P6/P7/Z6/Z7 Series IP Camera User Manual

Table of Contents

Summary 3
Key Features 3
Trademarks & Acknowledgments 3
Other References 4
LILIN Universal ActiveX Control 4
LILIN HTTP API 4
Disclaimer 4
Caution....4
Chapter 1 System Overview....5
Chapter 1-1 System Requirements....5
Chapter 1-2 Software Requirements....5
Chapter 1-2-1 Apple Mac OS 5
Chapter 1-2-2 PC Windows OS 5
Chapter 2 Before Accessing IP Cameras....6
Chapter 2-1 Configure IP Addresses using the IPScan Utility 6
Chapter 2-2 Configure IP Addresses through HTML Connection 6
Chapter 2-3 Web Browser Settings & Software Components Required....7
Chapter 2-4 Login....7
Chapter 3 LILIN IP Camera Operations 8
Chapter 3-1 HTML Operations 8
Chapter 3-2 Quick Buttons 8
Chapter 4 Settings....9
Chapter 4-1 System....9
Chapter 4-1-1 General 9
Chapter 4-1-2 User....10
Chapter 4-1-3 Timer Settings 10
Chapter 4-1-4 OSD Settings 11
Chapter 4-1-5 System Log 11
Chapter 4-2 Video 11
Chapter 4-2-1 General 12
Chapter 4-2-2 Quality Basic 13
Chapter 4-2-3 Quality Advance 14
Chapter 4-2-3-1 Sense Up+ 15
Chapter 4-2-3-2 White Balance Control (AWB)....15
Chapter 4-2-3-3 P-Iris Mode....16
Chapter 4-2-4 Auto Focus 17
Chapter 4-2-5 Day Night Mode Switch....17
Chapter 4-2-6 Privacy Mask....18
Chapter 4-2-7 Audio Adjust 18
Chapter 4-2-8 ROI....19
Chapter 4-3 Controls 19
Chapter 4-3-1 Digital I/O 19
Chapter 4-3-2 Global Counter....20
Chapter 4-3-3 Virtual Input 20
Chapter 4-3-4 Metadata 21
Chapter 4-4 Network 22
Chapter 4-4-1 General 22
Chapter 4-4-2 HTTP Service....23
Chapter 4-4-3 RTSP....24
Chapter 4-4-4 HTTPs Service....24
Chapter 4-4-5 IP/MAC Address Filtering....26
Chapter 4-4-6 DDNS 26

Chapter 4-4-7 Push Service 26
Chapter 4-5-1 SmartEvent 27
Chapter 4-5-2 Motion Detection 28
Chapter 4-5-3 Tampering Detection 29
Chapter 4-5-4 Audio Detection 29
Chapter 4-6 Notification 30
Chapter 4-6-1 FTP Service 30
Chapter 4-6-2 SMTP (Email) Service 30
Chapter 4-6-3 HTTP POST Service 31
Chapter 4-6-4 SD Card Service 31
Chapter 4-6-5 SD Card Backup File 32
Chapter 4-6-6 Samba Service 32
Chapter 4-7 Maintenance 32
Chapter 4-8 LPKG 33
Appendix 35
DDNS Network Settings 35
Advanced Port Forwarding Technology 35
Restore to Factory Default 35

Summary

LILIN P6/P7 and Z6/Z7 series Aida cameras include a series of 4K and 5 MP resolution IP cameras, day and night high-quality auto-focus network cameras. This camera adopts the latest Smart H.265 image compression technology, and the network transmission of ultra-high resolution images is smoother. LILIN's multi-streaming technology can provide 4K, 2 million, 720p, D1, CIF and other resolutions, which can be adapted to transmit high-quality images under various bandwidth network environments.

Ultra-low light sensor, color night light enhanced mode, 4K picture is more realistic. Ultra-wide dynamic HDR technology, up to 120dB in high backlight environment, the face image is clearer.

The P6/P7 and Z6/Z7 series of Aida cameras have built-in AI recognition GPUs and provide external AI plug-ins for multi-species analysis, which can effectively avoid false alarms. P7 and Z7 series IP cameras support SmartEvent technology, which provides programmable and scheduled alarm DO triggering, counters and virtual digital inputs to provide network system integration. Lilin cameras provide output functions for sending alarm information, including smartphone connections, email snapshots, and FTP snapshots.

In addition, The P6/P7 and Z6/Z7 series cameras can connect to Navigator VMS software. This software can enhance the performance of the network camera and provide you with a complete video management solution.

Key Features

- Supports Smart H.264 and H.265 encoding formats.
- Built-in GPU engine for Aida plug-in
- AI detection can send Email or FTP snapshot alarms
- SmartEvent for digital output
- Ultra low light & HDR at 120dB
- Day/night video quality independent scheduling
- Bit rate and frame rate on-the-fly adjustment
- Support dynamic DNS (DDNS) and network time protocol (NTP)
- Support HTTP API integration
- Support ONVIF protocol
- Support LILIN Navigator

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This product contains H.265 (High Efficiency Video Coding, HEVC) codec technologies and is manufactured under the license from Access Advance LLC, and the HEVCAdvance symbol are trademarks of Access Advance LLC.

HEVC Advance™
Covered by patents at patentlist.accessadvance.com

Covered by one or more claims of the HEVC patents listed at patentlist.accessadvance.com.

Other References

LILIN Universal ActiveX Control

Sample codes and documents are included in the product CD and can be downloaded from our company website.

LILIN HTTP API

For non-ONVIF integration, see the LILIN HTTP API document. HTTP API is used in all LILIN IP cameras.

Disclaimer

Please be aware that this user manual may cover a range of product specifications for various models. Characteristics and features discussed and/or illustrated in this manual may not be applicable or available to all models. We reserve the right to change product specifications, designs and equipment without notice and without incurring obligation.

Caution

- Do not drop or damage the equipment
- Do not install the equipment near fire or heat sources
- Keep the equipment from rain, moisture, smoke, or dust
- Do not cover the opening of the cabinet with cloth and/or plastic or install the unit in poorly ventilated places. Allow 10cm between this unit and its surroundings
- Do not continue to operate the unit under abnormal conditions such as smoke, odor, or loss of signal whilst power is turned on
- Do not touch the power cord with wet hands
- Do not damage the power cord or leave it under pressure
- To avoid unnecessary magnetic interference, do not operate this unit near magnets, speaker systems, etc.
- All connection cables should be grounded properly

Chapter 1 System Overview

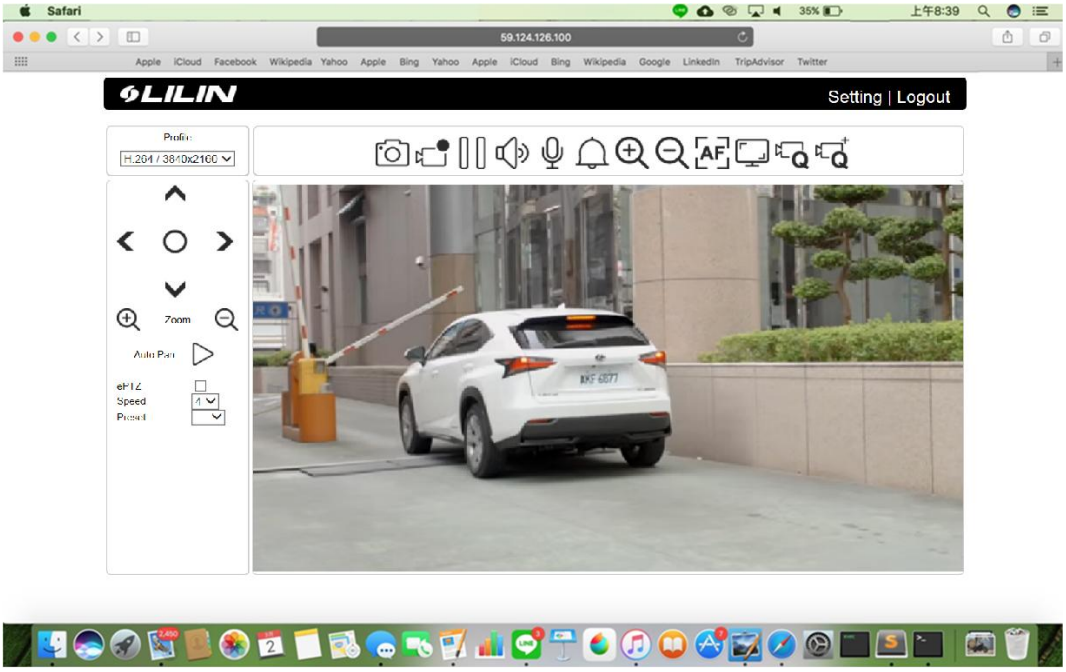
Chapter 1-1 System Requirements

LILIN's IP camera uses compression technology that provides high compression rate and superior video quality. However, video performance depends highly on CPU power and network bandwidth for video streaming. The following sections specify the system requirements for using LILIN IP cameras.

Chapter 1-2 Software Requirements

Chapter 1-2-1 Apple Mac OS

LILIN IP camera uses HTML5 streaming which supports Safari browser for accessing video streaming of the IP camera on Apple Mac OS without any software plug-in.



Chapter 1-2-2 PC Windows OS

Merit LILIN Universal ActiveX software components for a web browser to display MJPEG or H.264/H.265 video. When you first log in to our IP camera, you may see a prompt box as below via Windows OS.

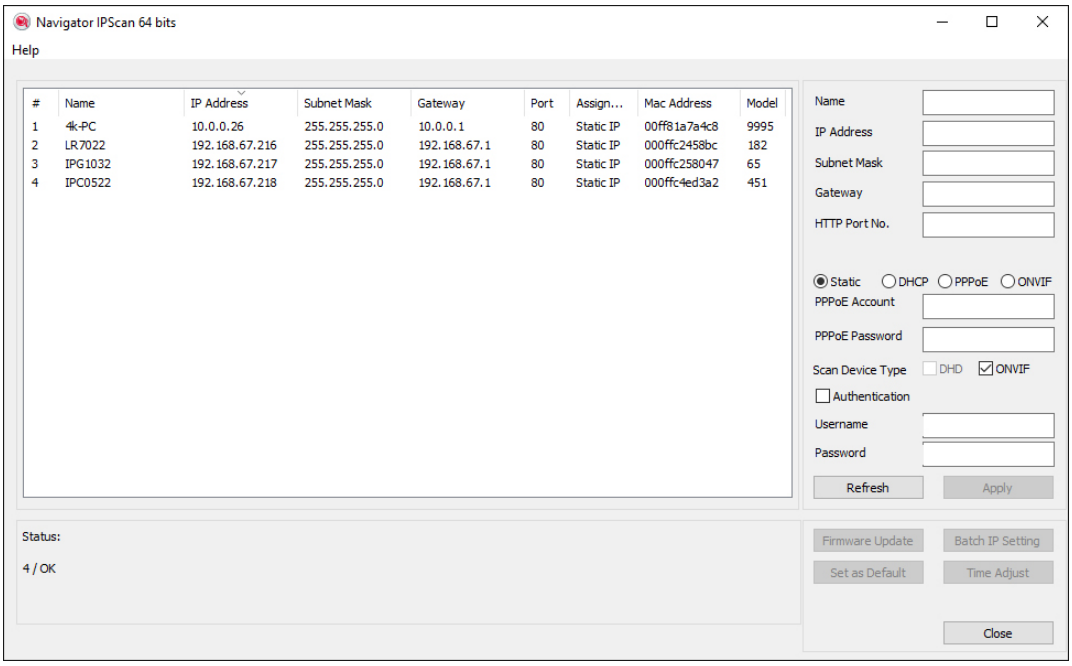
Chapter 2 Before Accessing IP Cameras

Before accessing the IP cameras, make sure that the camera's RJ-45 network connector, audio cable, and power cable are properly connected. To set the IP address, consult your network administrator. The default IP address for each IP camera is 192.168.0.200. Users can use the default IP address to verify the camera's network connection.

