IR BULLET
IP CAMERA SERIES

OPERATION GUIDE

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

IMPORTANT SAFEGUARD

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

The crossed-out wheeled bin mark symbolizes that within the European Union the product must be collected separately at the product end-of-life. This applies to your product and any peripherals marked with this symbol. Do not dispose of these products as unsorted municipal waste. Contact your local dealer for procedures for recycling this equipment.

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

Federal Communications Commission Interference Statement

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

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

(1) This device mat not cause harmful interference, and

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

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

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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

- **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**
- **External alarm I/O device** connection
- **DWDR** to increase image recognizability in overexposure and dark areas.
- **Remote Surveillance**

  -- Full compatibility with **iOS & Android OS**, and **Internet Explorer** on Windows operating system

1.2 Package Content

➢ **Standard Package**

☐ IR Camera ☐ Quick Guide

➢ **Optional Accessories**

☐ Screws & wall plugs ☐ Wrench

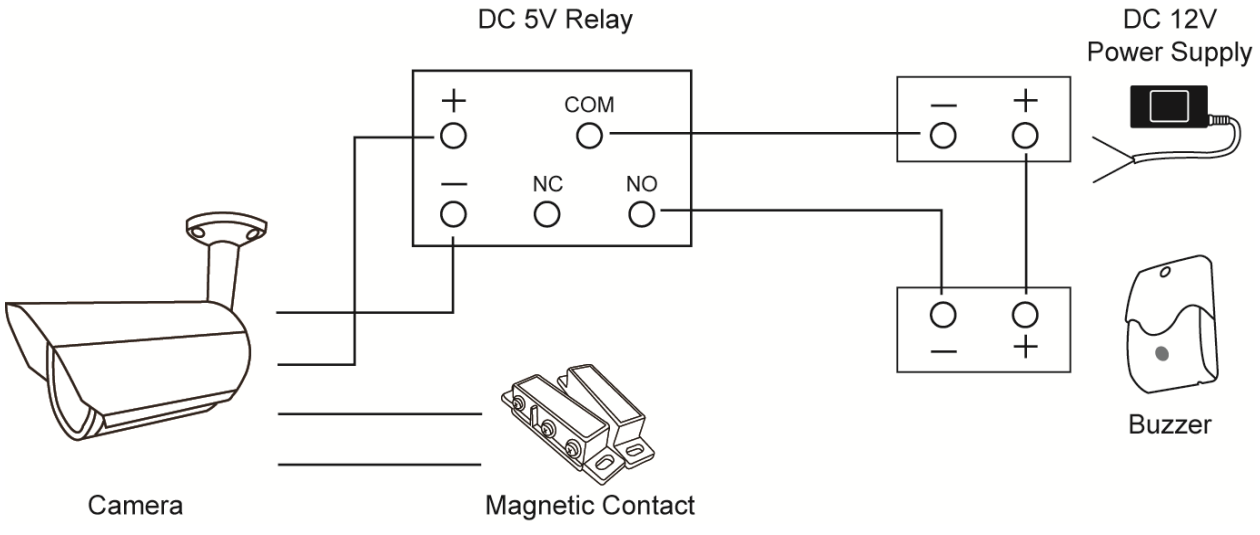
1.3 Cable Overview

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.

1.4 External Alarm Connection

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

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



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 refer to:

- “**ADVANCED NETWORK SETUP**” downloadable from www.surveillance-download.com/user/dm1306.swf.

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.

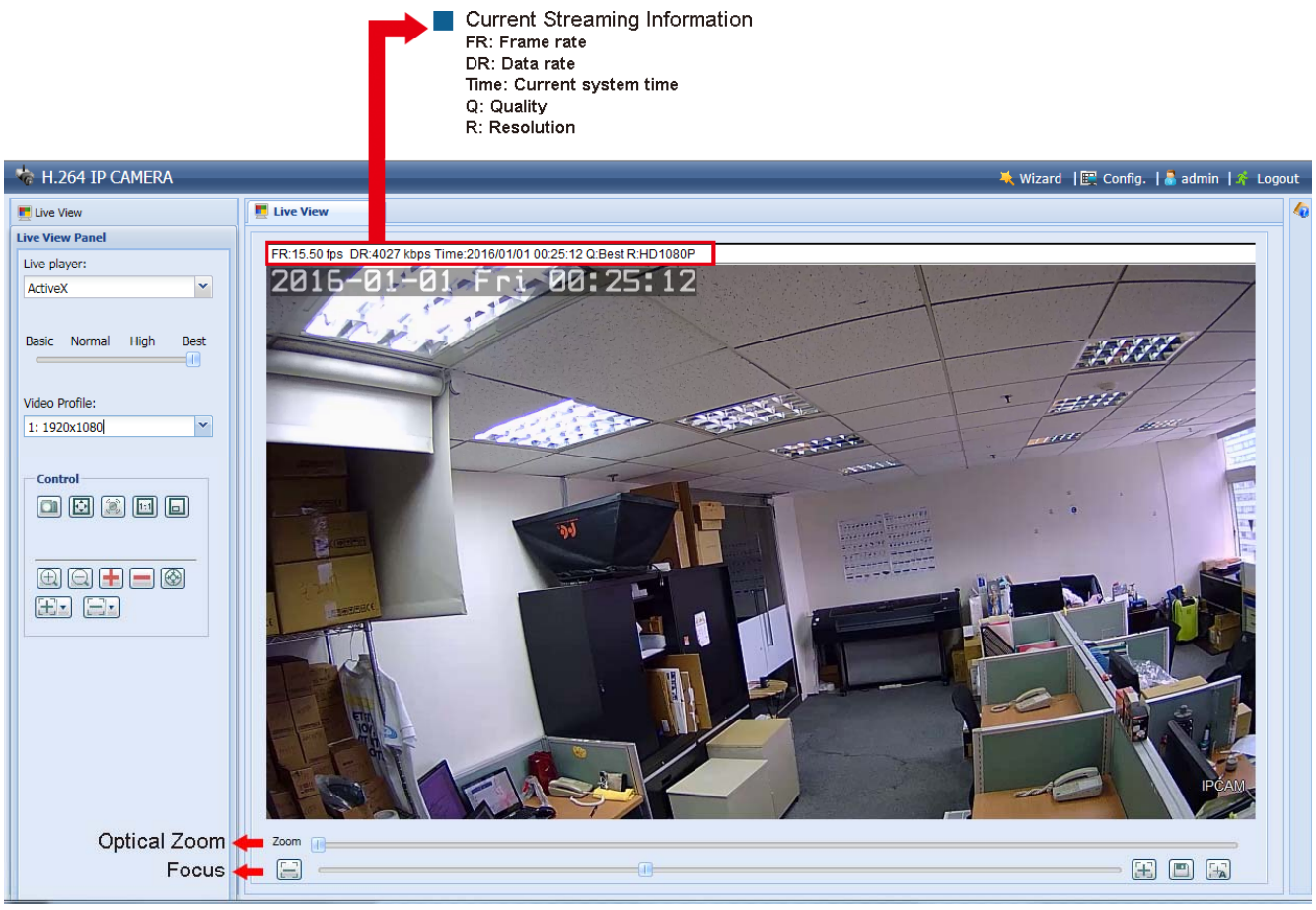
- To skip the wizard and directly access the camera live view, click “Close”.
- To directly access the camera live view without starting the wizard for the login next time, check “Do not start wizard at login”.

Note: If you’re prompted to install “VLC player”, “Software” and “H264 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.
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 8.
Live player	--	Supervisor / Power User / Normal User / Guest	Select the image player from the drop-down list: ■ 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.
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. *This icon appears only when the selected resolution is 640 x 480 or above.*
Double size			The QVGA resolution is resized to fit into the current live view size. *This icon appears only when the selected resolution is 320 x 240.*
Normal Size			The current live view size is the same as the selected resolution. *This icon appears only when the selected resolution is 1280 x 720 or above.*
Fit to screen			The selected resolution is resized to fit into the current live view size. *This icon appears only when the selected resolution is 1280 x 720 or above.*
No Scale			Click and hold the movable square on the left bottom corner of the live view to move *This icon appears only when the selected resolution is 1280 x 720 or above.*
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.
Zoom-in / out*		Supervisor / Power User / Normal User	Click to zoom in / out the current image. *This function is available only when DPTZ is enabled.*
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. *This function is available only when DPTZ is enabled.*
Focus near / out*		Supervisor / Power User / Normal User	
Manual Focus*		Supervisor / Power User / Normal User	This function is used to memorize the focus parameters you've made after you use / / / to manually adjust the focal length and focus. The next time when you move to the same focal length, the camera will use the parameters as the ones for Auto Focus.
Auto Focus*		Supervisor / Power User / Normal User	Click to automatically adjust the focus of the camera.

** For selected models only*

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, Trigger and General.

- For details about “Network”, please refer to “3.2 Network” at page 10.
- For details about “Camera”, please refer to “3.3 Camera” at page 15
- For details about “Trigger”, please refer to “3.4 ONVIF” at page 18.
- For details about “Trigger”, please refer to “3.5 Trigger” at page 18.
- For details about “General”, please refer to “3.6 General” at page 20.

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	**Suitable for Windows-based operating system.* Allow this camera to be detected among devices within the same network area for easy and quick usage.
	Bonjour	**Suitable for Apple Mac-based operating system.* 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.
	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.
	Color	Adjust the color performance.
	Advanced	Adjust the camera parameters if necessary.
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.
Trigger	Trigger	1. Enable / disable the motion detection. 2. Set the motion detection area. 3. Configure how the camera reacts for any event.
	Snapshot	Schedule the camera to take snapshots periodically or at a specific time, and send to E-Mail, FTP and / or Network Share for backup. Time-lapse recording could also be configured here.

**Selected models only*

Main Menu	Sub-Menu	Reference
General	General	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	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	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.

