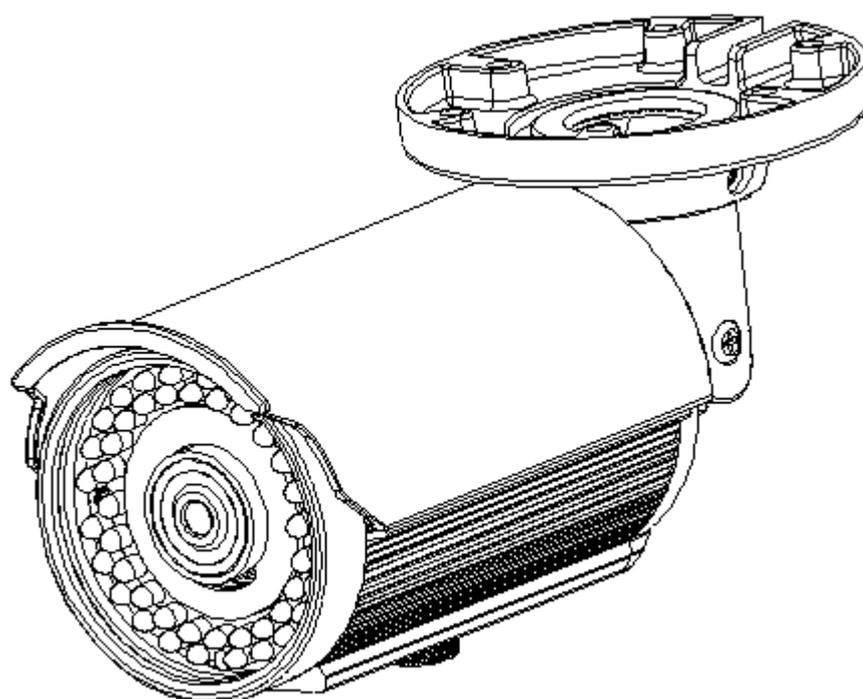


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# 3 Megapixel IR Bullet LPR/ANPR Network Camera

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User Manual



201412 606 A2



[www.use-ip.co.uk](http://www.use-ip.co.uk)  
01304 827609

# **NOTICE**

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

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# WARNING

- This unit operates at AC 24V/ PoE.
- Installation and service should 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 rain or 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 be melted or lens to be fogged.
- Avoid aligning the lens to very bright objects (example, light fixtures) for long periods of time.
- Avoid operating or storing the unit in the following locations:
  - ✓ Extremely humid, dusty, or hot/cold environments (recommended operating temperature: -40°C to +50°C)
  - ✓ Close to sources of powerful radio or TV transmitters
  - ✓ Close to fluorescent lamps or objects with reflections
  - ✓ Under unstable or flickering light sources

	<b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN			THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THE UNIT.
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.			THIS SYMBOL INDICATES THAT IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS ACCOMPANY THIS UNIT.	



**WEEE (Waste Electrical and Electronic Equipment).** Correct disposal of this product (applicable in the European Union and other European countries with separate collection systems). This product should be disposed of, at the end of its useful life, as per applicable local laws, regulations, and procedures.

## FCC Compliance Statement

**Information to the user:** This unit has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15B of the FCC Rules. 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. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This unit generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this unit does cause harmful interference to radio or television reception, which can be determined by turning the unit off and on, the user is encouraged to try to correct the interference. For example, try reorienting or relocating the receiving antenna, increasing the separation between the unit and receiver, or connecting the unit to an outlet on a different circuit.

---

**Caution** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the unit.

---

## CE Statement

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. The manufacturer declares that the unit supplied with this guide is compliant with the essential protection requirements of EMC directive and General Product Safety Directive (GPSD) conforming to requirements of standards EN55022 for emission, EN 55024 for immunity.

# Preface

This user manual is designed as a reference for the installation and manipulations of the unit including the camera's features, functions, and detailed explanation of the menu tree. The reader is supposed to be able to get following information in the manual.

**Product Overview:** the main functions and system requirements of the unit.

**Installation and Connection:** instructions on unit installation and wire connections.

**Administration and Configuration:** the main menu navigation and controls explanations.

# 1. Product Overview

## 1.1 Physical Characteristics

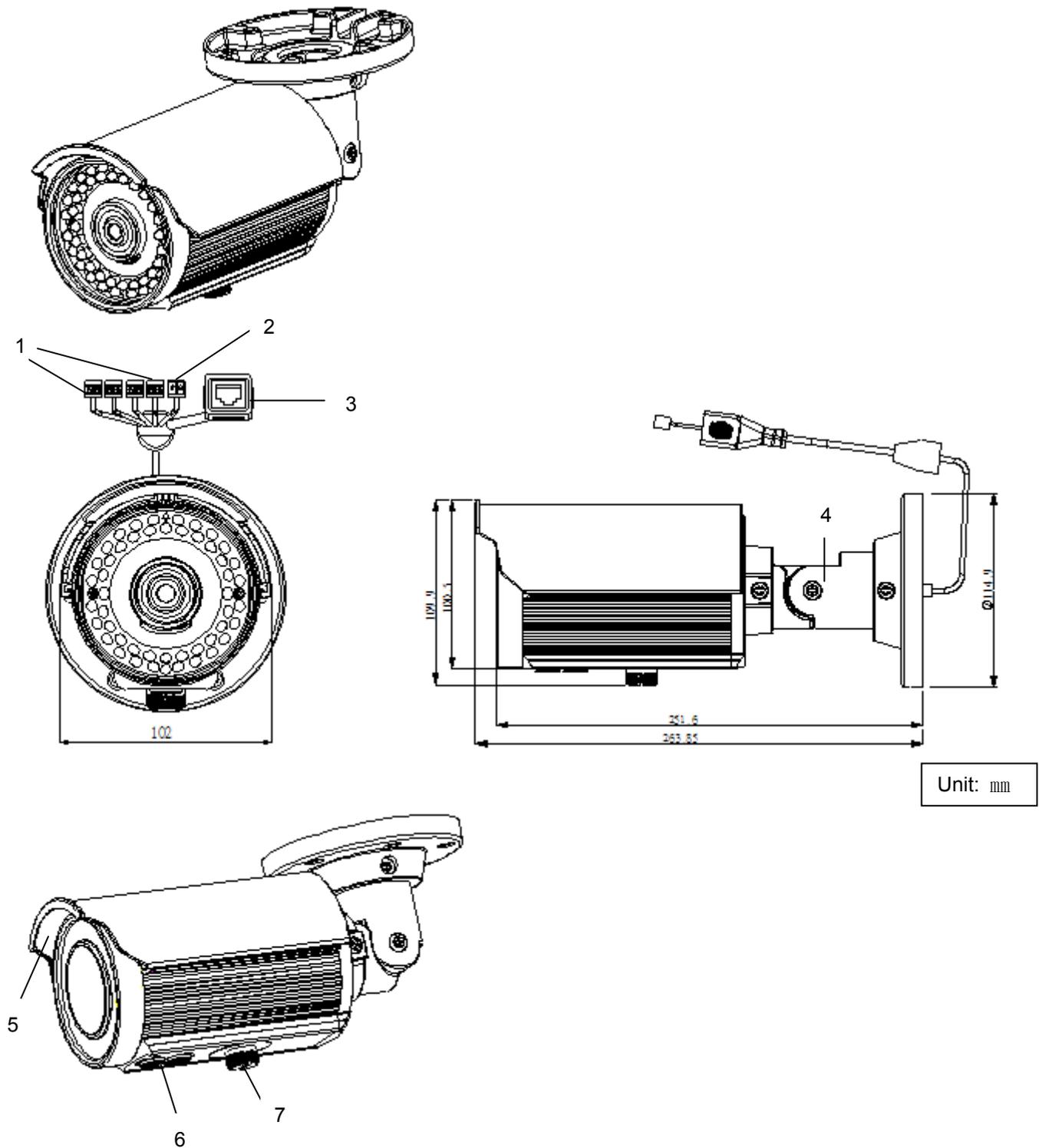
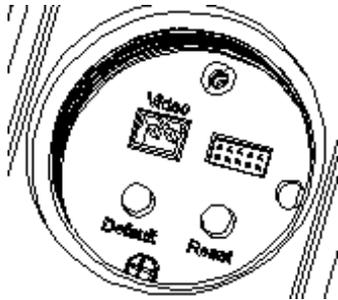


FIGURE 1-1: PHYSICAL DIMENSION & PICTORIAL INDEX\*

\*Refer to table 1-1 for definitions

**TABLE 1-1: PICTORIAL INDEX DEFINITION**

Index #	Name	Description
1	I/O Connector	To connect Input/ Output devices
2	Power Connector	Connects to the external power source at AC 24V only
3	RJ-45 Ethernet Connector/ PoE	To insert the RJ-45 cable for network connection as well as PoE (Power over Ethernet)
4	Mount bracket	To connects the Mount.
5	Sun shield	To minimize the effects of rain and sunlight on image quality.
6	Externally adjustable focal length & focus	To adjust the Near/Far and Tele/Wide controls
7	Reset button and Default button	<p>a. Default: To Reset all settings of the unit to factory default by pressing for 5 seconds</p> <p>b. Reset: system restart</p> <p>c. Video out</p>



**TABLE 1-2: I/O CONNECTOR DEFINITIONS 1/2**

	Purple (Signal)	Audio in
	Green (GND)	
	Yellow (Signal)	Audio out
	Orange (GND)	
	Blue (Signal)	Alarm out
	Brown (COM)	
	Red (Signal)	Alarm in
	Black (GND)	

**TABLE 1-3: PIN DEFINITIONS 2/2**

 Default	 Reset	Default Return to factory default by press button for 5 seconds
		Reset System restart
 Video		Video Out To output video signal

---

**Caution** When rotated the knob to remove the default/reset cover, please tighten the screw to avoid water leaking after adjustment.

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**Note** Connectors and field wiring terminals for external Class 2 circuits provided with marking indicating minimum Class of wiring to be used. Class 2 shall be marked adjacent to the field wiring terminals.

---

## 2. Installation and Connection

### 2.1 Unpack Everything

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

- One IR Bullet LPR/ANPR Network Camera
- One 2-pin terminal block for power input
- One printed quick installation guide
- One monitor out cable
- One mounting template
- Six screw anchors
- Six screws

Please contact your dealer if any item missing.

### 2.2 Installation

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Following tools might help you complete the installation:

- a drill
- screwdrivers
- wire cutters

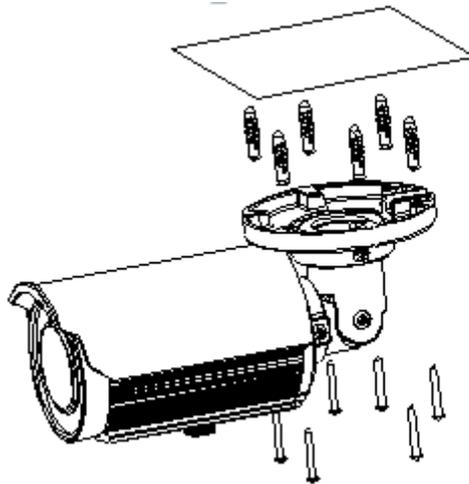
#### 2.2.1 Checking Appearance

When first unboxing, please check whether if there is any visible damage to appearance of the unit and its accessories. The protective materials used for the packaging should be able to protect the unit from most of accidents during transportation.

Please remove the protective part of the unit when every item is checked in accordance with the list in [2.1 Unpacking Everything](#).

