Configuration & User Guide

Illustra Pro Series 5MP, 3MP & 2MP Mini Dome Series

8200-1135-01 H0

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Introduction

The Illustra Pro Series Mini Dome (hereafter referred to as the camera) is a high definition IP camera, available in 5 megapixel, 3 megapixel and 2 megapixel models. ONVIF-compatibility allows interoperability with other ONVIF-compliant third party NVRs. A built-in web server allows you to configure the camera and stream video using Internet Explorer version 10 and higher.

The camera can operate as a standalone camera on a network however it is intended to be integrated into sophisticated security solutions.

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

The following provides a list of the camera models available in the series.

Illustra Pro 2MP Models

IPS02D0OCWTT	Illustra Pro 2MP Mini-dome, 1.8-3mm, outdoor, vandal, clear, white, TDN, TWDR
IPS02D0OSWTT	Illustra Pro 2MP Mini-dome, 1.8-3mm, outdoor, vandal, smoked, white, TDN, TWDR
IPS02D0OCBTT	Illustra Pro 2MP Mini-dome, 1.8-3mm, outdoor, vandal, clear, black, TDN, TWDR
IPS02D0OSBTT	Illustra Pro 2MP Mini-dome, 1.8-3mm, outdoor, vandal, smoked, black, TDN, TWDR
IPS02D2ICWTT	Illustra Pro 2MP Mini-dome, 3-9mm, indoor, vandal, clear, white, TDN, TWDR
IPS02D2ICWIT	Illustra Pro 2MP Mini-dome, 3-9mm, indoor, vandal, clear, white, TDN w/IR, TWDR
IPS02D2OCWTT	Illustra Pro 2MP Mini-dome, 3-9mm, outdoor, vandal, clear, white, TDN, TWDR
IPS02D2OCWIT	Illustra Pro 2MP Mini-dome, 3-9mm, outdoor, vandal, clear, white, TDN w/IR, TWDR
IPS02D2ISWTT	Illustra Pro 2MP Mini-dome, 3-9mm, indoor, vandal, smoked, white, TDN, TWDR
IPS02D2ISWIT	Illustra Pro 2MP Mini-dome, 3-9mm, indoor, vandal, smoked, white, TDN w/IR, TWDR
IPS02D2OSWTT	Illustra Pro 2MP Mini-dome, 3-9mm, outdoor, vandal, smoked, white, TDN, TWDR
IPS02D2OSWIT	Illustra Pro 2MP Mini-dome, 3-9mm, outdoor, vandal, smoked, white, TDN w/IR, TWDR
IPS02D2ICBTT	Illustra Pro 2MP Mini-dome, 3-9mm, indoor, vandal, clear, black, TDN, TWDR
IPS02D2ICBIT	Illustra Pro 2MP Mini-dome, 3-9mm, indoor, vandal, clear, black, TDN w/IR, TWDR
IPS02D2OCBTT	Illustra Pro 2MP Mini-dome, 3-9mm, outdoor, vandal, clear, black, TDN, TWDR
IPS02D2OCBIT	Illustra Pro 2MP Mini-dome, 3-9mm, outdoor, vandal, clear, black, TDN w/IR, TWDR
IPS02D2ISBTT	Illustra Pro 2MP Mini-dome, 3-9mm, indoor, vandal, smoked, black, TDN, TWDR
IPS02D2ISBIT	Illustra Pro 2MP Mini-dome, 3-9mm, indoor, vandal, smoked, black, TDN w/IR, TWDR
IPS02D2OSBTT	Illustra Pro 2MP Mini-dome, 3-9mm, outdoor, vandal, smoked, black, TDN, TWDR
IPS02D2OSBIT	Illustra Pro 2MP Mini-dome, 3-9mm, outdoor, vandal, smoked, black, TDN w/IR, TWDR
IPS02D3ICWTT	Illustra Pro 2MP Mini-dome, 9-22mm, indoor, vandal, clear, white, TDN, TWDR
IPS02D3ICWIT	Illustra Pro 2MP Mini-dome, 9-22mm, indoor, vandal, clear, white, TDN w/IR, TWDR

IPS02D3ISWTT	Illustra Pro 2MP Mini-dome, 9-22mm, indoor, vandal, smoked, white, TDN, TWDR
IPS02D3ISWIT	Illustra Pro 2MP Mini-dome, 9-22mm, indoor, vandal, smoked, white, TDN w/IR, TWDR
IPS02D3ICBTT	Illustra Pro 2MP Mini-dome, 9-22mm, indoor, vandal, clear, black, TDN, TWDR
IPS02D3ICBIT	Illustra Pro 2MP Mini-dome, 9-22mm, indoor, vandal, clear, black, TDN w/IR, TWDR
IPS02D3ISBTT	Illustra Pro 2MP Mini-dome, 9-22mm, indoor, vandal, smoked, black, TDN, TWDR
IPS02D3ISBIT	Illustra Pro 2MP Mini-dome, 9-22mm, indoor, vandal, smoked, black, TDN w/IR, TWDR
IPS02D3OCWIT	Illustra Pro 2MP Mini-dome, 9-22mm, outdoor, vandal, clear, white, TDN w/IR, TWDR
IPS02D3OSWIT	Illustra Pro 2MP Mini-dome, 9-22mm, outdoor, vandal, smoked, white, TDN w/IR, TWDR
IPS02D3OCBIT	Illustra Pro 2MP Mini-dome, 9-22mm, outdoor, vandal, clear, black, TDN w/IR, TWDR
IPS02D3OSBIT	Illustra Pro 2MP Mini-dome, 9-22mm, outdoor, vandal, smoked, black, TDN w/IR, TWDR

Illustra Pro 3MP Models

IPS03D0OCWTT	Illustra Pro 3MP Mini-dome 1.8-3mm, outdoor, vandal, clear, white, TDN, TWDR
IPS03D0OSWTT	Illustra Pro 3MP Mini-dome, 1.8-3mm, outdoor, vandal, smoked, white, TDN, TWDR
IPS03D0OCBTT	Illustra Pro 3MP Mini-dome, 1.8-3mm, outdoor, vandal, clear, black, TDN, TWDR
IPS03D0OSBTT	Illustra Pro 3MP Mini-dome, 1.8-3mm, outdoor, vandal, smoked, black, TDN, TWDR
IPS03D2ICWTT	Illustra Pro 3MP Minidome, 3-9mm, indoor, vandal, clear, white, TDN, TWDR
IPS03D2ICWIT	Illustra Pro 3MP Minidome, 3-9mm, indoor, vandal, clear, white, TDN w/IR, TWDR
IPS03D2OCWTT	Illustra Pro 3MP Minidome, 3-9mm, outdoor, vandal, clear, white, TDN, TWDR
IPS03D2OCWIT	Illustra Pro 3MP Minidome, 3-9mm, outdoor, vandal, clear, white, TDN w/IR, TWDR
IPS03D2ISWTT	Illustra Pro 3MP Minidome, 3-9mm, indoor, vandal, smoked, white, TDN, TWDR
IPS03D2ISWIT	Illustra Pro 3MP Minidome, 3-9mm, indoor, vandal, smoked, white, TDN w/IR, TWDR
IPS03D2OSWTT	Illustra Pro 3MP Minidome, 3-9mm, outdoor, vandal, smoked, white, TDN, TWDR
IPS03D2OSWIT	Illustra Pro 3MP Minidome, 3-9mm, outdoor, vandal, smoked, white, TDN w/IR, TWDR
IPS03D2ICBTT	Illustra Pro 3MP Minidome, 3-9mm, indoor, vandal, clear, black, TDN, TWDR
IPS03D2ICBIT	Illustra Pro 3MP Minidome, 3-9mm, indoor, vandal, clear, black, TDN w/IR, TWDR
IPS03D2OCBTT	Illustra Pro 3MP Minidome, 3-9mm, outdoor, vandal, clear, black, TDN, TWDR
IPS03D2OCBIT	Illustra Pro 3MP Minidome, 3-9mm, outdoor, vandal, clear, black, TDN w/IR, TWDR
IPS03D2ISBTT	Illustra Pro 3MP Minidome, 3-9mm, indoor, vandal, smoked, black, TDN, TWDR
IPS03D2ISBIT	Illustra Pro 3MP Minidome, 3-9mm, indoor, vandal, smoked, black, TDN w/IR, TWDR
IPS03D2OSBTT	Illustra Pro 3MP Minidome, 3-9mm, outdoor, vandal, smoked, black, TDN, TWDR
IPS03D2OSBIT	Illustra Pro 3MP Minidome, 3-9mm, outdoor, vandal, smoked, black, TDN w/IR, TWDR
IPS03D3ICWTT	Illustra Pro 3MP Minidome, 9-22mm, indoor, vandal, clear, white, TDN, TWDR
IPS03D3ICWIT	Illustra Pro 3MP Minidome, 9-22mm, indoor, vandal, clear, white, TDN w/IR, TWDR

IPS03D3ISWTT	Illustra Pro 3MP Minidome, 9-22mm, indoor, vandal, smoked, white, TDN, TWDR
IPS03D3ISWIT	Illustra Pro 3MP Minidome, 9-22mm, indoor, vandal, smoked, white, TDN w/IR, TWDR
IPS03D3ICBTT	Illustra Pro 3MP Minidome, 9-22mm, indoor, vandal, clear, black, TDN, TWDR
IPS03D3ICBIT	Illustra Pro 3MP Minidome, 9-22mm, indoor, vandal, clear, black, TDN w/IR, TWDR
IPS03D3ISBTT	Illustra Pro 3MP Minidome, 9-22mm, indoor, vandal, smoked, black, TDN, TWDR
IPS03D3ISBIT	Illustra Pro 3MP Minidome, 9-22mm, indoor, vandal, smoked, black, TDN w/IR, TWDR
IPS03D3OCWIT	Illustra Pro 3MP Mini-dome, 9-22mm, outdoor, vandal, clear, white, TDN w/IR, TWDR
IPS03D3OSWIT	Illustra Pro 3MP Mini-dome, 9-22mm, outdoor, vandal, smoked, white, TDN w/IR, TWDR
IPS03D3OCBIT	Illustra Pro 3MP Mini-dome, 9-22mm, outdoor, vandal, clear, black, TDN w/IR, TWDR
IPS03D3OSBIT	Illustra Pro 3MP Mini-dome, 9-22mm, outdoor, vandal, smoked, black, TDN w/IR, TWDR

Illustra Pro 5MP Models

IPS05D0OCWTY	Illustra Pro 5MP Mini-dome, 1.8-3mm, outdoor, vandal, clear, white, TDN, WDR
IPS05D0OSWTY	Illustra Pro 5MP Mini-dome, 1.8-3mm, outdoor, vandal, smoked, white, TDR, WDR
IPS05D0OCBTY	Illustra Pro 5MP Mini-dome, 1.8-3mm, outdoor, vandal, clear, black, TDN, WDR
IPS05D0OSBTY	Illustra Pro 5MP Mini-dome, 1.8-3mm, outdoor, vandal, smoked, black, TDN, WDR
IPS05D2ICWTY	Illustra Pro 5MP Minidome, 3-9mm, indoor, vandal, clear, white, TDN, WDR
IPS05D2ICWIY	Illustra Pro 5MP Minidome, 3-9mm, indoor, vandal, clear, white, TDN w/IR, WDR
IPS05D2OCWTY	Illustra Pro 5MP Minidome, 3-9mm, outdoor, vandal, clear, white, TDN, WDR
IPS05D2OCWIY	Illustra Pro 5MP Minidome, 3-9mm, outdoor, vandal, clear, white, TDN w/IR, WDR
IPS05D2ISWTY	Illustra Pro 5MP Minidome, 3-9mm, indoor, vandal, smoked, white, TDN, WDR
IPS05D2ISWIY	Illustra Pro 5MP Minidome, 3-9mm, indoor, vandal, smoked, white, TDN w/IR, WDR
IPS05D2OSWTY	Illustra Pro 5MP Minidome, 3-9mm, outdoor, vandal, smoked, white, TDN, WDR
IPS05D2OSWIY	Illustra Pro 5MP Minidome, 3-9mm, outdoor, vandal, smoked, white, TDN w/IR, WDR
IPS05D2ICBTY	Illustra Pro 5MP Minidome, 3-9mm, indoor, vandal, clear, black, TDN, WDR
IPS05D2ICBIY	Illustra Pro 5MP Minidome, 3-9mm, indoor, vandal, clear, black, TDN w/IR, WDR
IPS05D2OCBTY	Illustra Pro 5MP Minidome, 3-9mm, outdoor, vandal, clear, black, TDN, WDR
IPS05D2OCBIY	Illustra Pro 5MP Minidome, 3-9mm, outdoor, vandal, clear, black, TDN w/IR, WDR
IPS05D2ISBTY	Illustra Pro 5MP Minidome, 3-9mm, indoor, vandal, black, smoked, TDN, WDR
IPS05D2ISBIY	Illustra Pro 5MP Minidome, 3-9mm, indoor, vandal, black, smoked, TDN w/IR, WDR
IPS05D2OSBTY	Illustra Pro 5MP Minidome, 3-9mm, outdoor, vandal, black, smoked, TDN, WDR
IPS05D2OSBIY	Illustra Pro 5MP Minidome, 3-9mm, outdoor, vandal, smoked, black, TDN w/IR, WDR
IPS05D3ICWTY	Illustra Pro 5MP Minidome, 9-22mm, indoor, vandal, clear, white, TDN, WDR
IPS05D3ICWIY	Illustra Pro 5MP Minidome, 9-22mm, indoor, vandal, clear, white, TDN w/IR, WDR

IPS05D3ISWTY	Illustra Pro 5MP Minidome, 9-22mm, indoor, vandal, smoked, white, TDN, WDR
IPS05D3ISWIY	Illustra Pro 5MP Minidome, 9-22mm, indoor, vandal, smoked, white, TDN w/IR, WDR
IPS05D3ICBTY	Illustra Pro 5MP Minidome, 9-22mm, indoor, vandal, clear, black, TDN, WDR
IPS05D3ICBIY	Illustra Pro 5MP Minidome, 9-22mm, indoor, vandal, clear, black, TDN w/IR, WDR
IPS05D3ISBTY	Illustra Pro 5MP Minidome, 9-22mm, indoor, vandal, smoked, black, TDN, WDR
IPS05D3ISBIY	Illustra Pro 5MP Minidome, 9-22mm, indoor, vandal, smoked, black, TDN w/IR, WDR
IPS05D3OCWIY	Illustra Pro 5MP Mini-dome, 9-22mm, outdoor, vandal, clear, white, TDN w/IR, WDR
IPS05D3OSWIY	Illustra Pro 5MP Mini-dome, 9-22mm, outdoor, vandal, smoked, white, TDN w/IR, WDR
IPS05D3OCBIY	Illustra Pro 5MP Mini-dome, 9-22mm, outdoor, vandal, clear, black, TDN w/IR, WDR
IPS05D3OSBIY	Illustra Pro 5MP Mini-dome, 9-22mm, outdoor, vandal, smoked, black, TDN w/IR, WDR

Manual Lens Adjustment

Motorized lenses allow users to adjust zoom and Focus functions remotely.

The Ultra Wide Angle 1.8 mm - 3 mm lens requires manual adjustment.

Procedure 1-1 Adjusting the 1.8 mm - 3 mm lens

Use the following procedure to adjust the 1.8 mm - 3 mm lens

Step	Action
1	Remove the camera liner
2	Loosen the Zoom/Focus lever and adjust the lens to the desired FOV and picture sharpness.
3	After you have completed the adjustment, re-tighten the Zoom and Focus levers.

- End -

Web Configuration

This section details how to configure the camera using the built-in Web Configuration feature.

Note:

1. Adobe Reader must be installed to view the online help.
2. To view the video pane at the cameras best quality the latest version of QuickTime must be installed and enabled on the computer running the browser session, this will allow for a supported stream on the camera to be viewed on the Web User Interface. Otherwise the camera will use a lower bandwidth stream to display live video on the Web User Interface.
3. Web Configuration sessions timeout after a period of inactivity.
4. Only users with administrative rights can access all the areas of the Web Configuration pages.

Security Mode Profiles for First Time Connection

The Illustra Pro Series Mini Dome camera now has Enhanced Security features that allow for operation in a Stand ard Security mode or in an Enhanced Security mode.

The Enhanced Security mode of operation is used to control changes to the camera communication protocols HTTP, HTTPS, FTP, and SMTP. When the camera is in Enhanced Security mode, a complex seven character Administrator password is required to make changes to these protocols.

Accessing the Illustra Pro Series Camera Web User Interface

Logging in to the Camera

Use the following procedure to access the camera Web User Interface.

Procedure 2-1 Log in to the Camera

Step	Action
1	Refer to the Installation chapter for details on how to connect the camera to your network or computer.
2	When the camera is selected the sign in page will be displayed.
3	Select your preferred language from the drop-down menu. The default language is 'English'.
4	Enter the default ID and password when prompted - ID: **admin**, Password: **admin**. **Note:** **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.

5 If you select the Enhanced Security option, you will be required and instructed to create a 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

6 Click **Log in**.

The camera Web User Interface displays.

- End -

Logging out of the Camera

Use the following procedure to log off the camera Web User Interface.

Procedure 2-2 Log off the Camera

Step	Action
1	Select Log Off in the upper right hand corner of the Web User Interface. You will be logged off the camera and sign in page will be displayed.

- End -

Changing the Camera Web User Interface Language

Use the following procedure to change the language used in the camera Web User Interface.

Procedure 2-3 Change the Camera Web User Interface Language

Step	Action
1	Open the camera sign in page. If you are already logged in to the Web User Interface, select Log Off to display the sign in page.
2	Select your preferred language from the drop-down menu: • **English** • **Arabic** • **Czech**

- **Danish**
- **German**
- **Spanish**
- **French**
- **Hungarian**
- **Italian**
- **Japanese**
- **Korean**
- **Dutch**
- **Polish**
- **Portuguese**
- **Swedish**
- **Turkish**
- **Chinese Simplified**
- **Chinese Traditional**

The default language is 'English'.

3 Enter the **Username**.

4 Enter the **Password**.

5 Select **Log in**.

The camera web User Interface will be displayed in the selected language.

- End -

Accessing the Setup Menus from Live View

Setup menus within the web User Interface are restricted by user account access levels.

Refer to Appendix A: User Account Access for details on the features which are available to each role.

Procedure 2-4 Access Setup Menus from Live View

Step	Action
1	When displaying full screen live video select **Setup** on the Web User Interface banner to access the setup menus. The Model page will be displayed. **Note:** When an admin user logs in for the first time the Quick Start page will be displayed. After this, on each login the Stream page will be displayed.

- End -

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Displaying the Live View Page

Display the live camera view page.

Procedure 2-5 Display Live View Page

Step	Action
1	Select **Live** in the Web User Interface banner. The live view page will be displayed.
2	Select a video stream from **Stream** to view.
3	Select a percentage from **Scale** to change the display size of the video pane: • **25%** • **50%** • **75%** • **100%** The default setting is '50%'

- End -

Web User Interface 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
		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.	

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	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 User Interface. The live viewing page however is not intended to be the primary way of viewing the video on the camera; this should be performed using the Network Video Recording device.

Viewing Live Streams through the Video Pane

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

Procedure 2-6 Viewing Live Video through 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 -

Maximize the Video Pane on an Active Tab

The maximize and minimize icon allows you to switch between a normal active tab layout and one where the video pane has been maximized.

Procedure 2-7 Maximize/Minimize the Video Pane

Step	Action
1	Select a tab to display from the menu. The selected tab will be displayed.
2	Select  to maximize the video pane.
3	Select  to minimize the video pane and return to a normal active tab layout.

- End -

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

Note:

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

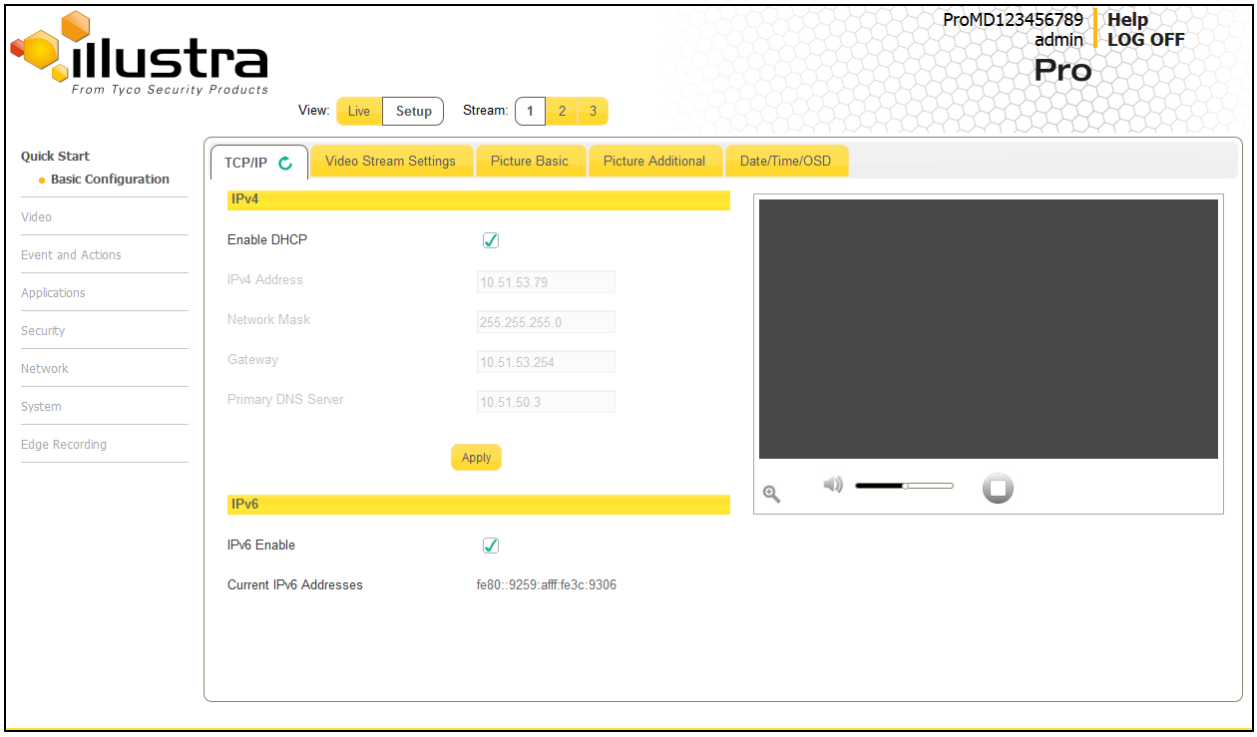

Figure 3-1 Basic Configuration Menu

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
- Video Stream Settings
- Picture Basic
- Picture Additional
- Date/Time/OSD

TCP/IP

From the TCP/IP tab you can configure the DHCP, IPv4 and IPv6 network settings on the camera.

