

2.0MP CMOS HD Camera Web Operation Manual

Version 1.0.0

Important Safeguards and Warnings

1 . Electrical safety

All installation and operation here should conform to your local electrical safety codes.

The power shall conform to the requirement in the SELV (Safety Extra Low Voltage) and the Limited power source is rated 90-240V.

We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

2 . Transportation security

Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.

Please keep package material well in case you need to send it back to your local retailer or manufacturer for maintenance work.

Non-original package material may result in device damage during the transportation.

3 . Installation

Do not apply power to the camera before completing installation.

Please install the proper power cut-off device during the installation connection in case there is any emergency situation.

Always follow the instruction guide the manufacturer recommended.

4 . Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers.

We are not liable for any problems caused by unauthorized modifications or attempted repair.

5 . Environment

This series camera should be installed in a cool, dry place away from direct sunlight or strong light, inflammable, explosive substances and etc.

The working temperature ranges from -30°C ~ to $+60^{\circ}\text{C}$. Please keep it away from the electromagnetic radiation object and environment.

Please keep the sound ventilation.

Do not allow the water and other liquid falling into the camera.

Usually we recommend thunder-proof device to prevent thunder strike.

The GND port of the product shall be grounded to further enhance the reliability of the device.

6. Accessories

Be sure to use all the accessories recommended by manufacturer.

Before installation, please open the package and check all the components are included.

Contact your local retailer ASAP if something is broken in your package.

7. Daily Maintenance

Please shut down the device and then unplug the power cable before you begin daily maintenance work.

Use the dry soft cloth to clean the device.

If there is too much dust, please use the water to dilute the mild detergent first and then use it to clean the device. Finally use the dry cloth to clean the device.

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1 Web

The device supports device access and management via WEB on PC.

Note:

Interface and settings here are for reference only.

1.1 First Time Log in

Open IE and input HD intelligent traffic camera IP address in the address column. For example, if your IP is 192.168.1.108, then please input http:// 192.168.1.108 in IE address column. See Figure 1-1 IE.

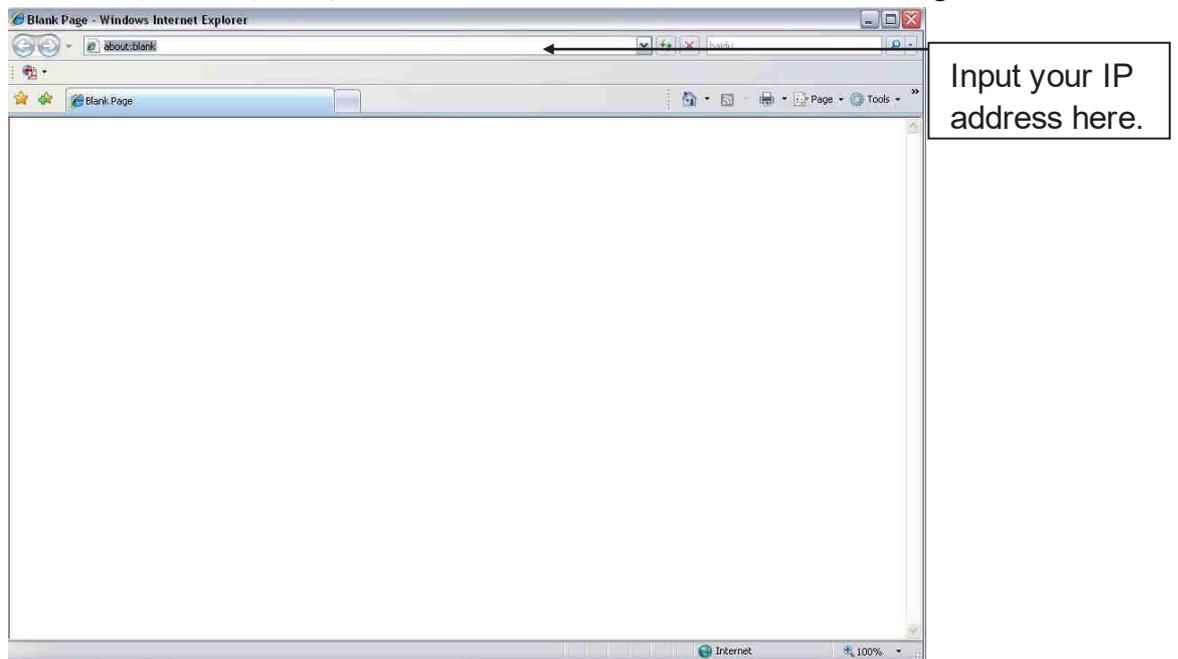


Figure 1-1 IE

System pops up warning information to ask you whether install webrec.cab control or not. Please click yes button.

If you can't download the ActiveX file, please modify your settings as follows. See Figure 1-2.

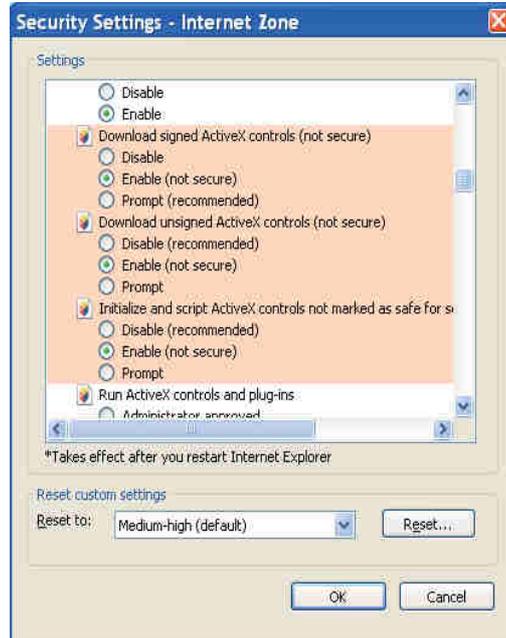
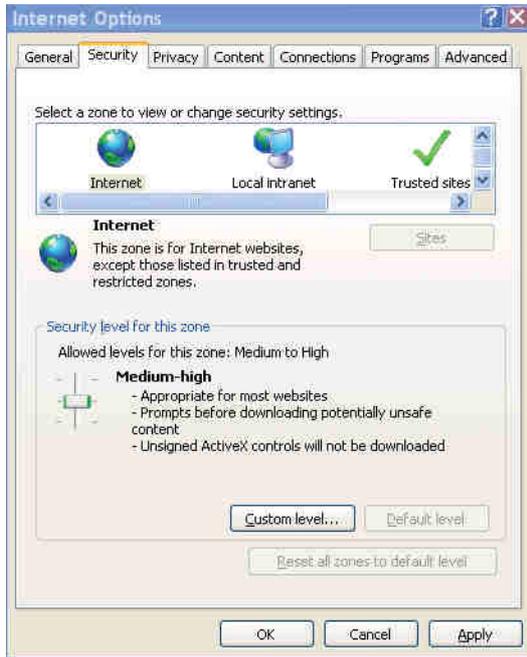


Figure 1-2 Security Settings

After installation, the interface is shown as below. See Figure 1-3.

Please input your user name and password.

Follow system instructions to change password, and click OK.

Default factory name is **admin** and password is **admin**.

Note: For security reasons, please modify your password after you first login.

You can go to Setup>System>Account>User Name to change password.

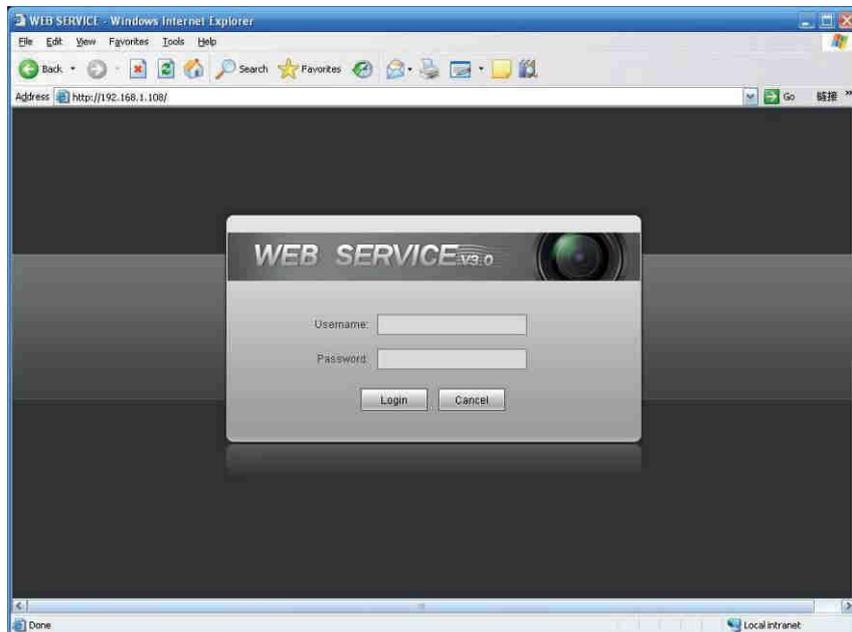


Figure 1-3 Login Interface

After you logged in, HD intelligent traffic camera web homepage is shown as in Figure 1-4.

Note:

Download and install plug-in if you cannot enter the homepage.

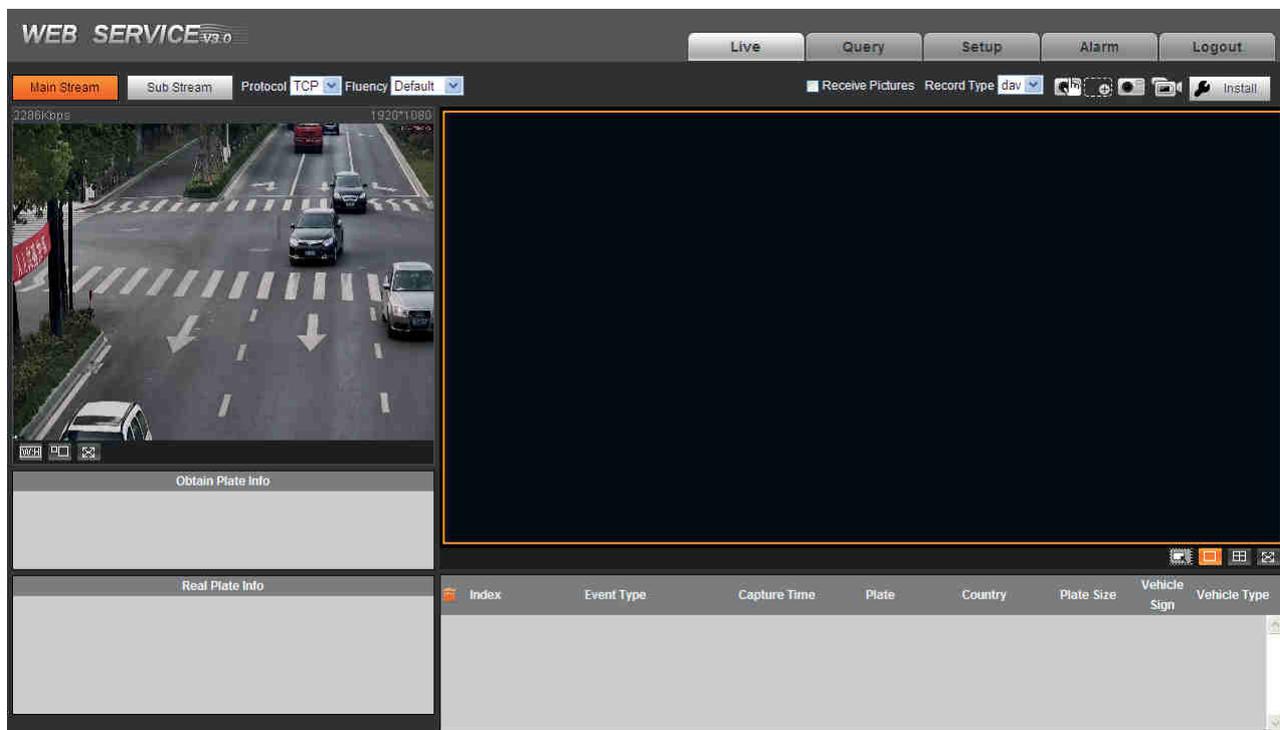


Figure 1-4 Web Homepage

1.2 Non-first Time Login

Step 1. Open IE and input HD intelligent traffic camera IP address in the address column.

Step 2. Please input your user name and password. Click Login.

1.3 System Menu

System menu is shown as in Figure 1-5.



Figure 1-5 System Menu

Tab	Function
Preview	Installation debugging, adjust video and image window, record video and image, set client image parameter.
Query	Query image and record in different types, watermark and vehicle pass record.
Setup	Set ITC rule, camera attributed, network, event, storage, system and view system info.
Alarm	Set alarm prompt.
Logout	Logout WEB client.

Chart 1-1

The followings are common buttons you may see on WEB. See Chart 1-2.

Button	Note
Default	Click this button, and click OK to restore system default settings.
Refresh	Click this button, each parameter will resume to its latest saved parameter.
Save	After parameter is set, click this button to save.

Chart 1-2

2 Preview

Click Live tab, system will show Live page. Here you can view live video, image, snapshot, record and etc. See Figure 2-1.

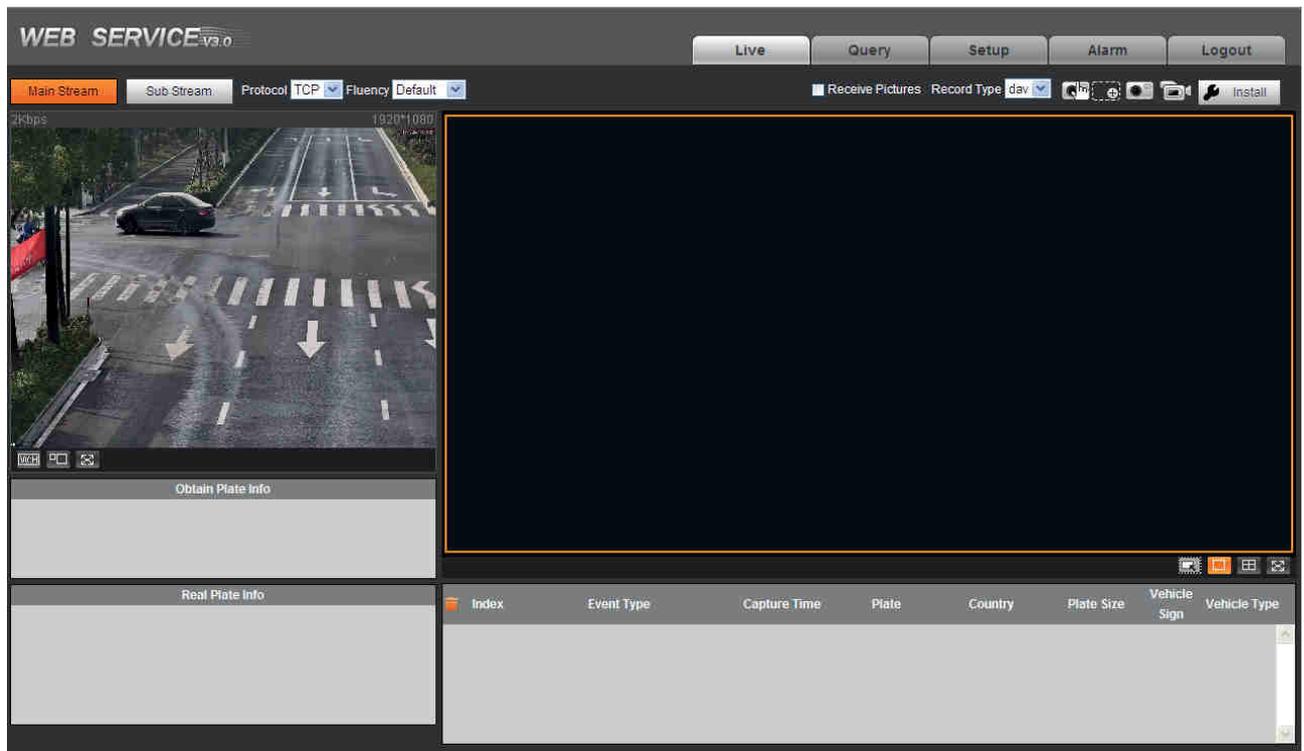


Figure 2-1 Live

There are five sections:

- Section 1: Video bit stream bar
- Section 2: Preview window switch
- Section 3: Common function bar
- Section 4: System menu
- Section 5: Monitor window switch

2.1 Video Bit Stream Bar

The video bit stream bar interface is shown as in Figure 2-2.



Figure 2-2 Video Bit Stream Bar

Please refer to the following sheet for detailed information.

Parameter	Function
Main stream	You can use main stream to record video record, network monitor function under normal network environment. You can set resolution within its supported range.
Extra stream	It is a substitute for main stream under insufficient band width.
Protocol	Select video monitoring protocol, currently support TCP only.
Fluency	Select image fluency.

2.2 Preview Window Switch

The preview window switch interface is shown as in Figure 2-3 Preview Window Switch.



Figure 2-3 Preview Window Switch

- ---- Aspect ratio, adjust image to original size or best fit.
- ----Window switch to large window and display adjusting window. See Figure 2-8.
-  is full screen button. To exit full screen, double click or press Esc.

Click  to switch to large window.

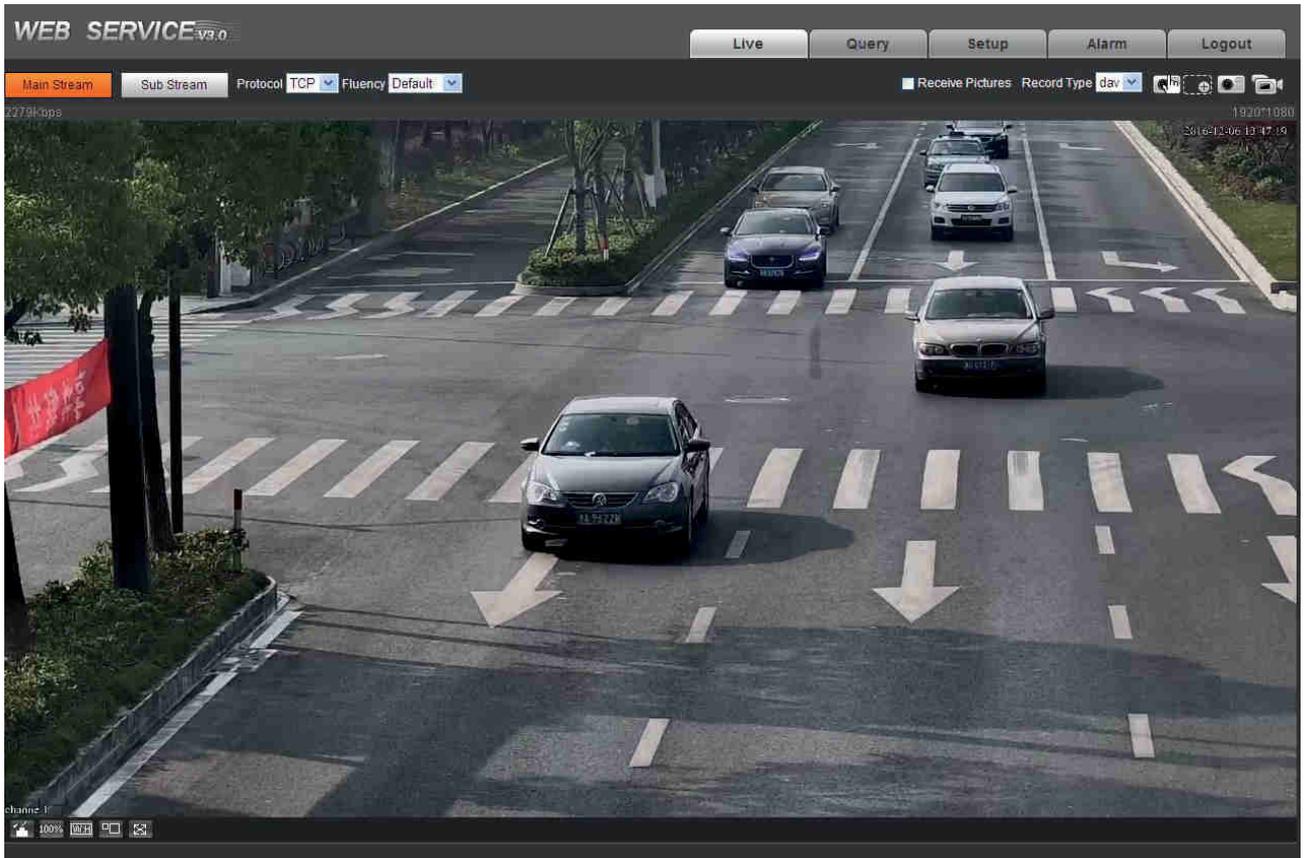


Figure 2-4 Large Window

Icon	Name	Note
	Original size	Original size and best-bit size switch. Click  to switch to original size.
	Image adjustment	Display image adjustment window. Click  to then off image adjustment.

