



SPEED DOME IP CAMERA SERIES

OPERATION GUIDE

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

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This apparatus is manufactured to comply with the radio interference requirements.

Federal Communications Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital service, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
- All external cables connecting to this basic unit must be shielded.
For cables connecting to PCMCIA cards, see the option manual or installation instructions.

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

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

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

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

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1. OVERVIEW

1.1 Product Features

- **Quick network setup** with your iOS® / Android™ mobile device
- **External alarm I/O device connection**
 - For more accurate detection
 - Possible to enable active event notifications to your iOS® & Android™ mobile devices (**Push Video**) when used with **Push Video NVR series**
- **ONVIF** standard supported to simplify system integration
- **Auto Tracking** to follow the moving object with the predefined surveillance area
- IR effective range up to **200 meters** or more when the **IR Turbo** mode is on
- **PTZ mechanism** for wide and seamless surveillance
- **Hot Point** support to quickly move the camera to a specific point remotely
- **Line in / out jacks available for audio transmission**
- **POE (Power-over-Ethernet)** support to eliminate the use of power cables and reduce installation costs
- Capable of **360° pan rotation continuously** and **-3° ~ 90°** tilt movement, allowing quick and smooth action of the camera lens
- **Remote Surveillance**
 - **Fully compatibility** on **iPhone & iPad**, and **Internet Explorer** on Windows operating system
 - Free PC program, **CMS Lite**, for 24CH devices monitoring on Windows operating system

1.2 Package Content

Standard Package

- | | | | |
|------------------------------------|------------------------------------|---|------------------------------------|
| <input type="checkbox"/> Camera | <input type="checkbox"/> Bracket | <input type="checkbox"/> Instructions | <input type="checkbox"/> Screw kit |
| <input type="checkbox"/> CD manual | <input type="checkbox"/> Carabiner | <input type="checkbox"/> Terminal block | <input type="checkbox"/> Wrench |

Optional Accessories

- Waterproof kit

1.2 Cable Overview

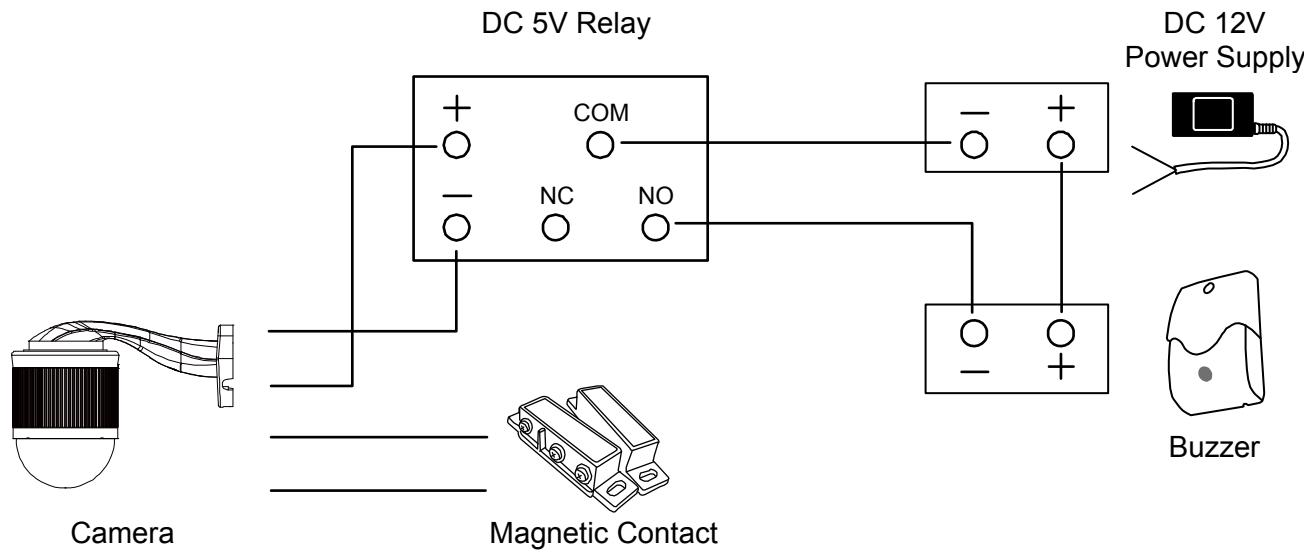
Cable	Description
Power cable	Connect to the supplied adapter.
RJ45 network cable*	Connect to an Ethernet network cable.
BNC cable	No function.
Terminal block	
1. ALARM IN	Alarm input for an alarm device like magnetic contacts.
2. ALARM OUT	Alarm output for an alarm device like a siren.
3. GND	Ground wire
4. RS485_A	Used for PTZ camera or other device connection.
5. RS485_B	Used for PTZ camera or other device connection.
Line-in	Colored as blue, used to connect to a microphone for audio input.
Line-out	Colored as green, used to connect to a speaker for audio output.
RESET	A wire reserved for hardware reset.
GND	Remove the insulating coating of the wire, and twist it with the GND wire together to reset the camera to its factory values.

* For PoE (IEEE802.3af) installation, make sure your network cable has the maximum cable resistance of 20Ω, such as CAT.5e or CAT.6 cables, to conform to the standard of IEEE802.3af.

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.



1.5 Insert a Micro SD card

The data originally saved in the microSD card (if any) will be removed after inserting it to the camera.

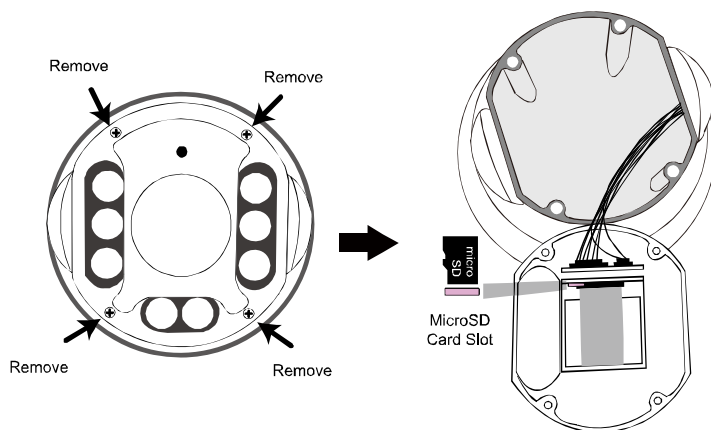
The camera doesn't support hot-swapping. Please insert or remove the microSD card with power disconnected.

Step 1: Remove the four screws. Then remove the plastic hull.

Step 2: After opening the camera hull, you can see the inner structure.

As the below illustration shows, insert the SD card face down into the slot.

Step 3: Replace the hull back, and make sure it's fastened tightly to ensure the waterproof function works properly.



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

2. CAMERA ACCESS WITH INTERNET EXPLORER

This 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.

Note: For details about accessing this camera via iOS® / Android™ mobile devices, please refer to <http://www.eagleeyesccvt.com>.

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

- For network configurations, please refer to “**Advanced Network Setup**” downloadable from www.surveillance-download.com/user/m2592.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” or “H264 Streaming Viewer”, please agree to proceed the installation. Or, you might not be able to see the live view properly.



























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

2.2 Control Panel Overview

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

The screenshot shows the live view interface of an H.264 IP camera. The main window displays a live video feed of an office interior. The interface includes several control panels and status information:

- Current Streaming Information:** FR: 29.50 fps, DR: 4763 kbps, Time: 2016/03/15 18:52:34, Q: High, R: HD1080P.
- PTZ (Pan/Tilt/Zoom) Control:** A circular directional pad for camera movement.
- Preset:** A numeric keypad (1-16) for selecting camera presets.
- Control:** A set of icons for various camera functions like zoom, pan, and tilt.
- Live player:** Set to ActiveX.
- Video Profile:** Set to 1.
- Zoom:** A slider at the bottom of the video feed.
- Zoom: Optional Zoom (Zoomx10, DZx1):** A red box highlights the zoom status, with a red arrow pointing to it from the right.

Function	Icon	User Level	Description
Live		Supervisor / Power User / Normal User / Guest	Switch to the live view page.
DPTZ		Supervisor / Power User / Normal User	Switch to the DPTZ configuration page. For details, please refer to “2.3 Digital PTZ (DPTZ) Operations” at page 5.
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 6.
Config.		Supervisor	Switch to the system configuration page, and the functions available for “Supervisor” and “Power User” are different. For details, please refer to “3.1 System configuration menu” at page 7.
Arrow keys panel	--	Supervisor / Power User / Normal User	Click to move the camera lens up / up-left / down / up-right / left / down-right / right / down-left.
Preset points	--	Supervisor / Power User / Normal User	Click the numbering of the preset point you want to move the PTZ camera to the selected preset point. To set preset points, please refer to “3.3.2 Preset” at page 14.
Zoom-in / out	 / 	Supervisor / Power User / Normal User	Click to zoom in / out the current image.
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.
Focus near / far	 / 	Supervisor / Power User / Normal User	Click to adjust the clearness of the video images.
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.
Full Screen		Supervisor / Power User / Normal User	Click to display the image in full screen. To exit the full screen mode, press “Esc” on your keyboard.
Live View Size:		Supervisor / Power User / Normal User	
Normal Size			The current live view size is the same as the selected resolution.
Fit to screen			The selected resolution is resized to fit into the current live view size. <i>This icon doesn't work when the selected resolution is VGA or QVGA.</i>
Scale*			Click and hold the movable square on the left bottom corner of the live view to move <i>This icon appears only when the selected resolution is larger than the current live view size.</i>
Double Size			The QVGA resolution is resized to fit into the current live view size. <i>This icon appears only when the selected resolution is QVGA (320 x 240) or CIF (352 x 240).</i>
DPTZ		Supervisor / Power User / Normal User	Click to enable digital PTZ functions with zoom-in ratio up to 16X.
Auto Tracking		Supervisor / Power User / Normal User	Click to activate the auto tracking function. For setting details, please refer to “3.3.4 Auto Tracking” at page 17.
Auto Mode		Supervisor / Power User / Normal User	Click to activate the auto function. Before using it, you need to assign a specific function that will be enabled when “AUTO” is clicked. For details, please refer to “3.3.3 Cruise” at page 15. <i>This function will be disabled when DPTZ is enabled.</i>
Focus Zone		Supervisor / Power User / Normal User	Click to assign the point for focus adjustment. <i>This function will be disabled when DPTZ is enabled.</i>
Manual Alarm Out		Supervisor / Power User / Normal User	Click to force the connected alarm-out device to work. For example, when your alarm device is a buzzer, click this button and your buzzer will start to sound even if there's no alarm event.
Audio On / Off*	 / 	Supervisor / Power User / Normal User	Click to switch the audio-in on / off.
Microphone*	 / 	Supervisor	Click to switch the audio-out on / off.
Auto Move		Supervisor / Power User / Normal User	Click to enable the auto move function. It allows the camera to move to the direction where your cursor stays. <i>This function will be disabled when DPTZ is enabled.</i>

Function	Icon	User Level	Description
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 <p>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.</p> <ul style="list-style-type: none"> ■ VLC
Video Profile	--	Supervisor / Power User / Normal User	Select the image resolution from the drop list: <ul style="list-style-type: none"> ■ 1920 x 1080 ■ 1280 x 720 ■ 720 x 480 ■ 352 x 240
Quality	--	Supervisor / Power User / Normal User	Click & drag the slider to select the video quality: Basic / Normal / High / Best.

