

**tyco** | Illustra

**Illustra**  
**Multi-sensor Camera**  
**Installation and Configuration Guide**



**Johnson**  
**Controls**



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Please read this manual thoroughly and save it for future use before attempting to connect or operate this unit.

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## Warning

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- This unit operates at DC 12V / PoE IEEE 802.3at PoE+
- Installation and service must be performed only by qualified and experienced technicians and comply with all local codes and rules to maintain your warranty.
- To reduce the risk of fire or electric shock, do not expose the product to moisture.
- Wipe the camera with a dry soft cloth. For tough stains, slightly apply with diluted neutral detergent and wipe with a dry soft cloth.
- Do not apply benzene or thinner to the camera, which may cause the surface of the unit to melt or lens to fog up.
- Recommended operating temperature is: -4°F ~ 58°F (-20°C ~ 50°C).
- Be sure to use only the standard adapter that is specified in the specification sheet. Using any other adapter could cause fire, electrical shock, or damage to the product.
- Incorrectly connecting the power supply or replacing battery may cause explosion, fire, electric shock, or damage to the product.
- Do not connect multiple cameras to a single adapter. Exceeding the capacity may cause excessive heat generation or fire.
- Securely plug the power cord into the power receptacle. Insecure connection may cause fire.
- When installing the camera, fasten it securely and firmly. A falling camera may cause personal injury.
- If any unusual smells or smoke come from the unit, stop using the product. Immediately disconnect the power source and contact the service center. Continued use in such a condition may cause fire or electric shock.
- If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way.

## Caution

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- 1 Do not drop objects on the product or apply strong shock to it. Keep away from a location subject to excessive vibration or magnetic interference.
- 2 Do not install in a location subject to high temperature low temperature or high humidity. Doing so may cause fire or electric shock.
- 3 If you want to relocate the already installed product, be sure to turn off the power and then move or reinstall it.
- 4 Remove the power plug from the outlet when there is a lightning. Neglecting to do so may cause fire or damage to the product.
- 5 Keep out of direct sunlight and heat radiation sources. It may cause fire.
- 6 Install it in a place with good ventilation.
- 7 Avoid aiming the camera directly towards extremely bright objects such as sun, as this may damage the image sensor.
- 8 Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
- 9 The Mains plug is used as a disconnect device and shall stay readily operable at any time.

### **Precaution**

#### Operating

- Before using, make sure power supply and all other parts are properly connected.
- While operating, if any abnormal condition or malfunction is observed, stop using the camera immediately and contact your dealer.

#### Handling

- Do not disassemble or tamper with parts inside the camera.
- Do not drop the camera or subject it to shock or vibration as this can damage the camera.
- Clean the clear dome cover with extra care. Scratches and dust can ruin the quality of the camera image.

# Safety Instructions

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- 1 Read these instructions. All safety and operating instructions should be read before installation or operation.
- 2 Keep these instructions. The safety, operating and use instructions should be retained for future reference.
- 3 Heed all warnings. All warnings on the product and in the operating instructions should be adhered to.
- 4 Follow all instructions. All operating and use instructions should be followed.
- 5 Clean only with dry cloth. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners.
- 6 Do not block any ventilation openings. Install in accordance with the manufacturer's instructions. - Slots and openings in the cabinet are provided for ventilation, to ensure reliable operation of the product, and to protect it from over-heating. The openings should never be blocked by placing the product on bed, sofa, rug or other similar surfaces. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and the manufacturer's instructions have been adhere to.
- 7 Do not install near any heat sources such as radiators, heat registers, or other apparatus (including amplifiers) that produce heat.
- 8 Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement.
- 9 Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 10 Only use attachments/accessories specified by the manufacturer.
- 11 Use only with cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 12 Unplug the apparatus during lightning storms or when unused for long periods of time.



# Overview

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This Illustra Multi-sensor Dome camera Installation and Configuration Guide is a user manual which provides physical properties, installation, and configuration information of the cameras in Table 1 on Page 9.

**Table 1 Product codes**

<b>Product Code</b>	<b>Model Name</b>	<b>Description</b>
IFS16-M10-BT03	4MP Multi-sensor Dome camera	4MP Multi-sensor Dome camera

The first portion of this guide contains information pertaining specifically to the aforementioned cameras.

The second portion of this guide contains information regarding the Illustra User Web Interface and the web configuration of the aforementioned cameras. Refer to Configuration on page 25 for procedural information pertaining to camera configuration.

## Multi-sensor Dome Camera

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This chapter provides a product overview, installation procedures for the Illustra Multi-sensor Dome camera.

### Product overview

This chapter explains the features and installation of the Illustra Multi-sensor Dome camera. Product code and description of the camera is provided in the table below.

**Table 2 Product code and description of the Illustra Multi-sensor Dome camera**

Product Code	Description
IFS16-M10-BT03	4MP Multi-sensor Dome camera

### Installation

#### In the box

Check everything in the packing box matches to the order form and the packing slip. In addition to this guide, items below are included in the packing box:

- 1 x Multi Sensor Dome and 4 x camera sensor modules
- 1 x Torx wrench
- 1 x Quick Start Guide
- 2 x Moisture absorber and absorber guide
- 1 x Test monitor cable
- 1 x Waterproof cap and Gasket

Contact your dealer if any item is missing.

#### Installation Tools

- Torx wrench
- Screw driver

---

**Note:** The camera should only be installed by a qualified installer. No user serviceable parts inside. Refer servicing to qualified personnel. Before you start or install, refer to and read all important 'Safety' related information provided in the user's manual at <https://illustracameras.com/cameras/>

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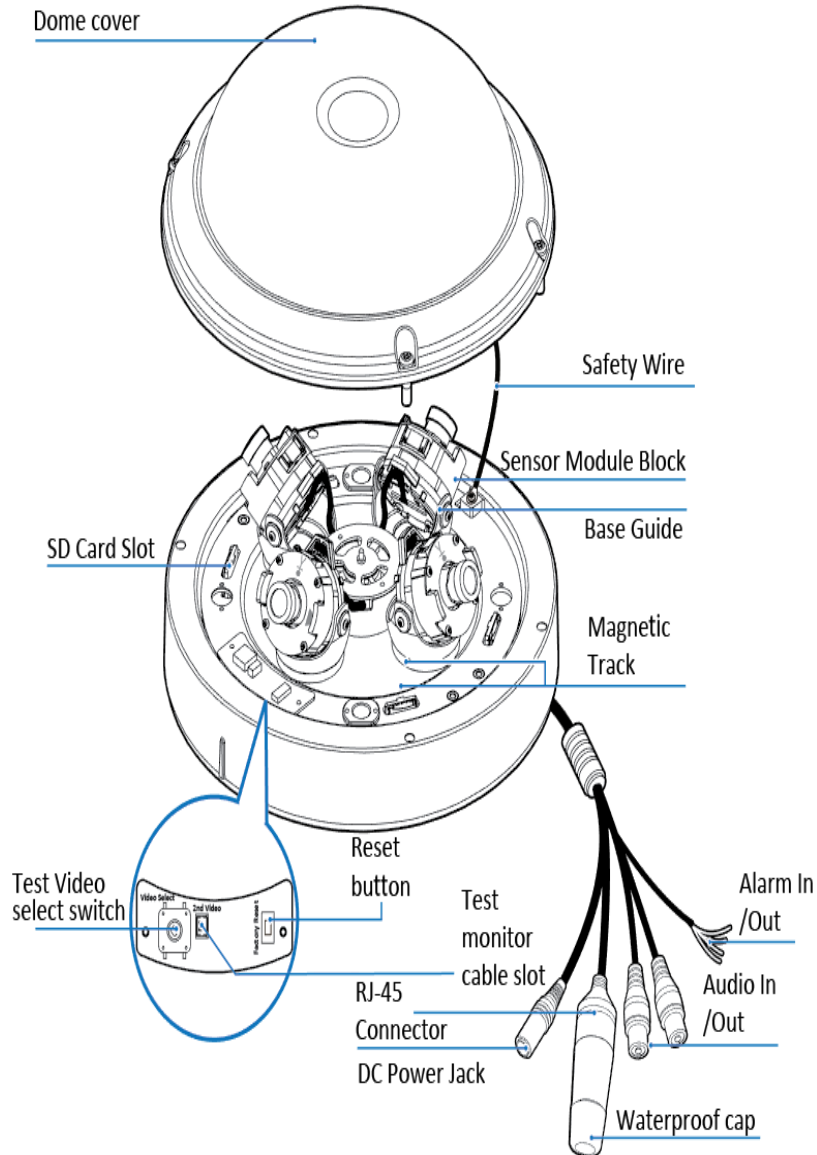
#### Quick Reference

- Default IP: 192.168.1.168 (DHCP enabled)
- Default Username / Password: admin / admin

**Note:**When you first log into the camera you must change the password. Click the 'Change Password' button and enter a new password as per the on screen password guidelines.

- Power: DC12V / PoE IEEE 802.3at PoE+

**Figure 3 Camera parts**



## Procedure 1 Camera sensor modules assembly

Step	Action
1	Use the Torx wrench to remove the four screws on the camera dome (Figure 3) and remove the dome from the camera base.
2	Take the four sensor modules out of their boxes and assemble them on to the sensor module block (Figure 4).

**Note:**First, align the sensor module block arrow guide with the base's arrow guide and gently press the sensor module into the base until it is completely seated

- End -

Figure 4 Sensor module block and base guide

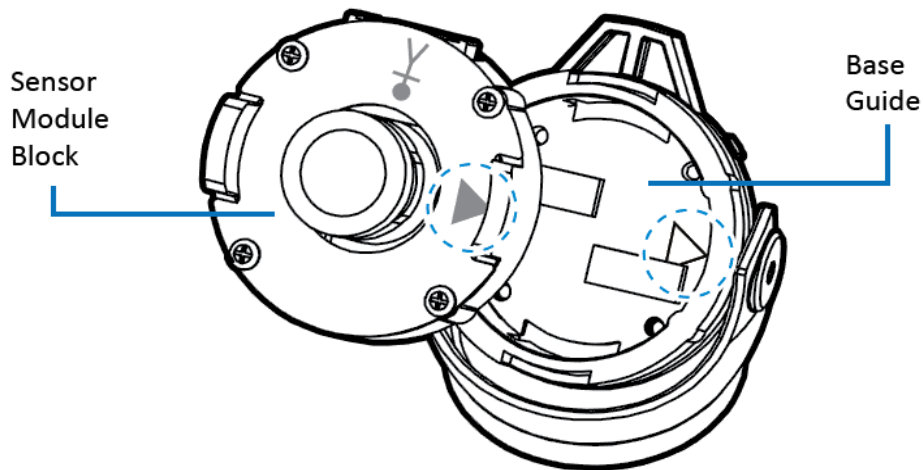
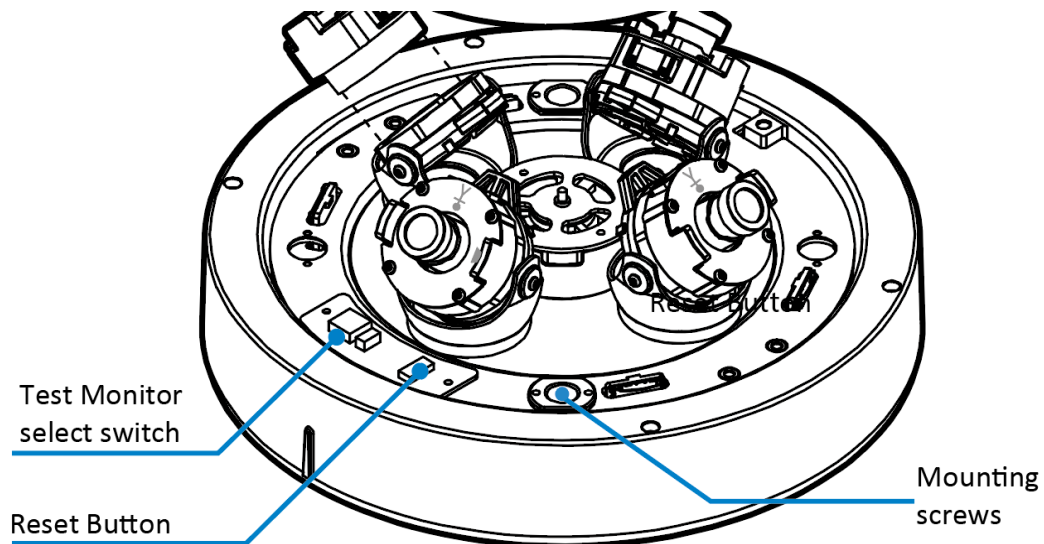


Figure 5 Camera buttons



**Reset Button:** Pressing and holding the 'Reset' button for 5 seconds returns the camera to its factory default settings.

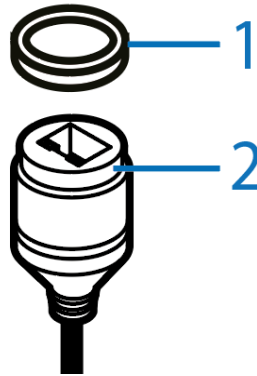
**Test Monitor Cable Port and Video Select Switch:** Connecting the Test Monitor Cable to this port and to a video monitor lets installers inspect and align each camera module. Use the 'Video Select Switch' to select the camera.

## Procedure 2 Attaching the waterproof cap seal to the LAN cable

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

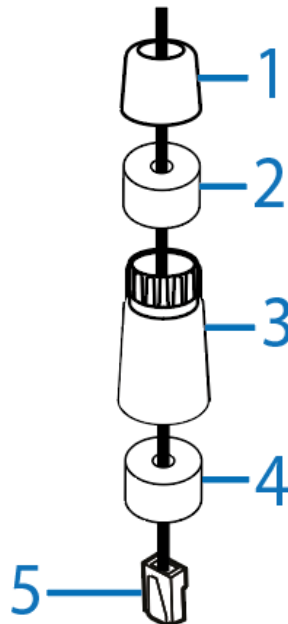
- 1 Insert the rubber gasket (1) (Figure 6) into the RJ45 pigtail connector (2) (Figure 6).

Figure 6 Rubber gasket and RJ45 cable



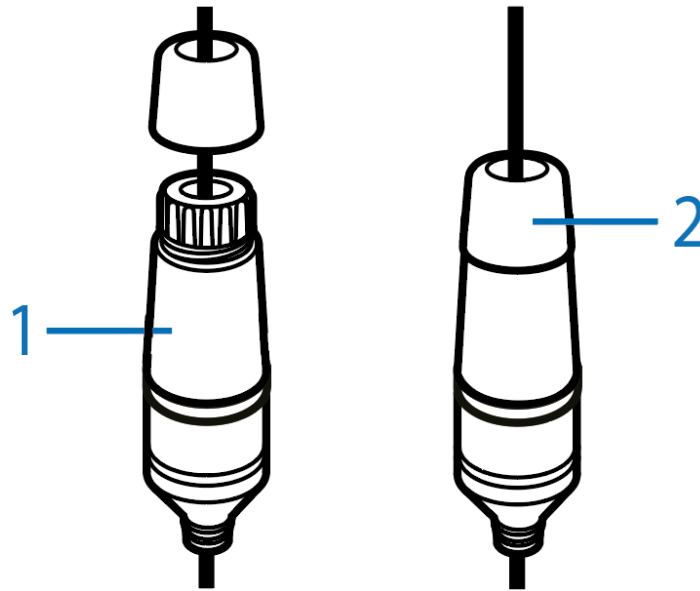
- 2 Insert the LAN cable (5) (Figure 7) through the weatherproof cap cover (1) (Figure 7), one of the rubber cable inserts (2) (Figure 7), the weatherproof cap (3) (Figure 7) and the other rubber insert (4) (Figure 7).
- 3 Insert the LAN cable into the RJ-45 connector on the camera cable.

Figure 7 Waterproof seal parts on RJ45 cable



- 4 Securely attach the waterproof cap to the RJ-45 connector by securely attaching the two parts identified in Figure 8.

**Figure 8 Waterproof cap seal**



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- End -

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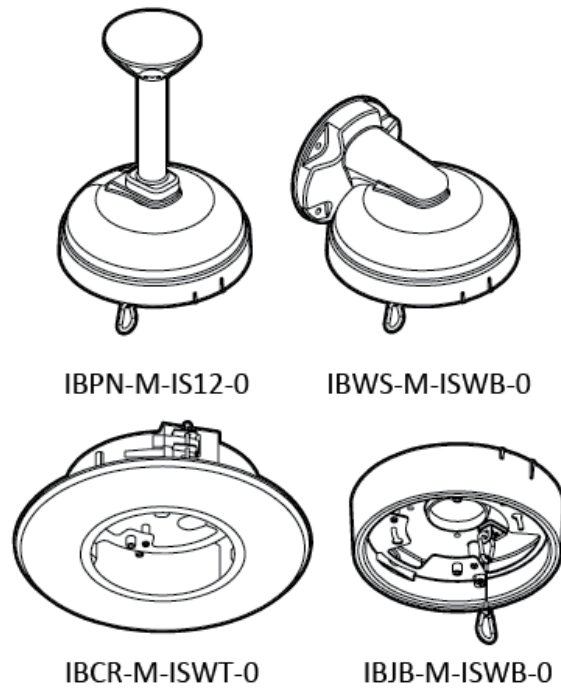
### **Procedure 3 Camera Installation**

First, attach a mounting plate or mounting arm to the surface that you want to attach the camera. See applicable mounts in the table on the next page.

**Table 9 Camera mounting accessories**

Mount Product Code	Description on label
IBPN-M-IS12-0	Flex Multi-sensor Ceiling bracket
IBWS-M-ISWB-0	Flex Multi-sensor Wall bracket
IBCR-M-ISWT-0	Flex Multi-sensor In-Ceiling bracket
IBJB-M-ISWB-0	Flex Multi-sensor Junction bracket

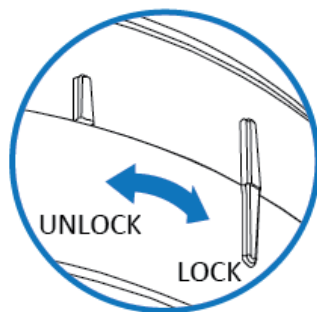
**Figure 10 Camera mounts**



Step	Action
1	To install a camera mount see the mounting Quick Start Guide at <a href="https://il-lustracameras.com/accessories/">https://il-lustracameras.com/accessories/</a>
2	Hold the camera base up to the mount and place all cables through the cable hole on the camera mount.
3	Align the two metal pins on the top of the camera base with the two holes on the mount and rotate the camera base so that the camera base sits into the mount.

**Note:** The bridge on the camera base (Figure 11) aligns with the 'lock' and 'unlock' bridges on the mount.

**Figure 11 Camera 'lock' and 'unlock' symbols**



- 4 To securely attach the camera base to the mount you must insert the two mounting screws provided with the mount into the two holes on the camera base (Figure 5).
- 5 Adjust the four camera modules (Figure 12) on to the four magnetics on the camera base to ensure the best view.

---

**Note:**Align the four camera modules as per one of the three example shown in Figure 12.

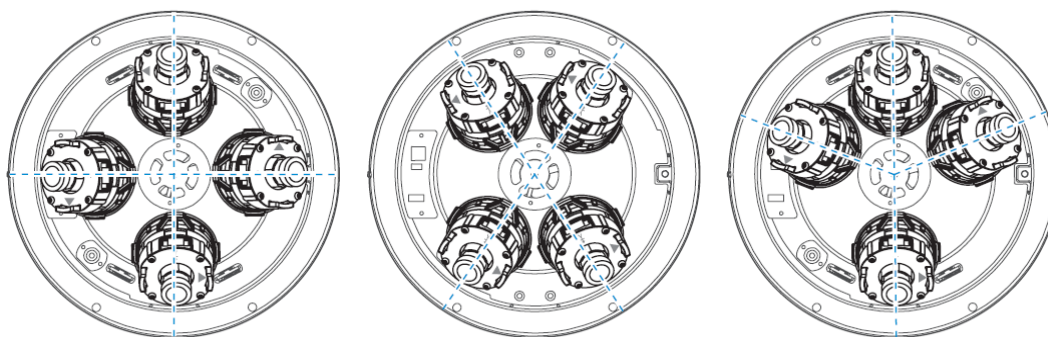
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---

**Note:**Ensure that the camera modules are level with the dome and that the base guide is resting flat on the magnetic track.

---

**Figure 12 Camera modules alignment**



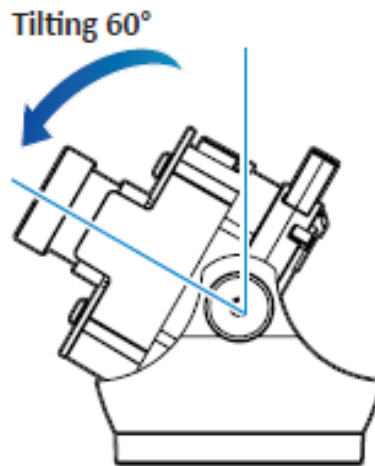
---

**Note:**Ensure that the camera module angle does not exceed 60 degrees. See Figure 13.

---



**Figure 13 Camera module angle**



- 6 Use the Torx wrench to securely attach the dome cover to the camera base.
- 7 Remove the outer protective film from the dome cover to complete the installation.

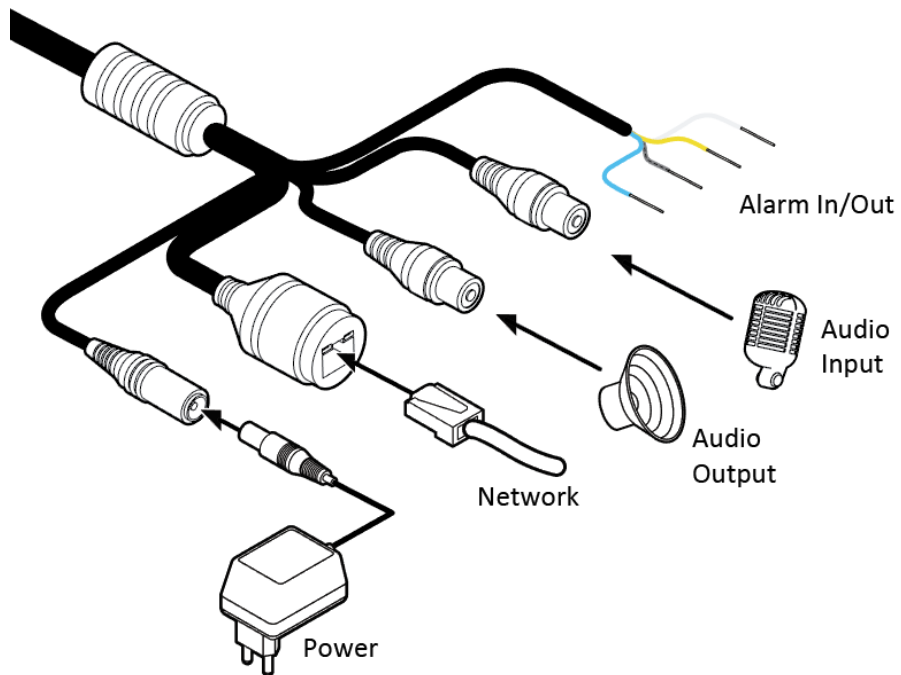
**- End -**

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### Camera cable port connections

See the camera cable port connections in Figure 14.

