



S7/S8 Series 4K IP PTZ Camera User Manual

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Summary

LILIN S7 and S8 series IP PTZ cameras include a series of 4K and 5 MP resolution IP PTZ 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 25X/30X IP PTZ Cameras are capable of making 360° continuous rotations, users can accurately position the camera to identify specific targets. The IP PTZ Cameras provide IP66-rated protection against water and dust. The 25X/30X optical zoom give the IP PTZ Camera an impressive range making it ideal for numerous applications.

The S7 and S8 series of IP PTZ 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 S7 and S8 series IP PTZ 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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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

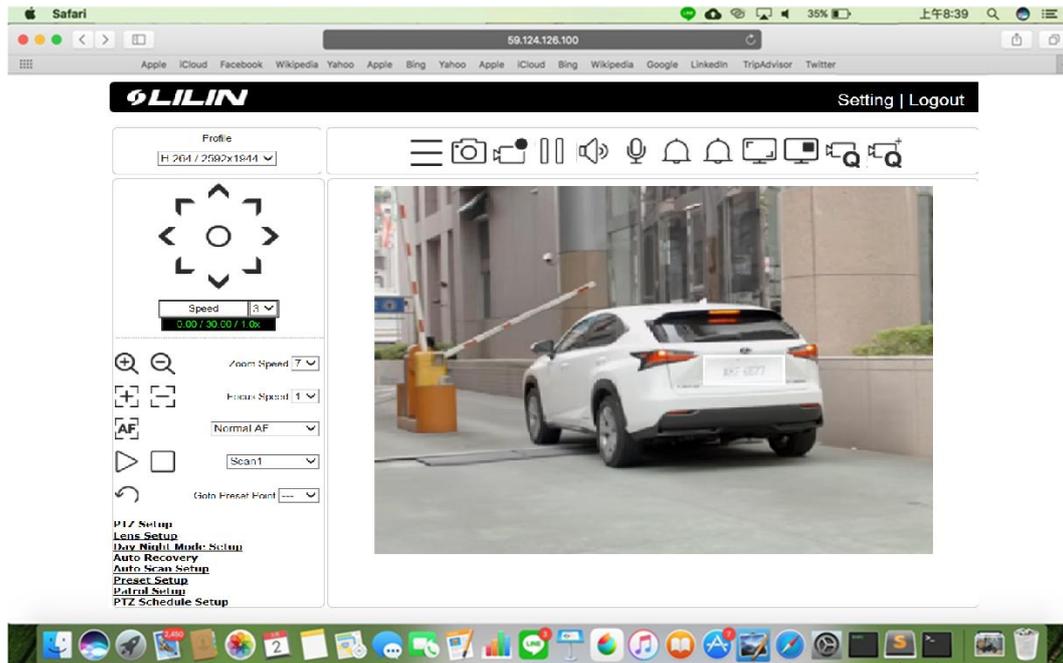
Chapter 1-1 System Requirements

LILIN's IP PTZ 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 PTZ cameras.

Chapter 1-2 Software Requirements

Chapter 1-2-1 Apple Mac OS

LILIN IP PTZ camera uses HTML5 streaming which supports Safari browser for accessing video streaming of the IP PTZ 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 PTZ camera, you may see a prompt box as below via Windows OS.



Click **Install** and follow the onscreen instructions to install necessary component.

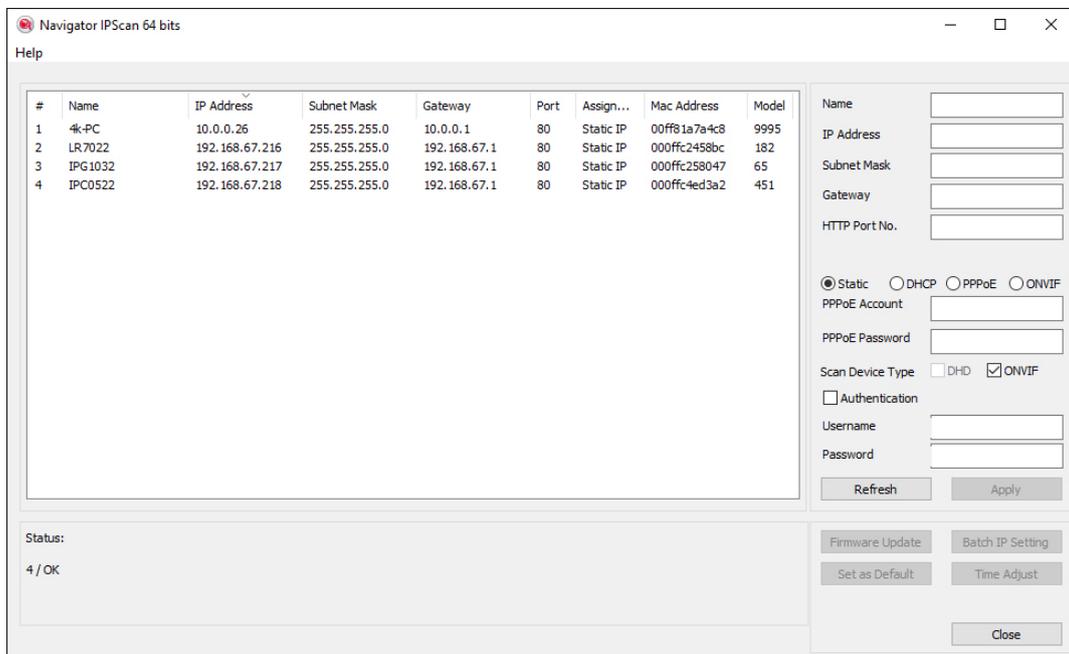
Chapter 2 Before Accessing IP PTZ Cameras

Before accessing the IP PTZ 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 PTZ 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



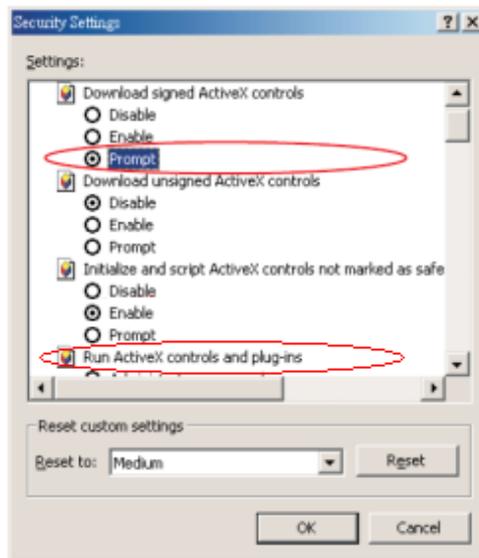
Chapter 2-2 Configure IP Addresses through HTML Connection

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 PTZ 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

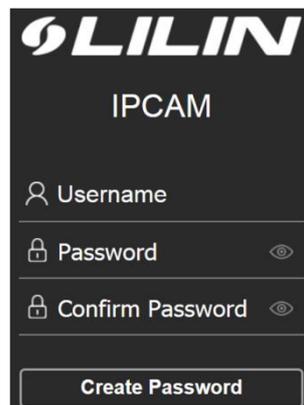
Make sure your Internet browser allows signed ActiveX plug-in to run on your PC. Set Download Signed ActiveX plug-in controls to Prompt and enable Run ActiveX control and plug-in. You can set this in Internet Explorer→Tools→Internet Options→Security→Custom Settings.



