

E1 Series IP Camera User Manual

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Introduction

Thank you for using our IP camera. Our IP camera are integrated and developed for network video monitoring, including Network Bullet Camera, IR Network Dome, IR Network Weather-Proof Cameras and High-Speed Network Dome Camera. High-performance single SOC chips are used in media processor for audio/video acquisition, compression and transmission. Standard H.264 encoding algorithm is applied to ensure clear and smooth video representation and transfer performance. Embedded Web Server offers users access to real-time surveillance and remote control of front-end camera through IE browser.

The IP cameras are easy to install and operate. The IP cameras are applicable to large and medium-size enterprises, governmental projects, large mall, chain supermarkets, intelligent buildings, hotels, hospitals and schools and other applications requiring remote network video transmission and monitoring.

Instructions:

- For purpose of this manual, IP camera means network camera.
- Single click means a single click on the left mouse button.
- Double click means double-click on the left mouse button.
- The default factory IP address for IP camera is 192.168.0.200.
- The default factory administrator user name for IP camera is admin (in lowercase), and the password is pass (in lowercase).
- The default Web port number is 80 and the default media port number is 9988.

Statement:

Some information in this manual may differ from the actual product. For any problems you cannot solve with the use of this manual, please contact our technical support or the authorized dealers. This manual may be subject to change without prior notice.

1. Overview

1.1 Range of Application

The network cameras with powerful image processing capacity may be applied at various public places such as mall, supermarket, school, factory and workshop, as well as in environments requiring HD video image such as bank and traffic control system, as shown below:



1.2 Product Description

An IP camera is a digital online surveillance camera embedded with Web server and capable of independent operation, giving user access to real-time monitoring through web browser or client software from any place across the world.

IP camera is based on our latest solution, an integrated media processing platform for audio/video acquisition, compression and network transmission on a single board. It is in compliance with H.264/ H265 High Profile encoding standards. Any remote user can have access to real-time monitoring by entering the IP address or domain name of the IP camera in web browser. This network camera solution is applicable to residential or business environment, as well as a wide range of situations requiring remote network video monitoring and transmission. The IP camera is easy to install and operate.

The IP cameras can be managed by several users with different authorization levels.

IP cameras allows mobile detection, and sends e-mail and snapshot taken in case of emergency and store the image or video snapshot in SD card for retrieval.

1.3 Operation Environment

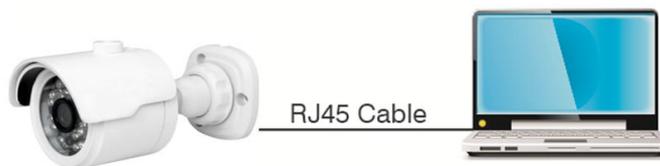
- Operating system: Windows 7/Windows 8/Windows 2008 (32/64-bit),
- Windows 2003/Windows XP/Windows 2000 (32-bit)
- CPU: Intel Core Duo II dual-core processor or higher
- Memory: 1G or more Video memory: 256M or more
- Display: 1024 × 768 or higher resolution
- IE: IE 6.0 or higher version

2. Device Connection

IP camera can be connected in two ways:

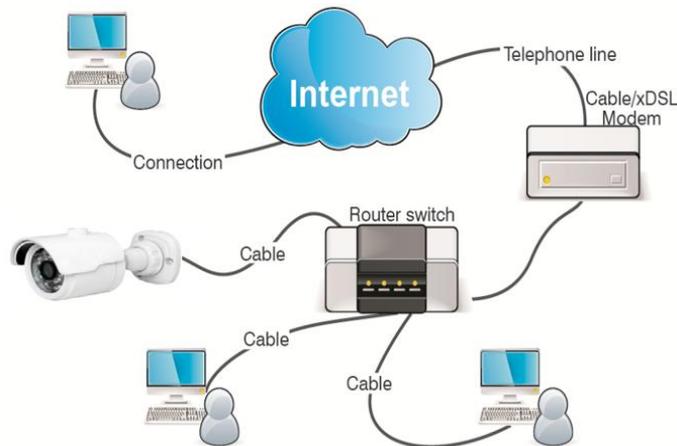
1. Connection to PC

Connect IP camera to PC directly using ethernet cable, with power input connected to a DC 12V adaptor, and set the IP addresses of the PC and IP camera in one network segment. The IP camera will communicate with PC within one minute after being powered on if the network operates normally.



2. Connection to router/switch

This is more commonly used in connecting the IP camera to Internet, where the camera and PC are connected to LAN ports of a router/switch, with gateway of the camera set to the IP address of the router.