**Figure 14 Cable ports**



### Camera cable port descriptions

- 1 Power: Connect the DC12V power cable to the power cable port on the camera.
- 1 'OR'
- 1 Network: Connect the camera's network cable to an 802.3at PoE+ switch.
- 2 Audio Output: Connect the audio output device cable to the 'Audio Output' camera cable port on the camera.
- 3 Audio Input: Connect the audio input device cable to the 'Audio Input' camera cable port on the camera.
- 4 Alarm Output: Connect the alarm output device cable to the blue and grey cables on the camera 'Alarm/Out' cable.
- 5 5. Alarm Input: Connect the alarm input device cable to the yellow and white cables on the camera 'Alarm/In' cable.

### Web GUI

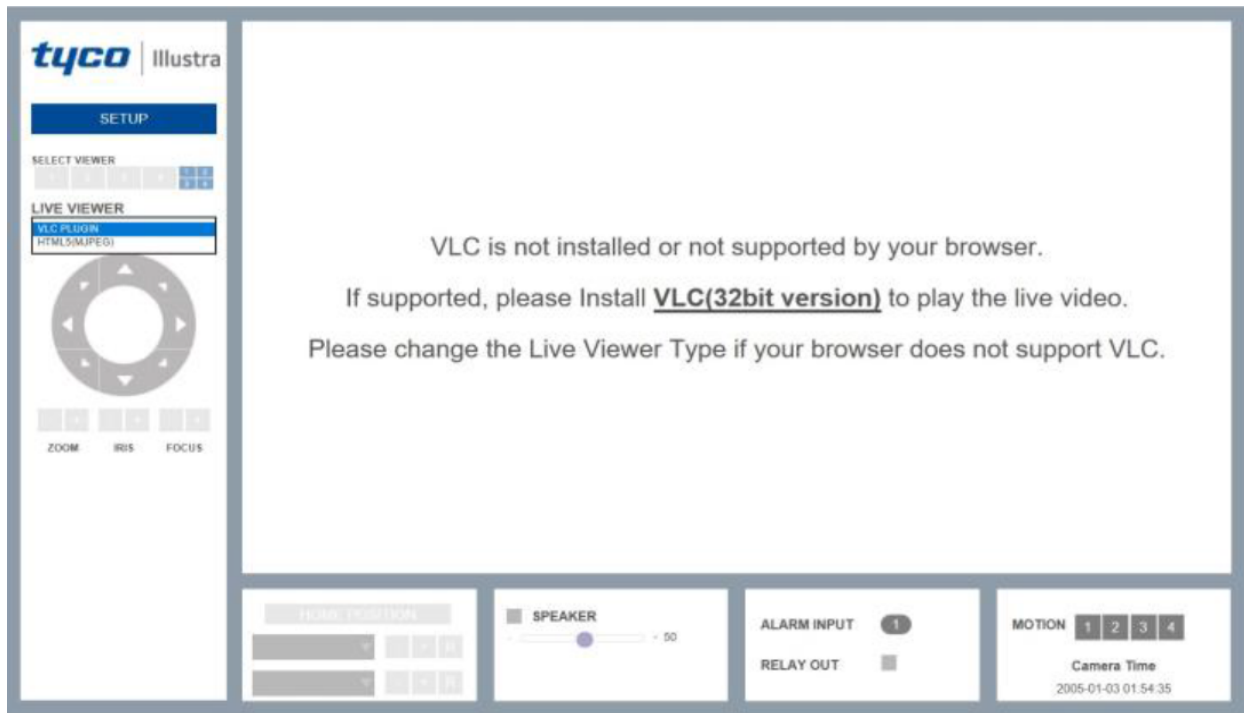
**Note:** Use IE10 (or above) or Chrome to access the camera web GUI. See the web GUI screen layout in Figure 15 and their descriptions below.

Figure 15 Web GUI screen-shot



- 1 **Live video display** – This is the cameras live video stream.
- 2 **Setup button** – Provides access to the configuration GUI. (E.g. Video/Network/Events/Records/Security Configurations).
- 3 **Select Viewer** – Select individual video streams or Quad (VLC plug-in only).
- 4 **Live Viewer** – Select one option: VLC plug-in or HTML (MJPEG). See Figure 16.

Figure 16 Live Viewer option screen-shot



- 5 **Channel Select button** – VLC Plug-in only: Selects one of three camera streams for web GUI display. Note: Each sensor supports up to three streams.
- 6 **Camera Controls:**
  - PTZ Control / Preset – Not supported in web GUI.
  - Speaker Control and MIC – Supported.
  - Alarm Input / Relay Out – Supported.
- 7 **Motion** – Motion Detection indicator.
- 8 **Camera Time** – Displays the camera time.

# Network Topology

The Illustra Multi-sensor camera delivers video images and audio in real-time using the internet and intranet. It is equipped with an Ethernet RJ-45 network interface.

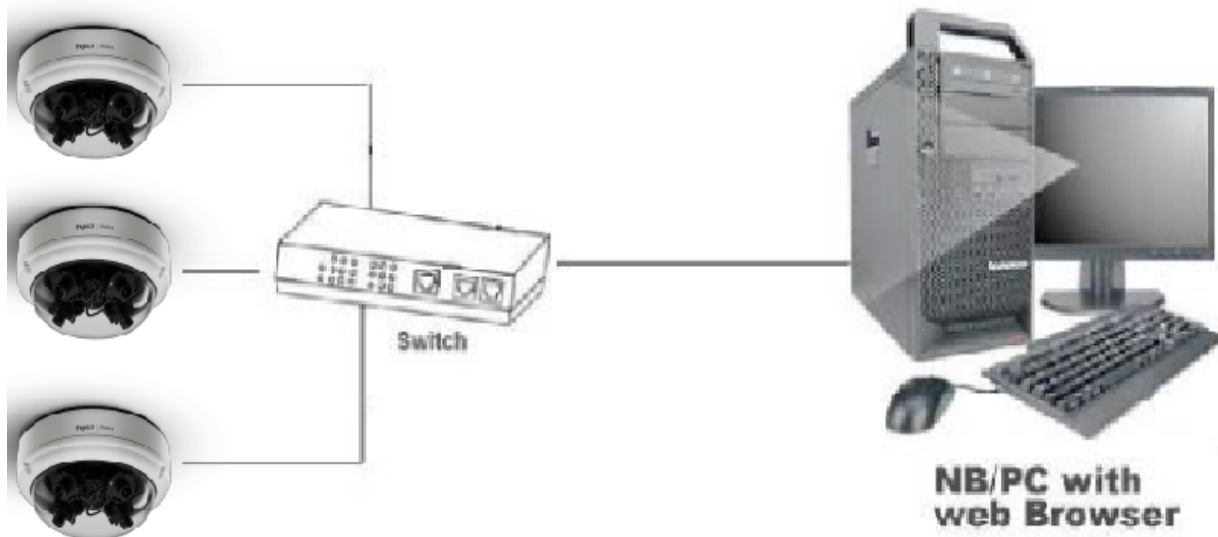
The following images illustrate the network topologies of the camera.

## Illustra Multi-sensor Camera Topology

Figure 17 Illustra Multi-sensor camera Network Topology Type I.



Figure 18 Illustra Multi-sensor cameras Network Topology Type II



**Note:** Please check your server specification for camera connection limits.

# Network Connection

## Default IP Address

Since this is a network-based unit, an IP address must be assigned at the very first bootup. The default IP address of the unit is 192.168.1.168 and sub mask is 255.255.255.0.

However, if you have a DHCP server in your network, the unit obtains an IP address automatically from the DHCP server so that you do not need to change the IP address of the camera.

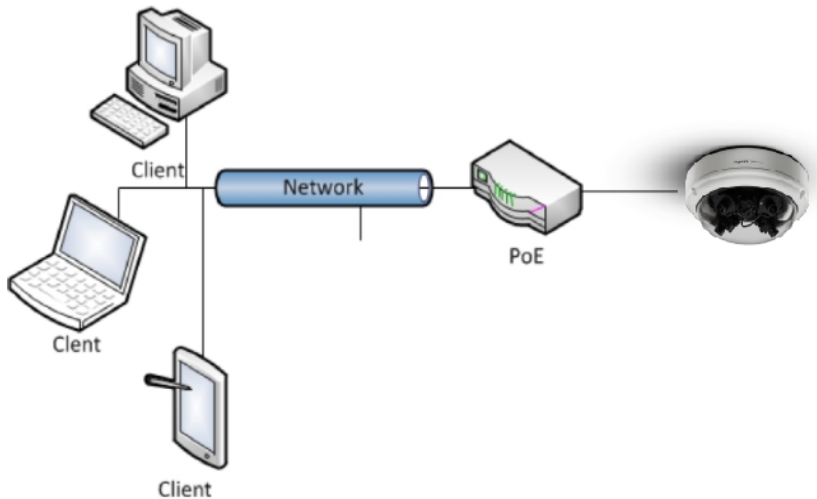
---

**Note:** If you assign the camera 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 it connects to a DHCP server.

---

- Connect to a PC directly: Directly connect the camera to a PC using a standard Ethernet cable. This requires PoE switch or injector.
- Connecting a camera to a Local Area Network (LAN): To add the camera to an existing LAN, connect the camera to the PoE hub or switch on your network.

Figure 19 Network connection diagram



## Default camera settings

The following table describes the default camera settings.

Network Settings	Defaults
DHCP	Enabled
Static IP Address	192.168.1.168
Default Username	admin
Default Password	admin

## Procedure 4 Connecting from a computer

Step	Action
1	Ensure the camera and your computer are in the same subnet.
2	Check if the network is available between the unit and the computer by pinging the default IP address. <ol style="list-style-type: none"> <li>a Start a command prompt.</li> <li>b Type "Ping 192.168.1.168". If the message "Reply from..." appears, it means the connection is available.</li> </ol>
3	Start Internet Explorer and enter IP address: 192.168.1.168. A login window appears. In the window, enter the default user name: admin and password: admin to log in.

---

- End -

## 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 5 Enable DHCP

Step	Action
1	Select <b>Setup</b> on the Web User Interface banner to display the setup menus.
2	Select the <b>TCP/IP</b> tab in the <b>Basic Configuration</b> menu.
3	Select the <b>Enable DHCP</b> check box to enable DHCP and disable manual settings.
4	Select <b>Apply</b> to save the settings.

The camera searches for a DHCP server. If one is found it connects to that server. 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.

---

**Note:** If you assign the camera 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 it connects to a DHCP server.

---

- End -

### Procedure 6 Disable DHCP

Step	Action
1	Select <b>Setup</b> on the Web User Interface banner to display the setup menus.
2	Select the <b>TCP/IP</b> tab in the <b>Basic Configuration</b> menu.
3	Clear the <b>Enable DHCP</b> check box 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 -

---

## Procedure 7 Connecting to the camera using the static IP address

Step	Action
1	The camera attempts to obtain an IP Address from the DHCP Server. When no DHCP Server is available the camera is assigned a Static IP address of 192.168.1.168.
2	Open Microsoft Internet Explorer and enter the URL of the camera as 192.168.1.168. The camera sign in page displays.

**Note:**

The computer you use to configure the camera must have an IP address on the same subnet.

---

- End -

---

## Procedure 8 Logging on to the camera web user interface

Step	Action
1	When you select the camera, the sign in page displays. Select your preferred language from the drop-down menu.
2	Enter the username in the <b>Username</b> text box. The default username is admin.
3	Enter the password in the <b>Password</b> text box. The default password is admin.
4	Select <b>Log in</b> .

**Note:** The first time that you access the camera or after a factory reset the following pop up window is visible: A pop up window that requests the user to **Define a Host ID**. Please refer to the Release Notes for further information on this.

- 5 The Live view page is visible. This displays the current view of the camera.

---

- End -

---

## Procedure 9 Enabling the correct video orientation for a wall mounted camera

Step	Action
1	Log on to the camera web user interface.
2	Select <b>Setup</b> on the camera web user interface banner to display the setup menus.
3	Select the <b>Picture Basic</b> tab from the <b>Basic Configuration</b> menu.
4	Select the required <b>Orientation</b> setting:

- **Mirror**

- **Flip**

5 The video pane updates to display the new settings.

---

- End -

---



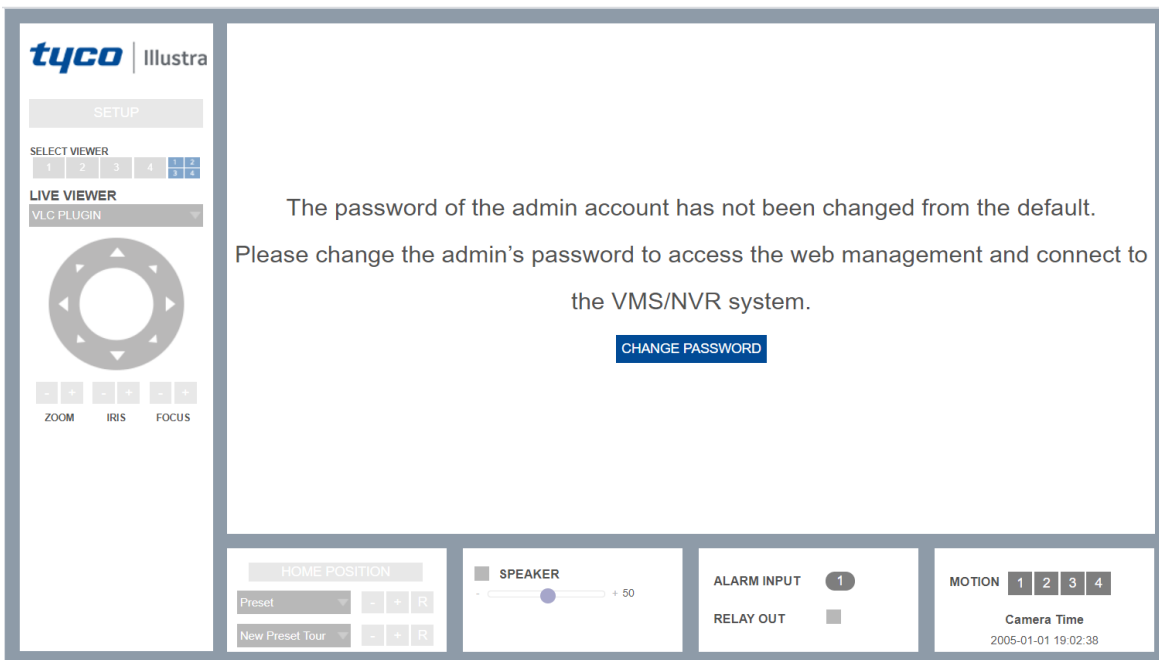
# Configuration

The following sections explain the how you can configure Illustra Multi-sensor Dome camera using the Web User Interface.

## Web GUI Screen layout

### Logging into the web GUI for the first time

Figure 20 Web GUI first time log on screen



A password change is required at initial connection in factory reset state.

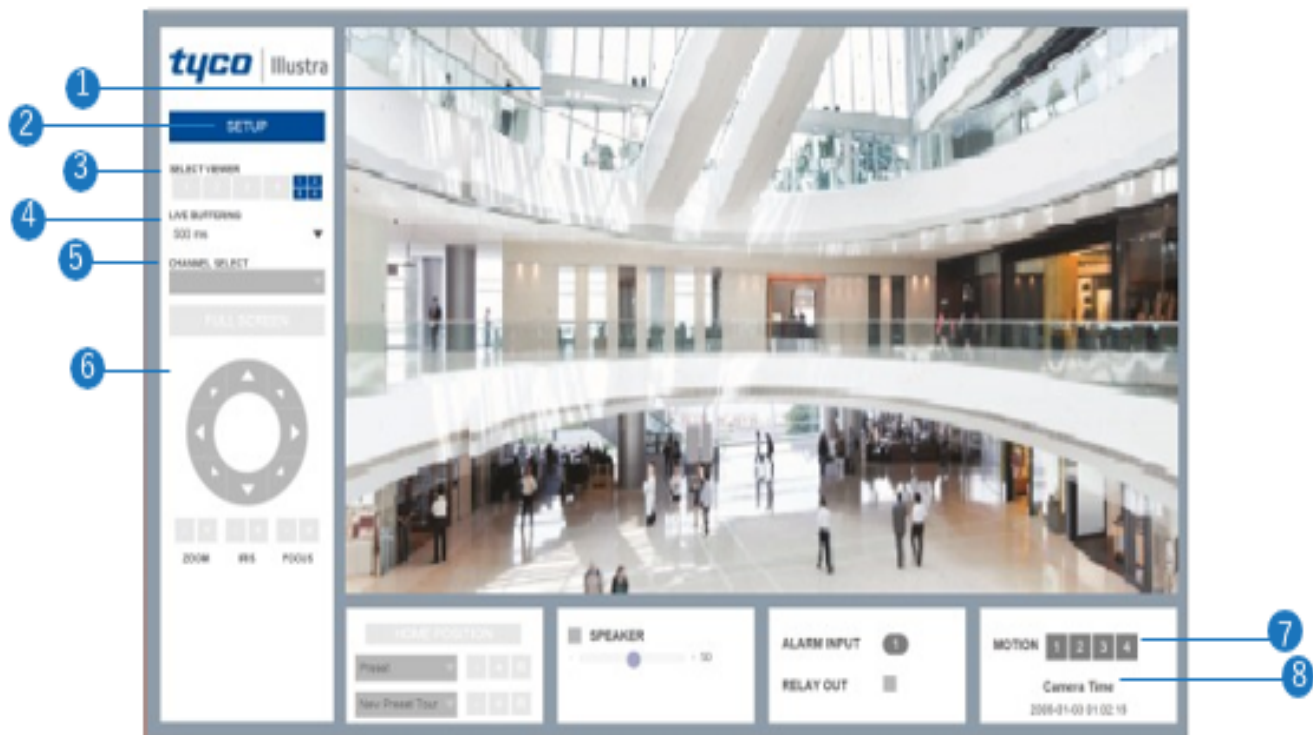
**Note:** You can not see the image, and the Setup button is disabled.

- 1 Change the password with the **CHANGE PASSWORD** button.
- 2 After changing the password, you must log in again by selecting the **RE-LOGIN** button.

## Web GUI screen layout

Web GUI camera configuration options

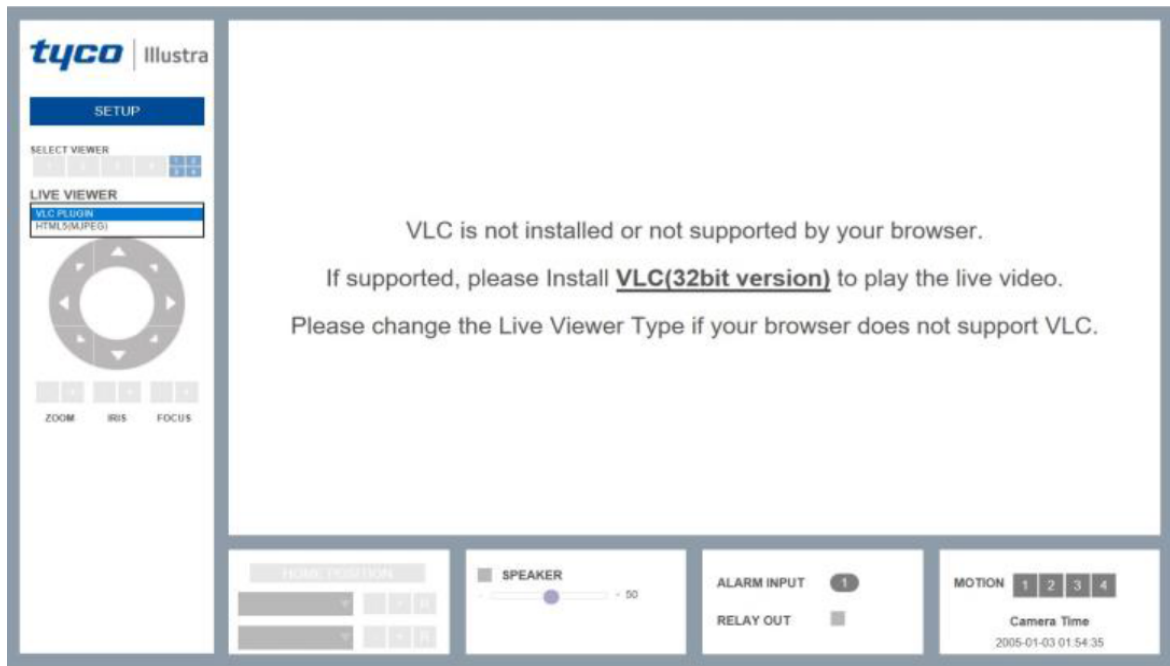
Figure 21 Web viewer screen layout



Use IE 10 (or above) or Chrome to access the camera web GUI. See the web GUI screen layout in Figure 18 and their descriptions below.

- 1 Live video display – This is the cameras live video stream.
- 2 Setup button – Provides access to the configuration GUI. (E.g. Video/Network/Events/Records/Security Configurations).
- 3 Select Viewer – Select individual video streams or Quad (VLC plug-in only).
- 4 Live Viewer – Select one option: VLC plug-in or HTML (MJPEG). See Figure 18.

Figure 22 Live View options



- 5 Channel Select button – VLC Plug-in only: Selects one of three camera streams for web GUI display. Note: Each sensor supports up to three streams.
- 6 Camera Controls:
  - **PTZ Control / Preset** – Not supported in web GUI.
  - **Speaker Control and MIC** – Supported.
  - **Alarm Input / Relay Out** - Supported.
- 7 **Motion** – Motion Detection indicator.
- 8 **Camera Time** - Displays the camera time.

## Video and Audio

### Video Configuration screen layout

Figure 23 Video configuration GUI layout

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### VIDEO CONFIGURATION

VIN Source: Video 1

Stream	Codec	Description
<input checked="" type="radio"/> 1	H.264	channel1_1
<input type="radio"/> 2	H.264	channel1_2
<input type="radio"/> 3	M-JPEG	channel1_3

**Codec**

Codec: H.264

Description: channel1\_1

Resolution: 2560x1440

Frame Rate(FPS): 30

GOP: 30 [ 1 ~ 120 ]

Profile: High

Bitrate Mode: CBR

Target Bitrate: 5120 [ 100Kbps ~ 10Mbps ]

Quality: 5 [ 1 ~ 10 ]

Smart Bitrate Control: Off

Extension Option: Off

Apply Apply All

- VIN Source** - Select the Video 1 ~ Video 4 and set the video setup.  
Click 'Apply' to set the other video settings.
- Stream** - Live Video Channel Set. The video can be configured to variety settings with a combination of codec and resolution.  
  
The camera performance has to be considered when setting multiple channels. This effects the performance of the camera.
- Codec** - Choose the video codec. According to the selected codec, the subcategories can change automatically.

- 4 **Description** - Input the additional description about the selected channel. A Maximum 30 characters are allowed (Including spaces).

For the description, English Alphabets, numbers and special characters ( - \_ @ . ) can be used.

- 5 **Resolution** - Select the video resolution.

Available resolution depends on the codec setup between the channels.

#### Resolution of Video Format

	4M	3M	1080pi	720pi	SVGA	VGA	4CIF	CIF
<b>NTSC</b>	2560x1440	2034x1296	1920x1080	1280x720	800x600	640x480	704x576 704x480	352x288 352x240
<b>PAL</b>	2560x1440	2304x1296	1920x1080	1280x720	800x600	640x480	704x576 704x480	352x288 352x240

- 6 **Frame Rate** - Select the maximum Frame Rate.

Available frame rate can be different depending on the selected code.

- 7 **GOP(Group of Pictures) Size** - Set up the number of frames (P-frame) which contain only changed information based on basic frame (I-frame). Regarding videos with lots of movement, if you increase the GOP size, only the number of P-frames is bigger.

As a result, video resolution will be low but 'file size' and 'Bit-rate can be decreased.