2.2.1 Pan- / Tilt-Move Manually

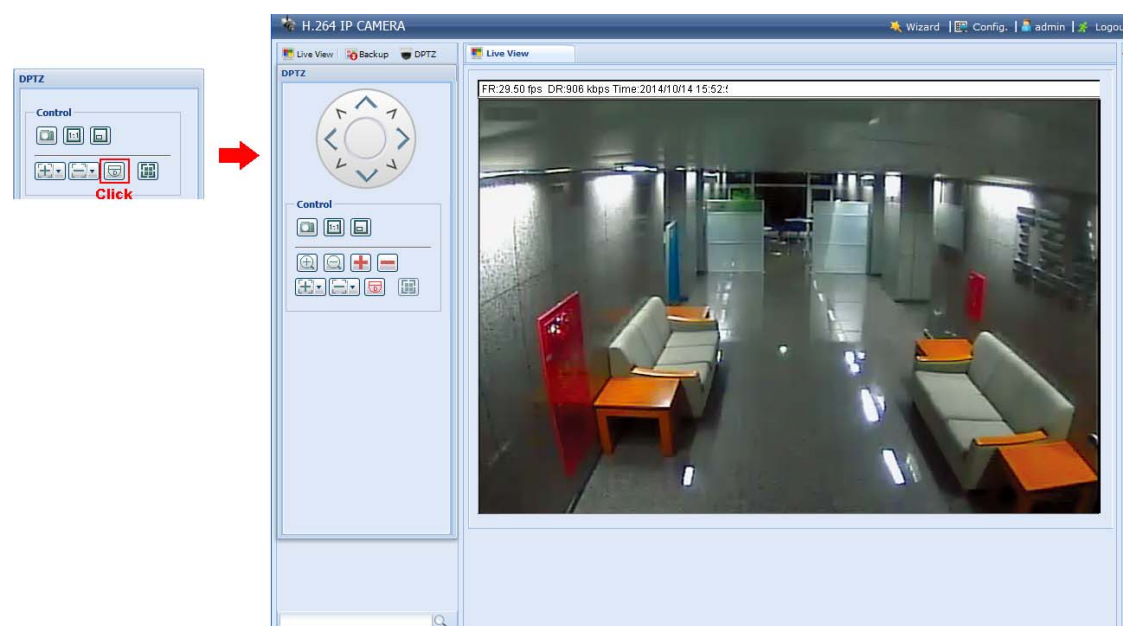
There are three ways to manually move the camera view by:

















- Using the arrow key panel
- Hot point – Directly click on the live view to move the camera view.
- Using sliders – Click and drag sliders on the top and left side of the live view to move the camera view.

2.3 Digital PTZ (DPTZ) Operations

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

Click "DPTZ" on the top left corner to show the DPTZ control panel.

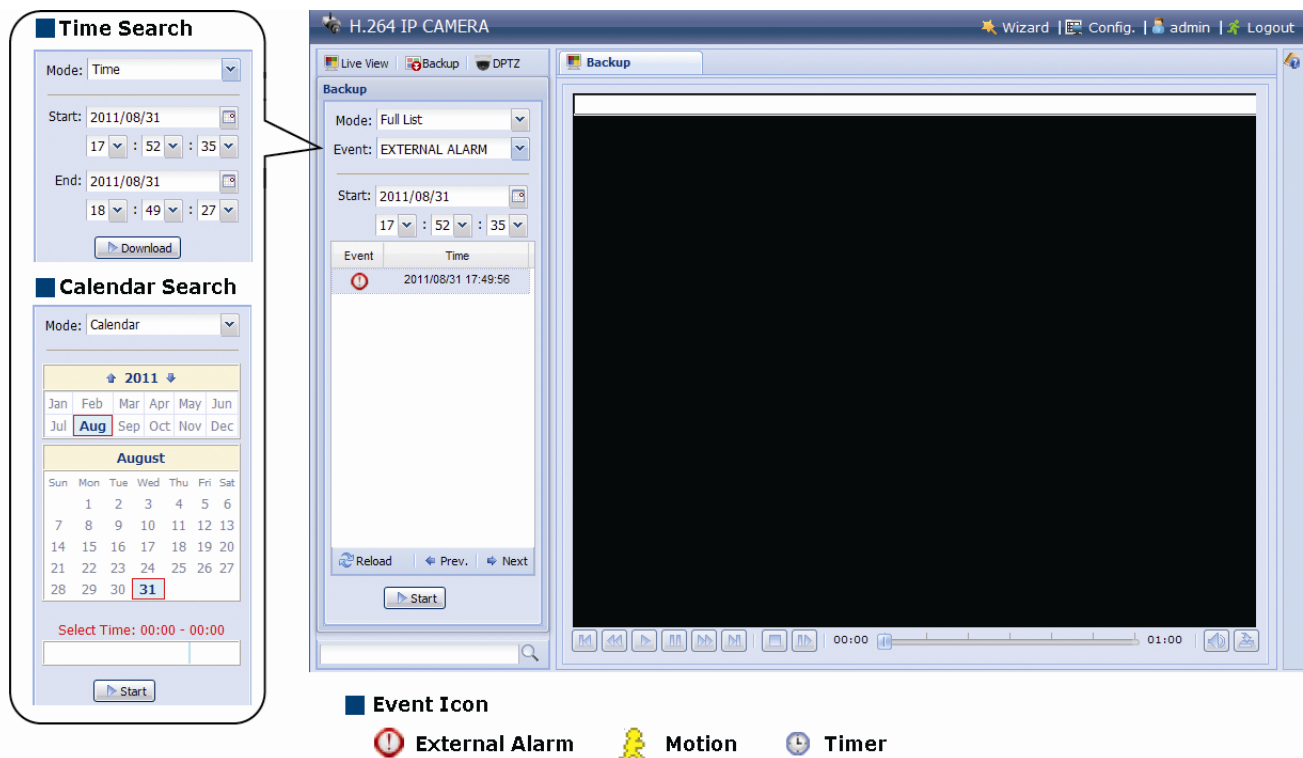











FUNCTION	ICON	DESCRIPTION
Moving panel	--	When  is selected, the moving control panel will be shown to move the picture after zoom-in is performed.
Take snapshots		Click to take a snapshot of the current view on a new window. Right click on the picture and re-save it to the location you want.
Normal size		The current live view size is the same as the selected resolution.
Fit to screen		The selected resolution is resized to fit into the current live view size. <i>This icon doesn't work when the selected resolution is VGA or QVGA.</i>
Scale		Click and hold the movable square on the left bottom corner of the live view to move <i>This icon appears only when the selected resolution is larger than the current live view size.</i>
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 clearness of the video images.
Focus Zone		Click to assign the point for focus adjustment. <i>This function will be disabled when DPTZ is enabled.</i>

2.4 Event Record Search & Playback

This camera can only save a few recordings.

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



	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 camera by accessing via Internet Explorer.

3.1 System configuration menu

Click “Config.” to enter the configuration page.

Note: You need to be “Supervisor” to enter the system configuration page. If you’re not a “Supervisor”, please re-log into the camera with the correct user name and password.

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

- For details about “Network”, please refer to “3.2 Network” at page 8.
- For details about “Camera”, please refer to 3.3 Camera” at page 13.
- For details about “VA”, please refer to “3.4 VA” at page 20.
- For details about “Record”, please refer to “3.6 Record” at page 21.
- For details about “Storage”, please refer to “3.7 Storage” at page 21.
- For details about “Trigger”, please refer to “3.8 Trigger” at page 22.
- For details about “General”, please refer to “3.9 General” at page 23.

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.
	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. Set the camera title. 2. Specify the display position of the camera title. 3. Specify where the snapshot files should be saved. 4. Configure the pan and tilt speed of the camera.
	Preset	Set the preset points for the DPTZ function.
	Cruise	Set the cruise mode when the auto mode is enabled: Sequence or Auto Pan.
	Auto Tracking	Set the surveillance area for auto tracking, and the tracking timeout.
	Video	Adjust video-related settings in different video format.
	ROI	Select a specific area to reinforce the image quality of that area.
	Color	Adjust the color performance.
	Audio	Adjust the audio volume of the microphone and speaker.
	Advanced	Adjust the camera parameters if necessary.
	Home	Configure the camera to return to the specified point or specific cruise action when the camera is not in use for a specific time.

Main Menu	Sub-Menu	Reference
VA	TA	This function should be used with the mini-guard control switch for alarm system integration. For details, please check with your distributor or installer.
	DIS	Enable this function to reduce blurring associated with the motion of a camera during exposure.
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 the timer for automatic, external alarm and motion detection recording.
Storage	Memory	Check the current storage capacity and clear all recorded data when needed.
Trigger	Trigger	<ol style="list-style-type: none"> 1. Enable / disable motion and alarm 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.
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 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.

3.2 Network

3.2.1 Network

You can set the network configuration of the camera depending on your network type.

For details, please refer to “Advanced Network Setup” from www.surveillance-download.com/user/m2592.swf.

Network Configuration

IP Type: Static IP PPPoE DHCP

Server IP:

Gateway:

Net Mask:

Port:

DNS1:

DNS2:

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

3.2.2 QoS

QoS, Quality of Service, is the ability to control the data flow for real-time streaming. This function is important if your network bandwidth is insufficient and you have other devices to share the network bandwidth.

Check “QoS Enable”, and set the max. upload rate from 256 to 10240 kbps.

QoS Configuration

QoS: Enable Disable

Interface:

Max. Upload Rate: 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/m2592.swf.

3.2.4 SNTP

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

Function	Description
GMT	Once users choose the time zone, the 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 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”.

Receiver Name	E-Mail Address
boss	boss@tech.com

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 3 API ID APPLICATION FOR SMS MESSAGING" at page 32.