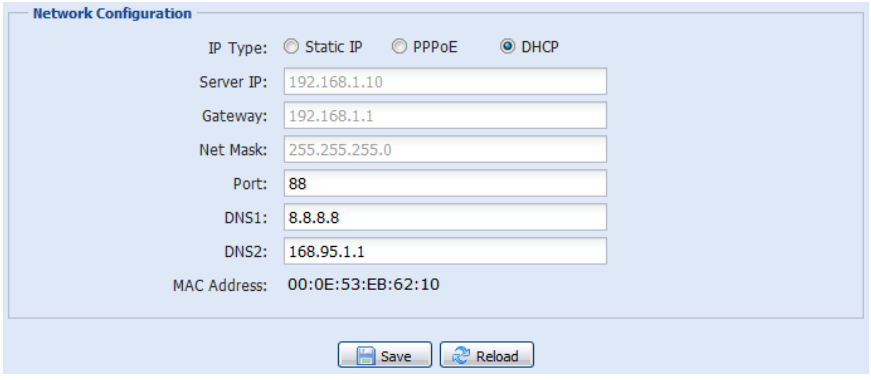
**Selected models only*

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 refer to “Advanced Network Setup” from www.surveillance-download.com/user/dm1306.swf.



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.

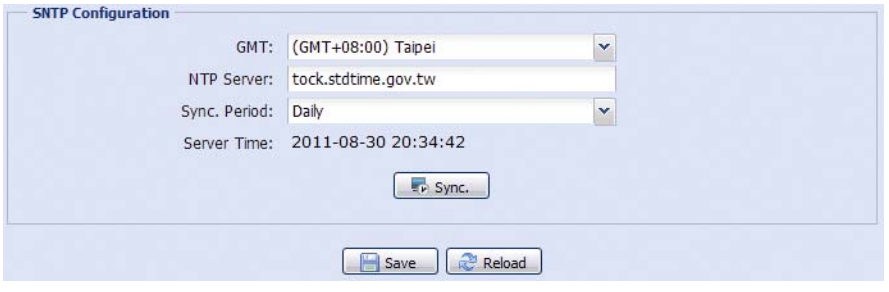
3.2.3 DDNS

Select “On” when the selected network type in “Network” is “PPPOE” or “DHCP”.

For details, please refer to “Advanced Network Setup” from www.surveillance-download.com/user/dm1306.swf.

3.2.4 SNTP

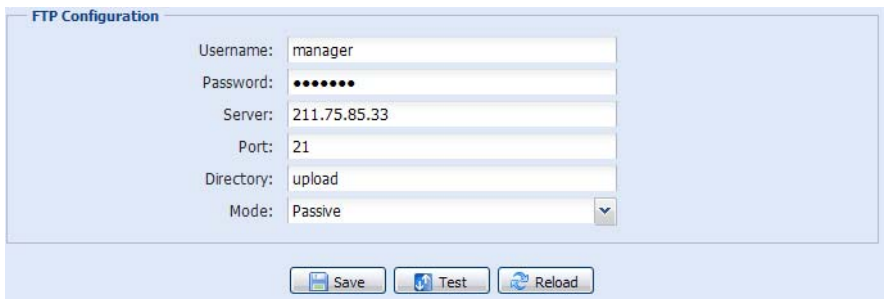
SNTP (Simple Network Time Protocol) is used to synchronize your camera time with the networked computer..



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

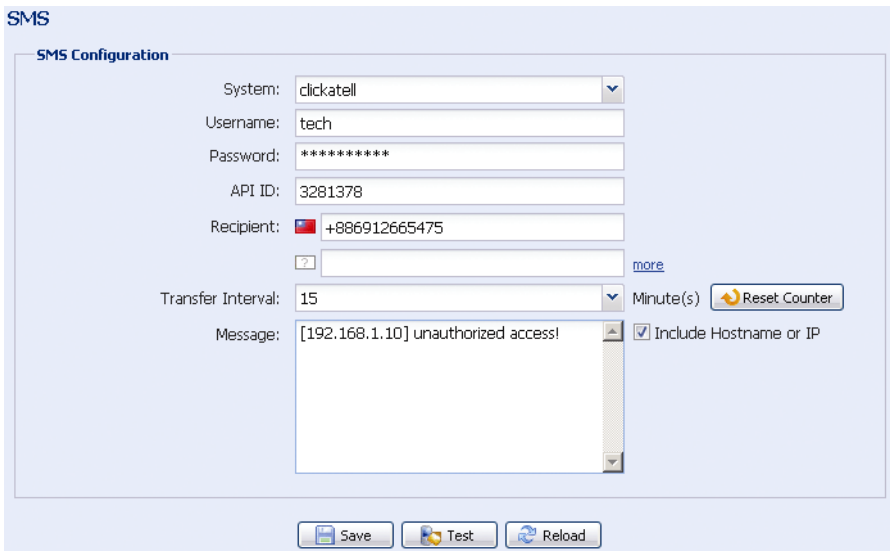
Enter the detailed e-mail information and click “Save” to confirm. The information you set here will be applied when “Email” is selected in “Trigger” → “Trigger”.

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.
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 29.

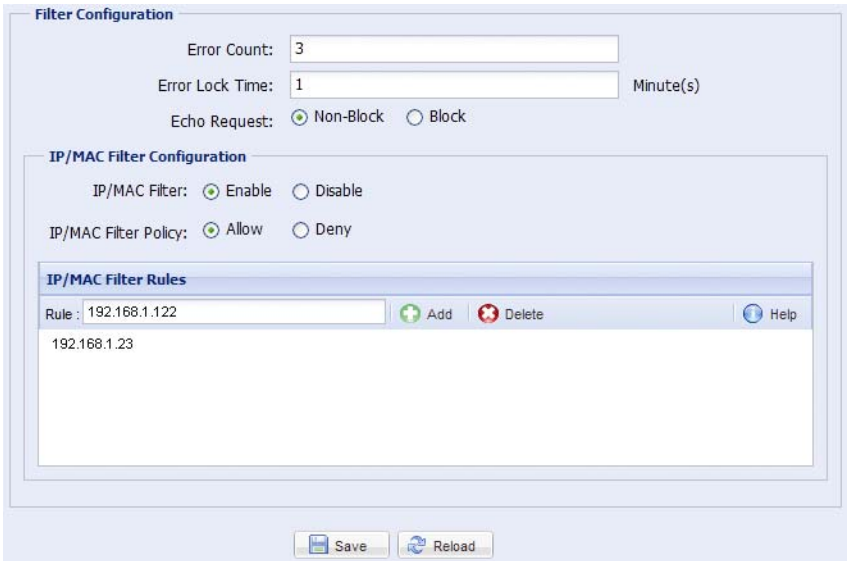
Enter the detailed information needed for text messaging, and click "Save" to confirm. The information you set here will be applied when "SMS" is selected in "General" → "Trigger".



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.



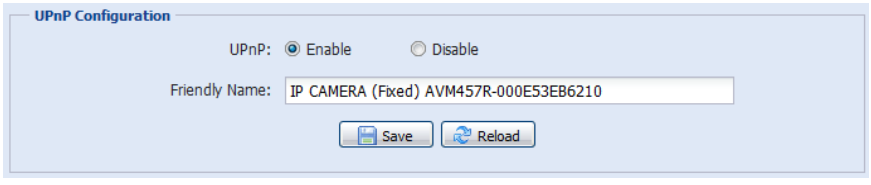
Function	Description
■ **Filter Configuration**	
Error Count	Set the maximum count for login failure. When the maximum count is reached, the IP address trying to access the network camera will be locked.
Error Lock Time	Set the lock time in minutes when the maximum count of error login for an IP address 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	• 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

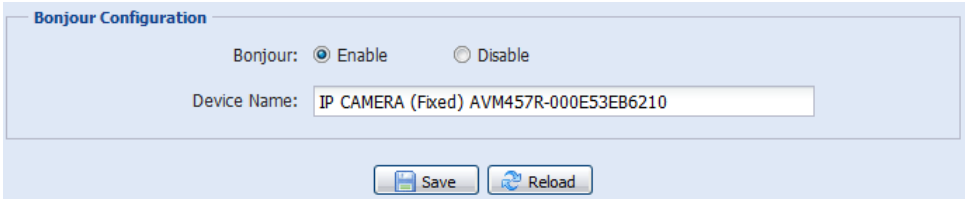
“UPnP” stands for “Universal Plug and Play”, which allows devices to connect seamlessly in the home and corporate environments and simplify installation of computer components, and is only suitable for Microsoft Windows-based operating system.

“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 refer to “Advanced Network Setup” from www.surveillance-download.com/user/dm1306.swf.

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

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

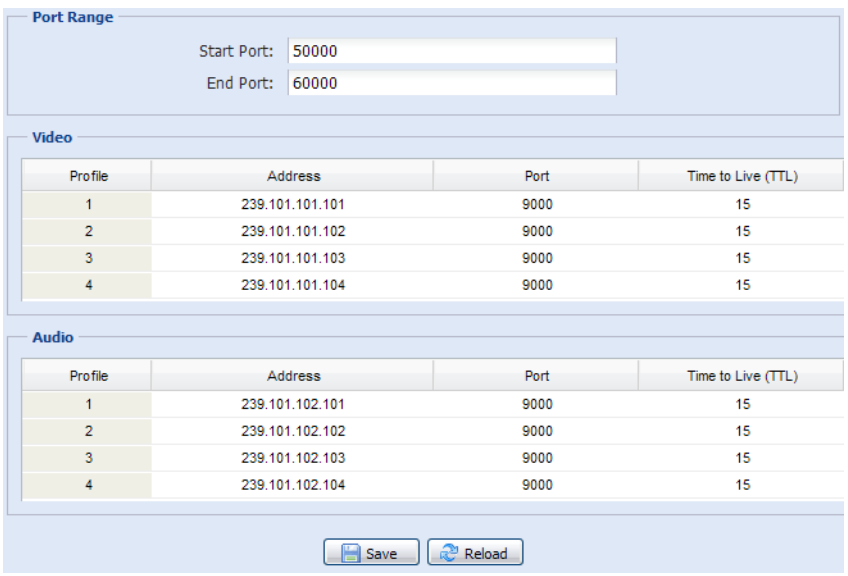
Note: When the configurations are saved successfully, you’ll see a message indicating the IP address and port number assigned to this network camera.

