



Illustra Pro 12MP Fisheye

# Configuration Guide

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# Introduction

The Illustra series cameras are high definition cameras utilizing the latest in IP technologies. ONVIF-compatibility allows interoperability with other ONVIF-compliant third party NVRs.

Although the camera can operate as a standalone camera on a network, it is intended to be integrated into sophisticated security solutions.

Please refer to the Illustra Cameras website ([www.illustracameras.com](http://www.illustracameras.com)) to ensure that you have the most current version of this Configuration Guide. Release Notes are also available on the website for each software release to document any known limitations not covered in this user guide.

The models of camera listed below are covered by this configuration guide:

Illustra Fisheye Model Description	Product Code
Illustra Pro 12 MP Fisheye, indoor/outdoor, white TDN w/IR, WDR	IPS12FFOCWIY, IPS12FFOCWIYx

## Accessing the Camera for the First Time

Step	Action
1	<p>Make appropriate network and power connection (typically PoE).</p> <p>The camera will automatically get an IP address if connected to a DHCP network. If DHCP addressing is not available, the camera will use its default fixed address: 192.168.1.168.</p>
2	<p>Find camera(s) on the network using Illustra Connect or another utility; or if using fixed addresses, connect to the camera on its default address.</p>
3	<p>Enter the default ID and password when prompted—ID: admin, Password: admin.</p>
4	<p>Select <b>Log in</b>.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"><li>The Admin user account is hard-coded until you create a new Admin username. New Admin users can choose to delete the pre-defined Admin user manually and add more Admin users.</li></ul>
5	<p>The first time you access the camera, you are prompted to use either the Standard Security or Enhanced Security. If you are keeping Standard Security, best practice is to use the Change Password check box to immediately change the default username and password to one unique to your surveillance system.</p>
6	<p>If you select the Enhanced Security option, you are required and instructed to create a new admin user and a complex password.</p> <p><b>Note:</b></p> <p>The password must meet the following requirements:</p> <ul style="list-style-type: none"><li>Be a minimum of seven characters long.</li><li>Have at least one character from at least three of the following character groups:</li></ul>

- Upper-case letters
  - Lower-case letters
  - Numeric characters
  - Special characters
- 

## Illustra Connect

Illustra Connect is the camera discovery tool created by Tyco Security Products and can be downloaded at [illustracameras.com](http://illustracameras.com).

Connecting to IP cameras and configuring them can be a time-consuming and error-prone process. Typing static IP addresses, or naming cameras without seeing where they are pointed, often results in longer installations. Illustra Connect eliminates all of these issues with a unique feature set that includes a one-touch IP conflict resolver and snapshot tool. Simply bring up all of the cameras out of the box, enter the IP range provided by the customer's IT department and click **OK**.

### Key functions of Illustra Connect are:

- **Resolve All Conflicts** button provides two options to fix conflicted IP addresses. You can set all conflicting cameras to DHCP or assign a static IP address within a certain range, for example: 192.168.185.100 to 192.168.185.110
- Snapshot views of all the cameras
- **Save Device List** allows you to create a .csv file of all information regarding the camera settings
- Set IP addresses via DHCP
- Configure IP settings and rename cameras
- Upload firmware to individual or selectable group of cameras
- Set date and time or direct the cameras to a specific NTP server
- Assign user name and password

## Discovering the Illustra Camera

The following provides detailed information for installing and accessing the camera.

### Illustra Connect

The following provides information for installing the camera on your network using the Illustra Connect discovery tool.

Illustra Connect enables automatic discovery of devices on IP networks and is the recommended method for installation and detection of the camera on the network.

### Discovering the Illustra Camera using Illustra Connect

Step	Action
1	Connect the camera to the computer or network which will be used for the configuration and power on. The camera will begin its initial boot up sequence which will take approximately 1 to 2 minutes. Out of the box, or when using a DHCP Server, the camera will automatically be assigned a Network IP address.
2	Install the Illustra Connect software that is provided with the camera. Refer to the Illustra Connect manual for more information.
3	When the installation is complete, run Illustra Connect. It will search the network and display all devices.
4	Select the camera you wish to configure, locating it by its unique MAC address. Illustra Connect allows basic configuration of the camera. Refer to the Illustra Connect manual for more information.
5	Right-click the camera and select <b>Launch Web GUI Configuration</b> .

- End -

## Installing the Illustra Camera using DHCP Server Logs

Step	Action
1	Connect the camera to the computer or network which will be used for the configuration and power on. The camera will begin its initial boot up sequence which will take approximately 1 to 2 minutes.
2	Out of the box or when using a DHCP Server the camera will automatically be assigned a Network IP Address.
3	View the DHCP Server system logs and make note of the IP address assigned to the camera.
4	Open Microsoft Internet Explorer and enter the URL of the camera as shown in the DHCP Server log.

**Note:**

At factory default, after enabling DHCP manually or if it is the first time the camera has been configured; the camera will reboot using the Failover of the last known static IP address until a DHCP address request is authorised by the DHCP server. The DHCP requests will remain active unless cameras are changed to Static IP.

## Configuring the Illustra Camera using a Static IP Address

The following information states how to install the camera on your network when no DHCP Server is available. In this situation the camera will be assigned a Static IP address.

Connect the camera to the computer or network which will be used for the configuration and power on.

**Note:**

- We recommend that once you are logged into the Web Configuration pages you change the Static IP address of the camera so that conflicts can be avoided when using the same Static IP address to setup additional cameras.
- In a situation where IP address conflicts arise, Illustra Connect can be used to discover the device.

## UPnP Discovery

Universal Plug and Play discovery broadcasts information about the camera to other devices on the network.

The feature broadcasts:

- Device names



- Manufacturer URL
- Device model
- Serial number
- MAC address
- Unique identifier
- IP address

The feature supports HTTP and HTTPS

## Using the Camera Controls

- You can use the on-screen controls in the Live Video Pane to control the camera
- Camera supports VPTZ on determined Image sources: Active Image. Quad active Image and Combo.

## Controlling the Camera via Camera Controls

You can use the on-screen controls in the Live Video Pane to control the camera.

**Note:**


---

The Fisheye features virtual PTZ functionality (eptz).

### Controlling the Camera via the Live Video Pane

---

Step	Action
------	--------

- |   |  |
|---|--|
| 1 | Select  to start the live web video.<br>The live video pane will display the current camera view. |
| 2 | Select the camera control item on the overlay to activate the control.   |

## Controlling the Pan/Tilt Control via Click and Drag

You can use the mouse to control the camera, allowing slower camera movement and maximum accuracy.

**Note:**

---


Camera supports VPTZ on determined Image sources: Active Imagee. Quad active Image and Combo.

---

### Controlling Pan/Tilt via Click and Drag using the Live Video Pane

---

Step	Action
------	--------

- |   |   |
|---|---|
| 1 | Select  to start the live web video. |
|---|---|

- The live video pane will display the current camera view.
- 2 Click and drag the cursor to set the direction and speed of the camera.
    - A red arrow will appear showing the direction of camera movement.
    - The camera's movement speed increases as the arrow is moved further from the cursor origin mark.

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- End -

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## Zooming Using the Mouse Scroll Wheel


You can control the zoom function using a scroll wheel mouse.

### Zooming via the Mouse Scroll Wheel Using the Live Video Pane

---

Step	Action
------	--------

---

- 1 Select  to start the live web video.  
The live video pane will display the current camera view.
- 2 While the cursor is over the Live Video Pane, scroll the mouse wheel upwards (zoom in) and downwards (zoom out).

---

- End -

---

This section details how to configure the camera settings.

## Prerequisites

- Only users with administrative rights can access all the areas of the Web Configuration pages.

## Accessing the Camera Web GUI

Procedures in relation to accessing the camera web GUI, are included below.

### Logging in to the Camera

Use the following procedure to access the camera.

#### Log in to the Camera

Step	Action
1	Refer to Introduction if it is your first time logging in to the camera.
2	Right-click on the camera icon and select <b>Launch Web GUI</b>
3	When the camera is selected the sign in page will be displayed.
4	Select <b>Log in</b> . The Live view page displays.
5	Enter the <b>Username</b> The default is ' <b>admin</b> '.
6	Enter the <b>Password</b> . The default is ' <b>admin</b> '.
7	The first time you access the camera, you are prompted to use either the Standard Security or Enhanced Security. If you are keeping Standard Security, best practice is to use the Change Username and Password check box to immediately change the default username password to one unique to your surveillance system.
8	If you select the Enhanced Security option, you are required and instructed to create a username and complex password.

**Note:**

The password must meet the following requirements:

- Be a minimum of seven characters long.
- Have at least one character from at least three of the following character groups:
  - Upper-case letters
  - Lower-case letters
  - Numeric characters

- Special characters
- 

9 Select **Apply** to save your settings.

---

- End -

---

## Logging out of the Camera

Use the following procedure to log off the camera Web GUI:

Select Log Off in the upper right hand corner of the Web GUI.

You will be logged off the camera and sign in page will be displayed.

---

- End -

---

## Changing the Camera Web GUI Language

Use the following procedure to change the language used in the camera web GUI

### Change the Camera Web GUI Language

---

Step	Action
------	--------

---

1 On the Login page of the Camera Web GUI, select the language you want from the drop-down menu:

- **English (American)**
- **Arabic**
- **Czech**
- **Danish**
- **German**
- **Spanish**
- **French**
- **Hungarian**
- **Italian**
- **Japanese**
- **Korean**
- **Dutch**
- **Polish**
- **Portuguese (Brazilian)**
- **Swedish**
- **Turkish**
- **Chinese Simplified**
- **Chinese Traditional**

The default language is `English`.

The camera Web GUI will be displayed in the selected language.

## Accessing the Setup Menus from Live View

When displaying full screen live video select **Setup** on the GUI banner to access the setup menus.

## Displaying the Live View Page

Display the live camera view page.

### Display Live View Page

---







Step	Action
------	--------















---

- |   |   |
|---|---|
| 1 | Select <b>Live</b> in the GUI banner.<br>The live view page will be displayed.  |
| 2 | Select a video stream from <b>Stream</b> to view:<br>The default setting is Stream 1.   |
| 3 | Select a percentage from <b>Scale</b> to change the display size of the video pane: <ul style="list-style-type: none"><li>• 25%</li><li>• 50%</li><li>• 75%</li><li>• 100%</li></ul> The default setting is '25%' |

## GUI Icons

The following provides information on the icons used throughout the camera interface. These icons will be referenced throughout this manual:

	Select to start streaming video to the video pane.		Select to stop streaming video to the video pane.
	Check box, deselected.		Check box, selected.
	Delete the corresponding function.		Refresh the current tab.

	View or activate the corresponding function.		Edit the corresponding function.
	Hide the active tab details.		Unhide the active tab details
	Icon represents standard Fisheye Image view		Icon represents Fisheye Active Image (eptz) view
	Icon represents Wall Panoramic (180° view)		Icon represents Ceiling Panoramic (360° view)
	Icon represents Combi image view: 1x 180° panoramic & 2x Active Images (2eptz)		Icon represents Combi image view: Quad Active Image (4eptz)
	Enable standard Flex Image view		Enable which Flex camera view is desired by selecting the radio button next to it
	Slider bar - The slider bar can be moved left or right using the mouse. For fine adjustments, select the slider bar with the mouse and use the left and right arrow keys on the PC keyboard to adjust the slider.		
	Select the page number or arrows to navigate through the corresponding pages.		



## Video Pane

The video pane provides a simple way to view the live video stream from the camera when using the Web GUI.

### Viewing Live Streams via the Video Pane

The video pane is accessible to any authorized user and is displayed when accessing the Web GUI menus.

#### Viewing Live Video via the Video Pane

Step	Action
1	The video stream will start automatically when a page is opened.
2	Select  to stop the video stream.
3	If the video has been stopped, select  to start the video stream.

---

- End -

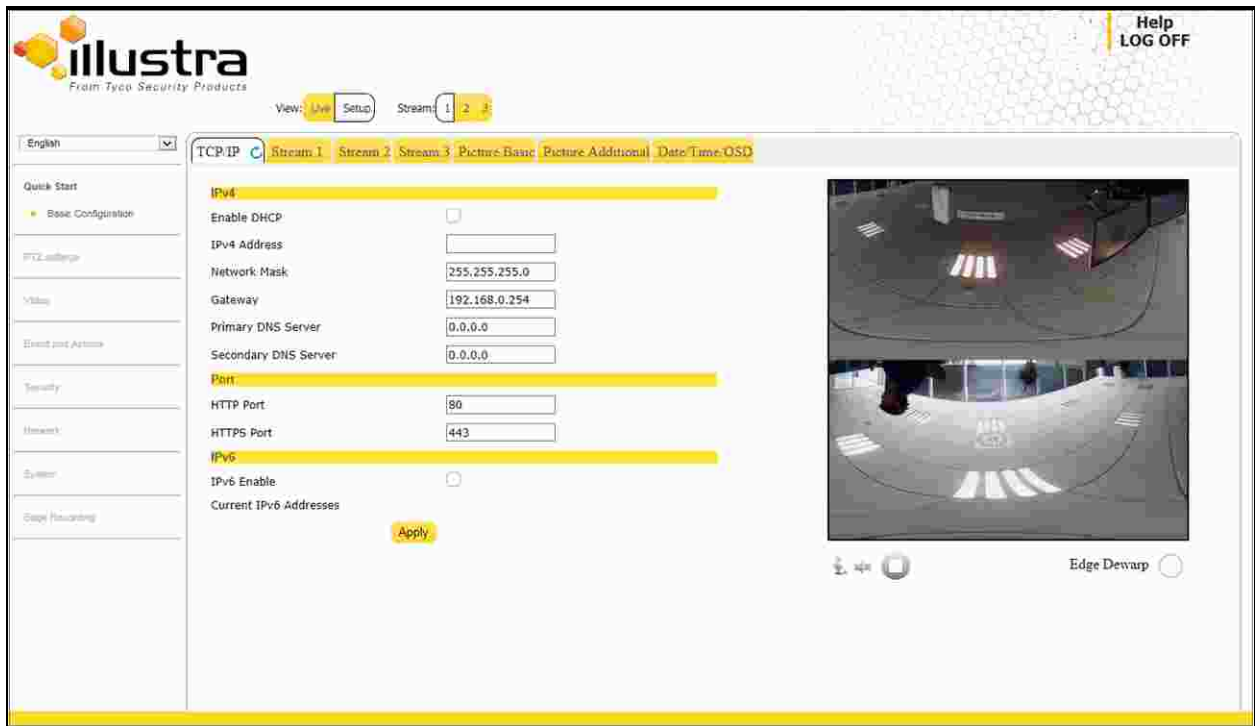
---

# Quick Start Menu

When the Quick Start menu is selected, Figure 3-1 Basic Configuration Menu will be displayed.

**Note:**

When an admin user logs in for the first time the Basic Configuration page is displayed. After this, on each login the Video > Streams page will be displayed.



**Figure 3-1 Basic Configuration Menu**

The Basic Configuration menu provides access to the most common features required when setting up a camera for the first time and is only available to an 'admin' user. The following tabs are displayed:

- TCP/IP
- Stream
- Picture Basic
- Picture Additional
- Date/Time/OSD



# TCP/IP

Configure the IPv4 and IPv6 network settings on the camera.

## IPv4

Configure the IPv4 network settings for the camera.

### Configure the IPv4 Settings

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select the <b>TCP/IP</b> tab in the <b>Quick Start Basic Configuration</b> menu.
3	Select the <b>Enable DHCP</b> check box to enable DHCP (Dynamic Host Configuration Protocol) and disable manual settings.  OR  Deselect <b>Enable DHCP</b> to disable DHCP and allow manual settings to be entered.  The default setting is 'Enabled'.
4	If Enable DHCP has been disabled:  a Enter the <b>IPv4 Address</b> in the IPv4 Address text box in the form xxx.xxx.xxx.xxx. The default setting is '192.168.1.168' .  b Enter the <b>Network Mask</b> in the Network Mask text box xxx.xxx.xxx.xxx. The default setting is '255.255.255.0'.  c Enter the <b>Gateway</b> IP address in Gateway text box xxx.xxx.xxx.xxx. The default setting is 192.168.1.254.  d Enter the <b>Primary DNS Server</b> in the Primary DNS Server text box xxx.xxx.xxx.xxx. The default setting is 0.0.0.0.
5	Select <b>Apply</b> to save the settings.

- End -

#### Note:

If the camera has been configured with a static IP and DHCP is enabled, the camera will continue to use the set static IP until the DHCP is set and a new IP has been assigned.

## IPv6

Enable or disable IPv6 on the camera.

### Enable/Disable IPv6

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.

- 2 Select the **TCP/IP** tab in the **Quick Start Basic Configuration** menu.
- 3 Select the **IPv6 Enable** check box to enable IPv6 on the camera.  
OR  
Deselect the **IPv6 Enable** check box to disable IPv6 on the camera.  
The default setting is 'Enabled'.

---

- End -

---

## Video Stream Settings

The camera allows the configuration of up to three video streams. These streams can be configured via the Web GUI, as detailed here, or via the Illustra API.

Opening the Web GUI live video will allow the stream to be shared with the Illustra API and will minimize the impact on camera resources.

### Configuring the Web Video Stream

Adjust the settings for each video stream.

#### Configure the Video Stream Settings

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select the <b>Video</b> tab and choose between the stream 1, 2, 3 tabs.
3	The selected stream displays. <b>Note:</b>
	When using the Pro Fisheye camera: <ul style="list-style-type: none"> <li>• there will be a choice of image sources to be selected. The image source choices available will vary according to camera dewarp mode and mount option settings.</li> <li>• the image selected in Stream 1 is shared between the other streams.</li> </ul>
4	Select the required <b>Codec</b> by selecting the radio buttons: <ul style="list-style-type: none"> <li>• <b>H264</b></li> <li>• <b>MJPEG</b></li> </ul>
5	Select the required <b>Resolution</b> from the drop-down menu. The resolutions available will depend on the Image Source selected. Refer to <a href="#">Appendix A: Stream Table on Page 96</a> for more information.
6	Use the slider bar to select the <b>Frame Rate (fps)</b> .
7	Use the slider bar to select the <b>Group of Pictures (GOP)</b> length.
8	If MJPEG has been selected, MJPEG Quality will be enabled. Use the slider bar to select the <b>MJPEG Quality</b> . OR

9 If H264 has been selected in step 4, Rate Control will be enabled. Select the required **Rate Control** by selecting the radio buttons:

- **VBR (Variable Bit Rate)**
- **CBR (Constant Bit Rate)**
- **CVBR (Constrained Variable Bit Rate)**

The default setting is 'VBR'.

If VBR has been selected, VBR Quality will be enabled. Select the required **VBR Quality** from the drop-down menu.

- Highest
- High
- Medium
- Low
- Lowest

The default setting is 'High'.

OR

e If CBR has been selected, CBR Bit Rate will be enabled. Use the slider bar to select the **CBR Bit Rate**.

