SECURITY CAMERA WAREHOUSE

User Manual
Network PTZ Series

Sentry Pro, Sentinel Pro &
The Tracker

Thank you for purchasing our product. If there are any questions, or requests, please do not hesitate to contact the dealer.
This manual applies to IR Network Speed Dome.
This manual may contain several technical or printing errors, and the content is subject to change without notice. The updates will be added to the new version of this manual. We will readily improve or update the products or procedures described in the manual.

DISCLAIMER STATEMENT

"Underwriters Laboratories Inc. ("UL") has not tested the performance or reliability of the security or signaling aspects of this product. UL has only tested for fire, shock or casualty hazards as outlined in UL's Standard(s) for Safety, UL60950-1. UL Certification does not cover the performance or reliability of the security or signaling aspects of this product. UL MAKES NO REPRESENTATIONS, WARRANTIES OR CERTIFICATIONS WHATSOEVER REGARDING THE PERFORMANCE OR RELIABILITY OF ANY SECURITY OR SIGNALING RELATED FUNCTIONS OF THIS PRODUCT."

Regulatory Information

FCC Information

FCC compliance: This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement

CE This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC, the RoHS Directive 2011/65/EU.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

Safety Instruction

These instructions are intended to ensure that the user can use the product correctly to avoid danger or property loss.

The precaution measure is divided into 'Warnings' and 'Cautions':

Warnings: Serious injury or death may be caused if any of these warnings are neglected.

Cautions: Injury or equipment damage may be caused if any of these cautions are neglected.

Warnings Follow these safeguards to prevent serious injury or death.	**Cautions** Follow these precautions to prevent potential injury or material damage.

Warnings:

- Please adopt the power adapter which can meet the safety extra low voltage (SELV) standard. And source with 24VAC±10% or 12VDC±10% (depending on models) according to the IEC60950-1 and Limited Power Source standard. The power consumption cannot be less than the required value.
- Do not connect several devices to one power adapter as an adapter overload may cause over-heating and can be a fire hazard.
- When the product is installed on a wall or ceiling, the device should be firmly fixed.
- To reduce the risk of fire or electrical shock, do not expose the indoor used product to rain or moisture.
- This installation should be made by a qualified service person and should conform to all the local codes.
- Please install blackouts equipment into the power supply circuit for convenient supply interruption.
- If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the product yourself. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)

Cautions:

- Make sure the power supply voltage is correct before using the product.
- Do not drop the product or subject it to physical shock. Do not install the product on vibratory surface or places.
- Do not expose it to high electromagnetic radiating environment.
- Do not aim the lens at the strong light such as sun or incandescent lamp. The strong light can cause fatal damage to the product.
- The sensor may be burned out by a laser beam, so when any laser equipment is being used, make sure that the surface of the sensor not be exposed to the laser beam.
- Do not place the product in extremely hot, cold temperatures (the operating temperature should be between -30°C ~ 65°C), dusty or damp environment.
- To avoid heat accumulation, good ventilation is required for a proper operating environment.
- While shipping, the product should be packed in its original packing.
- Please use the provided glove when open up the product cover. Do not touch the product cover with fingers directly, because the acidic sweat of the fingers may erode the surface coating of the product cover.
- Please use a soft and dry cloth when clean inside and outside surfaces of the product cover. Do not use alkaline detergents.

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Chapter 1 Overview

1.1 System Requirement

System requirement of web browser accessing is as follows:
Operating System: Microsoft Windows XP SP1 and above version / Vista / Win7 / Server 2003 / Server 2008 32bits
CPU: Intel Pentium IV 3.0 GHz or higher
RAM: 1G or higher
Display: 1024×768 resolution or higher
Web Browser: Internet Explorer 7.0 and above version, Apple Safari 5.02 and above version, Mozilla Firefox 3.5 and above version and Google Chrome8 and above versions.

1.2 Functions

Note: The functions vary depending on the models of speed dome.

- **Scan Modes**

The dome provides 5 scan modes: auto scan, tilt scan, frame scan, random scan and panorama scan.

- **Presets**

A preset is a predefined image position. When the preset is called, the dome will automatically move to the defined position. The presets can be added, modified, deleted and called.

- **Label Display**

The on-screen label of the time and dome name can be displayed on the monitor. The displays of time and speed dome name can be programmed.

- **Auto Flips**

When a target object goes directly beneath the speed dome, operating the speed dome to monitor the object, the speed dome will automatically rotate 180 degrees in horizontal direction to maintain continuity of tracking.

- **3D Positioning**

In the client software, use the left key of mouse to click on the desired position in the video image and drag a rectangle area in the lower right direction, then the dome system will move the position to the center and allow the rectangle area to zoom in. Use the left key of mouse to drag a rectangle area in the upper left direction to move the position to the center and allow the rectangle area to zoom out.

- **Proportional Pan/Tilt**

Proportional pan/tilt automatically reduces or increases the pan and tilt speeds according to the amount of zoom. At telephoto zoom settings, the pan and tilt

speeds will be slower than at wide zoom settings. This keeps the image from moving too fast on the live view image when there is a large amount of zoom.

- **Auto Focus**

The auto focus enables the camera to focus automatically to maintain clear video images.

- **Day/Night Auto Switch**

The speed domes deliver color images during the day. And as light diminishes at night, the speed domes switch to night mode and deliver black and white images with high quality.

- **Slow Shutter**

In slow shutter mode, the shutter speed will automatically slow down in low illumination conditions to maintain clear video images by extending the exposure time. The feature can be enabled or disabled.

- **Backlight Compensation (BLC)**

If you focus on an object against strong backlight, the object will be too dark to be seen clearly. The BLC (Backlight Compensation) function can compensate light to the object in the front to make it clear, but this causes the over-exposure of the background where the light is strong.

- **Wide Dynamic Range (WDR)**

The wide dynamic range (WDR) function helps the camera provide clear images even under back light circumstances. When there are both very bright and very dark areas simultaneously in the field of view, WDR balances the brightness level of the whole image and provide clear images with details.

Note: This feature varies depending on speed dome models.

- **White Balance (WB)**

White balance can remove the unrealistic color casts. White balance is the white rendition function of the camera to adjust the color temperature according to the environment automatically.

- **Patrol**

A patrol is a memorized series of pre-defined preset function. The scanning speed between two presets and the dwell time at the preset are programmable.

- **Pattern**

A pattern is a memorized series of pan, tilt, zoom, and preset functions. By default the focus and iris are in auto status during the pattern is being memorized.

- **Power Off Memory**

The dome supports the power off memory capability. It allows the dome to resume its previous position after power is restored.

- **Park Action**

This feature allows the dome to start a predefined action automatically after a period of inactivity.

- **User Management**

The dome allows you to edit users with different levels of permission, in the admin login status. Multiple users are allowed to access and control the same network speed dome via network simultaneously.

- **3D Digital Noise Reduction**

Comparing with the general 2D digital noise reduction, the 3D digital noise reduction function processes the noise between two frames besides processing the noise in one frame. The noise will be much less and the video will be clearer.

Chapter 2 Network Connection

Before you start:

- If you want to set the network speed dome via a LAN (Local Area Network), please refer to Section ***2.1 Setting the Network Speed Dome over the LAN***.
- If you want to set the network speed dome via a WAN (Wide Area Network), please refer to Section ***2.2 Setting the Network Speed Dome over the WAN***.

2.1 Setting the Network Speed Dome over the LAN

Purpose:

To view and configure the speed dome via a LAN, you need to connect the network speed dome in the same subnet with your computer, and install the SADP or client software to search and change the IP of the network speed dome.

Note: For the detailed introduction of SADP, please refer to Appendix 1.

2.1.1 Wiring over the LAN

The following figures show the two ways of cable connection of a network speed dome and a computer:

Purpose:

- To test the network speed dome, you can directly connect the network speed dome to the computer with a network cable as shown in Figure 2-1.
- Refer to the Figure 2-2 to set the network speed dome over the LAN via a switch or a router.

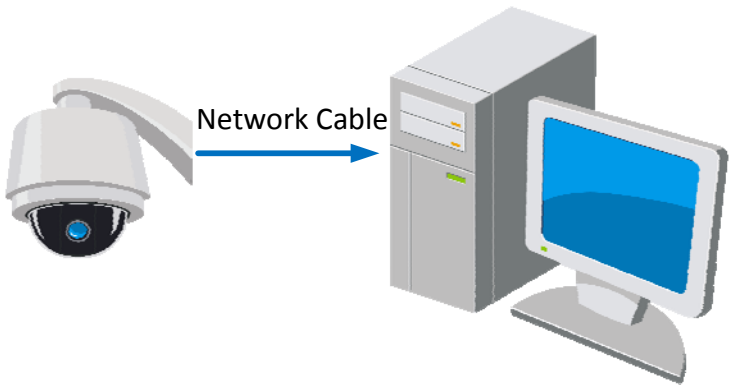


Figure 2-1 Connecting Directly

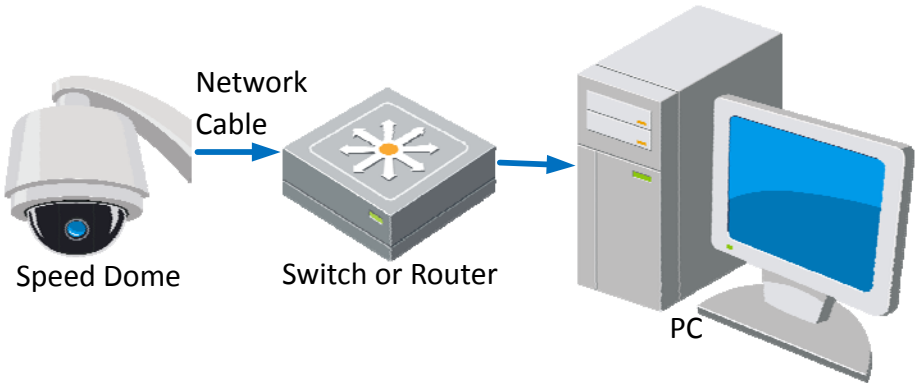


Figure 2-2 Connecting via a Switch or a Router

2.1.2 Detecting and Changing the IP Address

You need the IP address to visit the network speed dome.

Steps:

1. To get the IP address, you can choose either of the following methods:
   - ♦ Use SADP, a software tool which can automatically detect the online network speed domes in the LAN and list the device information including IP address, subnet mask, port number, device serial number, device version, etc., shown in Figure 2-3.
   - ♦ Use the client software to list the online devices. Please refer to the user manual of client software for detailed information.
2. Change the IP address and subnet mask to the same subnet as that of your computer.
3. Enter the IP address of network speed dome in the address field of the web browser to view the live video.

Notes:

- The default IP address is 192.0.0.64. The default user name is admin, and password is 12345.
- For accessing the network speed dome from different subnets, please set the gateway for the network speed dome after you logged in. For detailed information, please refer to Section ***6.3.1 Configuring TCP/IP Settings***.

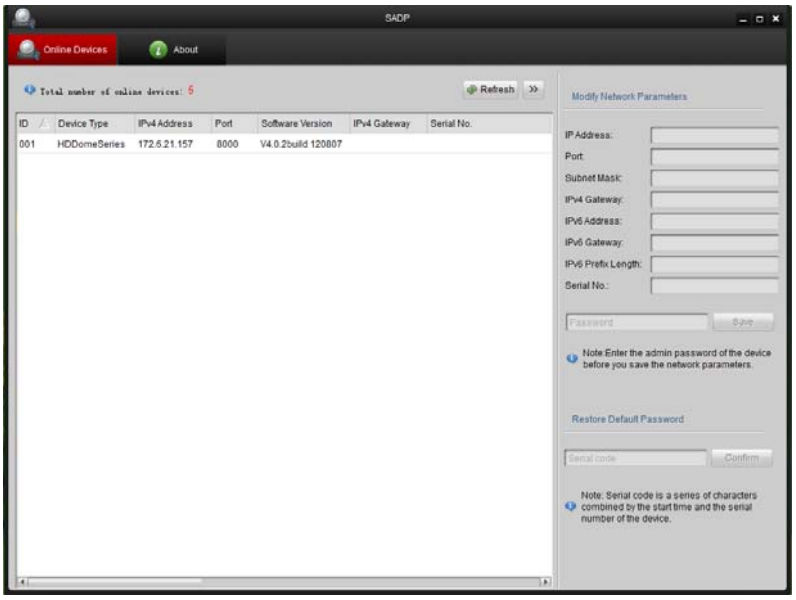


Figure 2-3 SADP Interface

2.2 Setting the Network Speed Dome over the WAN

Purpose:

This section explains how to connect the network speed dome to the WAN with a static IP or a dynamic IP.

2.2.1 Static IP Connection

Before you start:

Please apply a static IP from an ISP (Internet Service Provider). With the static IP address, you can connect the network speed dome via a router or connect it to the WAN directly.

- **Connecting the network speed dome via a router**

Steps:

1. Connect the network speed dome to the router.
2. Assign a LAN IP address, the subnet mask and the gateway. Refer to Section ***2.1.2 Detecting and Changing the IP Address*** for detailed IP address configuration of the speed dome.
3. Save the static IP in the router.
4. Set port mapping, E.g., 80, 8000 and 554 ports. The steps for port mapping vary depending on different routers. Please call the router manufacturer for assistance with port mapping.

Note: Refer to Appendix 2 for detailed information about port mapping.

5. Visit the network speed dome through a web browser or the client software over the internet.

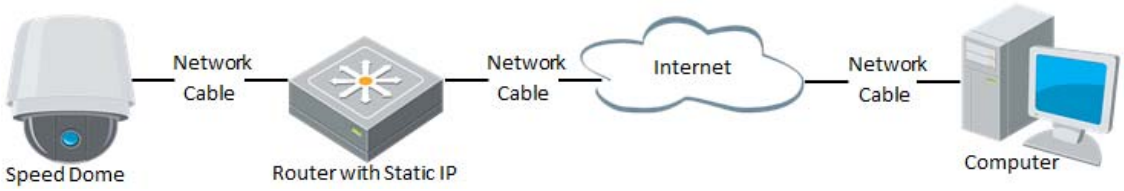


Figure 2-4 Accessing the Speed Dome through Router with Static IP

- **Connecting the network speed dome with static IP directly**

You can also save the static IP in the speed dome and directly connect it to the internet without using a router. Refer to Section ***2.1.2 Detecting and Changing the IP Address*** for detailed IP address configuration of the speed dome.

Figure 2-5 Accessing the Speed Dome with Static IP Directly

2.2.2 Dynamic IP Connection

Before you start:

Please apply a dynamic IP from an ISP. With the dynamic IP address, you can connect the network speed dome to a modem or a router.

- **Connecting the network speed dome via a router**

Steps:

1. Connect the network speed dome to the router.
2. In the speed dome, assign a LAN IP address, the subnet mask and the gateway. Refer to Section ***2.1.2 Detecting and Changing the IP Address*** for detailed LAN configuration.
3. In the router, set the PPPoE user name, password and confirm the password.
4. Set port mapping. E.g. 80, 8000 and 554 ports. The steps for port mapping vary depending on different routers. Please call the router manufacturer for assistance with port mapping.

Note: Refer to Appendix 2 for detailed information about port mapping.

5. Apply a domain name from a domain name provider.
6. Configure the DDNS settings in the setting interface of the router.
7. Visit the speed dome via the applied domain name.

- **Connecting the network speed dome via a modem**

Purpose:

This speed dome supports the PPPoE auto dial-up function. The speed dome gets a public IP address by ADSL dial-up after the speed dome is connected to a modem. You need to configure the PPPoE parameters of the network speed dome. Refer to Section ***6.3.3 Configuring PPPoE Settings*** for detailed configuration.

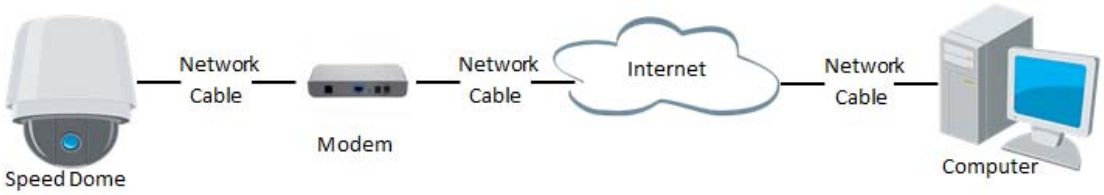


Figure 2-6 Accessing the Speed Dome with Dynamic IP

Note: The obtained IP address is dynamically assigned via PPPoE, so the IP address always changes after rebooting the speed dome. To solve the inconvenience of the dynamic IP, you need to get a domain name from the DDNS provider (E.g. DynDns.com). Please follow below steps for normal domain name resolution and private domain name resolution to solve the problem.

