

# DOME IP CAMERA SERIES OPERATION GUIDE

Please read instructions thoroughly before operation and retain it for future reference.

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All lead-free products offered by the company comply with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive, which means our manufacture processes and products are strictly "lead-free" and without the hazardous substances cited in the directive.



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This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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This equipment has been tested and found to comply with the limits for a Class 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.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device must not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

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This product doesn't have a standby / off mode.

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Further source codes which are subject to the GPL-licenses are available upon request.

We are pleased to provide our modifications to the Linux Kernel, as well as a few new commands, and some tools to get you into the code. The codes are provided on the FTP site, and please download them from the following site or you can refer to your distributor:

Model 1, 2 & 4: <http://download.dvrtw.com.tw/GPL/IPCAM/A-Series/linux.tar.gz>

Model 3: <http://download.dvrtw.com.tw/GPL/IPCAM/F-Series/linux.tar.gz>

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# 1. OVERVIEW

## 1.1 Product Features

- **1.3 / 2 Megapixel** solution with **HD 720p** quality, allowing users to notice minor details more easily
- **ONVIF** standard supported to simplify system integration
- **Remote Surveillance**
  - **Full compatibility** on **iPhone & iPad**, and **Internet Explorer®** on **Windows®** operating system
- **(For selected models only) 3-axis mechanism** for flexible ceiling and wall-mount installation
- **(For selected models only) POE (Power-over-Ethernet)** support to eliminate the use of power cables and reduce installation costs
- **(For selected models only) External alarm I/O device** connection
- **(For selected models only) WDR** to increase image recognizability in overexposure and dark areas
- **(For selected models only) MicroSD card** support for **video storage**
- **(For selected models only) Vandal-resistant case** to withstand attempts to open or damage the camera

## 1.2 Package Contents

<input type="checkbox"/> IP camera	<input type="checkbox"/> Screws & Wall Plugs	<input type="checkbox"/> Quick Setup	<input type="checkbox"/> CD Manual
------------------------------------	--	--------------------------------------	------------------------------------

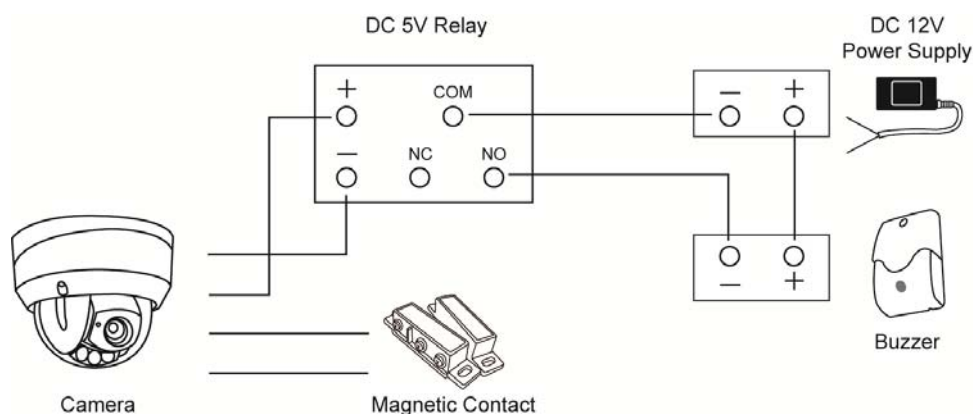
## 1.3 Connectors

**Note:** The connectors available depend on the model you have.



Ethernet:	Connect a RJ45 network cable.
DC IN:	Connect the regulated power supply.
RESET:	With the power connected, press to reset all parameters, including the IP address to factory default settings.  The camera will reboot after default reset. Please do not disconnect your camera during the reset process.
Alarm in / Alarm out:	For external alarm device connection, please refer to “1.4 External Alarm Connection” at page 1.
Line in (Blue) / Line out (Green)	Support speaker and microphone connection.

## 1.4 External Alarm Connection (For selected models only)

Below is how to connect an external device to this series.





## 1.5 Status Indicator (For selected models only)

ICON	 LAN connection status	 Internet connection status
<b>System Status</b>		
During powering on	Always on	Always on
Reset default	Blinking (on 250 ms, off 250 ms) ●○○●○○●○○●○○	Always off
Upgrade	Blinking (on 250 ms, off 250 ms) ●○○●○○●○○●○○	Blinking (on 250 ms, off 250 ms) ●○○●○○●○○●○○
<b>Connection Status</b>		
LAN connected	Always on	--
LAN disconnected	Blinking (on 100 ms, off 500 ms) ●○○●○○●○○●○○	--
Internet connected	--	Always on
Internet disconnected	--	Blinking (on 100 ms, off 500 ms) ●○○●○○●○○●○○
<b>3G Connection Error on iPhone / iPad / Android Mobile Device</b>		
3G Connection Setting Uncompleted	--	Blinking (on 5 sec, off 0.5 sec, on 0.5 sec, off 0.5 sec, on 5 sec) ●●●●●○○●●●●●

\* LED blinking frequency - ● LED on / ○ LED off

When the “privacy mode” (for selected models only) is on, the status indicators will blink as the following table illustrates:

ICON	 LAN connection status	 Internet connection status
<b>System Status</b>		
During powering on	Always on	Always on
Reset default	Blinking (on 250 ms, off 250 ms) ●○○●○○●○○●○○	Always off
Upgrade	Blinking (on 250 ms, off 250 ms) ●○○●○○●○○●○○	Blinking (on 250 ms, off 250 ms) ●○○●○○●○○●○○
<b>Connection Status</b>		
LAN connected	--	--
LAN disconnected	Blinking (on 100 ms, off 500 ms) ●○○●○○●○○●○○	--
Internet connected	--	--
Internet disconnected	--	Blinking (on 100 ms, off 500 ms) ●○○●○○●○○●○○
<b>3G Connection Error on iPhone / iPad / Android Mobile Device</b>		
3G Connection Setting Uncompleted	--	Blinking (on 5 sec, off 0.5 sec, on 0.5 sec, off 0.5 sec, on 5 sec) ●●●●●○○●●●●●

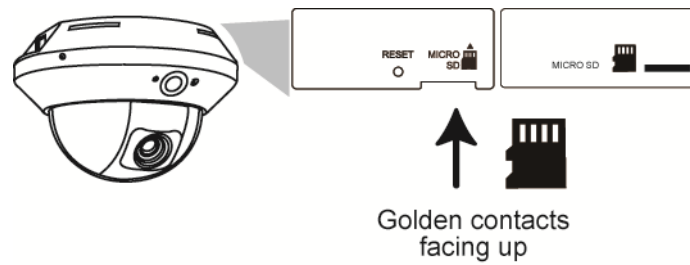
\* LED blinking frequency - ● LED on / ○ LED off

To know more about the privacy mode, please refer to 3.8.1 General at page 27.

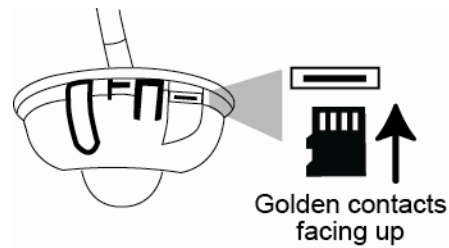
## 1.6 Insert a Micro SD card (For selected models only)

For local video recording, a micro SD card slot can be found on the camera. The camera doesn't support hot-swapping. Please insert or remove the micro SD card with power disconnected. Please follow the directions in the below graphic to insert Micro SD card properly:

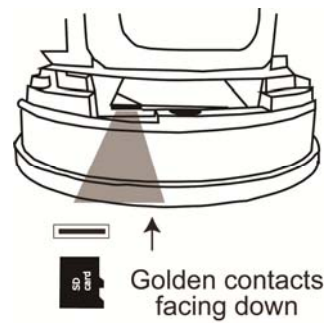
Type 1



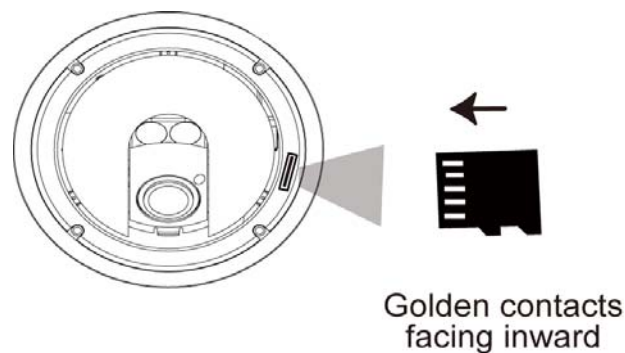
Type 2



Type 3



Type 4



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**Note:** Before inserting a micro SD card, make sure you've copied all important data saved in the card (if any) to other storage media, or all data will be removed after inserting it to the camera.

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Note: For the compatible list of the micro SD card, please refer to "APPENDIX 7 MICRO SD CARD COMPATIBLE LIST" at page 51.

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## 2. CAMERA ACCESS WITH INTERNET EXPLORER

This network camera can be accessed via Microsoft® Internet Explorer® and iPhone / iPad / Android mobile devices with our self-developed program “EagleEyes” installed depending on different using situations.

**Note:** For details about accessing network cameras via iPhone / iPad / Android mobile devices, please refer to <http://www.eagleeyescctv.com>.

Before using the camera, make sure you have configured the network settings, and the network connection is fine.

For network configurations, please refer to:

- **“ADVANCED NETWORK SETUP”** downloadable from [www.surveillance-download.com/user/m521.swf](http://www.surveillance-download.com/user/m521.swf) if your network environment is not wireless.

### 2.1 Camera Login

Step1: Open your web browser, and key in <http://ipaddress:portnum> in the URL address box.

For example, for the IP address 60.121.46.236 and port No. 888, please key in “<http://60.121.46.236:888>” into the URL address box, and press “Enter”.

Step2: In the login page, key in the user name and password, and enter the security code from the image below if any. Then, click “LOGIN”.

Step3: The wizard is then started.

- To skip the wizard and directly access the camera live view, click “Close”.
- To directly access the camera live view without starting the wizard for the login next time, check “Do not start wizard at login”.

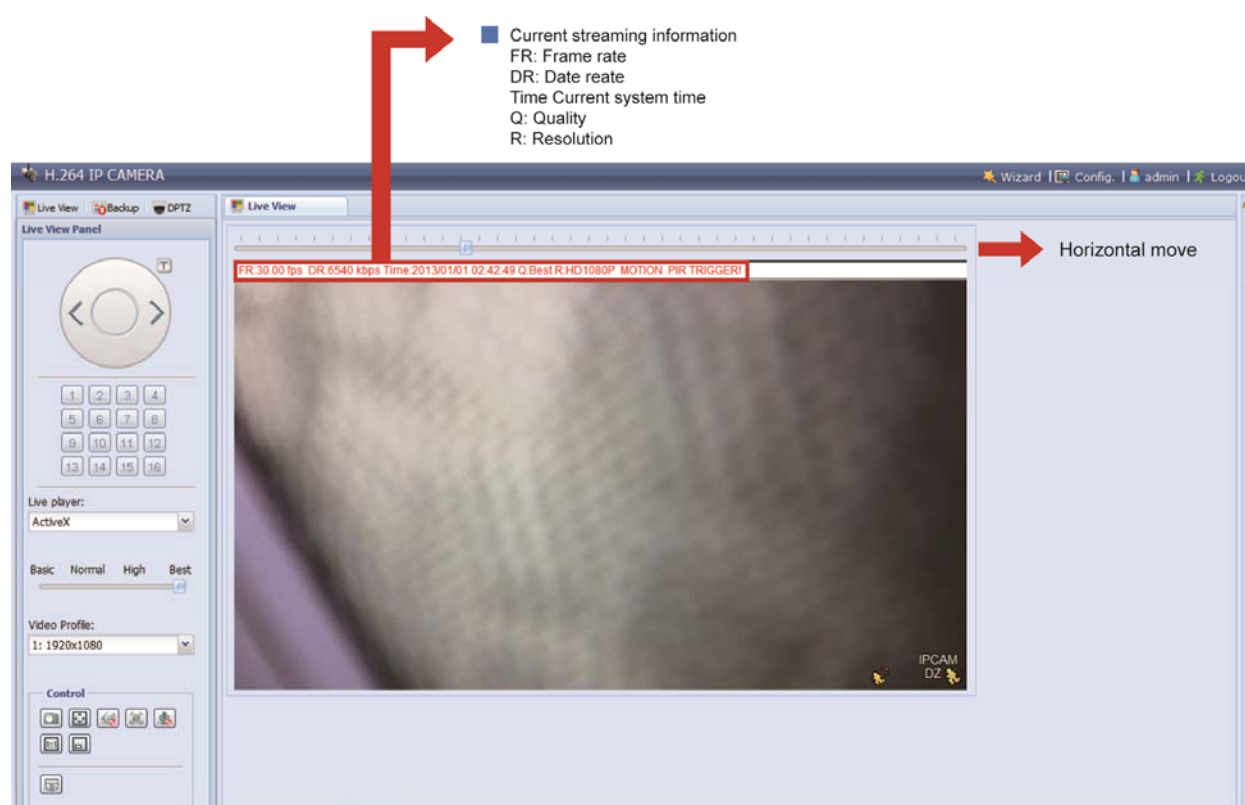
**Note:** If you’re prompted to install “VLC player”, “Software” or “H264 Streaming Viewer”, please agree to proceed the installation. Or, you might not be able to see the live view properly.

Step4: When the login is successful, the live view is shown.

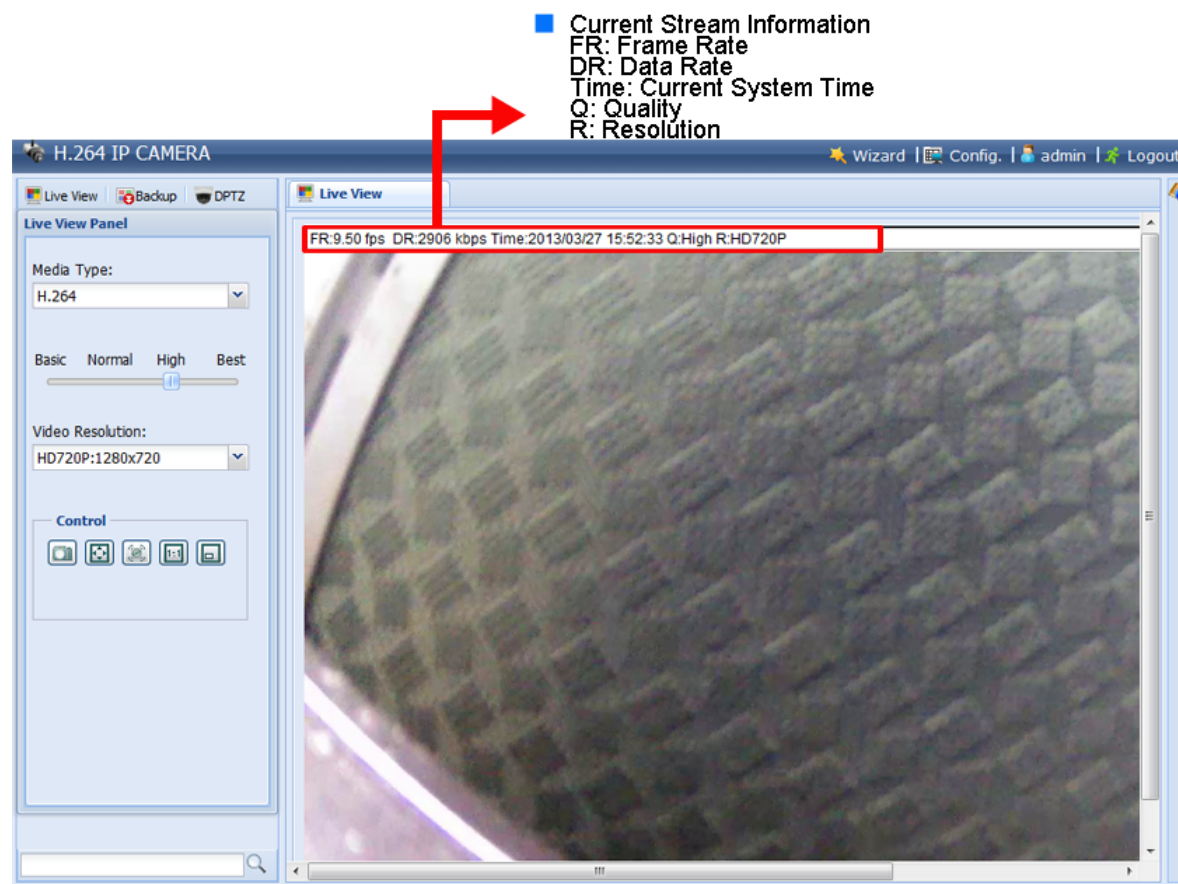
### 2.2 Control Panel Overview

**Note:** The buttons available depend on the model number used and the user level used to log in.

#### ➤ Type 1
















➤ Type 2



For other buttons, please check the following table.