OR

f If CVBR has been selected, CVBR Quality and Bitrate will be enabled. Select the required **CVBR Quality** from the drop-down menu.

- Highest
- High
- Medium
- Low
- Lowest

The default setting is 'High'.

AND

Use the slider bar to select the **CVBR Bit Rate**.

---

- End -

---

## Picture Basic Tab

Orientation, zoom and exposure settings are configured from the Picture Basics tab.

## Picture Basic Settings

The Pro Fisheye camera exposure settings may be configured to optimize visual quality.

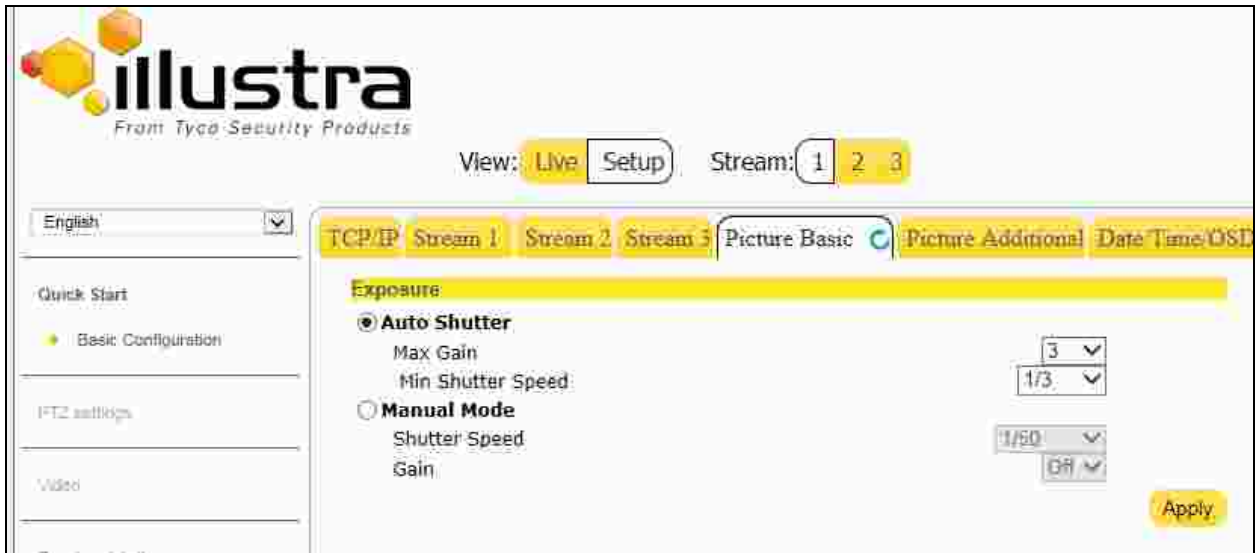


Figure 3-2 Picture Basic settings on Pro Fisheye camera

## Auto Shutter Mode

In this mode, the camera's shutter speed adjusts automatically to maintain a consistent video output level.

## Manual Mode

In this mode the camera's shutter speed can be adjusted manually to attain the desired video output level.

## Auto Shutter Mode

Enable or disable Auto Shutter mode.

## Manual Mode

Enable or disable Manual Mode.

### Enable/Disable Auto Shutter Mode

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select the <b>Picture Basic</b> tab from the <b>Quick Start Basic Configuration</b> menu.
3	Select the <b>Auto Shutter</b> check box to enable Auto Shutter mode. OR Deselect the <b>Auto Shutter</b> check box to disable Auto Shutter mode. The default setting is 'Enabled'.
4	Select <b>Apply</b> to save your settings.

- End -

## Configure Auto Shutter Mode Settings

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select the <b>Picture Basics</b> tab from the <b>Quick Start Basic Configuration</b> menu.
3	Select the <b>Auto Shutter</b> check box to enable Auto Shutter mode.
4	Adjust the Shutter speed by using the dropdown menu to select the desired minimum shutter speed.
5	Adjust the Max Gain settings using the dropdown menu to select the desired value.
6	Select <b>Apply</b> to save your settings.

---

- End -

---

## Enable/Disable Manual Mode

---

Step	Action
7	Select <b>Setup</b> on the GUI banner to display the setup menus.
8	Select the <b>Picture Basic</b> tab from the <b>Quick Start Basic Configuration</b> menu.
9	Select the <b>Manual</b> check box to enable Manual mode. OR Deselect the <b>Manual</b> check box to disable Manual mode. The default setting is 'Disabled'.
10	Select <b>Apply</b> to save your settings.

---

- End -

---

## Configure Manual Mode Settings

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select the <b>Picture Basics</b> tab from the <b>Quick Start Basic Configuration</b> menu.
3	Select the <b>Manual</b> check box to enable Manual mode.
4	Adjust the Shutter speed by using the dropdown menu to select the desired shutter speed.
5	Adjust the Gain settings using the dropdown menu to select the desired value.
6	Select <b>Apply</b> to save your settings.

## Picture Additional Menu

Configure WDR (Wide Dynamic Range), DayNight Mode, Picture Adjustment and White Balance displayed in the video pane from the Picture Additional tab.

## Picture Additional Settings on the Pro Fisheye camera

Refer to Figure 3.6 when configuring Wide Dynamic Range, Day Night Mode, Picture Adjustment, White Balance and Noise Reduction settings for the Pro Fisheye camera.

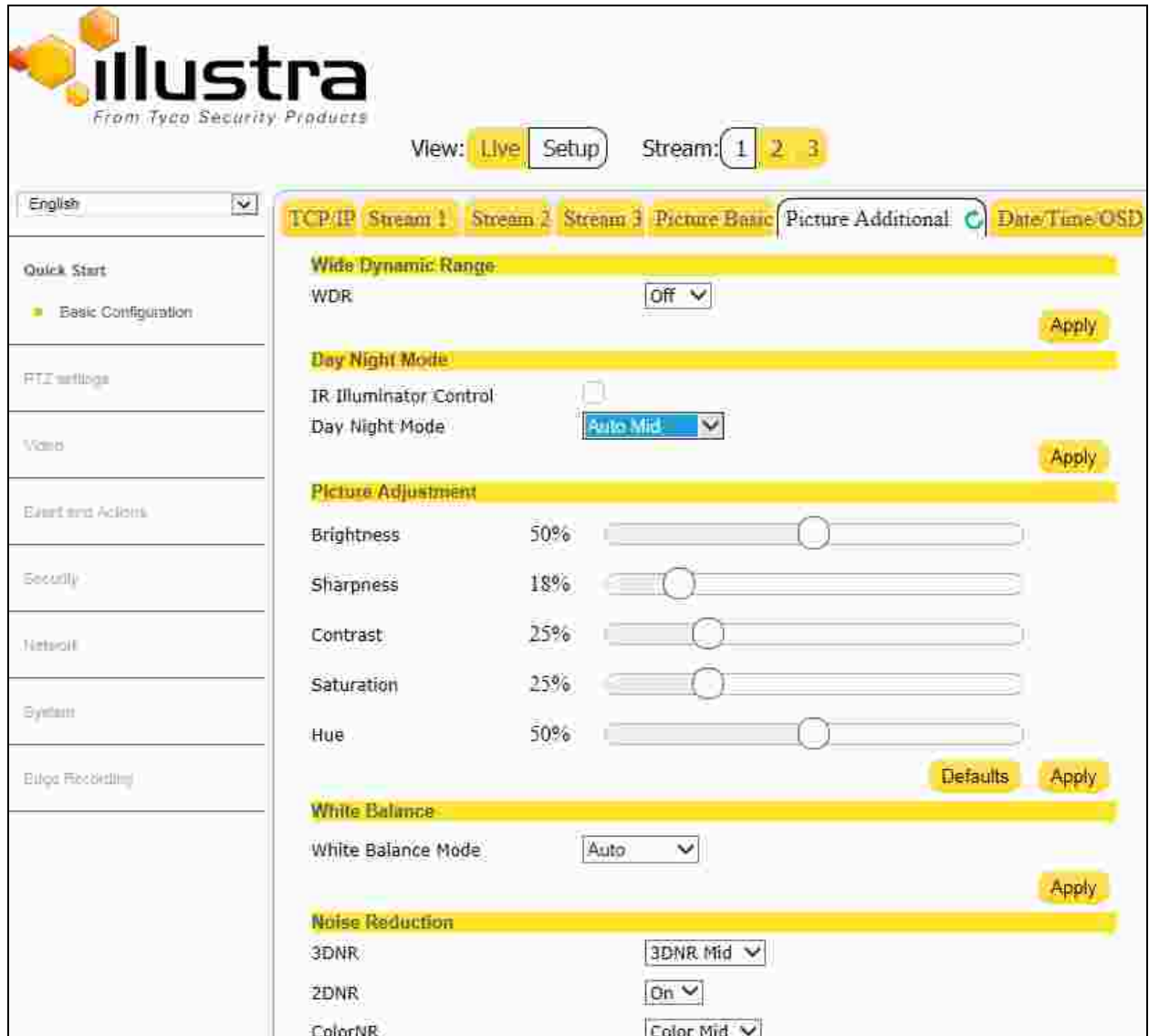


Figure 3-3 Picture Additional settings on Pro Fisheye camera

### Wide Dynamic Range

WDR is a feature that allows viewing of high contrast scenes that include both bright and low light areas in the same field of view (FOV).

The WDR field allows you to choose between favouring an underexposed or overexposed image. By disabling the WDR the image is underexposed; this provides more detail in areas of brightness, but less detail in areas of darkness. On the other hand, enabling WDR overexposes the image which provides more detail in the dark areas but less detail in the bright areas.

A typical use for this feature would be viewing a scene with both indoor and outdoor lighting conditions simultaneously, such as a warehouse area with an open bay door.

## Configure Wide Dynamic Range (WDR) Settings

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select the <b>Picture Additional</b> tab from the <b>Quick Start Basic Configuration</b> menu.
3	Select one of the following options from the <b>WDR</b> dropdown menu <ul style="list-style-type: none"><li>• Low</li><li>• Med</li><li>• High</li><li>• Off</li></ul>
4	Select <b>Apply</b> to carry out the change.
5	The default WDR setting is 'Off'.

---

- End -

## Day Night Mode

The camera provides a black-and-white (B/W) mode to improve camera performance when the light level falls below certain thresholds. This allows clear images to be obtained under low-light conditions. There are five Day/Night settings: Auto High, Auto Mid, Auto Low, Forced Black and White and Forced Color.

## Configuring Day Night Mode

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select the <b>Picture Additional</b> tab from the <b>Quick Start Basic Configuration</b> menu.
3	Select a <b>Day Night Mode</b> setting from the drop-down menu: <ul style="list-style-type: none"><li>• Auto High</li><li>• Auto Mid</li><li>• Auto Low</li><li>• Forced B &amp;W( night time)</li><li>• Forced Color (day time)</li><li>• Manual (provides 6 selectable levels of transition between night to day and day to night settings)</li></ul>
4	Select <b>Apply</b> to save your settings The default setting is 'Auto Mid' mode.

---

- End -

## IR Illuminator Control

When enabled the IR illuminator Control feature allow the camera to pick up important details from a distance even in extremely low light environments.

## Enable/Disable IR Illuminator Control

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select the <b>Picture Additional</b> tab from the <b>Quick Start Basic Configuration</b> menu.
3	Enable or disable IR Illuminator Control by checking or unchecking the <b>IR Illuminator Control</b> checkbox. <ul style="list-style-type: none"><li>• Check the checkbox to enable IR Illuminator Control</li><li>• Uncheck the checkbox to disable IR Illuminator Control.</li></ul>
4	Select <b>Apply</b> to save your settings.

---

- End -


---

## Picture Adjustment

Adjust brightness, sharpness, contrast, saturation and hue of the image displayed on the video pane.

### Adjust Brightness, Sharpness, Contrast, Saturation and Hue

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select the <b>Picture Additional</b> tab from the <b>Quick Start Basic Configuration</b> menu.
3	Select  to start the video stream if it is not already active. The video pane will display the current camera view.
4	Use the slider bars to adjust: <ul style="list-style-type: none"><li>• Brightness</li><li>• Sharpness</li><li>• Contrast</li><li>• Saturation (color level)</li><li>• Hue</li></ul>
5	Select <b>Apply</b> to save changes . The live video pane will update to display the values you have selected. The values range from 0% to 100%. The default values are 50% for brightness, 18% for sharpness, 25% for contrast, 25%for saturation and 50% for hue. The live video pane will update to display the values you have selected.

---

- End -

---

### Restore Picture Adjustment Defaults

---

Step	Action
------	--------

---



- 1 Select **Setup** on the GUI banner to display the setup menus.
- 2 Select the **Picture Additional** tab from the **Quick Start Basic Configuration** menu.
- 3 Select **Defaults** to restore picture settings to the factory defaults.

---

- End -

---

## White Balance

White balance (the ability to keep whites looking white) is normally compensated for automatically via the default Auto White Balance setting.


Manual White Balance is available when specific color temperature settings want to be set and preserved. This can be done using the red and blue slider adjustments set for optimal viewing.

### Configure White Balance

---

Step	Action
------	--------

---

- 1 Select **Setup** on the GUI banner to display the setup menus.
- 2 Select the **Picture Additional** tab from the **Quick Start Basic Configuration** menu.
- 3 Select  to start the video stream if it is not already active.  
The video pane will display the current camera view.
- 4 Select the required **White Balance Mode** from the drop-down menu:
- 5
  - **Auto**: Suitable for a normal range of lighting condition
  - **Indoor** (Best for indoor settings)
  - **Outdoor** (Best for outdoor settings)
- 6 Select **Apply** to save your settings

---

- End -

---

## Noise Reduction

The camera provides multiple Noise Reduction options for delivering optimized image quality, especially in extra low-light conditions.

The 3D Noise Reduction (3DNR) feature delivers optimized image quality, especially in extra low-light conditions.

The 2D Noise Reduction (2DNR) feature delivers clear images without motion blurs in extra low-light conditions.

The Color Noise Reduction (ColorNR) feature eliminates color noise when the camera is in color mode in a dark environment.

### Configure 3DNR settings

---

Step	Action
------	--------

---

- 1 Select **Setup** on the GUI banner to display the setup menus.

- 2 Select **3DNR** from the **Picture Additional** menu.
- 3 Select an option from the **3DNR** dropdown menu:
  - OFF
  - 3DNR High
  - 3DNR Mid
  - 3DNR Low
- 4 Select Apply to save your settings.

---

- End -

---

## Enable/Disable 2DNR

---

Step	Action
------	--------

---

- 1 Select **Setup** on the GUI banner to display the setup menus.
- 2 Select **2DNR** from the **Picture Additional** menu.
- 3 Select an option from the 2DNR dropdown menu:
  - ON
  - OFF
- 4 Select **Apply** to save your settings.

---

- End -

---

## Configure ColorNR settings

---

Step	Action
------	--------

---

- 1 Select **Setup** on the GUI banner to display the setup menus.
- 2 Select **Picture Additional** from the **Quick Start Basic Configuration** menu.
- 3 Select an option from the **ColorNR** dropdown menu:
  - Off color
  - Low color
  - Mid color
  - High color
- 4 Select **Apply** to save your settings.

---

- End -

---

# PTZ Settings Menu

When the video menu is selected, Figure 4-1 PTZ Settings Menu will be displayed:

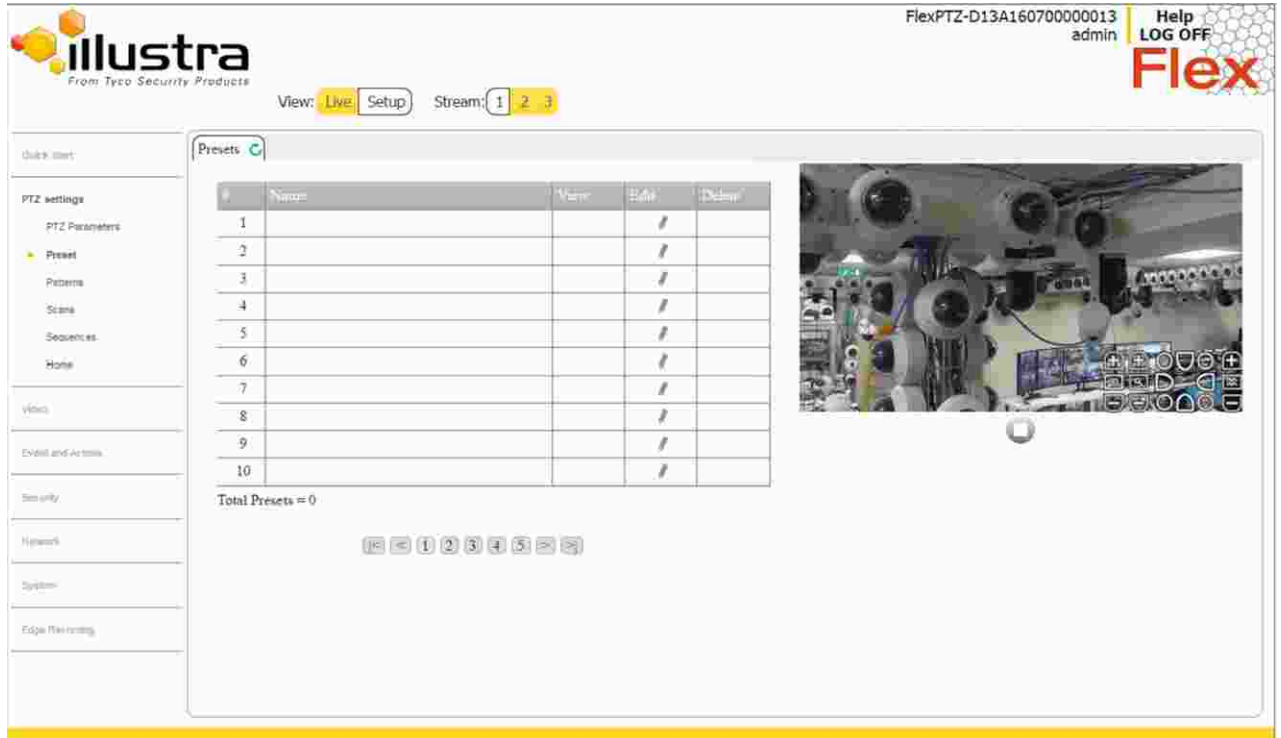


Figure 4-1 PTZ Settings Menu

The PTZ Settings Menu provides access to the following camera settings and functions:

- Preset
- Scans
- Sequences

## Preset

A Preset is a pre-positioned camera scene that you program using the pan, tilt and zoom options. Up to 50 presets can be programmed on the camera.

**Note:**

---

- When using the Pro Fisheye camera note that the selected stream must use an Active Image source.
  - On Pro Fisheye camera, when using image sources containing multiple active images, you will need to select the pane on which to save or launch the preset.
- 

## Adding a new Preset

Create a new preset position on the camera.

