Precautions

Precautions

Fully understand this document before using this device, and strictly observe rules in this document when using this device. If you install this device in public places, provide the tip "You have entered the area of electronic surveillance" in an eye-catching place. Failure to correctly use electrical products may cause fire and severe injuries. To prevent accidents, carefully read the following context:

Symbols

This document may contain the following symbols whose meanings are described accordingly.

Symbol	Description
⚠ **DANGER**	It alerts you to fatal dangers which, if not avoided, may cause deaths or severe injuries.
⚠ **WARNING**	It alerts you to moderate dangers which, if not avoided, may cause minor or moderate injuries.
⚠ **CAUTION**	It alerts you to risks. Neglect of these risks may cause device damage, data loss, device performance deterioration, or unpredictable results.
⊙⌐ **TIP**	It provides a tip that may help you resolve problems or save time.
▭ **NOTE**	It provides additional information.

⚠ **DANGER**

To prevent electric shocks or other dangers, keep power plugs dry and clean.

⚠ **WARNING**

• Strictly observe installation requirements when installing the device. The manufacturer shall not be held responsible for device damage caused by users' non-conformance to these requirements.
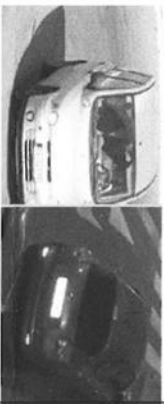
- Strictly conform to local electrical safety standards and use power adapters that are marked with the LPS standard when installing and using this device. Otherwise, this device may be damaged.

- Use accessories delivered with this device. The voltage must meet input voltage requirements for this device.

- If this device is installed in places with unsteady voltage, ground this device to discharge high energy such as electrical surges in order to prevent the power supply from burning out.

- When this device is in use, ensure that no water or any liquid flows into the device. If water or liquid unexpectedly flows into the device, immediately power off the device and disconnect all cables (such as power cables and network cables) from this device.

- Do not focus strong light (such as lighted bulbs or sunlight) on this device. Otherwise, the service life of the image sensor may be shortened.

- If this device is installed in places where thunder and lightning frequently occur, ground the device nearby to discharge high energy such as thunder strikes in order to prevent device damage.

⚠ CAUTION

- Avoid heavy loads, intensive shakes, and soaking to prevent damages during transportation and storage. The warranty does not cover any device damage that is caused during secondary packaging and transportation after the original packaging is taken apart.

- Protect this device from fall-down and intensive strikes, keep the device away from magnetic field interference, and do not install the device in places with shaking surfaces or under shocks.

- Clean the device with a soft dry cloth. For stubborn dirt, dip the cloth into slight neutral cleanser, gently wipe the dirt with the cloth, and then dry the device.

- Do not jam the ventilation opening. Follow the installation instructions provided in this document when installing the device.

- Keep the device away from heat sources such as radiators, electric heaters, or other heat equipment.

- Keep the device away from moist, dusty, extremely hot or cold places, or places with strong electric radiation.

- If the device is installed outdoors, take insect- and moisture-proof measures to avoid circuit board corrosion that can affect monitoring.

- Remove the power plug if the device is idle for a long time.

- Before unpacking, check whether the fragile sticker is damaged. If the fragile sticker is damaged, contact customer services or sales personnel. The manufacturer shall not be held responsible for any artificial damage of the fragile sticker.

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3 Troubleshooting

Table 3-1 lists the troubleshooting of the camera.

