

IR BULLET IP CAMERA SERIES

OPERATION GUIDE

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

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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:

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- (2) This device must accept any interference received, including interference that may cause undesired operation.

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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. To get the codes, please write to marketing@avtech.com.tw.

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1. OVERVIEW

1.1 Product Features

- Free P2P Cloud **EaZy Networking** to connect your camera to the internet.
- **ONVIF** standard supported to simplify system integration
- **POE (Power-over-Ethernet)** support to eliminate the use of power cables and reduce installation costs
- IR LEDs built-in for **night surveillance**
- **Remote Surveillance**
 - **Full compatibility** with **iOS & Android OS**, and **Internet Explorer** on Windows operating system
- **(Optional) WDR / DWDR** to increase image recognizability in overexposure and dark areas.
- **(Optional) Line in / out** jacks available for audio transmission
- **(Optional) External alarm I/O device** connection

1.2 Package Content

➤ Standard Package

- | | |
|------------------------------------|--------------------------------------|
| <input type="checkbox"/> IR Camera | <input type="checkbox"/> Quick Guide |
|------------------------------------|--------------------------------------|

➤ Optional Accessories

- | | |
|---|---|
| <input type="checkbox"/> Screws & wall plugs | <input type="checkbox"/> Wrench |
| <input type="checkbox"/> Sun shield | <input type="checkbox"/> screw for sun shield |
| <input type="checkbox"/> Installation sticker | <input type="checkbox"/> Waterproof kit |

1.3 Cable Overview

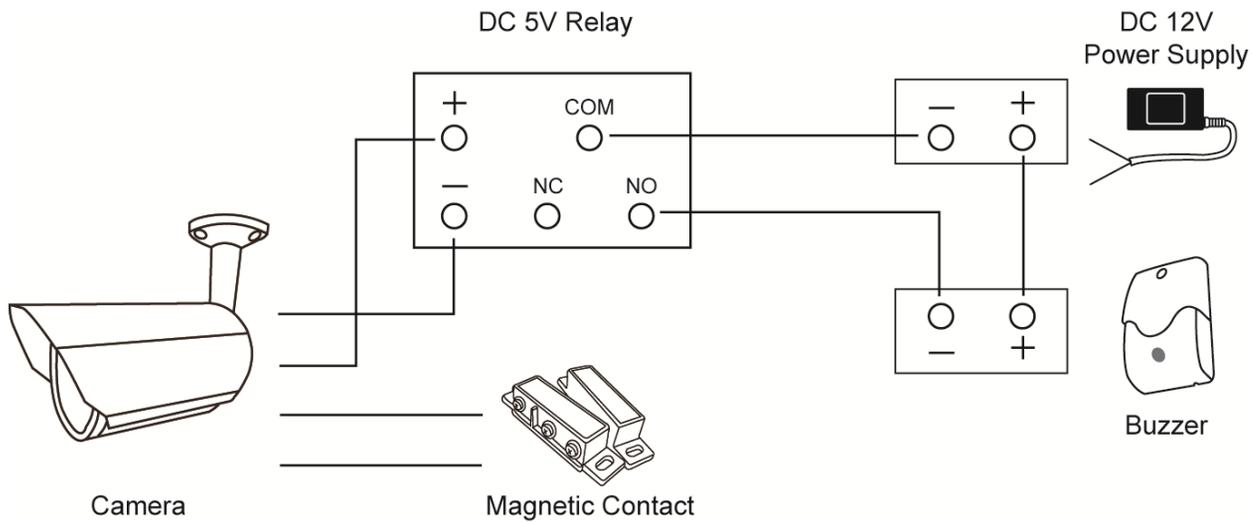
Cable	Description
Power cable	Connect to DC12V power supply. Note: The power adapter is optional.
RJ45 network cable	Connect it to the supplied RJ45 cable extender adapter for cable extension, and prepare another RJ45 network cable with suitable length for your connection.
GND	Ground wire, used for reset default or external device connection.
Alarm-in*	Reserved for connecting to an external alarm device. For details, please refer the user manual of your alarm device.
Alarm-out*	Reserved for connecting to an external alarm device. For details, please refer the user manual of your alarm device.
RESET	Remove the insulating coating of this wire, and twist it with a ground wire together to reset default. This will reset all parameters, including the IP address to factory default settings. Note: Disconnect power before twisting these two wires together, and connect to power again for reset default.
Line in (Blue) *	Support microphone connection.
Line out (Green) *	Support speaker connection.

Selected models only

1.4 External Alarm Connection (For selected models only)

This camera supports external I/O device connection for easy connection.

Below shows you how to connect an external device to this camera.



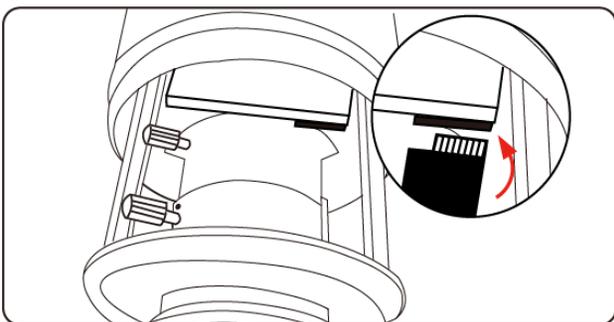
1.5 Insert a Micro SD card (For selected models only)

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.

Note: Only selected models are equipped with a micro SD card slot for local video recording. To know how to directly access video footage saved in the microSD card on your PC / laptop, please refer to "How to directly play video footage saved in the microSD card on PC" at page 22.

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.

Please follow the directions in the below graphic to insert Micro SD card properly:



Note: It's recommended to use tweezers for inserting / removing Micro SD card.

Note: For the compatible list of the micro SD card, please refer to "APPENDIX 10 MICRO SD CARD COMPATIBLE LIST" at page 58.

2. CAMERA ACCESS WITH INTERNET EXPLORER

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

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

For network configurations, please download "[Advanced Network Setup](#)".

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.

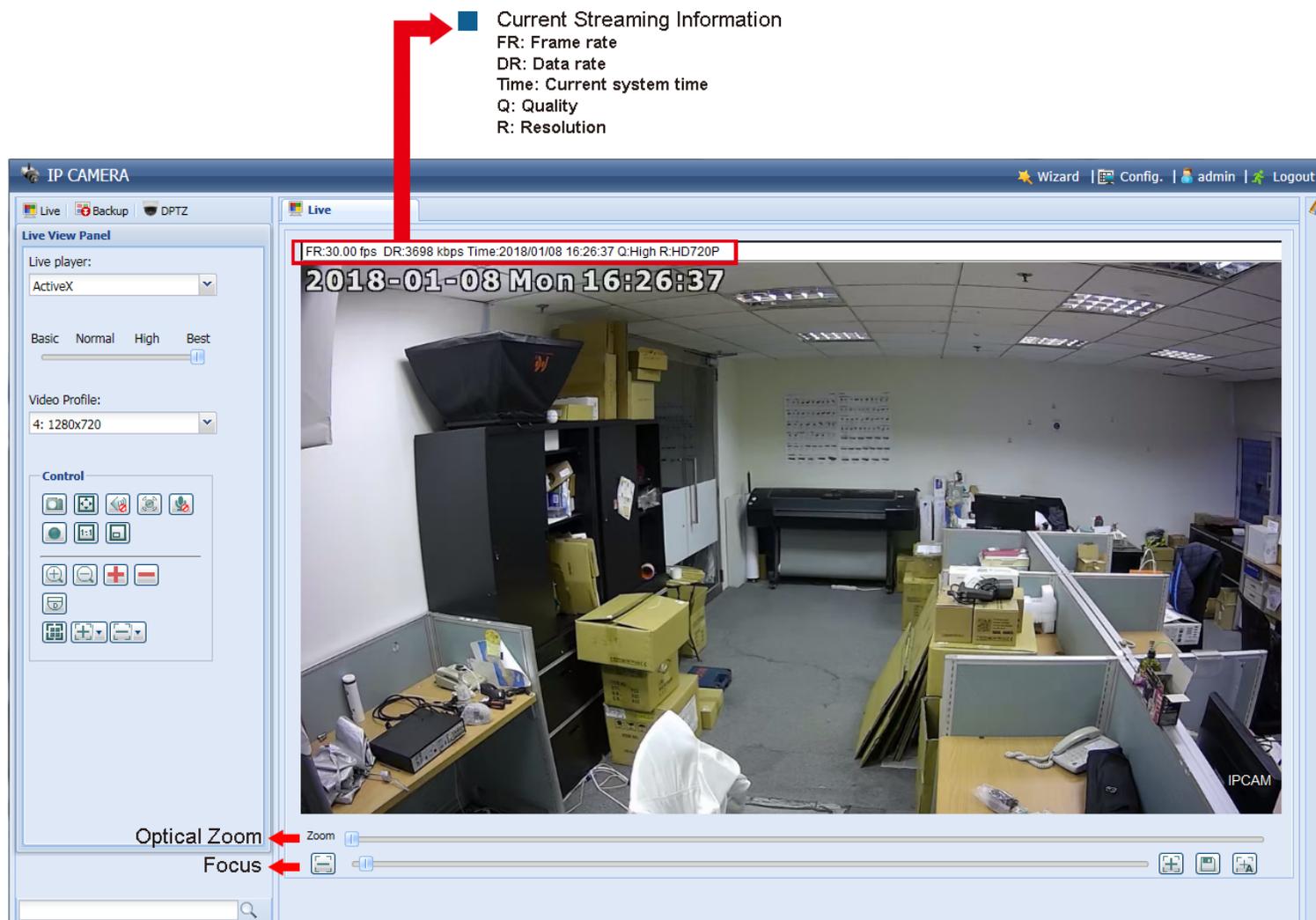
- To skip the wizard and directly access the camera live view, click **Close**.
- To directly access the camera live view without starting the wizard for the login next time, check **Do not start wizard at login**.

Note: If you're prompted to install **VLC player**, **Software** and **Streaming Viewer**, please agree to proceed the installation.

Step5: When the login is successful, the live view is shown.

2.2 Control Panel Overview

Note: The buttons available depend on the device you have and the user level used to log in.



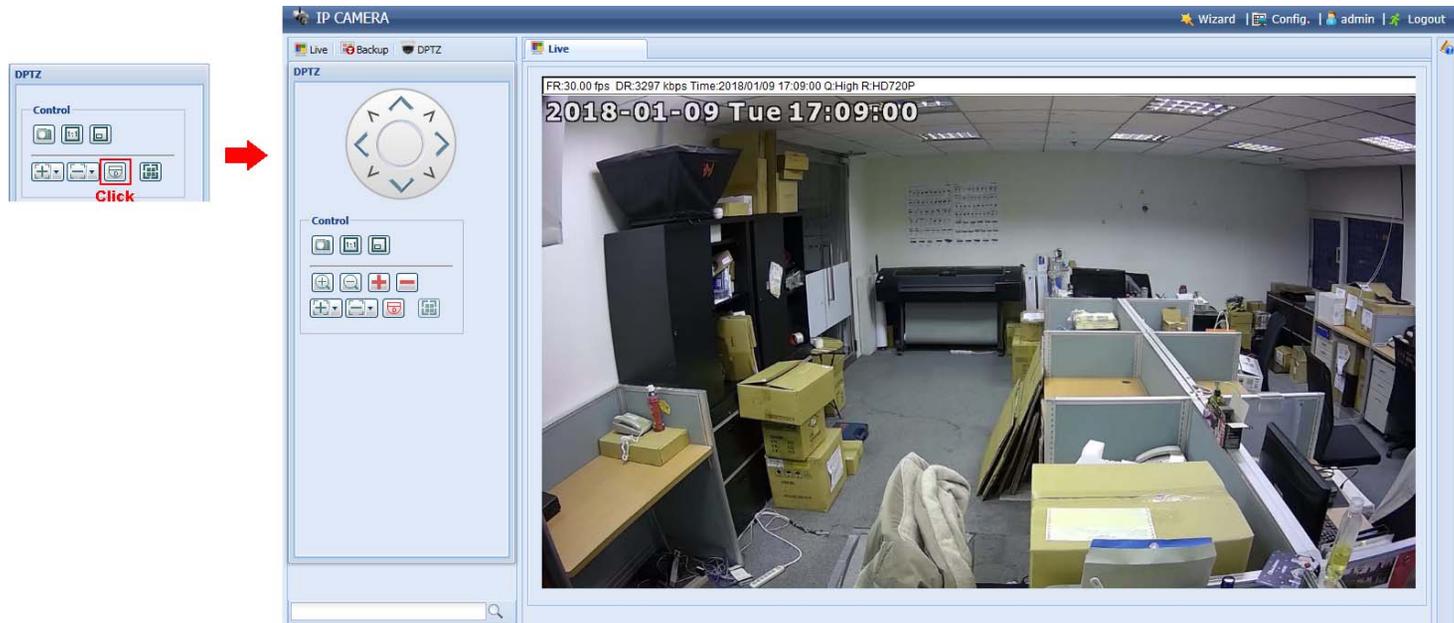
Function	Icon	User Level	Description
Live		Supervisor / Power User / Normal User / Guest	Switch to the live view page.
Backup		Supervisor / Power User	Enter the event record list for video playback. For details, please refer to "2.4 Event Record Search & Playback" at page 5.
DPTZ		Supervisor / Power User / Normal User	Switch to the DPTZ configuration page. For details, please refer to "2.3 Digital PTZ (DPTZ) Operations (For selected models only)" at page 4.
Config.		Supervisor / Power User	Switch to the system configuration page. The functions available for "Supervisor" and "Power User" are different. For more details, please refer to "3.1 System configuration menu" at page 7.
Live player	--	Supervisor / Power User / Normal User / Guest	Select the image player from the drop-down list: <ul style="list-style-type: none"> ■ ActiveX ■ 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. ■ VLC
Quality	--	Supervisor / Power User / Normal User	Click & drag the slider to select the video quality: BASIC / NORMAL / HIGH / BEST.
Video Profile	--	Supervisor / Power User / Normal User	Select the pre-defined video set from the drop list. The video set could be configured in "Config" -> "Camera" -> "Video".
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.
Manual Recording*		Supervisor / Power User / Normal User	Click to start video recording manually. This function is available only when the camera has a microSD card slot and a microSD card is inserted to the camera.
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. <i>This icon appears only when the selected resolution is 640 x 480 or above.</i>
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 320 x 240.</i>
Fit to screen			The selected resolution is resized to fit into the current live view size. <i>This icon appears only when the selected resolution is 1280 x 720 or above.</i>
Normal Size			The current live view size is the same as the selected resolution. <i>This icon appears only when the selected resolution is 1280 x 720 or above.</i>
No 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 1280 x 720 or above.</i>
Audio Switch*		Supervisor / Power User / Normal User	Click to switch the audio-in on / off.
Alarm Out*		Supervisor / Power User / Normal User	Click to force your 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*		Supervisor	Click to switch the audio-out on / off.
Zoom-in / out*		Supervisor / Power User / Normal User	Click to zoom in / out the current image. <i>This function is available only when DPTZ is enabled.</i>
Max. Zoom-in / out*		Supervisor / Power User / Normal User	Click to zoom in the image to the largest / zoom out the image to its original size. <i>This function is available only when DPTZ is enabled.</i>
DPTZ*		Supervisor / Power User / Normal User	Click to enable the zoom-in / out function. To move the image in the zoom-in mode, simply click on where you want to see in the live view. <i>For vari-focal models only.</i>
Focus Zone*		Supervisor / Power User / Normal User	Click to change the focus zone if the current focus area is not what you need. If you feel like the focus is not clear after the focus zone is changed, click  (Focus Near) /  (Focus Far) to adjust the focus.
Focus Near / Far*		Supervisor / Power User / Normal User	Click to manually adjust the focus if needed.

* For selected models only

2.3 Digital PTZ (DPTZ) Operations (For selected models only)

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

Click “DPTZ” to show the DPTZ control panel.