DHCP

On initial camera startup, and after a hardware factory reset, Dynamic Host Configuration Protocol (DHCP) is enabled by default and remains enabled until the camera receives either a DHCP address or is assigned a Static IP address.

Procedure 3-1 Enable DHCP

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **TCP/IP** tab in the **Basic Configuration** menu.
3	Select the **Enable DHCP** check box to enable DHCP and disable manual settings.
4	Select **Apply** to save the settings. The camera will search for a DHCP server. If one is found it will connect to that server. f no connection is made to a DHCP server within two minutes, the camera goes to the default IP address 192.168.1.168, but continues to search for a DHCP address. **Note:** If the camera is assigned a Static IP address prior to DHCP being enabled, the camera first reboots for approximately 30 seconds and then remains accessible at its Static IP until a connection is made to a DHCP server.

- End -

Procedure 3-2 Disable DHCP

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **TCP/IP** tab in the **Basic Configuration** menu. Clear the **Enable DHCP** check box to disable DHCP and allow manual settings to be entered. The default setting is 'Enabled'.
3	If Enable DHCP has been disabled: a Enter the **IPv4 Address** in the IPv4 Address text box in the form xxx.xxx.xxx.xxx. The default setting is '192.168.1.168' b Enter the **Network Mask** in the Network Mask text box xxx.xxx.xxx.xxx. The default setting is '255.255.255.0' c Enter the **Gateway** IP address in Gateway text box xxx.xxx.xxx.xxx. d Enter the **Primary DNS Server** in the Primary DNS Server text box xxx.xxx.xxx.xxx.
4	Select **Apply** to save the settings.

- End -

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IPv4

Configure the IPv4 network settings for the camera.

Procedure 3-3 Configure the IPv4 Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **TCP/IP** tab in the **Basic Configuration** menu.
3	Select the **Enable DHCP** check box to enable DHCP and disable manual settings. OR Deselect **Enable DHCP** 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 **IPv4 Address** in the IPv4 Address text box in the form xxx.xxx.xxx.xxx. The default setting is '192.168.1.168' b Enter the **Network Mask** in the Network Mask text box xxx.xxx.xxx.xxx. The default setting is '255.255.255.0' c Enter the **Gateway** IP address in Gateway text box xxx.xxx.xxx.xxx. d Enter the **Primary DNS Server** in the Primary DNS Server text box xxx.xxx.xxx.xxx.
5	Select **Apply** to save the settings.
	- End -

IPv6

Enable or disable IPv6 on the camera.

Procedure 3-4 Enable/Disable IPv6

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **TCP/IP** tab in the **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'. If IPv6 is enabled the Link Local and DHCP address will be displayed beside 'Current IPv6 Addresses' if available.
	- End -

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Video Stream Settings

The camera allows the configuration of three video streams; Stream 1, Stream 2 and Stream 3. These streams can be configured through the Web User Interface, as detailed here or through the Illustra API or Network Video Recorder.

Configuring the Web Video Stream

Adjust the settings for each video stream.

Procedure 3-5 Configure the Video Stream settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Streams** tab in the **Basic Configuration** menu.
3	Select either **Stream 1**, **2** or **3** from the **Stream Number** drop-down menu.
4	Select the required **Codec** by selecting the radio buttons: • **H264** • **MJPEG** The default setting is 'H264'.
5	Select the required **Resolution** from the drop-down menu. The resolutions available will depend on the Image Source selected:

2MP		
Stream 1	**Stream 2**	**Stream 3**
(1920x1080) 1080p 16:9	(1280x720) 720p 16:9	(1024x576) PAL+ 16:9
(1664x936) 16:9	(1024x576) PAL+ 16:9	(640x360) nHD 16:9
(1280x720) 720p 16:9	(640x360) nHD 16:9	(384x216) 16:9
(1024x576) PAL+ 16:9	(384x216) 16:9	
(640x360) nHD 16:9		
(384x216) 16:9		

3MP		
Stream 1	**Stream 2**	**Stream 3**
(2048x1536) QXGA 4:3	(1280x720) 720p 16:9	(1024x576) PAL+ 16:9
(1920x1440) 4:3	(1024x768) 1024 XGA 4:3	(960x720) 4:3
(1920x1080) 1080p 16:9	(1024x576) PAL+ 16:9	(768x576) 4:3

3MP		
Stream 1	**Stream 2**	**Stream 3**
(1600x1200) UXGA 4:3	(768x576) 4:3	(640x480) 640 VGA 4:3
(1280x960) SXGA 4:3	(640x480) 640 VGA 4:3	(640x360) nHD 16:9
(1280x720) 720p 16:9	(640x360) nHD 16:9	(480x360) 480 4:3
(1024x768) 1024 XGA 4:3	(480x360) 480 4:3	(384x288) 4:3
(1024x576) PAL+ 16:9	(384x288) 4:3	(384x216) 16:9
(768x576) 4:3	(384x216) 16:9	
(640x480) 640 VGA 4:3		
(640x360) nHD 16:9		
(480x360) 480 4:3		
(384x288) 4:3		
(384x216) 16:9		

5MP		
Stream 1	**Stream 2**	**Stream 3**
(2592x1944) 4:3 (H264 Only)	(1920x1080) 1080p 16:9	(1024x576) PAL+ 16:9
(1920x1440) 4:3	(1600x1200) UXGA 4:3	(920x720) 4:3
(1920x1080) 1080p 16:9	(1280x960) SXGA 4:3	(768x576) 4:3
(1600x1200) UXGA 4:3	(1280x720) 720p 16:9	(640x480) 640 VGA 4:3
(1280x960) SXGA 4:3	(1024x768) 1024 XGA 4:3	(640x360) nHD 16:9
(1280x720) 720p 16:9	(1024x576) PAL+ 16:9	(480x360) 480 4:3
(1024x768) 1024 XGA 4:3	(768x576) 4:3	(384x288) 4:3
(1024x576) PAL+ 16:9	(640x480) 640 VGA 4:3	(384x216) 16:9
(768x576) 4:3	(640x360) nHD 16:9	
(640x480) 640 VGA 4:3	(480x360) 480 4:3	
(640x360) nHD 16:9	(384x288) 4:3	
(480x360) 480 4:3	(384x216) 16:9	
(384x288) 4:3		
(384x216) 16:9		

6 Use the slider bar to select the **Frame Rate (ips)**.

The settings are:

2MP

- **Stream 1 -** 1 - 30 ips, default 30.
- **Stream 2 -** 1 - 15 ips, default 15.
- **Stream 3 -** 7ips fixed.

3MP

- **Stream 1 -** 1 - 30 ips, default 30.
- **Stream 2 -** 1 - 15 ips, default 15.
- **Stream 3 -** 7ips fixed.

5MP

- **Stream 1 -** 1 - 15 ips, default 15.
- **Stream 2 -** 1 - 15 ips, default 15.
- **Stream 3 -** 7ips fixed.

7 If MJPEG has been selected, MJPEG Quality will be enabled. Use the slider bar to select the **MJPEG Quality**.

The default setting is 50.

OR

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

- **VBR (Variable Bit Rate)**
- **CBR (Constant 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**.

The default setting is 1000.

9 Select the **Enable Gaming Mode** checkbox to enable gaming mode

OR

De-select the **Enable Gaming Mode** checkbox to disable gaming mode.

The default setting is 'Disabled'. Refer to Quick Start Menu

Gaming Mode

Specifically designed for multiple gaming industries, e.g., casino, Gaming Mode maintains Frame Rate as a priority to meet the demanding requirements of gaming environments. The default setting is OFF.

Note:

Gaming mode can be enabled or disabled for the primary stream (Stream 1).

Note:

If the camera requires FPS adjustment during Gaming mode, this can be applied through the recorder (using the Illustra API (IAPI). The camera will continue to provide frame rate a priority at the new set FPS value.

Fixed Item	Fixed Value
Frame Rate	Fixed to 30 FPS / 3MP, 15 FPS / 5MP,30 FPS / 2MP.
GOP	Fixed to 30 / 3MP, 15 / 5MP, 30/2MP.
Max Exposure	Fixed to 1/30 for 3MP, 1/15 for 5MP, 1/30 for 2MP.

Picture Basic

Adjust Picture Rotation, Focus / Zoom and Exposure displayed in the video pane.

Picture Rotation

Configure the orientation and corridor mode settings. Both settings are optional.

Procedure 3-6 Configure Orientation Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Basic** tab from the **Basic Configuration** menu.
3	Select the required **Orientation** setting: • **Mirror** • **Flip** The video pane will update to display the new settings. **Note:** When wall mounting the camera you should select Flip and Mirror to correct the lens orientation.

- End -

Corridor Mode

Provides a better perspective when viewing a long corridor.

Note:

This feature is only available on the 2MP camera models.

Procedure 3-7 Configure Corridor Mode Settings

Step	Action
1	Select Setup on the Web User Interface banner to display the setup menus.
2	Select the Picture Basic tab from the Basic Configuration menu.
3	Select to start the video stream if it is not already active.
4	Select the required Corridor Mode setting: • None • -90° • +90° The video pane will update to display the new settings.

- End -

Focus / Zoom

The Focus is manually configured on initial setup. The **One Touch** button can be used to automatically focus the area of view highlighted in the yellow outlined box displayed on the video pane. This box can be moved and resized as required and subsequent manual adjustments can be applied if required using the plus and minus values. The plus and minus arrows are used to manually fine tune the image.

The Zoom slider bar is used to manually zoom in and out to manually configure to picture.

When IR Compensate is enabled, the camera refocuses within 30 seconds of the mode transisition between day to night mode and night to day mode.

Procedure 3-8 Adjust Camera Focus / Zoom

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Basic** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active.
4	Use the plus and minus arrows to manually configure the focus and the slider bar to adjust zoom settings until the image is clear.

The video pane will update to display the new settings.

- End -

Procedure 3-9 Adjust Camera Focus using OneTouch Autofocus

1. Select **Setup** on the Web User Interface banner to display the setup menus.
2. Select the **Picture Basic** tab from the **Basic Configuration** menu.
3. Select  to start the video stream if it is not already active.
4. Draw a region around the area to be focused on within the image.
5. Select the **One Touch** button.

   The camera refocuses to the optimal zoom level for the image.

   The video pane will update to display the new settings.

- End -

Procedure 3-10 Enable/Disable IR Compensate

1. Select **Setup** on the Web User Interface banner to display the setup menus.
2. Select the **Picture Basic** tab from the **Basic Configuration** menu.
3. Select the IR compensate check box to enable IR compensation

   OR

   Clear the IR compensate check box to disable IR compensation.

- End -

Exposure

Configure the exposure settings for the camera.

Procedure 3-11 Configure Exposure Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Settings** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active.
4	Select the **Exposure Method** from the drop-down menu: • **Full Picture Weighted** - exposure calculations are based on the entire image. • **Center Weighted** - exposure calculations are based on a region around the center of the image. • **Spot** - exposure calculations are based on the very center of the image.

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- **ROI Weighted** - exposure calculations are based on a region of interest selected.

The default setting is Center Weighted.

5 Select the **Exposure Offset (F-Stops)** from the drop-down menu.

The default setting is 0.0.

6 Select the **Max Exposure** from the drop-down menu.

The default setting is 1/4 for 5MP, 1/8 for 3MP and 1/8 for 2MP.

7 Select the **Max Gain** from the drop-down menu.
The default setting is 30db for 5MP, 42db for 3MP and 42db for 2MP.
The video pane will update to display the new settings.

8 Select the **Bright objects** from the drop-down menu.
The default setting is auto.

9 Select the **Flicker control** from the drop-down menu.

50 Hz= max 25 fps

60Hz = max 30 fps

The default setting is 60HZ.

- End -

Procedure 3-12 Restore Exposure Defaults

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Settings** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active.
4	Select **Exposure Defaults** to restore the default settings. The default values are: • Exposure Method: Center Weighted • Exposure Offset (F-Stops): 0 • Max Exposure (sec): 1/30 for 5MP, 1/8 for 3MP and 1/8 for 2MP • Max Gain (dB): 30db for 5MP, 42db for 3MP and 42db for 2MP • Bright objects: auto • Flicker control (Hertz): 60HZ

- End -

Picture Additional

Configure Wide Dynamic Range, Day Night Mode, Flicker Control and Picture Adjustments including Brightness, Contrast, White Balance, Saturation and Sharpness displayed in the video pane.

Wide Dynamic Range

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).

WDR Level allows you to adjust the WDR level to favour a underexposed or overexposed image. By selecting the lower end of the control the image is underexposed which provides more detail in areas of bright but less details in areas of darkness. Selecting the higher end of the control the image is overexposed which provides more detail in the dark areas but less details in the bright areas.

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

Procedure 3-13 Disable/Enable Wide Dynamic Range (WDR)

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** tab from the **Basic Configuration** menu.
3	Select the required WDR from the drop down list: • **WDR** • **True WDR**
4	Use the slider bar to adjust the **WDR Level**. The video pane will update to display the new settings. The values range from 1-10. The default value is 5.

- End -

Day Night Mode

IR/DayNight Mode utilizes a series of specific camera functions to dramatically enhance low light performance.

When needed one of these functions, the True TDN mechanism, removes an IR Cut Filter (IRCF) from in front of the imager allowing the camera to see in black and white (BW) and utilize additional near-infrared energy found in many lighting sources like halogen, moonlight, etc.

This, along with slowing down another function, the shutter speed, significantly improves low light performance rendering clear images where none could be viewed previously.

IR Illuminator

When the camera is in B/W mode it can utilize or “see” near-IR illumination; something the human eye cannot do. This can be extremely powerful when the dome is paired with 850~950nm IR illuminators. With this combination a scene can be well lit with IR light that the dome can see but people cannot. This is great for areas where externally lighting is not allowed or there is a need for covert security.

Imager Resolution	5 Megapixel	5 Megapixel	3 Megapixel	3 Megapixel	2 Megapixel	2 Megapixel
Lens	3 to 9 mm Lens	9 to 22 mm Lens	3 to 9 mm Lens	9 to 22 mm Lens	3 to 9 mm Lens	9 to 22 mm Lens

Min. illumination color (Lux):	0.3	0.4	0.05	0.06	0.03	0.04
Min. illumination b/w (Lux):	0.02	0.03	0.003	0.004	0.001	0.002
Dynamic range (db)	90	90	96	96	96	96

Procedure 3-14 Enable / Disable IR Illuminator

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** from the **Basic Configuration** menu.
3	Select the **Enable IR Illuminator** check box to enable IR Illuminator. OR Deselect the **Enable IR Illuminator check box** to disable **IR Illuminator**. The default setting is 'Enabled'.

- End -

Day Night Mode

The dome 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 three Day/Night settings:Forced Color, Forced B/W and Auto.

Procedure 3-15 Configure Day Night Mode

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** from the **Basic Configuration** menu.
3	Select a **Day Night Mode** setting from the drop-down menu: • **Forced Color** - enable full-time color mode. • **Forced B/W** - enable full-time black and white mode. • **Auto Low**- camera will adjust between BW and Color depending on light levels. • **Auto Mid** - camera will give a good balance of Color and BW depending on the scene. • **Auto High** - increases the chance of switching to BW mode as light levels drop. • **Manual** - a slider bar will display, the user can adjust the setting to suit the environment. The default setting is 'Auto Low'.

- End -

Picture Adjustment

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

Procedure 3-16 Adjust the Brightness, Contrast and Saturation

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** tab from the **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	Use the slider bars to adjust: • **Brightness** • **Contrast** • **Saturation** • **Sharpness** The video pane will update to display the new settings. The values range from 0% to 100%.

- End -

Procedure 3-17 Restore Picture Balance Defaults

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Settings** tab from the **Basic Configuration** menu.
3	Select **Defaults** to restore the default settings. The default values are: • **Brightness:** 50% • **Contrast:** 50% • **Saturation:** 50% • **Sharpness:** 50%

- End -

White Balance

White balance (the ability to keep whites looking white) is normally compensated for automatically using 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.

Procedure 3-18 Configure Auto White Balance

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

2 Select the **Picture Basic** tab from the **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** from the drop-down menu:

- **Auto Wide:** Suitable for a wider than normal range of lighting conditions
- **Auto Normal:** Suitable for a normal range of lighting conditions
- **Sunny:** Suitable for sunny conditions
- **Shadow:** Suitable for shady conditions
- **Indoor:** Suitable for indoor conditions
- **Lamp:** Suitable for artificial light conditions
- **Manual:** Adjustable red and blue balance
- **ROI Manual**
- **ROI Auto**

The default setting is 'Auto Normal'.

- End -

Procedure 3-19 Manually Select White Balance

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Basic** tab from the **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 **Manual** from the White Balance drop-down menu. The Red and Blue slider bars will be displayed.
5	Use the slider bars to adjust the **Red** and **Blue** balance. The live video pane will update to display the new settings. The red and blue values range from 1% to 100%. The default settings are Red 18% and Blue 18%.

- End -

Date / Time / OSD

Change the camera name, date and time and enable OSD.

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Camera Name

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

Procedure 3-20 Change the Camera Name

Step	Action
1	Select **Setup** on the Web User Interface banner.
2	Select the **Date/Time/OSD** tab in the **Basic Configuration** menu.
3	Enter the name of the camera in the **Camera Friendly Name** text box.
	- End -

Date / Time

Set the date and time on the camera.

Procedure 3-21 Configuring the Date and Time

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Date/Time/OSD** from the **Basic Configuration** 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 the radio buttons: • **Manually** • **via NTP** The default setting is 'Manually'.
7	If you select Manually in step 5: c Select the Date **(DD/MM/YYYY)** using the drop-down menus. d Select the Time **(HH:MM:SS)** using the drop-down menus.

8 If you select via NTP in step 5:

a Enter the **NTP Server Name** in the text box.

- End -

On-Screen Display (OSD)

Within OSD you can set enable or disable camera name and time display.

Procedure 3-22 Display or Hide the Camera Name OSD

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Date/Time/OSD** tab in the **Basic Configuration** menu.
3	Select the **Camera Name** check box to display the camera name in the OSD. OR Deselect the **Camera Name** check box to hide the camera name in the OSD. The default setting is 'Disabled'.

- End -

Procedure 3-23 Display or Hide the Camera Time OSD

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Date/Time/OSD** tab in the **Basic Configuration** menu.
3	Select the **Time** check box to display the camera name in the OSD. OR Deselect the **Time** check box to hide the camera name in the OSD. The default setting is 'Disabled'.

- End -

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When the video menu is selected Figure 4-1 Video Menu will be displayed.

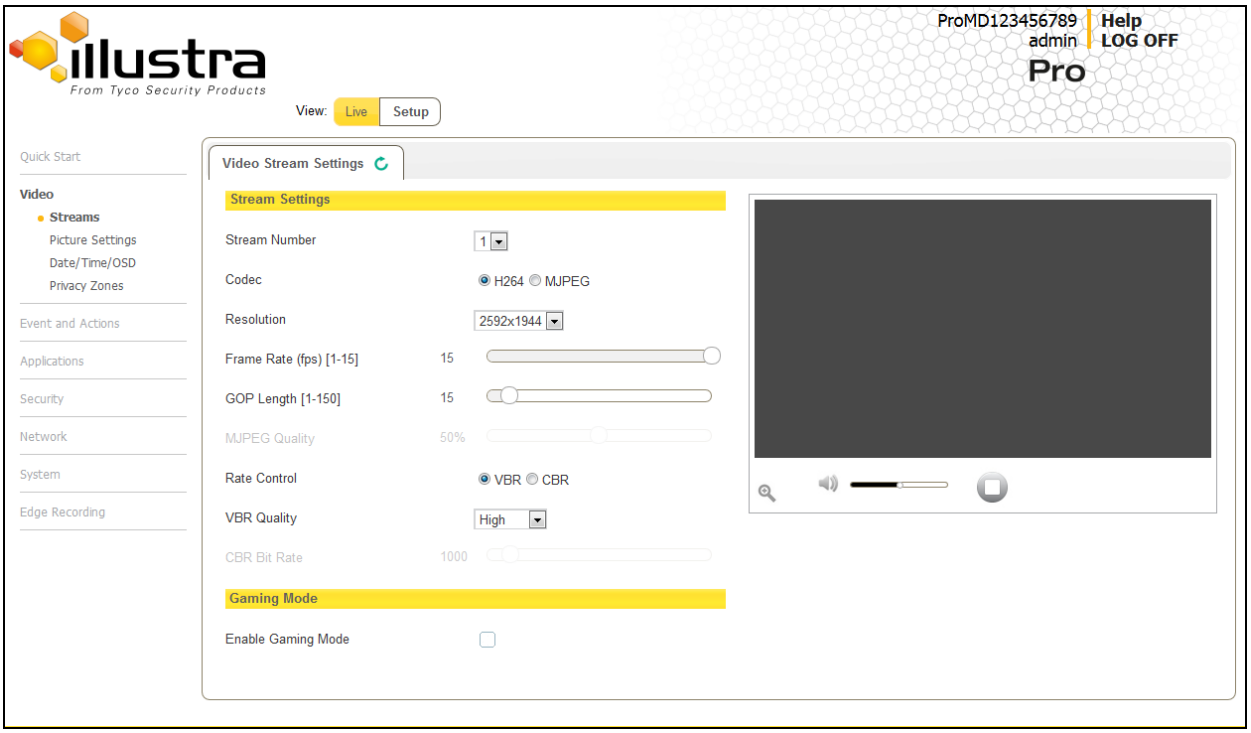

Figure 4-1 Video Menu

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

- Streams
- Picture Settings
- Date / Time / OSD
- Privacy Zones
- Lens Calibration
- IR LEDs

Streams

The camera allows the configuration of up to three independent video streams: Stream 1, Stream 2 and Stream 3. These streams can be configured via the Web User Interface, as detailed here or via the Illustra API.