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

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

- System:** A dropdown menu with 'clickatell' selected.
- Username:** A text input field containing 'tech'.
- Password:** A text input field with masked characters '*****'.
- API ID:** A text input field containing '3281378'.
- Recipient:** A text input field containing '+886912665475' with a small flag icon to the left.
- Transfer Interval:** A dropdown menu with '15' selected, followed by the text 'Minute(s)'. A 'Reset Counter' button is located to the right of this dropdown.
- Message:** A text area containing '[192.168.1.10] unauthorized access!'. A checkbox labeled 'Include Hostname or IP' is checked.
- Buttons:** At the bottom, there are three buttons: 'Save', 'Test', and 'Reload'.

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 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 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 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/m2592.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.



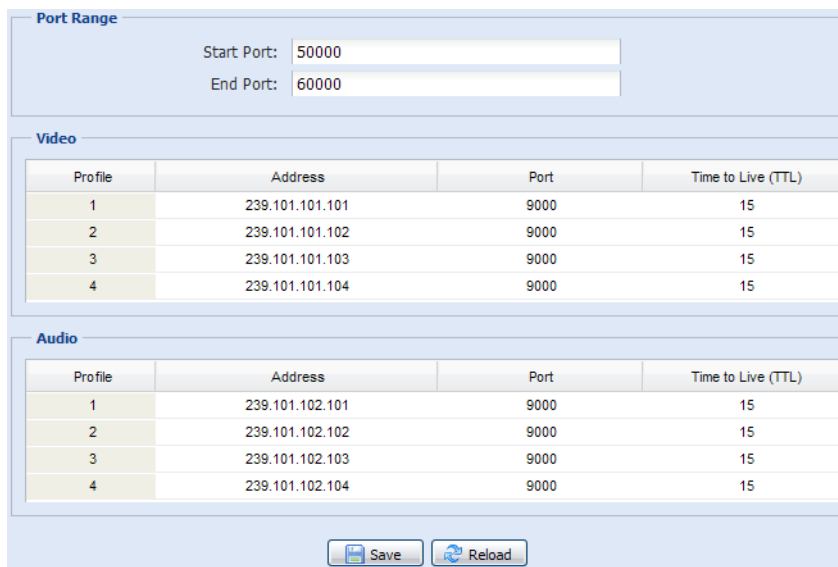
Note: When the configurations are saved successfully, you’ll see a message indicating the IP address and port number assigned to this camera.

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
<p>■ Port Range The port range used by RTP is limited, and preserving 100 ports between the start port and end port is necessary.</p>	
Start Port	The range of the start port is 1024 ~ 65434.
End Port	The range of the end port is 1124 ~ 65534.
<p>■ Video</p>	
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.
<p>■ Audio</p>	
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 IEEE 802.1X

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.

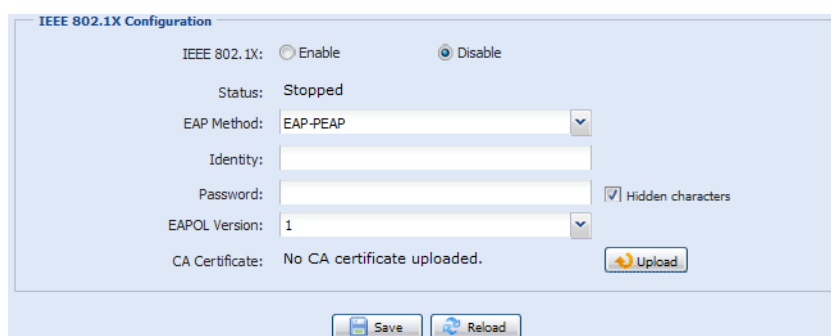
Note: To know how to connect the camera to a PC or laptop directly, please check "4 Modem / Hub + Modem" in "[ADVANCED NETWORK SETUP](#)".

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.



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.

3.2.12 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:

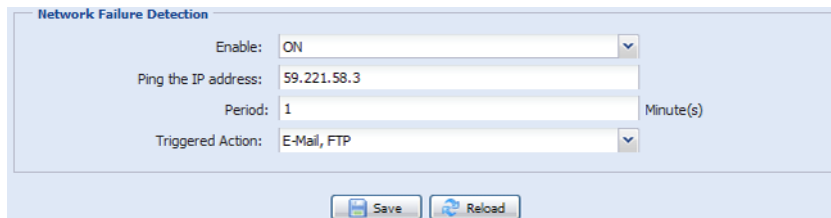
- A PC is installed in the same LAN environment as this camera, and you know the IP address of the PC.
- A PC account is created as "Administrator" with a user name and password.
- A folder in the PC is opened as shared to the user account you assigned.

Note: Please check "APPENDIX 5 PREREQUISITES FOR NETWORK SHARE" at page 36 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.

3.2.13 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.



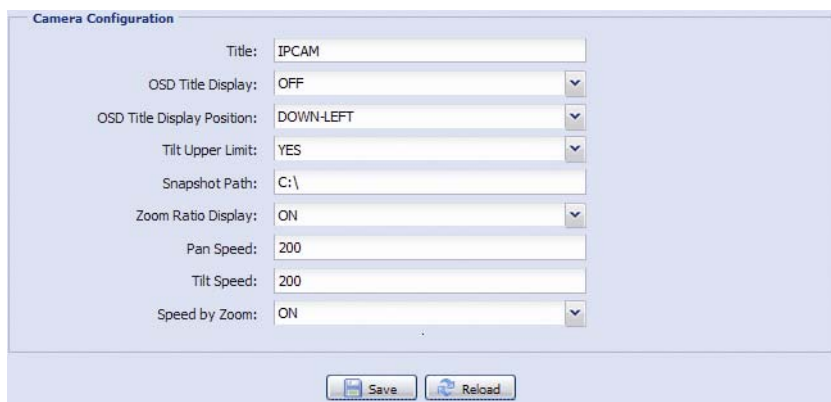
The screenshot shows the "Network Failure Detection" configuration interface. It includes the following fields and controls:

- Enable:** A dropdown menu set to "ON".
- Ping the IP address:** A text input field containing "59.221.58.3".
- Period:** A text input field containing "1", with "Minute(s)" written to its right.
- Triggered Action:** A dropdown menu set to "E-Mail, FTP".
- At the bottom, there are "Save" and "Reload" buttons.

3.3 Camera

3.3.1 Camera

In this menu, you can set the camera title, OSD display, and location to save snapshots. Moreover, you can also configure the speed of pan and tilt.



The screenshot shows the "Camera Configuration" interface with the following settings:

- Title:** IPCAM
- OSD Title Display:** OFF
- OSD Title Display Position:** DOWN-LEFT
- Tilt Upper Limit:** YES
- Snapshot Path:** C:\
- Zoom Ratio Display:** ON
- Pan Speed:** 200
- Tilt Speed:** 200
- Speed by Zoom:** ON
- At the bottom, there are "Save" and "Reload" buttons.

3.3.2 Preset

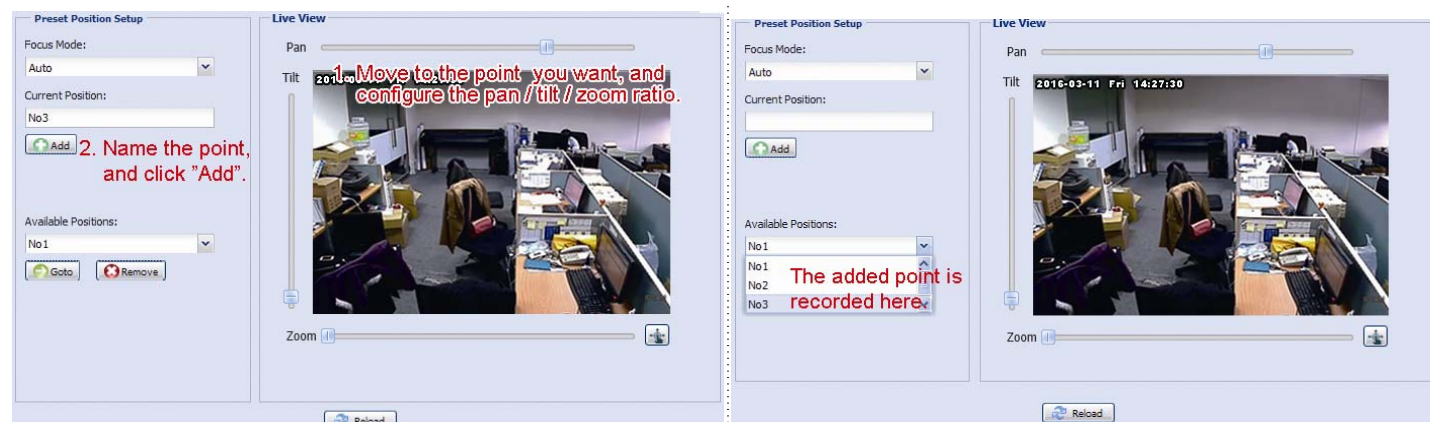
Note: Before using this function, make sure the DPTZ function is enabled.

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

How to set a new preset point

Step1: Click to where you want to see, and you'll get a 5x zoom-in image. To slightly zoom out, draw a square from the bottom right to top left, and you'll get a 3x image. Draw the square again and you'll return to the original size.

Step2: In "Current Position", give a name to this point, and click "Add".



The image contains two side-by-side screenshots of the "Preset Position Setup" interface, illustrating the process of adding a new preset point.

Left Screenshot: Shows the "Current Position" field with "No3" selected. A red annotation "1. Move to the point you want, and configure the pan / tilt / zoom ratio." points to the "Live View" window. Another red annotation "2. Name the point, and click 'Add'." points to the "Add" button.

Right Screenshot: Shows the "Available Positions" list with "No1", "No2", and "No3" listed. A red annotation "The added point is recorded here." points to "No3" in the list.

How to check an existing preset point


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

How to delete an existing preset point


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

3.3.3 Cruise

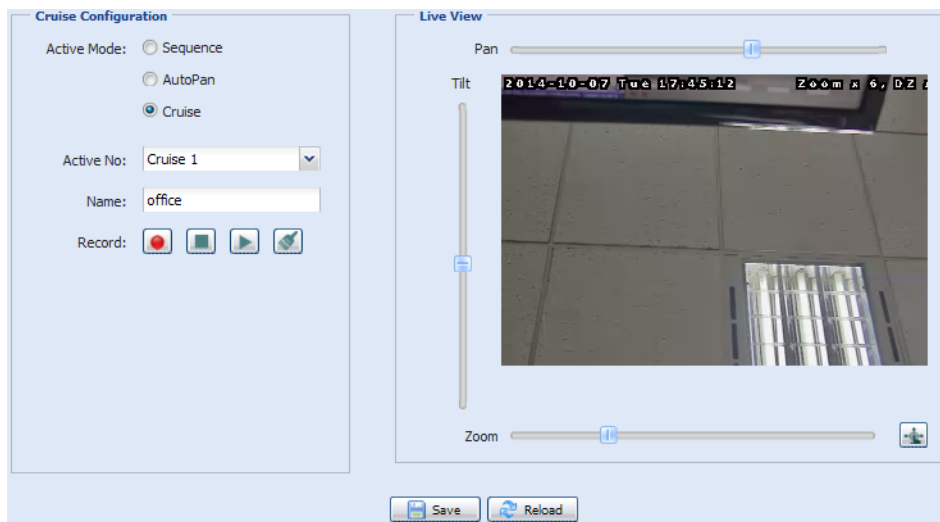
Note: Before using this function, make sure you have finished setting several preset points.