Function	Icon	User Level	Description
Live		Supervisor / Power User / Normal User / Guest	Switch to the live view page.
Backup		Supervisor / Power User	Enter the event record list for video playback. For details, please refer to "2.4 Event Record Search & Playback" at page 8.
DPTZ		Supervisor / Power User / Normal User	Switch to the DPTZ configuration page. For details, please refer to "2.3 Digital PTZ (DPTZ) Operations" at page 7.
Config.		Supervisor	Switch to the system configuration page, and the functions available for "Supervisor" and "Power User" are different. For details, please refer to "3.1 System configuration menu" at page 10.
Arrow keys panel	--	Supervisor / Power User / Normal User	Click to move the camera lens up / up-left / down / up-right / left / down-right / right / down-left.
Turbo*		Supervisor / Power User / Normal User	Speed up one mouse-click from 1 to 10. Note: When this function is enabled, the supported buttons will turn to red. Ex: If the value of the turbo step is set to 5, one mouse-click will function as 5 mouse-clicks when you click the arrow keys. To use this function, you need to set it in "General" → "General".
Preset points*	--	Supervisor / Power User / Normal User	Click the numbering of the preset point you want to move the PTZ camera to the selected preset point. To set preset points, please refer to "3.3.2 Preset (For selected models only)" at page 19.
Live player*	--	Supervisor / Power User / Normal User / Guest	Select the image player from the drop-down list: <ul style="list-style-type: none"> <li>■ ActiveX</li> <li>■ QuickTime QuickTime is Apple Inc.'s multimedia software. You need to have QuickTime installed in your operating system before selecting "QuickTime". When it is selected, you will be promoted to enter the user name and password to access the camera.</li> <li>■ VLC</li> </ul>
Media Type*	--	Supervisor / Power User / Normal User / Guest	Select the image player from the drop-down list: <ul style="list-style-type: none"> <li>■ H.264 / MPEG-4 / Motion JPEG</li> <li>■ QuickTime QuickTime is Apple Inc.'s multimedia software. You need to have QuickTime installed in your operating system before selecting "QuickTime". When it is selected, you will be promoted to enter the user name and password to access the camera.</li> <li>■ VLC</li> </ul>
Quality	--	Supervisor / Power User / Normal User	Click & drag the slider to select the video quality: Basic / Normal / High / Best.

Function	Icon	User Level	Description
Video Profile*	--	Supervisor / Power User / Normal User	Select the image resolution from the drop list: <div> <div>■ 1920 x 1080</div> <div>■ 1280 x 720</div> <div>■ 720 x 480</div> <div>■ 352 x 240</div> </div>
Video Resolution*	--	Supervisor / Power User / Normal User	Select the image resolution from the drop list: <div> <div>■ SXGA (1280 x 1024)</div> <div>■ HD720P (1280 x 720)</div> <div>■ VGA (640 x 480)</div> <div>■ QVGA (320 x 240)</div> </div>
Live View Size:		Supervisor / Power User / Normal User	
Full Screen			Click to display the image in full screen. To exit the full screen mode, press "Esc" on your keyboard.
Double size			The QVGA resolution is resized to fit into the current live view size. <i>This icon appears only when the selected resolution is QVGA (320 x 240) or CIF (352 x 240).</i>
Normal Size			The current live view size is the same as the selected resolution.
Fit to screen			The selected resolution is resized to fit into the current live view size. <i>This icon doesn't work when the selected resolution is VGA or QVGA.</i>
Scale			Click and hold the movable square on the left bottom corner of the live view to move <i>This icon appears only when the selected resolution is larger than the current live view size.</i>
Snapshot		Supervisor / Power User / Normal User	Click to take a snapshot of the current view on a new window. Right click on the picture and re-save it to the location you want.
Audio On / Off*	 / 	Supervisor / Power User / Normal User	Click to switch the audio-in on / off.
Microphone*	 / 	Supervisor	Click to switch the audio-out on / off.
Manual Alarm Out*		Supervisor / Power User / Normal User	Click to force the connected alarm-out device to work. For example, when your alarm device is a buzzer, click this button and your buzzer will start to sound even if there's no alarm event.
Focus Assist*		Supervisor / Power User / Normal User	Click to help you determine whether the image clearness is adjusted well when you're adjusting your camera focus. Two values will be calculated and shown as "XX / YY". <div> <div>■ YY is the best focus value for your current camera view</div> <div>■ XX is your current focus value</div> </div> When XX is closer to YY, the clearer and sharper images you'll get for your camera view.
Flip*			Select "ON" to rotate the image 180° when necessary.

\*Selected models only













## 2.3 Digital PTZ (DPTZ) Operations

This series of camera has PTZ capability, i.e. digital PTZ (hereafter called “DPTZ”), for wide area monitoring.

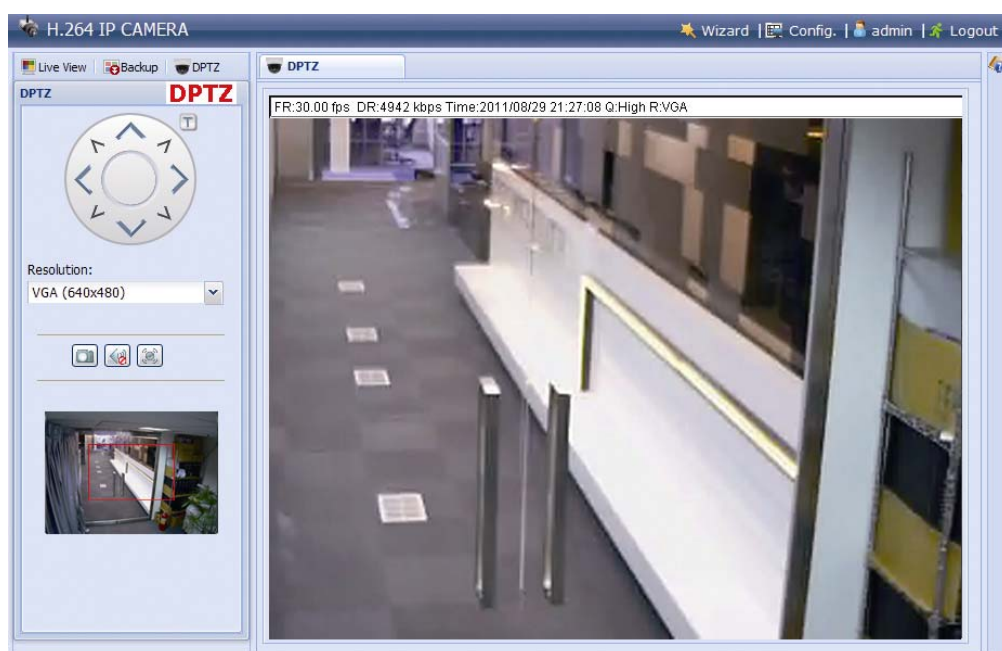
STEP1: Click “DPTZ” to show the DPTZ control panel.







➤ Type1



FUNCTION	ICON	DESCRIPTION
Moving panel	--	When  is selected, the moving control panel will be shown to move the picture after zoom-in is performed.
Take snapshots		Click to take a snapshot of the current view on a new window. Right click on the picture and re-save it to the location you want.
Zoom in / out	 / 	Click  once to enlarge the picture by 1X, and click  once to restore the zoom ratio by 1X.
Max. zoom in / out	 / 	Click  once to enlarge the picture to the max zoom ratio by 16X, and click  once to restore the picture ratio to 1X.
Normal Size		The current live view size is the same as the selected resolution.
Scale		Click and hold the movable square on the left bottom corner of the live view to move <i>This icon appears only when the selected resolution is larger than the current live view size.</i>

## ➤ Type 2



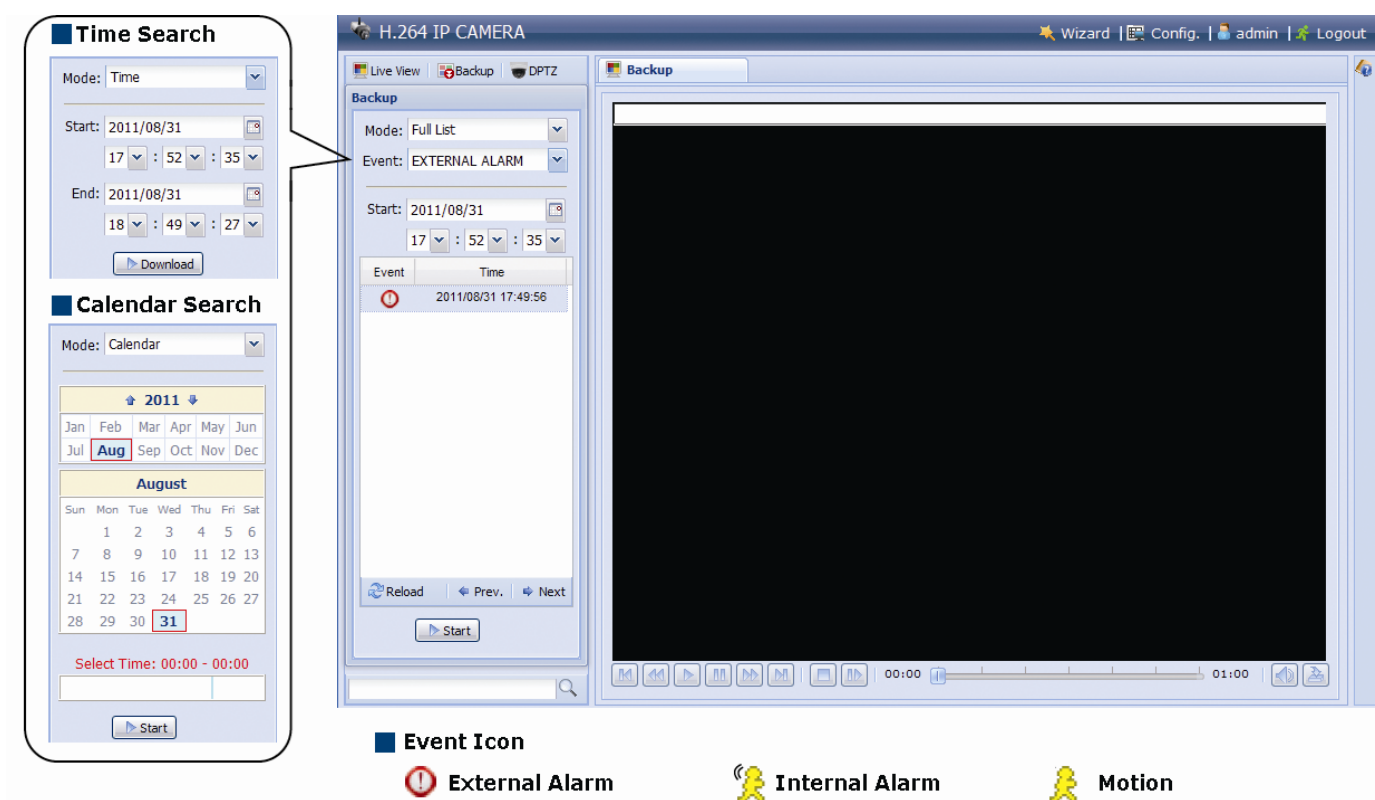
FUNCTION	ICON	DESCRIPTION
Resolution	--	Select the video resolution for the DPTZ function. Only "VGA" and "QVGA" are available.
Take snapshots		Click to take a snapshot of the current view on a new window. Right click on the picture and re-save it to the location you want.
Audio On / Off	 / 	Click to switch the audio-in on / off.
Alarm Out*		Click to force the connected alarm-out device to work. For example, when your alarm device is a buzzer, click this button and your buzzer will start to sound even if there's no alarm event.
Microphone	 / 	Click to switch the audio-out on / off.

\*Selected models only












## 2.4 Event Record Search & Playback

**Note:** To save more recorded data, it's recommended to use this camera with the compatible NVR.



**Note:** The events available depend on the model you have.

	Previous / Next Hour	Click to jump to the next / previous time interval in an hour, for example, 11:00 ~ 12:00 or 14:00 ~ 15:00, and start playing the earliest event video clip recorded during this whole hour.
	Fast Forward	Increase the speed for fast forward. Click to get 2X, 4X, 8X & 16X speed forward eventually.
	Fast Rewind	Increase the speed for fast rewind. Click to get 2X, 4X, 8X & 16X speed rewind eventually.
	Play	Click to play the current video clip.
	Pause	Click to pause the video playback.
	Stop	Click to stop the video playback.
	Step	In the pause mode, click to get one frame forward.
	Audio	Click to mute the playback if necessary, and click again to restore. <i>This function is available only when a speaker is connected during recording.</i>
	Download	Click to download the current video clip to the specified path in your PC. <i>The downloaded video can only be opened by our own video player. Please go to "General" → "Maintenance" to download the video player, or get the player from the CD supplied with the sales package.</i>

## 3. CAMERA CONFIGURATIONS

Users can further configure this network camera by accessing via Internet Explorer.

### 3.1 System configuration menu

Click “Config.” to enter the configuration page.

The functions are categorized into six menus: Network, Camera, VA, Record Timer, Storage, Trigger and General.

- For details about “Network”, please refer to “3.2 Network” at page 10.
- For details about “Camera”, please refer to “3.3 Camera” at page 16.
- For details about “VA”, please refer to “3.4 VA” at page 23.
- For details about “Record”, please refer to “3.5 Record” at page 23.
- For details about “Storage”, please refer to “3.6 Storage” at page 25.
- For details about “Trigger”, please refer to “3.7 Trigger” at page 25.
- For details about “General”, please refer to “3.8 General” at page 26.

Main Menu	Sub-Menu	Reference
Network	Network	Configure network settings.
	QoS	Limit the data flow for live streaming.
	DDNS	Enter DDNS information when the network type is PPPOE or DHCP.
	SNTP	Synchronize your camera time with the networked computer systems.
	FTP	Enter the FTP information for event notifications when “FTP” is chosen in “Trigger” → “Trigger”.
	Mail	Enter Email information for event notifications when “Email” is chosen in “Trigger” → “Trigger”.
	SMS	Enter text messaging information for SMS notifications when “SMS” is chosen in “Trigger” → “Trigger”.
	Filter	Choose to permit or block the IP address(es) which can access this camera.
	UPnP	<i>*Suitable for Windows-based operating system.</i> Allow this camera to be detected among devices within the same network area for easy and quick usage.
	Bonjour	<i>*Suitable for Apple Mac-based operating system.</i> Allow this camera to be detected among devices within the same network area for easy and quick usage.
	RTP	Set the parameters for video data transmission when you're using multimedia other than web browsers and Video Viewer for remote access.
	SNMP	Configure SNMP to remotely manage network devices.
Camera	Camera	1. Rename the camera. 2. Change the place where the camera name is shown on the screen.
	Preset*	Set the preset points for the DPTZ function.
	Video	Adjust video-related settings in different video format.
	ROI*	Select a specific area to reinforce the image quality of that area.
	Color	Adjust the color performance.
	Audio*	Adjust the audio volume of the microphone and speaker.
	Advanced	Adjust the camera parameters if necessary.
VA*	TA*	This function should be used with the mini-guard control switch for alarm system integration. For details, please check with your distributor or installer.
	DIS*	Enable this function to reduce blurring associated with the motion of a camera during exposure.
Record	Record	Configure the record function.
	Record Timer	Schedule external alarm recording.
Storage	Memory	Check the current storage capacity and clear all recorded data when needed.
Trigger	Trigger	1. Enable / disable motion, alarm and PIR detection. 2. Set the motion detection area. 3. Configure how the camera reacts for any event.
	Snapshot*	Schedule the camera to take snapshots periodically or at a specific time, and send to E-Mail and / or FTP for backup.