### Add a Preset

---

Step	Action
------	--------

---

1 Select **Setup** on the GUI banner to display the setup menus.

2 Select **Presets** from the **PTZ settings** menu.

The Preset tab displays.

3 Select  to start the video stream if it is not already active.

The video pane will display the current camera view.

**Note:**

---


On the Fisheye camera, you must select the pane on which to launch the preset. Select the pane by clicking on one of the available pane icons.

---

4 Adjust the camera view as required.

- **Pan, Tilt and Zoom.**
- **Focus and Iris points (PTZ only)**

Refer to [Introduction](#) on [Page 6](#) to make the necessary adjustments.

5 In a numbered slot on the preset table, select  to add the new preset.

6 Enter the preset name in the **Preset Name** text box.

7 Select **Add** to save the preset.

OR

Select **Cancel**.

---



- End -

---

## Viewing a Preset

View an existing preset position.

### View a Preset

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Preset</b> from the <b>PTZ settings</b> menu. The Preset tab displays.
3	Select  to start the video stream if it is not already active. The video pane will display the current camera view. <b>Note:</b> On the Pro Fisheye camera, you must select the pane on which to launch the preset. Select the pane by clicking on one of the available pane icons.
4	Select  to activate the corresponding preset. The video pane will update to display the selected preset. The preset will display until interrupted by a camera command or scan.




---

- End -

## Editing a Preset

Edit an existing preset position.

### Edit an existing Preset


Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Preset</b> from the <b>PTZ settings</b> menu. The Preset tab displays.
3	Select  to start the video stream if it is not already active. The video pane will display the current camera view. <b>Note:</b> On the Pro Fisheye camera, you must select the pane on which to launch the preset. Select the pane by clicking on one of the available pane icons.
4	Select  to activate the corresponding preset. The video pane will update to display the selected preset.
5	Select  to edit the corresponding preset.

- 6 Edit the preset name in the **Preset Name** text box if required.
- 7 Adjust the camera view as required.
  - **Pan, Tilt and Zoom.**
  - **Focus and Iris point (PTZ only).**
- 8 Select **Add** to save the updated preset.  
You will be prompted to confirm the update.
- 9 Select **OK** to save the changes.  
OR  
Select **Cancel**.

## Deleting a Preset

Delete an existing preset position from the camera.

### Delete a Preset

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Preset</b> from the <b>PTZ</b> menu. The Preset tab displays.
3	Select  to delete the corresponding preset. You will be prompted to confirm the deletion.
<b>Note:</b>	
You cannot delete a preset while it is associated with another camera function. To remove the preset, refer to the associated camera function.	
4	Select <b>OK</b> to confirm the deletion. OR Select <b>Cancel</b> .
- End -	

## Scans

A scan allows you to program left and right scan limits to automate surveillance activities. Once these scan limits are programmed, you can choose to run a smooth scan, stepped scan, or random scan. When active, the scan repeats until interrupted by a camera command, preset or alarm.

### Note:

When using the Pro Fisheye camera note the following:

- The selected stream must use an Active Image Source to use the scans function.


- Sequences and Scans can only be run on one Active Image source at a time. Other Active Image sources configured on the camera can utilize vPTZ if required.
- 

## Setting Scan Limits

Set left and right scan limits on the camera.

### Set Scan Limits

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Scans</b> from the <b>PTZ settings</b> menu. The Scans tab displays.
3	Select  to start the video stream if it is not already active. The video pane will display the current camera view. <b>Note:</b> On the Pro Fisheye camera, you must select the pane on which to launch the scan. Select the pane by clicking on one of the available pane icons.
4	Adjust the camera view as required to locate the left scan limit.
5	Select <b>Set Left</b> to set the displayed position as the left limit. This action sets the tilt and zoom in the position.
6	Adjust the camera view as required to locate the right scan limit.
7	Select <b>Set Right</b> to set the displayed position as the right limit. The scan limits have been set and the selected scan will now run within the scan limits set.

---

- End -

---

## Set Scan Limits to Default Settings

Return the camera to the default scan settings.

### Set Scan Limits to Default Settings

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Scans</b> from the <b>PTZ settings</b> menu.
3	Select the Scans tab. The Scans tab displays.
4	Select <b>Defaults</b> . The scan limits will default to Left: 0 and Right: 359.

## Activating a Scan

Activate a scan on the camera, this will run using the scan limits saved in Setting Scan Limits.

**Note:**

---

Setting left scan limit will also determine the tilt at which the scan will run.

---

## Activate a Scan

---

Step	Action
------	--------

---

1	Select <b>Setup</b> on the GUI banner to display the setup menus.
---	---

2	Select <b>Scans</b> from the <b>PTZ settings</b> menu.
---	--

The Scans tab displays.

3	Select  to start the video stream if it is not already active.
---	---

The video pane will display the current camera view.

**Note:**

---

On the Pro Fisheye camera, you must select the pane on which to launch the scan. Select the pane by clicking on one of the available pane icons.

---

(Before activating a scan, refer to [Set Scan Limits to Default Settings](#) on [Page 31](#).)

4	Select  to activate the corresponding scan.
---	--

- **Smooth** - slowly pans between the left and right scan limits, starting at the left scan limit. When the right scan limit is reached, the scan reverses
- **Stepped** - pans slowly, pausing briefly every 10° between the left and right scan limits. Once the right scan limit is reached, the scan reverses.
- **Random** - pans randomly between the left and right scan limits. For example, the scan may start at 10°, then pan right 40° and pause, pan right 20° and pause, pan left 30° and pause, and pan right until it reaches the right scan limit.

5	The video pane will update to display the selected scan.
---	--

6	The scan will run continuously until interrupted by a camera command preset, or alarm.
---	--

## Sequences

A Sequence is a sequential display of multiple camera Presets. Sequences provide a methodical and effective way to monitor multiple areas of interest by switching to different Presets automatically.

Sequences are created by identifying Preset views to include in the Sequence and specifying a dwell time that controls how long each Preset remains on-screen before switching to another Preset.



Up to 8 Sequences can be created, each with steps (Presets). Up to 64 presets may be included in a Sequence.

**Note:**

When adding or configuring a sequence on the Pro Fisheye camera, you will need to select the pane on which to save or launch the preset.

## Adding a Sequence

Create a new sequence on the camera using defined presets.

### Add a Sequence


Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Sequences</b> from the <b>PTZ settings</b> menu.
3	Select the <b>Add Sequence</b> tab.
4	Enter the <b>Sequence Name</b> .
5	Select a preset from the <b>Preset Name</b> drop-down menu.
6	Enter a dwell time in seconds in the <b>Dwell Time (sec)</b> text box. The settings are 5-500.
7	Select <b>Add</b> . The preset is now listed as part of the sequence.
8	Repeat steps 5 to 7 to add further presets to the sequence. <b>Note:</b> Up to 8 presets can be added to a sequence.
9	Select <b>Apply</b> to save the sequence.


- End -

## Activating a Sequence

Activate a selected sequence.

### Activate a Sequence

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Sequences</b> from the <b>PTZ settings</b> menu. The Sequences tab displays.
3	Select  to start the video stream if it is not already active. The video pane will display the current camera view.

- 4 Select  to activate the corresponding sequence.  
The video pane will update to display the selected sequence. The sequence will run continuously until interrupted by a camera command preset, scan or alarm.

---

- End -

---

## Editing a Sequence




Edit an existing sequence.

### Edit a Sequence

---

Step	Action
------	--------

---

- |   |  |
|---|--|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.  |
| 2 | Select <b>Sequences</b> from the <b>PTZ settings</b> menu.<br>The Sequences tab displays.  |
| 3 | Select  to edit the corresponding sequence.<br>The sequence will open in the Edit Sequence tab.   |
| 4 | Edit the sequence name in the <b>Sequence Name</b> text box if required.   |
| 5 | Select  to edit the corresponding preset. The following can be edited: <ul style="list-style-type: none"><li>• <b>Preset Name</b>: To add a new preset to the sequence, move to the next available free slot and select a preset from the <b>Preset Name</b> drop-down menu.</li><li>• <b>Dwell time</b></li></ul> |
| 6 | If required, select  to remove the corresponding preset from the sequence.  |
| 7 | Select <b>Add</b> to save the changes<br>OR<br>Select <b>Cancel</b> .  |
| 8 | Select <b>Apply</b> to save the changes.   |

---

- End -

---

## Deleting a Sequence

Delete an existing sequence.

### Delete a Sequence


---

Step	Action
------	--------

---

- |   |   |
|---|---|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus. |
| 2 | Select <b>Sequences</b> from the <b>PTZ settings</b> menu.        |

The Sequences tab displays.

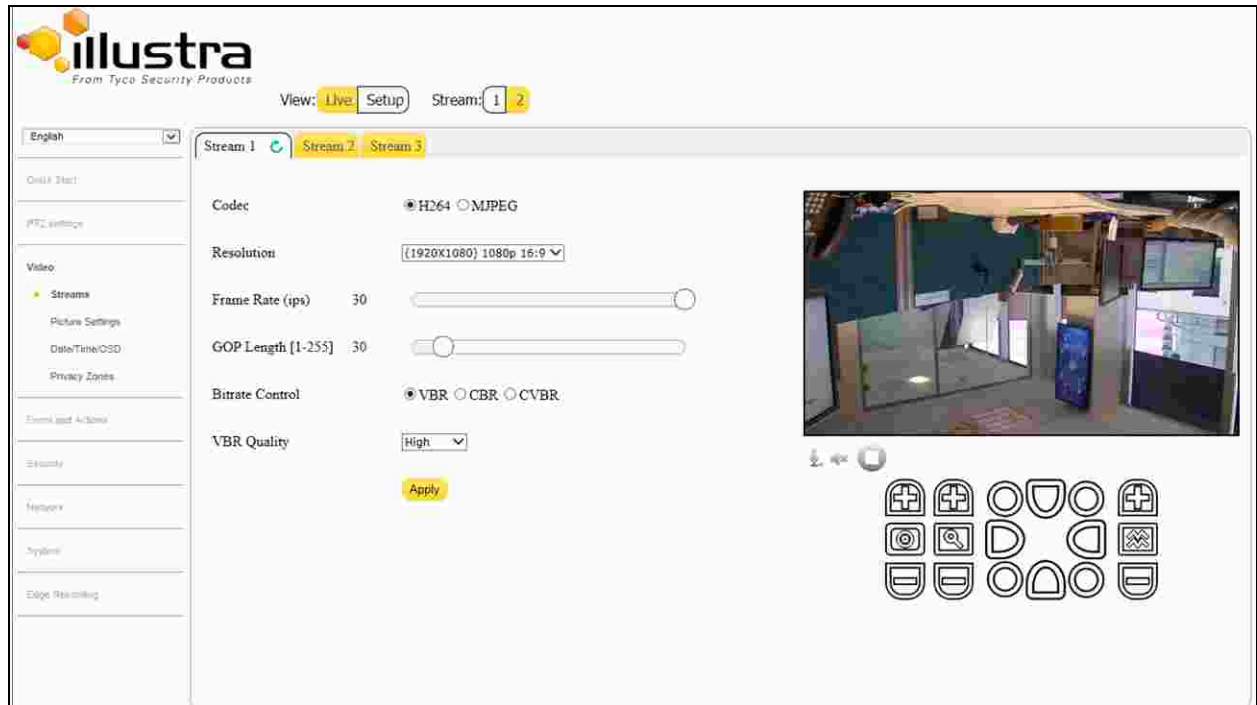
- 3 Select  to delete the corresponding sequence.  
You will be prompted to confirm the deletion.
- 4 Select **OK** to delete the sequence.  
Or Select **Cancel**.

---

- End -

---

When the video menu is selected, Figure 5-1 Video Menu will be displayed.



**Figure 5-1 Video Menu**

The Video Menu provides access to the following camera settings and functions:

- Streams
- Camera
- Picture Settings
- Date/Time/OSD
- Privacy Zones

## Streams

The camera allows the configuration of up to three video streams. These streams can be configured via the Web GUI, as detailed here.

Refer to [Appendix A: Stream Table](#) on [Page 96](#)

## Integration with American Dynamics Network Video Recorders

Streams can be configured via the Web GUI, as detailed here or via the Network Video Recorder interface. Changes made to the streams via either method will be applied and the video will be displayed according to the configuration

Opening the Web GUI live view while the Network Video Recorder is recording video will allow the stream to be shared and will minimize the impact on camera resources.

## Integration with other Illustra API Clients

Streams can be configured via the Web GUI, as detailed here, or via the Illustra API interface. Changes made to the streams via either method will be applied and the video will be displayed according to the configuration.

Opening the Web GUI live video will allow the stream to be shared with the Illustra API and will minimize the impact on camera resources.

## Configuring the Video Stream Settings

Adjust the settings for each video stream.

### Configure the Video Stream settings

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select the <b>Video</b> tab and choose between the stream 1,2, 3 tabs. The selected tab displays. <b>Note:</b> When using the Pro Fisheye camera: <ul style="list-style-type: none"><li>• there will be a choice of image sources available to be selected for stream 1.</li><li>• the image source choices that are available vary according to camera dewarp mode and mount option settings.</li><li>• the image selection in Stream 1 is replicated in Streams 2 and 3.</li></ul>
3	Select the required <b>Codec</b> by selecting the radio buttons: <ul style="list-style-type: none"><li>• <b>H264</b></li><li>• <b>MJPEG</b></li></ul>
4	Select the required <b>Resolution</b> from the drop-down menu. The resolutions available will depend on the Image Source selected:
5	Use the slider bar to select the <b>Frame Rate (Frames Per Second)</b> .

- 6 Use the slider bar to select the **Group of Pictures (GOP)** length.
- 7 If MJPEG has been selected, MJPEG Quality will be enabled. Use the slider bar to select the **MJPEG Quality**.  
OR
- 8 If H264 has been selected, Rate Control will be enabled. Select the required **Rate Control** by selecting the radio buttons:
- **VBR (Variable Bit Rate)**
  - **CBR (Constant Bit Rate)**
  - **CVBR (Constrained Variable Bit Rate)**
- The default setting is 'VBR'.
- a If VBR has been selected, VBR Quality will be enabled. Select the required **VBR Quality** from the drop-down menu.
- Highest
  - High
  - Medium
  - Low
  - Lowest
- The default setting is 'High'.
- OR
- b If CBR has been selected, CBR Bit Rate will be enabled. Use the slider bar to select the **CBR Bit Rate**
- OR
- c If CVBR has been selected, CVBR Quality and Bitrate will be enabled. Select the required CVBR Quality from the dropdown menu.
- Highest
  - High
  - Medium
  - Low
  - Lowest
- The default setting is 'High'.
- AND
- Use the slider bar to select the **CVBR Bit Rate**.

---

- End -

---

## Camera

The camera menu contains camera viewing options.

## Mounting View

The camera view setting can be switched from wall mounted or ceiling mounted according to how you have mounted the camera.

### Enable Camera view

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Camera</b> from the <b>Video</b> menu. The <b>Mounting</b> tab displays.
3	Select the <b>Ceiling</b> checkbox to enable the ceiling mounted view OR Select the <b>Wall</b> checkbox to enable the wall mounted view.

---

- End -

---

## Dewarp

The dewarping feature clarifies image distortion, enabling the Pro Fisheye camera to have the same range of view as a PTZ camera. The user may choose to have a Fisheye stream or a stream that has already been dewarped stream directly to the camera.

### Enable Dewarping

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Camera</b> from the <b>Video</b> menu. The Camera tab displays.
3	Select the <b>Edge</b> checkbox to enable Edge dewarping view. The camera provides a fisheye or a choice of dewarped streams, depending on the user's requirements. OR Select the <b>Client</b> checkbox to enable the Client dewarping view. The camera will provide only a Fisheye stream.

---

- End -

---

## Picture Basic Tab

Orientation, zoom, and exposure settings are configured from the Picture Basics tab. The camera exposure settings may be configured to optimize visual quality.

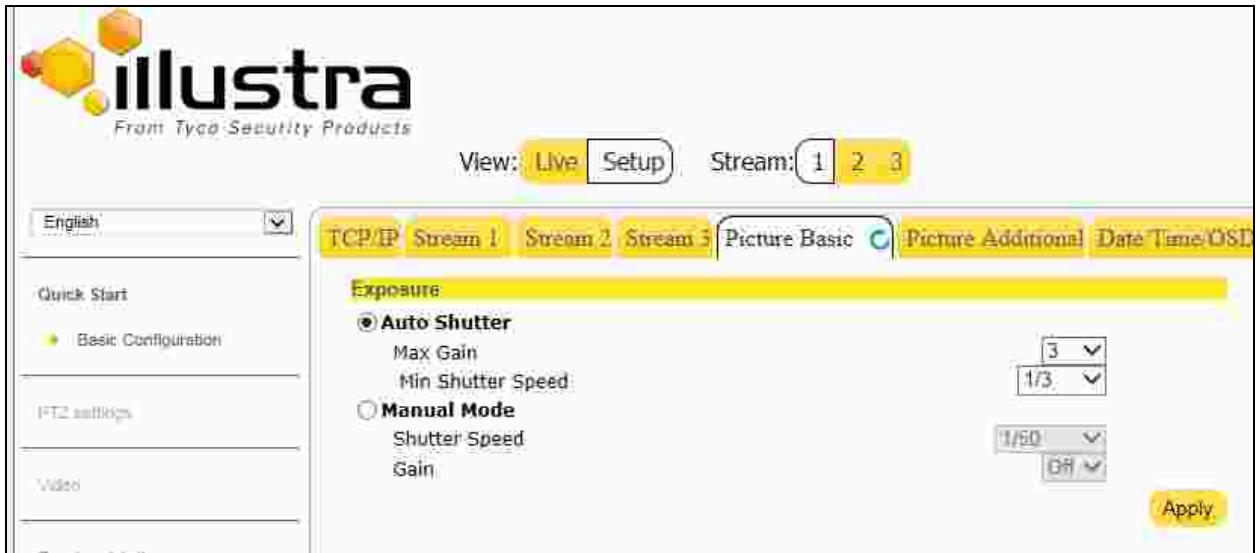


Figure 5-2 Picture Basic settings on Pro Fisheye camera

## Auto Shutter Mode

In this mode, the camera's shutter speed adjusts automatically to maintain a consistent video output level.

## Manual Mode

In this mode the camera's shutter speed can be adjusted manually to attain the desired video output level.

## Auto Shutter Mode

Enable or disable Auto Shutter mode.

## Manual Mode

Enable or disable Manual Mode.

### Enable/Disable Auto Shutter Mode

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Picture Settings</b> from the <b>Video</b> menu.
3	Select the <b>Picture Basic</b> tab.
4	Select the <b>Auto Shutter</b> check box to enable Auto Shutter mode. OR Deselect the <b>Auto Shutter</b> check box to disable Auto Shutter mode. The default setting is 'Enabled'.
5	Select <b>Apply</b> to save your settings.