3. Device Operation Instructions

3.1 Check Connection

1. The default factory IP address for IP camera is 192.168.0.200 and the subnet mask is 255.255.255.0. Allocate to your computer an IP address in the same network segment as the IP camera, for example, 192.168.1.69, and a same subnet mask as that of the IP camera.
2. Test whether the IP camera is connected properly and started normally by clicking on Start > Run and entering "cmd" and pressing ENTER, and entering "ping 192.168.0.200" in the command line window to check whether the IP camera is accessible. If the PING command is executed successfully, it indicates that the IP camera operates normally and the network is connected properly. If the PING command fails, check IP address and gateway setting of the PC and connectivity of the network.

```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>ping 192.168.0.200

Pinging 192.168.0.200 with 32 bytes of data:
Reply from 192.168.0.200: bytes=32 time=1ms TTL=64
Reply from 192.168.0.200: bytes=32 time<1ms TTL=64
Reply from 192.168.0.200: bytes=32 time<1ms TTL=64
Reply from 192.168.0.200: bytes=32 time<1ms TTL=64

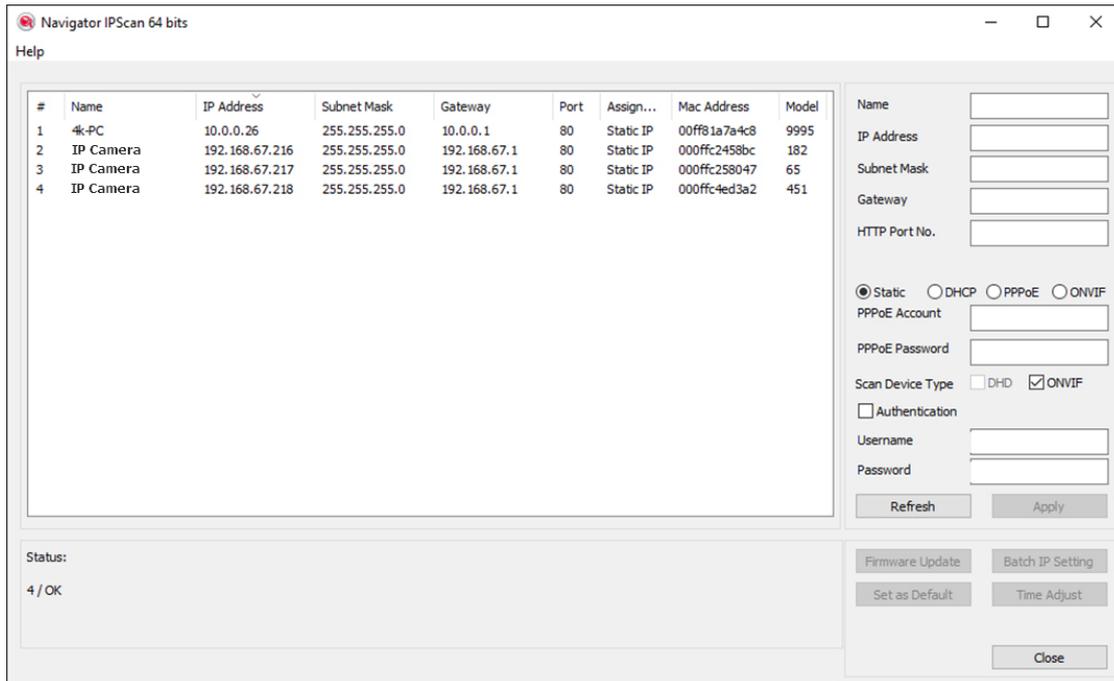
Ping statistics for 192.168.0.200:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Users\Administrator>
```

3.2 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



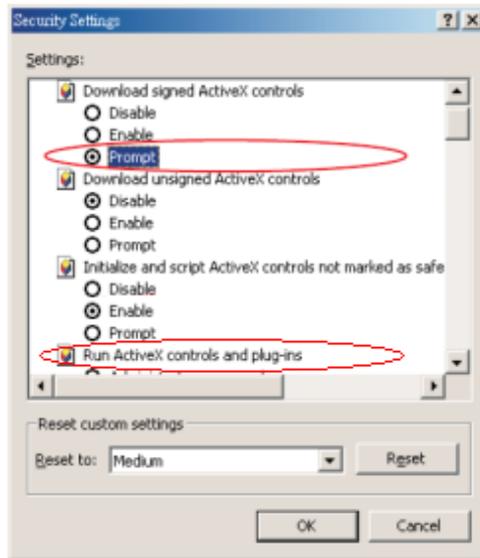
3.3 Configure IP Addresses through HTML Connection

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:

- Log in to your IP camera using the default username admin and default password pass
- Click Setup→Network to edit or modify IP address, subnet mask, gateway, or HTTP port
- Click Submit for the changes to take effect.

