
- *Upload Image by FTP* – Selecting this option enables you to assign an FTP site and configure various parameters.
- *Upload image by E-Mail* – Select this checkbox to assign an e-mail address for sending the image captured by a triggered alarm. The e-mail address is entered in the [Mail](#) screen.
- *Send HTTP notification* – Select this checkbox to send a notification by HTTP.
- *Record video clip* – Select this box in order to save the alarm-triggered recording to your microSDXC card or to the NAS.

- *PTZ Function* – Select this checkbox to set a Preset, Sequence, Auto Pan, or Pattern; Function line; or Dwell time. These functions can be configured in more detail from the [Settings > PTZ](#) tab.

Click **SAVE** after configuring the settings.

## File Name

- *File Name* – Enter a file name in the field, for example *image.jpg*. The uploaded image's file name format is set in this section. Select one that meets your requirements.

- Add date/time suffix (default setting)

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 ends at the number being set. For example, if the setting is up to "10," the file name will start from 00, end at 10, and then start over again.

- Overwrite

The original image in the FTP site will be overwritten by the new uploaded file with a static filename.

Click **SAVE** after configuring the settings.

### 9.3.4.6 Audio Detection

The **Audio Detection** screen is used for setting the audio threshold level of the audio input. An audio event is created when the threshold is exceeded. Actions include:

- Sending two alarms
- Sending to an FTP server
- Sending a message by email
- Uploading a snapshot by FTP
- Uploading a snapshot by email
- Sending a notification by HTTP
- Recording a video clip of an event in the camera's microSD card

The screenshot shows the 'AUDIO DETECTION' configuration page. It includes sections for 'Audio Detection' (with 'Off' selected), 'Audio Detection Setting' (Detection Level set to 10, Time interval set to 10), and 'Triggered Action' (multiple checkboxes for various actions like 'Enable alarm output 1' and 'Send message by E-Mail'). There is also a 'File Name' section where 'image.jpg' is specified and options for suffixing the file name.

*Audio Detection Screen*

### Detection Switch

The Administrator can select from the following options:

- Select *Off* to disable audio (default setting).
- Select *On* to enable audio.
- Select *By Schedule* to set a schedule. Then click *Please Select* to select up to 10 schedules from the drop-down list that opens. The selected schedules are displayed in the *Please Select* text box. To set a schedule, open the [Schedule](#) tab.

Click **SAVE** after configuring the settings.

### Audio Detection Setting

Set the Detection Level and Time Interval for detecting audio.

- Set Detection Level – Setting a low threshold (for example, 25) means that the camera is more sensitive to noise, which results in more alerts (displayed in red). The setting depends on the situation and environment. If the scene is located in a quiet place, it is possible to use lower threshold. A noisy location requires a higher threshold.

## Triggered Action

The Administrator can specify various alarm actions to take when an alarm is triggered. See the [Triggered Actions](#) section for a detailed description of the actions. The following options are available:

- *Enable alarm output 1* – Check this box and select the predefined type of alarm output (*low* or *high*) to enable alarm relay when a network failure is detected.
- *Enable alarm output 2* – Check this box and select the predefined type of alarm output (*low* or *high*) to enable alarm relay when a network failure is detected.
- *Send message by FTP* – Select whether to send an alarm message by FTP when a network failure is detected.
- *Send message by E-Mail* – Select whether to send an alarm message by e-mail when an audio event is detected.
- *Upload Image by FTP* – Selecting this option enables you to assign an FTP site and configure various parameters.
- *Upload image by E-Mail* – Select this box in order to assign an e-mail address and configure various parameters.
- *Send HTTP notification* – Select this checkbox to send a notification by HTTP.
- *Record video clip* – Select this box in order to save the alarm-triggered recording to your microSD/SDXC card or to the NAS.

Click **SAVE** after configuring the settings.

## File Name

- *File Name* – Enter a file name in the field, for example *image.jpg*. The uploaded image's file name format is set in this section. Select one that meets your requirements.
- Add date/time suffix (default setting)  
File name: imageYYMMDD\_HHNSS\_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 ends at the number being set. For example, if the setting is up to "10," the file name will start from 00, end at 10, and then start over again.

- Overwrite  
The original image in the FTP site will be overwritten by the new uploaded file with a static filename.

Click **SAVE** after configuring the settings.

### 9.3.4.7 Triggered Actions

#### Triggered Action

The Administrator can specify various alarm actions to take when an alarm is triggered. The following options are available:

- *Enable alarm output 1* – Check this box and select the predefined type of alarm output (*low* or *high*) to enable alarm relay when a network failure is detected. The default setting is *low*.
- *Enable alarm output 2* – Check this box and select the predefined type of alarm output (*low* or *high*) to enable alarm relay when a network failure is detected. The default setting is *low*.
- *Send Message by FTP* – The Administrator can select whether to send an alarm message by FTP when an alarm is triggered.
- *Send message by E-Mail* – The Administrator can select whether to send an alarm message by e-mail when an alarm is triggered.



**Note:**

Images can be sent by email only when *MJPEG* is selected as the video stream from the [Video Configuration](#) screen.

Select one of two e-mail addresses from the drop-down menu. Select the number of frames for the pre-trigger and post-trigger buffers from the drop-down menu of 1-20 frames.

Check the box for *Continuous image upload* if you wish to use this option. To specify the length of time for the upload, click this radial button and enter the number of seconds. To upload while the trigger is active, click this radial button. Finally, select the number of frames per second from the drop-down menu next to *Image frequency*.



**Note:**

Make sure SMTP or FTP configuration has been completed. See the [Mail](#) and [FTP](#) sections for further details.

- *Upload Image by FTP* – Selecting this option enables you to assign an FTP site and configure various parameters. When an alarm is triggered, event images will be uploaded to the designated FTP site.

<input checked="" type="checkbox"/> Upload image by FTP	
FTP address	FTP1 ▾
Pre-trigger buffer	5 frames ▾
Post-trigger buffer	5 frames ▾
<input checked="" type="checkbox"/> Continuous image upload	
<input type="radio"/> Upload for	1 sec
<input type="radio"/> Upload while the trigger is active	
Image frequency	Max. ▾ fps

*Upload Image by FTP Settings*

**Note:**

Images can be sent by FTP only when MJPEG is selected as the video stream from the [Video Configuration](#) screen.

Specify the FTP address to use from the drop-down menu. Select the number of frames for the pre-trigger and post-trigger buffers from the drop-down menu of 1-20 frames.

Check the box for *Continuous image upload* if you wish to use this option. To specify the length of time for the upload, click this radial button and enter the number of seconds. To upload while the trigger is active, click this radial button.

Finally, select the number of frames per second from the drop-down menu next to *Image frequency*.

- *Upload image by E-Mail* – Select this checkbox to assign an e-mail address for sending the image captured by a triggered alarm. The e-mail address is entered in the [Mail](#) screen.

**Note:**

Images can be sent by e-mail only when MJPEG is selected as the video stream from the [Video Configuration](#) screen.

- From the *E-Mail address* drop-down list, select one of the two e-mail addresses.
- From the *Pre-trigger buffer* and *Post-trigger buffer* drop-down lists, select the number of frames for the buffer from 1-20 frames.

<input checked="" type="checkbox"/> Upload image by E-Mail	
E-Mail address	<input type="button" value="E-Mail 1 ▾"/>
Pre-trigger buffer	<input type="button" value="5 frames ▾"/>
Post-trigger buffer	<input type="button" value="5 frames ▾"/>
<input checked="" type="checkbox"/> Continuous image upload	
<input type="radio"/> Upload for <input type="text" value="1"/> sec	
<input type="radio"/> Upload while the trigger is active	
Image frequency <input type="button" value="Max. ▾ fps"/>	

*Upload Image by E-Mail Settings*

- Check the *Continuous image upload* box if you wish to upload an image by e-mail for a defined period of time or while the trigger is active. Select one of the following options:
  - To specify the length of time for the upload, select *Upload for* and enter the number of seconds in the text box.
  - To upload while the trigger is active, select *Upload while the trigger is active*.

In the *Image Frequency* text box, from the drop-down list select the number of frames per seconds from 1-15 for the upload.



**Note:**

Make sure that SMTP configuration has been completed. See [Mail](#) for details.

- *Send HTTP notification* – Select this checkbox to send a notification by HTTP. Select the destination HTTP address from the drop-down menu and specify the parameters for event notifications by the IO event triggered. When an alarm is triggered, the notification will be sent to one of two specified HTTP servers. See figure below.

*Send HTTP Notification Settings*

- *Record video clip* – Select this box in order to save the alarm-triggered recording to your microSDXC card or to the NAS. Enter the number of seconds for the pre-trigger buffer. Select the first radial button if you wish to upload for a specified length of time and enter the number of seconds. Alternatively, select the second radial button to upload while the trigger is active.

*Record Video Clip Settings*



**Note:**

In order to use this function, make sure that local recording with a microSDXC card is activated and that the NAS is properly configured. See [Recording](#) for further details.

- *PTZ Function* – Select this checkbox to set a Preset, Sequence, Auto Pan, or Pattern; Function line; or Dwell time. These functions can be configured in more detail from the [Settings > PTZ](#) tab.

*PTZ Function Settings*

Click **SAVE** after configuring the settings.

### 9.3.5 Edge Recording

The **Events Recording** tab is used for configuring settings for the various methods used for event notification. The tab includes the following screens:

[SD Card](#)    [Network Share](#)    [Recording](#)

#### 9.3.5.1 SD Card

You can locally record up to 128GB on a Class 10 microSDXC card (Min recommended 4GB). The **SD Card** page shows the capacity information of the memory card and a recording list of all the recording files saved on the card. You can also format the card and implement automatic recording cleanup on this page. To implement microSDXC card recording, see [Recording](#).

The screenshot displays the 'SD Card' configuration page. It includes sections for Device Information, Recording Source, Device Setting, Disk Cleanup Setting, and a Recording List.

- DEVICE INFORMATION:** Device type: SD Card - vfat, Free space: 30515552KB, Total size: 31150736KB, Status: Yes, Full: No.
- RECORDING SOURCE:** Recording source: Stream 1, with a **SAVE** button.
- DEVICE SETTING:** Format device: vfat (default), with a **FORMAT** button.
- DISK CLEANUP SETTING:** Options to enable automatic disk cleanup, remove recordings older than 1 day(s), and remove oldest recordings when disk is 85% full. Includes a **SAVE** button.
- RECORDING LIST:** Shows recordings from 2017-07-19 to 2017-07-19. The table has columns for FileName and Size.

FileName	Size
M0_20170719_092258.avi	1386KB
M0_20170719_092311.avi	3254KB
M0_20170719_092322.avi	1866KB

Buttons at the bottom include **REMOVE**, **SORT**, and **DOWNLOAD**.

SD Card Screen



#### Note:

Format the microSDXC card when using it for the first time. Formatting is also required when a memory card has been used on one camera and is then transferred to a camera that uses a different software platform.

#### Device Information

Upon inserting the microSDXC card, card information, such as the memory capacity and status, is displayed.

#### Device Setting

Select **vfat** (default) or **ext4** (recommended). Click **FORMAT** to format the memory card.

## Disk Cleanup Setting

Enable automatic recording cleanup by selecting *Enable automatic disk cleanup*. From the pull-down menu, specify the minimum length of time over which to remove recordings. For example, remove recordings over 10 days old. Enter the percent of disk capacity used in order to remove the oldest recordings. Click **SAVE** when finished.

## Recording List

Each video file on the microSDXC card is listed in the Recording List table below. The maximum file size is 60 MB per file. See [Recording](#) for further details.

When the recording mode in the **Recording** screen is set as *Always* (consecutive recording) and the microSD/SDXC card recording is enabled by events triggered, the system immediately saves a recorded event on the memory card once an event occurs. The camera then returns to the regular recording mode after events recording.

RECORDING LIST				
From	2017-07-19	to	2017-07-19	SEARCH
FileName				Size
M0_20170719_092258.avi				1386KB
M0_20170719_092311.avi				3254KB
M0_20170719_092322.avi				1866KB

Video Clip Recording List

- *Remove* – To remove a file, first select the file and then click **REMOVE**.
- *Sort* – Click **SORT** to list the files in the Recording List table in order of name and date.



**Note:**

The capital letters: R, N, A, (A0), M, (M0) followed by an underscore, appear at the beginning of the file name. They denote the type of recording.

- R - Regular (always or schedule)
- N - Network failure
- M - Motion, (M0 refers to the first motion window trigger)
- A - Alarm (A0 refers to the first alarm trigger input).

- *Download* – To open/download a video clip, first select the file and then click **DOWNLOAD**. The selected file window pops up as shown below. Click the AVI file to play the video in the player or download it to a specified location.



Selected File Window

### 9.3.5.2 Network Share

The **Network Share** screen shows the capacity information of the Network Attached Storage (NAS) disk and provides a list of all the recording files saved on the disk.

The screenshot displays the 'Network Share' configuration interface. At the top, it shows the path: System > Edge Recording > Network Share. The main area is divided into several sections:

- DEVICE INFORMATION**: Shows the device type as 'Network Share', free space as 0GB, total size as 0GB, and status as 'offline'. It also indicates that the disk is 'Full'.
- DEVICE INFORMATION**: Allows setting the protocol (SAMBA), host, share, user name, and password. A 'SAVE' button is present.
- STORAGE TOOLS**: Includes a 'FORMAT' button and a 'Format device' dropdown.
- DISK CLEANUP SETTING**: Provides options to enable automatic disk cleanup, remove recordings older than 1 day(s), and remove oldest recordings when the disk is 85% full. A 'SAVE' button is present.
- RECORDING LIST**: Displays a table with columns 'FileName' and 'Size'. There are three buttons at the bottom: 'REMOVE', 'SORT', and 'DOWNLOAD'.

Network Share Screen

You can also format the disk and implement automatic recording cleanup on this page. To implement NAS recording, see [Recording](#).

#### Device Information

Upon connecting to the NAS, the following information about the disk is displayed:

- *Device type* – Displays *Network Share*
- *Free space* – Displays the amount of available storage space in GB
- *Total size* – Displays the total amount of storage space in GB
- *Status* – Indicates if the camera is online or offline
- *Full* – Indicates if the disk is full (Yes/No)
- *Protocol* – Displays the protocol used by the NAS. The default is SAMBA.

Enter the details for the following fields:

- *Host* – Enter the host IP address
- *Share* – Enter the path for a shared network storage device
- *User name* – Enter the name of the user accessing the NAS
- *Password* – Enter the password of the user accessing the NAS

## Storage Tools

Click **FORMAT** to format the NAS.

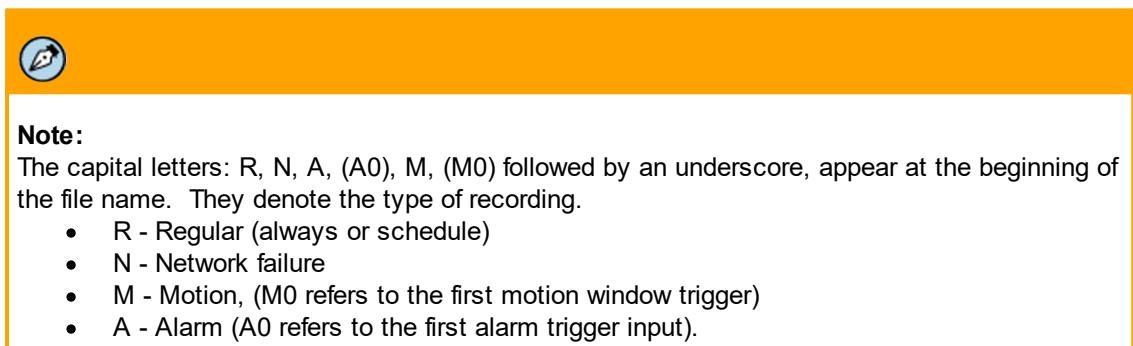
### Disk Cleanup Setting

Enable automatic recording cleanup by selecting *Enable automatic disk cleanup*. From the pull-down menu, specify the minimum length of time over which to remove recordings. For example, remove recordings over 10 days old. Enter the percent of disk capacity used in order to remove the oldest recordings. Click **SAVE** when finished.

### Recording List

Each video file stored on the NAS is listed in the Recording list. See [Recording](#) for further details. When the recording mode in the **Recording** screen is set as *Always* (consecutive recording) and the NAS recording is enabled by events triggered, the system immediately saves a recorded event on the network disk once an event occurs. Then the camera will return to the regular recording mode after events recording. See Figure: [Selected File Window](#).