Table 3-1 Troubleshooting of the camera
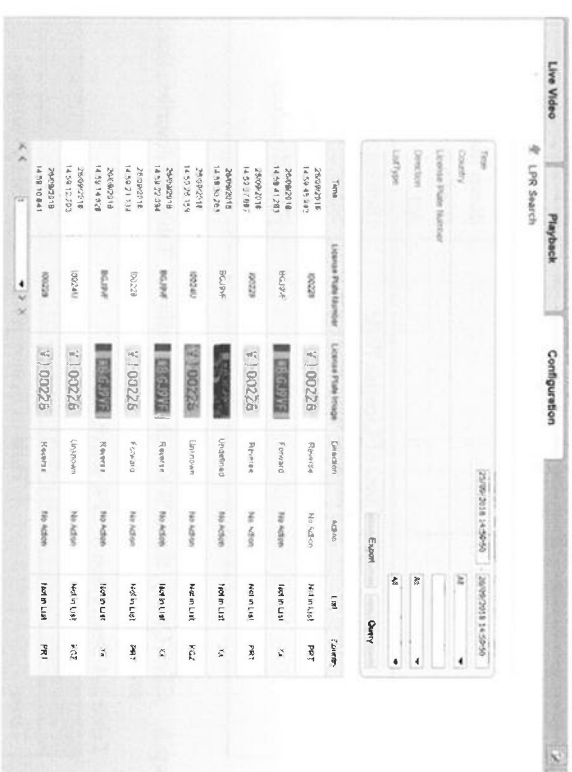
Problems	countermeasure	Photo
Focus	Adjust the focus on the lens.	
Too much light	Adjust the shutter speed, or dim the IR-Led (for the night).	
Too small License plate width	Adjust the Minimum Width of license plate.	
Insufficient light	Adjust the shutter speed or provide some extra light.	

Contents

Figure 2-15 LPR Search

Step 2 Set the parameters according to Table 2-3

Table 2-3 LPR Search parameters

Parameter	Description	Setting
Time	Time period of license plate recognition.	[Setting method] Click input box, the calendar is displayed. Choose the **start time**. Choose the **end time**.
Country	Country of license plate.	[Setting method] Select a value from the drop-down list box. [Default value] All
License Plate Number	License Plate Number.	[Setting method] Enter a license plate number manually.

Parameter	Description	Setting
Direction	Direction of vehicles	[Setting method] Select a value from the drop-down list box. [Default value] All
List	Class of License Plate Number, likes white list, black list and not in list.	[Setting method] Select a value from the drop-down list box. [Default value] All

Step 3   Click **Query**, the LPR search list is displayed, Table 2-4 describes the LPR search list.

Table 2-4 Description of LPR search list

Parameter	Description
Time	Time of license plate recognized by camera.
License Plate Number	License plate Number of license plate recognized by camera.
License Plate Image	License plate Image of license plate recognized by camera.
Direction	Direction of license plate recognized by camera.
Action	Action of license plate after the license plate recognized by camera.
List	List of license plate recognized by camera.
Country	Country of license plate recognized by camera.

NOTE

- License plate list is displayed in the live video page automatically.
- A maximum of 100 lists can be displayed in live video page.
- A maximum of 500 lists can be displayed in LPR search page.

Special Announcement

All complete products sold by the manufacturer are delivered along with nameplates, operation instructions, and accessories after strict inspection. The manufacturer shall not be held responsible for counterfeit products.

This manual may contain misprints, technology information that is not accurate enough, or product function and operation description that is slightly inconsistent with the actual product. The manufacturer will update this manual according to product function enhancement or changes and regularly update the software and hardware described in this manual. Update information will be added to new versions of this manual without prior notice.

This manual is only for reference and does not ensure that the information is totally consistent with the actual product. For consistency, see the actual product.
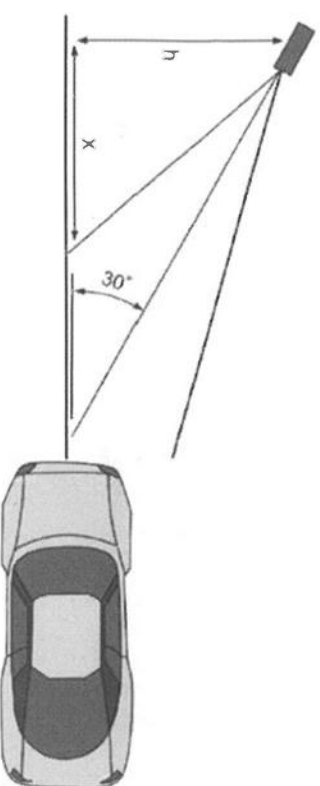
Figure 1-2 Vertical angle
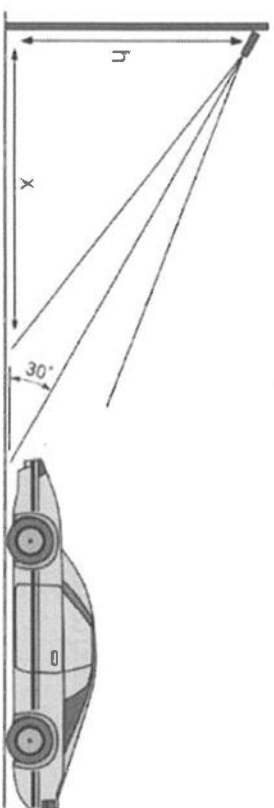
1.2.2 Horizontal angle

Horizontal angle should not exceed 30 degrees, as shown in Figure 1-3.