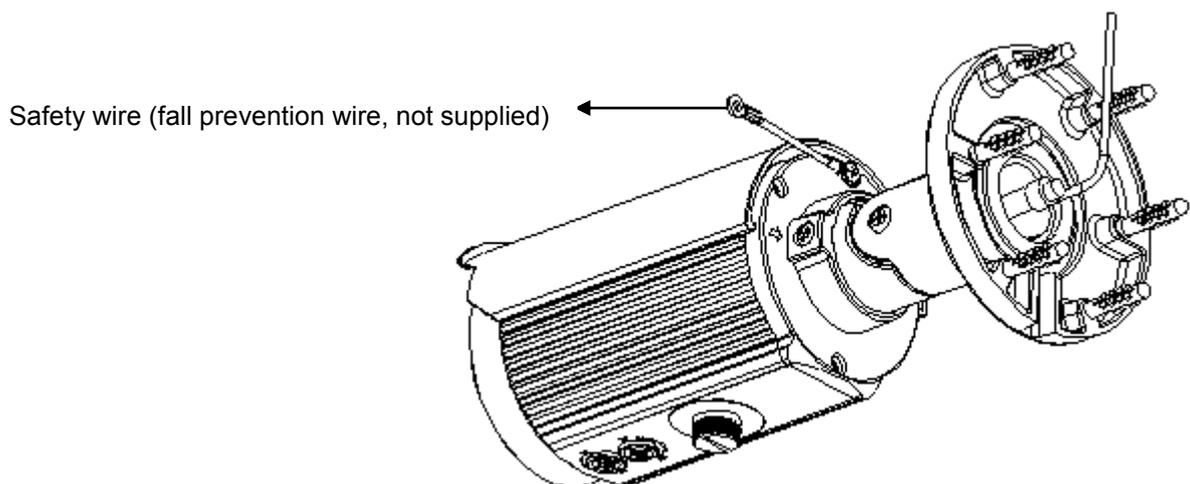
## 2.2.2 Mounting the camera

1. Affix the mounting template to the desired location, knock in 6 plastic anchors after hole drilling and then lock in 6 self-tapping screws to fasten the camera.



**FIGURE 2-1: MOUNTING THE CAMERA**

2. Mount the unit onto the ceiling/wall and fasten it securely.



**FIGURE 2-2: MOUNTING THE CAMERA**

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**Warning** Depending on the material of mounting surface, different screws and anchors than those supplied may be required. To prevent the unit from falling off, ensure that it is mounted to a firm place (ceiling slab or channel) using a safety wire strong enough to withstand the total weight of the unit. (Pay also attention to the finishing at the end of the wire.)

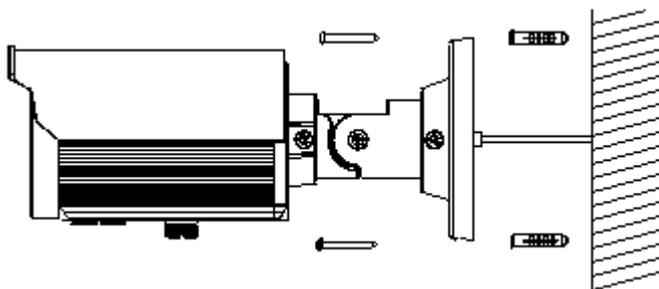
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**Caution** Safety wire must be connected with one end the wall/ceiling and the other to the safety-cord screw of the unit. By cabling so, it is possible to prevent the unit from accidental falling in a sudden at any time.

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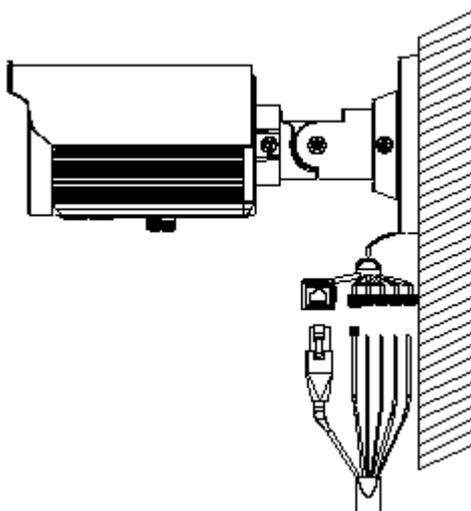
## 2.2.3 Connecting the Wires

1. To attach the camera to the fixed place.



**FIGURE 2-3: CONNECTING THE WIRES**

2. Pass all the signal cables through the mounting bracket as the sample photo shown.
3. Connect the power cable to the power plugs with one of the following options.
  - **AC 24V:** Connect 24V (~) cables to terminals ~AC 24V
  - **PoE:** Connect the RJ-45 jack to a PoE compatible network device that supplied power through the Ethernet cable
4. Insert audio cable and alarm cable to the unit, and connect the network cable to the RJ-45 terminal of a switch.



**FIGURE 2-4: CONNECTING THE WIRES**

## 2.2.4 Adjusting the Camera Position

1. Use the cross screwdriver to loosen the cross screw on one side of the mount bracket so that you can tilt the camera.
2. Loosen the screw on the retaining ring to adjust the camera angle.
3. After adjustments, fasten the screws and retaining ring back to the camera.

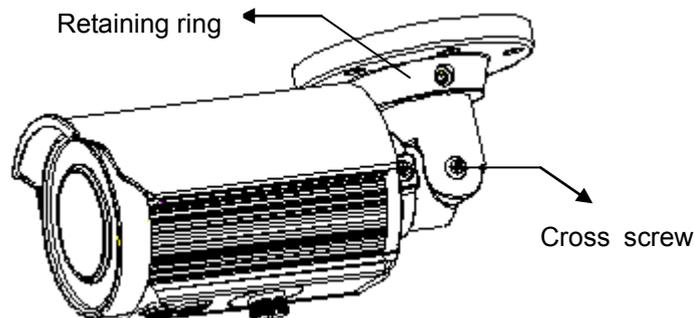


FIGURE 2-5: ADJUSTING THE CAMERA POSITION

## 2.2.5 Adjusting the zoom & focus (vari-focal) / default & reset button

1. Use a screwdriver to adjust the Near/Far and Tele/Wide controls. Please be careful when adjusting Near/Far and Tele/Wide so as to avoid damage to the lens.
2. Use a flat head screwdriver to open the cover, then user can press default button to factory setting or reset button to reboot system.

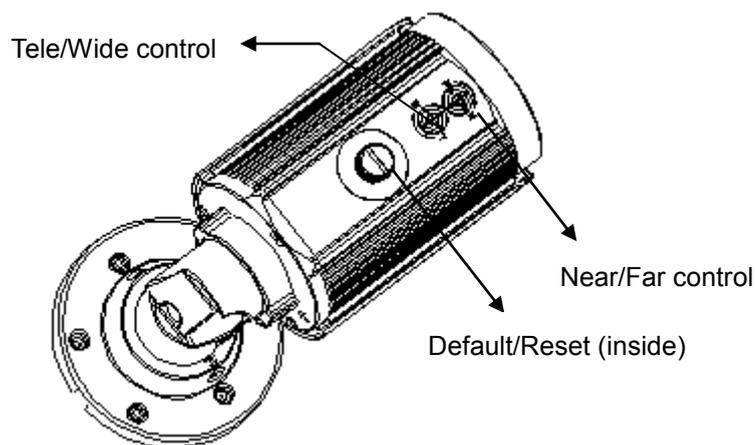


FIGURE 2-6: ADJUSTING THE ZOOM & FOCUS (VARI-FOCAL)

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**Caution**

After adjustment, tighten the screws to avoid water leaking issue.

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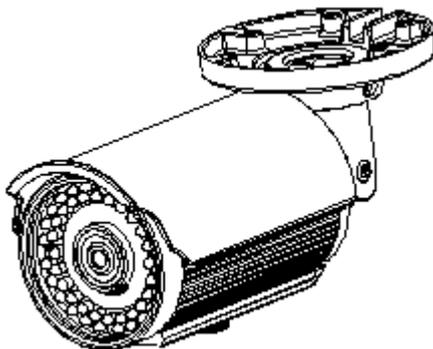
## 2.2.6 Adjusting the Sun shield hood

Move the sunshield hood forward and backward to adjust the position of sunshade.

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**Caution** Be sure to adjust the sunshield hood in coordination with lens in case of sunshade problems. Don't adjust the sun shield position excessively to avoid housing damaged.

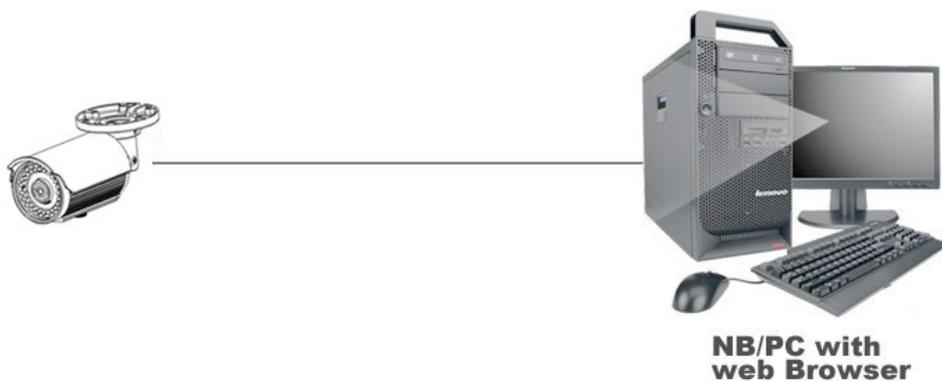
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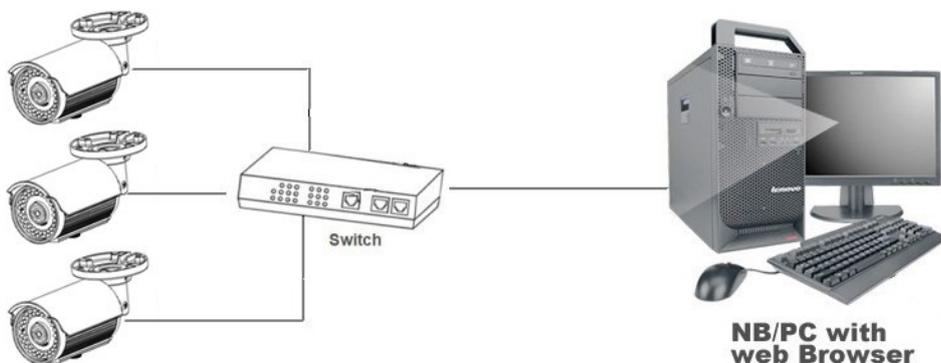
**FIGURE 2-7: ADJUSTING THE SUN SHIELD HOOD**

## 2.2.7 Network Topology

The camera can deliver video images and audio in real time using the Internet and Intranet. It's equipped with Ethernet RJ-45 network interface.



**FIGURE 2-8: NETWORK TOPOLOGY TYPE I**



**FIGURE 2-9: NETWORK TOPOLOGY TYPE II**

## 2.2.8 System Requirements

Below table lists the minimum requirement to implement and operate the network camera. No hardware/software component underestimated is recommended.

**TABLE 2-1: SYSTEM REQUIREMENTS**

<b>System Hardware</b>	
CPU	Intel Pentium 4 2.4GHz or equivalent
RAM	1 GB or above
Display	NVIDIA GeForce 6 Series or ATI Mobility Radeon 9500
<b>System Software</b>	
Operating System	Microsoft Windows XP, Windows Vista, or Windows 7
Browser	Microsoft Internet Explorer 8 or above
<b>Unit</b>	
Power Supply	AC 24V / PoE
<b>Networking</b>	
Wired*	10/100BASE-T Ethernet (RJ-45 connector)

*\*a switch is required for surveillance on multiple units.*

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**Note** All the installation and operations should comply with your local electricity safety rules.

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**Caution** To avoid damage to the unit, never connect more than one type of power supply (PoE IEEE802.3 Ethernet Class 0 or AC24V power plug) at the same time. If using PoE, this camera is to be connecting only to PoE networks without routing to heterogeneous devices.

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## 2.3 Connection

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### 2.3.1 Default IP address

Since this is a network-based unit, an IP address must be assigned at the very first. The unit's default IP address is **192.168.1.30** and sub mask is **255.255.255.0**. However, if you have a DHCP server in your network, the unit would obtain an IP address automatically from the DHCP server so that you don't need to change the camera's IP address. But be sure to enable DHCP in "Network/Basic settings".

### 2.3.2 Connecting from a computer & Viewing Preparation

#### 2.3.2.1 Connecting from a computer

1. Make sure the unit and your computer are in the same subnet.
2. Check whether if the networking available between the unit and the computer by executing ping the default IP address. To do this, simply start a command prompt (Windows: from the Start Menu, select Program. Then select Accessories and choose Command Prompt.), and type "Ping 192.168.0.30". If the message "Reply from..." appears, it means the connection is available.
3. Start Internet Explorer and enter IP address: **192.168.1.30**. A login window should pop up. In the window, enter the default user name: **admin** and password: **1234** to log in.

Further administration on the unit can be found in "3. Administration and Configuration".



FIGURE 2-10: LOGIN WINDOW

### 2.3.2.2 Viewing Preparation

Images of the unit can be viewed through Microsoft Internet Explorer 8 or above. Before viewing, follow these steps to enable the display.