Once completed, you can access the IP PTZ 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 PTZ camera.

Chapter 2-4 Login

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



Minimum Password Strength Requirements:

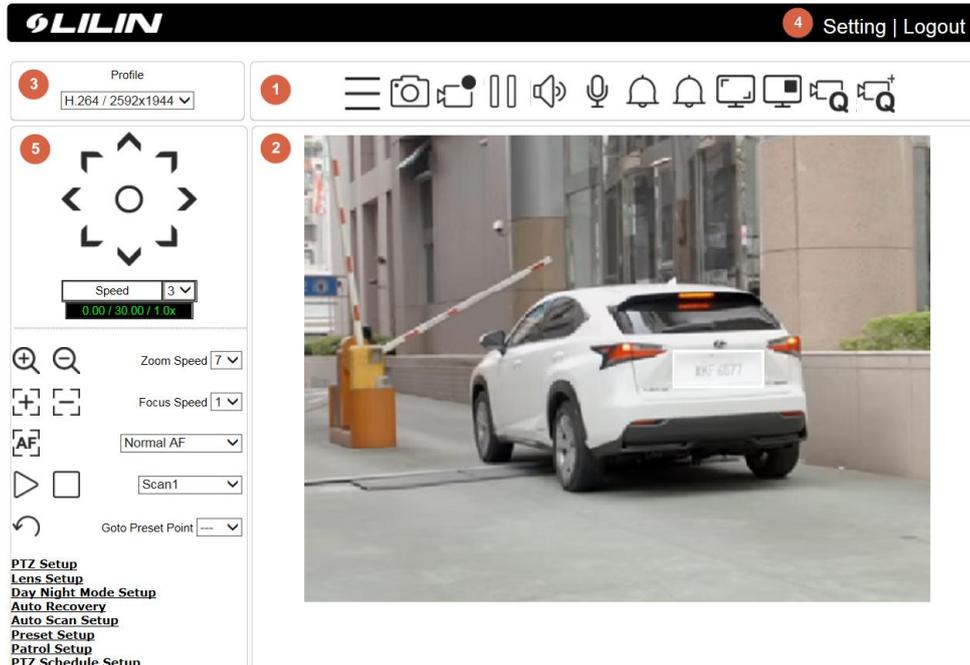
1. The password length must be 8 or more characters.
2. The password must include at least 1 number (0 ~ 9), 1 uppercase letter, 1 lowercase letter and 1 symbol(~ ? / + = , ; : . ' @ # ¥ % ^ & * () _ -).

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 PTZ 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 PTZ camera shortcuts
2. **ActiveX display screen:** Display RTSP H.264/H.265 or MJPEG streaming video
3. **Profile switching menu:** Switching from one profile to another
4. **Setup buttons:** IP PTZ camera setup menu
5. **PTZ Control Panel**

Chapter 3-2 Quick Buttons

The quick control panel buttons are described below:

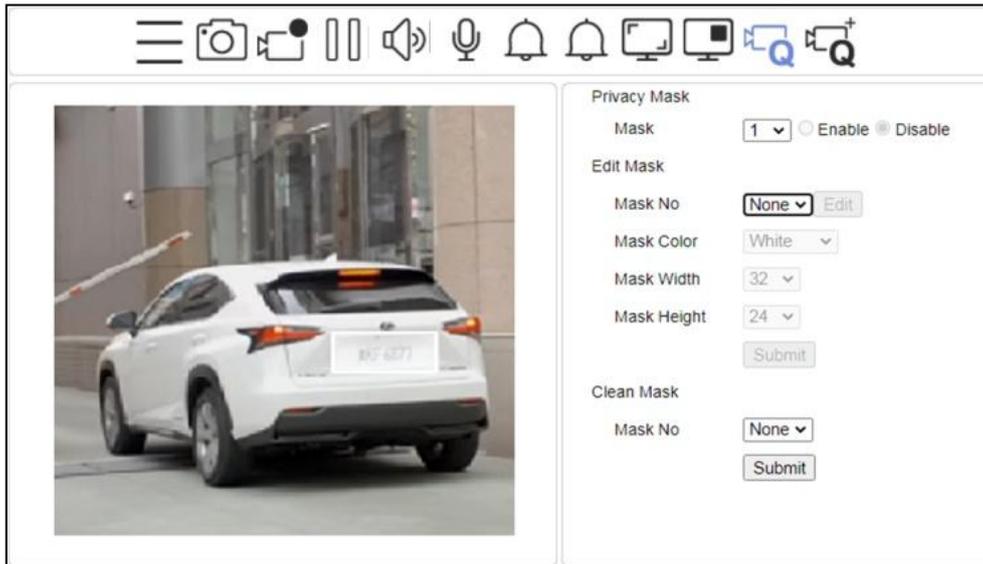
Icon	Description
	PTZ control panel
	Take a snapshot of the video
	Start recording
	Pause recording
	Speaker output control
	Microphone input control
	Alarm out 1&2
	Enlarge the live view
	Privacy Mask
	Video quality basic
	Video quality advance

Chapter 3-2-1 Privacy Mask

LILIN camera provides up to 16 sets of privacy masking. On **Edit Mask**, select a number from the Mask No. drop-down menu and a mask will appear in the center of the screen. You can also adjust the color, width, and length of the mask and move the camera to the appropriate position to hide any object. Press **Submit** and **Confirm** to save the changes.