Figure 1-3 Horizontal angle

1.2.3 Minimal distance

The initial formula is x =h *1.7

First of all you measure the vertical angle. Then measure the horizontal angle. You need to take the bigger of them.

For example, if you mounting the camera on a 2 meters pole, 3 meters from the road.
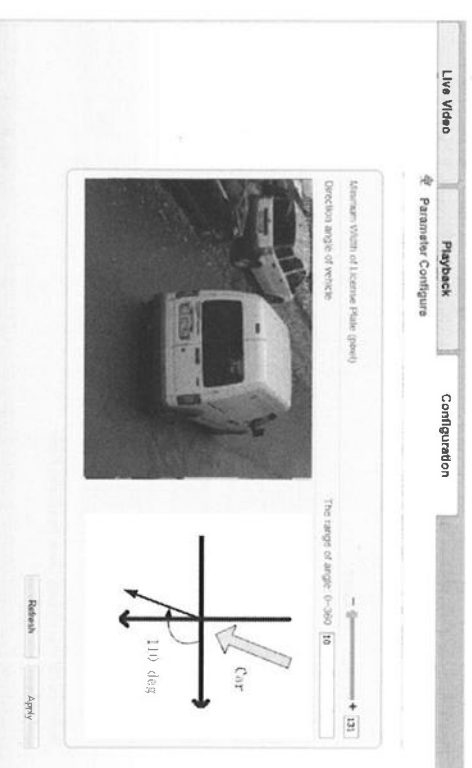
Correct vertical angle will be reached from 2*1.7=3.4 m and farther.

However correct horizontal angle will be reached from 3*1.7=5.1 m and farther.

So to fulfill both requirements, we take the bigger x=5.1 m.

Correspondence between installation height and distance as shown in Table 1-1.

Figure 2-13 Parameter Configure

Step 2   Set Minimum Width of License Plate

Drag the slider to set the minimum width of license plate, the setting range is 130~300 pixels.

Step 3   Set direction angle of vehicle, the range of angle is 0° - 360°.

Step 4   the figure means setting a postive direction(the picture of video is the XY coordinate, and set car's relative position is postive , such as the car' position is -110 degree of picture, the range from -65° to -155° is all postive direction . The range from 25° to 115° is negative direction. Others is undefined direction.

Step 5   Set ROI area

Set an ROI area to recognize the license plate of the area.

Press and hold the left mouse button, and drag in the video area to draw a ROI area.

Step 6   Click Apply, the message "Apply success" is displayed.

📖 **NOTE**

The default license plate recognition area is full video area.

2.5.4 Linkage Configure

Linkage Configure refers to configuring a linkage output when the license plate recognized by camera.

Procedure

Step 1 Choose **Configuration > License Plate Recognition > Linkage Configure.**

The Linkage Configure page is displayed, as shown in Figure 2-14.

Figure 2-14 Linkage Configure

Step 2 Set **Valid Signal.**

Select a valid signal value from the drop-down list

Step 3 Set **Time of Duration(s).**

Step 4 Enable **FTP Upload ScreenShots.** Snapshot screenshots and upload the screenshots to FTP server.

Step 5 Enable **Video Displaying License Plate** and set **Time of Duration(s).**

The snapshotted license plate number will be displayed in video image of live video page when enable **Video Displaying License Plate.**

Step 6 Click **Apply**, the message "Apply succeed" is displayed.

2.5.5 License Plate Recognition Search

License plate recognition Search refers to searching all license plates recognized by camera.

Procedure

Step 1 Choose **Configuration > License Plate Recognition > LPR Search.**

The LPR Search page is displayed, as shown in Figure 2-15.