♦ Normal Domain Name Resolution

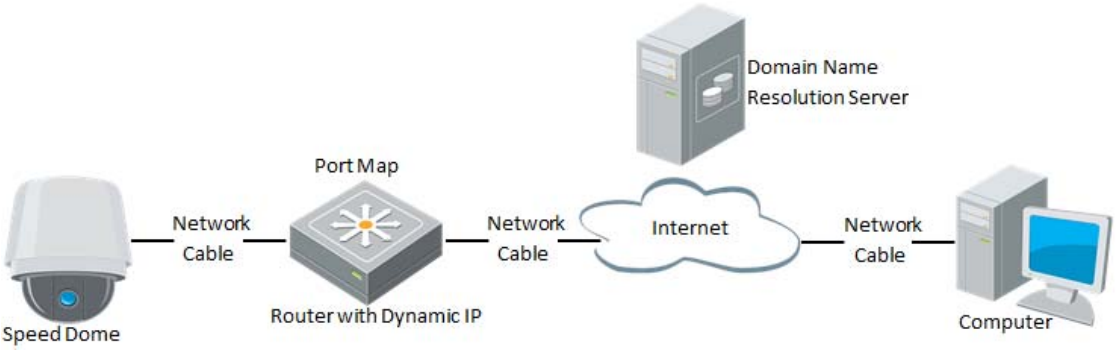


Figure 2-7 Normal Domain Name Resolution

Steps:

1. Apply a domain name from a domain name provider.
2. Configure the DDNS settings in the **DDNS Settings** interface of the network speed dome. Refer to Section ***6.3.4 Configuring DDNS Settings*** for detailed configuration.
3. Visit the speed dome via the applied domain name.

♦ Private Domain Name Resolution

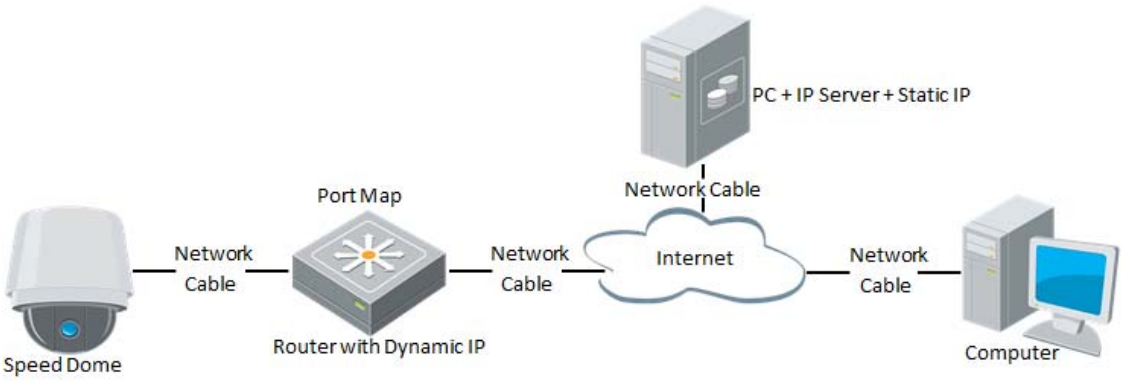


Figure 2-8 Private Domain Name Resolution

Steps:

1. Install and run the IP Server software in a computer with a static IP.
2. Access the network speed dome through the LAN with a web browser or the client software.
3. Enable DDNS and select IP Server as the protocol type. Refer to Section ***6.3.4 Configuring DDNS Settings*** for detailed configuration.

Chapter 3 Access to the Network Speed Dome

3.1 Accessing by Web Browsers

Steps:

1. Open the web browser.
2. In the address field, input the IP address of the network speed dome, e.g., 192.0.0.64 and press the **Enter** key to enter the login interface.
3. Input the user name and password and click Login.

Note: The default user name is admin, password is 12345.

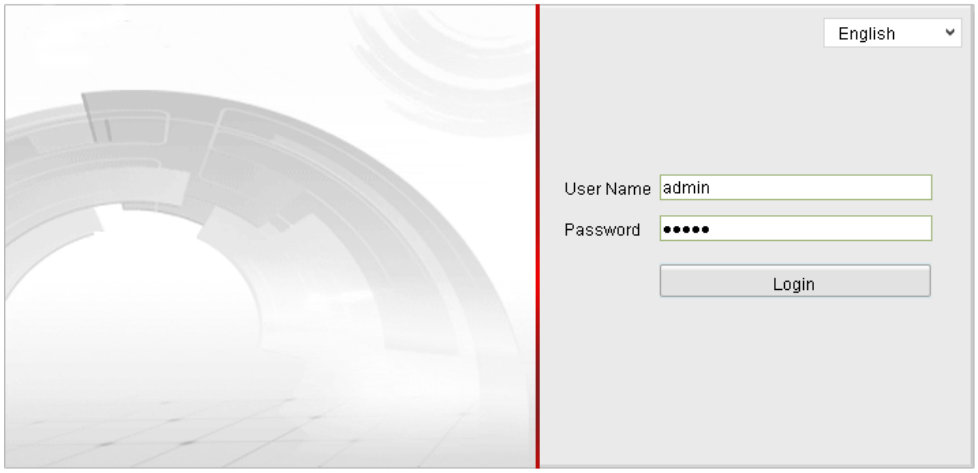


Figure 3-1 Login Interface

4. Install the plug-in before viewing the live video and operating the speed dome. Please follow the installation prompts to install the plug-in.

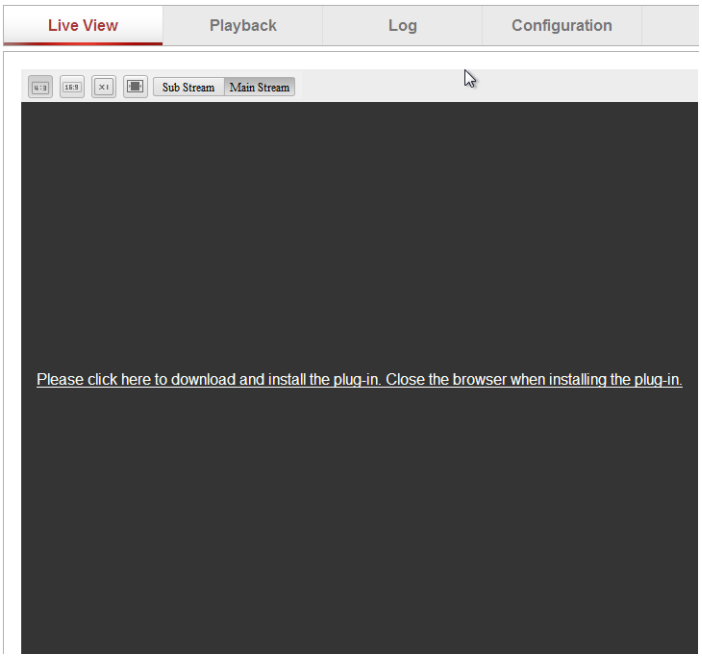


Figure 3-2 Download and Install Plug-in

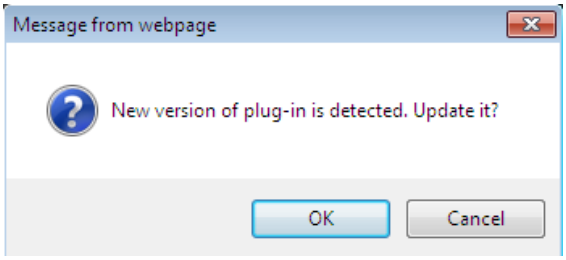


Figure 3-3 Install Plug-in (1)

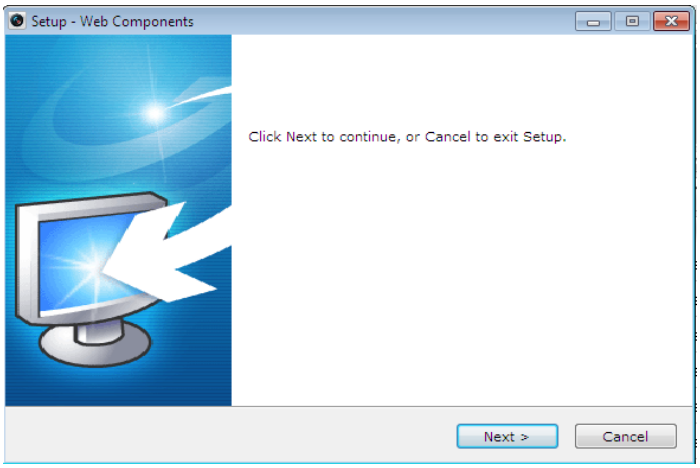


Figure 3-4 Install Plug-in (2)

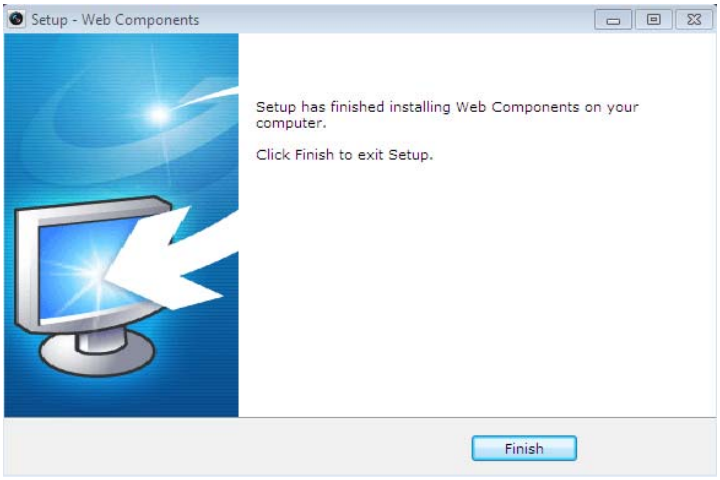


Figure 3-5 Install Plug-in (3)

Note: You may have to close the web browser to install the plug-in. Please reopen the web browser and log in again after installing the plug-in.

3.2 Accessing by Client Software

The product CD contains the client software. You can view the live video and manage the speed dome with the client software.

Follow the installation prompts to install the client software and WinPcap. The configuration interface and live view interface of client software are shown bellow.

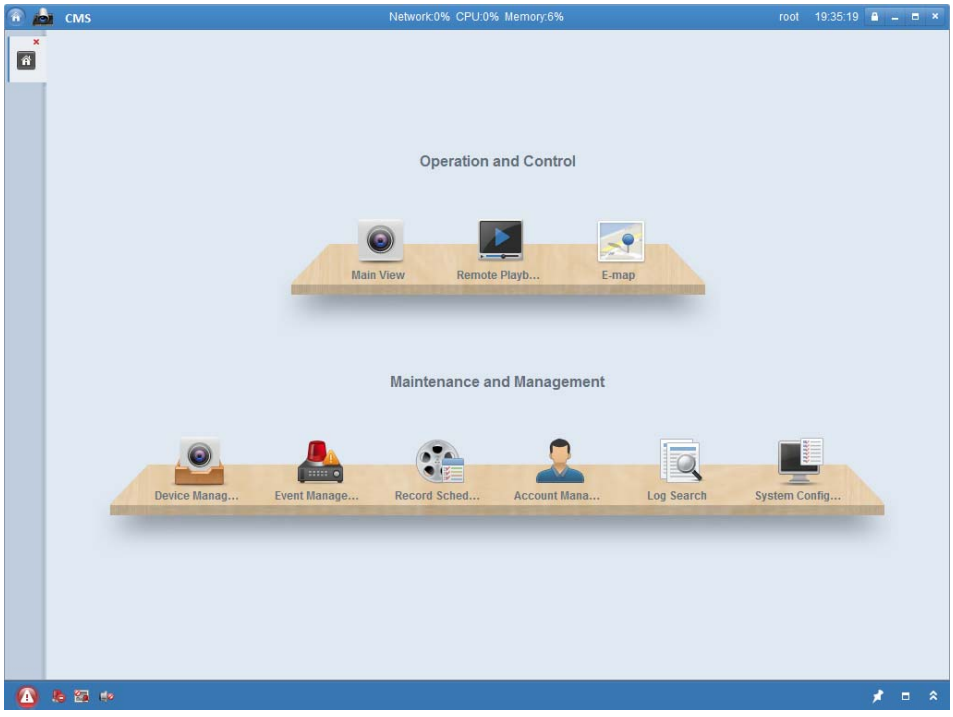


Figure 3-6 Client Control Panel

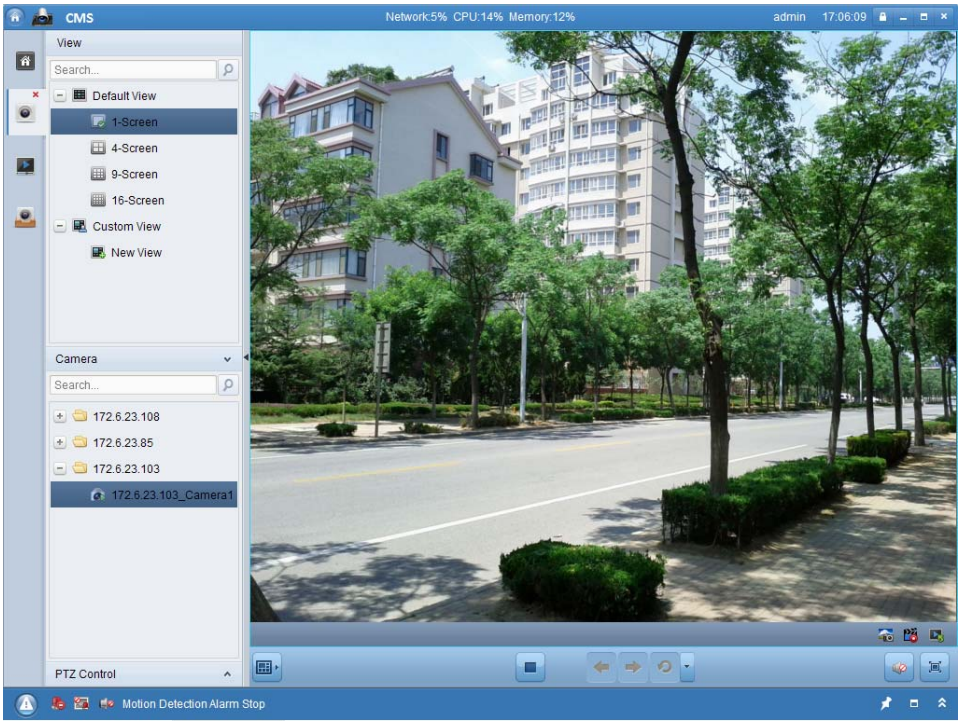


Figure 3-7 Client Live View Interface

Notes:

- If you use third party VMS software, please contact technical support of our branch for camera firmware.
- For detailed information about client software of our company, please refer to the user manual of the software. This manual mainly introduces accessing to the network speed dome by web browser.

Chapter 4 Live View

4.1 Live View Page

Before you start:

After the power is applied, the speed dome will perform self-test actions. It begins with lens actions and then pan and tilt movement.

Purpose:

The live video page allows you to view live video, capture images, realize PTZ control, set/call presets and configure video parameters.

Log in the network speed dome to enter the live view page, or you can click

on the menu bar of the main page to enter the live view page.

Descriptions of the live view page:

Figure 4-1 Live View Page

Menu Bar:

Click each tab to enter Live View, Playback, Log and Configuration page respectively.

Live View Window:

Display the live video.

Toolbar:

Operations on the live view page, e.g., live view, capture, record, audio on/off, two-way audio, etc.

PTZ Control:

Panning, tilting, focusing and zooming actions of the speed dome.

Preset/patrol:

Set and call the preset/patrol for the speed dome.

Live View Parameters:

Configure the image size and stream type of the live video.

4.2 Starting Live View

In the live view window as shown in Figure 4-2, click on the toolbar to start the live view of the speed dome.

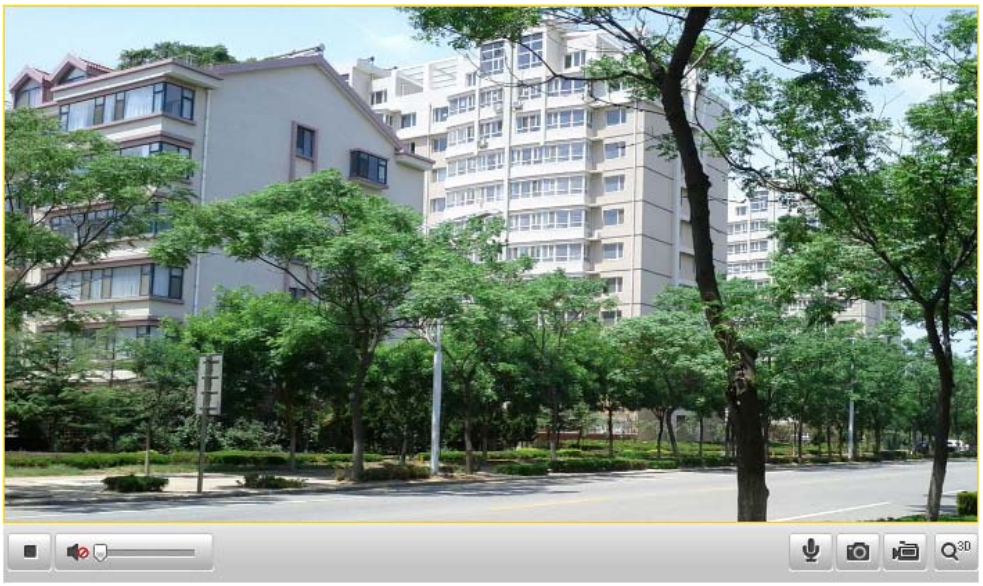


Figure 4-2 Start Live View

Table 4-1 Descriptions of the Toolbar

Icon	Description	Icon	Description
	Live view on		Live view off
	Manually capture the pictures		
	Manual recording off		Manual recording on
	Audio on and adjust volume		Mute
	Two-way audio off		Two-way audio on
	3D positioning		

Note: Before using the two-way audio or recording with audio functions, please set the **Stream Type** to **Video & Audio** referring to Section ***6.4.1 Configuring Video Settings***.