---

- End -

---

## Configure Auto Shutter Mode Settings

---

Step	Action
------	--------

---

- |   |  |
|---|--|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.                                |
| 2 | Select <b>Picture Settings</b> from the <b>Video</b> menu.                                       |
| 3 | Select the <b>Picture Basic</b> tab.   |
| 4 | Select the <b>Auto Shutter</b> check box to enable Auto Shutter mode.                            |
| 5 | Adjust the Shutter speed by using the dropdown menu to select the desired minimum shutter speed. |
| 6 | Adjust the Max Gain settings using the dropdown menu to select the desired value.                |
| 7 | Select <b>Apply</b> to save your settings.   |
- 

- End -

---

## Enable/Disable Manual Mode

---

Step	Action
------	--------

---

- |   |   |
|---|---|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.   |
| 2 | Select <b>Picture Settings</b> from the <b>Video</b> menu.  |
| 3 | Select the <b>Picture Basic</b> tab.  |
| 4 | Select the <b>Manual</b> check box to enable Manual mode.<br>OR<br>Deselect the <b>Manual</b> check box to disable Manual mode.<br>The default setting is 'Disabled'. |
| 5 | Select <b>Apply</b> to save your settings.  |
- 

- End -

---

## Configure Manual Mode Settings

---

Step	Action
------	--------

---

- |   |  |
|---|--|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.                        |
| 2 | Select <b>Picture Settings</b> from the <b>Video</b> menu.                               |
| 3 | Select the <b>Picture Basic</b> tab.   |
| 4 | Select the <b>Manual</b> check box to enable Manual mode.                                |
| 5 | Adjust the Shutter speed by using the dropdown menu to select the desired shutter speed. |
| 6 | Adjust the Gain settings using the dropdown menu to select the desired value.            |
| 7 | Select <b>Apply</b> to save your settings.   |
- 

- End -

---

## Picture Additional Menu

Configure WDR (Wide Dynamic Range), DayNight Mode, Picture Adjustment and White Balance displayed in the video pane from the Picture Additional tab.

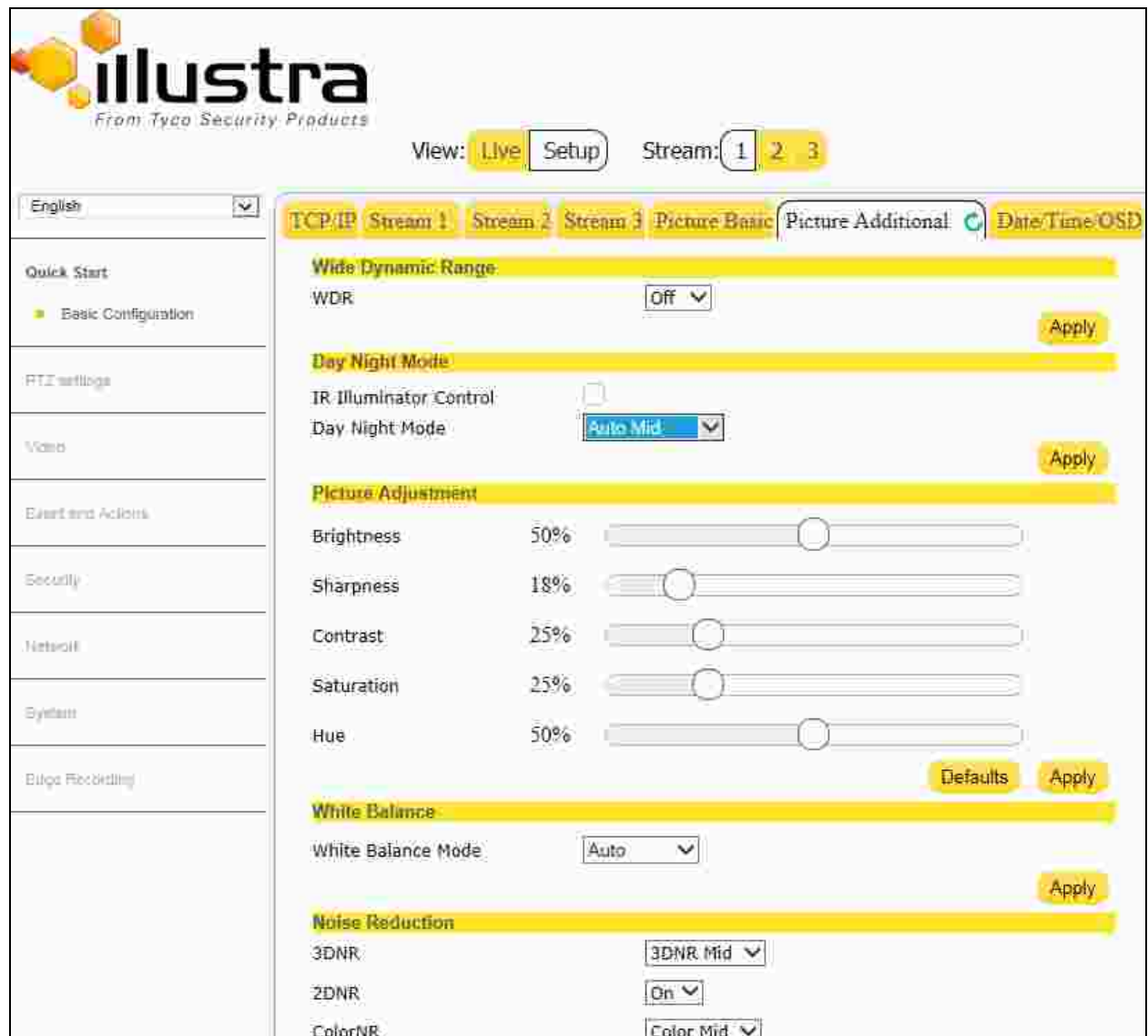


Figure 5-3 Picture Additional settings on Pro Fisheye camera

## Wide Dynamic Range

WDR is a feature that allows viewing of high contrast scenes that include both bright and low light areas in the same field of view (FOV).

The WDR field allows you to choose between favouring an underexposed or overexposed image. By disabling the WDR the image is underexposed; this provides more detail in areas of brightness, but less detail in areas of darkness. On the other hand, enabling WDR overexposes the image which provides more detail in the dark areas but less detail in the bright areas.

A typical use for this feature would be viewing a scene with both indoor and outdoor lighting conditions simultaneously, such as a warehouse area with an open bay door.

## Configure Wide Dynamic Range (WDR) Settings

---

Step	Action
8	Select <b>Setup</b> on the GUI banner to display the setup menus.
9	Select <b>Picture Settings</b> from the <b>Video</b> menu.
10	Select the <b>Picture Additional</b> tab.
11	Select one of the following options from the <b>WDR</b> dropdown menu <ul style="list-style-type: none"><li>• Low</li><li>• Med</li><li>• High</li><li>• Off</li></ul>
12	Select <b>Apply</b> to carry out the change.
13	The default WDR setting is 'Off'.

---

- End -

## Day Night Mode

The camera provides a black-and-white (B/W) mode to improve camera performance when the light level falls below certain thresholds. This allows clear images to be obtained under low-light conditions. There are five Day/Night settings: Auto High, Auto Mid, Auto Low, Forced Black and White and Forced Color.

## Configuring Day Night Mode

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Picture Settings</b> from the <b>Video</b> menu.
3	Select the <b>Picture Additional</b> tab.
4	Select a <b>Day Night Mode</b> setting from the drop-down menu: <ul style="list-style-type: none"><li>• Auto High</li><li>• Auto Mid</li><li>• Auto Low</li><li>• Forced B &amp;W( night time)</li><li>• Forced Color (day time)</li><li>• Manual (provides 6 selectable levels of transition between night to day and day to night settings)</li></ul>
5	Select <b>Apply</b> to save your settings The default setting is 'Auto Mid' mode.

---

- End -

## IR Illuminator Control

When enabled the IR illuminator Control feature allow the camera to pick up important details from a distance even in extremely low light environments.

### Enable/Disable IR Illuminator Control

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Picture Settings</b> from the <b>Video</b> menu.
3	Select the <b>Picture Additional</b> tab.
4	Enable or disable IR Illuminator Control by checking or unchecking the <b>IR Illuminator Control</b> checkbox. <ul style="list-style-type: none"><li>• Check the checkbox to enable IR Illuminator Control</li><li>• Uncheck the checkbox to disable IR Illuminator Control.</li></ul>
5	Select <b>Apply</b> to save your settings.

---

- End -


---

## Picture Adjustment

Adjust brightness, sharpness, contrast, saturation and hue of the image displayed on the video pane.

### Adjust Brightness, Sharpness, Contrast, Saturation and Hue

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Picture Settings</b> from the <b>Video</b> menu.
3	Select the <b>Picture Additional</b> tab.
4	Select  to start the video stream if it is not already active. The video pane will display the current camera view.
5	Use the slider bars to adjust: <ul style="list-style-type: none"><li>• Brightness</li><li>• Sharpness</li><li>• Contrast</li><li>• Saturation (color level)</li><li>• Hue</li></ul>
6	Select <b>Apply</b> to save changes . The live video pane will update to display the values you have selected. The values range from 0% to 100%. The default values are 50% for brightness, 18% for sharpness, 25% for contrast, 25%for saturation and 50% for hue. The live video pane will update to display the values you have selected.

## Restore Picture Adjustment Defaults

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Picture Settings</b> from the <b>Video</b> menu.
3	Select the <b>Picture Additional</b> tab.
4	Select <b>Defaults</b> to restore picture settings to the factory defaults.

---


- End -

## White Balance

White balance (the ability to keep whites looking white) is normally compensated for automatically via the default Auto White Balance setting.

Manual White Balance is available when specific color temperature settings want to be set and preserved. This can be done using the red and blue slider adjustments set for optimal viewing.

### Configure White Balance

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Picture Settings</b> from the <b>Video</b> menu.
3	Select the <b>Picture Additional</b> tab.
4	Select  to start the video stream if it is not already active. The video pane will display the current camera view.
5	Select the required <b>White Balance Mode</b> from the drop-down menu:
6	<ul style="list-style-type: none"><li>• <b>Auto</b>: Suitable for a normal range of lighting condition</li><li>• <b>Indoor</b> (Best for indoor settings)</li><li>• <b>Outdoor</b> (Best for outdoor settings)</li></ul>
7	Select <b>Apply</b> to save your settings

---

- End -

## Noise Reduction

The camera provides multiple Noise Reduction options for delivering optimized image quality, especially in extra low-light conditions.

The 3D Noise Reduction (3DNR) feature delivers optimized image quality, especially in extra low-light conditions.

The 2D Noise Reduction (2DNR) feature delivers clear images without motion blurs in extra low-light conditions.

The Color Noise Reduction (ColorNR) feature eliminates color noise when the camera is in color mode in a dark environment.

## Configure 3DNR settings

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Picture Settings</b> from the <b>Video</b> menu.
3	Select <b>3DNR</b> from the <b>Picture Additional</b> menu.
4	Select an option from the <b>3DNR</b> dropdown menu: <ul style="list-style-type: none"><li>• OFF</li><li>• 3DNR High</li><li>• 3DNR Mid</li><li>• 3DNR Low</li></ul>
5	Select Apply to save your settings.

---

- End -

---

## Enable/Disable 2DNR

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Picture Settings</b> from the <b>Video</b> menu.
3	Select <b>2DNR</b> from the <b>Picture Additional</b> menu.
4	Select an option from the 2DNR dropdown menu: <ul style="list-style-type: none"><li>• ON</li><li>• OFF</li></ul>
5	Select <b>Apply</b> to save your settings.

---

- End -

---

## Configure ColorNR settings

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
1	Select <b>Picture Settings</b> from the <b>Video</b> menu.
2	Select the <b>Picture Additional</b> tab.
3	Select an option from the <b>ColorNR</b> dropdown menu: <ul style="list-style-type: none"><li>• Off color</li><li>• Low color</li><li>• Mid color</li><li>• High color</li></ul>
4	Select <b>Apply</b> to save your settings.

---

- End -

---

## Date/Time/OSD

Change the camera name and date and time and enable On Screen Display (OSD).

### Camera Name

The camera name will be displayed on the GUI banner and the on-screen display for the camera. This name will also be displayed when using Illustra Connect or ONVIF.

#### Change the Camera Name

Step	Action
1	Select <b>Setup</b> on the GUI banner.
2	Select <b>Date/Time/OSD</b> from the <b>Video</b> menu. The Date/Time/OSD tab displays.
3	Enter the name of the camera in the <b>Camera Friendly Name</b> text box.
4	Select <b>Apply</b> to save your changes.

---

- End -

### Date Time

Set the date and time on the camera.

#### Configuring the Date and Time

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Date/Time/OSD</b> from the <b>Video</b> menu. The Date/Time/OSD tab displays.
3	Select the <b>Time 24-hour</b> check box to enable the 24-hour clock. Or Deselect the <b>Time 24-hour</b> check box to enable the 12-hour clock. The default setting is '24-hour'.
4	Select the <b>Date Display Format</b> from the drop-down menu: <ul style="list-style-type: none"><li>• <b>DD/MM/YYYY</b></li><li>• <b>MM/DD/YYYY</b></li><li>• <b>YYYY/MM/DD</b></li></ul> The default setting is 'YYYY/MM/DD'.
5	Select the <b>Time Zone</b> from the drop-down menu. The default setting is '(GMT-05:00) Eastern Time (US & Canada)'
6	Select the <b>Set Time</b> setting by selecting a radio button: <ul style="list-style-type: none"><li>• <b>Manually</b></li></ul>

- **via NTP**

The default setting is 'Manually'.

- 7 If you select Manually in step 6:
  - a Select the Date (**DD/MM/YYYY**) using the drop-down menus.
  - b Select the Time (**HH:MM:SS**) using the drop-down menus.
- 8 If you select via NTP in step 6:
  - Enter the **NTP Server Name** in the text box.  
The default is 'pool.ntp.org'.
- 9 Select **Apply** to save your changes.

---

- End -

---

## OSD (On-Screen Display)

Within OSD you can choose whether to enable or disable the camera name and/or time in the on-screen display.

### Display or Hide the Camera Name/Date OSD/Camera Time OSD

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select the <b>Date/Time/OSD</b> tab in the <b>Quick Start Basic Configuration</b> menu.
3	In the <b>Enable OSD</b> , select the <b>Camera Name</b> check box to display the camera name in the OSD. OR Deselect the <b>Camera Name</b> check box to hide the camera name in the OSD. The default setting is 'Disabled'.
4	In the <b>Enable OSD</b> , select the <b>Date</b> check box to display the date in the OSD. OR Deselect the <b>Date</b> check box to hide the date in the OSD. The default setting is 'Disabled'.
5	In the <b>Enable OSD</b> , select the <b>Time</b> check box to display the camera time in the OSD. OR Deselect the <b>Time</b> check box to hide the camera time in the OSD. The default setting is 'Disabled'.
6	Further text may also be entered to be displayed by selecting the <b>Subtitle</b> checkbox and then entering the desired text in the text field.
7	Select <b>Apply</b> to save your changes.

---

- End -

---



# Privacy Zones

Privacy Zones are “masked” sections of the camera’s viewing area. These masks prevent operators of the surveillance system who do not have access to the camera password from viewing these designated zones. Each zone has four sides, and the zones may overlap to form irregular shapes. The Privacy Zones move in relation to the camera's pan/tilt position.

The apparent size of the Privacy Zone adjusts automatically as the zoom level is adjusted. Privacy Zones are useful for high security areas. For example, you might establish a privacy Zone around a safe’s combination, but still view people approaching or opening the safe. When Privacy Zones are active, the camera's firmware automatically disables text transparency.

Up to 5 rectangular privacy zones can be used on the Pro Fisheye camera.

**Note:**

---

- Areas of the Privacy Zone may be exposed during rapid pan/tilt movements of the camera. To compensate for this limitation, you may want to program the Privacy Zone to be 20 to 25% larger than the area you want to mask.
  - A privacy zone can only be created when using a Fisheye image source.
- 

## Defining a Privacy Zone

Create a privacy zone on the camera.

### Define a Privacy Zone

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Privacy Zones</b> from the <b>Video</b> menu. The Privacy Zones tab displays.
3	Select  to start the video stream if it is not already active. The video pane will display the current camera view.
4	Select  . The page updates to display an <b>Add</b> and <b>Cancel</b> button. Enter the privacy zone name in the privacy zones <b>Name</b> text box.
5	Use the cursor to locate the start point for the privacy zone and then click and drag on the still image to define the privacy zone area. As the cursor is moved, a red shape will appear on the image which highlights the privacy zone.
6	Release the mouse button. The selected privacy area will change color.
7	To re-select an alternative area for the privacy zone, select <b>Cancel</b> and repeat from step 4.
<b>Note:</b> When a new privacy zone is created, it is automatically enabled, refer to <a href="#">Enable/Disable a Privacy Zone</a> on <a href="#">Page 50</a> to modify this setting.	
8	Select <b>Add</b> to save the current privacy zone.

---

- End -

---

## Enabling or Disabling a Privacy Zone


Select a privacy zone to hide or display on the camera.

### Enable/Disable a Privacy Zone

---

Step	Action
------	--------

---

- |   |   |
|---|---|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.   |
| 2 | Select <b>Privacy Zones</b> from the <b>Video</b> menu.<br>The Privacy Zones tab displays.  |
| 3 | Select  to start the video stream if it is not already active. |
| 4 | The video pane will display the current camera view.  |
| 5 | Select the corresponding <b>Enabled</b> check box to enable the privacy zone.<br>OR   |
| 6 | Deselect the corresponding <b>Enabled</b> check box to disable the privacy zone.  |

---

- End -

---

## Deleting a Privacy Zone


Delete a privacy zone from the camera.