3.4 Web Browser Settings & Software Components Required

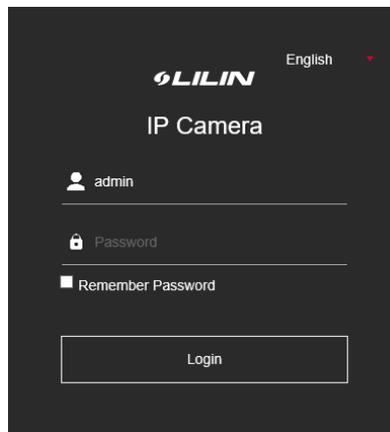
Make sure your Internet browser allows signed ActiveX plug-in to run on your PC. Set Download Signed ActiveX plug-in controls to Prompt and enable Run ActiveX control and plug-in. You can set this in Internet Explorer→Tools→Internet Options→Security→Custom Settings.



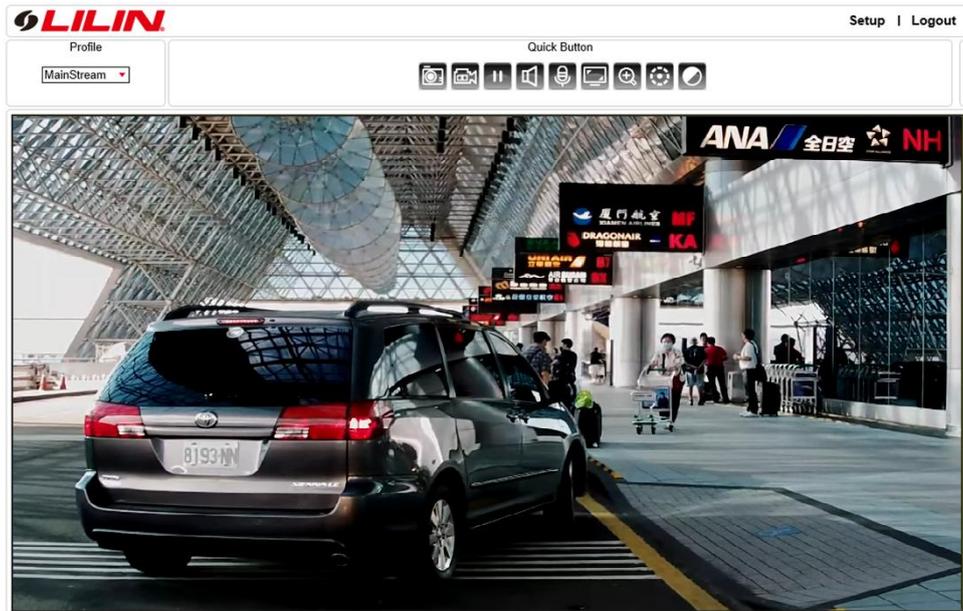
Once completed, you can access the IP camera's live video by entering the default IP address via a web browser. A security warning dialog box will appear. Click OK to download the ActiveX directly from the IP camera.

3.3.1 Preview

Operate IE and enter the IP address of the camera (<http://192.168.0.200>) to open a login box as shown below:



In the login box you can choose a language for the IE client. Enter your user name (admin by default) and password (pass by default) and then press OK to open a preview frame as shown below:



	Take a snapshot of the video
	Start recording
	Pause recording
	Speaker on/off
	Microphone on/off
	Enlarge the live view
	Zoom in
	PTZ Control: zoom in/out, focus near/far, speed adjustment
	Color setting button, for setting color, brightness, contrast, saturation and sharpness of the frame

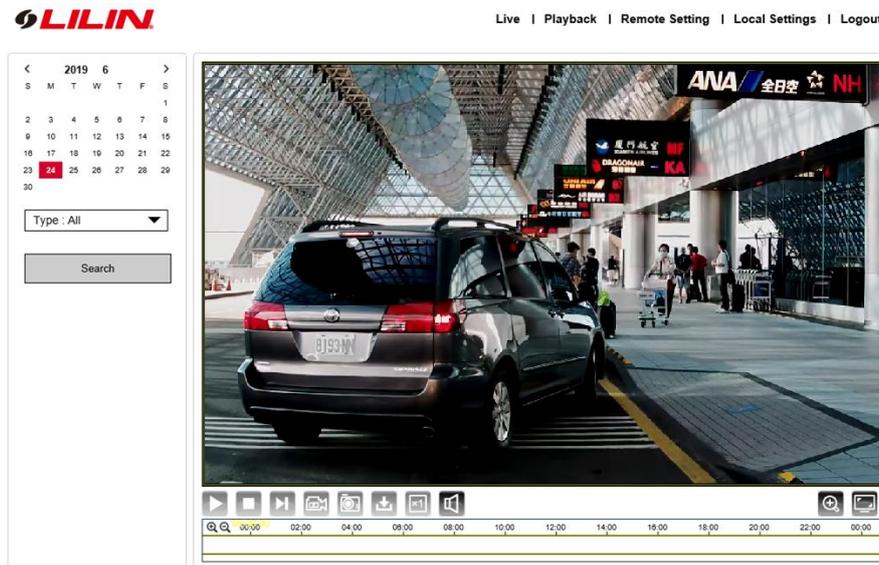
Click Path Configuration button to pop up the following dialog box: In this dialog box you can set video storage location, paths for download of remote file and storage of image snapshot, file type (RF by default, in H265 encoding) and video recording duration.