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.



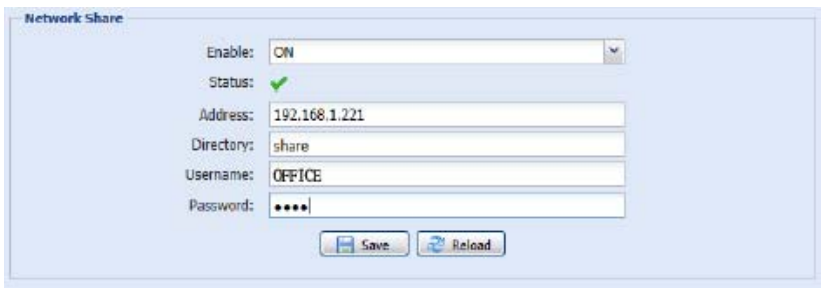
Function	Description
■ **Port Range** The port range used by RTP is limited, and preserving 100 ports between the start port and end port is necessary.	
Start Port	The range of the start port is 1024 ~ 65434.
End Port	The range of the end port is 1124 ~ 65534.
■ **Video**	
Address and port for video 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.
■ **Audio**	
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 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:

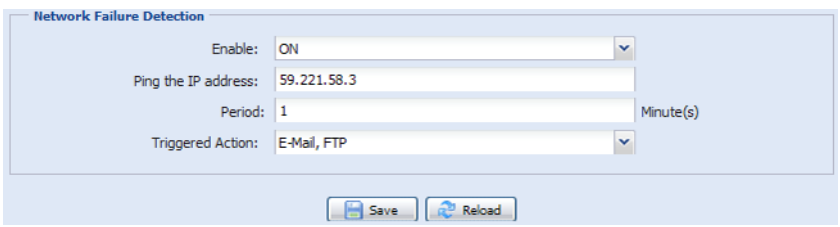
- A PC is installed in the same LAN environment as this camera, and you know the IP address of the PC.
- A PC account is created as “Administrator” with a user name and password.
- A folder in the PC is opened as shared to the user account you assigned.

Note: Please check “APPENDIX 7 PREREQUISITES FOR NETWORK SHARE” at page 34 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.

3.2.12 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

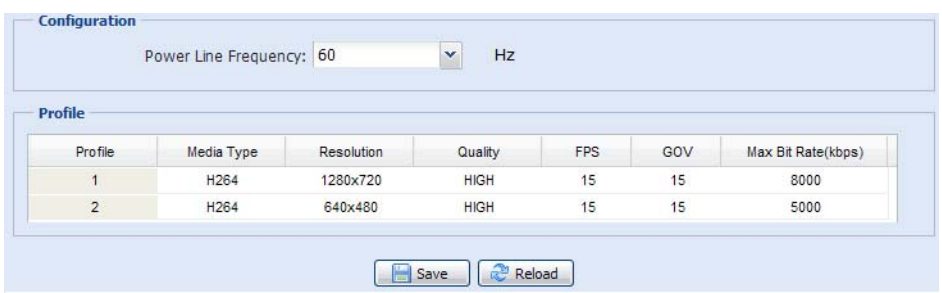
3.3.1 Camera

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

3.3.2 Video

You can adjust the power line frequency of your camera (60Hz or 50Hz) to suit your environment if needed, or adjust video-related settings in different video format.

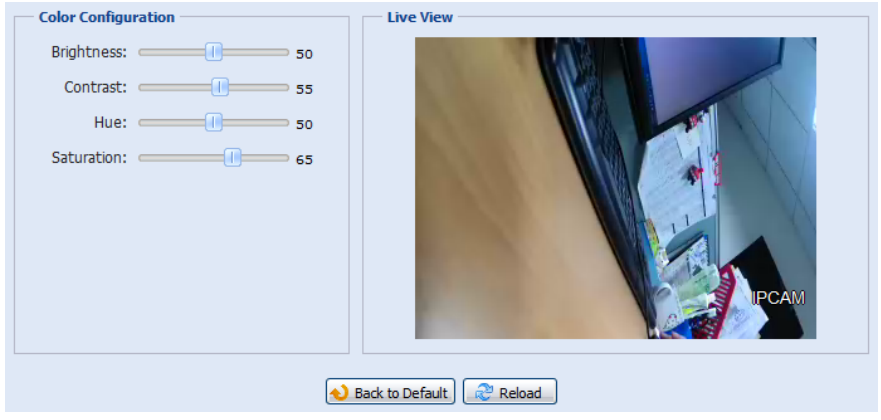
- “Quality” is related to image clearness.
- “FPS” is related to the fluency of the video. The more the FPS, the more fluent the video.
- “Max Bit Rate” is the maximum limitation of data transmission in the selected image format and resolution.



3.3.3 Color

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

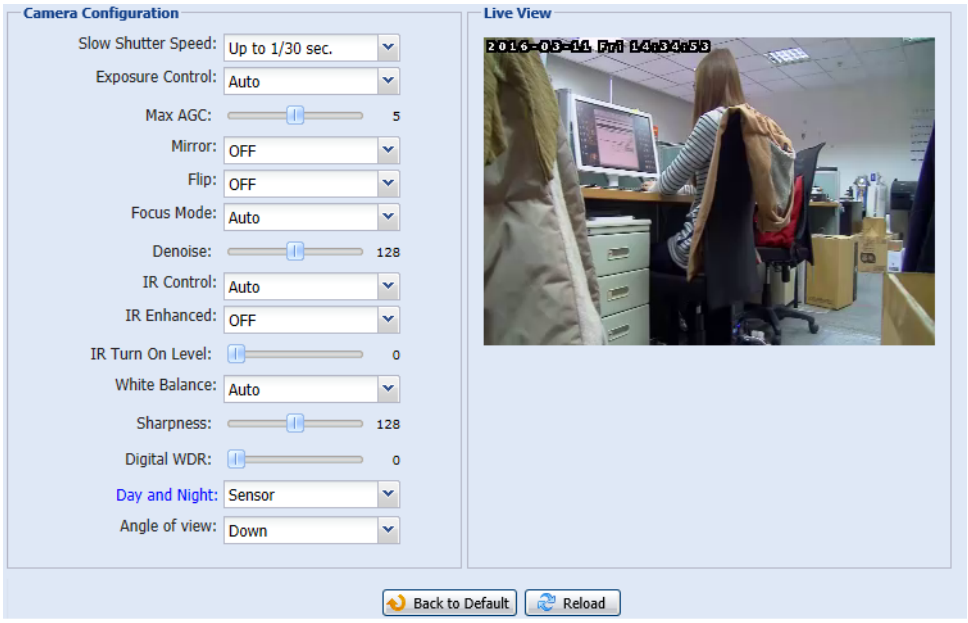
To restore the default values, click “Back to Default”.



3.3.4 Advanced

Adjust the camera parameters if necessary.

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



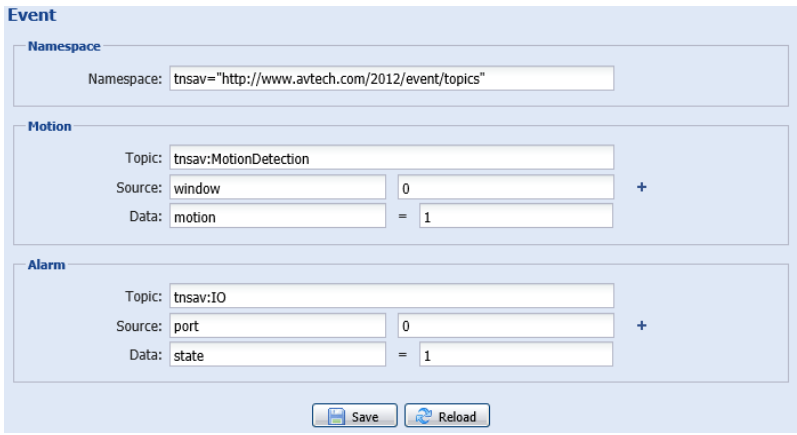
Item	Description
Slow Shutter Speed	Select the slow shutter speed suitable for your environment. A slower shutter speed in dark conditions will help to produce a brighter image, but will produce fewer frames per second, which may cause images to get blurry during motion.
Exposure Control	This function is used to synchronize the shutter time to the fluorescent light to suppress image flickering.
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.
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, or “OFF” to disable this function.
IR Enhanced	Select “ON” to enhance IR LEDs performance.
IR Turn On Level*	Select the level for IR light to activate. 0 means off.
White Balance	Process the current image to retain color balance over a color temperature range. Choose the options which best suits your surveillance area (Incandescent Light / Cool Light / Sun Light / Cloudy / Sun Shade), or simply choose “Auto” to detect the environment automatically.
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.
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.
Day and Night*	This function is used to configure the day and night mode: ● Day - Always stay in the day mode (color). ● Night - Always stay in the night mode (B/W). ● 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.
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*

3.4 ONVIF

3.4.1 Event

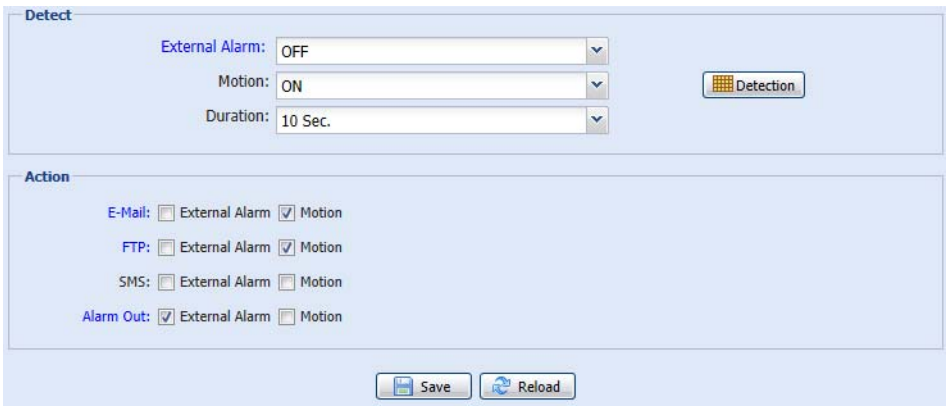
This function is used to integrate the functions of event and alarm detection when this camera has to work with other ONVIF-compliant device.