Chapter 2-1 Configure IP Addresses using the IPScan Utility

To configure the IP address of your cameras, download IPScan from our official website. Or, you can execute the IPScan installer from the installation CD directly. To change the IP address, subnet mask, gateway, or HTTP port of your cameras, follow the steps below:

- Run the IPScan utility
- Click Refresh. All available devices will be listed on the screen
- Select the device item from the device list
- To edit or modify IP address, subnet mask, gateway, or HTTP port, use the box
- Click Apply for the changes to take effect
- Click Refresh again to verify the changed settings



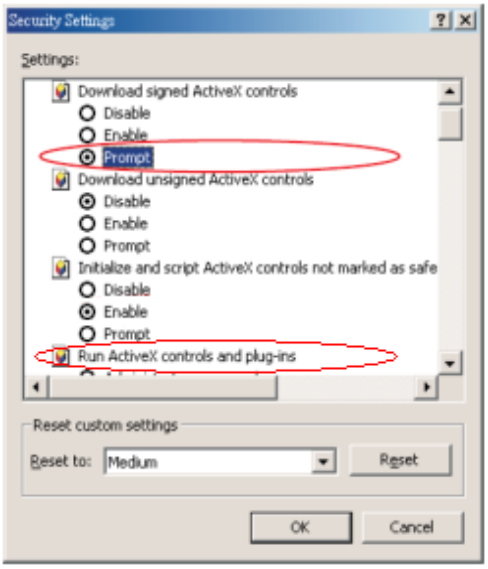
Chapter 2-2 Configure IP Addresses through HTML Connection

To change an IP address on a webpage, type the default IP address (192.168.0.200) into the browser address bar and follow the steps below:

- Due to security reason, create the username and password for the first login. To login to the IP camera, please create the username and password on the login page. Press **Confirm** to complete the setting and login simultaneously.
- Click **Setup→Network** to edit or modify IP address, subnet mask, gateway, or HTTP port
- Click **Submit** for the changes to take effect.

Chapter 2-3 Web Browser Settings & Software Components Required

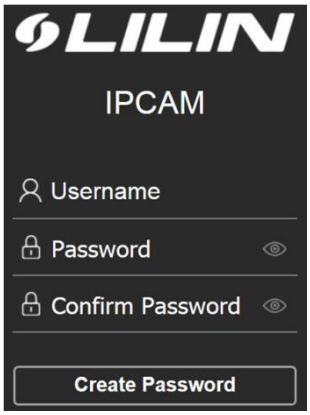
Make sure your Internet browser allows signed ActiveX plug-in to run on your PC. Set Download Signed ActiveX plug-in controls to Prompt and enable Run ActiveX control and plug-in. You can set this in Internet Explorer→Tools→Internet Options→Security→Custom Settings.



Once completed, you can access the IP camera's live video by entering the default IP address via a web browser. A security warning dialog box will appear. Click OK to download the ActiveX directly from the IP camera.

Chapter 2-4 Login

Due to security reason, create the username and password for the first login. To login to the IP camera, please create the username and password on the login page. Press **Confirm** to complete the setting and login simultaneously.



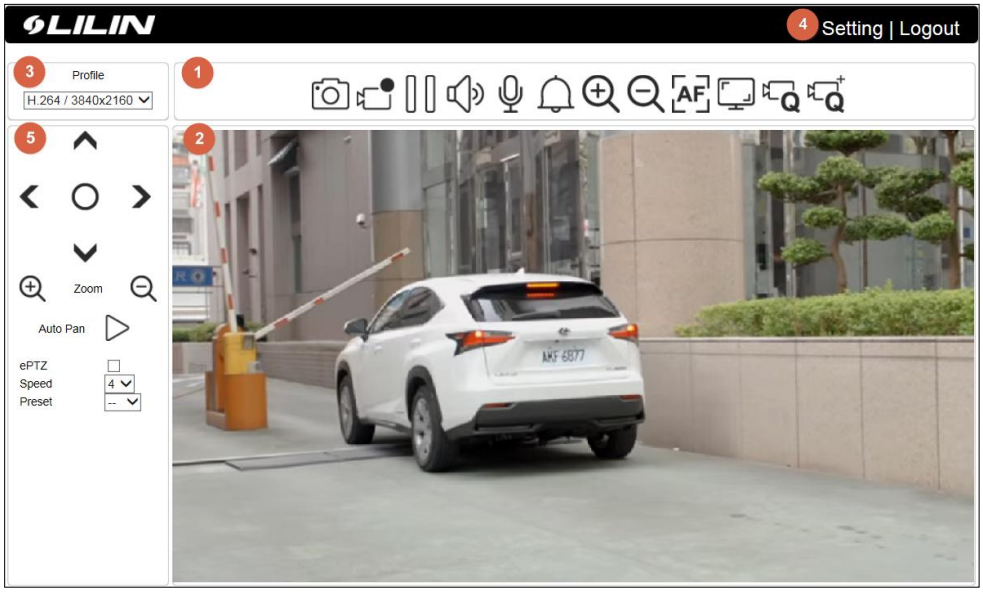
Minimum Password Strength Requirements:
1. The password length must be 8 or more characters.
2. The password must include at least 1 number (0 ~ 9), 1 uppercase letter, 1 lowercase letter and 1 symbol(~ ? / + = , : ; . ' @ # ¥ % ^ & * ( ) _ -).

Note: Please preserve the credential for accessing the camera properly. Forgetting the credential for accessing the camera, please perform hardware factory default.

Chapter 3 LILIN IP Camera Operations

When logged in as an administrator, two main features are available: 1) camera operations and 2) configurations.

Chapter 3-1 HTML Operations



1. **Quick buttons:** IP camera shortcuts
2. **ActiveX display screen:** Display RTSP H.264 or MJPEG streaming video
3. **Profile switching menu:** Switching from one profile to another
4. **Setup buttons:** IP camera setup menu
5. **ROI Control Panel:** The control for digital zoom via ROI.

Chapter 3-2 Quick Buttons

The quick control panel buttons are described below:

	Take a snapshot of the video
	Start recording
	Pause recording
	Speaker output control
	Microphone input control
	Alarm out
	Camera zoom in
	Camera zoom out
AF	Camera auto focus
	Enlarge the live view
Q	Video quality basic
Q+	Video quality advance

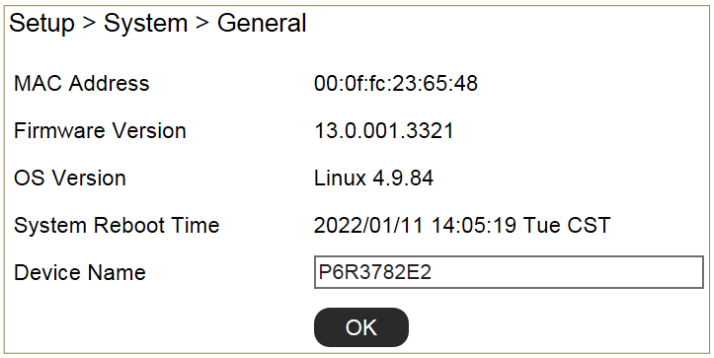
Chapter 4 Settings

As an administrator, you can configure the IP camera via a standard HTML webpage. Click Setup at the top-right corner of the screen after you log in to the camera.

Chapter 4-1 System

Chapter 4-1-1 General

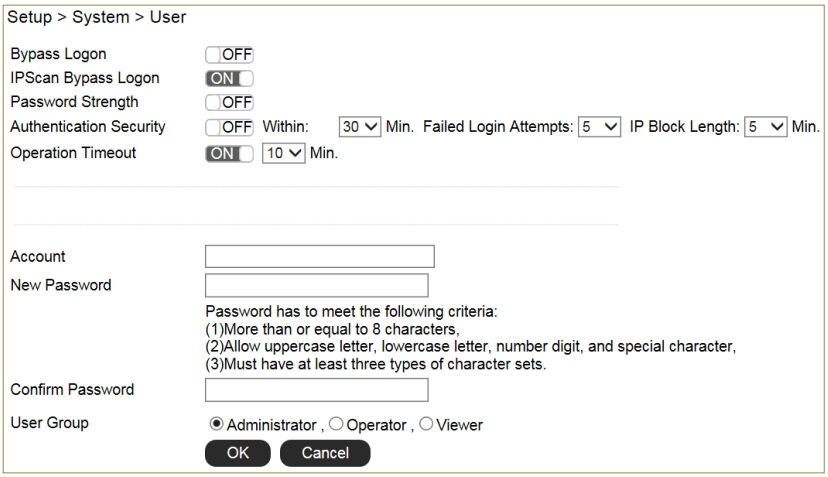
Under System Settings→General, you will see server system information, such as MAC address, firmware version, os version, system reboot time, and device name settings. To modify these options, follow the instructions below:



- **MAC Address:** The MAC address of the IP camera
- **Firmware Version:** Firmware version of the IP camera
- **OS Version:** The version number of the IP camera
- **System Reboot Time:** The last time your system was rebooted.
- **Device Name:** The device name can be found using the IPscan utility, which allows you to identify the IP cameras. To change the device name, enter a new name for the IP camera and click OK.

Chapter 4-1-2 User

The IP camera supports up to 10 user accounts. Each account can be individually configured for its access rights. To add/edit a user, click Add/Edit User. To access an IP camera without authentication, switch the Bypass Logon option to On. Enable IPScan Bypass Logon to log in the IP camera through IPScan without authentication. To add a user, press Add User, and you will see the following screen:

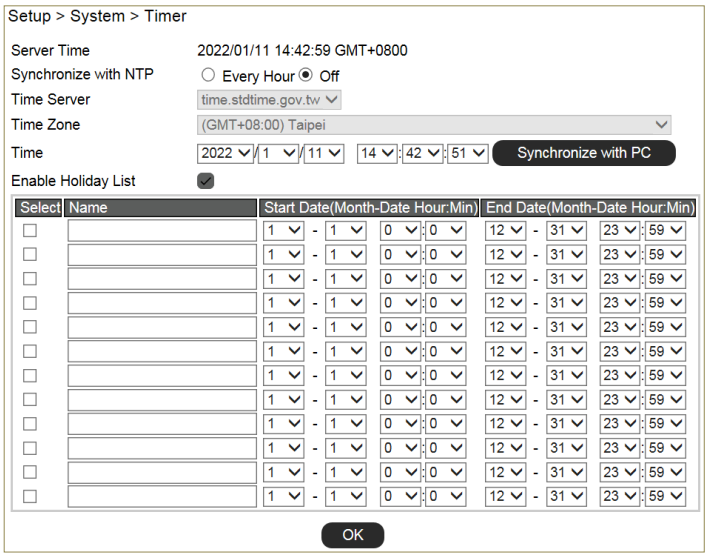


Enter the account name, password and confirm password to add new account, and then check to assign the access rights for this account. Click OK to update the settings.

To edit account information, select user for edit and click Edit User. To delete a user, select user for delete and click Remove User. Click Submit to update the settings.