Local Settings

Record Path	<input type="text" value="D:\Device\Record"/>	
Download Path	<input type="text" value="D:\Device\Download"/>	
Snapshot Path	<input type="text" value="D:\Device\Capture"/>	
File type	<input type="text" value="RF"/>	Interval <input type="text" value="10"/> Min
Capture Type	<input type="text" value="JPG"/>	

3.3.2 Playback (optional function)

Click record file to playback, select the corresponding date, then, click on Search to go to below page.



User can search video by file type as needed, and operate the video through the simple tool on the toolbar, e.g. open/stop video, bit stream video, recording, snapshot, download recording, quick motion video playback, Sound On/Off.

4. Parameter Setting

4.1 Display Configuration

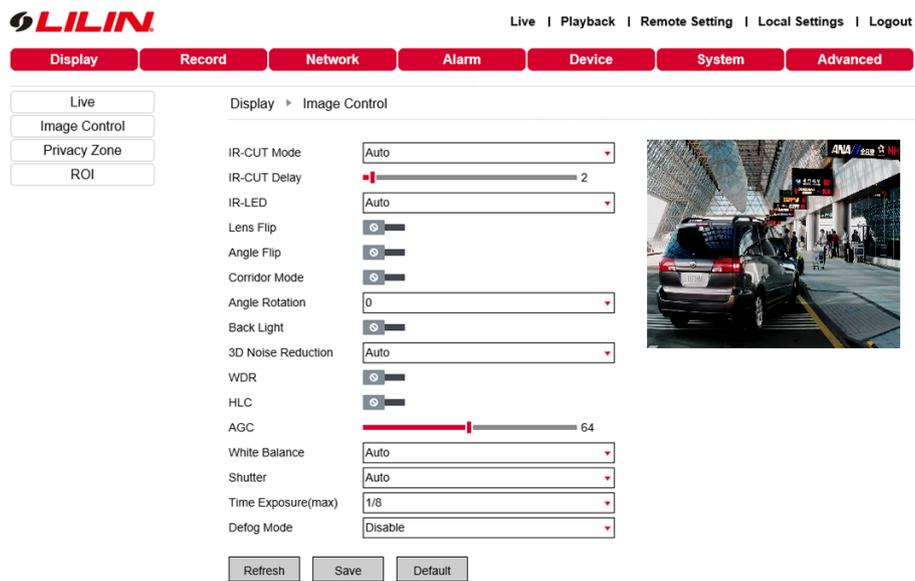
Click on Parameter Setting to open the page as below (preview setting page by default):



- **Name:** Name of the IP camera
- **Flicker control:** Choose 50Hz, 60Hz or disable it.
- **Transparency:** Choose display transparency of channel name and time on the preview frame (smaller value indicates higher transparency)
- **Show Name:** Choose to display the channel name or not.
- **Show Time:** Choose to display the time or not.
- **OSD:** the text in red color on the frame; you can locate display of the name of channel and time by dragging it in the preview frame.

4.2 Image Control

Click on Image Control in Display Configuration to open the following page:

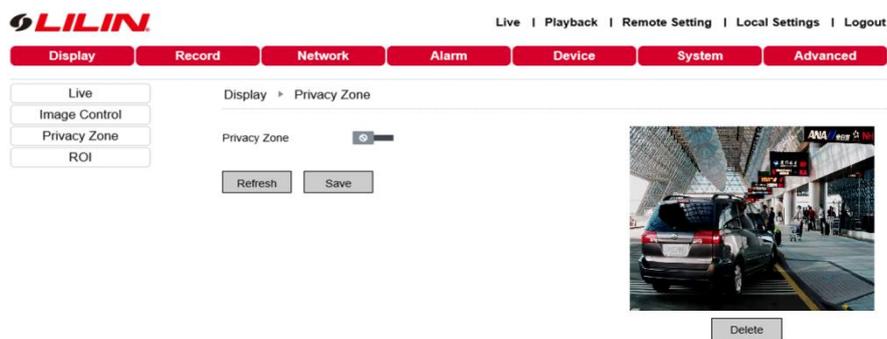


- **IR-CUT Mode:** Classified into GPIO Automatic, Colored, and Black-White modes.
- **IR-CUT Delay:** IR-cut switching delay.
- **IR-LED:** Enable the IR LED.
- **Image Flip-Over:** including flip horizontal, flip vertical, Corridor mode and Angle rotation (0°, 180°)
- **Image Control:** backlight compensation, 3D noise reduction, WDR, HLC, AGC, white balance, shutter speed, exposure time and defog mode.

Note: Below 2MP device doesn't support Corridor mode, Angle rotation, and defog mode.