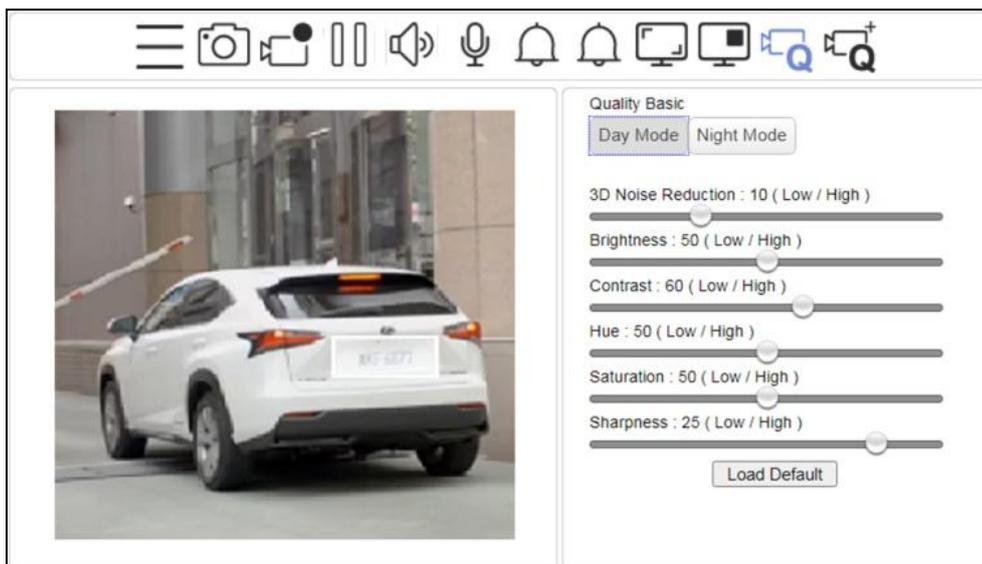
To disable the function, select a **Mask** number to disable and click on **Disable**.

To remove a mask, select a number from the **Mask No.** drop-down menu under **Clean Mask** and click **Submit** and **Confirm** to save the changes.



Chapter 3-2-2 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.

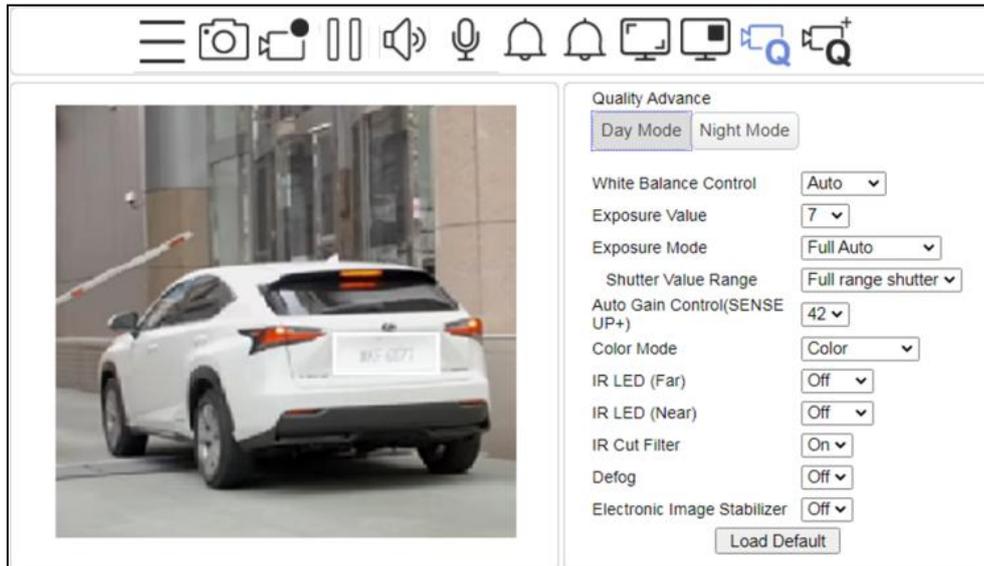


- **3D Noise Reduction:** If the noise of the video is high at night, set the setting to high if needed.

Chapter 3-2-3 Video 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:

- **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.
- **Exposure Mode:** Full Auto, Shutter Priority, Iris Priority
 Full Auto: Aperture value and shutter speed are adjusted automatically.
 Shutter Priority : Auto iris, and the shutter speed are adjustable. Shutter speeds are 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000, default value is depending on model.
- **Iris Priority:** Auto shutter and the aperture value are adjustable. Fix iris position: F1.6, F2.0, F2.4, F2.8, F3.4, F4.0, F4.8, F5.6, F6.8, F8.0, F9.6, F11, F14, and Close. The default value depends on model.
- **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 (Far):** IR long-distance illuminator light source setting can be set to off, auto, fix power. If auto is selected, the appropriate illuminator light source power will automatically adjust according to the zoom ratio.
- **IR LED (Near):** IR short-distance illuminator light source setting can be set to off, auto, fix power. If auto is selected, the appropriate illuminator light source power will automatically adjust according to the zoom ratio.
- **IR Cut Filter:** Enable/disable the IR cut filter.
- **Defog:** When the surrounding area of the subject is foggy and shows low contrast, the defog mode will make the subject appear clearer.
- **Electronic Image Stabilizer:** Switching **ON** to reduce image blur caused by, for example, vibration. This function allows you to obtain images without much blurring. A vibration frequency of around 10 Hz can be most effectively reduced. The Image Stabilizer function employs the digital zoom system, so the angle of view and resolution are changed, but the sensitivity is maintained.

Chapter 3-2-3-1 White Balance Control (AWB)

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

White Balance Control	Manual ▾
One Push AWC	R- Gain 128 ▾ (1~255)
	B- Gain 128 ▾ (1~255)

- **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 3-2-3-2 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 3-3 PTZ Control Panel

	Zoom In		Zoom Out	Zoom Speed 7 ▾	Zoom Speed
	Focus Far		Focus Near	Focus Speed 1 ▾	Focus Speed
	Auto Focus			Normal AF ▾	Focus Mode
	Auto Pan Start	<input type="checkbox"/>	Auto Pan Stop	Scan1 ▾	Auto Pan Mode
	Flip 180			Goto Preset Point --- ▾	Go to preset position
PTZ Setup		PTZ Function Setup.			
Lens Setup		Lens Function Setup.			
Day Night Mode Setup		Day and Night Switch Function Setup			
Auto Recovery		If the IP PTZ camera idles for a period of time, the selected function will be activated automatically.			
Auto Scan Setup		Auto Scan Function Setup			
Preset Setup		Preset Position Setup.			
Patrol Setup		Memory Patrol Function Setup			