1 Device Installation

1.1 scene requirements

- License plate must be readable and well light.
- License plate image dimensions (Pixel) must be at least:

1. For Russia, Kazakhstan, Armenia, Uzbekistan, Serbia: 150 pixels for rectangular plates and 100 pixels for two row plates
2. For all other supported countries: 130 pixels for rectangular plates and 70 pixels for two row plates.

- Allowed tilt - 5 degrees (clockwise and counterclockwise), as shown in Figure 1-1.

Figure 1-1 Allowed tilt sample

1.2 Angles of mounting

1.2.1 Vertical angle

Vertical angle should not exceed 30 degrees, as shown in Figure 1-2.

2 Quick Configuration

2.1 Login and Logout

⚠ CAUTION

You must use Internet Explorer 6 or a later version to access the web management system; otherwise, some functions may be unavailable.

Login system

Step 1   Open Internet Explorer, enter the IP address of the IP camera (default value: 192.168.0.120) in the address box, and press **Enter**.

The login page is displayed, as shown in Figure 2-1.

Figure 2-1 Login page

IP CAMERA

English▼

User Name

Password

Step 2   Enter the user name, and password.

📖 NOTE

- The default user name is **admin**. The default password is **admin**. Change the password when you login to the system for the first time to ensure system security.
- You can change the system display language on the login page.

Step 3   Click

The main page is displayed.

Function	Procedure	Description
Add	(1) Click ✚ , an input box is displayed. (2) Enter the license plate number and click the left mouse button in blank area.	Add the license plate number in black (white) list.
Delete	(1) Check the license plate number in black (white) list. (2) Click ▬ to delete the license plate number in black (white) list.	Delete the license plate number in black (white) list.
Search	(1) Enter the license plate number in black (white) list. (2) Click 🔍 to search the license plate number.	Search the license plate number in black (white) list.
Begin time	(1) click the time , calendar is displayed, set the begin time of white and black. (2) choose 🗸 to save the settings, choose to ✖ abandon the settings	Default Current time
End time	(1) click the time , calendar is displayed , set the end time of white and black (2) choose 🗸 to save the settings, choose to ✖ abandon the settings	Default The next day of current time

📖 NOTE

- Choose license plate number in black list and click ◀, the license plate number will add in white list.
- Choose license plate number in white list and click ◀, the license plate number will add in black list.

Step 3   Configure the **Advanced setting**.

Advanced setting contains: no action, FTP upload, relay on and SMTP. As shown in Figure 2-12

Figure 2-12 Advanced setting

2. Set **Black List Action**: Enable the linkage actions. The linkage action will be performed automatically when the license plate in black list recognized by camera.
3. Set **White List Action**: Enable the linkage actions. The linkage action will be performed automatically when the license plate in white list recognized by camera.
4. Set **Not in List Action**: Enable the linkage actions. The linkage action will be performed automatically when the license plate neither in black list nor in white list recognized by camera.

Step 4 Click **Apply**, the message "Apply success" is displayed.

2.5.3 Parameter Configure

Parameter Configure refers to configuring the minimum width of license plate and License plate recognition area, to ensure the definition of license plate recognition.

Procedure

Step 1 Choose **Configuration > License Plate Recognition > Parameter Configure**.

The Parameter Configure page is displayed, as shown in Figure 2-13.

Table 1-1 Correspondence between installation height and distance

h (meters)	Minimal x (meters)
1	1.7
1.5	2.6
2	3.4
2.5	4.3
3	5.1
3.5	6
4	6.8

2.2.2 Browsing Video

To browse real-time videos, click **Live Video**. The **Live Video** page is displayed, as shown in Figure 2-4.