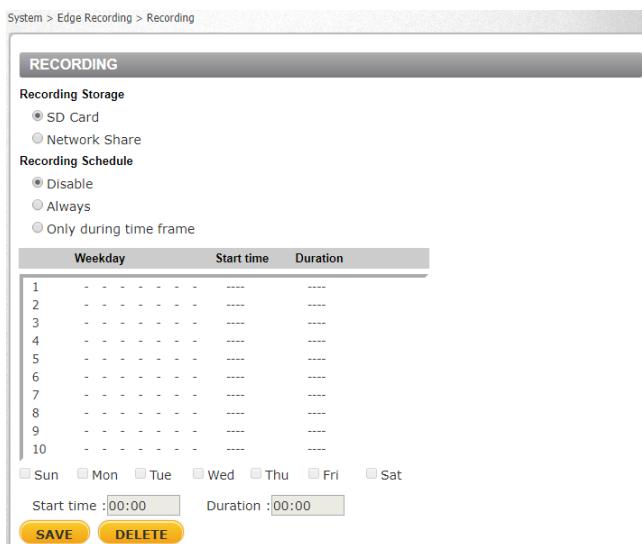
- *Remove* – To remove a file, first select the file and then click **REMOVE**.
- *Sort* – Click **SORT** to list the files in the Recording list in order of name and date.



- *Download* – To open/download a video clip, first select the file and then click **DOWNLOAD**. The selected file window pops up as shown below. Click the AVI file to play the video in the player or download it to a specified location. See Figure: [Selected File Window](#).

### 9.3.5.3 Recording

The **Recording** screen is used to select a device and to set a schedule for recording clips. Up to 10 schedules can be set.



Recording Screen

In the *Recording Storage* section, select the recording device: *SD Card* or *Network Share*.

**Note:**

It is not recommended to record with the microSD/SDXC card for 24/7 continuously, as it may not be able to support long term continuous data read/write. Contact the manufacturer of the microSD card for information regarding its reliability and life expectancy.

In the *Recording Schedule* section, specify the recording schedule. Select one of three options:

- *Disable* – Disable this function
- *Always* – Always use this function
- *Only during time frame* – Records only during a specified time frame

#### To set the recording schedule

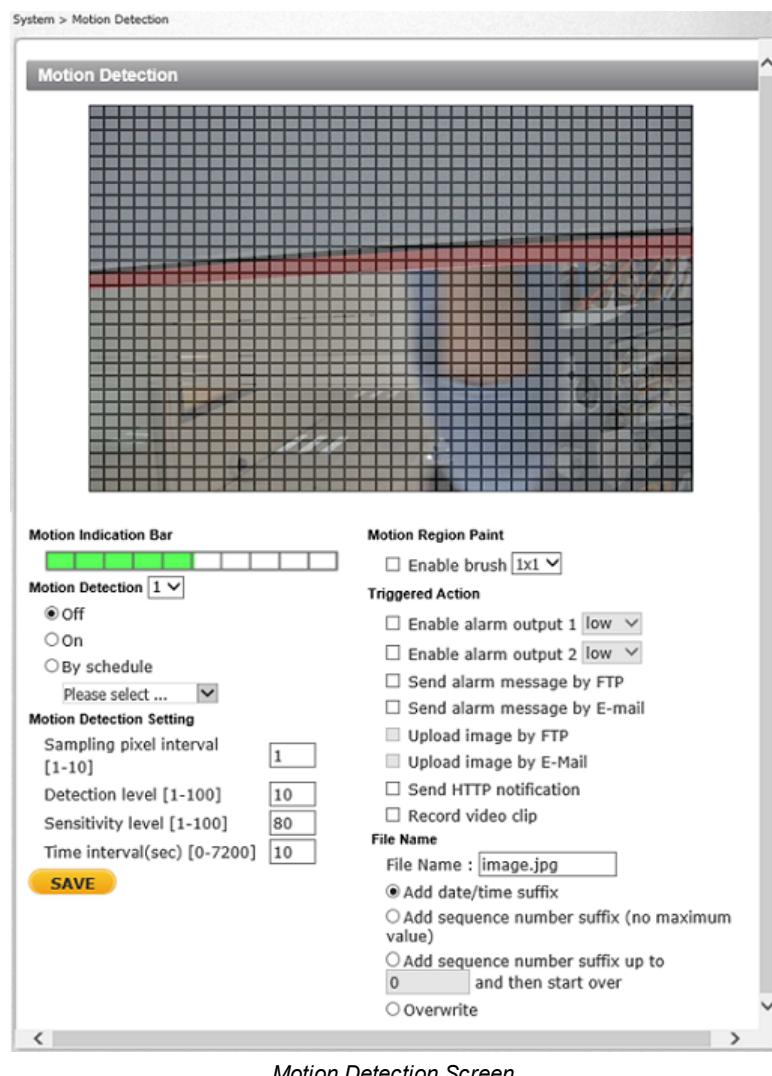
1. Select the day.
2. Set the start time.
3. Set the duration for recording.
4. Click **SAVE** to confirm the schedule. The schedule is displayed in the table.

**Note:**

This option works only if (a) the microSD/SDXC card is installed in the camera or (b) the NAS is configured properly.

### 9.3.6 Motion Detection

The motion detection function detects suspicious motion and triggers alarms when motion volume in the detected region reaches or exceeds the determined sensitivity threshold value. The Live View pane on the **Motion Detection** screen is used for creating motion detection regions and indicating motion detection. It is possible to define up to four motion detection regions within the Live View pane. The motion detection function is disabled by default.



*Motion Detection Screen*

Detected motion is displayed in the Motion Indication Bar. After motion detection has been activated, the bar is divided into 10 segments; each one representing a sensitivity level. Once the motion exceeds the set sensitivity level, the bar turns from green to red.



**Note:**

If you are using Latitude, it is recommended to set the motion detection from Admin Center.

## To activate Motion Detection

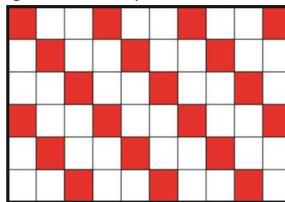
1. From the *Motion Detection* drop-down list, select a number from 1 to 4.
2. Do one of the following for each detection region:
  - Select *On* for continuous detection.
  - Select *By schedule* for scheduled detection. For instructions how to set a schedule for motion detection, refer to [Schedule](#).
3. To create a Motion Detection region, select *Enable Paintbrush*.
4. From the *Enable Paintbrush* drop-down menu, select the size of the region (*1x1*, *3x3*, or *5x5*).
5. To clear the region, right-click your mouse and scroll over the region.
6. Configure the motion detection settings. See instructions below.
7. Set triggered actions. See instructions below.

## To set a schedule

1. Select *By schedule*. The message “Please Select” is displayed.
2. Click *Please select*. A drop-down menu opens.
3. From the drop-down menu, select a schedule from 1 to 10. The selected schedules are displayed in a horizontal field above the drop-down menu.
4. Click **SAVE**.

## To configure motion detection settings

1. *Sampling pixel interval [1-10]* – Select a number from 1-10. The default value is 1. If the value is set as 3, within the detection region, the system will take one sampling pixel for every 3 pixels by each row and each column (see the figure below).
 



*Pixel Interval Illustration*
2. *Detection level [1-100]* – Select a number from 1-100. The default level is 40. This sets detection level for each sampling pixel; the smaller the value, the more sensitive it is.
3. *Sensitivity level [1-100]* – Select a number from 1-100. The default level is 60, which means if 40% or more sampling pixels are detected differently, the system will detect motion. The bigger the value, the more sensitive it is and more colored segments will be displayed in the Motion Indication Bar.
4. *Time interval (sec) [0-7200]* – Select a number from 0-7200 (seconds). The default interval is 10. The value is the interval between each detected motion.

## Triggered Action

The Administrator can specify various alarm actions to take when an alarm is triggered. See the [IO](#) section for a detailed description of the actions. The following options are available:

- *Enable alarm output 1* – Check this box and select the predefined type of alarm output (*low* or *high*) to enable alarm relay when motion is detected.
- *Enable alarm output 2* – Check this box and select the predefined type of alarm output (*low* or *high*) to enable alarm relay when motion is detected.
- *Send alarm message by FTP* – Select whether to send an alarm message by FTP when motion is detected.
- *Send alarm message by E-Mail* – Select whether to send an alarm message by e-mail when motion is detected.
- *Upload image by FTP* – Select this box in order to upload an image to a designated FTP site when motion is detected according to various parameters.
- *Upload image by E-Mail* – Select this box in order to assign an e-mail address and configure various parameters.
- *Send HTTP notification* – Check this box to send a notification by HTTP.
- *Record video clip* – Select this box in order to save the alarm-triggered recording to your microSDXC card.

## File Name

The uploaded image's filename format is set in this section. Select one that meets your requirements. Click **SAVE** to save the motion detection settings.

### 9.3.7 Schedule

The **Schedule** screen is used for setting schedules for the network failure detection and motion detection functions. The functions in this tab allow administrators to create customized schedules for the camera that uses this option. If a schedule exists, the administrator can apply that schedule to this camera using the available drop-down list. See figure below.

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**

Schedule Screen

To access the schedule function, open the **Main** window, select the **System** tab, and click the **Schedule** tab.

**Note:**

This application is not the same as the Recording Schedule function. It is not used for recording live video.

**To create a new schedule or edit an existing schedule**

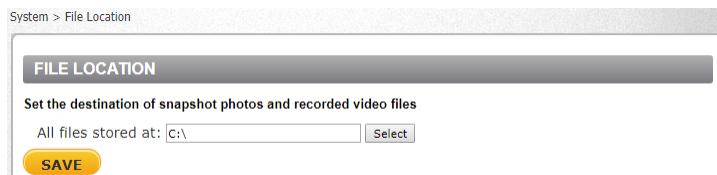
1. Select the appropriate checkbox for the day(s) of the week (Sun, Mon, Tue, Wed, Thu, Fri and Sat) to create a schedule.
2. Set *Start time* (for example, 09:00) and *Duration* (for example, 4:00 hours).
3. Click **Save** to apply the newly created schedule to the camera.

**To remove a schedule**

1. To remove a schedule, select the setup data line by line.
2. Click **Delete** to remove.

**9.3.8 File Location**

From the **File Location** page, specify a storage location for snapshots and web recordings. The default setting is: C:\. After confirming the setting, click **SAVE** to save the snapshots and recordings in the designated location.



File Location Screen

**Note:**

1. Make sure the selected file path contains valid characters.
2. When using Windows 8 OS, the storage location cannot be C:. You must define a storage location that does not require Administrator privileges on the PC.

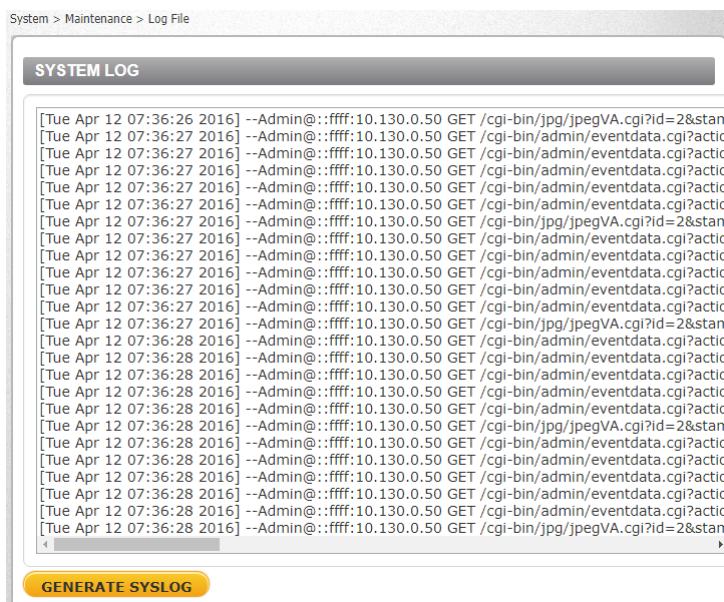
**9.3.9 Maintenance**

Clicking the **Maintenance** tab in the **System** screen opens a drop-down menu with the following tabs:

[Log File](#) [User Information](#) [Factory Default](#) [Software Version](#) [Software Upgrade](#) [Parameters](#)

### **9.3.9.1 Log File**

Click **Log file** to view the system log file. The content of the file provides information about connections after system boot-up.



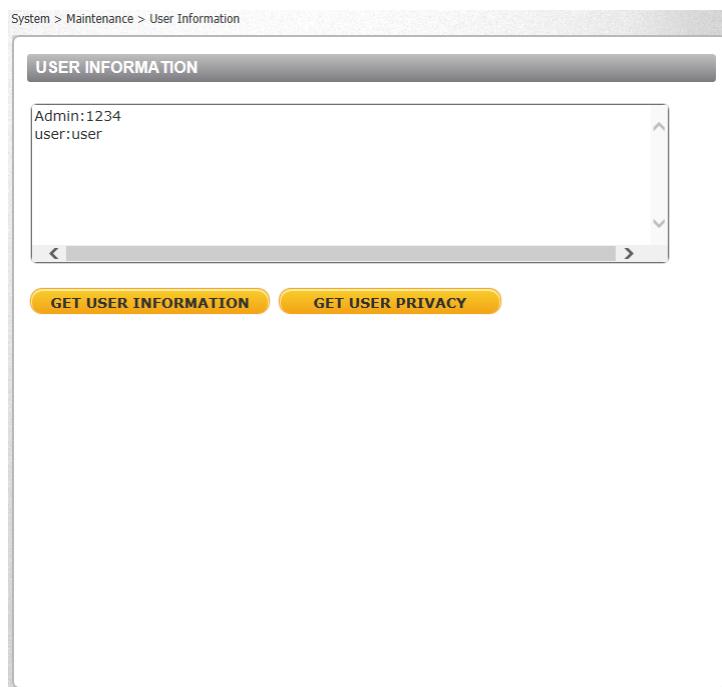
## *System Log Screen*

### 9.3.9.2 User Information

The Administrator can view each user's login information and privileges in the **User information** screen shown below.

#### View User Login Information

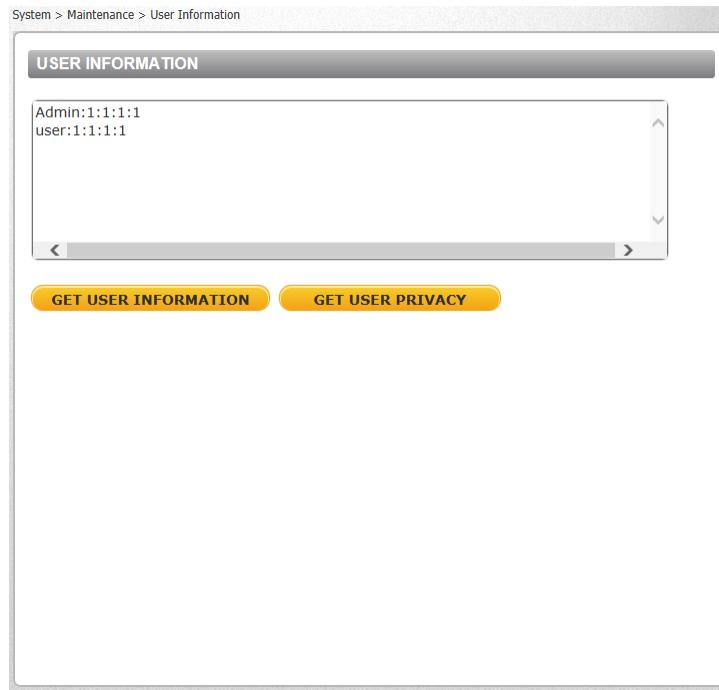
Click **GET USER INFORMATION** to see each user's details. For example: *Admin: 1234*. This indicates that the user's login username is *Admin* and the password is *1234*.



*User Information Screen – Get User Information*

## View User Privileges

Click **GET USER PRIVACY** to view each user's privileges.



*User Information – Get User Privacy*

In the screen above, both *Admin* and *User* are granted privileges of I/O access, Camera control, Talk and Listen, which are the maximum privileges that can be granted.

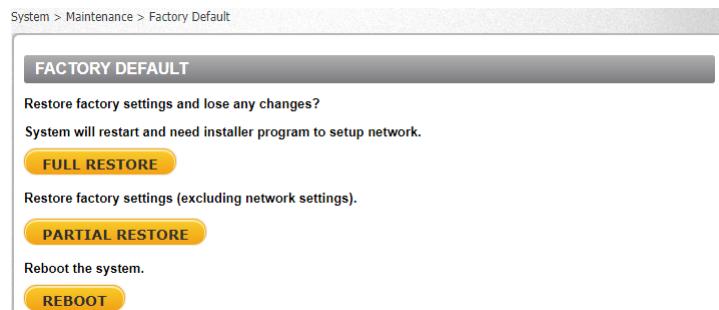


### Note:

User credentials and privileges are set in the [User](#) screen.

### 9.3.9.3 Factory Default

The **Factory Default** page is shown below. Follow the instructions to reset the camera to factory default settings if needed.



*Factory Default Screen*

## Full Restore

Click **FULL RESTORE** to restore the factory default settings. The system restarts in 30 seconds.



## Partial Restore

Click **PARTIAL RESTORE** to restore the factory default settings, but save the network settings. The system restarts in 30 seconds.



*Partial Restore Screen*

## Reboot

Click **REBOOT** to restart the system without changing current settings.

### 9.3.9.4 Software Version

The current version of the software is displayed in the **Software Version** screen.



*Software Version Screen*

### 9.3.9.5 Software Upgrade

The **Software Upgrade** screen enables you to select a software file to upload.