Chart 2-1

Click  on the right. See Figure 2-5 Adjusting Window.

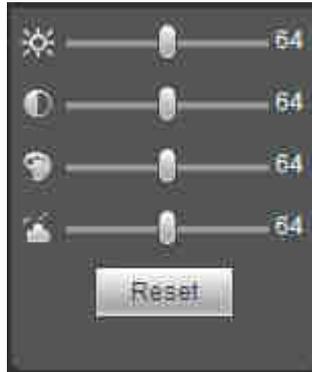


Figure 2-5 Adjusting Window

Note:

- All the operations here apply to WEB end only.
- Please go to “Setup->Camera->Attributes” to set.

Please refer to the following sheet for detailed information.

Parameter		Function
Video setup		It is to adjust monitor video brightness.
		It is to adjust monitor video contrast.
		It is to adjust monitor video hue.
		It is to adjust monitor video saturation.
Reset		Reset brightness, contrast, hue and saturation to system default values.

2.3 Common Function Bar

The common function bar interface is shown as in Figure 2-6.



Figure 2-6 Common Function Bar

Please refer to the following sheet for detailed information.

Icon	Name	Note
------	------	------

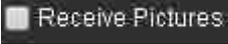
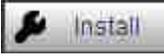
Icon	Name	Note
	Record Type	Select record file format, default is dav.
	Receive Pictures	Check this option, system will auto records snapshots. RS485, RS232, video detection and others trigger snapshot, while recording plate, vehicle color, speed and other info will shown below.
	Manually Snapshot	Click it, to snapshot video. Snapshots are save to path set in "Setup->Camera->Video>Path".
	Partial Zoon In	Click this key, in video window, drag mouse to any area, the area will be zoomed in. Right click select exit or left click  to exit.
	Snapshot	Click it, snapshot picture from video stream, and save to set path.
	Record	Click it, to start recording. Click  to stop recording.
	Install	Draw debugging plate area, adjust camera focus and set local text.

Chart 2-2

Click  to enter installation interface.

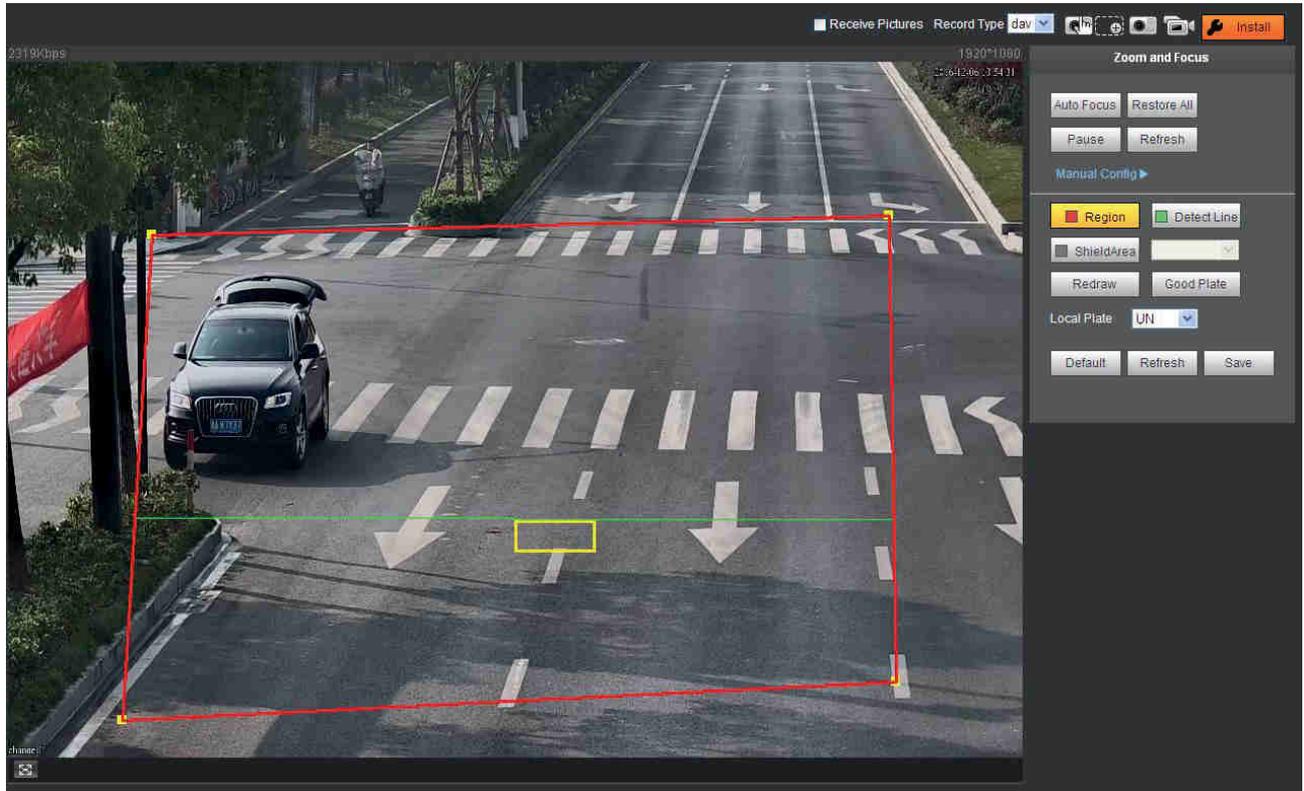


Figure 2-7

Steps to debug:

Step 1. Set focus zoom mode, used to identify vehicle. See Chart 2-3.

Parameter	Note
Auto Focus	<ul style="list-style-type: none"> Auto adjust focus Note: This function is for ITC237-PU1B-IR, ITC237-PU1B-L camera only. <ul style="list-style-type: none"> Auto adjust lens. Note: This function is for ITC237-PW1B-IRZ camera.

Parameter	Note
Manual Config	<p>Manual config set focus parameter to focus on vehicle.</p> <ul style="list-style-type: none"> • Zoom: <ul style="list-style-type: none"> ◇ Speed: There are 3 levels. ◇ - and +: click + to add speed, click - to reduce speed; or directly drag bar to zoom in and out. • Focus: <ul style="list-style-type: none"> ◇ Speed: There are 3 levels. ◇ - and +: click + to add speed, click - to reduce speed; or directly drag bar to set focus. <p>Note: This function is for ITC237-PW1B-IRZ camera.</p> <p>Manual config set rear focus.</p> <ul style="list-style-type: none"> ◇ Speed: There are 3 levels. ◇ - and +: click + to add speed, click - to reduce speed; or directly drag bar to set rear focus. <p>Note: This function is for ITC237-PU1B-IR, ITC237-PU1B-L camera only.</p>
Restore All	Restore all settings to default.
Pause/Resume	<ul style="list-style-type: none"> • Resume: When you click Pause. Video pauses, then click Resume to continue playing. • When you click Resume. Video continue playing, then click Resume to pause.
Refresh	View latest status.

Chart 2-3

Step 2. Select line type to config. See Chart 2-4.

Parameter	Note
Region	Set region to delete. Region is within red line.
Detect Line	Draw detect line of trigger of snapshot. Detect line is green.
Shield Area	Set shield area. In this area, it will not identify vehicle plate. You can set up to 2 shield areas. Shield area is within grey box.

Chart 2-4

Step 3. In viewing field, draw lines.

Note:

Click Redraw to delete current config.

Step 4. Adjust plate snapshot position to be in the yellow box.

Try your best to make this box match actual plate position and size in the video.

Note:

Plate best width range is 140~160. If you want to modify, go to Setup>ITC>Intelligent>Video Analysis>Recognition.

Step 5. Set local plate.

Step 6. Click Save.

2.4 Monitor Window Switch

The monitor window switch interface is shown as in Figure 2-8 Monitor Window Switch.



Figure 2-8 Monitor Window Switch

-  ---- View pixel in pane.
-  ----Display in single window.
-  ---- Display in four windows.
-  ---- Display in full screen.

3 Query

3.1 Picture Query

3.1.1 SD Picture

Click query button, you can see an interface is shown as in Figure 3-1 SD Picture Query.

Click Open Local, select picture you want to verify and click Water Verify, then you can view the result. Select the picture, click Open to preview.

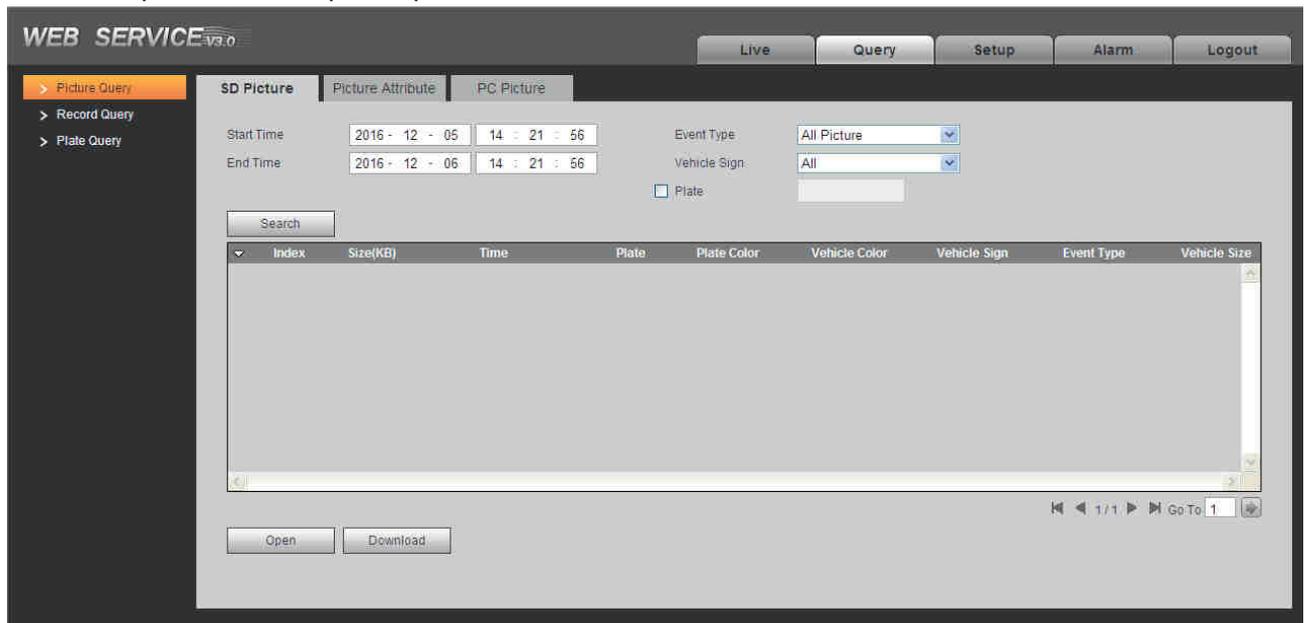


Figure 3-1 SD Picture Query

Parameter	Note
Start Time	Set picture query start time.
End Time	Set picture query end time.
Event Type	Query all pictures, or filter picture by event type.
Plate	Check this plate, and filter picture by plate feature.
	Click this button to download link record. Note: After link video is enabled, all violation pictures have this icon. However, whether there is record depends on actual condition.

Chart 3-1

Step 1. Enter parameter of query picture, click Search. In file list it shows all matched picture files.

Step 2. Select picture you want, click Download.

Step 3. In pop-up box, set picture storage path and the system starts to download picture to local PC. If you want to preview picture, click Open or double click picture.

3.1.2 Picture Attribute

Select Search>Picture Query>Picture Attribute.

- Set download picture attribute time and naming method.
- Select download picture by file or by time.

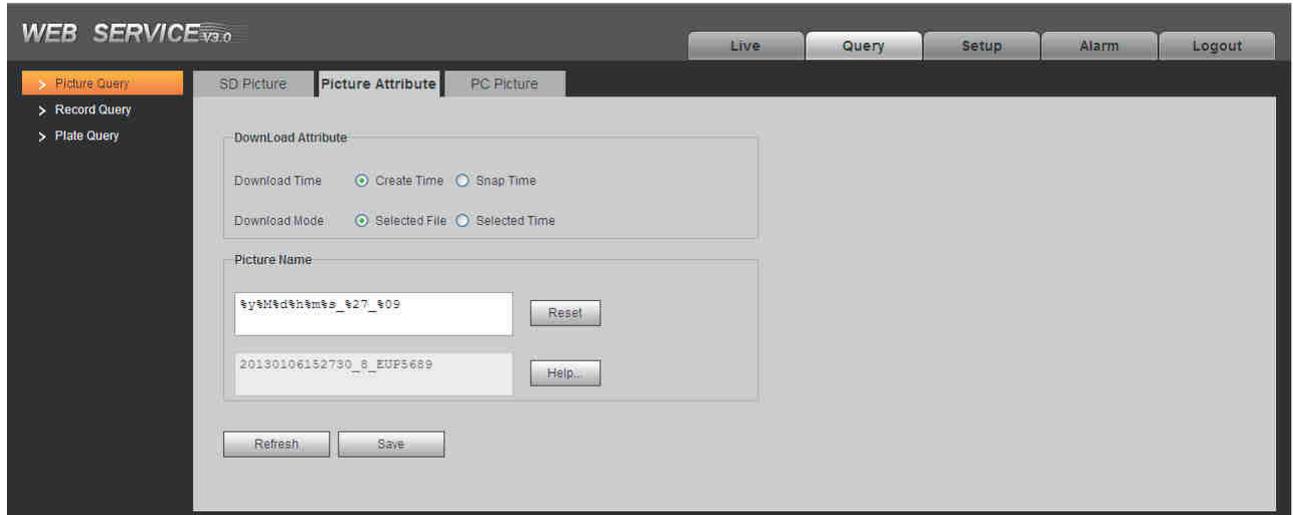


Figure 3-2

Parameter	Note
Download Time	<ul style="list-style-type: none"> ● Create time: when picture is downloaded on PC, picture attribute time is PC time. ● Snap time: when picture is downloaded on PC, picture attribute time is device-end time.
Download Mode	<ul style="list-style-type: none"> ● Selected file: Select picture you need (select one or more pictures, as batch download), click Download, system pops up box. ● Selected time: Directly click Download, system starts to auto download all pictures within start time and end time.
Reset	Reset download picture naming to default method.
Help	View naming rule of download picture.

Chart 3-2

3.1.3 PC Picture

Select Query>Picture Query>PC Picture, check whether picture has been modified via watermark.

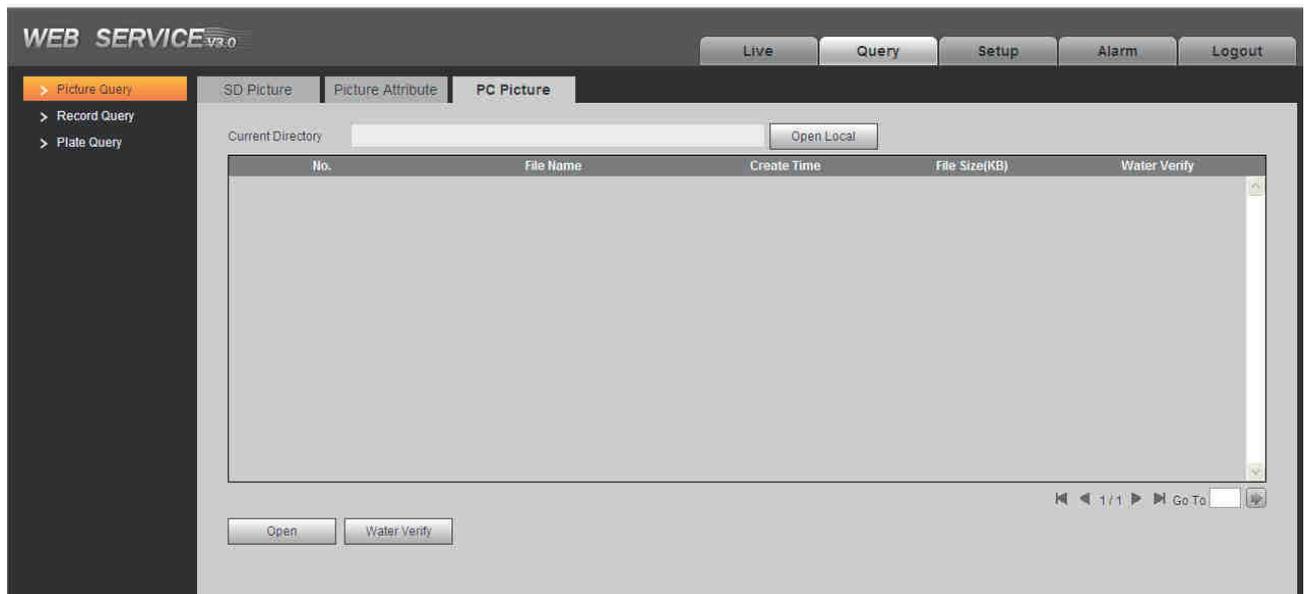


Figure 3-3

Step 1. Click Open Local, select folder of picture you want to verify.

Step 2. Select picture.

Step 3. Click Water Verify, see results in list.

You can click Open or double click picture to preview.

3.2 Record Query

3.2.1 Record

Click Query>Record Query>Record, you can see an interface is shown as in Figure 3-4 Record Query.