\*Selected models only

Main Menu	Sub-Menu	Reference
General	General	<ol style="list-style-type: none"> <li>1. Select the language of the web browser.</li> <li>2. Check the MAC address of the camera.</li> <li>3. Lock camera access after the specified time.</li> <li>4. Enable or disable LED status indication.</li> </ol>
	Time	Set daylight saving time and the current time.
	Server Log	Check the system event logs.
	Online	Check the current online user(s).
	Account	<ol style="list-style-type: none"> <li>1. Create a new user account with different access privilege.</li> <li>2. Modify or delete an existing user account.</li> </ol>
	Google Maps	Allow you to know where the network camera is.
	Maintenance	<ol style="list-style-type: none"> <li>1. Check the current firmware version and upgrade your camera.</li> <li>2. Copy system configurations.</li> <li>3. Reboot the camera.</li> <li>4. Download the video player to play the recorded data.</li> </ol>

\*Selected models only



3.2 Network

3.2.1 Network

You can set the network configuration of the network camera depending on your network type.  
For details, please refer to “Advanced Network Setup” from [www.surveillance-download.com/user/m521.swf](http://www.surveillance-download.com/user/m521.swf).

Network Configuration

IP Type:

☒ Static IP☐ PPPoE☐ DHCP

Server IP:

192.168.1.10

Gateway:

192.168.1.1

Net Mask:

255.255.255.0

Port:

80

DNS1:

168.95.1.1

DNS2:

139.175.55.244

MAC Address:

00:0E:53:20:E7:3E

Save

Reload

3.2.2 QoS

QoS, Quality of Service, is the ability to control the data flow for real-time streaming. This function is important if your network bandwidth is insufficient and you have other devices to share the network bandwidth.  
Check “QoS Enable”, and set the max. upload rate from 256 to 10240 kbps.

QoS Configuration

QoS:

☒ Enable☐ Disable

Interface:

Ethernet

Max. Upload Rate:

4096

kbps

Save

Reload

3.2.3 DDNS

Select “On” when the selected network type in “Network” is “PPPOE” or “DHCP”.  
For details, please refer to “Advanced Network Setup” from [www.surveillance-download.com/user/m521.swf](http://www.surveillance-download.com/user/m521.swf).

DDNS

DDNS Configuration

DDNS:

☒ Enable☐ Disable

System Name:

eagleeyes

Hostname:

MAC000ES320E73E

.ddns.eagleeyes.tw

E-Mail:

Save

Reload

3.2.4 SNTP

SNTP (Simple Network Time Protocol) is used to synchronize your camera time with the networked computer systems.

SNTP Configuration

GMT:

(GMT+08:00) Taipei

NTP Server:

tock.stdtime.gov.tw

Sync. Period:

Daily

Server Time:

2011-08-30 20:34:42

Sync.

Save

Reload

Function	Description
GMT	Once users choose the time zone, the network camera will adjust the local area time of the system automatically.
NTP Server	Simply use the default SNTP server (For example, tock.stdtime.gov.tw) or change to another server with which users are familiar.
Sync. Period	Select “Daily” to synchronize the camera time with the network time every day or “None” to turn off this function.
Sync	Click and the network camera will synchronize the time with the network time.

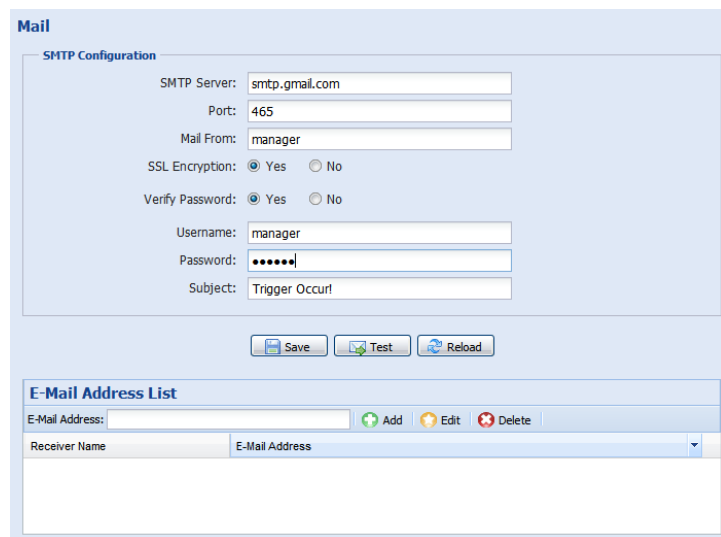
### 3.2.5 FTP

Enter the detailed FTP information and click “Save” to confirm. The information you set here will be applied when “FTP” is selected in “Trigger” → “Trigger”.

The screenshot shows the 'FTP Configuration' form. It has a light blue header with the title 'FTP Configuration'. Below the header, there are five input fields: 'Username' with the value 'manager', 'Password' with masked characters '\*\*\*\*\*', 'Server' with the value '321.382.12.99', 'Port' with the value '21', and 'Directory' with the value 'upload'. At the bottom of the form, there are three buttons: 'Save', 'Test', and 'Reload'.

### 3.2.6 MAIL

Enter the detailed e-mail information and click “Save” to confirm. The information you set here will be applied when “Email” is selected in “Trigger” → “Trigger”.

The screenshot shows the 'Mail' configuration form. It has a light blue header with the title 'Mail'. Below the header, there is a section titled 'SMTP Configuration' with several input fields: 'SMTP Server' with the value 'smtp.gmail.com', 'Port' with the value '465', 'Mail From' with the value 'manager', 'SSL Encryption' with radio buttons for 'Yes' (selected) and 'No', 'Verify Password' with radio buttons for 'Yes' (selected) and 'No', 'Username' with the value 'manager', 'Password' with masked characters '\*\*\*\*\*', and 'Subject' with the value 'Trigger Occur!'. Below this section are three buttons: 'Save', 'Test', and 'Reload'. Below the SMTP Configuration section is another section titled 'E-Mail Address List'. It has a text input field for 'E-Mail Address' and three buttons: 'Add', 'Edit', and 'Delete'. Below this is a table with two columns: 'Receiver Name' and 'E-Mail Address'. The table is currently empty.

Function	Description
SMTP Server	Enter the SMTP server address provided from your e-mail system supplier.
Port	Enter the port number provided from your e-mail system supplier. If this column is left blank, the e-mail server will use port 25 to send e-mails.
Mail From	Enter the name of the sender.
SSL Encryption	Select “Yes” if your e-mail server is using SSL encryption to protect your e-mail content from unauthorized access.
Verify Password	Some mail servers are required to verify the password. Please enter the “user name” and “password”.
Subject	Enter the subject of the notifying email you want to see when the camera is triggered.
E-Mail Address List	Add the e-mail address(s) of the assigned recipient(s).
Test	When all information is entered, click “Test Mail” to try if the receipt.

### 3.2.7 SMS

**Note:** Before using this function, you need to apply an account and get an API ID from the mobile messaging company, such as Clickatell and EVERY8D. For details, please refer to "APPENDIX 4 API ID APPLICATION FOR SMS MESSAGING" at page 46.

Enter the detailed information needed for text messaging, and click "Save" to confirm. The information you set here will be applied when "SMS" is selected in "General" → "Trigger".

The screenshot shows the 'SMS Configuration' window. It contains the following fields and controls:

- System:** A dropdown menu with 'clickatell' selected.
- Username:** A text input field containing 'tech'.
- Password:** A text input field with masked characters '\*\*\*\*\*'.
- API ID:** A text input field containing '3281378'.
- Recipient:** A text input field containing '+886912665475'.
- Transfer Interval:** A dropdown menu with '15' selected, followed by the unit 'Minute(s)'.
- Message:** A text area containing '[192.168.1.10] unauthorized access!'.
- Reset Counter:** A button with a circular arrow icon.
- Include Hostname or IP:** A checked checkbox.
- Buttons:** 'Save', 'Test', and 'Reload' buttons at the bottom.

Function	Description
System	The text messaging service provider is Clickatell.
User name / Password	Enter the account user name and password you created in Clickatell.
API ID	Enter the API ID you applied from Clickatell.
Recipient	Click "Add" to enter the phone number, including the country code, to receive the text message. Five sets of phone numbers are allowed.
Transfer Interval	Set the interval time in minutes between two-message sending. The options are 0, 15, 30 & 60.
Reset Counter	Click to restart the text messaging, and the SMS will be sent after the specified time interval since you click this button.
Message	Enter the text content (up to 70 characters) you want to send with the text message.
Test	To know whether your SMS setting is correct, click this button to immediately send a SMS to your phone.  Note: This testing is not free and you will be charged for SMS sending base on your local rate.

3.2.8 Filter

Choose to permit or block the IP address(es) which can access this camera, and click “Save” to confirm.

Filter Configuration

Error Count: 3

Error Lock Time: 1 Minute(s)

Echo Request: ☒ Non-Block ☐ Block

IP/MAC Filter Configuration

IP/MAC Filter: ☒ Enable ☐ Disable

IP/MAC Filter Policy: ☒ Allow ☐ Deny

IP/MAC Filter Rules

Rule: 192.168.1.122

Add Delete Help

192.168.1.23

Save Reload

Function	Description
■ Filter Configuration	
Error Count	Set the maximum count for login failure. When the maximum count is reached, the IP address trying to access the network camera will be locked.
Error Lock Time	Set the lock time in minutes when the maximum count of error login for an IP address is reached.
Echo Request	Select “Non-Block” to allow other users to use the ping command to detect the IP address of your network camera, or “Block” to deny the ping command request.
■ IP/MAC Filter Configuration	
IP/MAC Filter	Choose to enable or disable the filter function.
IP/MAC Filter Policy	If “Enable” is selected, choose whether you want to permit (Allow) or block (Deny) the IP address list below.
■ IP/MAC Filter Rules	
Rule	<div><div>To add an item to the IP address list, key in the IP address in “Rule”, and click “Add”.</div><div>To remove an existing item in the IP address list, click the item you want to remove, and click “Delete”.</div></div>

3.2.9 UPnP / Bonjour

“UPnP” stands for “Universal Plug and Play”, which allows devices to connect seamlessly in the home and corporate environments and simplify installation of computer components, and is only suitable for Microsoft Windows-based operating system.

“Bonjour” functions the same as “UPnP”, but it’s only suitable for Apple Mac-based operating system.

➤ UPnP

UPnP Configuration

UPnP: ☒ Enable ☐ Disable

Friendly Name: IP CAMERA (Fixed) 000E531574E3

Save Reload

➤ Bonjour

Bonjour Configuration

Bonjour: ☒ Enable ☐ Disable


Device Name: IP CAMERA (Fixed) AVN806-000E5320E73E

Save Reload

Check “Enable” to allow the network camera to be detected among devices within the same network area, and set the identification name of the camera in “Friendly name”.

When this function is activated, the other PC within the same domain as this camera will be able to search this camera in:

- “Network Neighbor” with the identification name set in “Friendly name” for Windows-based PC, or

➤ “” (finder) or “Bookmark” with the identification name set in “Device Name” for Mac-based PC.

Double-click it to quickly open the web browser for camera access.

### **Port Mapping (Available only in UPnP)**

This function can eliminate the need to additionally access the router for port forwarding.

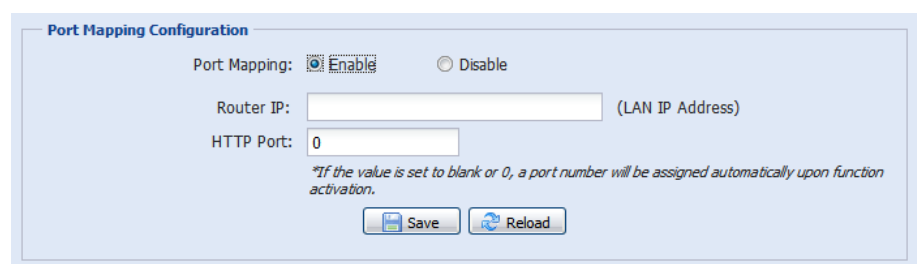
For details, please refer to “Advanced Network Setup” from [www.surveillance-download.com/user/m521.swf](http://www.surveillance-download.com/user/m521.swf)

---

**Note:** Before using this function, make sure your router supports UPnP, and this function is enabled. If not, please access your router additionally for port forwarding.

---

When “Port Mapping” is set to “Enable”, the system will automatically assign an IP address or port number for you if no IP address or port number is entered.



The 'Port Mapping Configuration' window shows a 'Port Mapping' section with 'Enable' selected. Below it are input fields for 'Router IP' (with '(LAN IP Address)' as a hint) and 'HTTP Port' (set to 0). A note states: '\*If the value is set to blank or 0, a port number will be assigned automatically upon function activation.' At the bottom are 'Save' and 'Reload' buttons.

---

**Note:** When the configurations are saved successfully, you'll see a message indicating the IP address and port number assigned to this network camera.

---

## 3.2.10 RTP

The Real-time Transport Protocol (RTP) is an Internet protocol standard to manage the real-time transmission of multimedia, such as VLC player.

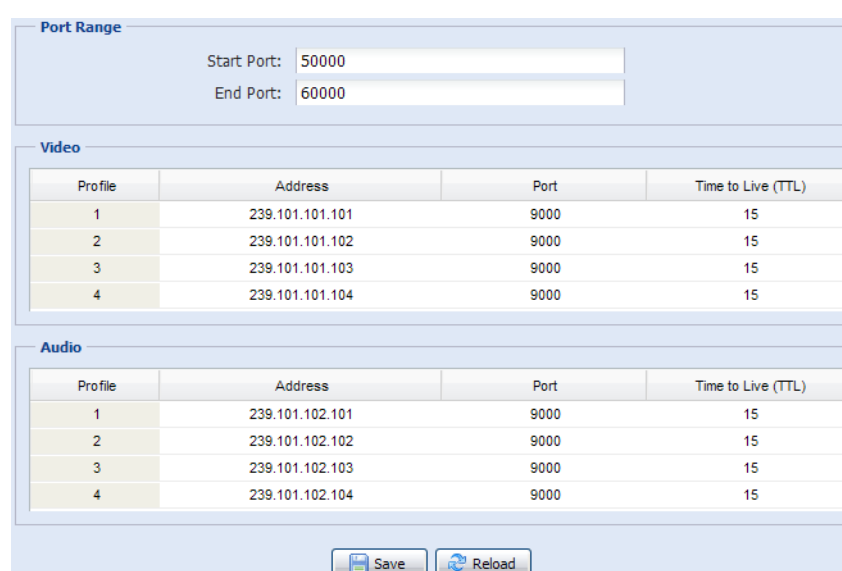
The media player you want to use for remote access must support RTP transmission for this function to work normally.

---

**Note:** When you're about to end the remote access, please press the stop button on your media player first, and then close the program. This is to ensure the server receives the stop command, and also help to protect the server from redundant data transmission.

---

### ➤ Type1



The configuration window is divided into three sections: 'Port Range', 'Video', and 'Audio'. 'Port Range' has 'Start Port' (50000) and 'End Port' (60000). 'Video' and 'Audio' each contain a table with 4 columns: Profile, Address, Port, and Time to Live (TTL). Both tables have 4 rows of data.

Profile	Address	Port	Time to Live (TTL)
1	239.101.101.101	9000	15
2	239.101.101.102	9000	15
3	239.101.101.103	9000	15
4	239.101.101.104	9000	15

Profile	Address	Port	Time to Live (TTL)
1	239.101.102.101	9000	15
2	239.101.102.102	9000	15
3	239.101.102.103	9000	15
4	239.101.102.104	9000	15

'Save' and 'Reload' buttons are at the bottom.

Function	Description
<b>■ Port Range</b> The port range used by RTP is limited, and preserving 100 ports between the start port and end port is necessary.	
Start Port	The range of the start port is 1024 ~ 65434.
End Port	The range of the end port is 1124 ~ 65534.
<b>■ Video</b>	
Address and port for video transmission	Set a specific address and port for multicast of profile 1 ~ 4. The range of the address is limited between 224.0.0.1 ~ 239.255.255.255. The port for multicast must be an even number.
<b>■ Audio</b>	
Address and port for audio transmission	Set a specific address and port for multicast of audio. The range of the address is limited between 224.0.0.1 ~ 239.255.255.255. The port for multicast must be an even number.