1. Enable Cookies as instructions below
  - In Internet Explorer, click **Internet Options** on the **Tools** menu.
  - On the **Privacy** tab, move the settings slider to **Low** or **Accept All Cookies**.
  - Click **OK**.
2. When a proxy server is used, click Internet Options on the Tools menus of Internet Explorer, select Connect tab, click LAN button, and set proxy server.
3. Change **Security** in Internet options as instructions below
  - On **tool** menu, click **Internet Option**.
  - Press the **Security** tab.
  - If the camera operates inside of the intranet, click the **Intranet** icon.
  - If the camera operates outside of the intranet, click the **Internet** icon.
  - Click **Custom Level**. This will open the **Security Settings – Internet Zone** screen.

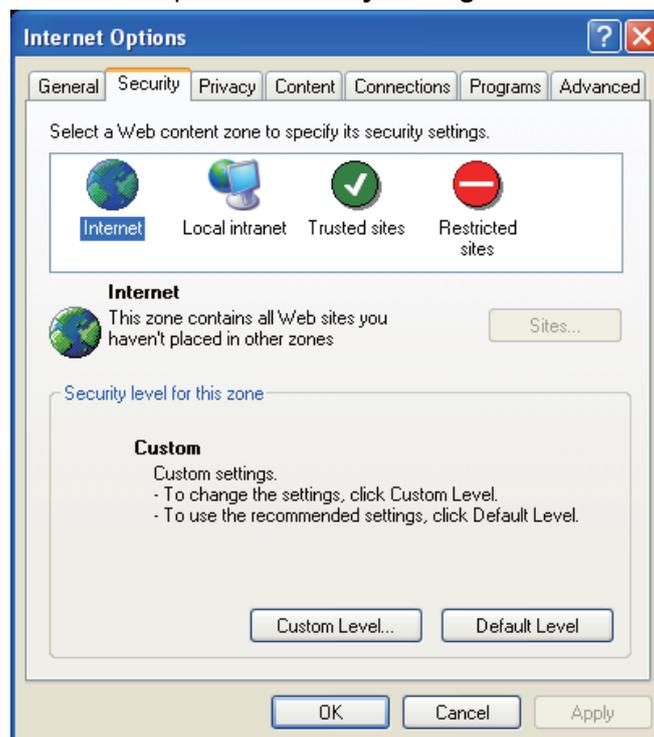


FIGURE 2-11: SECURITY SETTINGS 1/4

- Scroll down to the ActiveX controls and plug-ins radio buttons and set as follows:
  - 【Download signed ActiveX controls】 → Prompt (recommended)
  - 【Download unsigned ActiveX controls】 → Prompt
  - 【Initialize and script ActiveX not marked as safe for scripting】 → Prompt

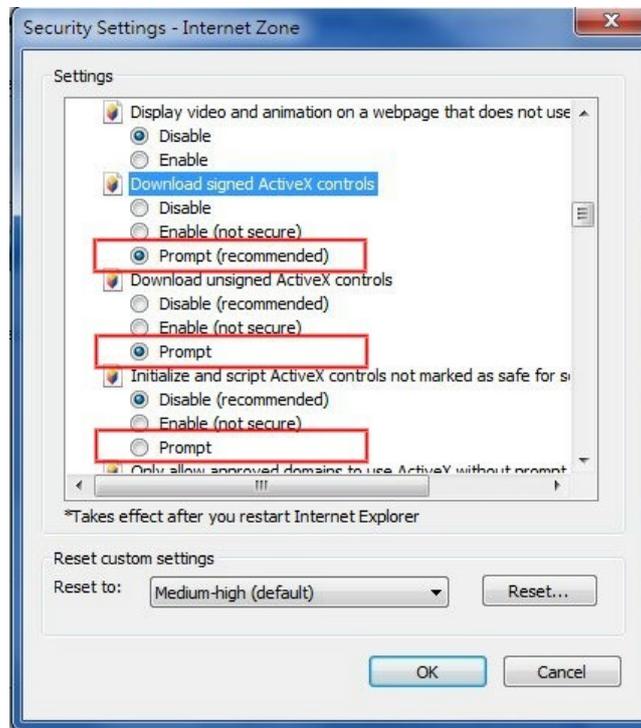


FIGURE 2-12: SECURITY SETTINGS 2/4

- 【Automatic prompting for ActiveX controls】 → Enable

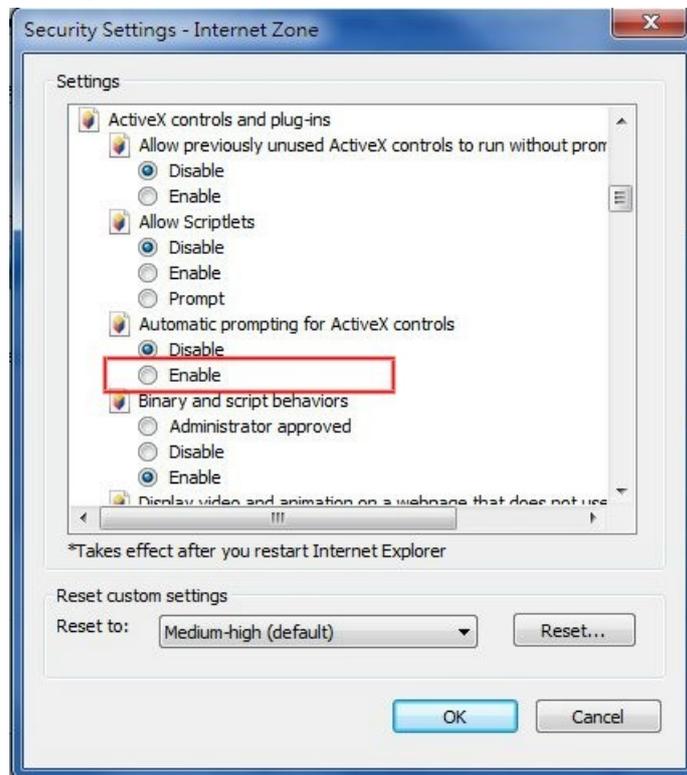


FIGURE 2-13: SECURITY SETTINGS 3/4

【Run ActiveX controls and plug-ins】 → Enable

【Script ActiveX controls marked safe for scripting\*】 → Enable

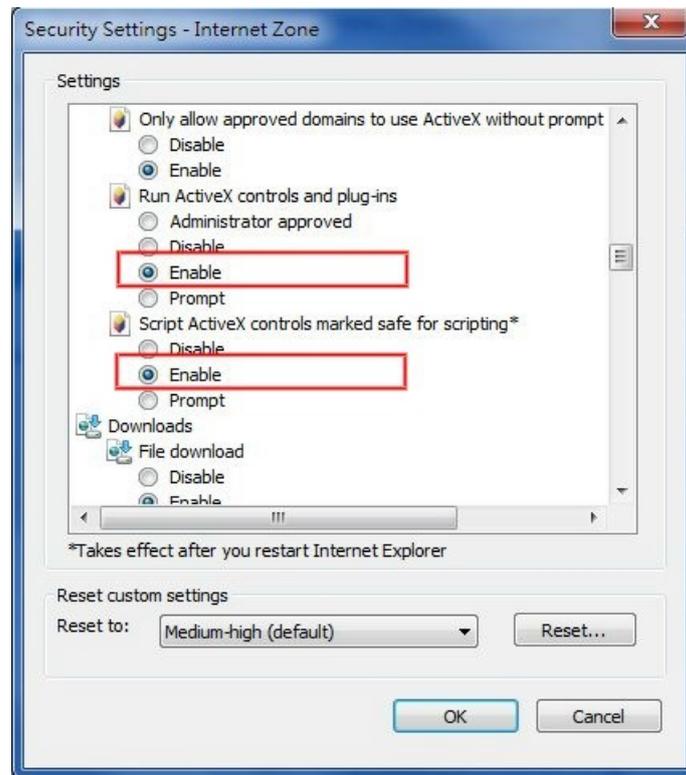


FIGURE 2-14: SECURITY SETTINGS 4/4

- Press OK to save the settings.
- Close all Microsoft Internet Explorer Windows and restart a new window. This will allow the new settings taking effect.
- Type your setting IP address into the browser.
- Then you should be able to see the camera image screen.

## 2.4 IP Finder

IP Finder is a utility program that helps users to locate the unit in local area network that computer is connected to. Please note that IP Finder works only in Microsoft Windows XP, Microsoft Windows Vista, and Microsoft Windows 7. Steps to get the utility program running are listed below.

1. Download IP Finder from MESSOA website and save it to computer.
2. Double click on **IpFinder.exe** in computer's IP Finder folder, and the IP Finder window should pop out.
3. The window would list information of units in operation at present. Press Search to find more units.
4. Locate and double-click the camera you want to configure the network settings. If you have multiple cameras connected to your local network, locate the MAC address on the camera to distinguish the target camera from others.
5. Configure the following settings as needed.
  - Name: Enter a descriptive name for the camera.
  - Network Setting: If you have a DHCP server on your network to assign IP addresses to network devices, enable the DHCP option. Otherwise, manually enter the IP, Subnet Mask and Gateway settings.

Click Save to enable the settings and click Exit to exit the utility.

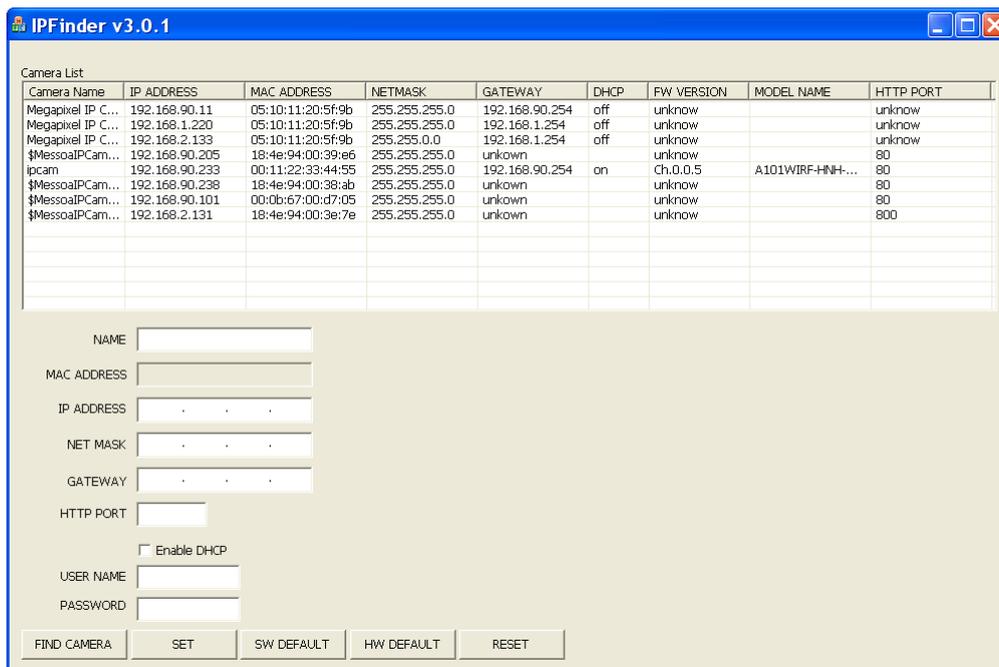


FIGURE 2-15 IP CAMERA FINDER\*

\*Actual screen may vary depending on the version of the utility.

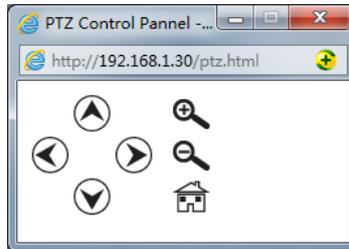
# 3. Administration and Configuration

## 3.1 Live View

Simply click on **Live View** on the top left side of the browser window while accessing the IP address of the unit, and a live video is displayed directly in the browser window. When clicked on **Configuration**, a window will be pop out for configuring “Image”, “Network”, “System”, “Event”, and “Record”. Please refer to [3.2 Configuration](#) for more information. The current logged in identity shows next right. If clicked on **Logout**, this window of administration and configuration will be closed.

Followings are explanations to the live view window.

- Snapshot: Take a picture from live view.
- e-PTZ: After you click the **ePTZ** button, an ePTZ control panel will shows up where you can click the corresponding indicators to perform desired operations::
  - **To zoom in/out:** Click the +/- indicator repeatedly to zoom in/out the live view image.
  - **To pan left/right:** Click the left/right indicator to pan the viewing area. The pan function does not work if the video is not zoomed-in (no zoom status).
  - **To tilt up/down:** Click the up/down indicator to tilt the viewing area. The tilt function does not work if the video is not zoomed-in (no zoom status).
  - **To preset to home:** Click the home indicator and the image will return to the original view.