Here defines how the auto mode of the camera is going to work when  is selected: Sequence, Auto Pan or Cruise.


Cruise

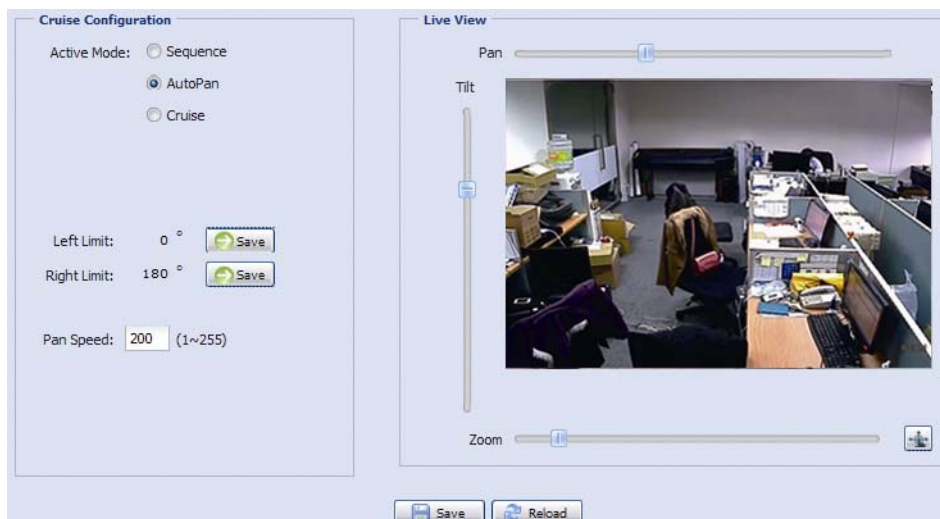
When “Cruise” is selected here and  is clicked on the live view page, the camera will start cruising.

This function is used to record the monitoring route you want up to 200 seconds. Up to four cruise routes could be saved in this menu. You could also preview and remove the routes as needed.




Auto Pan

When “Auto Pan” is selected here and  is clicked on the live view page, the camera will start panning.

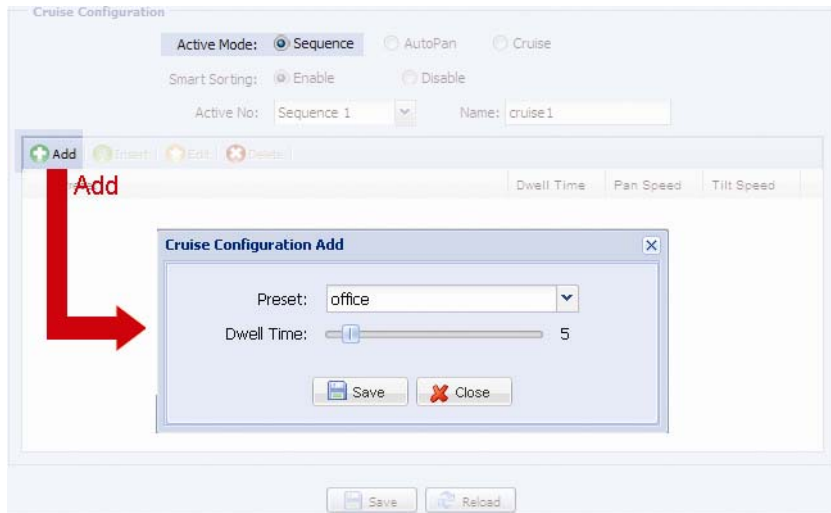


Sequence

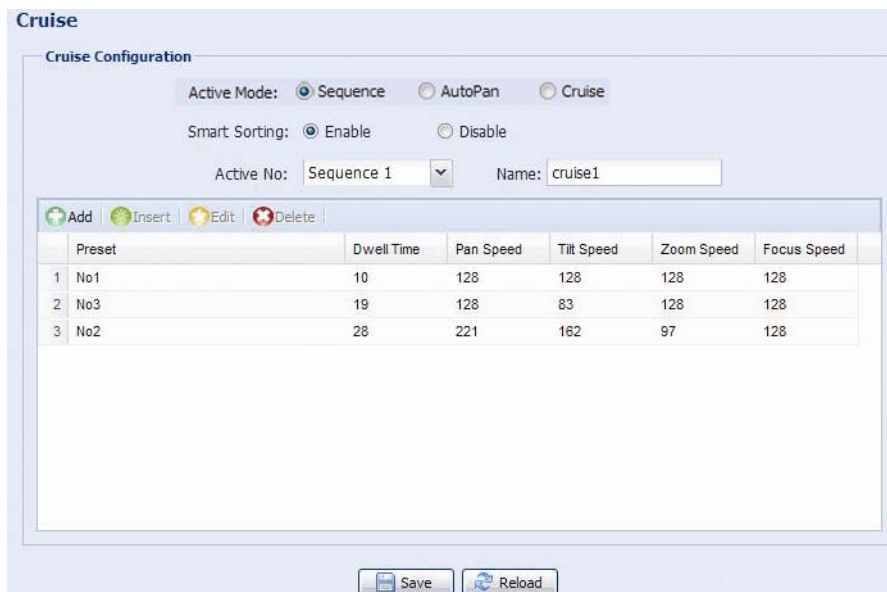
When “Sequence” is selected here and  is clicked on the live view page, the camera will start patrolling each preset point defined in “Sequence”.

Step1: Click “Add” to choose a preset point from the drop-down list, and select the duration to stay at this point from 1 ~ 60 minutes.

Then, click “Save” to confirm.



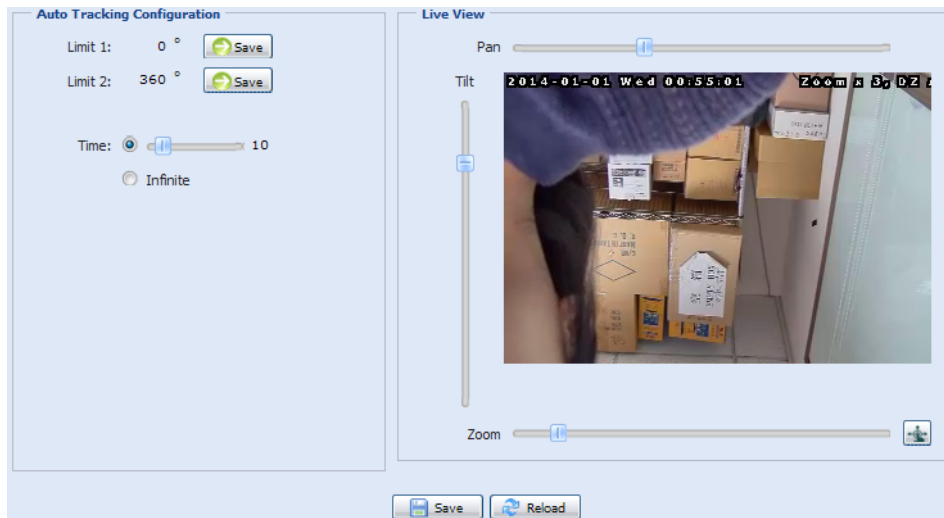
Step2: Click “Add” again to add more preset points. When all the points are added, click “Save” to confirm.



3.3.4 Auto Tracking

Set the surveillance area for auto tracking, and the tracking timeout.

When the locked target is out of the pre-defined surveillance area or stops moving for a pre-defined period of time, the camera returns to the point it originally monitors.

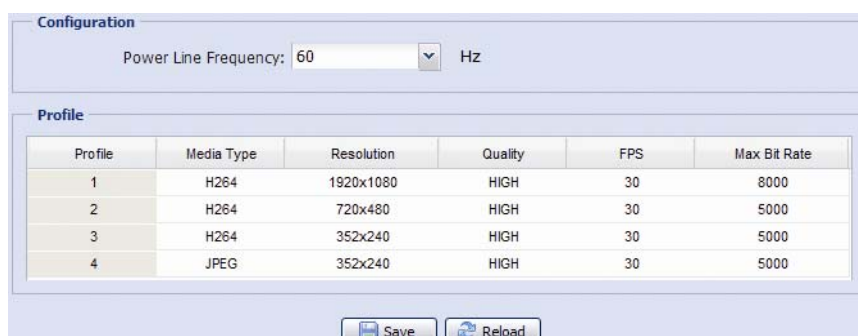


Item	Description
Limit 1	When the locked target moves out of the surveillance area, the camera returns to the point it originally monitors after the preset tracking timeout. By clicking and dragging the slider, set the left end of the surveillance area from 0° ~ 360°.
Limit 2	When the locked target moves out of the surveillance area, the camera returns to the point it originally monitors after the preset tracking timeout. By clicking and dragging the slider, set the right end of the surveillance area from 0° ~ 360°.
Time	When the locked target stops moving longer than the pre-defined tracking timeout, the camera returns to the point it originally monitors after the preset tracking timeout. By clicking and dragging the slider, set pre-defined tracking timeout of the camera from 5 ~ 60 seconds, or you can choose to have no time limit (Infinite).

3.3.5 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.