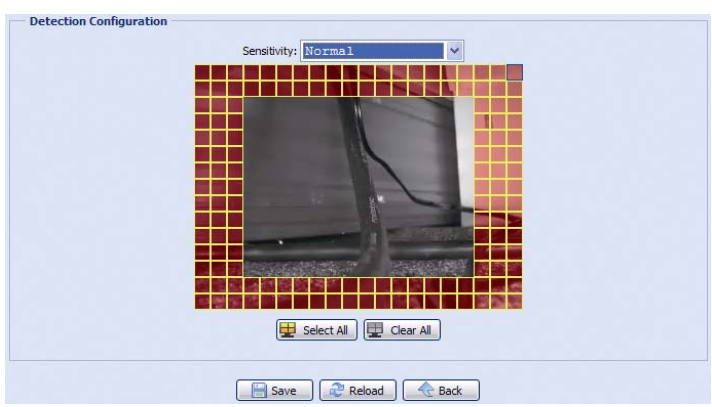
3.5 Trigger

3.5.1 Trigger

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



◆ 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	Enable or disable motion detection. *Motion detection is not supported when the stream format is Motion JPEG.*
	When "Enable" is selected, click "Detection" to enter the motion detection area setting page as follows: 
	Sensitivity: Set the detection sensitivity from the drop-down list: High, Normal or Low.
	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.
Duration	Set the duration time for trigger recording (5 / 10 / 20 / 40 seconds).

◆ Action

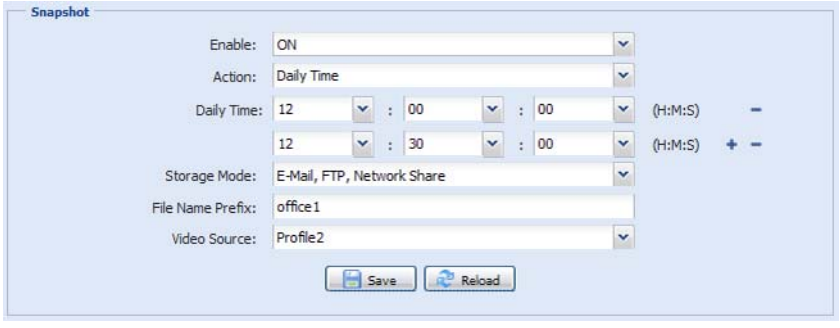
Here defines how the camera delivers alerts to you for any event.

Item	Description
E-Mail	Select the event type you want to receive E-mail notifications when it occurs. 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. 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.
FTP	Select the event type you want to receive FTP notifications when it occurs. 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. The camera will upload the captured video clip to the FTP site you assigned in "Network" → "FTP" once the selected event type occurs.
SMS	Select the event type you want to receive a text message when it occurs. The camera will send a text message to the mobile phone number you assigned in "Network" → "SMS" once the selected event type occurs.
Alarm Out	Select the event type you want to trigger the alarm-out device to work when it occurs. Then, click the title "Alarm Out" (in blue) to configure the trigger rule (LOW / HIGH). **Day and Night is for selected models only.*

3.5.2 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.

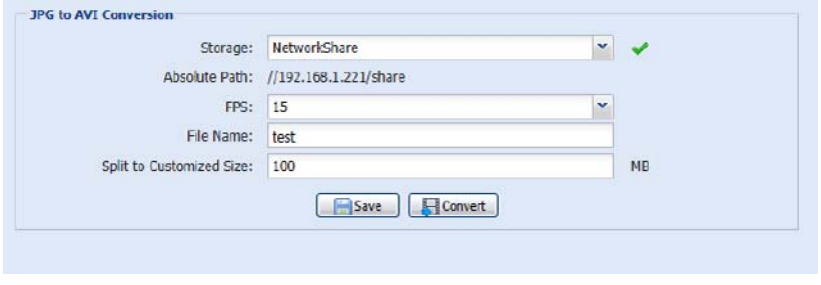
Note: Before using E-Mail, FTP and Network Share, make sure the related configurations are done in "Network" → "Mail", "Network" → "FTP", and "Network" → "Network Share".



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 "3.2.11 Network Share" at page 15.



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.

3.6 General

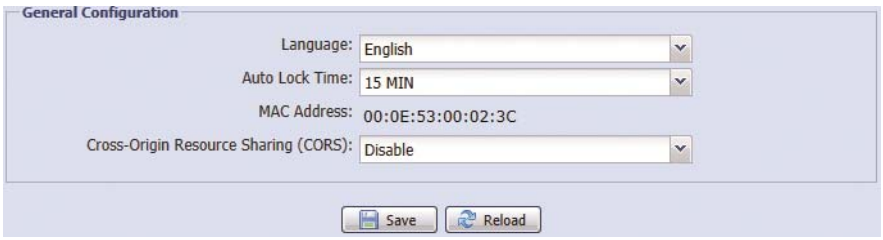
3.6.1 General

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

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

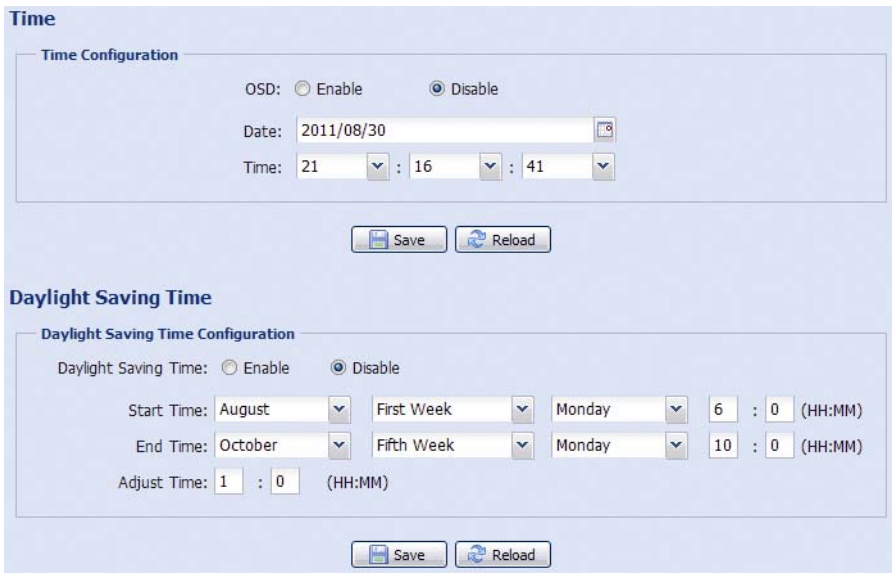
Note: When the camera access is locked after the specified time, to resume camera access, please enter the password.

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



3.6.2 Time

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

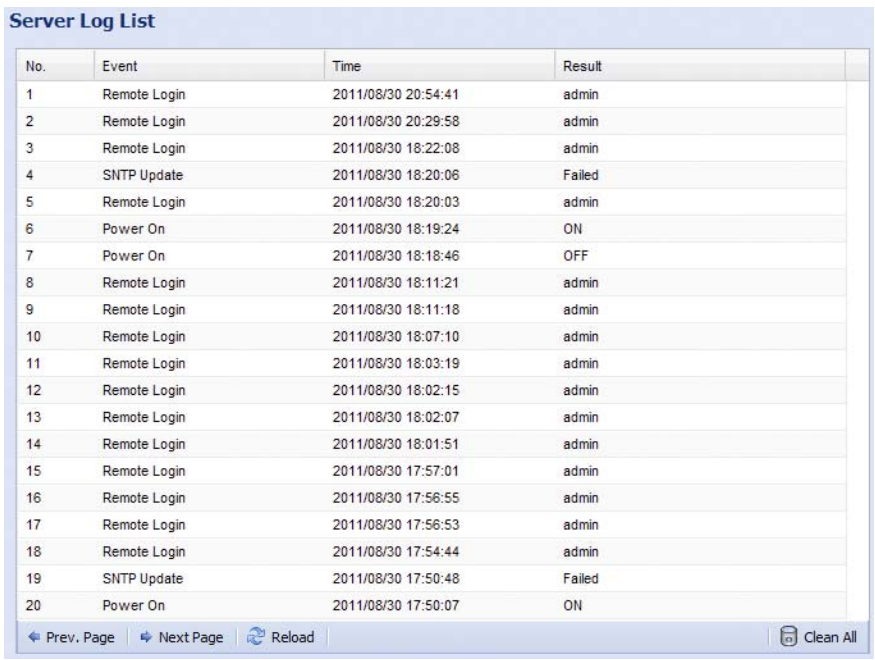


Function	Description
■ **Time Configuration**	
Date	Set the current date.
Time	Set the current time.
■ **Daylight Saving Time Configuration**	
Daylight Saving Time	Specify whether to use daylight saving time (Enable / Disable).
	If this function is enabled, set the time period (Start Time / End Time),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

3.6.3 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.