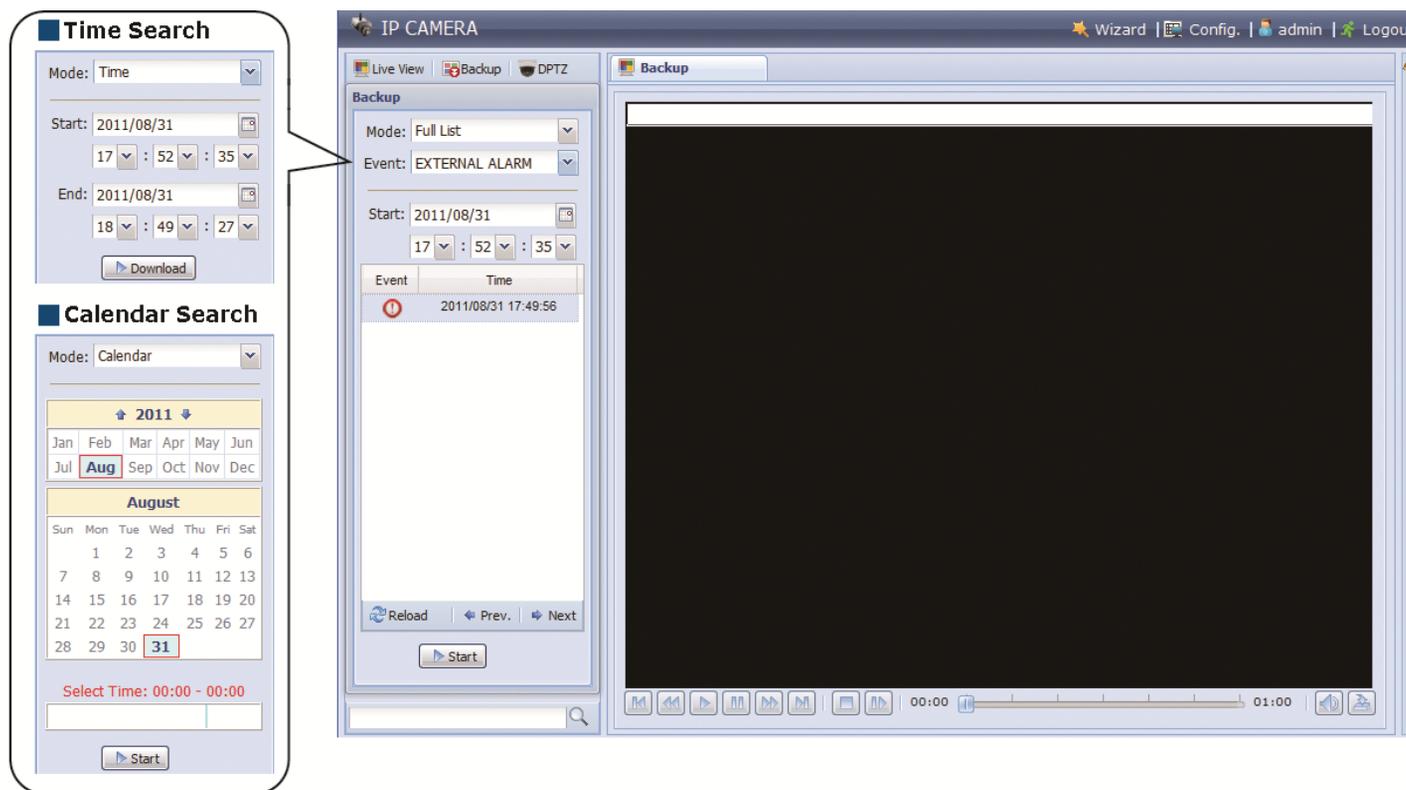
FUNCTION	ICON	DESCRIPTION
Moving panel	--	When  is selected, the moving control panel will be shown to move the picture after zoom-in is performed.
Take snapshots		Click to take a snapshot of the current view on a new window. Right click on the picture and re-save it to the location you want.
Normal Size		The current live view size is the same as the selected resolution. <i>This icon appears only when the selected resolution is 1280 x 720 or above.</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>
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.
Focus near / far	 / 	Click to adjust the focus of the image.
Focus Zone*		Click to change the focus zone if the current focus area is not what you need. If you feel like the focus is not clear after the focus zone is changed, click  (Focus Near) /  (Focus Far) to adjust the focus.

* For selected models only

2.4 Event Record Search & Playback

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

Note: (For selected models only) If a microSD card has inserted to your camera for video recording, you can also remove and insert the card to your PC for event search and playback. For details, please refer to "How to directly play video footage saved in the microSD card on PC" at page 22.



2.4.1 Event Icons

	External alarm		Internal alarm		Audio detection		Manual
	Motion		System		Timer		

2.4.2 Playback Control Panel

	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.
	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 seven menus: Network, Camera, ONVIF, Record, Storage, Trigger and General.

- For details about “Network”, please refer to “3.2 Network” at page 9.
- For details about “Camera”, please refer to “3.3 Camera” at page 15.
- For details about “ONVIF”, please refer to “3.4 EVENT” at page 21.
- For details about “Record”, please refer to “3.5 Record” at page 21.
- For details about “Storage”, please refer to “3.6 Storage” at page 22.
- For details about “Trigger”, please refer to “3.7 Trigger” at page 23.
- 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.
	IEEE 802.1X*	The settings here enable the camera to access a network protected by 802.1X/EAPOL (Extensible Authentication Protocol Over LAN).
	Network Share	Assign a location in the LAN environment to save the snapshot of events when Network Share is chosen in Trigger → Snapshot .
Network Failure Detection	Configure this camera to check the network connection of other device periodically, and send notifications via Email or FTP for disconnection events.	
Camera	Camera	1. Rename the camera. 2. Change the place where the camera name is shown on the screen.
	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, and configure audio detection.
	Advanced	Adjust the camera parameters if necessary.
	Privacy Mask*	Cover certain areas on the camera image.
ONVIF	Event	This function is used to integrate the functions of event and alarm detection when this camera has to work with other ONVIF-compliant device.
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.

*Selected models only

Main Menu	Sub-Menu	Reference
Trigger	Trigger	<ol style="list-style-type: none"> 1. Enable / disable the motion detection. 2. Set the motion detection area. 3. Configure how the camera reacts for any event.
	Push Video*	Configure to receive active alarm notifications within 5 seconds after event occurrence on mobile devices.
	Snapshot	Schedule the camera to take snapshots periodically or at a specific time, and send to E-Mail, FTP and / or Network Share for backup. Time-lapse recording could also be configured here.
General	General	<ol style="list-style-type: none"> 1. Select the language of the web browser. 2. Check the MAC address of the camera. 3. Lock camera access after the specified time.
	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"> 1. Create a new user account with different access privilege. 2. Modify or delete an existing user account.
	Google Maps	Allow you to know where the network camera is.
	Maintenance	<ol style="list-style-type: none"> 1. Check the current firmware version and upgrade your camera. 2. Copy system configurations. 3. Reboot the camera. 4. Download the video player to play the recorded data.

*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 see "[Advanced Network Setup](#)".

Note: To know how to use EaZy Networking, please refer to "APPENDIX 9 EAZY NETWORKING" at page 47.

The screenshot shows the 'Network' configuration page. It is divided into two sections: IPv4 and IPv6.

IPv4 Section:

- IP Type: Static IP PPPoE DHCP
- Server IP: 192.168.1.10
- Gateway: 192.168.1.1
- Net Mask: 255.255.255.0
- Port: 88
- DNS1: 8.8.8.8
- DNS2: 168.95.1.1
- MAC Address: 00:0E:53:2A:BB:E9
- Enable EaZy Networking: OFF
- A QR code is displayed with the MAC address 00:0E:53:2A:BB:E9 below it.

IPv6 Section:

- Enable: OFF
- IP Type: Static IP DHCP
- IP Address: 2001:DB8::1
- Prefix length: 64
- Gateway: 2001:DB8::FE
- DNS: 2001:4860:4860::8888
- Local Link IP Address: fe80::20e:53ff:fe2a:bbe9

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.

The screenshot shows the 'QoS Configuration' page. It includes the following settings:

- QoS: Enable Disable
- Interface: Ethernet
- Max. Upload Rate: 4096 kbps
- Buttons: Save, Reload

3.2.3 DDNS

Choose **Enable** when the selected network type in **Network** is **PPPOE** or **DHCP**.

For details, please see "[Advanced Network Setup](#)".

The screenshot shows the 'DDNS Configuration' page. It includes the following settings:

- DDNS: Enable Disable
- System Name: default
- Hostname: MAC000e531d6ff1 .ddns.eagleeyes.tw
- E-Mail: manager@tech.com
- Buttons: Save, Reload

3.2.4 SNTP

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

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**.

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**.

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.

Function	Description
Verify Password	Some mail servers are required to verify the password. Please enter the “user name” and “password”.
Subject	Enter the subject for the E-Mail.
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 37.

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**.

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.

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	<ul style="list-style-type: none"> To add an item to the IP address list, key in the IP address in Rule, and click Add. To remove an existing item in the IP address list, click the item you want to remove, and click Delete.

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

➤ Bonjour

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 download "[Advanced Network Setup](#)".

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 screenshot shows the 'Port Mapping Configuration' window. At the top, there are radio buttons for 'Enable' (selected) and 'Disable'. Below this, a text box states: 'Your IP-Camera is accessible from the other side of the router using the following URL: http://60.248.97.4:80 or https://60.248.97.4:59207.' There are three input fields: 'Router IP:' (empty), 'HTTP Port:' (80), and 'HTTPS Port:' (59207). A note below the fields says: '*If set to blank or 0, a port number will be set automatically upon enable.' At the bottom, there are 'Save' and 'Reload' buttons.

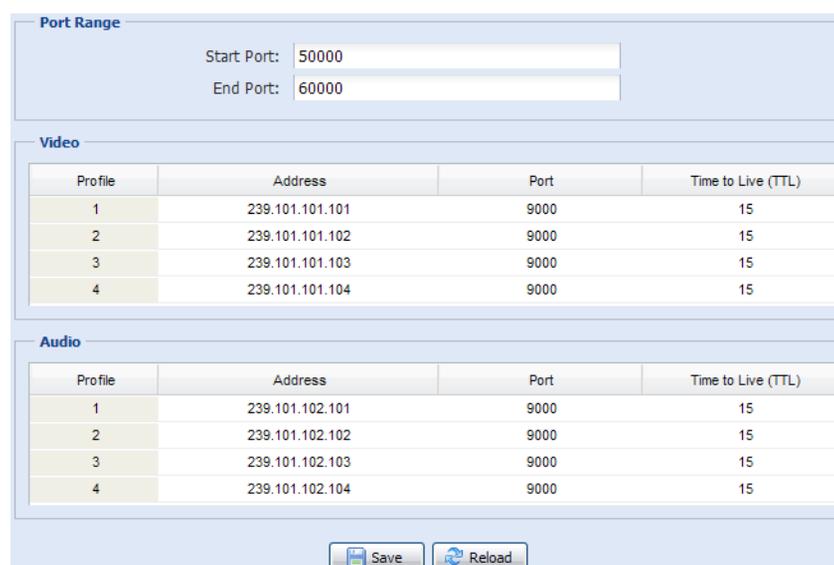
Note: When the configurations are saved successfully, you'll see a message indicating the IP address and port number assigned to this network camera.

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.



The screenshot shows three configuration sections. The top section is 'Port Range' with 'Start Port:' set to 50000 and 'End Port:' set to 60000. Below it is the 'Video' section, which contains a table with 4 columns: Profile, Address, Port, and Time to Live (TTL). The table has 4 rows of data. Below the Video table is the 'Audio' section, which contains a similar table with 4 columns: Profile, Address, Port, and Time to Live (TTL), also with 4 rows of data. At the bottom, there are 'Save' and 'Reload' buttons.

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

Function	Description
<ul style="list-style-type: none"> Port Range 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.
<ul style="list-style-type: none"> Video 	
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.
<ul style="list-style-type: none"> Audio (For selected models only) 	
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.

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.

SNMP V1/V2C

Enable: Yes No

Read community:

Write community:

Traps

Enable:

Address:

Community:

Cold start: Enable Disable

Warm start: Enable Disable

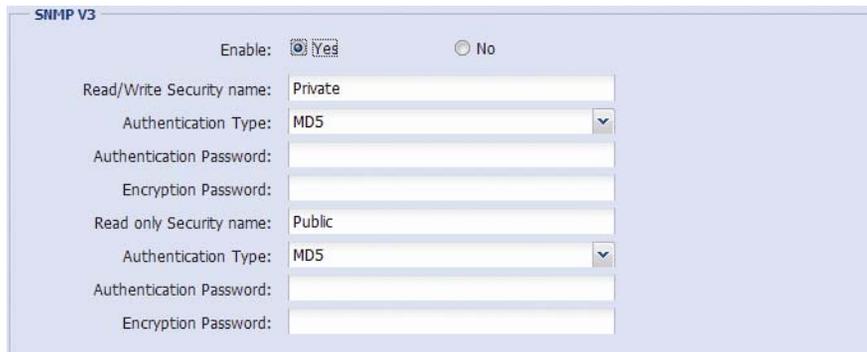
Link up: Enable Disable

Authentication failed: Enable Disable

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 web-based configuration interface for SNMP V3. It features two sections for configuration. The first section is for 'Read/Write Security name' and the second is for 'Read only Security name'. Each section includes a text input field for the security name, a dropdown menu for 'Authentication Type' (set to MD5), and two text input fields for 'Authentication Password' and 'Encryption Password'. At the top, there is an 'Enable' section with radio buttons for 'Yes' (selected) and 'No'.

3.2.12 IEEE 802.1X (For selected models only)

The settings here enable the camera to access a network protected by 802.1X/EAPOL (Extensible Authentication Protocol Over LAN).

Note: For authentication to work properly, it's important to synchronize the time in the camera with an NTP server.

Before using this function, make sure:

- The switch and RADIUS server you have in the LAN environment supports IEEE 802.1X, and IEEE 802.1X settings are enabled.
- You've applied a digital certificate from a Certificate Authority which can be validated by a RADIUS server, and the identity and password used.

Then, follow the steps below:

Step1: Connect this camera to a PC or laptop directly, and go to its login page to log in.

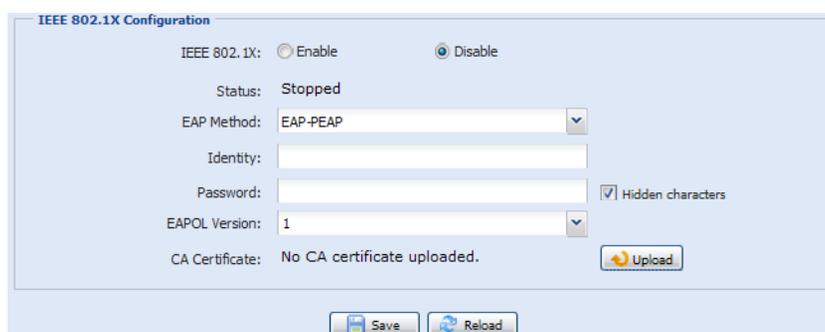
Note: To know how to connect the camera to a PC or laptop directly, please check "4 Modem / Hub + Modem" in "[ADVANCED NETWORK SETUP](#)".

Step2: Log into the camera, and go to **Config** → **Network** → **IEEE 802.1X**. Enable this function, and select the EAP method you want to use.

Note: This camera supports **EAP-PEAP**, **EAP-TLS** and **EAP-TTLS**.

Step3: Enter the identity and password you get from the Certificate Authority, and select the EAPOL version used in your switch.

Step4: Upload the certificate(s) issued by the Certificate Authority, and save.



The image shows the 'IEEE 802.1X Configuration' web interface. It includes radio buttons for 'Enable' and 'Disable' (selected). Below this, the 'Status' is 'Stopped'. There is a dropdown for 'EAP Method' (set to EAP-PEAP), text input fields for 'Identity' and 'Password' (with a 'Hidden characters' checkbox checked), a dropdown for 'EAPOL Version' (set to 1), and a 'CA Certificate' section with the text 'No CA certificate uploaded.' and an 'Upload' button. At the bottom, there are 'Save' and 'Reload' buttons.

Step5: Disconnect the camera from your PC or laptop, and connect it to the switch in the LAN environment you want to use IEEE 802.1x, and the camera will start the authentication later.

3.2.13 Network Share

This function is used to assign a location in the LAN environment to save the snapshot of events.

Note: This function is available only for Windows operating systems.

The information you set here will be applied when “Network Share” is selected in **Trigger** → **Snapshot** → **Storage Mode**.