Software Upgrade Screen



**Note:**

1. Make sure that the software upgrade file is available before performing a software upgrade.
2. Do not change the file name. If you change the upgrade file name, the system will fail to find the file.
3. Software can also be upgraded via DNA version 2.1.3.15 or higher.



**Caution:**

1. Do not unplug power while entering file names.
2. Do not unplug power or change the screen while upgrading software.

**Attention:**

1. *Ne débranchez pas l'alimentation pendant la modification des noms de fichiers.*
2. *Ne débranchez pas l'alimentation pendant la mise à niveau du logiciel.*

**To upgrade the software**

1. In the **Step 1** text box, click **Browse** and select the binary file to be uploaded, for example, uImage+userland.img.



**Note:**

Do not change the file name. If you change the upgrade file name, the system will fail to find the file.

2. From the drop-down menu of binary files in Step 2, select the file to upgrade. In the above example `uImage+userland.img` is selected.
3. Click **UPGRADE**. The system verifies that the upgrade file exists and begins to upload the file. The upgrade status bar is displayed on the page. When the upgrade process is completed, the **Live** page is displayed.
4. Close the web browser.
5. From the Windows Start menu, select *Control Panel*.
6. Select *Uninstall a Program* to delete the existing DVPlayer or DCViewer plug-in file.

**Note:**

An installed program should be deleted and a new Quasar Player should be installed only when prompted by the user interface.

7. In the *Currently installed programs* list, select *Quasar Player*.
8. Click **Uninstall** to delete the existing plug-in file.

**Note:**

For more information about deleting an existing web player, see [Installing and Deleting the Web Player](#).

9. Install the new ActiveX plug-in.

### 9.3.9.6 Parameters

The **Parameters** screen displays all of the system's parameter settings.

```

System > Maintenance > Parameters

PARAMETER LIST
CP-6302-31-I Initial Configuration File
=====
[Mask]
=====
Mask switch = <0>
Enable Mask1 = <0>
Enable Mask2 = <0>
Enable Mask3 = <0>
Enable Mask4 = <0>
Enable Mask5 = <0>
Enable Mask6 = <0>
Enable Mask7 = <0>
Enable Mask8 = <0>
Enable Mask9 = <0>
Enable Mask10 = <0>

```

*Parameters Screen*

**Note:**

Slide the sidebar located on the right of the screen to view the entire list of parameters.

## 9.4 Import/Export

From the **Import/Export** screen you can export configuration files to a specified location and retrieve data by uploading an existing configuration file to the camera.



### To export a configuration file

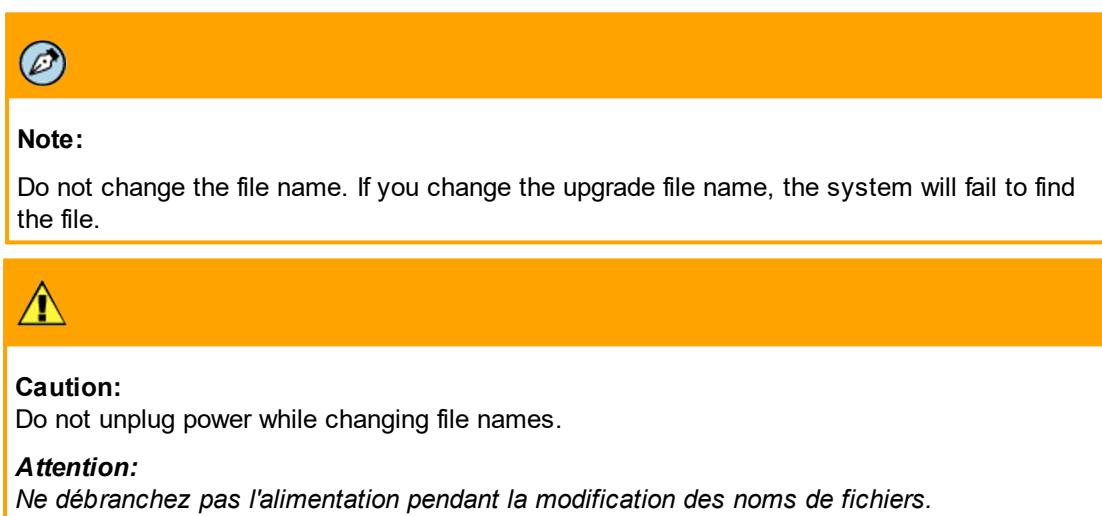
1. Click **EXPORT**. An information bar opens.



2. Click **Save**.
3. Specify a location to save the configuration file.

### To import a configuration file

1. Click **Browse** to select the configuration file
2. Click **UPLOAD**. The file is uploaded to the camera.



## 9.5 Streaming Tab

Select the **Streaming** tab in the navigation bar at the top of the page to display the configurable video and audio selections in the sidebar. From the **Streaming** sidebar, the Administrator can configure a specific video resolution, video compression mode, video protocol, video frame rate, and audio transmission mode.

Details of these settings are specified in the following sections:

[Video Configuration](#) [Video Rotation](#) [Video Text Overlay](#) [Video OCX Protocol](#) [Audio](#)

### 9.5.1 Video Configuration

The **Video Configuration** screen is used for configuring most video settings. The selected encoding type (video compression) determines what settings are available. By default, the camera is configured with Stream 1 and Stream 2 enabled at 1920 x 1080 fps.

Streaming > Video Configuration

**VIDEO CONFIGURATION**

**Stream 1**

Encoding	Yes
Encode Type	H.265
Resolution	1920 x 1080
Rate Control	CBR
Profile	Main profile
Frame Rate	30
Bit Rate	725
GOV Length	84

**Stream 2**

Encoding	Yes
Encode Type	H.265
Resolution	1920 x 1080
Rate Control	VBR
Profile	Main profile
Frame Rate	30
Bit Rate	899
GOV Length	45

**Stream 3**

Encoding	Yes
Encode Type	H.264
Resolution	1920 x 1080
Rate Control	LBR
Compression	High
Dynamic GOV	Disabled
Profile	Main profile
Frame Rate	30
Bit Rate	725
GOV Length	84

**Stream 4**

Encoding	Yes
Encode Type	MJPEG
Resolution	1920 x 1080
Q Factor	35
Frame Rate	9

**Buttons:** **SAVE** **RESET**

Video Configuration Screen

### 9.5.1.1 Video Resolutions

The following streams are supported:

- [Single-Stream H.265](#)
- [Single-Stream H.264](#)
- [Single-Stream MJPEG](#)
- [Dual-Stream](#)
- [Triple-Stream](#)
- [Quad-Stream](#)



#### Note:

1. The performance on Streams 2, 3, and 4 depends on the combination and settings of each stream configured before it. For example, Stream 4 performance depends on the settings for Streams 1, 2, and 3. Stream 3 performance depends on the settings for Streams 1 and 2.
2. The maximum frame rate on Streams 2, 3, and 4 also depends on the selection of *WDR 2 Shutter (PAL)* or *WDR 2 Shutter (NTSC)* for maximum 25/30 frames per second, or 50 fps (PAL) or 60 fps (NTSC) for maximum 50/60 frames per second from the [Camera > Misc.](#) screen.
3. Images can be sent by FTP or email only when MJPEG steaming is selected as one of the streams.
4. United VMS supports only three streams.

#### 9.5.1.1.1 Single-Stream H.265

##### To implement single-stream H.265 compression

1. In the Stream 1 section, from the *Encode Type* drop-down menu, select *H.265*. The section expands. The following options are available if you select *CBR* Rate Control:

Stream 1	
Encoding	Yes
Encode Type	H.265
Resolution	1920 x 1080
Rate Control	CBR
Profile	Main profile
Frame Rate	30
Bit Rate	725
GOV Length	84

*H.264/H.265 with CBR Rate Control*

The following options are available if you select *VBR* Rate Control:

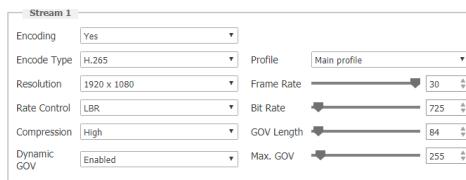
Stream 1	
Encoding	Yes
Encode Type	H.265
Resolution	1920 x 1080
Rate Control	VBR
Profile	Main profile
Frame Rate	50
Bit Rate	4096
GOV Length	50
Encoding Priority	7

*H.264/H.265 with VBR Rate Control*

The following options are available if you select *LBR* Rate Control and disable Dynamic GOV:

*H.264/H.265 with LBR Rate Control*

The following options are available if you select *LBR* Rate Control and enable Dynamic GOV:

*H.264/H.265 with LBR Rate Control and Dynamic GOV*

- From the *Resolution* drop-down menu, select the desired resolution. A maximum 25/30 frames per seconds is available when selecting *WDR 2 Shutter (PAL)* or *WDR 2 Shutter (NTSC)*. A maximum 50/60 frames per second is available when selecting *50 fps (PAL)* or *60 fps (NTSC)*. The default setting is *1920 x 1080*.

H.265-Only	
Stream	BNC Support
1920 x 1080	Yes
1280 x 1024	Yes
1280 x 720	Yes
1024 x 768	Yes
800 x 600	Yes
720 x 480 (NTSC) 720 x 576 (PAL)	Yes
640 x 480	Yes

- From the *Rate Control* drop-down menu, select *CBR*, *VBR*, or *LBR*. The default setting is *VBR*.

- CBR* (Constant Bit Rate) is used for setting a constant, maximum bit rate. CBR is not optimal for storage or quality, because it does not allocate enough data for complex sections (which results in degraded quality), and wastes data on simple sections. Choosing a higher bit rate results in better quality, but requires more storage.
- VBR* (Variable Bit Rate) files vary the amount of data per time segment. VBR enables a higher bit rate (and therefore requires more storage space) for more complex video or audio, while a lower bit rate and less storage space is allocated to less complex media. VBR files may take longer to encode and might be more problematic for streaming if the maximum bit rate is not set high enough to allow for high instantaneous bit rates.
- LBR* (Low Bit Rate) encoding is used primarily for speech at rates below 4kbps. With this encoding, not all of the voice frequency range is encoded. LBR consumes less storage space than CBR or VBR.

- From the *Profile* drop-down menu, select the H.265 Profile.

- *High Profile* (HP) provides the best trade-off between storage size and video latency and is the primary profile for HD broadcast applications. It can save 10-30% of the storage cost over Main Profile. However, it may also increase video latency, depending on the stream structure.
  - *Main Profile* (MP) is the default setting. It provides improved picture quality at reduced bandwidths and storage costs.
5. Move the *Frame Rate* slider to the desired setting. The setting range of the MJPEG frame rate is from 1 to 30 (default setting) in NTSC and 1 to 25 (default setting) in PAL. The higher the frame rate, the smoother the motion in the video.
  6. Move the *Bit Rate* slider to the desired setting between 1-10240. The default setting is 4096. The higher the bit rate, the better the image quality. Set the maximum bit rate high enough to allow for a high instantaneous bit for more complex video. A higher bit rate consumes more storage space.
  7. Move the *GOV Length* slider to a value between 0-4095. The setting determines the frame structure (I-frames and P-frames) for saving bandwidth in a video stream. A longer GOV means decreasing the frequency of I-frames. The default setting is 50.
  8. Move the *Encoding Priority* slider to a value between 1 (low bit rate) to 10 (high picture quality). This function enables the user to adjust the quality of the picture along a single axis. The default is 7. Available only with VBR Rate Control.
  9. From the *Compression* drop-down menu, select *Hi*, *Mid*, or *Low*. Low produces the highest image quality, but increases the file size. High produces the lowest image quality, but decreases the file size. The default setting is *High*. Available only with LBR Rate Control.
  10. From the *Dynamic GOV* drop-down menu, select *Enabled* or *Disabled*. The default setting is *Disabled*. Available only with LBR Rate Control.
  11. If you select *Enabled*, move the *Max. GOV* slider to a value between 0-255. The default setting is 255. Available only with LBR Rate Control.
  12. Click **SAVE** or **RESET**.

#### 9.5.1.1.2 Single-Stream H.264

The options for implementing single-stream H.264 compression are the same as implementing [single-stream H.265 compression](#).

#### 9.5.1.1.3 Single-Stream MJPEG

##### To implement single-stream MJPEG compression

1. From the *Encode Type* drop-down menu, select *MJPEG*. The section expands.



*MJPEG Compression Options*

2. The following resolutions are available. A maximum 25/30 frames per seconds is available when selecting *WDR 2 Shutter (PAL)* or *WDR 2 Shutter (NTSC)*. A maximum 50/60 frames per second is available when selecting *50 fps (PAL)* or *60 fps (NTSC)*. The default setting is *1920 x 1080*.

MJPEG-Only	
Stream	BNC Support
1920 x 1080	Yes
1280 x 1024	Yes
1280 x 720	Yes
1024 x 768	Yes
800 x 600	Yes
720 x 576 (PAL) 720 x 480 (NTSC)	Yes
640 x 480	Yes

3. From the *Q Factor* drop-down menu, select the desired value. A higher value implies higher bit rates and higher visual quality. The default setting of the MJPEG Q factor is 35. The setting range is from 1 to 70. Click **SAVE** to confirm the setting.
4. Move the *Frame Rate* slider to the desired setting. The setting range of the MJPEG frame rate is from 1 to 30 (default setting) in NTSC and 1 to 25 (default setting) in PAL.
5. Click **SAVE** or **RESET**.

**Note:**

Images can be sent by FTP or email only when MJPEG steaming is selected as one of the streams.

**9.5.1.1.4 Dual-Stream**

From the *Resolution* drop-down menu, select the desired resolution. A maximum 25/30 frames per seconds is available when selecting *WDR 2 Shutter (PAL)* or *WDR 2 Shutter (NTSC)*. A maximum 50/60 frames per second is available when selecting *50 fps (PAL)* or *60 fps (NTSC)*. The default setting is *1920 x 1080*.

**Note:**

An analog video output is supported in dual-stream mode on 1920 x 1080 when the second stream is D1 or lower.

<b>H.265/H.264/MJPEG + H.265/H.264/MJPEG</b>	
<b>Stream 1</b>	<b>Stream 2</b>
1920 x 1080	1920 x 1080
	1280 x 1024
	1280 x 720
	1024 x 768
	800 x 600
	720 x 576 (PAL) 720 x 480 (NTSC)
	640 x 480
	352 x 288 (PAL) 352 x 240 (NTSC)
	320 x 240
1280 x 1024	1920 x 1080
	1280 x 1024
	1280 x 720
	1024 x 768
	800 x 600
	720 x 576 (PAL) 720 x 480 (NTSC)
	640 x 480
	352 x 288 (PAL) 352 x 240 (NTSC)
	320 x 240

<b>H.265/H.264/MJPEG + H.265/H.264/MJPEG</b>	
<b>Stream 1</b>	<b>Stream 2</b>
1280 x 720	1920 x 1080
	1280 x 1024
	1280 x 720
	800 x 600
	720 x 576 (PAL) 720 x 480 (NTSC)
	640 x 480
	352 x 288 (PAL) 352 x 240 (NTSC)
	320 x 240 (25/30 fps)
	1920 x 1080
1024 x 768	1280 x 1024
	1024 x 768
	800 x 600
	720 x 576 (PAL) 720 x 480 (NTSC)
	640 x 480
	352 x 288 (PAL) 352 x 240 (NTSC)
	320 x 240

<b>H.265/H.264/MJPEG + H.265/H.264/MJPEG</b>	
<b>Stream 1</b>	<b>Stream 2</b>
800 x 600	1920 x 1080
	1280 x 1024
	1024 x 768
	800 x 600
	720 x 576 (PAL) 720 x 480 (NTSC)
	640 x 480
	352 x 288 (PAL) 352 x 240 (NTSC)
	320 x 240
720 x 576 (PAL) 720 x 480 (NTSC)	1920 x 1080
	1280 x 1024
	1024 x 768
	800 x 600
	720 x 576 (PAL) 720 x 480 (NTSC)
	640 x 480
	352 x 288 (PAL) 352 x 240 (NTSC)
	320 x 240
640 x 480	1920 x 1080
	1280 x 1024
	1024 x 768
	800 x 600
	720 x 576 (PAL) 720 x 480 (NTSC)
	640 x 480
	352 x 288 (PAL) 352 x 240 (NTSC)
	320 x 240 (25/30 fps)

### 9.5.1.1.5 Triple-Stream

From the *Resolution* drop-down menu, select the desired resolution. Maximum 25/30 frames per seconds is available when selecting *WDR 2 Shutter (PAL)* or *WDR 2 Shutter (NTSC)*. Maximum 50/60 frames per second is available when selecting *50 fps (PAL)* or *60 fps (NTSC)*. The default setting is *1920 x 1080*.



**Note:**

The default bit rate for Stream 1 and Stream 2 is 4096 bps. The default bit rate for Stream 3 is 2048 bps.