## ➤ Type 2

**RTP**

**Port Range**

Start Port:

End Port:

**Multicast**

**H264**

Resolution	Address	Port
SXGA / HD720P	239.101.101.102	9000
VGA	239.101.101.103	9000
QVGA	239.101.101.104	9000
QQVGA	239.101.101.105	9000

**MPEG4**

Resolution	Address	Port
SXGA / HD720P	239.101.102.102	9000
VGA	239.101.102.103	9000
QVGA	239.101.102.104	9000
QQVGA	239.101.102.105	9000

**JPEG**

Resolution	Address	Port
SXGA / HD720P	239.101.103.102	9000
VGA	239.101.103.103	9000
QVGA	239.101.103.104	9000
QQVGA	239.101.103.105	9000

**Audio**

Audio Address:

Audio Port:

Time to Live (TTL):

Function	Description
<b>■ Port Range</b> The port range used by RTP is limited, and preserving 100 ports between the start port and end port is necessary.	
Start Port	The range of the start port is 1024 ~ 65434.
End Port	The range of the end port is 1124 ~ 65534.
<b>■ Multicast</b>	
Address and port for H264 / MPEG4 / JPEG transmission	Set a specific address and port for multicast of each stream format (H264/ MPEG4/ JPEG). The range of the address is limited between 224.0.0.1 ~ 239.255.255.255. The port for multicast must be an even number.
Address and port for audio transmission	Set a specific address and port for multicast of audio. The range of the address is limited between 224.0.0.1 ~ 239.255.255.255. The port for multicast must be an even number.
Time to Live (TTL)	The range of Time to Live of the package is between 1 ~ 255. As soon as Time to Live of the package is 0, it will be dropped.

### 3.2.11 SNMP

SNMP, Simple Network Management Protocol, is used to facilitate the exchange of management information between network-attached devices, and network administrators could use it to monitor those devices.

The SNMP consists of three basic components:

- **Network-management systems (NMSs)** to monitor and control the managed devices.
- **Managed devices** as network nodes to save all network and management information, such as routers, access servers, switches, bridges, hubs, etc.
- **Agents** as network management software modules on managed devices to provide the status of managed devices to NMSs.

---

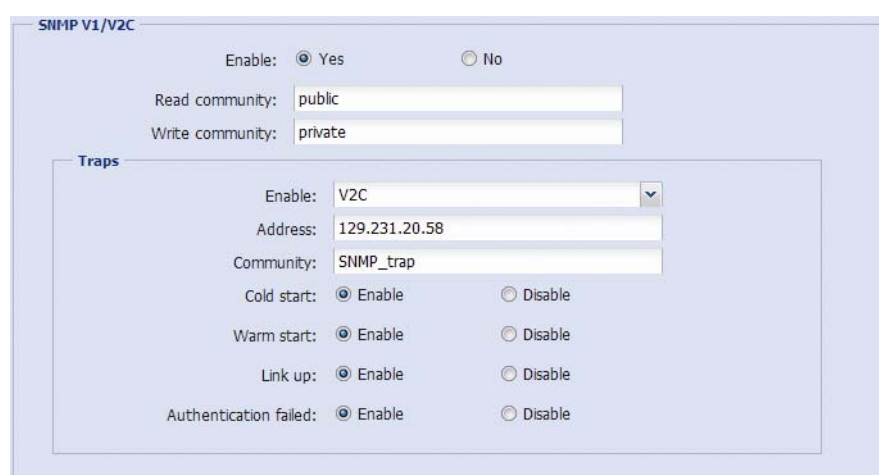
**Note:** Before configuring SNMP settings, make sure your NMS is enabled first.

---

#### Enable SNMP V1 / V2C

Select “Yes” to enable this function, and enter the names of “Read community” and “Write community” based on your NMS configurations.

To enable “Traps” to notify the management station of important events, choose “V1” or “V2C” in “Enable”, enter the address and community name, and select the event type(s) needed.

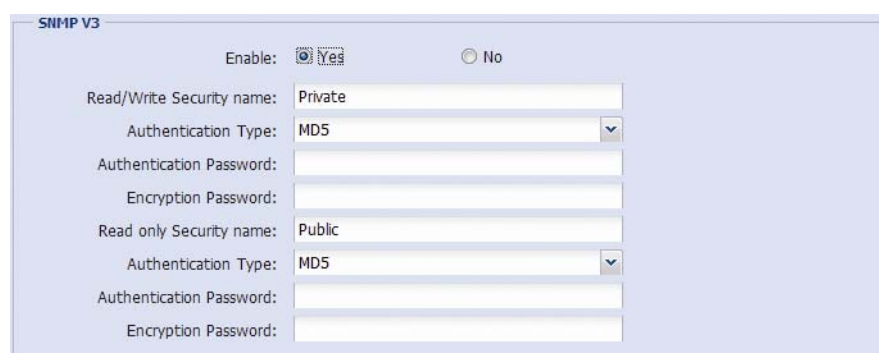


The image shows a configuration window titled "SNMP V1/V2C". At the top, there is an "Enable:" section with two radio buttons: "Yes" (selected) and "No". Below this are two text input fields: "Read community:" with the value "public" and "Write community:" with the value "private". A section titled "Traps" is enclosed in a box. Inside, there is an "Enable:" dropdown menu set to "V2C". Below it is an "Address:" text field with the value "129.231.20.58" and a "Community:" text field with the value "SNMP\_trap". At the bottom of the "Traps" section, there are five rows of radio buttons for "Cold start:", "Warm start:", "Link up:", and "Authentication failed:", each with "Enable" (selected) and "Disable" options.

#### Enable SNMP V3

SNMP V3 has a higher security level than SNMP V1 / V2C to allow configuring the authentication password and encryption password.

Choose “Read/Write Security name” or “Read only Security name” based on your NMS settings, and enter the community name. Then, select the authentication type from “MD5” or “SHA”, and enter the password for authentication and encryption. The password length is from 8 to 31 characters.



The image shows a configuration window titled "SNMP V3". At the top, there is an "Enable:" section with two radio buttons: "Yes" (selected) and "No". Below this are two text input fields: "Read/Write Security name:" with the value "Private" and "Authentication Type:" with a dropdown menu set to "MD5". Below these are two text input fields for "Authentication Password:" and "Encryption Password:". A section titled "Read only Security name:" is below, with a text input field containing "Public", an "Authentication Type:" dropdown menu set to "MD5", and two text input fields for "Authentication Password:" and "Encryption Password:".



### 3.3 Camera

#### 3.3.1 Camera (For selected models only)

Rename the camera, and change the place where the camera name is shown on the screen, UP-LEFT / UP-RIGHT / DOWN-LEFT / DOWN-RIGHT. "Snapshot Path" is used to specify the path to save snapshot files.

Type 1



Type 2



#### 3.3.2 Preset (For selected models only)

**Note:** Before using this function, make sure the DPTZ function is enabled.

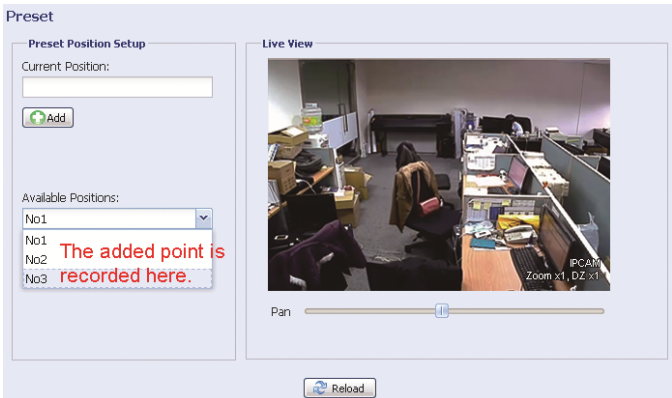
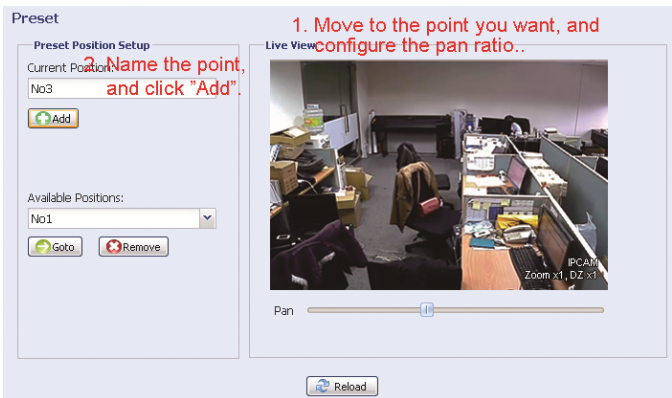
You can set new preset points (up to 16) or check existing points here.

##### How to set a new preset point

Step1: Click DPTZ icon.

Step2: Click to where you want to see, and you'll get a 5x zoom-in image. To slightly zoom out, draw a square from the bottom right to top left, and you'll get a 3x image. Draw the square again and you'll return to the original size.

Step3: In "Current Position", give a name to this point, and click "Add".



##### How to check an existing preset point

In "Available Positions", select the name of the point you want to check from the drop-down list, and click "Goto". You will see the camera view on the right side moving to the point it's recorded.

##### How to delete an existing preset point

In "Available Positions", select the name of the point you want to check from the drop-down list, and click "Remove".



### 3.3.3 Video

Adjust video-related settings in different video format.

- “Quality” is related to image clearness.
- “FPS” is related to the fluency of the video. The more the FPS, the more fluent the video.
- “Max Bit Rate” is the maximum limitation of data transmission in the selected image format and resolution.

---

**Note:** QQVGA is for mobile surveillance only.

---

#### ➤ Type 1



**Video Configuration**

**Configuration**

Power Line Frequency:  Hz

**Profile**

Profile	Media Type	Resolution	Quality	FPS	Max Bit Rate
1	H264	1920x1080	BEST	30	8000
2	H264	720x480	HIGH	30	5000
3	H264	352x240	HIGH	30	5000
4	JPEG	352x240	HIGH	30	5000

 Save  Reload

#### ➤ Type 2

**Video Configuration**

**Configuration**

Power Line Frequency:  Hz

**H264**


Resolution	Quality	FPS	Max Bit Rate
HD1080P	HIGH	30	8000
HD720P	HIGH	30	8000
VGA	HIGH	30	3000
QVGA	HIGH	30	3000
QQVGA	HIGH	30	3000

**MPEG4**

Resolution	Quality	FPS	Max Bit Rate
HD1080P	HIGH	15	8000
HD720P	HIGH	30	8000
VGA	HIGH	30	3000
QVGA	HIGH	30	3000
QQVGA	HIGH	30	3000

**JPEG**

Resolution	Quality	FPS
HD1080P	HIGH	30
HD720P	HIGH	30
VGA	HIGH	30
QVGA	HIGH	30
QQVGA	HIGH	30

 Save  Reload

### 3.3.4 ROI (For selected models only)

ROI, Region of Interest, is used to reinforce the image quality of the selected area(s). Users could specify two areas in the camera view.

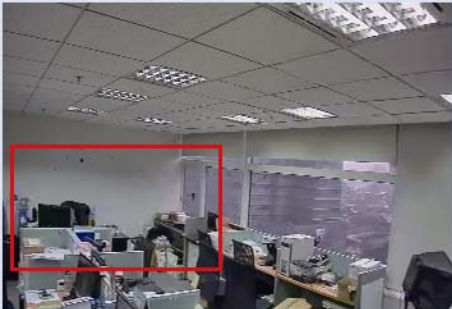
Region of Interest

Region	Enable	Quality
1	ON	10
2	OFF	7

Edit

Reload

Live View



Edit

Enable: 

ON

Quality:  10

Save

Cancel

### 3.3.5 Color

Adjust the color performance from Brightness, Contrast, Hue and Saturation. Click and drag the slider to preview the color change on the right side of this page and adjust the image color.

To restore the default values, click “Back to Default”

Color Configuration


Brightness:  50

Contrast:  55

Hue:  50

Saturation:  65

Live View



Back to Default

Reload

### 3.3.6 Audio (For selected models only)

Drag the slider to adjust the volume of the microphone and speaker.

Audio Volume Configuration

Input(Mic.):  5 

Mute

Output(Speaker):  5 

Mute

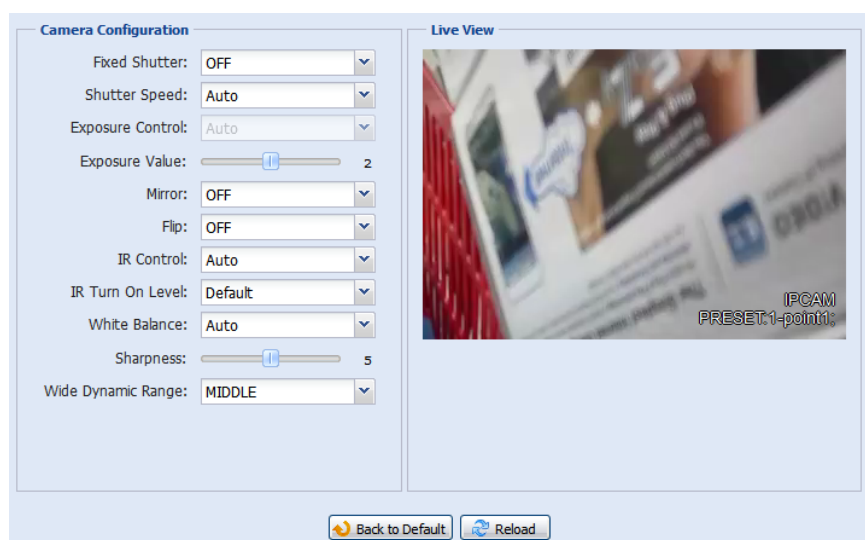
Back to Default

Reload

### 3.3.7 Advanced

Adjust the camera parameters if necessary.

**Note:** The functions available depend on the model number used.



Item	Description
Fixed Shutter	Shutter Speed is a function that can adjust the duration of the electronic shutter to produce optimum image quality. Select the shutter speed suitable for your environment.
Shutter Speed	Select the shutter speed suitable for your environment. A slower shutter speed in dark conditions will help to produce a brighter image, but will produce fewer frames per second, which may cause images to get blurry during motion. <ul style="list-style-type: none"><li>When "Auto" is selected, the iris mode is "AES".</li><li>When a certain speed is selected, the iris mode is switched to "AI", and the image brightness is available to adjust from "IRIS".</li></ul>
Exposure Control	This function is used to synchronize the shutter time to the fluorescent light to suppress image flickering.
Exposure Value	Drag the slider to adjust the exposure level from 0 ~ 4.
Mirror	Select "ON" to rotate the images horizontally based on your installation situation when necessary.
Flip	Select "ON" to rotate the image 180° when necessary.
Denoise	Click and drag the slider to adjust the level from 0 ~ 10 to decrease the noise shown in the dark environment.
IR Control	Select "Auto" to automatically enable IR LEDs at night or in the dark environment, "On" to always enable IR LEDs, or "OFF" to disable this function.
IR Enhanced	Select "On" to enhance IR LEDs performance.
IR Turn On Level	Select the level for IR light to activate.
White Balance	Process the current image to retain color balance over a color temperature range. The options are: Incandescent Light, Cool Light, Sun Light, Cloudy, Sun Shade.
Sharpness	Sharpness enhances the clarity of image detail by adjusting the aperture and sharpening the edges in the pictures. Hold and drag the slider to adjust the level of sharpness from 0 ~ 100. The higher the value, the sharper the image.
Wide Dynamic Range	Wide Dynamic Range (WDR) is used when users need to increase image recognizability in overexposure and dark areas. The options are: LOW / MIDDLE / HIGH / OFF

### 3.3.8 Privacy Mask (For selected models only)

You can cover certain areas on the camera image with privacy masks.

Privacy Mask List Configuration

Mosaic Size: 64x64

Privacy Mask Name	Function	Mosaic	Color	Mask Color	Transparency
Mask1	ON	ON	ON		0%


Add

Edit

Delete

Reload

Live View



Edit Mask

Privacy Mask Name: Mask1

Function: ON

Mosaic: ON

Color: ON

Mask Color:

Transparency: 0%

Save

Cancel

Item	Description
Mosaic Size	Choose the mosaic size of the privacy mask. The options are: 8x8, 32x32, and 64x64.
Privacy Mask Name	Name your privacy mask.
Function	Select “On” to enable the privacy mask function.
Mosaic	Select “ON” to have the mosaic effect.
Color	Select “ON” to color the privacy mask. In the meantime, you can’t see the mosaic effect.
Mask Color	Select the color for the privacy mask.
Transparency	Select the transparency for your privacy mask. The options are: 0%, 25%, 50%, and 100%.

## 3.4 VA (For selected models only)

### 3.4.1 TA

TA, tampering alarm, should be used with the mini-guard control switch for alarm system integration. For more details, please check with your distributor or installer.

Tampering Alarm

Global Change: ON

DeFocus: ON

Save

Reload

### 3.4.2 DIS

DIS, digital image stabilization, is used to reduce blurring associated with the motion of a camera during exposure.

Digital Image Stabilization

Enable: ON

Save

Reload

## 3.5 Record

### 3.5.1 Record

In “Record Configuration”, you can:

- Enable or disable the alarm record function. When “Enable” is set to “No”, the alarm record function is disabled even if you enable it in other configuration pages.
- Select if the data should be overwritten when the memory storage is full.
- Enable or disable the audio record function.