To use this function, make sure:

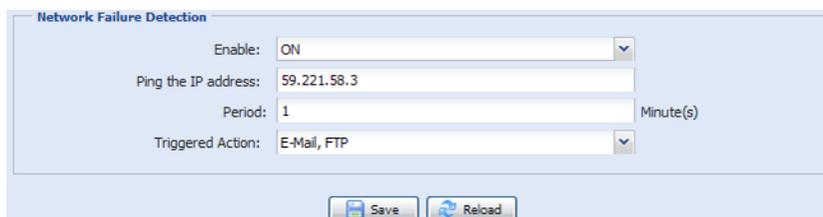
- A PC is installed in the same LAN environment as this camera, and you know the IP address of the PC.
- A PC account is created as “Administrator” with a user name and password.
- A folder in the PC is opened as shared to the user account you assigned.

Note: Please check “APPENDIX 7 PREREQUISITES FOR NETWORK SHARE” at page 42 for more details.

Enable this function, and enter the address of the PC, the folder being shared, and the user name and password to access the PC. If the information is all correct, you'll see a check in the **Status** column, and you're ready to go to **Trigger** → **Snapshot** for further configurations.

3.2.14 Network Failure Detection

Configure this camera to check the network connection of other device periodically, and send notifications via Email or FTP for disconnection events.



3.3 Camera

3.3.1 Camera

In this menu, you can set the camera title, OSD display, and location to save snapshots.

Note: The actual functions shown depend on the model you have.



3.3.2 Video

You can adjust the power line frequency of your camera (**60Hz** or **50Hz**) to suit your environment if needed, or set the video profile which will be chosen and used in the live view (**Video Profile**).

- **Quality** is related to image clearness.
- **FPS** is related to the fluency of the video. The more the FPS, the more fluent the video.
- **GOV**, Group of VOPs, is used to configure the length of G.O.V. The greater of the value, the less the bandwidth for transmission, and the poorer the image quality.
- **Max Bit Rate** is the maximum limitation of data transmission in the selected image format and resolution. The higher the value, the better the video quality.

The screenshot shows a 'Configuration' window with a 'Power Line Frequency' dropdown set to '60 Hz'. Below it is a 'Profile' table with the following data:

Profile	Media Type	Resolution	Quality	FPS	GOV	Max Bit Rate(kbps)
1	H264	1280x720	HIGH	15	15	8000
2	H264	640x480	HIGH	15	15	5000
3	H264	320x240	HIGH	15	15	5000
4	JPEG	320x240	HIGH	15	15	5000

Buttons for 'Save' and 'Reload' are located at the bottom of the profile section.

3.3.3 ROI

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.

The screenshot shows a 'Region of Interest' table with the following data:

Region	Enable	Quality
1	ON	10
2	OFF	7

Below the table are 'Edit' and 'Reload' buttons. The 'Live View' section shows a camera feed of an office with a red box highlighting a region of interest. To the right, an 'Edit' panel has an 'Enable' dropdown set to 'ON' and a 'Quality' slider set to 10. 'Save' and 'Cancel' buttons are at the bottom.

3.3.4 Color

Click and drag the slider to preview the color change on the right side of this page and adjust the image color.

Note: The functions available depend on the model you have.

To restore the default values, click **Back to Default**.

The screenshot shows a 'Color Configuration' panel with four sliders: 'Brightness' (50), 'Contrast' (55), 'Hue' (50), and 'Saturation' (65). To the right is a 'Live View' window showing a camera feed of a desk with a red box highlighting a region of interest. At the bottom are 'Back to Default' and 'Reload' buttons.

3.3.5 Audio (For selected models only)

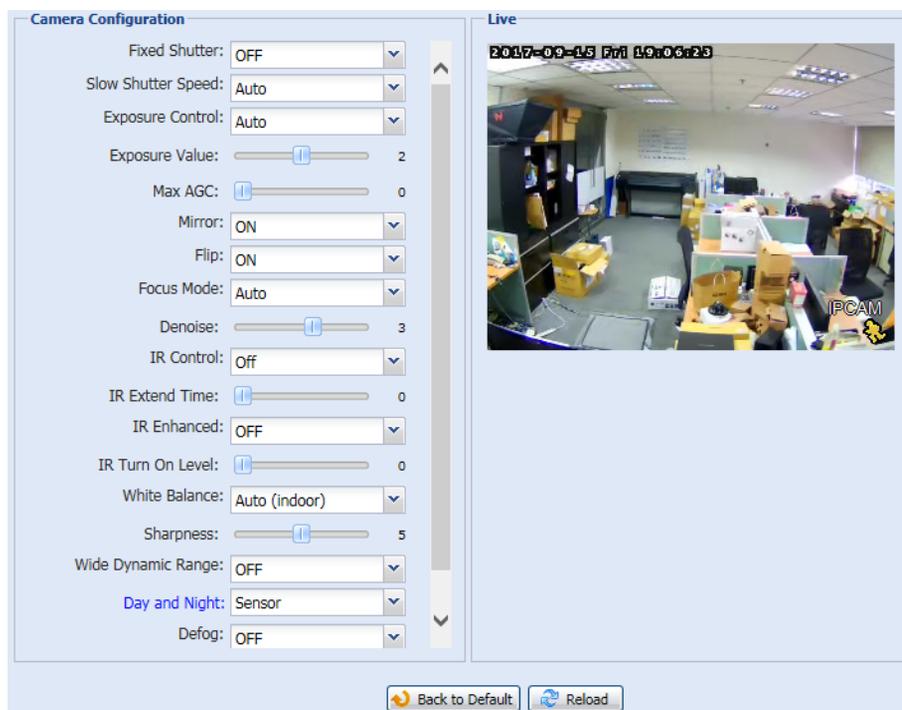
You can adjust the volume of the microphone and speaker, and configure audio detection which will be used when **Audio** is selected in **Trigger** → **Trigger**.

Item	Description
■ Source Configuration	
Audio Source	Choose External-MIC when the microphone connected is the type which needs additional power supply; otherwise choose External .
■ Volume Configuration	
Input(Mic.)	Drag the slider to adjust the volume of the microphone, or check Mute to disable this function.
Output(Speaker)	Drag the slider to adjust the volume of speaker, or check Mute to disable this function.
■ Detection Configuration	
Enable	Choose YES / NO to enable / disable the setting here.
Mode	Choose how you'd like to set the standard for audio detection: <ul style="list-style-type: none"> - Sound Level: Drag and move the slider to set the sound level after which a sound event will be triggered. - Voice: Choose from High, Normal and Low to set the sound sensitivity.
Activity	Check the sound waves and see if the level or sensitivity is what you want.

3.3.6 Advanced

Adjust the camera parameters if necessary.

Note: The functions available depend on the model you have.



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.
Slow Shutter Speed	Select the slow 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.
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 . The higher the value, the more light to let into the camera.
Max. AGC	Set the level of Auto Gain Control to detect and enhance the image signals when the light condition is poor. The higher the value, the stronger the signals will be enhanced, and the more noise the image will get.
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.
Rotate*	This is used when the area you want to monitor is more vertical than horizontal in shape to truly focus on the area you need to pay attention, such as hallways, staircases and aisles (vertical view mode or corridor mode). Please note that the image will be rotated 90° counter-clockwise when this function is on. To get the right image, please rotate the camera 90° clockwise during installation.
Focus Mode*	Select the default focus mode when you're adjusting the focal length and focus. Choose Auto to always automatically adjust the focus first when the focal length is changed; choose "Manual" to allow manually focus adjustment first when the focal length is changed.
Denoise	Click and drag the slider to adjust the level to decrease the noise shown in the dark environment. The higher the value, the higher the denoise level. 0 means off.
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 Extend Time*	Set the delay time from 1 ~ 60 in second after which the day and night switch is made, or select 0 to disable this function. This is used for the environment where the light condition may change suddenly and usually last for a short time, for example, the entrance of a parking lot. It may cause the day & night mode switching constantly and damage the camera. With this function, the camera will delay the mode switch at night since the light change is temporary and unnecessary to pay attention.
IR Enhanced*	Select On to enhance IR LEDs performance.
IR Turn On Level*	Select the level for IR light to activate. 0 means off.
White Balance	Process the current image to retain color balance over a color temperature range.
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. 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
Digital WDR*	Digital WDR is used to simulate the effect of WDR when users need to increase image recognizability in overexposure and dark areas. 0 means off.

Item	Description
Day and Night	<p>This function is used to configure the day and night mode: The options available depend on the model you have.</p> <ul style="list-style-type: none"> ● Day - Always stay in the day mode (color). ● Night - Always stay in the night mode (B/W). ● Image – Switch to the day mode or night mode automatically by default ● Time – Select this option, and click Day and Night in blue to enable and set a schedule to enable day and night mode. The selected time (yellow) will be in the day mode, and the unselected time will be in the night mode. ● Sensor – Use the built-in light sensor for day and night detection. ● Digital Input N.O. – (Used with Alarm In) Normally stay in the day mode, and switch to the night mode when the alarm is triggered. ● Digital Input N.C. – (Used with Alarm In) Normally stay in the night mode, and switch to the day mode the when alarm in triggered.
Defog	Select ON or Auto to enable the defog function in poor weather conditions such as fog, smog or smoke. The captured image can be improved.
Angle of view*	This function is used to slightly calibrate the viewing angle when the focal length and focus adjustment is completed. Select Down if your camera lens is facing down; select Up if your camera lens is facing up.

*Selected models only

3.3.7 Privacy Mask (For selected models only)

You can draw to cover up to 8 areas on the camera image with this function. The masked area will also be covered in the video footage.

Item	Description
Privacy Mask Name	Name your privacy mask.
Function	Select On to enable the privacy mask function.
Mask Color	Select the color for the privacy mask.

3.4 EVENT

3.4.1 Event

This function is used to integrate the functions of event and alarm detection when this camera has to work with other ONVIF-compliant device.

Event

Namespace:

Motion

Topic:

Source: +

Data: =

Alarm

Topic:

Source: +

Data: =

3.5 Record

3.5.1 Record

- 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 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.

Record Configuration

Enable: Yes No

Overwrite: Yes No

Audio Record: Yes No

Profile:

3.5.2 Record Timer

To schedule manual, external alarm, motion and audio recording depending on the models you have, enable the timer you need, and select the day and time for recording.

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

Note: The selected time segment will be yellow-colored.

Note: The timers for audio detection and external alarm are for selected models only.

Timer External Alarm Motion Audio Detection

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																								

3.6 Storage

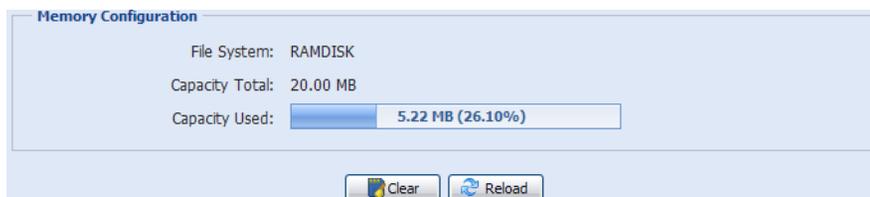
3.6.1 Memory

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

This camera series has built-in 20MB memory for event recording. For the models which support video recording to a microSD card, a microSD card can be inserted to the cameras to expand storage capacity. When the storage capacity is full, the oldest footage will be overwritten by the new footage.

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 41.



To search, play & copy video footage:

- Choose  (Backup) on the live view ("2.4 Event Record Search & Playback" at page 6).
- Remove and insert the microSD card to your PC ("How to directly play video footage saved in the microSD card on PC" at page 22).

How to directly play video footage saved in the microSD card on PC

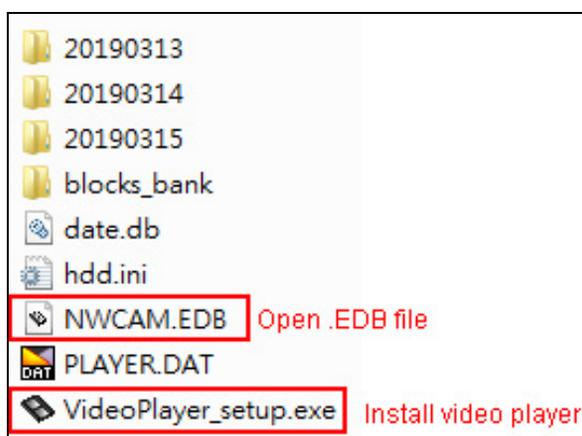
Note: This operation is only available on the Windows operating system.

Step1: Power off your camera and remove the microSD card.

Step2: Insert the card to your laptop / PC and access to the card.

Step3: Find the video player program, **VideoPlayer_setup.exe**, saved in the card and double-click it to start installation.

Step4: When you're prompted to browse the file to open after installation, choose **NWCAM.EDB** to open.



Note: You can also find and double-click **NWCAM.EDB** to open if you've already installed our video player.

Step5: You'll see the event list including the event logs saved in the microSD card. Find the log you want and double click it to play.

Event List

Total Event Num : 112

Total Page Num : 6 Current Page Num : 6

NO.	Start Time	Attributes
112	2019-03-15 10:23:59	Motion
111	2019-03-15 10:14:15	Motion
110	2019-03-15 10:13:59	Motion
109	2019-03-15 09:51:24	Motion
108	2019-03-15 09:00:47	Motion
107	2019-03-14 22:30:39	Motion
106	2019-03-14 20:07:55	Motion
105	2019-03-14 08:55:36	Motion
104	2019-03-13 21:11:56	Motion
103	2019-03-13 19:00:17	Motion
102	2019-03-13 18:59:54	Motion
101	2019-03-13 18:42:08	Motion
100	2019-03-13 18:34:18	Motion
99	2019-03-13 18:30:46	Motion
98	2019-03-13 18:29:47	Motion
97	2019-03-13 18:20:10	Motion

Event List:
Double-click one log to play

Last Page Next Page Previous Page First Page

3.7 Trigger

3.7.1 Trigger

You can configure how this camera reacts when there's an alarm or motion event.

Note: The audio & alarm functions are for selected models only.

Detect

External Alarm: OFF

Motion: ON

Audio: ON

Duration: 10 Sec.

Detection

Action

E-Mail: External Alarm Motion

FTP: External Alarm Motion

SMS: External Alarm Motion

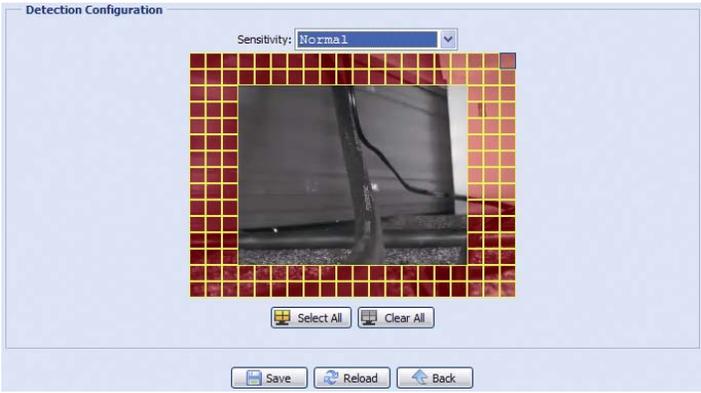
Alarm Out: External Alarm Motion Day and Night Audio

Record: External Alarm Motion Audio

Audio Alert: Manual Alarm-Out

Save Reload

◆ 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>Sensitivity: Set the detection sensitivity from the drop-down list: High, Normal or Low.</p> <p>Area Setting: 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>
Audio*	<p>Enable or disable audio detection.</p> <p>When this function is enabled, make sure you've finished configurations of audio detection in Camera → Audio.</p>
Duration	Set the duration time for trigger recording (5 / 10 / 20 / 40 seconds).

* For 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 choose the media type configured in Camera → Video, file format (AVC / AVI), record internal (1~5 seconds), record time (1 ~ 5 seconds) and pre-alarm recording 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 choose the media type configured in Camera → Video, file format (AVC / AVI), record internal (1~5 seconds), record time (1 ~ 5 seconds) and pre-alarm recording 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.

* For selected models only

3.7.2 Push Video (For selected models only)

“Push Video” is an active notification system integrated with smart phones. Users are able to receive alarm notifications within 5 seconds after event occurrence, check what happened with video playback, and take actions immediately.

Note: For Push Video to work properly, make sure the record function is on in **Record** → **Record**, and the record timer for the external alarm is on in **Record** → **Record Timer**.

Note: When the camera is configured, go to your smart phone and enable **Push Video**. For details, please refer to “APPENDIX 8 ENABLE PUSH VIDEO” at page 45.