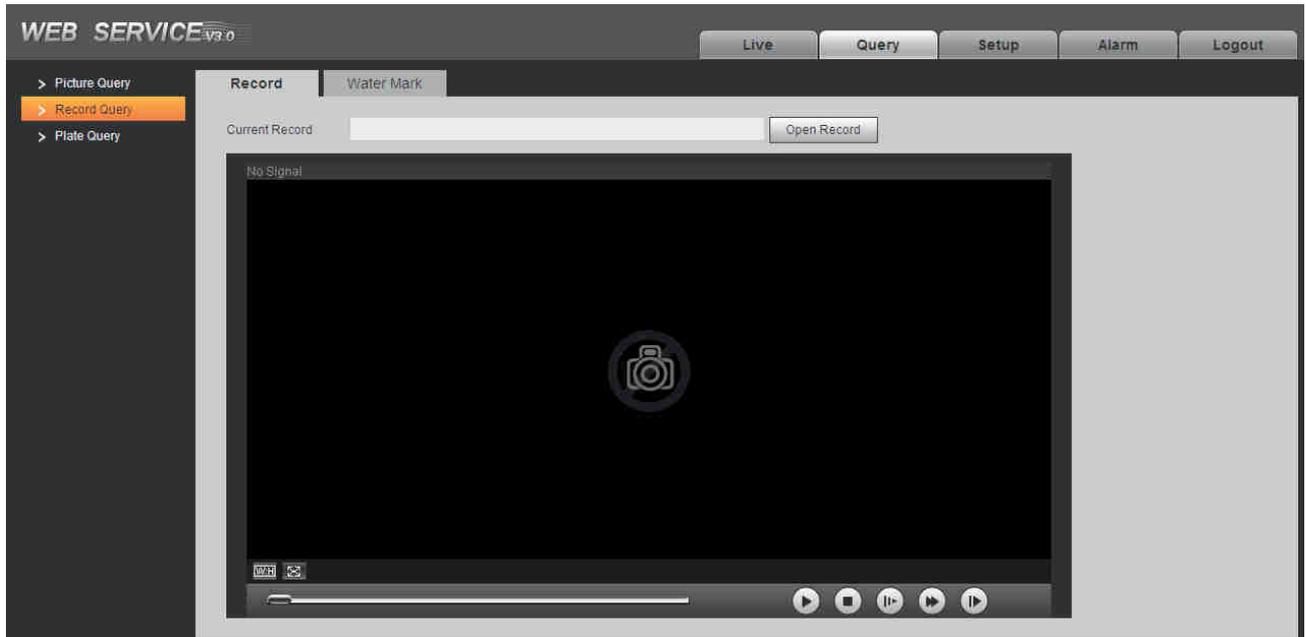


Figure 3-4 Record Query

Click Open Record, select record path, click Open to view record.

Icon	Name	Note
	play/pause	<ul style="list-style-type: none"> When it shows , means pause or play record. After you click it switches to normal playing status. When it shows , means it is playing record. After you click, it pause record.
	Stop	Click this button, stop play.
	Next Frame	Click this button, go to next frame.
	Slow	Click this button, to slowly play.
	Fast	Click this button, to fast play.

Chart 3-3

3.2.2 Water Mark

Note:

Before user can use this function, he/she must enable water mark in Setup>Camera>Video, and set watermark content. Default watermark is :DigitalCCTV.

Select Query>Record Query>Water Mark, system shows progress of verifying and normal watermark. See Figure 3-5.

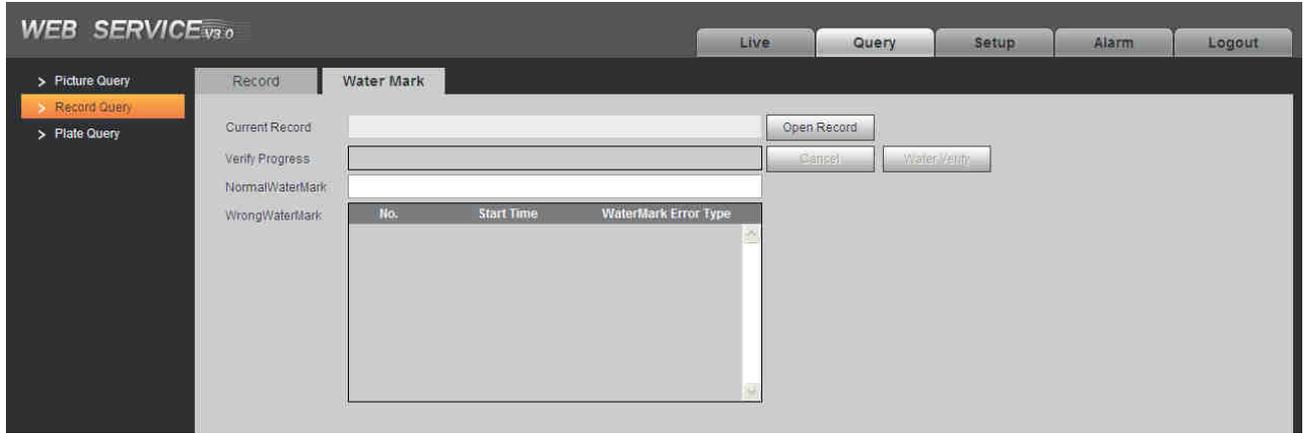


Figure 3-5

Step 1. Click Open Record, select record file.

Step 2. Click Water Verify.

When it is complete, the page will show complete.

3.3 Plate Query

Select Query>Plate Query>Plate Query, search vehicle pass record.

Warning:

This function is valid for camera with TF card.

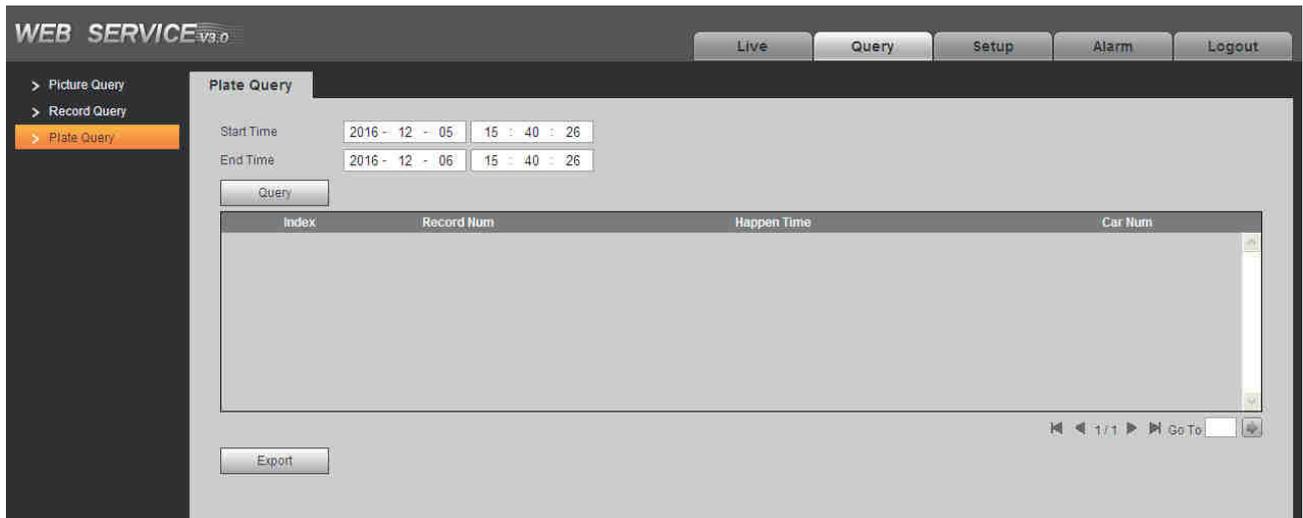


Figure 3-6

Step 1. Set query start time and end time.

Step 2. Click Query, see result in list.

Step 3. Click Export and select storage path to export result to PC.

4 Configure

4.1 ITC

4.1.1 Guide Setup

Select Setup>ITC>Guide Setup.

- Set date, time and format.
- Set IP address, subnet mask and default gateway.



Figure 4-1

Step 1. Click Setup.

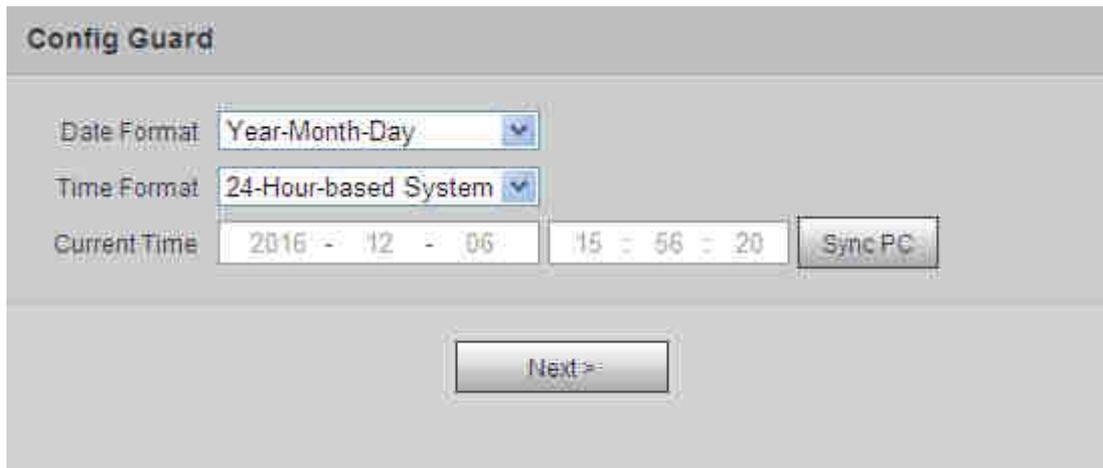


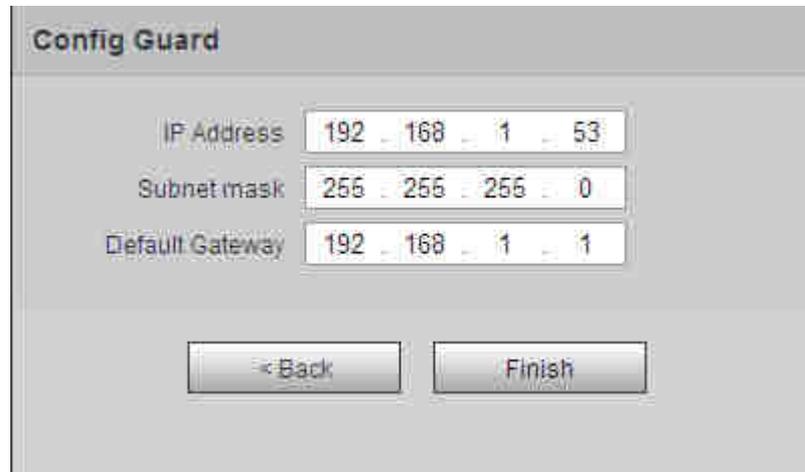
Figure 4-2

Step 2. Set camera time, date, click Next.

Parameter	Note
Date Format	Select date format to display.
Time Format	Select time format to display.
Current Time	Display device current time.
Sync PC	Modify device system time to be current PC time, click Sync PC. It auto saves.

Chart 4-1

Step 3. Set camera IP address and etc., click Finish.



The screenshot shows a web-based configuration interface titled "Config Guard". It contains three rows of input fields for network configuration. The first row is labeled "IP Address" and contains the value "192 . 168 . 1 . 53". The second row is labeled "Subnet mask" and contains the value "255 . 255 . 255 . 0". The third row is labeled "Default Gateway" and contains the value "192 . 168 . 1 . 1". Below these fields are two buttons: "< Back" on the left and "Finish" on the right.

Figure 4-3

Note:

- Device initial IP address is 192.169.1.108; initial subnet mask is 255.255.255.0; initial gateway is 192.168.1.1.
- Time info can be modified in Setup>System>General>Date&Time. IP address can be modified in Setup>Network>TCP/IP.

4.1.2 Snapshot

4.1.2.1 Snapshot

The snapshot interface is shown as in Figure 4-4 Snapshot.

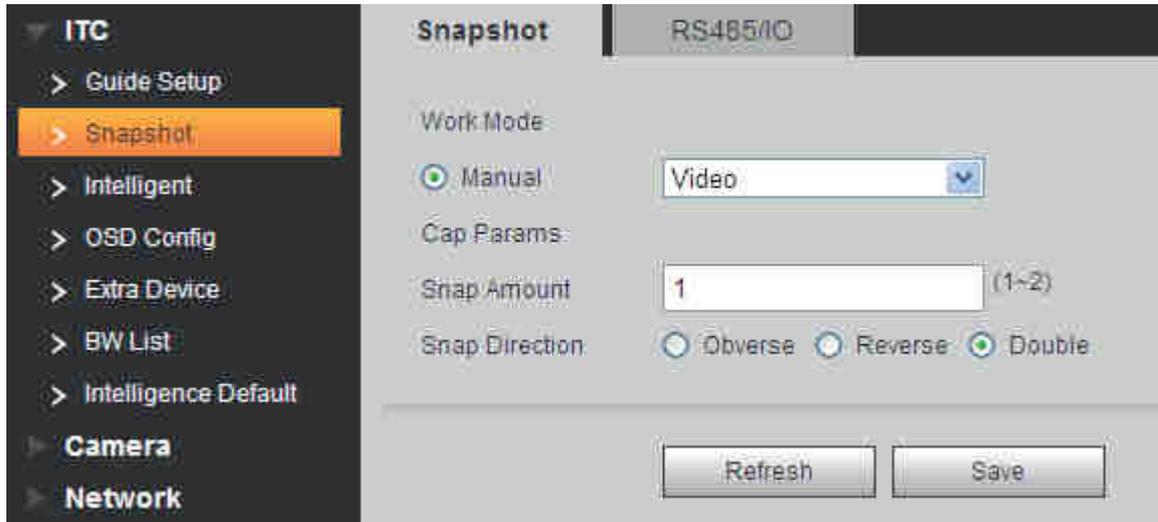


Figure 4-4 Snapshot

Please refer to the following sheet for detailed information.

Parameter	Note
Work mode	
Manual	<ul style="list-style-type: none"> • Coil: force to coil snapshot • Video: force to video snapshot • Mix mode: force to combine coil and video snapshot.
ANPR	
Snap Amount	Snapshot 1~2 pic
Snap Direction	<ul style="list-style-type: none"> • Observer: snapshot incoming vehicle • Reverse: snapshot outgoing vehicle • Double: snapshot both incoming and outgoing vehicle

Chart 4-2

4.1.2.2 RS485/IO

The intelligence default interface is shown as in Figure 3-4.

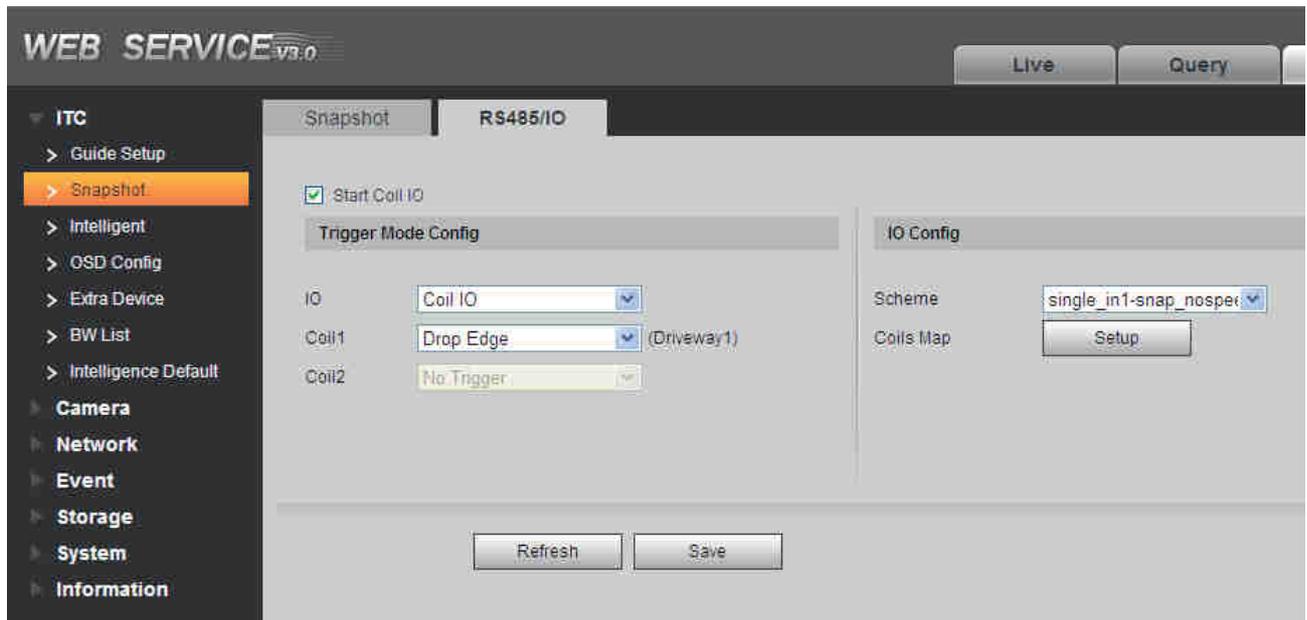


Figure 4-5 RS485/IO

Step 1. Check Start Coil IO.

Step 2. Select coil 1 trigger mode.

- No trigger: not trigger snapshot.
- Rise edge: trigger snapshot when vehicle exits coil.
- Drop edge: trigger snapshot when vehicle enters coil.

Step 3. Select scheme.

- Single_in1-snap_nospeed
- Double_in1-snap_speed
- Double_in2-snap_speed

Step 4. Click Setup, in mapping box, select relationship of logic coil and physical coil.

Click OK.

Step 5. Click Save in RS485/IO interface.

4.1.3 Intelligence

4.1.3.1 Video Analysis-Recognition

The video analyse interface is shown as in Figure 4-6 .

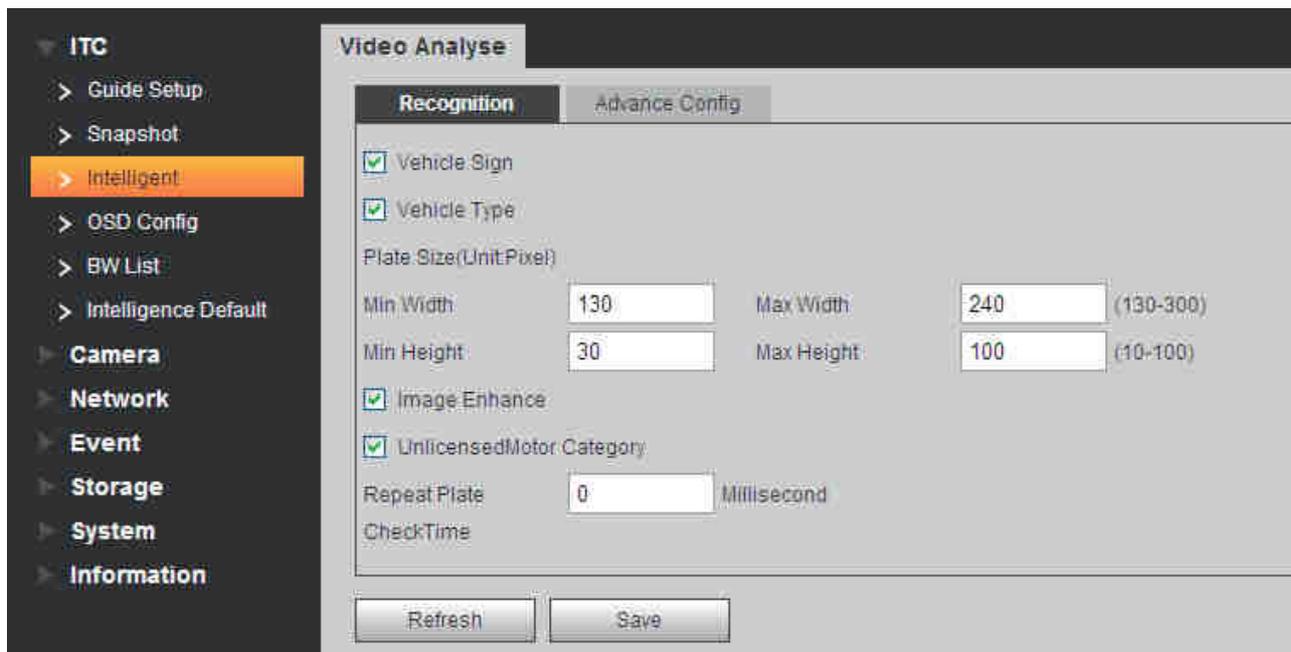


Figure 4-6 Recognition

- Set pixel range for plate recognition.
- Enable image enhance.