Full-screen Mode:

You can double-click on the live video to switch the current live view into full-screen

or return to normal mode from the full-screen.

3D Positioning:

Steps:

1. Click on the tool bar of live view interface.
2. Operate the 3D positioning function:
   - Left click a position of the live video. The corresponding position will be moved to the center of the live video.
   - Hold down the left mouse button and drag the mouse to the lower right on the live video. The corresponding position will be moved to the center of the live video and zoomed in.
   - Hold down the left mouse button and drag the mouse to the upper left on the live video. The corresponding position will be moved to the center of the live video and zoomed out.

Please refer to the following sections for more information:

- Configuring remote recording in Section ***7.2 Configuring Recording Schedule***.
- Setting the image quality of the live video in Section ***6.1 Configuring Local Parameters*** and Section ***6.4.1 Configuring Video Settings***.
- Setting the OSD text on live video in Section ***6.5.2 Configuring OSD Settings***.

4.3 Recording and Capturing Pictures Manually

In the live view interface, click on the toolbar to capture the live pictures or click to record the live video. The local saving paths of the captured pictures and clips can be set in the **Configuration > Local Configuration** interface.

To configure remote automatic recording, please refer to Section ***7.2 Configuring Recording Schedule***.

Note: The captured image will be saved as a JPEG file in your computer.

4.4 Operating PTZ Control

Purpose:

In the live view interface, you can use the PTZ control buttons to control panning, tilting and zooming.

4.4.1 PTZ Control Panel

On the live view page, click to show the PTZ control panel or click to

hide it.
Click the direction buttons to control the pan/tilt movements.
Click the zoom/iris/focus buttons to realize lens control.

Figure 4-3 PTZ Control Panel

Table 4-2 Descriptions of PTZ Control Panel

Button	Description
	Zoom in/out
	Focus near/far
	Iris open/close
	Adjust speed of pan/tilt movements

4.4.2 Setting / Calling a Preset

Purpose:
A preset is a predefined image position. For the defined preset, you can click the calling button to quickly view the desired image position.

- **Setting a Preset:**

Steps:
1. In the PTZ control panel, select a preset number from the preset list.

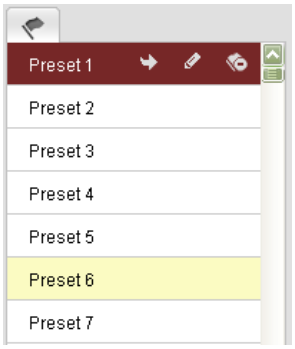


Figure 4-4 Setting a Preset

2. Use the PTZ control buttons to move the lens to the desired position.
   • Pan the speed dome to the right or left.

- Tilt the speed dome up or down.
- Zoom in or out.
- Refocus the lens.

3. Click to finish the setting of the current preset.
4. You can click to delete the preset.

Note: You can configure up to 256 presets.

- **Calling a Preset:**

In the PTZ control panel, select a defined preset from the list and click to call the preset.

Figure 4-5 Calling a Preset

Note: The following presets are predefined with special commands. You can only call them but not configure them. For instance, preset 99 is the “Start auto scan”. If you call the preset 99, the speed dome starts auto scan function.

Table 4-3 Special Presets

Special Preset	Function	Special Preset	Function
94	Remote reboot	114	Start park with preset 3
95	Reserved	115	Start park with preset 4
96	Stop a scan	116	Start park with preset 5
97	Start random scan	117	Start park with preset 6
98	Start frame scan	118	Start park with preset 7
99	Start pan scan	119	Start park with preset 8
100	Start tilt scan	120	IR LED Auto
101	Start panorama scan	121	Long Illumination Distance LEDs ON
102	Stop a park	122	Short Illumination Distance LEDs ON
103	Start park with pan scan	123	All LEDs ON
104	Start park with tilt scan	124	All LEDs OFF

105	Start park with panorama scan	125	Fan ON by Temperature Control
106	Start park with frame scan	126	Fan ON
107	Start park with random scan	127	Fan OFF
108	Start park with pattern scan	128	Heater ON by Temperature Control
109	Reserved	129	Heater OFF
110	Reserved	130	Start pattern
111	Reserved	131	Stop pattern
112	Start park with preset 1	132	Call pattern
113	Start park with preset 2	200	Initialize PTZ parameters

4.4.3 Setting / Calling a Patrol

Purpose:

A patrol is a memorized series of preset function. It can be configured and called on the patrol settings interface. There are up to 8 patrols for customizing. A patrol can be configured with 32 presets.

Before you start:

Please make sure that the presets you want to add into a patrol have been defined.

- **Setting a Patrol:**

Steps:

1. In the PTZ control panel, click to enter the patrol settings interface.
2. Select a patrol number from .
3. Click to enter the adding interface of preset as shown in Figure 4-6.

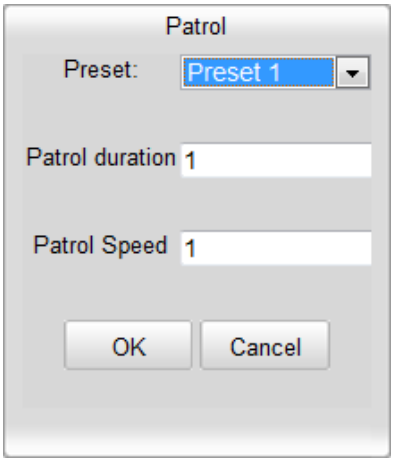


Figure 4-6 Adding Presets

4. Configure the preset number, patrol duration and patrol speed.

Name	Description
Patrol Duration	It is the duration staying on one patrol point. The speed dome moves to another patrol point after the patrol time.
Patrol Speed	It is the speed of moving from one preset to another.

5. Click OK to save a preset into the patrol.
6. Repeat the steps from 3 to 5 to add more presets.
7. Click to save all the patrol settings.

- **Calling a Patrol:**

In the PTZ control panel, select a defined patrol from Path 01 and click to call the patrol as shown in Figure 4-7.

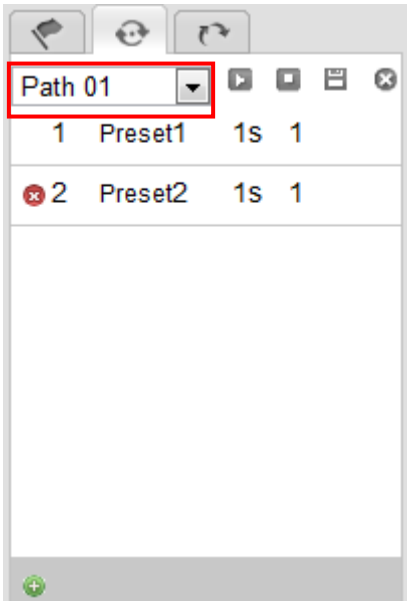


Figure 4-7 Calling a Preset

- **Buttons on the Patrols interface:**

Buttons	Description
	Save a patrol
	Call a patrol
	Stop a patrol
	Enter the adding interface of preset
	Modify a preset
	Delete a preset

	Delete all the presets in one patrol

4.4.4 Setting / Calling a Pattern

Purpose:

A pattern is a memorized series of pan, tilt and zoom functions. It can be called with system-defined preset.

Setting a Pattern:

Steps:

1. Call preset 130 to start a pattern.
2. Control the PTZ to set a motion route as the pattern route.
3. Call preset 131 to save the pattern.

Then you can call preset 132 to call the pattern.

4.5 Configuring Live View Parameters

- **Main stream/Sub-stream/Third stream:**

You can select Main Stream or Sub Stream as the stream type of live viewing. The main stream is with a relatively high resolution and needs much bandwidth. The sub-stream is with a low resolution and needs less bandwidth. The default setting of stream type is Main Stream.

Note: Please refer to Section ***6.4.1 Configuring Video Settings*** for more detailed parameter settings of the main stream and sub-stream respectively.

- **Image Size:**

You can scale up/down the live view image by clicking

. the image size can be 4:3, 16:9, original or auto.

Chapter 5 PTZ Configuration

Purpose:

The section lists the system-defined presets with PTZ functions. These presets cannot be edited but only called through a control device e.g. a DVR or web browser. To call the system-defined presets remotely, you can choose the preset number from the list in the PTZ control panel. Please refer to below tables for details.

5.1 Scan Mode

The corresponding scan modes and presets are as follows:

Scan Mode	Description
Stop Scanning	Call preset 96 to stop scanning.
Random Scan	Call preset 97. The speed dome scans randomly.
Frame Scan	Call preset 98. The speed dome scans by frames.
Pan Scan	Call preset 99. The speed dome scans in the pan direction.
Tilt Scan	Call preset 100. The speed dome scans in the tilt direction.
Panorama Scan	Call preset 101. The speed dome scans panoramically.

5.2 Park Action

The speed dome starts a predefined scan, pattern or preset after a period of inactivity. The corresponding park action modes and presets are as follows:

Mode	Description
Park Action OFF	Call preset 102 to stop park action.
Park Action with Pan Scan	Call preset 103.
Park Action with Tilt Scan	Call preset 104.
Park Action with Panorama Scan	Call preset 105.
Park Action with Frame Scan	Call preset 106.
Park Action with Random Scan	Call preset 107.
Park Action with Pattern	Call preset 108.
Park Action with Preset 1/2/3/4/5/6/7/8	Call preset 112/113/114/115/116/117/118/119.

Chapter 6 Speed Dome Configuration

6.1 Configuring Local Parameters

Note: The local configuration refers to the parameters of the live view and other operations using the web browser.

Steps:

1. Enter the Local Configuration interface:

   Configuration > Local Configuration

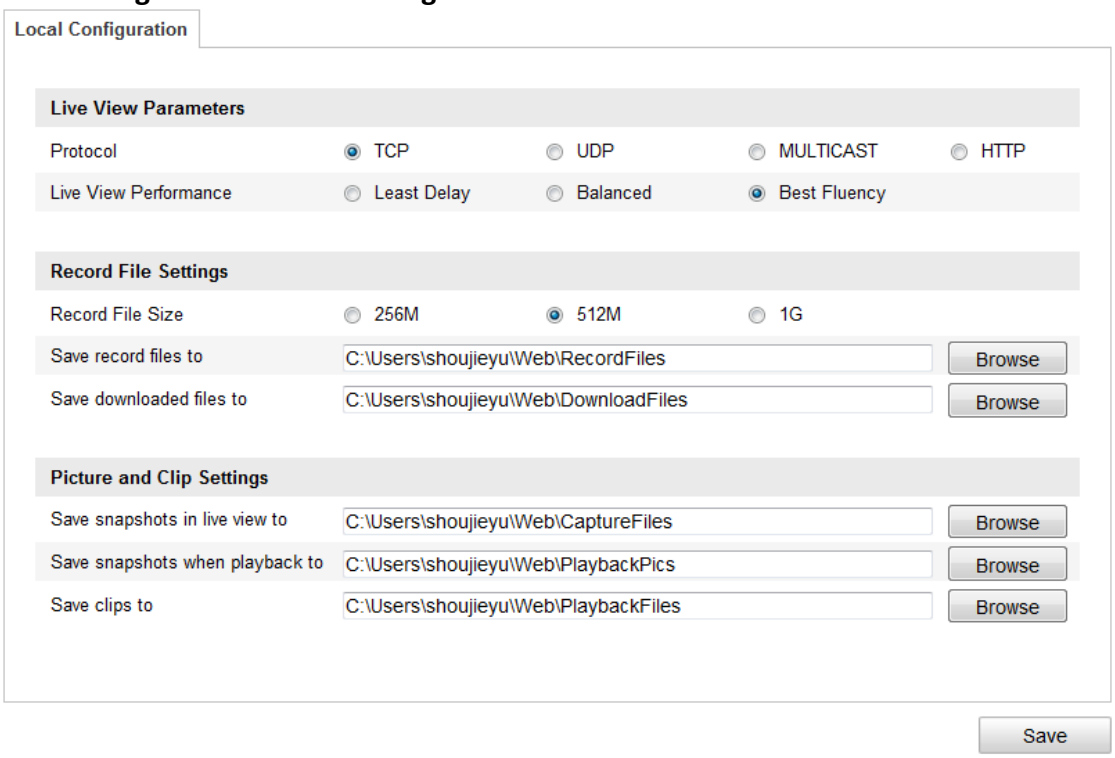


Figure 6-1 Local Configuration Interface

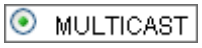
2. Configure the following settings:

- **Live View Parameters:** Set the protocol type, stream type, image size and live view performance.
  - **Protocol Type:** TCP, UDP, MULTICAST and HTTP are selectable.

    TCP: Ensures complete delivery of streaming data and better video quality, yet the real-time transmission will be affected.

    UDP: Provides real-time audio and video streams.

    HTTP: Allows the same quality as of TCP without setting specific ports for streaming under some network environments.

    MULTICAST: It's recommended to select the protocol type to 

    when using the Multicast function. For other information about Multicast,

refer to Section ***6.3.1 Configuring TCP/IP Settings***.

- **Live View Performance:** Set the live view performance to Least Delay, Balanced or Best Fluency.

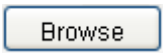
- **Record File Settings:** Set the saving path of the video files.
  - **Record File Size:** Select the packed size of manually recorded and downloaded video files. The size can be set to 256M, 512M or 1G.
  - **Save record files to:** Set the saving path for the manually recorded video files.
  - **Save downloaded files to:** Set the saving path for the downloaded video files in

interface.
- **Picture and Clip Settings:** Set the saving paths of the captured pictures and clipped video files.
  - **Save snapshots in live view to:** Set the saving path of the manually captured pictures in

interface.
  - **Save snapshots when playback to:** Set the saving path of the captured pictures in

interface.
  - **Save clips to:** Set the saving path of the clipped video files in

interface.

Note: You can click 

to change the directory for saving video files, clips and pictures.

3. Click

to save the settings.

6.2 Configuring Time Settings

Purpose:

You can follow the instructions in this section to configure the time which can be displayed on the video. There are Time Zone, Time Synchronization, Daylight Saving Time(DST) functions for setting the time. Time Synchronization consists of auto mode by Network Time Protocol(NTP) server and manual mode.

To enter the Time Settings interface:

Configuration > Basic Configuration > System > Time Settings

Or **Configuration > Advanced Configuration > System > Time Settings**

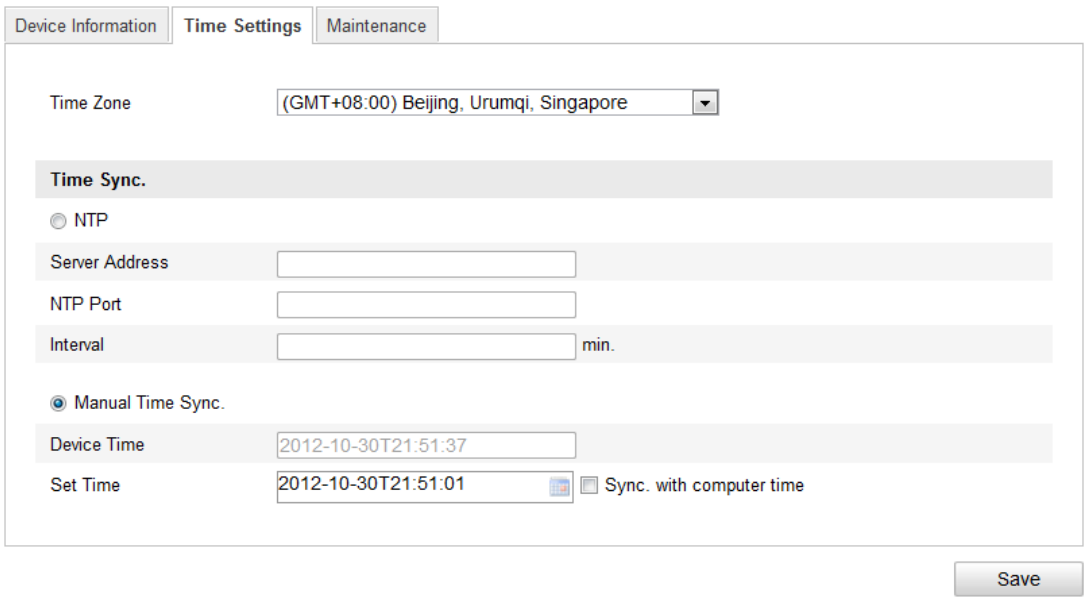


Figure 6-2 Time Settings

- **Configuring Time Synchronization by NTP Server**

(1) Check the checkbox to enable the **NTP** function.

(2) Configure the following settings:

Server Address: IP address of NTP server.

NTP Port: Port of NTP server, 123 by default.

Interval: The time interval between the two synchronizing actions by NTP server. It can be set from 1 to 10080 minutes.