Item	Description
Guard	Select to enable or disable Push Video. This function can also be enabled from your iPhone or Android mobile devices. <i>When this function is enabled, the image resolution is fixed to VGA.</i>
Slow Shutter Lock	Select to fix the slow shutter level to level 2 (Enable) or remain the current slow shutter level (Disable) when Push Video is enabled. When this function is enabled, it could ensure Push Video recording to get clear images when the environment is dark. This function is set to Enable by default.
Guard Rule	Select the rule to enable Push Video from External Alarm .
Message	Define the context when you receive the Push Video message on your iPhone or Android mobile device. Up to 28 characters are allowed.

To configure Push video to enable in the specified time, select **Yes** to enable the timer function, and select the time you want to enable.

3.7.3 Snapshot

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

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

Time-lapse Recording

This function allows users to create time-lapse recording by combining snapshots together.

Note: To use this function, make sure **Network Share** is configured well in **Network** → **Network Share**. For details, please go to “3.2.13 Network Share” at page 16.

Step1: Configure when to take snapshots in **Snapshot**, and choose **Network Share** as the storage mode.

Step2: In **JPG to AVI Conversion**, choose how many images you want to see per second in **FPS**, name the video file, and specify the file size.

Step3: Click **Convert** to start file conversion, and go to the path specified to store snapshots in **Network Share** to check the video file.

3.8 General

3.8.1 General

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

To allow CORS (Cross-Origin Resource Sharing) for securing the request and transmission of restricted resources from this domain to another domain, select **Enable**.

3.8.2 Time

Set daylight saving time and the current time, and click **Save** to confirm. You can also choose to show (**Enable**) or hide (**Disable**) the current time on the live display in **OSD**.

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.

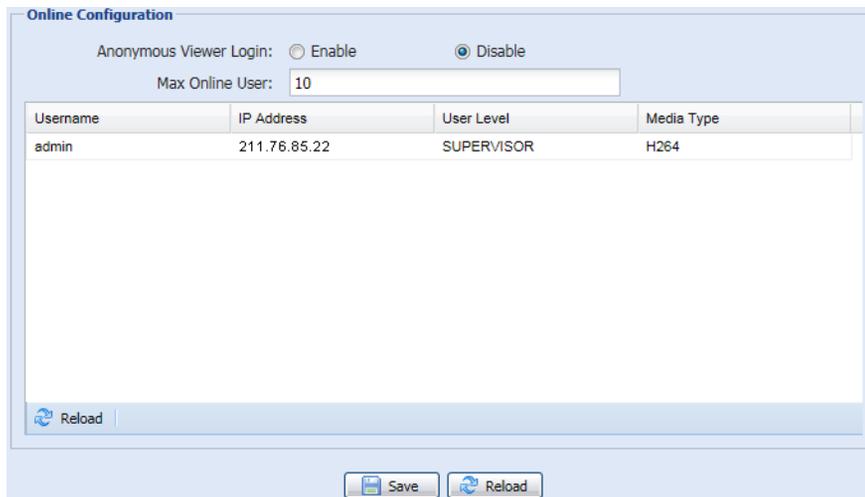
To clear all system event logs, click **Clear All**.

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

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 limit the number of login users, enter the number from **1 ~ 10** in **Max Online User**.

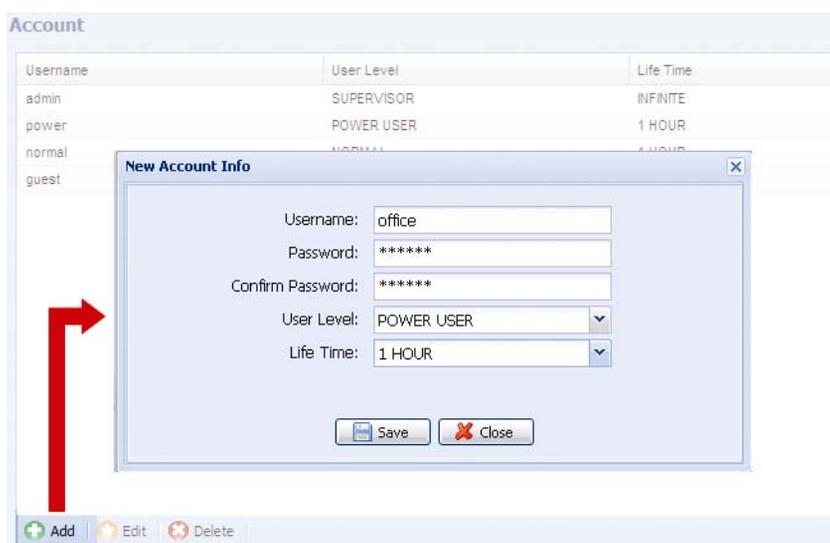


3.8.5 Account

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

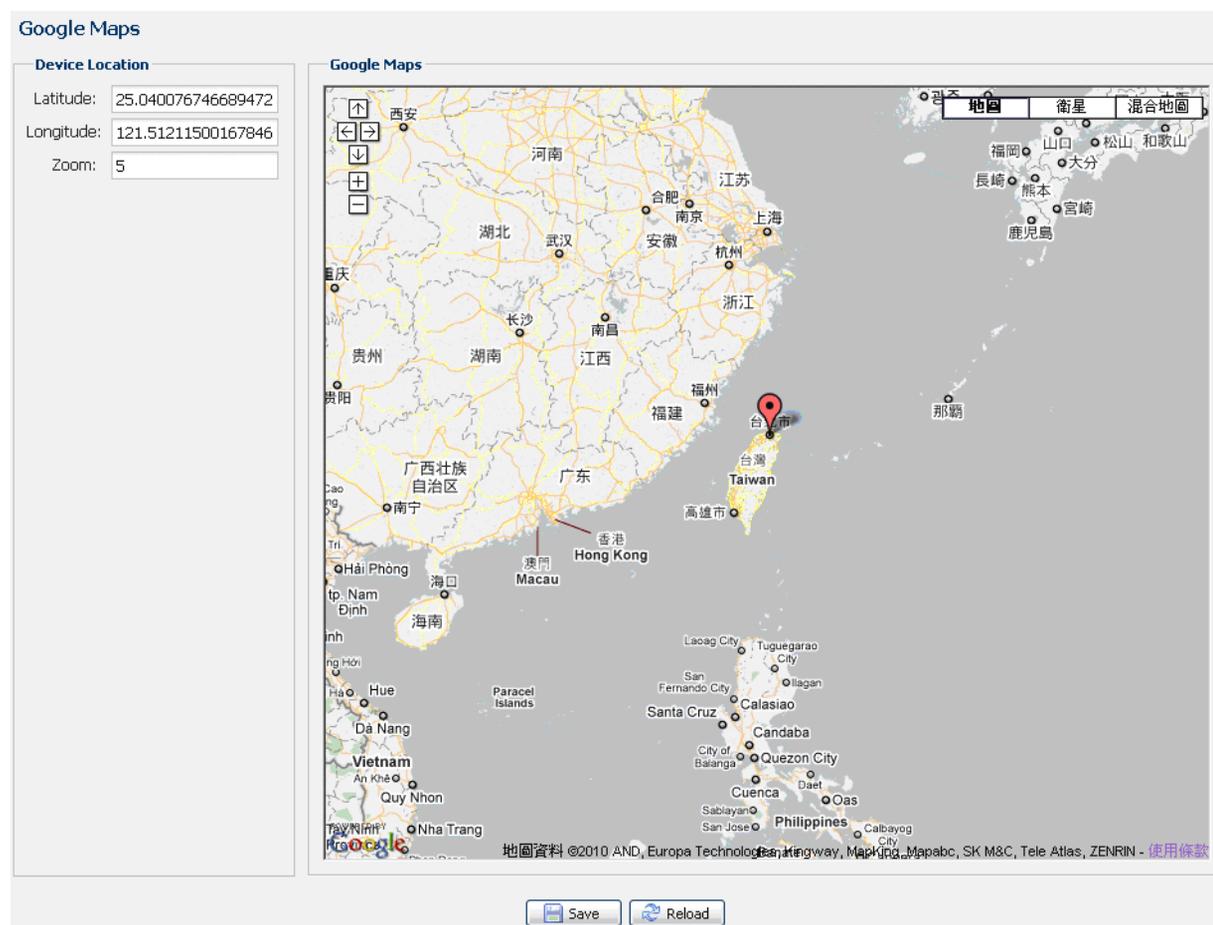
This function is used to let you know where the network camera is.

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

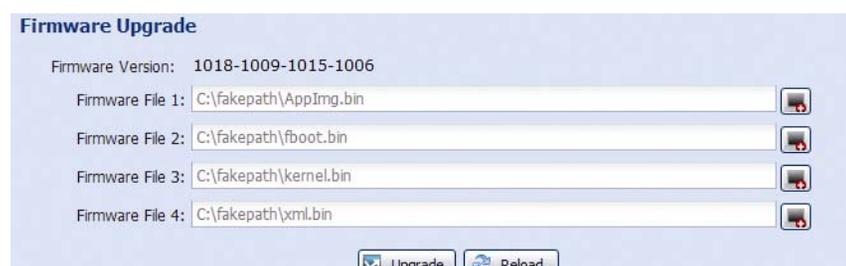
Firmware Upgrade

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.

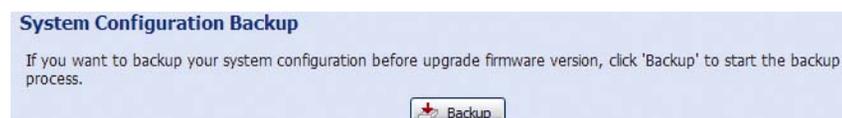
Note: It takes a few minutes to finish the upgrade process. Do not disconnect the power during firmware upgrade, or the upgrade may be failed. The camera will reboot after the upgrade.

System Configuration Backup

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

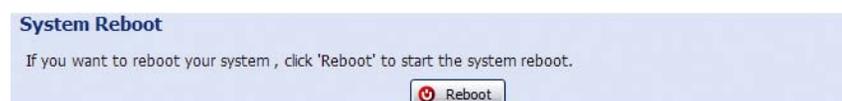
You may import the same system configuration to another camera, or restore your system configuration when the camera is reset to default values.

Select "System.bin" in **Firmware Upgrade**, and select **Upgrade** to import the system configuration.



System Reboot

Select **Reboot** to restart your camera if needed.

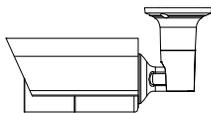


Player Download

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.

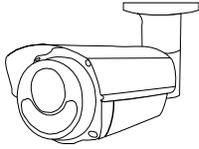


APPENDIX 1 PRODUCT SPECIFICATIONS



	Model 1
■ 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/IPv6, Bonjour, UPnP, DNS, UDP, IGMP, QoS, SNMP
ONVIF Compatible	YES (Profile S)
Numbers 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) 32CH Video Viewer on Windows & MAC operating system (3) EagleEyes on iOS & Android mobile devices
■ Video	
Video Compression	H.265 / H.264 / MJPEG
Resolution	2592 x 1944 / 2048 x 1536 / 1920 x 1080 / 1280 x 720 / 640 x 480 / 320 x 240
Frame Rate	30/25fps
Multiple Video Streaming	4 (H.265 / H.264 / MJPEG)
■ General	
Image Sensor	1/2.9" SONY CMOS image sensor
Min Illumination	0.1 Lux / F1.4(Wide)~F2.8(Tele), 0 Lux (IR LED ON)
Electronic Shutter	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: 103° (Horizontal) / 54° (Vertical) / 122° (Diagonal) Tele: 31° (Horizontal) / 17° (Vertical) / 36° (Diagonal)
IR LED	6 Units
IR Effective Range	Up to 50 meters
IR Shift	YES
Smart Light Control	YES
White Balance	ATW
AGC	Auto
IRIS Mode	AES
Sharpness	YES
WDR	YES
POE (Power-over-Ethernet)	YES (IEEE 802.3af)
Privacy Mask	NO
Vertical View Mode	NO
External Alarm I/O	YES (1 input / 1 output)
RAM	20MB
Micro SD Card Slot	YES (up to 64GB)
IP Rating	IP66
Operating Temperature	-25°C ~ 50°C
Operating Humidity	90% or less relative humidity
Power Source (±10%)	DC12V / 1A
Current consumption (±10%)	225mA (IR LED OFF); 650mA (IR LED ON)
Power Consumption (±10%)	9.5W (PoE) ; 9.5W (PoN) ; 8W (DC Adapter)
Net Weight (kg)	0.91
■ Audio	
Line in	YES (Mono)
Line out	YES (Mono)
■ Others	
EaZy Networking	YES
Push Video	YES
Mobile Surveillance	iOS & Android mobile devices
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"> • Intel core i3 or higher, or equivalent AMD • 2GB RAM • AGP graphics card, Direct Draw, 32MB RAM • Windows 10, Windows 8, Windows 7, Windows Vista & Windows XP, DirectX 9.0 or later • Internet Explorer 7.x or later (Windows Edge not supported)

* The specifications are subject to change without notice.



	Model 2	Model 3	Model 4
■ 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/IPv6, 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) 32CH CMS Lite on Windows operating system (3) EagleEyes on iOS & Android mobile devices		
■ Video			
Network Compression	H.265 / H.264 / MJPEG		
Video Resolution	2592 x 1944 / 2048 x 1536 / 1920 x 1080 / 1280 x 720 / 640 x 480 / 320 x 240	1920 x 1080 / 1280 x 720 / 720 x 480 / 352 x 240	
Frame Rate	3MP / 1080P / 720P: 30/25fps 5MP: 15/12fps	30 IPS	
Multiple Video Streaming	4 (H.265 / H.264 / MJPEG)		
■ General			
Image Sensor	1/2.9" SONY CMOS image sensor	1/2.8" CMOS image sensor	
Min Illumination	0.1 Lux / F1.8, 0 Lux (IR LED ON)	0.0001 Lux (LED OFF), 0 Lux (LED ON)	0.0001 Lux
Shutter Speed	1/10,000 ~ 1/15 (Slow shutter)	1/2 to 1/10,000 sec	
S/N Ratio	More than 48dB (AGC off)		
Lens	f2.8mm / F1.8	f4.0mm / F0.95	
Viewing Angle	103° (Horizontal) / 54° (Vertical) / 122° (Diagonal)	88.4° (Horizontal) / 47° (Vertical) / 105.2° (Diagonal)	
LED	4 units (IR LEDs)	2 units (White LEDs)	NO
Effective Range	Up to 40 meters	Up to 30 meters	NO
IR Shift	YES	NO	
Smart Light Control	YES	NO	
White Balance	ATW		
AGC	Auto		
IRIS Mode	AES		
Sharpness	YES		
WDR	WDR	DWDR	
POE (Power-over-Ethernet)	YES (IEEE 802.3af)		
Privacy Mask	YES		
Vertical View Mode	NO	YES	
External Alarm I/O	NO		
RAM	20MB		
Micro SD Card Slot	NO		
IP Rating	IP66		
Operating Temperature	-25°C ~ 50°C		
Operating Humidity	90% or less relative humidity		
Power Source (±10%)	12V / 1A		
Current consumption (±10%)	215mA (LED OFF); 550mA (LED ON)	140mA (LED OFF); 420mA (LED ON)	140mA
Power Consumption (±10%)	8.5W (PoE / PoN); 7W (DC Adapter)	6.9W (PoE / PoN); 5.5W (DC Adapter)	2.3W (PoE / PoN); 1.8W (DC Adapter)
Net Weight (kg)	0.94		
■ Audio			
Line in	NO		
Line out	NO		
■ Others			
EaZy Networking	YES		
Push Video	NO		
Mobile Surveillance	iOS & Android mobile devices		
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"> • Intel core i3 or higher, or equivalent AMD • 2GB RAM • AGP graphics card, Direct Draw, 32MB RAM • Windows 10, Windows 8, Windows 7 & Windows Vista, DirectX 9.0 or later • Internet Explorer 7.x or later (Windows Edge not supported) 		