-  : **Alarm Indicator:** Appears when an alarm is triggered.
-  : **Recording Indicator:** Turns red when the recording is proceeding.



*\* When the resolution is set to 2048x1536 or 2304x1296, only one single streaming is available.*

## 3.2 Configuration

When clicked on **Setup**, a window will be pop out for configuring “Image”, “Network”, “System”, “Event”, and “Recording”. The left dropdown menu is for user interface language changing. Choose a language to meet customer’s requirement.

The screenshot displays the configuration interface for a Megapixel IP Cam. At the top, the title "Megapixel IP Cam" is centered, with "Live / Setup" on the right. A language dropdown menu on the left is set to "English". A sidebar menu on the left lists configuration categories: Image (selected), Codec, Exposure, White Balance, Basic Color, Privacy Zone, ROI, Network, System, Event, and Recording. The main content area is titled "Codec" and features a live video feed showing a grayscale image of a person's face. Below the video, the "Current Compression Mode" section shows "Current Profile" set to "Profile1" and a "Save" button. The "Compression Profiles" section lists "Edit Profile" as "Profile1" and shows three streams: Stream1 (1920x1080, MJPEG), Stream2 (-----), and Stream3 (-----). The "Stream" section provides detailed settings for Stream1: Resolution (1920x1080), Codec (MJPEG), Frame Rate (15, with a range of 1~30 and a slider), and Quality (Mid). An "Apply" button is located at the bottom of the Stream settings.

## 3.2.1 Image Settings

### 3.2.1.1 Codec

Compression Profiles	
Edit Profile	Profile1 ▾
Stream1	1280x720 ▾ H264 ▾
Stream2	1280x720 ▾ H264 ▾
Stream3	800x600 ▾ H264 ▾

Stream	
Stream1	
Resolution	1280x720
Codec	H264
Frame Rate	◀ [Slider] ▶ 15 (1~30)
GOP Length	◀ [Slider] ▶ 15 (1~60)
Rate Control	CBR ▾
CBR	◀ [Slider] ▶ 8000 (500~16000)
Stream2	
Resolution	1280x720
Codec	H264
Frame Rate	◀ [Slider] ▶ 30 (1~30)
GOP Length	◀ [Slider] ▶ 30 (1~60)
Rate Control	VBR ▾
Maximum VBR	◀ [Slider] ▶ 4000 (1001~16000)
Minimum VBR	◀ [Slider] ▶ 1000 (500~3999)
Stream3	
Resolution	800x600
Codec	H264
Frame Rate	◀ [Slider] ▶ 30 (1~30)
GOP Length	◀ [Slider] ▶ 30 (1~60)
Rate Control	VBR ▾
Maximum VBR	◀ [Slider] ▶ 4000 (1001~16000)
Minimum VBR	◀ [Slider] ▶ 1000 (500~3999)

## Edit Profile

This unit offers two choices of video codecs for real-time viewing: H.264 or M-JPEG. Click codec to change desired setting as below. By default, there are 6 compression profiles can be chose for respective resolution, frame rate, and picture quality as required. Be sure to click save to keep the desired setting.

**TABLE 3-1: EDIT PROFILE OPTIONS**

Item	Option	Description
<b>Video Codec</b>	M-JPEG/H.264	Set a default codec
<b>Resolution</b>	2048×1536 2304×1296 1080P(1920×1080) SXGA(1280×960) 720P(1280×720) SVGA(800×600) D1(720×480) 4CIF(704×480) VGA(640×480) CIF(352×240)	While 2048×1536 or 2304×1296 is the highest resolution, CIF is the lowest resolution. 2304×1296 supports H.264 only.
<b>Frame Rate</b>	PAL: 1~25 NTSC: 1~30	Frame rate is based on second. PAL: H.264 or M-JPEG single stream:2048×1536; H.264 single stream: 2304×1296, 1080P(1920×1080)@25fps, 3M(2048×1536)@12fps NTSC: H.264 or M-JPEG single stream: 2048×1536; H. 264 single stream:2304×1296, 1080P(1920×1080)@30fps, 3M(2048×1536)@15fps
<b>Bit Rate Mode</b>	Variable Bit Rate/Constant Bit Rate	Choose the bit rate control selection based on user requirements. A higher bit rate will use higher network bandwidth
<b>GOP</b>	1-60	Select the GOP (Group of pictures) number from 1 to 60. Recovery of the lost frames will be more difficult as the number gets bigger; on the contrary, it will increase the bite rate obviously and aggravate the network bandwidth. The default value is 30. GOP will be differed by frame rate setting.

**TABLE 3-2: CORRELATIONS OF RESOLUTION/STREAMS/FPS/CODECS 1/2**

Resolution	Single stream	Double stream	Triple stream
2048×1536	2048×1536 @ 15fps (H.264/M-JPEG)	N/A	N/A
2304×1296	2304×1296 @ 15fps (H.264)	N/A	N/A
1920×1080	1920×1080 @ 30fps (H.264*/M-JPEG)	1920x1080, 720x480 @ 30fps* 1920x1080, 640x480 @ 30fps* 1920x1080, 352x240 @ 30fps* (H.264*, H.264/M-JPEG*)	1920x1080, 352x240, 352x240 @ 30fps (H.264, H.264/M-JPEG, H.264/M-JPEG)
1280×960	1280×960 @ 30fps (H.264/M-JPEG)	1280x960, 1280x720 @ 30fps 1280x960, 800x600 @ 30fps 1280x960, 720x480 @ 30fps 1280x960, 704x480 @ 30fps 1280x960, 640x480 @ 30fps 1280x960, 352x240 @ 30fps (H.264/M-JPEG, H.264/M-JPEG)	1280x960, 1280x720, 352x240 @ 30fps 1280x960, 800x600, 800x600 @ 30fps 1280x960, 800x600, 720x480 @ 30fps 1280x960, 800x600, 704x480 @ 30fps 1280x960, 800x600, 640x480 @ 30fps 1280x960, 800x600, 352x240 @ 30fps 1280x960, 720x480, 720x480 @ 30fps 1280x960, 720x480, 704x480 @ 30fps 1280x960, 720x480, 640x480 @ 30fps 1280x960, 720x480, 352x240 @ 30fps 1280x960, 704x480, 704x480 @ 30fps 1280x960, 704x480, 640x480 @ 30fps 1280x960, 704x480, 352x240 @ 30fps 1280x960, 640x480, 640x480 @ 30fps 1280x960, 640x480, 352x240 @ 30fps 1280x960, 352x240, 352x240 @ 30fps (H.264/M-JPEG, H.264/M-JPEG, H.264/M-JPEG)
1280×720	1280×720 @ 30fps (H.264/M-JPEG)	1280x720, 1280x720 @ 30fps** 1280x720, 800x600 @ 30fps 1280x720, 720x480 @ 30fps 1280x720, 704x480 @ 30fps 1280x720, 640x480 @ 30fps 1280x720, 352x240 @ 30fps** (H.264**/M-JPEG, H.264/M-JPEG**)	1280x720, 1280x720, 800x600 @ 30fps 1280x720, 1280x720, 720x480 @ 30fps 1280x720, 1280x720, 704x480 @ 30fps 1280x720, 1280x720, 640x480 @ 30fps 1280x720, 1280x720, 352x240 @ 30fps 1280x720, 800x600, 800x600 @ 30fps 1280x720, 800x600, 720x480 @ 30fps 1280x720, 800x600, 704x480 @ 30fps 1280x720, 800x600, 640x480 @ 30fps 1280x720, 800x600, 352x240 @ 30fps 1280x720, 720x480, 720x480 @ 30fps 1280x720, 720x480, 704x480 @ 30fps 1280x720, 720x480, 640x480 @ 30fps 1280x720, 720x480, 352x240 @ 30fps 1280x720, 704x480, 704x480 @ 30fps 1280x720, 704x480, 640x480 @ 30fps 1280x720, 704x480, 352x240 @ 30fps 1280x720, 640x480, 640x480 @ 30fps 1280x720, 640x480, 352x240 @ 30fps** 1280x720, 352x240, 352x240 @ 30fps (H.264**/M-JPEG, H.264/M-JPEG**, H.264**/M-JPEG)

\*Profile 1, 2, & 3 defaults.

\*\*Profile 4, 5, & 6 defaults.

**TABLE 3-3: CORRELATIONS OF RESOLUTION/STREAMS/FPS/CODECS 2/2**

Resolution	Single stream	Double stream	Triple stream
800×600	800×600 @ 30fps (H.264/M-JPEG)	800x600, 800x600 @ 30fps 800x600, 720x480 @ 30fps 800x600, 704x480 @ 30fps 800x600, 640x480 @ 30fps 800x600, 352x240 @ 30fps (H.264/M-JPEG, H.264/M-JPEG)	800x600, 800x600, 800x600 @ 30fps 800x600, 800x600, 720x480 @ 30fps 800x600, 800x600, 704x480 @ 30fps 800x600, 800x600, 640x480 @ 30fps 800x600, 800x600, 352x240 @ 30fps 800x600, 720x480, 720x480 @ 30fps 800x600, 720x480, 704x480 @ 30fps 800x600, 720x480, 640x480 @ 30fps 800x600, 720x480, 352x240 @ 30fps 800x600, 704x480, 704x480 @ 30fps 800x600, 704x480, 640x480 @ 30fps 800x600, 704x480, 352x240 @ 30fps 800x600, 640x480, 640x480 @ 30fps 800x600, 640x480, 352x240 @ 30fps 800x600, 352x240, 352x240 @ 30fps (H.264/M-JPEG, H.264/M-JPEG, H.264/M-JPEG)
720×480	720×480 @ 30fps (H.264/M-JPEG)	720x480, 720x480 @ 30fps 720x480, 704x480 @ 30fps 720x480, 640x480 @ 30fps 720x480, 352x240 @ 30fps (H.264/M-JPEG, H.264/M-JPEG)	720x480, 720x480, 720x480 @ 30fps 720x480, 720x480, 704x480 @ 30fps 720x480, 720x480, 640x480 @ 30fps 720x480, 720x480, 352x240 @ 30fps 720x480, 704x480, 704x480 @ 30fps 720x480, 704x480, 640x480 @ 30fps 720x480, 704x480, 352x240 @ 30fps 720x480, 640x480, 640x480 @ 30fps 720x480, 640x480, 352x240 @ 30fps 720x480, 352x240, 352x240 @ 30fps (H.264/M-JPEG, H.264/M-JPEG, H.264/M-JPEG)

### 3.2.1.2 Exposure

It controls the light intensity of picture. There are 2 modes, Auto Exposure and Manual Exposure for adjustment depending on different conditions.

**Exposure Mode**

Auto Exposure

Type: AES

Slow Shutter: OFF

Maximum Lumii: 24 (0~36)

Manual Exposure

Day Exposure Time: 1/250

Night Exposure Time: 1/250

Iris Control: Auto

Illumination Control: Auto

Manual Lumii: 0 (0~36)

EV: 0

Noise Reduction: 10 (0~255)

BLC: Upper 2/3rd

Day WDR: OFF

Night WDR: OFF

Day / Night: Auto

Night to Day Threshold: 220 (1~255)

Day to Night Threshold: 210 (0~254)

Switch Delay Time: 3 (1~10)

0 98 255

■ Night to Day Threshold ■ Day to Night Threshold ■ Current Value Detect

Reset to Default Preset to LPR

## Auto Exposure

When under Auto mode, Type, Slow Shutter and Max Lumii are adjustable.

- **Type:** Automatic Exposure controls the light intensity of picture. There are 3 options, AES (Automatic Electronic Shutter), ALC (Automatic Lens Control), and Flickerless, for adjustment depending on various conditions.
- **Slow Shutter:** Users can define preferred slow shutter speed as 1/30 (1/25), 1/15(12.5), 1/7.5 (6.25) or simply turn it off.
- **Max Lumii:** Users can adjust preferred max gain value ranging from 0 to 36 under auto exposure mode.

## Manual Exposure

- **Day Exposure Time/ Night Exposure Time**

Set desired Exposure Time from 1/25s to 1/16000s. When broadcast TV system is set to PAL, the Shutter Speed can be set at 1/25, 1/50, 1/100, 1/185, 1/375, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/8000, 1/12000, or 1/16000s; when NTSC, 1/30, 1/60, 1/120, 1/185, 1/250, 1/375, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/8000, 1/12000, or 1/16000s. The unit will adjust the aperture according to the amount of ambient light. Selecting 1/8000s provides the dark image.