<p>PTZ Schedule Setup</p> <p>PTZ Setup</p> <p>Turbo Speed <input type="button" value="Off"/> ▾</p> <p>Flip Function <input type="button" value="Mode 1"/> ▾</p> <p>Vertical Limit <input type="button" value="-30"/> ▾</p> <p>Click To Center <input type="button" value="Off"/> ▾</p> <p>Mouse PTZ Control <input type="button" value="Off"/> ▾</p> <p>Motor Power Saving <input type="button" value="On"/> ▾</p>	<p>PTZ Schedule Function Setup</p> <p>PTZ setup drop-down options</p> <p>Turbo Speed: When this function is turned on, the speed of preset position operations will be boosted (360 degrees per second). (The turbo speed is depends on model or firmware version)</p> <p>Flip Function: Off, Digital, Mode 1, Mode 2</p> <ul style="list-style-type: none"> ● Off : PTZ moves up to the vertical upper limit, then moves down to 90 degrees and stop. ● Digital : PTZ moves up to the vertical upper limit, then moves down to vertical lower limit and stop. ● Mode 1 : PTZ moves up to the vertical upper limit, then moves down to 90 degrees and then, it flips 180 degrees horizontally ● Mode 2: PTZ moves up to the vertical upper limit, then moves down to 90 degrees and then, it flips 180 degrees horizontally and moves up vertically. <p>Vertical limit: Set the above PTZ maximum angle limit.</p> <p>Click To Center: After the function is enabled, move the mouse to the ActiveX display screen and press the left mouse button. PTZ will move the current position image of the mouse to the center of the screen.</p> <p>Mouse PTZ Control: Enable this function and move the mouse to the ActiveX display screen and press the left mouse button. After the arrow appears on the ActiveX display screen, move the mouse up, down, left, and right. The PTZ will move as per mouse control direction. The closer the mouse is to the edge of the display screen, the faster the PTZ will move. To control the lens zoom ratio, push the mouse scroll wheel up or down.</p> <p>Motor power saving mode: Turn the motor power saving mode on or off. After the power saving mode is turned on, when the vertical and horizontal motors stop running, the control system will enter the power saving mode to reduce the motor torque to 70%. When the vertical or horizontal motor is running, the motor torque will return to 100% (This feature depends on the model or firmware version).</p>
<p>Lens Setup</p> <p>Focus Sensitivity <input type="button" value="Normal"/> ▾</p> <p>Auto Focus Search <input type="button" value="Narrow"/> ▾</p> <p>Near Focus Limit <input type="button" value="1.5m"/> ▾</p> <p>Digital Zoom <input type="button" value="Off"/> ▾</p> <p>Preset Position <input type="button" value="MF"/> ▾</p> <p>Pan-Tilt Movement <input type="button" value="AF"/> ▾</p> <p>Lens Initialize <input type="button" value="Apply"/></p> <p>Auto Calibration <input type="button" value="Off"/> ▾</p>	<p>Lens Setup drop-down options</p> <p>Focus sensitivity: Auto focus sensitivity.</p> <p>Auto Focus Search: Auto focus search range setting.</p> <p>Near Focus Limit: Maximum focus distance setting.</p> <p>Digital Zoom: Enable digital zoom after the optical zoom is exhausted.</p> <p>Preset Position: Set the camera to Auto-Focus (AF) or Manual-Focus (MF) when the camera performs preset operations.</p> <p>Pan-Tilt Movement: Set the camera to Auto-Focus (AF) or Manual-Focus (MF) when the camera performs Pan-Tilt movements.</p> <p>Lens Initialize: Click Apply to restore the zoom and focus to factory defaults</p> <p>Auto Calibration: Turn on this option to automatically perform AF at 00:00 every night.</p>
<p>Day Night Mode Setup</p> <p>Light sensor current value 44</p> <p><input checked="" type="radio"/> Auto, Switch Time <input type="button" value="2"/> ▾ Sec.</p> <p>Day to Night Threshold <input type="button" value="6"/> ▾</p> <p>Night to Day Threshold <input type="button" value="12"/> ▾</p> <p><input type="radio"/> Day Mode</p> <p><input type="radio"/> Night Mode</p> <p><input type="radio"/> Schedule</p> <p>Day to Night Time <input type="button" value="0"/> ▾ : <input type="button" value="0"/> ▾</p> <p>Night to Day Time <input type="button" value="0"/> ▾ : <input type="button" value="0"/> ▾</p> <p>IR Curve <input type="button" value="Visible"/> ▾</p>	<p>Day Night Mode Setup drop-down options</p> <p>Light sensor current value: Used to measure the current ambient light source illumination.</p> <p>Auto, Switch Time: Set the level of sensitivity for the Auto Mode.</p> <ul style="list-style-type: none"> ● Auto : Automatically switch between day (color) or night (black and white) mode according to the intensity of the light source signal. ● Switch Time : Select the delay time for switching between day and night modes ° <p>Day to Night Threshold: Turn on the infrared threshold according to the measured luminance.</p> <p>Night to Day Threshold: Turn off the infrared threshold according to the measured luminance.</p>