4.3 Privacy Zone

Click on Privacy Zone in Display Configuration to open the following page:



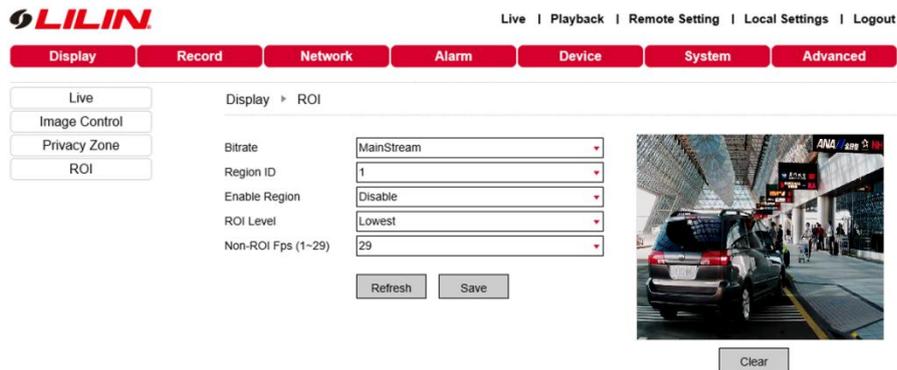
Procedure of setting privacy zone:

1. Check Privacy Zone
2. Press down and hold the left mouse button and drag out an area for video blocking (up to four areas at one time)
3. Click on Save to enable the privacy zone area.

Remove: After clicking Refresh, choose a blocked area by clicking it and then click Remove and click Save to remove it.

4.4 ROI (if applicable)

Click on ROI in Display Configuration to open the following page:



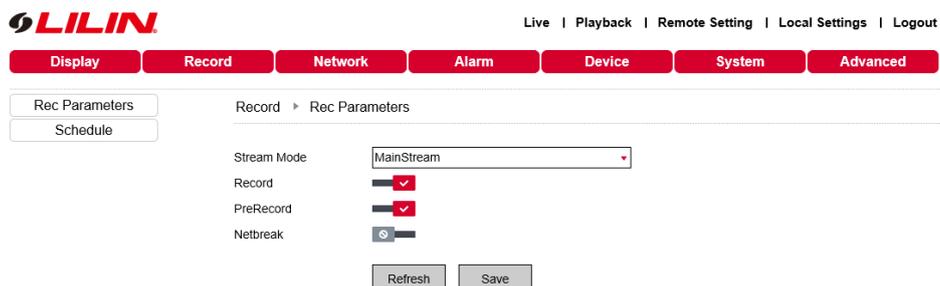
Procedure of setting ROI:

1. Choose an area of application
 2. Press down and hold the left mouse button and drag out a ROI area (only one ROI can be set for each area)
 3. Click on Save to apply the ROI area.
- **Bitrate:** Choose bit stream effective for ROI among Main Bit Stream, Sub-Bit Stream and Cell Phone Stream.
 - **Region ID:** Up to 8 ROI areas can be set in one bit stream.
 - **Enable Region:** Enable or disable ROI area
 - **ROI Level:** Set ROI level in one bit stream; larger value indicates higher-quality image in ROI area (1~6 Levels)
 - **Non-ROI Fps (1-29):** Set frame rate out of ROI area; smaller value indicates higher-quality image in ROI area. Range of frame rate is in relation to video standard and resolution.
(Note: Different non-ROI frame rates may be allocated to different ROI areas, but the minimum value among them is used as the frame rate to be applied for the non-ROI area on the preview frame.)

5. Record Settings

5.1 Rec Settings

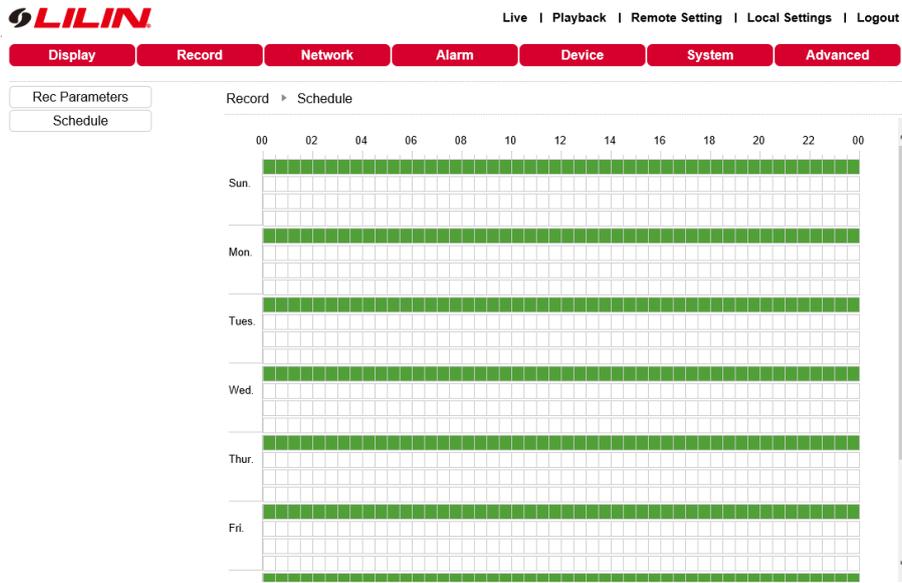
Click Rec Settings under the menu Record, go to below page



This function is to control the record type (main stream and substream), record, pre-record and network failure.