Chapter 4-1-3 Timer Settings

You can change the time of your camera through a HTML web page. Simply select the date and time in the drop-down menus, and click OK to apply. You may also set the holiday list in this page.



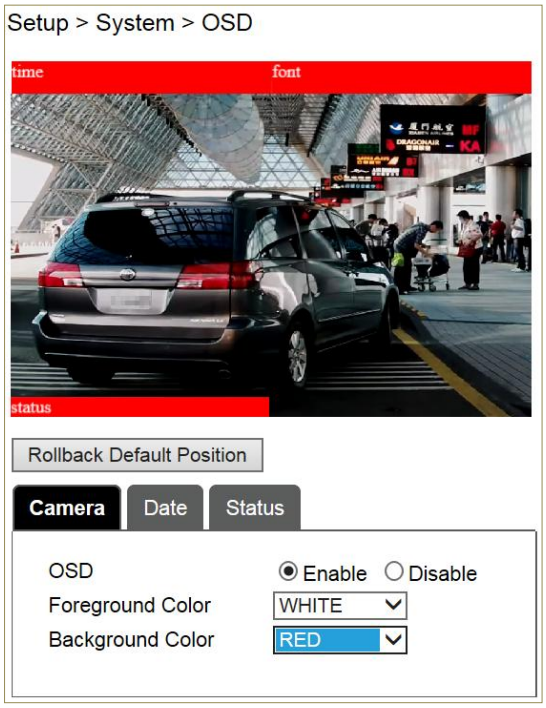
Synchronize with an NTP server

To synchronize with an NTP server, change the Synchronize with NTP to Every Hour. The camera will synchronize its system time with a time server every hour.

Note: This function requires Internet connection.

Chapter 4-1-4 OSD Settings

OSD (on screen display) is for the use of displaying system information on the video. There are features of date and status available.

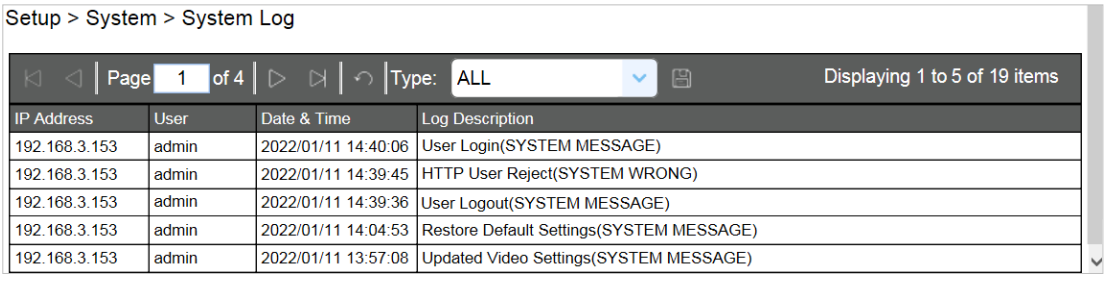


Camera ID, Date and Status are described below:

- OSD: Click to enable or disable the OSD
- Foreground Color: The color of the text
- Background Color: The background color of the text

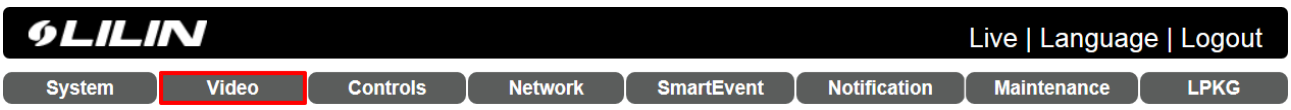
Chapter 4-1-5 System Log

You can view the system-generated log in this page. Click Save icon to export the log to a text file. You can also search for log file by selecting the type keyword.



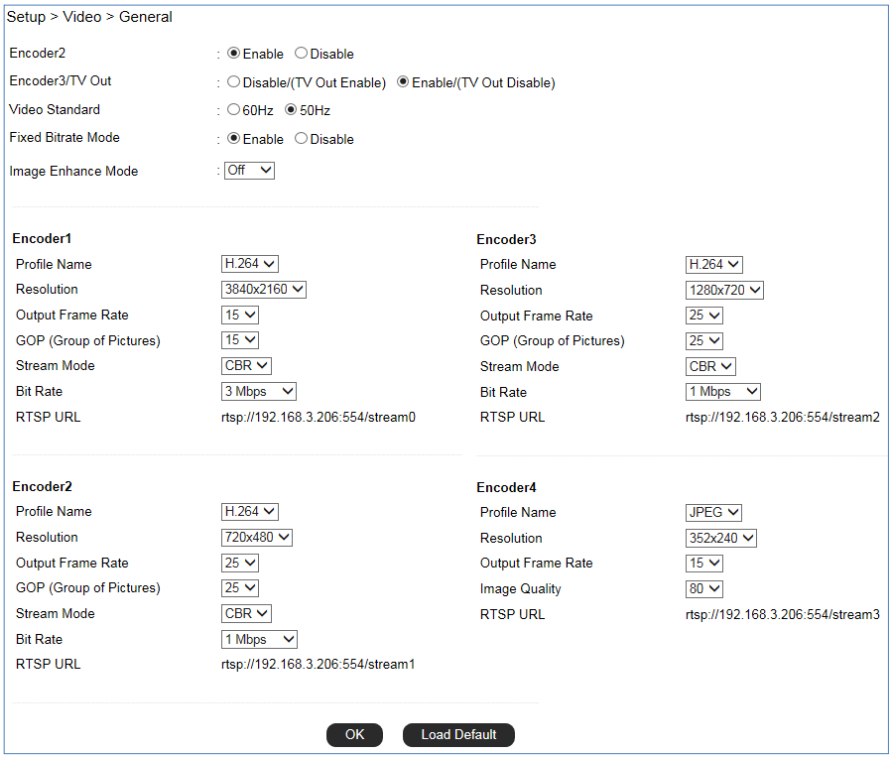
IP Address	User	Date & Time	Log Description
192.168.3.153	admin	2022/01/11 14:40:06	User Login(SYSTEM MESSAGE)
192.168.3.153	admin	2022/01/11 14:39:45	HTTP User Reject(SYSTEM WRONG)
192.168.3.153	admin	2022/01/11 14:39:36	User Logout(SYSTEM MESSAGE)
192.168.3.153	admin	2022/01/11 14:04:53	Restore Default Settings(SYSTEM MESSAGE)
192.168.3.153	admin	2022/01/11 13:57:08	Updated Video Settings(SYSTEM MESSAGE)

Chapter 4-2 Video



Chapter 4-2-1 General

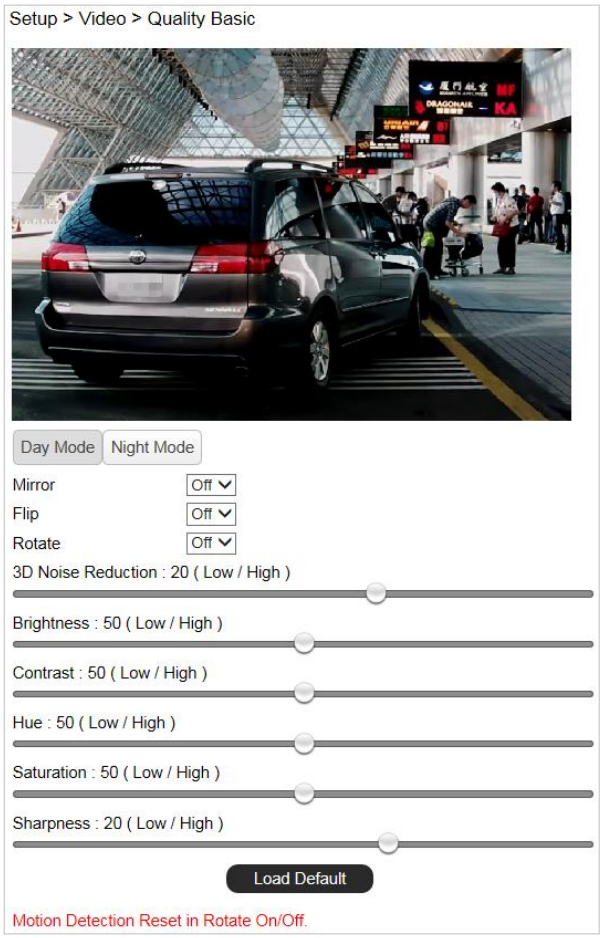
To transmit video over a low bandwidth network such as the Internet, set the bit rate close to the actual upload bandwidth. The camera encodes frames based on the bit rate setting.



- **Profiles:** 4 customizable profiles
- **Video Standard:** NTSC/PAL setting
- **Image Enhance Mode:** HDR switch
- **Profile Name:** The selection of H.264/H.265 video compression
- **Resolution:** The resolution of the video stream
- **Output Frame Rate:** The frame rate of the video
- **GOP:** The number of I-frames to be displayed in one second
- **Stream Mode:** Variable bit rate, an encoding mode that reduces the use of bandwidth; CBR: constant bit rate, an encoding mode that consumes more bandwidth
- **Bit rate:** The maximum bit rate available for your network connection
- **RTSP URL:** Allow you to access the video stream via the Real Time Streaming Protocol
- **Image Quality:** The compression rate of the H.264/H.265 stream

Chapter 4-2-2 Quality Basic

This menu allows you to adjust brightness, contrast, contrast, hue, saturation, and sharpness both for the Day Mode and Night Mode. Individual day/night settings ensure the camera to provide optimal video quality.

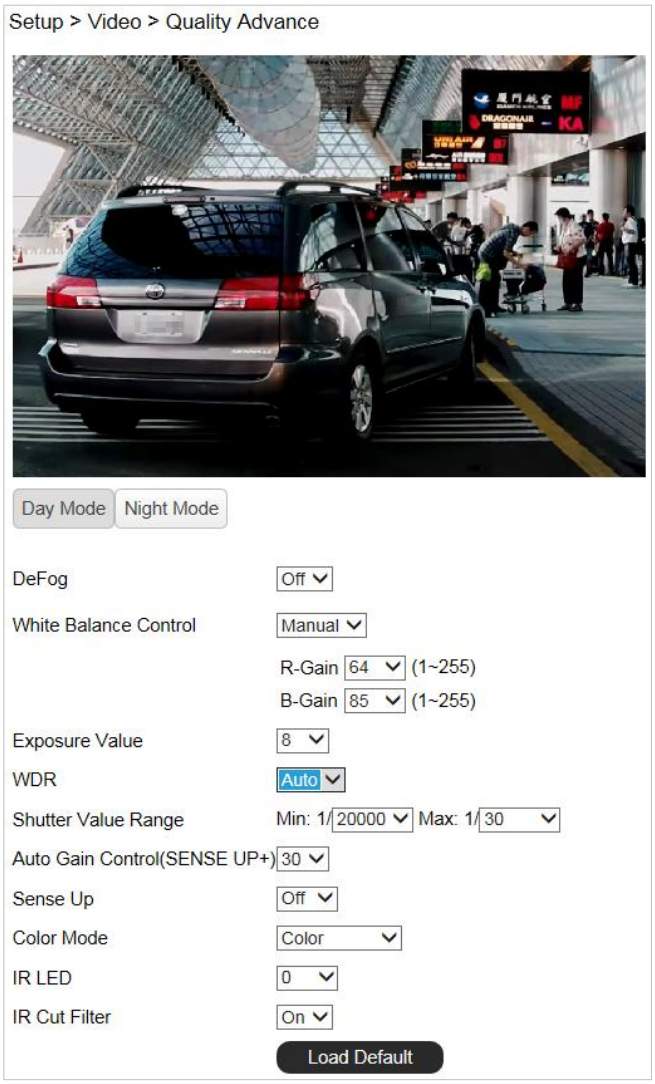


- **Mirror:** Mirror the video
- **Flip:** Flip the video
- **Rotate:** Rotate video to 90 degree for corridor mode.
- **3D Noise Reduction:** If the noise of the video is high at night, set the setting to high if needed.