* 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

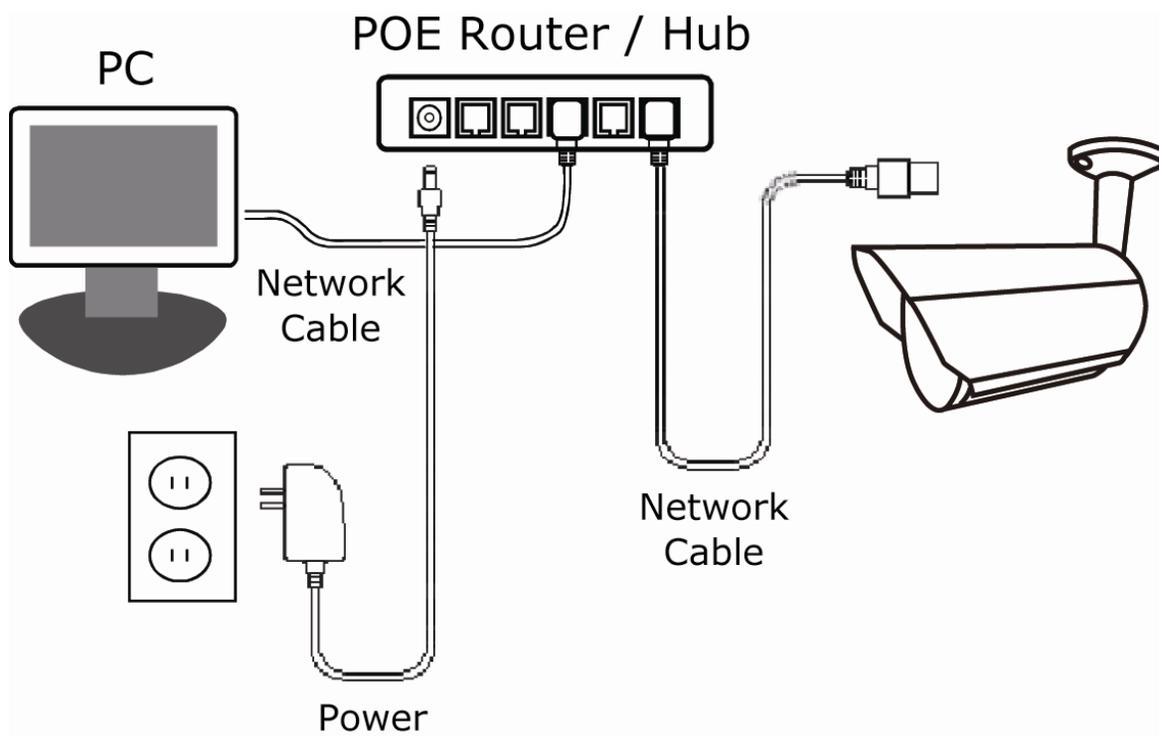
Resolution	Quality	Frame Rate	(Dynamic) kbps	(Static) kbps	
SXGA	Best	FULL	3253	3216	
	High		2375	2160	
	Normal		1571	1266	
	Basic		1465	873	
VGA	Best		2010	1261	
	High		1042	1034	
	Normal		685	572	
	Basic		457	350	
QVGA	Best		646	366	
	High		482	350	
	Normal		302	286	
	Basic		168	161	
SXGA	Best		1/4	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

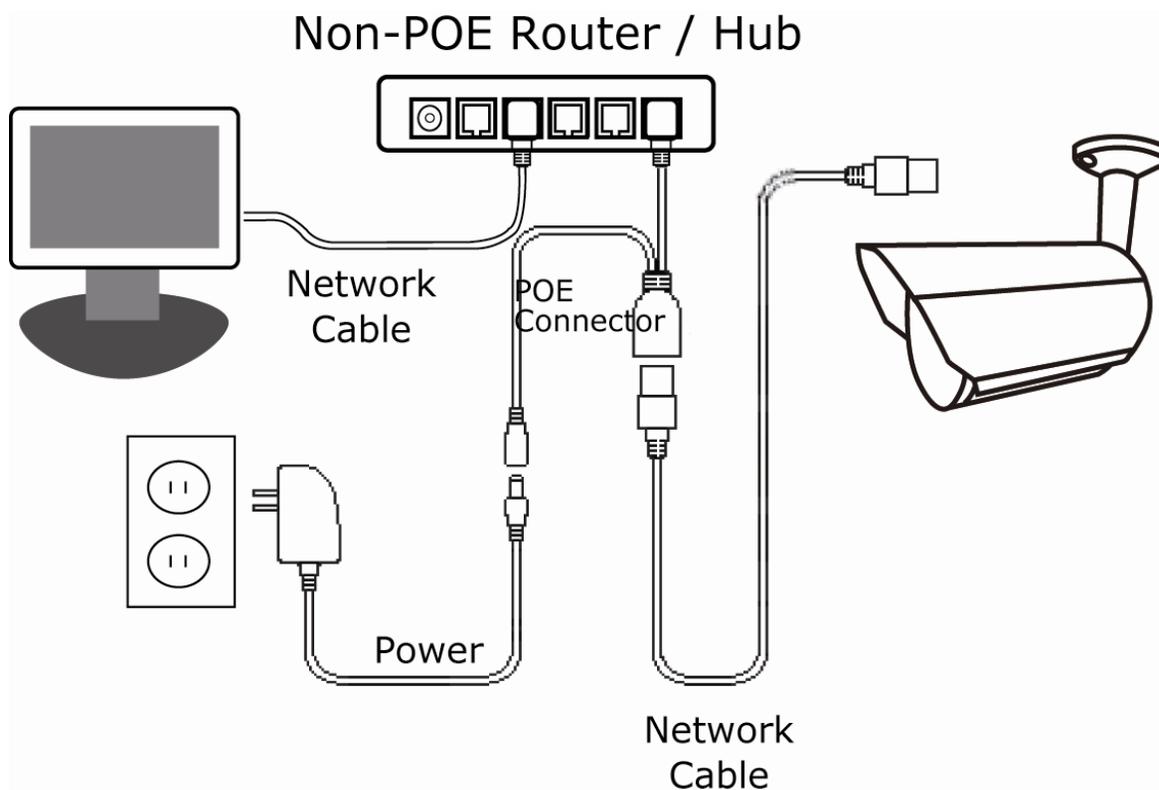
APPENDIX 3 POE CONNECTION

This device supports PoE (Power-over-Ethernet), developed by the IEEE802.3af or IEEE802.3at 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 connector 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.

Login **Click to create an account.**

Which product would you like to log in to? Don't have an account? Sign up here

- Communicator2**
Send bulk SMS via the internet. No programming needed.
- Developers Central**
Reliable, scalable, customisable. Integrates with your system via APIs.
- Messenger Pro**
Desktop, Bulk SMS solution.
- ICM**
Campaign management for standard and premium-rate marketing campaigns.
- Affiliates**
Advertise Clickatell and increase your earnings with our affiliate program.

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

Which product would you like to sign up for?

- Communicator2
- Developers Central** ← **Developers Central**

Which product is right for me? How much will it cost?

Where would you like to send messages to? **Check which one is suitable for you.**

- International** (Free signup) ← **Check which one is suitable for you.**
- South Africa (Free signup)
- UK (Free signup)
- Ireland (Free signup)
- India (Free signup)

What is your first name? *

test ✓

What is your last name? *

test ✓

Which username would you like to use? *

test ✓

What is your mobile number? *

886 22586666 ✓

[Country code][area code or network code (without first 0) and mobile number, no space, brackets or dashes] Example: [1][4155551212](for USA) or [27][123457894](for South Africa)

What is your email address? *

test@tech.com ✓ [Privacy Policy](#)

Are you human? *Please enter the words you see in the box, in order and separated by a space.

dymovant This

Type the two words: dymovant This

noCAPTCHA reCAPTCHA v3

Create your account

Create my Account By clicking this button, you agree to Clickatell's [Terms and Conditions](#)

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

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:

Coupon Code:

Enter activation code here

Step5: 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.

<p>Account Status</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>View Daily Volumes</p>	<p>Message Delivery Status MT</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>Click here to view a detailed report.</p>
<p>Connection Status</p> <p>Click here to create a connection (API ID)</p> <p style="color: red; font-weight: bold; font-size: 1.2em;">Click here</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>Click here to view a detailed report.</p>

Step6: Select "HTTP/S".

Connection Setup

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

HTTP/S Click "HTTP/S"

Our most 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)

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) ✔

Click

Step7: 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 click [here](#) to download and follow the steps in the advanced network setup guide 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**.

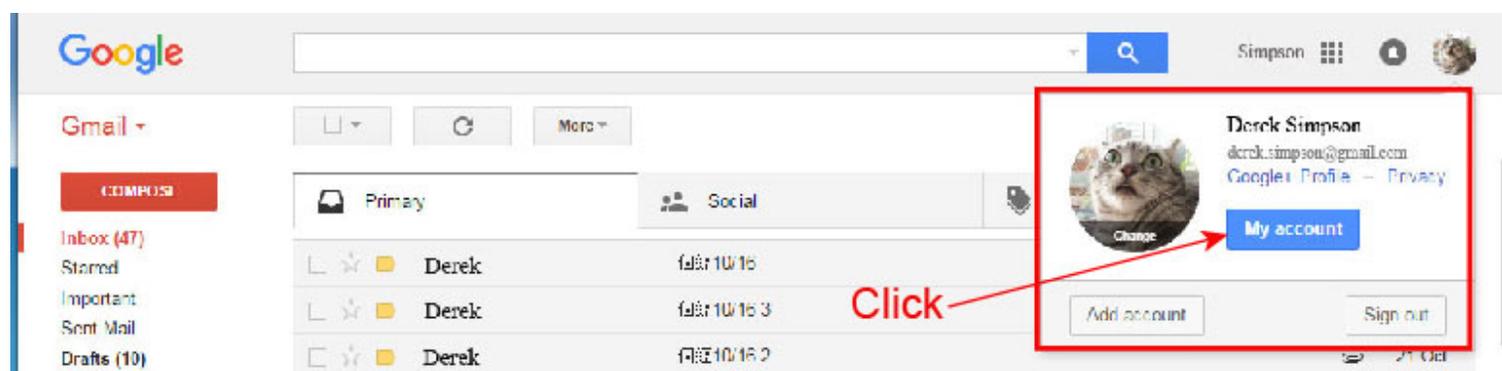
Q3: The live video keeps flickering. Why?

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**.

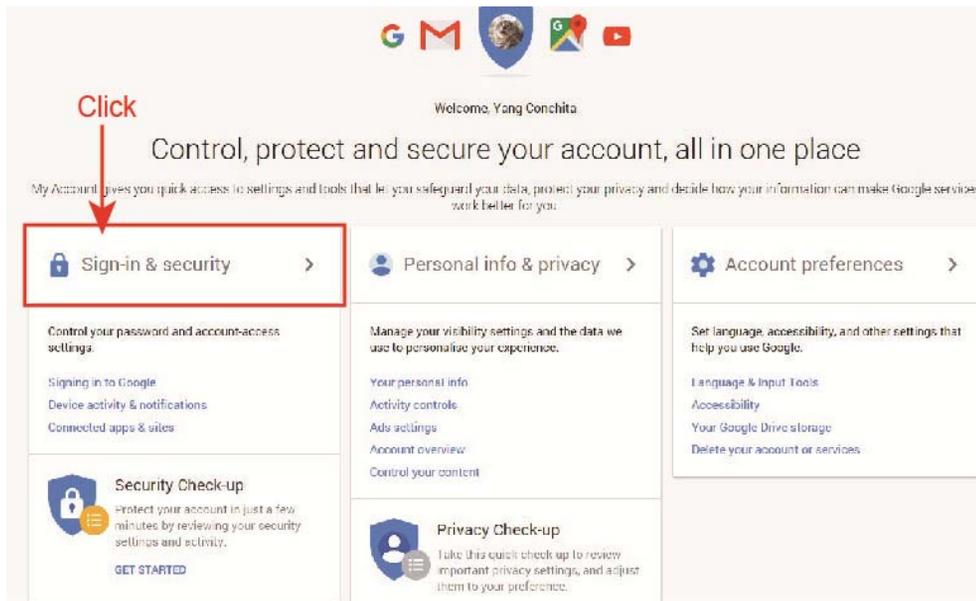
Q4: I am sure the gmail information is right, but I still can't receive the email, why?

A4: Please change a few settings in your Gmail account.

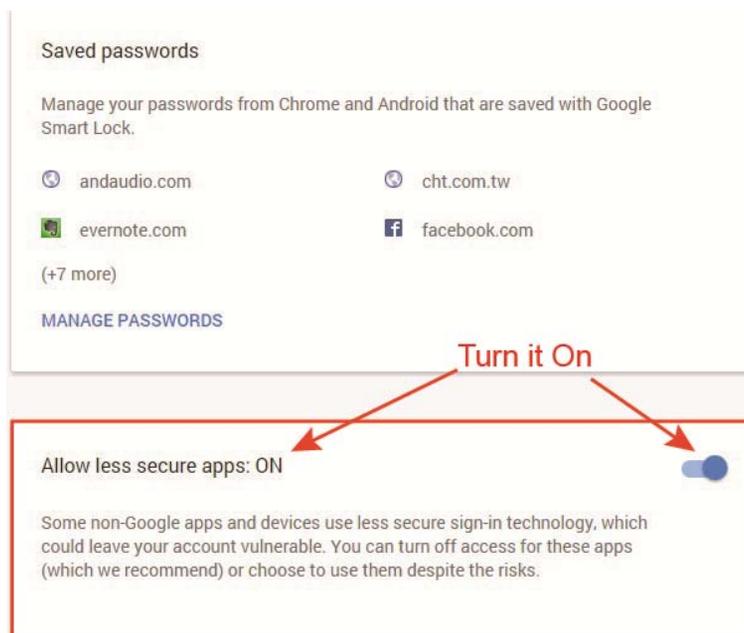
Step1: Log in and click your email address on the upper right corner. Click **My account**.



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 PREREQUISITES FOR NETWORK SHARE

“Push Video” is an active notification system, different from traditional FTP & Email notification methods. It’s more active and stable, but also easier to be affected by your network bandwidth.

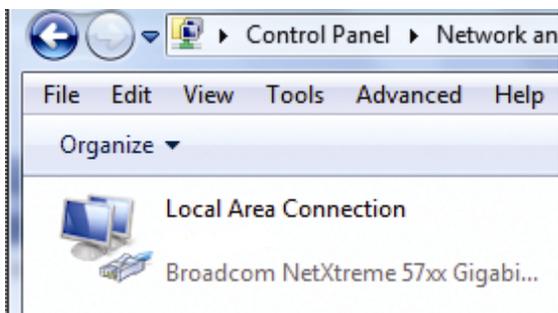
A7.1 Check PC IP Address

Note: The instructions below are taking Windows 7 and 8 for an example.

Step1: Go to **Network and Sharing Center**, and select **Change adapter settings**.



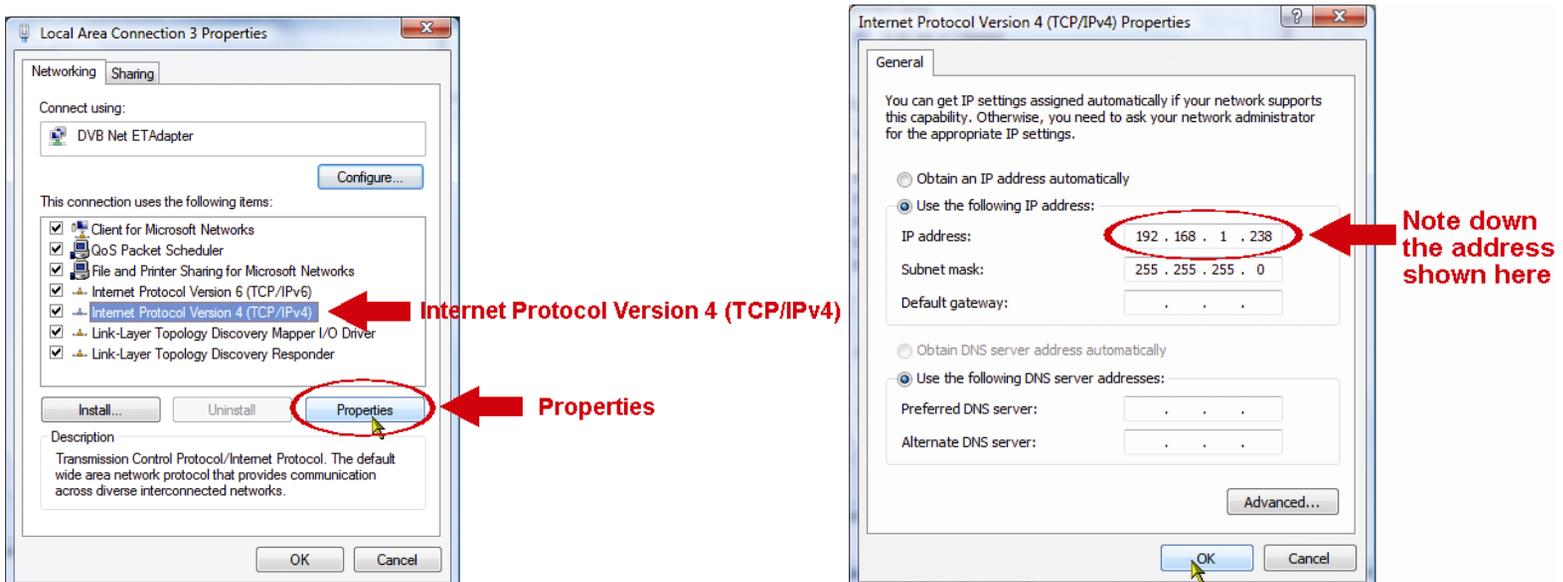
Step2: Right-click on **Local Area Connection**, and select **Properties**.