5.2 Schedule

Click Schedule under the menu Record, then, go to the page as below:

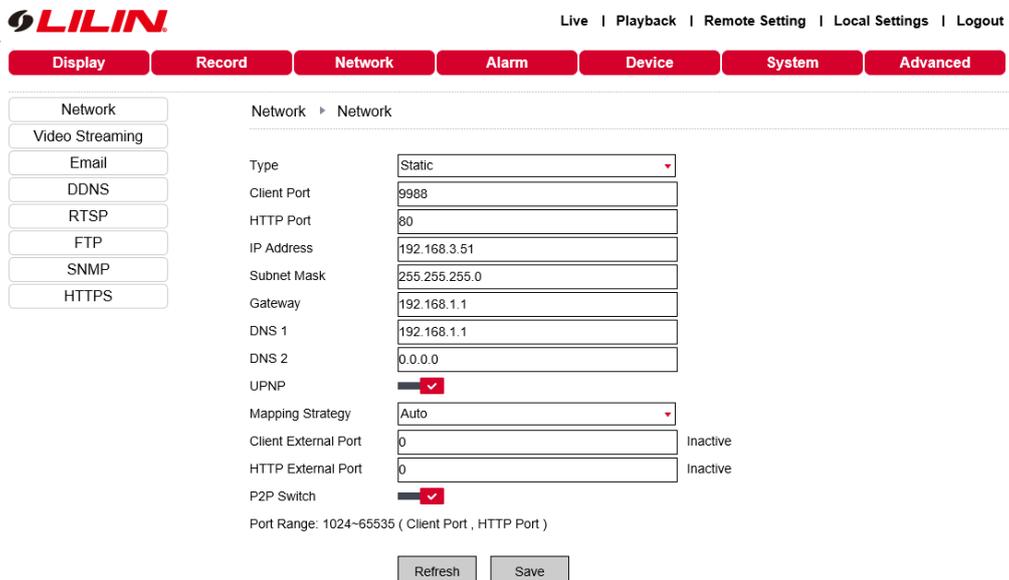


As image: one grid in the table is 30 minutes, green is normal record, yellow is motion detection alarm, red is I/O. User can setup according to private requirement to choose different record type and time.

6. Network Settings

6.1 Network Settings

Click on Network in Network Parameter Menu to open the following page:



- **Type Networking mode:** DHCP (Automatically Acquired), Manually Configured and PPPOE; the default is Manually Configured
- **Client Port:** Media port for IP Camera
- **HTTP Port:** Web port for IP Camera
- **IP Address:** IP address of IP Camera
- **Subnet Mask:** Subnet mast of IP Camera

- **Gateway:** Default gateway of the device
- **DNS1/DNS2:** Set DNS server
- **UPNP:** Enable or disable UPNP function for the device (enabled by default)
- **Mapping Strategy:** The way for mapping TCP/IP port number
- **Client External Port:** Video client TCP/IP port number
- **HTTP External Port:** HTTP's external IP port number
- **P2P Switch:** P2P connection

Note: To enable UPNP, the media/web/cell phone port should be set to a value between 1024 and 65535; the media port is used for connection of proprietary cell phone client; cell phone port is used for connection of the mobile client.

6.2 Video Streaming Setting

Click on Video Streaming Setting in Network Parameter Menu to open the following page:

By default, the available bit streams are: main bit stream, sub-bit stream and cell phone bit steam. You can set resolution, frame rate, video encoding, encoding level, audio, I frame interval, variable frame rate and bit stream size respectively for main bit stream, sub-bit stream and cell phone bit steam.

- **Resolution:** Set resolutions respectively for bit streams: The highest resolution for main bit stream is 2048x1536. The higher resolution for sub-bit stream is 704x480. The only resolution available for cell phone bit steam is 320x480.
Note: The higher resolution for main bit stream of 3MP Series is 2048*1536 (frame rate of 30 fps). The higher resolution for main bit stream of 4MP Series is 2592*1520 (frame rate of 20 fps). The higher resolution for main bit stream of 5MP Series is 2592*1944 (frame rate of 15 fps). The higher resolution for main bit stream of 8MP Series is 3840x2160 (frame rate of 30 fps). The higher resolution for main bit stream of 2MP Series is 1920*1080 (frame rate of 30 fps).
- **FPS:** When refresh rate is 50Hz, the maximum available frame rate is 25 fps. When refresh rate is 60Hz, the maximum available frame rate is 30 fps.
- **Video Code Type:** Set video encoding (H265/H264) for each bit stream.
- **Video Code Level:** H.264 coding level
- **Bitrate Control:** Set constant or variable bitrate for bit stream.
- **Bitrate Mode:** The bitrate mode
- **Bitrate:** Set bit stream value by choosing fixed value or customizing it.
- **Audio:** Enable audio for each bit stream.
- **I frame interval:** Set I frame interval.

