Illustra Multi-sensor Camera
Installation and Configuration Guide
Notice

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

The information in this manual was current when published. The manufacturer reserves the right to revise and improve its products. All specifications are therefore subject to change without notice.

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Warning

- 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: \(-4^\circ F \sim 58^\circ F\) (-20°C \sim 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

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 then 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

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

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**

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Model Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFS16-M10-BT03</td>
<td>4MP Multi-sensor Dome camera</td>
<td>4MP Multi-sensor Dome camera</td>
</tr>
</tbody>
</table>

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 23 for procedural information pertaining to camera configuration.
Multi-sensor Dome Camera

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

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFS16-M10-BT03</td>
<td>4MP Multi-sensor Dome camera</td>
</tr>
</tbody>
</table>

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

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+
**Procedure 1 Camera sensor modules assembly**

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Use the Torx wrench to remove the four screws on the camera dome (Figure 3) and remove the dome from the camera base.</td>
</tr>
</tbody>
</table>
| 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*
**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 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 6 Camera mounting accessories

<table>
<thead>
<tr>
<th>Mount Product Code</th>
<th>Description on label</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBPN-M-IS12-0</td>
<td>Flex Multi-sensor Ceiling bracket</td>
</tr>
<tr>
<td>IBWS-M-ISWB-0</td>
<td>Flex Multi-sensor Wall bracket</td>
</tr>
<tr>
<td>IBCR-M-ISWT-0</td>
<td>Flex Multi-sensor In-Ceiling bracket</td>
</tr>
<tr>
<td>IBJB-M-ISWB-0</td>
<td>Flex Multi-sensor Junction bracket</td>
</tr>
</tbody>
</table>

Figure 7 Camera mounts

Step | Action
---|---
1    | To install a camera mount see the mounting Quick Start Guide at https://ilustracameras.com/accessories/
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 8) aligns with the ‘lock’ and ‘unlock’ bridges on the mount.
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).

Adjust the four camera modules (Figure 8) 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 9.

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

**Note:** Ensure that the camera module angle does not exceed 60 degrees. See Figure 10.
Figure 10 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 ---

Camera cable port connections
See the camera cable port connections in Figure 11.

Figure 11 Cable ports
Camera cable port descriptions

1. Power: Connect the DC12V power cable to the power cable port on the camera.
2. 'OR'
3. Network: Connect the camera’s network cable to an 802.3at PoE+ switch.
4. Audio Output: Connect the audio output device cable to the ‘Audio Output’ camera cable port on the camera.
5. Audio Input: Connect the audio input device cable to the ‘Audio Input’ camera cable port on the camera.
6. Alarm Output: Connect the alarm output device cable to the blue and grey cables on the camera ‘Alarm/Out’ cable.
7. 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 12 and their descriptions below.

Figure 12 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 12.
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.

Camera Controls:
- PTZ Control / Preset – Not supported in web GUI.
- Speaker Control and MIC – Supported.
- Alarm Input / Relay Out – Supported.

Motion – Motion Detection indicator.

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 14 Illustra Multi-sensor camera Network Topology Type I.*

*Figure 15 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 16 Network connection diagram

Default camera settings

The following table describes the default camera settings.

<table>
<thead>
<tr>
<th>Network Settings</th>
<th>Defaults</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHCP</td>
<td>Enabled</td>
</tr>
<tr>
<td>Static IP Address</td>
<td>192.168.1.168</td>
</tr>
<tr>
<td>Default Username</td>
<td>admin</td>
</tr>
<tr>
<td>Default Password</td>
<td>admin</td>
</tr>
</tbody>
</table>
Procedure 3 Connecting from a computer

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ensure the camera and your computer are in the same subnet.</td>
</tr>
</tbody>
</table>
| 2    | Check if the network is available between the unit and the computer by pinging the default IP address.  
|      | a  Start a command prompt.  
|      | b  Type “Ping 192.168.1.168”. If the message “Reply from…” appears, it means the connection is available. |
| 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 4 Enable DHCP

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

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 5 Disable DHCP

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Select Setup on the Web User Interface banner to display the setup menus.</td>
</tr>
<tr>
<td>2</td>
<td>Select the TCP/IP tab in the Basic Configuration menu.</td>
</tr>
</tbody>
</table>
| 3    | Clear the Enable DHCP check box to disable DHCP and allow manual settings to be entered. 
|      | The default setting is ‘Enabled’. |
| 4    | If Enable DHCP has been disabled: |
Procedure 6 Connecting to the camera using the static IP address

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>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.</td>
</tr>
<tr>
<td>2</td>
<td>Open Microsoft Internet Explorer and enter the URL of the camera as 192.168.1.168. The camera sign in page displays.</td>
</tr>
</tbody>
</table>