### Delete a Privacy Zone

---

Step	Action
------	--------

---

- |   |  |
|---|--|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.  |
| 2 | Select <b>Privacy Zones</b> from the <b>Video</b> menu.<br>The Privacy Zones tab displays.<br><br>Select  to delete the corresponding privacy zone. |
| 3 | You will be prompted to confirm the deletion.  |
| 4 | Select <b>OK</b> to confirm the deletion.<br><br>Or<br>Select <b>Cancel</b> .  |

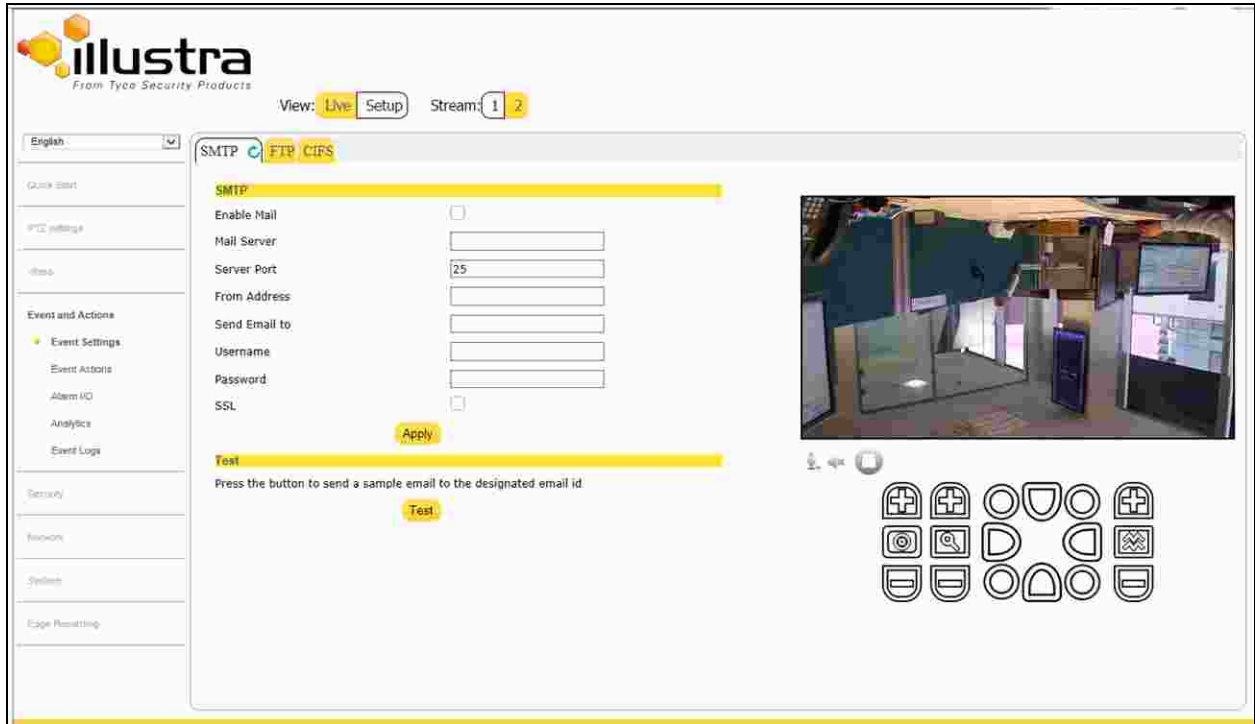
---

- End -

---

# Events and Actions Menu

When the Events and Actions menu is selected, Figure 6-1 Events and Actions Menu will be displayed.



**Figure 6-1 Events and Actions Menu**

The Event and Actions Menu provides access to the following camera settings and functions:

- Event Settings
- Event Actions
- Alarm I/O
- Analytics
- Event Logs

## Event Settings

Configure the SMTP, FTP, and CIFS details required when setting Event Actions for alarms and analytic alerts.

### SMTP

Configure the SMTP settings to allow e-mail alerts to be sent from the camera when an alarm or analytic alert is triggered. SMTP settings must be configured to enable email alerts when using alarms and analytic alerts.

**Note:**

---

SMTP settings can also be configured via the Network menu. Refer to [SMTP](#) on [Page 78](#)

---

### Configure SMTP Settings

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Event Settings</b> from the <b>Events and Actions</b> menu.
3	Select the <b>SMTP</b> tab.
4	Select the <b>Enable SMTP</b> check box to enable SMTP. Text boxes on the tab become available for entry. OR Deselect the <b>Enable</b> check box to disable SMTP. The default setting is 'Disabled'.
5	Enter the IP Address of the mail server in the <b>Mail Server</b> text box.
6	Enter the server port in the <b>Server Port</b> text box. The default setting is '25'.
7	Enter the from email address in the <b>From Address</b> text box.
8	Enter the email address to send email alerts to in the <b>Send Email to</b> text box.
9	Select <b>Apply</b> to save the settings.

**Note:**

---

Refer to [Test SMTP Settings](#) on [Page 52](#) to confirm that the SMTP settings are working as expected.

---

- End -

---

### Test SMTP Settings

Test that the settings set in [Configure SMTP Settings](#) on [Page 52](#) have been configured correctly.

#### Test the SMTP Settings

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.

- 2 Select **Event Settings** from the **Events and Actions** menu.
  - 3 Select the **SMTP** tab.
  - 4 Select **Test**.
- A message will display and report if the connection has been successful.

---

- End -

---

## FTP

Configure the FTP settings for the FTP server. This is required to send video files from triggered analytic alerts. FTP must be configured to enable FTP video alerts when using alarms and analytic alerts.

**Note:**

---

FTP settings can also be configured via the Network menu. Refer to [FTP](#) on [Page 77](#).

---

### Configure FTP Server Settings

---

Step	Action
------	--------

---

- |   |  |
|---|--|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.  |
| 2 | Select <b>Event Settings</b> from the <b>Events and Actions</b> menu.  |
| 3 | Select the <b>FTP</b> tab.   |
| 4 | Select the <b>Enable</b> check box to enable FTP.<br>Text boxes on the tab become available for entry.<br>OR<br>Deselect the <b>Enable</b> check box to disable FTP.<br>The default setting is 'Disabled'. |
| 5 | Enter the IP address of the FTP Server in the <b>FTP Server</b> text box.  |
| 6 | Enter the FTP port in the <b>FTP Port</b> text box.<br>The default setting is 21.  |
| 7 | Enter the FTP username in the <b>Username</b> text box.  |
| 8 | Enter the FTP password in the <b>Password</b> text box.  |
| 9 | Enter the FTP upload path in the <b>Upload Path</b> text box.  |

**Note:**

---

- When entering the upload path the following format should be used : /folder/
- Refer to [Test FTP Settings](#) on [Page 54](#) to confirm that the FTP settings are working as expected.

---

- End -

---

## Test FTP Settings

Test that the settings set in [Configure FTP Server Settings](#) on [Page 53](#) have been configured correctly.

### Test the FTP Settings

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Event Settings</b> from the <b>Events and Actions</b> menu.
3	Select the <b>FTP</b> tab.
4	Select <b>Test</b> .

A sample text file will be sent to the specified FTP destination to confirm that FTP settings are correct.  
A message will display and report if the delivery has been successful.

---

**Note:**

Test FTP settings may also be configured through the Network menu.

---

---

- End -

---

## CIFS

Configure the CIFS settings to allow files generated from the camera to be directed to network attached file storage via the Common Internet File System (CIFS) protocol. This supplements existing distribution methods such as FTP, SMTP, and email.

---

**Note:**

CIFS settings can also be configured via the Network menu. Refer to [CIFS](#) on [Page 80](#)

---

### Configure CIFS Settings

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Event Settings</b> from the <b>Events and Actions</b> menu.
3	Select the <b>CIFS</b> tab.
4	Select the <b>Enable CIFS</b> check box to enable CIFS. Text boxes on the tab become available for entry. OR Deselect the <b>Enable</b> check box to disable CIFS. The default setting is 'Disabled'.
5	Enter the network path in the <b>Network Path</b> text box. Sample path: //192.168.185.159/CIFS
6	Enter the domain name in the <b>Domain Name</b> text box.

- 7 Enter the username in the **Username** text box.
- 8 Enter the password in the **Password** text box.
- 9 Select **Apply** to save the settings.

**Note:**

---

Refer to [Test CIFS Settings](#) on [Page 55](#) to confirm that the CIFS settings are working as expected.

---

---

- End -

---

## Test CIFS Settings

Test that the settings set in [Configure CIFS Settings](#) on [Page 54](#) have been configured correctly.

### Test the CIFS Settings

---

Step	Action
------	--------

---

- 1 Select **Setup** on the GUI banner to display the setup menus.
- 2 Select **Event Settings** from the **Events and Actions** menu.
- 3 Select the **CIFS** tab.
- 4 Select **Test**.

A sample text file will be sent to the specified CIFS destination to confirm that CIFS settings are correct.

---

- End -

---

## Event Actions

The camera can be commanded to carry out a specified operation when an Alarm input or analytic alert is triggered. These are defined using event actions. Up to five event actions can be configured on the camera.

The event action can be used to configure any combination of the following actions:

- Record a clip to a microSD Card (up to 64 GB).
- Send an external alarm via email that includes alarm detail, where to retrieve the AVI video file and one JPEG picture of the event if recording MJPEG to microSD Card. (If MJPEG is not being recorded on microSD Card, then no JPEG picture will be sent.)
- Send an AVI video file to a pre-configured external FTP server or CIF machine. The video file will contain pre and post alarm video buffer.

**Note:**

- 
- A microSD Card must be inserted in order to send SMTP email, video files and images from triggered analytic alerts.
  - Recording must be selected. If recording is not selected the camera will send snapshots instead of video.

## Creating an Event Action

Configure an event action which can be triggered by an analytic alert.

---

**Note:**

To have an alert trigger a recording, send an Email or a video file to an FTP server, you must have already configured the Record, SMTP and FTP settings. Refer to the related configuration sections.

---

### Create an Event Action

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Event Actions</b> from the <b>Events and Actions</b> menu.
3	Select an entry on the event actions list and enter a descriptive event action name in the <b>Name</b> text box.
4	Select the <b>Record</b> check box to enable the Record Settings configured in the <a href="#">Events and Actions Menu</a> on <a href="#">Page 51</a> .
5	Select the <b>Email</b> check box to send an e-mail to the email address configured in the <a href="#">Configure SMTP Settings</a> on <a href="#">Page 52</a> .
6	Select the <b>FTP</b> check box to send a video file to the FTP details configured in the <a href="#">Configure FTP Server Settings</a> on <a href="#">Page 53</a> .
7	Select the <b>CIFS</b> check box to send a video file to the SFTP details configured in the <a href="#">Configure CIFS Settings</a> on <a href="#">Page 54</a> .
8	Select the <b>Output</b> check box to send out an output.

---

**Note:**

- If Record is selected, the camera will record video AVI clips. If recording is not selected, the camera will only provide a snapshot image of the event.
  - If Record is selected, the AVI clip will be saved to SD card or transferred to FTP or CIFS. Clips can also be downloaded using the GUI Edge Record/Event Download tab.
  - AVI clips can only be sent via FTP if a microSD card has been installed and FTP has been selected.
  - The selected pre and post event duration buffer will be included in any video clips.
- 

9	Select a PTZ Action: <ul style="list-style-type: none"><li>• None</li><li>• preset</li><li>• scan</li><li>• sequence</li></ul> The default setting is 'None'.
10	If an action is selected, choose the specific PTZ action to perform from the PTZ Parameter drop-down menu.
11	Select <b>Apply</b> to save your settings.

---

**Note:**

The Fisheye camera does not feature the PTZ Parameter action option.



---

---

- End -

---

## Editing an Event Action

Modify the details of an existing event action.

### Edit an Event Action

---

Step	Action
------	--------

---

- |   |   |
|---|---|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.   |
| 2 | Select <b>Event Actions</b> from the Events and Actions menu.   |
| 3 | Select an entry in the event actions list; the following can be edited: <ul style="list-style-type: none"><li>• Name</li><li>• Record - Enable/Disable</li><li>• Email - Enable/Disable</li><li>• FTP - Enable/Disable</li><li>• PTZ Action - select the required action.</li><li>• Alarm Out- Enable/Disable</li></ul> |

**Note:**

---

The Fisheye camera does not feature the PTZ Parameter action option.

---

---

---

- End -

---

## Alarms I / O

The camera provides one alarm input. By connecting alarm devices, such as smoke alarms, twilight sensors, or motion sensors, to these inputs, you can enhance the usability of your video surveillance system.

The camera also provides two alarm outputs.

**Note:**

- If an event is linked to a clip creation, any additional individual input changes on that alarm source will only be logged and not generate a new clip if they occur within the recording session. The clip recording can be between 3-20 seconds, the duration depending on the buffer set and the event duration.
- Input alarms are triggered upon change of state—either from opened to closed or from closed to open. The camera will report the current state of each input alarm (open or closed) as well as an active or inactive status in the alarm configuration page. Active alarms will also be visible in the Event Log. Refer to [Event Log](#) on [Page 61](#).

### Alarm Actions

The following alarm actions can be triggered by any alarm input:

- Activate the digital output contact. This stays active until the alarm is acknowledged and cleared by an operator.

- Send an external alarm via email that includes alarm detail, where to retrieve the AVI video file and one JPEG picture of the notification if recording MJPEG to local storage. (If MJPEG is not being recorded on local storage, then no JPEG picture will be sent.)
- Send an AVI video file to a pre-configured external FTP server or CIFS machine. The video file will contain pre and post alarm video buffer and audio if enabled and supported, as outlined above.

**Note:**

---

An active internal alarm only resets when the input state changes to “normal.” A manual reset is not available.

---

## Creating an Alarm

---

Step	Action
------	--------

---

- |   |  |
|---|--|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.  |
| 2 | Select <b>Alarm I/O</b> from the <b>Event and Actions</b> menu.  |
| 3 | Enter the alarm name in the <b>Alarm Input Name</b> text box.  |
| 4 | Select the <b>Enabled</b> check box to enable the alarm<br>OR<br>De-select the <b>Enabled</b> check box to disable the alarm.                  |
| 5 | Select when the alarm is required to be activated from the <b>Normal</b> drop down menu—when the dry contact is <b>open</b> or <b>closed</b> . |
| 6 | Select the required configured fault action from the <b>Action</b> drop down menu.   |

---

- End -

---

## Enable/Disable an Alarm

---

Step	Action
------	--------

---

- |   |   |
|---|---|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.   |
| 2 | Select <b>Alarm I/O</b> from the <b>Event and Actions</b> menu.   |
| 3 | Select the <b>Enabled</b> check box to enable the corresponding alarm.<br>OR<br>Deselect the <b>Enabled</b> check box to disable the corresponding alarm. |

---

- End -

---

## Clearing Alarm Output

---

Step	Action
------	--------

---

- |   |   |
|---|---|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.   |
| 2 | Select <b>Alarm I/O</b> from the <b>Event and Actions</b> menu.   |
| 3 | Under <b>Alarm Output</b> , select the <b>Apply</b> button to Clear Active Output.<br>The Alarm Output will be cleared. |

---

- End -

---

## Analytics

From the Analytics menu Motion Detection and Event Log settings can be viewed and configured

### Motion Detection

Motion detection can be used to trigger an Event Action.

The Pro Fisheye camera has a region select feature where a region may be selected directly.

Up to four motion detection profiles may be configured on the Pro Fisheye.

### Motion Detection Best Practices

To ensure you get the highest quality results when using Motion Detection on the camera, it is recommended that you adhere to the following:

- An object exhibiting motion needs to be at least 8x8 pixels in size to be detected.
- The color of the object (in gray scale) should be approximately 10-15% different than the background.
- Try not to point cameras into sunlight, because high brightness will prevent detection of movement of bright objects such as a person with a white shirt.
- Avoid areas with persistent motion, such as trees, blinking lights, or spinning signs, by using an appropriate region of interest. For scenes like these it is recommended to lower the motion sensitivity level.
- The frame rate of the video should be high enough to capture the object in one or more captured frames.
- Exclude the Time Stamp region from motion detection, because the time stamp changes constantly and could register as motion.
- The Frames per Second rate for recordings must be 7 fps or higher.
- Adjust the hysteresis setting according to your specifications. Hysteresis is the recovery time between when an object is registered as moving, and when an alert is sent. A new alert is sent whenever the object is registered as moving. The recovery time is measured in seconds.

### Enable or Disable a Motion Detection Alert

Motion detection can be turned on and turned off when required.

Refer to figure when configuring a motion detection alert.

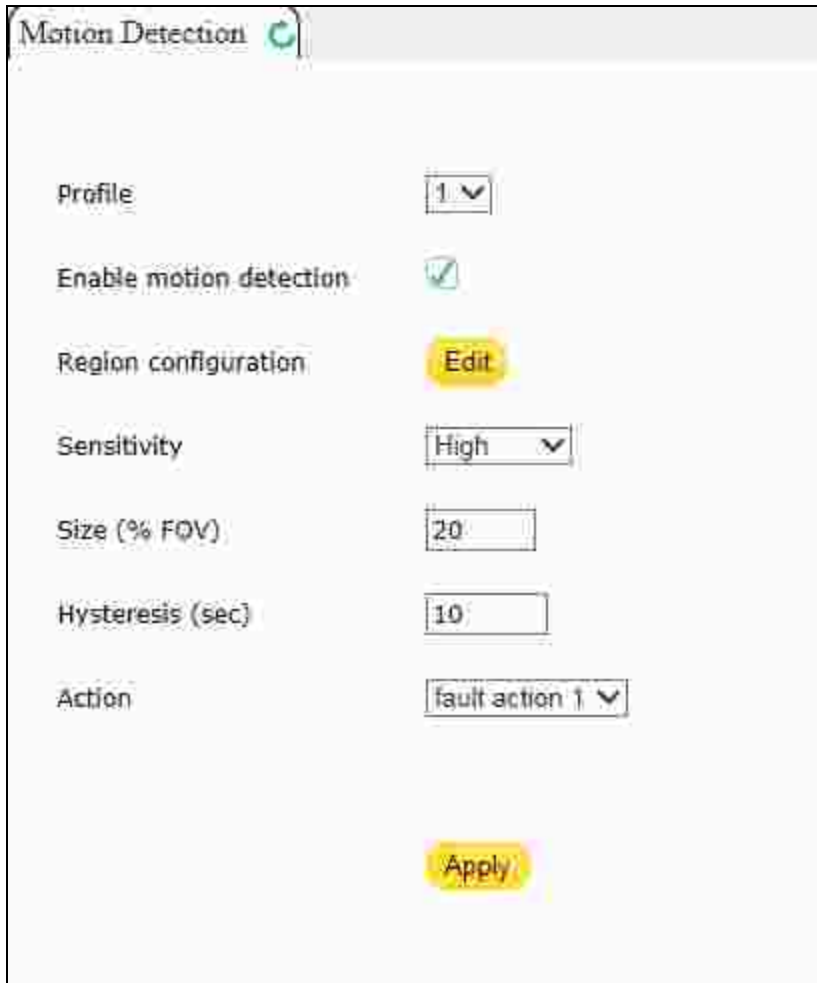


Figure 6-2 Motion Detection configuration options

## Enable or Disable a Motion Detection Alert

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Analytics</b> from the <b>Events and Actions</b> menu.
3	Select the <b>Motion Detection</b> tab.
4	Select the <b>Enable motion detection</b> check box to enable Motion Detection on the camera. OR Deselect the <b>Enable motion detection</b> check box to disable Motion Detection on the camera.
5	Select the motion detection profile OR select a region on the live video that you would like the camera to detect movement in (on Fisheye camera).
6	Select the sensitivity from the <b>Sensitivity</b> drop-down menu: <ul style="list-style-type: none"> <li>• Highest</li> </ul>

- High
- Medium
- Low
- Lowest

The default setting is 'High'.

- Adjust the size (% FOV) by entering a value between 1-100.
- Adjust the hysteresis (measured in seconds) by entering a value between 0-3600.
- Select the fault (Event) action from the **Action** drop-down menu.  
This Event action will be activated when motion is detected in the field of view.  
See [Create an Event Action](#) on [Page 56](#) if a fault action has not yet been defined.
- Select **Apply** to save the configuration.