GOP(Group of Pictures) Size is: I-frame and P-frame can be created for MPEG4 and H.264 video compression. I-frame(=key-frame) means the whole image data for one specific scene of video. P-frame is image data which has changed information compared to I-frame. GOP is made up of one I-frame and corresponding several P-frames. To improve video quality, set the number of P-frames smaller and to decrease image size, set the number of P-frames bigger.

- 8 **Profile** - The profile defines the subset of bit stream features in H.264 stream, including color reproduction and additional video compression.

- Baseline - A simple profile with a low compression ratio. The Baseline profile supports I-frames and P-frames.
- Main - An intermediate profile with a medium compression ratio. The main profile supports I-frames, P-frames and B-frames.
- High - A complex profile with a high compression ratio. The high profile supports I-frames, P-frames and B-frames.

- 9 **Smart Bitrate Control**

- Off - You can not use the Smart Bitrate Control function.
- CVBR (Framerate priority) - This mode is for cameras which do not want any frame drop, but still want to get a lower biterate. This option is limited when target bitrate is set to low but the actual motion is high or the scene is very noisy.
- CVBR (Quality priority) - When the target bitrate is set and the motion is high then the LBR will try to drop frames and ensure that the final FPS is lower.
- CBR - This mode is similar to the traditional security IPCAM.

10 **Bitrate Mode** - Select the bit rate control scheme of video compression from CBR (Constant Bit Rate) or VBR (Variable Bit Rate).

- CBR - To guarantee the designated constant bit rate, the quality of video is controlled in this mode. Therefore, the quality of video is likely to vary when network traffic is changing.
- VBR - To guarantee the designated quality, the bit rate of video is changed in this mode. Therefore, the frame rate is likely to vary when network traffic is changing.

This category isn't available if you select the codec.

11 **Target Bitrate** - If Bitrate Control is set to be CBR, you can set the Target Bitrate.

12 **Extension Option**

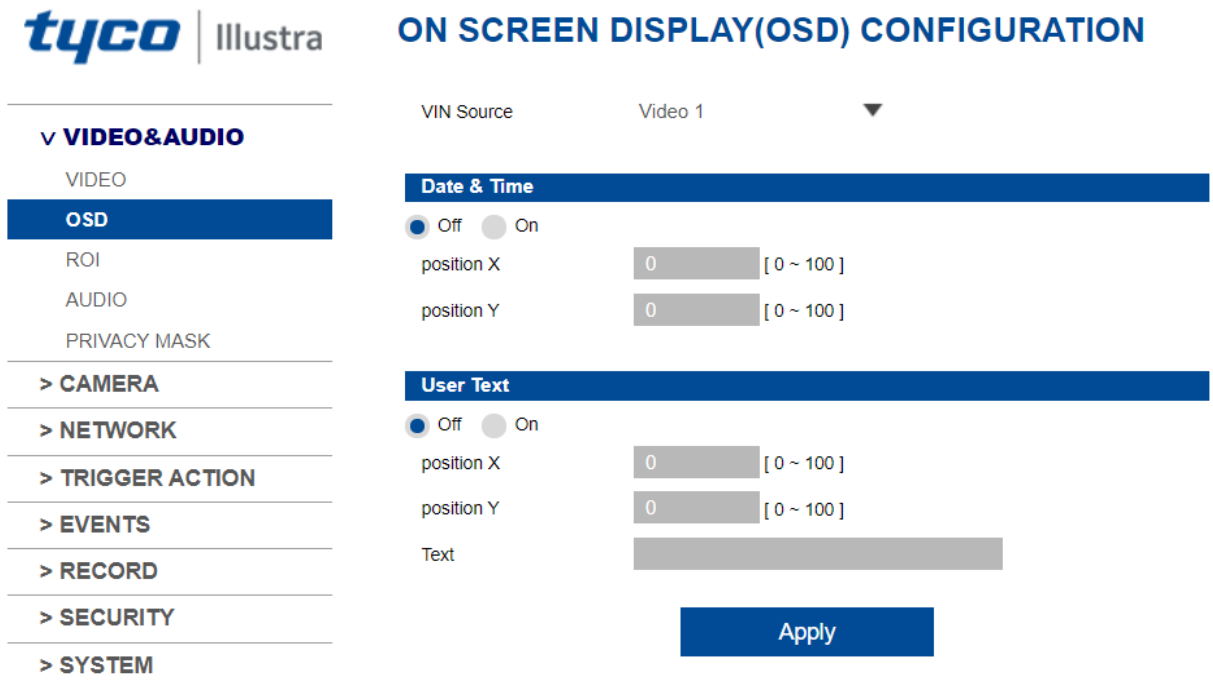
- Off - This option is not available.
- SVC-T - The H.264 SVC (Scalable Video Coding) is a video compression algorithm that enables effective and efficient transmission of video files over low bandwidth networks.

13 **Quality** - For VBR control mode, The Target Quality of video can be setup.

Click '**Apply**' to save the settings.

# On Screen Display (OSD) Configuration

Figure 24 OSD Configuration GUI layout



- 1 **VIN Source** - Select the Video 1 ~ Video 4 and set the video setup.  
Click '**Apply**' to set the other video setting.
- 2 **Date / Time** - Display the current time.
- 3 **User Text** - Output the TEXT entered by the user. Support a maximum of 30 characters.
- 4 Click '**Apply**' to make above setting effective.

## Region of Interest (ROI) Configuration

Figure 25 Region of interest configuration GUI layout

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**REGION OF INTEREST CONFIGURATION**

v VIDEO & AUDIO  
 VIDEO  
 OSD  
**ROI**  
 AUDIO  
 PRIVACY MASK

> CAMERA  
 > NETWORK  
 > TRIGGER ACTION  
 > EVENTS  
 > RECORD  
 > SECURITY  
 > SYSTEM

VIN Source: Video 2  
 Stream: Main Stream  
 Activation: Disable  
 Quality: - [Slider] + 50%

Save Cancel

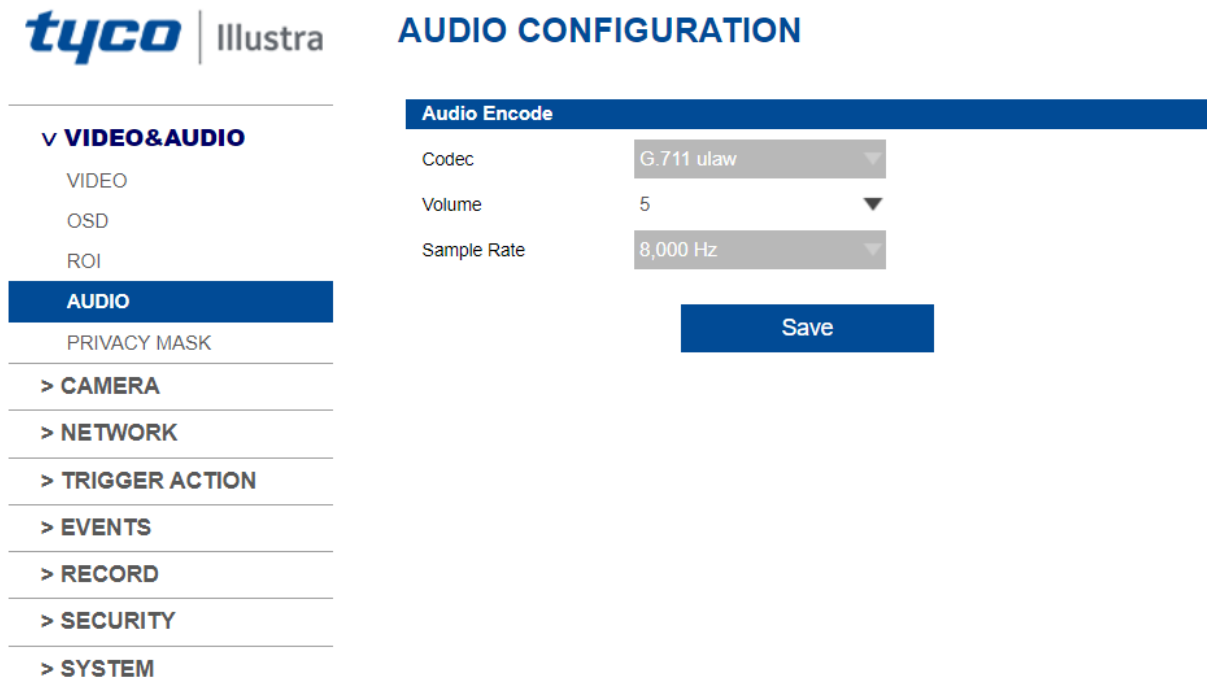
Region of interest function gives much more efficiency picture quality for indicated area to improve picture qualities of movement scene at the same bandwidth.

- 1 **VIN Source** - Select the Video 1 ~ Video 4 and set the video setup.  
Click 'Save' to set the other video setting.
- 2 **Stream** - Select the Stream.  
Currently it supports only H.264.  
The function is not supported in MJPEG codec.
- 3 **Activation** - The Region of interest can be enabled or disabled.
- 4 **Quality** - Set the quality of the set area.
- 5 Click 'Save' to save the current settings.  
Click 'Cancel' to return to the previous setting.



## Audio Configuration

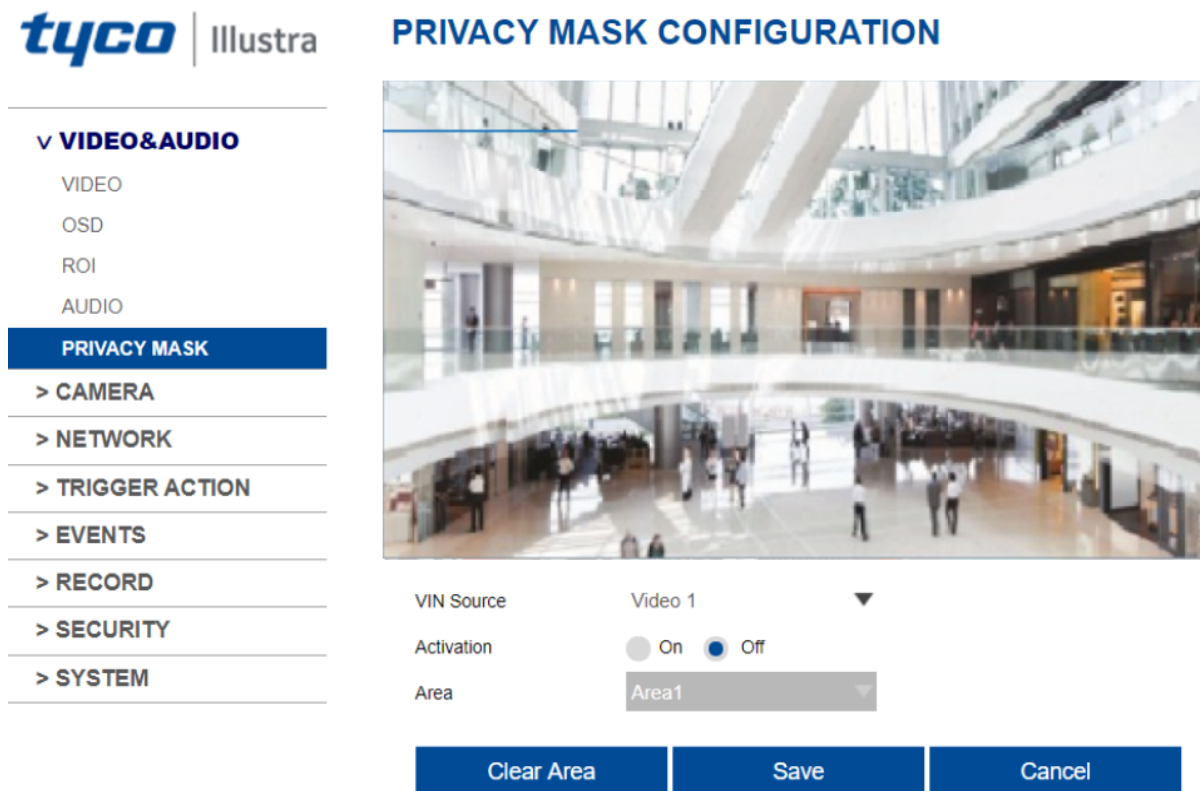
Figure 26 Audion Configuration GUI layout



- 1 **Codec** - Select the Audio Codec.  
Currently it supports only codec G.711.
- 2 **Volume** - Select the Audio Volume from 0 to 10.
- 3 **Sample Rate** - Select the Audio Sample Rate.  
Currently it supports only 8000 Hz.
- 4 Click '**Save**' to make above setting effective.

## Privacy Mask Configuration

Figure 27 Privacy mask configuration GUI layout



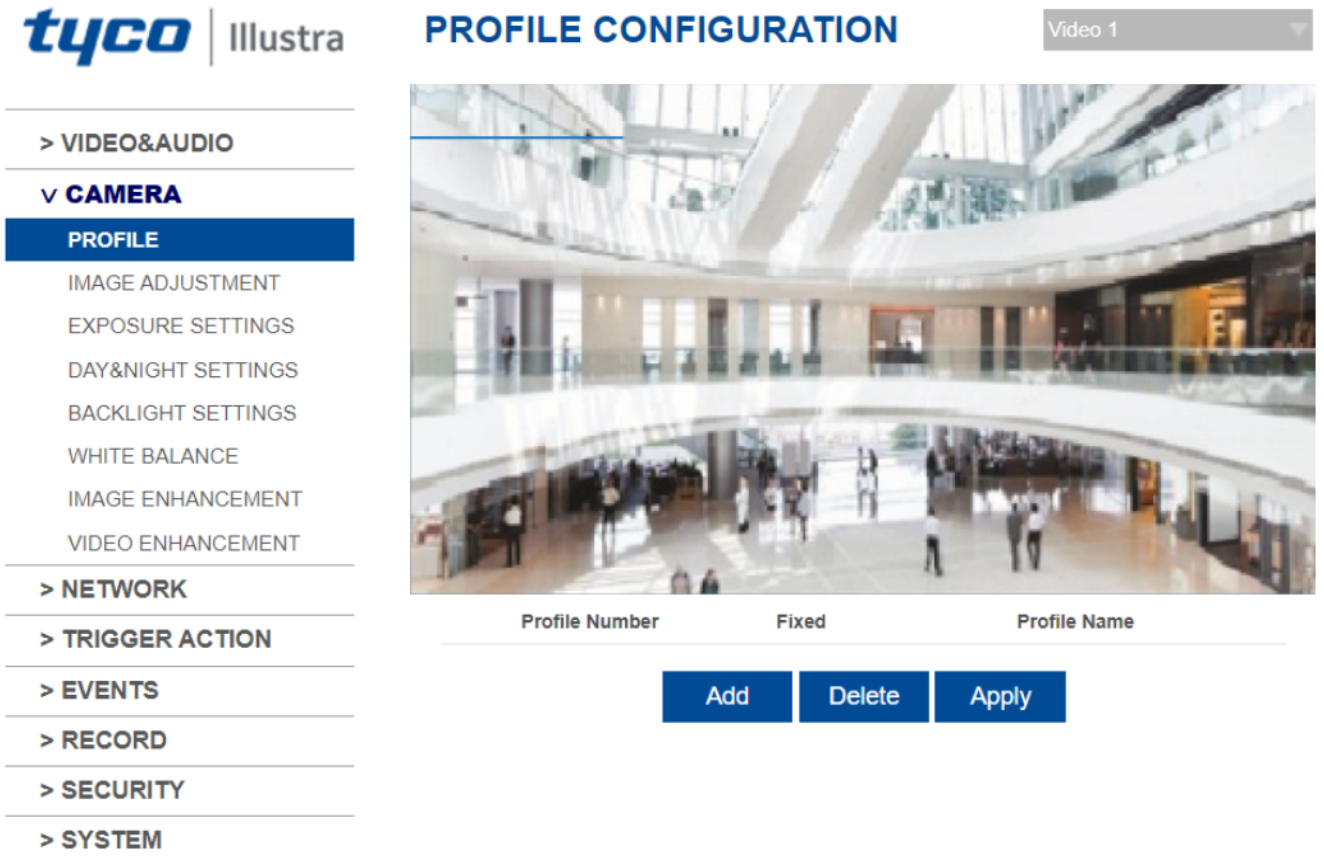
Use this function to mask areas that you want to hide on screen to protect privacy.

- 1 **VIN Source** - Select the Video 1 ~ Video 4 and set the video setup.  
Click 'Save' to set the other video setting.
- 2 **Activation** - The Privacy mask function can be enabled or disabled.
- 3 **Area** - Select the Area1 ~ Area16 and set the privacy area.
- 4 Click '**Save**' to save the current settings.  
Click '**Cancel**' to return to the previous setting.  
Click '**Clear Area**' to delete the selected Area1~Area16.

# Camera Setup

## Profile Configuration

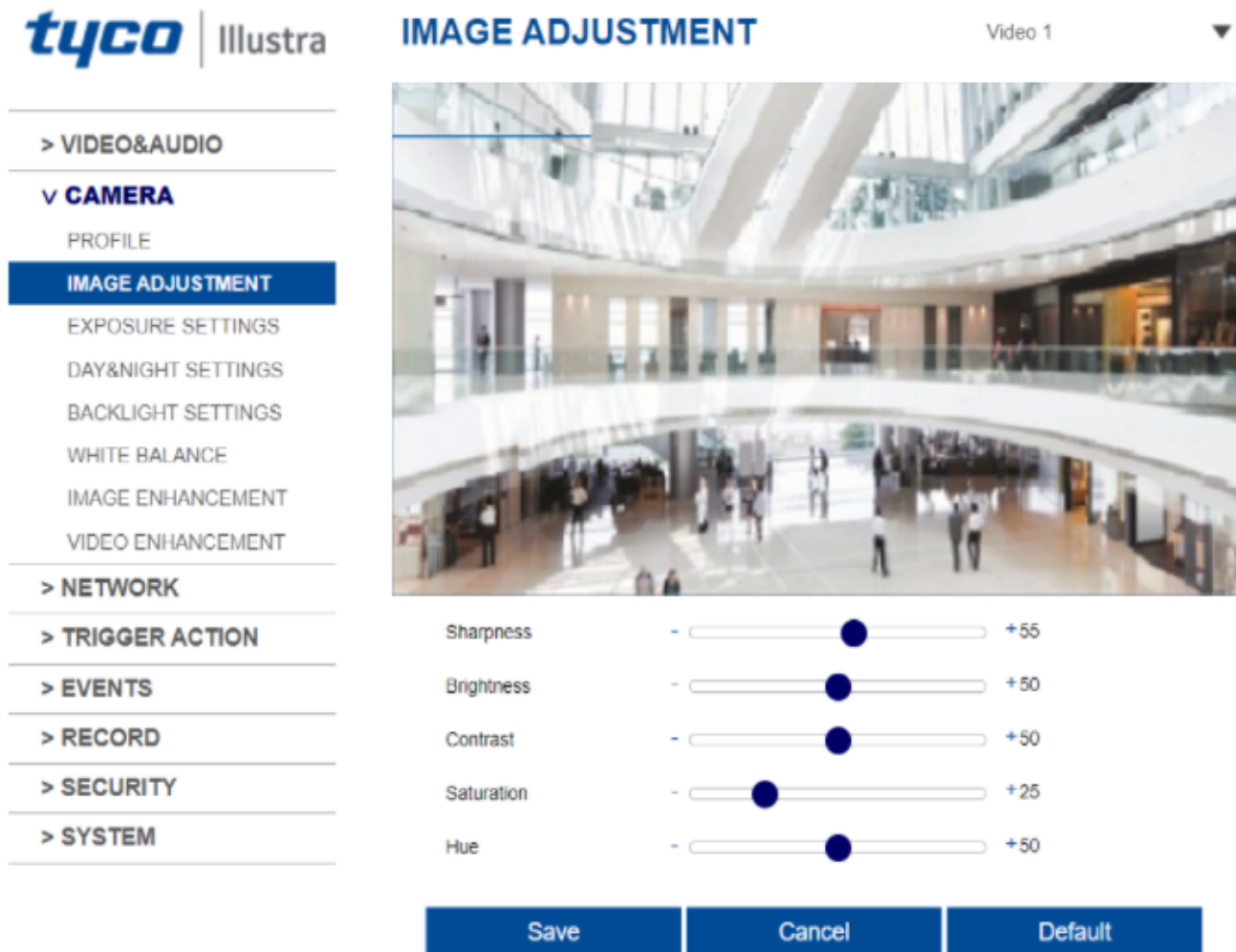
Figure 28 Profile Configuration GUI layout



- 1 **Profile List** - Displays the profile information.
- 2 Click '**Add**' to add the profile stored the current camera settings.  
Click '**Delete**' to delete selected item from the profile list.  
Click '**Apply**' to apply selected item from the profile list.

## Camera image adjustment

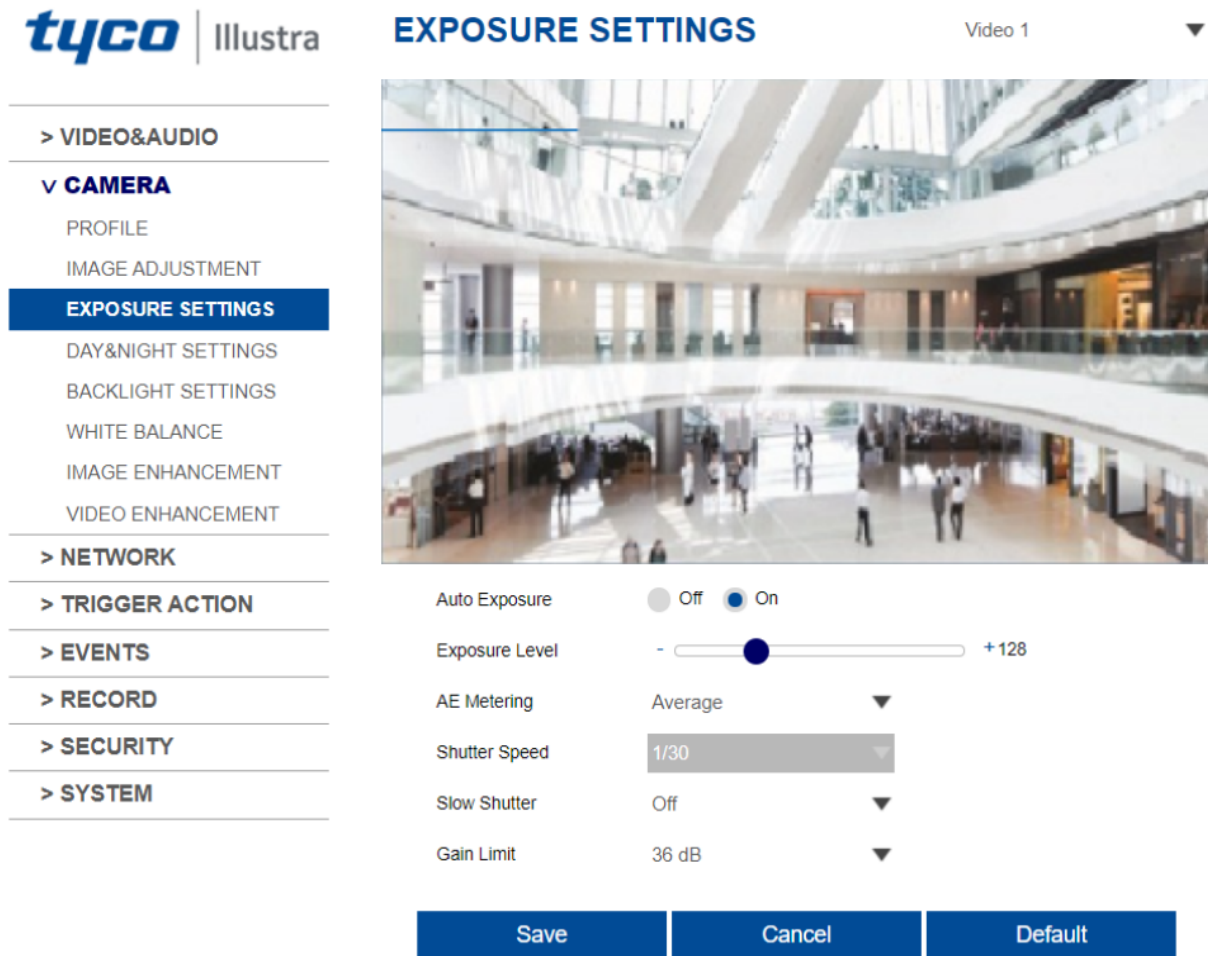
Figure 29 Camera image adjustment GUI layout



- 1 Select the Video 1 ~ Video 4 and set the video setup.  
Click **'Save'** to set the other video setting.
- 2 **Sharpness** - Using this control, sharpness of image can be adjusted to meet your preference.
- 3 **Brightness** - Using this control, brightness of image can be adjusted to meet your preference.
- 4 **Contrast** - Using this control, contrast of image can be adjusted to meet your preference.
- 5 **Saturation** - Using this control, Saturation of image can be adjusted to meet your preference.
- 6 **Hue** - Using this control, Hue of image can be adjusted to meet your preference.
- 7 Click **'Save'** to save the current settings.  
Click **'Cancel'** to return to the previous setting.  
Click **'Default'** to settings to the factory defaults.