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

- End -

Procedure 7 Logging on to the camera web user interface

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

**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.

- End -

Procedure 8 Enabling the correct video orientation for a wall mounted camera

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Log on to the camera web user interface.</td>
</tr>
<tr>
<td>2</td>
<td>Select <strong>Setup</strong> on the camera web user interface banner to display the setup menus.</td>
</tr>
<tr>
<td>3</td>
<td>Select the <strong>Picture Basic</strong> tab from the <strong>Basic Configuration</strong> menu.</td>
</tr>
<tr>
<td>4</td>
<td>Select the required <strong>Orientation</strong> setting:</td>
</tr>
</tbody>
</table>
- Mirror
- Flip

5 The video pane updates to display the new settings.

- End -
Configuration

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

Web GUI Screen layout

Logging into the web GUI for the first time

Figure 17: 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 18 Web viewer screen layout**

1. Live video display – This is the camera’s 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.
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 20 Video configuration GUI layout*

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

2. **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.

3. **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

<table>
<thead>
<tr>
<th></th>
<th>4M</th>
<th>3M</th>
<th>1080pi</th>
<th>720pi</th>
<th>SVGA</th>
<th>VGA</th>
<th>4CIF</th>
<th>CIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTSC</td>
<td>2560x1440</td>
<td>2034x1296</td>
<td>1920x1080</td>
<td>1280x720</td>
<td>800x600</td>
<td>640x480</td>
<td>704x576</td>
<td>352x288</td>
</tr>
<tr>
<td>PAL</td>
<td>2560x1440</td>
<td>2304x1296</td>
<td>1920x1080</td>
<td>1280x720</td>
<td>800x600</td>
<td>640x480</td>
<td>704x576</td>
<td>352x288</td>
</tr>
</tbody>
</table>

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 bitrate. 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.
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 22 Region of interest configuration GUI layout

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 23 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 24 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 25 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 26 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

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 28 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 29 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 30 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.
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 32 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 33 Network status GUI layout

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

Figure 34 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.
Alternate DNS Server - Define the Secondary DNS server IP address. Format is same as the IP address.

HTTP Port - The HTTP port can be set to 80 which default or in between 1025 to 60000.

HTTPS Port - The HTTPS port can be set to 443 which default or in between 1025 to 60000.

RTSP Port - The RTSP port can be set to 554 which default or in between 1025 to 60000.

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 35 Auto IP Settings GUI layout

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 36 ONVIF Settings GUI layout

ONVIF SETTINGS

<table>
<thead>
<tr>
<th>Authentication</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Discovery mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discoverable</td>
</tr>
</tbody>
</table>

Apply

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.
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 38 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.

<table>
<thead>
<tr>
<th>DDNS Provider</th>
<th>Site Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>DynDNS</td>
<td><a href="http://www.dyndns.com">www.dyndns.com</a></td>
</tr>
<tr>
<td>No-IP</td>
<td><a href="http://www.no-ip.com">www.no-ip.com</a></td>
</tr>
</tbody>
</table>

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.
Click ‘Apply’ to make above setting effective.

**FTP Settings**

Figure 39 FTP Settings GUI layout

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

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 41 SNMP Settings GUI layout*

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

RTSP information

Figure 42 RTSP information GUI layout

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 43 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 44 Image transfer configuration GUI layout

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

<table>
<thead>
<tr>
<th>Descriptions</th>
<th>Number Of Image</th>
<th>Image Per Seconds(s) [1 ~ 5]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Alarm Duration</td>
<td>3</td>
<td>Second(s) [1 ~ 5]</td>
</tr>
<tr>
<td>Post-Alarm Duration</td>
<td>3</td>
<td>Second(s) [1 ~ 30]</td>
</tr>
</tbody>
</table>

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

2. **Click ‘Apply’ to make above setting effective.**
Relay out configuration

Figure 45 Relayout 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 46 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.
7. Click ‘Save’ to save the current settings.

Click 'Cancel' to return to the previous setting.
Schedule configuration

Figure 47 Schedule Configuration GUI layout

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 48 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 49 Temperature GUI layout

<table>
<thead>
<tr>
<th>General Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode</td>
</tr>
<tr>
<td>Threshold</td>
</tr>
<tr>
<td>Temperature</td>
</tr>
</tbody>
</table>

1. **Mode** - Select 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 the above setting effective.
**Alarm Configuration**

*Figure 50 Alarm Configuration GUI layout*

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

<table>
<thead>
<tr>
<th>Operation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>Ignore this input sensor</td>
</tr>
<tr>
<td>NO</td>
<td>The contact is normally open and closed when activated</td>
</tr>
<tr>
<td>NC</td>
<td>The contact is normally closed and open when activated</td>
</tr>
</tbody>
</table>