Note: If your local area connection is not enabled, please also enable it.

Step3: In the **Networking** tab, select **Internet Protocol Version 4 (TCP/IPv4)**, and select **Properties**.

Step4: In the **General** tab, note down the IP address in “**Use the following IP address**”.

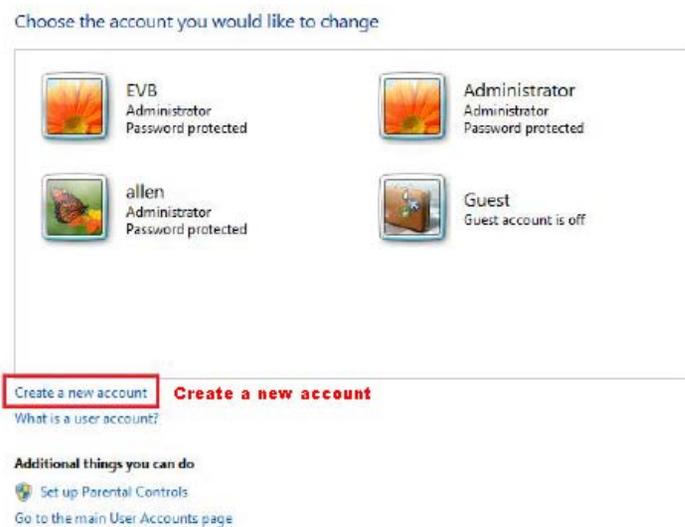


A7.2 Create "Administrator" Account

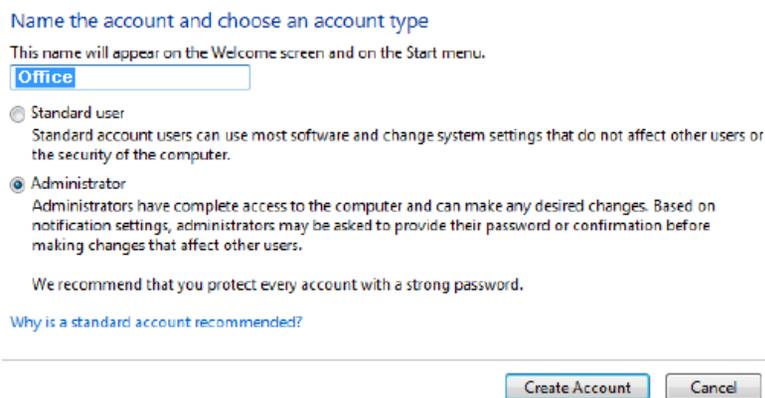
It's recommended to create a new administrator account on the PC for **Network Share** to use, or user could use the existing administrator account.

Note: The instructions below are taking Windows 7 and 8 for an example.

Step1: Go to **User Accounts** → **Manage Accounts**, and select **Create a new account**.



Step2: Set a user name, and choose **Administrator** for this account. Then, click **Create Account**.



Step3: Set the password, and click "**Create Account**".

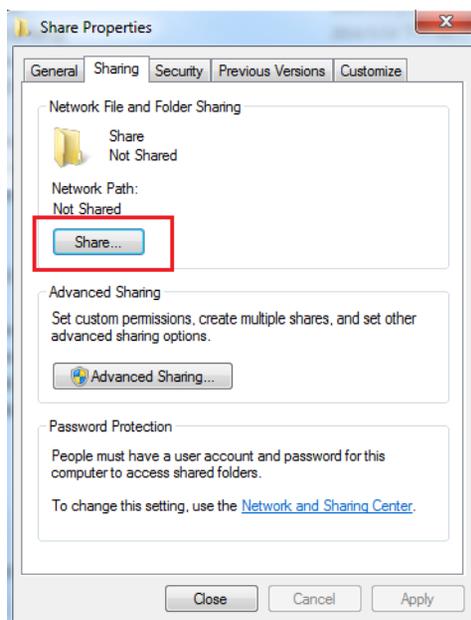


A7.3 Share Folder

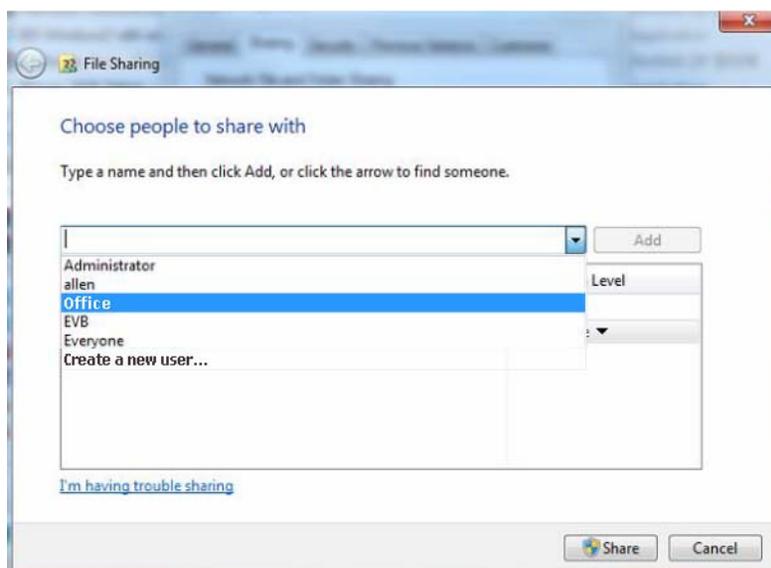
Note: The instructions below are taking Windows 7 and 8 for an example.

Step1: Right-click the folder you want to use to save snapshots for **Network Share**, and choose **Properties**.

Step2: In **Share Properties**, select the tab of **Sharing**, and choose **Share...**.



Step3: Choose the account you want to share with, and click **Share** to save.



APPENDIX 8 ENABLE PUSH VIDEO

A8.1 What's Push Video

“Push Video” is an active notification system, different from traditional FTP & Email notification methods. It's more active and stable, but also easier to be affected by your network bandwidth.

When “Push Video” is enabled and any alarm event occurs, you'll be able to receive notifications on your iPhone / iPad / Android mobile device within 5 seconds.

A8.2 Prerequisites

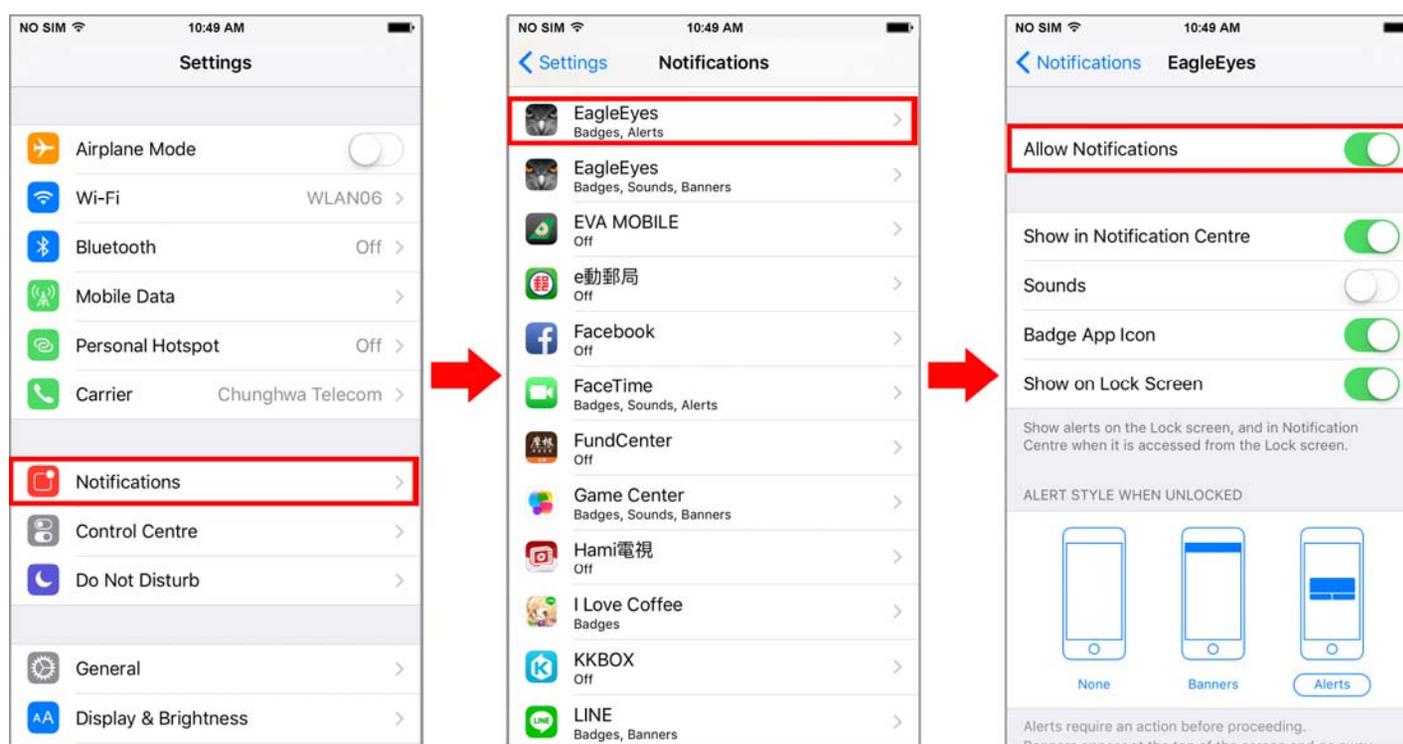
Before configure Push Video, make sure you have checked the following:

- ✓ You have an iOS or Android mobile device with our self-developed APP, “EagleEyes”, installed.
- ✓ You have configured the IP address of your camera in the EagleEyes address book, and it's accessible from your iOS or Android mobile device.

A8.3 Enable Push Video

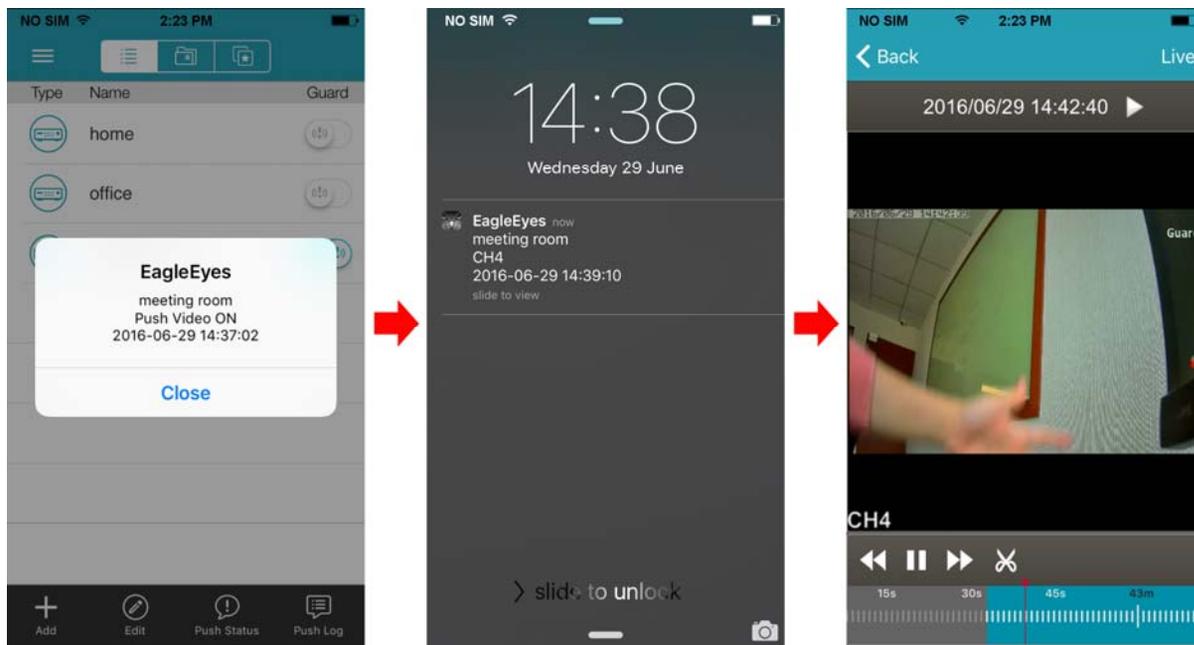
A8.3.1 From iOS devices (iPhone / iPad)

Step1: In the iPhone / iPad main menu, select **Settings** → **Notifications**. Select **EagleEyes**, and make sure the notification is set to on.



Step2: Open **EagleEyes**, and switch **Guard** to **ON**. You'll receive the message indicating that Push Video is on.

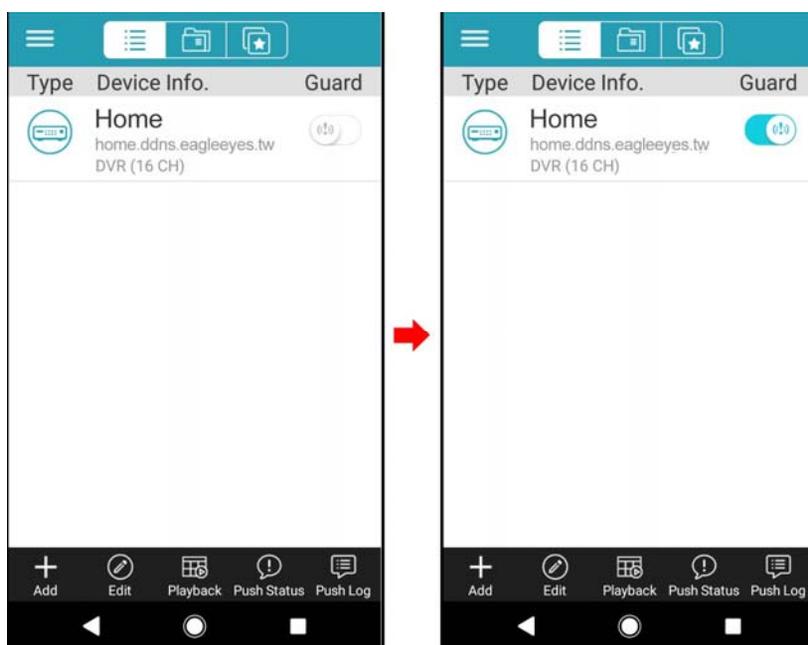
Step3: Return to the main page or standby page. You'll receive event notifications when there's an alarm event. Follow the on-screen instruction to immediately play the recorded clip.



A8.3.2 From Android Mobile Device

Step1: Open **EagleEyes**, and switch **Guard** from **OFF** to **ON**. You'll receive the message indicating that Push Video is on.

Step2: Return to the main page or standby page. You'll receive event notifications when there's an alarm event. Follow the on-screen instruction to immediately play the recorded clip.



APPENDIX 9 EAZY NETWORKING

Note: This function is for selected models only.

EaZy Networking is a free P2P cloud service to connect AVTECH devices to the Internet automatically by plug-and-play, enabling you to check the live view via your mobile device or laptop at anytime.

In most cases, the device is connected via P2P. Connection via the relay server is only applied to some complex environments such as the private IP-based network environment used by a large enterprise. There is no speed limitation of P2P connection. To obtain stable transmission, it's recommended to purchase our data plan of 1GB or 7GB. Each device will enclose a 2GB data plan for a free trial.

EaZy Networking could be configured via EagleEyes on an iOS / android device, or via Internet Explorer.