Video displayed on the video pane will reflect the settings configured in the stream selected from the drop-down menu, either Stream 1 or Stream 2 or Stream 3.

Caution

Note:

Stream 3 will be used by the Web User Interface when no Quicktime application is present on the PC. To obtain the cameras highest resolution video on the Web User Interface, Quicktime should be downloaded and installed.

Alarm Video

Edge Recording

Camera can directly record specific events (MD, DIO and Face detection) directly to SD card. User can chose either Stream 1, 2 or 3 to be recorded. When setting up motion detection on the camera, both streams can be used. Alarm Video is configured in the Edge Recording > Record Settings menu.

Integration with other Illustra API Clients

The 3 video streams can be configured via the Web User Interface, 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 User Interface 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

Adjust the settings for each video stream.

Procedure 4-1 Configure the Video Stream settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Streams** tab in the **Video** menu.
3	Select **Stream1** , **2**or **3**,from the **Stream Number** drop-down menu.
4	Select the required **Codec** by selecting the radio buttons: • **H264** • **MJPEG** The default setting is ‘H264’.
5	Select the required **Resolution** from the drop-down menu. The resolutions available will depend on the model selected:

2MP		
Stream 1	**Stream 2**	**Stream 3**
(1920x1080) 1080p 16:9	(1280x720) 720p 16:9	(1024x576) PAL+ 16:9
(1664x936) 16:9	(1024x576) PAL+ 16:9	(640x360) nHD 16:9
(1280x720) 720p 16:9	(640x360) nHD 16:9	(384x216) 16:9
(1024x576) PAL+ 16:9	(384x216) 16:9	
(640x360) nHD 16:9		
(384x216) 16:9		

3MP		
Stream 1	**Stream 2**	**Stream 3**
(2048x1536) QXGA 4:3	(1280 x720) 720p 16:9	(1024x576) PAL+ 16:9
(1920x1440) 4:3	(1024x768) 1024 XGA 4:3	(960x720) 4:3
(1920x1080) 1080p 16:9	(1024x576) PAL+ 16:9	(768x576) 4:3
(1600x1200) UXGA 4:3	(768x576) 4:3	(640x480) 640 VGA 4:3
(1280x960) SXGA 4:3	(640x480) 640 VGA 4:3	(640x360) nHD 16:9
(1280x720) 720p 16:9	(640x360) nHD 16:9	(480x360) 480 4:3
(1024x768) 1024 XGA 4:3	(480x360) 480 4:3	(384x288) 4:3
(1024x576) PAL+ 16:9	(384x288) 4:3	(384x216) 16:9
(768x576) 4:3	(384x216) 16:9	
(640x480) 640 VGA 4:3		
(640x360) nHD 16:9		
(480x360) 480 4:3		
(384x288) 4:3		
(384x216) 16:9		

5MP		
Stream 1	**Stream 2**	**Stream 3**
(2592x1944) 4:3 (H264 Only)	(1920x1080) 1080p 16:9	(1024x576) PAL+ 16:9
(1920x1440) 4:3	(1600x1200) UXGA 4:3	(920x720) 4:3
(1920x1080) 1080p 16:9	(1280x960) SXGA 4:3	(768x576) 4:3

5MP		
Stream 1	**Stream 2**	**Stream 3**
(1600x1200) UXGA 4:3	(1280x720) 720p 16:9	(640x480) 640 VGA 4:3
(1280x960) SXGA 4:3	(1024x768) 1024 XGA 4:3	(640x360) nHD 16:9
(1280x720) 720p 16:9	(1024x576) PAL+ 16:9	(480x360) 480 4:3
(1024x768) 1024 XGA 4:3	(768x576) 4:3	(384x288) 4:3
(1024x576) PAL+ 16:9	(640x480) 640 VGA 4:3	(384x216) 16:9
(768x576) 4:3	(640x360) nHD 16:9	
(640x480) 640 VGA 4:3	(480x360) 480 4:3	
(640x360) nHD 16:9	(384x288) 4:3	
(480x360) 480 4:3	(384x216) 16:9	
(384x288) 4:3		
(384x216) 16:9		

6 Use the slider bar to select the **Frame Rate (ips).**

The settings are:

2MP

- **Stream 1 -** 1 - 30 ips, default 30.
- **Stream 2 -** 1 - 15 ips, default 15.
- **Stream 3 -** 7ips fixed.

3MP

- **Stream 1 -** 1 - 30 ips, default 30.
- **Stream 2 -** 1 - 15 ips, default 15.
- **Stream 3 -** 7ips fixed.

5MP

- **Stream 1 -** 1 - 15 ips, default 15.
- **Stream 2 -** 1 - 15 ips, default 15.
- **Stream 3 -** 7ips fixed.

7 If MJPEG has been selected, MJPEG Quality will be enabled. Use the slider bar to select the **MJPEG Quality**.

The default setting is 50.

OR

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

- **VBR (Variable Bit Rate)**
- **CBR (Constant 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**.

The default setting is 1000.

9 Select the **Enable Gaming Mode** checkbox to enable gaming mode

OR

De-select the **Enable Gaming Mode** checkbox to disable gaming mode.

The default setting is 'Disabled'. Refer to Gaming Mode for further details.

- End -

Gaming Mode

Specifically designed for multiple gaming industries, e.g., casino, Gaming Mode maintains Frame Rate as a priority to meet the demanding requirements of gaming environments. The default setting is OFF.

Note:

Gaming mode can be enabled or disabled for the primary stream (Stream 1).

Note:

If the camera requires FPS adjustment during Gaming mode, this can be applied via the recorder (using the Illustra API (IAPI). The camera will continue to provide frame rate a priority at the new set FPS value.

Fixed Item	Fixed Value
Frame Rate	Fixed to 30 FPS / 3MP, 15 FPS / 5MP , 30FPS / 2MP
GOP	Fixed to 30 / 3MP, 15 / 5MP, 30 / 2MP
Max Exposure	Fixed to 1/30 for 3MP, 1/15 for 5MP, 1/30 for 2MP

Picture Settings

Picture Basic

Adjust the Picture Rotation, Focus / Zoom, Exposure and White Balance settings.

Picture Rotation

Configure the orientation and corridor mode settings. Both settings are optional.

Procedure 4-2 Configure Orientation Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Basic** tab from the **Video** menu.
3	Select the required **Orientation** setting: • **Mirror** • **Flip** The video pane will update to display the new settings. **Note:** When wall mounting the camera you should select Flip to correct the lens orientation.

- End -

Focus / Zoom

The Focus is manually configured on initial setup. The **One Touch** button can be used to automatically focus the area of view highlighted in the yellow outlined box displayed on the video pane. This box can be moved and resized as required and subsequent manual adjustments can be applied if required using the plus and minus values. The plus and minus arrows are used to manually fine tune the image.

The Zoom slider bar is used to manually zoom in and out to manually configure to picture.

When IR Compensate is enabled, the camera refocuses within 30 seconds of the mode transisition between day to night mode and night to day mode.

Procedure 4-3 Adjust Camera Focus / Zoom

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Basic** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active.

4 Use the plus and minus arrows to manually configure the focus and the slider bar to adjust zoom settings until the image in clear.

The video pane will update to display the new settings.

- End -

Procedure 4-4 Adjust Camera Focus using OneTouch Autofocus

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

2 Select the **Picture Basic** tab from the **Basic Configuration** menu.

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

4 Draw a region around the area to be focused on within the image.

5 Select the **One Touch** button.

The camera refocuses to the optimal zoom level for the image.

The video pane will update to display the new settings.

- End -

Procedure 4-5 Enable/Disable IR Compensate

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

2 Select the **Picture Basic** tab from the **Basic Configuration** menu.

3 Select the IR compensate check box to enable IR compensation

OR

Clear the IR compensate check box to disable IR compensation.

- End -

Exposure

Configure the exposure settings for the camera.

Procedure 4-6 Configure Exposure Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Settings** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active.
4	Select the **Exposure Method** from the drop-down menu: • **Full Picture Weighted** - exposure calculations are based on the entire image. • **Center Weighted** - exposure calculations are based on a region around the center of the image.

- **Spot** - exposure calculations are based on the very center of the image.
- **ROI Weighted** - exposure calculations are based on a region of interest selected.

The default setting is Center Weighted.

5 Select the **Exposure Offset (F-Stops)** from the drop-down menu.

The default setting is 0.

6 Select the **Max Exposure** from the drop-down menu.

The default setting is 1/30.

7 Select the **Max Gain** from the drop-down menu.

The default setting is 0db.

The video pane will update to display the new settings.

- End -

Procedure 4-7 Restore Exposure Defaults

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Settings** tab from the **Basic Configuration** menu.
3	Select  to start the video stream if it is not already active.
4	Select **Exposure Defaults** to restore the default settings. The default values are: • Exposure Method: Center Weighted • Exposure Offset (F-Stops): 0.0 • Max Exposure (sec): 1/4 for 5MP, 1/8 for 3MP and 1/8 for 2MP • Max Gain (dB): 30db for 5MP, 42db for 3MP and 42db for 2MP

- End -

Picture Additional

Configure Wide Dynamic Range, Day Night Mode, Flicker Control and Picture Adjustments including Brightness, Contrast, White Balance, Saturation and Sharpness displayed in the video pane.

Wide Dynamic Range

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).

WDR Level allows you to adjust the WDR level to favour an underexposed or overexposed image. By selecting the lower end of the control the image is underexposed which provides more detail in areas of bright but less details in areas of darkness. Selecting the higher end of the control the image is overexposed which provides more detail in the dark areas but less details in the bright areas.

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

Procedure 4-8 Disable/Enable Wide Dynamic Range (WDR)

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** tab from the **Picture Settings** menu.
3	Select the **WDR** check box to enable WDR. OR Deselect the **WDR** check box to disable WDR. The default setting is 'Off'.
4	Use the slider bar to adjust the **WDR Level**. The video pane will update to display the new settings. The values range from 0-10. The default value is Off.

- End -

Day Night Mode

IR/DayNight Mode utilizes a series of specific camera functions to dramatically enhance low light performance.

When needed one of these functions, the True TDN mechanism, removes an IR Cut Filter (IRCF) from in front of the imager allowing the camera to see in black and white (BW) and utilize additional near-infrared energy found in many lighting sources like halogen, moonlight, etc.

This, along with slowing down another function, the shutter speed, significantly improves low light performance rendering clear images where none could be viewed previously.

IR Illuminator

When the camera is in B/W mode it can utilize or "see" near-IR illumination; something the human eye cannot do. This can be extremely powerful when the dome is paired with 850~950nm IR illuminators. With this combination a scene can be well lit with IR light that the dome can see but people cannot. This is great for areas where externally lighting is not allowed or there is a need for covert security.

Imager Resolution	5 Megapixel	5 Megapixel	3 Megapixel	3 Megapixel	2 Megapixel	2 Megapixel
Lens	3 to 9 mm Lens	9 to 22 mm Lens	3 to 9 mm Lens	9 to 22 mm Lens	3 to 9 mm Lens	9 to 22 mm Lens
Min. illumination color (Lux):	0.3	0.4	0.05	0.06	0.03	0.04
Min. illumination b/w (Lux):	0.02	0.03	0.003	0.004	0.001	0.002
Dynamic range (db)	90	90	96	96	96	96

Procedure 4-9 Enable / Disable IR Illuminator

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** from the **Basic Configuration** menu.
3	Select the **Enable IR Illuminator** check box to enable IR Illuminator. OR Deselect the **Enable IR Illuminator check box** to disable **IR Illuminator**. The default setting is 'Disabled'.

- End -

Day Night Mode

The dome 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 three Day/Night settings:Forced Color, Forced B/W and Auto.

Procedure 4-10 Configure Day Night Mode

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** from the **Basic Configuration** menu.
3	Select a **Day Night Mode** setting from the drop-down menu: • Auto Low • Auto Mid • Auto High • Manual • **Force Color** - enable full-time color mode. • **Force B/W** - enable full-time black and white mode. • **Auto** - good balance of Color and BW mode performance. The default setting is 'Auto Low'.

Picture Adjustment

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

Procedure 4-11 Adjust the Brightness, Contrast and Saturation

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Additional** tab from the **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 Use the slider bars to adjust:

- **Brightness**
- **Contrast**
- **Saturation**
- **Sharpness**

The video pane will update to display the new settings.

The values range from 0% to 100%.

- End -

Procedure 4-12 Restore Picture Balance Defaults

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Settings** tab from the **Basic Configuration** menu.
3	Select **Defaults** to restore the default settings. The default values are: • **Brightness:** 50% • **Contrast:** 50% • **Saturation:** 50% • **Sharpness:** 50%

- 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.

Procedure 4-13 Configure Auto White Balance

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Basic** tab from the **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** from the drop-down menu: • **Auto Wide:** Suitable for a wider than normal range of lighting conditions • **ROI Manual:** Region of Interest Manual

- **ROI Auto:** Region of Interest Auto
- **Auto Normal:** Suitable for a normal range of lighting conditions
- **Sunny:** Suitable for sunny conditions
- **Shadow:** Suitable for shady conditions
- **Indoor:** Suitable for indoor conditions
- **Lamp:** Suitable for artificial light conditions
- **Manual:** Adjustable red and blue balance

The default setting is 'AutoNormal'.

- End -

Procedure 4-14 Manually Select White Balance

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Picture Basic** tab from the **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 **Manual** from the White Balance drop-down menu. The Red and Blue slider bars will be displayed.
5	Use the slider bars to adjust the **Red** and **Blue** balance. The live video pane will update to display the new settings. The red and blue values range from 1% to 100%. The default settings are Red 18% and Blue 18%.

- End -

Lens Calibration

Use the lens calibration process to recover focus and zoom after motor stalling has occurred. Motor step stalling is rare but it can occur during shipping or through mishandling of the camera. If the One Touch focus at Wide or Tele is not working through the zoom range, the camera requires lens calibration. The lens calibration tool uses infinity focus curves to align the camera lens and correct problems focusing at Wide or Tele.

You can run a lens calibration from the Lens Calibration tab.

Note:

Objects at least 30 feet (9.144m) away from the camera should be in the Field Of Vision

Procedure 4-15 Run a Lens Calibration

Step	Action
1	Select **Setup** on the Web Interface Banner to display the setup menus.
2	Select **Picture Settings** from the **Video** menu.
3	Select the **Lens Calibration** tab.
4	Select **Start Calibration** and wait for the camera lens initialization to complete.
5	Drag the **Step 1: Focus at WIDE** slider bar up and down until you are satisfied with the picture focus, and select **Apply** to apply your changes.
6	Drag the **Step 2: Focus at TELE** slider bar up and down until you are satisfied with the picture focus, and select **Apply** to apply your changes.
7	Drag the **Step 3: Re Focus at TELE** slider bar up and down until you are satisfied with the picture focus, and select **Apply** to apply your changes.
8	To confirm the success of the lens calibration, select the **Picture Basic** tab from the **Picture Settings** menu and verify that the image is in focus through the zoom range. Use the OneTouch button to automatically focus the area of view highlighted in the yellow box displayed in the video pane.

- End -

IR LEDS

The IR Lens tab allows control of individual IR LEDs on the camera. The IR LEDs can be enabled or disabled depending on customer needs.

Procedure 4-16 Switch a LED light on or off

Step	Action
1	Select **Setup** on the Web Interface Banner to display the setup menus.
2	Select **Picture Settings** from the **Video** menu.
3	Select the **IR LEDS** tab. A circle containing dots which represen where the LED lights are located on the camera displays.
4	Use the arrow printed on the lens as a reference point when mapping the LEDS.
5	Click on the LEDS you want to turn on or off. A red dot means that the LED light is on. A white dot means that the LED light is off. The dot changes colour when you click on it and the LED light it represents turns on or off according to your selection.

- End -

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Date / Time / OSD

Change the Camera Name, Date and Time and enable On-Screen Display (OSD).

Camera Name

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

Procedure 4-17 Change the Camera Name

Step	Action
1	Select **Setup** on the Web User Interface banner.
2	Select **Date/Time/OSD** from the **Video** menu.
3	Enter the name of the camera in the **Camera Friendly Name** text box.

- End -

Date / Time

Set the date and time on the camera.

Procedure 4-18 Configuring the Date and Time

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Date/Time/OSD** from the **Video** 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 the radio buttons: • **Manually** • **via NTP** The default setting is 'Manually'.

7 If you select Manually in step 5:

c Select the Date **(DD/MM/YYYY)** using the drop-down menus.

d Select the Time **(HH:MM:SS)** using the drop-down menus.

8 If you select via NTP in step 5:

a Enter the **NTP Server Name** in the text box.

- End -

On-Screen Display (OSD)

Within OSD you can set enable or disable camera name and time display.

Procedure 4-19 Display or Hide the Camera Name

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Date/Time/OSD** tab in the **Basic Configuration** menu.
3	Select the **Camera Name** check box to display the camera name in the OSD. OR Deselect the **Camera Name** check box to hide the camera name in the OSD. The default setting is 'Disabled'.

- End -

Procedure 4-20 Display or Hide the Camera Time

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Date/Time/OSD** tab in the **Basic Configuration** menu.
3	Select the **Time** check box to display the camera name in the OSD. OR Deselect the **Time** check box to hide the camera name in the OSD. The default setting is 'Disabled'.

- 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 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.

Up to 4 rectangular privacy zones can be used on the camera.

Defining a Privacy Zone

Create a privacy zone on the camera.

Procedure 4-21 Define a Privacy Zone

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Privacy Zones** from the **Video** menu.
3	Select  to start the video stream if it is not already active. The video pane will display the current camera view.
4	Click on the edit pencil button. The page updates to display an **Add** and **Cancel** button. Enter the privacy zone name in the privacy zone **Name** text box. The page updates to display an **Add** and **Cancel** button.
5	Using the cursor locate the start point for the privacy zone, 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 turn yellow.
7	Select **Add** to save the current privacy zone.
8	To reselect an alternative area for the privacy zone select **Cancel** and repeat from step 4.

Note:

When a new privacy zone is created it is automatically enabled, refer to Procedure 5-6 Enable/Disable a Privacy Zone to modify this setting.

- End -

Enabling or Disabling a Privacy Zone

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

Procedure 4-22 Enable/Disable a Privacy Zone

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Privacy Zones** from the **Video** menu.

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 **Enabled** check box to enable the privacy zone.

OR

6 Deselect the corresponding **Enabled** check box to disable the privacy zone.

- End -

Deleting a Privacy Zone

Delete a privacy zone from the camera.

Procedure 4-23 Delete a Privacy Zone

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Privacy Zones** from the **Video** menu. The Privacy zones tab displays.
3	Select the corresponding **Delete** check box to mark the privacy zone for deletion. **Note:** More than one privacy zone can be deleted at a time. The Select All check box can also be used.
4	Select **Delete** to delete the selected privacy zones.
5	You will be prompted to confirm the deletion.
6	Select **OK** to confirm the deletion. Or Select **Cancel**.

- End -

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Events and Actions Menu

When the Events and Actions menu is selected Figure 5-1 Events and Actions Menu is displayed.

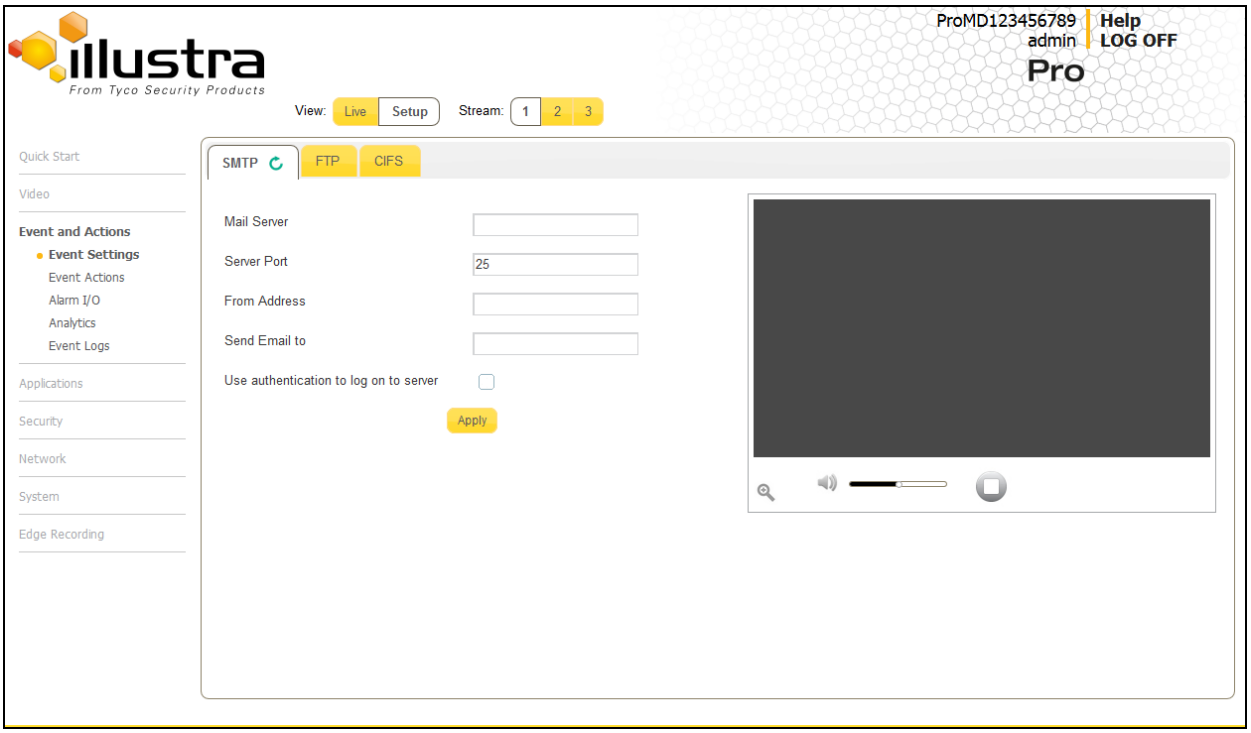

Figure 5-1 Events and Actions Menu

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

- Event Settings
- Event Actions
- Alarms I / O
- Analytics
- Events Logs

Event Settings

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

SMTP

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

Note:

SMTP settings must be configured to enable email alerts when using analytics.