Note 1: Range of main bit stream is 256-8192.
Range of sub-bit stream is 128-4096.
Range of cell phone bit steam is 8-1536.

Note 2: Video encoding and encoding level are unavailable in setting page of IP camera of 2MP Series.

6.3 E-Mail Configuration

Click on E-Mail Configuration in Network Parameter menu to open the following page:

E-Mail Configuration: mail service setting - used with alarm function to upload images snapped to the mail server.

- **E-mail:** Enable or disable e-mail function.
- **Encryption:** ON/OFF SSL protocol.
- **SMTP Port:** The default port number is 25 (mail server port).
- **SMTP Server:** Enter the address of mail server.
- **User Name:** User name of the mail server
- **Password:** Password of sending mailbox.
- **Sender:** Address of sending mailbox.
- **Address of recipient:** Address of receiving mailbox.
- **Interval:** Time interval for sending mail (1 minute, 3 minutes, 5 minutes, 10 minutes).
- **Test E-mail:** Click it to test whether the mailbox is configured properly by sending a test mail to the recipient's mailbox.

6.4 DDNS Configuration

Click on DDNS Configuration in Network Parameter menu to open the following page:

DDNS configuration: Dynamic DNS configuration - used with server for access from an extranet.

- **DDNS:** Enable or disable it.
- **Server:** Choose "3322".
- **Host Name:** Enter the name of active server.
- **User name:** Name of the user
- **Password:** Password of the user

6.5 RTSP

Click on RTSP in Network Parameter menu to open the following page:

- **RTSP Enable:** Enable or disable RTSP. RTSP is enabled by default. After it is disabled, it will not be found with ONVIF.
- **RTSP Port:** The default port number is 554, and can be changed to another value between 1024 and 65535. Modification to the parameter will restart the system.
- Anonymous Login

Operation Instructions:

- For IP cameras of 3MP/4MP/5MP/8MP Series: rtsp://IP:Port/ch00/A A:0 (main bit stream), 1(sub-bit stream), 2 (cell phone bit stream)
- For IP cameras of 2MP Series: rtsp://IP:Port /A A:0 (main bit stream), 1(sub-bit stream), 2 (cell phone bit stream)

6.6 FTP

Click on FTP in Network Parameter menu to open the following page:

FTP service setting - used with alarm function to upload images or videos snapped to the FTP server.

- **FTP Enable:** Enable or disable FTP.
- **Server:** Enter the address of FTP server.
- **Port:** FTP service port number; the default number is 21.
- **Username:** The user name for access to FTP service
- **Password:** The password for access to FTP service
- **Transfer Images:** Check it to transmit image

6.7 SNMP

Click on SNMP in Network Parameter menu to open the following page:

Turn on to activate SNMP service. Modify the fields to fit your requirements, and click Save for the changes to take effect.

6.8 HTTPS

Click on HTTPS in Network Parameter menu to open the following page:

- **HTTPS:** Enable HTTPS service.
- **Port:** The port number of the HTTPS service
- **HTTPS Type:** HTTPS type

7. Alarm Parameter

7.1 Motion Detection

Click on Motion in Alarm Parameter menu to open the following page:

Procedure of setting Mobile Detection:

1. Check Enable.
2. Press down and hold the left mouse button and drag out an area for mobile detection.
3. Set the sensitivity for motion detection (ranging from 1 to 8; larger value indicates higher sensitivity).
4. Alarm Out: Map to the alarm output.
5. Latch Time: Alarm output time
6. Post Recording: Enable alarm post recording.
7. Use with SMTP to enable mail delivery.
8. Enable Record
9. Click on Save to apply the settings.

Note: When any object moves within the target area, a letter "M" in green color will be displayed on the preview frame.