2. Click ‘Apply’.
Record Setup

Record Management

Figure 51 Record Management GUI layout

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 enabled or disabled.
2. **Storage Device** - Cannot 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 continuous 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 52 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 53 Storage Configuration GUI layout

STORAGE CONFIGURATION

Notice

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Mounted</th>
<th>Size</th>
<th>Used(%)</th>
<th>Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD Card1</td>
<td>X</td>
<td>0</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>SD Card2</td>
<td>X</td>
<td>0</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>SD Card3</td>
<td>X</td>
<td>0</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>SD Card4</td>
<td>X</td>
<td>0</td>
<td>0%</td>
<td>0</td>
</tr>
</tbody>
</table>

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 54 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 55 RTSP Authentication Configuration GUI layout

RTSP AUTHENTICATION CONFIGURATION

1. **RTSP Authentication** - RTSP Authentication can be enabled or disabled.
2. Click ‘Apply’ to make above setting effective.
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.
7. CA Certificate - Select the CA certificate required for TLS, TTLS, and PEAP authentication.
HTTPS encrypts session data over SSL or TLS protocols instead of using plain text in socket communications.

   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.
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 59 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

![System Information GUI layout](image)

**SYSTEM INFORMATION**

<table>
<thead>
<tr>
<th>Device Name</th>
<th>Flex2-000DF12C1871</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td></td>
</tr>
</tbody>
</table>

- **Model Name**: Illustra Flex-16mp-MultiSensor
- **Manufacturer**: Tyco Security Products
- **Max Resolution**: 2560 x 1440
- **Max Framerate**: 30 fps
- **Photo Resistor(CDS)**: NOT SUPPORT
- **Alarm In**: SUPPORT
- **Relay out**: SUPPORT
- **Audio**: SUPPORT
- **Optical Zoom**: NOT SUPPORT
- **Digital Zoom**: NOT SUPPORT
- **PTZ**: NOT SUPPORT
- **Slave Version**: Slave 1 2020.02.12_SS006.01.00.c658075  Slave 2 2020.02.12_SS006.01.00.c658075  Slave 3 2020.02.12_SS006.01.00.c658075

### 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 61 System Diagnostics GUI layout**

<table>
<thead>
<tr>
<th>SYSTEM DIAGNOSTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Uptime</strong></td>
</tr>
<tr>
<td>0 day 0 hours 37 mins</td>
</tr>
<tr>
<td><strong>SD Card</strong></td>
</tr>
<tr>
<td>SD card is not inserted</td>
</tr>
<tr>
<td><strong>NAND</strong></td>
</tr>
<tr>
<td>NAND read/write OK</td>
</tr>
<tr>
<td><strong>EEPROM</strong></td>
</tr>
<tr>
<td>EEPROM read OK</td>
</tr>
<tr>
<td><strong>Audio</strong></td>
</tr>
<tr>
<td>Audio ACK OK</td>
</tr>
<tr>
<td><strong>System Files</strong></td>
</tr>
<tr>
<td>File system OK</td>
</tr>
<tr>
<td><strong>NTP Status</strong></td>
</tr>
<tr>
<td>NTP Off</td>
</tr>
</tbody>
</table>

Shows basic hardware functions after inspection.

1. Shows Uptime, SD card, NAND, EEPROM, Audio chip, Important file system amd 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 62 Firmware update GUI layout

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

<table>
<thead>
<tr>
<th>System</th>
<th>55006.01.00.000075</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camera</td>
<td>-</td>
</tr>
</tbody>
</table>

Web update

Firmware File  [Select File]

Start F/W Update

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 ‘Setup window’ will be closed.
Date and Time Settings

Figure 63 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 (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 65 User Management GUI layout

**USER MANAGEMENT**

<table>
<thead>
<tr>
<th>ID</th>
<th>Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin</td>
<td>Administrator</td>
</tr>
</tbody>
</table>

Add [Modify] [Delete]

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

**Table 66 New user roles**

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

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 67 System Log GUI layout**

**SYSTEM LOG**

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

Figure 69 Factory Reset GUI layout

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

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Reset all settings to the factory defaults</td>
</tr>
<tr>
<td>Except network settings and user settings</td>
<td>Except network, user related settings, reset all others to the factory defaults</td>
</tr>
<tr>
<td>Only camera settings</td>
<td>Reset only camera related settings to the factory defaults</td>
</tr>
</tbody>
</table>