## Camera exposure settings

Figure 30 Camera exposure settings GUI layout



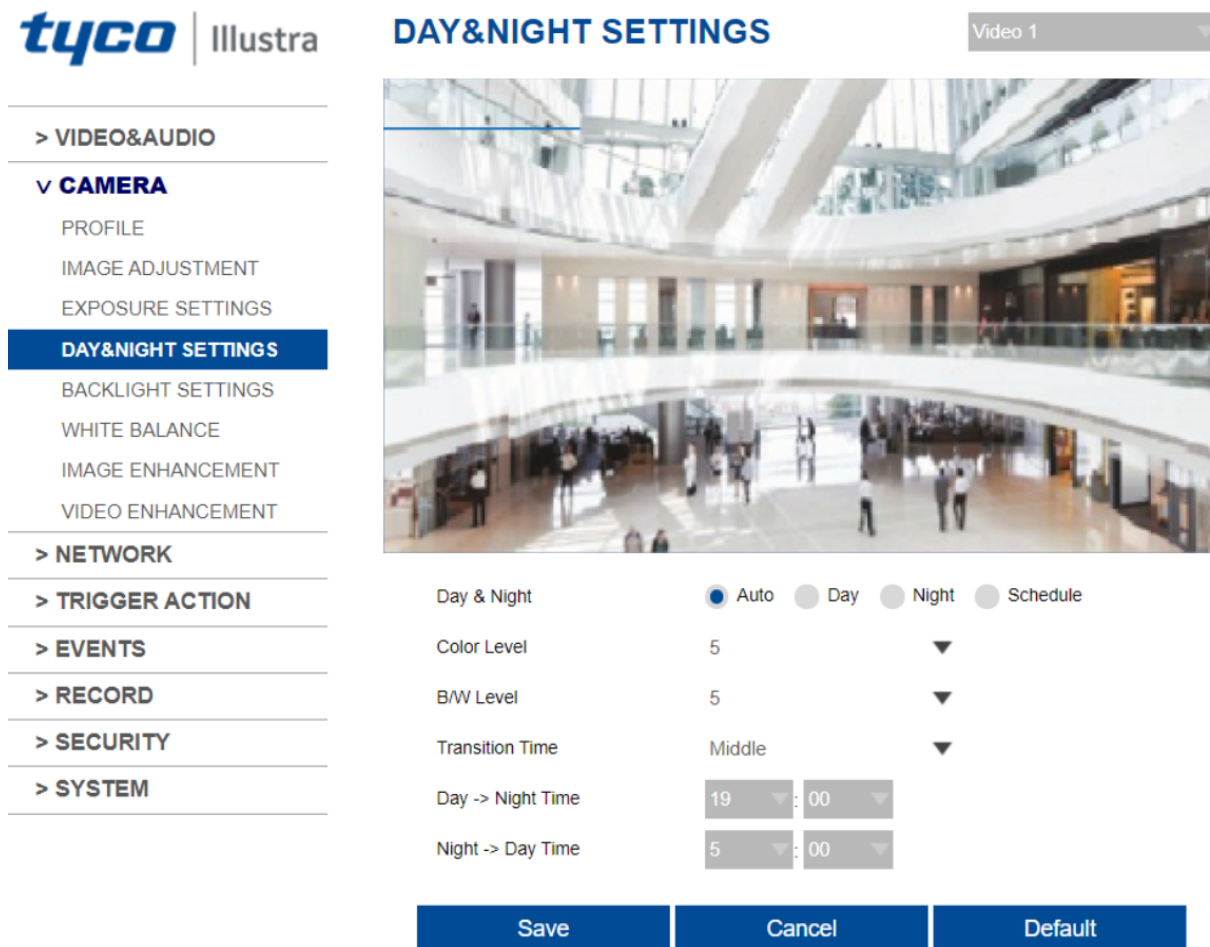
- 1 Select the Video 1 ~ Video 4 and set the video setup.  
Click 'Save' to set the other video setting.
- 2 **Auto Exposure** - Automatic exposure(AE) automatically sets the aperture or shutter speed, based on the external lighting conditions for the photo.
- 3 **Exposure Level** - If this value is increases, the image becomes brighter.
- 4 **AE metering** - AE metering mode refers to the way in which a camera determines the exposure.
- 5 **Shutter Speed** - If this speed is faster, the moving object can be photographed without the ghost effect.  
However, picture can be dark if there is no sufficient lighting.
- 6 **Slow Shutter Level** - Slow shutter Level lets you adjust the amount of light striking the sensor, and essentially determines when the video sensor sends out its batch of data for processing.
- 7 **Gain Limit** - The smaller number makes the darker image.
- 8 Click '**Save**' to save the current settings.

Click '**Cancel**' to return to the previous setting.

Click '**Default**' to settings to the factory defaults.

## Camera day and night settings

Figure 31 Camera day and night settings GUI layout



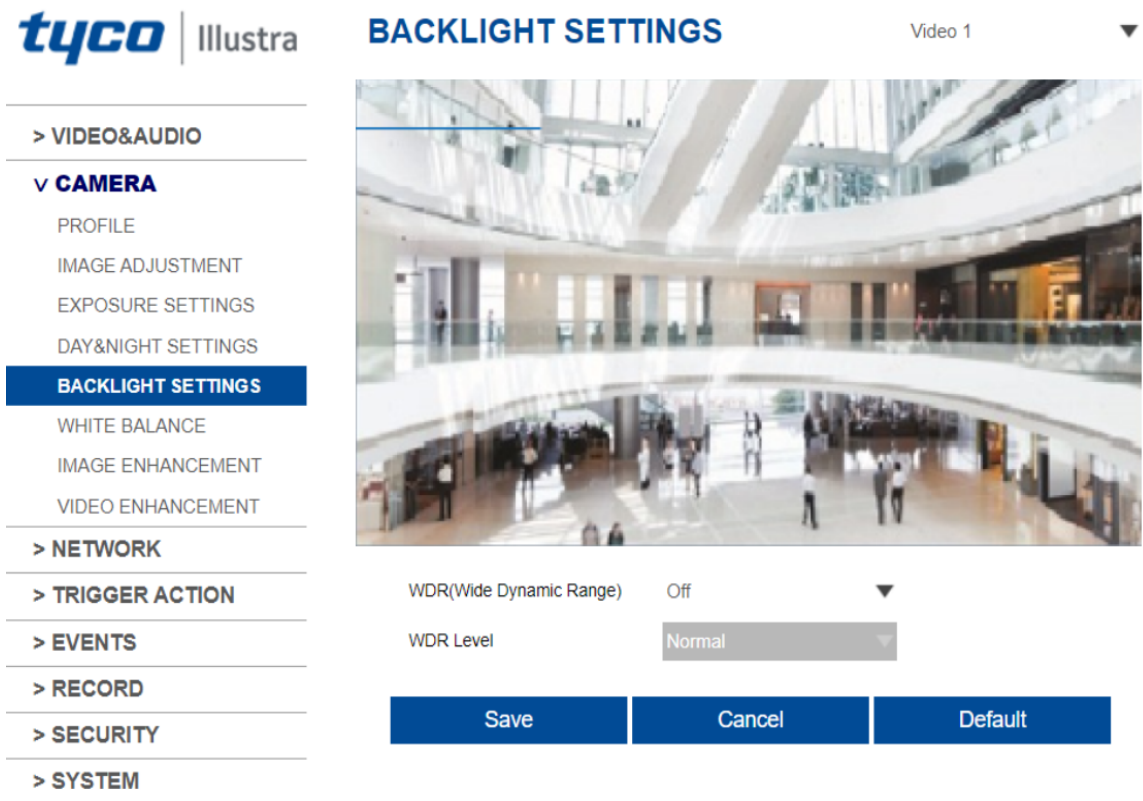
### 1 Day & Night

- Auto: In this mode, the IR cut filter is removed automatically depending on the light condition around.
- Day: In this mode, the IR cut filter is applied to the image sensor all the time.
- Thus, the sensitivity will be reduced in the dark light condition but the better color reproduction performance are obtained. - Night: In this mode, the IR cut filter on the image sensor is removed all the time.
- The sensitivity will be enhanced in the dark light condition but the image is black and white.
- Schedule: In this mode, Day / Night mode is converted accordance with the scheduled time.

- 2 **Color Level** - It is a level to change Night mode into Day mode when Day & Night mode is Auto.
- 3 **B / W Level** - It is a level to change Day mode into Night mode when Day & Night mode is Auto.
- 4 **Transition Time** - If it is set to Auto, to determine the rate at which Day / Night is converted.
- 5 If it is set to schedule mode, Set the time that Day / Night is converted.
- 6 Click 'Save' to save the current settings.  
Click 'Cancel' to return to the previous setting.  
Click 'Default' to settings to the factory defaults.

## Camera backlight settings

Figure 32 Backlight settings GUI layout



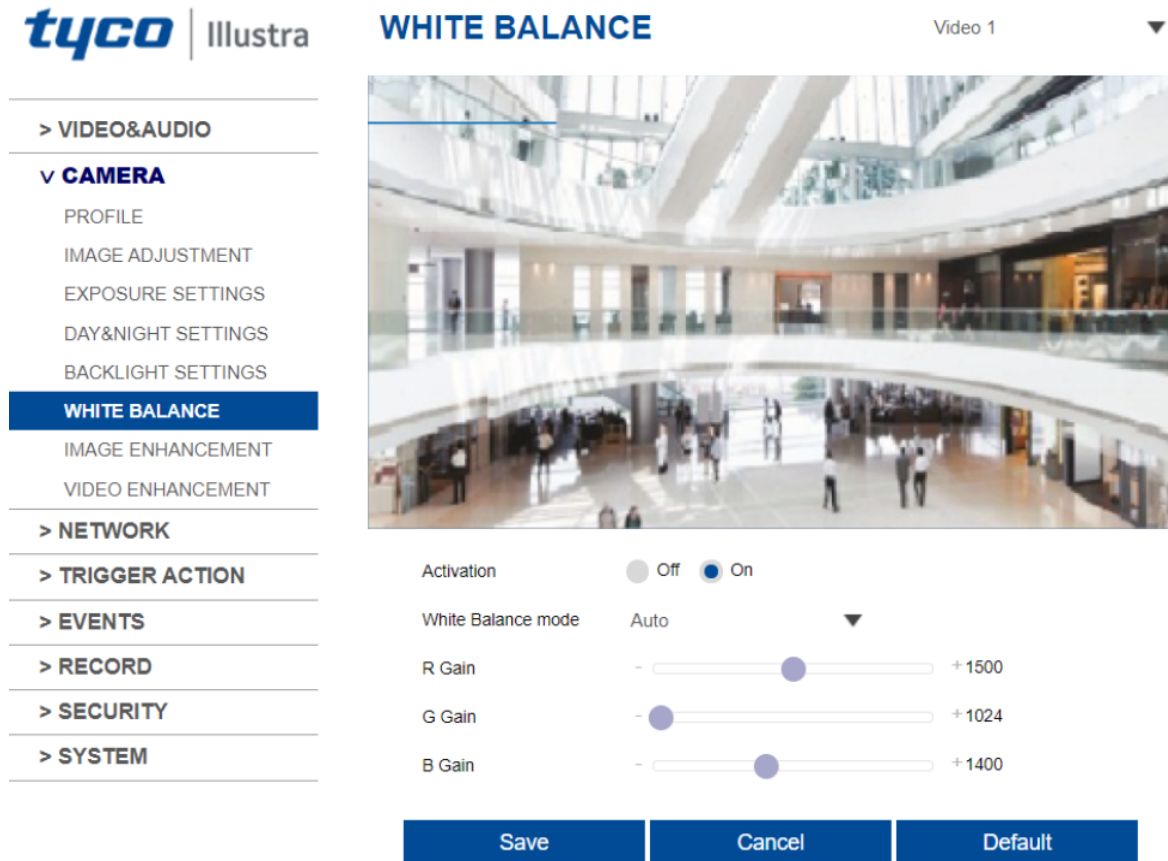
This is a feature used for problematic light conditions where the contrast from light to dark areas is very high.

- 1 Select the Video 1 ~ Video 4 and set the video setup.  
Click 'Save' to set the other video setting.
- 2 **WDR (Wide Dynamic Range)** - The WDR function can be enable or disable.
- 3 **WDR Level** - Select the WDR level depending on the difference in brightness between the darkest and lightest part of an image.
- 4 Click 'Save' to save the current settings.

Click 'Cancel' to return to the previous setting.  
 Click 'Default' to settings to the factory defaults.

## Camera white balance

Figure 33 Camera white balance GUI layout

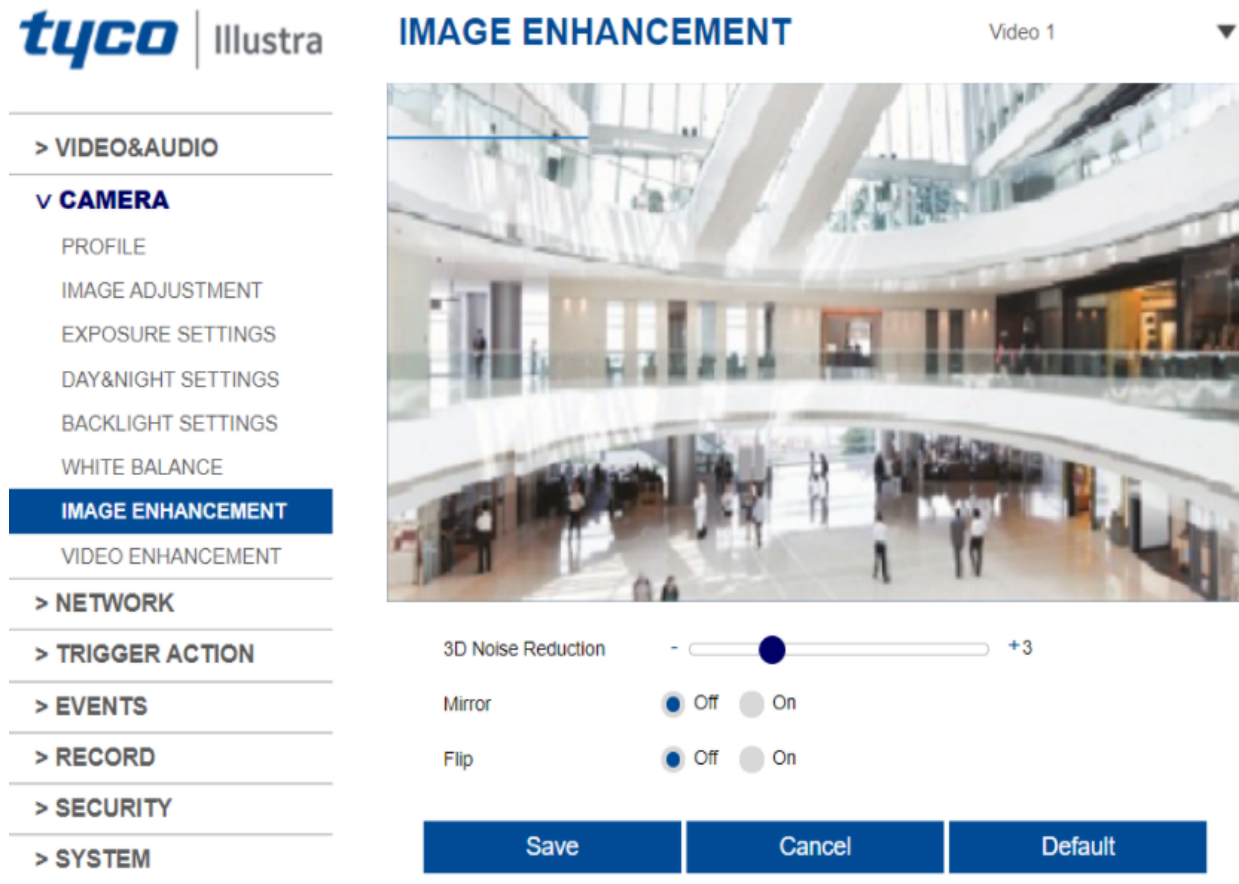


- 1 Select the Video 1 ~ Video 4 and set the video setup.  
Click 'Save' to set the other video setting.
- 2 **Activation** - White Balance can be enable or disable.
- 3 **White Balance Mode** - Select White Balance depending on the lighting conditions.
- 4 **RGB Gain** - The R/G/B gain can be set only when the White Balance Mode is set to Manual.
- 5 Click 'Save' to save the current settings.  
Click 'Cancel' to return to the previous setting.  
Click 'Default' to settings to the factory defaults.



## Camera image enhancement

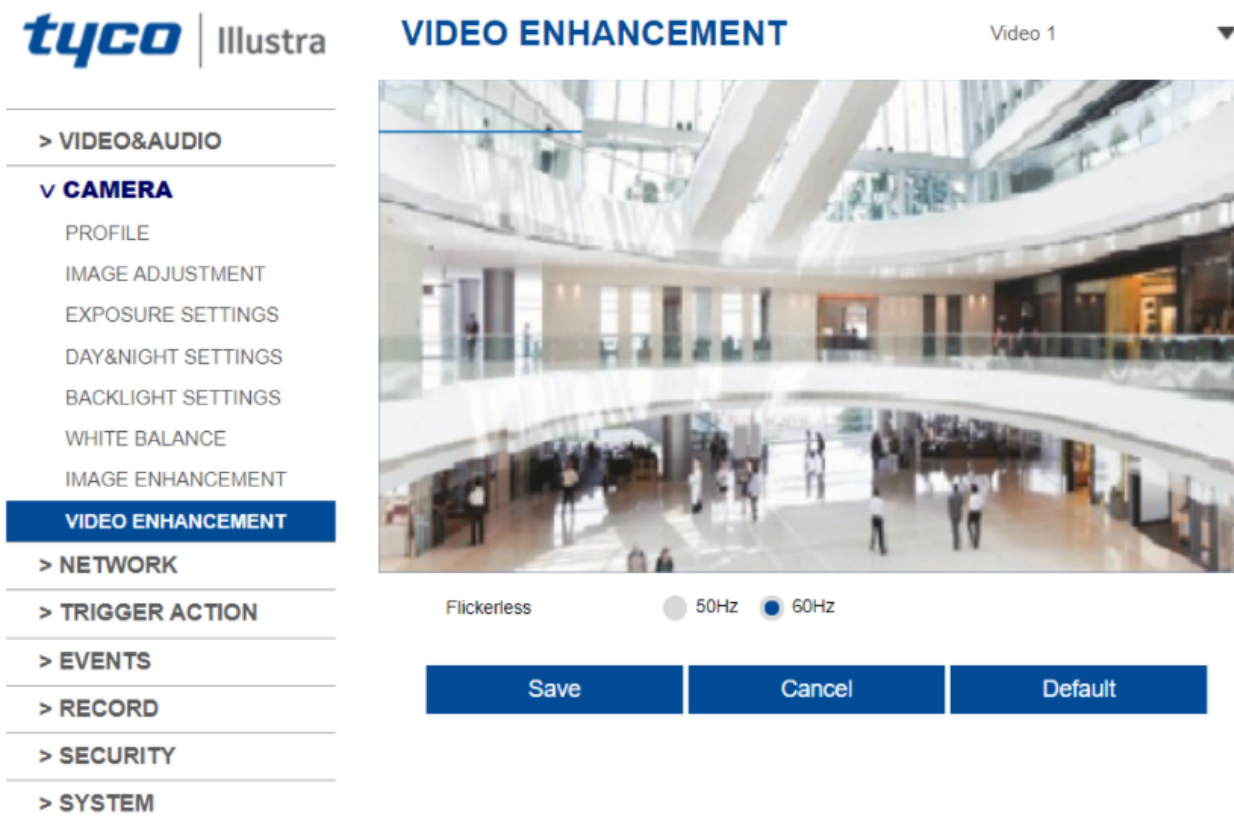
Figure 34 Camera image adjustment GUI layout



- 1 Select the Video 1 ~ Video 4 and set the video setup.  
Click 'Save' to set the other video setting.
- 2 **3D Noise Reduction** - 3DNR function enables to suppress noise and retain good video quality in low light conditions.
- 3 **Mirror** - Reverse the video from side to side.
- 4 **Flip** - Reverse the video from up to down.
- 5 Click 'Save' to save the current settings.  
Click 'Cancel' to return to the previous setting.  
Click 'Default' to settings to the factory defaults.

## Video enhancement

Figure 35 Video enhancement GUI layout



- 1 Select the Video 1 ~ Video 4 and set the video setup.  
Click 'Save' to set the other video setting.
- 2 **Flicker** - This function Enable to enhance the flicker situation.
- 3 Click 'Save' to save the current settings.  
Click 'Cancel' to return to the previous setting.  
Click 'Default' to settings to the factory defaults.

# Network Setup

## Network status

Figure 36 Network status GUI layout

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**NETWORK STATUS**

> VIDEO&AUDIO

> CAMERA

▼ **NETWORK**

**STATUS**

NETWORK SETTINGS

AUTO IP

ONVIF

UPNP

DDNS

FTP

SMTP

SNMP

RTSP INFORMATION

> **TRIGGER ACTION**

> **EVENTS**

> **RECORD**

> **SECURITY**

> **SYSTEM**

<b>MAC Address</b>	00:0D:F1:2C:18:71
<b>IP Address</b>	192.168.1.168
<b>Subnet Mask</b>	255.255.255.0
<b>Default Gateway</b>	192.168.1.1
<b>Preferred DNS Server</b>	168.126.63.1
<b>Alternate DNS Server</b>	168.126.63.2
<b>HTTP Port</b>	80
<b>HTTPS Port</b>	443
<b>RTSP Port</b>	554

This menu shows you all the network settings in the camera.

## Network settings

Figure 37 Network settings GUI layout

- 1 **Network Type** - Define network IP address type from the Static Mode for the fixed IP or the Dynamic Mode by the dynamic IP address.  
If you select the Static Mode, you must fill out IP Address, Subnet Mask, Gateway, DNS Server and all ports.  
If you select the Dynamic Mode, the IP address will be allocated automatically by DHCP equipment.  
If you click the Apply button to update changes, the system will be re-booted.  
In this case, you have to reconnect the camera using new IP address.
- 2 **IP Address** - Define the IP address. The address is consisted of four numbers separated by dots and the range of each number is from 0 to 255.
- 3 **Subnet Mask** - Define the Subnet Mask. Format is same as the IP address.
- 4 **Default Gateway** - Default the Gateway IP Address. Format is same as the IP address.
- 5 **Preferred DNS Server** - Define the DNS server IP address. Format is same as the IP address.