	<p>Day to Night Time: Set the time to switch from day to night mode.</p> <p>Night to Day Time: Set the time to switch from night to day mode. °</p> <p>IR Curve: Select night mode ambient light source wavelength.</p>
<p>Auto Recovery</p> <p>Home Position <input type="button" value="Off"/> ▾</p> <p>Auto Recovery Time <input type="button" value="Off"/> ▾</p> <p>Auto Recovery Mode <input type="button" value="Off"/> ▾</p>	<p>Auto Recovery drop-down options</p> <p>Home Position: Specify a home position for one of the presets.</p> <p>Auto Recovery Time: If the IP PTZ camera idles after the chosen time period, the selected function will be activated automatically.</p> <p>Auto Recovery Mode: Return to home position in modes such as home position, auto scan mode, tour mode, patrol mode or auto tracking. Users are able to set an operation mode to ensure all-day monitoring. In the Recovery Mode, if the IP PTZ Camera idles for a period of time, the selected function will be activated automatically. The Recovery Mode allows constant and accurate monitoring to avoid the Dome Camera from idling or missing events.</p>
<p>Auto Scan Setup</p> <p>Auto Scan ID <input type="button" value="1"/> ▾</p> <p>Speed <input type="button" value="5"/> ▾</p> <p>Dwell Time <input type="button" value="5"/> ▾</p> <p>Start Position <input type="button" value="Apply"/></p> <p>End Position <input type="button" value="Apply"/></p>	<p>Auto Scan Setup drop-down options</p> <p>Auto Scan ID: Select a scan path (1~16) from the drop-down list.</p> <p>Speed: Set the scanning speed between two positions.</p> <p>Dwell Time: Set the time you want the camera view to stay at the start position or end position.</p> <p>Start Position: Set the start position of the selected scan path.</p> <p>End Position: Set the end position of the selected scan path.</p>
<p>Preset Setup</p> <p>Preset Point <input type="button" value="1"/> ▾</p> <p>Preset Title <input type="text"/></p> <p>Speed <input type="button" value="255"/> ▾</p> <p>Dwell Time <input type="button" value="0"/> ▾</p> <p><input type="button" value="Save"/></p> <p>Clear Preset Point <input type="button" value="---"/> ▾</p> <p><input type="button" value="Clean"/></p>	<p>Preset Setup drop-down options</p> <p>A total of 256 preset positions can be programmed for the IP PTZ camera. Please refer to the instructions below to configure preset positions. To set up a preset point, first move the cursor to the PTZ control panel. Then move to the desired position by using the pan, tilt and zoom buttons. Next, assign a number for the current position from the drop-down Preset Point list. Then assign a Dwell Time and Speed for the current position from the drop-down menus. Click Save for the changes to take effect.</p> <p>Preset Title: Support up to 28 English or numeric user-defined preset point names. If it is left blank, the default preset point name will be displayed. The name of the preset point will be displayed on the screen after the execution of the preset point position action is completed. The name of the preset point will be displayed on the display screen after the PTZ information in the OSD setting is set to on.</p>
<p>Patrol Setup</p> <p>Patrol ID <input type="button" value="1"/> ▾</p> <p><input type="button" value="Start"/> <input type="button" value="End"/> <input type="button" value="Clean"/></p>	<p>The IP PTZ Camera Series supports up to sixteen patrol paths. To set up a patrol path, select a path number from the drop-down list. Then move the cursor to the PTZ control pane, and move the camera to a desired view (PTZ controls) as the start point of the patrol path. Click Start and move around the camera view at will to program the patrol path via PTZ controls. When you finish programming, click End or recording time stop to end the programming process. This function can be activated in return mode or automatic mode.</p>
<p>PTZ Schedule Setup</p> <p>PTZ Schedule <input type="button" value="On"/> ▾</p>	<p>PTZ Schedule Setup: Turn on or off the PTZ schedule function. Please refer to the "Schedule" setting page to set the PTZ schedule.</p>

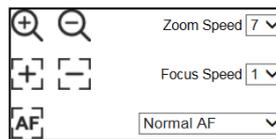
Chapter 3-3-1 Vertical and Horizontal Direction Controls

Two modes are available for moving the camera vertically and horizontally. The details are described below:

	<p>3-3-1-1 Directional buttons control Pan-Tilt As shown in the image to the left, eight arrow buttons and speed options are provided to move around the camera. Select the moving speed from the drop-down menu, and press any arrow to move the fast dome network camera. The greater the Speed number is, the quicker the camera will move.</p> <p>Below image shows the current PTZ angle and zoom ratio information.</p>
<p>PTZ Setup</p> <p>Turbo Speed <input type="button" value="Off"/> ▾</p> <p>Flip Function <input type="button" value="Digital"/> ▾</p> <p>Vertical Limit <input type="button" value="-30"/> ▾</p> <p>Click To Center <input type="button" value="Off"/> ▾</p> <p>Mouse PTZ Control <input checked="" type="button" value="On"/> ▾</p> <p>Motor Power Saving <input type="button" value="On"/> ▾</p>	<p>3-2-1-2 Mouse control PTZ As shown in the image to the left, under PTZ setup, please turn on the Mouse PTZ control. Click and hold the mouse and move around the screen to control the camera according to your mouse movement. The moving speed depends on the distance between the center of the screen to the cursor: When the distance is short, the camera moves slowly; when the distance is long, the camera moves rapidly.</p>

Chapter 3-3-2 Zoom and Auto Focus Function

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
- Auto Focus: Normal AF, Interval AF, Zoom Trigger AF

Note: Auto focus camera model only.

Chapter 4 Settings

As an administrator, you can configure the IP PTZ 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 PTZ camera
- **Firmware Version:** Firmware version of the IP PTZ camera
- **CCD Version/Pan-Tilt Firmware Version/ I/O Firmware Version:** Check if the firmware is up-to-date.
- **OS Version:** The version number of the IP PTZ 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 PTZ cameras. To change the device name, enter a new name for the IP PTZ camera and click OK.

Chapter 4-1-2 User

The IP PTZ 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 a IP PTZ camera without authentication, switch the Bypass Logon option to On. Enable IPScan Bypass Logon to log in the IP PTZ 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.

Camera ID, Date, Status and PTZ info 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.

Setup > System > System Log

IP Address	User	Date & Time	Log Description
192.168.8.153	admin	2021/04/20 15:12:45	Set #1 Digital Output Status(0)(SYSTEM MESSAGE)
192.168.8.153	admin	2021/04/20 15:12:44	Set #0 Digital Output Status(0)(SYSTEM MESSAGE)
192.168.8.153	admin	2021/04/20 15:12:41	Set #1 Digital Output Status(1)(SYSTEM MESSAGE)
192.168.8.153	admin	2021/04/20 15:12:33	Set #0 Digital Output Status(1)(SYSTEM MESSAGE)
		2021/04/20 07:33:24	Power On(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.

Setup > Video > General

Encoder2 : Enable Disable
Encoder3/TV Out : Disable(TV Out Enable) Enable(TV Out Disable)
Video Standard : 60Hz 50Hz
Image Enhance Mode : HDR

Encoder1 Profile Name: H.264 Resolution: 2592x1944 Output Frame Rate: 30 GOP (Group of Pictures): 30 Stream Mode: CBR Bit Rate: 4 Mbps RTSP URL: rtsp://192.168.8.246:554/stream0	Encoder3 Profile Name: H.264 Resolution: 720x576 Output Frame Rate: 15 GOP (Group of Pictures): 15 Stream Mode: CBR Bit Rate: 1 Mbps RTSP URL: rtsp://192.168.8.246:554/stream2
---	---

Encoder2 Profile Name: H.264 Resolution: 720x480 Output Frame Rate: 15 GOP (Group of Pictures): 15 Stream Mode: CBR Bit Rate: 1 Mbps RTSP URL: rtsp://192.168.8.246:554/stream1	Encoder4 Profile Name: JPEG Resolution: 352x240 Output Frame Rate: 15 Image Quality: 80 RTSP URL: rtsp://192.168.8.246:554/stream3
---	--

OK Load Default

- **Encoders:** 4 customizable encoders
- **Video Standard:** NTSC/PAL setting
- **Image Enhance Mode:** HDR switch
- **Profile Name:** The selection of JPEG/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 Audio Adjust

Setup > Video > Audio Adjust

Audio Adjust Enable Disable

Audio Input Volume ▾

Audio Input Gain ▾

Audio Output Volume ▾

Audio Encoding Type G711 u-law AAC

Sampling Rate ▾

Bit Rate 16 kbit/s

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

Chapter 4-3 Controls



Chapter 4-3-1 Digital I/O

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

Setup > Controls > Digital IO

Digital I/O #1	State:Input	<input type="radio"/> NO <input type="radio"/>
Digital I/O #2	State:Input	<input type="radio"/> NO <input type="radio"/>
Digital I/O #3	State:Input	<input type="radio"/> NO <input type="radio"/>
Digital I/O #4	State:Input	<input type="radio"/> NO <input type="radio"/>
Digital I/O #5	State:Output	
Digital I/O #6	State:Output	

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.