Chapter 4-2-3 Quality Advance

In this page, you have access to Exposure, Automatic Gain Control, White Balance Control, Sense Up, Shutter Speed, and IR-Cut settings allowing you to adjust camera video quality for day and night.

The camera provides two sets of video quality database for day or night mode. This is very useful settings for video quality especially for ANPR/LPR application where the shutter speed can be customized at night. The video quality settings can be applied by Day and Night Switch explained later in this chapter.



Video setting options are described as follows:

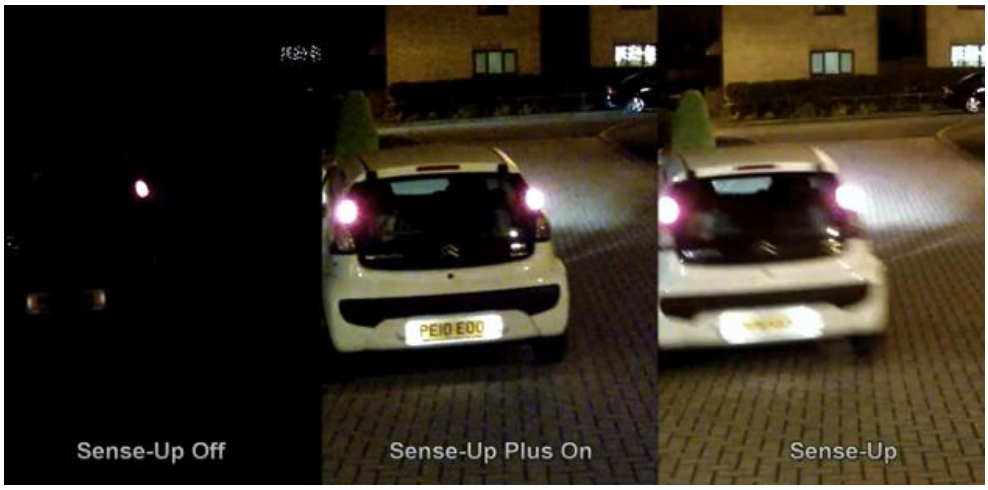
- **DeFog:** When the surrounding area of the subject is foggy and shows low contrast, the defog mode will make the subject appear clearer.
- **White Balance Control:** Adjusts the white balance manually or automatically.
- **Exposure Value:** Adjusts the value of exposure; the higher the value is set, the brighter the video is.
- **WDR:** Enables or disables Wide Dynamic Range to capture greater details.
- **Shutter Value Range:** Set the min and max shutter values.
- **Auto Gain Control (Sense Up+):** See the below description.
- **Sense Up:** Select the level of Sense Up to enhance the video.
- **Color Mode:** Switch between color/black-and-white mode.
- **IR LED:** IR LED control .
- **IR Cut Filter:** Enable/disable the IR cut filter.

Without Sense Up

Sense Up by 3 Frames

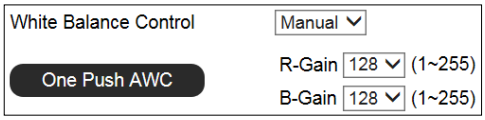
Chapter 4-2-3-1 Sense Up+

Sense Up+ (AGC) is a low-light and high-sensitivity DSP control that enables outstanding video quality even in low-light environments. Sense Up+ technology can be used for both black-and-white and/or color video modes. To enable Sense Up+, first enable Auto Gain Control (AGC). Use Sense Up+ with 3D noise reduction (3D DNR) can reduce noise that occurs in low light environments. AGC and 3D DNR do not cause motion blur. If the picture is still too dark under the environment, turn on Sense Up (slow shutter) instead, however, it may cause motion blur in low-light conditions.



Chapter 4-2-3-2 White Balance Control (AWB)

There are day time and night time auto white balance controls (ATW) for the camera.

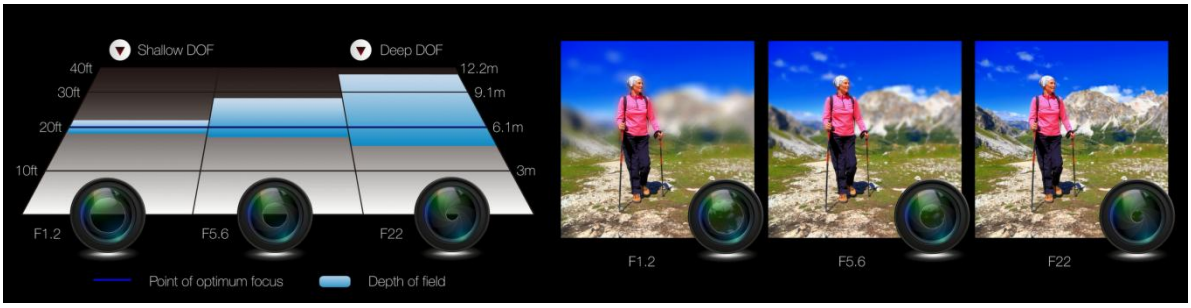


- **White Balance Control:** Auto white balance and manual white balance
- **R-Gain:** Red gain specific auto white control
- **B-Gain:** Blue gain specific auto white control
- **One Push AWC:** One time AWB setting

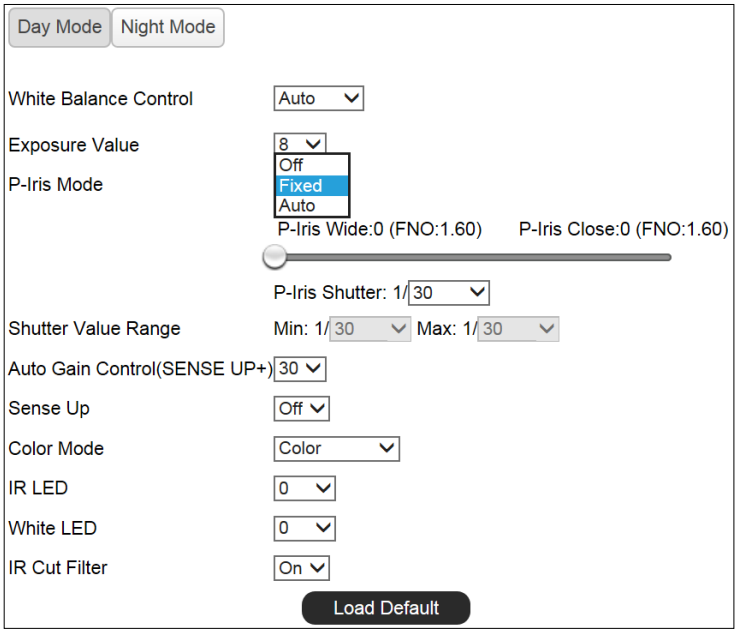
Chapter 4-2-3-3 P-Iris Mode

P-Iris of a camera can precisely controls the aperture of the lens getting deeper depth of field (DOF) for city traffic management, school surveillance, and ANPR applications. P-Iris provides excellent video quality than traditional DC-Iris for day-n-night, especially for twilight environment.

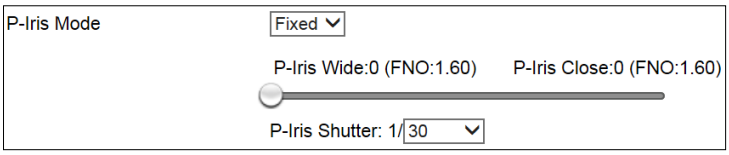
The following diagrams demonstrate that P-Iris automatically chooses correct Iris or F value for the best FOV.



There are two P-Iris modes: Fixed and Auto.



With Fixed P-Iris mode, the Iris (F value) can be specified.

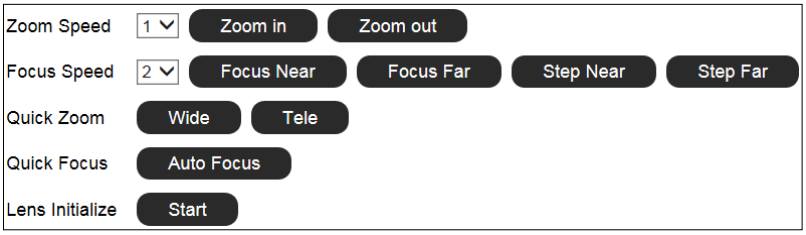


With Auto P-Iris mode, the Iris is automatically determined.

Note: P-Iris camera only

Chapter 4-2-4 Auto Focus

Here you are allowed to change the settings of autofocus functions for autofocus-supported cameras.

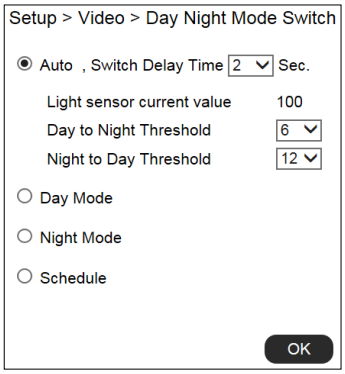


- Zoom Speed: Set the speed for Zoom In and Zoom Out
- Focus Speed: Set the speed for Focus Near and Focus Far
- Quick Zoom: Zoom to the ratio you specified
- Quick Focus: Click to focus automatically
- Lens Initialize: Click to reset zoom speed, focus speed, and zoom ratio to factory defaults

Note: Auto focus camera model only.

Chapter 4-2-5 Day Night Mode Switch

The Day/Night Mode Switch allows you to schedule IR activities by (1) auto, (2) day, (3) night, (4) schedule, or (5) external control. When the setting is set to Auto, the IR module is turned on/off automatically according to the signal from the light sensor. The Night setting removes the IR cut filter, and the Day setting keeps the filter on. If you choose Schedule, the filter turns on/off according to the set time period.

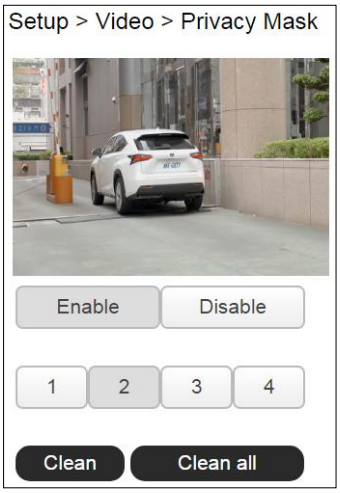


- **Auto:** The setting for enabling day-n-night auto IR switch
- **Light** sensor current value: The current environmental lux meter
- **Day to Night Threshold:** The lux threshold for day to night IR switching
- **Night to Day Threshold:** The lux threshold for night to day color mode switching
- **Day Mode:** Force to color mode at day time
- **Night Mode:** Force to IR mode at night time
- **Schedule:** IR scheduling that can be used for enabling IR at certain time.

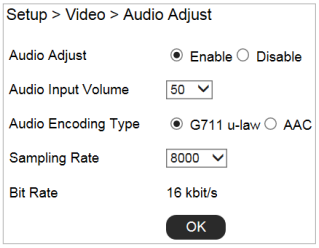
Note: IR-cut camera model only

Chapter 4-2-6 Privacy Mask

LILIN camera provides up to 4 sets of privacy masking. Select any of the masking numbers and drag to mask specific areas.