Please refer to the following sheet for log parameter information.

Parameter	Function
Vehicle Sign	Select this parameter, it can recognize vehicle LOGO.
Vehicle Type	Detect vehicle size.
Plate Size	Set plate Min Height, Max Height, Min Width, Max Width, while only Min Width and Max Width are available for use.
Image Enhance	Optimize plate effect.
Unlicensed motor category	Select this parameter to snapshot unlicensed motors.
Repeat Plate Check Time	Set that one vehicle only trigger ANPR once within set period.

4.1.3.2 Intelligent Analyse-Advance Config

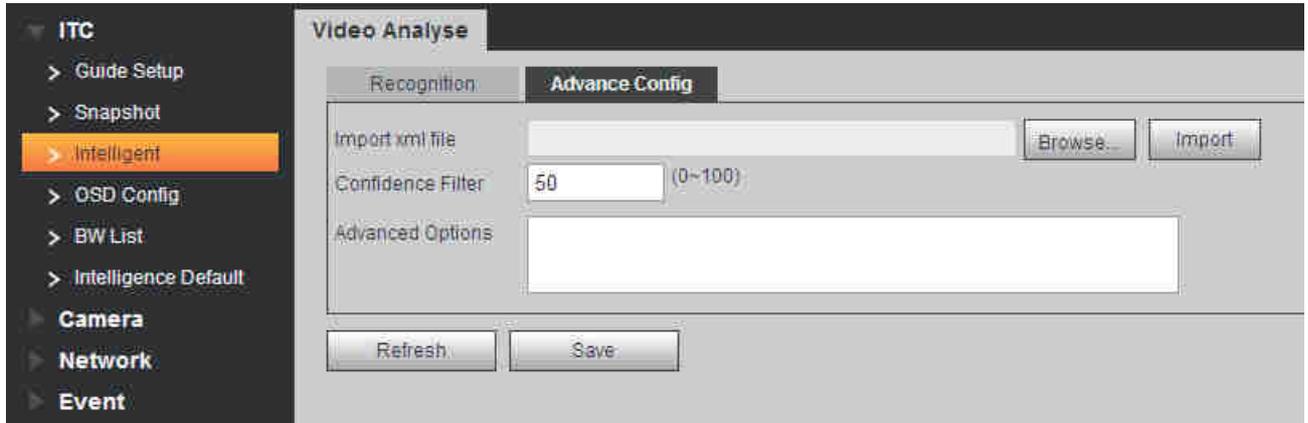


Figure 4-7

Step 1. Click Browse, select xml file path, click Open.

Step 2. Click Import.

Step 3. Set file parameter.

Parameter	Note
Confidence Filter	Confidence filter, set recognition criteria range within 0-100. <ul style="list-style-type: none"> The lower the confidence filter, the less the criteria will be, so the easier to recognize plate but miss-alarm rate will be higher. The higher the confidence filter, the more the criteria will be, so the harder to recognize plate but miss-alarm rate will be lower.
Advance Options	Enter custom advance options

Chart 4-3

Step 4. Click Save.

4.1.4 OSD Config

4.1.4.1 Video OSD

Step 1. Select Setup>ITC>OSD Config>Video OSD.

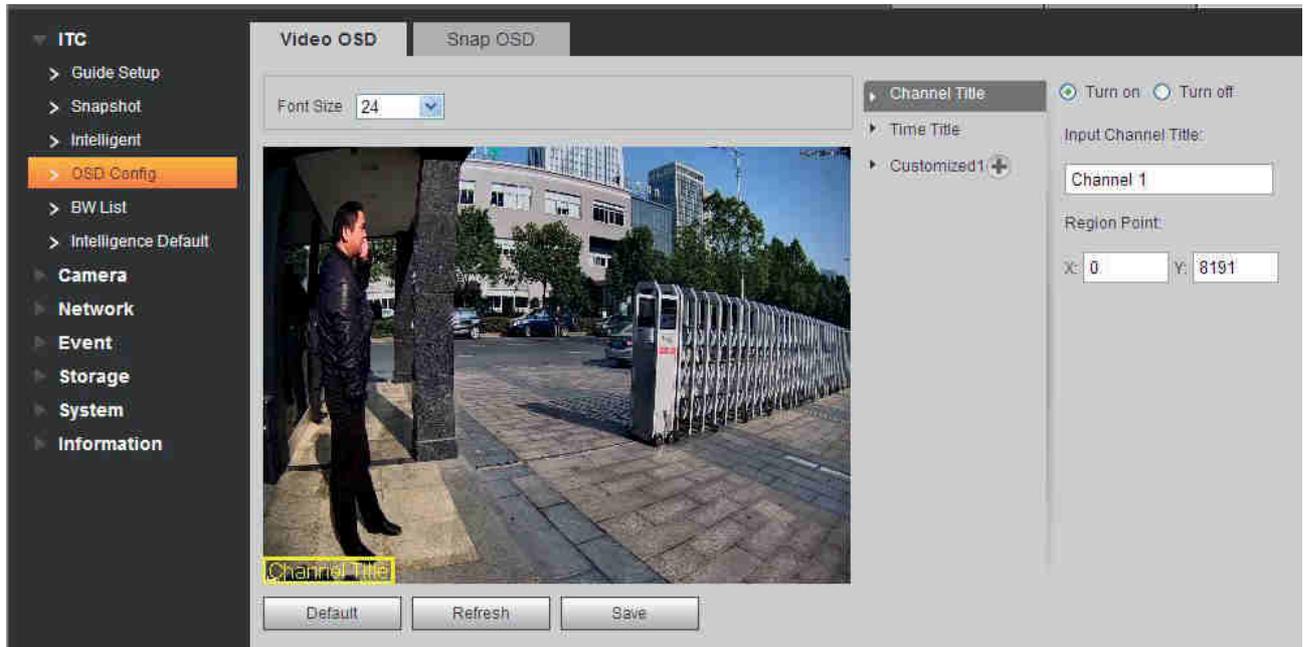


Figure 4-8

Step 2. Select font size and solution. Set OSD font.

Step 3. Set channel title and location.

- a) Select channel title.
- b) Check Turn on.
- c) Input channel name.
- d) Use the mouse to drag the yellow box or change the regional point coordinates, select the channel position title.
- e) Click Save.

Step 4. Set time title and position.

- f) Select time title.
- g) Check Turn on.
- h) Check week.
- i) Use the mouse to drag the yellow box or change the regional point coordinates, select the time the title of the position.
- j) Click Save.

Step 5. You can click  to add customized region, define OSD info.

The system supports up to 3 customized regions.

Step 6. Click Save.

4.1.4.2 Snap OSD

Set snap OSD information and location, OSD options include time, driveways name, week, location, speed, license plate, illegal code and other information.

- Select Setup>ITC>OST Config>Snap PSD. See Figure 4-9.

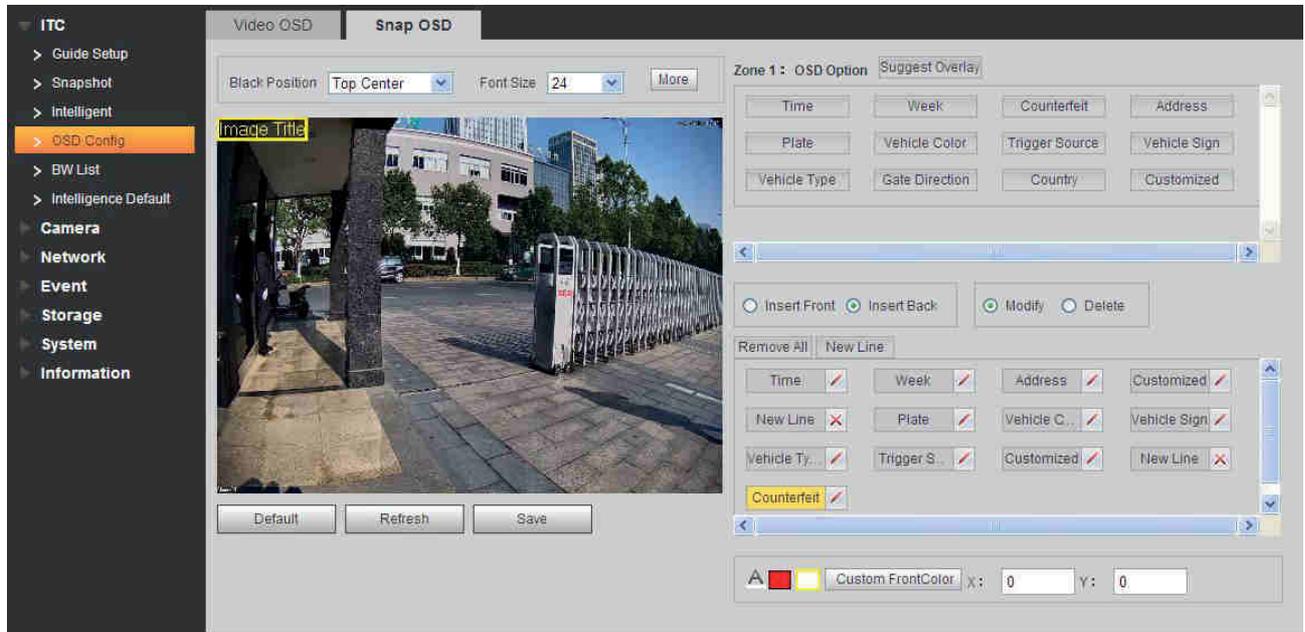


Figure 4-9

- Select any region in video, and drag mouse to add snapshot title. Move box to place you want to display it, or enter coordinate value in X/Y field on the right.
The system supports up to 8 snapshot titles, and each snapshot can customize OSD.
Note:
Select a snapshot, right click to delete current snapshot title.
- Select OSD black border position, including top, bottom or none.
- Set OSD info font size and font plan. At the lower right corner, you can set snapshot OSD info font color.
- Click More, to pop up new line and OSD separator. According to actual need, check new line, and set OSD info separator.
Select custom, to manually enter other separator.

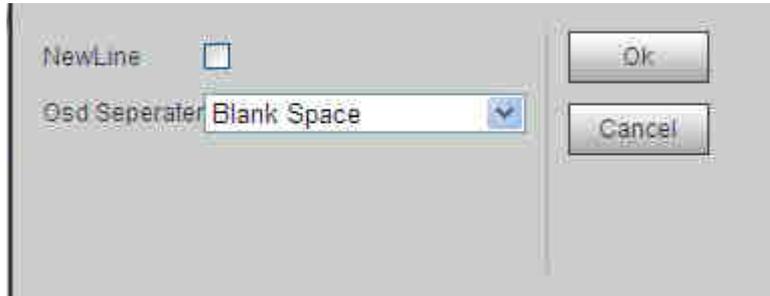


Figure 4-10

- Set OSD option.

Tips:

Click Suggest Overlay to quickly set common overlay mode.

Parameter	Note
Insert Front/Back	OSD option to adjust the order selected between.
Modify	All selected OSD information state by  turns  , you can modify any OSD options prefix, suffix, and other content, and the number of separators.
Delete	All selected OSD information state by  turns  , you can delete any OSD options.
Remove All	Clear all selected OSD information.
New Line	OSD information will be displayed on the picture branches.

Chart 4-4

- Click Save.

4.1.5 Extra Device

Note:

This setup option is not for ITC237-PW1B-IRZ.

Light(485) Config

Set external light work parameter. See Figure 4-11.

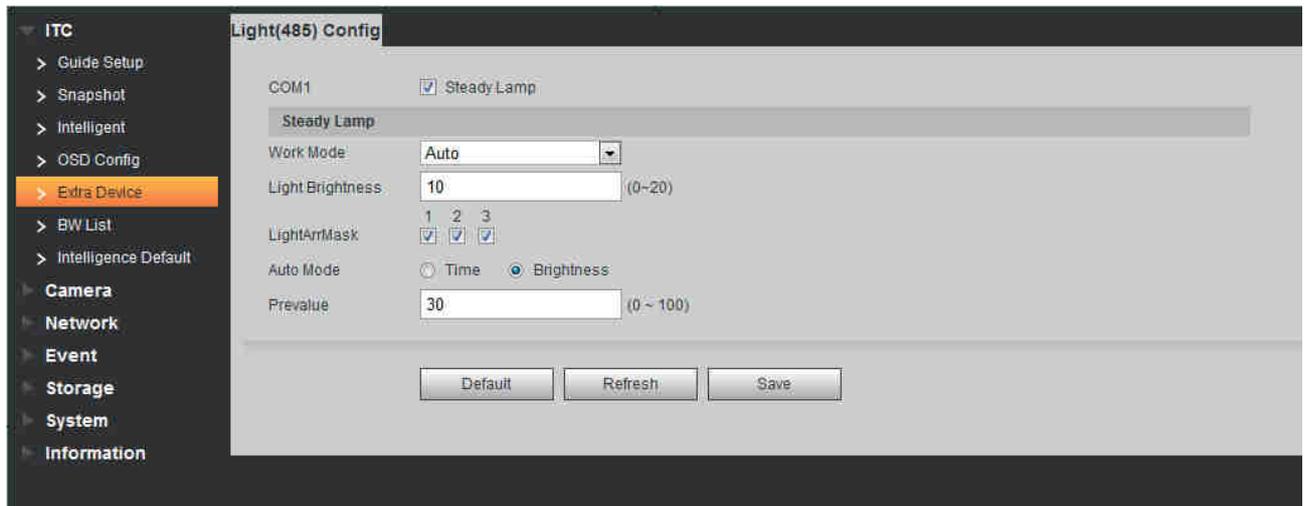


Figure 4-11

Parameter	Note
Work Mode	Select work mode, include: <ul style="list-style-type: none"> • Off: NO light off • Always: NO light on • Auto: auto enable NO light according to time or brightness. Note: This function is for ITC237-PU1B-L only.
Light Brightness	Set light brightness, range 0~20.
Light Arr Mark	On light group, there are 3 groups for selection.
Auto Mode	When work mode is "auto", select NO light time and brightness. <ul style="list-style-type: none"> • Time : set NO light period. You can set 7 days in a week independently with six periods per day. • Brightness: set preset brightness, range 0~100. Note: This function is for ITC237-PU1B-L only.

Chart 4-5'

Click Time to set time.

4.1.6 Plate White/Black List

4.1.6.1 White List

Select Setup>ITC>BW List.

- Enable white list, when system detects vehicle in the white list, barrier is off.
- Set white list match mode.

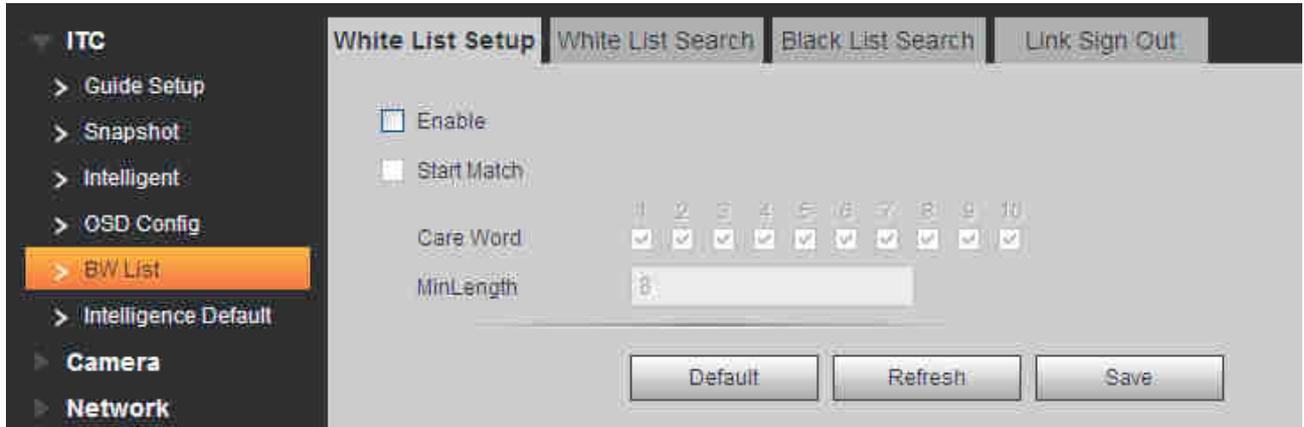


Figure 4-12

Parameter	Note
Enable	When checked, set the number of matching characters and the minimum matching digits. The system will match the license plate as the white list vehicle without matching each character with the license plate number which already exists in the white list data.
Card Word	The checked characters are matched, and unselected characters will not be analyzed.
Min Word	When the number of matched characters meets the value, it is regarded as white list vehicle regardless of whether other characters match or not.

Chart 4-6

4.1.6.2 White List Search

- Search whether a plate of vehicle exists in white list.
- View vehicle details.
- Import/Export white list vehicle info.

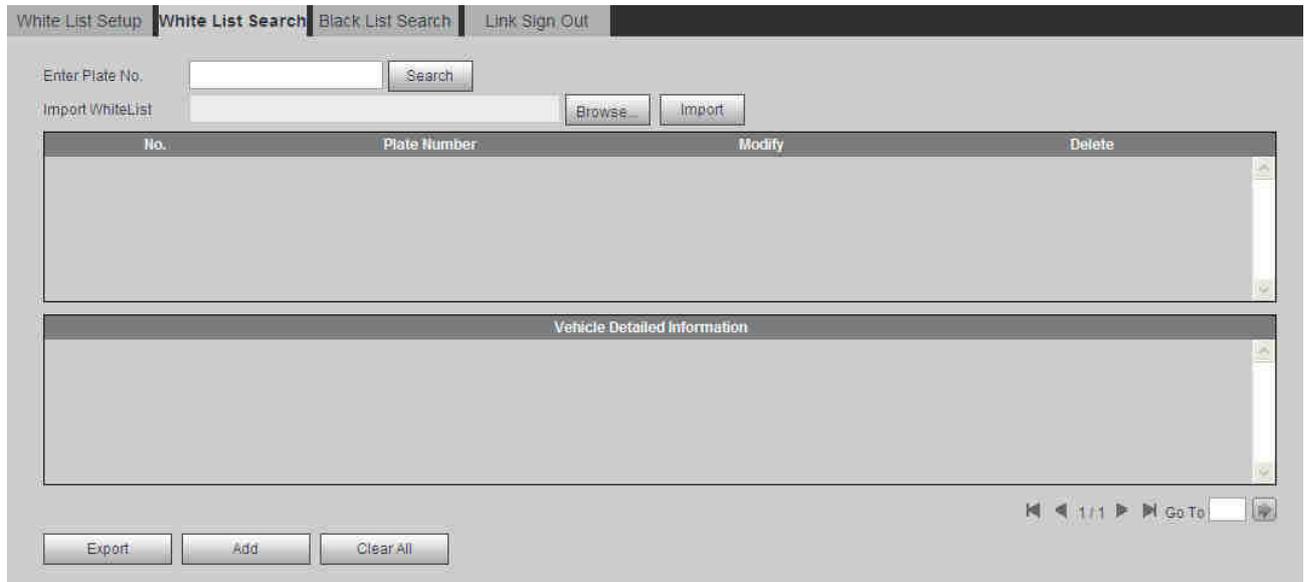


Figure 4-13

Functions:

- Search plate no.
- Edit plate info
- Delete single plate no.
- Batch delete plate no.
- Progressively import white list info

Steps:

Step 1. Click Add. See Figure 4-14.