H.265/H.264/MJPEG + H.265/H.264/MJPEG + H.265/H.264/MJPEG		
Stream 1	Stream 2	Stream 3
1920 x 1080	1920 x 1080	1920x1080 - 320x240
	1280 x 1024	
	1280 x 720	
	1024 x 768	
	800 x 600	
	720 x 576 (PAL) 720 x 480 (NTSC)	
	640 x 480	
	352 x 288 (PAL) 352 x 240 (NTSC)	
	320 x 240	
1280 x 1024	1920 x 1080	1920x1080 - 320x240
	1280 x 1024	
	1280 x 720	
	1024 x 768	
	800 x 600	
	720 x 576 (PAL) 720 x 480 (NTSC)	
	640 x 480	
	352 x 288 (PAL) 352 x 240 (NTSC)	
	320 x 240	

H.265/H.264/MJPEG + H.265/H.264/MJPEG + H.265/H.264/MJPEG		
Stream 1	Stream 2	Stream 3
1280 x 720	1920 x 1080	
	1280 x 1024	
	1280 x 720	
	800 x 600	
	720 x 576 (PAL) 720 x 480 (NTSC)	1920x1080 - 320x240
	640 x 480	
	352 x 288 (PAL) 352 x 240 (NTSC)	
	320 x 240	
1024 x 768	1920 x 1080	
	1280 x 1024	
	1024 x 768	
	800 x 600	
	720 x 576 (PAL) 720 x 480 (NTSC)	1920x1080 - 320x240
	640 x 480	
	352 x 288 (PAL) 352 x 240 (NTSC)	
	320 x 240	
800 x 600	1920 x 1080	
	1280 x 1024	
	1024 x 768	
	800 x 600	
	720 x 576 (PAL) 720 x 480 (NTSC)	1920x1080 - 320x240
	640 x 480	
	352 x 288 (PAL) 352 x 240 (NTSC)	
	320 x 240	

<b>H.265/H.264/MJPEG + H.265/H.264/MJPEG + H.265/H.264/MJPEG</b>		
<b>Stream 1</b>	<b>Stream 2</b>	<b>Stream 3</b>
720 x 576 (PAL) 720 x 480 (NTSC)	1920 x 1080	1920x1080 - 320x240
	1280 x 1024	
	1024 x 768	
	800 x 600	
	720 x 576 (PAL) 720 x 480 (NTSC)	
	640 x 480	
	352 x 288 (PAL) 352 x 240 (NTSC)	
	320 x 240	
640 x 480	1920 x 1080	1920x1080 - 320x240
	1280 x 1024	
	1024 x 768	
	800 x 600	
	720 x 576 (PAL) 720 x 480 (NTSC)	
	640 x 480	
	352 x 288 (PAL) 352 x 240 (NTSC)	
	320 x 240	

### 9.5.1.1.6 Quad-Stream

From the *Resolution* drop-down menu, select the desired resolution. A maximum 25/30 frames per seconds (PAL/NTSC) is available when selecting *WDR 2 Shutter (PAL)* or *WDR 2 Shutter (NTSC)*. A maximum 50/60 frames per second (PAL/NTSC) is available when selecting *50 fps (PAL)* or *60 fps (NTSC)*. The default setting is *1920 x 1080*.


**Note:**

The default bit rate for Stream 1 and Stream 2 is 4096 bps. The default bit rate for Stream 3 and Stream 4 is 2048 bps.

H.265/H.264/MJPEG + H.265/H.264/MJPEG + H.265/H.264/MJPEG + H.265/H.264/MJPEG			
Stream 1	Stream 2	Stream 3	Stream 4
1920 x 1080	1920 x 1080	1920x1080 - 320x240	1920x1080 - 320x240
	1280 x 1024		
	1280 x 720		
	1024 x 768		
	800 x 600		
	720 x 576 (PAL) 720 x 480 (NTSC)		
	640 x 480		
	352 x 288 (PAL) 352 x 240 (NTSC)		
	320 x 240		
1280 x 1024	1920 x 1080	1920x1080 - 320x240	1920x1080 - 320x240
	1280 x 1024		
	1280 x 720		
	1024 x 768		
	800 x 600		
	720 x 576 (PAL) 720 x 480 (NTSC)		
	640 x 480		
	352 x 288 (PAL) 352 x 240 (NTSC)		
	320 x 240		

<b>H.265/H.264/MJPEG + H.265/H.264/MJPEG + H.265/H.264/MJPEG + H.265/H.264/MJPEG</b>			
<b>Stream 1</b>	<b>Stream 2</b>	<b>Stream 3</b>	<b>Stream 4</b>
1280 x 720	1920 x 1080	1920x1080 - 320x240	1920x1080 - 320x240
	1280 x 1024		
	1280 x 720		
	1024 x 768		
	800 x 600		
	720 x 576 (PAL) 720 x 480 (NTSC)		
	640 x 480		
	352 x 288 (PAL) 352 x 240 (NTSC)		
	320 x 240		
1024 x 768	1920 x 1080	1920x1080 - 320x240	1920x1080 - 320x240
	1280 x 1024		
	1280 x 720		
	1024 x 768		
	800 x 600		
	720 x 576 (PAL) 720 x 480 (NTSC)		
	640 x 480		
	352 x 288 (PAL) 352 x 240 (NTSC)		
	320 x 240		

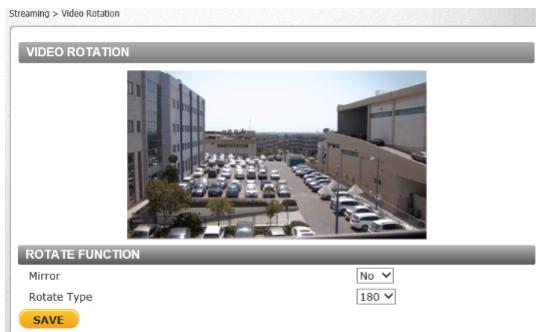
<b>H.265/H.264/MJPEG + H.265/H.264/MJPEG + H.265/H.264/MJPEG + H.265/H.264/MJPEG</b>			
<b>Stream 1</b>	<b>Stream 2</b>	<b>Stream 3</b>	<b>Stream 4</b>
800 x 600	1920 x 1080	1920x1080 - 320x240	1920x1080 - 320x240
	1280 x 1024		
	1280 x 720		
	1024 x 768		
	800 x 600		
	720 x 576 (PAL) 720 x 480 (NTSC)		
	640 x 480		
	352 x 288 (PAL) 352 x 240 (NTSC)		
	320 x 240		
720 x 576 (PAL) 720 x 480 (NTSC)	1920 x 1080	1920x1080 - 320x240	1920x1080 - 320x240
	1280 x 1024		
	1280 x 720		
	1024 x 768		
	800 x 600		
	720 x 576 (PAL) 720 x 480 (NTSC)		
	640 x 480		
	352 x 288 (PAL) 352 x 240 (NTSC)		
	320 x 240		

<b>H.265/H.264/MJPEG + H.265/H.264/MJPEG + H.265/H.264/MJPEG + H.265/H.264/MJPEG</b>			
<b>Stream 1</b>	<b>Stream 2</b>	<b>Stream 3</b>	<b>Stream 4</b>
640 x 480	1920 x 1080	1920x1080 - 320x240	1920x1080 - 320x240
	1280 x 1024		
	1280 x 720		
	1024 x 768		
	800 x 600		
	720 x 576 (PAL) 720 x 480 (NTSC)		
	640 x 480		
	352 x 288 (PAL) 352 x 240 (NTSC)		
	320 x 240		
352 x 288 (PAL) 352 x 240 (NTSC)	1920 x 1080	1920x1080 - 320x240	1920x1080 - 320x240
	1280 x 1024		
	1280 x 720		
	1024 x 768		
	800 x 600		
	720 x 576 (PAL) 720 x 480 (NTSC)		
	640 x 480		
	352 x 288 (PAL) 352 x 240 (NTSC)		
	320 x 240		

<b>H.265/H.264/MJPEG + H.265/H.264/MJPEG + H.265/H.264/MJPEG + H.265/H.264/MJPEG</b>			
<b>Stream 1</b>	<b>Stream 2</b>	<b>Stream 3</b>	<b>Stream 4</b>
320 x 240	1920 x 1080 1280 x 1024 1280 x 720 1024 x 768 800 x 600 720 x 576 (PAL) 720 x 480 (NTSC) 640 x 480 352 x 288 (PAL) 352 x 240 (NTSC) 320 x 240	1920x1080 - 320x240	1920x1080 - 320x240

### 9.5.2 Video Rotation

The **Video Rotation** screen enables you to flip the video and select the rotation angle.



*Video Rotation Screen*

From the *Mirror* drop-down menu, select Yes or No. Yes reverses the image along its vertical axis.



*Source Image Before Reversing the Image*

*Image after Reversal*

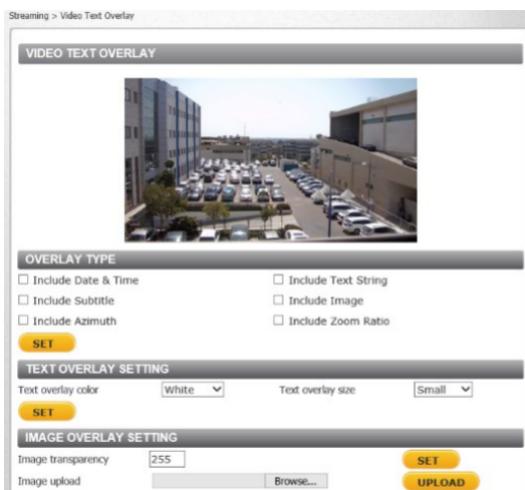
From the *Rotate Type* drop-down menu, select 0, 90, 180, or 270 (degrees).

- 0 – The image does not rotate.
- 90 – The image rotates 90° clockwise (to the right).
- 180 – The image rotates 180° counter-clockwise (to the left).
- 270 – The image rotates 90° counter-clockwise (to the left).

Click **SAVE** to confirm the settings.

### 9.5.3 Video Text Overlay

The **Video Text Overlay** screen enables you to configure settings for the text displayed over the live video.



Select the relevant checkbox for the data to include in the on-screen display:

#### **Overlay Type**

- *Include Date & Time* – Display the date and time.
- *Include Subtitle* – When this checkbox is selected, enter the string that you wish to display in the text box that opens.
- *Include Azimuth* – When this checkbox is selected, the camera's azimuth is displayed in the overlay.
- *Include Text String* – When this checkbox is selected, enter the string that you wish to display in the text box that opens.
- *Include Image* – When this checkbox is selected, an image, such as a logo, is displayed in the overlay.

- *Include Zoom Ratio* – When this checkbox is selected, the selected zoom is displayed in the overlay.

Click **SET** when finished.

#### **Text Overlay Setting**

- *Text Overlay Color* – From the drop-down menu, select the desired color.
- *Text Overlay Size* – From the drop-down menu, select the desired text size.

Click **SET** when finished.

#### **Image Overlay Setting**

- *Image Transparency* – Select a number from 0-255. The default is 255. The lower the value, the more transparent the image will be. Click **SET** when finished.

**Note:**  
The file must be saved as an 8-bit .bmp file. The length should be a multiple of 32 (for example, 320 pixels) and the width should be a multiple of 4 (for example 40 pixels). The maximum resolution of the image should not exceed 32,768 pixels.

- *Image Upload* – Select a file to upload. Then click **UPLOAD**.

Users can select the items to display data including date/time/text on the Live Video pane. The maximum length of the string is 20 alphanumeric characters.

Click **SAVE** to confirm the settings.

### **9.5.4 Video OCX Protocol**

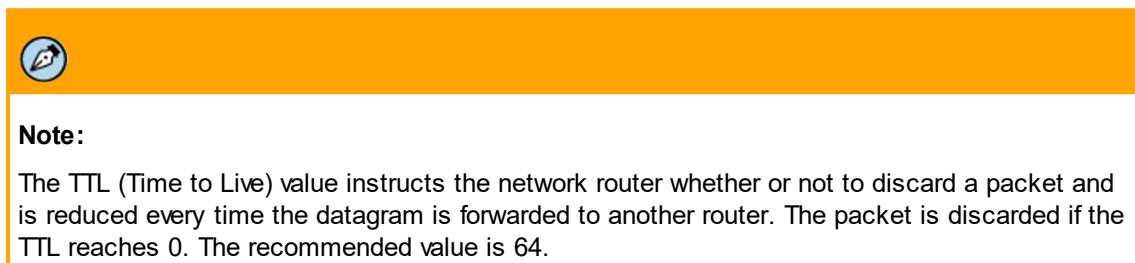
From the **Video OCX Protocol** page, you can select various protocols for streaming media over the network. In the case of multicast networking, select *Multicast mode*.

Multicast Stream	Video Address	Port	TTL
1	0.0.0.0	61454	64
2	0.0.0.0	61458	64
3	0.0.0.0	61462	64
4	0.0.0.0	61466	64
5	0.0.0.0	61456	64

*Video OCX Protocol Screen*

The screen includes the following settings:

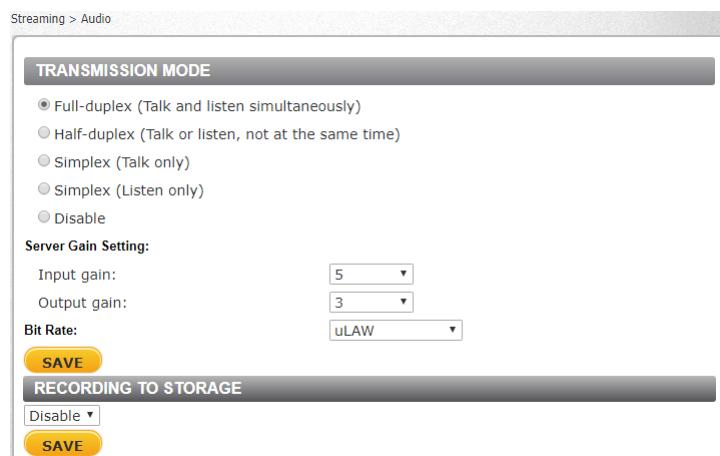
- *RTP over UDP*
- *RTP over RTSP (TCP)*
- *RTSP over HTTP*
- *MJPEG over HTTP*
- *Multicast mode* – For Stream 1,2,3, and 4 (where applicable), enter the following details: *Video Address, Port, and TTL*. Also enter the *Multicast Stream Audio Address*.



Click **SAVE** to confirm the settings.

### 9.5.5 Audio

From the **Audio** screen you can select the Transmission Mode, Server Gain, Bit Rate, and enable or disable storage of the audio recording.



Audio Screen

#### Transmission Mode

- *Full-duplex (Talk and listen simultaneously)* – In the 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 the Half-duplex mode, the local or remote site can only talk or listen to the other site at one time.
- *Simplex (Talk only)* – In the Talk only Simplex mode, the local/remote site can only talk to the other site.
- *Simplex (Listen only)* – In the Listen only Simplex mode, the local/remote site can only listen to the other site.
- *Disable* – Select this option to turn off the audio transmission function.

### Server Gain Setting

Set the audio input/output gain levels for sound amplification. The sound will be turned off if the input or output gain is set to *Mute*.

- The audio input gain is adjustable from 1-10. The default setting is 3.
- The audio output gain is adjustable from 1-6. The default setting is 3.

### Bit Rate

Selectable audio transmission bit rate include 16 kbps (G.726), 24 kbps (G.726), 32 kbps (G.726), 40 kbps (G.726), µ-law (G.711), a-law (G.711), AAC, PCM (128 kbps), PCM (256 kbps), PCM (384 kbps), and PCM (768 kbps). Both µLAW and ALAW signify 64 kbps, but in different compression formats. A higher bit rate enables higher audio quality, but requires higher bandwidth. The default setting is *uLAW*.



#### Note:

Latitude does not support G.726.

Click **SAVE** to confirm the settings.

### Recording to Storage

This function enables recording of the audio on the SD card and NAS. The *Recording to Storage* function may be enabled or disabled in the **Audio** screen. The default setting is *Disable*.



#### Note:

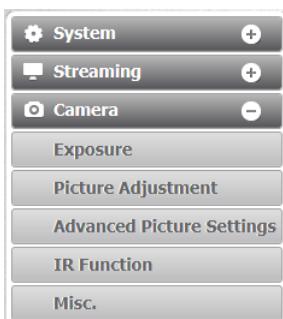
This function works only if the *Recording to Storage* option has been selected or if the *Schedule* option has been set.

Click **SAVE** to confirm the settings.

## 9.6 Camera Tab

From the **Camera** tab, the administrator can adjust camera settings from the following tabs:

[Exposure](#)   [Picture Adjustment](#)   [Advanced Picture Settings](#)   [IR Function](#)   [Misc.](#)

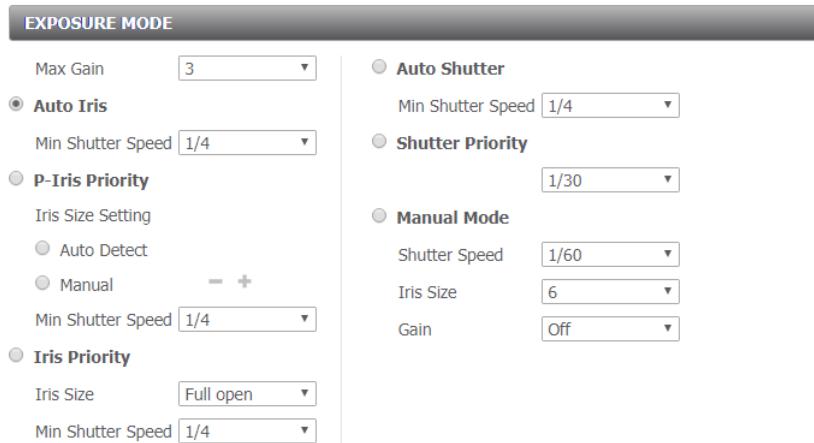


Camera Section Tabs

### 9.6.1 Exposure Screen

The **Exposure** screen is used to configure lens settings and exposure modes. The exposure is the amount of light received by the image sensor and is determined by the amount of exposure by the sensor (shutter speed), and other exposure parameters.