- **IRIS Control**

Adjust the DC IRIS opening level until the image is neither too bright nor too dark. Select ON to open the IRIS to its maximum or select OFF to close the IRIS so that no light is let into the lens. When Auto is selected, the IRIS will automatically compensate according to the light conditions. Level can be set from level 1 to 8. The higher the level, the more possible the IRIS will open so that the more light is let into the lens.

- **Illumination Control**

Specify the IR illuminator behavior according to the installation applications.

When **Auto** is selected, the light sensor automatically turns the illuminator on or off according to the ambient light conditions. Select **ON** to enforce the illuminator to be always on or **OFF** to be always off.

- **Manual Lumii**

Set max gain. You can drag the bar to adjust gain level from 0 to 36.

## EV Compensation

It is the exposure compensation telling the unit by setting value from -2.0 to 2.0 with intervals of per 0.5 for scenes to be either darker or brighter. (Unavailable when exposure mode is manual)

## Noise Reduction

Noise reduction is the process of removing noise from signal. Users can configure the noise reduction related setting 0~255 to reduce noise on the screen. Selecting 255 provides the best image without noise.

## **BLC (Backlight Compensation)**

Set an area for Backlight Compensation. Backlight Compensation is a function that achieves the brightness of a selected area to optimal image level. This function is necessary when an auto iris lens tends to close due to an intense light coming from back of object in the area wished to view so that the area is too dark and difficult to see. In this case, users may set the area correspond to the portion wished to see. (Unavailable when exposure mode is manual)

## **Day WDR/Night WDR**

It is intended to provide clear images even under backlight circumstances where intensity of illumination can vary excessively, namely where there are both very bright and very dark areas simultaneously in the field of view. WDR enables the capture and display of both bright and dark areas in the same frame, in a way that there are details in both areas, i.e. bright areas are not saturated, and dark areas are not too dark.

## **Day & Night**

Set Day/night function by selecting Auto/Color/BW mode. Select Auto to allow the camera to switch between Color and BW automatically. If selected Color mode, the unit is forced to stay in Day (Color) mode and BW for Black & White (Night) mode at all times.

## **Day to Night Threshold**

Use “” or “” or enter a value from 1-255 to manually adjust the threshold of when the camera switches from Color to BW.

## **Night to Day Threshold**

Use “” or “” or enter a value from 0-254 to manually adjust the threshold of when the camera switches from BW to Color.

## **Switch Delay Time**

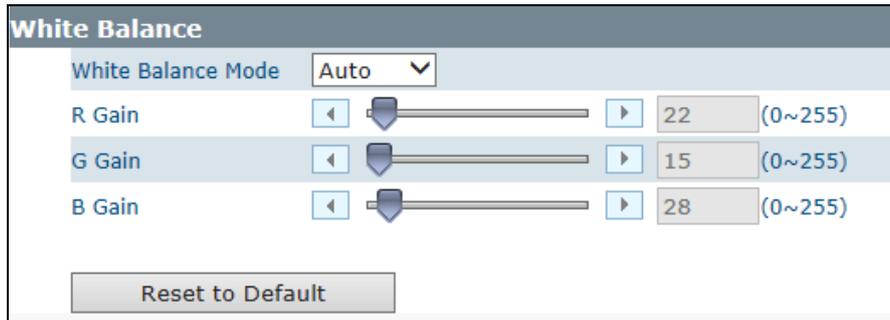
Use “” or “” or enter a value from 1-10 to manually adjust how long the switch will be delayed.

---

**Note** Please click “Reset to Default” to set all the data and options back to defaults. Click “Preset to LPR” will preset this page parameters to LPR.

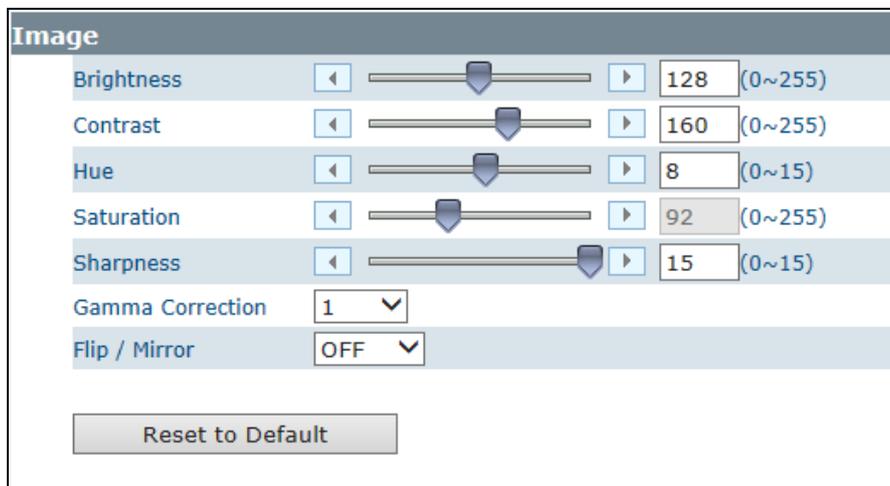
---

### 3.2.1.3 White Balance



- White Balance controls color on the screen. Mode can be set to Auto (default) or Manual mode. The color temperature range is 2800°K ~ 8500°K.
- Set manual gain value of R Gain, G Gain, & B Gain from level 0 to 255.
  - The red (R) gain is used to adjust the color red in the viewing image. It allows adjusting red gain manually according to user requirement ranging from level 0 to 255.
  - The green (G) gain is used to adjust the color of green in the viewing image. It allows adjusting green gain manually according to user requirement ranging from level 0 to 255.
  - The blue (B) gain is used to adjust the color of blue in the viewing image. It allows adjusting blue gain manually according to user requirement ranging from level 0 to 255.

### 3.2.1.4 Basic Color



### **Brightness adjustment**

Set picture brightness from level 0 to 255. Selecting 255 provides brightest the image.

### **Contrast**

Set picture contrast from level 0 to 255. Selecting 255 provides highest contrast.

### **Hue**

Set picture hue from level 0~15. Selecting 15 provides the deep hue.

### **Saturation**

Saturation describes the difference of a color from the gray of the same lightness. Increasing saturation deepens the colors of your images, making reds redder and blues bluer. Users can adjust picture saturation level from 0 to 255. Decreasing saturation brings the image closer to a grayscale (that is, monochrome or black-and-white) image. Selecting 255 provides highest image saturation.

### **Sharpness**

Increasing the sharpness value will sharpen the edges and small feature of viewing images. If the edges appear too smooth or blurred, increase the sharpness; otherwise, decrease the sharpness. Sharpness value can be set from 0 to 15. Selecting 15 provides the sharpest image.

### **Gamma Correction**

Set gamma correction. You can select "1" or "0.45".

### **Flip Mirror**

Set image to be left or right, upside or down and both. Select "OFF", "Flip", "Mirror" or "Both" to activate or deactivate the mirror function.

---

**Note** Please click "Reset to Default" to set all the data and options back to defaults.

---

### 3.2.1.5 Privacy Zone

Privacy Color Setting		
Color	Black ▾	
Privacy Zone1		
<input type="radio"/> ON <input checked="" type="radio"/> OFF	Save Zone	Delete Zone
Privacy Zone2		
<input type="radio"/> ON <input checked="" type="radio"/> OFF	Save Zone	Delete Zone
Privacy Zone3		
<input type="radio"/> ON <input checked="" type="radio"/> OFF	Save Zone	Delete Zone
Privacy Zone4		
<input type="radio"/> ON <input checked="" type="radio"/> OFF	Save Zone	Delete Zone
Privacy Zone5		
<input type="radio"/> ON <input checked="" type="radio"/> OFF	Save Zone	Delete Zone
Privacy Zone6		
<input type="radio"/> ON <input checked="" type="radio"/> OFF	Save Zone	Delete Zone
Privacy Zone7		
<input type="radio"/> ON <input checked="" type="radio"/> OFF	Save Zone	Delete Zone
Privacy Zone8		
<input type="radio"/> ON <input checked="" type="radio"/> OFF	Save Zone	Delete Zone



#### Privacy Color Setting

Users can select a desire color for the privacy zone color.

### Privacy Zone Setting

- Enable button “ON”, then to start mask setting.
- Use mouse to drag a mask rectangle on the screen, click “Save Zone” to complete the selection.
- To cancel the mask setting simply clicks “Delete Zone”.

---

**Note** At max 8 masks can be set on the screen.

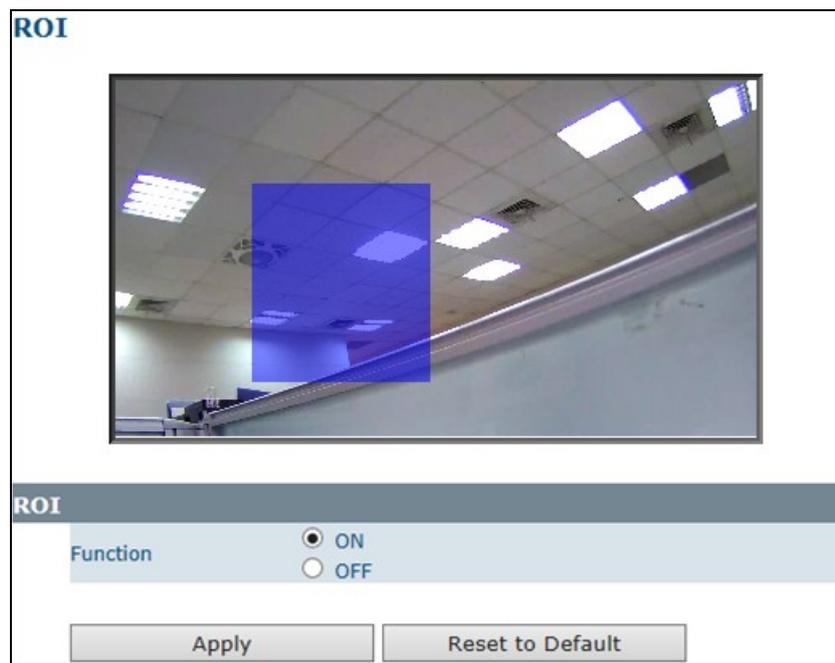
---

**Caution** The privacy zone area is a factor increased by 16. That implies we have to round the length and width of the privacy zone to meet this rule. After rounding the algorithm, the result of privacy zone will be plus or minus 16% of the user selected area.

---

### 3.2.1.6 ROI

On the **ROI** page you can specify a specific region of the video as more important, i.e., a region of interest (ROI). When a ROI is specified, the camera will assign a higher number of bits to the ROI area to deliver better video quality than non-ROI areas.



Function: Select “ON” or “OFF” to use this function.

Set ROI Area: Set the desired area of interest by dragging the mouse.

---

**Note** Please click “Apply” button to save your settings. Users can also click “Reset to Default” to set all the data and options back to defaults.

---

## 3.2.2 Network Settings

### 3.2.2.1 IP & Ethernet

Below explains how to configure a wired network connection for the unit.

Network	
Camera Name	Megapixel IP Can
HTTP Port	80 (1~65535)
HTTPS Port	443 (1~65535)
<input type="checkbox"/> DHCP	
IP Address	192.168.1.30
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.254
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0
UPnP	
Function	<input checked="" type="radio"/> ON <input type="radio"/> OFF
OSD	
Function	<input type="radio"/> ON <input checked="" type="radio"/> OFF
<input type="button" value="Apply"/>	

- Camera Name: Enter a desired camera name or use the default name.
- HTTP Port: This protocol allows for TCP protocol quality without having to open specific ports for streaming. Users inside a firewall can utilize this protocol to allow streaming data through. It is recommended to use the default port number 80; however, if it is required to change the port number, please contact your system administrator with options ranging from 1 to 65535.
- HTTPS Port: More secured than HTTP, HTTPS is based on HTTP with SSL/TLS protocol, therefore increasing the security capabilities of SSL/TLS on standard HTTP communications. By default, it's recommended to adopt 443 as the initial port number. Nevertheless, please also contact your system administrator for other port number ranging from 1 to 65535 if required.
- DHCP: If selected, the unit will automatically obtain an available dynamic IP address from the DHCP server each time it connects to the LAN.
- IP Address: Manually input IP address when DHCP off selected.
- Subnet Mask: Please use default number: 255.255.255.0. If the subnet mask is not properly configured, the unit may not be able to communicate with other devices on the network.
- Default Gateway: Leave blank as default setting. It is not necessary to enter Default Gateway if it is not used. Ask your Network Administrator for Default Gateway information.
- Primary DNS: (same as above)
- Secondary DNS: (same as above)
- UPnP: When set to "ON", the unit can be detected automatically by any computer in the LAN to skip the installation of the IP Finder utility.
- OSD: When set to "ON", the camera name can be show on the screen.