Figure 4-14

- Step 2. Enter complete plate character.
 - Step 3. Set start time and end time of its existence in white list. Once exceeding this period, the plate will no longer be in white list.
 - Step 4. Enter vehicle owner name, select whether to authorize barrier right.
 - Step 5. Check Continue Adding, click OK. Or uncheck Continue Adding, click OK.
- Batch import white list:
 - Steps:
 - Step 1. Progressively import white list, add the first while data on WEB.
 - Step 2. Click Export, and in pop-up box click Save, select path. Click Save.
 - Step 3. In Export form, follow format of the first white list item, fill in other white list items you want to import, save.
 - Step 4. Click Brose, select path, click Import.
 - Batch export white list: click Export, in pop-up box click Save. Select path and click save.

4.1.6.3 Black List Data

Select Setup>ITC>BW List>Black List Search.

- Search whether a plate of vehicle exists in black list.
- View vehicle details.
- Import/Export black list vehicle info.

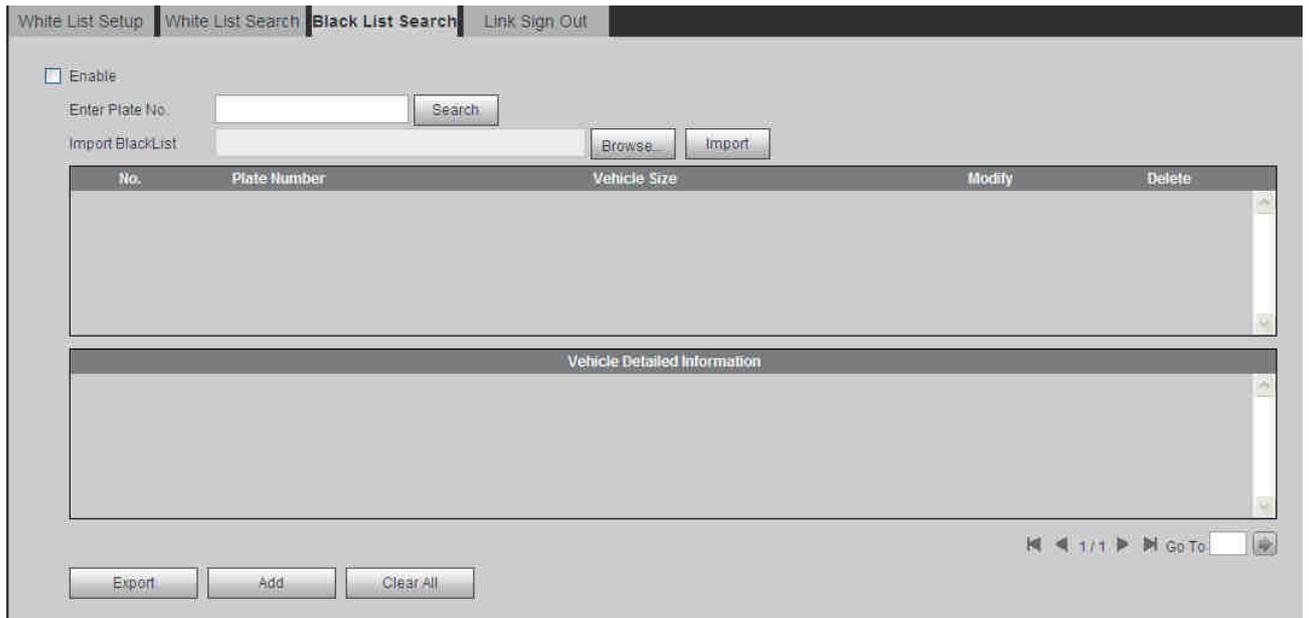


Figure 4-15

Please refer to Ch 4.1.6.2.

4.1.6.4 Link Sign Out

- Enable link signal output.
- Set open barrier mode.
- Set alarm output of open barrier and close barrier.



Figure 4-16

Parameter	Note
Enable	After check, enable gateway control and config.
Control Type	The alarm can be triggered by different ways: <ul style="list-style-type: none"> ● White list gate: to capture white or white list of fuzzy matching vehicles, the output opening signal. ● All car gate: to capture any vehicle, the output opening signal. ● Command gate: the platform issued a command, the output gate signal.
Hand On	Click it to manually trigger output open barrier signal.
Hand Off	Click it to manually trigger output close barrier signal. Note: For ITC237-PU1B-IR, ITC237-PU1B-L only
Open config, close config	<ul style="list-style-type: none"> ● Alarm output: start alarm linkage output port, you can choose any of the two ports. Note: For ITC237-PU1B-IR, ITC237-PU1B-L only. <ul style="list-style-type: none"> ● Output delay: the duration of the opening or closing signal.

Chart 4-7

4.1.7 Intelligence Default

The intelligence default interface is shown as in Figure 4-17 Intelligence Default.

Click on default to restore default settings.

Note: You cannot restore IP address and other network info.



Figure 4-17 Intelligence Default

4.2 Camera

4.2.1 Attribute

4.2.1.1 General

The general interface is shown as in Figure 4-18. Here you can set camera parameters. For different models, you shall refer to its parameter. Setup in this interface comes effective immediately.

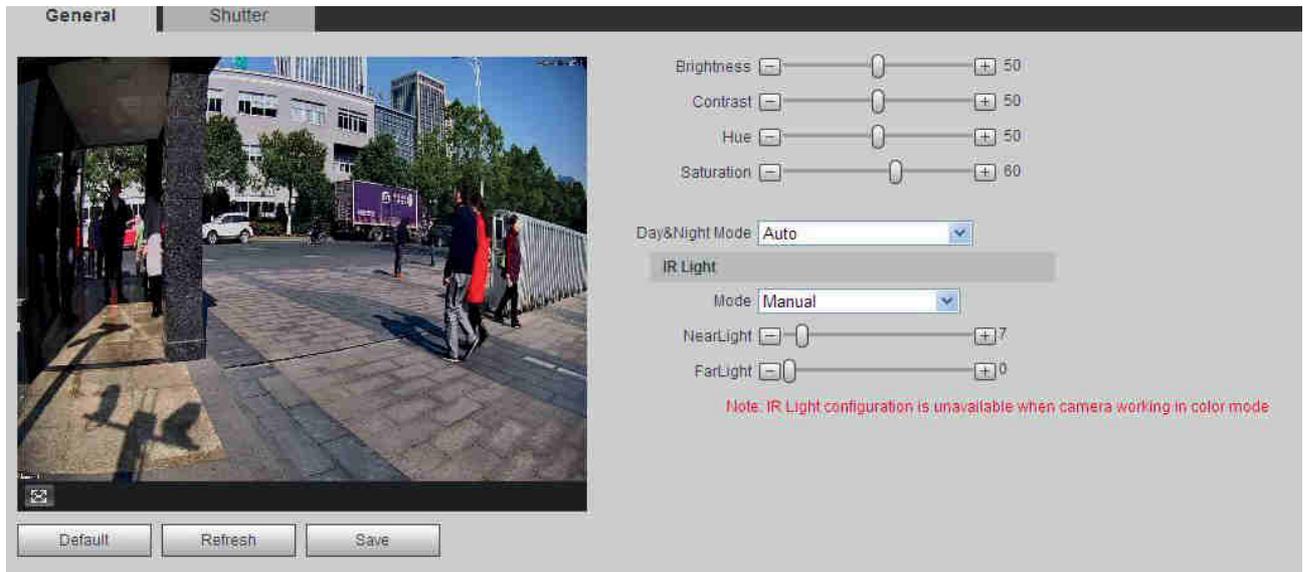


Figure 4-18 General

Please refer to the following sheet for log parameter information.

Parameter	Function
Brightness	The value adjusts brightness of full image. Default value is 50. The higher the value, the brighter the image. When image is too bright or too dark, you may adjust this value. Recommended value is 40~60 within 0~100 range.
Contrast	The value adjusts contrast of full image. Default value is 50. The higher the value, the higher the contrast of image. When contrast is insufficient, you may adjust this value. Recommended value is 40~60 within 0~100 range.
Hue	The value adjusts hue of image. Default value is 50. It will not affect image brightness. It has a relatively fixed value according to the sensor. Recommended value is 40~60 within 0~100 range.
Saturation	The value adjusts saturation of image. Default value is 50. The higher the value, the deeper the color. It will not affect image brightness. When WDB is inaccurate, this value may cause color difference in grey area. Recommended value is 40~60 within 0~100 range.
Day/Night mode	Switch of color and black&white. It includes color, by brightness and black&white.

Parameter	Function
IR Light	<p>According to the actual demand, choose a different fill light setting mode.</p> <ul style="list-style-type: none"> ● Manual: Set the fill light of the far and near lights manually. Click to add a step, click to reduce a step, the range of 0 ~ 100 optional. ● Zoom Priority: Adjust the brightness of the fill light according to the focal length of the lens. ● SmartIR: In SmartIR mode, you can dynamically adjust the camera's infrared light intensity, reduce the camera in the night vision environment, close-range objects produced over-exposure phenomenon. ● Off: Turn off the fill light mode. <p>Note:</p> <ul style="list-style-type: none"> ● IR light is for ITC237-PW1B-IRZ camera only. ● IR light is unavailable under color mode.

4.2.1.2 Shutter

The shutter interface is shown as in Figure 4-19 Shutter.

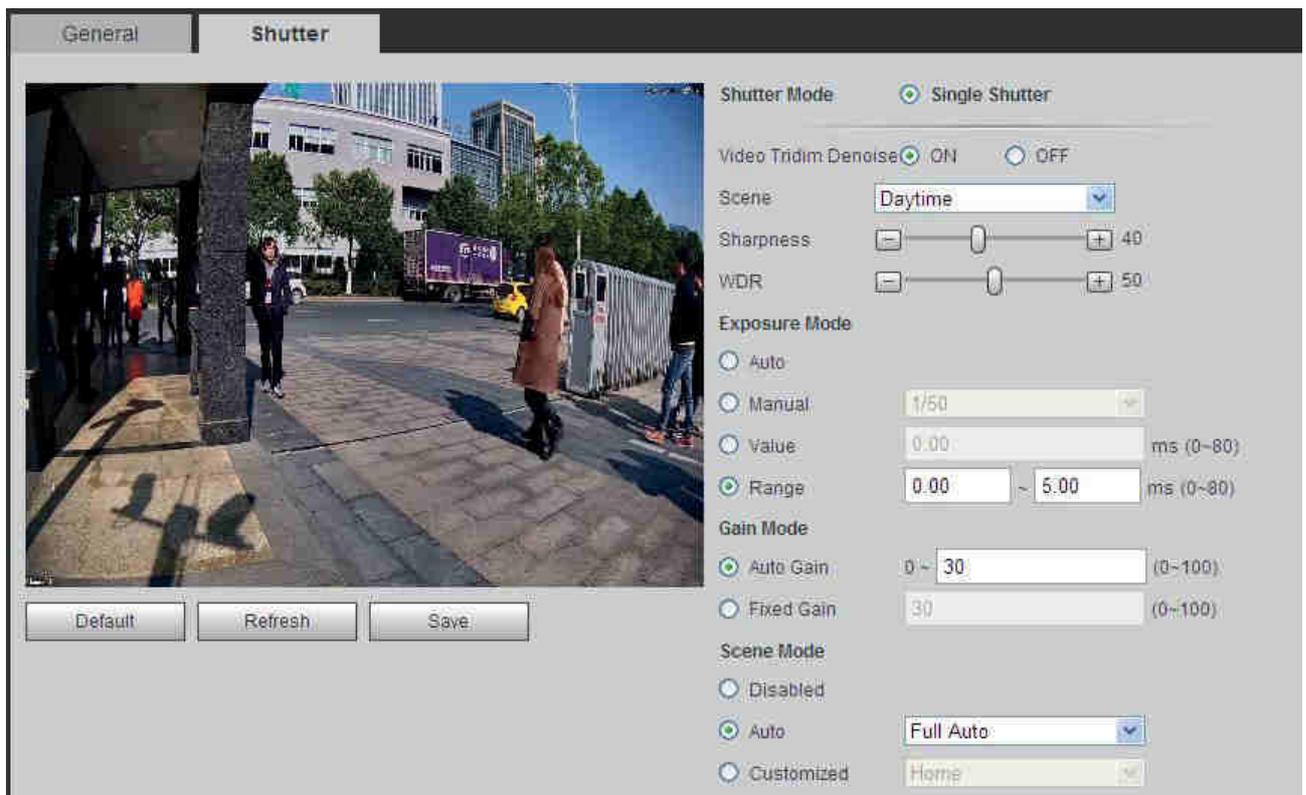


Figure 4-19 Shutter

Please refer to the following sheet for log parameter information.

Parameter	Function
Shutter mode	Select: single shutter.
Video Tridim (3D) Denoise	Check Enable to enable 3D NR.
Scene mode	Select device scene mode to adjust video to best effect.
Sharpness	Sets the sharpness of the picture in this scene. The larger the value, the higher the detail contrast on the image plane and the sharper the image. But when the value is set too large, the image is prone to noise.
WDR	Reduces the brightness of highlighted areas, increases the brightness of low-light areas, and makes areas of highlights and low-light areas clearer. The larger the value, the higher the wide dynamic level.
Exposure mode	Select exposure mode: auto and manual. You can set manual exposure mode as 1/50~1/10000. You may also customize.
Gain mode	<ul style="list-style-type: none"> ● Auto gain, if you set it to 20, auto gain will be ≤ 20. ● Fixed gain, if you set it to 20, gain will be 20.
Scene mode	<ul style="list-style-type: none"> ● Auto: According to actual condition, select auto, high color temperature and etc. ● Customized: According to actual condition, select home, office and etc.

4.2.2 Video

4.2.2.1 Video

The video interface is shown as in Figure 4-20 Video.

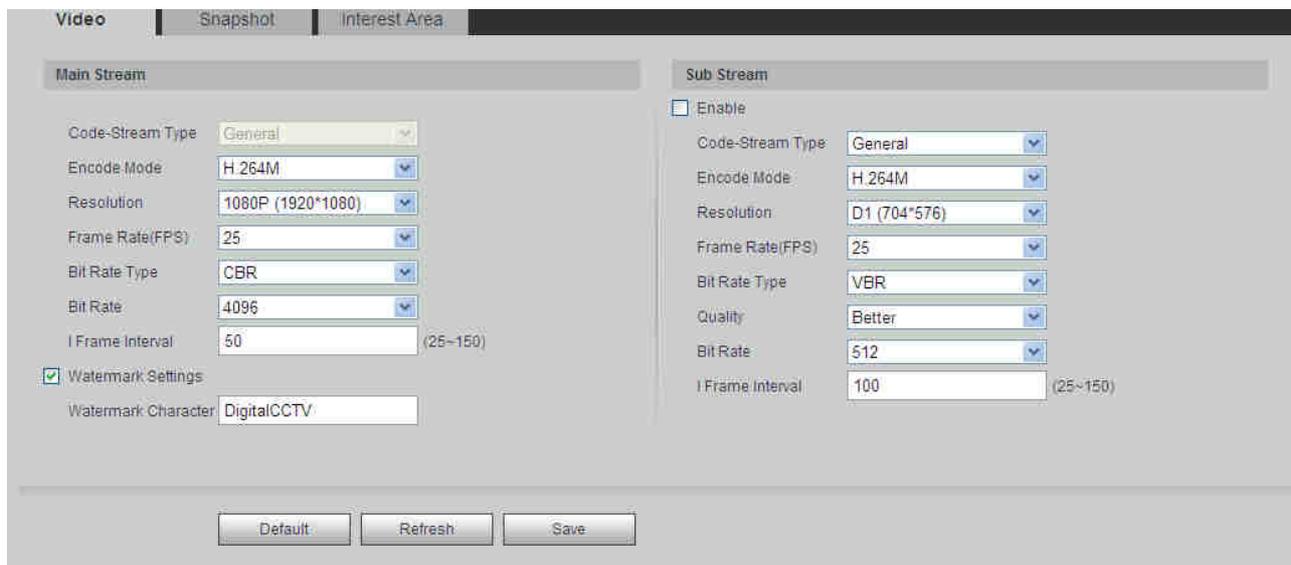


Figure 4-20 Video

Please refer to the following sheet for log parameter information.

Parameter		Function
Main stream	Code-stream type	Support general type.
	Encode mode	<ul style="list-style-type: none"> It supports H.264B, H.264M, H.264H, H.265, MJPEG.
	Resolution	Display resolution.
	Frame rate (FPS)	Select fps
	Bit rate type	It includes: CBR and VBR. Under VBR, you can set image quality.
	Bit rate	<ul style="list-style-type: none"> Under VBR, this value serves as upper limit. Under CBR, this value is fixed. It is the best range of bit rate.
	I frame interval	It is the P frame between two I frame, with range 1~150. Default is two times frame rate.
	Watermark settings	By verifying watermark character, you may check if record is edited. Check front box to enable function. Default watermark character is: DigitalCCTV. Only number, letter, and underline are supported, max 85 characters.

Parameter		Function
Sub Stream	Enable	Check to enable sub stream.
	Encode mode	<ul style="list-style-type: none"> It supports H.264B, H.264M, H.264H, H.265, MJPEG.
	Resolution	Only support 720P and D1. Note: Sub stream cannot be over main stream.
	Frame rate (FPS)	Select fps
	Bit rate type	It includes: CBR and VBR. Under VBR, you can set image quality.
	Quality	Set quality. There are sic levels.
	Bit rate	<ul style="list-style-type: none"> Under VBR, this value serves as upper limit. Under CBR, this value is fixed. It is the best range of bit rate.
	I frame interval	It is the P frame between two I frame, with range 1 ~ 150. Default is two times frame rate.

4.2.2.2 Snapshot

The snapshot interface is shown as in Figure 4-21 Snapshot.

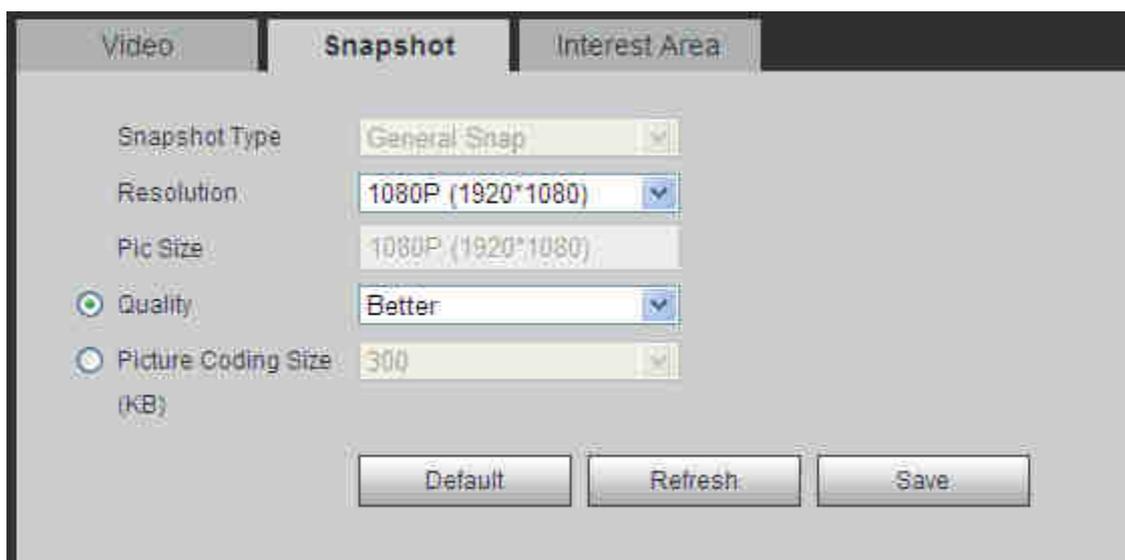


Figure 4-21 Snapshot

Please refer to the following sheet for log parameter information.