Setup > Controls > Global Counter

Global Counter #1	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>
Global Counter #2	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>
Global Counter #3	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>
Global Counter #4	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>
Global Counter #5	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>
Global Counter #6	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>
Global Counter #7	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>
Global Counter #8	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>
Global Counter #9	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>
Global Counter #10	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>
Global Counter #11	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>
Global Counter #12	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>
Global Counter #13	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>
Global Counter #14	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>
Global Counter #15	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>
Global Counter #16	State:	<input type="text" value="0"/>	<input type="button" value="Set"/>

Chapter 4-3-3 Virtual Input

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

Setup > Controls > Virtual Input

Virtual Input #1	State: <input checked="" type="checkbox"/> 1
Virtual Input #2	State: <input type="checkbox"/> 0
Virtual Input #3	State: <input type="checkbox"/> 0
Virtual Input #4	State: <input type="checkbox"/> 0
Virtual Input #5	State: <input type="checkbox"/> 0
Virtual Input #6	State: <input type="checkbox"/> 0
Virtual Input #7	State: <input type="checkbox"/> 0
Virtual Input #8	State: <input type="checkbox"/> 0
Virtual Input #9	State: <input type="checkbox"/> 0
Virtual Input #10	State: <input type="checkbox"/> 0
Virtual Input #11	State: <input type="checkbox"/> 0
Virtual Input #12	State: <input type="checkbox"/> 0
Virtual Input #13	State: <input type="checkbox"/> 0
Virtual Input #14	State: <input type="checkbox"/> 0
Virtual Input #15	State: <input type="checkbox"/> 0
Virtual Input #16	State: <input type="checkbox"/> 0

Chapter 4-3-4 Metadata

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

Setup > Controls > Metadata

Number	1
Metadata Enable	<input checked="" type="checkbox"/>
Metadata Server Name	<input type="text" value="metaservername0"/>
Metadata Type	<input type="text" value="HTTP Multipart Response"/>
Metadata Server IP/DNS	<input type="text" value="metaserver.com"/>
Metadata Server Port	<input type="text" value="80"/>
Account	<input type="text" value="Account"/>
Password	<input type="password" value="....."/>
Metadata URL	<input type="text" value="/url"/>
Metadata Parser	<input type="text" value="parser"/>

The example below, LILIN IP PTZ 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

Enter the parsing tokens in the meta parser field for triggering an event from metadata URL of a third party device. The max length is 127 characters including spaces.

The parsing tokens of Metadata response are described below.:

```

%Trigger1% => Metadata #1
%Trigger2% => Metadata #2
%Trigger3% => Metadata #3
%Trigger4% => Metadata #4
%Trigger5% => Metadata #5
%Trigger6% => Metadata #6
%Trigger7% => Metadata #7
%Trigger8% => Metadata #8
%Trigger9% => Metadata #9
%Trigger10% => Metadata #10
%Trigger11% => Metadata #11
%Trigger12% => Metadata #12
%Trigger13% => Metadata #13
%Trigger14% => Metadata #14
%Trigger15% => Metadata #15
%Trigger16% => Metadata #16

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

```

Chapter 4-4 Network



Live | Language | Logout

System

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PTZ

Chapter 4-4-1 General

Network settings are the basic settings that connect LILIN IP PTZ cameras to the network. The default IP address of IP PTZ 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 PTZ camera.

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

Setup > Network > General

Network Static DHCP PPPoE

IP Address

Subnet Mask

Gateway

Primary DNS

Secondary DNS

Account

Password

QoS(DSCP) (0~63)

2nd IP Address Enable Disable

2nd IP Address

2nd Subnet Mask

3rd IP Address Enable Disable

3rd IP Address

3rd Subnet Mask

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 PTZ 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 PTZ camera may vary. You may need to use IPscan to search for the IP PTZ camera. To enable DHCP, click the DHCP option and click Submit.

Note: Once the DHCP option is enabled, the IP PTZ 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.

Setup > Network > HTTP Service

HTTP Port

HTTP Connection Policy HTTP & HTTPS HTTPS Service

OK

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.

Setup > Network > RTSP

RTSP Port

RTSP Authentication On Off

Encoder1

Encoder2

Encoder3 (TV Out)

Encoder4

OK

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 PTZ 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.

Setup > Network > HTTPS Service

HTTPS Service Enable Disable



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**.

HTTPS Service	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
HTTPS Status	Disable
Certificate Status	Not installed
Method	Create self-signed certificate
Country	US
State or province	Taiwan123
Locality	Taipei123
Organization	IPCAM12
Organization Unit	IPCAM123
Common Name	www.example.com@@123
Validity	365

Create a certificate.

A pop up message will display:

Organization Unit	IPCAM123
Common Name	www.example.com@@123
Validity	365

Create a certificate.

Create a certificate.

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

HTTPS Service	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
HTTPS Status	Disable
HTTPS Port	443
Certificate Status	Active
Method	Create self-signed certificate
Country	US
State or province	Taiwan123
Locality	Taipei123
Organization	IPCAM12
Organization Unit	IPCAM123
Common Name	www.example.com@@123

OK **Remove a certificate.**

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

HTTPS Service	<input checked="" type="radio"/> Enable <input type="radio"/> Disable	→	HTTPS Service	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
HTTPS Status	Disable		HTTPS Status	Enable

This IP PTZ 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**.

HTTPS Service	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
HTTPS Status	Disable
Certificate Status	Waiting for a certificate.
Download File	<input type="button" value="Download"/>
Select a certificate file	<input type="text"/> <input type="button" value="Browse..."/> <input type="button" value="Upload"/>
Method	Create a certificate request and install.
Country	US
State or province	Taiwan123
Locality	Taipei123
Organization	IPCAM12
Organization Unit	IPCAM123
Common Name	www.example.com@@123

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.

Setup > Network > IP/MAC Address Filtering

IP/MAC Address Filtering Enable Disable

Allow / Deny Allow Deny

IP Address

Prompt: <IP Address><Enter>

MAC Address

Prompt: <MAC Address><Enter>

- **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.