**Note:** Audio recording is available for selected models only.

- Select the video resolution for event recording.

**Note:** The higher resolution you choose, the more accuracy and higher image quality the recording will be, but the faster the memory storage is consumed and become full

Type 1

Record Configuration

Enable:

☒ Yes

☐ No

Overwrite:

☒ Yes

☐ No

Audio Record:

☒ Yes

☐ No

Profile:

Profile2 720x480

Save

Reload

Type 2

Record Configuration

Enable:

☒ Yes

☐ No

Overwrite:

☒ Yes

☐ No

Audio Record:

☒ Yes

☐ No

Record Resolution:

VGA

Save

Reload

### 3.5.2 Record Timer

To schedule alarm and motion recording, enable it, and select the day and time for recording.

**Note:** Internal alarm is available for selected models only.

**Note:** The timer must be enabled for the record function to work properly.

External Alarm

**Motion**

Internal Alarm

Enable:

☒ Yes

☐ No

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
SUN																								
MON																								
TUE																								
WED																								
THU																								
FRI																								
SAT																								

Save

Reload

## 3.6 Storage

### 3.6.1 Memory

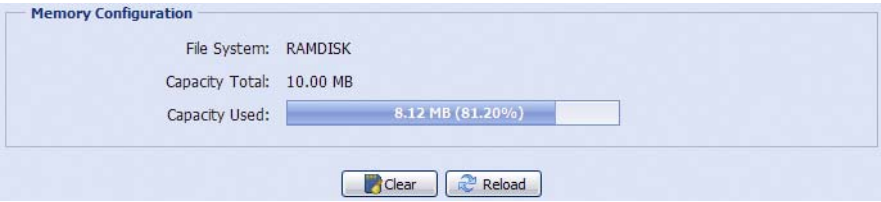
In “Memory”, you can check the remaining capacity for recording, or clear all recorded data saved if needed.

**Note:** The recorded data will be removed also when you reset or reboot this camera.

**Note:** To know how and where to insert a micro SD card, please refer to “1.6 Insert a Micro SD card (For selected models only)” at page 3. To know the compatible list of micro SD cards, please refer to “APPENDIX 7 MICRO SD CARD COMPATIBLE LIST” at page 51.

**Note:** To save more recorded data, it’s recommended to use this camera with the compatible NVR.

**Note:** To know the total recording time per recording resolution, please refer to “APPENDIX 6 RECORDING TIME TABLE” at page 50.



The total capacity for recording may vary depending on different models. Please check the actual display of your model.

## 3.7 Trigger

### 3.7.1 Trigger

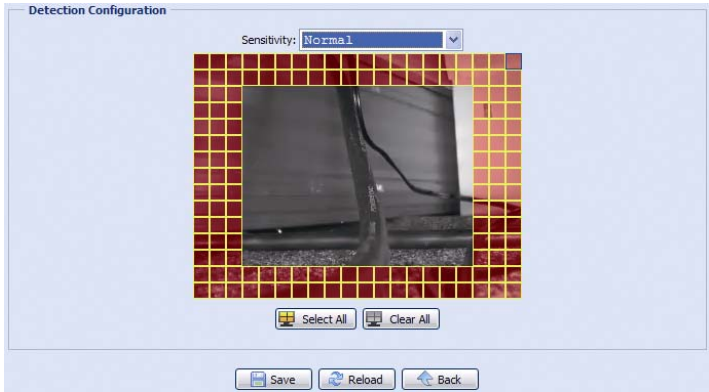
You can configure how this camera reacts when there’s an alarm, a motion or a PIR event.

**Note:** External alarm & PIR events are for selected models only.

The screenshot shows a configuration interface with two main sections: 'Detect' and 'Action'.  
**Detect Section:** Contains dropdown menus for 'External Alarm' (set to ON), 'Motion' (set to ON), 'PIR' (set to ON), and 'Duration' (set to 10 Sec.). There is a 'Detection' button with a grid icon.  
**Action Section:** Contains checkboxes for various actions triggered by 'External Alarm', 'Motion', and 'PIR' events.  
 - **E-Mail:** External Alarm (unchecked), Motion (unchecked), PIR (unchecked)  
 - **FTP:** External Alarm (unchecked), Motion (checked), PIR (checked)  
 - **SMS:** External Alarm (unchecked), Motion (unchecked), PIR (unchecked)  
 - **Alarm Out:** External Alarm (checked), Motion (unchecked), PIR (unchecked)  
 - **Record:** External Alarm (checked), Internal Alarm (checked)  
 - **Audio Alert:** Manual Alarm-Out (checked)  
 At the bottom, there are 'Save' and 'Reload' buttons.



## ◆ Detect

Item	Description
External Alarm	Enable or disable detection from external alarm-in device, and click the title “External Alarm” (in blue) to set “N.O.” or “N.C.” depending on the configuration of your alarm-in device.
Motion	<p>Enable or disable motion detection.</p> <p><i>Motion detection is not supported when the stream format is Motion JPEG.</i></p> <p>When “Enable” is selected, click “Detection” to enter the motion detection area setting page as follows:</p>  <p><b>Sensitivity:</b> Set the detection sensitivity from the drop-down list: High, Normal or Low.</p> <p><b>Area Setting:</b> Set the motion detection area by selecting the area grids with your mouse. Pink grids represent the area that is not being detected while the transparent grids are the area under detection. You can set multiple areas under detection. Click “Clear All” to set the whole area undetected. Click “Select All” to set the whole area under detection.</p>
PIR*	Enable (ON) or disable (OFF) PIR detection.
Duration	Set the duration time for trigger recording (5 / 10 / 20 / 40 seconds).

\*Selected models only

## ◆ Action

Here defines how the camera delivers alerts to you for any event.

Item	Description
E-Mail	<p>Select the event type you want to receive E-mail notifications when it occurs.</p> <p>Then, click the title “E-Mail” (in blue) to configure the media type (H264 / JPEG / MPEG4), file format (AVC / AVI), and record time (1 ~ 5 seconds) for the event video clip.</p> <p>The camera will send the captured video clip to the E-mail address(s) you assigned in “Network” → “Mail” once the selected event type occurs.</p>
FTP	<p>Select the event type you want to receive FTP notifications when it occurs.</p> <p>Then, click the title “FTP” (in blue) to configure the media type (H264 / JPEG / MPEG4), file format (AVC / AVI), and record time (1 ~ 5 seconds) for the event video clip.</p> <p>The camera will upload the captured video clip to the FTP site you assigned in “Network” → “FTP” once the selected event type occurs.</p>
SMS*	<p>Select the event type you want to receive a text message when it occurs.</p> <p>The camera will send a text message to the mobile phone number you assigned in “Network” → “SMS” once the selected event type occurs.</p>
Alarm Out*	<p>Select the event type you want to trigger the alarm-out device to work when it occurs.</p> <p>Then, click the title “Alarm Out” (in blue) to configure the trigger rule (LOW / HIGH).</p>
Record	Select the event type you want to enable event recording when it occurs.
Audio Alert*	Select the event type you want to enable audio alert when it occurs.

\*Selected models only

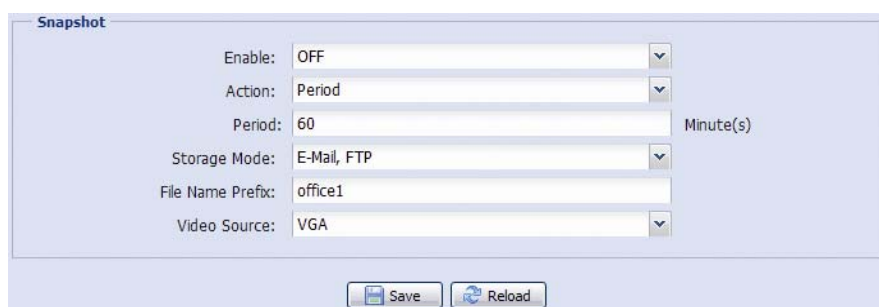
### 3.7.2 Snapshot (For selected models only)

Enable this function to schedule the camera to take snapshots periodically or at a specific time, and send the snapshots to E-Mail and / or FTP for backup.

---

**Note:** Before using E-Mail and FTP, make sure the related configurations are done in “Network” → “Mail” and “Network” → “FTP”.

---



## 3.8 General

### 3.8.1 General

To change the language of UI interface, select from the drop-down list in “Language”.

To allow the status LED indicators to show the status as indicated in “1.5 Status Indicator (For selected models only)” at page 2, select “Enable” in “Status LED Mode”; to hide the status, select “OFF”; to only show the error status, select “Temporary Disable”; to enable the privacy mode (for selected models only), select “Privacy”.

---

**Note:** LED indication is available for selected models only.

---

---

**Note:** With the privacy mode on, both the status lights will be off when the camera functions normally. To know how the status indicators blink in this mode, please refer to 1.5 Status Indicator (For selected models only) at page 2.

---

---

**Note:** The status LED mode will be restored to “Enable” after camera reboot when “Temporary OFF” is selected.

---

To lock camera access when it’s not used after the specified time, select “5 MIN”, “15 MIN” or “30 MIN” from the drop-down list of “Auto Lock Time”, or select “NEVER” to disable this function.

---

**Note:** When the camera access is locked after the specified time, to resume camera access, please enter the password.

---





### 3.8.2 Time

Set daylight saving time and the current time, and click “Save” to confirm.

Time

Time Configuration

OSD: ☐ Enable ☒ Disable

Date:

Time:  :  :

Save

Reload

Daylight Saving Time

Daylight Saving Time Configuration

Daylight Saving Time: ☐ Enable ☒ Disable

Start Time:     :  (HH:MM)

End Time:     :  (HH:MM)

Adjust Time:  :  (HH:MM)

Save

Reload

Function	Description
■ Time Configuration	
Date	Set the current date.
Time	Set the current time.
■ Daylight Saving Time Configuration	
Daylight Saving Time	Specify whether to use daylight saving time (Enable / Disable).
	If this function is enabled, set the time period (Start Time / End Time), and adjust the daylight saving time in hours (Adjust Time).

### 3.8.3 Server Log

To quickly search the system logs you want by event type, click “Prev. Page” or “Next Page” to find the logs you want, or check the event type(s) and click “Reload” to start searching.

To clear all system event logs, click “Clear All”.

Server Log List

No.	Event	Time	Result
1	Remote Login	2011/08/30 20:54:41	admin
2	Remote Login	2011/08/30 20:29:58	admin
3	Remote Login	2011/08/30 18:22:08	admin
4	SNTP Update	2011/08/30 18:20:06	Failed
5	Remote Login	2011/08/30 18:20:03	admin
6	Power On	2011/08/30 18:19:24	ON
7	Power On	2011/08/30 18:18:46	OFF
8	Remote Login	2011/08/30 18:11:21	admin
9	Remote Login	2011/08/30 18:11:18	admin
10	Remote Login	2011/08/30 18:07:10	admin
11	Remote Login	2011/08/30 18:03:19	admin
12	Remote Login	2011/08/30 18:02:15	admin
13	Remote Login	2011/08/30 18:02:07	admin
14	Remote Login	2011/08/30 18:01:51	admin
15	Remote Login	2011/08/30 17:57:01	admin
16	Remote Login	2011/08/30 17:56:55	admin
17	Remote Login	2011/08/30 17:56:53	admin
18	Remote Login	2011/08/30 17:54:44	admin
19	SNTP Update	2011/08/30 17:50:48	Failed
20	Power On	2011/08/30 17:50:07	ON

Prev. Page

Next Page

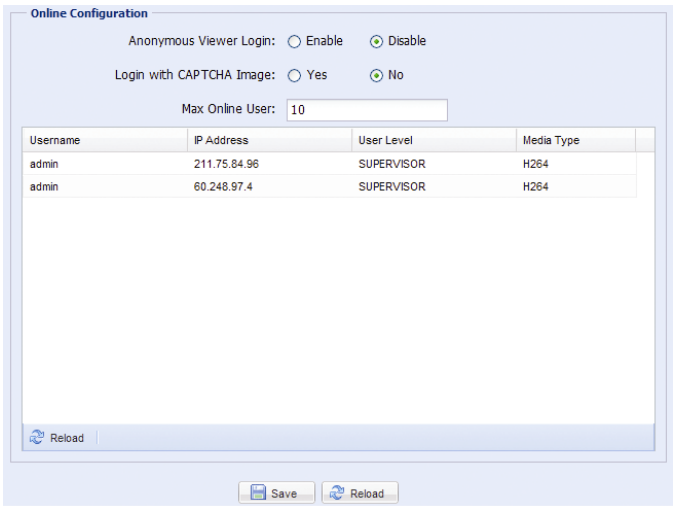
Reload

Clean All

3.8.4 Online

You can check the current online user(s) with respective online information. To refresh the list, click “Reload”.

- To allow anonymous login, select “Enable” in “Anonymous Viewer Login”.
- To disable image code verification at login, select “No” in “Login with CAPTCHA Image”.

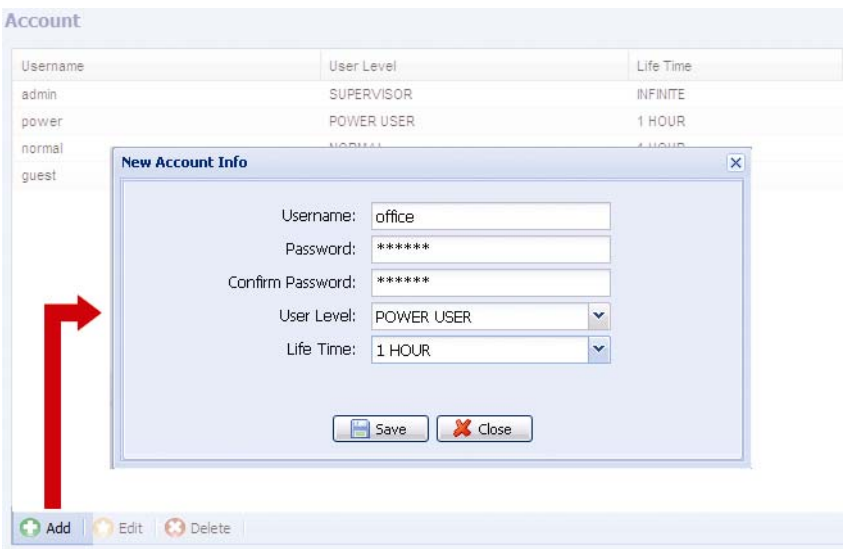


3.8.5 Account

You can create a new account with different user access privilege, or delete or modify an existing account setting.

How to create a new account

Step1: Click “New”, and fill in the following columns.



Column	Description
User Name	Set a user name that will be used for camera access. The user name allows up to 16 alphanumeric characters.
Password	Set the password that will be used for remote login. The password allows up to 16 alphanumeric characters.
Confirm Password	Enter the password again to confirm.
User Level	Set the security level of an account to give the permission to control different functions. There are four user levels: SUPERVISOR, POWER USER, NORMAL USER and GUEST.
Life Time	Select how long this account is allowed to stay online (1 MIN / 5 MIN / 10 MIN / 1 HOUR / 1 DAY / INFINITE)

Step2: Then, click “Save” to save your setting and create a new account.

How to modify or delete an existing account

Step1: Select the account you want to modify or delete.

Step2: To modify the account, click “Edit” to change the settings, and click “Save”.

To remove the account, click “Delete”.