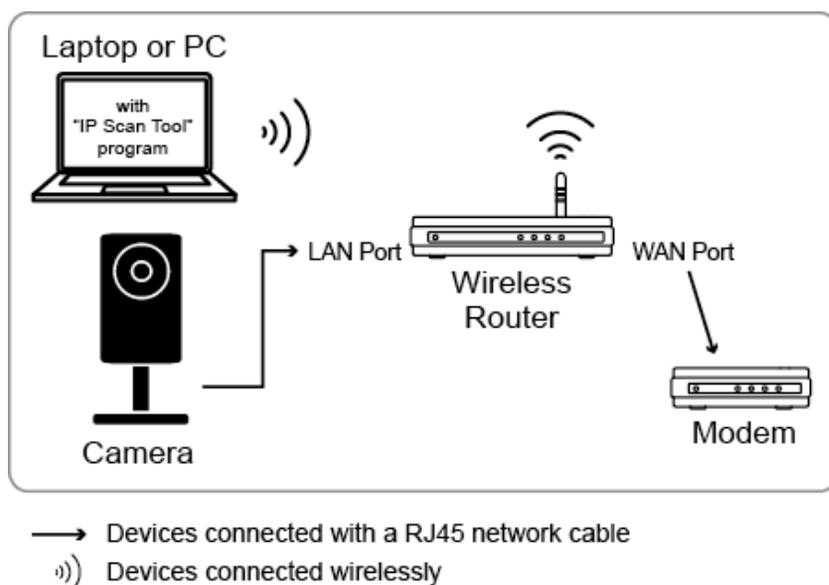
Before using this function, make sure:

- This device is connected to a switch or router, and the switch or router is ready for Internet connection.
- You have an iOS / Android mobile device with EagleEyes installed.

A9.1 Via EagleEyes on iOS / Android Device

A9.1.1 Setup

Step1: Find a laptop and connect it to the same router physically (with a RJ45 network cable) or wirelessly as the one to which the camera is connected.



Step2: Download **IPScan** and install it to your laptop: www.surveillance-download.com/user/IPscan.zip.

Activate **IPScan** and click **Scan** to search your camera.

IP	Port	Type	Mac	
192.168.30.1	88	IP CAMERA (FIX)	00:19:94:25:78:4f	Configure
192.168.30.1	88	IP CAMERA (FIX)	00:18:94:25:77:4f	Upgrade
192.168.30.4	88	IP CAMERA (FIX)	00:16:94:25:75:4f	Scan
192.168.30.5	88	IP CAMERA (FIX)	00:15:94:25:74:4f	
192.168.30.6	88	IP CAMERA (FIX)	00:14:94:25:73:4f	Exit

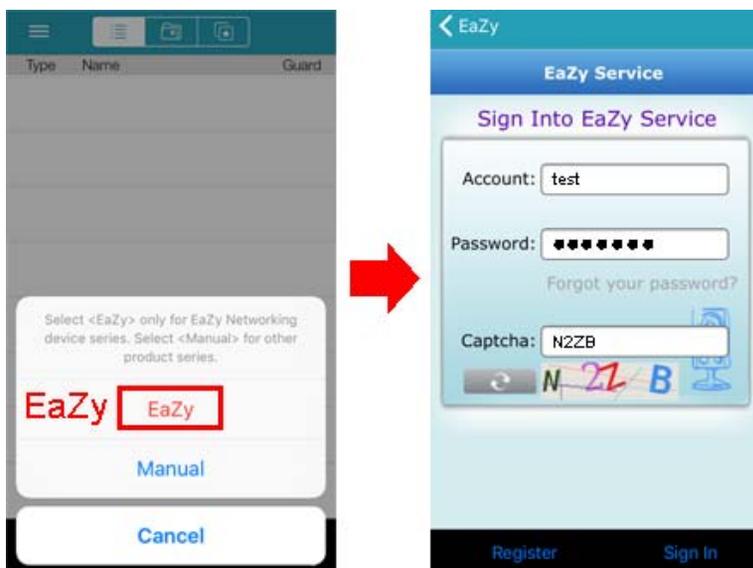
Step3: Open Internet Explorer, and enter the IP address and port number you found to enter the login page.
The format is: http://ipaddress:port.

Enter the user name and password to login. The default user name and password are both **admin**.
Then, choose **Config** → **Network** to enable EaZy Networking.



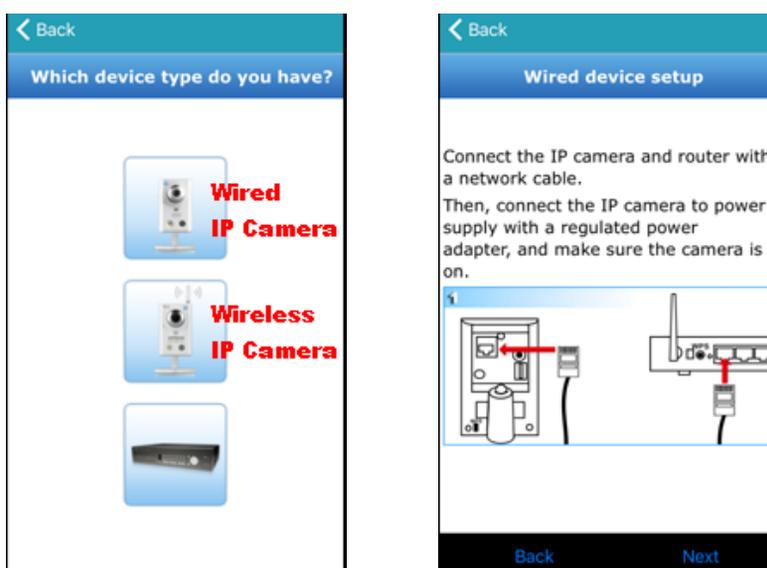
Step4: Open EagleEyes on your phone or tablet, and select **+** to choose **EaZy**.

- If you have a cloud service account, please sign in.
- For initial use, select **Register** to create an account for the cloud service. Fill in the information needed, and select **Register** to continue.



Step5: Choose the correct type of your IP camera.

Step6: Make sure your camera setup is the same as the animation shown in this page, and choose **Next** to continue.

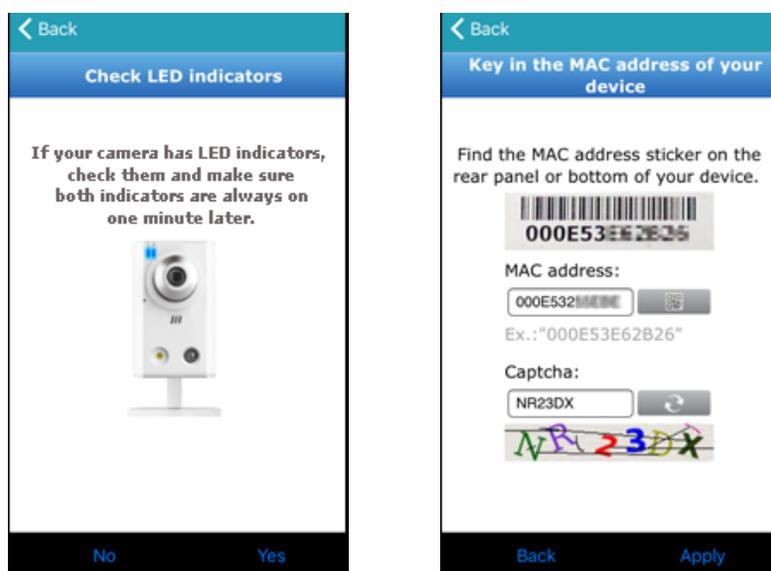


Step7: (Optional) If your camera has LED indicators, make sure both indicators are always on, and select **Yes** to continue.

Step8: Enter or scan the MAC address.

- Find the address sticker on the camera starting with **000E53**, and type it manually. Or,
- Access the camera as shown in Step3 to scan the QR code.

Then, choose **Apply** to continue.



Step9: Check if the preview is what you need. Then, give a name to your camera if needed, or simply keep the default name, **IPCAM**.

Then, choose **Apply** to continue.

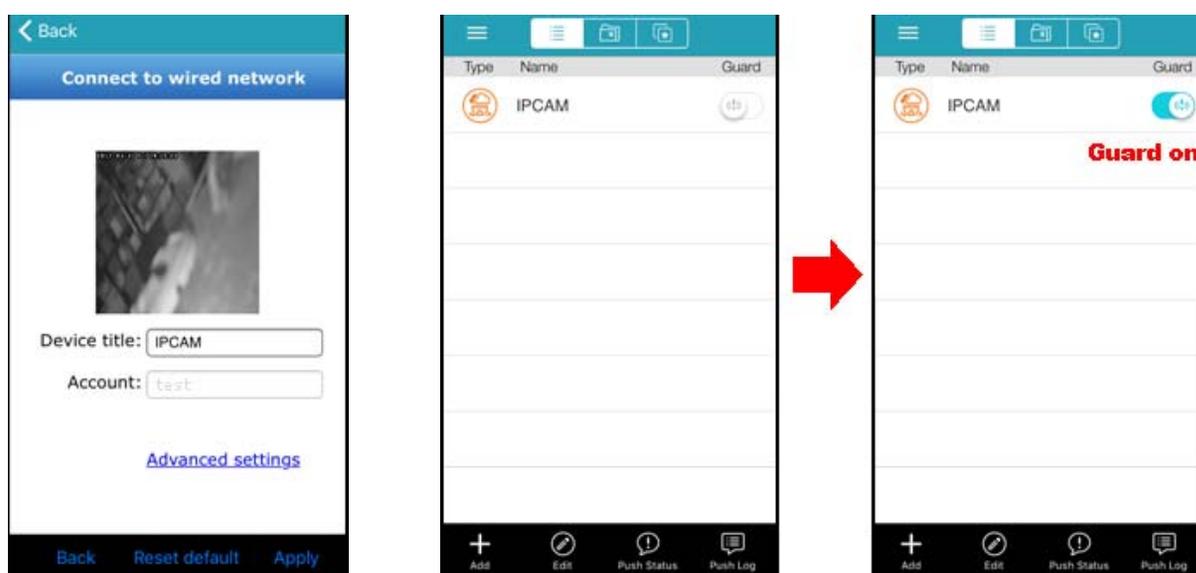
Step10: Follow the on-screen instruction to complete the setup, and see if this device is added successfully to the address book as a cloud device.

At the same time, you'll be prompted to confirm if you want to remove the default user name and password.

- When the default user name and password are removed, you can **ONLY** use the user name and password of the cloud service to access this recorder locally and remotely. If you forget the user name and password of the cloud service, you could only reset the device and do all configurations again.
- When the default user name and password are kept, other people might be able to access this device if they know the default user name and password of this device.

Confirm if you want to keep the default account to continue, and return to the address book. You'll see the newly-added device in the address with a cloud icon on it.

Note: Enable Push Video if needed (Guard on).

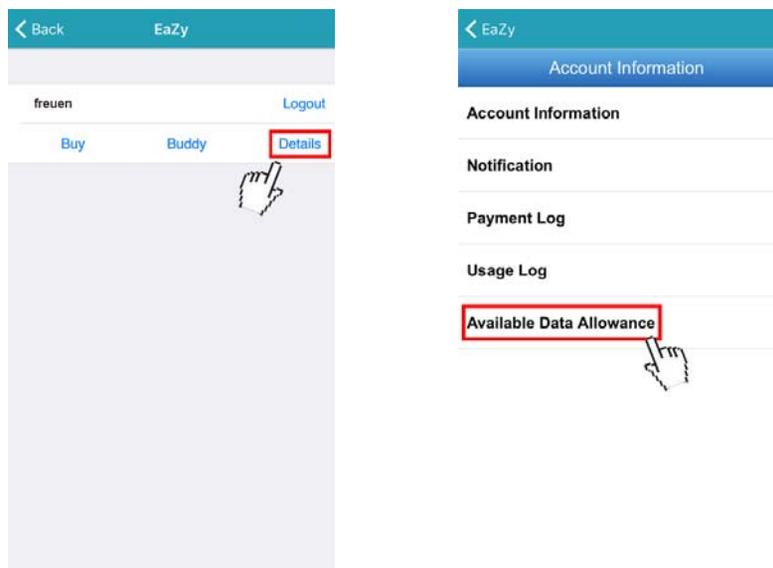


Step11: Click the newly-added device and see if you could access successfully.

A9.1.2 Checking Remaining Data Allowance

Step1: Log into the cloud service.

Step2: Select **Details** to go to account information, and select **Available Data Allowance**.

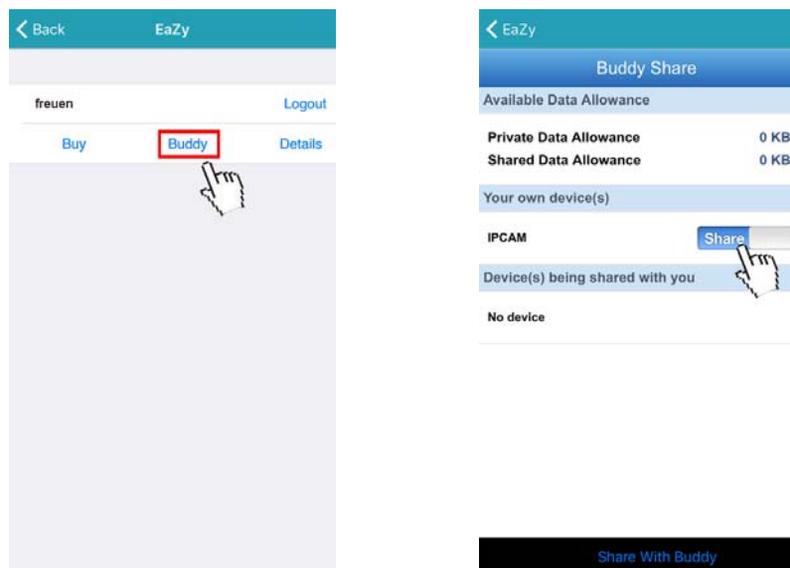


A9.1.3 Sharing Cloud Device Access with Other Account(s)

Note: One cloud device could be shared up to 30 cloud accounts, but the access to the device might be failed because it is still restricted to the maximum online user setup of the device.

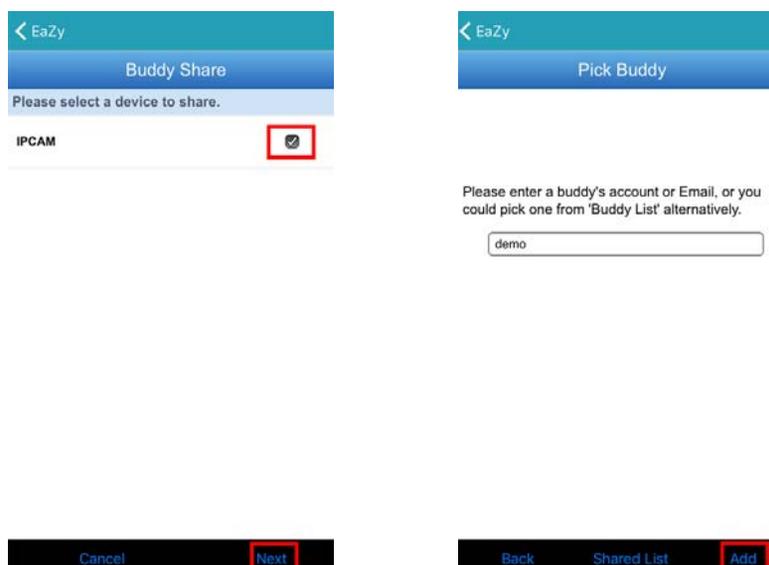
Step1: Log into the cloud service.

Step2: Select **Buddy** to go to the buddy sharing page. Then, choose the device you want to share with, and switch from **OFF** to **Share**.



Step3: Choose the device you want to share with.

Step4: Enter the cloud account or the E-mail registered by the account, and select **Add**.

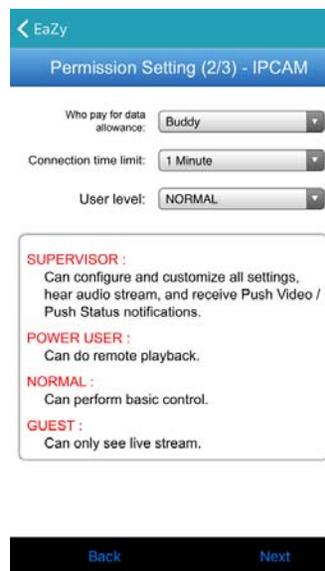


Step5: Check again the account with which you want to share your cloud device, and select **Next** to confirm and continue.

Step6: Specify the access permission of the specified account, which account's data allowance should be consumed after access successfully, and how long the account is allowed to stay after access successfully.