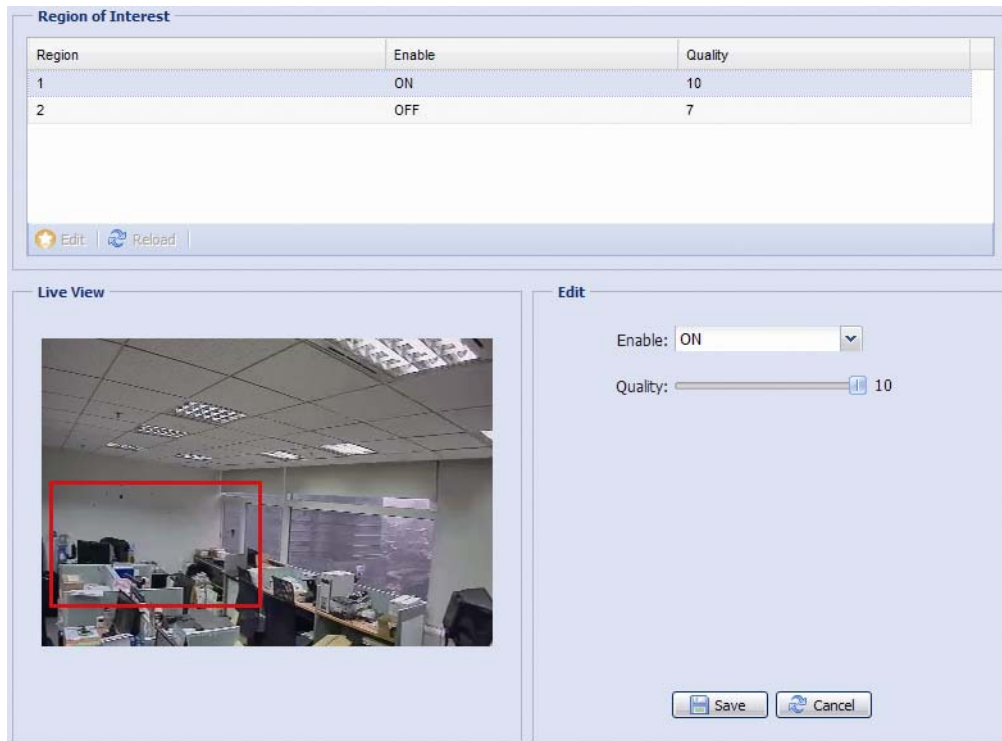


3.3.6 ROI

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.

To edit a region, select one region and double-click it. The edit panel will be shown later.

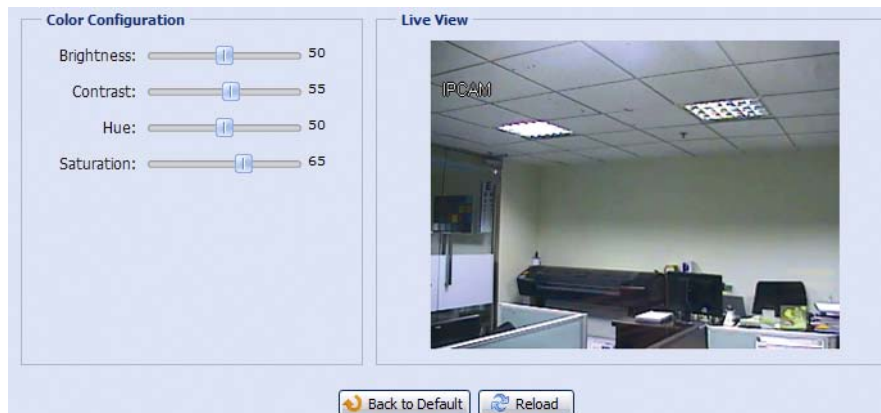
Draw an area where you want to reinforce its quality in “Live View”, and configure the picture quality from 1 ~ 10. The larger the value, the higher the quality.



3.3.7 Color

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

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



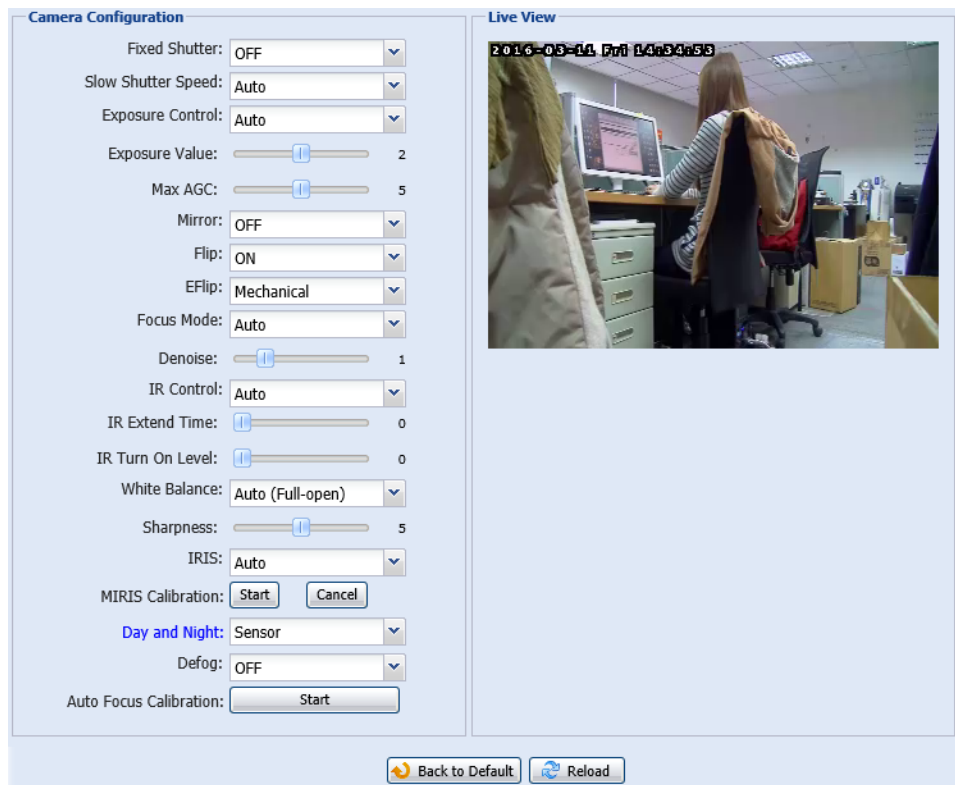
3.3.8 Audio

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



3.3.9 Advanced

Adjust the camera parameters if necessary.



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	Slow shutter is used to increase the exposure time to get clearer image, for example, at night. The options are: Auto, 1/15 and 1/6.
Exposure Control	This function is used to synchronize the shutter time to the fluorescent light to suppress image flickering. The options are: Auto, Flicker-free 50Hz and Flicker-free 60Hz.
Exposure Value	Drag the slider to adjust the exposure level from 0 ~ 4.
Max AGC	Configure the max AGC value from 0 ~ 10. The larger the value, the stronger the image signals in the dark, but the more noise you might see.
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.
EFlip	This function is used to keep the image upright always after pan / tilt movement. The options are: OFF / Mechanical (default).
Focus Mode	At the same focal length: <ul style="list-style-type: none"> - Choose "Auto" to keep the current focus status even when the camera pans / tilts. - Choose "Continue" to allow the camera to re-focus every time when the camera pans / tilts.
Denoise	Click and drag the slider to adjust the level from 0 ~ 10 to decrease the noise shown in the dark environment.
IR Control	Select "Auto" to automatically enable IR LEDs at night or in the dark environment, or "Off" to disable this function.
IR Extend Time	Configure from 0 ~ 60 seconds to delay the switch of the IR mode at night. 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 Turn On Level	Select the level for IR light to activate from 0 ~ 20. The higher the value, the more sensitive the IR light to activate.
White Balance	Process the current image to retain color balance over a color temperature range. The options are: Auto (Full-open), Flames (2500K), Light bulbs (3200K), Fluorescent light (4200K), Clear skies (5800K), Shade (9500K), Auto (indoor), Auto (outdoor)
Sharpness	Sharpness enhances the clarity of image detail by adjusting the aperture and sharpening the edges in the pictures. Hold and drag the slider to adjust the level of sharpness from 0 ~ 10. The higher the value, the sharper the image.
IRIS	IRIS is used to adjust the amount of light reaching the image sensor for best image results. You can choose "Auto", or select any suitable value based on your environment.
MIRIS Calibration	Select "Start" to begin mechanical iris calibration.

Item	Description
Day and Night	<p>This function is used to configure the day and night mode:</p> <ul style="list-style-type: none"> ● Day - Always stay in the day mode (color). ● Night - Always stay in the night mode (B/W). ● Time - The night mode is activated during the time specified. When this option is selected, click "Day and Night" to schedule the time to activate the IR LEDs. ● 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. ● Digital Input N.O. – Normally stay in the day mode, and switch to the night mode when the alarm is triggered. ● Digital Input N.C. – Normally stay in the night mode, and switch to the day mode the when alarm in triggered.
Defog	Select "ON" to enable the defog function in poor weather conditions such as fog, smog or smoke. The captured image can be improved.
Auto Focus Calibration	Click "Start" to start focus calibration automatically.

3.3.10 Home

Configure the camera to return to the specified point or specific cruise action when the camera is not in use for a specific time.

3.4 VA

3.4.1 TA

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

3.4.2 DIS

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

3.5 ONVIF

3.5.1 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.

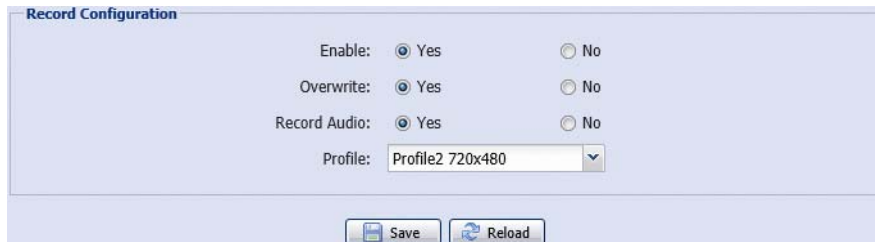
3.6 Record

3.6.1 Record

In “Record Configuration”, you can:

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



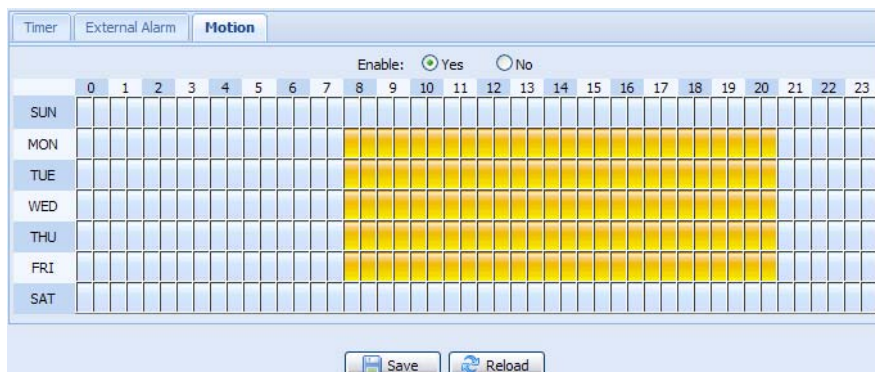
The screenshot shows the "Record Configuration" web interface. It features three radio button options: "Enable" (Yes selected), "Overwrite" (Yes selected), and "Record Audio" (Yes selected). A dropdown menu for "Profile" is set to "Profile2 720x480". At the bottom, there are "Save" and "Reload" buttons.

3.6.2 Record Timer

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

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

Note: The selected time will be yellow-colored.