**Note:** It’s not allowed to remove an account when there’s only one account in the account list.

### 3.8.6 Google Maps

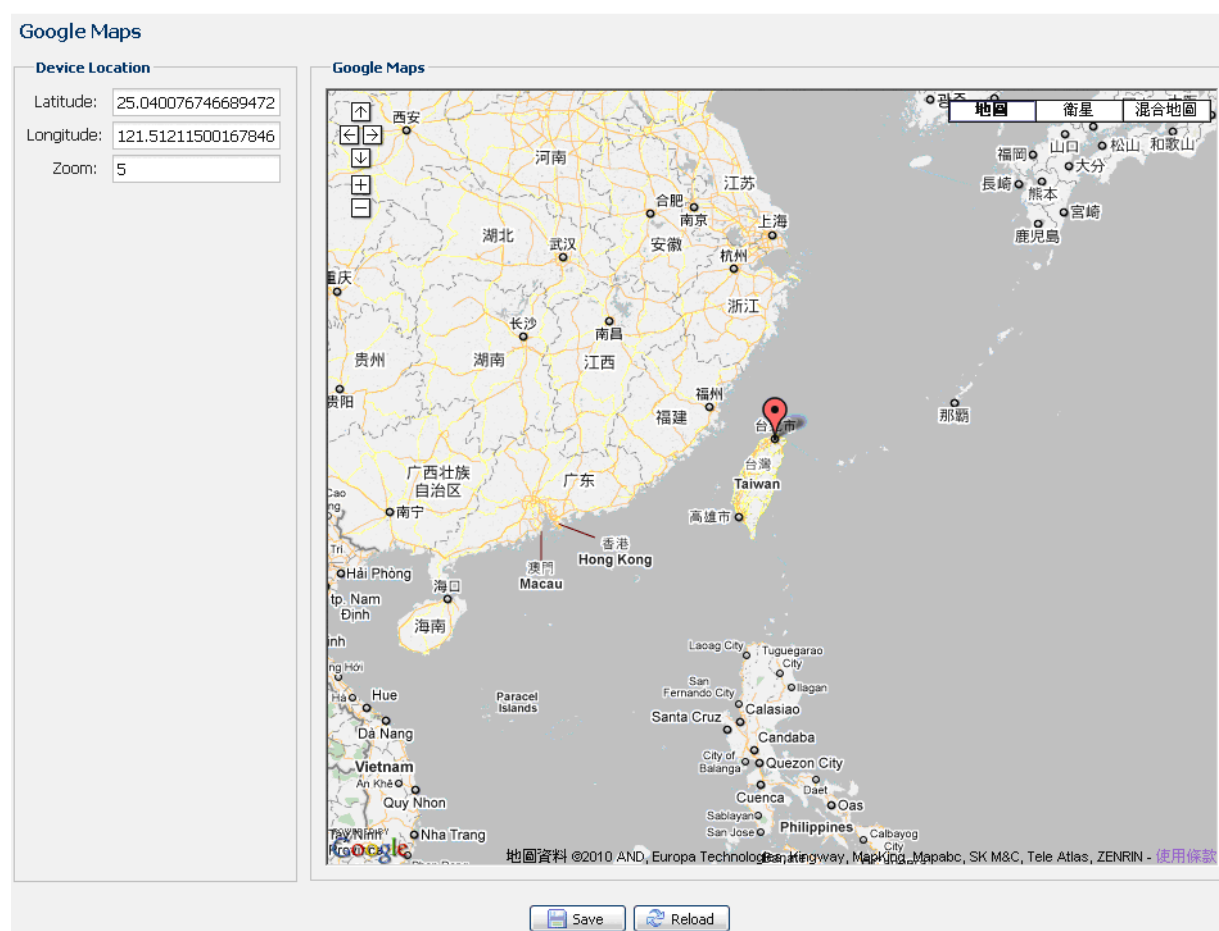
This function is used to let you know where the network camera is.

The system will prompt you to apply a Google Maps Key if your access is denied. Please follow the instructions below when you're denied:

Step1: Click "Sign up for a Google Maps key" to enter the application page.

Step2: Check the terms and conditions, and enter the IP address of the network camera. Then, click "Generate API Key".

Step3: Copy the generated API key, and click "Update Google Maps Key" on the web browser to paste it.



### 3.8.7 Maintenance

#### Firmware Upgrade

This function is used when users need to upgrade the camera for function scalability.

---


**Note:** Before using this function, make sure you have the correct upgrade files provided by your installer or distributor.

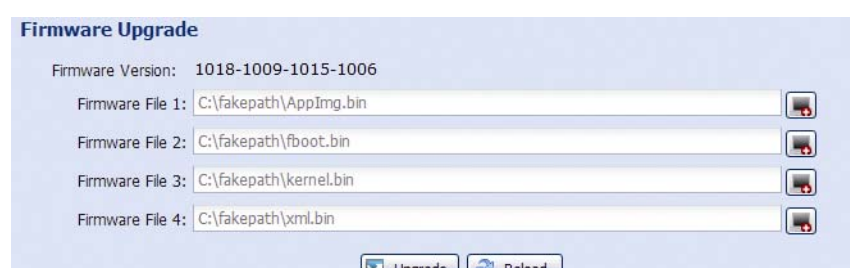
---

---

**Note:** The event videos saved in the camera will be removed after firmware upgrade. Make sure you've copied important events to your PC before firmware upgrade.

---

Step1: Select "" to browse to where you save the upgrade files, and select them one by one until all files are selected (up to four files).



Step2: Select “Upgrade” to start system upgrading.

---

**Note:** You’ll be prompted to keep current configurations. It’s recommended to keep them, or all configurations will be restored to default values after upgrade.

---

---

**Note:** It takes a few minutes to finish the upgrade process. Do not disconnect the power during firmware upgrade, or the upgrade may be failed. The camera will reboot after the upgrade.

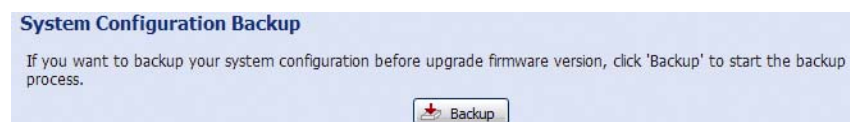
---

### System Configuration Backup

This function is used to copy your system configuration to a “System.bin” file.

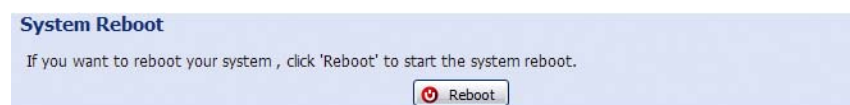
You may import the same system configuration to another camera, or restore your system configuration when the camera is reset to default values.

Select “System.bin” in “Firmware Upgrade”, and select “Upgrade” to import the system configuration.



### System Reboot

Select “Reboot” to restart your camera if needed.





### Player Download

To see the event video clips downloaded to your PC, you need to first install our own video player in your PC. Select “Free Download” to download the video player, and double click the file to install it.





## APPENDIX 1 PRODUCT SPECIFICATIONS

	<b>Model 1</b>		<b>Model 2</b>	<b>Model 3</b>
<b>■ Network</b>				
LAN Port	YES			
LAN Speed	10/100 Based-T Ethernet			
Supported Protocols	DDNS, PPPoE, DHCP, NTP, SNTP, TCP/IP, ICMP, SMTP, FTP, HTTP, RTP, RTSP, RTCP,IPv4, Bonjour, UPnP, DNS,UDP,IGMP, QoS, SNMP			
ONVIF Compatible	YES (Profile S)			
Number of Online Users	10			
Security	(1) Multiple user access levels with password (2) IP address filtering (3) Digest authentication			
Remote Access	(1) Internet Explorer on Windows operating system (2) 16CH Video Viewer on Windows & MAC operating system (3) EagleEyes on iPhone, iPad & Android mobile devices			
<b>■ Video</b>				
Network Compression	H.264 (Main Profile) / MJPEG			
Video Resolution	1920 x 1080 / 1280 x 720 / 720 x 480 / 352 x 240			
Frame Rate	30fps			
Multiple Video Streaming	4 (H.264, MJPEG)			
<b>■ Camera</b>				
Image Sensor	1/2.8" SONY CMOS image sensor		1/2.9" SONY CMOS image sensor	
Min Illumination	0.1 Lux / F1.5, 0 Lux (IR LED ON)			
Shutter Speed	1/10,000 ~ 1/7.5 (Slow shutter)		1/7.5 to 1/8000 sec	
S/N Ratio	More than 48dB (AGC off)			
Lens	f3.8mm / F1.5			
Viewing Angle	73.2° (Horizontal) / 42.8° (Vertical) / 83.2° (Diagonal)			
IR LED	1 unit			
IR Effective Distance	15 meters			
PIR Sensor	Detection Range 76° wide angle with up to 6m long distance at 2.5m height (under 30℃)			
IR Shift	YES			
Smart Light Control	YES			
White Balance	ATW			
AGC	Auto			
IRIS Mode	AES			
WDR	YES		NO	
POE	YES (IEEE 802.3af)			
Privacy Mask	NO	YES		
External Alarm I/O	YES (1 input / 1 output)			
Micro SD Card Slot	YES			
Operating Temperature	0℃~40℃			
Power Source (±10%)	DC12V / 1A			
Current Consumption (±10%)	580mA	400mA		256mA
Power Consumption (±10%)	PoE & PoN: 8.75W Max / DC Adapter: 7W Max	PoE & PoN: 6W / DC Adapter: 4.8W		PoE & PoN: 6.5W Max / DC Adapter: 5.13W Max
<b>■ Audio</b>				
Line in	YES			
Line out	YES			

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
<b>■ Others</b>			
Mobile Surveillance	iOS & Android mobile device		
Event Notification	FTP / Email / SMS		
3-Axis	YES		
Digital Pan / Tilt / Zoom	YES		
Motion Detection	YES		
RTC (real-time clock)	YES		
Minimum Web Browsing Requirements	<ul style="list-style-type: none"> <li>• Intel core i3 or higher, or equivalent AMD</li> <li>• 2GB RAM</li> <li>• AGP graphics card, Direct Draw, 32MB RAM</li> <li>• Windows 7, Windows Vista &amp; Windows XP, DirectX 9.0 or later</li> <li>• Internet Explorer 7.x or later</li> </ul>		


\* The specifications are subject to change without notice.


	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
■ <b>Network</b>				
LAN Port	YES			
LAN Speed	10/100 Based-T Ethernet			
Supported Protocols	DDNS, PPPoE, DHCP, NTP, SNTP, TCP/IP, ICMP, SMTP, FTP, HTTP, RTP, RTSP, RTCP,IPv4, Bonjour, UPnP, DNS,UDP,IGMP, QoS, SNMP			
ONVIF Compatible	YES (Profile S)			
Number of Online Users	10			
Security	(1) Multiple user access levels with password (2) IP address filtering (3) Digest authentication			
Remote Access	(1) Internet Explorer on Windows operating system (2) 16CH Video Viewer on Windows & MAC operating system (3) EagleEyes on iPhone, iPad & Android mobile devices			
■ <b>Video</b>				
Network Compression	H.264 / MPEG4 / MJPEG			
Video Resolution	1920 x 1080 / 1280 x 720 / 640 x 480 / 320 x 240	1280 x 1024 / 1280 x 720 / 640 x 480 / 320 x 240		
Frame Rate	30fps			
Multiple Video Streaming	4 (H.264, MJPEG, MPEG4)			
■ <b>Camera</b>				
Image Sensor	1/2.9" SONY CMOS image sensor	1/4" SONY CMOS image sensor	1/ 3" SONY CMOS image sensor	
Min Illumination	0.1 Lux / F1.5, 0 Lux (IR LED ON)			
Shutter Speed	1/2 to 1/10,000 sec			
S/N Ratio	More than 48dB (AGC off)			
Lens	f3.8mm / F1.5			
Viewing Angle	73.2° (Horizontal) / 42.8° (Vertical) / 83.2° (Diagonal)	53.7° (Horizontal) / 34.1° (Vertical) / 62.7° (Diagonal)	65.4° (Horizontal) / 49.9° (Vertical) / 80.4° (Diagonal)	
IR LED	12 units			
IR Effective Distance	10 meters			
PIR Sensor	Detection Range 76° wide angle with up to 6m long distance at 2m height (under 30℃)			
IR Shift	YES			
White Balance	ATW			
AGC	Auto			
IRIS Mode	AES			
POE	YES (IEEE 802.3af)			
External Alarm I/O	YES (1 input / 1 output)			
Micro SD Card Slot	NO	YES	NO	YES
Operating Temperature	0℃~40℃			
Power Source (±10%)	DC12V / 1A			
Current Consumption (±10%)	599mA			
Power Consumption (±10%)	PoE & PoN: 5.87W / DC Adapter: 4.992W			
■ <b>Audio</b>				
Microphone Built-in	NO	YES	NO	YES
Line in	YES			
Line out	YES			

	<b>Model 4</b>	<b>Model 5</b>	<b>Model 6</b>	<b>Model 7</b>
<b>■ Others</b>				
Mobile Surveillance	iOS & Android mobile device			
Event Notification	FTP / Email / SMS			
3-Axis	YES			
Digital Pan / Tilt / Zoom	YES			
Motion Detection	YES			
RTC (real-time clock)	YES			
Minimum Web Browsing Requirements	<ul style="list-style-type: none"> <li>• Intel core i3 or higher, or equivalent AMD</li> <li>• 2GB RAM</li> <li>• AGP graphics card, Direct Draw, 32MB RAM</li> <li>• Windows 7, Windows Vista &amp; Windows XP, DirectX 9.0 or later</li> <li>• Internet Explorer 7.x or later</li> </ul>			


\* The specifications are subject to change without notice.




	Model 8	Model 9	Model 10	Model 11	Model 12
■ Network					
LAN Port	YES				
LAN Speed	10/100 Based-T Ethernet				
Supported Protocols	DDNS, PPPoE, DHCP, NTP, SNTP, TCP/IP, ICMP, SMTP, FTP, HTTP, RTP, RTSP, RTCP,IPv4, Bonjour, UPnP, DNS,UDP,IGMP, QoS, SNMP				
ONVIF Compatible	YES (Profile S)				
Number of Online Users	10				
Security	(1) Multiple user access levels with password (2) IP address filtering (3) Digest authentication				
Remote Access	(1) Internet Explorer on Windows operating system (2) 16CH Video Viewer on Windows & MAC operating system (3) EagleEyes on iPhone, iPad & Android mobile devices				
■ Video					
Network Compression	H.264 (Main Profile) / MJPEG		H.264 / MPEG4 / MJPEG		
Video Resolution	1920 x 1080 / 1280 x 720 / 720 x 480 / 352 x 240		1920 x 1080 / 1280 x 720 / 640 x 480 / 320 x 240	1280 x 1024 / 1280 x 720 / 640 x 480 / 320 x 240	
Frame Rate	30fps				
Multiple Video Streaming	4 (H.264, MJPEG)		4 (H.264, MJPEG, MPEG4)		
■ Camera					
Image Sensor	1/2.8" SONY CMOS image sensor	1/2.9" SONY CMOS image sensor		1/4" SONY CMOS image sensor	
Min Illumination	1 Lux / F1.5				
Shutter Speed	1/10,000 ~ 1/7.5 (Slow shutter)	1/7.5 to 1/8000 sec	1/2 to 1/10,000 sec		
S/N Ratio	More than 48dB (AGC off)				
Lens	f3.8mm / F1.5				
Viewing Angle	73.2° (Horizontal) / 42.8° (Vertical) / 83.2° (Diagonal)			53.7° (Horizontal) / 34.1° (Vertical) / 62.7° (Diagonal)	
White Balance	ATW				
AGC	Auto				
IRIS Mode	AES				
WDR	YES	NO			
POE	YES (IEEE 802.3af)				NO
Privacy Mask	YES		NO		
External Alarm I/O	YES (1 input / 1 output)				
Micro SD Card Slot	YES				
Vandal Resistance	IK08				
Operating Temperature	0℃~40℃				
Power Source (±10%)	DC12V / 1A				
Current Consumption (±10%)	290mA	150mA	312.5mA	203mA	
Power Consumption (±10%)	PoE & PoN: 4.5W Max / DC Adapter: 3.5W Max	PoE & PoN: 2.48W / DC Adapter: 1.98W Max	PoE & PoN: 4.8W / DC Adapter: 3.75W	PoE & PoN: 3W / DC Adapter: 2.43W	


	Model 8	Model 9	Model 10	Model 11	Model 12
<b>■ Others</b>					
Mobile Surveillance	iOS & Android mobile device				
Event Notification	FTP / Email / SMS				
3-Axis	YES				
Digital Pan / Tilt / Zoom	YES				
Motion Detection	YES				
RTC (real-time clock)	YES				
Minimum Web Browsing Requirements	<ul style="list-style-type: none"> <li>• Intel core i3 or higher, or equivalent AMD</li> <li>• 2GB RAM</li> <li>• AGP graphics card, Direct Draw, 32MB RAM</li> <li>• Windows 7, Windows Vista &amp; Windows XP, DirectX 9.0 or later</li> <li>• Internet Explorer 7.x or later</li> </ul>				


\* The specifications are subject to change without notice.