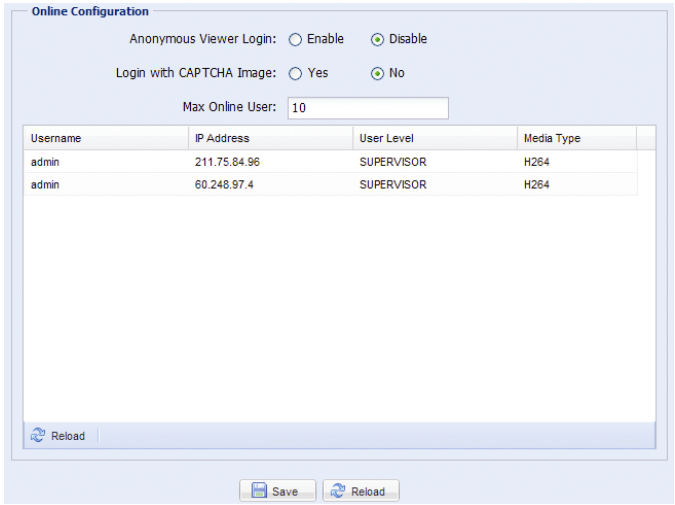
To clear all system event logs, click “Clear All”.



3.6.4 Online

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

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

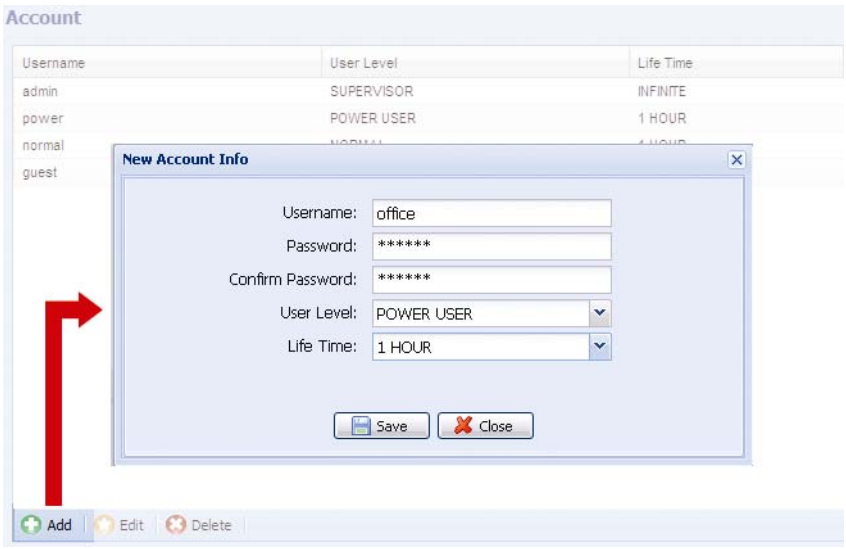


3.6.5 Account

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.

3.6.6 Google Maps

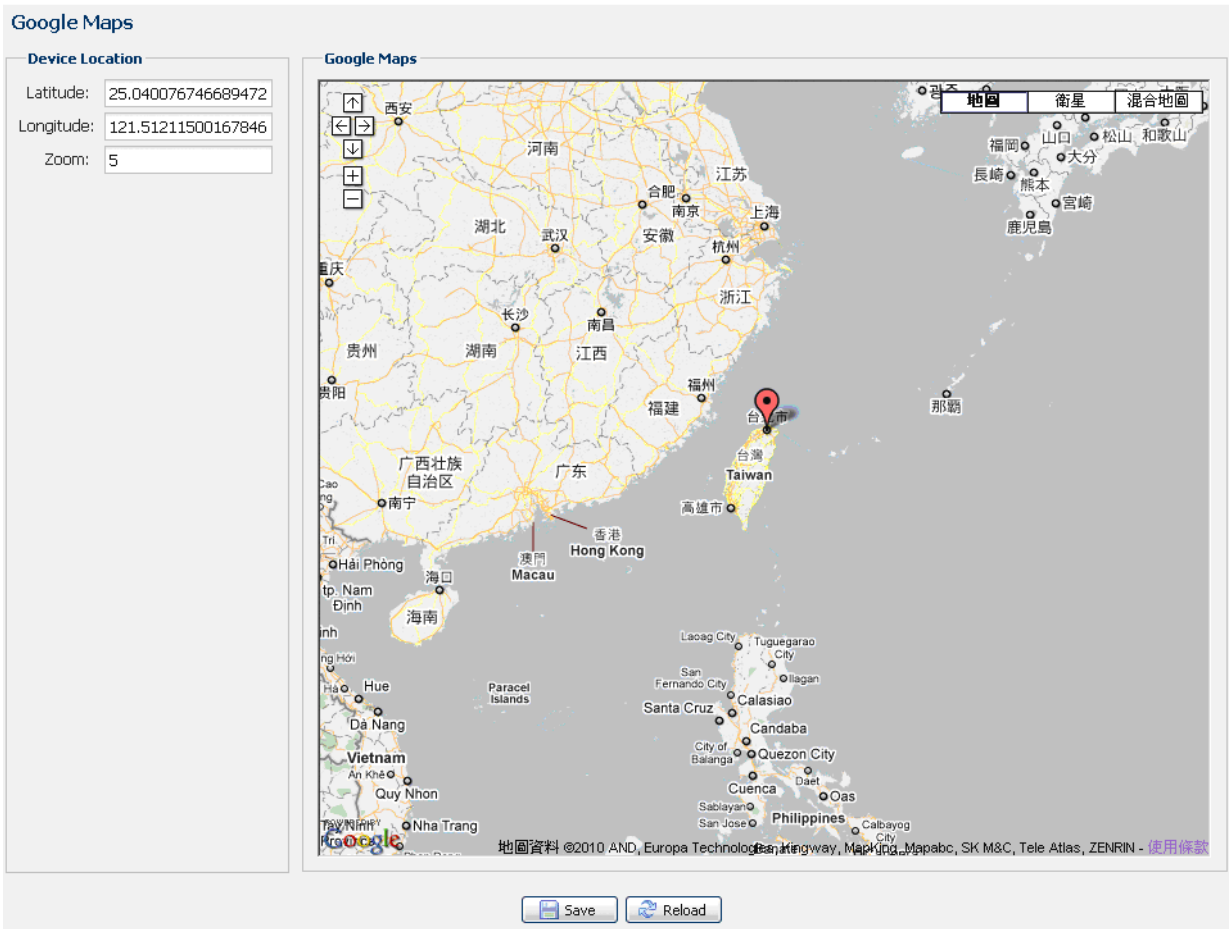
This function is used to let you know where the network camera is.

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.



3.6.7 Maintenance

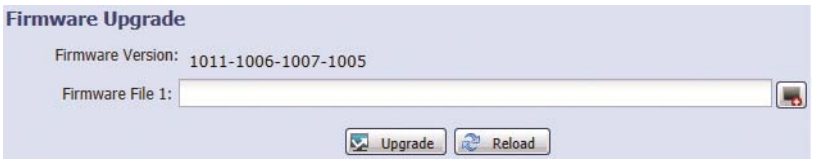
Firmware Upgrade

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 file, and select it to upgrade.



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.

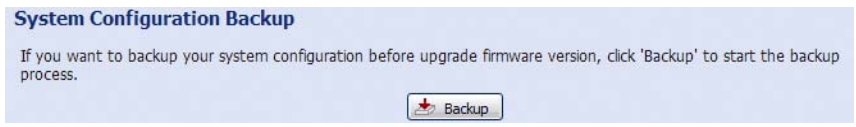
Note: It takes a few minutes to finish the upgrade process. Do not disconnect the power during firmware upgrade, or the upgrade may be failed. The camera will reboot after the upgrade.

System Configuration Backup

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

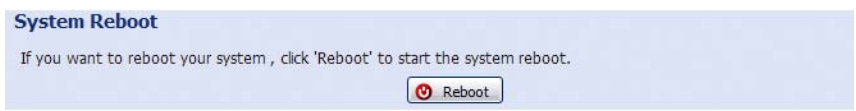
You may import the same system configuration to another camera, or restore your system configuration when the camera is reset to default values.

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



System Reboot

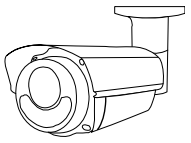
Select “Reboot” to restart your camera if needed.

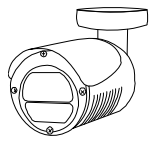


Player Download

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	Model 2
■ Network		
LAN Port	YES	
LAN Speed	10/100 Based-T Ethernet	
Supported Protocols	DDNS, PPPoE, DHCP, NTP, SNTP, TCP/IP, ICMP, SMTP, FTP, HTTP, RTP, RTSP, RTCP,IPv4, Bonjour, UPnP, DNS,UDP,IGMP, QoS, SNMP	
ONVIF Compatible	YES (Profile S)	
Number of Online Users	10	
Security	(1) Multiple user access levels with password (2) IP address filtering (3) Digest authentication	
Remote Access	(1) Internet Explorer on Windows operating system (2) 32CH CMS Lite on Windows operating system (3) EagleEyes on iOS & Android mobile devices	
■ Video		
Network Compression	H.264 (Main Profile) / MJPEG	
Video Resolution	1920 x 1080 / 1280 x 720 / 720 x 480 / 352 x 240	
Frame Rate	30fps	
Multiple Video Streaming	2 (H.264, MJPEG)	
■ General		
Image Sensor	1/2.7" CMOS image sensor	
Min Illumination	0.1 Lux / F1.6 (Wide) ~ F2.8 (Tele), 0 Lux (IR LED ON)	0.1 Lux / F1.4(Wide)~F2.8(Tele), 0 Lux (IR LED ON)
Shutter Speed	1/2 to 1/10,000 sec	
S/N Ratio	More than 48dB (AGC off)	
Lens	motorized f2.8 ~ f8.0mm / F1.6 ~ F2.8	f3.8mm / F1.5
Viewing Angle	Wide: 104° (Horizontal) / 56° (Vertical) / 126° (Diagonal) Tele: 57° (Horizontal) / 32° (Vertical) / 65° (Diagonal)	77° (Horizontal) / 45° (Vertical) / 88° (Diagonal)
IR LED	4 Units	2 Units
IR Effective Range	Up to 50 meters	Up to 25 meters
IR Shift	YES	
White Balance	ATW	
AGC	Auto	
IRIS Mode	AES	
Sharpness	YES	
WDR	DWDR	
POE (Power-over-Ethernet)	YES (IEEE 802.3af)	
External Alarm I/O	YES (1 input / 1 output)	
IP Rating	IP67	IP66
Operating Temperature	-25℃ ~ 50℃	
Operating Humidity	90% or less relative humidity	
Power Source (±10%)	12V / 1A	
Current consumption (±10%)	250mA (IR OFF) / 700mA (IR ON)	150mA (IR OFF) / 400mA (IR ON)
Power Consumption (±10%)	PoE & PoN: 10W; DC adapter: 8.4W	PoE & PoN: 6W; DC adapter: 4.8W
Net Weight (kg)	0.94	0.36
■ Others		
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	• 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)	