Administrators may either allow the camera to automatically select an exposure level using a programmed algorithm or choose the level themselves. The smaller the number (the higher the shutter speed) that the administrator selects, the lower the exposure level and vice versa. The configurable settings depend on the selected exposure mode.



Six exposure settings are available:

- [Auto Iris](#)
- [P-Iris Priority](#)
- [Iris Priority](#)
- [Auto Shutter \(default\)](#)
- [Shutter Priority](#)
- [Manual Mode](#)

For each exposure setting, from the *Max Gain* drop-down menu, select *Off*, 1, 2, or 3.

### 9.6.1.1 Auto Iris Mode

*Auto Iris* mode sets a fixed exposure while other parameters can change. In the *Exposure* section, configure the following setting:

- *Min Shutter Speed* – Select a suitable shutter speed according to the environmental luminance.
- The following table displays the options:

Auto Iris Min Shutter Speed	
PAL	NTSC
1/25	1/30
1/12	1/15
1/6	1/8
1/3	1/4
1/1.5	1/2
-	1



**Caution:**

Using a slow shutter speed causes moving objects to be blurred.

**Attention:**

*L'utilisation de vitesses d'obturation faibles peut rendre les objets en mouvement flous.*

### 9.6.1.2 P-Iris Priority Mode

In *P-iris Priority* mode, the iris does not adjust, regardless of the light level. If, however, the light level goes below the P-iris setting, the iris will fully open automatically to the optimal iris exposure if the *Auto Detect* radial button is selected.

The following settings are available:

- *Iris Size Setting* – Select the following buttons



The minus (-) button closes the iris.



The plus (+) button opens the iris.

- *Auto Detect* – Select the radial button to enable the iris to open to its optimal exposure if the lighting level falls below the set P-iris level.
- *Min Shutter Speed* – When selecting this mode, the camera's shutter speed automatically achieves a consistent video output level. Users can select a suitable shutter speed according to the environmental luminance.

The following table lists the options:

<b>P-Iris Priority Min Shutter Speed</b>	
<b>PAL</b>	<b>NTSC</b>
1/25	1/30
1/12	1/15
1/6	1/8
1/3	1/4
1/1.5	1/2
-	1

### 9.6.1.3 Iris Priority Mode

In this mode, the iris value is fixed, while gain and shutter speed vary automatically accordingly.

The following settings are available:

- *Iris Size* – The iris size is adjustable from 0 to 9 or *Full Open*. The higher the iris size, the lower the shutter speed should be.
- *Min Shutter Speed* – When selecting this mode, the shutter is completely open and the exposure priority is given to the iris. Shutter speed and AGC circuit function automatically in cooperating with the iris to achieve a consistent exposure output.

The following table lists the options:

<b>Iris Priority Min Shutter Speed</b>	
<b>PAL</b>	<b>NTSC</b>
1/25	1/30
1/12	1/15
1/6	1/8
1/3	1/4
1/1.5	1/2
-	1

### 9.6.1.4 Auto Shutter Mode

*Auto Shutter* mode is the default. *Auto Shutter* mode opens the shutter completely. Shutter speed and the AGC circuit function automatically in cooperating with the iris to achieve a consistent exposure output. The exposure priority is given to the iris. This mode is recommended to be used in indoor environments involving mixed lighting sources where the main source is fluorescent lighting combined with natural light that enters the scene through windows and other exposed areas.

In the *Exposure* section, configure the following settings:

- *Min Shutter Speed* – Select a suitable shutter speed according to the environmental luminance.
- The following table displays the options:

Auto Shutter Min Shutter Speed			
PAL	NTSC	PAL	NTSC
1/425	1/500	1/50	1/60
1/300	1/350	1/25	1/30
1/215	1/250	1/12	1/15
1/150	1/180	1/6	1/8
1/120	1/120	1/3	1/4
1/100	1/100	1/1.5	1/2
1/75	1/90	-	1

### 9.6.1.5 Shutter Priority Mode

*Shutter Priority* mode is used to set a fixed exposure while other parameters can change. Continue to configure the settings in the *Exposure* section:

Shutter Priority Speed	
PAL	NTSC
1/425	1/500
1/300	1/350
1/215	1/250
1/150	1/180
1/120	1/120
1/100	1/100
1/75	1/90
1/50	1/60
1/25	1/30

### 9.6.1.6 Manual Mode

Manual mode is used generally where light levels are fixed and the auto settings do not provide the perfect exposure. It is recommended for scenes such as indoor scenes, where there is a fixed lighting contrast and a constant, precise exposure is required.

Manual Mode opens the iris completely with a fixed gain to a fixed shutter speed. Users can select a suitable shutter speed according to the environmental luminance. Increasing the value of the fixed shutter increases the amount of light entering the sensor. This allows a brighter and more detailed image.

Similarly, utilizing gain and increasing its level increases the sensitivity of the image sensor, which brightens the image and add details. This increases the level of noise in the image.

In Manual Mode, the administrator can select a fixed shutter speed and gain from drop-down menus. The smaller the shutter speed number (the higher the shutter speed), the lower the exposure level. The higher the gain, the brighter the picture.

The following settings are available:

- *Shutter Speed* – Select the fixed shutter speed according to the environmental luminance. The following table lists the options:

<b>Manual Mode Fixed Shutter Speeds</b>			
<b>PAL</b>	<b>NTSC</b>	<b>PAL</b>	<b>NTSC</b>
1/10000	1/10000	1/100	1/100
1/3500	1/3000	1/75	1/90
1/2500	1/2000	1/50	1/60
1/1250	1/1000	1/25	1/30
1/600	1/725	1/12	1/15
1/425	1/500	1/6	1/8
1/300	1/350	1/3	1/4
1/215	1/250	1/1.5	1/2
1/150	1/180	-	1
1/120	1/120	-	-

- *Iris Size* – The iris size is adjustable from 0 to 9 or *Full Open*. The higher the iris size, the lower the shutter speed should be.
- *Gain* – A nominal video signal level is usually 1-volt peak-to-peak for composite video, 0.7 volts for component or RGB video, or 0.3 volts for the chrominance subsection, at which level a fully saturated picture is transmitted to the acceptor. However, for cases where the video signal is attenuated, a low-noise, high-gain analog amplifier is built into quality video processing equipment. This amplifier provides video gain control whereby the video signal can be boosted or reduced. Dark pictures caused by low level lighting are easily adjusted. The *Gain* drop-down menu turns the video gain *Off* or moves it in steps from 1 to 9.

## 9.6.2 Picture Adjustment

Adjustment of some qualities of the video is made possible by selecting **Picture Adjustment** in the **Camera** tab. Brightness, Sharpness, Contrast, Saturation and Hue may all be adjusted via drop-down menus from this window, as shown below.



*Picture Adjustment Screen*

### ***Brightness***

You can adjust the image's brightness by adjusting this parameter. Select from the range between -12 to +13. To increase video brightness, select a larger number. The default setting is *DEFAULT*. The setting is applied automatically.

### ***Sharpness***

Increasing the sharpness level can make the image look sharper, especially enhancing the object's edge. Select from the range between 0 to +15. The default setting is *DEFAULT*. The setting is applied automatically.

### ***Contrast***

Camera image contrast level is adjustable. Select from a range of -6 to +19. The default setting is *DEFAULT*. The setting is applied automatically.

### ***Saturation***

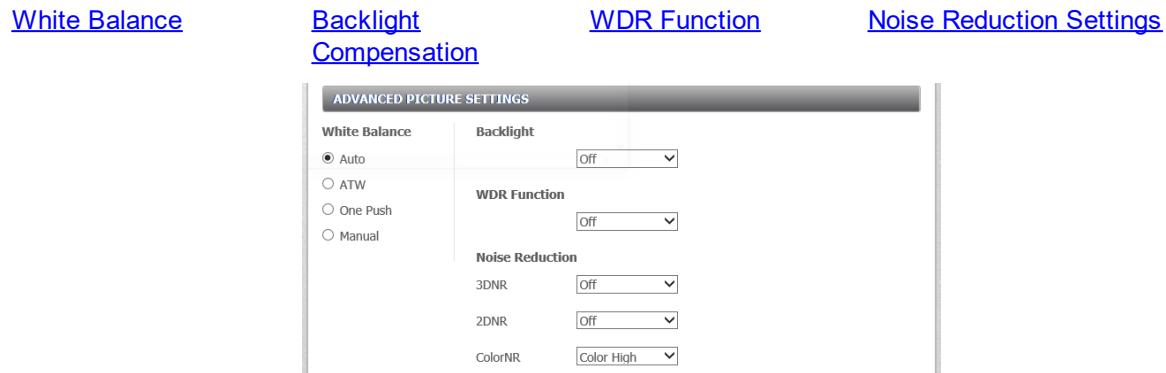
Camera image saturation level is adjustable. Select from a range of -6 to +19. The default setting is *DEFAULT*. The setting is applied automatically.

### ***Hue***

Camera image hue level is adjustable: select from a range of -12 to +13. The default setting is *DEFAULT*. The setting is applied automatically.

### 9.6.3 Advanced Picture Settings

The **Advanced Picture Settings** screen is used configuring the following settings:



*Advanced Picture Settings Screen with Backlight Compensation*

#### 9.6.3.1 White Balance

A camera needs to find a reference color temperature as a way of measuring the quality of a light source for calculating all other colors. The unit for measuring this ratio is in Kelvin (°K) degrees. You can select one of the White Balance control modes according to the operating environment. The table below 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

Select one of the following white balance modes:

- *Auto* – The Auto Balance White mode computes the white balance value output using color information from the entire screen. It is suitable for an environment with a light source color temperature in the range of approximately 2,700 ~ 7,500K. This is the default setting.
- *ATW (Auto Tracking White Balance)* – The Auto Tracking White Balance function automatically adjusts the white balance in a scene while temperature color is changing. The ATW Mode is suitable for an environment with a light source color temperature in the range of approximately 2500 ~ 10,000K. This is the default setting.
- *One Push* – This button activates the factory-optimized setting for white balance. This setting may not be ideal for every lighting environment.
- *Manual* – In this mode, you can manually change the white balance value. You can select a number between 0 – 127 for either/both Rgain and Bgain to increase the red and/or blue luminance.

The setting is applied automatically.

### 9.6.3.2 Backlight Compensation

Backlight compensation is used in images where a bright light source is behind the subject of interest. Without backlight compensation, the subject would normally appear in silhouette. The backlight function of the camera allows it to adjust the exposure of the entire image to properly expose the subject in the foreground.

Backlight compensation is available only when the TV System is set to *50 fps (PAL)* or *60 fps (NTSC)* on the **Camera > Misc.** screen and the WDR Function is set to *Off* on the **Advanced Picture Settings** screen. Otherwise, this function is not displayed on this screen.

From the *Backlight* drop-down menu, select *On* or *Off*. The default setting is *Off*. The setting is applied automatically.

### 9.6.3.3 WDR Function

By default, the camera utilizes digital Wide Dynamic Range (dWDR), which improves the image quality and amount of details in high contrast scenes. Such scenes combine areas with different lighting conditions, where some areas are very bright and others are dark. If this function was not used, the image either would be overexposed or too bright in bright areas and completely dark in dark areas. Digital WDR helps to improve image quality by producing a larger amount of details in both the dark and bright areas of the image.

The *WDR function* setting is adjustable among *Off*, *Low*, *Mid* and *Hi*. A higher level of WDR represents wider dynamic range, so that the IP camera can capture a greater scale of brightness. The default setting is *Low*. The setting is applied automatically.



#### Note:

1. When enabling Shutter WDR, be sure to select the corresponding PAL or NTSC *WDR 2 Shutter* setting from the *TV System* drop-down menu on the [Camera > Misc.](#) screen.
2. Shutter WDR (True WDR) can be enabled from the [Camera > Misc.](#) screen as an alternative to digital WDR. Shutter WDR is recommended for most lighting conditions.
3. When the frequency of a light source around the camera (including reflected light) is closely synced with the Shutter WDR operation, a pixelization effect may appear. In these cases, it is advised to use non-shutter WDR modes (such as NTSC 60). To change the mode, open the web page and go to *Settings > Camera > Misc.* Select the appropriate TV system (NTSC 60/PAL 50). The camera will reboot. If the camera is attached to a VMS, rediscover the camera after initialization.

### 9.6.3.4 Noise Reduction Settings

The noise reduction function consists of three settings:

- 3DNR
- 2DNR (Default setting)
- ColorNR

Noise reduction settings are used to reduce or eliminate artifacts that can limit the ability to positively identify an object. There are two types of noise: luminance and color (chroma) noise.

3DNR and 2DNR settings reduce luminance noise, which is composed of dots of various brightness levels (black, white and gray) luminance noise contains dots of varying brightness levels (black, white, and gray). It is not recommended to completely eliminate luminance noise, which can result in unnatural images. 3DNR and 2DNR settings should be configured after configuring ColorNR.

### **3DNR**

3DNR (3D Noise Reduction) provides superior noise reduction and is recommended for use in extra low-light conditions. It is especially useful for reducing blur with moving objects. The 3DNR function reduces image noise/snow in low-light conditions by comparing adjacent frames. A higher level of 3DNR generates relatively enhanced noise reduction, although it creates more motion blur than 2DNR on moving objects.

The noise reduction is adjustable from *Off*, *3DNR Low*, *3DNR Mid*, and *3DNR Hi*. The setting is applied automatically.

### **2DNR**

2DNR (2D Noise Reduction) analyzes individual frames pixel by pixel and frame by frame to eliminate environmental noise and deliver optimized image quality, especially in low-light conditions. 2DNR tends to produce superior results for moving objects when applied to areas in the field of view where movement is present. However, it is less precise than 3DNR.

Settings include *On* and *Off*. The default setting is *On*. The setting is applied automatically.

### **ColorNR**

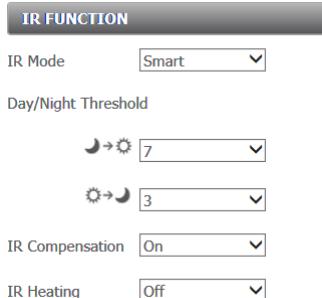
The *ColorNR* setting controls the noise displayed as red, green and blue dots that are visible between light and dark areas. Four settings are available: *Off*, *Color Low*, *Color Mid*, and *Color Hi*. The highest setting (*Color Hi*) maximizes the blending of the color noise with the image, effectively removing the dots, while the *Color Low* setting minimizes the blending. The *Off* setting disables this function. The default setting is *Color Hi*. The setting is applied automatically.

## **9.6.4 IR Function**

**Note:** The IR functions are only available in the CP-6302 - 31 - I IR model

The IR Function setting activates two functions:

- The IR Cut (IRC) filter for electronic day/night operation (*IR mode*)
- The IR LED illuminator for use in low-light conditions or at night



*IR Function Screen*

### **IR Mode**

**Note:** The settings marked \* are only available for the 31-I model

The day/night IRC switching mechanism operates according to the ambient light level rather than activation of the IR LED mode. The *IR Mode* drop-down menu enables you to select from *Auto/Night/Day/Light Sensor/Light On/Light Off/Smart* modes. The default mode is *Smart*. The setting is applied automatically.

Following is an explanation of the settings:

- *Auto* – The camera converts from Day mode (color) to Night mode (monochrome) automatically at nighttime or in low light conditions. When there is sufficient light, the camera converts automatically from Night mode to Day mode.
- *Night* – Use this mode when the light level is low. The IR Cut filter is removed, allowing the camera to deliver clear images in black and white.
- *Day* – Select this mode to turn on the IR Cut filter. The IR Cut filter filters out IR light and allows the camera to deliver high quality images in color.
- *\*Light Sensor* – IR LEDs are turned on or off depending on the light sensor.
- *\*Light On* – Activates IR mode (puts camera into monochrome/Night mode). The IR LEDs are continuously illuminated.
- *\*Light Off* – Deactivates IR mode (puts camera into color/Day mode). The IR LEDs are continuously off.
- *Smart* – Smart mode enhances monochrome/Night mode stability and keeps the camera from switching between Day and Night modes. In this mode, when IR illumination is dominant, the camera decides when to remove the IR Cut filter.  
On the 31-I IR model, when the IR Cut filter is on (i.e. monochrome/Night mode), the IR LED illuminator also is activated. This prevents the camera from returning to color/Day mode.



**Note:**

When video transitions from day-to-night and night-to-day it may appear off-color. This should be resolved within a few seconds as the levels of light decrease or increase, respectively.

### **Day/Night Threshold**

Set the threshold at which you want to activate the IR function. The setting is applied automatically.