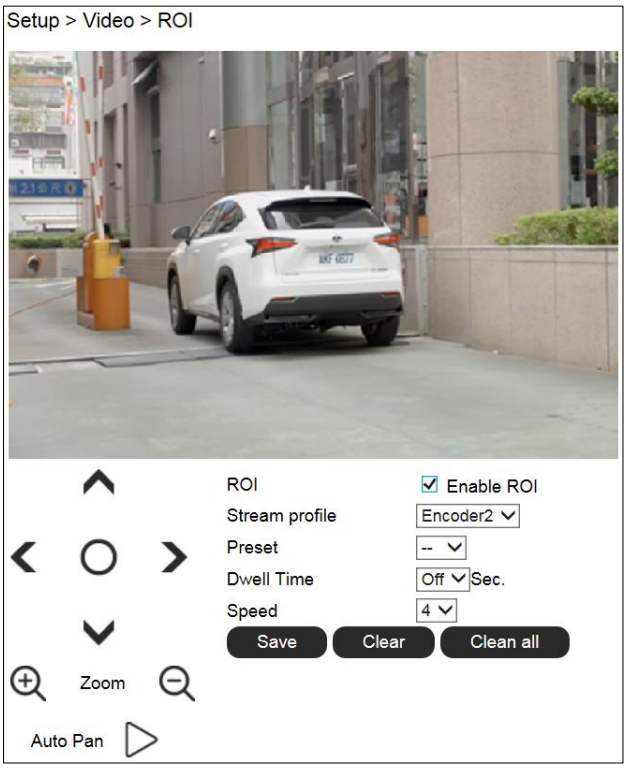
Chapter 4-2-7 Audio Adjust



- **Audio Adjust:** The switch for audio adjust
- **Audio Input Volume:** MIC or line-in volume
- **Audio Encoding Type:** volume adjustment
- **Sampling Rate:** set the audio sampling rate
- **Bit Rate:** 16 Kbit/s

Chapter 4-2-8 ROI

LILIN camera supports the Region of Interest (ROI) function. Click Enable ROI to enable the function, and use the arrow buttons to move the view for each preset.



- **Stream profile:** Choose the stream format for the ROI.
- **Preset:** Provides 16 ROI presets to choose from.
- **Dwell Time:** The amount of time the camera stays on the ROI.
- **Speed:** The speed for the camera to move to the ROI.

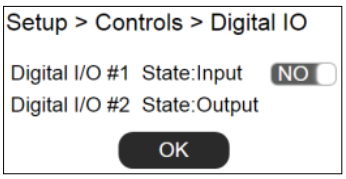
Click Save for the changes to take effect, or Clear all to clear all the settings

Note: Options may differ depending on the model you use.
Note: By enabling privacy masking, ROI will be turned on automatically, and EPTZ will be disabled.
Note: ROI camera model only.

Chapter 4-3 Controls

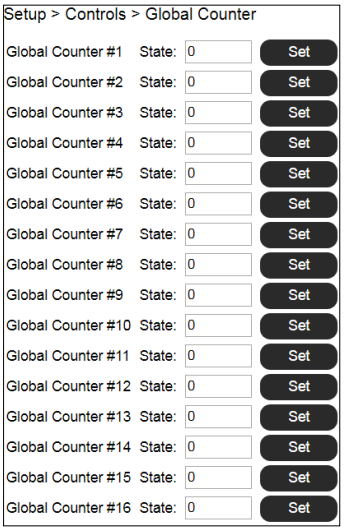
Chapter 4-3-1 Digital I/O

The IP camera supports NO and NC control interface. To set up, connect the external alarm digital input to the IP camera. And switch between NO (normally open) and NC (normally closed) for the input.



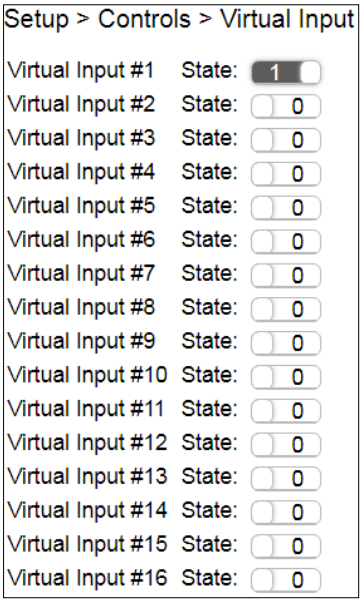
Chapter 4-3-2 Global Counter

The global counters are for counting a trigger of a remote device. The global counter can be triggered by a metadata, or a virtual input. The global counters can be used for output purposes, such as LED display.



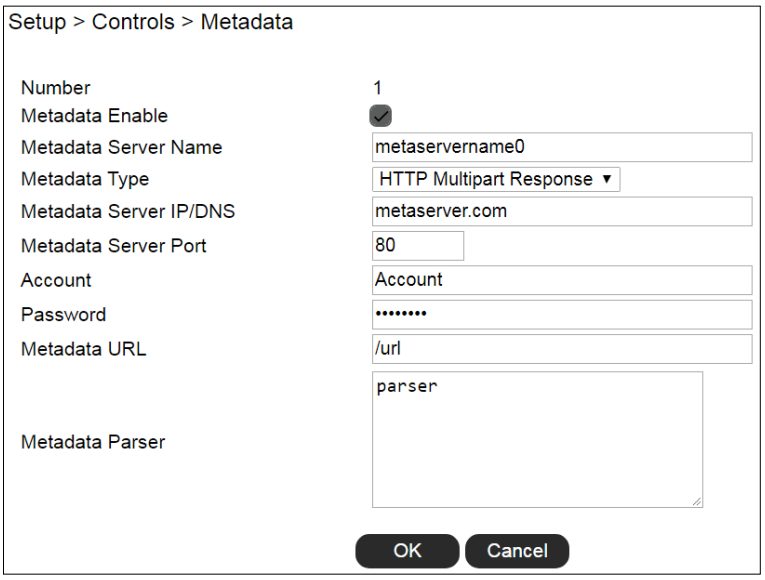
Chapter 4-3-3 Virtual Input

The IP camera provides up to 16 virtual inputs. The virtual inputs are CGI commands that these can be used for other remote device to trigger.



Chapter 4-3-4 Metadata

Metadata is the HTTP response of a CGI command. LILIN IP camera is able to receive the metadata from an IP device. The metadata is the URL response of an IP device.



The example below, LILIN IP camera is able to receive the metadata of motion events, MotionDetect token of /getalarmmotion CGI command, from an IP device. The events are captured into the valuable %Trigger1% for actions. In the SmartEvent, %Trigger1% can be used for a global counter for event triggering.

To setup metadata, finish the settings below:

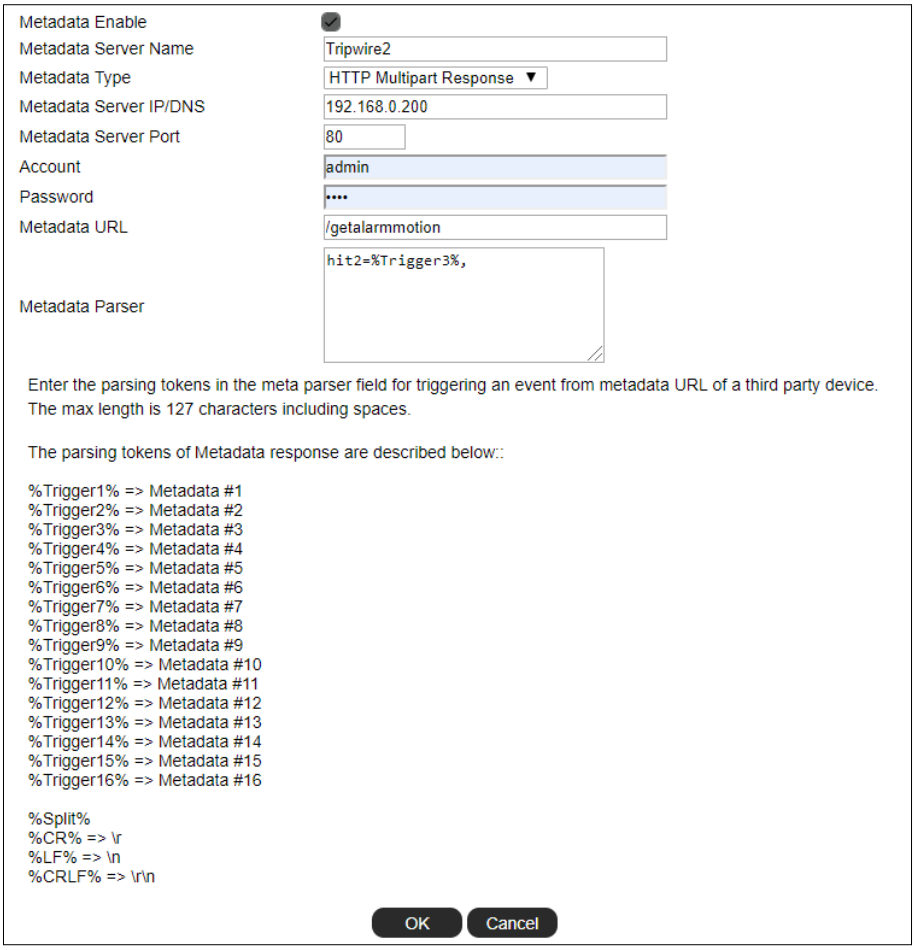
Metadata Enable: Enable metadata service.
Metadata Server Name: Specify the name of the metadata service.
Metadata Type: (1) HTTP multipart response, (2) HTTP response

(1) HTTP multipart response—Continuous responses
(2) HTTP response—Client-pull by a schedule

Metadata Server IP/DNS: The IP address of an integrated device.
Metadata Server Port: The port number of the integrated device.
Account: Account name of an integrated device.
Password: password of an integrated device.
Metadata URL: The URL of the an integrated device. "/" is required.
Metadata Parser: The parsing tokens for the valuables of Triggers.

Special characters
If there are special characters such as "/", "\r", "\n", and "\r\n" in the metadata, enter special characters for parsing the metadata.

%Split%
%CR% => \r
%LF% => \n
%CRLF% => \r\n

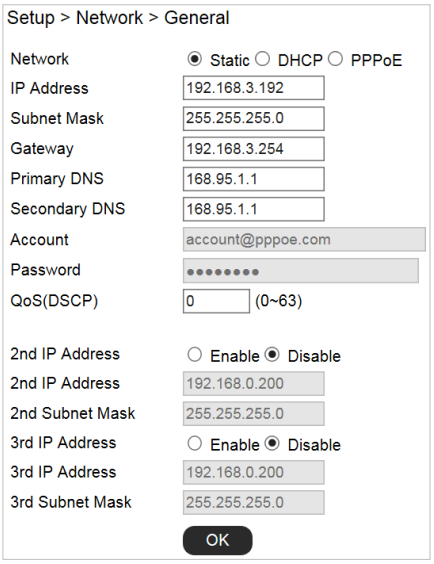


Chapter 4-4 Network

Chapter 4-4-1 General

Network settings are the basic settings that connect LILIN IP cameras to the network. The default IP address of IP cameras is 192.168.0.200. Enter this IP address into your web browser to verify the network connection between a local PC and your IP camera.