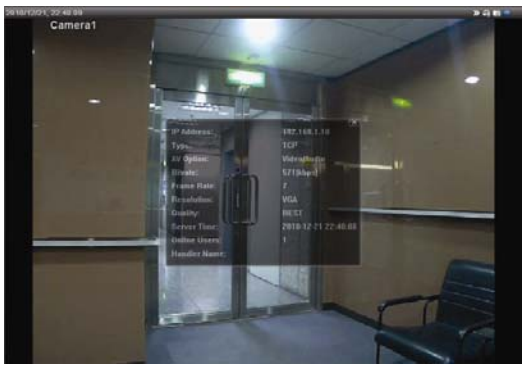
APPENDIX 2 BIT RATE TABLE FOR REFERENCE

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

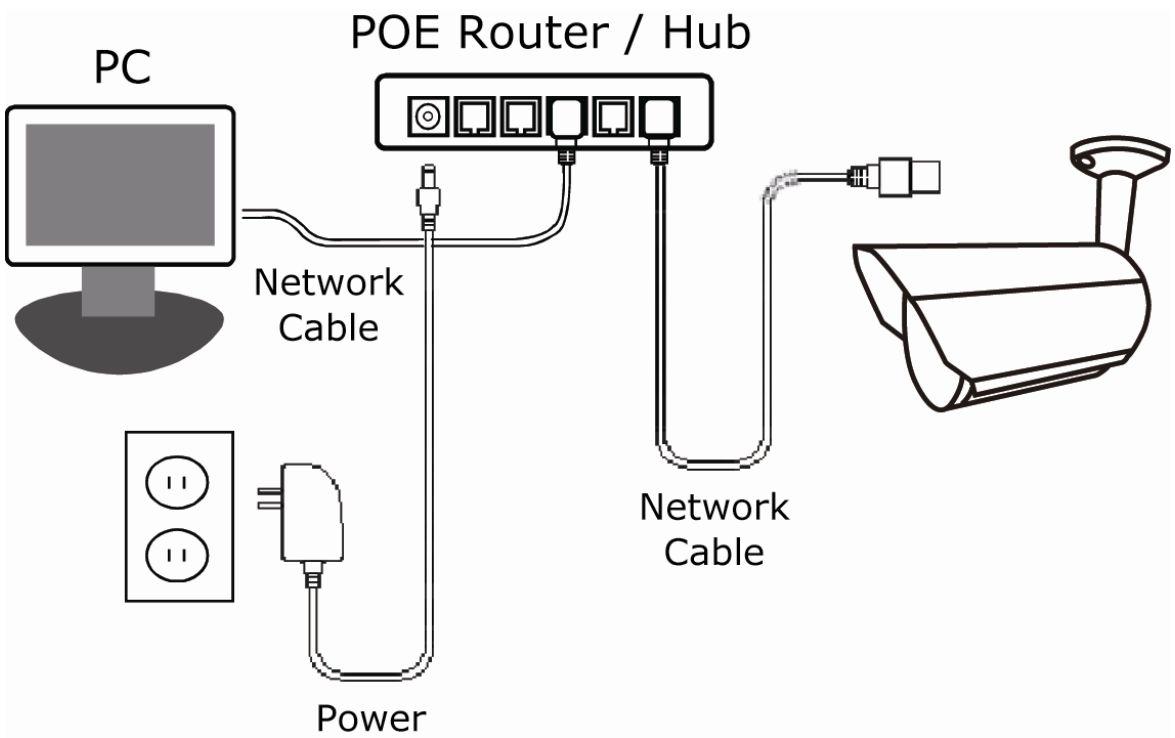
Resolution	Quality	Frame Rate	(Dynamic) kbps	(Static) kbps
SXGA	Best	FULL	3253	3216
	High		2375	2160
	Normal		1571	1266
	Basic		1465	873
VGA	Best		2010	1261
	High		1042	1034
	Normal		685	572
	Basic		457	350
QVGA	Best		646	366
	High		482	350
	Normal		302	286
	Basic		168	161
SXGA	Best	1/4	1163	1076
	High		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

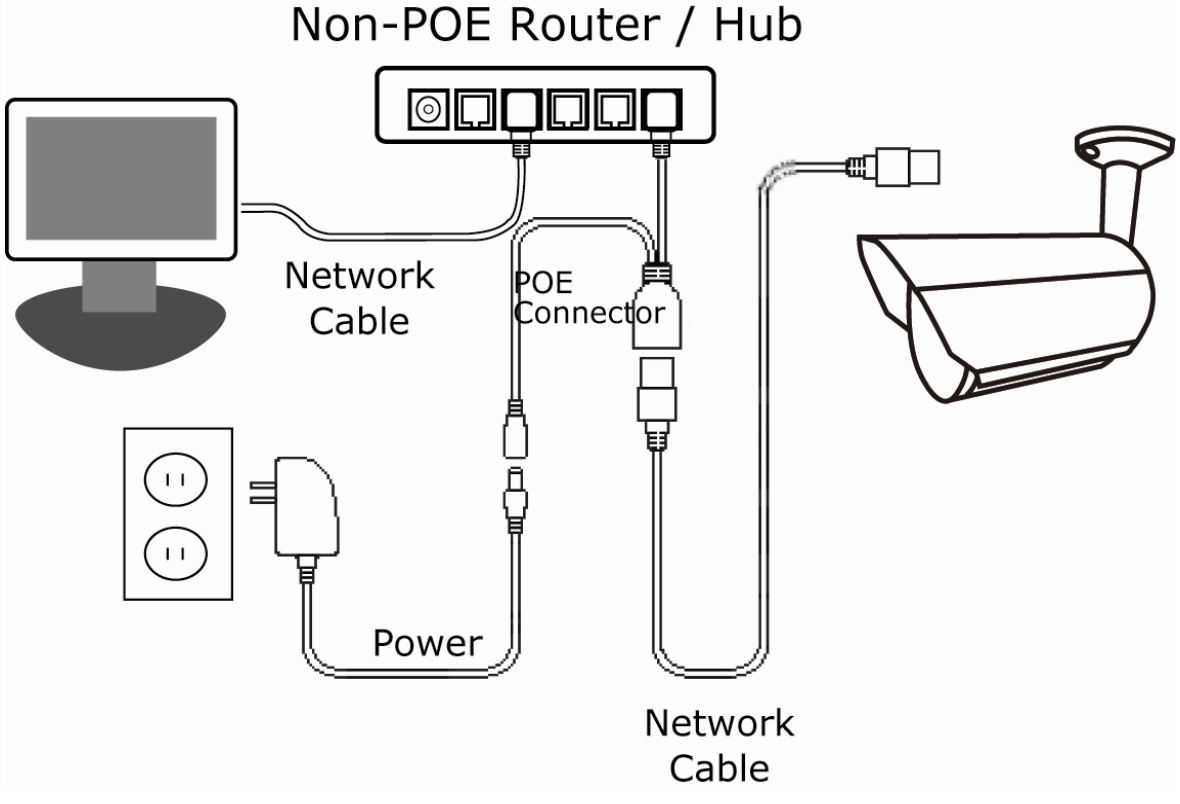
APPENDIX 3 POE CONNECTION

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 connected required)



APPENDIX 4 API ID APPLICATION FOR SMS MESSAGING

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

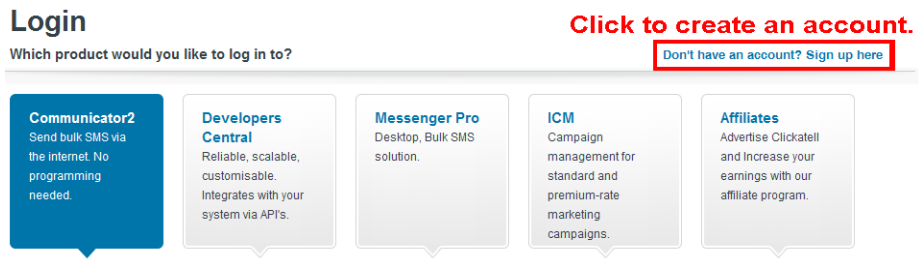
Below shows an example of how to get an API ID from Clickatell.