The screenshot shows the "Record Timer" web interface. It has tabs for "Timer", "External Alarm", and "Motion". The "Motion" tab is active, and the "Enable" radio button is set to "Yes". Below is a 7x24 grid representing days of the week (SUN to SAT) and hours (0 to 23). A yellow shaded area covers the hours from 8 to 20 for all days from Monday to Friday. At the bottom, there are "Save" and "Reload" buttons.

3.7 Storage

3.7.1 Memory

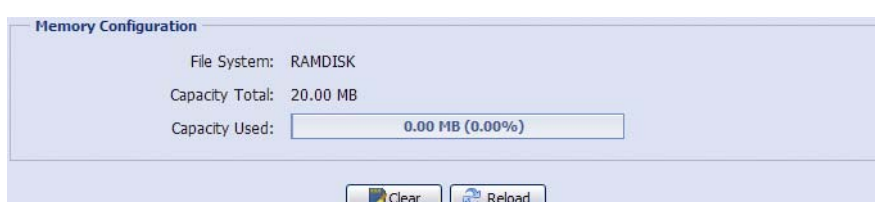
In “Memory”, you can check the remaining capacity for recording, or clear all recorded data saved if needed.

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

You can only record a limited number of recordings.

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 2 RECORDING TIME TABLE” at page 31.



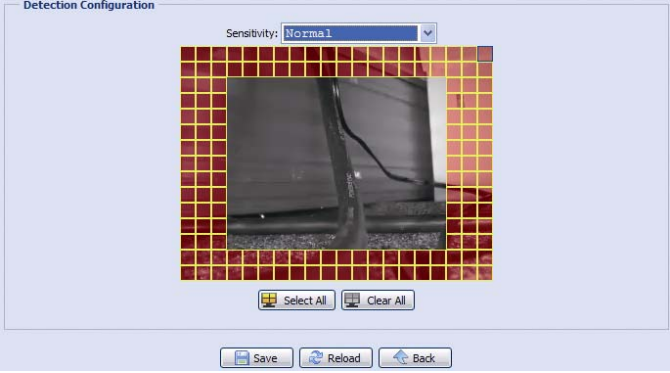
The screenshot shows the "Memory Configuration" web interface. It displays "File System: RAMDISK", "Capacity Total: 20.00 MB", and "Capacity Used: 0.00 MB (0.00%)". At the bottom, there are "Clear" and "Reload" buttons.

3.8 Trigger

3.8.1 Trigger

You can configure how this camera reacts when there's an alarm or a 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	<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 "ON" 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>
Duration	Set the duration time for trigger recording (5 / 10 / 20 / 40 seconds).

◆ Action

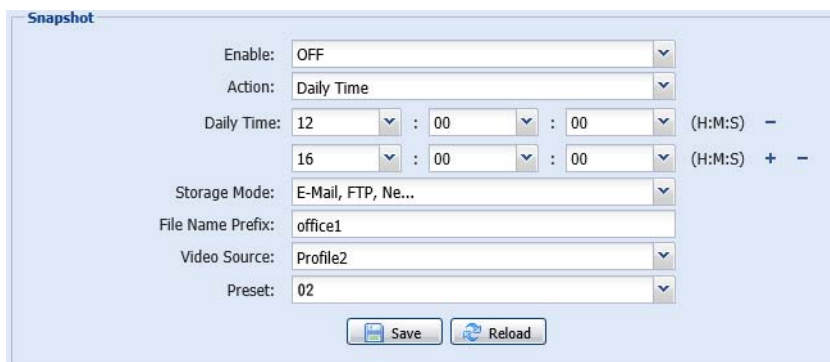
Here defines how the camera delivers alerts to you for any event.

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 configure the media type or profile, file format (AVC / AVI) and record time (1 ~ 5 seconds) for the event video clip. If you don't want event video clips to be attached in the email, select "No" in "Email Attachment". The camera will send an Email 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 configure the media type (H264 / JPEG / MPEG4), file format (AVC / AVI), and record 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 text message when it occurs. The camera will send a text message to the 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).
Record	Select the event type you want to enable event recording when it occurs.
Audio Alert	Select "Manual Alarm-Out" to enable audio alert when it occurs.
Preset	Select "External Alarm", and click the title "Preset" (in blue) to select a preset point to which the camera will move when an alarm event occurs.

3.8.2 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.

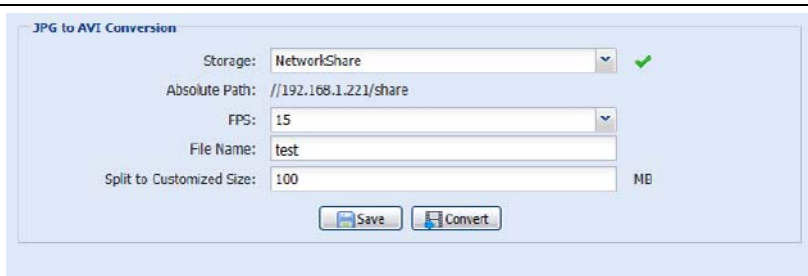
Note: Before using E-Mail, FTP and Network Share, make sure the related configurations are done in "Network" → "Mail", "Network" → "FTP", and "Network" → "Network Share".



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 "3.2.12 Network Share" at page 13.



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.

3.9 General

3.9.1 General

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

“Turbo Steps” is used to speed up one-click from 1 to 10. For example, if the value of the turbo step is set to 5, one mouse-click will function as 5 mouse-clicks when you click the arrow keys.

Note: When this function is enabled, the supported buttons will turn to red.

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.

The screenshot shows the 'General Configuration' page. It contains four rows of configuration options, each with a label and a dropdown menu: 'Language' set to 'English', 'Turbo Step' set to '5', 'Auto Lock Time' set to '15 MIN', and 'MAC Address' set to '00:0E:53:EB:5B:50'. At the bottom of the configuration area are two buttons: 'Save' and 'Reload'.

3.9.2 Time

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

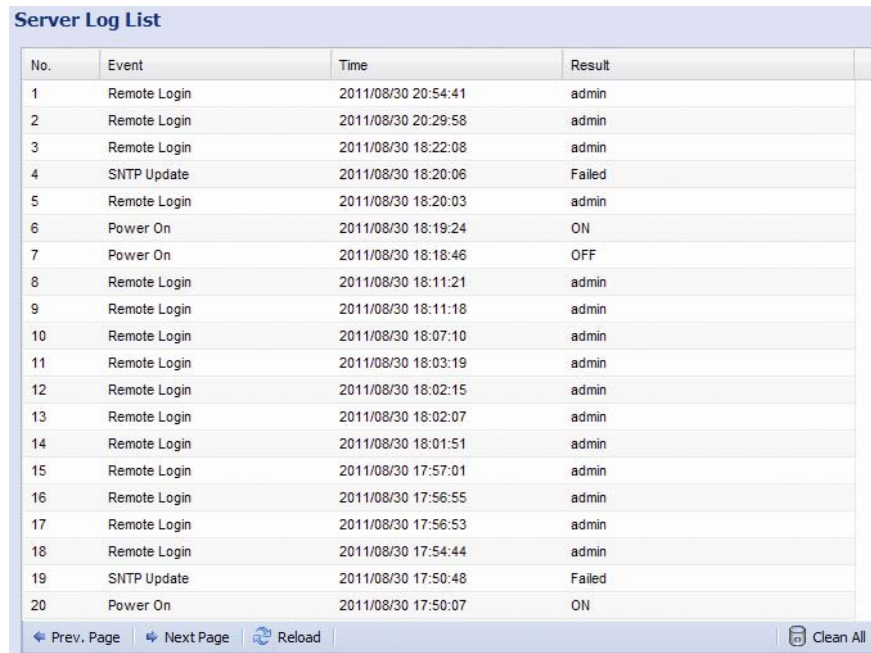
The screenshot shows the 'Time' configuration page. It is divided into two main sections. The first section, 'Time Configuration', includes an 'OSD' toggle (set to 'Disable'), a 'Date' field (2011/08/30), and a 'Time' field (21:16:41). The second section, 'Daylight Saving Time Configuration', includes a 'Daylight Saving Time' toggle (set to 'Disable'), 'Start Time' (August, First Week, Monday, 6:00), 'End Time' (October, Fifth Week, Monday, 10:00), and 'Adjust Time' (1:00). Both sections have 'Save' and 'Reload' buttons at the bottom.

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).

3.9.3 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”.



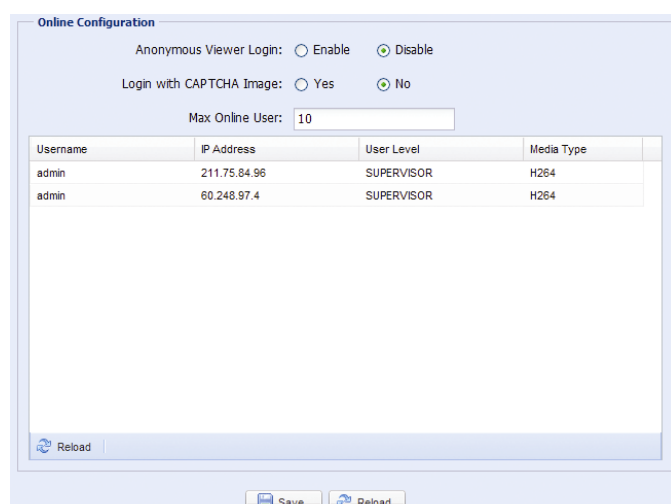
The screenshot shows a web interface titled "Server Log List". It contains a table with four columns: "No.", "Event", "Time", and "Result". The table lists 20 events, including Remote Login, SNTP Update, Power On, and Remote Login. At the bottom of the table, there are navigation buttons: "Prev. Page", "Next Page", "Reload", and "Clean 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

3.9.4 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”.



The screenshot shows a web interface titled "Online Configuration". It has two radio button options: "Anonymous Viewer Login" (with "Enable" and "Disable" options) and "Login with CAPTCHA Image" (with "Yes" and "No" options). Below these is a text input field for "Max Online User" with the value "10". There is a table with four columns: "Username", "IP Address", "User Level", and "Media Type". The table contains two rows of data. At the bottom, there are "Save" and "Reload" buttons.