7.2 I/O Alarm (if applicable)

Click on I/O Alarm in Alarm Parameter menu to open the following page:

- **Alarm Type:** Alarm output type
- **Latch Time:** Alarm output time
- **Send Email:** Send an email while alarm gets triggered.
- **Alarm Out:** Enable alarm output
- **Enable Record**

7.3 Video Tampering

Click on Video Tampering in Alarm Parameter menu to open the following page:

- **Enable:** Check to activate Security Level and Mail Linkage options (checked by default).
- **Sensitivity:** Set security level for lens blocking (Level 1~8; larger value indicates higher security level)
- **Send e-mail:** It is disabled by default. After enabled, it may be used with SMTP to enable mail delivery.
- **Alarm out:** Map to alarm output
- **Latch Time:** Alarm output time

7.4 Sound Detection

Click on Sound Detection in Alarm Parameter menu to open the following page:

The screenshot displays the LILIN web interface for configuring Sound Detection. At the top, there are navigation tabs: Display, Record, Network, Alarm (selected), Device, System, and Advanced. Below the tabs, a left sidebar contains menu items: Motion, Alarm, Video Tampering, and Sound Detection (selected). The main content area is titled 'Alarm > Sound Detection'. It features several settings: 'Enable' (checked), 'Rise' (checked), 'Rise Sensitivity' (50), 'Sound Intensity' (50), 'Decline' (checked), 'Decline Sensitivity' (50), and 'Send Email' (checked). Below these settings is a 7-day schedule grid (Sun. to Sat.) with a 24-hour time axis (00 to 00). The grid is filled with purple, indicating that Sound Detection is enabled throughout the week. A legend at the bottom shows a purple square for 'Sound Detection' and a white square for 'Disable'. At the bottom of the page are 'Refresh' and 'Save' buttons.

- **Enable:** Enable audio detection
- **Rise:** Audio detection volume going up
- **Rise Sensitivity:** Sensitivity
- **Sound Intensity:** Intensity
- **Decline:** Audio detection volume going down
- **Decline Sensitivity:** Sensitivity
- **Send Email:** Send an email if the detection gets triggered.
- **Sound Detection:** Detection schedule
- **Disable**

8. Device

It includes SD Card (optional function) Logs and Audio. The interfaces and functions are described below.

8.1 SD Card (optional function)

Click SD Card under the menu Device, then go to below page

Insert SD card to device, system will auto detect the total capacity and balance capacity of SD card and give the information of time to record

- **Overwrite:** when the capacity of SD card is 0, new recording will overwrite previous recorded file (this function is default on)
- **Format SD Card:** to format SD card

Note: SD card does not support Motion JPEG recording.

8.2 Audio

Click on Audio in Device menu to open the following page:

Procedure of setting Audio:

Check Enable Audio option to access audio setting, and set audio input/output volume (ranging 0~10), and then click on Save to save the settings.

Note: For application of audio function, the audio option in Bit Stream Setting needs to be enabled.

8.3 Logs

Click on Log in Device menu to open the following page:

Log Type: Eight types of logs are available - system logs, network logs, parameter logs, alarm logs, user logs, recording logs, storage logs and all logs). Choose the starting and ending date/time for retrieval.

- Click on "Search" to retrieve and display related logs in the table below.
- Click on "Delete" to delete all device logs.
- Click on "Refresh" to refresh the logs selected.

9. System Settings

System Settings include Basic Information, User Configuration and System Information. Interfaces and functions are described below.

9.1 Basic Information

Click on General in System Settings menu to open the following page:

The system time, date format and time format can be manually set and saved.

Three automatic time correction functions are provided in this device.

- **DST:** Check Daylight Saving Time (DST) option to enable DST correction. The device will correct the time based on the time deviation as set.
- **NTP:** Check Enable NTP option, input the address of time server and choose a time zone and then save the setting. The system will correct time in accordance with the time server.
- **Synchronize:** The device will use PC as a time server to correct time.

9.2 Users Configuration

Click on Users in System Settings menu to open the following page:

NO.	User Name	Password	Active
1	admin	Enable	Enable
2	user1	Disable	Disable
3	user2	Disable	Disable
4	user3	Disable	Disable
5	user4	Disable	Disable
6	user5	Disable	Disable
7	user6	Disable	Disable

Refresh Save

User Name: admin
 Password: [masked]
 Confirm: [masked]
 Active:
 Password:

Here you can set user access authority and login password.

9.3 System Information

Click on Info in System Settings menu to open the following page:

Device ID: 000000
 Device Name: EZR-245AX
 Device Type: EZR-245AX
 Hardware Version: RS-CM-195D
 Software Version: V4.43.5.0_190615
 IE Client Version: V1.1.0.456_190604
 MAC Address: 00-0F-FC-79-C1-F6
 P2P ID: RSV1903015430551

Refresh

Here some system information on the device will be displayed, including device type, MAC address and software version.

You can visit mobile app through P2P QR code directly.

10. Advanced

It includes System Update, Default Settings and System Maintenance. The interfaces and functions are described below.

10.1 Firmware Update

Click on Firmware Update in Advanced menu to open the following page:

Note: Update will be unavailable if the update files did not match the target device.

10.2 Default Settings

Click on Load Default in Advanced menu to open the following page:

Check relevant options and click on Save to recover the default factory settings for the options as checked.

10.3 System Maintenance

Click on Maintain in Advanced menu to open the following page:

Here you can set regular restart or manual restart of the device.