Parameter	Function
Snapshot type	It includes general snap and trigger snap. General snap works within predetermined time period. Trigger snap works at time of motion detect, privacy masking and relay activation. Note: This device does not support this function.
Pic size	Be consistent with main stream resolution. Note: This device does not support this function.
Quality	Select snap quality from 6 levels.
Picture coding size	Set the image encoding size, there are 8 levels optional; or select "Custom", set the range of 50 ~ 1024. Note: Please select either picture coding size or quality.

4.2.2.3 Interest Area

The interest area interface is shown as in Figure 4-22 Interest Area.

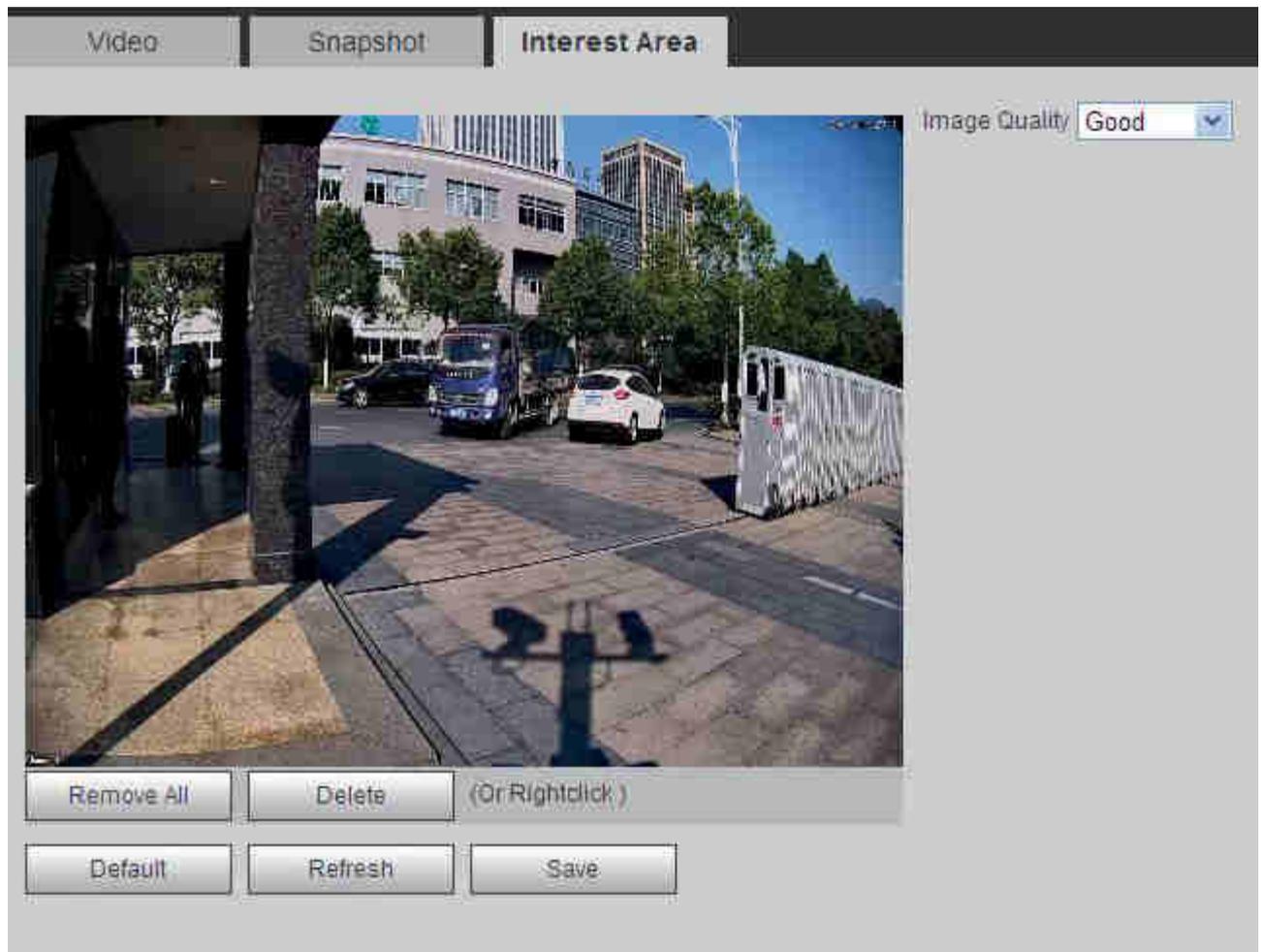


Figure 4-22 Interest Area

In the video, drag mouse left key, to set interest area, which is shown as yellow box.

Note:

You can set up to 3 interest areas at the same time.

Please refer to the following sheet for log parameter information.

Parameter	Function
Image quality	<ul style="list-style-type: none"> You may drag left mouse to set interest area. Select snap quality from 6 levels.

4.3 Network

4.3.1 TCP/IP

The TCP/IP interface is shown as in Figure 3-22.

Note:

Some models support dual Ethernet ports, so do not set the two ports in the same segment!

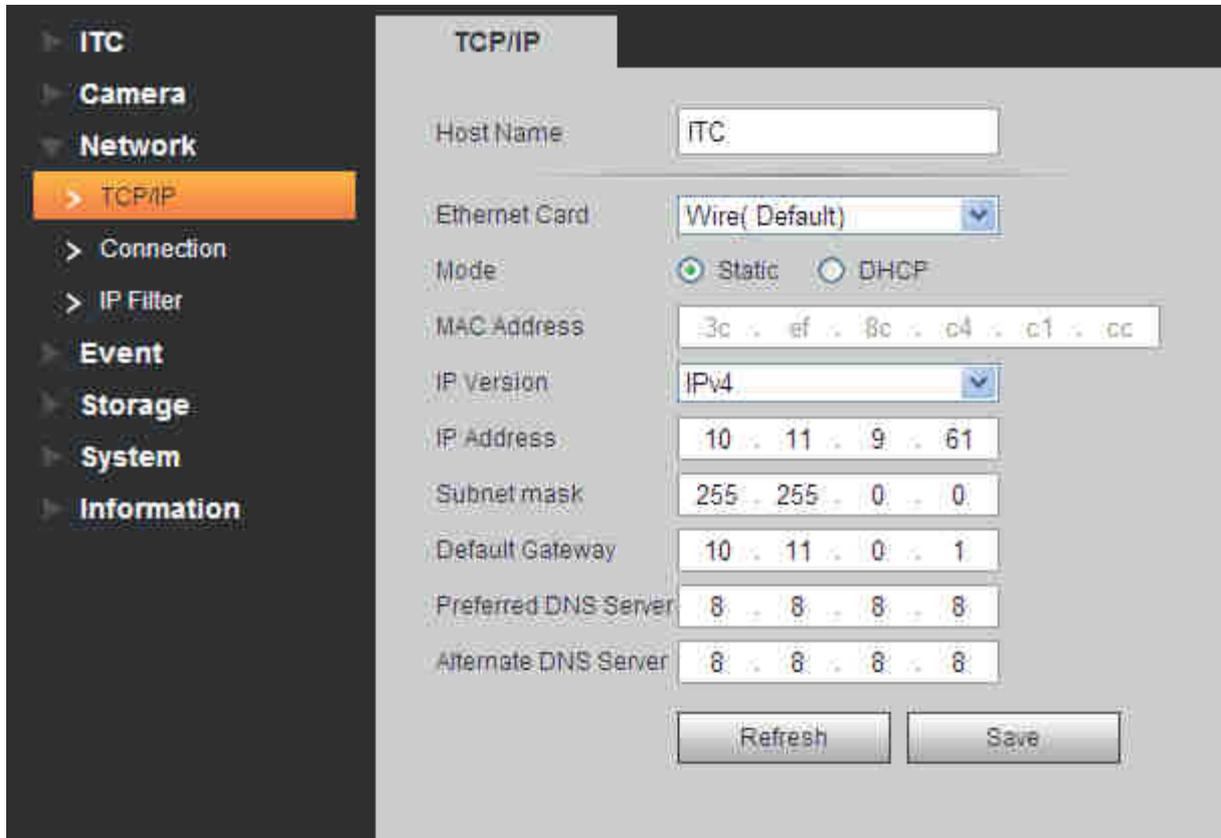


Figure 4-23 TCP/IP

Please refer to the following sheet for log parameter information.

Parameter	Function
Host name	Set current host name. Max supports 32 characters.
Ethernet card	Set Ethernet card to config.
Mode	You can select from static and DHCP mode. In DHCP mode, it automatically search IP while you cannot set IP/subnet mask/gateway. Plus IP/subnet mask/gateway display values from DHCP. In static mode, you shall manually set IP/subnet mask/gateway. To switch from DHCP to static, you must set IP parameters again.
MAC address	Display host MAC address.
IP version	Select IP version IPV4 or IPV6. These two IP addresses both can be accessed.

Parameter	Function
IP address	Input new IP address to edit, and set subnet mask and default gateway.
Preferred DNS	DNS server IP address.
Alternate DNS	DNS server alternate IP address.

4.3.2 ONVIF

ONVIF is Open Network Video Interface Forum, an online video to achieve a framework agreement, which are produced by different vendors of network video products (such as front-end cameras, video equipment, etc.) is fully interoperable.

Select Setup>Network>Connection>ONVIF.

Check the open ONVIF login, login ONVIF need a username and password verification; turn off the feature you do not need validation. See Figure 4-24.

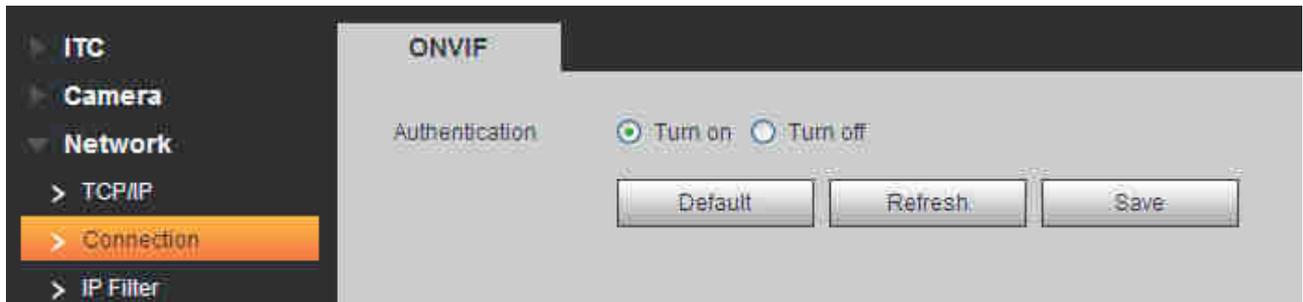


Figure 4-24

4.3.3 IP Filter

By setting the trusted and banned lists, you can enable or disable some users log in to the device.

Devices allow trusted list the IP address of the user to log in, and ban the IP address blacklist users log device. Supports adding IP or IP range. See Figure 4-25.

For example to add IP into trusted list.

Step 1. Select Setup>Network Setup>IP Filter>Trusted List.

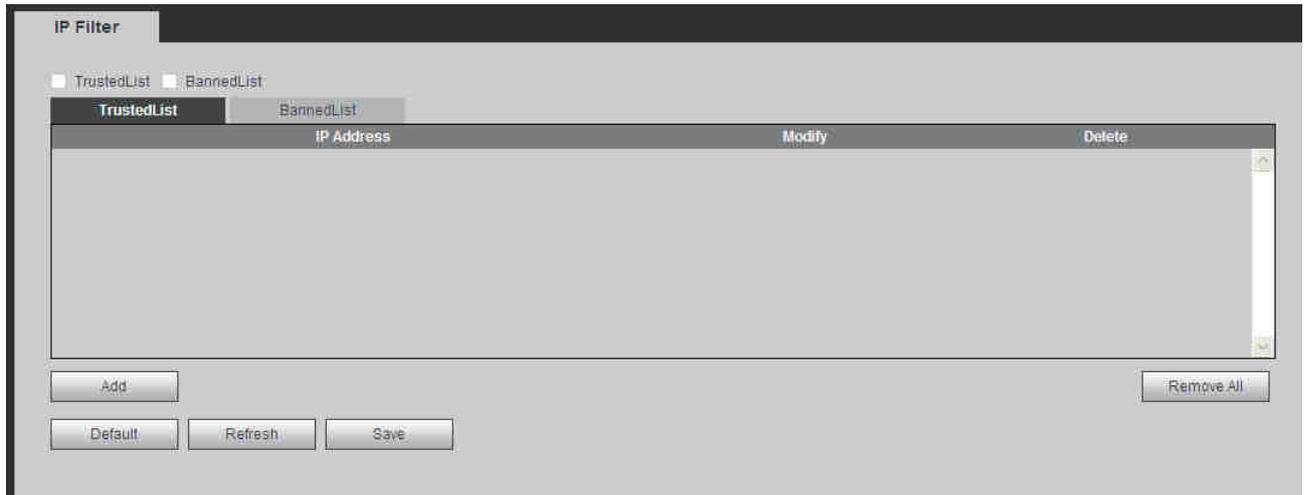


Figure 4-25

Step 2. Click **Add IP**. See Figure 4-26.

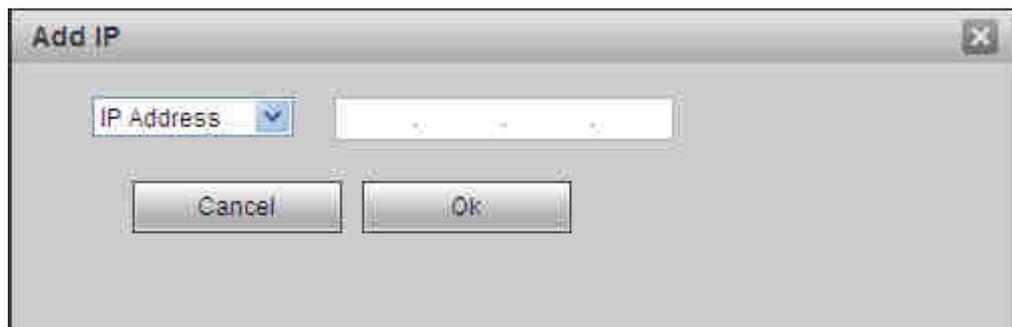


Figure 4-26

Step 3. Select IP or IP segment, click Save. See Figure 4-27.

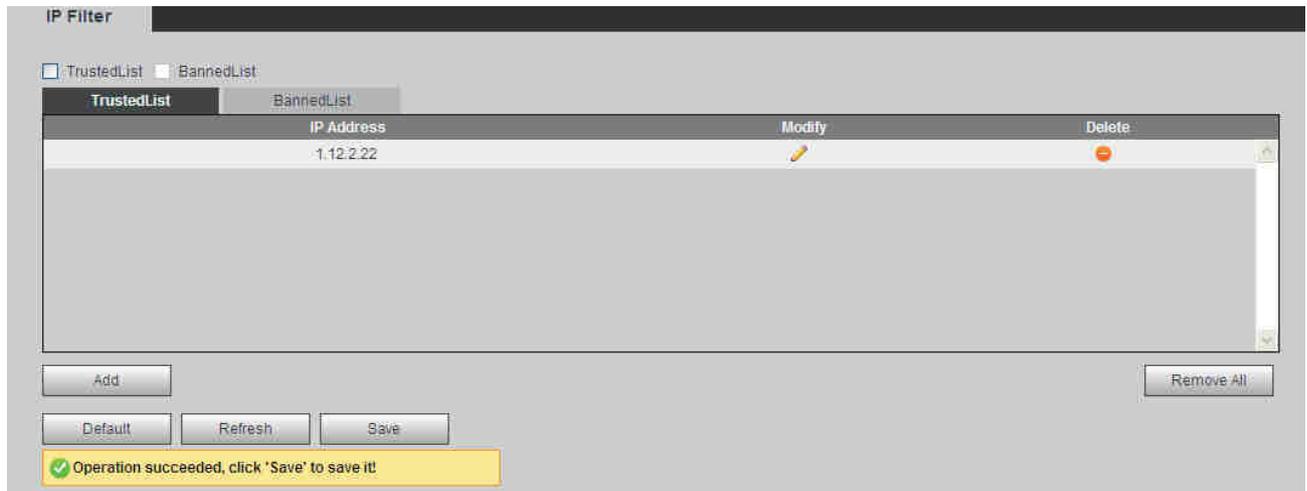


Figure 4-27

Step 4. Click Save in Trusted List tab.

Step 5. System informs you it has been successfully saved.

In Trusted list tab, you can:

- Click to modify existing IP address or IP segment.
- Click to delete existing IP address or IP segment.
- Click to clear all IP address in list.

Note:

Banned list can be set in similar way as trusted list.

4.4 Event

4.4.1 Alarm

The relay-out interface is shown as in Figure 4-28 Relay-out.



Figure 4-28 Relay-out

Step 1. Click “1” or “2” to set 1-ch alarm channel output.

Step 2. Click Trigger to output alarm output signal.

Step 3. Click Refresh to search alarm output status.

Note:

ITC237-PU1B-IR, ITC237-PU1B-L have a total of 2 channels of alarm output; ITC237-PW1B-IRZ only has 1 channel of alarm output.

4.4.2 Abnormity

Note:

ITC237-PU1B-IR, ITC237-PU1B-L have a total of 2 channels of alarm output; ITC237-PW1B-IRZ does not have channel of alarm output.

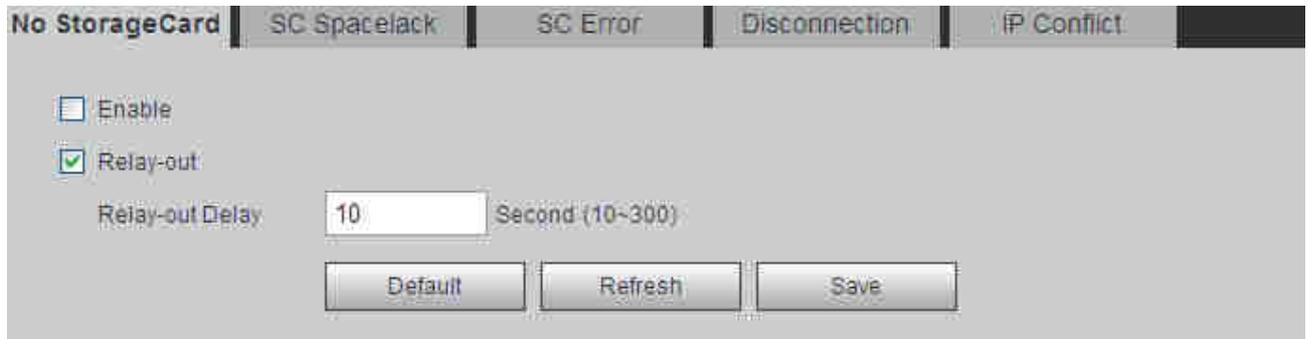


Figure 4-29 No Storage Card

No StorageCard	SC Spacelack	SC Error	Disconnection	IP Conflict
<input type="checkbox"/> Enable Floor level of SC card's area: <input type="text" value="10"/> %(0~99)				
<input checked="" type="checkbox"/> Relay-out Relay-out Delay: <input type="text" value="10"/> Second (10~300)				
<input type="button" value="Default"/> <input type="button" value="Refresh"/> <input type="button" value="Save"/>				

Figure 4-30 SC Space Lock

No StorageCard	SC Spacelack	SC Error	Disconnection	IP Conflict
<input type="checkbox"/> Enable <input checked="" type="checkbox"/> Relay-out Relay-out Delay: <input type="text" value="10"/> Second (10~300)				
<input type="button" value="Default"/> <input type="button" value="Refresh"/> <input type="button" value="Save"/>				

Figure 4-31 SC Error

No StorageCard	SC Spacelack	SC Error	Disconnection	IP Conflict
<input type="checkbox"/> Enable <input type="checkbox"/> Relay-out Relay-out Delay: <input type="text" value="10"/> Second (10~300)				
<input type="button" value="Default"/> <input type="button" value="Refresh"/> <input type="button" value="Save"/>				

Figure 4-32 Disconnection

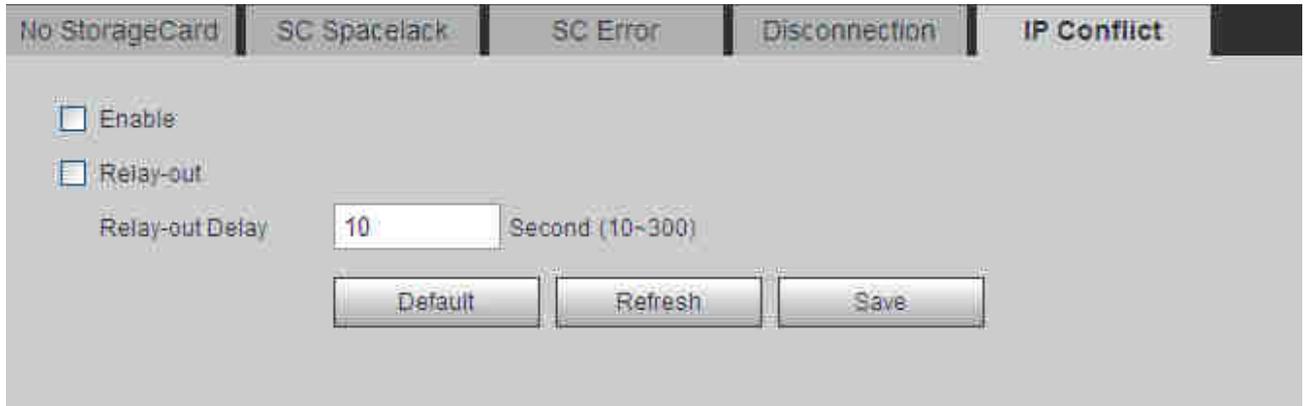


Figure 4-33

Please refer to the following sheet for log parameter information.