- 6 **Alternate DNS Server** - Define the Secondary DNS server IP address. Format is same as the IP address.
- 7 **HTTP Port** - The HTTP port can be set to 80 which default or in between 1025 to 60000.
- 8 **HTTPS Port** - The HTTPS port can be set to 443 which default or in between 1025 to 60000.
- 9 **RTSP Port** - The RTSP port can be set to 554 which default or in between 1025 to 60000.
- 10 Click 'Apply' to make above setting effective.

If the network type is dynamic, the IP address is changed in below cases.

Therefore, the IP address needs to be searched again, and the camera needs to be reconnected in these cases.

- When the camera power is on / off.
- After Firmware update, Default set and reboot.

## Audio IP Settings

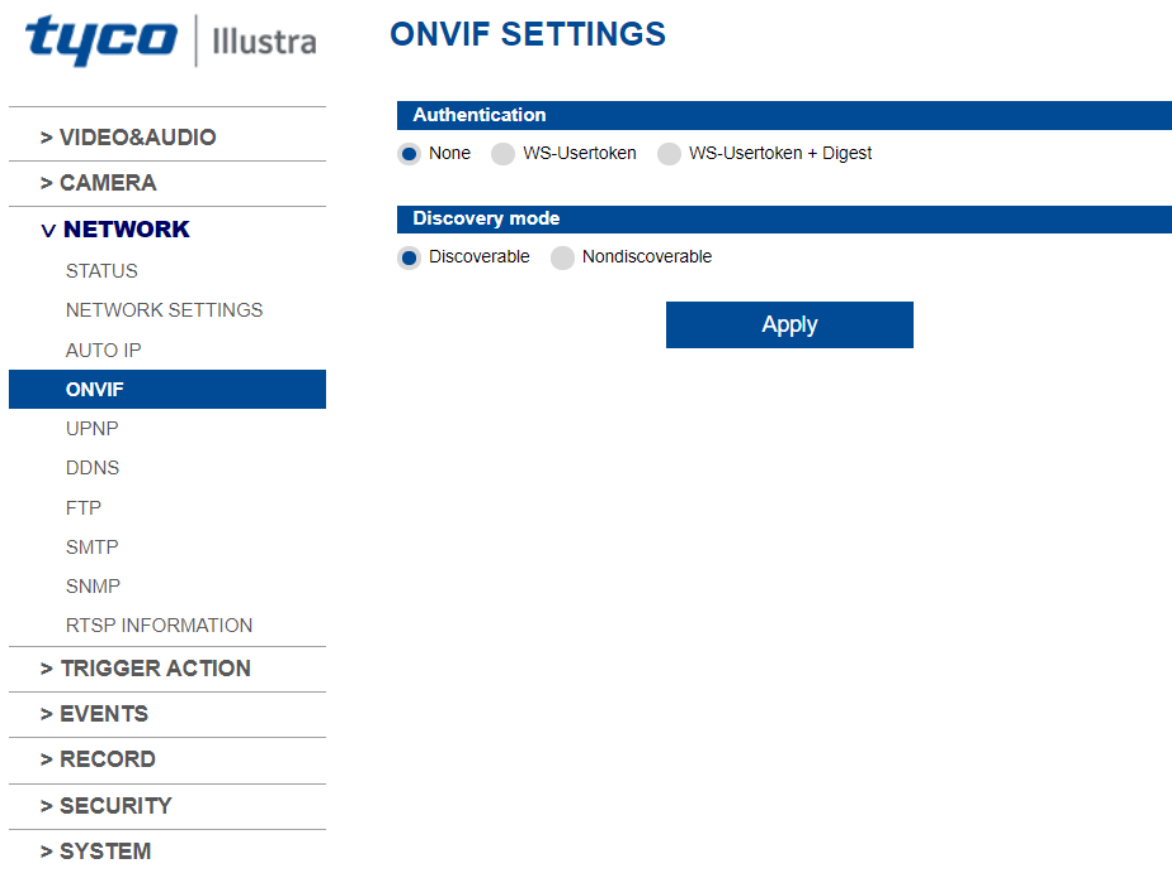
Figure 38 Auto IP Settings GUI layout

The screenshot displays the 'tyco | Illustra' logo at the top left. The navigation menu on the left includes: > VIDEO&AUDIO, > CAMERA, v NETWORK (expanded), STATUS, NETWORK SETTINGS, **AUTO IP** (selected), ONVIF, UPNP, DDNS, FTP, SMTP, SNMP, RTSP INFORMATION, > TRIGGER ACTION, > EVENTS, > RECORD, > SECURITY, and > SYSTEM. The main content area is titled 'AUTO IP SETTINGS' and features a 'General Setting' section with radio buttons for 'Off' and 'On' (selected). Below this, the 'UNIQUE ID' is listed as 'b6e379a4-ec95-4e48-b4d6-feb801cb9f6e' and the 'AUTO IP ADDRESS' is '169.254.221.172'. An 'Apply' button is located at the bottom right of the settings area.

- 1 **General Setting** - Auto IP Settings function can be enable or disable.
- 2 Auto IP Settings Information - It displays the unique id or Auto IP address.
- 3 Click 'Apply' to make above setting effective.

## ONVIF Settings

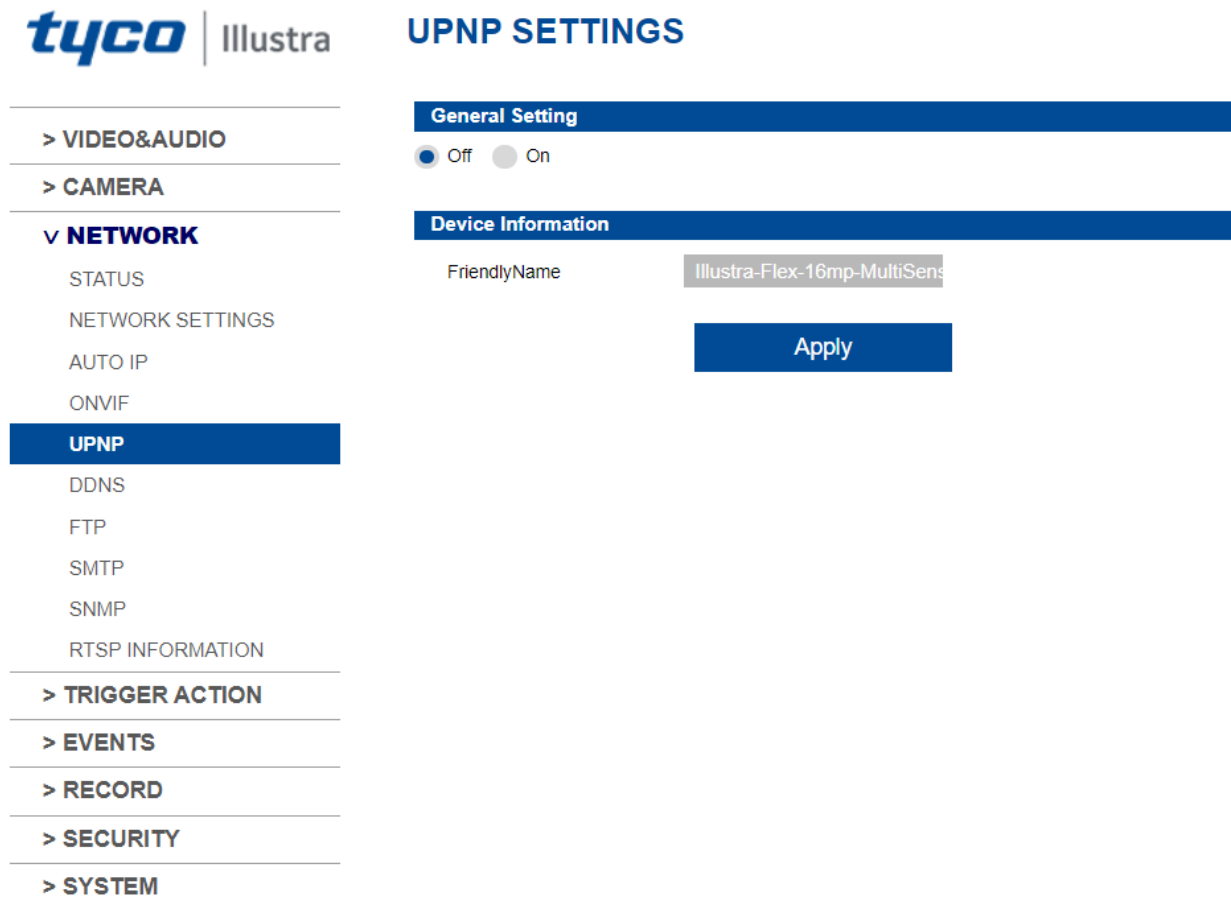
Figure 39 ONVIF Settings GUI layout



- 1     **Authentication**  
None: Allows to access without ONVIF authentication.  
WS - Usertoken: Allows to access with WS-User Token of ONVIF authentication.  
WS - Usertoken + Digest: Allows to access with WS-User Token and Digest of ONVIF authentication.
- 2     **Discovery Mode** - The discovery function can be enable or disable.
- 3     Click 'Apply' to make above setting effective.

# UPNP Settings

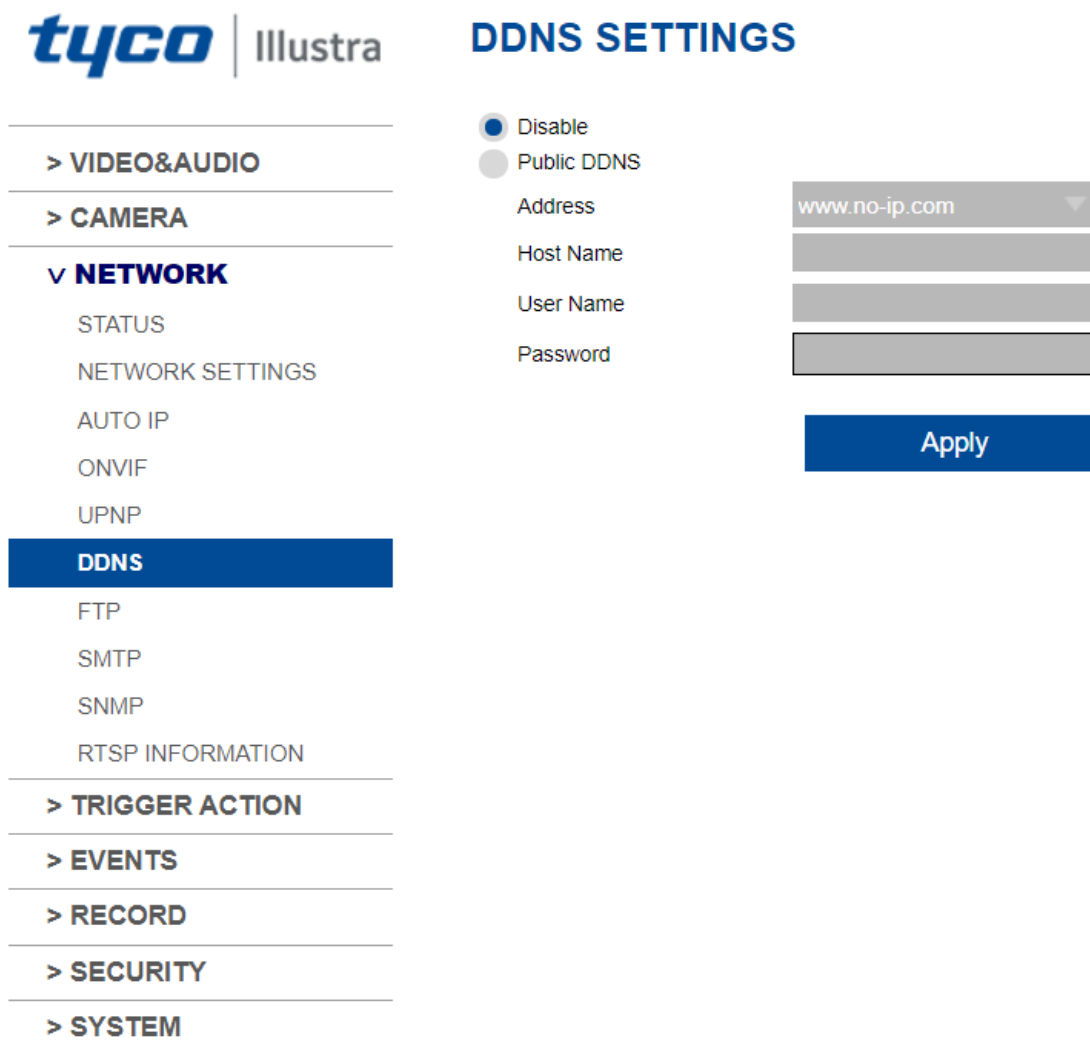
Figure 40 UPNP Settings GUI layout



- 1 **General Setting** - UPNP function can be enable or disable.
- 2 Friendly Name - Define the friendly name. Support a maximum of 30 characters and special character (/ ~ ! \$ ^ ( ) { } [ ] ; , ) can not be used. ('@', ':', '\_', '-', ' ') can be used.
- 3 Click 'Apply' to make above setting effective.

## DDNS Settings

Figure 41 DDNS Settings GUI layout



- 1 **DDNS Disable** - If it is selected, DDNS service does not work.
- 2 **Public DDNS** - To use public DDNS service, select a site address listed in the list. After filling out the Host Name of the site, the setup is completed by entering User Name and Password registered in that DDNS site.

DDNS Provider	Site Address
DynDNS	www.dyndns.com
No-IP	www.no-ip.com

If you setup DDNS properly, the IP address of your camera will be updated automatically whenever IP address is changed or system is rebooted.

If IP updating to DDNS site is failed, camera will keep retrying in 1min. interval.



- 3 Click 'Apply' to make above setting effective.

## FTP Settings

Figure 42 FTP Settings GUI layout

The screenshot shows the 'FTP SETTINGS' interface. On the left, a navigation menu includes categories like VIDEO&AUDIO, CAMERA, NETWORK (with sub-items STATUS, NETWORK SETTINGS, AUTO IP, ONVIF, UPNP, DDNS), FTP (highlighted), SMTP, SNMP, RTSP INFORMATION, TRIGGER ACTION, EVENTS, RECORD, SECURITY, and SYSTEM. The main area is titled 'FTP SETTINGS' and has a blue header. Under 'General Setting', there are radio buttons for 'Off' (selected) and 'On'. The 'Server information' section contains five input fields: 'FTP Server Address', 'FTP Upload Path' (with a slash), 'FTP Port' (with '21'), 'User ID', and 'Password'. A blue 'Apply' button is positioned at the bottom right of the settings area.

To transfer / save the image to the relevant sites through FTP, then FTP needs to be setup.

- 1 **General Setting** - FTP function can be enable or disable.
- 2 **FTP Server Address** - Define FTP Server IP Address. If IP Address form is incorrect, a Message box will be shown to try again.
- 3 **FTP Upload Path** - Define a path in FTP server to store video. For the path name, English Alphabets, numbers and special characters ( / ~ !@ \$ ^ ( ) \_ - { } [ ] ; , ) can be used.
- 4 **FTP Port** - Define the FTP Server Port. If Port is not appropriate, it is impossible to access to FTP Server.
- 5 **User ID** - Define User ID to access to the FTP Server. Fill out the correct User ID registered in the FTP Server.
- 6 **Password** - Define Password to access to the FTP Server. Fill out the correct Password registered in the FTP Server.
- 7 Click 'Apply' to make above setting effective.  
Refer the above screen image for the example.

## SMTP Settings

Figure 43 SMTP Settings GUI layout

To send / save the image to the relevant sites by Email, SMTP needs to be setup.

- 1 **General Setting** - SMTP function can be enable or disable.
- 2 **Mode** - Select Security mode of SMTP from Plain or SSL / TLS. After checking account setup of your SMTP Server, you may select one.
- 3 **SMTP Server Address** - Define the SMTP Server Address. If the IP Address form is incorrect, a Message box will be shown to try again.
- 4 **Port** - Define the Port used in the Plain or SSL / TLS security mode in the above.
- 5 **User ID** - Define the User ID to access to SMTP Server. Fill out the correct User ID registered in the SMTP Server.
- 6 **Password** - Define the Password to access to SMTP Server. Fill out the correct Password registered in the SMTP Server.
- 7 **E-Mail Sender** - Define the e-mail address of E-Mail Sender. It will be displayed as the sender when the camera sends an E-mail.
- 8 **E-Mail Receiver** - Define the e-mail address of E-Mail Receiver. It will be displayed as the Receiver when the camera sends an E-mail.
- 9 **Title** - Define the title of the E-Mail when the camera sends an E-mail.

The title of the Email is limited to 40 characters including the spaces.

- 10 **Message** - Define the contents of E-Mail when camera sends an E-mail. The message of the Email is limited to 40 characters including the spaces.
- 11 Click 'Apply' to make above setting effective.

## SNMP Settings

Figure 44 SNMP Settings GUI layout

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### SNMP SETTINGS

**SNMP v1/v2c**

SNMPv1  Off  On

SNMPv2c  Off  On

Read community public

Write community private

SnpTrap  Off  On

TrapAddress 0.0.0.0

TrapCommunity public

**SNMP v3**

Mode Read ▼

Activation  Off  On

Read name root

Security Level ▼

Authentication Algorithm MD5 ▼

Authentication Password

Private-Key Algorithm DES ▼

Private-Key Password

Apply

- 1 **SNMPv1/SNMPv2** - Select the SNMPv1/SNMPv2 option and type the names of Read community and Write community.  
SNMP trap can be used to check periodically for operational thresholds or failures that are defined in the MIB.
- 2 **SNMP Trap** - SNMP trap can be enable or disable.  
SNMPv3 contains cryptographic security, a higher security level, which allows you to set the Authentication password and the Encryption password.
- 3 **Mode** - Select the either Read or Read/Write mode.

- 4 **Activation** - It can be enable or disable selected mode.
- 5 **Read/Write name** - Define Read name and Write name.
- 6 **Security Level** - Select one of no auth, no priv/auth , no priv/auth, priv
- 7 **Authentication Algorithm** - Select MD5 or SHA as the authentication method.
- 8 **Authentication Password** - The Authentication Password is an encryption for authentication and they are at least 8 digits and up to 30 digits allowed.
- 9 **Private-Key Algorithm** - Select DES or AES as the encryption algorithm.
- 10 **Private-Key Password** - Information protection password is a private encryption and they are at least 8 digits and up to 30 digits allowed.
- 11 Click 'Apply' to make above setting effective.

## RTSP information

Figure 45 RTSP information GUI layout

The screenshot shows the RTSP INFORMATION configuration page. On the left is a navigation menu with options like VIDEO&AUDIO, CAMERA, NETWORK, and RTSP INFORMATION (which is selected). The main content area is titled 'RTSP INFORMATION' and contains several sections:

- RTSP Global Setting:** Includes 'VIN Source' (set to Video 1) and 'Target Stream' (set to Main Stream).
- Session Timeout:** Includes 'Time Out' (set to 0) with a note '[ Default: Off, 30~120 ]'.
- QoS Setting:** Includes 'DSCP' (set to 0) with a note '[ 0~255 ]'.
- Rtp Multicast:** Includes a 'MULTICAST' toggle (set to Stop), 'IP' (0.0.0.0), 'PORT' (0) with a note '[1024~60000]', and 'TTL' (0) with a note '[1~255]'. An 'Apply' button is located below this section.

Below the 'Apply' button is a table listing RTSP streams:

No	Remote IP	Port	Type
1	192.168.1.220	54966	TCP
2	192.168.1.220	54967	TCP
3	192.168.1.220	54968	TCP
4	192.168.1.220	54969	TCP

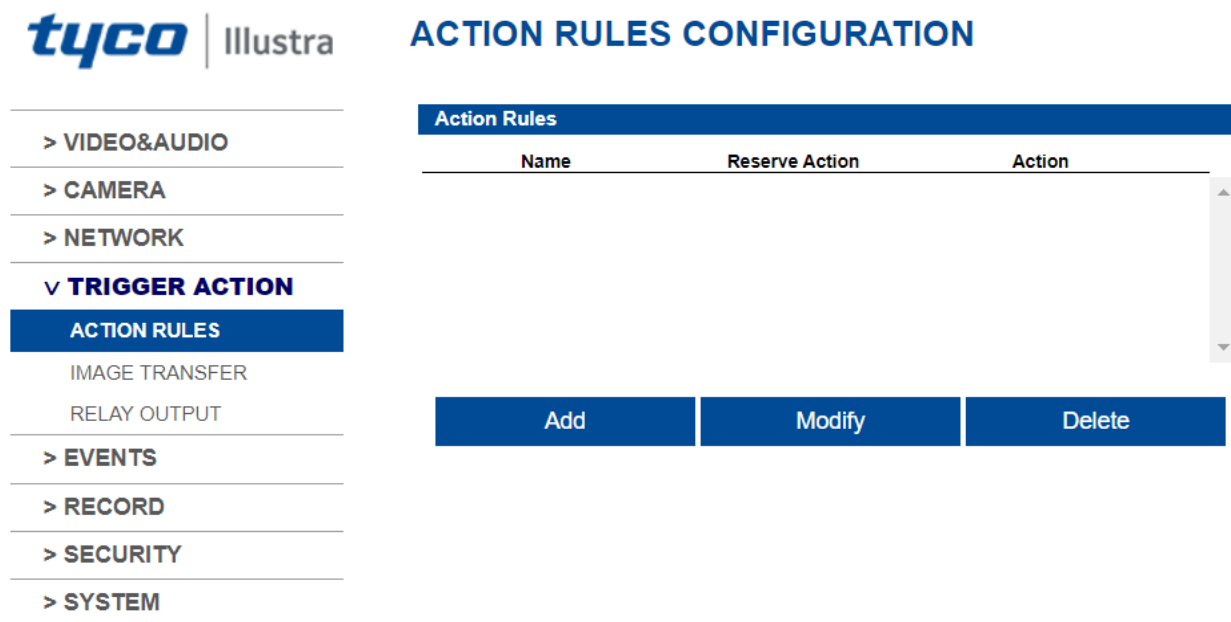
- 1 **VIN Source** - Select the Video 1 ~ Video 4 and set the video setup. Click 'Save' to set the other video setting.

- 2     **Target Stream** - Select the stream you want to set.
- 3     **Time out** - Set the RTSP time out.  
The session is disconnected after the specified time out.
- 4     **RTP Multicast** - Check RTP Multicast On/Off. To activate RTP Multicast.
  - Click “On” button.
  - Enter accessible RTP Multicast IP, port for video stream control, RTP packet TTL.
  - Click “Apply” button.
  - It is possible to set each RTP Multicast for CH1~3.
- 5     Click ‘Apply’ to make above setting effective.  
Click this button when completed setup each channels.  
It shows RTSP Connection information.

## Trigger Action Setup

### Action Rules Configuration

Figure 46 Action rules configuration GUI layout



- 1 **Action rules** List - It indicates the custom action rule information added to Action rules list.
- 2 Click 'Add' to add custom action rules.  
Click 'Modify' to modify selected item from the action rules list.  
Click 'Delete' to delete selected item from the action rules list.

### Action Rules Add / Modify

- 1 **Name** - Define name of action rules.  
Input text cannot be exceed limited (4~15).
- 2 **Operation Interval** - Select the interval to maintain action.
- 3 **Action1 ~ Action5** - Select the action to take If the event occurs.
- 4 Click 'Save' to save the current settings.  
Click 'Cancel' to return to the previous menu.