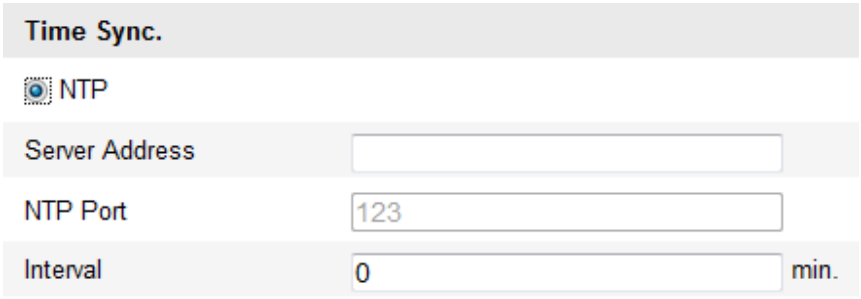


Figure 6-3 Time Sync by NTP Server

***Note*:** If the speed dome is connected to a public network, you should use a NTP server that has a time synchronization function, such as the server at the National Time Center (IP Address: 210.72.145.44). If the speed dome is set in a customized network, NTP software can be used to establish a NTP server for time synchronization.

- **Configuring Time Synchronization Manually**

(1) Check the **Manual Time Sync.** checkbox.

(2) Click to set the system time from the pop-up calendar.

(3) Click Save to save the settings.

Note: You can also check the **Sync. with computer time** checkbox to synchronize the time of the speed dome with the time of your computer.

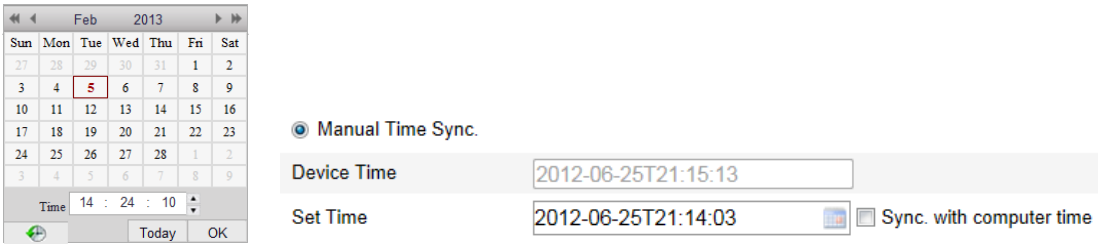


Figure 6-4 Time Sync Manually

- **Select the Time Zone**

  Purpose:

  When the speed dome is taken to another time zone, you can use the **Time Zone** function to adjust the time. The time will be adjusted according to the original time and the time difference between the two time zones.

  From the **Time Zone** drop-down menu as shown in Figure 6-5, select the Time Zone in which the speed dome locates.

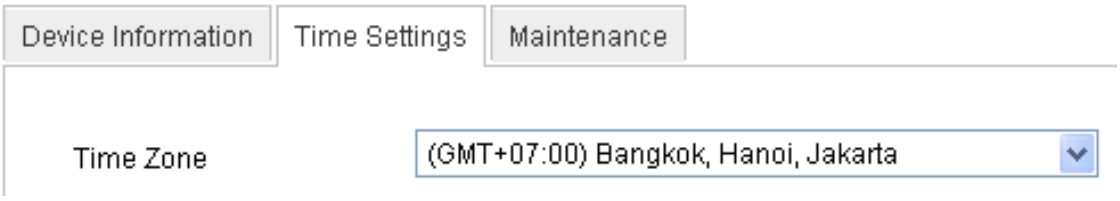


Figure 6-5 Time Zone Settings

- **Configuring Daylight Saving Time (summer time)**

  Purpose:

  If there is the habit of adjusting clocks forward in your country in certain time period of a year, you can turn this function on. The time will be adjusted automatically when the Daylight Saving Time(DST) comes.

  Steps:

  (1) Enter the **DST** interface by **Configuration > Advanced Configuration > System > DST**

  (2) Check Enable DST to enable the DST function.

  (3) Set the date of the DST period.

  (4) Click Save to save the settings.

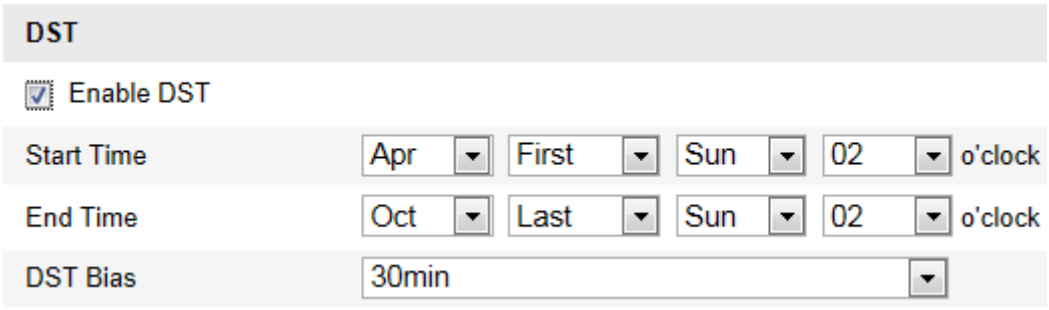


Figure 6-6 DST Settings

6.3 Configuring Network Settings

6.3.1 Configuring TCP/IP Settings

Purpose:

TCP/IP settings must be properly configured before you operate the speed dome over network. IPv4 and IPv6 are both supported.

Steps:

1. Enter TCP/IP Settings interface:

   Configuration > Basic Configuration > Network > TCP/IP

   Or **Configuration > Advanced Configuration > Network > TCP/IP**

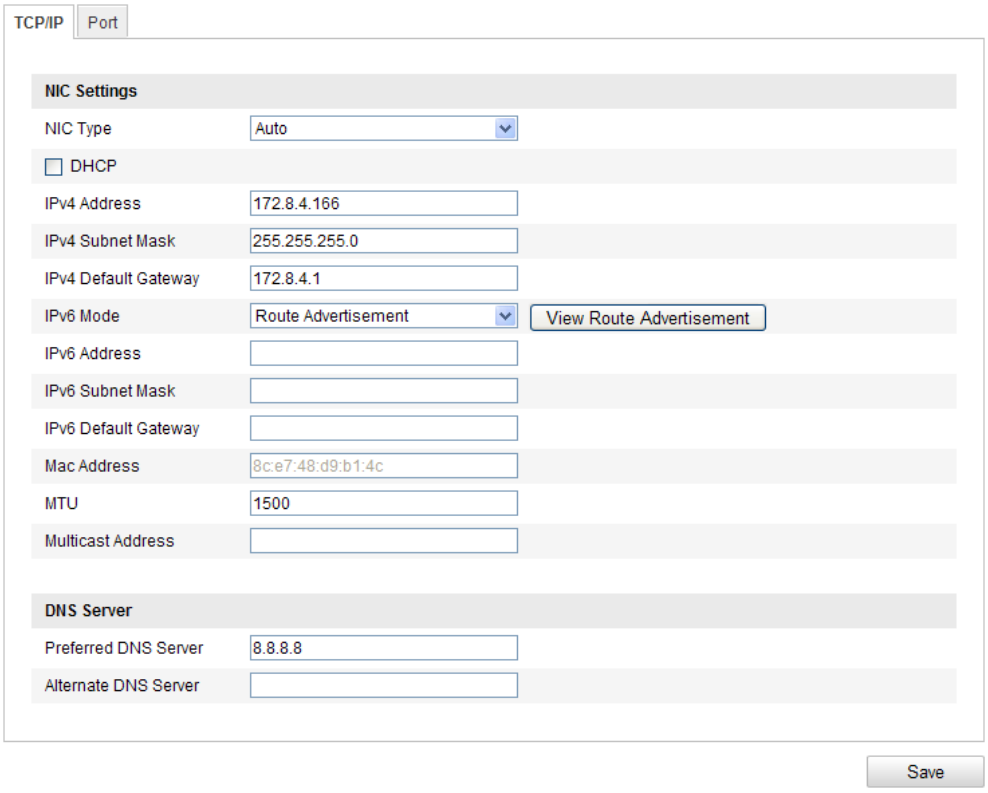


Figure 6-7 TCP/IP Settings

2. Configure the NIC settings, including the **IPv4(IPv6) Address**, **IPv4(IPv6) Subnet Mask** and **IPv4(IPv6) Default Gateway**.

3. Click Save to save the above settings.

***Notes*:**

- If the DHCP server is available, you can check ☐ DHCP to automatically obtain an IP address and other network settings from that server.
- The valid value range of Maximum Transmission Unit(MTU) is 500 ~ 9676. The default value is 1500.
- The Multicast sends a stream to the multicast group address and allows multiple clients to acquire the stream at the same time by requesting a copy from the multicast group address.
  Before utilizing this function, you have to enable the Multicast function of your router and configure the gateway of the network speed dome.
- If the DNS server settings are required for some applications (e.g., sending email), you should properly configure the **Preferred DNS Server** and **Alternate DNS server**.

Figure 6-8 DNS Server Settings

Note: The router must support the route advertisement function if you select **Route Advertisement** as the IPv6 mode.

6.3.2 Configuring Port Settings

Purpose:

If there is a router and you want to access the speed dome through Wide Area Network (WAN), you need to forward the 3 ports for the speed dome.

Steps:

1. Enter the Port Settings interface:
   Configuration > Basic Configuration > Network > Port
   Or **Configuration > Advanced Configuration > Network > Port**

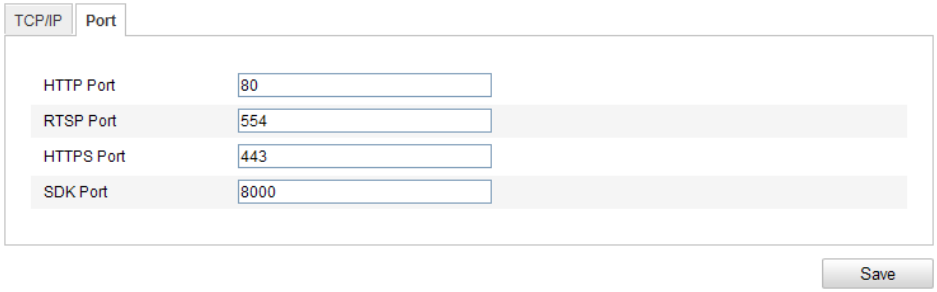


Figure 6-9 Port Settings

2. Set the HTTP port, RTSP port and port of the speed dome.

HTTP Port: The default port number is 80.
RTSP Port: The default port number is 554.
HTTPS Port: The default port number is 443.
SDK Port: The default port number is 8000.

3. Click Save to save the settings.

6.3.3 Configuring PPPoE Settings

Purpose:
If you have no router but only a modem, you can use Point-to-Point Protocol over Ethernet (PPPoE) function.
Steps:
1. Enter the PPPoE Settings interface:
Configuration >Advanced Configuration > Network > PPPoE

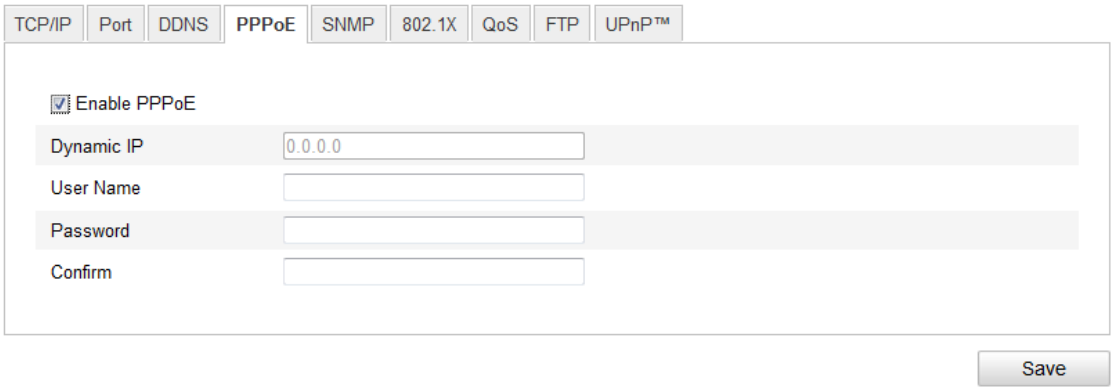


Figure 6-10 PPPoE Settings

2. Check the **Enable PPPoE** checkbox to enable this feature.
3. Enter **User Name**, **Password**, and **Confirm** password for PPPoE access.

Note: The User Name and Password should be assigned by your ISP.

4. Click Save to save and exit the interface.

6.3.4 Configuring DDNS Settings

Purpose:
If your speed dome is set to use PPPoE as its default network connection, you can use the Dynamic DNS (DDNS) for network access.
***Before you start*:**
Registration on the DDNS server is required before configuring the DDNS settings of the speed dome.
Steps:
1. Enter the DDNS Settings interface:

Configuration > Advanced Configuration > Network > DDNS

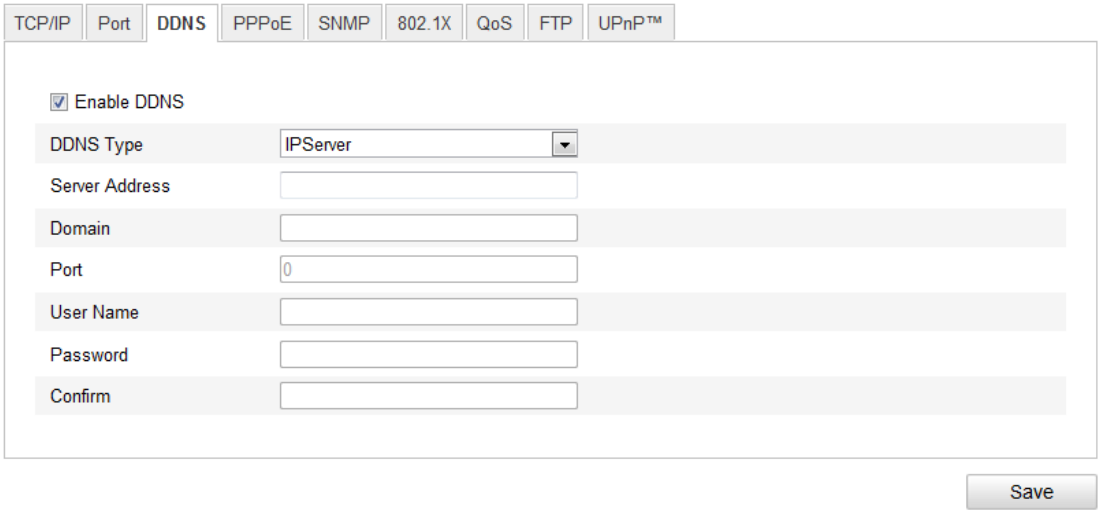


Figure 6-11 DDNS Settings

2. Check the **Enable DDNS** checkbox to enable this feature.
3. Select **DDNS Type**. Three DDNS types are selectable: IPServer, SIMPLEDDNS and DynDNS.
   - **DynDNS:**

   Steps:

   (1) Enter **Server Address** of DynDNS (e.g. members.dyndns.org).

   (2) In the **Domain** text field, enter the domain name obtained from the DynDNS website.

   (3) Enter the **Port** of DynDNS server.

   (4) Enter the **User Name** and **Password** registered on the DynDNS website.

   (5) Click Save to save the settings.

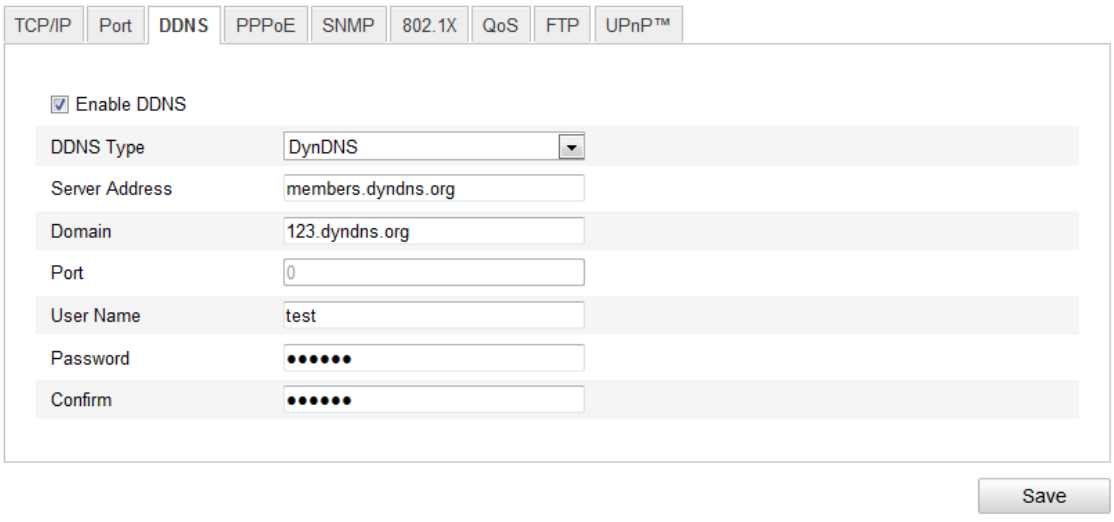


Figure 6-12 DynDNS Settings

- **IP Server:**

Steps:

(1) Enter the Server Address of the IP Server.

(2) Click Save to save the settings.

Note: The **Server Address** should be entered with the static IP address of the computer that runs the IP Server software. For the IP Server, you have to apply a static IP, subnet mask, gateway and preferred DNS from the ISP.