### 3.2.2.2 RTSP

To enable RTSP, simply enter the Login ID, Password and Port (554 by default) with selecting "ON" in Authentication. For accessing camera's live video over the Internet, click "ON" in NAT Setting to enable and enter the user-specified RTSP port number on the router in RTSP Port over NAT field.

RTSP	
<b>RTSP</b>	
User Name	<input type="text" value="admin"/>
Password	<input type="password" value="••••"/>
RTSP Port	<input type="text" value="554"/> (1~65535)
<b>NAT Setting</b>	
Enable	<input type="radio"/> ON <input checked="" type="radio"/> OFF
RTSP Port over NAT	<input type="text"/> (1~65535)
<b>Authentication</b>	
Function	<input type="radio"/> ON <input checked="" type="radio"/> OFF
<b>RTSP Stream1</b>	
Transfer Type	<input type="text" value="Unicast"/> ▼
URL	<input type="text" value="stream1"/>
Multicast Address	<input type="text" value="231.8.8.200"/> (224.0.1.1~239.255.255.254)
Metadata	<input type="text" value="OFF"/> ▼
<b>RTSP Stream2</b>	
Transfer Type	<input type="text" value="Unicast"/> ▼
URL	<input type="text" value="stream2"/>
Multicast Address	<input type="text" value="231.8.8.210"/> (224.0.1.1~239.255.255.254)
Metadata	<input type="text" value="OFF"/> ▼
<b>RTSP Stream3</b>	
Transfer Type	<input type="text" value="Unicast"/> ▼
URL	<input type="text" value="stream3"/>
Multicast Address	<input type="text" value="231.8.8.220"/> (224.0.1.1~239.255.255.254)
Metadata	<input type="text" value="OFF"/> ▼
<input type="button" value="Apply"/> <input type="button" value="Reset to Default"/>	

- Transfer Type: Select Multicast or unicast.
- URL: Enter the server URL or the stream name.

- **Multicast Address**

The IP address for multicasting ought to be from 224.0.1.1 to 239.255.255.254. After desired options and values are chosen, please be remembered to click “save” button to save all settings.

Note: RTSP URLs for RTSP Stream 1, RTSP Stream 2, and RTSP Stream3 are: rtsp://(ip address)/(stream 1), rtsp://(ip address)/(stream 2), rtsp://(ip address)/(stream 3) respectively.

For example: rtsp://192.168.1.30/stream1

- **Metadata**

Metadata plays a significant role for media applications especially for ONVIF compatible NVR.

Turn on the metadata option and there will be an additional track in the RTSP connection response message.

The additional track name is “vnd.onvif” and this track is for event data transmission. Once if the event (motion, alarm) is triggered, RTSP server will transmit event data to RTSP client (usually NVR). RTSP client can receive these data and analyze them. The event data usually includes event trigger time, coordinate...etc.

---

**Note** Please click “Apply” button to save your settings. Users can also click “Reset to Default” to set all the data and options back to defaults.

---

### 3.2.2.3 SNMP

SNMP (Simple Network Management Protocol) is an Internet standard protocol on top of application layer that restructures the exchange of management information among network-attached nodes, which helps administrators to remotely manage network devices and master network problems with ease.

SNMP	
<b>SNMP v1</b>	
Function	<input type="radio"/> ON <input checked="" type="radio"/> OFF
<b>SNMP v2</b>	
Function	<input type="radio"/> ON <input checked="" type="radio"/> OFF
<b>SNMP v3</b>	
Function	<input checked="" type="radio"/> ON <input type="radio"/> OFF
User Name	Initial
Password	••••••••
<b>Read / Write Community String</b>	
Read Community String	public
Write Community String	private
<b>Trap</b>	
Function	<input type="radio"/> ON <input checked="" type="radio"/> OFF
Trap Host	192.168.0.20
<b>Heartbeat</b>	
Function	<input type="radio"/> ON <input checked="" type="radio"/> OFF
Heartbeat Host	192.168.0.20
Heartbeat Interval	30
<b>Download MIB</b>	
Download	
Apply      Reset to Default	

- SNMP V1: Tick “ON” or “OFF” to enable or disable.
- SNMP V2: Tick “ON” or “OFF” to enable or disable.
- SNMP V3: Tick “ON” or “OFF” to enable or disable. Enter password corresponding to User Name. SNMPv3 provided more security features to SNMP.
- Read/Write Community String: Enter the names of Read Community and Write Community.
- Trap: Tick “ON” or “OFF” to enable or disable. Input IP address of Trap Host.
- Heartbeat: Tick “ON” or “OFF” to enable or disable. Input IP address & Interval of Heartbeat Host & Heartbeat.
- Download: Click “Download” to get specifics of MIB (Management Information Base). MIBs describe the structure of the management data of a device subsystem; they use a hierarchical namespace containing object identifiers (OID). Each OID identifies a variable that can be read or set via SNMP.

---

**Note** Please click “Apply” button to save your settings. Users can also click “Reset to Default” to set all the data and options back to defaults.

---

### 3.2.2.4 DDNS

DDNS (Dynamic Domain Name Service) is a service that allows the mapping of a DNS to a dynamic IP address. This allows your network camera to have a fixed domain name even it is assigned with a dynamic IP address by DHCP server.

Before using this function, you have to apply for an account and register your host name from DDNS provider. To use DDNS function, a DDNS provider is required. The IP camera provides two free DDNS providers to choose from, “no-ip” and “Changelp”. Before using this function, make sure to visit the website of either provider and apply for an account and register your host name.

- Function: Tick “ON” or “OFF” to enable or disable DDNS function.
- DDNS Server: Select a free DDNS provider that you registered with.
- Host name: Enter the hostname that you created with the DDNS provider.
- User Name/Password: Enter the user name and password of the account that you created with the DDNS provider.

### 3.2.2.5 PPPoE

If your IP camera is connected to the Internet using PPPoE, please use this section to configure the settings. PPPoE is a typical connection method used by xDSL or cable modem connection. Before using this function, you have to obtain the PPPoE account information from your ISP.

The screenshot shows a web-based configuration page for PPPoE. The page title is "PPPoE". Below the title is a dark grey header bar with the text "PPPoE" in white. The main content area has a light blue background. It contains a "Function" section with two radio buttons: "ON" (unselected) and "OFF" (selected). Below that are two input fields: "User Name" with the text "pppoe@camera.com" and "Password" with five black dots. At the bottom are two buttons: "Apply" and "Reset to Default".

- Function: Tick "ON" or "OFF" to enable or disable PPPoE function.
- User Name/Password: Enter the user name and password of your PPPoE account.

### 3.2.2.6 802.1x

If your local area network is using 802.1x authentication to enhance the security, then all the network devices must get authorized by an authentication server (typically a RADIUS server) for communication. The authentication is usually done by a certificate and authentication protocol. To complete the 802.1x settings, you must obtain required information and apply for a digital certificate from a MIS of your company.

**802.1X**

**802.1X**

Function  ON  
 OFF

User Name

Password

EAPOL Version

EAP Method

Apply Reset to Default

**Upload Certificate**

CA Certificate

2014/11/4 9:32:46

- Function: Tick “ON” or “OFF” to enable or disable 802.1x function.
- User Name/Password: Enter the user name and password that authenticate the IP camera to the network.
- EAPOL Version: Select the EAP over LAN version as used in your 802.1x–RADIUS server.
- EAP method: Select the EAP method as used in your 802.1x–RADIUS server.

Click Apply to enable the settings.

- CA certificate: Click Browse and locate the certificate file and then click Upload.

### 3.2.2.7 Bonjour

If your IP camera is to be accessed by Macintosh computer (Max OS) that supports Bonjour protocol, please enable the Bonjour function.

**Bonjour**

**Bonjour**

Function  ON  
 OFF

Apply Reset to Default

- Function: Tick “ON” or “OFF” to enable or disable the Bonjour function.

### 3.2.3 System Settings

#### 3.2.3.1 Date & Time

Date & Time	
Date	2004/1/10
Time	15:25:47
Synchronization Mode	
<input checked="" type="radio"/> Set Manual	
Date	2011 / 10 / 01
Time	12 : 56 : 30
<input type="radio"/> Synchronize with Computer Clock	
Date	2014/12/8
Time	14:53:49
<input type="radio"/> Synchronize with NTP Server	
NTP	
NTP Server	
NTP Synchronize Period	6 ▼
NTP Time Adjustment Test	Save & Test
DST	
Time Zone	8 ▼
<input type="checkbox"/> Daylight Saving	
Apply	
Reset to Default	

#### Current Server Time

The server current date/time is displayed here.

#### Synchronization Mode

Synchronization supports three different modes: Set Manual, Synchronize with Computer Clock, and Synchronize with NTP Server.

- Set manual: Set up the date and time of the unit in the Date and Time field manually.
- Synchronize with Computer Clock: Select this one to synchronize the date and time of the unit with the computer clock.
- Synchronize with NTP Server: Select NTP in the Synchronization Mode to synchronize the date and time with the dedicated
  - NTP Server: Input IP address or URL of the dedicated NTP server. Note: Please make sure disable SD recording function before you enable NTP synchronization mode.

- NTP Synchronize Period: Select interval to synchronize with the NTP server.
- NTP Time Adjustment Test: Press the button to test synchronization with the dedicated NTP server.

## DST

Time Zone: Select the time difference between Greenwich Mean Time and where the unit is located.

Daylight Saving: Tick “Daylight Saving” to enable the daylight-saving function if in a daylight saving time zone (effective in NTP mode only).

---

**Note** Please click “Apply” button to save your settings. Users can also click “Reset to Default” to set all the data and options back to defaults.

---

### 3.2.3.2 User Management

Press the item-user management on setting menu, and system password can be setup. The default setting for system user name and password are admin, 1234 respectively; however, desired user name and password can be entered at this field.

Admin	
User Name	<input type="text" value="admin"/>
Password	<input type="password" value="••••"/>
Confirm Password	<input type="password" value="••••"/>

Besides administrator, guests can access the unit under authorization from system administrator by privilege controller. User1~5 are allowed to review the live picture only. No operation will be enforced without any authorization. The default login name and password of guests are “**user 1**” (user+ 1~5) and “**0000**”; however, desired user name and password of guests may be altered like those of administrator’s.

User1 Setup	
User Name	<input type="text" value="user1"/>
Password	<input type="password" value="••••"/>
Confirm Password	<input type="password" value="••••"/>

---

**Caution** The user name and Password is supported max 32 characters. Only space key is invalid.

---

**Note** Please click “Apply” button to save your settings. Users can also click “Reset to Default” to set all the data and options back to defaults.

---

### 3.2.3.3 Audio

Audio setting can be setup by enabling audio input and output.

#### Audio Input

Format: Select one of the two audio compression coding, G711a or G711u.

Function: Set to "ON" when receiving audio from a microphone connected to the unit.

Level: Select among High, Mid, and Low for input level.

#### Audio Output

Function: Set to "ON" when delivering audio to a speaker connected to the unit.

Level: Select among High, Mid, and Low for output level.

The screenshot displays the 'Audio' configuration window. It is divided into two main sections: 'Audio In' and 'Audio Out'.  
Under 'Audio In', there are three settings:

- 'Audio Format' is a dropdown menu currently set to 'G711u'.
- 'Function' has two radio buttons: 'ON' (unselected) and 'OFF' (selected).
- 'Level' is a dropdown menu currently set to 'Mid'.

Under 'Audio Out', there are two settings:

- 'Function' has two radio buttons: 'ON' (unselected) and 'OFF' (selected).
- 'Level' is a dropdown menu currently set to 'Mid'.

At the bottom of the window, there are two buttons: 'Apply' and 'Reset to Default'.

---

**Note** Please click "Apply" button to save your settings. Users can also click "Reset to Default" to set all the data and options back to defaults.

---

### 3.2.3.4 Firmware

System Information about Firmware Version, Mac Address, MCU Version, and Model Name are revealed here as below figure. Users can update system firmware if available. All camera motions will shut down during firmware update. Please close any other screens before firmware update. Never disconnect power or LAN cable during the firmware update process. It takes approximately 3 minutes for the unit to reboot after firmware update process. Please reboot the computer as well after firmware update process. Again, power can't be lost when updating firmware since it will cause the update failure and manufacturer maintenance will be required.