Figure 2-4 Live Video

2.3 Setting Local Network Parameters
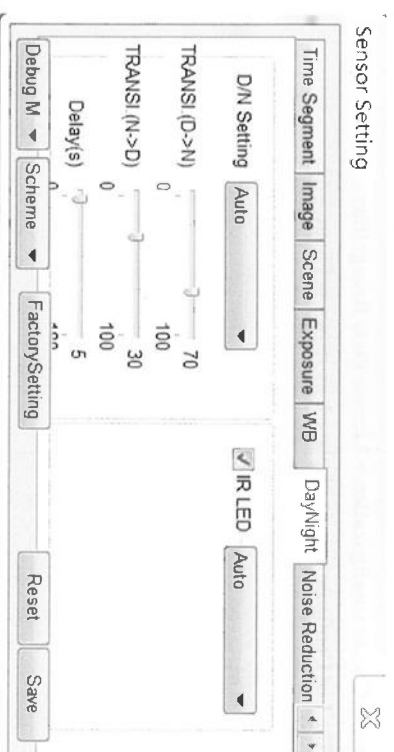
Description

Local network parameters include:

- IP protocol
- IP address
- Subnet mask
- Default gateway
- Dynamic Host Configuration Protocol (DHCP)
- Preferred Domain Name System (DNS) server
- Alternate DNS server
- MTU

Procedure

Step 1　Choose **Configuration >Device > Local network**, the **Local network** page is displayed as shown in Figure 2-5

Figure 2-9　DayNight page

2. Set the **D/N Setting** to Night Mode.
3. Set the **IR LED** to Manual.
4. Set the **Strength** to 40.
5. Click **Save**, the message "Save success" is displayed.

NOTE

Strength of IR LED is only for IR camera.
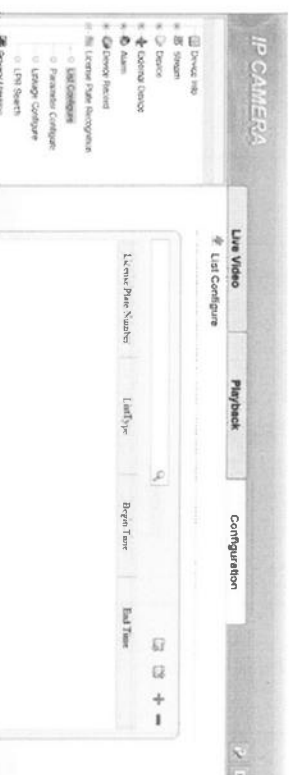
2.5 License Plate Recognition Configuration

Click **configuration**, choose **License Plate Recognition** at left list , as shown in Figure 2-10

Figure 2-10 License Plate Recognition

2.5.2 List Configure

List configure refers to adding license plate number with same linkage action in the same list. The list contains black list and white list.

Procedure

Step 1 Choose **Configuration > License Plate Recognition > List Configure.**
The List Configure page is displayed, as shown in Figure 2-11.

Figure 2-11 List Configure

Step 2 Table 2-2 describes the operations.

Table 2-2 Operation description

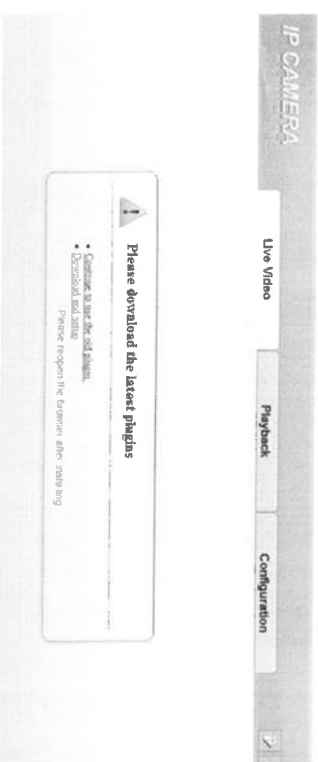| Function	Procedure	Description
Export	(1) Click [icon] , the open or save list file prompt page is displayed. (2) Open or save list file according to the prompt.	Export the list file.
Import	(1) Enter license plate number into the .txt document (2) Save the .txt document to a path. (3) Click [icon] to import the license plate number in the black list or white list.	Import the list file.

---

logout

To logout of system, click [icon] in the upper right corner of the main page, the login page is displayed after you log out of the system.

2.2 Browsing Video

2.2.1 Install plugins
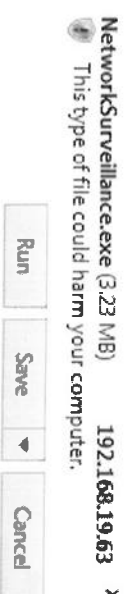
You will be prompted with a message "download the latest plugins" as shown in Figure 2-2 when you log in to the web management system for the first time.