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

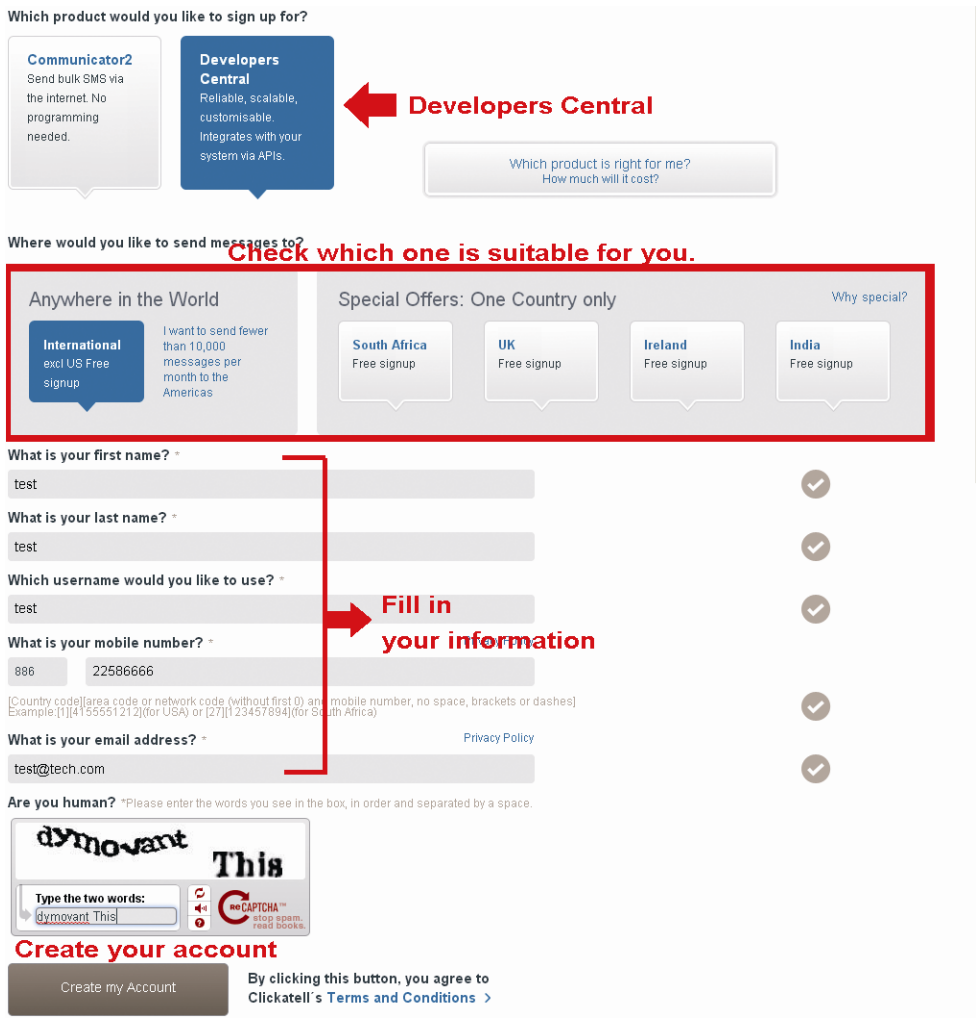
Note: The instructions below are for reference only and may vary when Clickatell's official website is updated.

Please follow the steps below for application.

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



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

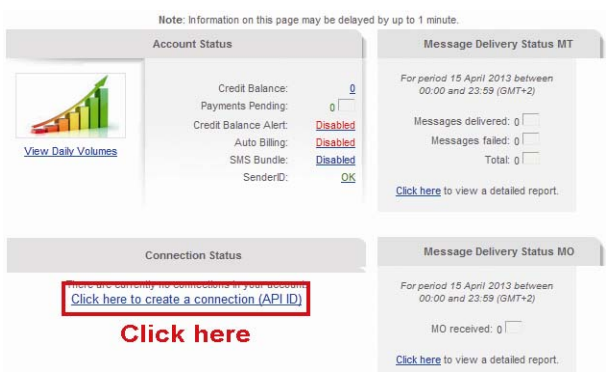


Step3: When the account is created, the system will automatically send an Email to your specified Email address with the user name, password, and client ID used to log into the service.

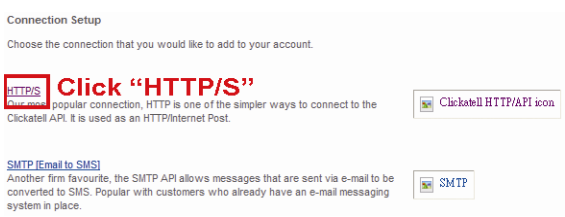
Step4: Click the link within the email to log in, and you will be prompted to validate your mobile phone number. Select "SEND ACTIVATION CODE". The system will send an activation code to that number for verification.

Check if you receive a text message from Clickatell, and enter the activation code.

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



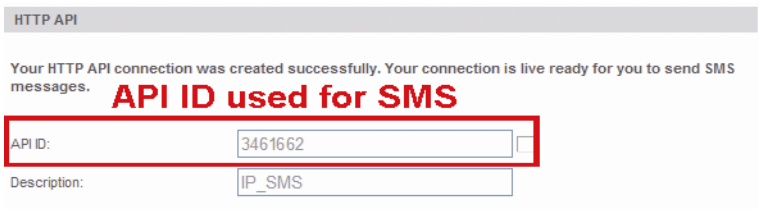
Step5: Select “HTTP/S”.



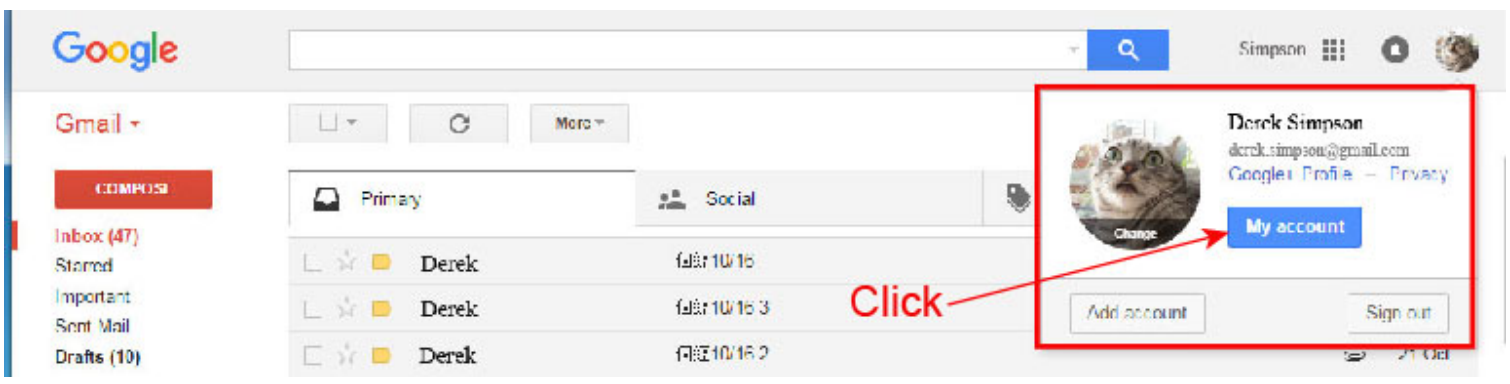
Give a meaning name for this connection, and click “Submit and Get API ID”.

Step5: An API ID will be generated as follows.

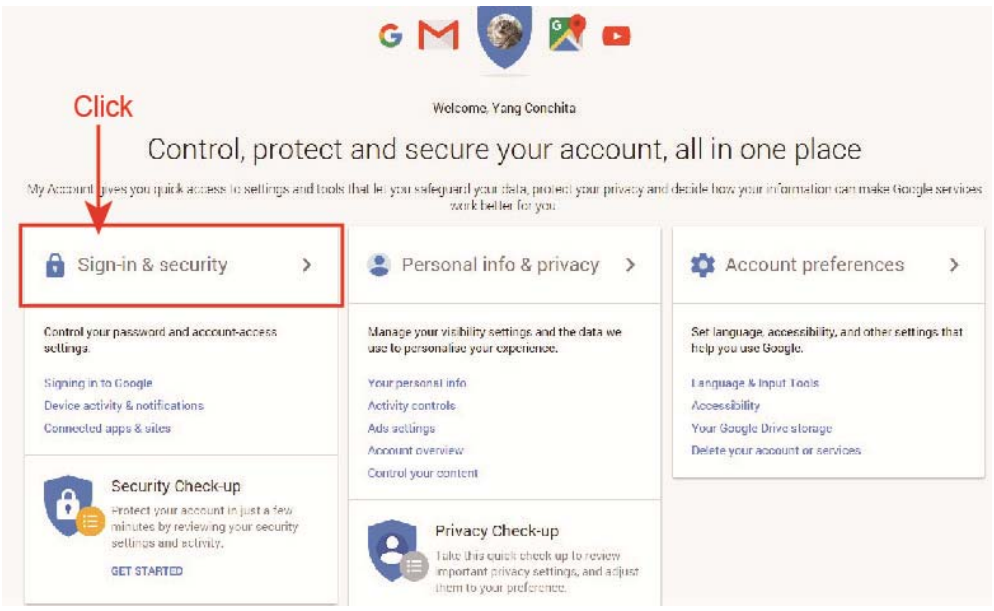
Note: Note down the API ID for SMS notification setting later.



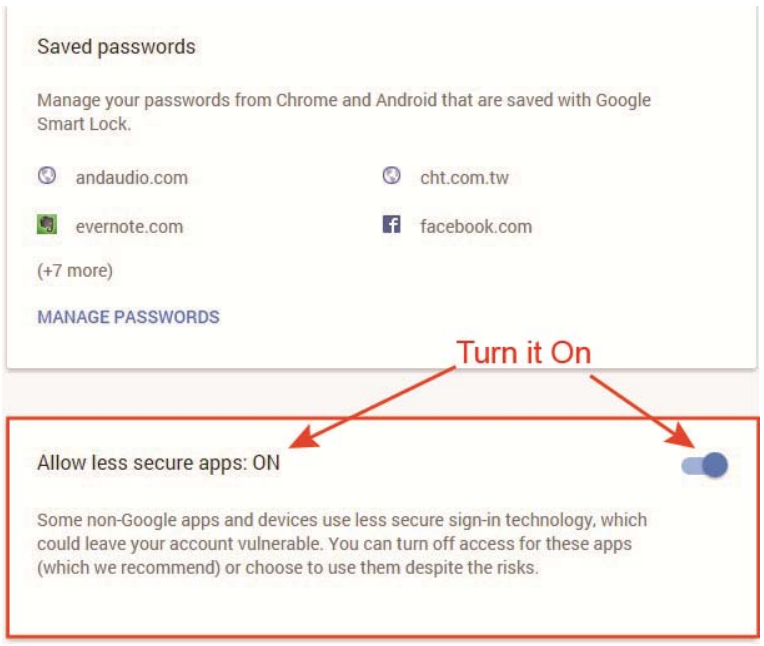
APPENDIX 5 Q&A

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

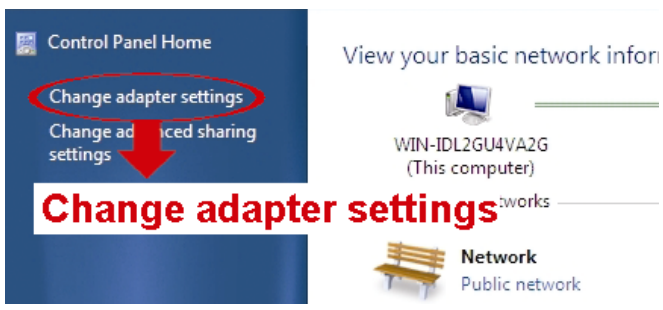
APPENDIX 7 PREREQUISITES FOR NETWORK SHARE

"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.