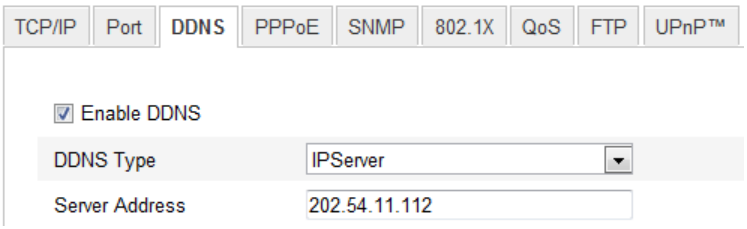


Figure 6-13 IPServer Settings

- **SIMPLEDDNS:**

Steps:

(1) Enter the Server Address: www.simpleddns.com.

(2) Enter the Domain name of the camera. The domain is the same with the device alias in the SIMPLEDDNS server.

(3) Click Save to save the settings.

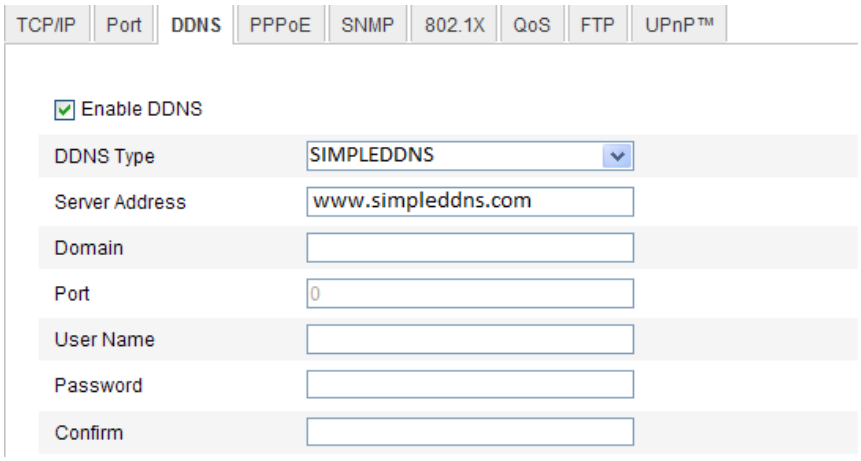


Figure 6-14 SIMPLEDDNS Settings

- **NO-IP:**

Steps:

(1) Enter **Server Address** of NO-IP.

(2) In the **Domain** text field, enter the domain name obtained from the NO-IP website.

(3) Enter the **Port** of NO-IP server.

(4) Enter the **User Name** and **Password** registered on the NO-IP website.

(5) Click Save to save the settings.

6.3.5 Configuring SNMP Settings

Purpose:

You can use SNMP to get speed dome status and parameters related information.

Before you start:

Before setting the SNMP, please use the SNMP software and manage to receive the speed dome information via SNMP port. By setting the Trap Address, the speed dome can send the alarm event and exception messages to the surveillance center.

Note: The SNMP version you select should be the same as that of the SNMP software.

Steps:

1. Enter the SNMP Settings interface:
   Configuration > Advanced Configuration > Network > SNMP

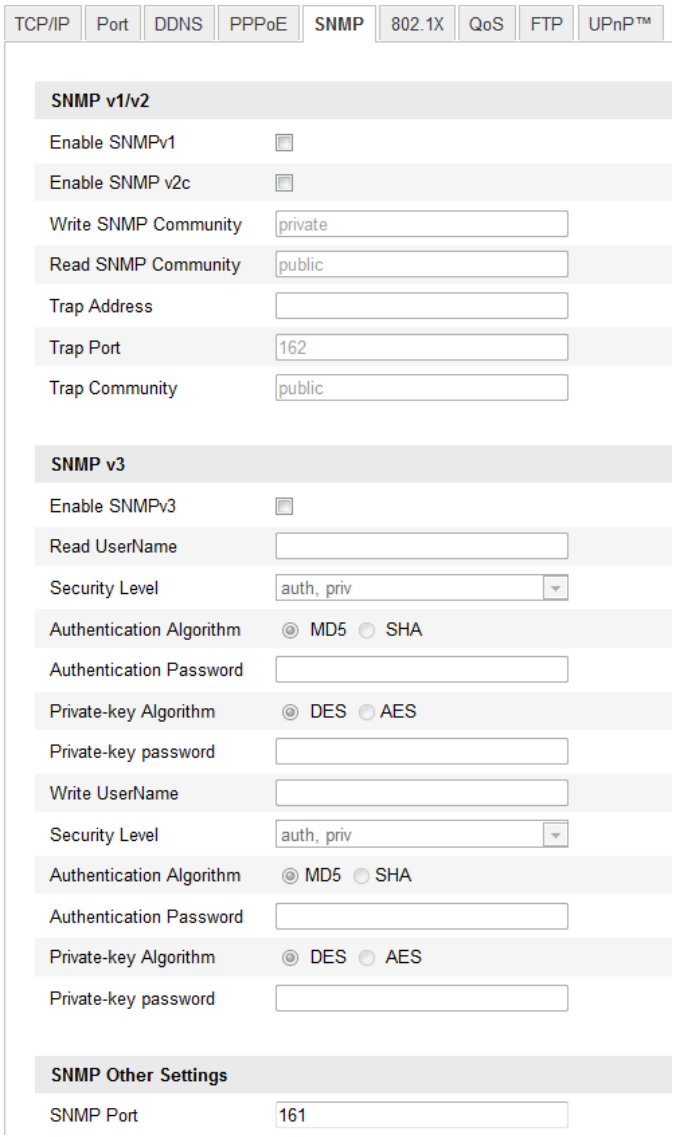


Figure 6-15 SNMP Settings

2. Check the corresponding version checkbox (Enable SNMP SNMPv1, Enable SNMP v2c, Enable SNMPv3) to enable the feature.
3. Configure the SNMP settings.
   Note: The configuration of the SNMP software should be the same as the settings you configure here.
4. Click Save to save and finish the settings.

6.3.6 Configuring 802.1X Settings

Purpose:

The speed dome supports IEEE 802.1X standard.

IEEE 802.1X is a port-based network access control. It enhances the security level of the LAN. When devices connect to this network with IEEE 802.1X standard, the authentication is needed. If the authentication fails, the devices don't connect to the network.

The protected LAN with 802.1X standard is shown as follows:

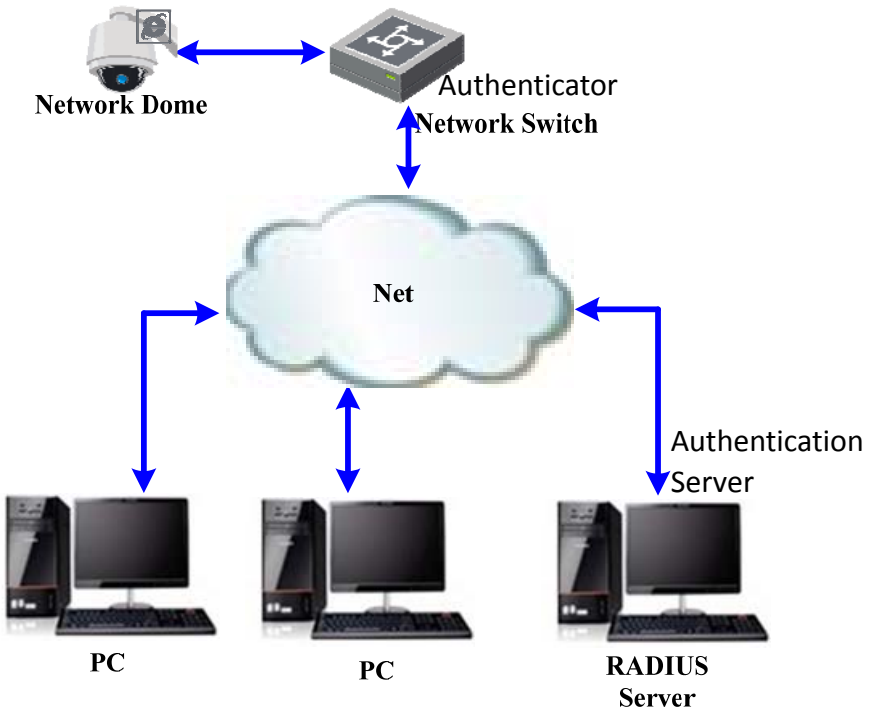


Figure 6-16 Protected LAN

- Before connecting the Network Camera to the protected LAN, please apply a digital certificate from a Certificate Authority.
- The network camera requests access to the protected LAN via the

authenticator (a switch).

- The switch forwards the identity and password to the authentication server(RADIUS server).
- The switch forwards the certificate of authentication server to the network camera.
- If all the information is validated, the switch allows the network access to the protected network.

Steps:

1. Connect the network camera to your PC directly with a network cable.
2. Enter the 802.1X Settings interface:
   Configuration > Advanced Configuration > Network > 802.1X

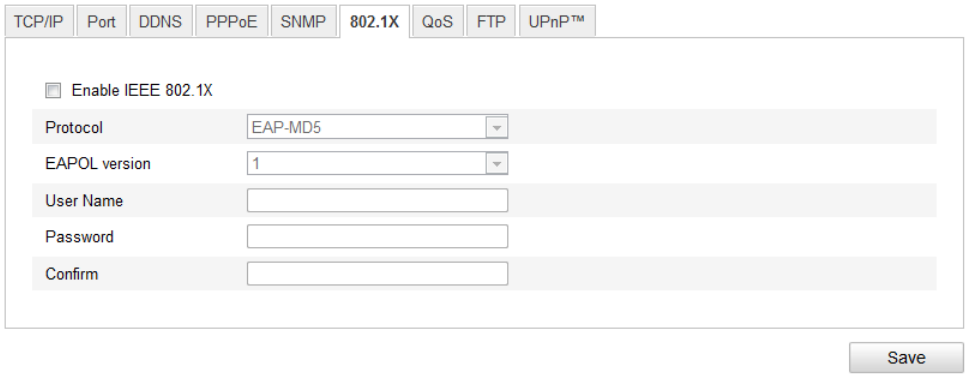


Figure 6-17 802.1X Settings

3. Check the **Enable IEEE 802.1X** checkbox to enable it.
4. Configure the 802.1X settings, including user name and password.
   Note: The EAP-MD5 version must be identical with that of the router or the switch.
5. Enter the user name and password (issued by the CA) to access the server.
6. Click Save to finish the settings.
   Note: The camera reboots when you save the settings.
7. After the configuration, connect the camera to the protected network.

6.3.7 Configuring QoS Settings

Purpose:

QoS (Quality of Service) can help solve the network delay and network congestion by configuring the priority of data sending.

Steps:

1. Enter the QoS Settings interface:
   Configuration >Advanced Configuration > Network > QoS

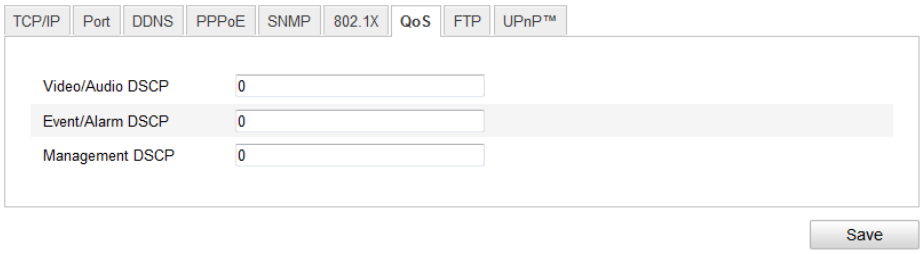


Figure 6-18 QoS Settings

2. Configure the QoS settings, including video/audio DSCP, event/alarm DSCP and Management DSCP.
   The valid DSCP value ranges from 0 to 63. The DSCP value is bigger, the priority is higher.
3. Click Save to save the settings.

***Notes*:**

- Make sure that you enable the QoS function of your network device (such as a router).
- It will ask for a reboot for the settings to take effect.

6.3.8 Configuring FTP Settings

Purpose:

You can set a FTP server and configure the following parameters for uploading captured pictures.

Steps:

1. Enter the FTP Settings interface:
   Configuration >Advanced Configuration > Network > FTP

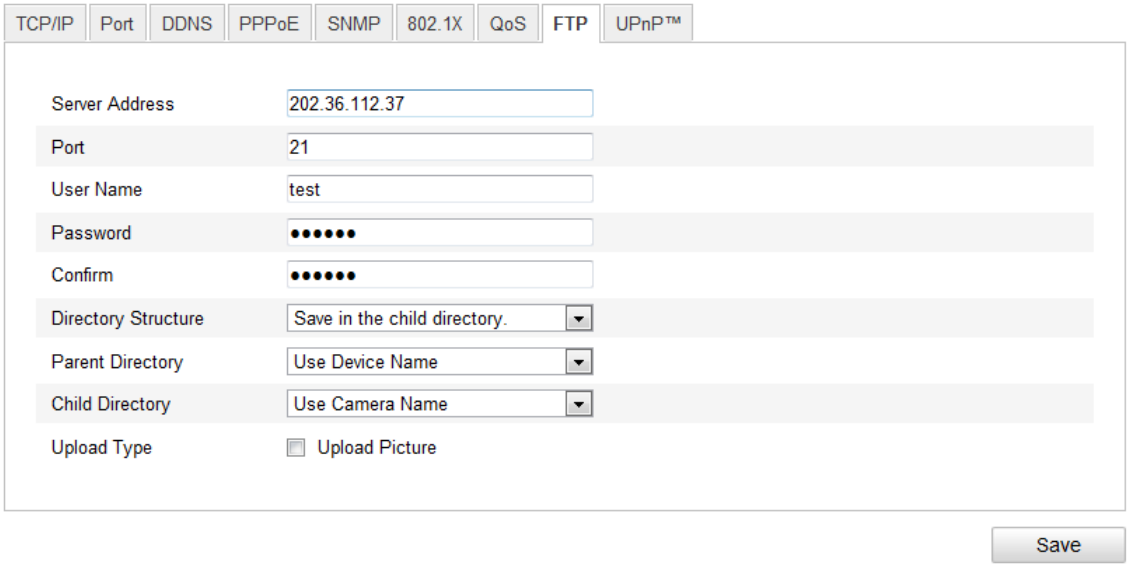


Figure 6-19 FTP Settings

2. Configure the FTP settings, including server address, port, user name, password, directory and upload type.
   - **Setting the directory in FTP server for saving files**:
     In the **Directory Structure** field, you can select the root directory, parent directory and child directory.
     - **Root directory**: The files will be saved in the root of FTP server.
     - **Parent directory**: The files will be saved in a folder in FTP server. The name of folder can be defined as shown in following Figure 6-20.

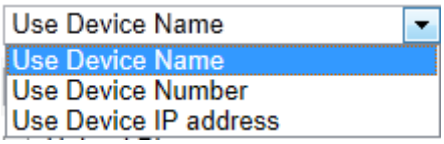


Figure 6-20 Parent Directory

     - **Child directory**: It is a sub-folder which can be created in the parent directory. The files will be saved in a sub-folder in FTP server. The name of folder can be defined as shown in following Figure 6-21.

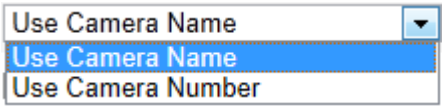


Figure 6-21 Child Directory

   - **Upload type:** To enable uploading the captured picture to the FTP server.

3. Click

to save the settings.

   Note: If you want to upload the captured pictures to FTP server, you also have to enable the continuous snapshot or event-triggered snapshot in **Snapshot** interface. For detailed information, please refer to the Section ***6.6.8 Configuring Snapshot Settings***.

6.3.9 Configuring UPnP Settings

Universal Plug and Play (UPnP) is a networking architecture that provides compatibility among networking equipment, software and other hardware devices. With the UPnP function enabled, you don't need to configure the port mapping for each port, and the camera is connected to the Wide Area Network via the router.

Steps:

1. Enter the UPnP settings interface.
   Configuration >Advanced Configuration > Network > UPnP
2. Add a **Friendly Name** and check the **Enable Port Mapping** checkbox.
3. Select the **Port Mapping Mode** as **Auto** or **Manual**.
4. If in Manual mode, you can check the checkbox of **HTTP**, **RTSP** or **SDK** port according to your demand.