---

- End -

---

## Event Logs

### Event Log

When events are triggered the resulting alarms are displayed in the Event Log with the following information:

- **NO** - details the event index.
- **Event** - this will be listed as 'MotionDetected'.
- **Date created** - the time and date when the motion detection was triggered.
- **Component** - internal software component that raised the fault for a motion detection alert. This will be listed as ANALYTICS.
- **Severity** - indicates how serious the fault is. Motion detection alerts are listed as 'Warning'.
- **Detail** - extra information that supplements the motion detection alert.
- **Delete** - remove the motion detection alert notification from the fault table.

### Display Event Log

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Event Logs</b> from the <b>Events and Actions</b> menu. The Event Log tab displays. Triggered motion detection alerts will be displayed.

---

- End -

---

## Delete Current Events

- 1 Select **Setup** on the GUI banner to display the setup menus.
- 2 Select **Event Logs** from the **Event and Actions** menu.
- 3 Select the **Event Log** tab.
- 4 Select the corresponding **Delete** check box to mark the motion detection alert for deletion.

OR

Deselect the corresponding **Delete** check box to keep the motion detection alert.

**Note:**

---

You can select the **Select All** check box to mark all motion detection alerts displayed in the list for deletion.

---

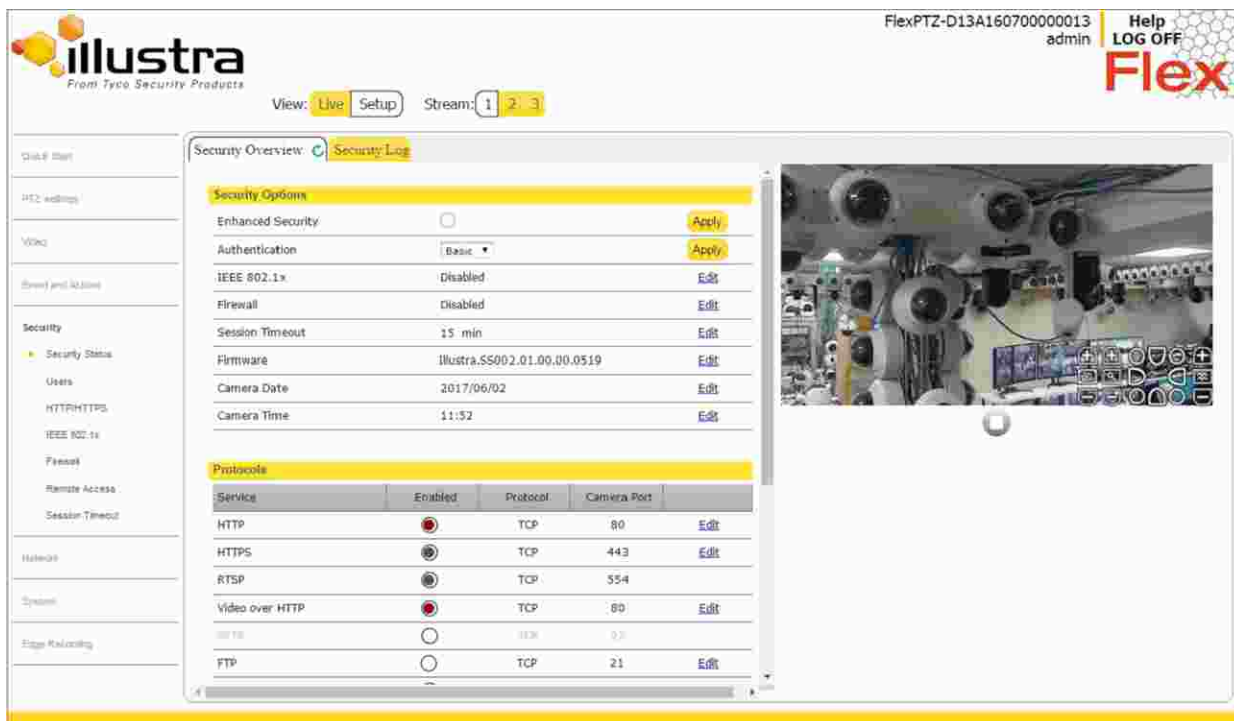
- 5 Select **Delete** to delete the selected motion detection alerts.  
OR
- 6 Select **Delete All** to delete all motion detection alerts.  
You will be prompted to confirm the deletion.
- 7 Select **OK** to confirm the deletion.  
OR  
Select **Cancel**.

---

- End -

---

When the Security menu is selected, Figure 7-1 Security Menu will be displayed.



**Figure 7-1 Security Menu**

The Security Menu provides access to the following camera settings and functions:

- Security Status
- Users
- HTTP/HTTPS
- IEEE 802.1x
- Firewall
- Remote Access
- Session Timeout

## Security Status

This section explains how to configure security features for the camera and modify the communication protocols that are used.

### Standard Security

#### Procedure 7-1 Standard Security Login

Step	Action
1	When the camera is selected the sign in page displays select your preferred language from the drop-down menu. The default language is 'English'.
2	Enter the username in the <b>Username</b> text box.
3	Enter the password in the <b>Password</b> text box. <b>Note:</b> Security Profile: The first time you access the camera, you are prompted to use either the Standard Security or Enhanced Security. If you are keeping Standard Security, best practice is to use the Change Password check box to immediately change the default password to one unique to your surveillance system.
4	Click <b>Log in</b> . The Live view displays. <b>Note:</b> Standard Security uses HTTP basic authentication.

- End -

### Enhanced Security

Admin users can change the Security Mode of the camera from Standard Security to Enhanced Security.

#### Procedure 7-2 Enable Enhanced Security

Step	Action
1	Select <b>Setup</b> on the Web User Interface banner to display the setup menus.
2	Select <b>Security Status</b> from the <b>Security</b> menu.
3	Select the <b>Security Overview</b> tab.
4	Check the <b>Enable Enhanced Security</b> check box to enable enhanced security. OR



Clear the **Enable Enhanced Security** check box to disable enhanced security. Enhanced Security is disabled by default.

The Security Warning dialog appears.

5 Enter the current password in the **Current Password** text box.

6 Enter the new password in the **New Password** text box.

**Note:**

---

The password for enhanced security must meet the following requirements:

- Be a minimum of seven characters long
- Have at least one character from at least three of the following character groups:

a Upper-case letters

b Lower-case letters

c Numeric characters

d Special characters

7 Re-enter the new password in the **Confirm Password** text box.

8 Click **Apply**.

**Note:**

---

Enhanced security automatically changes HTTPS authentication to Digest, as well as disabling some protocols.

---

---

- End -

---

### Procedure 7-3 Disable Enhanced Security Mode

---

Step	Action
------	--------

---

1 Select **Setup** on the Web User Interface banner to display the setup menus.

2 Select **Security Status** from the **Security** menu.

3 Select the **Security Overview** tab.

4 Clear the **Enable Enhanced Security** check box to disable enhanced security.

**Note:**

---

When in Enhanced Security mode, changing the security mode requires the admin account password.

---

5 Click **Apply**.

---

- End -

---

## Setting Communication Protocols

This section explains how to modify the communication protocols that are used. The following communication protocols can be enabled: HTTP, FTP, CIFS, Dyn DNS, SMTP, HTTPS, and SNMP V3.

### Procedure 7-4 Enable/Disable Communication Protocols

---

Step	Action
------	--------

---

- 1 Select **Setup** on the Web User Interface banner to display the setup menus.
- 2 Select **Security Status** from the **Security** menu.
- 3 Select the **Security Overview** tab.
- 4 Click **Edit** on the Communication Protocol you want to modify. You are redirected to the individual protocol page to enable or disable the Communication Protocol.

**Note:**

---

When in Enhanced Security, enabling/disabling individual protocols requires the admin account password .

---

## Security Logs

Security logs track all relevant information which occurs on the camera such as user management, enhance security feature modifications, protocols modifications, logins, and restore tracking.

## Users

In this section you are able to add a user, change a user password and delete a user account. There are three levels of access: admin, operator, and user.

**Note:**

---

The default Username and Password are both **admin**. To maintain security, you should change the password on the admin account.

---

## View Current User Accounts

View a list of the current user accounts assigned to the camera.

### View User Accounts

---

Step	Action
------	--------

---

1	Select <b>Setup</b> on the GUI banner to display the setup menus.
---	---

2	Select <b>Users</b> from the <b>Security</b> menu.
---	--

The current user accounts assigned to the camera will be displayed on the **User** tab.

---

- End -

---

## Add User

Add a new user account to allow access to the camera.

### Add a User

---

Step	Action
------	--------

---

- 1 Select **Setup** on the GUI banner to display the setup menus.
- 2 Select **Users** from the **Security** menu.
- 3 Select the **Add User** tab.
- 4 Enter a User Name in the **Name** text box.  
The username must start with a letter and can be followed by any alphanumeric values (a-z, A-Z, 0-9) and the following special characters, underscore(\_), dash(-), or dot(.)
- 5 Select a **Role** from the drop-down menu:
  - **admin**
  - **operator**
  - **user**
- 6 Enter a password in the **Password** text box.  
The password must start with an alphanumeric character and is case sensitive; it can contain alphanumeric characters with a length of between 4 and 32 characters.
- 7 Enter the same password in the **Confirm Password** text box.
- 8 Select **Apply** to save the settings.  
The new user account will now be displayed in the Users list on the **Users** tab.

---

- End -

---

## Changing the User Accounts Password

Change the password of an existing user account.

### Change User Password

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Users</b> from the <b>Security</b> menu
3	Select the <b>Change Password</b> tab.
4	Select the user account from the <b>Name</b> drop-down menu.
5	Enter the current password for the user account in the <b>Current Password</b> text box.
6	Enter the new password for the user account in the <b>New Password</b> text box. The password is case sensitive and can contain alphanumeric characters with a length of between 4 and 32 characters.
7	Enter the same new password in the <b>Confirm New Password</b> text box.
8	Select <b>Apply</b> to save the settings.

---

- End -


---

## Delete a User Account

Delete a user account from the camera.

### Delete a User Account

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Users</b> from the <b>Security</b> menu. The Users tab displays.
3	Select  to delete the corresponding user account. You will be prompted to confirm the deletion.
4	Select <b>OK</b> to delete. OR
5	Select <b>Cancel</b> .

---

- End -

---

## Delete an Admin Account

Delete an Admin account from a camera.


### Note:

The Admin user account is hard-coded until you create a new Administrator role username.

New Administrator users can choose to delete the pre-defined Admin user manually and add more Admin users.

---

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Users</b> from the <b>Security</b> menu. The Users tab displays.
3	Create an Admin user.
4	Log out of the existing Admin user account (A).
5	Log in with the newly created Admin user account (B).
6	Select  to delete the Admin user account (A). You will be prompted to confirm the deletion.
7	Select <b>OK</b> to delete.

---

- End -

---

# HTTP/HTTPS

You can select this option to use HTTP, HTTPS or both. The camera will automatically create an SSL certificate file to use for HTTPS. It is possible to upload a custom SSL certificate if validation is required.

## Specify HTTP Method

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>HTTP/HTTPS</b> from the <b>Security</b> menu. The HTTP/HTTPS tab displays.
3	Select the <b>HTTP Method</b> using the radio buttons <ul style="list-style-type: none"><li>• HTTP</li><li>• HTTPS</li><li>• Both</li></ul> The default is Both.

---

- End -

---

## Add a HTTPS Certificate

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>HTTP/HTTPS</b> from the <b>Security</b> menu The HTTP/HTTPS tab displays.
3	Select the <b>Browse</b> button for the <b>Select certificate file</b> text box to navigate to the certificate location. The Choose file dialog will be displayed.
4	Navigate to the location where the HTTP/HTTPS certificate has been saved. Select the file and select <b>Open</b> . <b>Note:</b> The certificate needs to match the camera 'host name'.
5	Select <b>Upload</b> . You will be prompted to confirm that you would like to upload the HTTP/HTTPS certificate.
6	Select <b>OK</b> to confirm the upload. OR Select <b>Cancel</b> .
7	Select the <b>View</b> button to view the certificate.

---

- End -

---

## Delete a HTTPS Certificate

If you delete the existing certificate, it will be replaced by a temporary substitute. The current browser session will be lost and you will be required to log back in to the camera Web GUI.

## Delete a HTTPS Certificate

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>HTTP/HTTPS</b> from the <b>Security</b> menu The HTTP/HTTPS tab displays.
3	Select <b>Delete</b> . The camera will display a “Restarting HTTPS Service” page with a progress bar showing the deletion progress.
4	When the deletion has completed, the camera will return to the log in page. <b>Note:</b> To restore build in HTTPS certificate, perform a factory default of the camera.

- End -

## IEEE 802.1x

The IEEE 802.1x security feature provides port based network access control—i.e., securing corporate networks from the attachment of unauthorized devices.

Authentication is carried out through use of the Extensible Authentication Protocol (EAP). Both PEAP and TLS methods are supported.

## Configure IEEE 802.1x Security

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>IEEE 802.1x</b> from the <b>Security</b> menu The <b>EAP Settings</b> tab is displayed.
3	Select the <b>Enable IEEE802.1x</b> check box to enable IEEE802.1x security . OR
4	De-select the <b>Enable IEEE802.1x</b> check box to disable IEEE802.1x security. The default is 'Disabled'.
5	Select the <b>EAPOL Version</b> from the drop-down menu.
6	Select the <b>EAP Method</b> using the radio buttons.
7	Enter the EAP identity name in the <b>EAP Identify</b> textbox.
8	Select <b>Upload</b> to navigate to the <b>CA Certificate</b> location. The Choose file dialog will be displayed.

- 9      Navigate to the location where the certificate has been saved.  
Select the file and select **Open**.
  - 10     Select **Upload**.  
The upload process will start.  
Select **View** to review the certificate or **Delete** to remove it.
  - 11     If **PEAP** is selected:
    - Enter the required PEAP **Password**.
 OR
    - If **TLS** is selected -
      - a    Select **Upload** to navigate to the **Client Certificate** location.  
The Choose file dialog will be displayed.
      - b    Navigate to the location where the certificate has been saved.
      - c    Select the file and select **Open**.
      - d    Select **Upload**.  
The upload process will start.  
Select **View** to review the certificate or **Delete** to remove it.
      - e    Enter the required **Private Key Password**.
- SYN Cookie Verification.

---

- End -

---

## Firewall

A firewall may be enabled to perform address filtering to allow or deny specific IP and MAC addresses.

### Enable/Disable Firewall

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Address Filtering</b> from the <b>Security</b> menu OR Select <b>Address Filtering</b> from the <b>Network</b> menu.
3	Select <b>Off</b> to disable address filtering completely. OR Select <b>Allow</b> to allow address filtering for specified addresses OR Select <b>Deny</b> to deny address filtering for specific addresses. The default setting is 'Off'.
4	If address filtering has been set to <b>Allow</b> or <b>Deny</b> : <ol style="list-style-type: none"> <li>a    Enter an IP or MAC Address to allow/deny in the <b>IP or MAC Address</b> text box in the following format xxx.xxx.xxx.xxx.</li> </ol>

**Note:**

---

CIDR (Classless Inter-Domain Routing) is supported when using address filtering. If using a CIDR address use the following format xxx.xxx.xxx.xxx/xx.

---

- b Select **Add**.
- 5 Select **Apply** to save the settings.

---

- End -

---

## Editing an Address Filter

Edit an existing address filter.

### Edit an Address Filter

---

Step	Action
------	--------

---

- |   |   |
|---|---|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.   |
| 2 | Select <b>Firewall</b> from the <b>Security</b> menu<br>OR Select <b>Firewall</b> from the <b>Network</b> menu. |
| 3 | Select the <b>Address Filtering</b> tab.  |
| 4 | Edit the IP or MAC Address in the <b>IP or MAC Address</b> text box.  |
| 5 | Select <b>Add</b> to save the IP or MAC Address in the table.   |
| 6 | Select <b>Apply</b> to turn address filtering on.   |

---

- End -

---

## Deleting an Address Filter


Delete an existing address filter.

### Delete an Address Filter

---

Step	Action
------	--------

---

- |   |  |
|---|--|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.  |
| 2 | Select <b>Firewall</b> from the <b>Security</b> menu<br>OR Select <b>Firewall</b> from the <b>Network</b> menu.                        |
| 3 | Select the <b>Address Filtering</b> tab.   |
| 4 | Select  to delete the corresponding address filter. |

---

- End -

---



## ONVIF

The Web GUI allows ONVIF functionality to be managed at a high level. ONVIF Discovery Mode and User Authentication can be enabled or disabled.

- ONVIF Discovery Mode allows enabling or disabling discovery of the camera via ONVIF.
- ONVIF User Authentication allows the camera to accept ONVIF commands from all users or only authenticated users. Enabling User Authentication ensures the camera will only execute commands from authenticated users.

The separation of Discovery Mode and User Authentication allows the camera to be set up in a configuration that suits requirements for the network and users. The preferred discovery method for the camera is Illustra Connect, and this utilizes ONVIF discovery. It is therefore recommended that ONVIF Discovery Mode always be enabled.

### ONVIF Discovery Mode

Enable or disable ONVIF discovery on the camera. Enable/Disable ONVIF Discovery Mode.

#### Enable/Disable ONVIF Discovery Mode

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Remote Access</b> from the <b>Security</b> menu The Remote Access tab displays.
3	Select the <b>ONVIF Discovery Mode</b> check box to enable ONVIF Discovery Mode. OR Deselect <b>ONVIF Discovery Mode</b> check box to disable ONVIF Discovery Mode. The default setting is 'Enabled'.

---

- End -

---

### ONVIF User Authentication

User authentication may be performed via ONVIF.

#### Enable/Disable ONVIF User Authentication

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Remote Access</b> from the <b>Security</b> menu The Remote Access tab displays.
3	Select the <b>ONVIF User Authentication</b> check box to enable ONVIF User Authentication. OR Deselect <b>ONVIF User Authentication</b> check box to disable ONVIF User Authentication. The default setting is 'Enabled'.

---

- End -

---

## Session Timeout

Session timeout specifies the number of minutes that a web session can remain idle before it is automatically terminated.

### Procedure 7-5 Set a Session Timeout time

---

Step	Action
------	--------

---

- 1 Select **Setup** on the Web User Interface banner to display the setup menus.
- 2 Select **Session Timeout** from the **Security** menu. The Session Timeout tab displays.
- 3 Use the slider bar to select the **Session Timeout (mins)**. The default setting is 15 minutes.