# Image transfer configuration

Figure 47 Image transfer configuration GUI layout

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> VIDEO&AUDIO

> CAMERA

> NETWORK

▼ **TRIGGER ACTION**

ACTION RULES

**IMAGE TRANSFER**

RELAY OUTPUT

> EVENTS

> RECORD

> SECURITY

> SYSTEM

## IMAGE TRANSFER CONFIGURATION

1. Add the FTP/SMTP action in the event rules menu.
2. When an event occurs, the images will be sent to ftp/smtp address .
3. Determine the image transfer speed and the duration of image transfer after/before an event.

Pre/Post Alarm Image		
Number Of Image	2	Image Per Seconds(s) [ 1 ~ 5 ]
Pre-Alarm Duration	3	Second(s) [ 1 ~ 5 ]
Post-Alarm Duration	3	Second(s) [ 1 ~ 30 ]

Apply

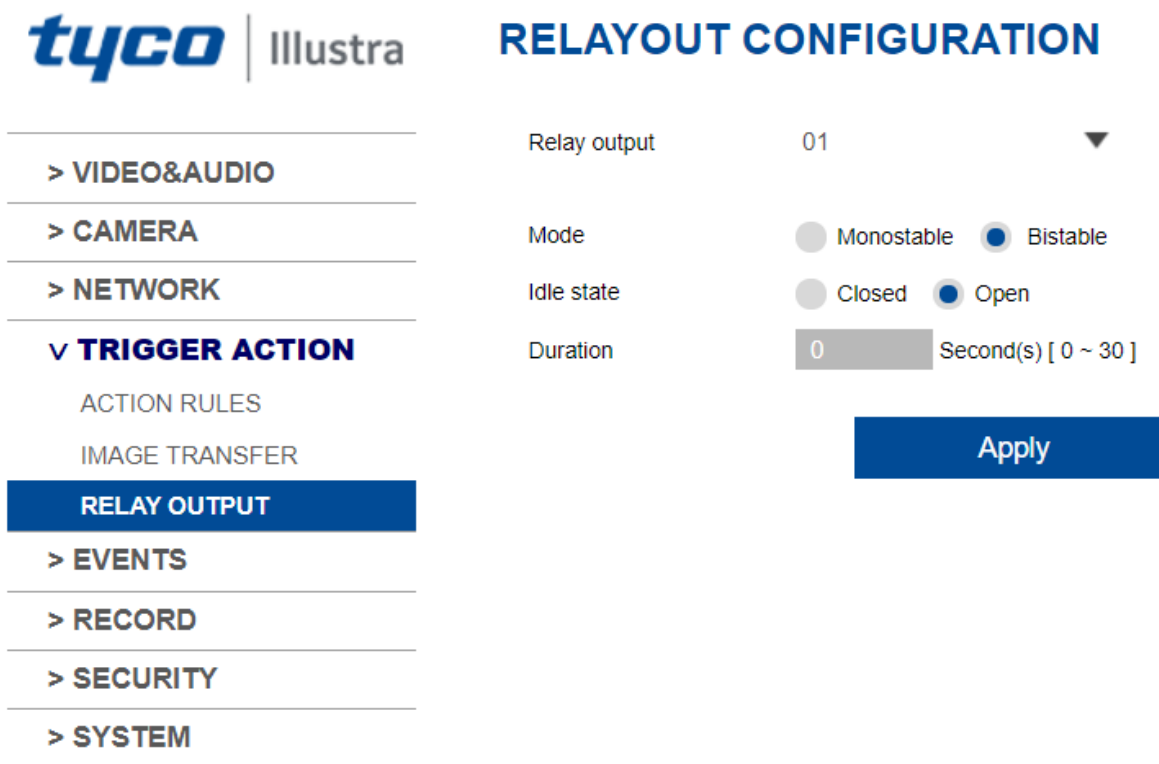
- 1 **Pre / Post Alarm Image** - Image Transfer due to event is configured by setting Image transfer rate and Pre / Post alarm duration.

	Descriptions
Number of Image	Define number of image transferred per second
Pre-alarm duration	Define duration of image transfer per event
Post-alarm duration	Define number of image transfer per an event

- 2 Click 'Apply' to make above setting effective.

## Relay out configuration

Figure 48 Relay Configuration GUI layout



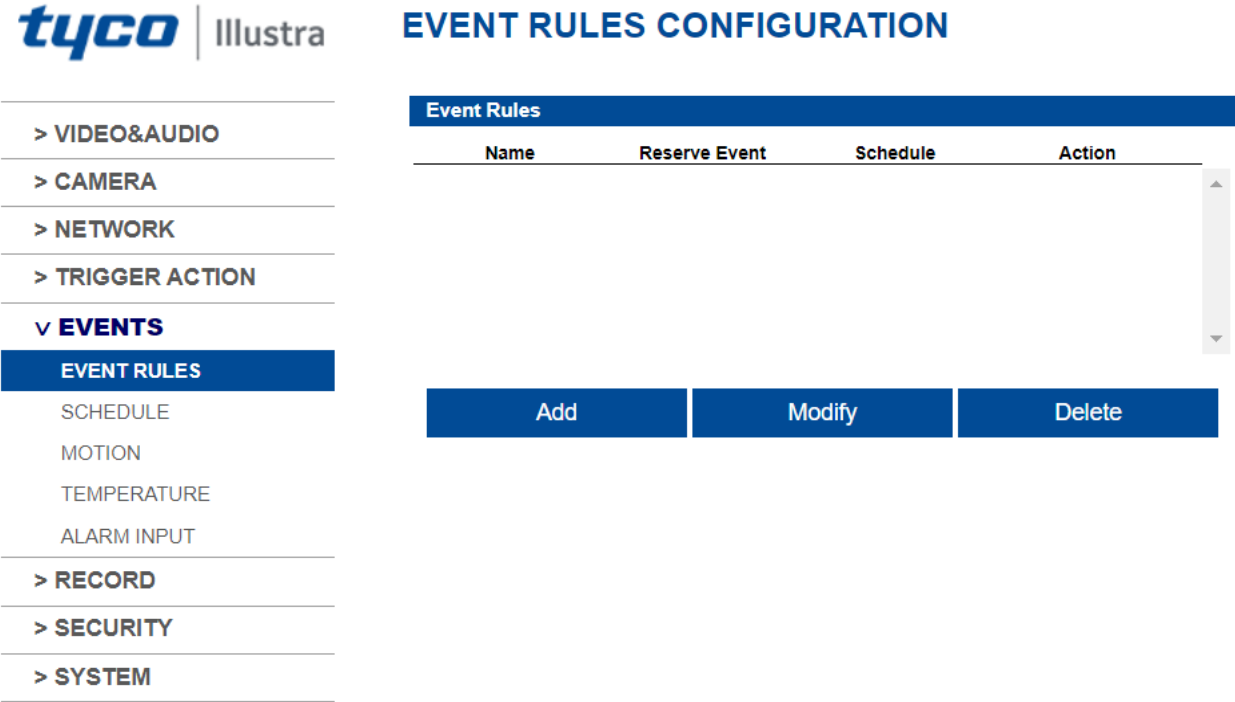
- 1 **Relay Output** - Select the Relay output.  
The number of relay outputs depends on the camera model.
- 2 **Mode** - Select the monostable / bistable for relay mode.
- 3 **Idle State** - Select whether the contact is normally opened or is closed.
- 4 **Duration** - Relay out is operated during the setting time.  
If bistable mode is selected, this function is activation.
- 5 Click 'Apply' to make above setting effective.



# Event Setup

## Event rules configuration

Figure 49 Event Rules Configuration GUI layout



- 1 **Event Rules List** - It indicates the custom Event Rule information added to Event Rules list.
- 2 Click 'Add' to add custom event rules.  
Click 'Modify' to modify selected item from the event rules list.  
Click 'Delete' to delete selected item from the event rules list.

## Event rules configuration

- 1     **Activation** - The Event Rules function can be enable or disable.
- 2     **Name** - Define the Event rule name.
- 3     **Event** - Select the event among motion detection, network disconnection, temperature alert, schedule, sensor detection.  
  
Click 'Cancel' to return to the previous setting.  
  
You need a event one more.
- 4     **Schedule** - Select activation time from Always / Manual Time.
- 5     **Week / Time** - You need to define Start time and End time followed by selecting Days. The setup schedule is repeated every week.
- 6     **Rules** - Select the action rule defined in the Trigger Action-Action rule menu.
- 7     Click 'Save' to save the current settings.  
  
Click 'Cancel' to return to the previous setting.

## Schedule configuration

Figure 50 Schedule Configuration GUI layout

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### SCHEDULE CONFIGURATION

> VIDEO&AUDIO

> CAMERA

> NETWORK

> TRIGGER ACTION

▼ **EVENTS**

EVENT RULES

**SCHEDULE**

MOTION

TEMPERATURE

ALARM INPUT

> RECORD

> SECURITY

> SYSTEM

**Recurrences Function**

Mode  Enable  Disable

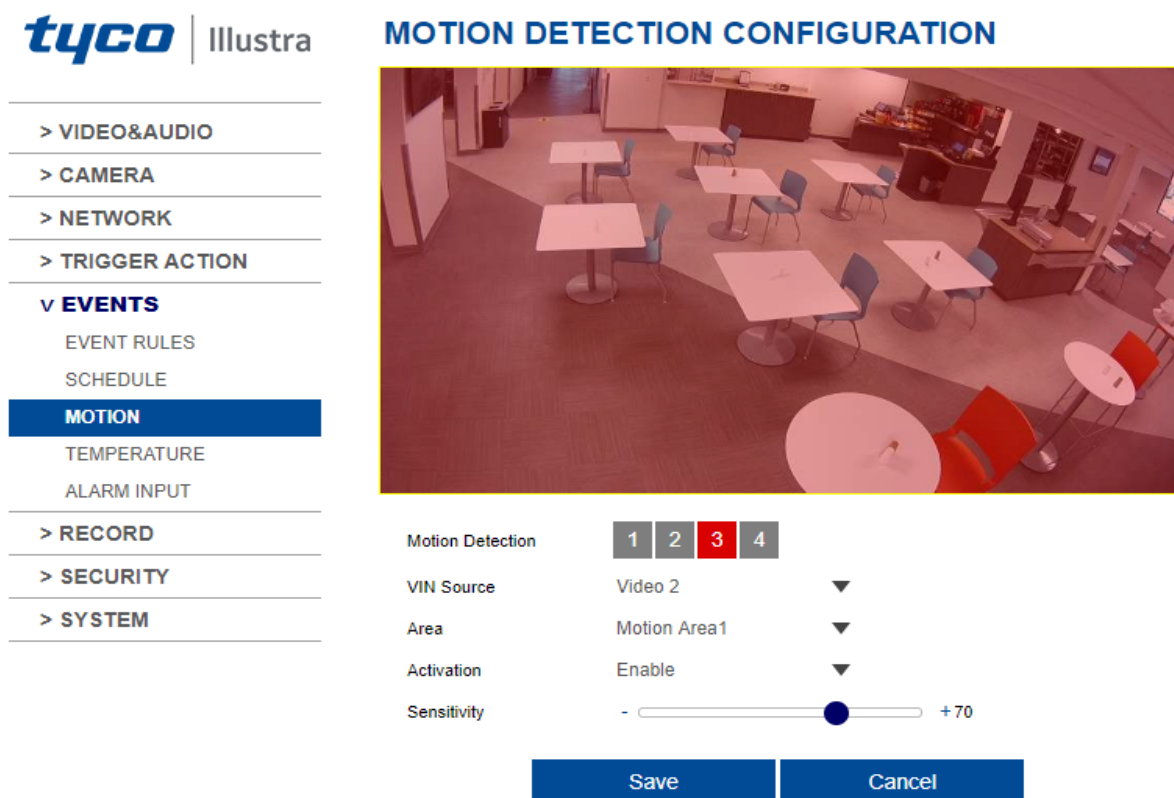
Repeat rule

Apply

- 1 **Mode** - The Schedule function can be enable or disable.
- 2 **Repeat Rule** - Set a recurring time the event occurs.
- 3 Click 'Apply' to make above setting effective.

## Motion detection configuration

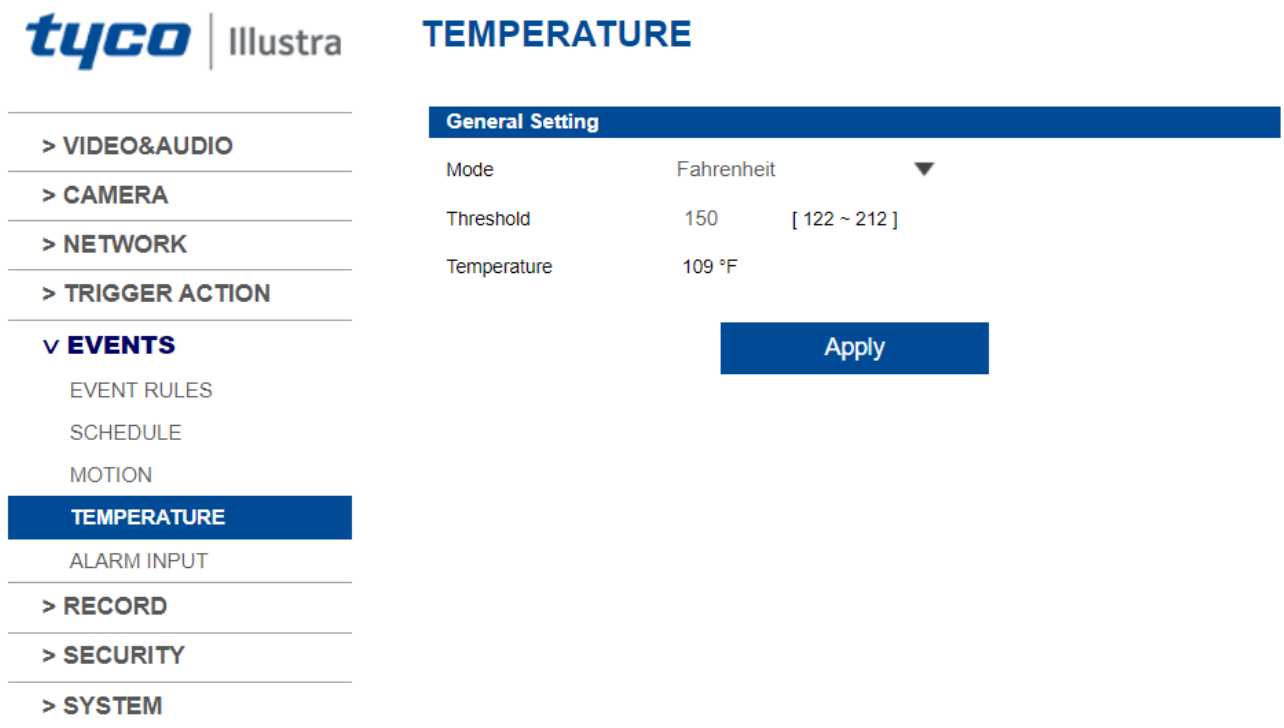
Figure 51 Motion Detection Configuration GUI layout



- 1 **Motion Detection** - It shows the Motion event status.  
Event Alert Icon (1 ) is visible if 'Motion Detection' is activated.
- 2 **VIN Source** - Select the Video 1 ~ Video 4 and Set the video setup.  
Click 'Save' to set the other video setting.
- 3 **Area** - Set the motion detected area.  
You can set up to four areas.
- 4 **Activation** - Enable or Disable motion detection function.
- 5 **Sensitivity** - Define the sensitivity of motion detection.  
If High value is selected, it will detect very small motion while it becomes relatively insensitive when Low value is selected.
- 6 Click 'Save' to save the current settings.  
Click 'Cancel' to return to the previous setting.

# Temperature

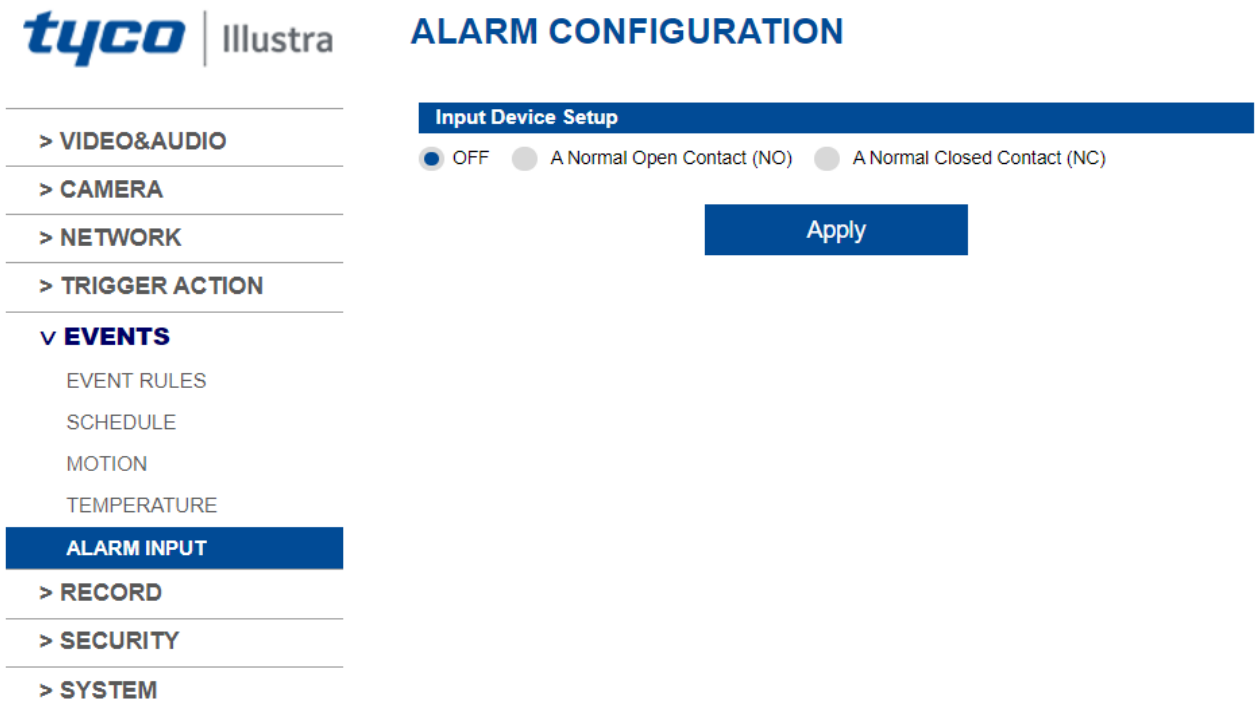
Figure 52 Temperature GUI layout



- 1 **Mode** - Select the either Fahrenheit and Celsius.
- 2 **Threshold** - Define the temperature at which the event trigger is occurred.
- 3 **Temperature** - It indicates the current temperature of the IP camera.
- 4 Click 'Apply' to make above setting effective.

## Alarm Configuration

Figure 53 Alarm Configuration GUI layout



- 1 **Input Device Setup** - Select an input device type from OFF, NO and NC.

	Operation
OFF	Ignore this input sensor
NO	The contact is normally open and closed when activated
NC	The contact is normally closed and open when activated

- 2 Click 'Apply'.

# Record Setup

## Record Management

Figure 54 Record Management GUI layout

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### RECORD MANAGEMENT

**Record Global Setting**

Target Stream: NONE

Save

**RECORDING LIST**

Name	Enabled	File Type	Storage	Continuous
RECORD0	X	TS	STORAGE1	Off
RECORD1	X	TS	STORAGE2	Off
RECORD2	X	TS	STORAGE3	Off
RECORD3	X	TS	STORAGE4	Off
RECORD4	X	TS	STORAGE1	Off
RECORD5	X	TS	STORAGE2	Off
RECORD6	X	TS	STORAGE3	Off
RECORD7	X	TS	STORAGE4	Off

Modify

- 1 **Target Stream** - Select the channel you want to record video.
- 2 Click 'Save' to save the current settings.
- 3 **Recording List** - Displays the information about the recording settings.  
Record (0/4) > Storage 1 / Record (1/5) > Storage 2 / Record (2/6) > Storage 3 / Record (3/7) > Storage 4
- 4 Click 'Modify' to modify the selected item in the recording list.

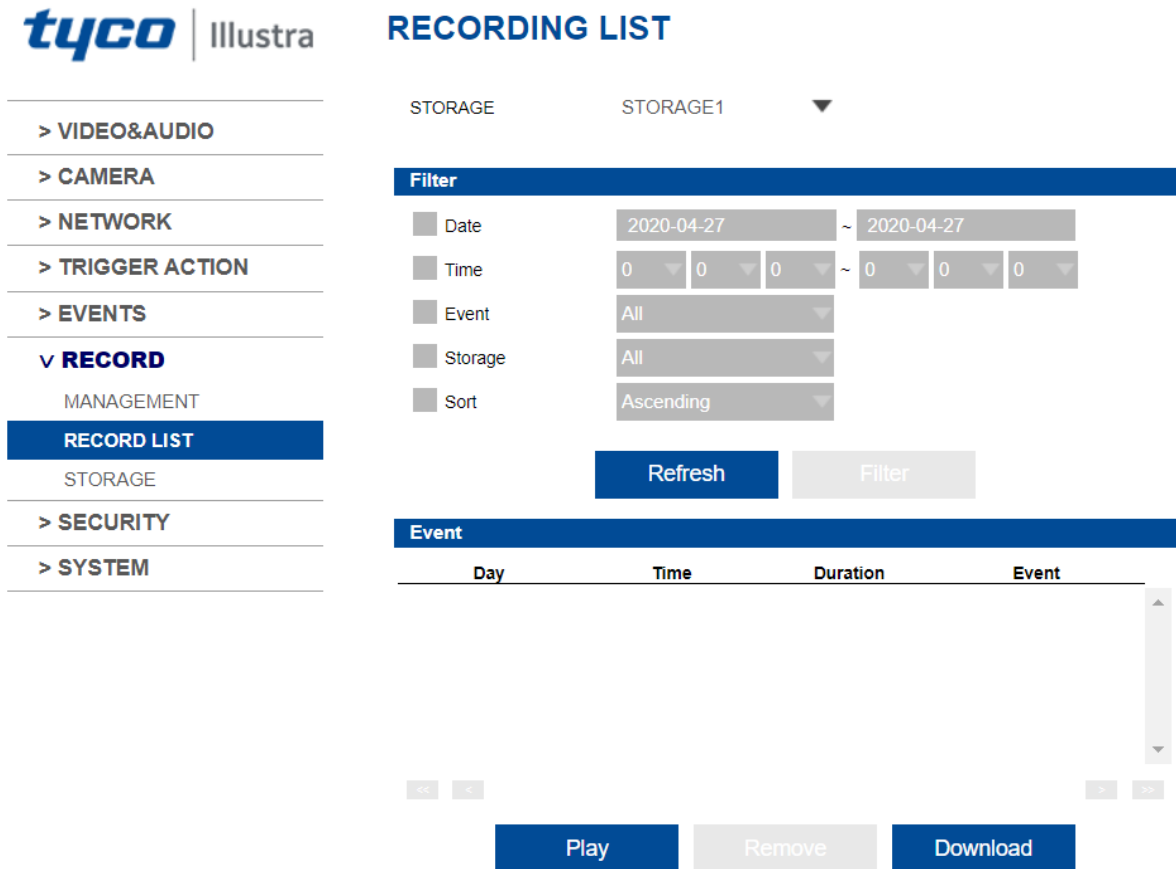
## Record Configuration

- 1 **Enabled** - The Recording function can be enable or disable.
- 2 **Storage Device** - Can not be selected and shows the saved SD Card.
- 3 **File Type** - Select the recording file type.  
Currently only supports TS Type.
- 4 **Storage** - Select the storage type. SD Card(Disabled) selection is not allowed.
- 5 **Continuous** - If continous mode is turned on, Start the continuous recording without any other setting.
- 6 **Pre Duration** - Define duration of recording before an event.
- 7 **Post Duration** - Define duration of image transfer after an event.  
Click 'Save' to save the current settings.  
Click 'Cancel' to return to the previous setting.