To set up a local area network, enter the IP address, subnet mask, gateway, and DNS. Click OK to update the settings.



To acquire Internet access, contact your local Internet Service Provider (ISP) for a global IP address. Enter the IP address (global), subnet mask, and gateway IP provided by your ISP.

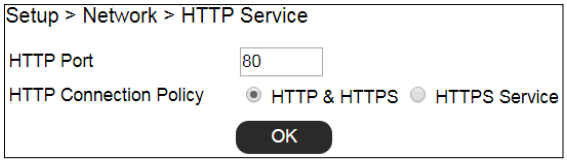
- **Primary DNS** —The IP address of the default and first DNS server
- **Secondary DNS IP Address**—The IP address of the backup and second DNS server to the default DNS
- **QoS(DSCP) —**Based on DSCP standard, set the TCP/IP packet header for packet priority.

A router, gateway, or other DHCP software server can remotely assign an IP address to your IP camera. There is no need to manually configure the IP address, subnet mask, and gateway. However, every time the DHCP service is rebooted, the IP address of the IP camera may vary. You may need to use IPscan to search for the IP camera. To enable DHCP, click the DHCP option and click Submit.

Note: Once the DHCP option is enabled, the IP camera is assigned an IP address by the DHCP server. This feature is only permitted in LAN environments.

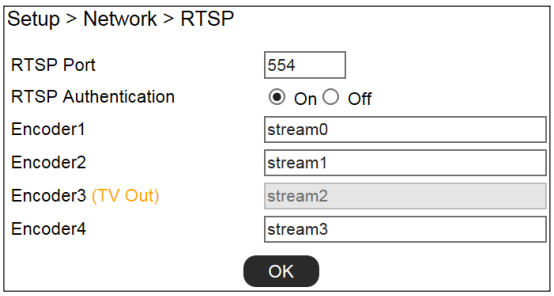
Chapter 4-4-2 HTTP Service

HTTP is a reliable protocol for video streaming. With correct port forwarding, videos can be sent over the Internet. Details are described in the appendix. To change the HTTP port number, consult your network administrator. Choose the streaming type you want to use (HTTP & HTTPs or HTTPs). Click OK for the changes to take effect.



Chapter 4-4-3 RTSP

RTSP is another reliable protocol for video streaming. With correct port forwarding, videos can be sent over the Internet. Details are described in the appendix.



Settings on this page are described below:

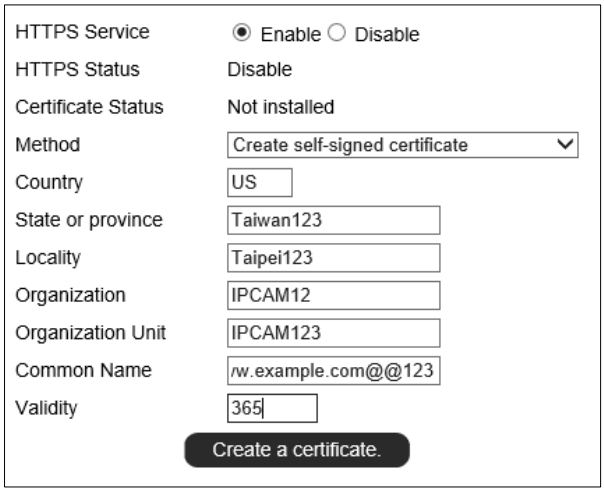
- **RTSP Authentication**: Enabling this option will require username and password when connecting to the RTSP stream
- **Encoder:** Change encoder name.

Chapter 4-4-4 HTTPs Service

LILIN IP camera support HTTPs (Hypertext Secure Transmission Protocol) service. HTTPs is an Internet protocol that ensures the integrity and confidentiality of data as it travels between users' computers and websites. When users visit any website, they want a secure and private online experience.

HTTPs can be regarded as the advanced security version of HTTP. The SSL protocol is added as a security certificate. Therefore, the website can prevent data thief from directly seeing the transmitted data even if they intercept the transmitted information by using the encryption on the agreement.

There are two options to set HTTPs service:
1. The first option is to create a free self-signed certificate by filling-in the blank field below, then click **Create a certificate.**



A pop up message will display:

Then, you will notice that **Certificate Status** has changed from **Not Installed** to **Active**

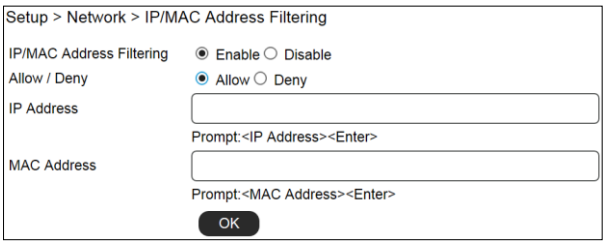
Click **OK** to activate HTTPS function. And the **HTTPS Status** will have changed from **Disable** to **Enable**.

This IP Camera may now be connected via HTTPS protocol with your browser

2. The second option is to purchase an SSL certificate by selecting **Create a certificate request and install.** After purchasing the SSL certificate from a third party company, browse your computer to upload the SSL certificate. If it is successful, the **Certificate Status** will have changed from **Not Installed** to **Active**. And **HTTPS Status** will have changed from **Disable** to **Enable**.

Chapter 4-4-5 IP/MAC Address Filtering

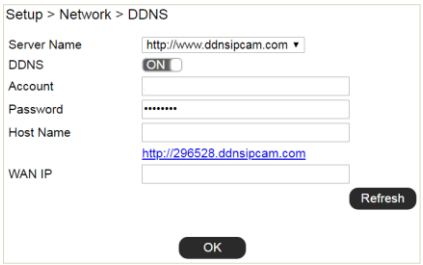
LILIN camera provides an IP/MAC address filter to help you block unauthorized IP/MAC addresses from accessing the camera. Enable the service before you enter the IP address you want to block, and press OK.



- **IP/MAC Address Filtering:** The switch for IP/Mac address filtering.
- **Allow / Deny:** Allow / deny to access by the IP/Mac address.
- **IP Address:** Specify the IP address for filtering.
- **MAC Address:** Specify the IP MAC for filtering.

Chapter 4-4-6 DDNS

The DDNS service allows you to automatically update the DNS server. LILIN provides three DDNS servers to choose from (we recommend you use the first one from the drop-down menu). Click OK for the changes to take effect.



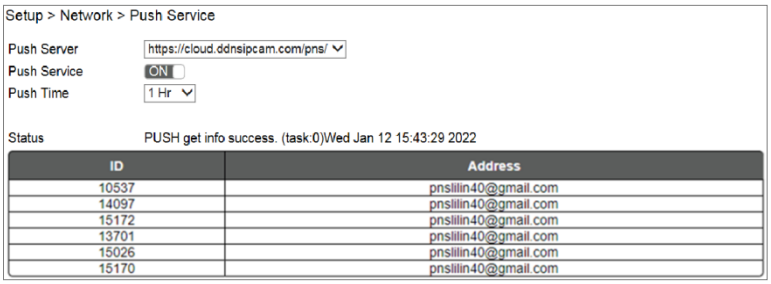
To activate DDNS, go to www.ddnsipcam.com. If the IP camera is on Internet with a global IP address, use the last 6 digits of the MAC address as the host name with default account and the default password,. The IP camera will automatically register to www.ddnsipcam.com.

Note: The DDNS feature requires Internet connection.

Chapter 4-4-7 Push Service

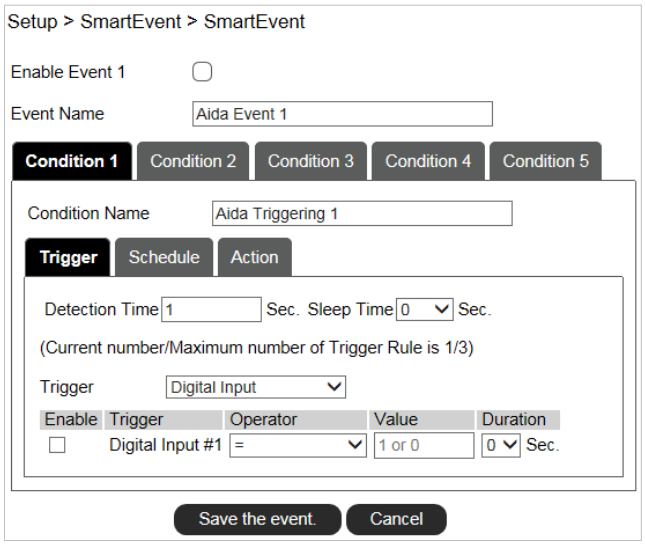
The camera provides IOS and Android mobile phone push service. When the camera alarm occurs, push service setting provides the information to LILIN cloud. And then, send push notification to the client's mobile phone.

- **Push Service:** Enable the push notification.
- **Push Time:** The camera reports regularly to the cloud watchdog time interval.
- **ID:** The APP independent code of LILINHome or LILINViewer on the mobile phone. The table list how many mobile phones are currently subscribed to broadcast notification.
- **Address:** The mobile phone registered email account in the cloud.

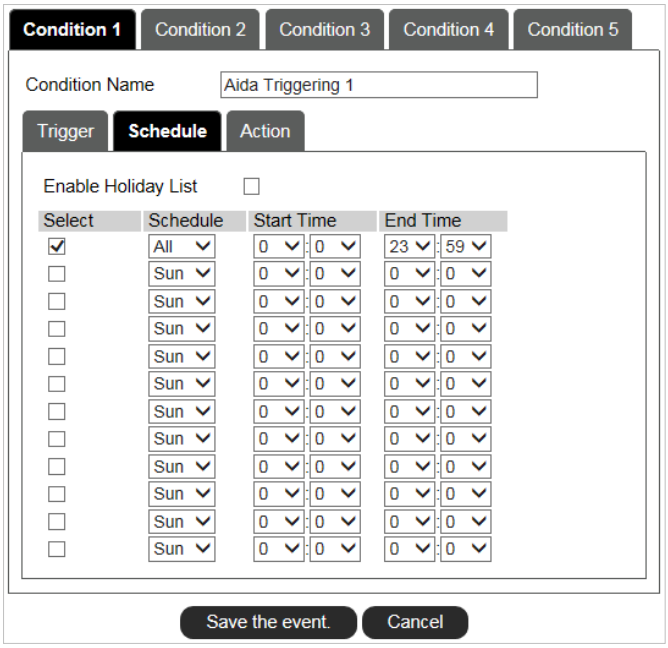


Chapter 4-5-1 SmartEvent

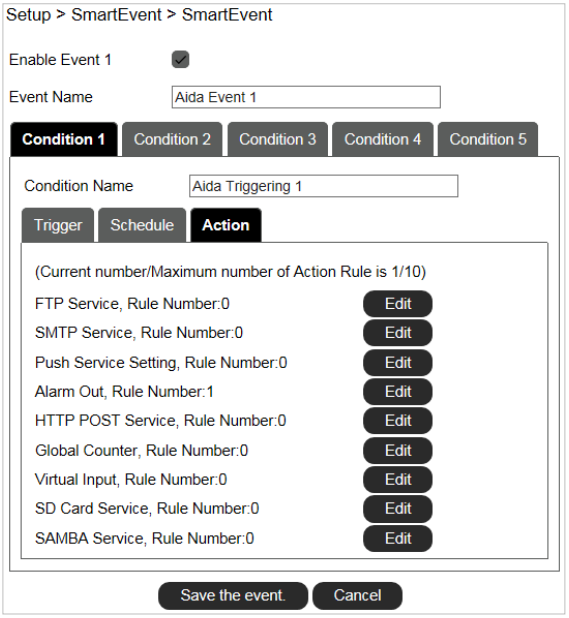
Here you can configure the detection settings for alarm, global counter, virtual input, meta data and network failure. Choose an event type for entering the event name and event condition for triggering an alarm. Click **Save the event** button for saving the event.