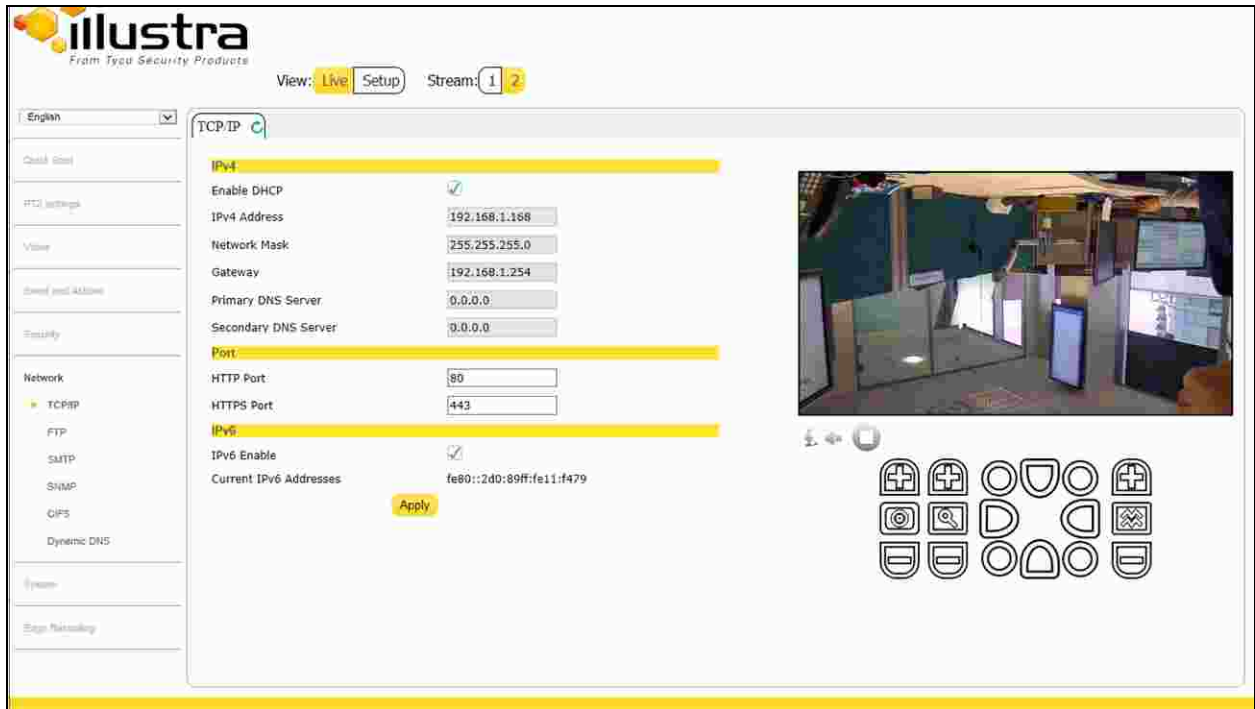
---

- End -

---

# Network Menu

When the Network menu is selected, Figure 8-1 Network Menu will be displayed.



**Figure 8-1 Network Menu**

The Network Menu provides access to the following camera settings and functions:

- TCP/IP
- FTP
- SMTP
- SNMP
- CIFS
- Dynamic DNS

# TCP/IP

Configure the IPv4 and IPv6 settings on the camera.

## IPv4

Configure the IPv4 settings for the camera.

### Configure IPv4 Settings

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>TCP/IP</b> from the <b>Network</b> menu.
3	Select the <b>Enable DHCP</b> check box to enable DHCP (Dynamic Host Configuration Protocol) and disable manual settings.  OR  Deselect <b>Enable DHCP</b> to disable DHCP and allow manual settings to be entered.  The default setting is 'Disabled'.
4	If Enable DHCP has been disabled:  a Enter the <b>IPv4 Address</b> in the IPv4 Address text box in the form xxx.xxx.xxx.xxx. The default setting for the camera is '192.168.1.168'.  b Enter the <b>Network Mask</b> in the Network Mask text box xxx.xxx.xxx.xxx. The default setting is '255.255.255.0'.  c Enter the <b>Gateway</b> IP address in Gateway text box xxx.xxx.xxx.xxx. The default setting is 192.168.1.254.  d Enter the <b>Primary DNS Server</b> in the Primary DNS Server text box xxx.xxx.xxx.xxx.
5	Select <b>Apply</b> to save the settings.

---

- End -

---

## IPv6

Enable or disable IPv6 on the camera.

### Enable/Disable IPv6

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>TCP/IP</b> from the <b>Network</b> menu.
3	Select the <b>IPv6 Enable</b> check box to enable IPv6 on the camera.  OR  Deselect the <b>IPv6 Enable</b> check box to disable IPv6 on the camera.  The default setting is 'Enabled'.

If IPv6 is enabled, the Link Local and DHCP address will be displayed beside 'Current IPv6 Addresses', if available.

---

- End -

---

## Network Loss Detection

Enable the camera to detect when there is a network loss from the Network menu.

### Enable/Disable Network Loss Detection

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>TCP/IP</b> from the <b>Network</b> menu.
3	Select the <b>Enable Network Loss Detection</b> check box to enable Network Loss Detection on the camera.
	OR
	Deselect the <b>Enable Network Loss Detection</b> check box to disable Network Loss Detection on the camera.
	The default setting is 'Enabled'.

---

- End -

---

## FTP

Configure the FTP settings for the FTP server. This is required to send video files from triggered analytic alerts. FTP must be configured to enable FTP video alerts when using alarms and analytic alerts.

**Note:**

---

FTP settings can also be configured via the Events and Actions menu. Refer to [FTP](#) on [Page 53](#).

---

### Configure FTP Server Settings

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>FTP</b> from the <b>Network</b> menu. The <b>FTP</b> tab displays.
3	Select the <b>Enable</b> check box to enable FTP. Text boxes on the tab become available for entry. OR Deselect the <b>Enable</b> check box to disable FTP. The default setting is 'Disabled'.
4	Enter the IP address of the FTP Server in the <b>FTP Server</b> text box.

---

- 5 Enter the FTP port in the **FTP Port** text box.  
The default setting is 21.
- 6 Enter the FTP username in the **Username** text box.
- 7 Enter the FTP password in the **Password** text box.
- 8 Enter the FTP upload path in the **Upload Path** text box.

**Note:**

- When entering the upload path the following format should be used: /folder/
- Refer to [Test FTP Settings](#) on [Page 78](#) to confirm that the FTP settings are working as expected.

---

- End -

---

## Test FTP Settings

Test that the settings set in [Configure FTP Server Settings](#) on [Page 77](#) have been configured correctly.

### Test the FTP Settings

---

Step	Action
------	--------

---

- |   |  |
|---|--|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.  |
| 2 | Select <b>FTP</b> from the <b>Events and Actions</b> menu.   |
| 3 | Select <b>Test</b> .   |
|   | A sample text file will be sent to the specified FTP destination to confirm that FTP settings are correct. |
|   | A message will display and report if the delivery has been successful.                                     |

**Note:**

Test FTP settings may also be configured through the Events and Actions menu.

---

---

- End -

---

## SMTP

Configure the SMTP settings to allow e-mail alerts to be sent from the camera when an alarm or analytic alert is triggered.

**Note:**

SMTP settings must be configured to enable email alerts when using alarms and analytic alerts. SMTP can also be configured via the Events and Actions menu. Refer to [SMTP](#) on [Page 52](#).

---

### Configure SMTP Settings

---

Step	Action
------	--------

---

- 1 Select **Setup** on the GUI banner to display the setup menus.
- 2 Select **SMTP** from the **Network** menu.
- 3 Select the **Enable SMTP** check box to enable SMTP.  
Text boxes on the tab become available for entry.  
OR  
Deselect the **Enable** check box to disable SMTP.  
The default setting is 'Disabled'.
- 4 Enter the IP Address of the mail server in the **Mail Server** text box.
- 5 Enter the server port in the **Server Port** text box.  
The default setting is '25'.
- 6 Enter the from email address in the **From Address** text box.
- 7 Enter the email address to send email alerts to in the **Send Email to** text box.
- 8 Select **Apply** to save the settings.

**Note:**

---

Refer to [Test SMTP Settings](#) on [Page 79](#) to confirm that the SMTP settings are working as expected.

---

---

- End -

---

## Test SMTP Settings

Test that the settings set in [Configure SMTP Settings](#) on [Page 78](#) have been configured correctly.

### Test the SMTP Settings

---

Step	Action
------	--------

---

- |   |  |
|---|--|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.                                |
| 2 | Select <b>SMTP</b> from the <b>Network</b> menu.<br>The <b>SMTP</b> tab displays.                |
| 3 | Select <b>Test</b> .<br>A message will display and report if the connection has been successful. |

---

- End -

---

## SNMP

The camera features support for the Simple Network Management Protocol making it easier to manage on an IP network.

The SNMP support includes support for V2 and V3. Using V2 means no authentication is required to access the data and results are unencrypted. V3 offers enhanced encryption and authentication security features.

### Configure SNMP Settings

---

Step	Action
------	--------

---

- 1 Select **Setup** on the GUI banner to display the setup menus.
  - 2 Select **SNMP** from the **Network** menu.
  - 3 Enter a location reference in the **Location** text box.
  - 4 Enter an SNMP managing contact reference in the **Contact** text box.
  - 5 If using **V2**:
    - a Select the **Enable V2** check box.
    - b Enter the authorized ID for reading SNMP data in the **Read Community** text box.
    - c Enter the **Trap Community**.
    - d Enter the **Trap Address**.
    - e Select **Apply**.
- OR
- If using **V3**:
- a Select the **EnableV3** check box.
  - b Enter the **Read User**.
  - c Select the **Authentication Type** using the radio buttons: MD5 or SHA.
  - d Enter the Authentication Password
  - e Select the **EncryptionType** using the radio buttons: DES or AES.
  - f Enter the **Encryption** Password
  - g Select **Apply**.

---

- End -

---

## CIFS

Configure the CIFS settings to allow files generated from the camera to be directed to network attached file storage via the Common Internet File System (CIFS) protocol. This supplements existing distribution methods such as FTP, SMTP, and email.

**Note:**

---

CIFS settings can also be configured via the Events and Actions menu. Refer to [CIFS](#) on [Page 54](#)

---

### Configure CIFS Settings

---

Step	Action
------	--------

---

- |   |  |
|---|--|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.  |
| 2 | Select <b>Network</b> from the <b>Setup</b> menu.  |
| 3 | Select the <b>CIFS</b> tab.  |
| 4 | Select the <b>Enable CIFS</b> check box to enable CIFS.<br>Text boxes on the tab become available for entry. |
|   | OR   |
|   | Deselect the <b>Enable</b> check box to disable CIFS.  |



The default setting is 'Enabled'.

5 Enter the network path in the **Network Path** text box:

Sample path: //192.168.185.159/CIFS.

6 Enter the domain name in the **Domain Name** text box.

7 Enter the username in the **Username** text box.

8 Enter the password in the **Password** text box.

9 Select **Apply** to save the settings.

**Note:**

Refer to [Test CIFS Settings](#) on [Page 81](#) to confirm that the CIFS settings are working as expected.

---

- End -

---

## Test CIFS Settings

Test that the settings set in [Configure CIFS Settings](#) on [Page 80](#) have been configured correctly.

### Test the CIFS Settings

---

Step	Action
------	--------

---

1	Select <b>Setup</b> on the GUI banner to display the setup menus.
---	---

2	Select <b>Network</b> from the <b>Setup</b> menu.
---	---

3	Select the <b>CIFS</b> tab.
---	-----------------------------

4	Select <b>Test</b> .
---	----------------------

A sample text file will be sent to the specified CIFS destination to confirm that CIFS settings are correct.

---

- End -

---

## Dynamic DNS

Dynamic DNS (Domain Name System) is supported for updating, in real time, a changing IP address on the Internet to provide a persistent domain name for a resource that may change location on the network. In this situation, the camera talks only to the DHCP server, and the DHCP server is responsible for updating the DNS server. The camera sends its hostname to the DHCP server when requesting a new lease and the DHCP server updates the DNS records accordingly. This is suitable for an intranet style configuration where there is an internal DHCP and DNS service and the user wants to access their camera only within their own network.

By default, when making a DHCP request the camera will transmit its hostname as part of the DHCP request. This option is not user configurable. The camera's hostname matches the configurable parameter "camera name" on the web GUI. Any DHCP request will contain the camera's hostname for the DHCP server to use to forward to an appropriate DNS server.

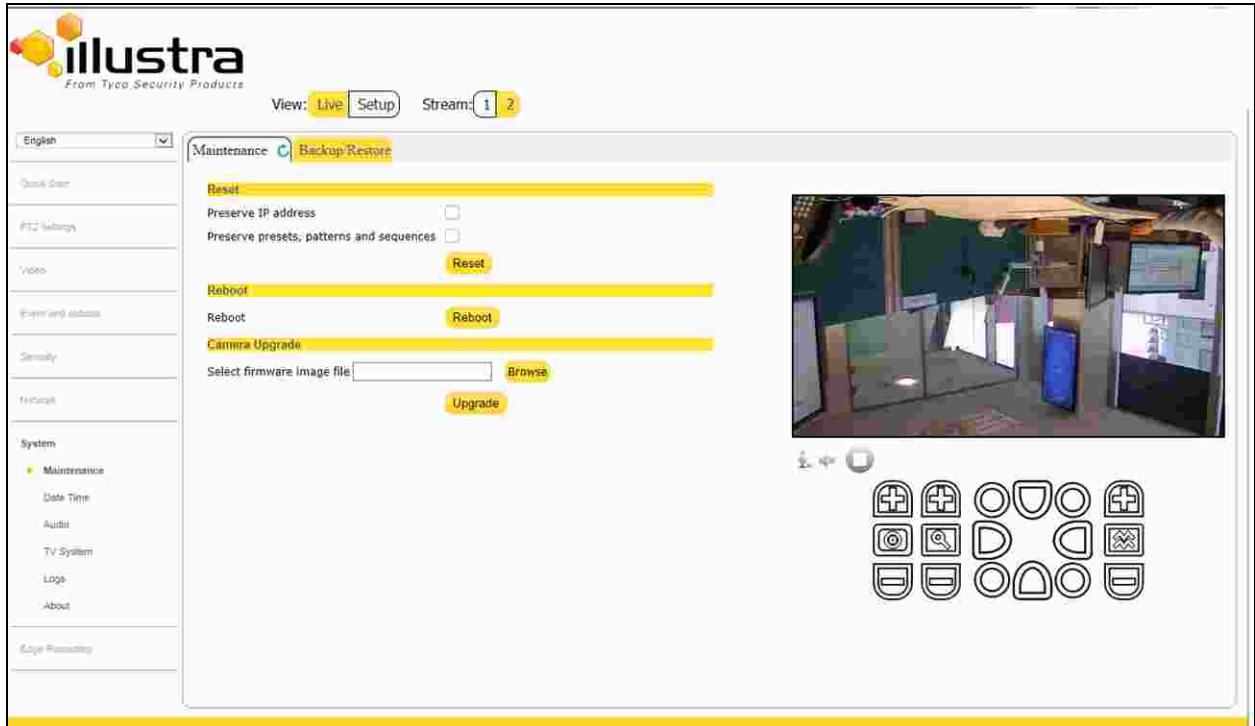
### Dynamic DNS

Configure the Dynamic DNS settings for the camera.

### Configure Dynamic DNS

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Dynamic DNS</b> from the <b>Network</b> menu. The <b>Dynamic DNS</b> tab displays.
3	Select the <b>Service Enable</b> check box to enable Dynamic DNS. Other text boxes on the tab become available for entry. OR Deselect <b>Service Enable</b> check box to disable Dynamic DNS. The default setting is 'Disabled'.
4	If DNS has been enabled: a Enter the Camera Alias in the text box. b Select a Service Provider from the list: • <b>Dyndns.org (Dynamic)</b> • <b>Dyndns.org (Custom)</b> • <b>No-IP</b> • <b>Change IP</b> c Enter a <b>Username</b> in the text box. d Enter a <b>Password</b> in the text box.
5	Select <b>Apply</b> to save the settings.
- End -	

When the System menu is selected, Figure 9-1 System Menu will be displayed.



**Figure 9-1 System Menu**

The System Menu provides access to the following camera settings and functions:

- Maintenance
- Date Time
- Audio
- TV System
- Logs
- About

## Maintenance

The Maintenance menu allows you to restore the camera settings to factory default, reboot the camera and apply a firmware upgrade.

### Reset

**Note:**

---

Network settings, presets and sequences can be retained if required.

---

### Resetting the Camera

---

Step	Action
------	--------

---

- |   |   |
|---|---|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.   |
| 2 | Select <b>Maintenance</b> from the <b>System</b> menu.  |
| 3 | Select the <b>Maintenance</b> tab.  |
| 4 | Select the <b>Preserve IP address</b> check box to retain the current network settings during the camera reset.<br><br>OR<br><br>Deselect the <b>Preserve IP address</b> check box to restore the default networking settings.<br><br>The default setting is 'Disabled'.  |
| 5 | Select the <b>Preserve presets, patterns and sequences</b> check box to retain the current presets and sequences during the camera reset.<br><br>OR<br><br>Deselect the <b>Preserve presets, patterns and sequences</b> check box to remove existing presets and sequences.<br><br>The default setting is 'Disabled'. |
| 6 | Select <b>Reset</b><br><br>You will be prompted to confirm the camera reset.  |
| 7 | Select <b>OK</b> to confirm. The Web GUI will display a "Camera Resetting" page with a progress bar showing the reset progress.<br><br>When the camera is restarted it will take 2 - 3 minutes until it is online and ready to be accessed and controlled<br><br>OR<br><br>Select <b>Cancel</b> .                     |
| 8 | The Log in page will be displayed.  |

---

- End -

---

## Reboot

To perform a physical reboot of the camera:

### Reboot the Camera

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Maintenance</b> from the <b>System</b> menu.
3	Select the <b>Maintenance</b> tab.
4	Select <b>Reboot</b> . You will be prompted to confirm the camera reboot.
5	Select <b>OK</b> to confirm. The Web GUI will display a “Camera Rebooting” page with a progress bar showing the reboot progress. When the camera is restarted it will take 2 - 3 minutes until it is online and ready to be accessed and controlled. OR Select <b>Cancel</b> .
6	The Log in page will be displayed.

---

- End -

---

## Camera Upgrade

The camera can be upgraded using firmware provided by Illustra. Alternatively, the camera can also be upgraded using Illustra Connect. Refer to the Illustra Connect User Guide for further information.

### Note:

All existing camera settings are maintained when the firmware is upgraded.



### Caution

You should only use firmware that has been provided by Illustra. Using any other firmware may cause a malfunction and damage the camera.

### Upgrade Camera Firmware

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Maintenance</b> from the <b>System</b> menu.
3	Select the <b>Maintenance</b> tab.
4	Select <b>Browse</b> next to the <b>Select firmware image file</b> text box.

The Choose file to Upload dialog will be displayed.

5 Navigate to the location where the firmware file has been saved.

6 Select the firmware file and then select the **Open** button.

7 Select **Upload**.

The file transfer will begin.

Do not disconnect power to the camera during the upgrade process. The camera restarts automatically after the upgrade has been completed, which can take from 1 to 10 minutes.

The Log in page will be displayed.

---

- End -

---

## Backup/Restore

Back up the camera data and restore from a previously saved data file. The configuration settings of the camera can be saved to a data file in a specified location and then used to restore the camera configuration.