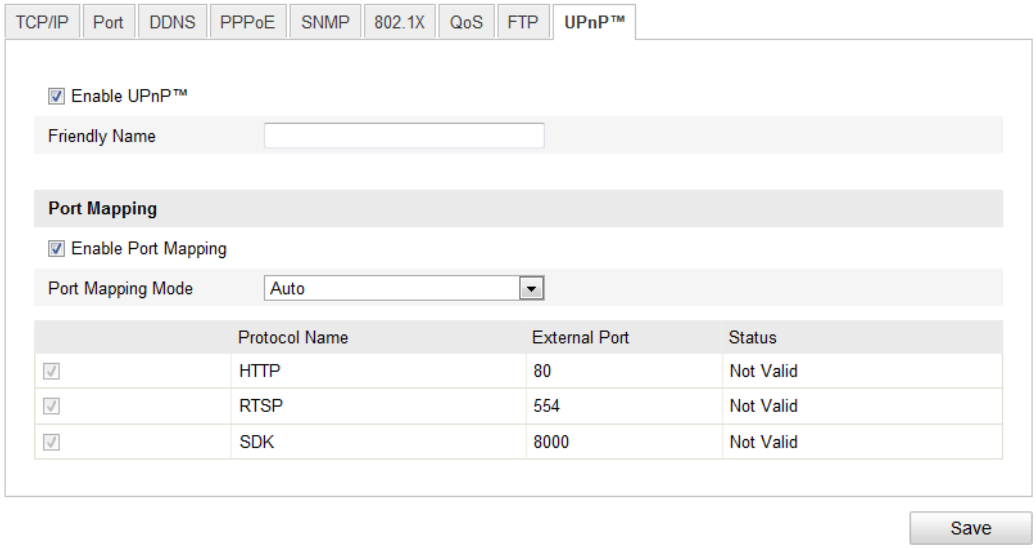


Figure 6-22 Configure UPnP Settings

5. Click Save to save the settings.

6.4 Configuring Video and Audio Settings

6.4.1 Configuring Video Settings

Steps:

1. Enter the Video Settings interface:
   Configuration >Basic Configuration > Video / Audio > Video
   Or **Configuration > Advanced Configuration > Video / Audio > Video**

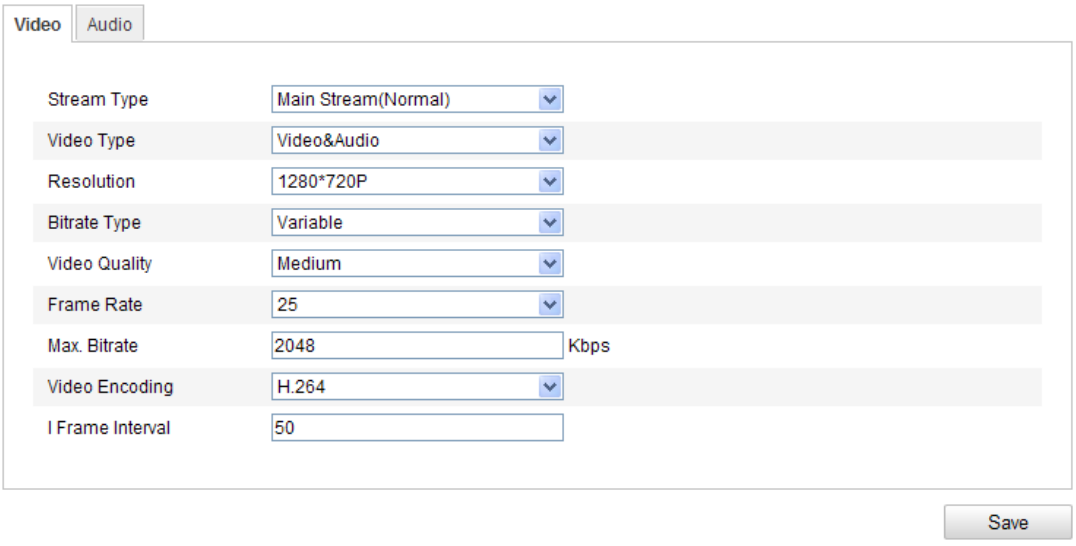


Figure 6-23 Configure Video Settings

2. Select the **Stream Type** of the speed dome to main stream (normal), sub-stream or third stream.

The main stream is usually for recording and live viewing with good bandwidth, and the sub-stream can be used for live viewing when the bandwidth is limited. Refer to the Section ***6.1 Configuring Local Parameters*** for switching the main stream and sub-stream for live viewing.

3. You can customize the following parameters for the selected main stream or sub-stream:

Video Type:

Select the stream type to video stream, or video & audio composite stream. The audio signal will be recorded only when the **Video Type** is **Video & Audio**.

Resolution:

Select the resolution of the video output.

Bitrate Type:

Select the bitrate type to constant or variable.

Video Quality:

When bitrate type is selected as **Variable**, 6 levels of video quality are selectable.

Frame Rate:

The frame rate is to describe the frequency at which the video stream is updated and it is measured by frames per second (fps). A higher frame rate is advantageous when there is movement in the video stream, as it maintains image quality throughout.

Max. Bitrate:

Set the max. bitrate to 32~16384 Kbps. The higher value corresponds to the higher video quality, but the higher bandwidth is required.

Video Encoding:

The **Video Encoding** standard can be set to H.264 or MJPEG.

I Frame Interval:

Set the I-Frame interval from 1 to 400.

4. Click Save to save the settings.

6.4.2 Configuring Audio Settings

Steps:

1. Enter the Audio Settings interface

Configuration > Basic Configuration > Video / Audio > Audio

Or **Configuration > Advanced Configuration > Video / Audio > Audio**

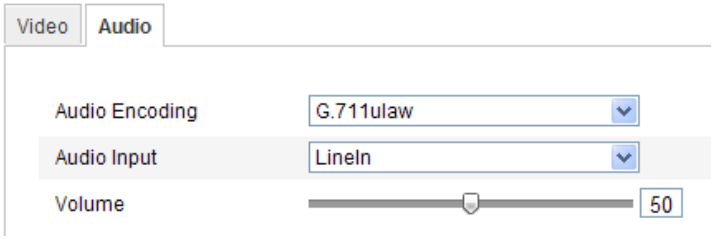


Figure 6-24 Audio Settings

2. Configure the following settings.
   Audio Encoding: G.711ulaw, G.711alaw and G.726 selectable.
   Audio Input: LineIn and MicIn selectable.
   Volume: 1 to 100 adjustable.
3. Click

to save the settings.

6.5 Configuring Image Settings

6.5.1 Configuring Display Settings

Purpose:
You can set the image quality of the speed dome, including brightness, contrast, saturation, sharpness, etc.
Note: The parameters in **Display Settings** interface vary depending on the models of speed dome.

Steps:
1. Enter the Display Settings interface:
   Configuration > Basic Configuration> Image> Display Settings
   Or **Configuration > Advanced Configuration> Image> Display Settings**
2. Set the image parameters of the speed dome.

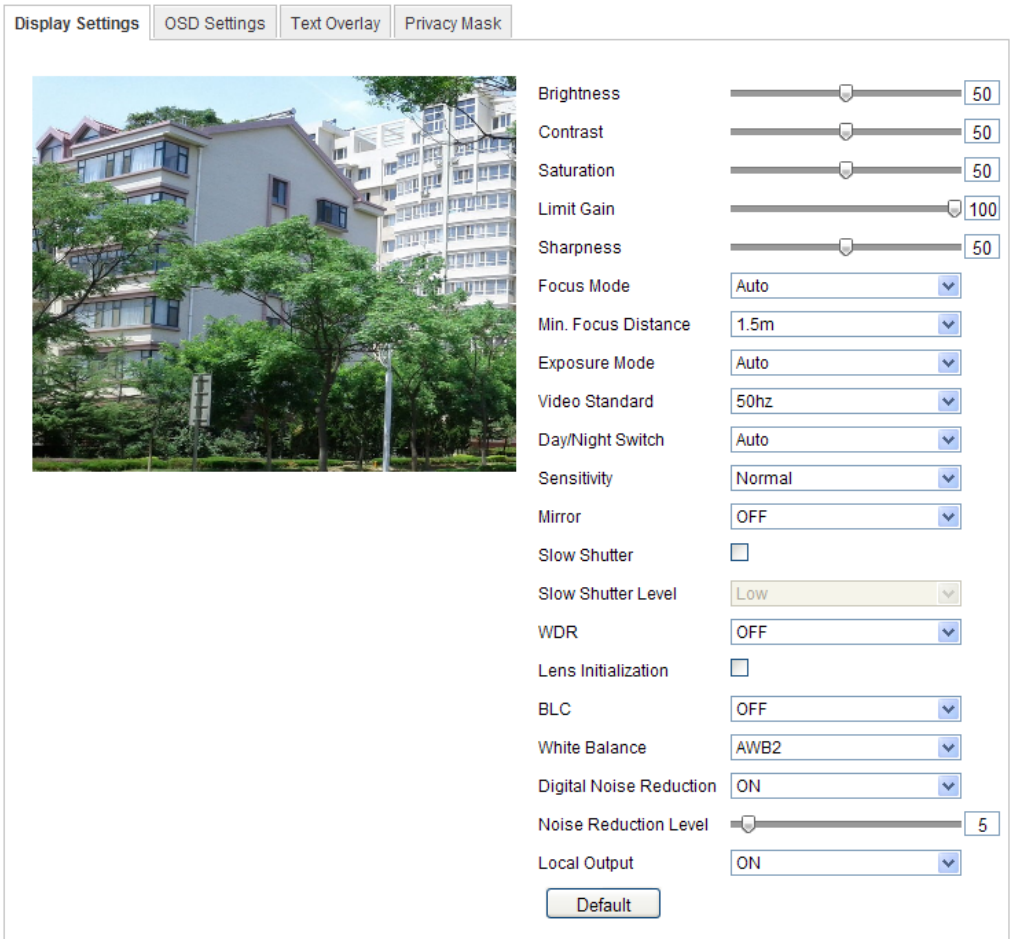


Figure 6-25 Display Settings

Brightness

This feature is used to adjust brightness of the image. The value ranges from 0 to 100.

Contrast

This feature enhances the difference in color and light between parts of an image. The value ranges from 0 to 100.

Saturation

This feature is used to adjust color saturation of the image. The value ranges from 0 to 100.

Limit Gain

This feature is used to adjust gain of the image. The value ranges from 0 to 100.

Sharpness

Sharpness function enhances the detail of the image by sharpening the edges in the image. The value ranges from 0 to 100.

Note: This function varies depending on the models of speed dome.

Focus Mode

The **Focus Mode** can be set to **Auto**, **Manual**, **Semi-auto**.

- **Auto:**

The speed dome focuses automatically at any time according to objects in the scene.

- **Semi-auto:**

The speed dome focuses automatically only once after panning, tilting and zooming.

- **Manual:**

In **Manual** mode, you need to use on the control panel to focus manually.

Min. Focus Distance

This function is used to limit the minimum focus distance. The value can be set to 1.5m, 3m, 6m, 10cm and 50cm.

Note: The minimum focus value varies depending on the models of speed dome.

Exposure Mode

The **Exposure Mode** can be set to **Auto, Iris Priority, Shutter Priority, Manual.**

- **Auto:**

The iris, shutter and gain values will be adjusted automatically according to the brightness of the environment.

- **Iris Priority:**

The value of iris needs to be adjusted manually. The shutter and gain values will be adjusted automatically according to the brightness of the environment.

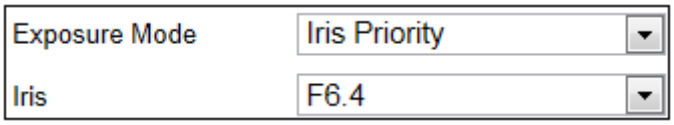


Figure 6-26 Manual Iris

- **Shutter Priority:**

The value of shutter needs to be adjusted manually. The iris and gain values will be adjusted automatically according to the brightness of the environment.

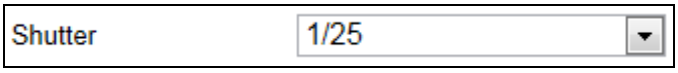


Figure 6-27 Manual Shutter

- **Gain Priority:**

The value of gain needs to be adjusted manually. The shutter and iris values will be adjusted automatically according to the brightness of the environment.

Figure 6-28 Manual Gain

- **Manual:**

In **Manual** mode, you can adjust the values of **Gain**, **Shutter**, **Iris** manually.

Note: This function varies depending on the models of speed dome.

Video Standard

You can set the **Video Standard** to 50hz(PAL) or 60hz(NTSC) according to the video system in your country.

Note: This function varies depending on the models of speed dome.

Day/Night Switch

The **Day/Night Switch** mode can be set to **Auto**, **Day** and **Night**.

- **Auto**:

In **Auto** mode, the day mode and night mode can switch automatically according to the light condition of environment. The switching sensitivity can be set to **Low**, **Normal**, **High**.

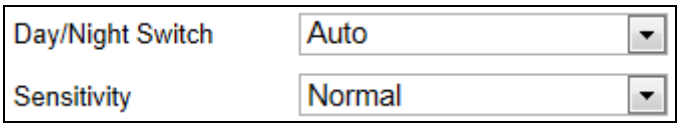


Figure 6-29 Auto Mode Sensitivity

- **Day**:

In **Day** mode, the speed dome displays color image. It is used for normal lighting conditions.

- **Night**:

In **Night** mode, the image is black and white. **Night** mode can increase the sensitivity in low light conditions.

Mirror

If you turn the **MIRROR** function on, the image will be flipped. It is like the image in the mirror. The flip direction can be set to OFF, LEFT/RIGHT, UP/DOWN or CENTER.

Note: This function varies depending on the models of speed dome.

WDR (Wide Dynamic Range)

The wide dynamic range (WDR) function helps the camera provide clear images even

under back light circumstances. When there are both very bright and very dark areas simultaneously in the field of view, WDR balances the brightness level of the whole image and provide clear images with details.

You can enable or disable the WDR function as shown in Figure 6-30. The wide dynamic level ranges from 0 to 100.

Figure 6-30 WDR

Note: This function varies depending on the models of speed dome.

Slow Shutter

This function can be used in underexposure condition. It lengthens the shutter time to ensure full exposure. The slow shutter value can be set to **Low**, **Normal** and **High**.

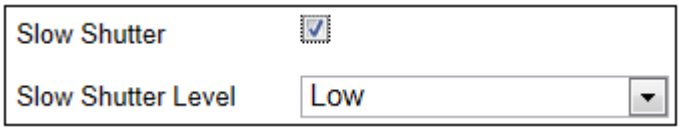


Figure 6-31 Slow Shutter

Lens Initialization

The lens operates the movements for initialization when you check the check box of **Lens Initialization.**

BLC

If there's a bright backlight, the subject in front of the backlight appears silhouetted or dark. Enabling **BLC**(back light compensation) function can correct the exposure of the subject. But the backlight environment is washed out to white.

White Balance

The **White Balance** mode can be set to **Auto**, **MWB**, **Outdoor**, **Indoor**, **Fluorescent Lamp**, **Sodium Lamp** and **Auto-Track**.

- **Auto**:

In **Auto** mode, the camera retains color balance automatically according to the current color temperature.

- **Manual White Balance:**

In **MWB** mode, you can adjust the color temperature manually to meet your own demand as shown in Figure 6-32.

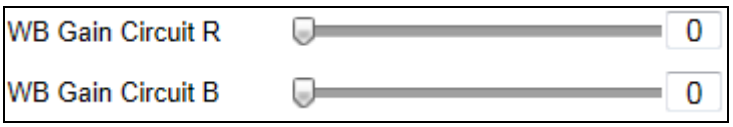


Figure 6-32 Manual White Balance

- **Outdoor**

You can select this mode when the speed dome is installed in outdoor environment.

- **Indoor**

You can select this mode when the speed dome is installed in indoor environment.

- **Fluorescent Lamp**

You can select this mode when there are fluorescent lamps installed near the speed dome.

- **Sodium Lamp**

You can select this mode when there are sodium lamps installed near the speed dome.

- **Auto-Track**

In **Auto-Track** mode, white balance is continuously being adjusted in real-time according to the color temperature of the scene illumination.

Note: This function varies depending on the models of speed dome.

3D Digital Noise Reduction

You can enable or disable the 3D **Digital Noise Reduction** function as shown in Figure 6-33. The level ranges from 0 to 100.

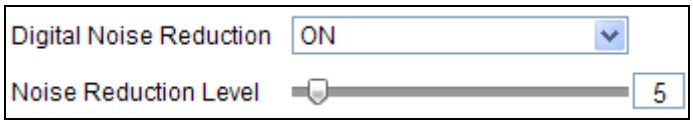


Figure 6-33 3D Digital Noise Reduction

Note: This function varies depending on the models of speed dome.

Local Output

You can select the output mode to ON or OFF.

IR LED Mode

Call the system-defined presets to adjust the mode of IR light. The corresponding presets and IR LED modes are as follows:

IR LED Mode	Description
Auto	Call preset 120. The IR LEDs are turned on/off automatically.
Long Illumination Distance LEDs ON	Call preset 121. The two IR LEDs in the first row are turned on.

Short Illumination Distance LEDs ON	Call preset 122. The four IR LEDs in the second and third rows are turned on.
All LEDs ON	Call preset 123. All the IR LEDs are turned on.
All LEDs OFF	Call preset 124. All the IR LEDs are turned off.

Fan and Heater Mode

Call the system-defined presets to adjust the mode of fan or heater. The corresponding modes and presets are as follows:

Mode	Description
Fan ON by Temperature Control	Call preset 125. The fan is controlled automatically by the temperature in the speed dome.
Fan ON	Call preset 126. Turn on the fan.
Fan OFF	Call preset 127. Turn off the fan.
Heater ON by Temperature Control	Call preset 128. The heater is controlled automatically by the temperature in the speed dome.
Heater OFF	Call preset 129. Turn off the heater.

6.5.2 Configuring OSD Settings

Purpose:

The speed dome supports following on screen displays:

Time: Supports for time display.

Camera Name: Identifies the name of speed dome.

You can customize the on screen display of time.