Parameter	Function
Enable	Check box to enable this function.
Relay-out	When alarm occurs, set corresponding relay out. You must enable this function first.
Relay-out delay	Alarm will continue for X seconds after motion detect ends. You can set X within 10 s~300 s.

4.5 Storage

4.5.1 Point

Set snapshot storage position.



Figure 4-34 Point

4.5.2 Local

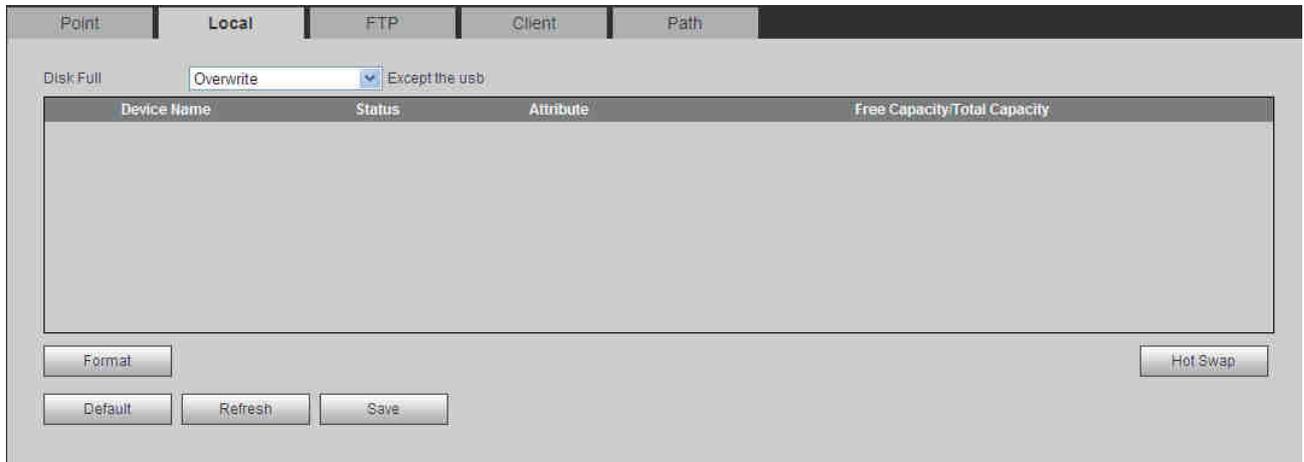


Figure 4-35 Local

4.5.3 FTP

Note:

- When you select FTP as storage method, FTP is enabled.
- Set picture name and path, click Help to view naming rule.

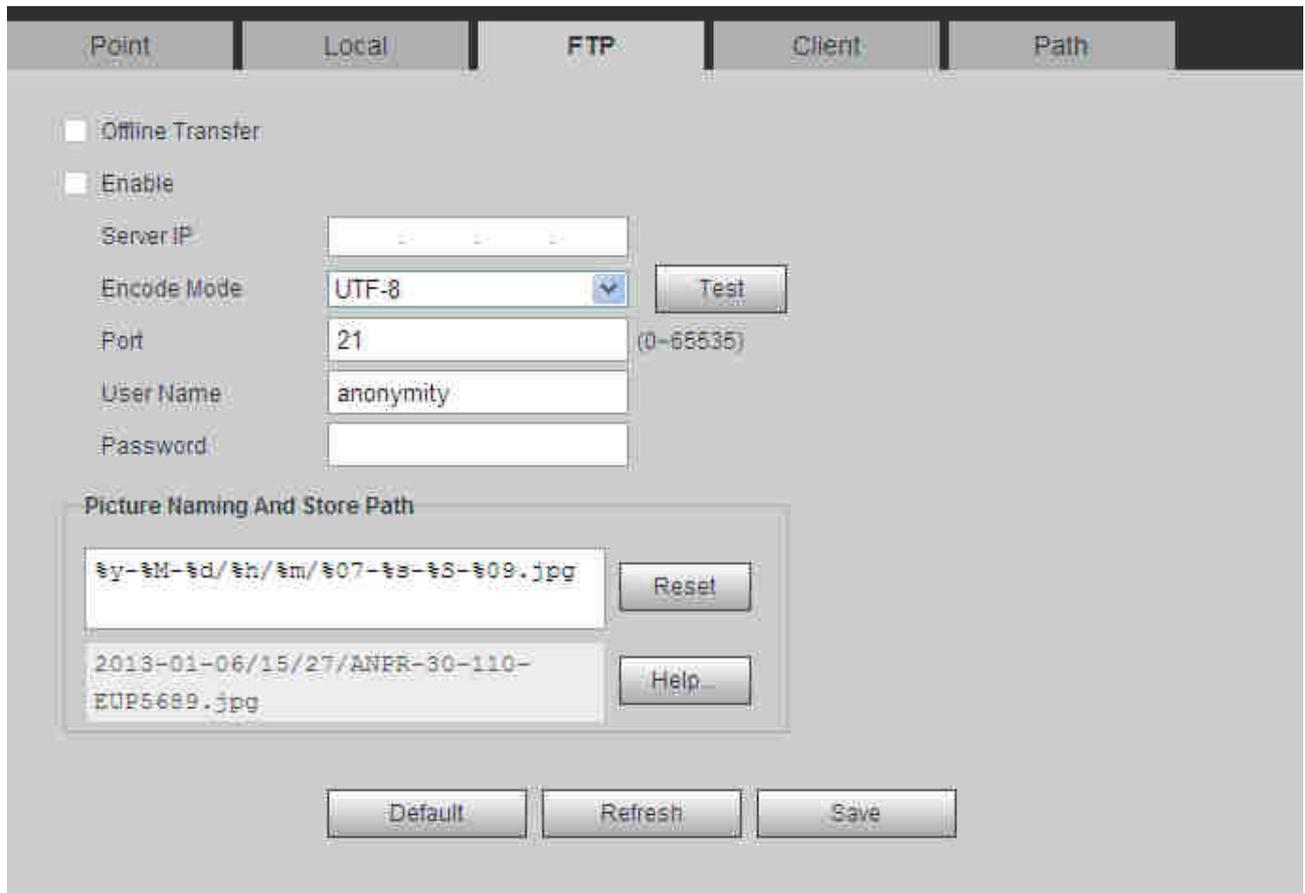


Figure 4-36 FTP

Parameter	Note
Offline Transfer	When the network is disconnected or failed, you can save the image to the local memory card, to be automatically restored after the network upload to the FTP server or platform.
Enable	Enable the FTP server storage point.
Server IP	The IP address of the FTP server.
Encode Mode	Picture naming for the Chinese character encoding, there are two optional UTF-8 and GB2312. When you click Test, two files that use UTF-8 and GB2312 encoding, respectively, are created on the FTP server to determine how the server is encoded.
Port	FTP server port
Username and Password	FTP server username and password

Chart 4-8

4.5.4 Client

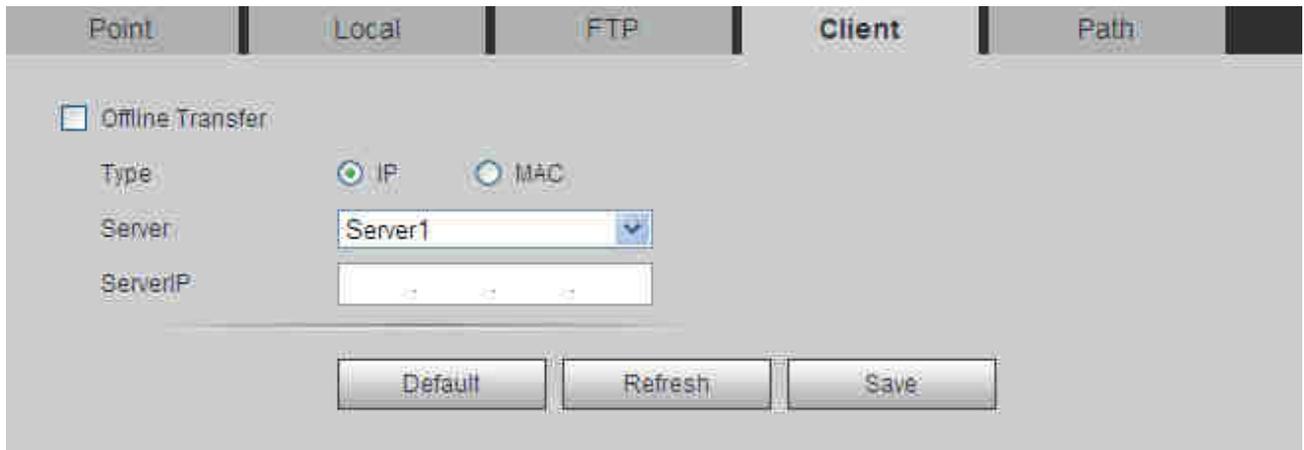


Figure 4-37 Client

It supports upload by IP address or MAC address.

Max support two clients.

4.5.5 Path

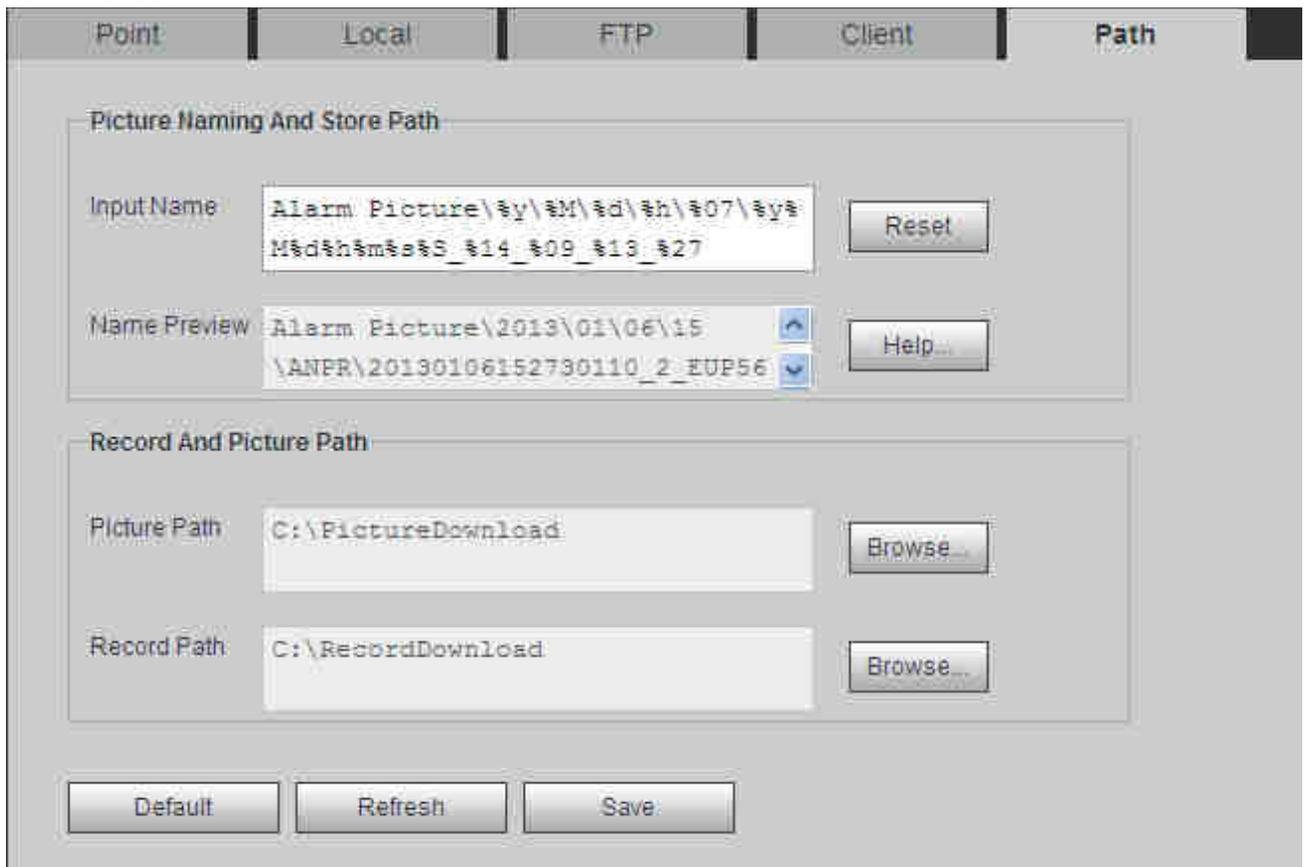


Figure 4-38 Path

4.6 System

4.6.1 General

4.6.1.1 General

The general interface is shown as in Figure 3-27.

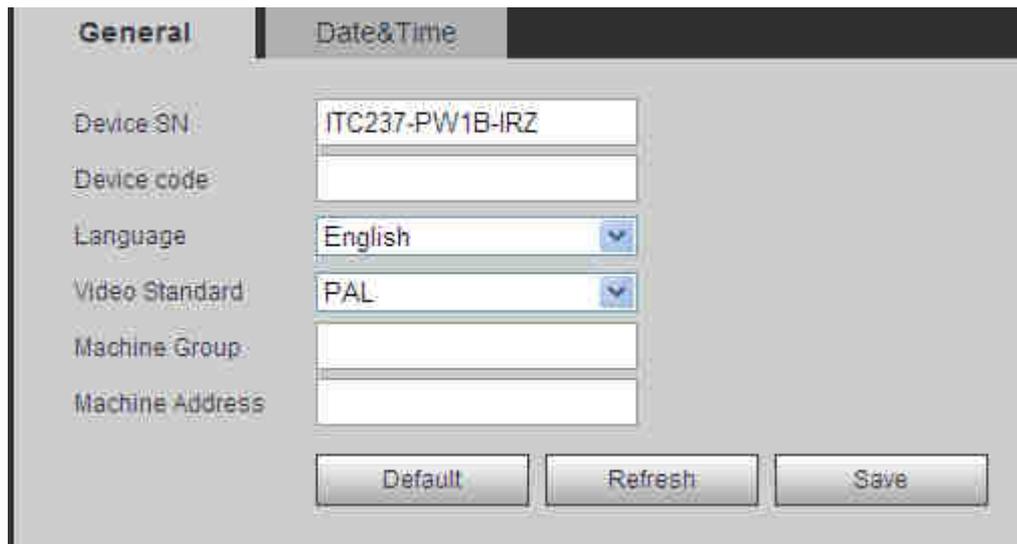


Figure 4-39 General

Please refer to the following sheet for log parameter information.

Parameter	Function
Device name	Set device name.
Language	Select language and then close IE. When you log in again, system language will change.
Video standard	Display device video standard, such as PAL.
Machine Group	Input device group.
Machine Address	Input snapshot address of the device.

4.6.1.2 Date&Time

The date&time interface is shown as in Figure 4-40 Date&Time.

The screenshot shows the 'Date & Time' configuration interface. It includes dropdown menus for date and time formats, a current time display, checkboxes for DST and NTP synchronization, radio buttons for DST type, and input fields for NTP server and port. A 'Sync PC' button is located next to the current time display. At the bottom, there are 'Default', 'Refresh', and 'Save' buttons.

Figure 4-40 Date&Time

Please refer to the following sheet for log parameter information.

Parameter	Function
Date format	Select date format.
Time format	Select time format.
Current time	Set current system time. Setup becomes effective immediately.
Sync PC	Sync system time with PC time. Click on save to refresh system time.
DST enable	Set DST, may by date or week. Setup becomes effective immediately.
Synchronize With NTP	Check to sync with NTP.
NTP server	Set NTP server address.
Port	Set NTP port no.
Time zone	Set device time zone.

Update period	Set device update period.
---------------	---------------------------

4.6.2 Account

4.6.2.1 Account

The account interface is shown as in Figure 4-41 Account. Here you can add and delete username, and modify user password.

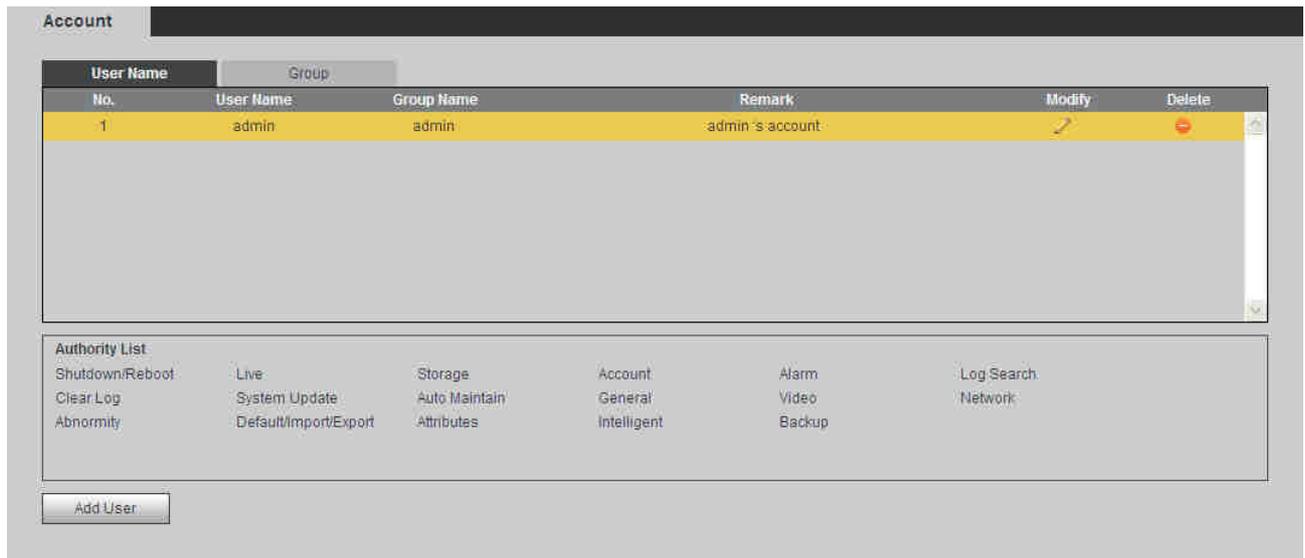


Figure 4-41 Account

Anonymous login: Enable anonymous login as input IP without username and password to log in device. This type of account only have preview right. You may switch to other account by clicking on logout.