Procedure 5-1 Configure SMTP Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Settings** from the **Events and Actions** menu.
3	Select the **SMTP** tab.
4	Select the Enable SMPT 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'. **Note:** When in Enhanced Security mode, enabling SMTP requires the admin account password.
5	Enter the IP Address of the mail server in the **Mail Server** text box.
6	Enter the server port in the **Server Port** text box. The default setting is ‘25’.
7	Enter the from email address in the **From Address** text box.
8	Enter the email address to send email alerts to in the **Send Email to** text box.
9	Select the **Use authentication to log on to server** check box to allow authentication details to be entered. OR Deselect the **Use authentication to log on to server** to disable authentication. The default setting is ‘Disabled’.
10	If ‘Use authentication to log on to server’ check box has been selected: a Enter the username for the SMTP account in the **Username** text box. b Enter the password for the SMTP account in the **Password** text box.
11	Select **Apply** to save the settings. **Note:** Refer to Procedure 7-3 Test the SMTP Settings on page 7-74 to confirm that the SMTP settings are working as expected.

- 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 analytics.

Note:

FTP settings can also be configured via the Network menu.

Procedure 5-2 Configure FTP Server Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Settings** from the **Events and Actions** menu.
3	Select the **FTP** tab.
4	Select the **Enable** check box to enable FTP. OR Deselect the **Enable** check box to disable FTP. The default setting is 'Enabled'.
5	If required, select the **Secure FTP** checkbox. The default setting is 'Disabled'. **Note:** When in Enhanced Security mode, enabling FTP requires the admin account password.
6	Enter the IP address of the FTP Server in the **FTP Server** text box.
7	Enter the FTP username in the **Username** text box.
8	Enter the FTP password in the **Password** text box.
9	Enter the FTP upload path in the **Upload Path** text box. **Note:** Refer to Procedure 7-5 Test the FTP Settings on page 7-76 to confirm that the FTP settings are working as expected.

- End -

File Transfer Rate

The File Transfer Rate can be limited and a max transfer rate assigned to manage the amount of FTP bandwidth used.

Procedure 5-3 Configure the FTP Transfer Rate

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Settings** from the **Events and Actions** menu.
3	Select the **FTP** tab.
4	Select the **Limit Transfer Rate** check box to limited the FTP transfer rate. OR Deselect the **Limit Tranfer Rate** check box to disable limited FTP transfer. The default setting is 'Enabled'.
5	Enter the Max Transfer Rate in the **Max Transfer Rate** (Kbps) textbox.
	- End -

Test FTP Settings

Test the SMTP settings that have been configured in Procedure 7-4 Configure FTP Server Settings.

Procedure 5-4 Test the FTP Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Settings** from the **Events and Actions** menu.
3	Select the **FTP** tab.
4	Select **Test**. A sample text file is sent to the specified FTP destination to confirm that FTP settings are correct.
	- End -

CIFS

The CIFS feature permits files generated from the camera such as alarm related video to be directed to network attached file storage via the Common Internet File System protocol. This supplements existing distribution methods such as FTP, SFTP and email.

Procedure 5-5 Configure CIFS Server Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Settings** from the **Events and Actions** menu.
3	Select the **CIFS** tab.
4	Select the **Enable** check box to enable CIFS.

OR

Deselect the **Enable** check box to disable CIFS.

The default setting is 'Enabled'.

Note:

When in Enhanced Security mode, enabling CIFS requires the admin account password

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

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

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

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

- End -

Event Actions

The camera can be commanded to carry out a specified operation when an analytic alert is triggered which are defined using event actions. Up to 5 event actions can be configured on the camera.

Note:

Scheduled tasks, alarms and manual camera control always begin when they are selected or scheduled to start. None of these camera actions have a priority over the other.

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

- Record a clip to microSD Card.
- 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 is sent.
- Send an AVI video file to a pre-configured external FTP server. The video file contains pre and post alarm video buffer.

Note:

A microSD Card must be inserted to send an SMTP email, video files and images from triggered analytic alerts.

Creating an Event Action

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

Procedure 5-6 Create an Event Action

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

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2 Select **Event Actions** from the **Events and Actions** menu.

3 Select an entry on the event actions list and enter an event action name in the **Name** text box.

4 Select the **Record** check box to enable the Record Settings.

5 Select the **Email** check box to send an e-mail to the email address configured in the Configure SMTP Settings procedure.

6 Select the **FTP** check box to send a video file to the FTP details configured in the Configure FTP Server Settings procedure.

7 Select the **CIFS** check box to send a video file to the SFTP details configured in the Configure CIFS Server Settings procedure.

Note:

1. If Record is selected, the AVI clip is saved to the microSD card and it will have to be removed from the camera to view the video file.

2. AVI clips can only be sent via FTP if a microSD card has been installed and FTP has been selected.

3. The selected pre and post event duration buffer is included in any video clips sent via FTP.

8 Audio Playback dropdown.

- End -

Editing a Event Action

Modify the details of an existing event action.

Procedure 5-7 Edit an Event Action

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Actions** from the Events and Actions menu.
3	Select an entry on the event actions list, the following can be edited: • Name • Record - Enable/Disable • Email - Enable/Disable • FTP - Enable/Disable • CIFS - Enable/Disable • Audio Playback - select the required audio clip

- End -

Alarms I / O

The dome provides two alarm inputs. 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.

For 15 seconds after being triggered any additional individual input changes on that alarm source are only be logged and not generate any other action. This is to reduce the effect that any oscillating alarm source, e.g. if a door is simply vibrating in the wind, causing a series of alarms to be generated.

Input alarms are triggered upon change of state. Either from opened to closed or from closed to open. The camera reports the current state of each input alarms (open or closed) as well as an active or inactive status in the alarm configuration page. Active alarms are also be visible in the current faults page.

The triggering of any input alarm affects scheduled tasks and delay them until at least 30 seconds has passed since the last digital alarm input was triggered.

Alarm Actions

Upon triggering each alarm input can be configured to trigger a faulty action:

- Activate the digital output contact. This stays active until the alarm is acknowledged and cleared by an operator.
- Send an external alarm WS-Event that includes alarm details
- 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 local storage. If MJPEG is not being recorded on local storage, then no JPEG picture is sent.
- Send an audio file via the dome. If a speaker has been connected to the audio output on the dome the file can be played as the alarm is triggered.
- Send an AVI video file to a pre-configured external FTP server. The video file will contain pre and post alarm video buffer and audio if enabled and supported, as outlined above.

Note:

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

2. A microSD Card must be inserted to send an SMTP email, video files, audio and images from triggered alarms.

Procedure 5-8 Creating an Alarm

Step	Action
1	Select **Alarm I/O** from the **Event and Actions** menu.
2	Enter the alarm name in the **Name** text box.
3	Select the **Enabled** checkbox to enable the alarm OR De-select the **Enabled** checkbox to disable to alarm.
4	Select when the alarm is required to be activated from the **Normal** drop down menu. i.e. when the dry contact is open or closed.
5	Select the **Output** check box to enable alarm output. OR

Deselect the **Output** check box to disable alarm output.

6 Select the required configured fault action from the **Action** drop down menu.

- End -

Procedure 5-9 Enable/Disable an Alarm

Step	Action
1	Select **Alarm I/O** from the **Event and Actions** menu.
2	Select the **Enabled** check box to enable the corresponding alarm. OR Deselect the **Enabled** check box to disable the corresponding alarm.

- End -

Enable or Disable Alarm Output

Alarm Output allows the alarm to activate a digital output as an action. For example, this digital output could be linked to an electrical device, i.e. a security light or siren.

Procedure 5-10 Enable/Disable Alarm Output

Step	Action
1	Select **Alarm I/O** from the **Event and Actions** menu.
2	Select the **Output** check box to enable alarm output. OR Deselect the **Output** check box to disable alarm output.

- End -

Procedure 5-11 Clearing Alarm Output

Step	Action
1	Select **Alarm I/O** from the **Event and Actions** menu.
2	Under Alarm Output, select the **Apply** button to Clear Active Output. The Alarm Output is cleared.

- End -

Analytics

Analytics is a feature which detects and tracks objects in video. Analytics supported are Region of Interest, Face Detection, Motion Detection, Video Intelligence, and Blur Detection.

Region of Interest (ROI)

A region of interest is a defined area of the camera view which considered to be higher priority than areas of non-interest. For example, in secure environments, areas of potential activity could be a specific door or window. They are specified by drawing a rectangular overlay on the video stream. The overlay is highlighted in green and an OSD is displayed outlining the size % for the x and y axis. Up to five regions of interest can be configured, all of which can be enabled / disabled.

Procedure 5-12 Configure a Region of Interest

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Analytics** from the **Events and Actions** menu. The ROI tab is displayed.
3	Use the drawing tools to draw the region of interest overlay on the video stream.
4	Enter the name of the region of interest in the **Name** text box.
5	Select the **Enabled** check box to enable the region of interest OR Deselect the **Enabled** check box to disable the region of interest.
6	Click **Add**. The region of interest is configured.

- End -

Procedure 5-13 Delete a Region of Interest

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Analytics** from the **Events and Actions** menu. The ROI tab is displayed.
3	Select  to delete the corresponding region of interest.

- End -

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Face Detection

Face Detection works by detecting human faces and ignoring other objects, such as trees or buildings. This feature can be enabled or disabled and the required face orientation selected.

Procedure 5-14 Enable / Disable Face Detection

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Analytics** from the **Events and Actions** menu. The ROI tab is displayed.
3	To enable Face Detection on the camera: a Select the **Enable Face Detection** checkbox. b Select the **Highlight Faces** checkbox to enable OR Deselect the **Highlight Faces** checkbox to disable. c Select the **Enhances Faces** checkbox to enable. OR Deselect the **Enhances Faces** checkbox to disable. d Select the **Face Orientation** from the drop-down menu. • **Top** • **Left** • **Right** OR Deselect the **Enable Face Detection** checkbox to disable Face Detection on the camera.
4	Select the required preconfigured action to be taken if a face is detected from the **Action** drop down menu.

- End -

Motion Detection

Motion detection enables you to define a region of interest in the camera's field of view which can be used to trigger an Event Action. Multiple areas of interest can be selected in the field of view but only one Event Action may be triggered.

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.
- Exclude the Time Stamp region from motion detection, because the time stamp changes constantly and could register as motion.

- Try not to point cameras into sunlight, because high brightness prevents 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.

Motion Detection Configuration Pane

The regions of interest within the camera's field of view are defined using the Motion Detection Configuration Pane. The regions of interest are set by drawing/highlighting an area on the pane. This is done by using the drawing tools on the Motion Detection Configuration Pane.

Creating a Motion Detection Alert

Create a motion detection alert on the camera.

Note:

1	If the motion detection video stream is changed after the region of interest has been drawn it is necessary to re-draw a new region.
2	If the stream settings are modified the motion detection is disabled and it is necessary to enable motion detection again if required.
3	Motion detection can only be enabled on a video stream that uses H.264 with a resolution on 1920x1440 or lower.

Procedure 5-15 Create a Motion Detection Alert

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Analytics** from the **Events and Actions** menu.
3	Select the **Enable motion detection** checkbox to enable Motion Detection on the camera. OR Deselect the **Enable motion detection** checkbox to disable Motion Detection on the camera.
4	Select **Edit** to enable the drawing tools on the Motion Detection Configuration Pane.
5	Use the mouse cursor to draw the region of interest on the pane. Multiple selections can be made.
6	Select the sensitivity from the **Sensitivity** drop-down menu: • **Highest** • **High** • **Medium** • **Low** • **Lowest**
7	Select the fault action from the **Action** drop-down menu. This fault action is activated when motion is detected in the selected region of interest. Refer to the Create a Fault Action procedure if a fault action has not yet been defined.

8	Select **Apply** to save the changes.

- End -

Enable or Disable a Motion Detection Alert

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

Procedure 5-16 Enable or Disable a Motion Detection Alert

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Analytics** from the **Events and Actions** menu.
3	Select the **Motion Detection** tab. The Motion Detection Configuration pane is displayed.
4	Select the **Enable motion detection** checkbox to enable Motion Detection on the camera. OR Deselect the **Enable motion detection** checkbox to disable Motion Detection on the camera.
5	Select **Apply** to save.

- End -

Clear a Motion Detection Alert Output Automatically

if an alarm output is linked to a motion detection event, when the event is triggered the motion detection alert output is cleared automatically.

Procedure 5-17 Clear a Motion Detection Alert Output

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Analytics** from the **Events and Actions** menu.
3	Select the **Motion Detection** tab. The Motion Detection Configuration pane is displayed.
4	Select the **Motion Stop Cancels Output** check box to clear the motion detection alert output. **Note:** To enable the Motion Stop Cancels Output feature, an event with an alarm out action must first be selected.

- End -

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Video Intelligence

The camera supports the configuration of Video Intelligence Alerts. You can define Video Intelligence settings that can be used to set up Analytics Rules.You can add up to three Analytics Rules by default on the camera web user interface. You can add up to twenty Analytics Rules and access continuous metadata if you purchase a license for "Video Intelligence - Full Suite". See www.illustracameras.com for more information.

Explanations of the Rule Types you can define and information about best practice in configuring the Rule Types are included below:

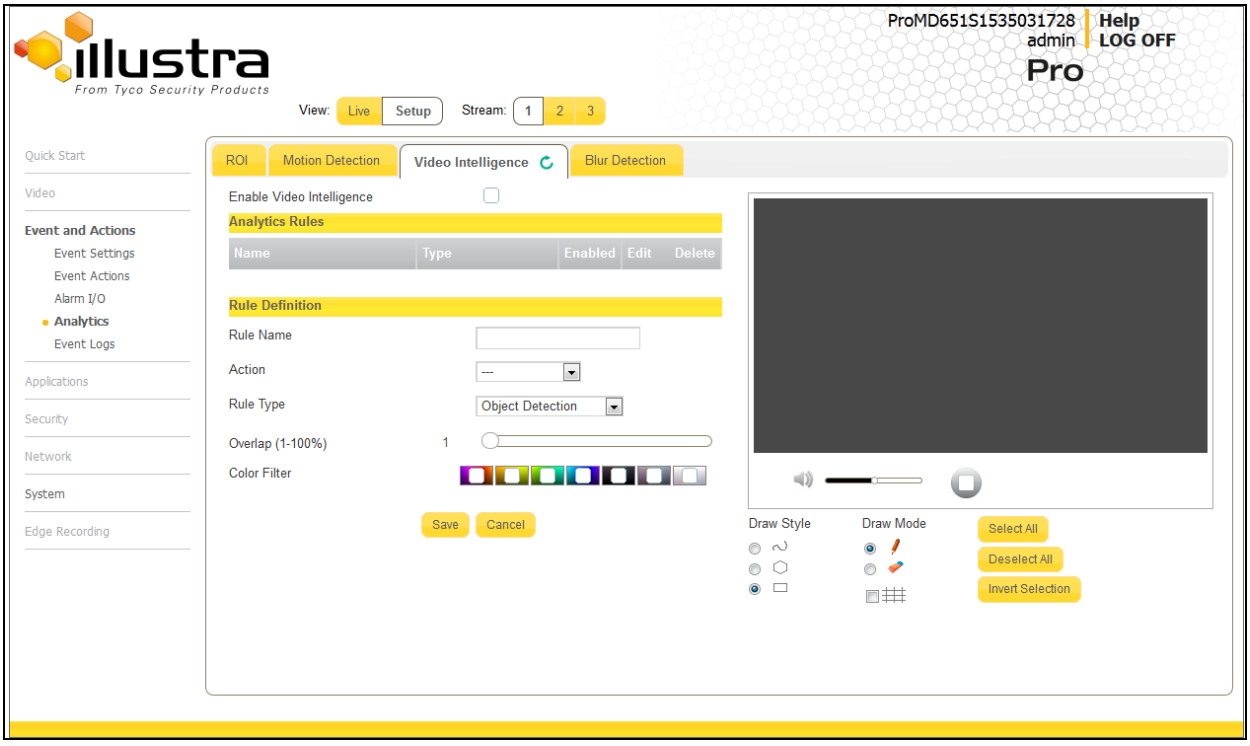
- **Object Detection**- Used to detect people or objects moving into a region of interest. This alert is similar to a motion-based alert, but it only detects people or objects on entry of the region of interes, that is, they are not continuously detected if they remain within the region of interest. If the object leaves the camera view and returns, the search detects them again. Use a higher Overlap setting to detect objects that are mostly inside the region, and use a lower value to detect objects that just brush the edge of the region. Select one or more color filters to further refine alerts.
- **Abandoned/Removed** - Used to detect a stationary object that is placed, moved, or removed. Adjust the Amount Changed setting to detect either large or small changes occurring in the region. The Within setting specifies the time period over which the changes can occur (0 seconds means instant change). Draw a region that covers the area in which changes should be detected. Use a higher Overlap setting to avoid detecting nearby changes or changes that are not completely in the region.
- **Direction** - Used to detect objects moving in a certain direction through a region of interest, for example, a car traveling the wrong way on a road. Set the direction (North, South, East or West) of motion to be detected , and the traversal time which is the maximum amount of time the object can take to traverse most of the region. This excludes objects that move too slowly. Draw a thin region in the direction of motion that you want to detect. Use a lower Overlap setting to detect objects that are moving in the direction but are not necessarily contained within the region. Select one or more color filters to further refine alerts.
- **Linger** - Used to detect objects lingering in an area of interest. An object is lingering if it remains in the region of interest. Set the Linger Time which is the minimum amount of of time an object must linger before being included in the results. Use a higher Overlap setting to avoid detecting objects that are lingering nearby. Select one or more color filters to further refine alerts.
- **Dwell** - Use to detect objects dwelling in a region of interest. An object is dwelling if is mostly stationary. Set the Dwell Time which is the mimimum amount of time an object must dwell before being included in the results. Draw a region in the area where you want to detect objects dwelling. Use a higher Overlap setting to avoid detecting objects dwelling nearby. Select one or more color filters to further refine alerts.
- **Object Enter** - Used to detect objects entering the camera view through a doorway or threshold. Draw a region of interest around the entire doorway so that when the door is fully opened, it remains completely inside the defined region. For sliding glass doors, include their entire pathway inside the region of interest. For best results, use a higher Overlap setting. Select one or more color filters to further refine alerts.
- **Object Exit** - Used to detect objects exiting the camera view through a doorway or threshold. Draw a region of interest around the entire doorway so that when the door is fully opened, it remains completely inside the defined region. For sliding glass doors, include their entire pathway inside the region of interest. For best results use a higher Overlap setting. Select one or more color filters to further refine alerts.
- **Crowd** - Used to search for times when more than a certain amount of people or objects are in a region of interest. Draw a region in the area that you want to find objects forming a crowd. Use a higher overlap setting to avoid objects near the region. Set the Minimum Crowd Size to the number of objects that make a crowd.

- **Queue Length** - Used to detect when a queue is a certain length. Draw three regions of interest to indicate the area occupied when the queue is short, medium, or long. Then select the length of the queue you are looking for from the drop down Queue Length menu. Empty means that there is no queue and Not Empty means there is a queue of any length.

The Video Intelligence settings allow you to define the parameters which initiate an alarm (an alarm rule). This reduces the number of unwanted alarm events. The parameters available are dependent on the type of Video Intelligence rules which are defined.

The Pro mini-domes cannot run ExacqVision Edge and video intelligence analytics concurrently.

Figure 5-2 Video Intelligence Tab



Procedure 5-18 Enable/Disable Video Intelligence

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Analytics** from the **Events and Actions** menu.
3	Select the **Video Intelligence** tab.
4	Select the **Enable Video Intelligence** check box to enable Video Intelligence on the camera. OR Deselect the **Enable Video Intelligence** check box to disable Video Intelligence on the camera.
5	Select **Save** to save your changes.

- End -

Procedure 5-19 Create a Video Intelligence Alert

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Analytics** from the **Events and Actions** menu.
3	Select the **Enable Video Intelligence** check box to enable Video Intelligence on the camera.
4	Use the drawing tools beneath the live video feed to create a Region of Interest.
5	Type a **Rule Name** for your rule definition in the field provided.
6	Select a fault action from the **Action** drop-down menu. This fault action is activated when the parameters of the analytics rule are met.
7	Select a rule type from the **Rule Type** drop-down menu: • **Object Detection** • **Abandoned/Removed** • **Direction** • **Linger** • **Dwell** • **Enter** • **Exit** • **Crowd** • **Queue**
8	Use the **Overlap** slider bar to increase or decrease the percentage of overlap.
9	To apply a color filter over the Region of Interest, select one of the seven **Color Filter** check boxes.
10	Select **Save** to save your changes. The rule name and type that you have created appears in the **Analytics Rules** table.