Steps:

1. Enter the OSD Settings interface:
   Configuration > Advanced Configuration > Image > OSD Settings

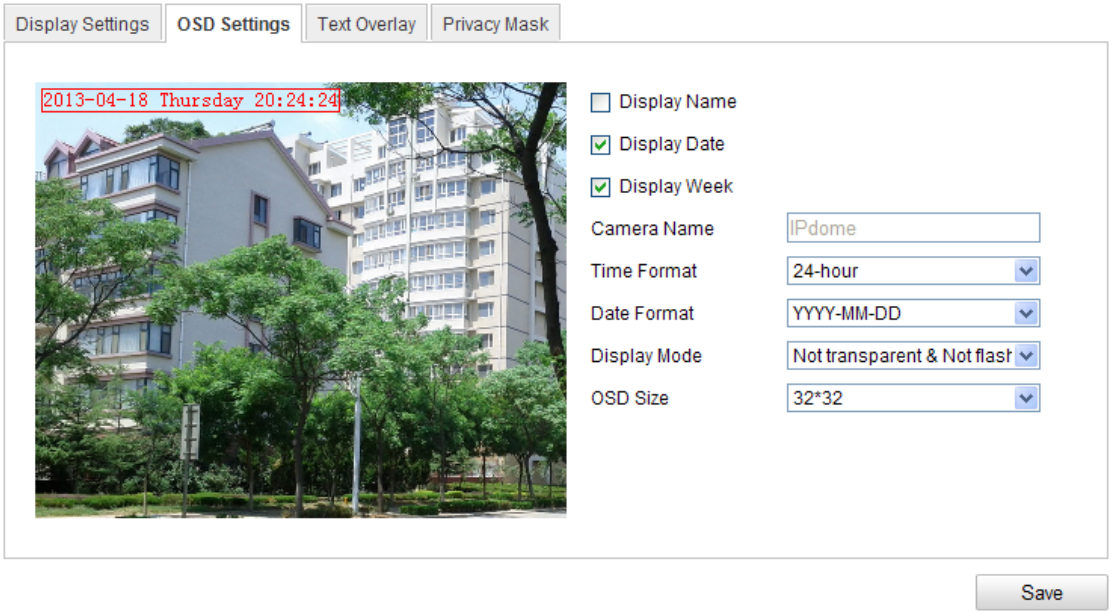


Figure 6-34 OSD Settings

2. Check the corresponding checkbox to select the display of speed dome name, date or week if required.
3. Edit the speed dome name in the text field of **Camera Name**.
4. Select from the drop-down list to set the time format, date format, display mode and OSD size.
5. You can use the mouse to click and drag the text frame in the live view window to adjust the OSD position.

Figure 6-35 Adjust OSD Location

6. Click Save to activate above settings.

6.5.3 Configuring Text Overlay Settings

Purpose:

You can customize the text overlay.

Steps:

1. Enter the Text Overlay Settings interface:
   Configuration > **Advanced Configuration** > **Image** > **Text Overlay**
2. Check the checkbox in front of textbox to enable the on-screen display.
3. Input the characters in the textbox.
4. Use the mouse to click and drag the red text frame Text in the live view window to adjust the text overlay position.
5. Click Save.

Note: There are up to 4 text overlays configurable.

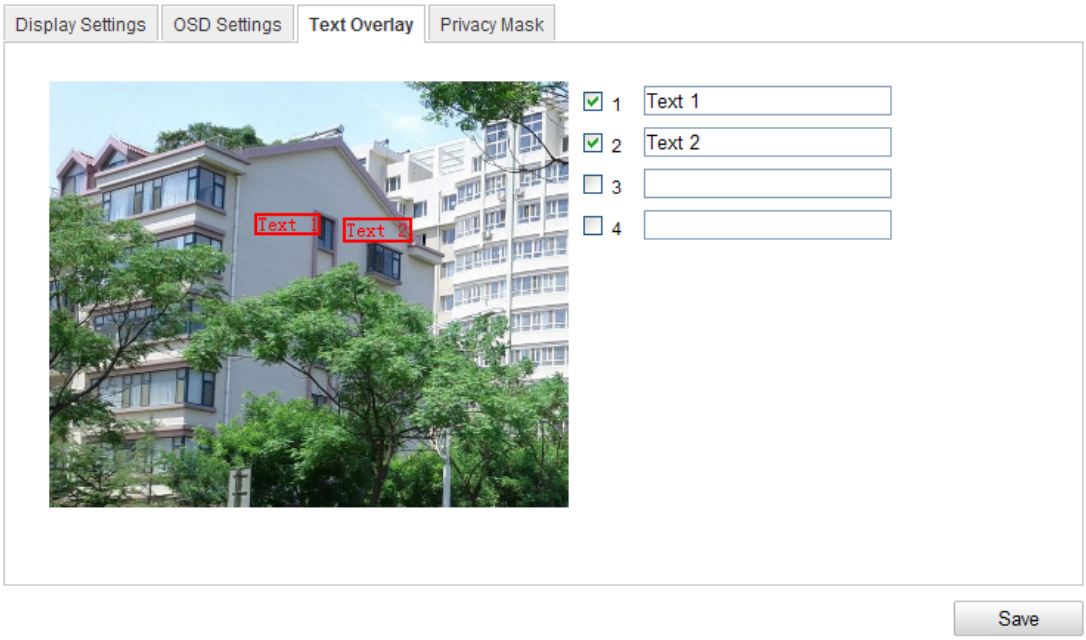


Figure 6-36 Text Overlay Settings

6.6 Configuring and Handling Alarms

Purpose:

This section explains how to configure the network speed dome to respond to alarm events, including motion detection, external alarm input, tamper-proof and

exception. These events can trigger the alarm actions, such as Notify Surveillance Center, Send Email, Trigger Alarm Output, etc.
For example, when an external alarm is triggered, the network speed dome sends a notification to an e-mail address.

6.6.1 Configuring Motion Detection

Purpose:
Motion detection is a feature which can trigger alarm actions and actions of recording videos when the motion occurred in the surveillance scene.
Steps:
1. Set the Motion Detection Area.
   Steps:
   (1) Enter the motion detection settings interface
   Configuration > Advanced Configuration> Events > Motion Detection
   (2) Check the checkbox of **Enable Motion Detection**.

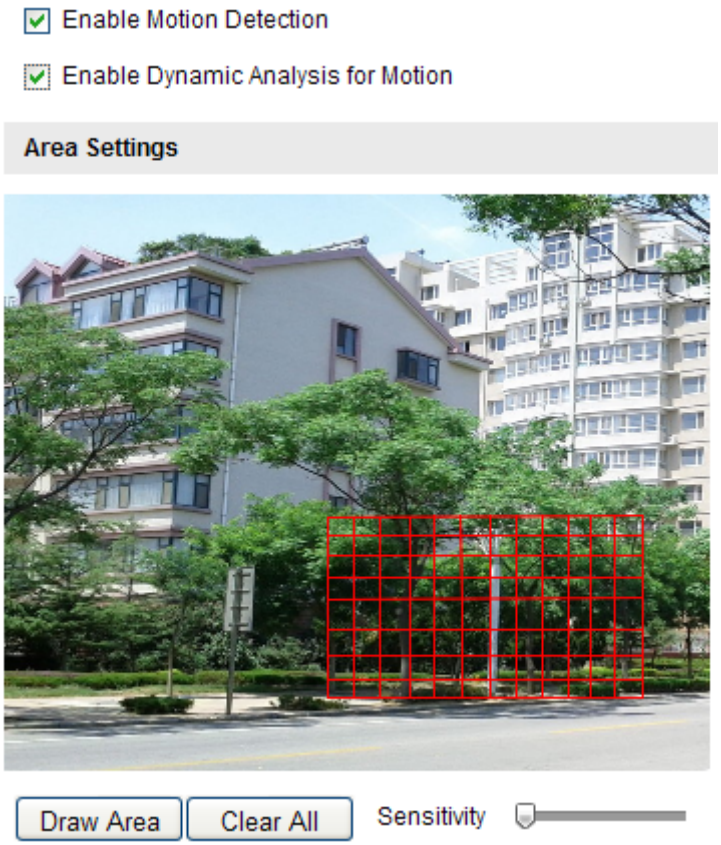


Figure 6-37 Enable Motion Detection

(3) Click

. Click and drag the mouse on the live video image to draw a motion detection area.

Note: You can draw up to 8 motion detection areas on the same image.

(4) Click Stop Drawing to finish drawing.

Note: You can click Clear All to clear all of the areas.

(5) Move the slider Sensitivity to set the sensitivity of the detection.

2. Set the Arming Schedule for Motion Detection.

Steps:

(1) To edit the arming schedule as shown in Figure 6-39, click Edit in Figure 6-38.

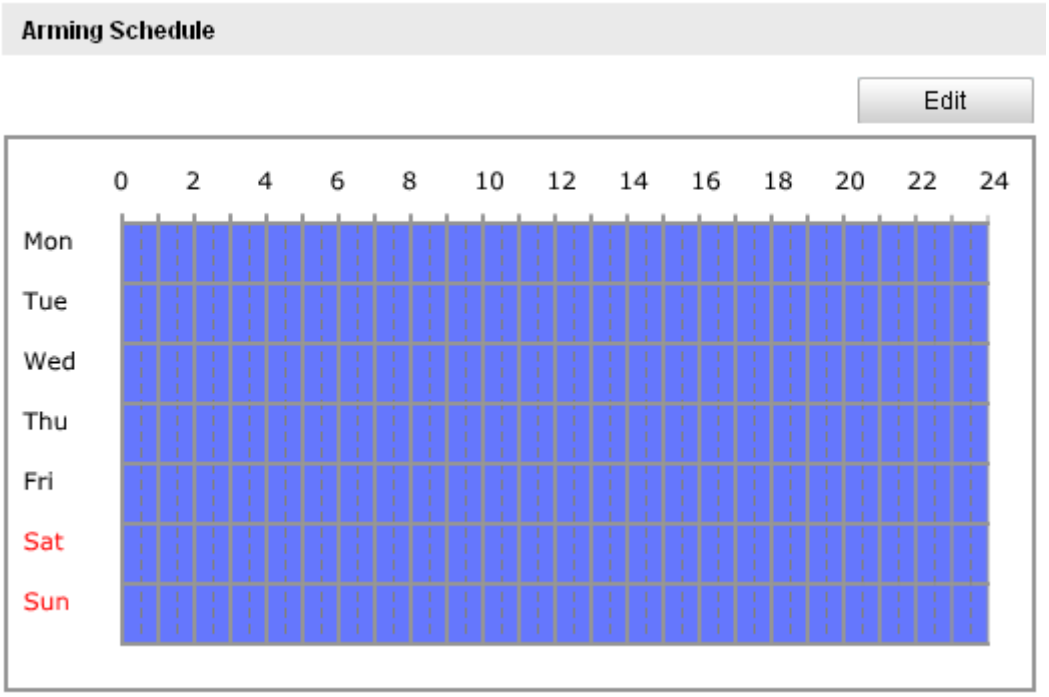


Figure 6-38 Arming Schedule

(2) Choose the day you want to set the arming schedule as shown in Figure 6-39.

(3) Click to set the time period for the arming schedule.

(4) After you set the arming schedule, you can click Copy to copy the schedule to other days (Optional).

(5) Click OK to save the settings.

Note: The time of each period can't be overlapped. Up to 4 periods can be configured for each day.

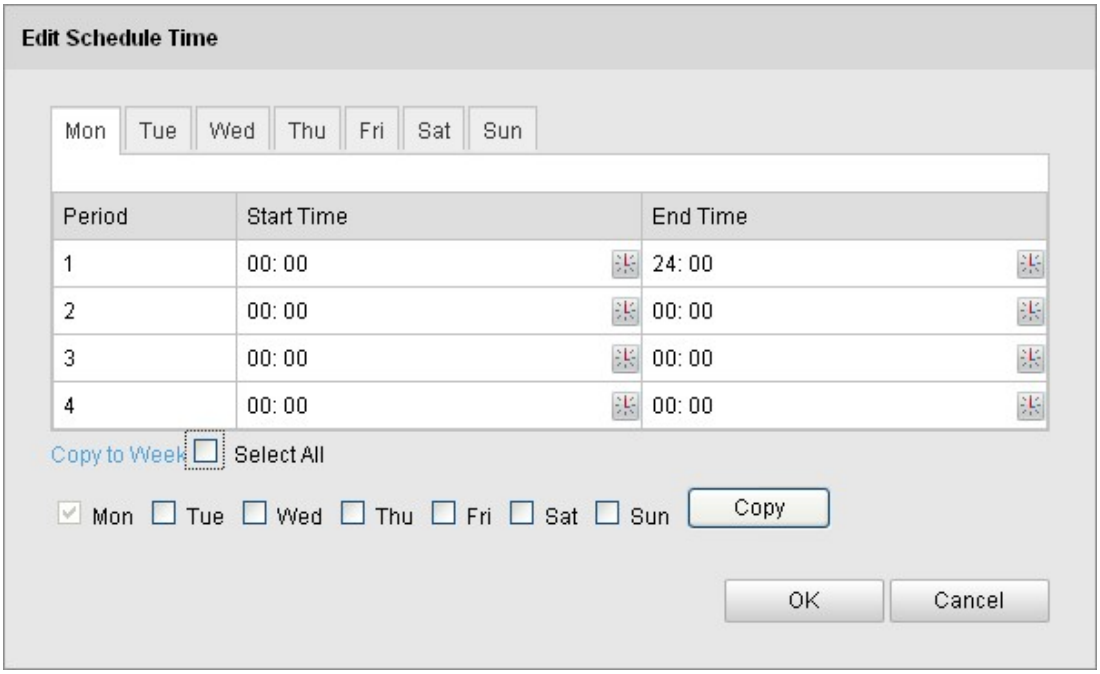


Figure 6-39 Arming Time Schedule

3. Set the Alarm Actions for Motion Detection.

Purpose:

You can specify the linkage method when an event occurs. The following contents are about how to configure the different types of linkage method.

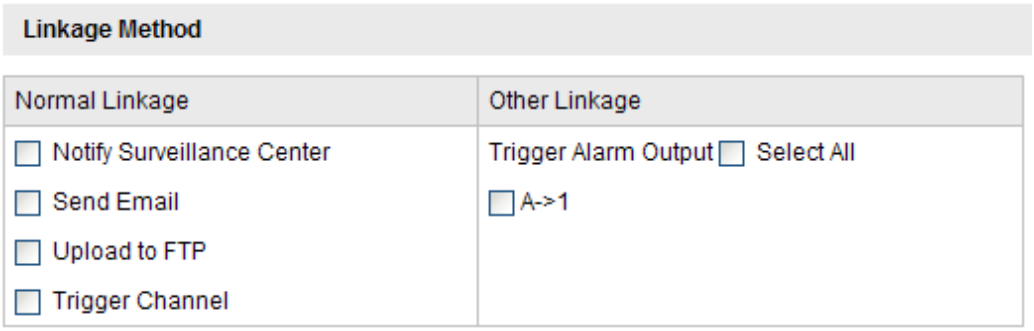


Figure 6-40 Linkage Method

Check the checkbox to select the linkage method. Notify surveillance center, send email, upload to FTP, trigger channel and trigger alarm output are selectable.

- **Notify Surveillance Center**

Send an exception or alarm signal to remote management software when an event occurs.

- **Send Email**

Send an email with alarm information to a user or users when an event occurs.

Note: To send the Email when an event occurs, you need to refer to Section

6.6.7 Configuring Email Settings to set the Email parameters.

- **Upload to FTP**

Capture the image when an alarm is triggered and upload the picture to a FTP server.

Note: You need a FTP server and set FTP parameters first. Refer to Section ***6.3.8 Configuring FTP Settings*** for setting FTP parameters.

- **Trigger Channel**

Record a video when an event occurs.

Note: You have to set the recording schedule to realize this function. Please refer to Section ***7.2 Configuring Recording Schedule*** for settings the recording schedule.

- **Trigger Alarm Output**

Trigger one or more external alarm outputs when an event occurs.

Note: To trigger an alarm output when an event occurs, please refer to Section ***6.6.5 Configuring Alarm Output*** to set the alarm output parameters.

6.6.2 Configuring Tamper-proof Alarm

Purpose:

You can configure the speed dome to trigger the alarm actions when the lens is covered.

Steps:

1. Enter the Tamper-proof Settings interface:
   Configuration > Advanced Configuration > Events > Tamper-proof

Figure 6-41 Tamper-proof Alarm

2. Check **Enable Tamper-proof** checkbox to enable the tamper-proof detection.
3. Set the tamper-proof area. Refer to *Step* ***1 Set the Motion Detection Area*** in Section ***6.6.1 Configuring Motion Detection***.
4. Click Edit to edit the arming schedule for tamper-proof. The arming schedule configuration is the same as the setting of the arming schedule for motion detection. Refer to *Step* ***2 Set the Arming Schedule for Motion Detection*** in Section ***6.6.1 Configuring Motion Detection***.
5. Check the checkbox to select the linkage method taken for the tamper-proof. Notify surveillance center, send email and trigger alarm output are selectable. Please refer to *Step* ***3 Set the Alarm Actions for Motion Detection*** in Section ***6.6.1 Configuring Motion Detection***.
6. Click Save to save the settings.

6.6.3 Configuring External Alarm Input

Steps:

1. Enter the Alarm Input Settings interface:
   Configuration > Advanced Configuration> Events > Alarm Input:
2. Choose the alarm input No. and the Alarm Type. The alarm type can be NO

(Normally Open) and NC (Normally Closed).

3. Edit the name in

to set a name for the alarm input (optional).