Figure 2-2 Download the plug-ins page

Step 1 Click **Download and setup**, download and setup the plug-ins as shown in Figure 2-3.

Figure 2-3 Download the plug-ins

NetworkSurveillance.exe (3.23 MB)   **192.168.19.63** ✕
This type of file could harm your computer.

Run   Save ▾   Cancel

Step 2 Click **Run**, install the plug-ins follow the prompts.

Step 3 Reopen the browser after installation.

📖 **NOTE**

If the repair tips displayed when installing the control, please ignore the prompt, and continue the installation.

Parameter	Description	Setting
IP Address	Device IP address that can be set as required.	[Setting method] Enter a value manually. [Default value] 192.168.0.120
Subnet Mask	Subnet mask of the network adapter.	[Setting method] Enter a value manually. [Default value] 255.255.255.0
Default Gateway	This parameter must be set if the client accesses the device through a gateway.	[Setting method] Enter a value manually. [Default value] 192.168.0.1
Preferred DNS Server	IP address of a DNS server.	[Setting method] Enter a value manually. [Default value] 192.168.0.1
Alternate DNS Server	IP address of a domain server. If the preferred DNS server is faulty, the device uses the alternate DNS server to resolve domain names.	[Setting method] Enter a value manually. [Default value] 192.168.0.2
MTU	Set the maximum value of network transmission data packets.	[Setting method] Enter a value manually. Note The MTU value is range from 800 to 1500, the default value is 1380, please do not change it arbitrarily.

Step 3   Click **Apply**.

- If the message "Apply succeed" is displayed, the system saves the settings. The message "Set network parameter success, Please login system again" is displayed. Use the new IP address to log in to the web management system.
- If the message "Invalid IP Address", "Invalid Subnet Mask", "Invalid default gateway", "Invalid primary DNS", or "Invalid space DNS" is displayed, set the parameters correctly.

▭ **NOTE**

If you set only the **Subnet Mask, Default Gateway, Preferred DNS Server**, and **Alternate DNS Server** parameters, you do not need to log in to the system again.

2.4 Front-end Configuration

Procedure

Step 1   Move the cursor to the real-time video page and right-click on the page. A shortcut menu is displayed, as shown in Figure 2-6.

Figure 2-6 Front-end configuration menu

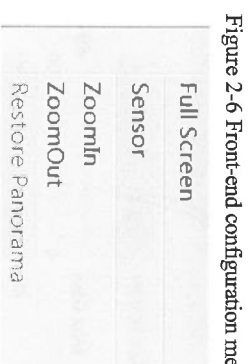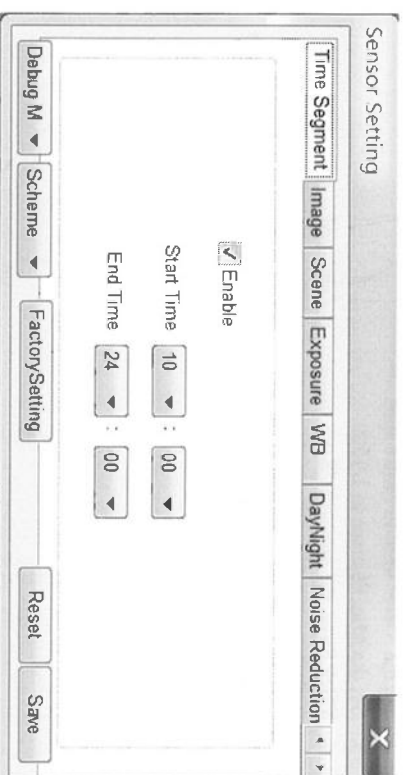| Full Screen |
|---|
| Sensor |
| ZoomIn |
| ZoomOut |
| Restore Panorama |

Step 2   Choose **Sensor**.

The front-end configuration dialog box is displayed as shown in Figure 2-7.

Figure 2-7 Front-end configuration page

Step 3   Configure **Time Segment**.