# Recording List

Figure 55 Recording List GUI layout



- 1 **Storage** - Select the Storage.
- 2 **Filter** - Select the date / time, event, sort or storage format to filter the recorded video.
- 3 Click the 'Refresh' button to refresh the records list.  
Click 'Filter' to view the filtered recorded video.
- 4 **Recording List** - Display the information to the recording video.
- 5 Click 'Play' to view the selected item in list of recorded video.  
Click 'Remove' to delete the selected item in list of recorded video.  
Click 'Download' to download the selected item in list of recorded video.
  - When you click Download, the following window appears.
  - When downloading, please fill up the purpose within 30 characters.  
(The purpose you created is shown on the Log page with the download time).

## Recording Video

- 1 **Recording Video Viewer** - Play the recorded video.
- 2 **Recording Video Information** - Display the information about the recorded video.
- 3 Click 'Replay' to view the recorded video again.  
Click 'Back' to return to the previous menu.

# Storage Configuration

Figure 56 Storage Configuration GUI layout

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> VIDEO&AUDIO

> CAMERA

> NETWORK

> TRIGGER ACTION

> EVENTS

**▼ RECORD**

MANAGEMENT

RECORD LIST

**STORAGE**

> SECURITY

> SYSTEM

## STORAGE CONFIGURATION

**Notice**

1. If SD Card does not automatically mount, you must format for mounting SD card.

Storage List				
Name	Mounted	Size	Used(%)	Available
SDCard1	X	0	0%	0
SDCard2	X	0	0%	0
SDCard3	X	0	0%	0
SDCard4	X	0	0%	0

### Display the SD card information.

When you select the item in Storage list, You can set the functions related to the SD card.

## Storage Configuration

- 1 **Storage Size** - Total capacity of SD card and the remainder of it are displayed.
- 2 **Auto Delete** - Select the period for Auto delete. The image data stored before period will be deleted automatically.  
Delete all stored image older than selected time.
- 3 **Overwrite** - If it is set ON and remained space of SD card reach to less than 8MB, new data will start to be overwritten on the oldest data. However, if it is set OFF and remained space of SD card reach to less than 8MB, image recording will be stopped.
- 4 **Unmount** - remove the SD card from the device.
- 5 **Format** - Delete the all contents that stored in SD card.
- 6 Click 'Apply' to make above setting effective.  
Click 'Cancel' to return to the previous setting.

# Security setup

## IP Address Filter Configuration

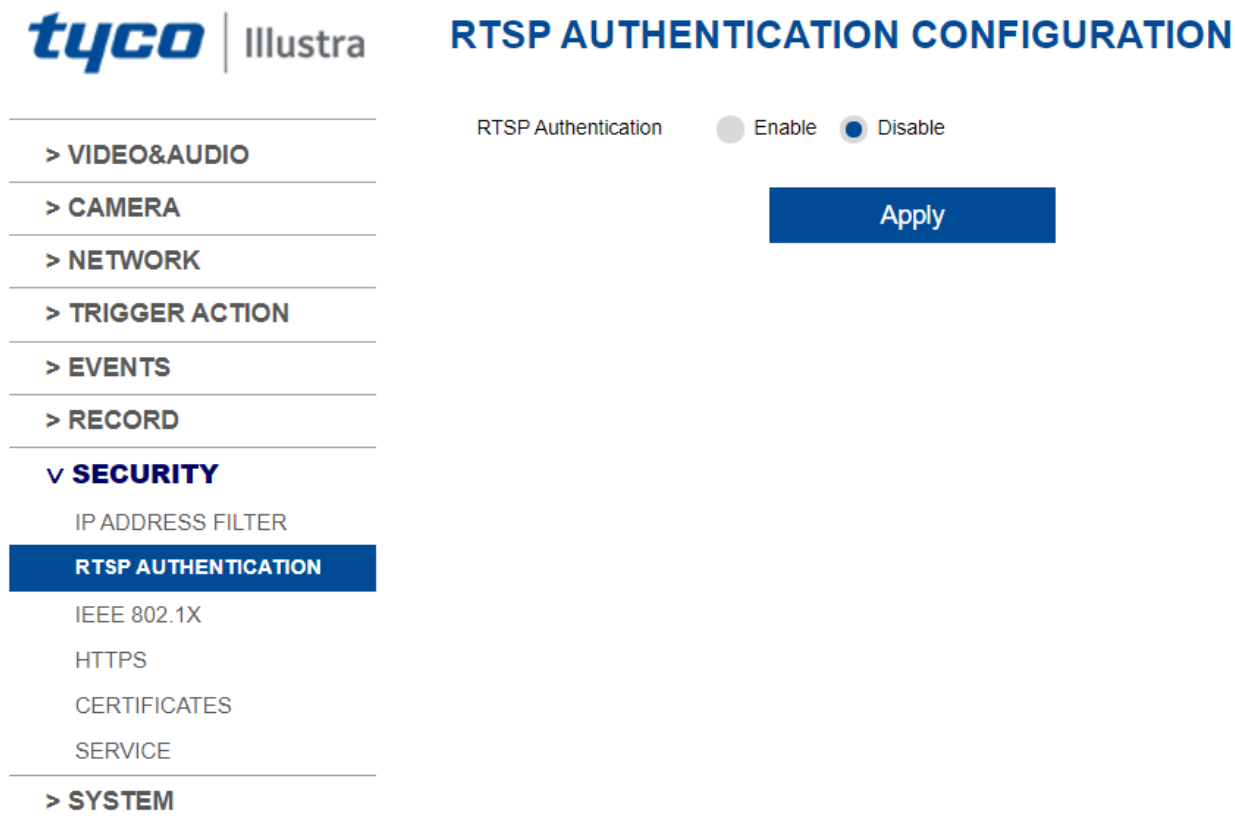
Figure 57 IP Address Filter Configuration GUI layout



- 1 **IP Address Filter** - IP filter function can be enable or disable.
- 2 **IP Filter Type** - Select the recording IP filter type.
- 3 Click 'Apply' to make above setting effective.
- 4 **Filter IP Address** - Display the filtered IP address.
- 5 **IP Address** - Define the IP address you want to apply the IP filter.
- 6 Click 'Add' to add the ip address to the list.  
Click 'Remove' to remove the ip address selected in the list.  
Click 'Remove All' to remove all ip in the list.

## RTSP Authentication Filter Configuration

Figure 58 RTSP Authentication Configuration GUI layout



- 1 **RTSP Authentication** - RTSP Authentication can be enabled or disabled.
- 2 Click 'Apply' to make above setting effective.

## IEEE 802.1X Configuration

Figure 59 IEEE 802.1X Configuration GUI layout

**tyco** | Illustra **IEEE 802.1X CONFIGURATION**

> VIDEO&AUDIO

> CAMERA

> NETWORK

> TRIGGER ACTION

> EVENTS

> RECORD

**v SECURITY**

IP ADDRESS FILTER

RTSP AUTHENTICATION

**IEEE 802.1X**

HTTPS

CERTIFICATES

SERVICE

> SYSTEM

**General Setting**

IEEE 802.1x  On  Off

Protocol MD5 ▼

EAPOL version 1 ▼

ID

Password

Retype Password

CA Certificate NONE ▼

Certificate NONE ▼

Apply

The feature is needed when connecting the camera to the network protected by the IEEE 802.1X.

- 1 IEEE 802.1x - The IEEE 802.1x feature can be enable or disable.
- 2 **Protocol**
  - MD5 : It provides one-way password-based network authentication of the client.
  - PEAP : It is similar to TTLS in that it does not require a certificate on the client side.
  - TTLS / MD5 : It does not require a certificate on the client side.
  - TLS : It relies on client-side and server-side certificates to perform authentication.
- 3 **EAPOL Version** - Select the EAPOL Version.
- 4 **ID** - Type the ID to identify the client in the IEEE 802.1X authentication server.
- 5 **Password** - Type the Password to identify the client in the IEEE 802.1X authentication server.
- 6 **Verify** - Verify Password.
- 7 **CA Certificate** - Select the CA certificate required for TLS, TTLS, and PEAP authentication.
- 8 **Certificate** - Select the client certificate required for TLS authentication

- 9 Click 'Apply' to make above setting effective.

## HTTPS Configuration

Figure 60 HTTPS Configuration GUI layout

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**HTTPS CONFIGURATION**

1. If no certificates are available go to certificates to manage.

**Certificates**

Certificate	NONE	▼
-------------	------	---

**HTTPS connection Policy**

WEB	HTTP and HTTPS	▼
ONVIF	HTTP	▼
RTSP OVER HTTP	HTTP	▼

Apply

**Navigation Menu:**

- > VIDEO&AUDIO
- > CAMERA
- > NETWORK
- > TRIGGER ACTION
- > EVENTS
- > RECORD
- ▼ **SECURITY**
  - IP ADDRESS FILTER
  - RTSP AUTHENTICATION
  - IEEE 802.1X
  - HTTPS**
  - CERTIFICATES
  - SERVICE
- > SYSTEM

HTTPS encrypts session data over SSL or TLS protocols instead of using plain text in socket communications.

- 1 **Certificate** - Select an installed certificate.  
If you can not select a certificate, please install the certificate from the Security->Certificates menu.
- 2 **HTTPS** connection Policy - Select one of "HTTP", "HTTPS", "HTTP and HTTPS" depending on the connected web, onvif, rtsp over http.
- 3 Click 'Apply' to make above setting effective.  
When HTTPS mode is chosen, input https://<IP Address> to connect to the camera.



# Certificates Configuration

Figure 61 Certificates Configuration GUI layout

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**CERTIFICATES CONFIGURATION**

**Server/Client Certificates**

Certificate Name	Issued On	Expires On

Create Self-Signed Certificate    Properties    Delete

Create Certificate Signing Request    Install Certificate

**CA Certificate**

Certificate Name	Issued On	Expires On
DigiCertAssuredIDRootCA	2006-11-09	2031-11-09
DigiCertGlobalRootCA	2006-11-09	2031-11-09
DigiCertHighAssuranceEVRootCA	2006-11-09	2031-11-09
GeoTrust_Global_CA	2002-05-21	2022-05-21
GeoTrust_Global_CA2	2004-03-04	2019-03-04
GeoTrust_Primary_CA	2006-11-26	2036-07-16
GeoTrust_Universal_CA	2004-03-04	2029-03-04
Geotrust_PCA_G3_Root	2008-04-01	2037-12-01

Install Certificate    Properties    Delete

- 1 **Server/Client Certificates** - It show the installed certificates.
- 2 **Create Self-Signed Certificate** - A self-signed SSL certificate is an identity certificate signed by its own creator. But they are considered to be less trustworthy.
- 3 **Properties** - Shows information about the selected certificate.
- 4 **Delete** - Delete the selected certificate.
- 5 **Create Certificate signing request** - This is the encoded data that contains the necessary information for issuing the certificate.  
They must be filled in when creating the CSR (Certificate Signing Request).
- 6 **Install Certificate** - Install Certification
- 7 **CA Certificate** - It show the installed CA certificates.
- 8 **Install CA Certificate** - Install Certification, see the detail page.
- 9 **Properties** - Shows information about the selected certificate.
- 10 **Delete** - Delete the selected CA certificate.

## Certificates Configuration

### Detail for Install Certification.

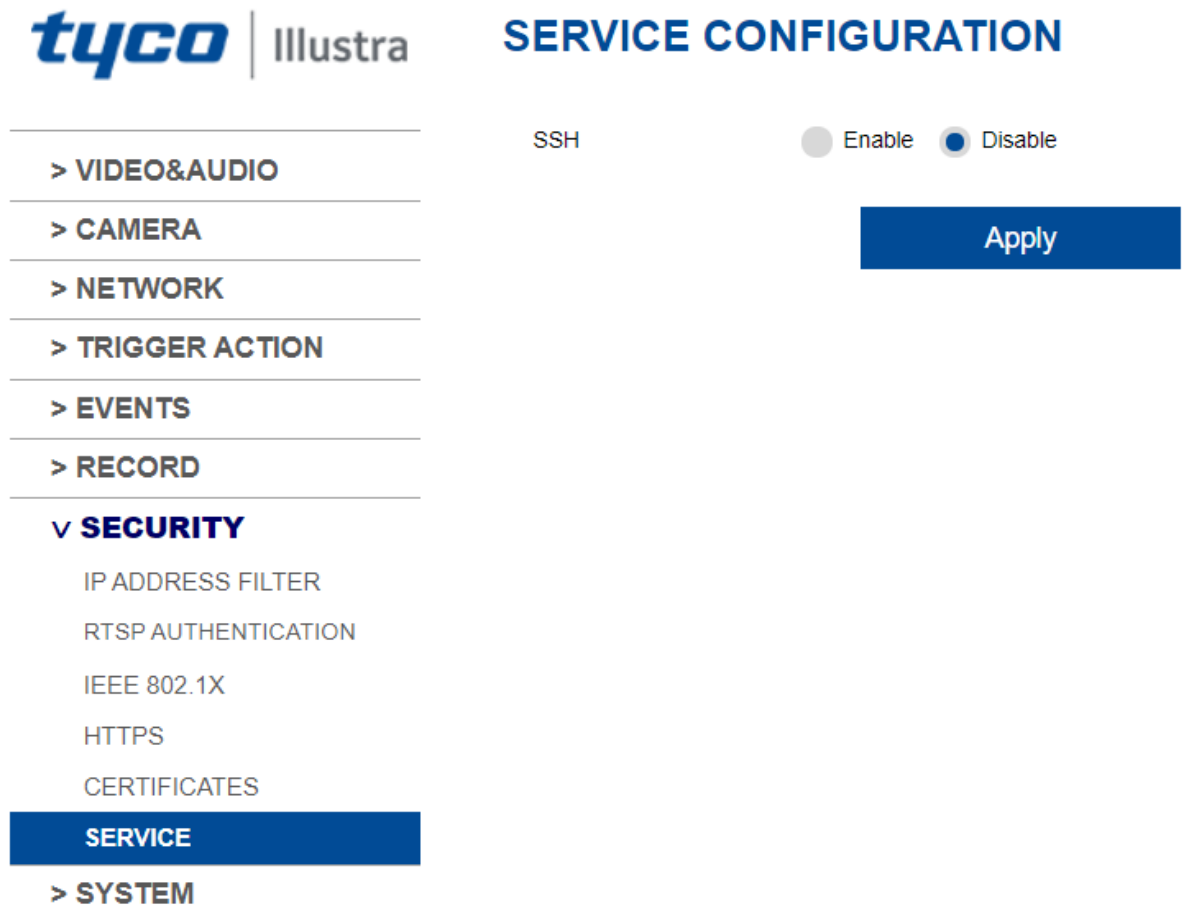
- 1 **Certificate From Signing Request** - Select to install signed certificate returned from the CA.
- 2 **Certificate And Private Key** - Select to install Certificate And Private Key to install a certificate and private key.
- 3 **Certificate Name** - Enter a unique name to identify certificate.
- 4 **Select File** - Choose certification file.
- 5 **OK** - Request installing certificate.
- 6 **Cancel** - Cancel install certificate and then back to certificates configuration.

### Detail for Install CA Certification.

- 7 **Certificate Name** - Enter a unique name to identify CA certificate.
- 8 **Select File** - Choose CA certification file
- 9 **OK** - Request installing CA certificate.
- 10 **Cancel** - Cancel install CA certificate and then back to certificates configuration.

## Service Configuration

Figure 62 Service Configuration GUI layout



- 1 **SSH** - The SSH function can be enable or disable.
- 2 Click 'Apply' to make above setting effective.

## System setup

### System Information

Figure 63 System Information GUI layout

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## SYSTEM INFORMATION

- > VIDEO&AUDIO
- > CAMERA
- > NETWORK
- > TRIGGER ACTION
- > EVENTS
- > RECORD
- > SECURITY
- ▼ **SYSTEM**
  - SYSTEM INFORMATION**
  - SYSTEM DIAGNOSTICS
  - FIRMWARE UPDATE
  - DATE&TIME SETTING
  - DST SETTINGS
  - USER MANAGEMENT
  - LOG
  - LANGUAGE
  - FACTORY RESET
  - RESTART
  - OPEN SOURCE

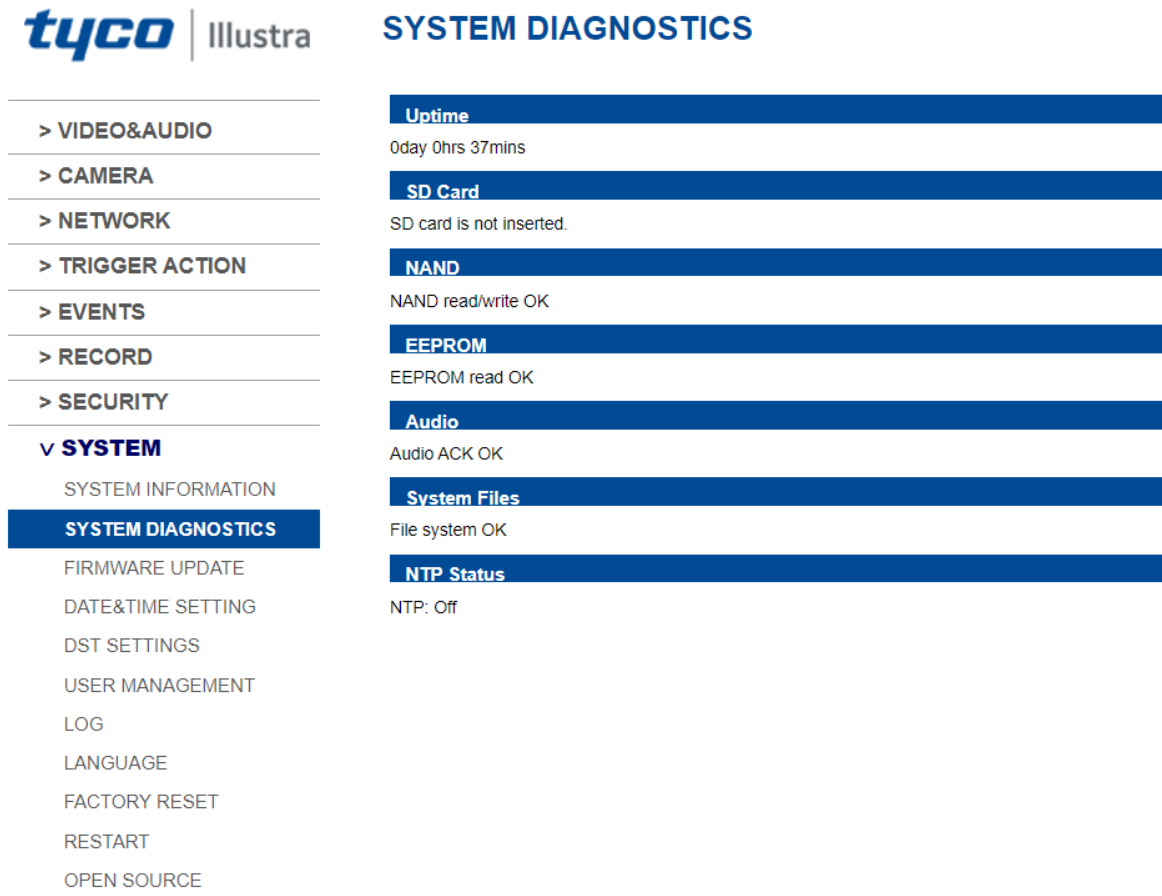
Device Name	Flex2-000DF12C1871
Location	
<b>Apply</b>	
<b>Model Name</b>	Illustra-Flex-16mp-MultiSensor
<b>Manufacturer</b>	Tyco Security Products
<b>Max Resolution</b>	2560 x 1440
<b>Max Framerate</b>	30 fps
<b>Photo Resistor(CDS)</b>	NOT SUPPORT
<b>Alarm In</b>	SUPPORT
<b>Relay out</b>	SUPPORT
<b>Audio</b>	SUPPORT
<b>Optical Zoom</b>	NOT SUPPORT
<b>Digital Zoom</b>	NOT SUPPORT
<b>PTZ</b>	NOT SUPPORT
<b>Slave Version</b>	Slave 1 2020.02.12_SS006.01.00.c65d075 Slave 2 2020.02.12_SS006.01.00.c65d075 Slave 3 2020.02.12_SS006.01.00.c65d075

#### System Capability information.

- 1 **Device Name** - You can define the device name.
  - 2 **Location** - You can define the device location.
- Click 'Apply' to make above setting effective.

# System Diagnostics

Figure 64 System Diagnostics GUI layout



**Shows basic hardware functions after inspection.**

- 1 Shows Uptime, SD card, NAND, EEPROM, Audio chip, Important file system and NTP Status.

**Warning:** If the camera is abnormally terminated, a download button will appear on the diagnostics page to download a file that allows you to check the error information you can.

## Firmware update

Figure 65 Firmware update GUI layout

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- > VIDEO&AUDIO
- > CAMERA
- > NETWORK
- > TRIGGER ACTION
- > EVENTS
- > RECORD
- > SECURITY
- v SYSTEM**
  - SYSTEM INFORMATION
  - SYSTEM DIAGNOSTICS
  - FIRMWARE UPDATE**
  - DATE&TIME SETTING
  - DST SETTINGS
  - USER MANAGEMENT
  - LOG
  - LANGUAGE
  - FACTORY RESET
  - RESTART
  - OPEN SOURCE

### FIRMWARE UPDATE

1. Do not power off during update. It may cause fatal system damage.
2. If Explorer was closed abnormally or a user closed it accidentally while uploading firmware file, please try again after 30 seconds.
3. Please do not select other menus while updating firmware file.

Version Information	
System	SS006.01.00.c65d075
Camera	-

**Web update**

Firmware File

- 1 Version Information - It shows the current Firmware Version in the system.
- 2 Web Update - Select the Firmware file in your computer by clicking [Select file] button.
- 3 Start F / W Update - Click this button to start update. Progress of uploading will be displayed using Progress Bar.