Setup > Network > DDNS

Server Name

DDNS

Account

Password

Host Name

<http://296528.ddnsipcam.com>

WAN IP

To activate DDNS, go to www.ddnsipcam.com. If the IP PTZ 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 PTZ 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.

Setup > Network > Push Service

Push Server:

Push Service:

Push Time:

Status: PUSH get info success. (task:1)Fri Jul 23 09:08:59 2021

ID	Address
10537	pnsllin40@gmail.com
14097	pnsllin40@gmail.com
15172	pnsllin40@gmail.com
13701	pnsllin40@gmail.com
15026	pnsllin40@gmail.com
15170	pnsllin40@gmail.com

Chapter 4-5 SmartEvent



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.

Setup > SmartEvent > SmartEvent

Enable Event 1:

Event Name:

Condition 1 | Condition 2 | Condition 3 | Condition 4 | Condition 5

Condition Name:

Trigger | Schedule | Action

Detection Time: Sec. Sleep Time: Sec.

(Current number/Maximum number of Trigger Rule is 1/3)

Trigger:

Enable	Trigger	Operator	Value	Duration
<input type="checkbox"/>	Digital Input #1	=	1 or 0	<input type="text" value="0"/> Sec.

Buttons: Save the event. Cancel

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 PTZ 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 PTZ 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.

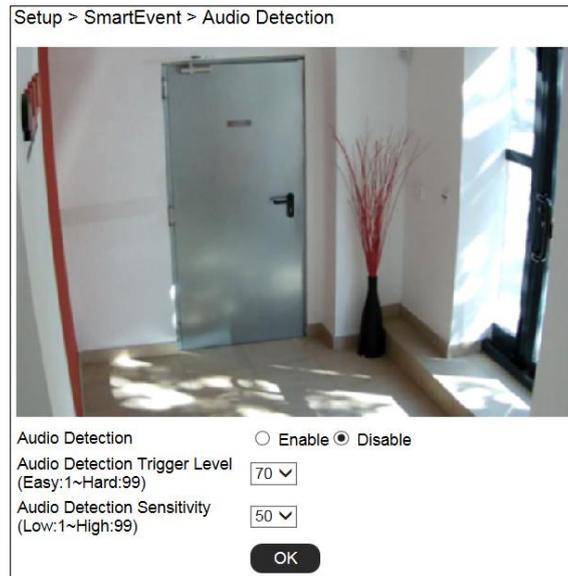


- **Tampering Detection:** The switch for tampering detection
- **Tampering Detection Time:** The time for tampering detection
- **Tampering Detection Dwell:** The output time for tampering detection

Chapter 4-5-4 Audio Detection

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

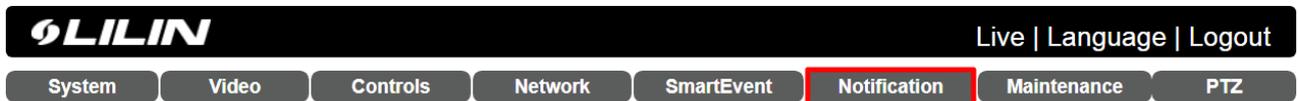
notification.



- **Audio Detection:** The switch for audio detection
- **Audio 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.

Setup > Notification > FTP Service

Number	FTP Server Name	FTP/DNS Server	Port
1	FTPServerName	ftp.server.com	21
2	FTP1ServerName	ftp1.server.com	21
3	FTP2ServerName	ftp2.server.com	21

Number: 1

FTP Server Name:

FTP/DNS Server:

FTP/DNS Server Port:

Account:

Password:

Directory:

Prefix:

Postfix:

- **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.

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 MPEG4 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 MPEG4 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 PTZ camera, click Browse and locate the update file. Click Submit to start the firmware update.

Setup > Maintenance > Firmware Update

Please do not turn off power and wait until this web page shows up automatically. Fail to update firmware correctly due to network communication issue may damage this machine and may be required to ship back to your vendor for repair.

flashcv22s66.bin:Application Firmware
plugincv22s66.bin:plug-in package

Upload 0%

Export Config File

Network Setting
 System Setting
 Controls Setting
 Event Setting
 Services Setting
 Video Setting
 Auto Focus Setting

Import Config File

Reboot System

Default Settings

Initialize without Network Settings & System Setting & Auto Focus Setting
 Initialize All Settings

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 PTZ



Chapter 4-8-1 Tour Setup

The IP PTZ Camera supports up to sixteen tour paths; each path can include up to 32 preset positions. Please refer to the instructions below to program a Tour table.

Note: Before setting this function, users must pre-define at least two preset points.

Setup >> Tour Setup

Tour Path	1	Speed	120	Dwell Time	10	Apply	
1	-	9	-	17	-	25	-
2	-	10	-	18	-	26	-
3	-	11	-	19	-	27	-
4	-	12	-	20	-	28	-
5	-	13	-	21	-	29	-
6	-	14	-	22	-	30	-
7	-	15	-	23	-	31	-
8	-	16	-	24	-	32	-

- **Tour Path:** Choose a tour path to set up.
- **Speed:** Set the running speed from the preset point position to the preset point position.
- **Dwell Time:** Set the dwell time at the preset point position.
- **Sequential Preset Points Setting:** Set up preset point positions for the selected tour path in any order you want from the drop-down list. Finally, click **Apply** to save the settings.

Chapter 4-8-2 Schedule

To set up PTZ scheduling, please select PTZ schedule. Select the desired schedule type (**No Schedule, Scan, SEQ, Tour, Patrol, Preset and Auto Tracking**). Click the schedule to highlight the time intervals you want the camera to perform the pre-determined schedule. Click **Apply** to save the settings and **Clean All** to clear the settings.

Setup >> Schedule

Schedule

	0:00	6:00	12:00	18:00
Mon	1 1 1 1 1 1 1 2		1	1
Tue	1 1 1 1 1 1 1 2		1	1
Wed	1 1 1 1 1 1 1 2		1	1
Thu	1 1 1 1 1 1 1 2		1	1
Fri	1 1 1 1 1 1 1 2		1	1
Sat		S S S S S S S		T T T T T T T
Sun		S S S S S S S		T T T T T T T

No Schedule
 Scan1
 SEQ
 Tour1
 Patrol1
 Preset 1

Scan2
 Tour2
 Patrol2
 Stop

Scan3
 Tour3
 Patrol3
 Auto Tracking

Scan4
 Tour4
 Patrol4

Apply Clean All

Chapter 4-8-3 RS485

You can change configurations related to RS-485 if connected to an RS-485 device. To set up, please go to **Setup-> PTZ-> RS-485**



Setup >> RS485

ID	1
Protocol	MLP2
Baud Rate	9600

OK

- **ID:** Set the camera ID.
- **Protocol:** Set the communication protocol.
- **Baud Rate:** Set the communication baud rate.