Then the page you see allows you to choose the action to take when the chosen events are detected, such as sending JPEG images to an FTP server or an email account. To schedule event monitoring, choose **Schedule** when you edit an event and highlight the time periods you want the camera to detect events. Click **Save the event** button to update the settings.



Click **Action** to select the outputs for event triggering.

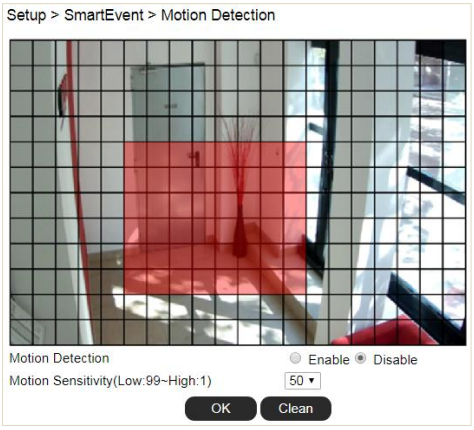


- **FTP Service:** Mail event logs to an FTP server.
- **SMTP Service:** Mail event logs to an SMTP server.
- **Push Service Setting:** When the alarm is triggered, can send push notification to specified iOS and Android.
- **Alarm Out:** Trigger the digital output of the IP camera.
- **HTTP POST Service:** Send notification snapshots to a specified website when alarm is triggered.
- **Global Counter:** To set a value between 0 and 65,535 or add value range from -99 to 99.
- **Virtual Input:** Enable or disable a specific virtual input among the 16 sets.
- **SD Card Service:** When the alarm is triggered, the screenshot is saved to the SD card.
- **Samba Service:** Set to send data of the selected encoder profile to the predefined samba server.

Note: To activate SmartEvent / Action setting, please also configure corresponding action in **Controls** setup page or **Notification** setup page.

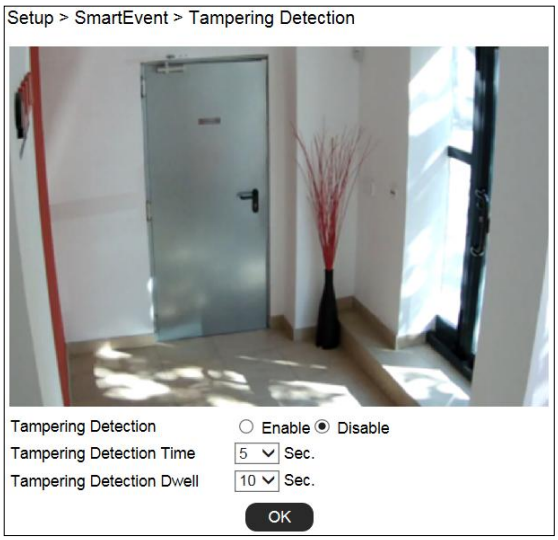
Chapter 4-5-2 Motion Detection

The IP camera provides motion detection feature. Click on Motion Detection to determine the areas to monitor. Simply double-click or drag across the areas you want to monitor, and cancel your selection by double-click again or drag across the areas you don't want to monitor with the right mouse button. Click OK button to update the settings.



Chapter 4-5-3 Tampering Detection

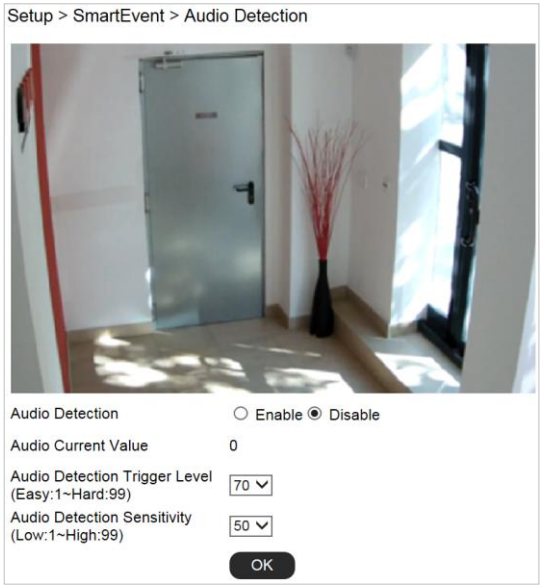
LILIN camera can send tamper alarms when the focus or view of the camera is changed, or the lens is obstructed by paint or stain. Click Enable to activate this function and configure the settings.



- **Tampering Detection:** The switch for tampering detection
- **Tampering Detection Time:** The time for tampering detection
- **Tampering Detection Dwell:** The output time for tampering detection

Chapter 4-5-4 Audio Detection

When the detected sound exceeds the sensitivity level, the audio detector will trigger an alarm and send a notification.



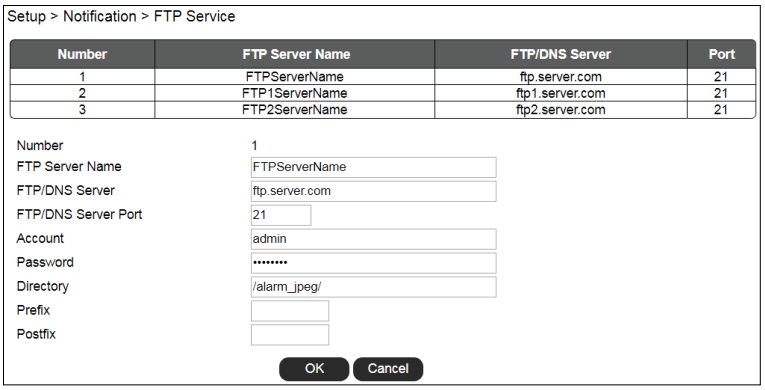
- **Audio Detection:** The switch for audio detection
- **Audio Current Value:** The current volume level of live audio. The value will change according to audio volume currently received.
- **Audio Detection Trigger Level:** The triggering level for audio volume
- **Audio Detection Sensitivity:** The sensitivity for audio detection

Note: Audio model only.

Chapter 4-6 Notification

Chapter 4-6-1 FTP Service

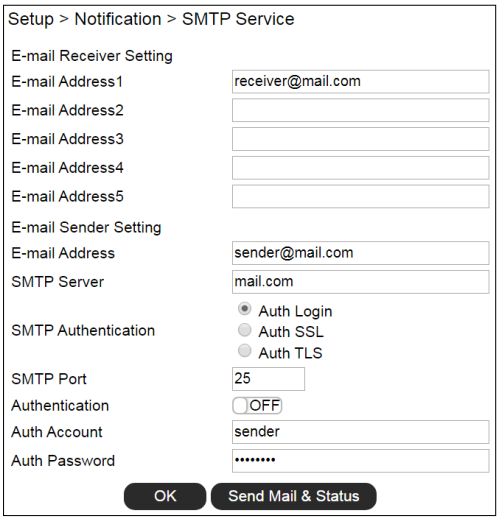
Enter the required FTP information to send alarm snapshots to an FTP server.



- **FTP Channel:** There are three FTP servers that can be configured.
- **Number:** The number of FTP service.
- **FTP Server Name:** The name of the FTP server.
- **FTP/DNS Server:** The FTP server's address.
- **FTP/DNS Server Port:** The FTP server's port number.
- **Account:** The account name to log in to the FTP server.
- **Password:** The password of the account.
- **Directory:** The file path for storing the JPEG snapshots.
- **Prefix:** The prefix of the JPEG filename.
- **Postfix:** The postfix of the JPEG filename.
- **File Format:** The JPEG file format based on different JPEG encoder.

Chapter 4-6-2 SMTP (Email) Service

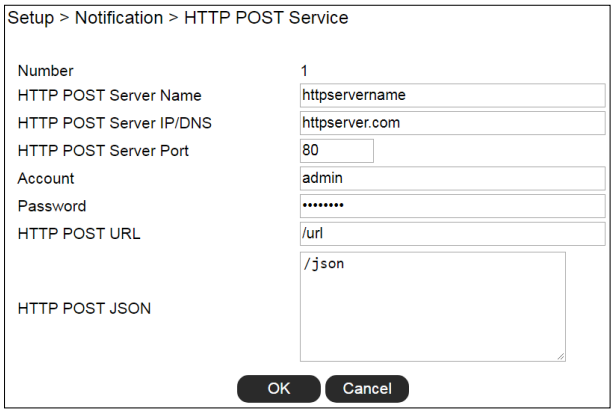
For alarm notification with JPEG snapshots, enter the required information to enable this Email notification service.



- **Receiver E-mail Address**: Address of receiving mailbox.
- **Sender E-mail Address**: Address of sending mailbox.
- **SMTP Server**: Enter the address of mail server.
- **SMTP Authentication**: Select authentication type
- **SMTP Port**: The default port number is 25 (mail server port).
- **Authentication**: Enable or disable mail service
- **Auth Account**: User name of the mail server
- **Auth Password**: Password of sending mailbox.

Chapter 4-6-3 HTTP POST Service

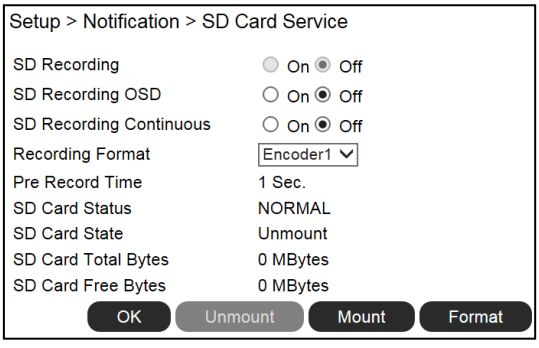
Through the POST protocol, the camera can automatically send notification snapshots to a website if an alarm is triggered.



- **HTTP POST Server Name:** The HTTP POST server
- **HTTP POST Server IP/DNS:** The IP/DNS address of the HTTP Post server
- **HTTP POST Server Port:** The port number of the HTTP Post server
- **Account:** The account
- **Password:** The password
- **HTTP POST URL**：The CGI command to send HTTP POST
- **HTTP POST JSON**：The JSON text editor

Chapter 4-6-4 SD Card Service

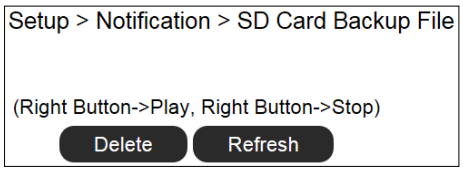
Ensure a SD card is properly installed to the camera before you enable the SD recording option. The camera will start recording videos when an alarm occurs.



Warning: Ensure to click **Unmount** before removing the SD card, or the system may crash.
Note: SD card model only

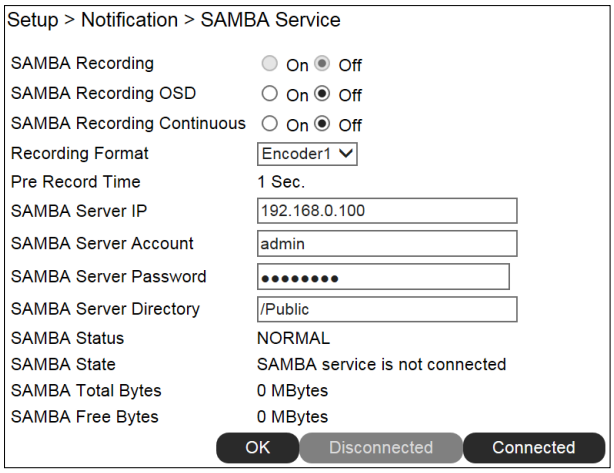
Chapter 4-6-5 SD Card Backup File

To download a specific clip, right-click the file you want to download and save the AVI file to a local PC.