- For the daytime to nighttime threshold , from the drop-down list, select a number between 1-9, where 1 is darker and 9 is brighter, or select *Darker* or *Brighter*. The default setting is 7.
- For the nighttime to daytime threshold , from the drop-down list, select a number between 1-9, where 1 is darker and 9 is brighter, or select *Darker* or *Brighter*. The default setting is 3.

### **IR Compensation**

From the drop-down list, set the IR Compensation to *On* or *Off*. Setting IR Compensation to *On* compensates for the reflection of infrared light emitted from the camera onto reflective objects, thus improving image sharpness and definition. Without IR compensation, objects may appear blurred. The default setting is *On*. The setting is applied automatically.

### **IR Heating** (Available on CP-6302-31-I only)

\**IR Heating* allows control over the internal temperature of the camera. **Off** by default.

When set to **On**, the camera will maintain operational temperature in particularly cold surroundings.



#### **Note:**

1. It is recommended that this feature **only** be used in conditions of **extreme cold**.
2. The camera must have a Zoom MCU version of T2-L34-I0-180724-02 to support this feature.  
Please contact FLIR Support to download this file

### **9.6.5 Misc. Screen**

The **Misc.** screen is used for enabling Digital Zoom and setting the TV System, which determines if other functions can be enabled.

- When the selected TV System is *50 fps (PAL)* or *60 fps (NTSC)*, only the Digital Zoom can be enabled. The unit operates with digital WDR.
- When the selected TV System is *WDR 2 Shutter (PAL)* or *WDR 2 Shutter (NTSC)* and *WDR Function* is enabled (*On*) in the [Advanced Picture Settings](#) screen, you can enable the Image Stabilizer and Shutter (True) WDR. The unit's frame rate is 25/30 fps in this mode. The default setting is *WDR 2 Shutter (NTSC)*.

<b>MISC.</b>	
Digital Zoom	Off
Image Stabilizer	
Stabilizer	Off
Auto Calibration	Off
Calibrate	<b>SET</b>
TV System	WDR 2 Shutter (NTSC)

*Misc. Screen with True (Multi-Shutter) WDR Enabled*



**Note:**

After changing the TV Setting, the camera resets automatically. Refresh the page to view the new setting. There is no need to log in again.

### **Digital Zoom**

The camera's digital zoom is adjustable from x1 to x30. Select *Off* or *On*. The default setting is *Off*. The setting is applied automatically.

### **Image Stabilizer**

The image stabilizer keeps the image steady and suppresses effects caused by external vibration. Keep the camera still for 3 seconds to ensure calibration accuracy.

From the *Stabilizer* drop-down menu, select *On* to activate the Stabilizer or *Off* to disable it. The default setting is *Off*. The setting is applied automatically.

From the *Auto Calibration* drop-down menu, select *On* to activate Auto Calibration or *Off* to disable it. Auto calibration automatically calibrates the camera when it detects a deviation of dome pivot. The camera constantly aligns itself against vertical and horizontal checkpoints to maintain accurate operation. The default setting is *On*. Click **SET** to calibrate the unit.



**Note:**

1. Do NOT use PTZ functions when activating manual calibration.
2. The Digital Zoom function and the Zoom Factor function on the [Privacy Mask](#) screen are disabled when the Stabilizer is set to *Off*.
3. When image stabilization is enabled, the video image will be slightly cropped. This is part of the stabilization algorithm as it is processing the image.

### **TV System Settings**

From the drop-down menu, select the video system setting. The setting is applied automatically.

- *60 fps (NTSC)*
- *50 fps (PAL)*
- *WDR 2 Shutter (NTSC)* – default setting
- *WDR 2 Shutter (PAL)*

Selecting *WDR 2 Shutter* enables True (Multi-Shutter) WDR at 25/30 fps (PAL/NTSC). It is recommended to select *WDR 2 Shutter* to solve contrast or changing light issues and to enhance the video display quality. This function is used to set a fixed exposure while other parameters can change. In this mode, the camera's shutter speed works automatically to achieve a consistent video output level in scenes with high contrast or changing light issues.

When activated, a combination of slow- and fast-exposure shutters creates a new image with a wide dynamic range. The camera's algorithm determines the optimal mix of regions within the scene from the two shutters in order to adjust the wide dynamic range of the scene. If this function was not used, the

image either would be overexposed or too bright in bright areas and completely dark in dark areas. Shutter WDR is recommended for most lighting conditions.



True WDR On

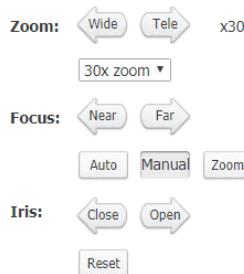
True WDR Off

## 9.7 PTZ Tab

The following functions are available from the PTZ tab.

[Preset](#)    [Pattern](#)    [Auto Pan](#)    [Sequence](#)    [Home](#)    [Tilt Range](#)    [Privacy Mask](#)  
[PTZ Setting](#)    [RS485](#)

Every screen in the **PTZ** section includes the following pushbuttons next to the **Live View** window:



PTZ Pushbuttons

<b>Zoom</b>	  x30	<b>Click the Wide or Tele Zoom button</b> to implement continuous zoom adjustment. <b>From the drop-down Zoom menu</b> , select the zoom (1x zoom-30x zoom). The selected zoom is displayed. The default setting is 1.
<b>Focus</b>	  Zoom	<b>Click Manual</b> to adjust focus manually. Use the <b>Near</b> and <b>Far</b> buttons to implement continuous focus adjustment. When selected, the button appears to have been pressed. <b>Click Auto</b> to enable AF mode. In this mode, the camera automatically and continuously maintains focus regardless of zoom or view changes.
<b>Iris</b>	 	<b>Click Close</b> to close the iris. <b>Click Open</b> to open the iris. <b>Click Reset</b> to reset the iris.

### 9.7.1 Preset

The **PTZ** tab opens on the **Preset** screen.



*Preset Screen*

On this screen you can program up to 256 Presets to target a specific view in the Live View pane.

#### To program a Preset Point

1. Move the cursor to the Live View pane.
2. Left-click and drag the red pointer to the desired position.
3. Adjust the fine zoom/focus ratio.
4. Under *Preset setting*, assign an unused number to the Preset Point from the drop-down menu. Click **PrePage** or **NextPage** for additional numbers.
5. From the *Num* drop-down menu, select a number from 1-10.
6. In the *Name* text box, enter a friendly name for the Preset Point.
7. Click **SET** to save settings.

#### To move the camera to a Preset position

1. From the *Preset go* drop-down menu, select the desired Preset Point.
2. Use the **PrePage** or **NextPage** buttons located under *Preset setting* for additional numbers. The camera moves to the target position.

#### To delete a Preset

1. Select the desired Preset Point from the drop-down menu.
2. Click **DELETE** to remove the Preset.

### 9.7.2 Pattern

From the **Pattern** page, up to four Pattern Lines may be defined. A Pattern Line is a stored route defined through manual adjustment of pan, tilt, and zoom.



*Pattern Line Screen*

#### To set up a Pattern Line

1. Select a path number from the *Pattern path* drop-down menu.
2. In the Live View pane, move the cursor to the desired start point of the Pattern path.
3. Use the PTZ controls to set the desired start point view.
4. Click **Record start: SET**.
5. Use the PTZ controls to define the path within the Live View pane.
6. Click **Record end: SET** when finished.

**To move the camera along a Pattern Line**

1. Under *Pattern run*, select the desired Pattern path from the drop-down menu.
2. Click **RUN**. The camera moves along the recorded Pattern path.

**To view the camera in full screen mode as it follows the Pattern Line**

1. Move the cursor onto the Live View pane.
2. Right-click and select full screen.
3. Double-click to exit full screen mode.

**To stop running a Pattern Line**

1. Move the cursor to the Live View pane and move the camera in any direction.

**9.7.3 Auto Pan**

From the **Auto Pan** page, up to four Auto pan paths may be defined. An Auto pan path scans an area horizontally from left to right or right to left at a user-defined speed.

**To set up an Auto pan path**

1. From the *Auto pan setting* section, select a path number from the *Auto pan path* drop-down list.
2. In the Live View pane, move the camera view to the desired start point and click **Start Point: SET**.

**Note:**

The zoom ratio at the start point is maintained for the entire Auto pan path.

3. Select a speed setting from the *Speed* drop-down menu, from 0 (low) to 3 (fast).
4. Select a direction for the path from the *Direction* drop-down menu.
5. In the Live View pane, move the camera view to the desired end point. Click **End Point: SET**.

**To run an Auto pan path**

1. Under *Auto pan run*, select the desired Auto pan path from the drop-down list.
2. Click **RUN**. The camera will move along the defined Auto pan path.

**To view the camera in full screen mode as it follows the Pattern Line**

1. Move the cursor onto the Live View pane.
2. Right-click and select *Full screen*.
3. Double-click to exit full screen mode.

**To stop running an Auto pan path**

1. Move the cursor to the Live View pane and move the camera in any direction.

### 9.7.4 Sequence

The **Sequence** page enables you to define up to eight Sequence lines for the camera image. A Sequence line is an automated series of camera movements from one Preset Point to another, in a pre-determined order, and for configurable time periods. Each Sequence line can contain up to 64 different Preset Points.

**SEQUENCE SETTING**

Sequence setting **EDIT**

**SEQUENCE RUN**

Sequence line: **1** **GO**

**Note:**  
Before creating a sequence, you must first define at least two Preset Points. See [Preset](#).

#### To set up Sequence Line

1. In the Sequence setting section, click **EDIT**. The **Sequence Set** screen opens.

**SEQUENCE SET**

Sequence line: **1** **SAVE**

Preset Name	Dwell time[0..127]	Speed[0..14]
1(dv1)	5	3
2(dv2)	7	5
3(dv3)	10	5
--no setting--		

**Pre page** **Next page**

Sequence Set Screen

2. Select a Sequence line number from the Sequence line drop-down list.
3. Define each Preset Point for the Sequence line in the desired order:
  - a. Select the first Preset Point from the *Preset Name* list. Use the **PrePage** or **NextPage** buttons to navigate between the Sequence preset numbers.
  - b. Specify the Dwell time (between 0 and 127 seconds) for the first Preset Point.
  - c. Specify the camera's Speed (between 0 and 14).
4. Repeat steps a, b, and c for up to 64 Preset Points.
5. Click **SAVE** to save your preset sequence.

**To run the camera through a Sequence line**

- From the *Sequence run* section, select the Sequence line from the drop-down list.
- Click **GO**. The camera moves through each Preset Point sequentially as programmed.

**To view the camera in full screen**

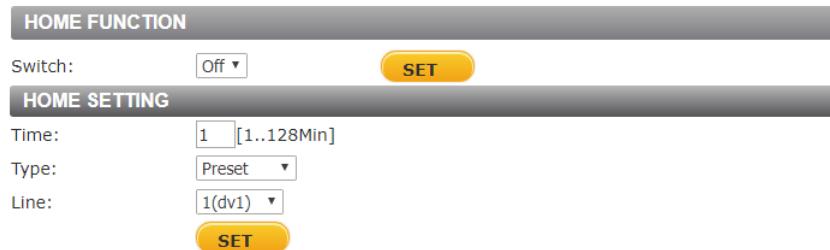
- Move the cursor onto the Live View pane.
- Right-click and select *Full screen*.
- Double-click to exit *Full screen* mode.

**To stop running a Sequence line**

- Move the cursor to the Live View pane and move the camera in any direction.

**9.7.5 Home**

The **Home** page allows you to specify an operation mode to be activated automatically when the camera is idle for a specified period of time.



Home Screen

**To configure Home settings**

- From the *Switch* drop-down menu, select *On* to activate or *Off* to disable the Home function.
- Click **SET** to save the setting.
- In the *Time* text box, enter the amount of time (1-128 minutes) that the camera is idle before executing the Home function action.
- From the *Type* drop-down menu, select the action to perform: *Preset*, *Sequence*, *Auto pan*, or *Pattern*.
- From the *Line* drop-down menu, select the Preset, Sequence, Auto pan, or Pattern path number.
- Click **SET** to save the Home settings.

**9.7.6 Tilt Range**

The **Tilt Range** page allows you to specify the camera's *Tilt Angle*.



Tilt Range Screen

**To set an angle**

- In the *Min.* text box, enter the minimum tilt angle (from -20° to 10°).
- In the *Max.* text box, enter the maximum tilt angle (from 80° to 100° if the *Flip* function is not activated on the [PTZ Setting](#) screen, or from 170° to 190° if the *Flip* function is enabled).
- Click **SET** to save the *Tilt Angle* settings.

### 9.7.7 Privacy Mask

From the **Privacy Mask** page, you can set up to 20 privacy masks. The Privacy Mask function allows concealment of sensitive portions of the camera image to avoid intrusive monitoring.



**Note:**

1. The Flip function on the [PTZ Setting](#) screen is automatically disabled when the Privacy Mask function is on.
2. The Zoom Factor function is disabled when the Stabilizer is set to *Off* on the [Camera > Misc.](#) screen.

<b>MASK SETTING</b>	
Switch:	<input type="button" value="Off"/> <input type="button" value="SET"/>
Color:	<input type="button" value="Black"/> <input type="button" value="SET"/>
Mask (1~20):	<input type="text"/>
Zoom Factor:	<input type="button" value="Off"/> <input type="button" value="ADD"/> <input type="button" value="EDIT"/>
<b>MASK CLEARING</b>	
Mask:	<input type="button" value="Mask List"/> <input type="button" value="CLEAR"/>

*Privacy Mask Screen*

**To create a mask**

1. From the *Switch* drop-down menu, select *On* to activate or *Off* to disable the Privacy Mask function.
2. Click **SET** to save the setting.
3. From the *Color* drop-down menu, select the desired color for the specified Privacy Mask.
4. Click **SET** to save the setting.
5. In the *Mask* text box, it is possible to create up to 20 masks. Enter the number (1-20) of the programmed Privacy Mask.
6. From the *Zoom Factor* drop-down menu, select *On* or *Off*. If the Zoom Factor is set to lower than 20x and the object is very small, a privacy mask will not be displayed. When Zoom Factor is *On*, the mask is displayed with 20x zoom and higher.
7. Click **ADD** to save the programmed Privacy Mask.
8. To edit a programmed Privacy Mask, select the Privacy Mask and click **EDIT**.

**To clear (delete) an existing Privacy Mask**

1. From the *Mask* drop-down menu, select the Privacy Mask.
2. Click **CLEAR**.

## 9.7.8 PTZ Setting

The **PTZ Setting** screen includes a few miscellaneous settings.

PTZ SETTING			
Flip	Off ▾	<b>SET</b>	
Speed by zoom	On ▾	<b>SET</b>	
Auto Calibration	On ▾	<b>SET</b>	
Set Pan Zero		<b>SET</b>	

PTZ Setting Screen

### Flip

You can track an object continuously when it passes under the camera by selecting *M.E.* (Mechanical) or *Image* (Digital Flip) mode from the drop-down list. When *Flip* is enabled, the image is reversed along its horizontal axis. Select *Off* if you do not want to use this function (default setting).

- *M.E. mode* – *M.E.* is a standard mechanical operation. As the dome camera tilts to the maximum angle, it pans 180° and then continues tilting to keep tracking objects.
- *Image mode* – In *Image* mode, the camera seamlessly tracks objects digitally. There is an approximately one-second freeze in the image when the video flips.

Click **SET** to confirm the setting.



**Note:**

1. The Flip setting can only be controlled manually. If a Preset Position or a point for another function (ex. Sequence) is set to a position that can only be reached by Flip motion, it cannot be reached when the Flip function is Off.
2. To tilt the camera within a specific range, such as -10° to +100° or -10° to +190°, set the tilt angle range on the [Tilt Range](#) page. If not specified, the default setting is 90°.
3. The Privacy Mask function is automatically disabled when the Flip function is enabled.

### Speed by Zoom (Proportional Pan & Tilt)

Enable this function to automatically adjust by internal algorithm the pan/tilt speed when zooming. From the drop-down list, select *On* or *Off*. Click **SET** to save the setting.

### Auto Calibration

Auto Calibration automatically calibrates the camera when a deviation of dome pivot is detected. The camera constantly aligns itself against vertical and horizontal checkpoints to maintain accurate operation. From the drop-down list, select *On* or *Off*. Click **SET** to save the setting.

### Set Pan Zero

Set the current camera position as the Pan Zero (due north) point for the camera. Click **SET** to save the setting.

### 9.7.9 RS485

The **RS485** screen is used for configuring RS-485 connection settings.

The screenshot shows a configuration interface titled "RS485". It contains the following fields:

Protocol	<input type="button" value="▼"/>
Baudrate	9600 <input type="button" value="▼"/>
Data bits	8 <input type="button" value="▼"/>
Parity	None <input type="button" value="▼"/>
Stop bits	1 <input type="button" value="▼"/>
ID number	<input type="text" value="1"/> (1~254)

A yellow "SAVE" button is located at the bottom right of the form.