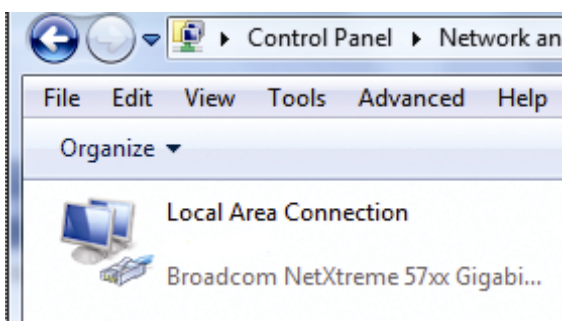
A7.1 Check PC IP Address

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".



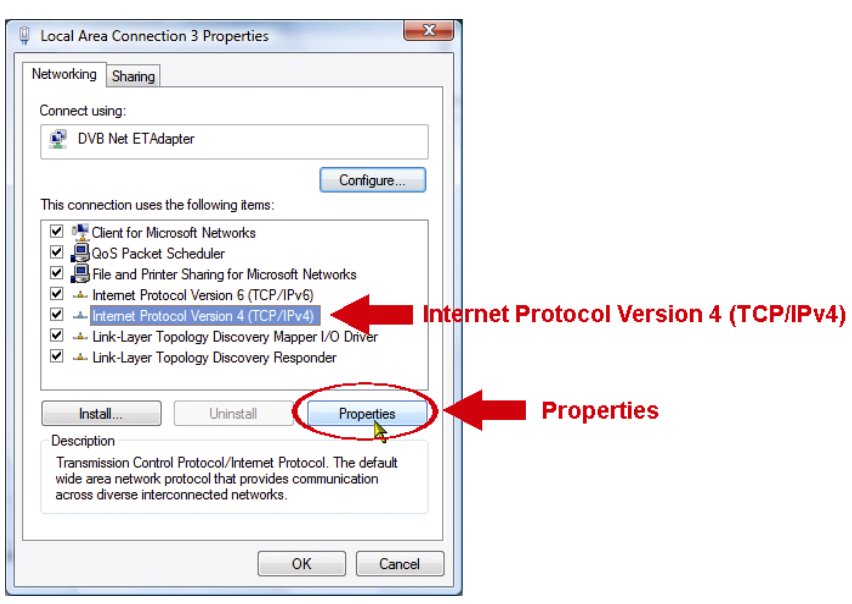
Step2: Right-click on "Local Area Connection", and select "Properties".

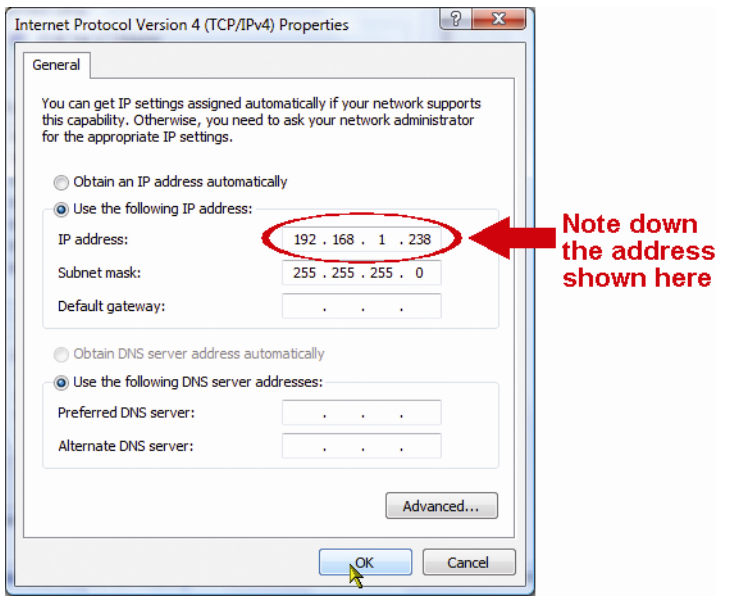


Note: If your local area connection is not enabled, please also enable it.

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".



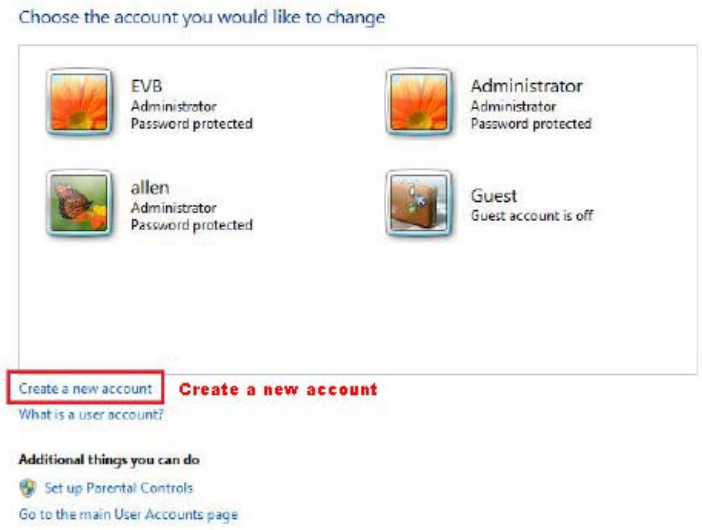


A7.2 Create "Administrator" Account

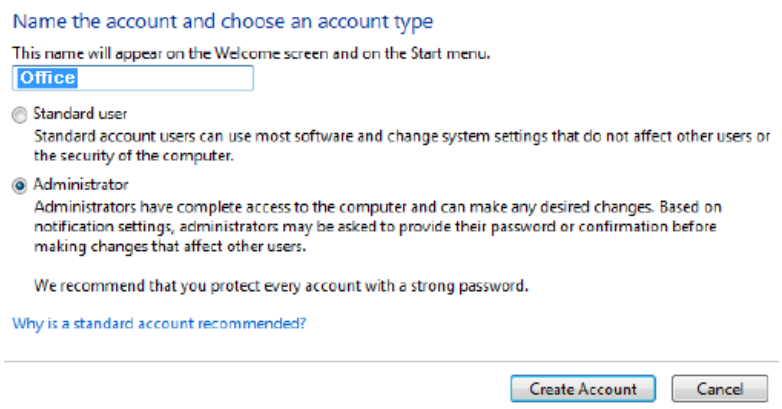
It's recommended to create a new administrator account on the PC for "Network Share" to use, or user could use the existing administrator account.

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”.



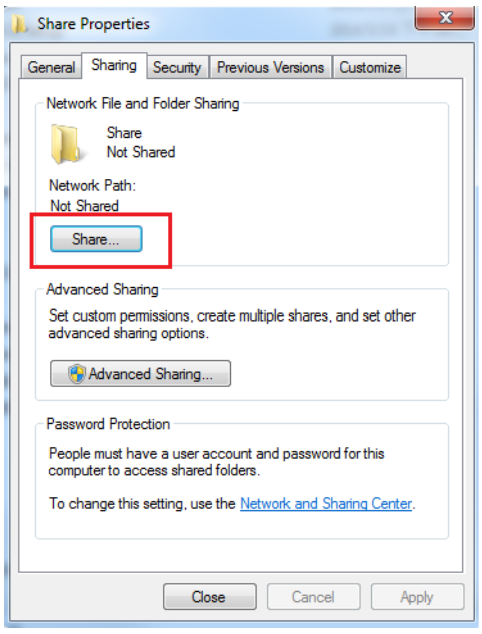
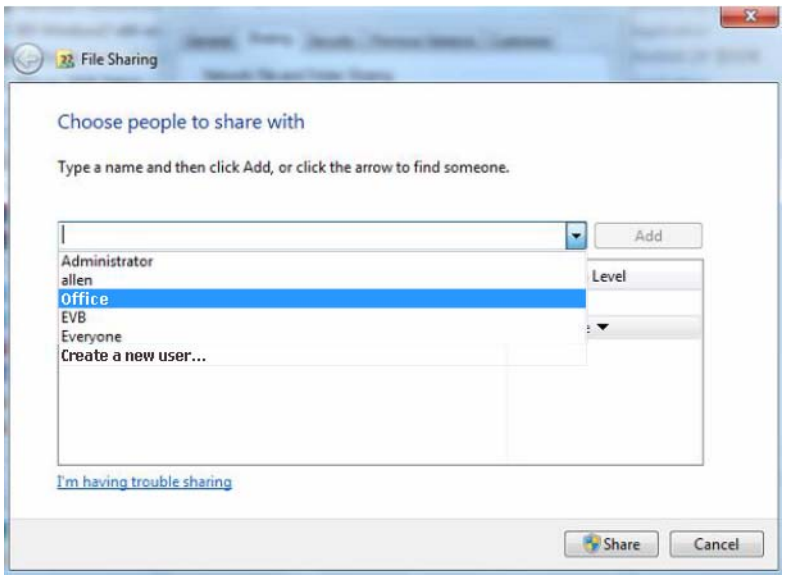
Step3: Set the password, and click “Create Account”.

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.