Chapter 4-6-6 Samba Service

The streaming of the camera can be recorded as AVI files to a Samba server. Continuous and pre-alarm recordings are available. To do so, provide required information for Samba service. Circular recording is available for overwriting the oldest recording files if the Samba server gets full.



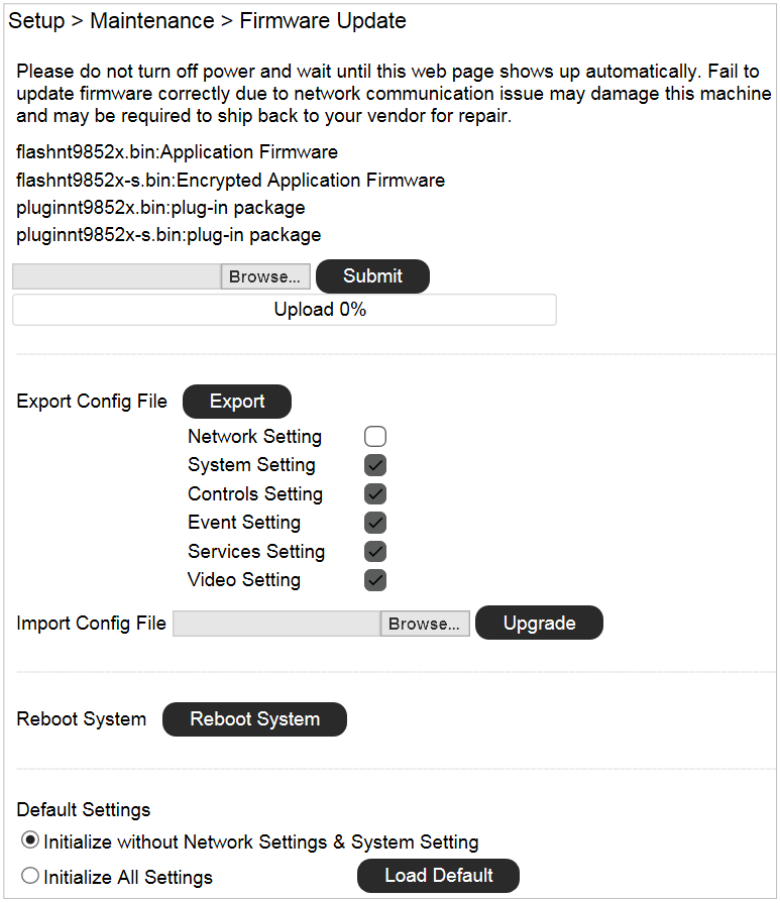
- **Samba Recording**: Enable Samba recording service.
- **Samba Recording OSD**: Timestamp OSD on the AVI files
- **Samba Recording Continuous**: Enable/disable Samba continuous recording.
- **Recording Format**: The resolution of the AVI files
- **Pre-record Time**: Pre-alarm recording based on the alarm settings
- **Samba Server IP**: The IP address of the Samba server
- **Samba Server Account**: The account of the Samba server
- **Samba Server Password**: The password of the Samba server
- **Samba Server Directory**: The target path of the recordings on the Samba server
- **Samba Status**: The system status of the Samba server
- **Samba State**: The connection status of the Samba server
- **Samba Total Bytes**: The storage size of the Samba server
- **Samba Free Bytes**: The free storage size of the Samba server

Chapter 4-7 Maintenance

In the Maintenance page, you can click Load Default to restore the camera to factory settings, or click Reboot System to restart the camera. Restoring to factory settings does not affect IP addresses.

To export camera settings, click on Export Config File for other cameras. Click on Import Config File for importing camera settings.

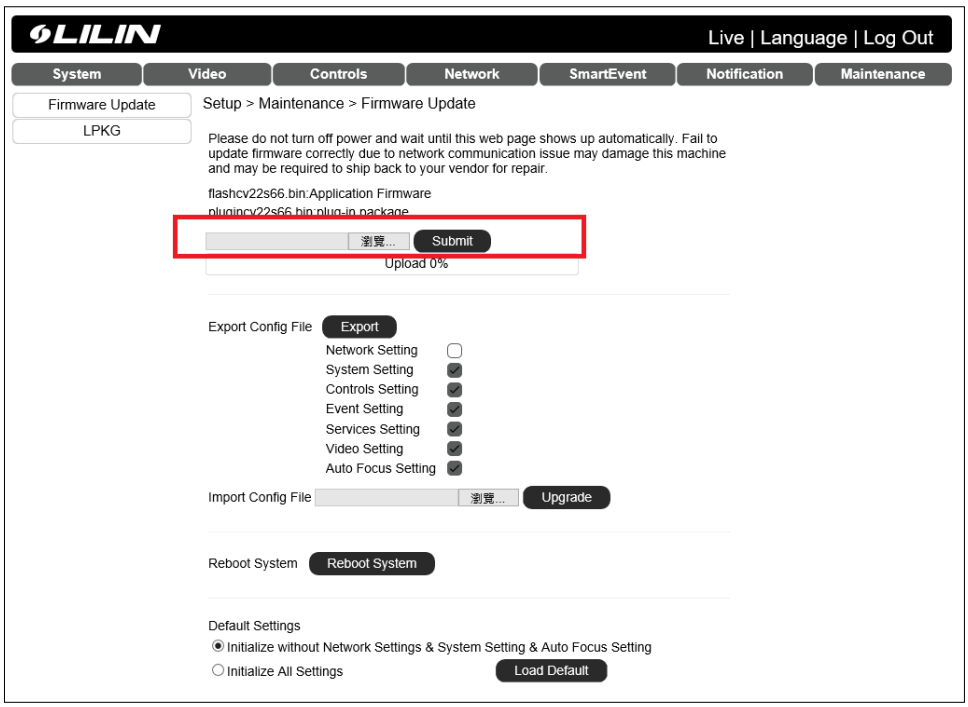
To update the firmware of your IP camera, click Browse and locate the update file. Click Submit to start the firmware update.



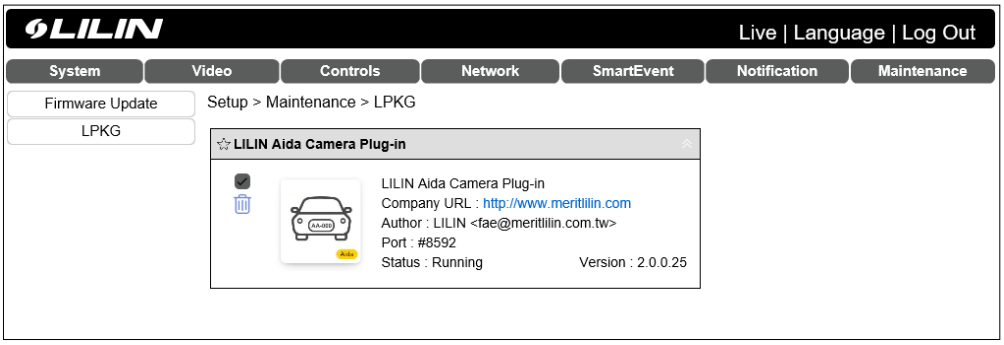
Warning: Never disconnect the power during the update. This could cause irreversible damage to your device.
Note: If you forget your password, please contact your vendor or send the device to us.

Chapter 4-8 LPKG

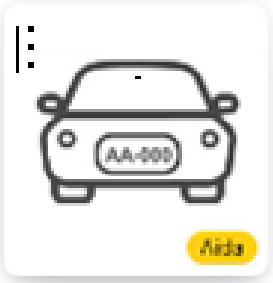
Please click "Maintenance -> Firmware Update", the Aida plug-in file format of this product is "plugincv22s66.bin", select the "Browse" button to select the file, and select the "Submit" button to install the plug-in.



After the Aida plug-in gets installed, the Aida plug-in page can see the relevant information of the plug-in as in LILIN Plug-in Package (LPKG) page.



Click on the plug-in icon that can open the plug-in page. LILIN Aida software is at 8592 port. Click that can enable the plug-in. Click delete button that can remove the plug-in.

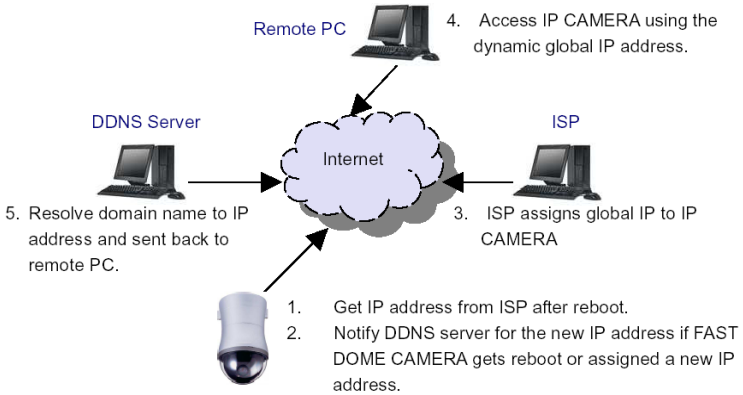


Appendix

DDNS Network Settings

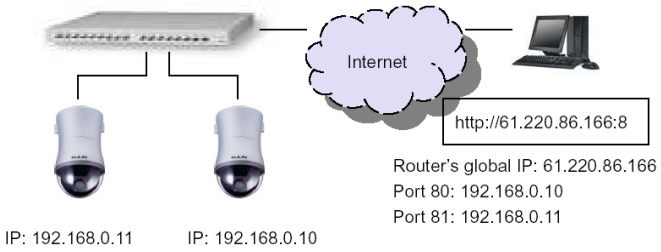
One of the advantages of adopting DDNS and PPPoE services is to save the cost of renting a global IP address. When you power on a camera with a video server and connect to the Internet with the PPPoE service, the camera asks your ISP for a dynamic global IP address. This Internet-accessible IP address will be renewed by the ISP every time you log on the Internet.

Whenever the IP is changed, the camera with the video server will notify the DDNS server of your new IP address. A remote user who intends to connect to the camera with the video server can enter the domain name in the web browser. The domain name will be translated to a new IP address to be used by the camera.



Advanced Port Forwarding Technology

Communication port forwarding technology has been widely used to share a global Internet IP to other devices on the network. The infrastructure of this technology is shown in the below figure, in which the port 80 of the IP router is forwarded to the device with an IP of 192.168.0.10, and the port 81 of the router is forwarded to the device with an IP of 192.168.0.11. When a remote PC on the Internet tries to access the port 81, the user is actually accessing 192.168.0.11, private IP given by the router.



Restore to Factory Default

To restore the IP camera to the factory default, follow the below procedures:

1. Press and hold "Reset Key" for 15 seconds and release.
2. The camera will restart.
3. Launch to IPScan Utility to search for the IP camera.
4. Access the IP camera via an Internet browser.
5. Due to security reason, create the username and password for the first login. To login to the IP camera, please create the username and password on the login page. Press Confirm to complete the setting and login simultaneously.