Firmware	
System Information	
Firmware Version	00.19_1121
MAC Address	00:0b:67:01:24:b8
Model Name	LPR606-N2-MES
Update Firmware	
<input type="text"/>	<input type="button" value="浏览..."/> <input type="button" value="Upload"/>

### 3.2.3.5 Configuration

Configuration	
Video Type	
Camera Type	<input type="text" value="NTSC"/>
Import Settings	
Note:Uploads (transfers/updates) configuration settings saved in client computer to network cameras.	
<input type="text"/>	<input type="button" value="浏览..."/>
<input type="button" value="Import File"/>	
Export Settings	
Note:Downloads (saves) configuration settings of network cameras to client computer.	
<input type="button" value="Export File"/>	
Restart / Restore	
Restart Camera	<input type="button" value="Restart Camera"/>
Software Factory Default	<input type="button" value="Software Factory Default"/>
Hardware Factory Default	<input type="button" value="Hardware Factory Default"/>

## Video Type

Select “NTSC” or “PAL” as required. Flickering by fluorescent light can be reduced by selecting “PAL” if the power frequency is 50Hz, “NTSC”, if 60Hz.

## Import Settings

This function is designed to upload configuration setting from the client computer to the unit.

## Export Settings

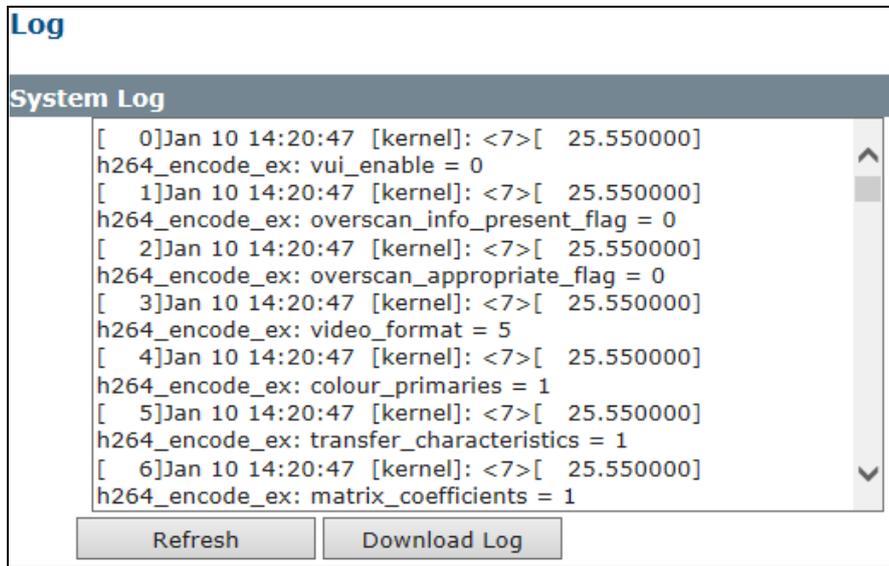
This function is designed to export configuration settings to the client computer.

## Restart / Restore

This function is design to restart camera and reset all configuration settings back into factory default. Press “Software Factory Default” to reset all settings back to factory default excluding network setting. Press “Hardware Factory Default” to reset all settings back to factory default including network setting.

### 3.2.3.6 Log

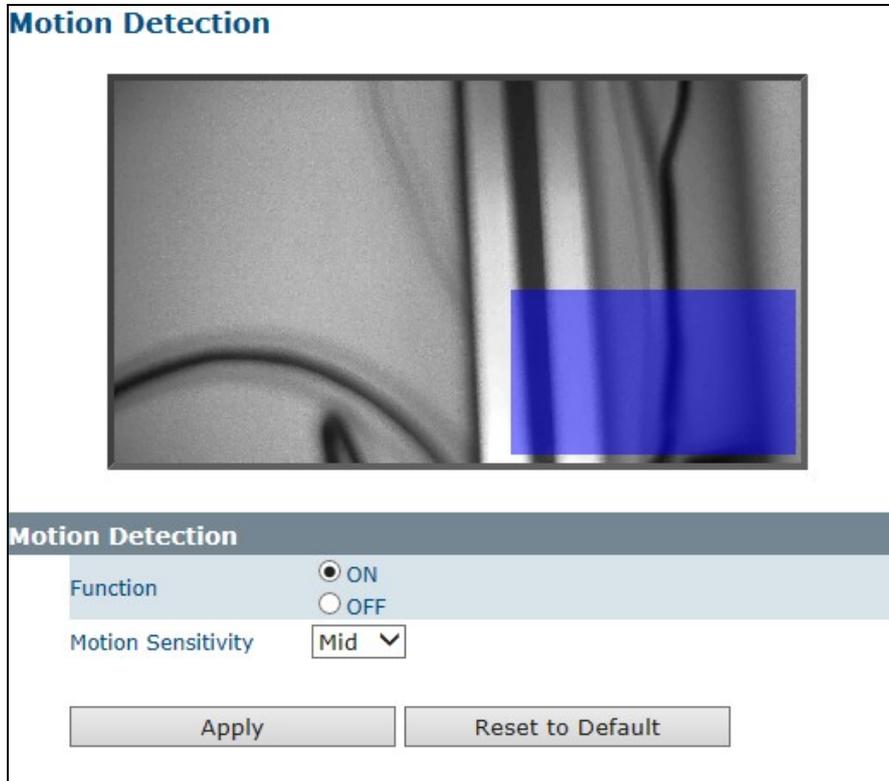
The system operations and / or process will be recorded in the log system. Click “Refresh” to refresh the log. Click “Download log” to save current log into a text file. When a dialog window shows up, click the Save button to locate the directory where the logfile.txt is to be stored.



## 3.2.4 Event Settings

### 3.2.4.1 Motion Detection

This function is designed to record video once the unit detects a motion.



Function: Select "ON" or "OFF" to use this function.

Motion Sensitivity: Choose different levels of sensitivity from high, medium, and low. "High": Motion is activated with slight changes in brightness or motion. "Low": Motion is activated with big changes in brightness or motion.

Set Motion Area: Set the desired area to trigger motion detection. The motion setup screen will be popped out for defining the detection area by dragging the mouse.

### 3.2.4.2 Alarm

When an alarm is connected, the unit triggers an alarm only once the status (open or closed) changed. When an alarm event is detected, an alarm message would be displayed on the Web-Client screen for notification.

The screenshot shows a web interface for configuring an alarm. It is divided into two main sections: "Alarm Input" and "Alarm Output".

**Alarm Input:**

- Function:** Radio buttons for "ON" (unselected) and "OFF" (selected).
- Type:** A dropdown menu currently showing "NO".

**Alarm Output:**

- Function:** Radio buttons for "ON" (unselected) and "OFF" (selected).
- Duration:** A dropdown menu currently showing "0".

At the bottom of the "Alarm Output" section, there are two buttons: "Apply" and "Reset to Default".

#### Alarm Input

Function: Set the Alarm Input as "ON" or "OFF".

Type: Choose NO for normally open or NC for normally close. NO (Normally Opened): An alarm will be triggered when the external contact closes. NC (Normally Closed): An alarm will be triggered when the external contact opens.

#### Alarm Output

When set to "On", external devices such as sirens or flashing lights that connected to the alarm output connector will signal for alarm activation. And duration can be defined among 0/5/10 seconds, in which 5 seconds is the default settings. 0 second indicates unlimitedly continuous triggering while 5 and 10 seconds mean there's a time interval between triggering for respective settings.

---

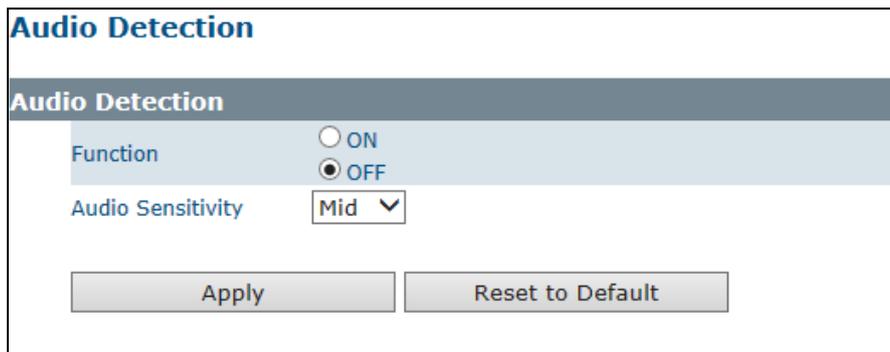
**Note** Please click "Apply" button to save your settings. Users can also click "Reset to Default" to set all the data and options back to defaults.

---

### 3.2.4.3 Audio Detection

With the Audio Detection enabled, when the camera detects the sound of specified sensitivity , the camera will generate an alarm and then take a specified action.

- Function: Set the audio detection as “ON” or “OFF”.
- Audio sensitivity: Specify the camera’s sensitivity level to the audio signal. The higher the sensitivity, the lower the volume is required to set off an alarm.



The screenshot shows the 'Audio Detection' settings page. At the top, there is a title 'Audio Detection' in blue. Below it, a dark grey header bar also contains 'Audio Detection'. The main content area has a light blue background. It features two settings: 'Function' with radio buttons for 'ON' and 'OFF' (where 'OFF' is selected), and 'Audio Sensitivity' with a dropdown menu currently set to 'Mid'. At the bottom, there are two buttons: 'Apply' and 'Reset to Default'.

## 3.2.5 Recording Settings

### 3.2.5.1 FTP Recording

Users can save image files via FTP by setting FTP trigger mode beforehand.

#### Recording Settings



The screenshot shows the 'Recording Settings' page. It has a dark grey header bar with the title 'Recording Settings'. Below it, the 'Trigger Mode' is set to 'OFF' using radio buttons. Other options listed are 'Schedule', 'Alarm In', 'Motion Detection', and 'Audio Detection', all of which are currently unselected.

Trigger Mode: You can store your image files base on your scheduled recording, recording by alarm or recording by motion/audio detection.

## FTP Server

FTP (File Transfer Protocol) is used as a service component to transfer files by simply entering the FTP IP address or hostname with the user name and password.

FTP Server		
IP Address	<input type="text" value="ipcam"/>	
User Name	<input type="text" value="guest"/>	
Password	<input type="password" value="••••"/>	
Port	<input type="text" value="21"/>	(1~65535)

- IP Address: Input a server name or address.
- User Name: Input a user name with privilege to access the server.
- Password: Input the password associated with Login ID.
- Port: Set "21" as default or change to dedicated number.

---

**Note** The default login name and password are "guest" and "1234".

---

## Period Settings

Determine the recording condition: OFF, All Day, Schedule 1, or Schedule 2 from scheduled recording table during 24/7.

Period Settings				
Day	OFF	All Day	Schedule 1	Schedule 2
Monday	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tuesday	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wednesday	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thursday	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friday	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Saturday	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sunday	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Schedule 1	Start <input type="text" value="8"/> <input type="text" value="AM"/> - Stop <input type="text" value="5"/> <input type="text" value="PM"/>			
Schedule 2	Start <input type="text" value="8"/> <input type="text" value="AM"/> - Stop <input type="text" value="5"/> <input type="text" value="PM"/>			
Recording Cycle	<input type="text" value="5"/> (Second)			
Record File Name	<input type="text" value="rec_sche"/>			
Server Path	<input type="text" value="/cam"/>			

- Recording cycle: Set a time interval for recording images.
- Server Path: Set the data path where the data is to be stored on the server.

## Alarm / Motion / Audio Settings

These functions are to define the way to record video once a motion/alarm/audio event is detected by the unit.

Alarm Settings	
Pre-recording Frame	0 ▾
Pre-recording Cycle	1 ▾ (Second)
Recording Frame	10 ▾
Recording Cycle	2 ▾ (Second)
File Name	rec_alarm
Server Path	/cam

Motion Settings	
Pre-recording Frame	0 ▾
Pre-recording Cycle	1 ▾ (Second)
Recording Frame	10 ▾
Recording Cycle	2 ▾ (Second)
File Name	rec_motion
Server Path	/cam

Audio Settings	
Pre-recording Frame	0 ▾
Pre-recording Cycle	1 ▾ (Second)
Recording Frame	10 ▾
Recording Cycle	2 ▾ (Second)
File Name	rec_audio
Server Path	/cam

- Pre-Recording Frame: Set the number of frame to be recorded immediately before a motion occurs.
- Pre-Recording Cycle: Set a time interval before recording.
- Recording Frame: Set the number of frame when recording.
- Recording Cycle: Set a time interval for recording.
- File Name: Enter a name to us as the “root” filename when auto-saving files.
- Server Path: Set the data path where the data is to be stored on the server.