Appendix

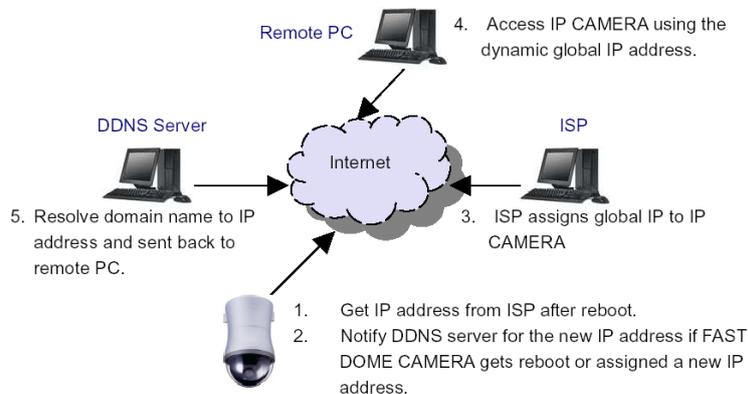
DDNS Network Settings

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



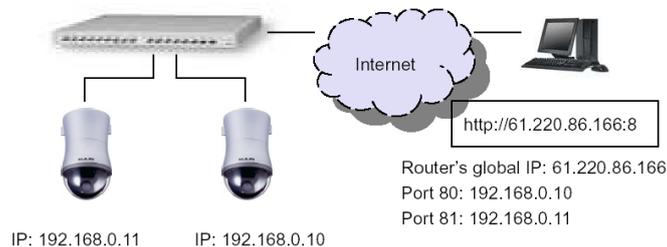
camera asks your ISP for a dynamic global IP address. This Internet-accessible IP address will be renewed by the ISP every time you log on the Internet.

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 PTZ camera to the factory default, follow the below procedures:

1. Short the "Restore to Factory Default RESET" cable for 10 seconds before releasing.
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.

SD Card Compatibility

Manufacturer	Capacity	SDHC/SDSC
Sandisk	16GB	SDHC



Sandisk	8GB	SDHC
Transcend	8GB	SDHC
Transcend	4GB	SDHC
Sandisk	32GB	SDHC

Install LILINHome

Search and download LILINHome in the iOS App Store or Android Play Store. Or you can scan the QR code below:

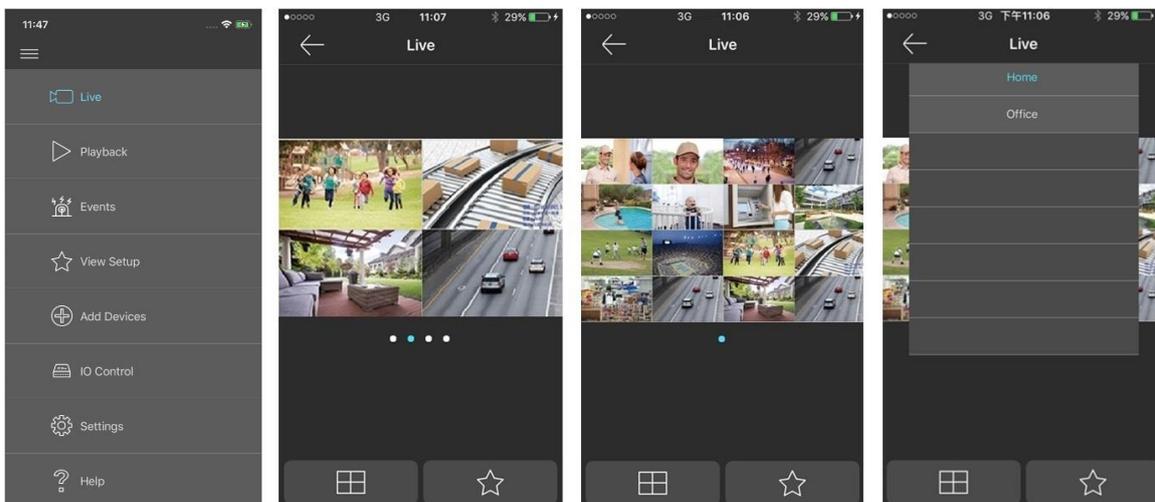


1. Live View

Click on the Menu button and the Live button for accessing live video of cameras. Entering the Live page is going to show the last accessed view page.

 Quad button: Click on the Quad button is to show 4 cameras in a sequence of a view page. Swipe the cameras for next quad view. Click on a camera for full screen.

 View button: Click on the View button that allows choosing a view page.



2. Playback

Click on the Playback button from the menu. Enter playback page. Playback is able to play SD card on an IP camera, NVR/DVR, and Navigator.

 Click on the calendar button. The calendar control shows up. Select the date and time for playback. Click



on the date control on the bottom for entering a date. Click on the timebar control for the time of playback.



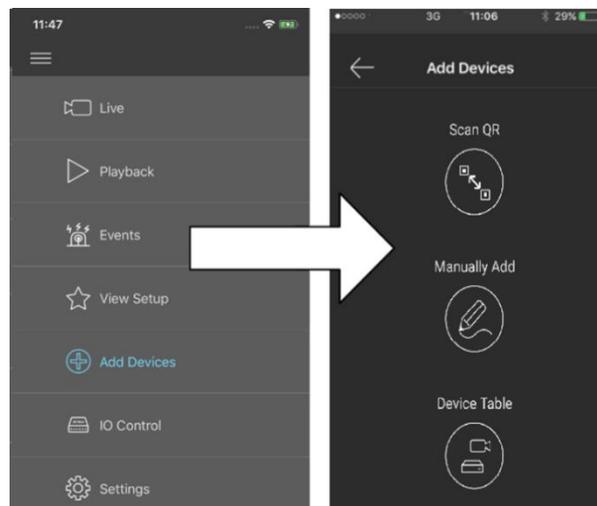
For controlling the playback video for LILIN products, click fast rewind, pause, fast forward, audio, video download, or quad view.

Video download: Click on the video download button for downloading video from LILIN products. Click on the quad view button for switching 4 camera views.



3. Add Devices

LILINHome can support NVR/DVR for remote access.



3.1 Add Devices for LILINHome App

Click on Scan QR for adding a NVR. Point to the QR code of a NVR for scanning QR code license ID for adding the NVR. Once a NVR gets added, the NVR goes to the View automatically. Enter Windows division is set automatically. If you are a home owner, you can just use LILINHome for easy access purpose.