	<b>Model 13</b>	<b>Model 14</b>	<b>Model 15</b>
<b>■ Network</b>			
LAN Port	YES		
LAN Speed	10/100 Based-T Ethernet		
Supported Protocols	DDNS, PPPoE, DHCP, NTP, SNTP, TCP/IP, ICMP, SMTP, FTP, HTTP, RTP, RTSP, RTCP,IPv4, Bonjour, UPnP, DNS,UDP,IGMP, QoS, SNMP		
ONVIF Compatible	YES (Profile S)		
Number of Online Users	10		
Security	(1) Multiple user access levels with password (2) IP address filtering (3) Digest authentication		
Remote Access	(1) Internet Explorer on Windows operating system (2) 16CH Video Viewer on Windows & MAC operating system (3) EagleEyes on iPhone, iPad & Android mobile devices		
<b>■ Video</b>			
Network Compression	H.264 (Main Profile) / MJPEG		
Video Resolution	1920 x 1080 / 1280 x 720 / 720 x 480 / 352 x 240		
Frame Rate	30fps		
Multiple Video Streaming	4 (H.264, MJPEG)		
<b>■ Camera</b>			
Image Sensor	1/2.8" SONY CMOS image sensor		
Min Illumination	0.1 Lux / F1.4, 0 Lux (IR LED ON)		
Shutter Speed	1/10,000 ~ 1/7.5 (Slow shutter)		
S/N Ratio	More than 48dB (AGC off)		
Lens	f2.8 ~ 12mm / F1.4 ~ F2.8		
Viewing Angle	Wide: 97.4° (Horizontal) / 58.1° (Vertical) / 111.7° (Diagonal) Tele: 27.1° (Horizontal) / 15.2° (Vertical) / 31.17° (Diagonal)		
IR LED	3 Units		
IR Effective Distance	Default: up to 30 meters / IR Enhanced Mode: up to 50 meters		
IR Shift	YES		
Smart Light Control	YES		
White Balance	ATW		
AGC	Auto		
IRIS Mode	AES		
WDR	YES		
POE	YES (IEEE 802.3af)		
Privacy Mask	YES		
External Alarm I/O	YES (1 input / 1 output)		
Micro SD Card Slot	YES		
Heater	NO	YES	
Vandal Resistance	IK10		
Weather-proof	IP66		
Operating Temperature	-20℃~40℃		
Power Source (±10%)	DC12V / 1.5A		
Current Consumption (±10%)	849mA	1.72A	
Power Consumption (±10%)	PoE & PoN: 12.5W / DC Adapter: 10.19W Max	PoE & PoN: 24.47W / DC Adapter: 20.8W	
<b>■ Audio</b>			
Line in	NO	YES	
Line out	NO	YES	

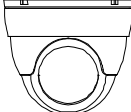
	<b>Model 13</b>	<b>Model 14</b>	<b>Model 15</b>
<b>■ Others</b>			
Mobile Surveillance	iOS & Android mobile device		
Event Notification	FTP / Email / SMS		
3-Axis	YES		
Digital Pan / Tilt / Zoom	YES		
Motion Detection	YES		
RTC (real-time clock)	YES		
Minimum Web Browsing Requirements	<ul style="list-style-type: none"> <li>• Intel core i3 or higher, or equivalent AMD</li> <li>• 2GB RAM</li> <li>• AGP graphics card, Direct Draw, 32MB RAM</li> <li>• Windows 7, Windows Vista &amp; Windows XP, DirectX 9.0 or later</li> <li>• Internet Explorer 7.x or later</li> </ul>		

\* The specifications are subject to change without notice.

	<b>Model 16</b>		<b>Model 17</b>	
<b>■ Network</b>				
LAN Port	YES			
LAN Speed	10/100 Based-T Ethernet			
Supported Protocols	DDNS, PPPoE, DHCP, NTP, SNTP, TCP/IP, ICMP, SMTP, FTP, HTTP, RTP, RTSP, RTCP,IPv4, Bonjour, UPnP, DNS,UDP,IGMP, QoS, SNMP			
ONVIF Compatible	YES (Profile S)			
Number of Online Users	10			
Security	(1) Multiple user access levels with password (2) IP address filtering (3) Digest authentication			
Remote Access	(1) Internet Explorer on Windows operating system (2) 16CH Video Viewer on Windows & MAC operating system (3) EagleEyes on iPhone, iPad & Android mobile devices			
<b>■ Video</b>				
Network Compression	H.264 (Main Profile) / MJPEG			
Video Resolution	1920 x 1080 / 1280 x 720 / 720 x 480 / 352 x 240		1280 x 1024 / 1280 x 720 / 640 x 480 / 320 x 240	
Frame Rate	30fps			
Multiple Video Streaming	4 (H.264, MJPEG)		4 (H.264, MJPEG, MPEG4)	
<b>■ Camera</b>				
Image Sensor	1/2.8" SONY CMOS image sensor		1/ 3" SONY CMOS image sensor	
Min Illumination	0.1 Lux / F1.4(Wide)~F2.8(Tele), 0 Lux (LED ON)			
Shutter Speed	1/10,000 ~ 1/7.5 (Slow shutter)		1/2 to 1/10,000 sec	
S/N Ratio	More than 48dB (AGC off)			
Lens	f2.8 ~ 12mm / F1.4 ~ F2.8			
Viewing Angle	Wide: 91° (Horizontal) / 72° (Vertical) / 112° (Diagonal) Tele: 27° (Horizontal) / 16° (Vertical) / 29° (Diagonal)		Wide: 92° (Horizontal) / 73.6° (Vertical) / 124° (Diagonal) Tele: 28° (Horizontal) / 22.4° (Vertical) / 35.9° (Diagonal)	
IR LED	2 units			
IR Effective Distance	Up to 20 meters			
IR Shift	YES			
White Balance	ATW			
AGC	Auto			
IRIS Mode	AES			
WDR	YES		NO	
POE	YES (IEEE 802.3af)			
Privacy Mask	YES		NO	
External Alarm I/O	YES (1 input / 1 output)			
Micro SD Card Slot	YES			
Vandal Resistance	IK08			
Operating Temperature	-20℃~40℃			
Power Source (±10%)	DC12V / 1A			
Current Consumption (±10%)	792mA Max		253mA (IR OFF) / 457mA (IR ON)	
Power Consumption (±10%)	PoE & PoN: 11.8W Max / DC Adapter: 9.5W Max		PoE & PoN: 6.5W / DC Adapter: 5.5W	
<b>■ Audio</b>				
Line in	YES			
Line out	YES			

	<b>Model 16</b>	<b>Model 17</b>
<b>■ Others</b>		
Mobile Surveillance	iOS & Android mobile device	
Event Notification	FTP / Email / SMS	
Digital Pan / Tilt / Zoom	YES	
Motion Detection	YES	
RTC (real-time clock)	YES	
Minimum Web Browsing Requirements	<ul style="list-style-type: none"> <li>• Intel core i3 or higher, or equivalent AMD</li> <li>• 2GB RAM</li> <li>• AGP graphics card, Direct Draw, 32MB RAM</li> <li>• Windows 7, Windows Vista &amp; Windows XP, DirectX 9.0 or later</li> <li>• Internet Explorer 7.x or later</li> </ul>	

\* The specifications are subject to change without notice.

	<b>Model 18</b>		<b>Model 19</b>	<b>Model 20</b>
<b>■ Network</b>				
LAN Port	YES			
LAN Speed	10/100 Based-T Ethernet			
Supported Protocols	DDNS, PPPoE, DHCP, NTP, SNTP, TCP/IP, ICMP, SMTP, FTP, HTTP, RTP, RTSP, RTCP,IPv4, Bonjour, UPnP, DNS,UDP,IGMP, QoS, SNMP			
ONVIF Compatible	YES (Profile S)			
Number of Online Users	10			
Security	(1) Multiple user access levels with password (2) IP address filtering (3) Digest authentication			
Remote Access	(1) Internet Explorer on Windows operating system (2) 16CH Video Viewer on Windows & MAC operating system (3) EagleEyes on iPhone, iPad & Android mobile devices			
<b>■ Video</b>				
Network Compression	H.264 / MPEG4 / MJPEG			
Video Resolution	1920 x 1080 / 1280 x 720 / 640 x 480 / 320 x 240	1280 x 1024 / 1280 x 720 / 640 x 480 / 320 x 240		
Frame Rate	30fps			
Multiple Video Streaming	4 (H.264, MJPEG, MPEG4)			
<b>■ Camera</b>				
Image Sensor	1/2.9" SONY CMOS image sensor	1/ 3" SONY CMOS image sensor	1/4" SONY CMOS image sensor	
Min Illumination	1 Lux / F1.5, 0 Lux (LED ON)			
Shutter Speed	1/2 to 1/10,000 sec			
S/N Ratio	More than 48dB (AGC off)			
Lens	f3.8mm / F1.5			
Viewing Angle	73.2° (Horizontal) / 42.8° (Vertical) / 83.2° (Diagonal)	65.4° (Horizontal) / 49.9° (Vertical) / 80.4° (Diagonal)	62.7° (Horizontal) / 53.7° (Vertical) / 34.1° (Diagonal)	
IR LED	1 unit			
IR Effective Distance	20 meters		15 meters	
IR Shift	YES			
Smart Light Control	YES			
White Balance	ATW			
AGC	Auto			
IRIS Mode	AES			
POE	YES (IEEE 802.3af)		NO	
Weather-proof	IP66			
Operating Temperature	0℃~40℃			
Power Source (±10%)	DC12V / 1A			
<b>■ Others</b>				
Mobile Surveillance	iOS & Android mobile device			
Event Notification	FTP / Email / SMS			
Digital Pan / Tilt / Zoom	YES			
Motion Detection	YES			
RTC (real-time clock)	YES			
Minimum Web Browsing Requirements	<ul style="list-style-type: none"><li>• Intel core i3 or higher, or equivalent AMD</li><li>• 2GB RAM</li><li>• AGP graphics card, Direct Draw, 32MB RAM</li><li>• Windows 7, Windows Vista &amp; Windows XP, DirectX 9.0 or later</li><li>• Internet Explorer 7.x or later</li></ul>			

\* The specifications are subject to change without notice.

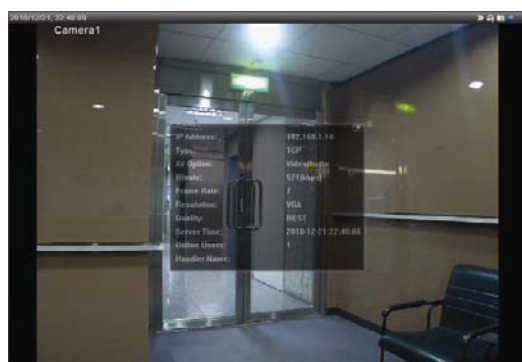
## APPENDIX 2 BIT RATE TABLE FOR REFERENCE

The data below is for reference only.

The bit rates listed here may vary depending on the resolution, image quality & frame rate you choose, the complexity of your monitoring area, and how often the moving objects show in your monitoring area.

### Testing Environment

- Place: Office Entrance
- Network translation: H.264
- Camera type: Megapixel camera



*Static: No one coming in and out*



*Dynamic: One or two people coming in and out*

Resolution	Quality	Frame Rate	(Dynamic) kbps	(Static) kbps
SXGA	Best	FULL	3253	3216
	High		2375	2160
	Normal		1571	1266
	Basic		1465	873
VGA	Best		2010	1261
	High		1042	1034
	Normal		685	572
	Basic		457	350
QVGA	Best		646	366
	High		482	350
	Normal		302	286
	Basic		168	161
SXGA	Best	1/4	1163	1076
	High		989	715
	Normal		855	534
	Basic		719	443
VGA	Best		789	571
	High		451	447
	Normal		349	237
	Basic		217	165
QVGA	Best		269	147
	High		182	131
	Normal		164	113
	Basic		97	71



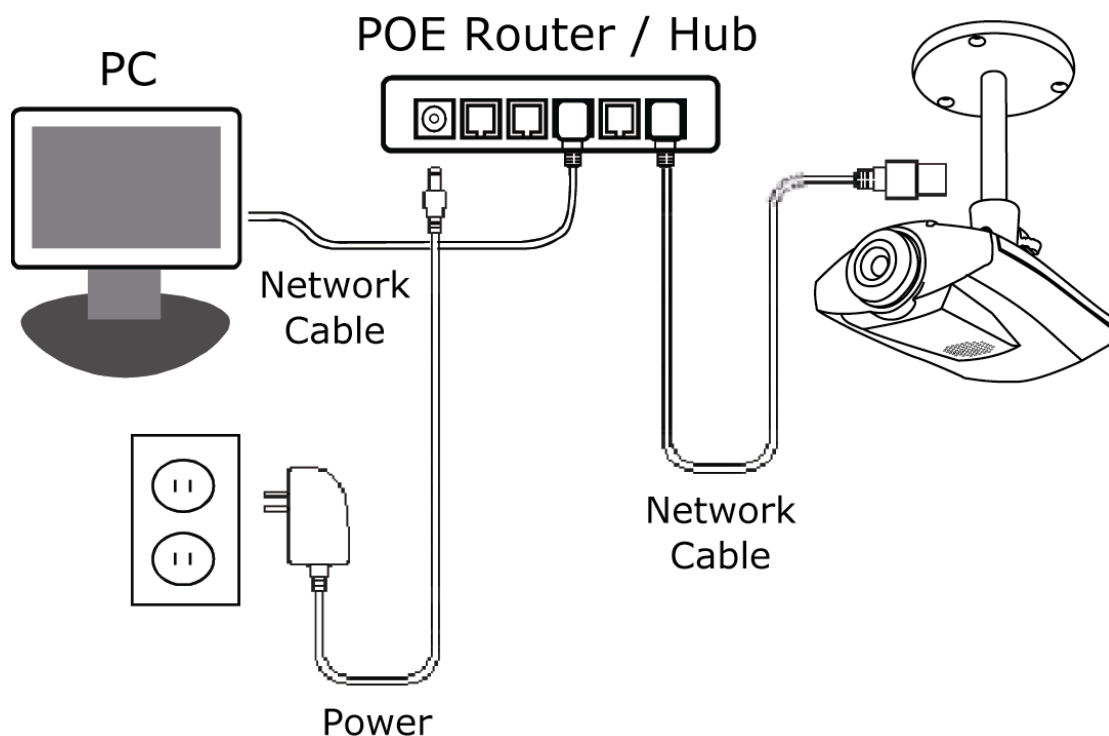
Resolution	Quality	Frame Rate	(Dynamic) kbps	(Static) kbps
SXGA	Best	1/15	581	374
	High		405	342
	Normal		487	248
	Basic		337	141
VGA	Best		358	79
	High		201	63
	Normal		180	28
	Basic		92	15
QVGA	Best		111	84
	High		99	68
	Normal		97	54
	Basic		58	42

## APPENDIX 3 POE CONNECTION

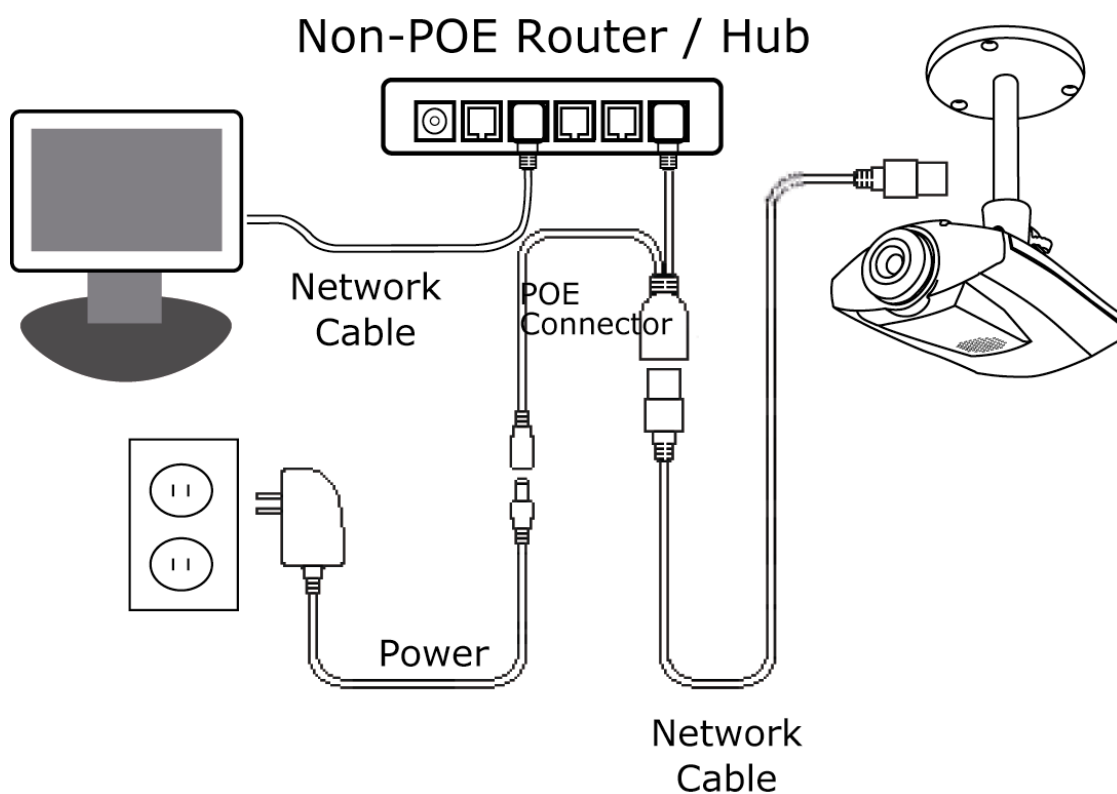
**Note:** This function is available for selected models only.