Note:

When rule type is selected , extra configuration items appear for some rule types. See the section on Video Intelligence above for information on the extra configuration options for each rule type.

- End -

Procedure 5-20 Enable/Disable an Analytics Rule

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Analytics** from the **Events and Actions** menu.
3	Select the **Video Intelligence** tab.
4	From the **Analytics Rules** table, select the check box of the target Analytics Rule to enable the analytics rule

OR

Deselect the check box of the target Analytics Rule to disable the analytics rule.

- End -

Procedure 5-21 Edit an Analytics Rule

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Analytics** from the **Events and Actions** menu.
3	Select the **Video Intelligence** tab.
4	From the **Analytics Rules** table, select the edit icon  across from the analytics rule that you want to edit.
5	Edit the settings in the Rule Definition until you are happy with your changes.
6	Select **Save** to save your changes.

- End -

Procedure 5-22 Delete an Analytics Rule

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Analytics** from the **Events and Actions** menu.
3	Select the **Video Intelligence** tab.
4	From the **Analytics Rules** table, select the delete icon  across from the analytics rule that you want to delete.
5	Select **OK** when you are asked to confirm your action.
6	Select **Save** to save your changes.

- End -

Blur Detection

With blur detection function enabled, when the camera detects incidents that make video image blur, e.g. redirection, blocking or defocusing, the camera generates an alarm and then take an action you specify

When Blur detection is enabled, it has a polling period of 10 minutes.

A Blur Detection start fault is rraised when blur has been detected at 3 successive poling periods (up to 30 minutes).

Event Logs

Event Log

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

- **#** - details the event index.
- **Event** - this is 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 is 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.

Procedure 5-23 Display Event Log

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Logs** from the **Events and Actions** menu. The Event Log tab displays. Triggered motion detection alerts are displayed.

- End -

Procedure 5-24 Delete Current Events

1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Logs** from the **Event and Actions** menu. The Event Logtab displays.
3	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.
4	Select **Delete** to delete the selected motion detection alerts. You are prompted to confirm the deletion.
5	Select **OK** to confirm the deletion. OR Select **Cancel**.

- End -

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Fault Log

Any system or environmental faults experienced by the camera are displayed in the Fault Log with the following:

- **#** - details the fault index.
- **Fault** - a description of the fault.
- **Date created** - the time and date when the fault occurred.
- **Component** - internal software component that raised the fault.
- **Severity** - indicates how serious the fault is. The following are supported, in increasing order of severity, Clear, Warning, Critical and Error.
- **Detail** - extra information that supplements the fault description.
- **Delete** -remove the fault from the fault table.

System Faults

The following system faults may be raised:

- **DiskUsage(Warning)** - this warning is raised when the disk utilisation rises above the threshold value “threshold2” held in SYSM.conf. Once an alarm is generated and the disk utilization decreases 1% below the threshold value, the fault is then automatically cleared. The default threshold value is 80%.
- **PowerSupplyAlarm(Error)** - this fault is raised when one or more of the internal DC power supplies voltage level is either too high or too low. Once an alarm is generated and the DC power voltage goes back into the proper range, the fault is then automatically cleared.

ENVM (Environmental Monitor) Component

The following environmental faults can be raised by the ENVM (Environmental Monitor) component:

- **TemperatureTooHigh (Warning)** - this fault is raised when the internal temperature of the enclosure is equal to or exceeds the value MAX_TEMPERATURE held in ENVM.conf. Once an alarm is generated and the temperature drops to a level 1 degree below the MAX_TEMPERATURE value the fault is then automatically cleared. This is to avoid transient changes in temperature around the threshold.
- **TemperatureTooLow (Warning)** - a fault is raised when the internal temperature of the enclosure is equal to or is below the value MIN_TEMPERATURE held in ENVM.conf. Once an alarm is generated and the temperature drops to a level 1 degree above the MIN_TEMPERATURE value the fault is then automatically cleared. This is to avoid transient changes in temperature around the threshold.

Procedure 5-25 Display Current Faults

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Logs** from the **Event and Actions** menu.
3	Select the **Fault Log** tab.
	- End -

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Procedure 5-26 Delete Current Faults

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Logs** from the **Events and Actions** menu.
3	Select the **Fault Log** tab.
4	Select the corresponding **Delete** check box to mark the fault for deletion. OR Deselect the corresponding **Delete** check box to keep the fault. **Note:** You can select the **Select All** check box to mark all faults displayed in the list for deletion.
5	Select **Delete** to delete the selected faults. You are prompted to confirm the deletion.
6	Select **OK** to confirm the deletion. OR Select **Cancel**.

- End -

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Applications

Applications support allow for the upload of binary files that add custom functionality and value to the camera. Applications are uploaded through the Web User Interface.

These applications are licensed by Tyco Security Products using a licensing facility.

Applications

Procedure 6-1 Upload an Application

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Applications** menu. The Applications tab displays.
3	Select **Browse**. The Choose file dialog is displayed.
4	Navigate to the location where the application has been saved.
5	Select the application file then select the **Open** button.
6	Select **Upload**. The upload process begins.

- End -

Available Applications

A list of applications currently installed and running are displayed. Each can be started, stopped and removed.

Procedure 6-2 Start, Stop or Remove an Application

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Applications** menu. The Applications tab displays.
3	Select the corresponding **Application** checkbox to Start, Stop or Remove.
4	Select one of the following options: a **Start** to start the application running. b **Stop** to stop the application running. c **Remove** to remove the application.

- End -

License

License files for applications are uploaded using the licensing webpage. Available licenses are listed displaying their application ID and their license expiry date.

Procedure 6-3 Upload a License File

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **License** from the **Applications** menu.
3	Select **Browse**.
	The Choose file dialog is displayed.
4	Navigate to the location where the license file has been saved.
5	Select the license file then select the **Open** button.
6	Select **Upload**.
	The upload process begins.

- End -

exacqVision Edge (also refered to as edge server) is used for recording video to the edge storage of exacqVision. If you use the camera's own recording program this feature would not be required.

The exacqVision Edge features can be accessed by selecting **Setup** then **Applications** via the Web User Interface.

The Pro mini-domes cannot run ExacqVision Edge and video intelligence analytics concurrently.

Checking if exacqVision Edge is Installed via the Web User Interface

When the exacqEdge server is installed the following image will be displayed. When the Record Settings tab is selected a dialog will display alerting you that 'Recording is disabled because of some apps running in the camera'.

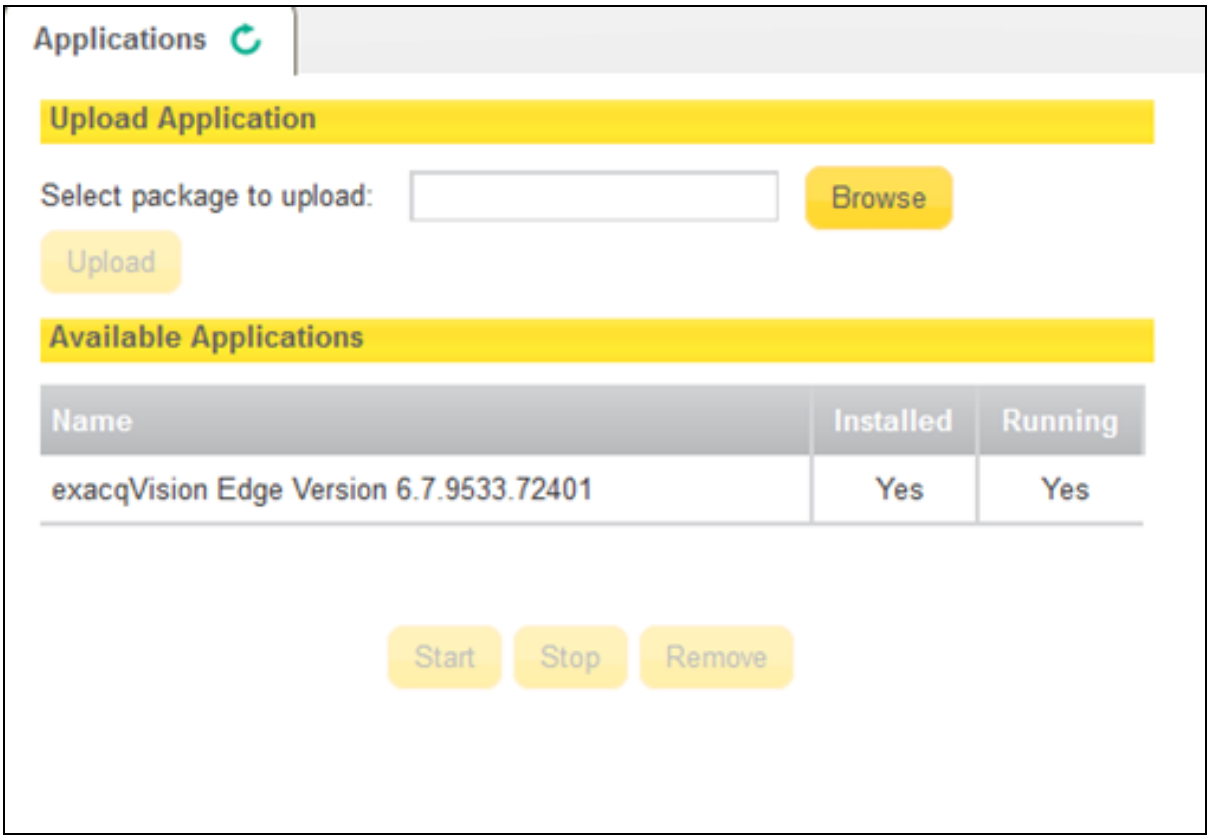

Figure 7-1 Applications Tab

Install exacqVision Edge

exacqVision Edge can be installed by purchasing an SD card with the exacqVision server and license. Please speak to your Tyco Security integrator to purchase this card.

Procedure 7-1 Install exacqVision Edge Server using Purchased SD Card with exacqVision Server

Step	Action
1	Insert the SD card before powering up your camera.
2	The edge server will automatically be installed when the camera starts for the first time.
3	Select **Setup** then **Applications** to confirm the exacqVision Edge Version.

- End -

Procedure 7-2 Install exacqVision Edge Server using the Camera Web User Interface

Step	Action
1	Insert a blank SD card into the camera.
2	Select **Setup** then **Applications**.
3	Select **Browse** and navigate to the selected file required for the upload.
4	Select **Upload** this will install the edge server on the PC.

Note:

You will have to select Start under the Stop/Start tab to run the edge server even if the edge server has been installed.

- End -

How to use the Edge Server

When selected via **Setup** and **Applications** the exacq server will be listed as seen in Figure 1-1. Both the Installed and Running state will be listed as Yes.

Note:

When the SD card is not detected for example when there is no SD card in the camera, it has been improperly mounted, or an error has been found on the SD card itself, there will be an error message displayed when you click the Start button to run the edge server. If this happens, insert the SD card or format and properly mount the card on the camera.

The edge server can be started by selecting **Start** and stopped by selecting **Stop**.

Note:

If the camera reboots when the status of the edge server is listed as Stopped, it will be necessary to select **Start** as the edge server cannot automatically run unless manually started.

Update the exacqVision Server

When a new version is released you can update your existing exacqVision Server.

Procedure 7-3 Update an Application

Step	Action
1	Select **Setup**, **Applications** then **Upload Application**. The Upload tab will display.
2	Select **Browse**. Navigate to where the new firmware files have been saved.
3	Select the new firmware file and select **Start**. The existing firmware will be replaced by the new firmware version.

- End -

Uninstall the exacqVision Server

The exacqVision Server can be uninstalled if required.

Procedure 7-4 Uninstall the exacqVision Server

Step	Action
1	Select **Setup**, **Applications**.
2	Select the exacqVision Edge Version.
3	Select **Remove**.
4	You will be prompted to confirm the removal, select **Yes**. The exacqVision server will be removed and the camera will reboot.

Note:

You must unmount or remove the SD card if the edge server files are on the SD card otherwise when the camera reboots the edge sever files will be re-installed.

- End -

Formatting the SD Card

If the SD Card which has the files for the edge server is in use and requires formatting you must first Stop the edge server and then format the card. When the camera reboots the edge server files will be installed and operational.

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

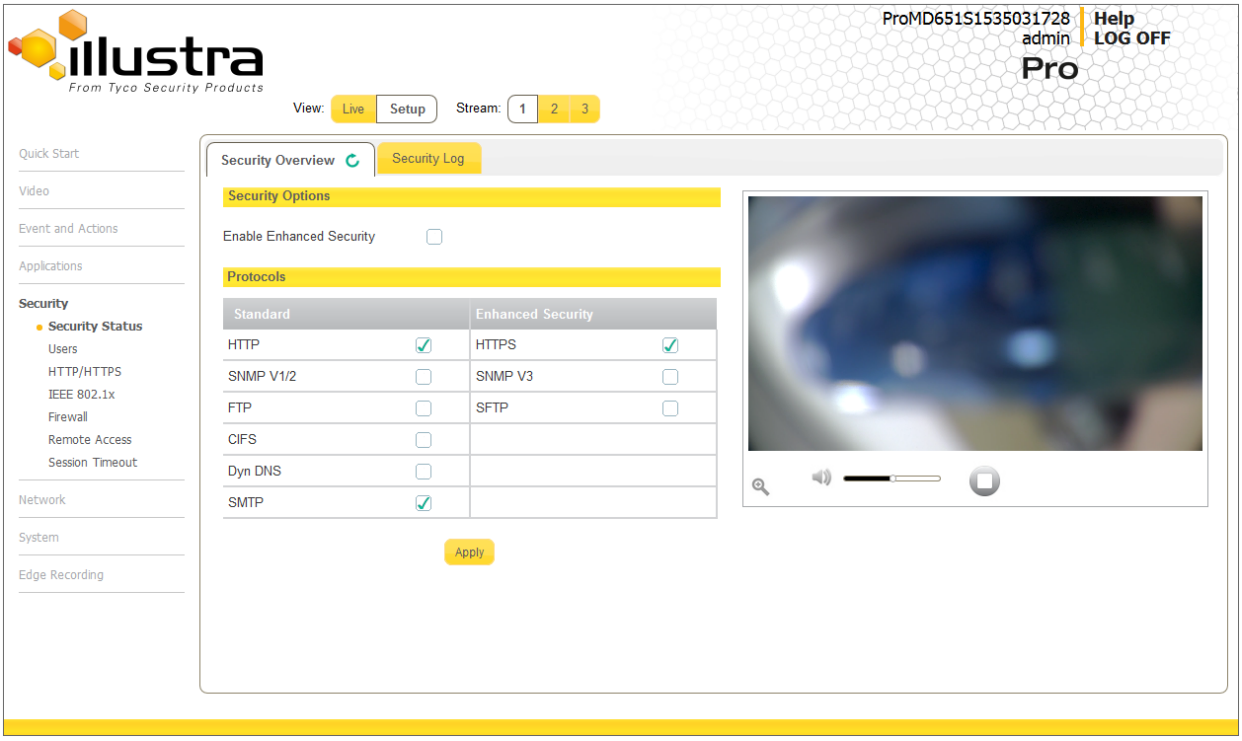

Figure 8-1 Security Menu

The Event 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.

Note:

Any changes in the Security section, either changes to the Security Mode or to an individual protocol, are logged in the Security Log.

Enhanced Security

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

Procedure 8-1 Enable Enhanced Security

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	Check the **Enable Enhanced Security** 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:
	  • Upper-case letters
	  • Lower-case letters
	  • Numeric characters
	  • Special characters

7	Re-enter the new password in the **Confirm Password** text box.
8	Click **Apply**. **Note:** Any changes to the Security Mode are logged in the Security Log

- End -

Procedure 8-2 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**. **Note:** Any changes to the Security mode are logged in the Security Log.

- 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, SNMP V3,and SFTP.

Procedure 8-3 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	Check/Clear the Communication Protocol check box to enable/disable the Communication Protocol.
5	Click **Apply** to save your settings. **Note:** • When in Enhanced Security, enabling/disabling individual protocols requires the admin account password. • Any changes to individual protocol settings are logged in the Security Log.

Security Log

The security log records any changes made to the security mode or to an individual protocol.

Procedure 8-4 Display Security Log

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 Log** tab.
4	Select **Refresh** to refresh the log for the most up-to-date information.

- End -

Procedure 8-5 Filter the Security Log

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 Log** tab.
4	Enter the number of lines of the log file you would like to view in the **Lines (from the end of the log file)** text box.
5	Enter the word or phrase that you would like to search for in the **Filter (only lines containing text)** text box.
6	Select **Refresh** to refresh the log for the most up-to-date information that meets the filter parameters.
7	Select **Clear** to empty the log of its current entries. You will be required to enter your password to do this.

- End -

Users

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

Refer to Appendix A: User Account Access for details on the features which are available to each role.

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Note:

The default Username is **admin** and the default Password is **admin**. To maintain security the password on the admin account should be changed.

View Current User Accounts

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

Procedure 8-6 View User Accounts

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Users** from the **Security** menu. The current user accounts assigned to the camera will be displayed.

- End -

Add User

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

Procedure 8-7 Add a User

Step	Action
1	Select **Setup** on the Web User Interface 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**: • admin • operator • user Refer to Appendix A: User Account Access for details on the features which are available to each role.
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. **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:

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

Procedure 8-8 Change User Password

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Users** from the **Security** menu.
3	Select the **Change Password** tab.
4	Select the user account from the **Name** drop-down menu.
5	Enter the current password for the user account in the **Current Password** text box.
6	Enter the new password for the user account in the **New Password** 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 **Confirm New Password** text box.
8	Select **Apply** to save the settings.

- End -

Delete a User Account

Delete a user account from the camera.

Note:

The default ‘admin’ account cannot be deleted.

Procedure 8-9 Delete a User Account

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Users** from the **Security** menu.

The Users tab displays.

3 Select  to delete the corresponding user account.

You will be prompted to confirm the deletion.

4 Select **OK** to delete.

OR

5 Select **Cancel**.

- End -

HTTP / HTTPS

User can select the 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.

Procedure 8-10 Specify HTTP Method

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **HTTP/HTTPS** from the **Security** menu.
3	Select the **HTTP Method** using the radio buttons • HTTP • HTTPS • Both

- End -

Procedure 8-11 Add a HTTPS Certificate

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **HTTP/HTTPS** from the **Security** menu.
3	Select **Browse** to navigate to the certificate location. The Choose file dialog will be displayed.
4	Navigate to the location where the HTTPS certificate has been saved. Select the file and select **Open**. **Note:** The certificate needs to match the camera 'host name'.
5	Select **Upload**.

You will be prompted to confirm that you would like to upload the HTTPS certificate.

6 Select **OK** to confirm the upload.

OR

Select **Cancel**.

- 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 User Interface.

Procedure 8-12 Delete a HTTPS Certificate

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **HTTP/HTTPS** from the **Security** menu.
3	Select **Delete**.
	The camera will display a “Restarting HTTPS Service” page with a progress bar showing the deletion progress.
4	When complete the camera will return to the log in page.

- 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 or EAP. Both PEAP and TLS methods are supported.

Procedure 8-13 Configure IEEE 802.1x Security

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **IEEE 802.1x** from the **Security** menu.
	The General tab is displayed.
3	Select the **Enable IEEE802.1x** checkbox to enable IEEE802.1x security .
	OR
4	De-select the **Enable IEEE802.1x** checkbox to disable IEEE802.1x security.
5	Select the **EAPOL Version** from the drop-down menu.
6	Select the **EAP Method** using the radio buttons.
7	Enter the EAP identity name in the **EAP Identify** textbox.

8 Select **Upload** to navigate to the **CA Certificate** 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.

11 If **PEAP** is selected:

a 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.

e Enter the required **Private Key Password**.

- End -

Firewall

Configure the Basic Filtering and Address Filtering for the firewall.

Basic Filtering

Enable or disable basic filtering for the camera this includes:

- ICMP (Internet Control Message Protocol) Blocking
- RP (Reverse Path) Filtering
- SYN Cookie Verification.

Procedure 8-14 Enable/Disable Basic Filtering

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Firewall** from the **Security** menu. The Basic Filtering tab displays.
3	Select the **ICMP Blocking** check box to enable ICMP blocking.

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OR

Deselect the ICMP Blocking check box to disable ICMP blocking.

The default setting is 'Disabled'.

4 Select the **RP Filtering** check box to enable the RP filtering.

OR

Deselect the **RP Filtering** check box to disable.

The default setting is 'Disabled'.

5 Select **SYN Cookie Certification** check box to enable SYN cookie certification.

OR

Deselect the **SYN Cookie Certification** check box to disable.

The default setting is 'Disabled'.

- End -

Address Filtering

Configure the IP or MAC addresses which are denied access to the camera.

Procedure 8-15 Enable/Disable and configure Address Filtering

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Firewall** from the **Security** menu.
3	Select the **Address Filtering** tab.
4	Select **Off** to disable address filtering completely. OR Select **Allow** to allow address filtering for specified addresses OR Select **Deny** to deny address filtering for specific addresses. The default setting is 'Off'.
5	If address filtering has been set to **Allow** or **Deny**: a Enter an IP or MAC Address to allow / deny in the **IP or MAC Address** text box in the following format xxx.xxx.xxx.xxx. **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**.
6	Select **Apply** to save the settings.

- End -

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Editing an Address Filter

Edit an existing address filter.

Procedure 8-16 Edit an Address Filter

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Firewall** from the **Security** menu.
3	Select the **Address Filtering** tab.
4	Edit the IP or MAC Address in the **IP or MAC Address** text box.
5	Select **Add** to save the changes.
	- End -

Deleting an Address Filter

Delete an existing address filter.

Procedure 8-17 Delete an Address Filter

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Firewall** from the **Security** menu.
3	Select the **Address Filtering** tab.
4	Select to  delete the corresponding address filter.
	- End -

Remote Access

SSH Enable

Enables Secure Shell access into the camera, if remote access is permitted by the camera network. This will also enable Tyco Security Products Level 3 Technical Support to diagnose any problems on the camera.