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 70 Open Source Information

**SYSTEM OPEN SOURCE LICENSE**

<table>
<thead>
<tr>
<th>Open Source Name</th>
<th>Version</th>
<th>License</th>
</tr>
</thead>
<tbody>
<tr>
<td>busybox</td>
<td>1.24.1</td>
<td>GPLv2</td>
</tr>
<tr>
<td>alsatlb</td>
<td>1.1.2</td>
<td>GPLv2.1</td>
</tr>
<tr>
<td>libglib2</td>
<td>2.47.1</td>
<td>LGPLv2</td>
</tr>
<tr>
<td>libgtaufis</td>
<td>3.4.11</td>
<td>LGPLv2.1</td>
</tr>
<tr>
<td>libjson-c</td>
<td>0.11-20140402</td>
<td>JSON License</td>
</tr>
<tr>
<td>libcurl</td>
<td>7.50.1</td>
<td>MIT/X derivative License</td>
</tr>
<tr>
<td>liblredd</td>
<td>3.1</td>
<td>MIT License</td>
</tr>
<tr>
<td>libgcrypt</td>
<td>1.6.1</td>
<td>LGPLv2.1</td>
</tr>
<tr>
<td>libnl3</td>
<td>3.2.24</td>
<td>LGPLv2.1</td>
</tr>
<tr>
<td>libogg</td>
<td>1.3.1</td>
<td>BSD-style License</td>
</tr>
<tr>
<td>libsamplerate</td>
<td>0.1.6</td>
<td>GPLv2</td>
</tr>
<tr>
<td>libself</td>
<td>2.3</td>
<td>Public domain</td>
</tr>
<tr>
<td>libssh2</td>
<td>1.0.25</td>
<td>LGPLv2.1</td>
</tr>
<tr>
<td>libtasn1</td>
<td>4.8</td>
<td>GPLv3</td>
</tr>
</tbody>
</table>
Appendix A: Technical Specifications

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

<table>
<thead>
<tr>
<th>Camera</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image sensor</td>
</tr>
<tr>
<td>Total Pixels</td>
</tr>
<tr>
<td>Focal Length</td>
</tr>
<tr>
<td>Horizontal Angle</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Shutter speed</td>
</tr>
<tr>
<td>Min. Illumination</td>
</tr>
<tr>
<td>IR</td>
</tr>
<tr>
<td>Day and Night</td>
</tr>
<tr>
<td>WDR</td>
</tr>
<tr>
<td>DNR</td>
</tr>
<tr>
<td>Privacy Zone</td>
</tr>
<tr>
<td>AGC</td>
</tr>
<tr>
<td>Other Image Processing</td>
</tr>
</tbody>
</table>

**Encoder (Video and Audio)**

| Video Compression                          | H.264, MJPEG                                 |
| H.264 Profile                              | BP / MP / HP                                  |
| Multiple Profile Streaming                 | 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)                  |

**I/O and Event**
### 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

### Security and Network

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Security</td>
<td>HTTPS(SSL), IP filtering, 802.1x, Digest Authentication(ID/PW)</td>
</tr>
<tr>
<td>Plug in</td>
<td>CGI API, ONVIF</td>
</tr>
</tbody>
</table>

### General

<table>
<thead>
<tr>
<th>Supported Languages</th>
<th>English, Arabic, Czech, Danish, German, Spanish, French, Hungarian, Italian, Japanese, Korean, Dutch, Polish, Portuguese, Swedish, Turkish, Chinese Simplified, Chinese Traditional, Russian, Hindi, Russian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>(Adaptor is not Included) DC12V : Max 16.5W PoE IEEE 802.3at PoE+ : Max 17.5W</td>
</tr>
<tr>
<td>Temperature</td>
<td>-20°C ~ 50°C</td>
</tr>
<tr>
<td>Material</td>
<td>Aluminum Die-casting</td>
</tr>
<tr>
<td>Dimensions (DxH)</td>
<td>Ø192 x 84 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>2.0kg</td>
</tr>
<tr>
<td>Certification</td>
<td>FCC, CE, ROHS, IP66</td>
</tr>
</tbody>
</table>
Standards and Compliance

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.

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.

Canadian Radio Emissions Requirements

This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conform à la norme NMB-003 du Canada.

<table>
<thead>
<tr>
<th>Category</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emissions</td>
<td>FCC CFR 47 Part 15 Class A</td>
</tr>
<tr>
<td></td>
<td>ICES-003</td>
</tr>
<tr>
<td></td>
<td>EN 55032 Class A</td>
</tr>
<tr>
<td>Immunity</td>
<td>EN 50130-4</td>
</tr>
<tr>
<td></td>
<td>EN 61000-3-2</td>
</tr>
<tr>
<td></td>
<td>EN 61000-3-3</td>
</tr>
<tr>
<td>Enclosure</td>
<td>IP66</td>
</tr>
<tr>
<td>Environmental</td>
<td>RoHS</td>
</tr>
<tr>
<td></td>
<td>WEEE</td>
</tr>
</tbody>
</table>

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