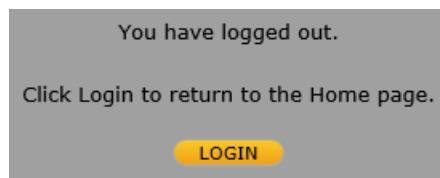
RS485 Screen

#### To configure RS-485 settings

1. From the *Protocol* drop-down menu, select *PelcoD* or *PelcoP*. The default is *PelcoD*.
2. From the *Baudrate* drop-down menu, select the desired baud rate. The default is 2400.
3. The *Data bits* field is disabled.
4. The *Parity* field is disabled.
5. The *Stop bits* field is disabled.
6. In the *ID number* text box, enter the ID number (1-254). The ID number is provided by the camera according to the camera model, protocol and dipswitch settings. The default is 1.
7. Click **SAVE**.

## 9.8 Log Out

Selecting the **Logout** link on the **Home** page to close the session. The following message appears:



Login Message

Upon clicking **Login**, the **Login** dialog box opens. See Figure: [Login Dialog Box](#).

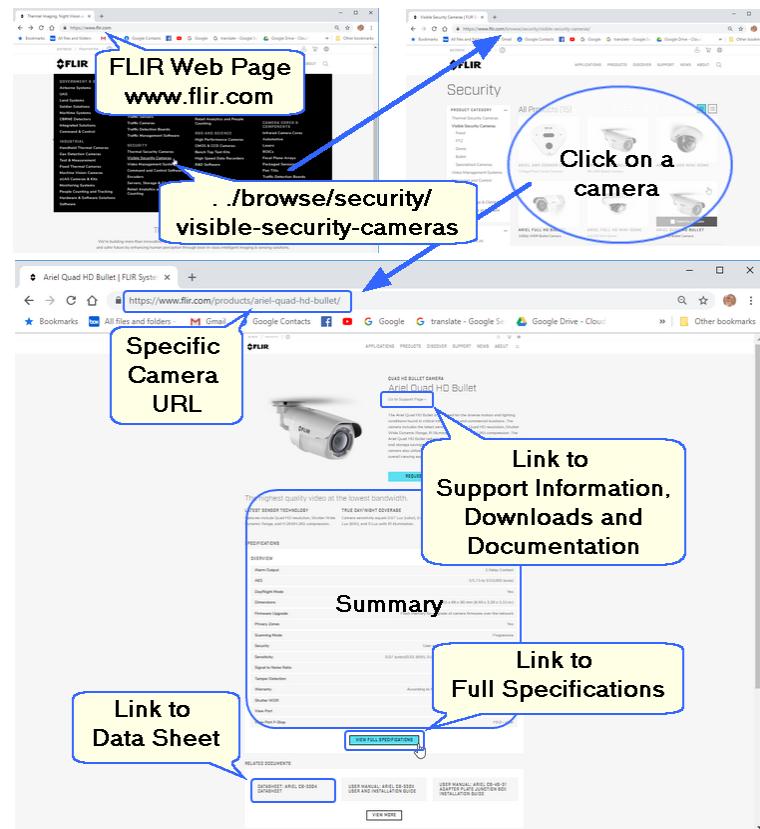
## 10 Appendices

- [Technical Specifications](#)
- [Internet Security Settings](#)
- [Install UPnP Components](#)
- [Installing and Deleting the Web Player](#)
- [Deleting Temporary Internet Files](#)
- [Connecting Leads to a Spring Clamp Terminal Block](#)
- [Camera and Mounting Accessories](#)

## 10.1 Technical Specifications

### 10.1.1 Accessing General Camera Information

Detailed Camera information is available on the FLIR website, accessible by navigating to /Products, /Security, /Visible Security Cameras, and selecting the required camera.

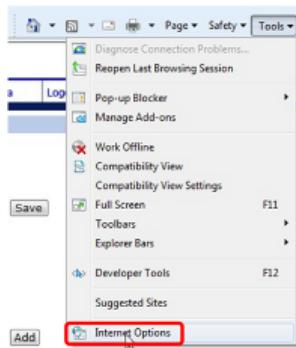


## 10.2 Internet Security Settings

If ActiveX control installation is blocked, either set Internet security level to default or change ActiveX controls and plug-in settings.

### To set the default Internet security level

1. Start Internet Explorer (IE).
2. From the Command Bar toolbar, select **Tools**  and select *Internet Options* from the menu that appears.



*Command Bar Toolbar – Select Internet Options (Win 7, 8, and 8.1)*

3. In the **Internet Options** dialog box that appears, select the **Security** tab.

4. Select  **Internet** in *Select a zone to view or change security settings*.
5. If the settings are not defined as default, select **Default Level** and move the *Allowed* levels for this zone slider to *Medium-high* and select **OK**.



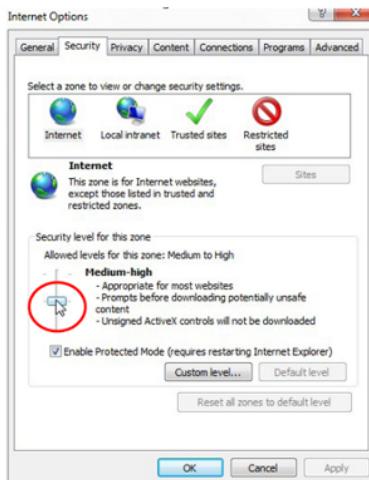
*Internet Options > Security Screen*

6. Close all browsers and reopen so that the settings take effect.

## ActiveX Controls and Plug-in Settings

### To create a custom level

1. Start Internet Explorer (IE).
2. From the Command Bar toolbar, select **Tools**  and select *Internet Options* from the menu that appears.



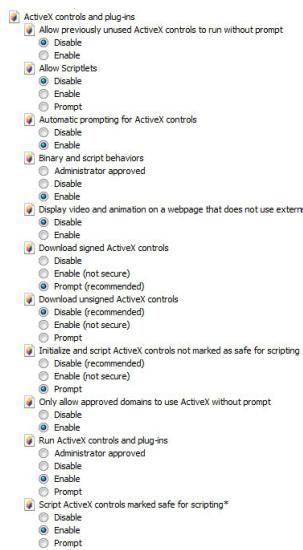
Command Bar Toolbar – Internet Options

3. In the **Internet Options** window that appears, select the **Security** tab.



4. If not already selected, select **Internet**, then select *Custom Level*.
5. In the dialog that appears, under **ActiveX controls and plug-ins** set ALL the following options (listed below) to **Enable** or **Prompt**:

- Automatic prompting for ActiveX controls
- Binary and script behaviors
- Download signed ActiveX controls
- Download using ActiveX controls
- Initialize and script ActiveX not marked as safe
- Run ActiveX controls and plug-ins
- Script ActiveX controls marked safe for scripting



Security Settings-Internet Zone Screen

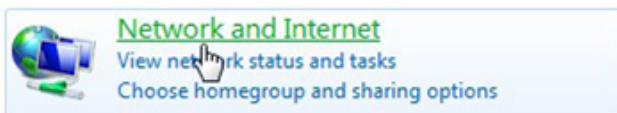
6. Click **OK** to accept the settings and close the **Security** screen.
7. Click **OK** to close the **Internet Options** screen.
8. Close the browser window and restart IE again to access the camera.

## 10.3 Install UPnP Components

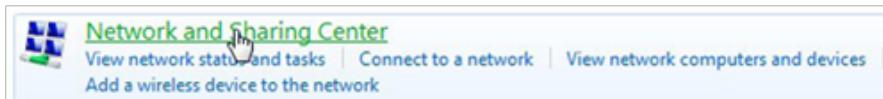
Follow the instructions below to enable UPnP so that the camera can be discovered and displayed in the *Network and Sharing Center*.

### To enable UPnP discovery

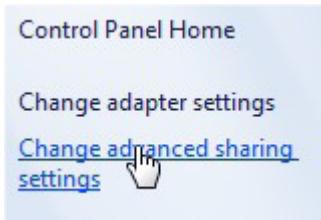
1. Click  or  (Start) and select *Control Panel*.
2. Click *Network and Internet* (Win 7, 8, or 8.1).



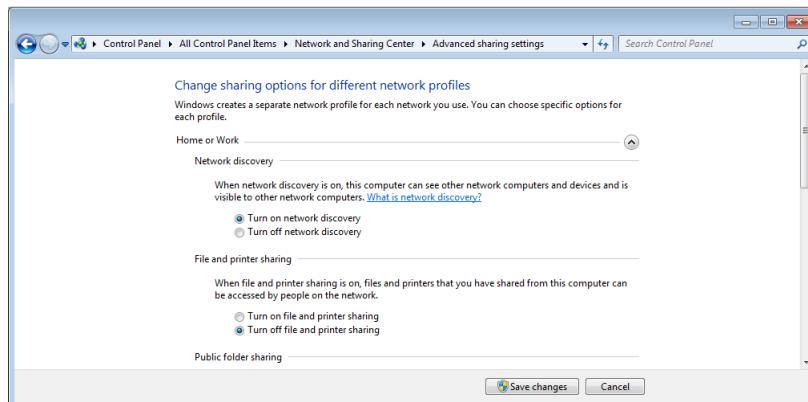
3. Click *Network and Sharing Center* (all OSs).



4. Click *Change advanced sharing settings*.

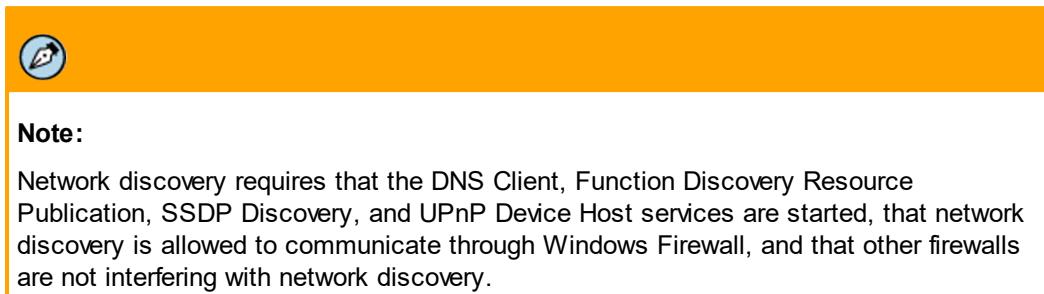


5. Expand the Home or Work node, select *Turn on network discovery*.



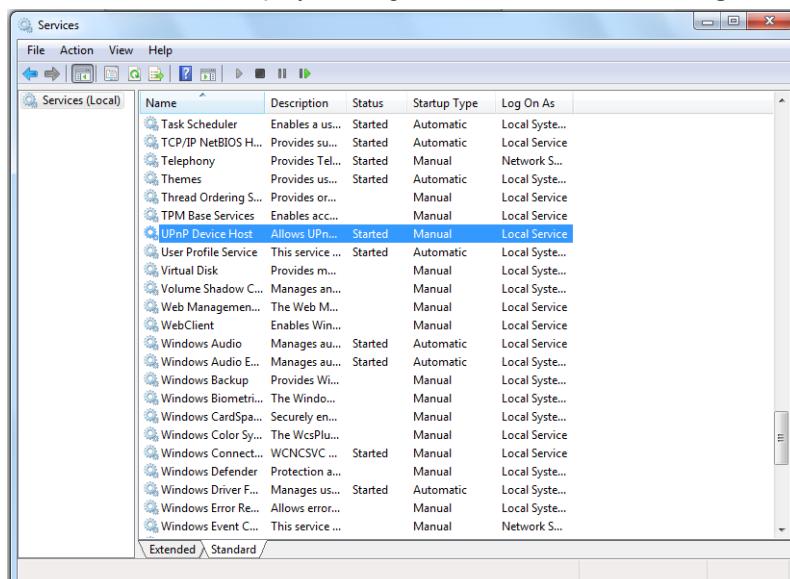
*Advanced Sharing Settings Screen*

6. Click **Save Changes**.



### To check that the UPnP Device Host services are running

1. Click or (Start) and type in the Search programs and files field **services.msc** and then select **services.msc** from the displayed Programs. The **Services manager** dialog box appears.



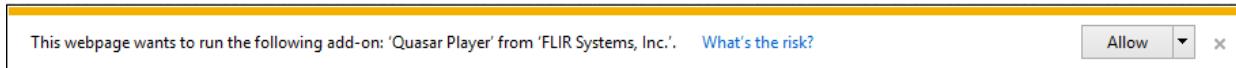
Services Manager Dialog Box

2. In the **Services manager** dialog box, scroll down the list to **UPnP Device Host** and verify that it shows the status **Started**. If **Started** is not displayed, right-click and select **Start** from the shortcut menu.

## 10.4 Installing and Deleting the Web Player

The Quasar Player enables you to view the camera's user interface.

After logging into the unit, the following information bar is displayed:

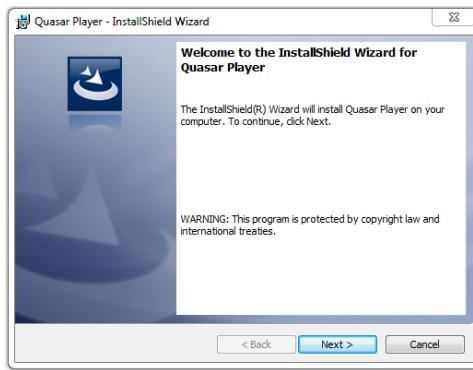


*"Run Quasar Player" Information Bar*

Click **Allow**.

If the Quasar Player has been loaded previously, the **Live View** window opens.

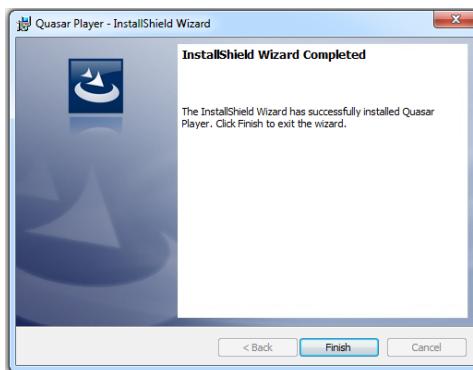
If this is a first-time installation of the camera, the Quasar Player installation wizard opens after accessing the camera.



*Quasar Player Installation Wizard*

### To install the Quasar Player

1. Click **Next**. The Player is installed.
2. Click **Finish** when the next screen opens. The installation is completed. **Quasar Player** is displayed in the list of installed programs.



*Quasar Player Installation Completed*

Users who have previously installed the DVPlayer or DCViewer web player in the PC should first delete the existing player file from the PC and then install the Quasar Player before accessing the camera.

### To delete an existing DVPlayer or DCViewer file

1. Click or (**Start**) and open the Control Panel.
2. In the Control Panel, click *Uninstall a program* (Win 7, 8, or 8.1) or *Programs and Features* (Win 10).

3. From the list of installed programs, select **DVPlayer** or **DCViewer**.
4. Do one of the following:
  - a. On the banner bar, click *Uninstall* (Win 7, 8, or 8.1).
  - b. Right-click the program, click *Uninstall/Change* (Win 10).
5. When prompted to confirm the Uninstall, click **Yes**.
6. After deleting the previous player file, you must clear your computer's cache memory.

**To clear your computer's cache memory**

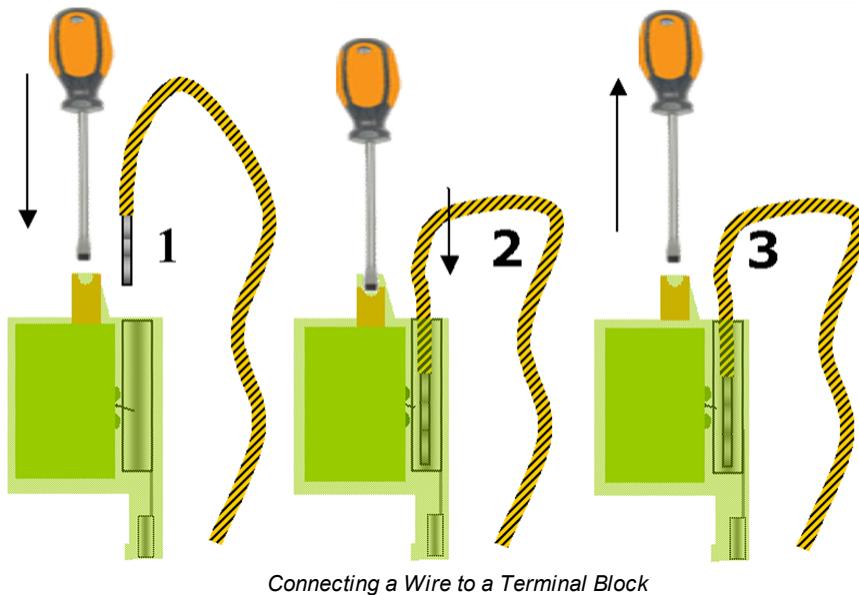
1. In the Control Panel, click **Internet Options**. The **Internet Properties** dialog box opens.
2. From the *Browsing History* section, click **Delete**. The **Delete Browsing History** dialog box opens.
3. From the **Delete Browsing History** dialog box, check *Preserve Favorites website data*, *Temporary Internet files and website files*, *Cookies and website data*, and *Tracking Protection*, *ActiveX Filtering* and *Do Not Track*.
4. Click **Delete**. The **Internet Properties** dialog box opens.
5. Click **OK**. Your computer's cache memory is deleted. After the cache is cleared, the Quasar Player installation wizard opens.
6. Follow instructions above to install the Quasar Player.