Note:

It is recommended to keep SSH Enable disabled. This function should only be enabled this when it is requested by Tyco Security Products Level 3 Technical Support.

Procedure 8-18 Configure SSH

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Remote Access** from the **Security** menu. The Remote Access tab displays.
3	Select the **SSH Enable** check box to enable SSH. OR Deselect **SSH Enable** check box to disable SSH. The default setting is 'Disabled'.

- End -

ONVIF

The Web User Interface 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 is always enabled.

ONVIF Discovery Mode

Enable or disable ONVIF discovery on the camera.

Procedure 8-19 Enable/Disable ONVIF Discovery Mode

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

- End -

ONVIF User Authentication

To utilize ONVIF User Authentication, there must be at least one admin level user in the ONVIF service.

Note:

When in Enhanced Security mode, editing ONVIF User Authentication requires the admin account password.

Procedure 8-20 Enable/Disable ONVIF User Authentication

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Remote Access** from the **Security** menu. The Remote Access tab displays.
3	Select the **ONVIF User Authentication** check box to enable ONVIF User Authentication. OR Deselect **ONVIF User Authentication** 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 8-21 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 -

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

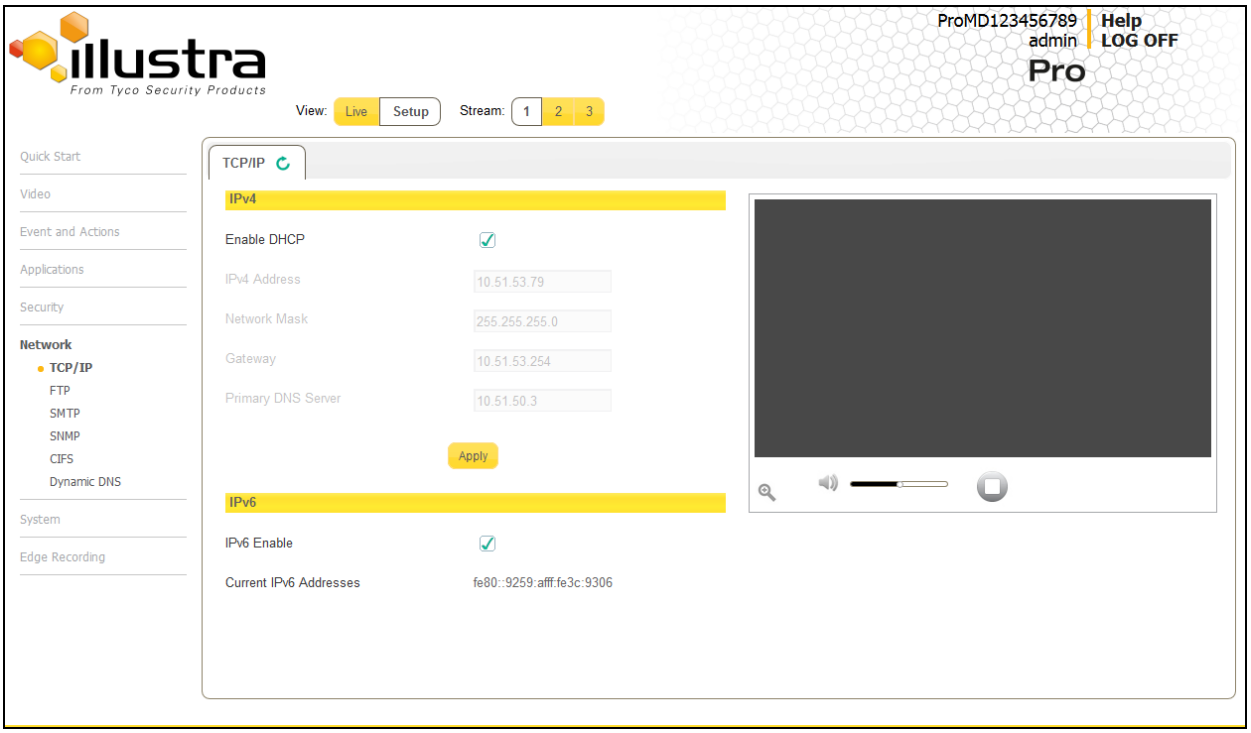

Figure 9-1 Network Menu

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

- TCP/IP
- FTP
- SMTP
- SNTP
- CIFS
- Dynamic DNS
- SIP

TCP/IP

Configure the IPv4 and IPv6 settings on the camera.

IPv4

Configure the IPv4 settings for the camera.

Procedure 9-1 Configure the IPv4 Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **TCP/IP** from the **Network** menu.
3	Select the **Enable DHCP** check box to enable DHCP and disable manual settings. OR Deselect **Enable DHCP** 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 **IPv4 Address** in the IPv4 Address text box in the form xxx.xxx.xxx.xxx. The default setting is '192.168.1.168' b Enter the **Network Mask** in the Network Mask text box xxx.xxx.xxx.xxx. The default setting is '255.255.255.0' c Enter the **Gateway** IP address in Gateway text box xxx.xxx.xxx.xxx. d Enter the **Primary DNS Server** in the Primary DNS Server text box xxx.xxx.xxx.xxx. e Enter the **Secondary DNS Server** in the Secondary DNS Server text box xxx.xxx.xxx.xxx.
5	Select **Apply** to save the settings.
	- End -

IPv6

Enable IPv6 on the camera.

Procedure 9-2 Enable/Disable IPv6

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **TCP/IP** from the **Network** 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'. If IPv6 is enabled the Link Local and DHCP address will be displayed beside 'Current IPv6 Addresses' if available.
	- End -

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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 analytics.

Note:

FTP settings can also be configured via the Network menu.

Procedure 9-3 Configure FTP Server Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **FTP** from the **Network** menu.
3	Select the **Enable** check box to enable FTP. OR Deselect the **Enable** check box to disable FTP. The default setting is 'Enabled'. **Note:** When in Enhanced Security mode, enabling FTP requires the admin account password.
4	If required, select the **Secure FTP** checkbox. The default setting is 'Disabled'.
5	Enter the IP address of the FTP Server in the **FTP Server** text box.
6	Enter the FTP port in the **FTP Port** text box. The default setting is 21.
7	Enter the FTP username in the **Username** text box.
8	Enter the FTP password in the **Password** text box.
9	Enter the FTP upload path in the **Upload Path** text box. **Note:** When entering the upload path the following format should be used '//<name of ftp directory>/<folder>'

- End -

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File Transfer Rate

The File Transfer Rate can be limited and a max transfer rate assigned to manage the amount of FTP bandwidth used.

Procedure 9-4 Configure the FTP Transfer Rate

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Event Settings** from the **Events and Actions** menu.
3	Select the **FTP** tab.
4	Select the **Limit Transfer Rate** check box to limit the FTP transfer rate. OR Deselect the **Limit Transfer Rate** check box to disable limited FTP transfer. The default setting is 'Enabled'.
5	Enter the Max Transfer Rate in the **Max Transfer Rate** (Kbps) textbox. The default setting is 50.

- End -

Test FTP Settings

Test the FTP settings that have been configured correctly.

Procedure 9-5 Test the FTP Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **FTP** from the **Network** menu.
3	Select the **FTP** tab.
4	Select **Test**. A sample text file will be sent to the specified FTP destination to confirm that FTP settings are correct.

- End -

SMTP

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

Note:

SMTP settings must be configured to enable email alerts when using analytics.

Procedure 9-6 Configure SMTP Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **SMPT** from the **Network** menu. The **SMPT** tab displays.
3	Check the **Enable SMPT** check box to enable SMPT. Text boxes on the tab become available for entry. **Note:** When in Enhanced Security mode, enabling SMTP requires the admin account password.
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 the **Use authentication to log on to server** check box to allow authentication details to be entered. OR Deselect the **Use authentication to log on to server** to disable authentication. The default setting is 'Disabled'.
9	If 'Use authentication to log on to server' check box has been selected: a Enter the username for the SMTP account in the **Username** text box. b Enter the password for the SMTP account in the **Password** text box.
10	Select **Apply** to save the settings.

- End -

SNMP

The camera introduces 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.

Procedure 9-7 Configure SNMP Settings

Step	Action
1	Select **Setup** on the Web User Interface 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** checkbox.

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 **Enable V3** checkbox.

b Enter the **Read User**.

c Select the **Security Level** from the drop down menu:
- noauth: No authentication / no encryption.
- **auth:** Authentication / no encryption. A user password is required. It is symmetrically encrypted using either MD5 or SHA.
- **priv**: Authentication / encryption. A user password is required as is symmetrically encrypted using either MD5 or SHA. A data encryption password is required as is symmetrically encrypted using either DES or AES.

d Select the **Authentication Type** using the radio buttons.

e Enter the Authentication Password

f Select the **EncryptionType** using the radio buttons.

g Enter the **Encryption** Password

h Select **Apply**.

- End -

CIFS

The CIFS feature permits files generated from the camera such as alarm related video to be directed to network attached file storage via the Common Internet File System protocol. This supplements existing distribution methods such as FTP, SFTP and email.

Procedure 9-8 Configure CIFS Server Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **CIFS** from the **Network** menu.
3	Select the **Enable** check box to enable CIFS. OR Deselect the **Enable** check box to disable CIFS.

The default setting is ‘Disabled’.

Note:

When in Enhanced Security mode, enabling CIFS requires the admin account password.

4 Enter the network path in the **Network Path** text box.

Note:

When entering the network path the following format should be used '//<IP Address>/<folder name>'

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

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

7 Enter the password h in the **Password** text box.

- End -

Dynamic DNS

Dynamic DNS 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. RFC 2136 Dynamic Updates in the Domain Name System. 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 only to access their camera 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 cameras hostname matches the configurable parameter “camera name” on the Web User Interface. Any DHCP request will contain the cameras hostname for use of the DHCP server to forward to an appropriate DNS server.

Dynamic DNS

Configure the Dynamic DNS settings for the camera.

Procedure 9-9 Configure Dynamic DNS

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Dynamic DNS** from the **Network** menu.
3	Select the **Service Enable** check box to enable Dynamic DNS. OR Deselect **Service Enable** check box to disable Dynamic DNS. The default setting is ‘Disabled’.
4	If Service Enable has been enabled: a Enter the Camera Alias in the text box.

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b Select a Service Provider from the drop-down list:

- **dyndns.org**
- **easydns.com**
- **no-ip.com**
- **zerigo.com**
- **dynsip.org**
- **tzo.com**

c Enter a **Username** in the text box.

d Enter a **Password** in the text box.

e Enter **Service Data** in the text box.

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

- End -

SIP

The Session Initiation Protocol (SIP) feature enables the camera to be configured as a SIP User Agent that can register with a SIP server to make and receive audio calls to another SIP device, for example, a SIP IP phone or softphone. The camera can operate as a SIP phone if it is equipped with an external microphone and speaker. The camera can also be configured to monitor the audio from a SIP call and make this available as an RTSP/RTP stream.

Enable/Disable SIP

Enable/Disable SIP on the camera.

Procedure 9-10 Enable/Disable SIP

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **SIP** from the **Network** menu.
3	Check the **Enabled** check box to enable SIP OR Clear the **Enabled** check box to disable SIP. The default setting is 'Disabled'.
4	Click **Apply** to save your settings. **Note:** After you enable SIP, the camera reboots automatically.

- End -

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Configure the SIP Server Settings

Configure the SIP server settings on the camera.

Procedure 9-11 Configure the SIP Server Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **SIP** from the **Network** menu.
3	Check the **Enabled** check box to enable SIP.
4	Enter the IP address of the SIP Server in the **Domain** text box.
5	Enter the SIP account username in the **Username** text box.
6	Enter the SIP account password in the **Password** text box.
7	From the **Audio Source** dropdown menu, select the Audio Source for calls: • **Mic** - only external microphones are currently supported.
8	From the **Audio Output** dropdown menu, select an audio output: • **Speaker -** the SIP call audio is output to the external speaker. • **Network Stream -** the SIP call audio can be streamed using an RTSP Audio Stream.
9	Click **Apply** to save your settings. **Note:** After you enable SIP, the camera reboots automatically.

- End -

Place a SIP call

Place a SIP call on the camera.

Procedure 9-12 Place a SIP call

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **SIP** from the **Network** menu.
3	Enter the SIP Extension number in the **Extension** text box.
4	Click **Dial** to activate the call.
5	Click **Hang up** to end the call. **Note:** The Staus Log, located below the Dial and Hang up buttons, reports the status of SIP connection and active calls.

- End -

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When the System menu is selected Figure 10-1 System Menu will be displayed.

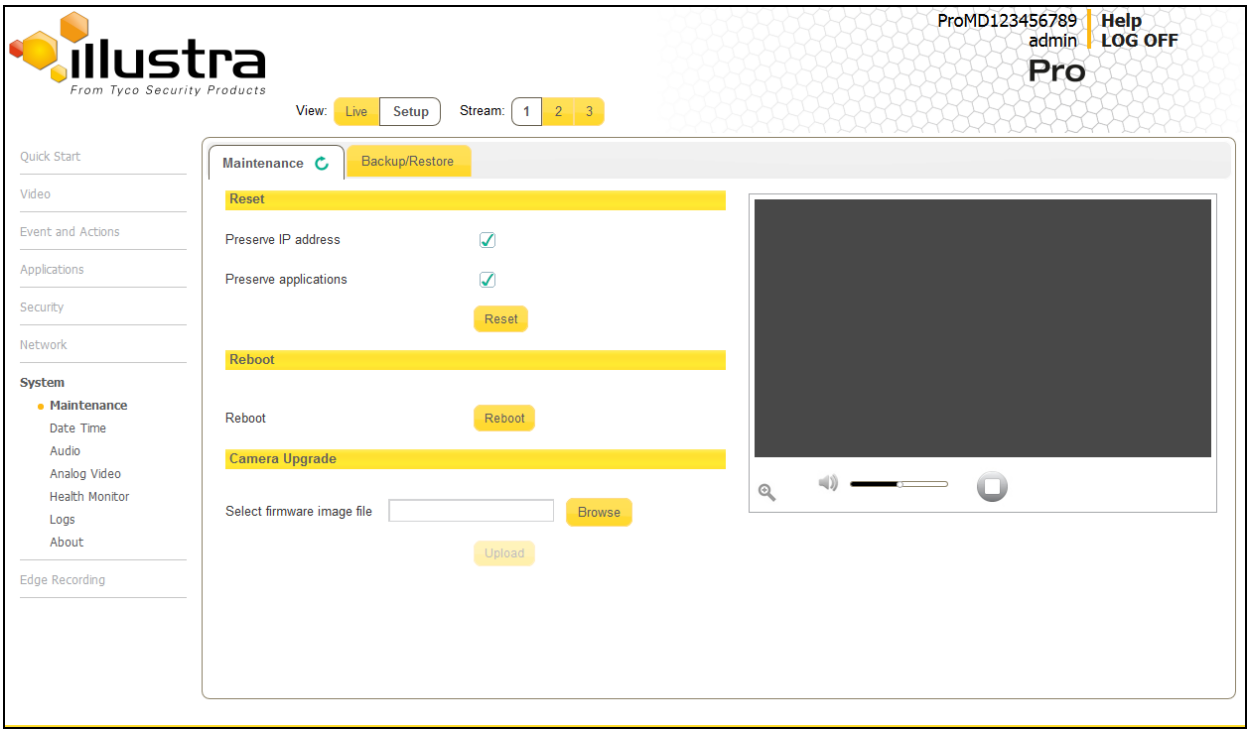

Figure 10-1 System Menu

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

- Maintenance
- Date Time
- Audio
- Analog Video
- Health Monitor
- 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

To perform a physical reset of the camera, refer to Procedure 17-2 Reset the Camera to Factory Default Settings using the Reset/Reboot Switch on page 17-154.

Note:

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

Procedure 10-1 Resetting the Camera

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Maintenance** from the **System** menu.
3	Select the **Preserve IP address** check box to retain the current network settings during the camera reset. OR Deselect the **Preserve IP address** check box to restore the default networking settings. The default setting is 'Enabled'.
4	Select the **Preserve application** check box to retain the current presets, patterns and sequences during the camera reset. OR Deselect the **Preserve application** check box to remove existing presets, patterns and sequences. The default setting is 'Enabled'.
5	Select the **Preserve licenses** check box to retain the current licenses during the camera reset OR Deselect the **Preserve licenses** check box to remove existing licenses. The default setting is 'Enabled'.
6	Select **Reset** You will be prompted to confirm the camera reset.
7	Select **OK** to confirm. The Web User Interface will display a "Camera Resetting" 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 **Cancel**.
8	The Log in page will be displayed. Refer to Procedure 3-1 Log in to the Camera on page 3-10 to log back into the camera Web User Interface.

- End -

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Reboot

To perform a physical reboot of the camera, refer to Procedure 17-1 Reboot the camera using the Reboot/Reset Switch on page 17-154.

Procedure 10-2 Reboot the Camera

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Maintenance** from the **System** menu.
3	Select **Reboot**. You will be prompted to confirm the camera reboot.
4	Select **OK** to confirm. The Web User Interface 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 **Cancel**.
5	The Log in page will be displayed.
	- End -

Camera Firmware 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.

Procedure 10-3 Upgrade Camera Firmware

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Maintenance** from the **System** menu.
3	Select **Browse**.

The Choose file to Upload dialog will be displayed.

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

5 Select the firmware file then select the **Open** button.

6 Select **Upload**.

The file transfer will begin. Do not disconnect power to the camera during the upgrade process. The camera restarts automatically after the updates have been completed, this can take from 1 to 10 minutes.

The Log in page will be displayed.

Refer to Procedure 3-1 Log in to the Camera on page 3-10 to log back into the camera Web User Interface.

- End -

Backup/Restore

Backup camera data and restore from a previously saved data file. The data file can be saved to a specified location and 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.

Procedure 10-4 Backup Camera Data

Step	Action
1	Select **Setup** on the Web User Interface 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 **Save**.

- End -

Procedure 10-5 Restore Camera from Backup

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Maintenance** from the **System** menu.
3	Select the **Backup/Restore** tab.
4	Select **Browse**.

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 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 updates have been completed, this can take from 1 to 10 minutes.

The Log in page will be displayed.

Refer to Procedure 3-1 Log in to the Camera on page 3-10 to log back into the camera Web User Interface.

- End -

Date / Time

Set the date and time on the camera.

Note:

Date and Time can also be configured in the **Quick Start** menu.

Procedure 10-6 Configuring the Date and Time

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **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 the radio buttons: • **Manually**

- **via NTP**

The default setting is ‘Manually’.

7 If you select Manually in step 5:

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 5:

a Enter the **NTP Server Name** in the text box.

- End -

Audio

Allows you to configure the audio input, output, upload audio and stored audio clips, and to configure Audio Video Synchronisation.

Procedure 10-7 Configure Audio Input

Step	Action
1	Select **Audio** from the **System** menu. The Audio Input tab displays.
2	Select the **Input Enable** check box to enable the audio input settings. Or Deselect the **Input Enable** check box to disable audio input settings. The default setting is ‘Disabled’.
3	Use the slider bar to select the **Input Volume**. Values range from 1 to 100. The default setting is 72.

- End -

Procedure 10-8 Configuring Audio Output

Step	Action
1	Select **Audio** from the Camera Configuration menu.
2	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’.
3	If Output Enable has been enabled, use the slider bar to select the Output Volume. Values range from 1 to 100.

The default setting is 50.

- End -

Configuring Stored Audio

When connected to an appropriate device, the dome is capable of playing back stored audio when an alarm has been triggered. A maximum of three audio files can be uploaded to the dome.

Note:

Audio clips can only be used if a microSD Card has been installed. Refer to the relevant Quick Reference Guide for information on installing the microSD Card.

When uploading an audio file it must meet the following requirements:

- The filename cannot contain spaces.
- It must be a 'wav' file with a '.wav' extension.
- A single channel mono file with a bit depth of 16kHz.
- The sample rate must be 8kHz.
- The duration must be no longer than 20 seconds.

Procedure 10-9 Play Stored Audio

Step	Action
1	Select **Audio** from the **System** menu.
2	Select the **Audio Clips** tab.
3	Select to play back the corresponding audio file.

- End -

Procedure 10-10 Upload an Audio File

Step	Action
1	Select **Audio** from the **System** menu.
2	Select the **Audio Clips** tab.
3	Select **Browse**. The Choose file dialog will be displayed.
4	Navigate to the location where the audio file has been saved. Select the audio file then select the **Open** button. When uploading an audio file it must meet the following requirements: • The filename cannot contain spaces. • It must be a 'wav' file with a '.wav' extension.

- A single channel mono file with a bit depth of 16kHz.
- The sample rate must be 8kHz.
- The duration must be no longer than 20 seconds.

5 Select **Upload**.

6 You will be prompted to confirm that you would like to upload the audio file.

Select **OK** to confirm the upload.

Or

Select **Cancel**.

- End -

Procedure 10-11 Delete a Stored Audio file

Step	Action
1	Select **Audio** from the **System** menu.
2	Select the **Audio Clips** tab.
3	Select the corresponding **Delete** check box to mark the audio file for deletion. Or Deselect the corresponding **Delete** check box to keep the audio file.
4	Select the **Select All** check box to mark all audio files for deletion.
5	Select **Delete** to delete the selected audio files. You will be prompted to confirm the deletion.
6	Select **OK** to confirm the deletion. Or Select **Cancel**.

- End -

Configuring Audio Video Synchronisation

If the audio feed is not in synch with the video feed, use Audio Video Synchronisation to delay the audio feed slightly until it is in synch with the video feed.

Procedure 10-12 Configure Audio Video Synchronisation

Step	Action
1	Select **Audio** from the **System** menu.
2	Select the **Audio** tab.
3	Check the **Synchronisation Enable** check box.
4	Type an entry into the **Synchronisation Delay** field.