### Note:

---

A saved backup data file created on a camera is camera specific and cannot be used to restore the settings on a different camera.

---

### Back up Camera Data

---

Step	Action
------	--------

---

1 Select **Setup** on the GUI banner to display the setup menus.

2 Select **Maintenance** from the **System** menu.

3 Select the **Backup/Restore** tab.

4 Select **Backup**.

You will be prompted to save the backup file.

5 Select the location to save the backup file.

6 Select **Save**.

---

- End -

---

### Restore Camera from Backup

---

Step	Action
------	--------

---

1 Select **Setup** on the GUI banner to display the setup menus.

2 Select **Maintenance** from the **System** menu.

3 Select the **Backup/Restore** tab.

4 Select the **Browse** button next to the **Select saved data file** text box.

The Choose file to Upload dialog will be displayed.

- 5 Navigate to the location where the backup file has been saved.
- 6 Select the backup file and then select the **Open** button.
- 7 Select **Upload**.  
You will be prompted to confirm that you would like to upload the backup file.
- 8 Select **OK** to confirm the backup .

Or

Select **Cancel**.

Do not disconnect power to the camera during the restore process. The camera restarts automatically after the restore has been completed, which can take from 1 to 10 minutes.

The Log in page will be displayed.

---

- End -

---

## Date/Time

Set the date and time on the camera.

### Note:

---

Date and Time can also be configured in the **Quick Start** menu. Refer to [Quick Start Menu](#) on [Page 16](#).

---

## Configuring the Date and Time

---

Step	Action
------	--------

---

- 1 Select **Setup** on the GUI banner to display the setup menus.
- 2 Select **Date Time** from the **System** menu.
- 3 Select the **Time 24-hour** check box to enable the 24-hour clock.  
Or  
Deselect the **Time 24-hour** check box to enable the 12-hour clock.  
The default setting is '24-hour'.
- 4 Select the **Date Display Format** from the drop-down menu:
  - **DD/MM/YYYY**
  - **MM/DD/YYYY**
  - **YYYY/MM/DD**The default setting is 'YYYY/MM/DD'.
- 5 Select the **Time Zone** from the drop-down menu.  
The default setting is '(GMT-05:00) Eastern Time (US & Canada)'.
- 6 Select the **Set Time** setting by selecting a radio button:
  - **Manually**
  - **via NTP**

The default setting is 'Manually'.

- 7 If you select 'Manually' in step 6:
  - a Select the Date (**DD/MM/YYYY**) using the drop-down menus.
  - b Select the Time (**HH:MM:SS**) using the drop-down menus.
- 8 If you select 'via NTP' in step 6:
  - Enter the **NTP Server Name** in the text box.

---

- End -

---

## Audio

From this tab, you can enable and configure audio inputs and audio outputs on the camera.

### Configure Audio Input

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Audio</b> from the <b>System</b> menu.
3	Select the <b>Audio Input</b> tab.
4	Select the <b>Input Enable</b> check box to enable the audio input settings. Or Deselect the <b>Input Enable</b> check box to disable audio input settings. The default setting is 'Disabled'.
5	Select one of the following values for <b>Audio Codec</b> : <ul style="list-style-type: none"><li>• G711A</li><li>• G711u</li><li>• G726</li><li>• AAC</li><li>• PCM</li></ul>
6	Use the slider bar to select the <b>Input Volume</b> . Values range from 1 to 100.
7	Select <b>Apply</b> to save your changes.

---

- End -

---

### Configuring Audio Output

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Audio</b> from the <b>System</b> menu.
3	Select the <b>Audio Out</b> tab.



- 4 Select the **Output Enable** check box to enable the audio output settings.  
Or  
Deselect the **Output Enable** check box to disable audio input settings.  
The default setting is 'Disabled'.
- 5 If Output Enable has been enabled, use the slider bar to select the Output Volume.  
Values range from 1 to 100.
- 6 Select **Apply** to save your settings.

---

- End -

---

## TV System

You can choose between having the TV System operate through NTSC or PAL format depending on which format suits your location best. NTSC is used predominantly in America and Asia. PAL is used in most of Europe.

**Note:**

---

Changes to TV System will affect both IP and Analogue stream if supported.

---

### Enable TV System

---

Step	Action
------	--------

---

- |   |   |
|---|---|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.   |
| 2 | Select <b>TV System</b> from the <b>System</b> menu.  |
| 3 | Select the TV System you would like to use from the dropdown menu: <ul style="list-style-type: none"><li>• <b>NTSC</b></li><li>• <b>PAL</b></li></ul> |
| 4 | Select <b>Apply</b> to save your settings.  |

---

- End -

---

## Logs

Information is provided on system, boot and audit logs created by the camera.

### System Log

The system log gives the most recent messages from the `unix/var/log/messages` file. Information will include the following:

- Messages about system behavior such as process startup/shutdown.
- Warnings about recoverable problems that processes encounter.

- Error messages where processes encounter problems they cannot fix. This does not mean that the process will not continue to work, only that it encountered an issue it could do nothing about.

## Display System Log

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>Logs</b> from the <b>System</b> menu. Select the System Log tab.
3	Select <b>Refresh</b> to refresh the log with the most up-to-date information.

---

- End -

---

## About

The About menu provides the following camera information:

- Camera Name
- Model
- Product Code
- Manufacturing Date
- Serial Number
- MAC Address
- Firmware Version
- Hardware Version

## Display Model Information

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>About</b> from the <b>System</b> menu. The model tab displays.
3	View the information.

---

- End -

---

## Edit Camera Name

---

Step	Action
1	Select <b>Setup</b> on the GUI banner to display the setup menus.
2	Select <b>About</b> from the <b>System</b> menu.

The model tab displays.

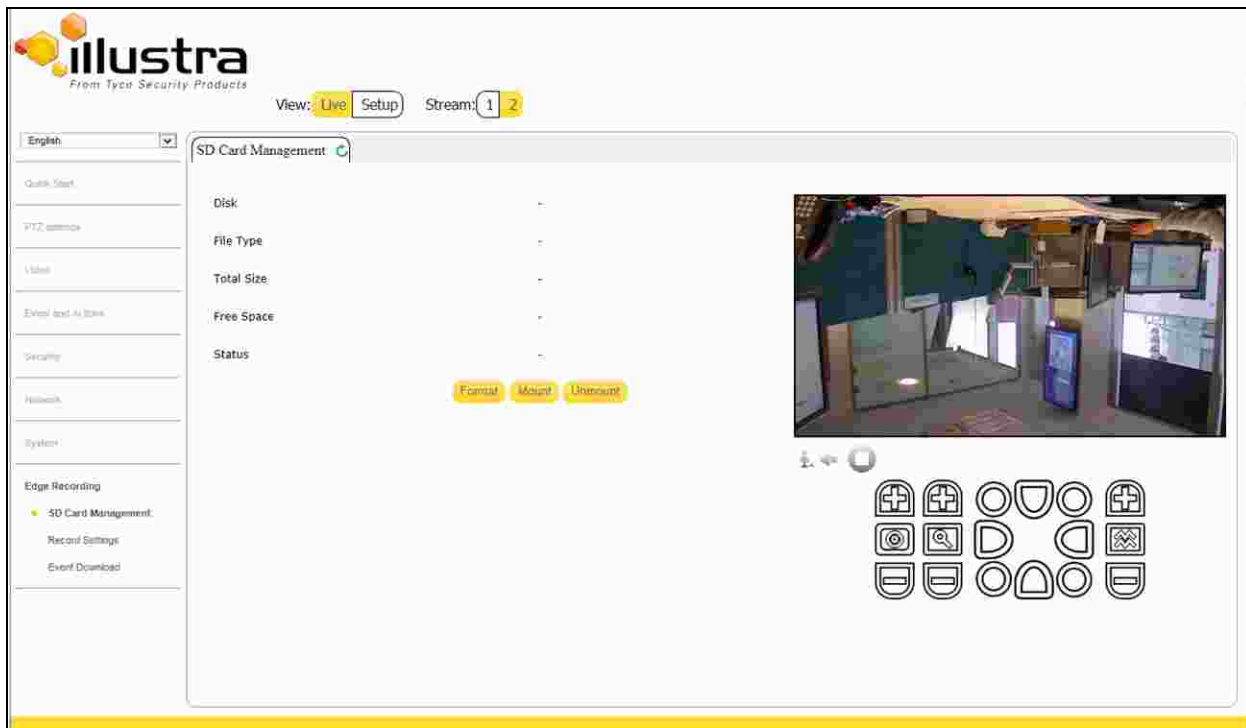
- 3 Edit the name in the **Camera Name** textbox.
- 4 Select **Apply** to save your changes.

---

- End -

---

When the Edge Recording menu is selected, Figure 10-1 Edge Recording Menu will be displayed.



**Figure 10-1 Edge Recording Menu**

The Edge Recording Menu provides access to the following camera settings and functions:

- SD Card Management
- Record Settings
- Event Download

## SD Card Management

Edge recording provides the ability to save recorded video to a SD card or microSD card. Video can be configured to be recorded based on an event.

Check below to see which SD card formats can be used with the camera:

- Pro 12MP Fisheye: microSDHC up to 64GB support



### Caution

If you wish to use the microSD card or SD card, it must be present when the camera boots up or it will require mounting manually via the WebGUI.

The following provides details of functions available without an SD card or microSD card and when using one.

#### Features Available with a SD Card or microSD Card

- Current faults notifications are displayed on camera if an alarm is triggered.
- Video/Audio and screenshot are saved to the SD card.
- SMTP notifications can be sent.
- FTP uploads of video can be sent.

#### Without a SD Card or microSD Card

- Current faults notifications are displayed on camera if an alarm is triggered.
- Recording of video is not possible without an SD card. If recording has not been selected the camera will just sent snapshots.

## Verifying and Formatting the SD Card or microSD Card

When inserting a SD card or microSD card, the card should mount automatically. To verify that the mount was successful, check the Status field on the SD Card Management tab.

### Verify the SD Card or microSD Card Mount Was Successful

Step	Action
------	--------

- |   |  |
|---|--|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.          |
| 2 | Select <b>SD Card Management</b> menu from the <b>Edge Recording</b> menu. |
| 3 | View the <b>Status</b> field.  |

- End -

### Format the Mounted SD Card or microSD Card

Step	Action
------	--------

- |   |  |
|---|--|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.          |
| 2 | Select <b>SD Card Management</b> menu from the <b>Edge Recording</b> menu. |

- 3 Select **Format**.  
A **Format SD card** dialog box will warn you that formatting the SD card will delete all information on the card.
- 4 Select **OK** to confirm.  
OR
- 5 Select **Cancel**.

---

- End -

---

## Removing the SD Card or microSD Card

If at any stage you need to remove the SD card or microSD card from the camera, one of the following two procedures should be used:

- Remove the SD card or microSD card by powering down the camera - Use this procedure if you don't have access to the web GUI and are unable to unmount the SD card or microSD card before removal.
- Unmount the SD card or microSD card for removal - Use this procedure when you are unable to access the power supply to the camera.

### Remove the SD Card or microSD Card by Powering down the Camera

---

Step	Action
------	--------

---

- |   |  |
|---|--|
| 1 | Turn off the camera by disconnecting the power supply.   |
| 2 | Remove the SD card or microSD card from the camera.  |
| 3 | Reconnect the power supply and power up the camera.<br>When the camera is restarted, it checks its functionality by performing a homing routine. |

---

- End -

---

### Unmount the SD Card or microSD Card for Removal

---

Step	Action
------	--------

---

- |   |   |
|---|---|
| 1 | Select <b>Setup</b> on the GUI banner to display the setup menus.             |
| 2 | Select <b>SD Card Management</b> menu from the <b>Edge Recording</b> menu.    |
| 3 | Select <b>Unmount</b> .<br>You will be prompted to confirm the unmounting.    |
| 4 | Select <b>OK</b> to confirm.<br>OR  |
| 5 | Select <b>Cancel</b> .<br>Remove the SD card or microSD card from the camera. |

---

- End -

---

## Record Settings

Select which video stream to use for alarm video and configure pre and post event durations for the playable video clip. The camera can record video generated from MD and DIO events.

### Configure Record Settings

---

Step	Action
1	Select <b>Setup</b> on the GUI Banner to display the setup menus.
2	Select <b>Record Settings</b> from the <b>Edge Recording</b> menu.
3	Select <b>Enable Event Record</b> to allow the camera to create a playable video clip. OR Deselect <b>Enable Event Record</b> to disable the feature.
4	If <b>Enable Event Record</b> has been enabled: a Select the required video stream from the <b>Record Source</b> drop-down menu. Refer to <a href="#">Configure the Video Stream settings</a> on <a href="#">Page 37</a> . b Select the Pre Event seconds from the <b>Pre Event (secs)</b> drop-down menu. Values range from 0 to 10. The default setting is 5 seconds. c Select the Post Event seconds from the <b>Post Event (secs)</b> drop-down menu. Values range from 0 to 10. The default setting is 5 seconds.
5	Select <b>Apply</b> to save.

---

- End -

---

## Event Download

If an event action has record mode enabled, when it is triggered, the associated video will be logged in the event download table. From there it can later be downloaded from a SD card or microSD card using the specified upload protocol.

### Note:

---

An event action must have record mode enabled to be logged and downloaded. This is configured in **Event Actions** under the **Events and Actions** menu. Refer to [Create an Event Action](#) on [Page 56](#).

---

# Appendix A: Stream Table

---

The following tables provide information regarding stream resolutions for the 12MP Fisheye camera.





## Client Dewarp Mode Resolutions

### Note:





---

- Web User Interface uses Stream 3 for live view. To display stream 1 or stream 2, use RTSP stream on a video player.
- When resolution width or height larger than 2040 (resolution marked **red**), MJPEG can't be set (there is no 2048x2048 MJPEG, but you can set 2048x2048 H.264).
- Each stream can have an independent frame rate (fps), but they must be equal to or less than the max fps listed.
- Stream resolutions are independent; each stream can operate at any resolution in the column below.
- On stream 1, 640x640, and on streams 2 and 3, 352x352 are the lowest resolutions Fisheye view can be operated with when using Edge Dewarp.
- Out of the box, the default mode is Client Dewarp.
- The following mount image source combinations are possible:

### Ceiling mount view modes:


-  Fisheye
-  Ceiling panorama
-  Quad Active Image (4x ePTZ)
-  Active Image

### Wall mount view modes:

-  Fisheye
  -  Active Image
  -  Wall panorama
  -  Combi (panorama + 2 ePTZ)
- Dewarping will apply to only GUI stream and does not affect RTSP or Server connected stream



**Table 10-1 Client Dewarp Mode Resolutions**




Client Dewarp Mode					
Image Source	Symbol	Max fps	Stream 1	Stream 2	Stream 3
Fisheye		15	(2992x2992) 1:1 (2048x2048) 1:1 (1408x1408) 1:1 (1072x1072) 1:1 (960x960) 1:1 (720x720) 1:1 (640x640) 1:1	(1072x1072) 1:1 (960x960) 1:1 (720x720) 1:1 (640x640) 1:1 (480x480) 1:1 (384x384) 1:1	(720x720) 1:1 (640x640) 1:1 (480x480) 1:1 (384x384) 1:1

## Edge Dewarp Mode Resolutions

**Note:**

- When resolution width or height is larger than 2040 (resolution marked red), MJPEG codec cannot be set
- Streams 1, 2, and 3 fps can be set from 1 to maximum fps. Maximum fps is dependent on the resolution of stream 1
- Each stream can have an independent frame rate (fps), but they must be equal to or less than the max fps listed
- 640x640 on steam 1 and 352x352 on streams 2 and 3 are the lowest resolution fisheye possible in Edge Dewarp
- The image source set on stream 1 is replicated on stream 2 and 3
- Once image source, resolution, and max fps is selected for stream 1, possible resolution selections for streams 2 and 3 will update accordingly
- Changing image source will automatically reset all stream configurations to their default values.
- The following mount image source combinations are possible:

**Ceiling mount view modes:**

-  Ceiling panorama
-  Quad Active Image (4x ePTZ)
-  Active Image

**Wall mount view modes:**












-  Active Image
-  Wall panorama
-  Combi (panorama + 2 ePTZ)

Table 10-2 Edge Dewarp Mode Resolutions

Edge Dewarp					
Image Source	Symbol	Max fps	Stream 1	Stream 2	Stream 3
Ceiling Panoramic Wall Panoramic	 	15	(2688x1512) 16:9 (1920x1080) 1080p 16:9 (1664x936) 16:9 (1280x720) 720p 16:9 (1024x576) PAL 16:9 (960x544) 16:9 (640x360) nHD 16:9 (384x216) 16:9	(960x544) 16:9 (640x360) nHD 16:9 (480x360) 480 4:3 (384x288) 4:3 (384x216) 16:9	(960x544) 16:9 (640x360) nHD 16:9 (480x360) 480 4:3 (384x288) 4:3 (384x216) 16:9
4xActive Image (4 ePTZ) ceiling mount Combi image (180 +2 ePTZ) wall mount	 	20	(1920x1080) 1080p 16:9 (1664x936) 16:9 (1280x720) 720p 16:9 (1024x576) PAL 16:9 (960x544) 16:9 (640x360) nHD 16:9 (384x216) 16:9	(960x544) 16:9 (640x360) nHD 16:9 (480x360) 480 ) 4:3 (384x288) 4:3 (384x216) 16:9	(960x544) 16:9 (640x360) nHD 16:9 (480x360) 480 4:3 (384x288) 4:3 (384x216) 16:9
Active Image (ePTZ)		20	(960x544) 16:9 (640x360) nHD 16:9 (384x216) 16:9	(960x544) 16:9 (640x360) nHD 16:9 (480x360) 480 4:3 (384x288) 4:3 (384x216) 16:9	(960x544) 16:9 (640x360) nHD 16:9 (480x360) 480 4:3 (384x216) 16:9
Fisheye		15	(2048x2048) 1:1	(1408x1408) 1:1 (1072x1072) 1:1 (960x960) 1:1 (720x720) 1:1 (640x640) 1:1	(720x720) 1:1 (640x640) 1:1 (480x480) 1:1 (352x352) 1:1

				(480x480) 1:1 (352x352) 1:1	
Fisheye		20	(1408x1408) 1:1 (1072x1072) 1:1 (960x960) 1:1	(1408x1408) 1:1 (1072x1072) 1:1 (960x960) 1:1 (720x720) 1:1 (640x640) 1:1 (480x480) 1:1 (352x352) 1:1	(720x720) 1:1 (640x640) 1:1 (480x480) 1:1 (352x352) 1:1
Fisheye		30	(720x720) 1:1 (640x640) 1:1	(1408x1408) 1:1 (1072x1072) 1:1 (960x960) 1:1 (720x720) 1:1 (640x640) 1:1 (480x480) 1:1 (352x352) 1:1	(720x720) 1:1 (640x640) 1:1 (480x480) 1:1 (352x352) 1:1