This device supports PoE (Power-over-Ethernet), developed by the IEEE802.3af task force, and power can be supplied over the same network (Ethernet) cable as the one used to connect to Internet. No power cable is needed. Below shows two examples of POE application for reference.

- When your router / hub supports POE connection



- When your router / hub doesn't support POE connection (An optional POE connected required)



## APPENDIX 4 API ID APPLICATION FOR SMS MESSAGING

To allow the camera automatically sending a text message when an event happens, you need to apply an API ID from a mobile messaging company first, such as Clickatell or EVERY8D.

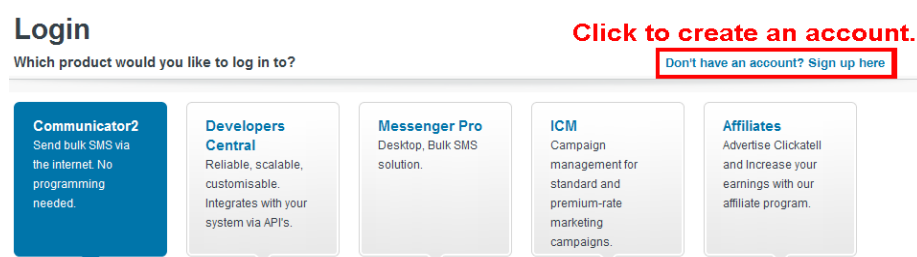
Below shows an example of how to get an API ID from Clickatell.

**Note:** The SMS messaging may not be totally free. Please check the charge policy of the messaging service you use.

**Note:** The instructions below are for reference only and may vary when Clickatell's official website is updated.

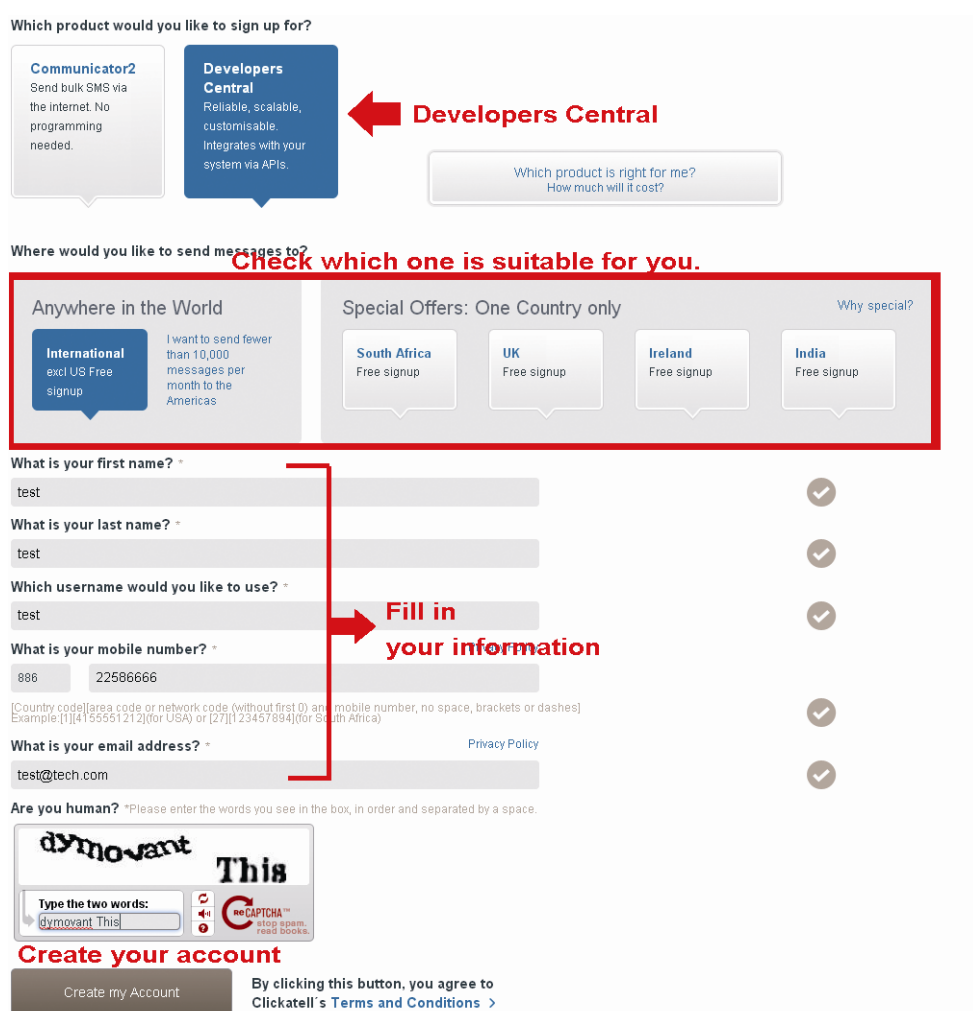
Please follow the steps below for application.

Step1: Go to <http://www.clickatell.com/login.php>. Sign up an account first.



The image shows the Clickatell login page. At the top, there is a 'Login' heading and a link 'Click to create an account.' Below this, a question asks 'Which product would you like to log in to?'. There are five product options: Communicator2, Developers Central, Messenger Pro, ICM, and Affiliates. A red box highlights the 'Don't have an account? Sign up here' link.

Step2: Select “Developers Central”, select the location where you want to use this service, and fill in your information to create an account.



The image shows the Clickatell sign-up page. It starts with the question 'Which product would you like to sign up for?'. There are two options: Communicator2 and Developers Central. A red arrow points to 'Developers Central'. Below this, there is a question 'Where would you like to send messages to?'. There are two main options: 'Anywhere in the World' and 'Special Offers: One Country only'. A red box highlights the 'Anywhere in the World' option. Below this, there are several form fields: 'What is your first name?', 'What is your last name?', 'Which username would you like to use?', 'What is your mobile number?', 'What is your email address?', and 'Are you human?'. A red arrow points to the 'Fill in your information' text. At the bottom, there is a 'Create your account' button and a link to 'Create my Account'.

Step3: When the account is created, the system will automatically send an Email to your specified Email address with the user name, password, and client ID used to log into the service.

Step4: Click the link within the email to log in, and you will be prompted to validate your mobile phone number. Select “SEND ACTIVATION CODE”. The system will send an activation code to that number for verification. Check if you receive a text message from Clickatell, and enter the activation code.

Verify your Mobile Number

For security reasons you are required to verify your mobile number in order to make your first credit purchase and send non-test SMS messages.

Your activation code will be sent to

[SEND ACTIVATION CODE NOW](#)

If this is not your number, please retype your mobile number in the box above and click the "SEND ACTIVATION CODE NOW"

Enter your activation code once you have received it on your mobile phone:


[VERIFY NOW](#)

Coupon Code:

**Enter activation code here**

Step4: In your account, find "Connection Status" and create a connection (API ID).

Note: Information on this page may be delayed by up to 1 minute.

Account Status	Message Delivery Status MT
 <p><a href="#">View Daily Volumes</a></p> <p>Credit Balance: 0</p> <p>Payments Pending: 0</p> <p>Credit Balance Alert: Disabled</p> <p>Auto Billing: Disabled</p> <p>SMS Bundle: Disabled</p> <p>SenderID: OK</p>	<p>For period 15 April 2013 between 00:00 and 23:59 (GMT+2)</p> <p>Messages delivered: 0</p> <p>Messages failed: 0</p> <p>Total: 0</p> <p><a href="#">Click here to view a detailed report.</a></p>
<p>Connection Status</p> <p>There are currently no connections in your account.</p> <p><a href="#">Click here to create a connection (API ID)</a></p> <p><b>Click here</b></p>	<p>Message Delivery Status MO</p> <p>For period 15 April 2013 between 00:00 and 23:59 (GMT+2)</p> <p>MO received: 0</p> <p><a href="#">Click here to view a detailed report.</a></p>

Step5: Select "HTTP/S".

Connection Setup

Choose the connection that you would like to add to your account.

[HTTP/S](#) **Click "HTTP/S"** [Clickatell HTTP/API icon](#)

popular connection, HTTP is one of the simpler ways to connect to the Clickatell API. It is used as an HTTP/Internet Post.

[SMTP \(Email to SMS\)](#) [SMTP](#)

Another firm favourite, the SMTP API allows messages that are sent via e-mail to be converted to SMS. Popular with customers who already have an e-mail messaging system in place.

Give a meaning name for this connection, and click "Submit and Get API ID".

Add Connection

HTTP API - Information entered during this step can be modified later.

Description:  **Give a name for this connection**

Required field

☐ Replace Leading Zero (Dial Prefix) 

☐ Enable IP Address Restriction (IP Lock Down) 

☐ Enable SMS Status Notification (MT Callback) 

[Submit and Get API ID](#) **Click**

Step5: An API ID will be generated as follows.

**Note:** Note down the API ID for SMS notification setting later.

HTTP API

Your HTTP API connection was created successfully. Your connection is live ready for you to send SMS messages.

**API ID used for SMS**

API ID:

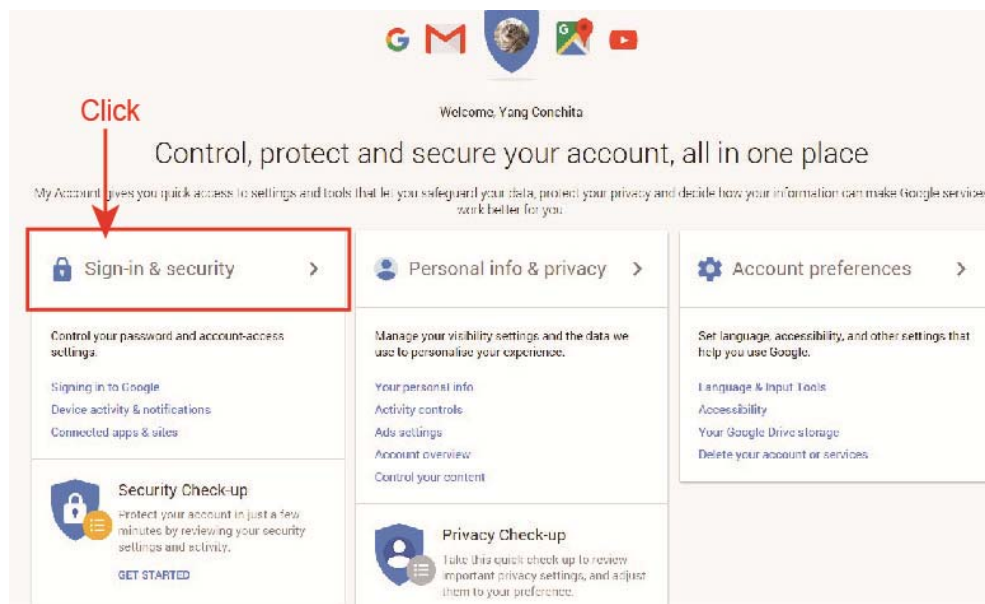
Description:

## APPENDIX 5 Q&A

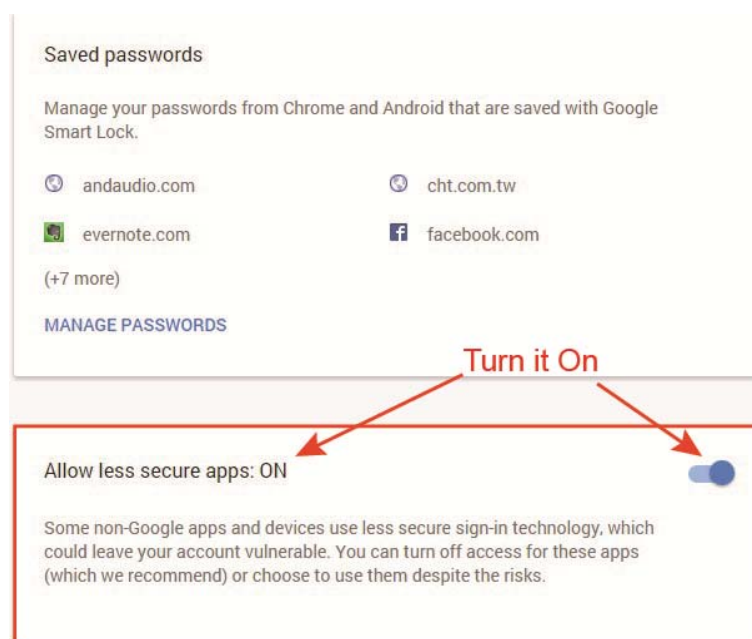
- Q1: I can connect to this camera in my house or office where it's installed with wireless network.  
But when I leave my house or office, I can't connect to it from my mobile phone (with 3G network), or other PC (connected to Internet). Why?
- A1: You didn't configure this camera to Internet, but only in LAN.  
Please follow the steps in the advanced network setup guide downloadable from [www.surveillance-download.com/user/m521.swf](http://www.surveillance-download.com/user/m521.swf) to complete network configurations, or it's recommended for you to check with your local installer or reseller for this service because it's usually hard for a person who doesn't have network knowledge to set network configurations.
- Q2: My live images are not fluent. Why?
- A2: Image fluency could be affected by the local network upload bandwidth, router efficiency, client network download bandwidth, complexity of live view, and more.  
(Recommended) To have the best image fluency, select QVGA; to have the best image quality, select "HD1080P" or "SXVGA" based on the model you have; to have normal image fluency and quality, select "VGA".
- Q3: The live video keeps flickering. Why?
- A3: Please try adjusting the power line frequency to "60 Hz" or "50 Hz" for the camera.  
For iPhone users, access the camera, and select "⚙️" on the top right corner to enter IPCAM Configuration page. Then, go to "Advance Setup" → "Camera" to change setting.  
For access from Internet Explorer, log into the camera, and select "Config." → "Camera" → "Video".
- Q4: I am sure the gmail information is right, but I still can't receive the email, why?
- A4: Please change a few settings in your Gmail account.  
Step1: Log in and click your email address on the upper right corner. Click "My account."



Step2: Click “Sign-in & Security.”



Step3: Roll down to the bottom of the page and check the “Allow less secure apps.”



## APPENDIX 6 RECORDING TIME TABLE

Below shows the estimated total recording time for each recording resolution.

The recording time per resolution is the average value collected from the both alarm trigger conditions indicated in “Testing Environment”, and is for reference only.

The time may vary depending on the resolution, image quality & frame rate you choose, the complexity of your monitoring area, and how often the moving objects show in your monitoring area.

### **Testing Environment**

- Place: Office
- Monitoring area: 1.5 meters away from the camera
- Alarm trigger conditions:
  - (1) One person walks by the monitoring area and leaves immediately.
  - (2) Two persons walk by the monitoring area. One goes away immediately, and the other one stays a while and goes away.

Recording Resolution	SXGA	VGA	QVGA
Recording time (second)	25	115	211

## APPENDIX 7 MICRO SD CARD COMPATIBLE LIST

**Note:** Check the specifications of your camera and see if your camera has a microSD card slot.

Manufacturer	Capacity	Class	Manufacturer	Capacity	Class
ADATA	2GB	--	Transcend	2GB	--
	4GB	Class 6		4GB	Class 2
Apacer	2GB	--		4GB	Class 4
	4GB	Class 4		4GB	Class 6
SanDisk	2GB	--		8GB	Class 6
	4GB	Class 4		16GB	Class 10
	8GB	Class 4	Kingston	2GB	--
	16GB	Class 4		4GB	Class 4
	32GB	Class 4		8GB	Class 4
Verico	2GB	--		32GB	Class 4
	4GB	Class 4		64GB	Class 10
	16GB	Class 10	TOSHIBA	16GB	Class 4
Silicon Power	64GB	--	TOPRAM	32GB	Class 10
Kingmax	64GB	--			