	You can select between 1 and 1000 milliseconds.
5	Select **OK** to save your changes.

- End -

Analog Video

An Analog Video Source can be selected from the drop down menu found in the Analog Video menu. Output format of the analogue video can be managed by the dip switch located on the camera (default value) or via Web User Interface page.

Available options are **DIP switch**, **PAL**, **NTSC** and **OFF**.

Note:

Once PAL or NTSC are selected via the Web User Interface- the physical DIP Switch selection on camera will be obsolete.

Health Monitor

The Health Monitor function provides visibility on the health status of popular device parameters. Each parameter can be enabled or disabled. The refresh frequency of the health monitor can be determined by selecting a duration from the Reporting Period drop-down menu.

Procedure 10-13 Configure Health Monitor Settings

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select the **Health Monitor** from the **System** menu.
3	Select the **Recording Period** from the drop-down menu.
4	Select the corresponding checkbox to enable health monitoring on a parameter. OR De-select the corresponding checkbox to disable health monitoring on a parameter. The default setting for all parameters is Enabled.

- End -

Logs

Information is provided on system and boot 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; note that this does not mean that the process will not continue to work, only that it encountered an issue it could do nothing about.

Procedure 10-14 Display System Log

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Logs** from the **System** menu. The System Log tab displays.
3	Select **Refresh** to refresh the log for the most up-to-date information.

- End -

Procedure 10-15 System Log Filter

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Logs** from the **System** menu. The System Log tab displays.
3	Enter the number of lines of the log file you would like to view in the **Lines** text box.
4	Enter the word or phrase that you would like to search for in the **Filter** text box.
5	Select **Refresh** to refresh the log for the most up-to-date information.

- End -

Boot Log

The Boot log is a log of the Linux operating system boot processes and will only be useful to Tyco Security Products support engineers who require additional information on the device.

Procedure 10-16 Display Boot Log

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Logs** from the **System** menu.
3	Select the **Boot Log** tab.
4	Select **Refresh** to refresh the log for the most up-to-date information.

- End -

Procedure 10-17 Boot Log Filter

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **Logs** from the **System** menu.
3	Select the **Boot Log** tab.
4	Enter the number of lines of the log file you would like to view in the **Lines** text box.
5	Enter the word or phrase that you would like to search for in the **Filter** text box.
6	Select **Refresh** to refresh the log for the most up-to-date information.

- End -

Audit Log

The Audit Log will log details obtained when anything is logged are source, class, result, user and a description of the change.all changes that have been made in the following areas of the Web User Interface as outlined below:

- Changes in FTP, CIFS, SMTP, IPV4, IPV6, DNS and SNMP are logged under class NETWORK.
- Changes in Stream are logged under class VIDEO.
- Changes in Reboot, Reset and Upgrade are logged under class MAINTENANCE.
- Changes in DIO and ROI are logged under EVENT.

About

The About menu provides the following camera information:

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

Procedure 10-18 Display Model Information

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

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2	Select **About** from the **System** menu. The model tab displays.

- End -

Procedure 10-19 Edit Camera Name

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **About** from the **System** menu. The model tab displays.
3	Edit the name in the **Camera Name** textbox.

- End -

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When the Edge Recording menu is selected Figure 11-1 Edge Recording Menu is displayed.

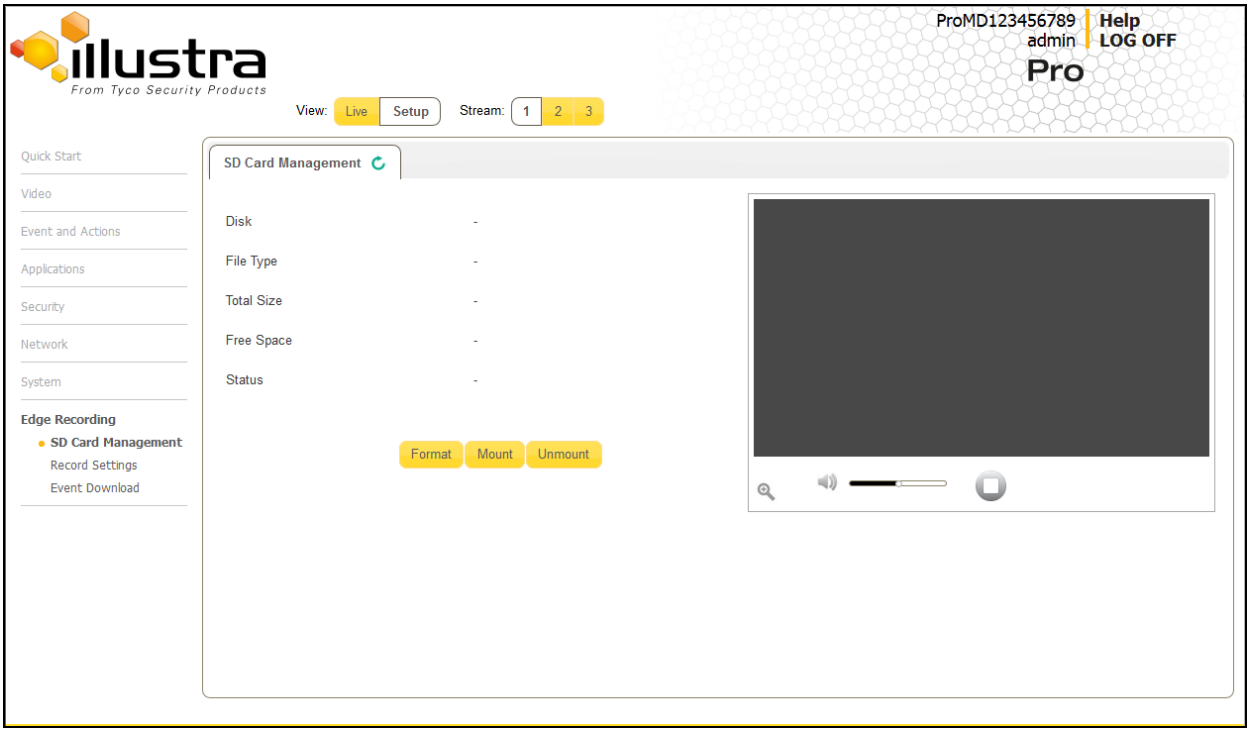

Figure 11-1 Edge Recording Menu

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. Video can be configured to be recorded based on an event. Without an SD Card current faults notifications displayed on camera if an alarm is triggered. Using an SD Card enables the following:

- Current faults notifications 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.
- Audio can be played via the Audio Out port.

Inserting the SD Card

When inserting an SD card it is essential that the camera is rebooted. The camera is mounted and unmounted through the Web User Interface.

Note:

Refer to the Quick Reference Guide supplied with the product for details on how to remove the housing assembly and gain access to the camera.

Procedure 11-1 Insert the SD Card by powering down the Camera

Step	Action
1	Turn off the camera by disconnecting the power supply.
2	Insert the SD card into the camera.
3	Reconnect the power supply and power up the camera.

- End -

Procedure 11-2 Mount the SD Card via the Web User Interface to reboot the Camera

Step	Action
1	Insert the MicroSD card into the camera.
2	Select **Setup** on the Web User Interface banner to display the setup menus.
3	Select **SD Card Management** menu from the **Edge Recording** menu.
4	Select **Mount**.

- End -

Removing the MicroSD Card

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

- Remove the SD Card by powering down the camera - Use this procedure if you don't have access to the Web User Interface and are unable to unmount the MicroSD card before removal.
- Unmount the SD Card for Removal - Use this procedure when you are unable to access the power supply to the camera.

Note:

Refer to the Quick Reference Guide supplied with the product for details on how to remove the housing assembly and gain access to the camera.

Procedure 11-3 Remove the MicroSD Card by powering down the Camera

1 Turn off the camera by disconnecting the power supply.

2 Remove the SD card from the camera.

Note:

AVI clips are not available on the camera until the MicroSD card has been inserted and the camera rebooted.

3 Reconnect the power supply and power up the camera.

- End -

Procedure 11-4 Unmount the MicroSD Card for Removal

Step	Action
1	Select **Setup** on the Web User Interface banner to display the setup menus.
2	Select **SD Card Management** menu from the **Edge Recording** menu.
3	Select **Unmount**. You are prompted to confirm the unmounting.
4	Select **OK** to confirm. OR
5	Select **Cancel**. Remove the SD card from the camera. AVI clips are not available on the camera until the SD card has been inserted and mounted.

- 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, face detection and DIO events.

Procedure 11-5 Configure Record Settings

Step	Action
1	Select **Setup** on the Web User Interface Banner to display the setup menus.
2	Select **Record Settings** from the **Edge Recording** menu.
3	Select **Enable Record** to allow the camera to create a playable video clip. OR Deselect **Enable Record** to disable the feature.
4	If **Enable Record** has been enabled: a Select the required video stream from the Video drop-down menu. Refer to Procedure 5-1 Configure the Video Stream Settings.

b Select the Pre Event (secs) in seconds from the drop-down menu. Values range from 0 to 10. The default setting is 5 seconds.

c Select the Post Event (secs) in seconds from the drop-down menu. Values range from 0 to 10. The default setting is 5 seconds.

5 Select **Apply** to save.

- End -

Event Download

If an event action has record mode enabled, when triggered, the associated video is logged in the event download table where it can later be downloaded from an SD 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.

Technical Specifications

This section provides information on the technical, environmental and operating specifications for the 2MP, 3MP and 5MP models of the Illustra Pro Series Mini Dome.

General Features	
Language Selection	English (default), Arabic, Czech, Danish, German, Spanish, French, Hungarian, Italian, Korean, Japanese, Netherlands, Polish, Portuguese, Swedish, Turkish, Chinese Traditional, Chinese Simplified.
Camera body color	White RAL 9003, or Black Pantone C.
Vandal resistant rating	IK 10
Max Resolution	2MP (1920x1080) 1080p 16:9 3MP (2048x1536) QXGA 4:3 5MP 2592x1944
Video Processor	
SoC manufacturer	Texas Instruments
SoC manufacturer part number	TMS320DM8127
OS	Linux kernel Ver. 2.6.37
ROM/flash size	512 MBytes
Ram size	1 Gbytes DDR3
Reboot time	45s
Battery hold up time	10 days
Plenum rating	Compliant
Illuminator	
Wavelength	850 nm
IR Distance	20m
Number of IR LED devices	16
Manufacturer	Intersil
Manufacturer Part Number	SFH 4258s
Video codecs	MJPEG - H264
Frame rate range	(2MP) 1-30 (3MP) 1-30 (5MP) 1-15

Encoding method	G711
Standard compliance	G711
Sampling rate	8 kHz
Sampling bits	16
Frequency response range	300-4,000 Hz
Dynamic Range	93dB
Input type	Electret Microphone single ended
Input impedance	20 kohm
Input level	2 V p-p typical
Input connector	2 contacts on the 10-position terminal block
Output type	Mono, Single-ended output, 0.707VRMS to 2Vpp, into 16 ohm headphone, 10 KOhm line output, 8 ohm 30mW Speaker Drive
Output connector	2 contacts on the 10-position terminal block
SNR	Input 92dBA , Output: 102 dBA
Distortion	Input THD= -94 dB; Output THD= -70 dB
Client interfaces	
Browsers supported & version	IE 10 and 11. Firefox, Chrome
illustra API version	AD iAPI3
ONVIF Profile S version	Core spec. version 2.4
ONVIF test tool version	Test tool version 14.06
Special Features	
Motion detection	ROIs defined by a 40x30 grid with no limit of configured. Group or individually selectable by draw and drag on the Web User Interface.
Face detection	1 face detection region covering the full FoV. Not adjustable.
Higher compression quality ROI	Up to 5 user defined regions. Selectable by draw and drag on the Web User Interface.
Privacy zones	4 adjustable rectangular privacy zones

Text overlay	Font Size 40 pixels high
Event alarms	
Event triggers	Video motion, Blur detection, Face detection, Scheduled Alarm input, Network loss, Reset and Health monitoring
Pre-alarm recording	10s pre and post
Event actions	SMTP e-mail file, transfer FTP file transfer, SFTP file transfer and SD card storage, CIFS mount
Alarm input	3V~5V (High) / 0.8V (Low).
Auxiliary output	1 Amp, relay contact.
I/O Interfaces	
SD card	One Micro SD slot, supporting the following Card types: Standard SD format up to 4GB, SDHC format up to 32GBytes and SDXC up to 128GBytes.
Alarm inputs	Two isolated Alarm Inputs: 2 contacts with one common return contact on the 10-position terminal block
Video output	One external analog video output port, Type BNC, Format: NTSC/PAL 1V p-p
IP Connector	RJ-45
LED indicators	Two Network LEDs on RJ-45 connector indicating: 1. Link has been established. 2: Network activity.
Reset/Reboot Push Button	One Reset/Reboot' Pushbutton- 3 options 1: Reboot the Unit 2. Return to factory defaults 3. Return to defaults except network
Phone home Push Button	One Phone Home Pushbutton: Triggers Phone Home application (future enhancement).
Audio I/O	Audio Input: 2 contacts from microphone (differential) on the 10-position terminal block. Audio Output: 2 contacts to speaker (Single ended) on the 10-position terminal block
Micro Switches	3 Micro switches: 1: NTSC/PAL 2: Future Enhancement 3: IR LEDs disable

Resolutions

The following resolutions are available on Stream 1, Stream 2,and Stream 3:

2MP		
Stream 1	**Stream 2**	**Stream 3**
(1920x1080) 1080p 16:9	(1280x720) 720p 16:9	(1024x576) PAL+ 16:9
(1664x936) 16:9	(1024x576) PAL+ 16:9	(640x360) nHD 16:9
(1280x720) 720p 16:9	(640x360) nHD 16:9	(384x216) 16:9
(1024x576) PAL+ 16:9	(384x216) 16:9	
(640x360) nHD 16:9		
(384x216) 16:9		

3MP		
Stream 1	**Stream 2**	**Stream 3**
(2048x1536) QXGA 4:3	(1920x720) 720 16:9	(1024x576) PAL+ 16:9
(1920x1440) 4:3	(1024x768) 1024 XGA 4:3	(960x720) 4:3
(1920x1080) 1080p 16:9	(1024x576) PAL+ 16:9	(768x576) 4:3
(1600x1200) UXGA 4:3	(768x576) 4:3	(640x480) 640 VGA 4:3
(1280x960) SXGA 4:3	(640x480) 640 VGA 4:3	(640x360) nHD 16:9
(1280x720) 720p 16:9	(640x360) nHD 16:9	(480x360) 480 4:3
(1024x768) 1024 XGA 4:3	(480x360) 480 4:3	(384x288) 4:3
(1024x576) PAL+ 16:9	(384x288) 4:3	(384x216) 16:9
(768x576) 4:3	(384x216) 16:9	
(640x480) 640 VGA 4:3		
(640x360) nHD 16:9		
(480x360) 480 4:3		
(384x288) 4:3		
(384x216) 16:9		

5MP		
Stream 1	**Stream 2**	**Stream 3**
(2592x1944) 4:3 (H264 Only)	(1920x1080) 1080p 16:9	(1024x576) PAL+ 16:9

5MP		
Stream 1	Stream 2	Stream 3
(1920x1440) 4:3	(1600x1200) UXGA 4:3	(920x720) 4:3
(1920x1080) 1080p 16:9	(1280x960) SXGA 4:3	(768x576) 4:3
(1600x1200) UXGA 4:3	(1280x720) 720p 16:9	(640x480) 640 VGA 4:3
(1280x960) SXGA 4:3	(1024x768) 1024 XGA 4:3	(640x360) nHD 16:9
(1280x720) 720p 16:9	(1024x576) PAL+ 16:9	(480x360) 480 4:3
(1024x768) 1024 XGA 4:3	(768x576) 4:3	(384x288) 4:3
(1024x576) PAL+ 16:9	(640x480) 640 VGA 4:3	(384x216) 16:9
(768x576) 4:3	(640x360) nHD 16:9	
(640x480) 640 VGA 4:3	(480x360) 480 4:3	
(640x360) nHD 16:9	(384x288) 4:3	
(480x360) 480 4:3	(384x216) 16:9	
(384x288) 4:3		
(384x216) 16:9		

MJPEG/JPEG Compressor Key Functionality

The JPEG codec supports the JPEG baseline DCT encoding process with the following additional configuration option:

- Quality: 1-100

H.264 Compressor Key Functionality

The H.264 codec supports the JPEG baseline DCT encoding process with the following additional configuration options:

Category	Details
Profile	High level 4.2
GOP Length	1-150
Rate Control	CBR VBR
Frame Skip	With CBR
Bit Rate (CBR)	Selectable 16 kbps to - 10Mbps
Quality (VBR)	Highest, High, Medium, Low, Lowest.

Network

This section covers the technical aspects and operation of all the core network related components.

Category	Details
Ethernet	10/100Base-T
Supported Protocols	TCP/IP, IPv4, IPv6, TCP, UDP, HTTP, FTP, DHCP, WS-Discovery, DNS, DDNS, RTP, TLS, Unicast, Multicast, NTP, SMTP, WS-Security
Base protocol	TCP/IP - RFC4614 CIFS. SFTP
Internet layer addressing	IPv4 - RFC791 IPv6 - RFC2460
Transport layer	TCP - RFC973 UDP - RFC768
Data transmission	HTTP/HTTPS - RFC2616 FTP - RFC959
Network address configuration	DHCP - RFC2131 Zeroconf - RFC3927 Static IP address
Time Synchronization	NTP - RFC1305 IETF NTP Working Group i minute poll rate
E-mail	SMTP - RFC5321 Authenticated SMTP - RFC4954
Authentication and Security	IEEE.802.1x - TLS/PEEP HTTPS (HTTP over TLS) - RFC2818 WS-Security Multi-level password protection IP address filtering HTTPS encryption User access log
Discovery	WS-discovery - ws-discovery.pdf
Streaming	RTP - RFC3550 RTSP - RFC2326 Unicast Streaming Multicast RFC 1112 level 1
Remote Shell Access	SSH - RFC2326
Users	10 simultaneous users
Firmware upgrade	SD card / browser/ illustra Connect
External Interface Protocol	SOAP - SOAP 1.2 ONVIF - 2.4 WS-Addressing WS-Eventing

Base Protocol and Underlying Layers

- The camera is an IP camera compatible with TCP/IP protocol.
- The camera supports both IPv4 and IPv6, running either in single stack mode or dual stack mode (supporting both IP versions at the same time).

- TCP is used for two way communication and UDP will be used for broadcasting protocols.
- HTTP is used for the ONVIF protocol as transport mechanism for SOAP calls.
- FTP can be used to push alarm buffer video clips to a specified remote FTP server. The camera can use anonymous FTP or a specified username and password. There is no incoming FTP service.

IP multicast RFC 1112 level 1 support for sending but not receiving multicast IP datagrams to a group of interested receivers in single transmissions is supported for audio, video and metadata stream types. The streams can be controlled using the two methods described below:

1 A client can request a multicast stream using RTSP. When the client requests a stream the server will respond with a multicast address in the 'c=' field of the describe response (RFC 4566). The client will then respond with a Setup request with the Transport Type set to multicast, the device shall stop sending packets for a multicast configuration when no more RTSP sessions are using the same multicast configuration.

2 An RTP multicast UDP stream can be started by an ONVIF 'StartMulticastStreaming' request with a specified media profile. Streaming continues until 'StopMulticastStreaming' is called for the same profile

Multicast RTSP sessions support the same authentication methods as unicast RTSP sessions.

Network Address Configuration

- **Dynamic Host Configuration Protocol (DHCP)** is enabled by default on the camera on initial camera startup, and after a hardware factory reset, and remains enabled until the camera receives either a DHCP address or is assigned a Static IP address. If no connection is made to a DHCP server within two minutes, the camera goes to the default IP address 192.168.1.168, but continues to search for a DHCP address. If the camera is assigned a Static IP address prior to DHCP being enabled, the camera first reboots for approximately 30 seconds and then remains accessible at its Static IP until a connection is made to a DHCP server.
- **Static IP** can be used if the camera cannot be found on the network using DHCP. In this mode, a static IP address, subnet mask, default router and a primary and secondary DNS server can be configured. This will be used by the camera when turned on. It is possible to assign a static IPv4 address while still allowing the IPv6 addressing to be Link Local (automatically assigned).
- **Dynamic DNS or DDNS Dynamic 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. RFC 2136 Dynamic Updates in the Domain Name System. 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 only to access their camera 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 cameras hostname matches the configurable parameter "camera name" on the Web User Interface. Any DHCP request will contain the cameras hostname for use of the DHCP server to forward to an appropriate DNS server.

Network Name Resolution

The camera uses DNS protocol to resolve network names. DNS server address will be acquired via DHCP or manually set for static IP configuration. Camera configuration supports symbolic names for all remote end-points (except DNS servers) but in this mode will depend on a working and correctly configured remote DNS server.

Email

The camera can send email alerts via SMTP to one specified mailbox using a specified SMTP server. Support is provided for basic authenticated SMTP using username and password for login on the SMTP server.

Time Synchronization and Configuration

The camera supports NTP for time synchronization. The NTP server will have to be configured by the user. Alternatively, time can be manually configured via the Web User Interface or ONVIF.

CIFS Mounting

The camera supports the CIFS protocol for mounting a windows file share. This is configured with a network path, domain name and password. It can be used to store video associated with alarms.

Remote Shell Access

For security reason, remote shell access is limited exclusively to Tyco Security Products Level 3 Technical Support. This function is not available to the end-user.

It is recommended to keep SSH Enable disabled. This function should only be enabled this when it is requested by Tyco Security Products Level 3 Technical Support.

Authentication and Security

- HTTPS (HTTP over TLS) is used for the Web User Interface. HTTP connections to the camera IP will automatically be redirected to the HTTPS login page.
- The camera will automatically create a SSL certificate file to use for HTTPS. It is possible to upload a custom SSL certificate if validation is desired.
- The ONVIF service uses WS-Security Username Token Digest.