---

**Note** Please click “Apply” button to save your settings. Users can also click “Reset to Default” to set all the data and options back to defaults.

---

### 3.2.5.2 SMTP Recording

Users can receive alarm or motion/audio detection information by setting an E-mail account.

#### Recording Settings

Recording Settings	
Trigger Mode	<input type="radio"/> Alarm <input type="radio"/> Motion <input type="radio"/> Audio Detection <input checked="" type="radio"/> OFF

Trigger Mode: You can trigger SMTP recording and e-mail the recording by alarm or recording by motion/audio detection.

#### SMTP Server

Simple Mail Transfer Protocol (SMTP) is an Internet standard for electronic mail (e-mail) service across Internet Networking.

SMTP Server		
IP Address	<input type="text"/>	
User Name	<input type="text"/>	
Password	<input type="text"/>	
Sender Mail Address	<input type="text"/>	
Port	<input type="text" value="25"/>	(1~65535)
Authentication	<input type="text" value="No_Auth"/>	▼

- IP Address: Input a server name or address.
- User Name: Input a user name with privilege to access the server.
- Password: Input the password associated with Login ID.
- Sender Mail Address: enter the mail address of the sender
- Port: set "25" as default or change to dedicated number.
- Authentication: Select an authentication type
  - No Authentication: No restriction
  - SMTP\_Plain: PLAIN is the name of a registered SASL authentication mechanism which serves as a parameter to the AUTH command. The PLAIN authentication mechanism is described in RFC 2595. PLAIN is the least secure of all the SASL authentication mechanisms since the password is sent unencrypted across the network.
  - LOGIN: The LOGIN mechanism is supported by Microsoft's Outlook Express as well as by some other clients.
  - TLS\_TTLS: TLS is usually implemented on top of any of the Transport Layer protocols encapsulating the application-specific protocols such as HTTP, FTP, SMTP, NNTP and XMPP. The TLS protocol allows client-server applications to communicate across a network in a way designed to prevent eavesdropping and tampering. TLS can also be used to tunnel an entire network stack to create a VPN as is the case with OpenVPN.

## Alarm In / Motion Detection / Audio E-mail Notification

Alarm In E-mail Notification	
Subject	<input type="text"/>
Message	<input type="text"/>
Image Attachment	<input type="radio"/> ON <input checked="" type="radio"/> OFF

Motion Detection E-mail Notification	
Subject	<input type="text"/>
Message	<input type="text"/>
Image Attachment	<input type="radio"/> ON <input checked="" type="radio"/> OFF

Audio Detection E-mail Notification	
Subject	<input type="text"/>
Message	<input type="text"/>
Image Attachment	<input type="radio"/> ON <input checked="" type="radio"/> OFF

- Subject: The subject of the E-mail
- Message: The contexts of E-mail
- Image Attachment: Select "on" first and choose the image to attach with.

## E-mail Address List

This function is designed to notify multiple users via email when the alarm in or motion detection function is set.

E-mail Address List						
	Enable	No.	Address	Alarm	Motion	Audio
<input checked="" type="checkbox"/>		1	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		2	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		3	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		4	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		5	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		6	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		7	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		8	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		9	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		10	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Tick “enable” and input the email address accordingly.
- Select either way (Alarm, Motion or Audio) for sending E-mail.

---

**Note** Please click “Apply” button to save your settings. Users can also click “Reset to Default” to set all the data and options back to defaults.

---

## Appendix A: Specifications

Video	
Sensor Type	1/3" image sensor optimized for low-light performance
Active Pixels	2304 x 1536 (HxV)
Compression	H.264 / MJPEG
Streaming	Triple simultaneous streams with multiple video profile
Resolution	QXGA(2048x1536), 2304x1296, 1080P, SXGA, 720P, SVGA, D1, 4CIF, VGA, CIF
Max. Frame Rate	3MP 4:3 (2048x1536) at 15 fps (NTSC) and 12.5 fps (PAL) 2MP 16:9 (1920x1080) at 30 fps (NTSC) and 25 fps (PAL)
Day/Night	Mechanical (ICR) D/N Control
Day/Night Mode	Auto/ BW/ Color
Shutter Time	1/16,000s to 1/7.5s Selectable (60Hz); 1/16,000s to 1/6.25s Selectable (50Hz)
Minimum Illumination	IR LED OFF: 0.5 Lux @50IRE (Shutter speed: 1/30 sec) IR LED OFF: 0.1 Lux @10IRE (Shutter speed: 1/30 sec) IR LED ON: 0 Lux
Video Output	NTSC: 720 X 480 @30fps; PAL: 720 X 576 @25fps
Bit Rate Control	CBR, VBR
Lens	
Lens Type	Built-in; Varifocal
Focal Length, F-number	f=9~22mm, F1.5
View Angle (FOV)	H: 30.6°(Wide)~13°(Tele)/V:22.6°(Wide)~9.8°(Tele)
IRIS Control	DC IRIS
IR LEDs	
LED Quantity	48 pcs (850nm)
IR Distance	30 meters (98 ft.)
IR turn on status	Under 5 Lux by auto control
LED Life	More than 10,000 hours (50°C)
Audio	
Audio Communication	Two-Way Audio
Compression	G.711-Alaw / G.711-Ulaw, 8kHz
Audio In/Out	External microphone and speaker
Image Enhancement	
Image Settings	AES, AWB, AGC Exposure Mode: AES / ALC / Flickerless / Manual; White Balance: Auto / Manual; Backlight Compensation Configurable Brightness, Contrast, Hue, Saturation, and Sharpness Gamma Correction

WDR	Enhanced Digital WDR
DNR	3DNR
Privacy Zone	Yes, customized threshold privacy zone (up to 8)
Image Orientation	Mirror, Flip, Both
Frequency Control	NTSC(60Hz)/ PAL(50Hz)
<b>Intelligent Video &amp; Event Management</b>	
Motion Detection	3-level sensitivity
Audio Detection	3-level sensitivity
Smart Encoding	Configurable ROI for better picture quality
Others	Snapshot, e-PTZ, Optimized i-frame (GOP) setting
Events	Motion detection, audio detection, external alarm
Event Actions	Event snapshot to remote FTP storage (schedule, alarm input, motion and audio detection)/ email recipients (alarm input, motion and audio detection)
Store Category	Motion Detection / Alarm / Audio Detection / Schedule event recording Manual Snapshot
<b>Network</b>	
Protocol	IPv4, HTTP, HTTPS, TCP, RTSP/RTCP/RTP, ICMP, UDP, IGMP, DNS, DHCP, ARP, NTP, SNMP, UPnP, SMTP, FTP, DDNS, PPPoE, Bonjour, 802.1X
Ethernet	10Base-T/100Base-TX Ethernet connection for LAN / WAN, RJ-45
PoE	IEEE 802.3af, Class 0
ONVIF	Yes
Browser	Internet Explorer 8.0 or above
Security	Multiple user access levels with password protection; IEEE 802.1X network access control, HTTPS encryption
<b>I/O &amp; Controls</b>	
Power	2-pin Terminal block/ Female RJ45
Alarm In/Out	Terminal block 1 in / 1 out
Network	Female RJ-45 with LED Indicator
Audio In/Out	Terminal block 1 in / 1 out
Analog Video	1 x composite video out, micro JST
System Reboot	Reset x 1
Factory Default	Default x 1, pressing 5 sec for loading factory default
<b>Power</b>	
Power Requirement	AC 24V ± 10% / PoE (IEEE 802.3af) *PoE is not supported when heater is on
Power Consumption (Max.)	15W (Heater ON), 8W (Heater OFF)
<b>Mechanism</b>	
Dimensions(WxDxH)	115 x 264 x 110 mm (4.53" x 10.39" x 4.33")
Weight	1650g (3.64 lb)

3-Axis	Yes
Protection	IP67
Battery Backed-up Real-time Clock	Yes; Internal RTC
<b>Environment</b>	
Operating Temperature	Powered by AC24V: -40°C ~ 50°C (-40°F ~ 122 °F); Powered by PoE: -10°C ~ 50°C (-14°F ~ 122°F)
Operating Humidity	90% RH, non-condensing
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)
<b>Regulatory</b>	
Approvals	CE, FCC, RoHS

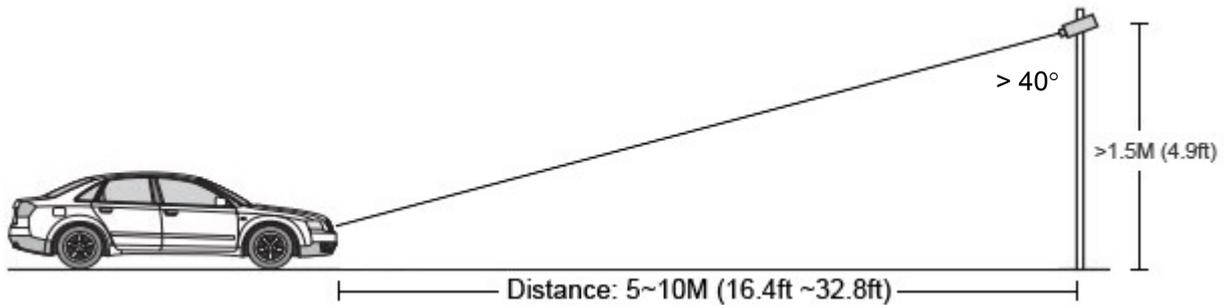
Note: Product specifications and pictures are subject to change without notice.

# Appendix B: Application Recommendations

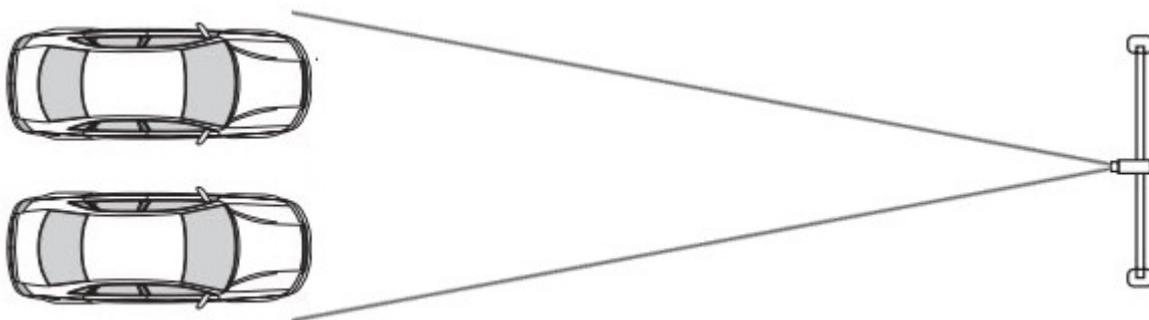
## Recommended Installation

The camera's built-in 9~22mm lens captures a wide 13~16 ft. (4~5 Meter) field. To ensure an optimal view, please install the camera and adjust the lens under the conditions we suggest:

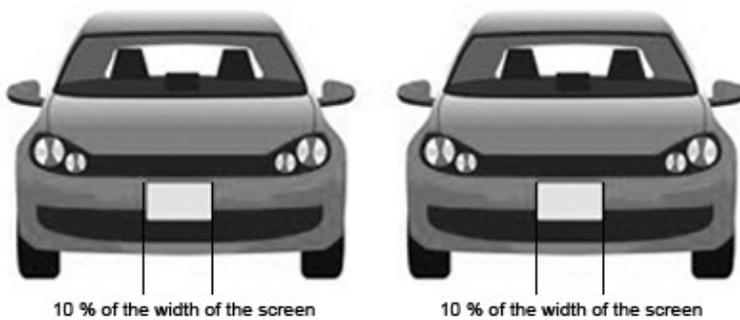
1. The camera height should be higher than 1.5 Meter (4.9 ft).
2. Vertical angle should not be less than 40 degrees.



3. The captured image should cover the full width of the vehicles.



4. The width of each license plate should cover approximately 10 % of the width of the screen.



## Recommended Settings

Shutter Speed: Shall be higher than 1/120s

Maximum Gain: In the range 0 ~ 10 depending on field condition