➤ Who should pay data allowance:

Who should pay data allowance	The order to consume data allowance
I	The free data allowance provided by the device -> The additional data allowance shared to other account(s) by the owner -> The additional data allowance of the device's owner -> The data allowance shared to other account(s) by the buddy
Buddy	The additional data allowance of the buddy -> The data allowance shared with other account(s) by the buddy



Step7: Check again the configurations you made for the account to which you want to share your cloud device, and select **Share!** to confirm.



Step8: (Optional) Configure the data allowance shared to other accounts to use.

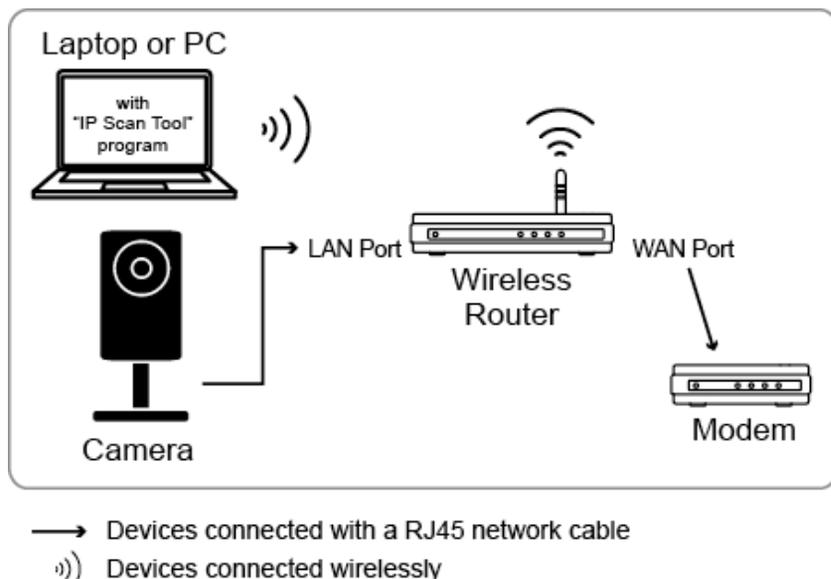
Step9: Return to the address book of EagleEyes. You'll see the device being shared with an icon of a man.

A9.2 Via Internet Explorer on PC / Laptop

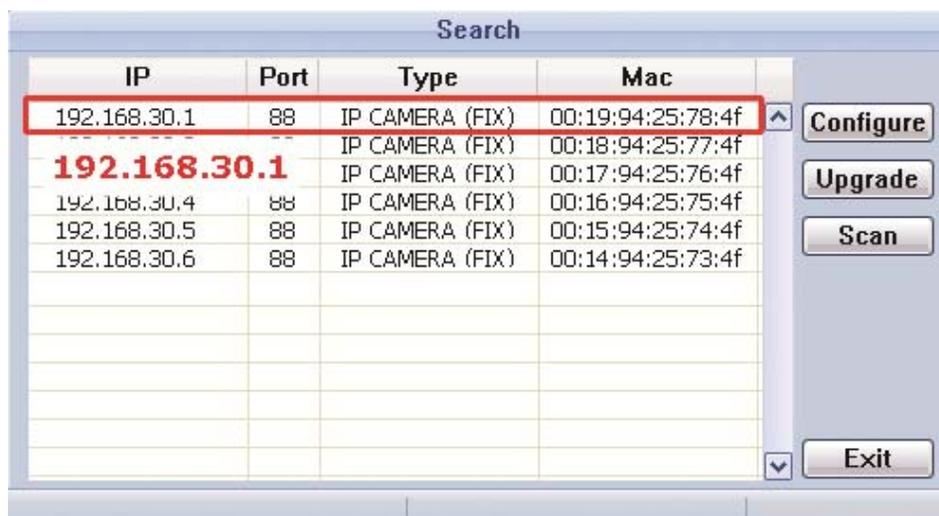
Note: EaZy Networking setup via a web browser is only available on Internet Explorer.

A9.2.1 Setup

Step1: Find a laptop and connect it to the same router physically (with a RJ45 network cable) or wirelessly as the one to which the camera is connected.



Step2: Download **IPScan** and install it to your laptop: www.surveillance-download.com/user/IPscan.zip.
Activate **IPScan** and click **Scan** to search your camera.



Step3: Open Internet Explorer, and enter the IP address and port number you found to enter the login page.
The format is: `http://ipaddress:port`.

Enter the user name and password to login. The default user name and password are both **admin**.
Then, choose **Config.** → **Network** to enable EaZy Networking.



Step4: Open Internet Explorer on a PC / laptop, and enter <https://ez.eagleeyes.tw>.

In the login page, register an account for **Cloud Service**. If you've got an account, please just log in.

Note: You PC must be connected to Internet.



Step4: Click **+** on the left pane, and you'll be prompted to install plugins: **EaZy Control** and **EaZy Wizard**. Please follow the instructions to install these two plugins to ensure the service works properly.

Note: If you're not prompted to install the plugin, please lower the security level of Internet Explorer, and try to log into the cloud service again.



Step5: Enable EaZy Wizard, and click **Start** to go to the login page. Log into the cloud service.



Step6: Select the camera picture or choose **Wired model** on the bottom right corner. Then, enter the MAC address you wrote down in Step2, and the security code.

Click **Apply** to continue.



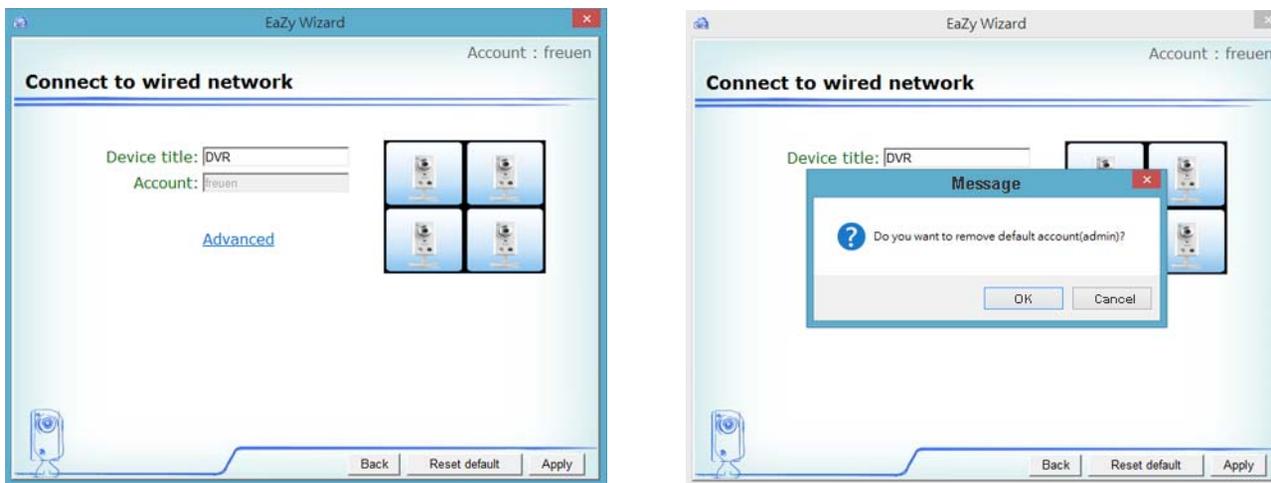
Step7: When your device is found, you'll be directed to the next page to change the device title if you want.

Note: The device name changed here will be fixed and can't be changed later.

Click **Apply** to continue. You'll be prompted to confirm if you want to remove the default user name and password.

- When the default user name and password are removed, you can **ONLY** use the user name and password of the cloud service to access this recorder locally and remotely. If you forget the user name and password of the cloud service, you could only reset the recorder and do all configurations again.
- When the default user name and password are kept, other people might be able to access this recorder if they know the default user name and password of this recorder.

Confirm if you want to keep the default account, and click **Apply** to continue and return to the main page.



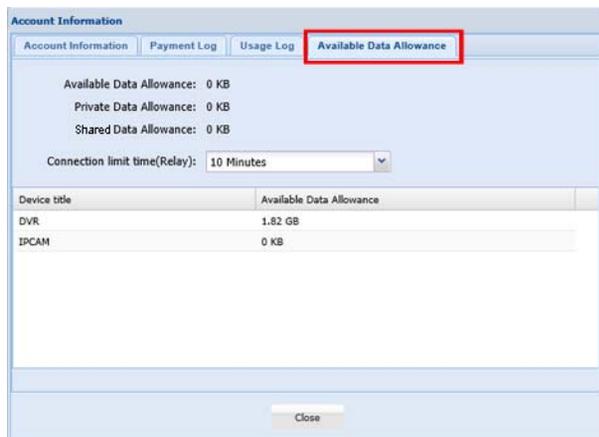
Step8: You'll see the newly-added device with a cloud icon on the left pane. Drag and hold the device to the display area on the right pane to show in the same window, or simply double-click the device to open the device view in another window.



A9.2.2 Checking Remaining Data Allowance

Step1: Log into the cloud service.

Step2: Select **Account Information** on the top right corner to go to account information, and select **Available Data Allowance**.

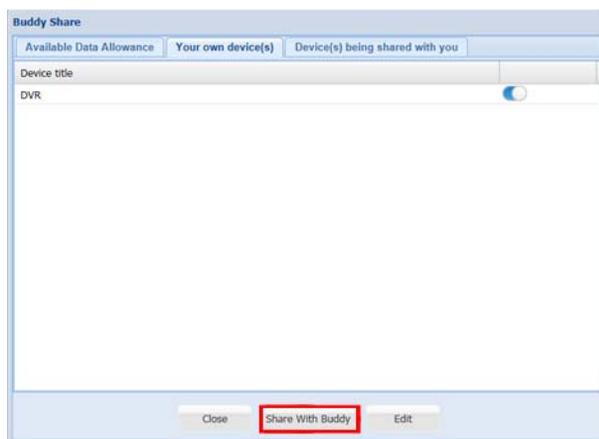


A9.2.3 Sharing Cloud Device Access to Other Account(s)

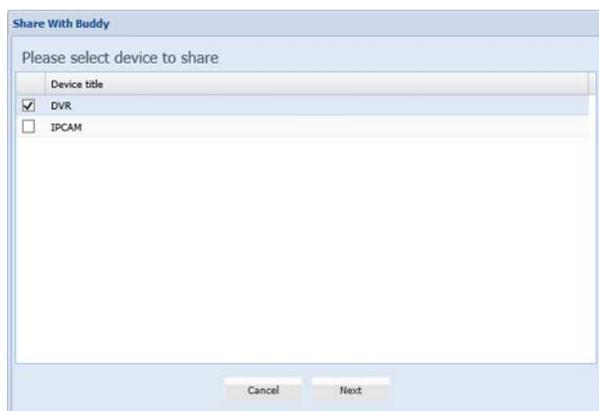
Note: One cloud device could be shared up to 30 cloud accounts, but the access to the device might be failed because it is still restricted to the maximum online user setup of the device.

Step1: Log into the cloud service.

Step2: Select **Buddy Share** to go to the buddy sharing page. Then, choose the tag **Your own device(s)**, and select **Share With Buddy**.



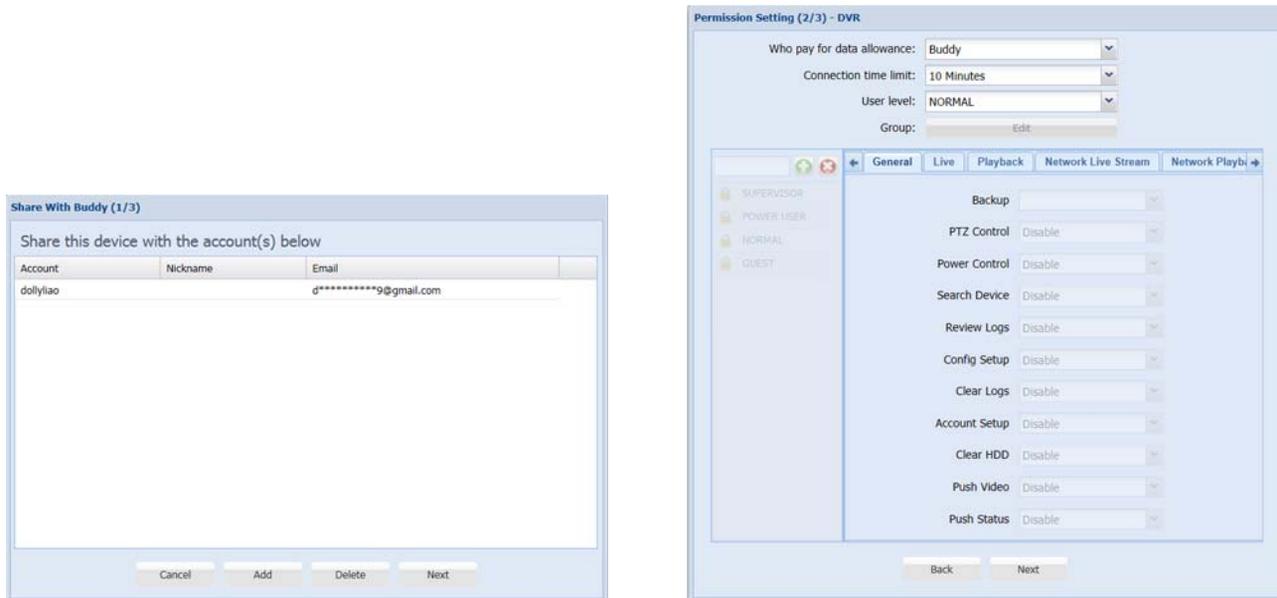
Step3: Choose the cloud device you want to share, and click **Next** to enter the cloud account or the E-mail registered by the account you want to share with. Then, select **Add**.



Step4: Check again the account to which you want to share your cloud device.

To add more accounts, select **Add**; to remove the existing account, select **Delete**; to continue buddy setup, select **Next**.

Step5: Specify the access permission of the specified account, which account's data allowance should be consumed after access successfully, and how long the account is allowed to stay after access successfully.



➤ Who should pay data allowance:

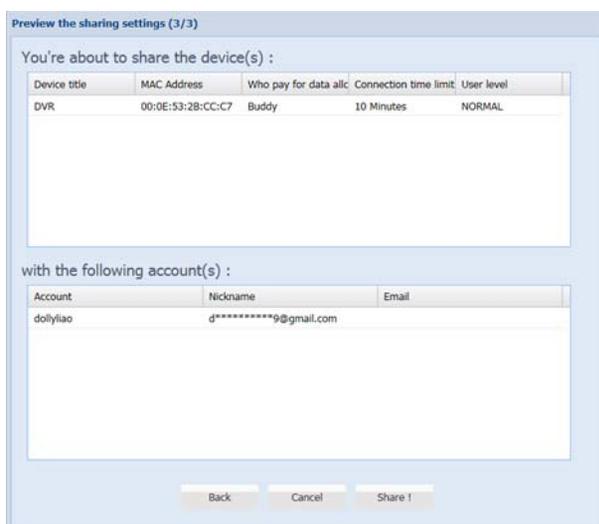
Who should pay data allowance	The order to consume data allowance
I	The free data allowance provided by the device -> The additional data allowance shared to other account(s) by the owner -> The additional data allowance of the device's owner -> The data allowance shared to other account(s) by the buddy
Buddy	The additional data allowance of the buddy -> The data allowance shared with other account(s) by the buddy

Note: When there's no data allowance to use, the network transmission will be down to 1 FPS. To restore the fluency of live view, users need to subscribe a data plan from EagleEyes, or configure the network settings by themselves.

Step6: Check again the configurations you made for the account to which you want to share your cloud device, and select **Share!** to continue.

Step7: (Optional) Configure the data allowance shared to other accounts to use.

Step8: Return to the main page. You'll see the device being shared is marked with an icon of two people.



A9.3 Icons

Icon	Color	Indication
	Teal	This device is a DVR or NVR.
	Blue	This device is an IP camera.
	Orange	This device is an IP speed dome camera.
	Red	This device is disconnected and unidentified.
	Depending on the device color	This device is configured to the Internet via EaZy Networking (AVTECH Cloud Service). The cloud icon will be grayed out if the EaZy server can't be connected.
	Depending on the device color	You've shared the access right of the device with other cloud account via Buddy (AVTECH Cloud Service). The icon will be grayed out if you disable the device share.
	Depending on the device color	The icon will be grayed out if the device share is disabled by the owner of the device.

For example, if you see  as the device type, you'll know:

- This device is an IP camera.
- This device is connected to the Internet via EaZy Networking.
- You were shared with the access right of the device, but the device share is disabled now.

APPENDIX 10 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	--			