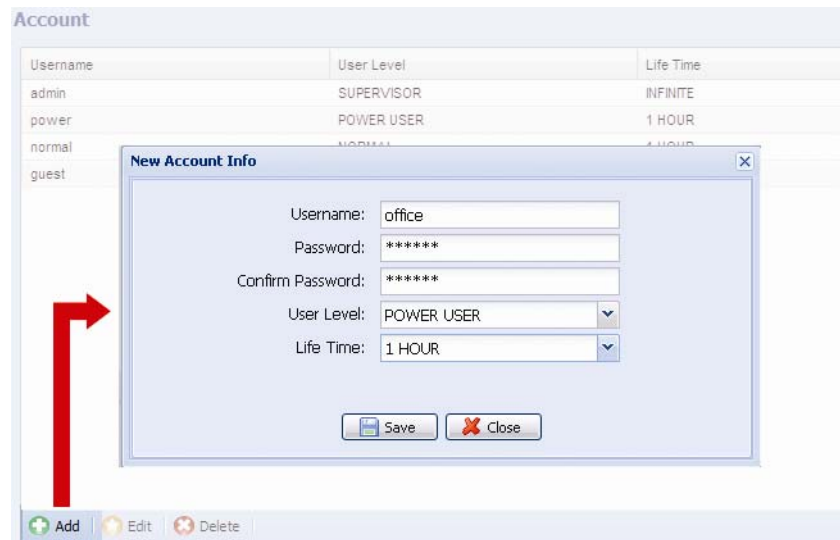
Username	IP Address	User Level	Media Type
admin	211.75.84.96	SUPERVISOR	H264
admin	60.248.97.4	SUPERVISOR	H264

3.9.5 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.

3.9.6 Google Maps

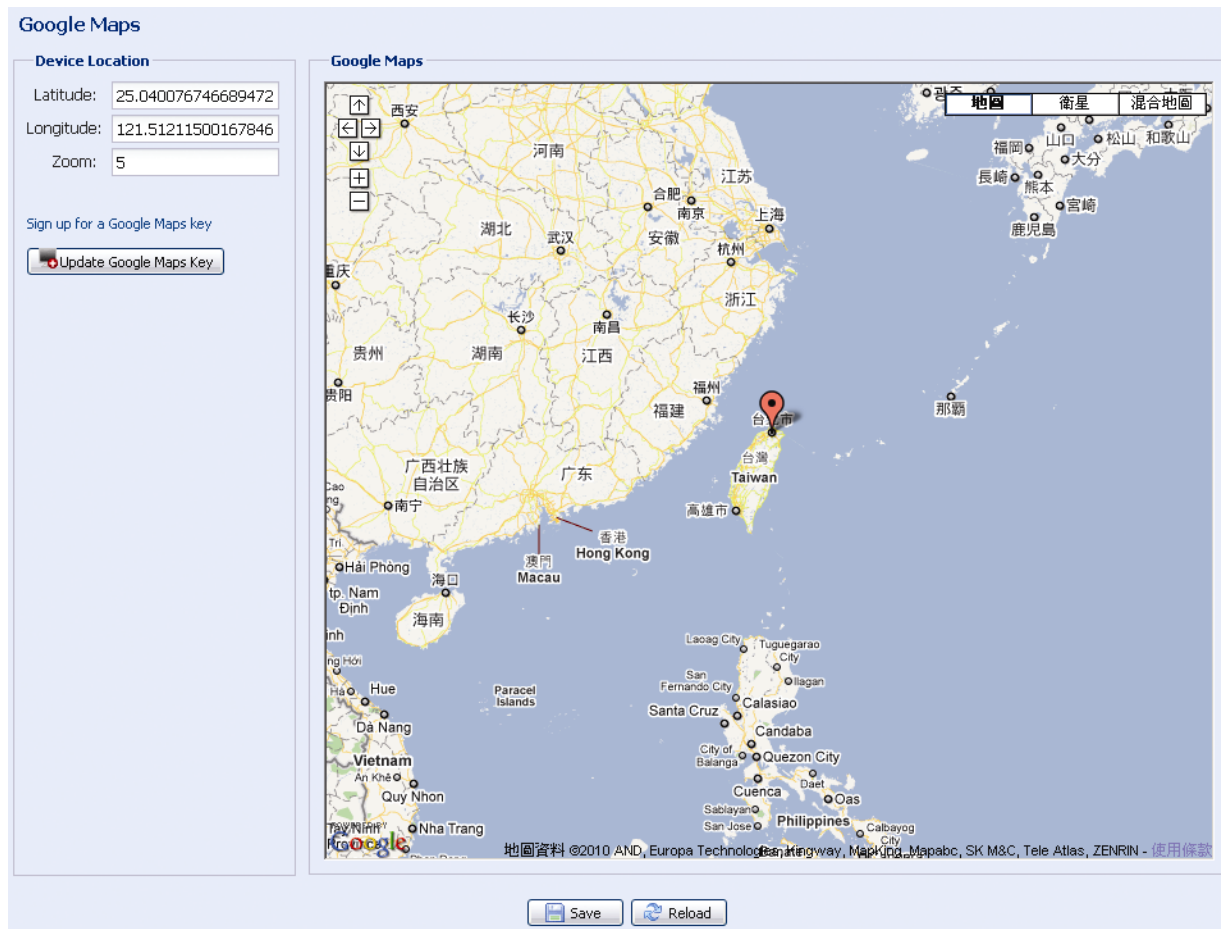
This function is used to let you know where the camera is.

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 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.



3.9.7 Maintenance

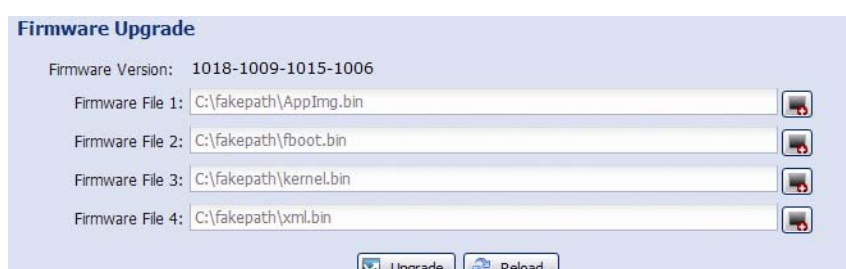
Firmware Upgrade

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.

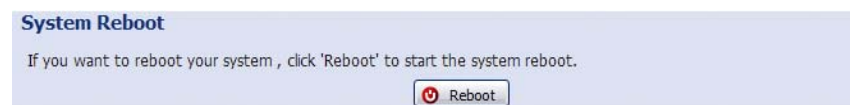
You may import the same system configuration to another camera, or restore your system configuration when the camera is reset to default values.

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



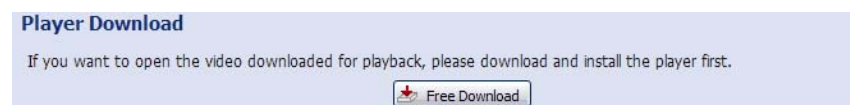
System Reboot

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.



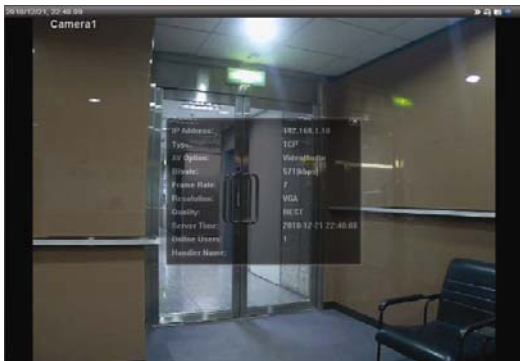
APPENDIX 1 BIT RATE TABLE FOR REFERENCE

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 2 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 3 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
Send bulk SMS via the internet. No programming needed.

Developers Central
Reliable, scalable, customisable. Integrates with your system via APIs.

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.**

Anywhere in the World
International (exc! US Free sign up)
I want to send fewer than 10,000 messages per month to the Americas

Special Offers: One Country only (Why special?)

South Africa (Free sign up)

UK (Free sign up)

Ireland (Free sign up)

India (Free sign up)

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][415551212] (for USA) or [27][123457894] (for South Africa)

What is your email address? * [Privacy Policy](#)

test@tech.com

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™
stop spam, read books.

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 activation code here

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

Coupon Code:

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

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

<p>Account Status</p> <p>Credit Balance: <input type="text" value="0"/></p> <p>Payments Pending: <input type="text" value="0"/></p> <p>Credit Balance Alert: Disabled</p> <p>Auto Billing: Disabled</p> <p>SMS Bundle: Disabled</p> <p>SenderID: <input type="text" value="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: <input type="text" value="0"/></p> <p>Messages failed: <input type="text" value="0"/></p> <p>Total: <input type="text" value="0"/></p> <p>Click here to view a detailed report.</p>
<p>Connection Status</p> <p>There are currently no connections in your account.</p> <p>Click here to create a connection (API ID)</p> <p>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: <input type="text" value="0"/></p> <p>Click here to view a detailed report.</p>

Step5: Select "HTTP/S".

Connection Setup

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

HTTP/S **Click "HTTP/S"**

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

SMT (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

Step5: An API ID will be generated as follows.

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

HTTP API

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

API ID used for SMS

API ID:

Description:

APPENDIX 4 PRODUCT SPECIFICATIONS

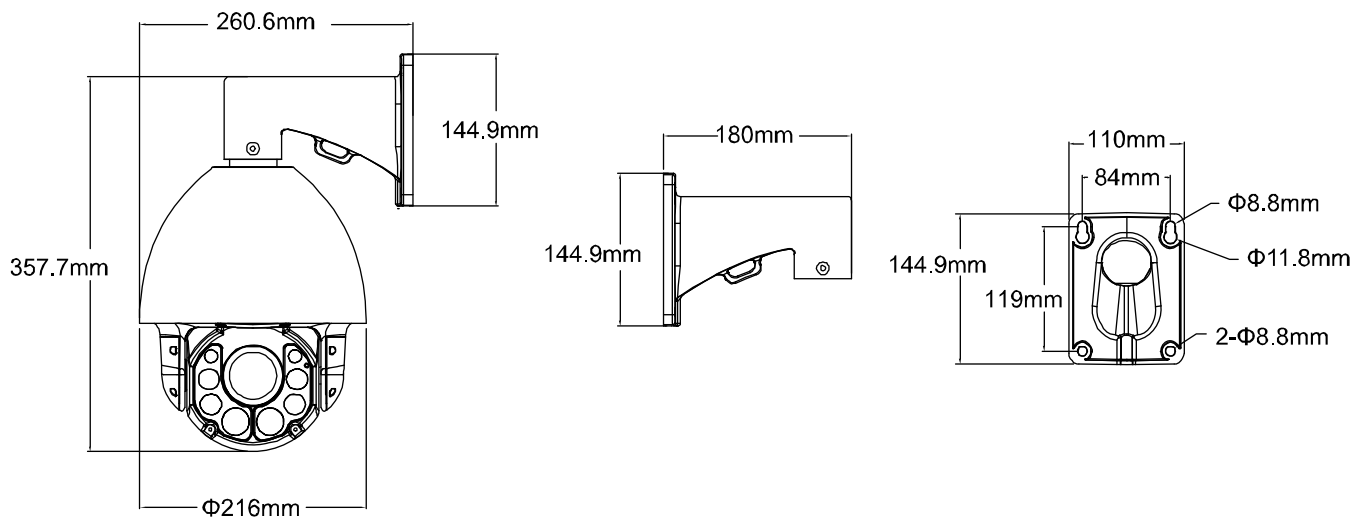
	20X	18X
■ Network		
LAN Port	YES	
LAN Speed	10/100 Based-T Ethernet	
Supported Protocols	DDNS, PPPoE, DHCP, NTP, SNTP, TCP/IP, ICMP, SMTP, FTP, HTTP, RTP, RTSP, RTCP, IPv4, Bonjour, UPnP, DNS, UDP, IGMP, QoS, SNMP	
ONVIF Compatible	YES (Profile S)	
Number of Online Users	10	
Security	(1) Multiple user access levels with password (2) IP address filtering (3) Digest authentication	
Remote Access	(1) Internet Explorer on Windows operating system (2) CMS Lite, 24CH CMS software for Windows operating system (3) EagleEyes on iOS & Android mobile devices	
■ Video		
Video Compression	H.264 (Main Profile) / MJPEG	
Resolution	1920 x 1080 / 1280 x 720 / 640 x 480 / 320 x 240	
Frame Rate	30fps	
Multiple Video Streaming	4 (H.264, MJPEG)	
Bitrate Control	SVBR control (VBR + Max bitrate)	
■ General		
Image Sensor	1/2.9" CMOS image sensor	
Min Illumination	0.1 Lux / F1.6(Wide)~F3.5(Tele), 0 Lux (IR LED ON)	
Shutter Speed	1 / 60 (1/50) to 1 / 100,000 sec.	
S/N Ratio	More than 48dB (AGC off)	
Lens	f4.7 ~ 94mm / F1.6 (Wide) ~ 3.5(Tele)	f4.7 ~ 84.6mm / F1.6 (Wide) ~ 2.7(Tele)
Viewing Angle	1X: 60.8° (Horizontal) / 35.3° (Vertical) / 68.3° (Diagonal) 20X: 3.4° (Horizontal) / 1.9° (Vertical) / 3.8° (Diagonal)	1X: 60.6° (Horizontal) / 36.4° (Vertical) / 67.7° (Diagonal) 18X: 3.7° (Horizontal) / 2.1° (Vertical) / 4.3° (Diagonal)
IR LED	8 units	
IR Effective Distance	Default: Up to 200 meters / IR Turbo mode: More than 200 meters	
IR Shift	YES	
White Balance	Auto / 2500K / 3200K / 4200K / 5800K / 9500K	
AGC	YES	
IRIS Mode	YES	
Sharpness	YES	
POE (Power-over-Ethernet)*	YES (IEEE 802.3af)	
External Alarm I/O	YES (1 input / 1 output)	
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%)	AC 24V / DC19V	
Current consumption (±10%)	DC19V / 1.3A	
Power Consumption (±10%)	PoE & PoN: 11.25W; DC Adapter: 25W	
Net Weight (kg)	6.9	
■ Audio		
Line in	YES (Mono)	
Line out	YES (Mono)	

* When PoE is used for power supply, the IR Turbo mode might not work properly. * The specifications are subject to change without notice.

	20X	18X
■ PTZ Mechanism		
Pan Range	360° continuous rotation	
Max. Pan Speed	180°/s	
Tilt Range	-6° ~ 90°	
Max. Tilt Speed	100°/s	
Zoom Ratio	20X Optical Zoom	
Max. Zoom Speed	Approx. 3s (Tele ~ Wide)	
Preset Points	Up to 256 preset points	
Sequence Group	1. Up to four groups can be set 2. One group can include up to 16 preset points	
Home Position	YES	
Auto Tracking	YES	
Resume after Power Loss	YES	
■ Others		
Mobile Surveillance	iOS & Android	
Event Notification	FTP / Email / SMS	
Digital Pan / Tilt / Zoom	YES	
Reset Default	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.

Dimensions



*Dimensional tolerance: $\pm 5\text{mm}$

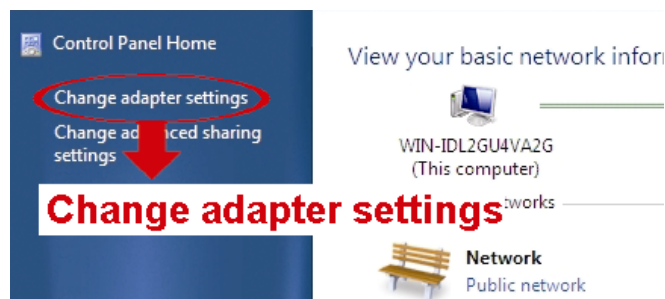
APPENDIX 5 PREREQUISITES FOR NETWORK SHARE

“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.

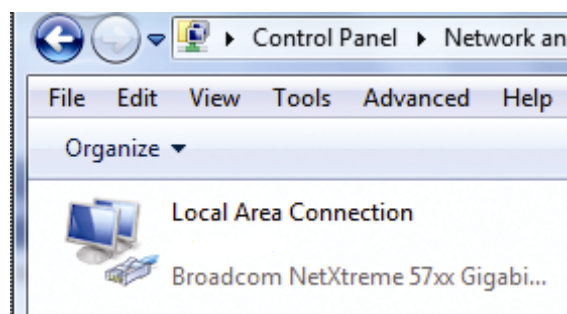
A5.1 Check PC IP Address

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".



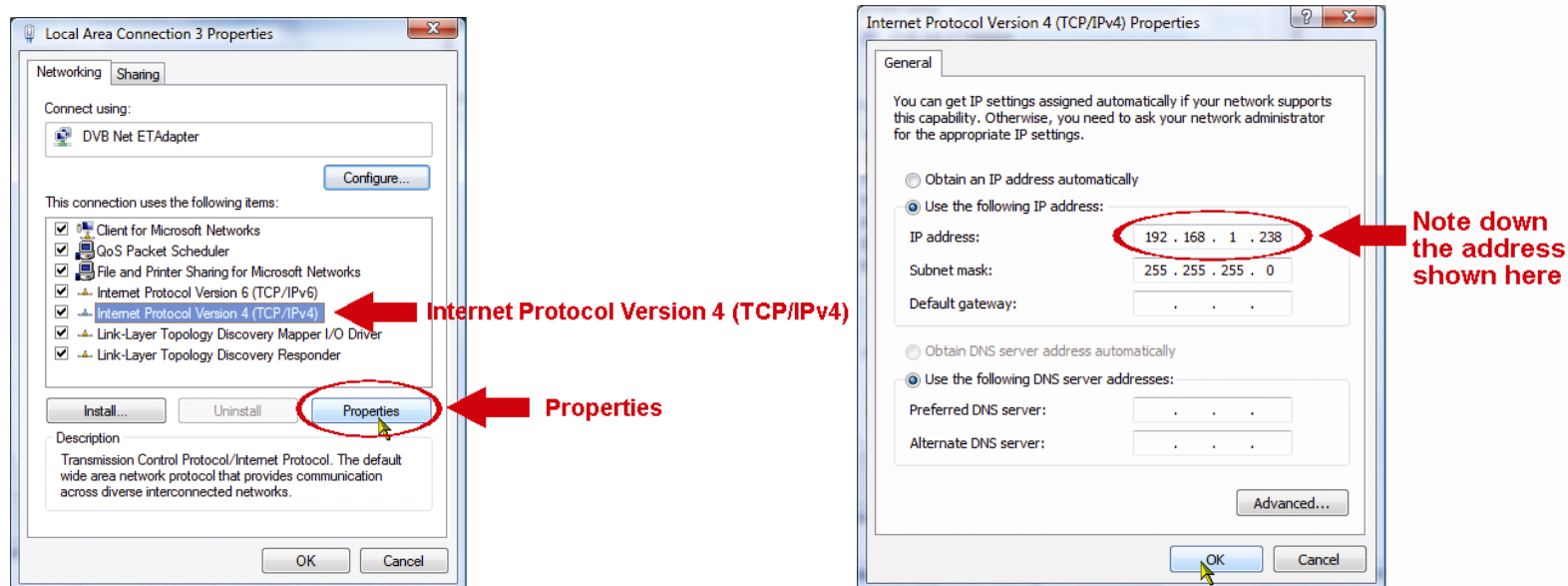
Step2: Right-click on "Local Area Connection", and select "Properties".



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".



A5.2 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".

Choose the account you would like to change

EVB
Administrator
Password protected

Administrator
Administrator
Password protected

allen
Administrator
Password protected

Guest
Guest account is off

Create a new account **Create a new account**

What is a user account?

Additional things you can do

Set up Parental Controls

Go to the main User Accounts page

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

Name the account and choose an account type

This name will appear on the Welcome screen and on the Start menu.

Office

- Standard user
Standard account users can use most software and change system settings that do not affect other users or the security of the computer.
- Administrator
Administrators have complete access to the computer and can make any desired changes. Based on notification settings, administrators may be asked to provide their password or confirmation before making changes that affect other users.

We recommend that you protect every account with a strong password.

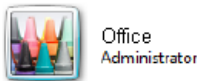
Why is a standard account recommended?

Create Account

Cancel

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

Create a password for Office's account



Office
Administrator

You are creating a password for Office.

If you do this, Office will lose all EFS-encrypted files, personal certificates and stored passwords for Web sites or network resources.

To avoid losing data in the future, ask Office to make a password reset floppy disk.

••••

If the password contains capital letters, they must be typed the same way every time.

[How to create a strong password](#)

Type a password hint

The password hint will be visible to everyone who uses this computer.

[What is a password hint?](#)

Create password

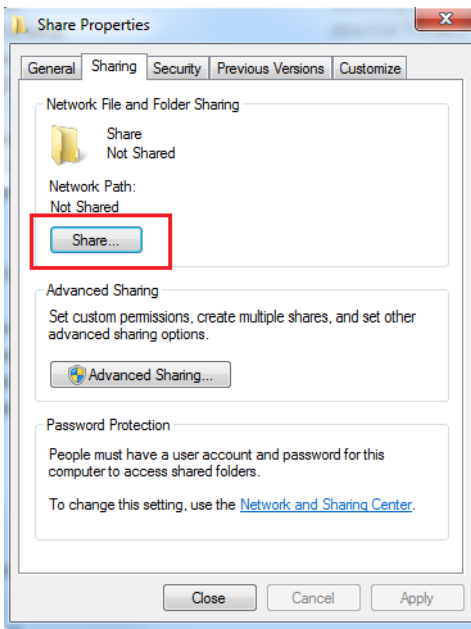
Cancel

A5.3 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.