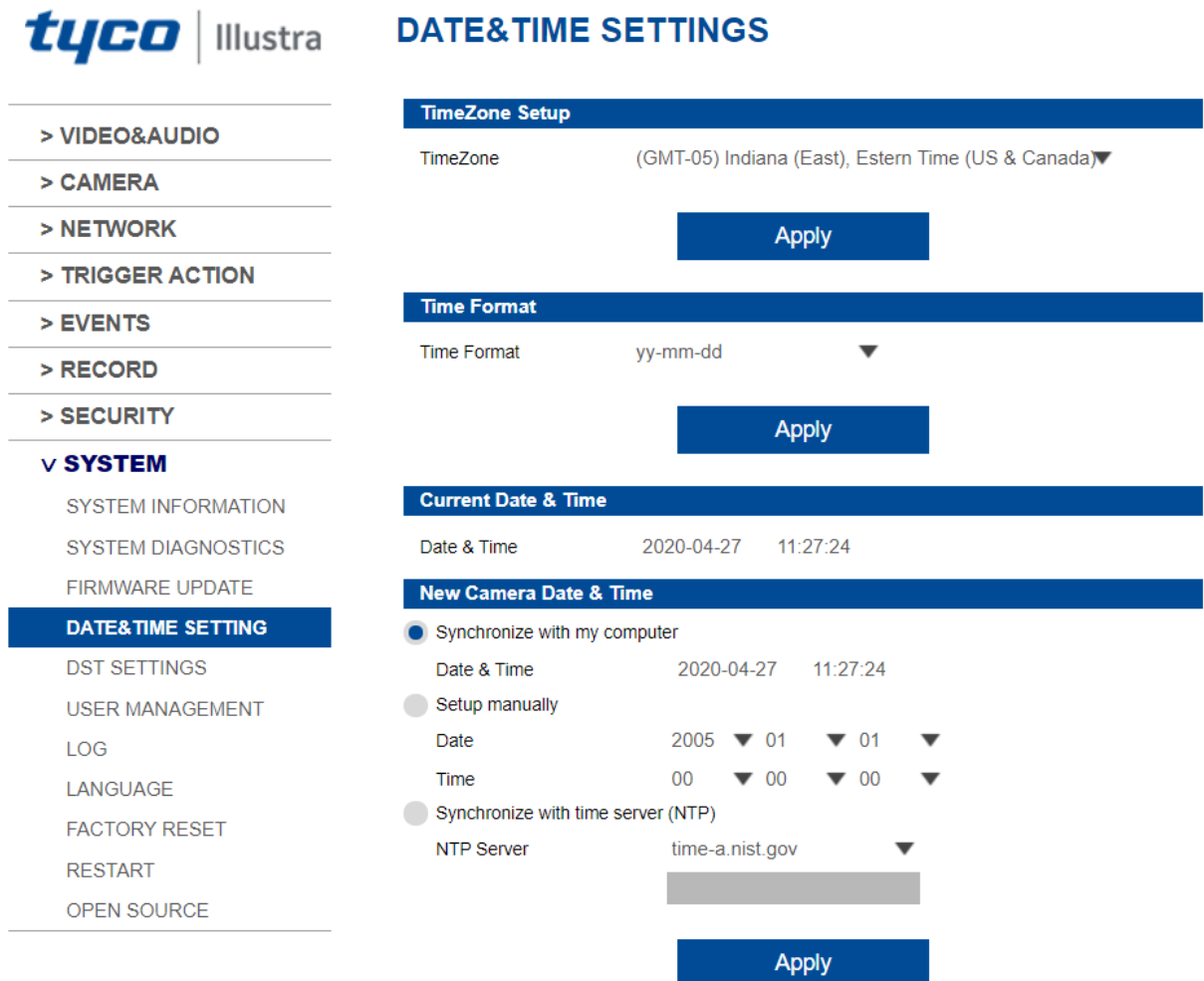
If you assign the wrong file name, an error message will be shown.

### Warning:

- 1 Do not turn off the power of camera during the Firmware update. Otherwise, the system can be stuck to be unstable. If updating is finished, the system will be rebooted automatically.
- 2 Please make sure to check the 'Notice' shown on screen. If firmware update is completed, the camera will reboot automatically and 'Set up window' will be closed.

# Date and Time Settings

Figure 66 Date and Time Settings GUI layout



- 1 **TimeZone Setup** - Choose TimeZone for camera. It will be activated after clicking 'Apply' button.

Prior to setting below 'New Camera Date & Time', set correct Timezone first.

- 2 **Time Format** - Select the time format yy-mm-dd or mm/dd/yy.
- 3 **Current Date & Time** - Shows the current date and time setting in the Camera.
- 4 **Synchronize with my computer** - Set the date / time using those of PC currently connected.
- 5 **Setup manually** - Set the date / time by typing manually.
- 6 **Synchronize with time sever Time Zone (NTP)** - Choose time server available to connect to current camera.  
Date & Time will be updated automatically every hour when connected.
- 7 Click 'Apply' to make above setting effective.

## Daylight Saving Time Settings

Figure 67 Daylight Saving Time Settings GUI layout

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### DST SETTINGS

**General Setting**

Off  On

**Date&Time Settings**

Start Time: Jan First Sun 0 o'clock

End Time: Jan First Sun 0 o'clock

Apply

**SYSTEM**

- SYSTEM INFORMATION
- SYSTEM DIAGNOSTICS
- FIRMWARE UPDATE
- DATE&TIME SETTING
- DST SETTINGS**
- USER MANAGEMENT
- LOG
- LANGUAGE
- FACTORY RESET
- RESTART
- OPEN SOURCE

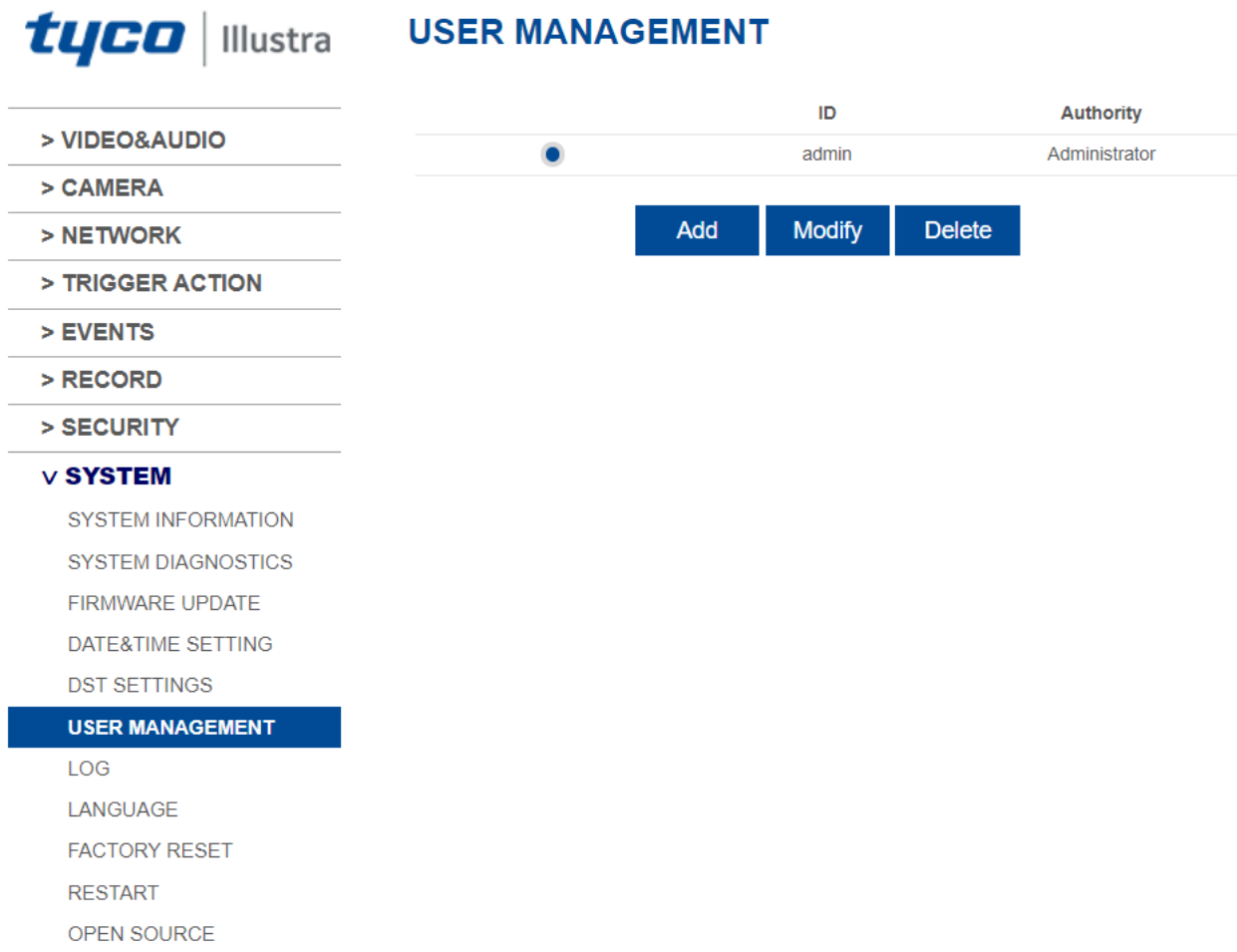
Daylight Saving Time (DST) is the practice of setting the clocks forward one hour from standard time during the summer months, and back again in the fall, in order to make better use of natural daylight.

- 1 **General Setting** - DST function can be enable or disable.
- 2 **Date &Time Settings** - Set the Start time and end time that the DST apply.
- 3 Click 'Apply' to make above setting effective.



# Users Management

Figure 68 User Management GUI layout



- 1 **Users** - List all the user accounts for authentication.
- 2 **Add** - Register a new user.

Table 69 New user roles

ID	Enter a new user ID, except the Admin as this already exists.
Password	Enter the user password
Verify	Enter the user password again to verify
User Authority	Select Operator or Viewer Viewer - The user can monitor only. Operator - All options except Setup are configurable.

The ID is limited to 4~30 characters.

Password Rules

- Weak : 8 characters or less, less than 2 combinations
- Good : more than 8 characters, more than 3 combinations
- Strong : more than 12 characters, 4 combinations

Combinations : uppercase letters, lowercase letters, numbers, special symbols.

Acceptable special characters are ~ ' ! & ^ ( ) \_ - | { } ; . ? /.

- 3 Click 'Apply' to make above setting effective.  
Click 'Cancel' to return to the previous menu.
- 4 **Modify** - Modify the information of the user accounts registered. For admin account, only Password function can be modified.
- 5 **Delete** - Delete the selected user account. Admin account cannot be deleted.

## System log

Figure 70 System Log GUI layout

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**SYSTEM LOG**

> VIDEO&AUDIO  
> CAMERA  
> NETWORK  
> TRIGGER ACTION  
> EVENTS  
> RECORD  
> SECURITY  
v **SYSTEM**  
SYSTEM INFORMATION  
SYSTEM DIAGNOSTICS  
FIRMWARE UPDATE  
DATE&TIME SETTING  
DST SETTINGS  
USER MANAGEMENT  
**LOG**  
LANGUAGE  
FACTORY RESET  
RESTART  
OPEN SOURCE

**Filter**

Date: 2020-04-27 ~ 2020-04-27  
Time: 0 0 0 ~ 0 0 0  
Type: All  
Sort: Ascending

Refresh Filter Backup

**List**

Date & Time	Log	IP
2020-04-27 11:21:07	Login Success	192.168.1.3
2020-04-27 11:11:05	Login Success	192.168.1.3
2020-04-27 11:01:07	Login Success	192.168.1.220
2020-04-27 11:01:05	Date/time changed	system
2020-04-27 11:01:05	Change datetime setting	192.168.1.220
2020-04-27 11:01:04	Date/time changed	system
2020-04-27 11:01:03	Change datetime setting	192.168.1.220
2005-01-01 19:10:57	RTSP session connected	192.168.1.220
2005-01-01 19:10:57	RTSP session connected	192.168.1.220

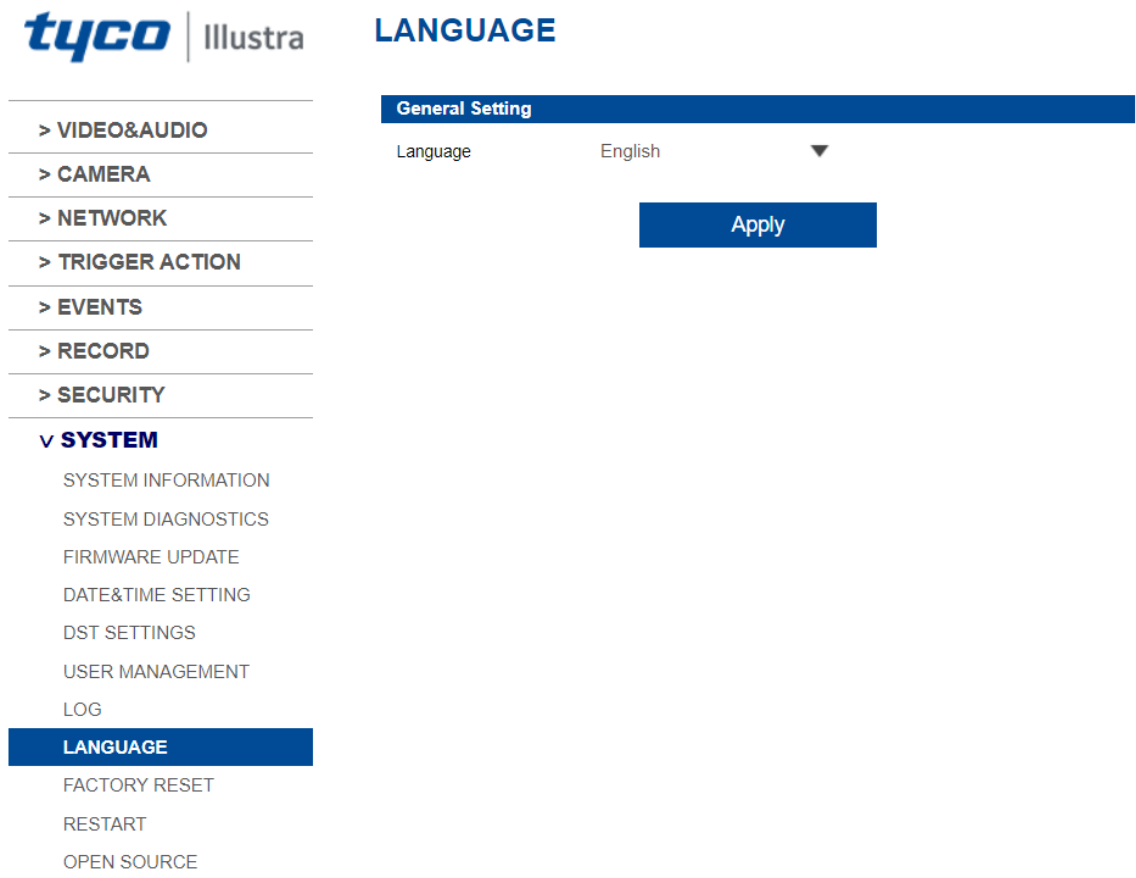
<< < 1 2 3 4 5 6 7 8 9 10 > >>

- 1 **Filter** - Select a date, time, sort or type of log to filter the log.

- 2 Click the 'Refresh' button to refresh the log list.  
Click 'Filter' to view the filtered log.  
Click 'Backup' to backup the filtered log.
- 3 **System Log List** - The filtered log is displayed.

## Language

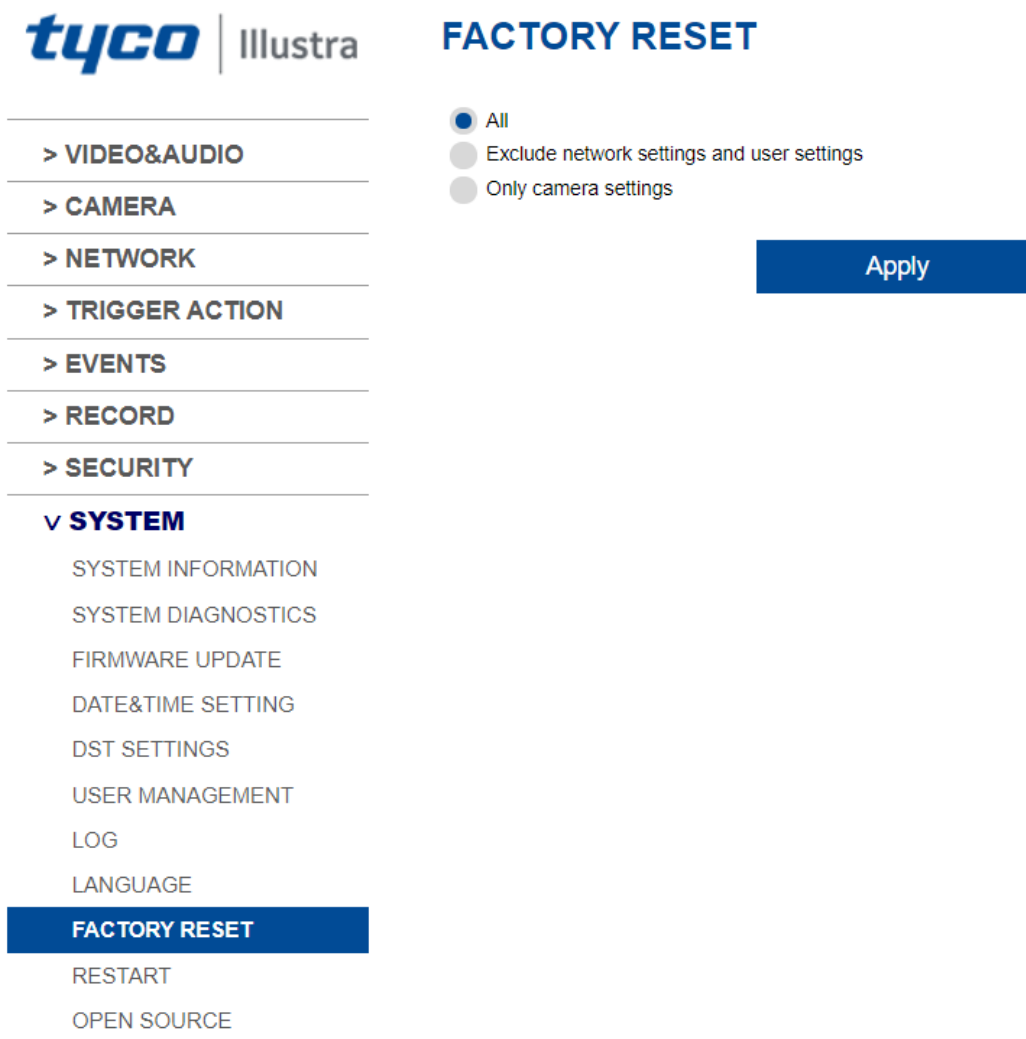
Figure 71 Language GUI layout



- 1 **Language** - Select the language you want from the list.
- 2 Click the 'Apply' to make above setting effective.

## Factory reset

Figure 72 Factory Reset GUI layout



- 1 **Reset to the factory defaults** - Return the setup to the factory default.

All	Reset all settings to the factory defaults
Except network settings and user settings	Except network, user related settings, reset all others to the factory defaults
Only camera settings	Reset only camera related settings to the factory defaults


- 2 Click 'Apply' to make above setting effective.

## Restart

Click the 'RESTART' menu and then click the 'OK' button to restart.

## Open Source Information

Figure 73 Open Source Information




---

- > VIDEO&AUDIO

---

- > CAMERA

---

- > NETWORK

---

- > TRIGGER ACTION

---

- > EVENTS

---

- > RECORD

---

- > SECURITY

---

- v SYSTEM**
- SYSTEM INFORMATION
- SYSTEM DIAGNOSTICS
- FIRMWARE UPDATE
- DATE&TIME SETTING
- DST SETTINGS
- USER MANAGEMENT
- LOG
- LANGUAGE
- FACTORY RESET
- RESTART
- OPEN SOURCE**

### SYSTEM OPEN SOURCE LICENSE

Open Source Name	Version	License
busybox	1.24.1	GPLv2
alsa-lib	1.1.2	GPLv2.1
libglib2	2.47.1	LGPLv2
libgnutls	3.4.11	LGPLv2.1
libjson-c	0.11-20140402	JSON License
libcurl	7.50.1	MIT/X derivate License
libffi	3.1	MIT License
libgcrypt	1.6.1	LGPLv2.1
libnl	3.2.24	LGPLv2.1
libogg	1.3.1	BSD-style License
libsamplerate	0.1.8	GPLv2
libselinux	2.3	Public domain
libsndfile	1.0.25	LGPLv2.1
libssh2	1.6.0	BSD
libtasn1	4.8	GPLv3

# Appendix A: Technical Specifications

The table below lists technical specifications of the Illustra Multi-sensor Dome 4MP camera.

<b>Camera</b>	
Image sensor	1/3" 4.0M CMOS
Total Pixels	2688(H) X 1520(V)
Focal Length	2.8mm   4.0mm   6.0mm   8.0mm, F2.0
Horizontal Angle	D : 104°, H : 90°, V : 55° (2.8mm) D : 101°, H : 81°, V : 43° (4.0mm) D : 59°, H : 51°, V : 29° (6.0mm) D : 44°, H : 39°, V : 22° (8.0mm)
Shutter speed	Auto / Manual(1/15 ~ 1/32000), Anti-Flicker, Slow Shutter(off, 2X, 3X, 5X, 6X, 7.5X, 10X)
Min. Illumination	0.41 Lux (F2.0)
IR	-
Day and Night	TDN(True Day & Night)
WDR	WDR (2x, 3x)
DNR	3D-DNR
Privacy Zone	16 Programmable Zone
AGC	Auto
Other Image Processing	Exposure, White Balance, Sharpness, BLC, Brightness, Contrast, Saturation, Hue
<b>Encoder (Video and Audio)</b>	
Video Compression	H.264, MJPEG
H.264 Profile	BP / MP / HP
Multiple Profile Streaming Performance	1440p30 + 480p30 with H.264 + MJPEG (CH1 : H.264 / CH2 : H.264 & MJPEG / CH3 : MJPEG)
Video Bitrate	100kbps ~ 10Mbps, Multi-rate for Preview and Recording
Bitrate Control	Multi Streaming CBR/VBR at H.264 (Controllable frame rate and Bandwidth)
Edge Storage	Micro SD Card (SD/SDHC/SDXC)
<b>I/O and Event</b>	

Audio In/Out	1[1.0Vrms, 3kΩ] / 1
Alarm In/Out	1 / 1
Video Output (2nd Video Out)	1 [CVBS 1.0V p-p (75Ω)], 4:3 aspect ratio
Event Notification	FTP, E-mail, Alarm out, SD card
<b>Security and Network</b>	
Network Protocol	IPv4 : TCP/IP / UDP / AutoIP / RTP(UDP/TCP) / RTSP / NTP / HTTP / HTTPS / SSL / DNS / DDNS / DHCP / FTP / SMTP / ICMP / SNMPv1/v2/v3(MIB-2) / ONVIF
Security	HTTPS(SSL), IP filtering, 802.1x, Digest Authentication(ID/PW)
Plug in	CGI API, ONVIF
<b>General</b>	
Supported Languages	English, Arabic, Czech, Danish, German, Spanish, French, Hungarian, Italian, Japanese, Korean, Dutch, Polish, Portuguese, Swedish, Turkish, Chinese Simplified, Chinese Traditional, Russian, Hindi, Russian
Power	(Adaptor is not Included) DC12V : Max 16.5W PoE IEEE 802.3at PoE+ : Max 17.5W
Temperature	-20°C ~ 50°C
Material	Aluminum Die-casting
Dimensions (DxH)	Ø192 x 84 mm
Weight	2.0kg
Certification	FCC, CE, ROHS, IP66



# Standards and Compliance

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## CE Marking

Hereby, American Dynamics declares that this equipment, if used according to the instructions, is in compliance with the essential requirements and other relevant provisions of the applicable directives. For use in all countries of the EU.

A Declaration of Conformity exists for the Multi-sensor dome readers. You can obtain a copy from Illustra.

Address:

Illustra,

6600 Congress Avenue

Boca Raton, FL 33487 U.S.A.

In case of alteration of the product, not agreed to by us, this declaration will lose its validity.

This symbol indicates proof of conformity to applicable European Economic Community Council directives and harmonized standards published in the official journal of the European Communities.



## FCC Digital Device Limitations

Radio and Television Interference

This equipment has been tested and found to comply with the limits for a digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

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

In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and television reception.

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**Note:** Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment and could create a hazardous condition.

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## Canadian Radio Emissions Requirements

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Emissions	FCC CFR 47 Part 15 Class A ICES-003 EN 55032 Class A
Immunity	EN 50130-4 EN 61000-3-2 EN 61000-3-3
Enclosure	IP66
Environmental	RoHS WEEE

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**Note:** The signal cable must have a max length of 3m.

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