1. Click [Standard ▼] in the lower left corner of Sensor Setting, and choose **Debug Mode**.
2. Set the **Start Time** to 18:00

3. Set the **End Time** to 7:00
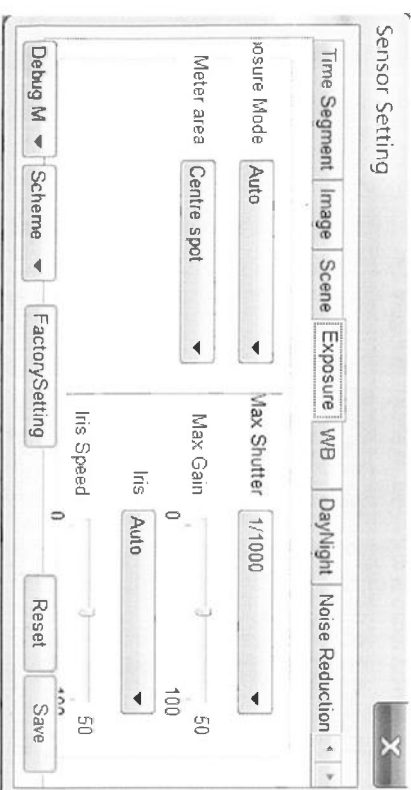4. Click **Save**, the message "Save succeed" is displayed.

NOTE

You can set the start time according to the local sunrise time and set the end time according to the local sunset time.

Step 4 Configure **Exposure**.

1. Click **Exposure**, the Exposure page is displayed as shown in Figure 2-8.

Figure 2-8 Exposure page

Sensor Setting

| Time Segment | Image | Scene | Exposure | WB | DayNight | Noise Reduction |

osure Mode Auto

Meter area Centre spot

Debug M ▼ Scheme ▼ FactorySetting

Max Shutter 1/1000

Max Gain 0 ___ 50

Iris Auto

Iris Speed 0 ___ 50

Reset Save

2. Set the **Meter area** to centre spot.
3. Set the **Max Shutter** to 1/1000.
4. Click **Save**, the message "Save succeed" is displayed.

Step 5 Configure **DayNight**.

1. Click **DayNight**, the DayNight page is displayed as shown in Figure 2-9.
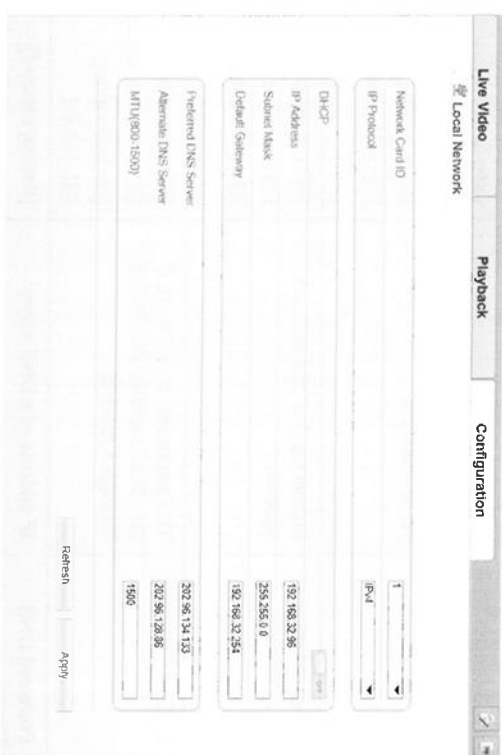

Figure 2-5 Local network

Live Video   Playback   Configuration

Local Network

Network Card ID	1
IP Protocol	IPv4
DHCP	
IP Address	192.168.32.96
Subnet Mask	255.255.0.0
Default Gateway	192.168.32.254
Preferred DNS Server	202.96.134.133
Alternate DNS Server	202.96.128.86
MTU(800-1500)	1500

Refresh   Apply

Step 2 Set the parameters according to Table 2-1.

Table 2-1 Local network parameters

Parameter	Description	Setting
IP Protocol	IPv4 is the IP protocol that uses an address length of 32 bits.	[Setting method] Select a value from the drop-down list box. [Default value] IPv4
Obtain an IP address automatically	The device automatically obtains the IP address from the DHCP server.	[Setting method] Click the button on to enable **obtain IP address automatically**. NOTE To query the current IP address of the device, you must query it on the platform based on the device name.
DHCP IP	IP address that the DHCP server assigned to the device.	N/A