## 10.5 Connecting Leads to a Spring Clamp Terminal Block

The unit is delivered with 2-pin, 3-pin, and 14-pin terminal block connectors. The connectors enable you to connect wires for either the relay output or alarm input and then connect them to the unit.

### To connect a wire to the spring clamp terminal block

1. Strip the insulation from the end of each wire that is to be connected to the terminal block. Approximately 1 cm (2.54") of wire should be exposed.
2. With a small screwdriver, press in and hold the orange spring clamp button next to the female outlet where the wire will be inserted.
3. Insert the stripped end of the wire into the female outlet.
4. Release the orange spring clamp button.



## 10.6 Deleting Temporary Internet Files

To improve browser performance, it is recommended to clean up all of the temporary Internet files.

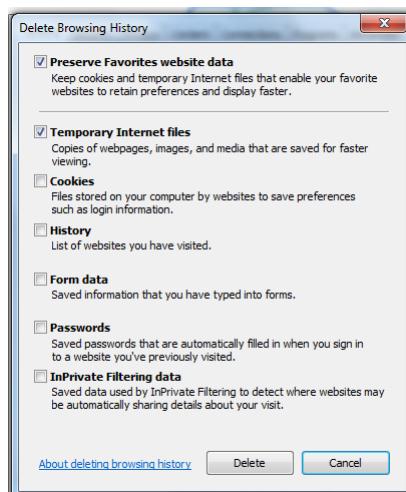
### To delete temporary Internet files

1. In Internet Explorer (IE), from the Command Bar toolbar, click **Tools** and select *Internet Options* from the menu that appears.



Tools > Internet Options Dialog Box

2. In the **General** tab in the *Internet Options* dialog box, click **Delete**.
3. In the **Delete Browsing History** dialog box that appears, select *Temporary Internet files* (Win 7, 8 or 8.1) or *Temporary Internet files and website files* (Win 10). Uncheck *Cookies* and *History* (Win 7, 8 or 8.1) or *Cookies and website data* (Win 10) to keep this data. Click **Delete**.

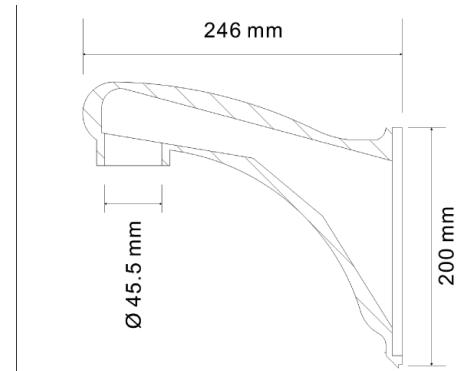


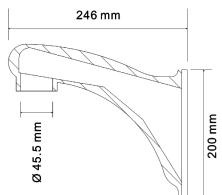
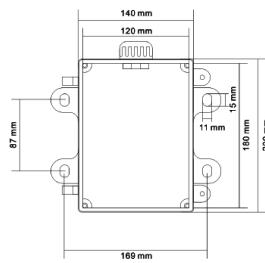
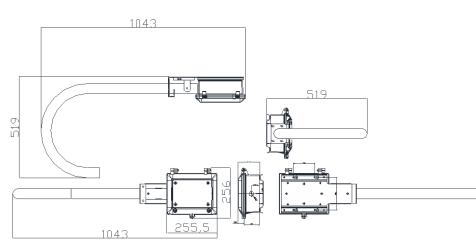
Delete Browsing History Dialog Box

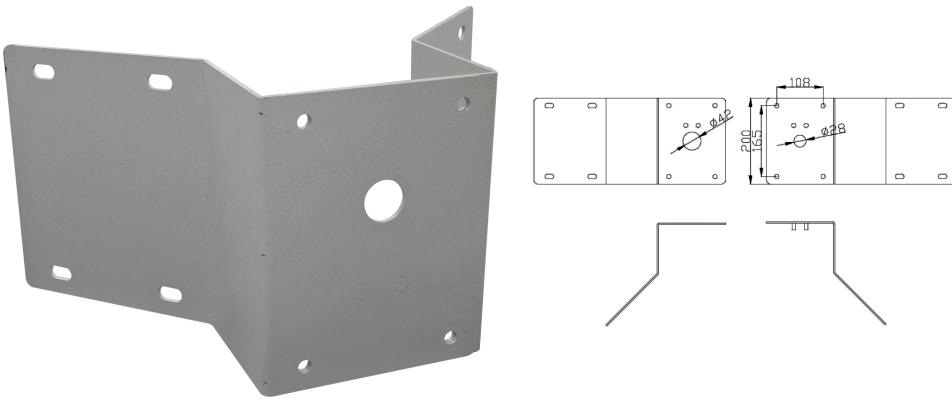
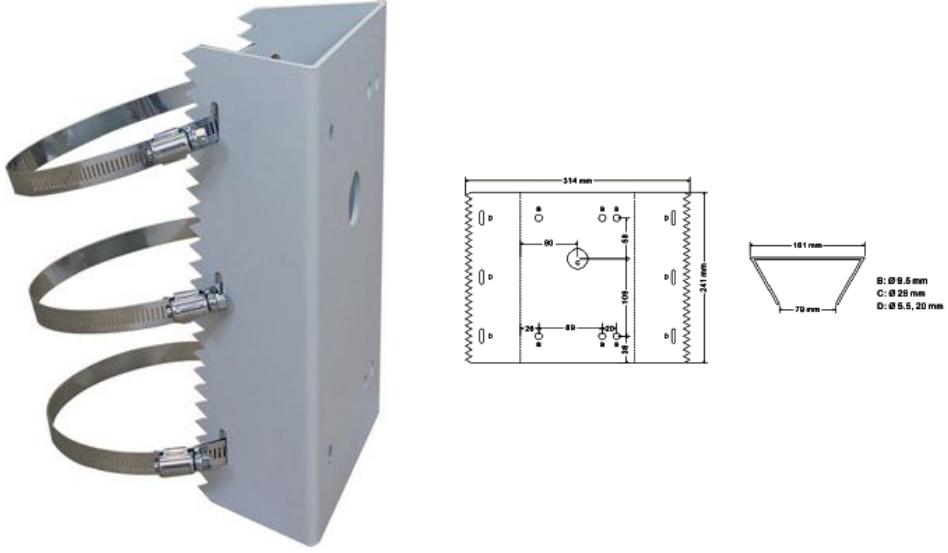
## 10.7 Camera and Mounting Accessories

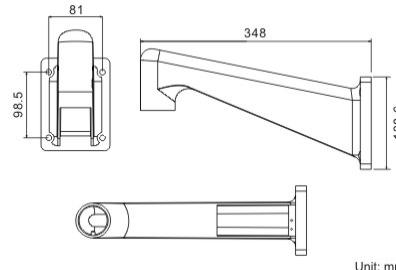
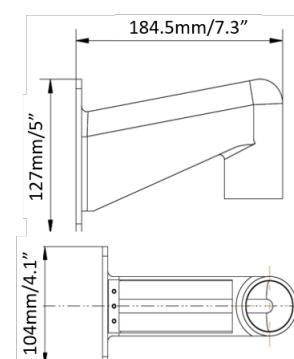
The following mounting accessories are available from FLIR for installation of your Quasar CP-6302 PTZ Camera. For more information on available options, contact your FLIR sales representative or contact [FLIR Support](#) to request details on where to get the accessories you need.

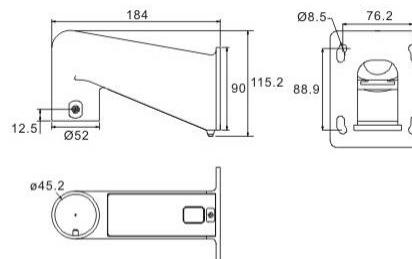
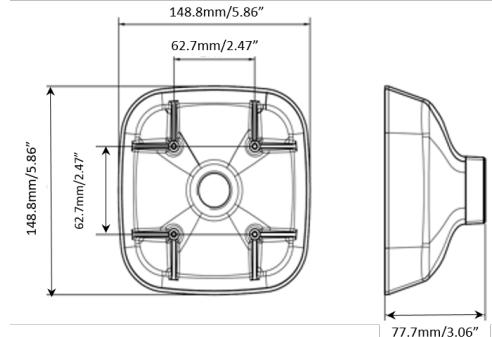
**Note:** (30-R Recessed model has no mounting accessories)

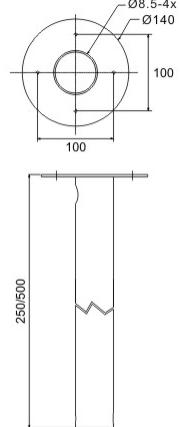
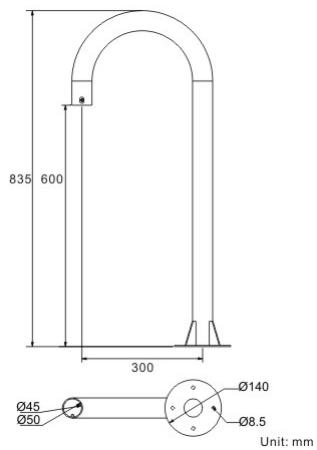
Part Number	Item
CX-PRWR-241	<p><b>Power Supply</b>            115VAC input, 50/60 Hz, 0.9 amps; one individually fused 24VAC input and one individually fused 24VAC output (output fuse 3 amps rating); 3 amp, 100VA supply current; surge protection. Housed in NEMA 4X weather-resistant enclosure.</p> <p>Enclosure size: 203 x 152 x 114mm (8 x 6 x 4.5 in.)</p> 
CX-ARMX-G3	<p><b>Curved Wall Mount</b>            Dimensions: 246 x 200mm (9.69 x 7.87 in.)            Weight: 1.0 kg (2.2 lbs.)            Supplied with No. 3 Allen Key, Quick Install Guide</p>  

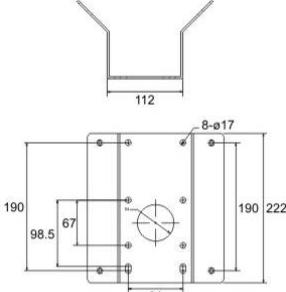
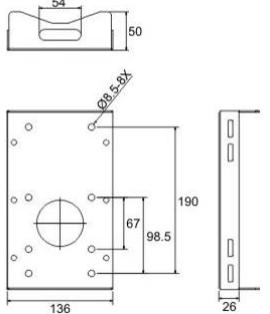
Part Number	Item
CX-ELBX-G3	<p><b>Wall Mount Bracket with Power Box</b>            Dimensions: 246 x 200mm (9.69 x 7.87 in.)            Weight: 3.13 kg (6.9 lbs.)            Supplied with No. 3 Allen Key, No. 6 Allen Key, 2 x Hex Head Cap Screw M6x20 (stainless Steel), Cable Gland, Quick Install Guide</p>   
CX-GSNK-G3	<p><b>Gooseneck Bracket with Power Box</b>            Color: White            Material: Constructed from iron            Weight: 12.78 kg (28.18 lbs.)            Supplied with No. 2 Allen Key, No. 3 Allen Key, No. 5 Allen Key, No. 6 Allen Key, M4x8 HEX CAP double washer</p>  

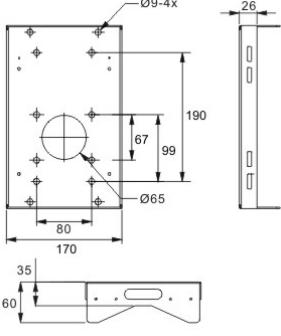
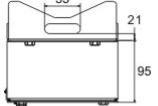
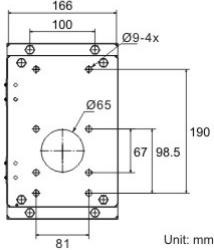
Part Number	Item
CX-CRNR-G3	<p><b>Corner Mount Bracket</b>  Color: White  Material: Constructed from iron  Weight 4.1 kg (9.04 lbs.)  Supplied with 4 x stainless steel Truss Head screw M8*25, 4 x stainless steel Truss Head screw M8*30, 6 x M8 washer, 6 x M8 screw nut, 6 x M8 SPRING WASHER</p> 
CX-POLE-G3	<p><b>Pole Adaptor Bracket</b>  Color: White  Material: Constructed from iron  Weight 1.95 kg (4.3 lbs.)  Supplied with 3 x 8.5" ring, 4 x stainless steel Truss Head screw M8*20, 4 x stainless steel Truss Head screw M8*30, 4 x M8 washer, 4 x M8 screw nut, 4 x M8 SPRING WASHER</p> 

Part Number	Item
CX-ARMX-1	<p><b>Standard Wall Mount*</b> White Dimensions: 348 × 104 × 138.6mm (13.7 × 4.1 × 5.5 in.) Diameter: 45 mm (1.8 in.) Weight: 1.5 kg (3.3 lbs.) Supplied with M8x12 screw x1, spring washer-8 x1, pendant tube washer x1, rubber washer-8 x1 and sponge x2. *Requires CM-F150-62 NTP Adapter</p>   <p>Unit: mm</p>
CX-ARMX-31	<p><b>Threaded Wall Mount**</b> Includes CM-CAPX-31 Pendant Mount. **Requires 1-1/2" threaded male pipe and 3/4" female EMT conduit.</p>  

Part Number	Item
CX-ARMX-0	<p><b>Compact Wall Mount*</b>  Dimensions: 184 × 104 × 115.2mm (7.24 × 4.09 × 4.54 in.)  Weight: 0.6 kg (1.2 lbs.)  Supplied with rubber washer-8x1, pendant tube washer x1, spring washer-8x1 and M8x12 screw x1.  *Requires CM-F150-62 NTP Adapter</p>  
CM-CAPX-31	<p><b>Pendant Mount**</b>  **Requires 1-1/2" threaded male pipe and 3/4" female EMT conduit.</p>  
CM-F150-62	<p><b>NTP Adapter</b>  1-1/2" inner-thread 1/4 turn adapter.  Adapts CX-ARMX-1, CX-ARMX-31, and CM-CAPX-31 for use with CX-POLE-0.</p> 

Part Number	Item
CX-PIPE-0 (25cm/9.8")  CX-PIPE-1 (50cm/19.7")	<p><b>Straight Tube</b>            Material: Constructed from iron            Length: 250/500mm (9.8/19.7 in.)            Diameter: 50mm (2 in.)            Weight: 1 kg (2.2 lbs.)/1.8 kg (4 lbs.)            Supplied with M8x12 screw x1, spring washer-8 x1, pendent tube washer x1, rubber washer-8 x1 and waterproof rubber x1.</p>   <p style="text-align: center;">Unit: mm</p>
CX-SWAN-0	<p><b>Swan Tube</b>            For mounting with Swan Tube            Color: White            Material: Constructed from iron            Dimensions: 835 x 300mm (32.9 x 11.8 in.)            Diameter: 45mm (1.8 in.)            Weight: 3.8 kg (8.4 lbs.)            Supplied with pendent tube washer x1, rubber washer-8 x1, waterproof rubber x1, spring washer-8 x1 and M8x12 screw x1</p>   <p style="text-align: center;">Unit: mm</p>

Part Number	Item
CX-CRNR-0	<p><b>Corner Standard Mounting Plate</b>  Dimensions: 222 × 204 × 117mm/8.7 × 8 × 4.6 in. (L x W x D)  Weight: 2 kg (4.4 lbs.)  Supplied with washer-8 x4, spring washer-8 x4, M8x16 screw x4, and M8 nut x4.</p>   <p>Unit: mm</p>
CX-POLE-0	<p><b>Pole Thin Direct Mounting</b>  Dimensions: 232 × 136 × 60mm/9.1 × 5.4 × 2.4 in. (L x W x D)  Diameter: 112 ~ 130 mm (4.4 ~ 5 inches)  Weight: 0.7 kg (1.6 lbs.)  Supplied with stainless steel straps x4, M8x16 screw x4, washer x4 and spring washer-8 x4.  For use with CM-CAPX-31, CX-ARMX-1 and CM-F150-62.</p>   <p>Unit: mm</p>

Part Number	Item
CX-WLBX-0	<p><b>Pole Wide Direct Mounting</b></p> <p>Dimensions: 270 × 170 × 60mm/10.6 × 6.7 × 2.4 in. (L × W × D)  Diameter: 112 ~ 140mm (4.4 ~ 5.5 in.)  Weight: 1 kg (2.2 lbs.)  Supplied with M8x16 screw x4, washer x4, stainless steel straps x4 and spring washer-8 x4.</p>   <p>Unit: mm</p>
CX-PLBX-0	<p><b>Pole Wide Box Mounting</b></p> <p>Dimensions: 270 × 166 × 155mm/10.6 × 6.5 × 6.1 in. (L × W × D)  Weight: 3.2 kg (7.1 lbs.)  Supplied with M8x16 screw x4, washer-8 x4, spring washer-8 x4 and stainless steel straps x4.</p>    <p>Unit: mm</p>





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