Add user: Add user within group and set user right.

By default there are three users: admin, 888888 and 666666. Their passwords are the same as corresponding username. Admin and 888888 are admin account by default while 666666 is user account which has monitor right only.

Enter add user interface, input username and password, and select its group.

Username shall not exceed right of its group.

We recommend you to set user right lower than admin right.

The add user interface is shown as in Figure 4-42 Add User.

The image shows a 'Add User' dialog box with the following fields and options:

- User Name: [Text Input]
- Password: [Text Input]
- Weak | Middle | Strong: [Radio Buttons]
- Confirm Password: [Text Input]
- Group: [Dropdown Menu] (selected: admin)
- Remark: [Text Input]
- Authority List: [List Box] (checked items: All, Shutdown/Reboot, Live, Storage, Account)

Buttons: Cancel, Save

Figure 4-42 Add User

Modify user: Modify existing user's group, password, right and note. See Figure 4-43 Modify User.

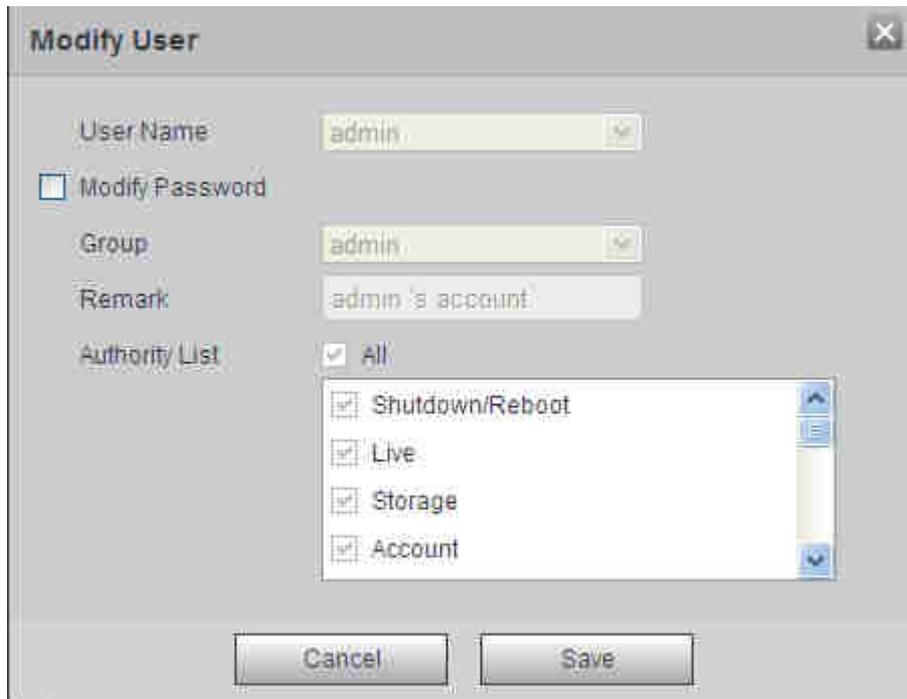


Figure 4-43 Modify User

Modify password: Modify password of existing user. Check box in front of modify password. Input current password and then input new password. Click on save. Password supports 0~15 characters, including letter and number only.

Note:

- You cannot modify right of the logged in account.
- You cannot modify or delete admin, 888888 and 666666 accounts.
- Account who has right to modify other account, can modify other user account besides its own.
- You cannot delete currently logged in account.

4.6.2.2 Group

The group interface is shown as in Figure 4-44 Group. Here you can add and delete group, and modify group password. The system supports up to 8 user groups.

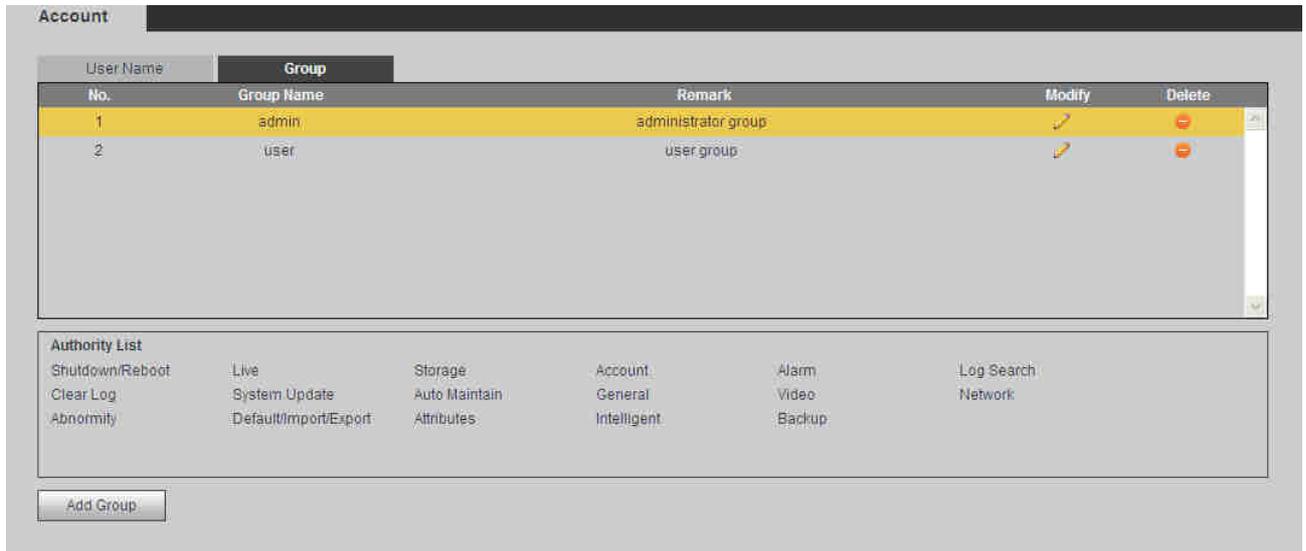


Figure 4-44 Group

Add group: Add user within group and set group right.

Enter add group interface, and input group name, select right among given list. The add group interface is shown as in Figure 4-45 Add Group.

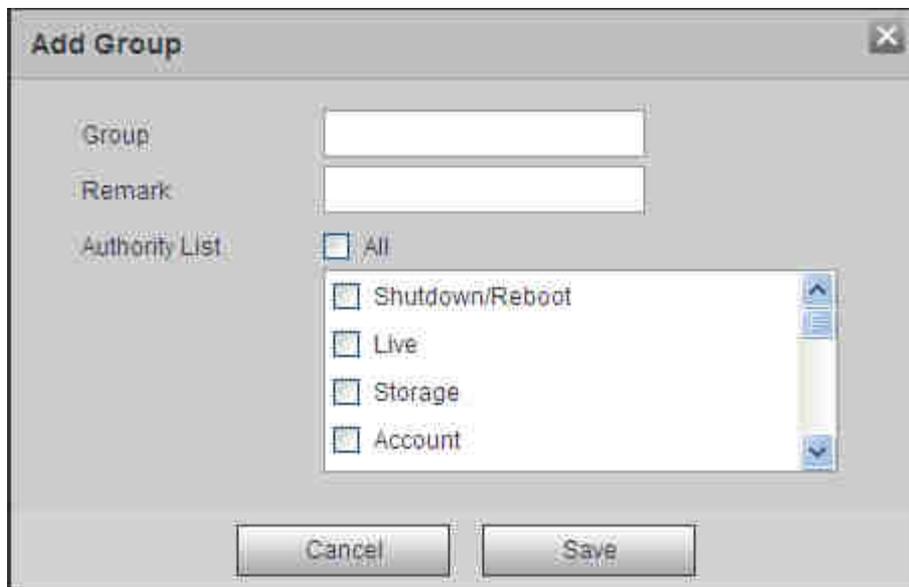


Figure 4-45 Add Group

Modify group: Click on modify, you may edit group in prompt box. The modify group interface is shown as in Figure 4-46 Modify Group.

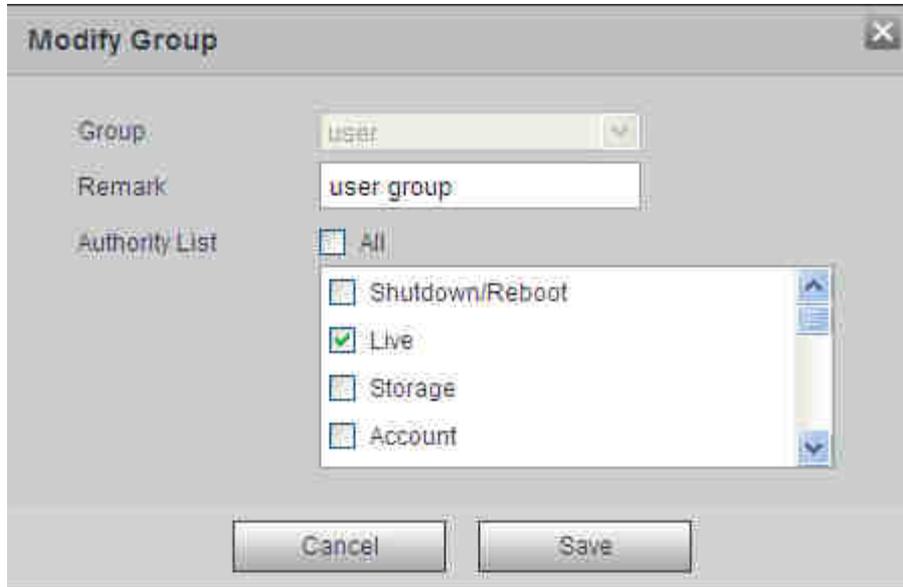


Figure 4-46 Modify Group

Note:

- You cannot delete admin and user groups.
- You cannot delete group which contains currently logged in user.

4.6.3 Default

The default interface is shown as in Figure 4-47 Default.

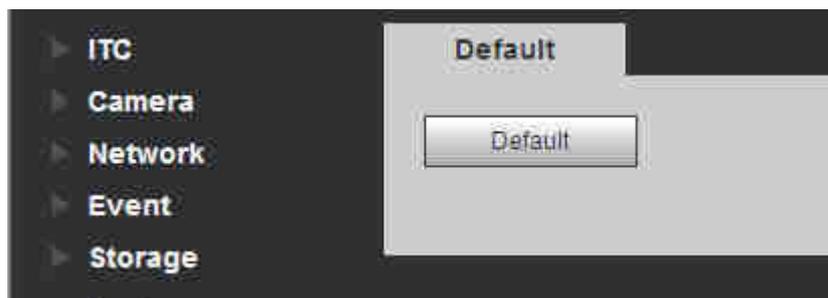


Figure 4-47 Default

Note: Network IP address cannot be restored to default.

4.6.4 Import/Export

The import/export interface is shown as in Figure 4-48 Import/Export.

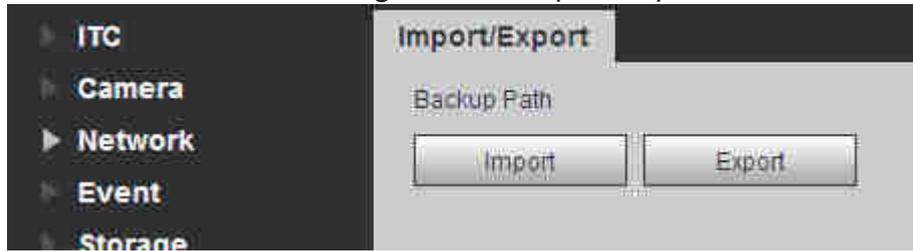


Figure 4-48 Import/Export

Please refer to the following sheet for log parameter information.

Parameter	Function
Export	Export system config to local.
Import	Import local config to system.

Click Import/Export.

Select file path to import or folder to export.

Click Open Save and view result on WEB.

4.6.5 Auto Maintain

The auto maintains interface is shown as in Figure 4-49 Auto Maintain.

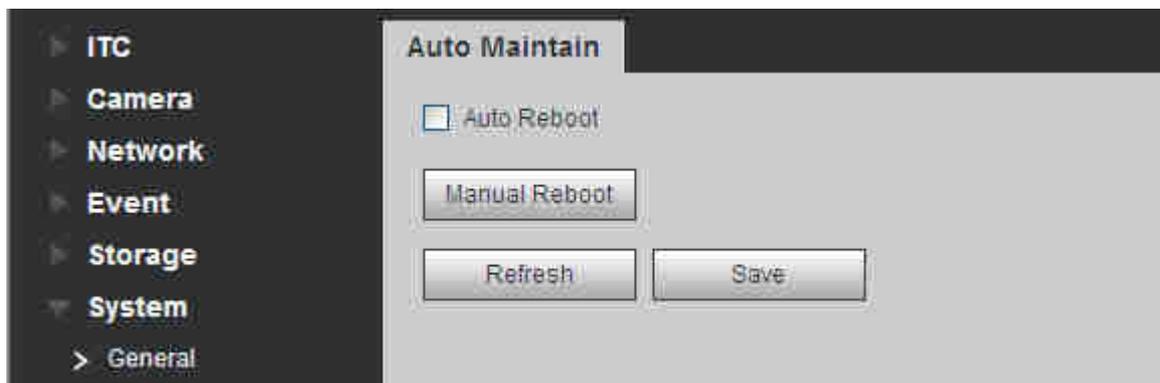


Figure 4-49 Auto Maintain

User can automatically reboot system and delete old files. You shall set auto reboot schedule and set file time period for auto delete old file to delete file within certain time periods. Click on save to make setup effective.

4.6.6 Upgrade

When system upgrades, you shall select firmware file. Firmware file ends in *.bin. Please maintain stable power supply, connection and do not reboot or shut down camera during this process.

The upgrade interface is shown as in Figure 4-50 Upgrade.



Figure 4-50 Upgrade

Note:

- If system encounters error during upgrading, the device may malfunction.
- Do not power off device, disconnect device, reboot device or close WEB during upgrading.

4.7 Information

4.7.1 Version

The version interface is shown as in Figure 4-51 Version.



Figure 4-51 Version

Here displays device type, software version and soft build time. All info here subject to actual condition.

4.7.2 Log

The log interface is shown as in Figure 4-52 Log.

Note:

Once number of log reaches 1024, it starts to overwrite the earliest log.

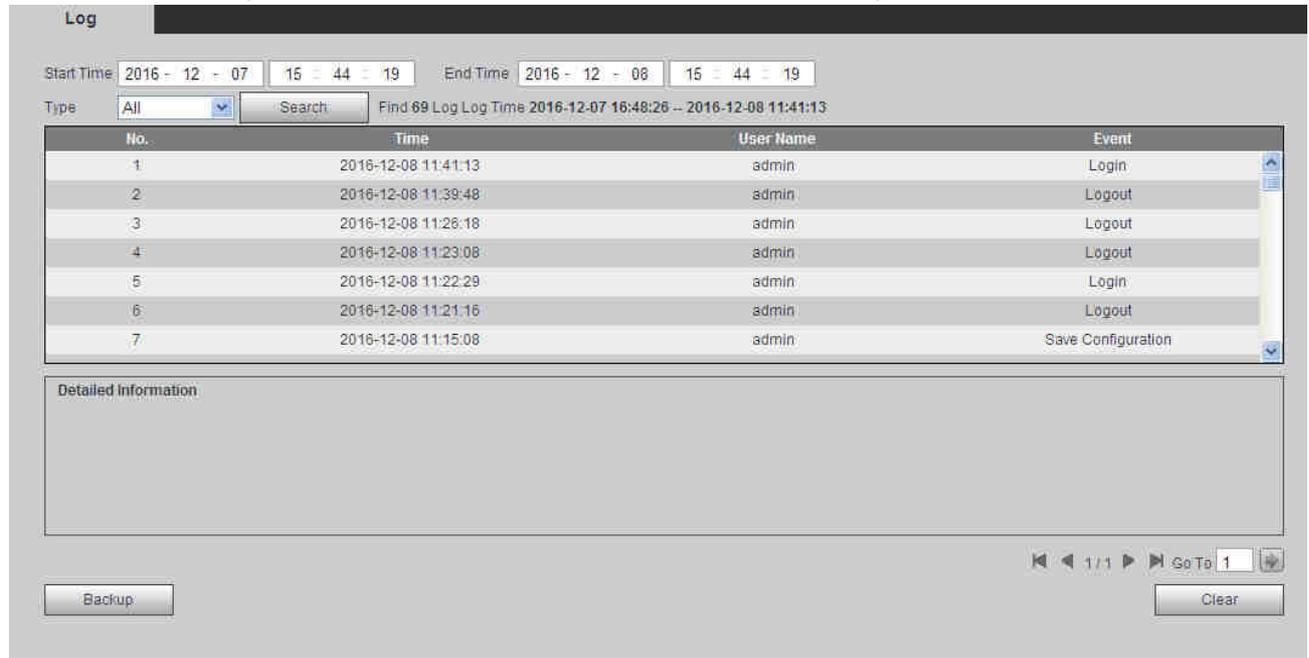


Figure 4-52 Log

Please refer to the following sheet for log parameter information.

Parameter	Function
Start time	Set start time of log to search.
End time	Set end time of log to search.
Type	Log type includes: system, config, data, event, record, account and clear all log.
Search	<ul style="list-style-type: none"> In dropdown list, select log type, and set start/end time. Click on search button and then you will see logs searched out. Click on stop to stop log search.
Detailed info	Click on log to view its detailed information.
Clear	Clear all system log displayed. You cannot clear log by type.
Backup	Create backup of displayed log onto current used PC.

4.7.3 Online User

The online user interface is shown as in Figure 4-53 Online User. Here displays online user and their group, IP address and login time.



The screenshot shows a window titled "Online User" containing a table with five columns: "No.", "User Name", "User Local Group", "IP Address", and "User Login Time". The table lists five entries, all with "admin" as the user name and "admin" as the local group. The IP addresses and login times vary. Below the table is a "Refresh" button.

No.	User Name	User Local Group	IP Address	User Login Time
1	admin	admin	192.168.4.14	2016-12-07 17:26:36
2	admin	admin	172.30.250.251	2016-12-07 17:26:44
3	admin	admin	172.30.250.251	2016-12-07 17:26:44
4	admin	admin	10.18.103.160	2016-12-08 11:22:29
5	admin	admin	10.18.116.161	2016-12-08 11:41:13

Figure 4-53 Online User

5 Alarm

Click Alarm tab, the system shows Alarm tab. Here you can select alarm type, operation and sound to view existing alarm time, type and channel.



Figure 5-1 Alarm

Type	Parameter	Note
Alarm Type	Disk Full	When disk is full, it triggers alarm.
	Disk Error	When disk has error, it triggers alarm.
	No Disk	When there is no disk, it triggers alarm.
	Black List	When the vehicle is on black list, it triggers alarm.
Operation	Listen Alarm	Alarm type subscribed on device, when device alarms, it will notify WEB, and WEB notifies user.
Alarm Tone	Play Alarm Tone	When alarm occurs, it has alarm tone, which can be customized in setup.
	Tone Path	Customize alarm tone path.

Chart 5-1

6 Logout

Click on logout to exit WEB interface. You will see Figure 6-1 Logout. To return web interface, you have to log in again.



Figure 6-1 Logout

Note:

- This manual is for reference only. Slight difference may be found in the user interface.
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