Firewall

The camera will provide a firewall, which is disabled by default. The firewall will be able to block ICMP and allow RP filtering and SYN Cookie Verification.The firewall will offer the ability to block selected IP or MAC addresses and allow access exclusively to selected IP and MAC addresses.

Note:

Using the “Deny all” mode, could result in a miss-configuration and require resetting the camera via the physical reset button.

Discovery

The product supports WS-Discovery for discovery purpose.

A copy of Illustra Connect is supplied with the camera, this is a MS-Windows based discovery application, which will allow discovering any Illustra camera on a network; OS Compatibility: MS-Windows XP, MS-Windows Vista, MS-Windows 7 & 8.

For each camera found on the network, the discovery tools will report:

- Serial number.
- Model Name.
- Product Code (Hardware ID).
- MAC address.
- Current IP address.
- Firmware version.

This tool will allow configuration of:

- DHCP
- Static IP configuration
- Select a number of cameras and push a firmware update via ONVIF

ONVIF Video and Control Interface

The primary video and control interface to the camera is the Open Network Video Interface Forum global standard for the interface of network video products. This uses SOAP over HTTP. The camera provides ONVIF for integration to internal and external systems.

Interface Technical Specifications

Category	Details
Description Language	WSDL
Web Services Specification	DPWS
Web Services Tool Kit	WS4D
Web Services Protocol	SOAP
Message Format	XML
Discovery	WS-Discovery
Security	WS-Security
Video Transport	RTP/RTSP
Audio Transport	RTP/RTSP
Event Handling (alarms)	WS-Eventing WS-Base Notification WS-Topics
Service Connection	WS-Addressing
Security Permissions	WS-Policy (ken to think about)
Data Object Exchange Spec.	WS-Transfer

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ONVIF Functions Supported

The following ONVIF functions are supported on the camera:

Device Management

Return List of Capabilities

Network Management

- Discovery
- DHCP hostname
- DNS
- NTP

System Management

- Device information
- Backup
- Restore
- Get/set system date and time
- Set camera to factory defaults
- Get system logs
- Get support information
- Reboot
- Get/set/remove scope (assigns ID data)
- Fault codes

Security

Configure Video and Audio

- Video Source
- Snapshot JPEG

Event Handling Basic Notification Interface

ONVIF Extensions Supported

No ONVIF extensions are anticipated for the initial release.

ONVIF Functions Not Supported

The following ONVIF functions are not supported on the camera:

- Audio configuration
- Video compression standards other than H.264, and MJPEG.
- PTZ control including ePTZ, presets and home position.

microSD Card

External access is provided for a microSD for video alarm storage and audio output pre-recorded clips. The maximum size of microSD card that can be used with the camera is 128GB.

Refer to the Quick Reference Guide provided with the camera for information on how to remove and install the microSD Card.

Dimensions

Model	Dimension
Indoor	130 mm x 138 mm x 138 mm (HxWxL)
Outdoor	135 mm x 160 mm x 160 mm (HxWxL)

Weight

Model	Weight
Indoor	1.0 kg
Outdoor Model	1.8 kg

Environmental

The product is designed to meet the following environmental conditions:

Model	Operating temperature
Indoor	-10° to 40°C (14° to 104°F)
Outdoor Model (24VAC)	-40° to 50°C (-40° to 122°F)
Outdoor Model (POE)	-30° to 50°C (-22° to 122°F) and Cold Start at -20°C
Storage Temperature	-40° to 60°C (-40° to 140°F)

Power

POE	
PoE class	PoE 802.3af, Class 3
Wattage	Max= 12.95Watts

POE	
Is LLDP supported?	LLDP support is built into the file system, but that service is disabled by default. We could probably turn it on, but we haven't done so yet
24 VAC	
Voltage range	24 VAC +/- 25%
Line frequency range	24 VAC +/- 25%
Power (24 VAC line)	
Indoor with no IR	16 VA RMS
Indoor with IR illuminators on	19 VA RMS
Outdoor with heaters on and no IR	39 VA RMS
Outdoor with heaters & IR on	42 VA RMS
Power (Max at high line)	
Outdoor with heaters & IR on	52 VA RMS
Design tolerance	+30%/-20% or to 31.6VAC, 47Hz to 63H Operates to 18.2VAC at room temperature
In rush current	7.1 Amps inrush surge for 3.2 milliseconds at low line, 12 Amps at high line.

Surge Protection

Category	Details
IP	TVS rated at 75V, 400A, 8/20us impulse Galvanic isolation transformer coupled, 1,500Vrms

Regulatory Compliance

Emissions	FCC: Part 15 Class A CE: EN55022 Class A AS/NZS CISPR 22 Class A ICES-003/NMB-003 Class A
Immunity	CE: EN50130-4
Safety	USA (UL): UL 60950-1 Canada (cUL): CAN/CSA-C22.2 No. 60950-1 CB Scheme: IEC 60950-1 European Union: EN 60950-1 EMC: USA (FCC): CFR 47 Part 15 Canada: ICES-003/NMB-003 Issue 5 European Union: EN 55022:2010 European Union: EN 61000-3-2:2006/A2:2009

	European Union: EN 61000-3-3:2008 Australia/New Zealand: AS/NZS CISPR 22:2009 Product Assurance Testing: IEC 62599-2 EN55024 EN50130-4:2011 IEC 61000-6-1
Vandal-Resistant	IK10
Environmental	RoHS, EU Directive 2002/95/EC WEEE, EU Directive 2002/96/EC

Appendix A: User Account Access

Camera Menu	Sub Menu	Tab	Admin	Operator	User
Live View	Live View		X	X	X
Quick Start	Basic Configuration	TCP/IP	X		
		Video Stream Settings	X	X	
		Picture Basic	X	X	
		Picture Additional	X	X	
		Date/Time/OSD	X	X	
Video	Streams	Video Stream Settings	X	X	
	Picture Settings	Picture Basic	X	X	
		Picture Additional	X	X	
		Lens Calibration	X		
	Date/Time/OSD	Date/Time/OSD	X	X	
	Privacy Zones	Privacy Zones	X	X	
Events and Actions	Event Settings	SMTP	X		
		FTP	X		
		CIFS	X		
	Event Actions	Event Actions	X		
	Alarm I/O	Alarm I/O	X		
	Analytics	ROI	X		
		Motion Detection	X		
		Video Intelligence	X		
		Blur Detection	X		
	Event Logs	Event Log	X		
		Fault Log	X		
Applications	Applications	Applications	X		
	License	License	X		
Security	Users	User	X	X	
		Add User	X	X	

Camera Menu	Sub Menu	Tab	Admin	Operator	User
		Change Password	X	X	X
	HTTP/HTTPS	HTTP/HTTPS	X		
	IEEE 802.1x	EAP Settings	X		
	Firewall	Basic Filtering	X		
		Address Filtering	X		
	Remote Access	Remote Access	X		
	Session Timeout	Session Timeout	X		
Network	TCP/IP	TCP/IP	X		
	FTP	FTP	X		
	SMTP	SMTP	X		
	SNTP	SNTP	X		
	CIFS	CIFS	X		
	Dynamic DNS	Dynamic DNS	X		
	SIP	SIP	X		
System	Maintenance	Maintenance	X		
		Backup / Restore	X		
	Date Time	Date Time	X		
	Audio	Audio	X	X	
		Audio Clips	X	X	
	Analog Video	Analog Video			
	Health Monitor	Health Monitor	X		
	Logs	System Log	X		
		Boot Log	X		
		Audit Log	X		
	About	Model	X	X	X
Edge Recording	SD Card Management	SD Card Management	X		
	Record Settings	Record Settings	X		
	Event Download	Event Download	X		

Appendix B - Using Media Player to View RTSP Streaming

Note:

This appendix is provided for user instruction only. Tyco Security Products does not support or is not responsible for any error caused during the use of third party software used for RTSP playback.

Viewing RTSP Stream through Media Player

You can use Media Player to view live video and audio in real time from the camera.

1 Select **Media** then **Open Network Stream**.

2 Enter the IP address of the camera stream in the **Network URL** text box in the following format to view Stream 1 and 2:

- **Stream 1:** rtsp://<ip address>:554/StreamId=1
- **Stream 2:** rtsp://<ip address>:554/StreamId=2

For example: rtsp://192.168.1.168:554/StreamId=1

3 Select **Play**.

The live video stream is displayed.

- End -

Appendix C - Camera Defaults

Quick Start

Basic Configuration

Item	Default Setting								
TCP/IP									
Enable DHCP	on								
IPv4 Address	192.168.1.168								
Network Mask	255.255.255.0								
Gateway	empty or unspecified								
Primary DNS	empty or unspecified								
Ipv6 Enable	on								
Current IPv6 Address	empty or unspecified								
Video Stream Settings									
Stream Number	1 (5MP)	2 (5MP)	3 (5MP)	1 (3MP)	2(3MP)	3(3MP)	1(2MP)	2(2MP)	3(2MP)
Codec	H264	H264	MJPEG	H264	H264	MJPEG	H264	H264	MJPEG
Resolution	2592x1944	1920x1080	1024x57	2048x1536	1280x720	960x720	1924x57	1280x720	1024x576
Frame Rate(fps)[1-30]	15	15	7	30	15	7	30	15	7
GOP Length[1-150]	15	15	7	30	15	7	30	15	7
MJPEG Quality	n/a	n/a	80%	n/a	n/a	80%	n/a	n/a	80%
Rate Control	VBR	VBR	n/a	VBR	VBR	n/a	VBR	VBR	n/a
VBR Quality	High	High	n/a	High	High	n/a	High	High	n/a
CBR Bit Rate	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Enable gaming mode	off	n/a	n/a	off	n/a	n/a	off	n/a	n/a
Picture Basic									
Mirror	off								
Flip	off								
Rotation - 90° clockwise or 270° clockwise	off								
Focus	empty or unspecified								
Zoom	empty or unspecified								
Exposure Method	center weighted								
Exposure Offset (F-Stops)	0								
	5MP	3MP	2MP						
Max Exposure (sec)	1/4	1/8	1/8						
Max Gain (dB)	30db	42db	42db						
Bright objects	auto								
Flicker Control	60hz								
Picture Additional									
Enable WDR	off								
Enable IR Illuminator	on								

Day Night Mode	auto low								
Brightness	50%								
Contrast	50%								
Saturation	50%								
Sharpness	50%								
White Balance Mode	auto normal								
Red	18%								
Blue	18%								
Date/Time/OSD									
Camera Friendly Name	ProMDSerialNumner								
Camera Time	empty or unspecified								
Time 24-hour	on								
Date Display Format	YYYY/MM/DD								
Time Zone	(GMT-05:00) Eastern Time (US and Canada)								
Set Time	Manually								
Date(DD/MM/YY)	empty or unspecified								
Time(HH:MM:SS)	empty or unspecified								
OSD Name	off								
OSD Time	off								

Video

Streams

Item	Default Setting								
Video Stream Settings									
Stream Number	1 (5MP)	2 (5MP)	3 (5MP)	1 (3MP)	2(3MP)	3(3MP)	1(2MP)	2(2MP)	3(2MP)
Codec	H264	H264	MJPEG	H264	H264	MJPEG	H264	H264	MJPEG
Resolution	2592x1944	1920x1080		2048x1536	1280x720		1920x1080	1280x720	1024x576
Frame Rate(fps)[1-30]	15	15	7	30	15	7	30	15	7
GOP Length[1-150]	15	15	7	30	15	7	30	15	7
MJPEG Quality	n/a	n/a	80%	n/a	n/a	80%	n/a	n/a	80%
Rate Control	VBR	VBR	n/a	VBR	VBR	n/a	VBR	VBR	n/a
VBR Quality	High	High	n/a	High	High	n/a	High	High	n/a
CBR Bit Rate	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Enable gaming mode	off	n/a	n/a	off	n/a	n/a	off	n/a	n/a

Picture Settings

Tab	Item	Default Setting
Picture Basic		
	Mirror	off
	Flip	off
	Rotation - 90° clockwise or 270° clockwise	off
	Focus	empty or unspecified
	Zoom	empty or unspecified
	Exposure Method	Center weighted
	Exposure Offset (F-Stops)	0

		5MP	3MP	2MP
	Max Exposure (sec)	1/4	1/8	1/8
	Max Gain (dB)	30db	42db	42db
	Bright objects	auto		
	Flicker Control	60hz		
Picture Additional				
	Enable WDR	off		
	Enable IR Illuminator	on		
	Day Night Mode	auto low		
	Brightness	50%		
	Contrast	50%		
	Saturation	50%		
	Sharpness	50%		
	White Balance Mode	auto normal		
	Red	18%		
	Blue	18%		
Lens Calibration				

Date/Time/OSD

Tab	Item	Default Setting
Date/Time/OSD		
	Camera Friendly Name	ProMDSerialNumner
	Camera Time	empty or unspecified
	Time 24-hour	on
	Date Display Format	YYYY/MM/DD
	Time Zone	(GMT-05:00) Eastern Time (US and Canada)
	Set Time	Manually
	Date(DD/MM/YY)	empty or unspecified
	Time(HH:MM:SS)	empty or unspecified
	OSD Name	off
	OSD Time	off

Privacy Zones

Tab	Item	Default Setting
Privacy Zones		
	Name	empty or unspecified

Events and Actions

Event Settings

Tab	Item	Default Setting
SMTP		
	Enable SMTP	off
	Mail Server	empty or unspecified
	Server Port	25

	From Address	empty or unspecified
	Send Email To	empty or unspecified
	Use authentication to log on to server	off
FTP		
	Enable FTP	off
	Secure FTP	off
	FTP Server	empty or unspecified
	FTP Port	21
	Username	empty or unspecified
	Password	empty or unspecified
	Upload Path	empty or unspecified
	Limit Transfer Rate	on
	Max Transfer Rate(Kbps)	50
CIFS		
	Enable	off
	Network Path	empty or unspecified
	Domain Name	empty or unspecified
	Username	empty or unspecified
	Password	empty or unspecified

Event Actions

Tab	Item	Default Setting
Event Actions		
	Fault Action 1	empty or unspecified
	Fault Action 2	empty or unspecified
	Fault Action 3	empty or unspecified
	Fault Action 4	empty or unspecified
	Fault Action 5	empty or unspecified

Alarm I/O

Tab	Item	Default Setting
Alarm I/O		
	Alarm Input 1 (open)	empty or unspecified
	Alarm Input 2 (open)	empty or unspecified
	Current state	inactive

Analytics

Tab	Item	Default Setting
ROI		
	Table	empty or unspecified
	Enable Face Detection	off
	Highlight Faces	off
	Enhance Faces	off
	Face Orientation	Top
	Action	empty or unspecified
Motion Detection		
	Enable Motion Detection	off
	Sensitivity	high
	Action	empty or unspecified
Video Intelligence		

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	Enable Video Intelligence	off
	Analytics Rules	empty or unspecified
Blur Detection		
	Enable Blur Detection	off

Event Logs

Tab	Item	Default Setting
Event Log		
	Event Log	empty or unspecified
	Fault Log	empty or unspecified

Applications

Applications

Tab	Item	Default Setting
Applications		
	Select Package to Upload	empty or unspecified

License

Tab	Item	Default Setting
License		
	Select Package to Upload	empty or unspecified

Security

Security Status

Tab	Item	Default Setting
Security Overview		
	Enable Enhanced Security	off
	HTTP	on
	HTTPS	on
	SNMP v 1/2	off
	SNMP V3	off
	FTP	off
	SFTP	off
	CIFS	off
	Dyn DNS	off
	SMTP	off
Security Log		
	Security Log	empty or unspecified

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Users

Tab	Item	Default Setting
Users		
	Logon Name	admin
	Role	admin
Add User		
	Name	empty or unspecified
	Role	empty or unspecified
	Password	empty or unspecified
	Confirm Password	empty or unspecified
Change Password		
	Name	empty or unspecified
	Current Password	empty or unspecified
	New Password	empty or unspecified
	Confirm New Password	empty or unspecified

HTTP/HTTPS

Tab	Item	Default Setting
HTTP/HTTPS		
	HTTP Method	both
	HTTP Port Number	80
	HTTPS Number	443
	Select Certificate File	empty or unspecified

IEEE 802.1x

Tab	Item	Default Setting
EAP Settings		
	Enable IEEE802.1x	off
	EAPOL Version	1
	EAP Method	PEAP
	EAP Identity	empty or unspecified
	CA Certificate	empty or unspecified
	Password	empty or unspecified
	Client Certificate	empty or unspecified
	Private Key Password	empty or unspecified

Firewall

Tab	Item	Default Setting
Basic Filtering		
	ICMP Blocking	off
	RP Filtering	off
	SYN Cookie Verification	off
Address Filtering		
	Filtering	off
	IP or MAC Address	empty or unspecified

Remote Access

Tab	Item	Default Setting
Remote Access		
	SSH Enable	off
	ONVIF Discovery Mode	on
	ONVIF User Authentication	on
	UPnP Discovery	on

Session Timeout

Tab	Item	Default Setting
Session Timeout		
	Session Timeout (mins)	15

Network

TCP/IP

Tab	Item	Default Setting
TCP/IP		
	Enable DHCP	off
	IPv4 Address	192.168.1.168
	Network Mask	255.255.255.0
	Gateway	empty or unspecified
	Primary DNS	empty or unspecified
	Ipv6 Enable	on
	Current IPv6 Address	empty or unspecified

FTP

Tab	Item	Default Setting
FTP		
	Enable FTP	on
	Secure FTP	off
	FTP Server	empty or unspecified
	FTP Port	21
	Username	empty or unspecified
	Password	empty or unspecified
	Upload Path	empty or unspecified
	Limit Transfer Rate	on
	Max Transfer Rate(Kbps)	50

SMTP

Tab	Item	Default Setting

SMTP		
	Enable SMTP	off
	Mail Server	empty or unspecified
	Server Port	25
	From Address	empty or unspecified
	Send Email To	empty or unspecified
	Use Authentication to log onto server	off

SNMP

Tab	Item	Default Setting
SNMP		
	Location	empty or unspecified
	Contact	empty or unspecified
	Enable V2	off
	Read Community	public
	Trap Community	fixedcameras
	Trap Address	empty or unspecified
	Enable V3	off
	Read User	root
	Security Level	noauth
	Authentication Type	MD5
	Authentication Password	empty or unspecified
	Encryption Type	DES
	Encryption Password	empty or unspecified
Heartbeat		
	Enable Heartbeat	on
	Heartbeat Interval	30

CIFS

Tab	Item	Default Setting
CIFS		
	Enable	off
	Network Path	empty or unspecified
	Domain Name	empty or unspecified
	Username	empty or unspecified
	Password	empty or unspecified

Dynamic DNS

Tab	Item	Default Setting
Dynamic DNS		
	Service Enable	off
	Camera Alias	empty or unspecified
	Service Provider	dyndns.org
	Username	empty or unspecified
	Password	empty or unspecified
	Service Data	empty or unspecified

SIP

Tab	Item	Default Setting
SIP		
	Enabled	off
	Domain	empty or unspecified
	Username	empty or unspecified
	Password	empty or unspecified
	Audio Source	mic
	Audio Output	Speaker
	Extension	empty or unspecified
	Status	baresip process not running!

System

Maintenance

Tab	Item	Default Setting
Maintenance		
	Preserve IP Address	on
	Preserve Applications	on
	Preserve Licenses	on
	Select Firmware Image File	empty or unspecified
Backup/Restore		
	Select Saved Data File	empty or unspecified

Date Time

Tab	Item	Default Setting
Date Time		
	Camera Time	empty or unspecified
	Time 24-hour	on
	Date Display Format	YYYY/MM/DD
	Time Zone	(GMT-05:00) Eastern Time (US and Canada)
	Set Time	Manually
	Date (DD/MM/YYYY)	empty or unspecified
	Time(HH:MM:SS)	empty or unspecified

Audio

Tab	Item	Default Setting
Audio		
	Enable Audio	off
	Input Enable	off
	Input Volume	72
	Output Enable	off
	Output Volume	50
	Synchronisation Enable	off
	Synchronisation Delay (ms)	0
Audio Clips		
	Audio Clips Table	empty or unspecified

Analog Video

Tab	Item	Default Setting
Analog Video		
	Analog View Source	Dip Switch

Health Monitor

Tab	Item	Default Setting
Health Monitor		

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	Reporting Period(seconds)	60
	Health Monitor Table	empty or unspecified

Logs

Tab	Item	Default Setting
System Log		
	Lines (From The End Of The Log File)	200
	Filter(Only Lines Containing Text)	empty or unspecified
Boot Log		
	Lines (From The End Of The Log File)	200
	Filter(Only Lines Containing Text)	empty or unspecified
Audit Log		
	Search By	empty or unspecified
	Filter Text 1	text
	Filter Text 2	empty or unspecified
	Start Date(DD/MM)	empty or unspecified
	End Date(DD/MM)	empty or unspecified

About

Tab	Item	Default Setting
Model		
	Camera Name	factory configuration
	Model	factory configuration
	Product Code	factory configuration
	Manufacturing Date	factory configuration
	Serial Number	factory configuration
	MAC Address	factory configuration
	Firmware Version	factory configuration
	Hardware Version	factory configuration

Edge Recording

SD Card Management

Tab	Item	Default Setting
SD Card Management		
	Disk	empty or unspecified
	File Type	empty or unspecified
	Total Size	empty or unspecified
	Free Space	empty or unspecified
	Status	empty or unspecified

Record Settings

Tab	Item	Default Setting
Record Settings		
	Enable Event Recording	off

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	Record Source	Stream 1
	Pre Event(secs)	10 secs
	Post Event(secs)	10 secs

Event Download

Tab	Item	Default Setting
Event Download		
	File Name Table	empty or unspecified

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