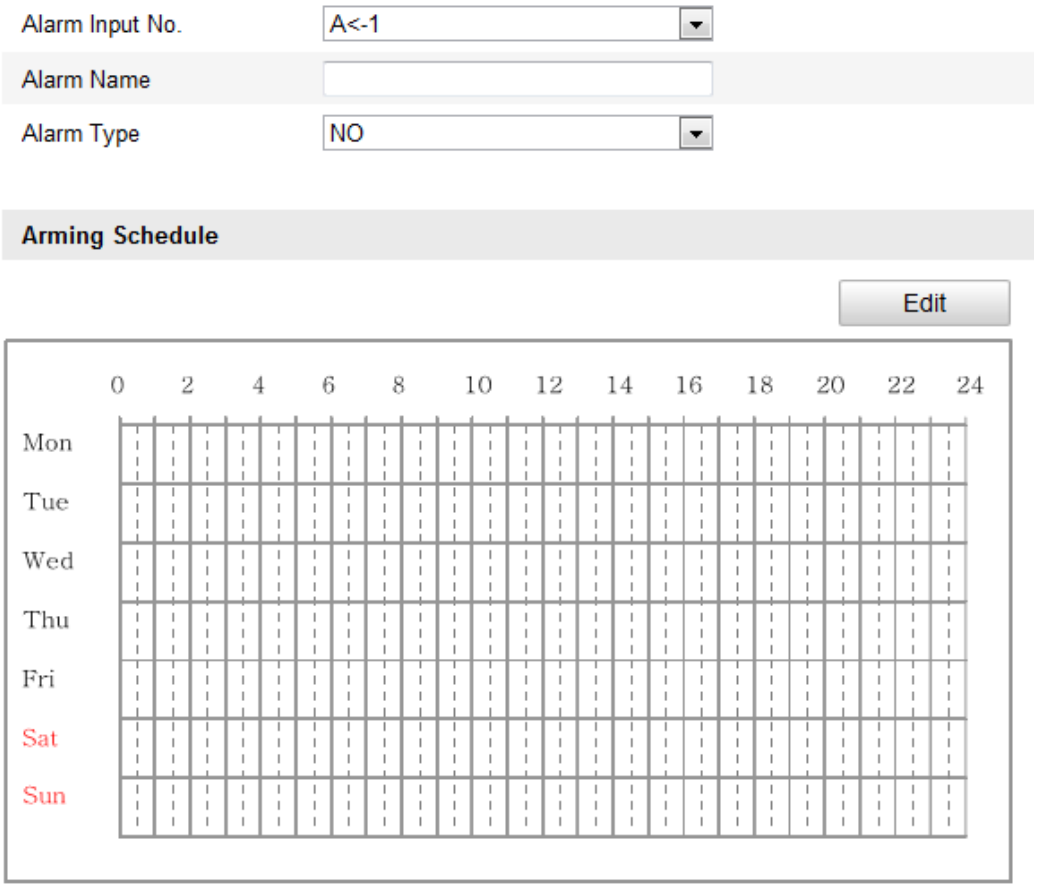


Figure 6-42 Alarm Input Settings

4. Click

to set the arming schedule for the alarm input. Refer to *Step* ***2 Set the Arming Schedule for Motion Detection*** in Section ***6.6.1 Configuring Motion Detection***.
5. Check the checkbox to select the linkage method taken for the alarm input. Refer to *Step* ***3 Set the Alarm Actions for Motion Detection*** in Section ***6.6.1 Configuring Motion Detection***.
6. You can also choose the PTZ linking for the alarm input. Check the relative checkbox and select the No. to enable Preset Calling, Patrol Calling or Pattern Calling.
7. You can copy your settings to other alarm inputs.
8. Click

to save the settings.

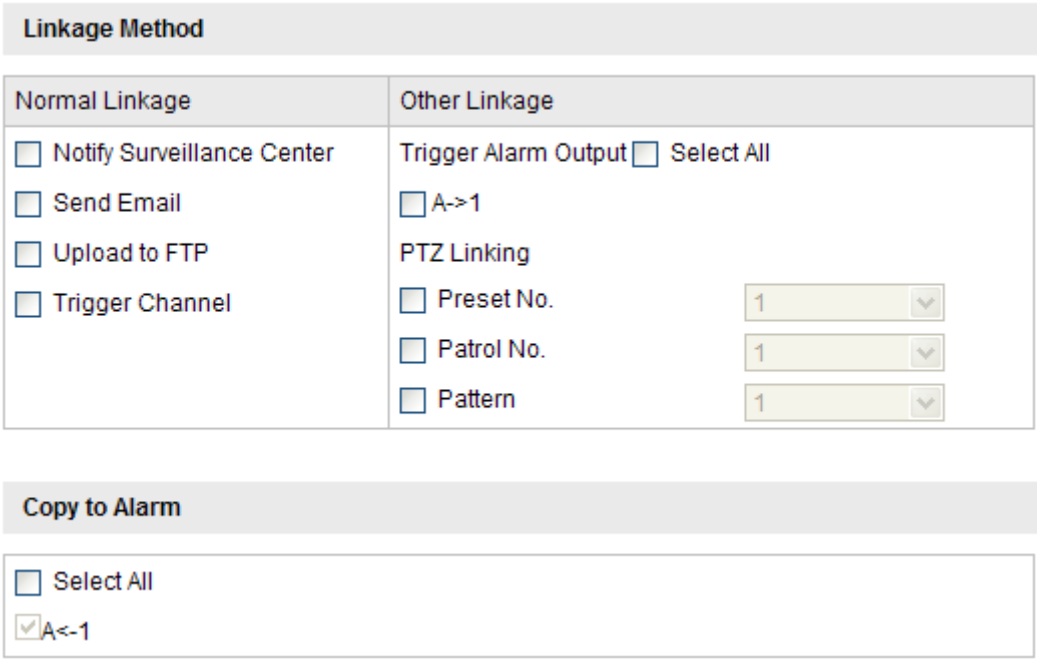


Figure 6-43 Linkage Method

6.6.4 Configuring Alarm Output

Steps:

1. Enter the Alarm Output Settings interface:
   Configuration>Advanced Configuration> Events > Alarm Output
2. Select one alarm output channel in the **Alarm Output** drop-down list.
3. Set a name in

for the alarm output (optional).
4. The **Delay** time can be set to **5sec**, **10sec**, **30sec**, **1min**, **2min**, **5min, 10min** or **Manual**. The delay time refers to the time duration that the alarm output remains in effect after alarm occurs.
5. Click

to enter the **Edit Schedule Time** interface. The time schedule configuration is the same as the settings of the arming schedule for motion detection. Refer to *Step **2 Set the Arming Schedule for Motion Detection*** in Section ***6.6.1 Configuring Motion Detection***.
6. You can copy the settings to other alarm outputs.
7. Click

to save the settings.

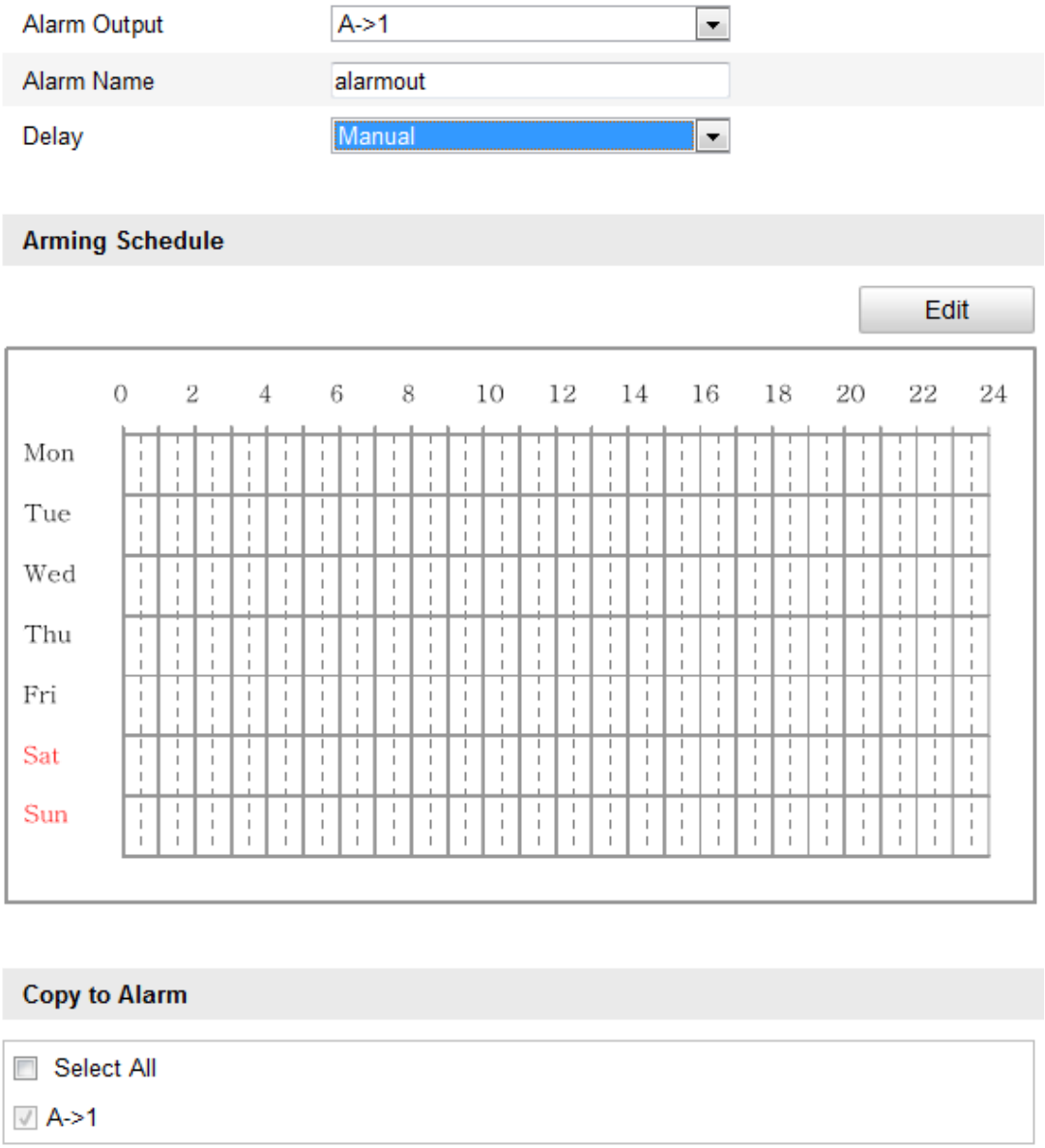


Figure 6-44 Alarm Output Settings

6.6.5 Handling Exception

The exception type can be HDD full, HDD error, network disconnected, IP address conflicted and illegal login to the speed domes.

Steps:

1. Enter the Exception Settings interface:
   Configuration > Advanced Configuration> Events > Exception
2. Check the checkbox to set the actions taken for the Exception alarm. Refer to *Step* ***3 Set the Alarm Actions Taken for Motion Detection*** in Section ***6.6.1 Configuring Motion Detection***.

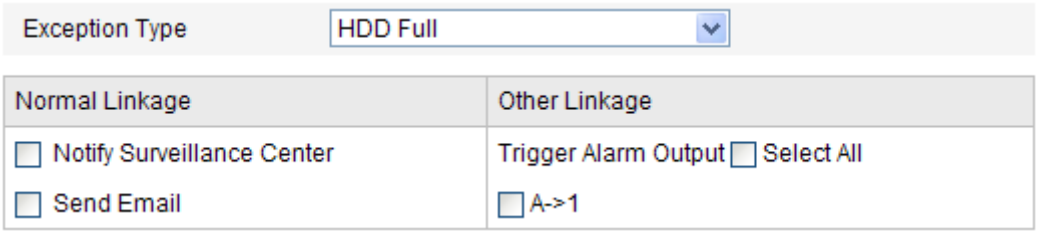


Figure 6-45 Exception Settings

3. Click Save to save the settings.

6.6.6 Configuring Email Settings

Purpose:

The system can be configured to send an Email notification to all designated receivers if an alarm event is detected, e.g., motion detection event, tamper-proof, etc.

Before you start:

Please configure the DNS Server settings under **Basic Configuration > Network > TCP/IP** or **Advanced Configuration > Network > TCP/IP** before using the Email function.

Steps:

1. Enter the Email Settings interface:
   Configuration > Advanced Configuration > Events > Email

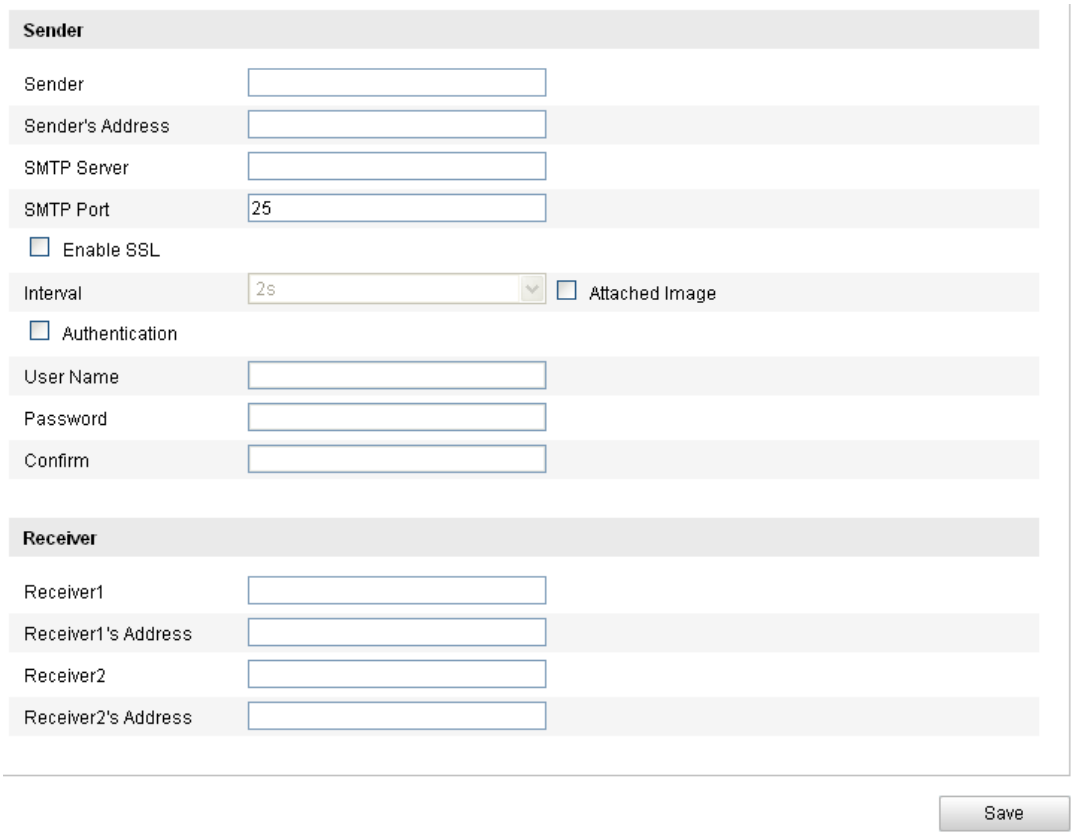


Figure 6-46 Email Settings

2. Configure the following settings:
   Sender: The name of the email sender.
   Sender's Address: The email address of the sender.
   SMTP Server: The SMTP Server IP address or host name (e.g., smtp.263xmail.com).
   SMTP Port: The SMTP port. The default TCP/IP port for SMTP is 25.
   Enable SSL: Check the checkbox to enable SSL if it is required by the SMTP server.
   Attached Image: Check the checkbox of Attached Image if you want to send emails with attached alarm images.
   Interval: The interval refers to the time between two actions of sending attached pictures.
   Authentication (optional): If your email server requires authentication, check this checkbox to use authentication to log in to this server and enter the login user name and password.
   Receiver: Select the receiver to which the email is sent. Up to 2 receivers can be configured.
   Receiver: The name of the user to be notified.
   Receiver's Address: The email address of user to be notified.
3. Click Save to save the settings.

6.6.7 Configuring Snapshot Settings

Purpose:

You can configure the scheduled snapshot and event-triggered snapshot. You can upload the captured pictures to a FTP server.

Basic Settings

Steps:

1. Enter the Snapshot Settings interface:
   Configuration > Advanced Configuration > Events > Snapshot
2. Check the **Enable Timing Snapshot** checkbox to enable continuous snapshot. Check the **Enable Event-triggered Snapshot** checkbox to check event-triggered snapshot.
3. Select the quality of the snapshot.
4. Set the time interval between two snapshots.
5. Click Save to save the settings.

Uploading to FTP

Note: Please make sure that the FTP server is online.

You can follow below configuration instructions to upload the snapshots to FTP.

- Upload continuous snapshots to FTP

Steps:

1) Configure the FTP settings and check Upload Picture checkbox in FTP Settings interface. Please refer to Section ***6.3.8 Configuring FTP Settings*** for more details to configure FTP parameters.
2) Check the **Enable Timing Snapshot** checkbox.

- Upload event-triggered snapshots to FTP

Steps:

1) Configure the FTP settings and check Upload Picture checkbox in FTP Settings interface. Please refer to Section ***6.3.8 Configuring FTP Settings*** for more details to configure FTP parameters.
2) Check Upload to FTP checkbox in Motion Detection Settings or Alarm Input interface. Please refer to *Step* ***3 Set the Alarm Actions Taken for Motion Detection*** in Section ***6.6.1 Configuring Motion Detection***, *or Step* ***4 Configuring External Alarm Input*** in Section ***6.6.1 Configuring Motion Detection***.
3) Check the **Enable Event-triggered Snapshot** checkbox.

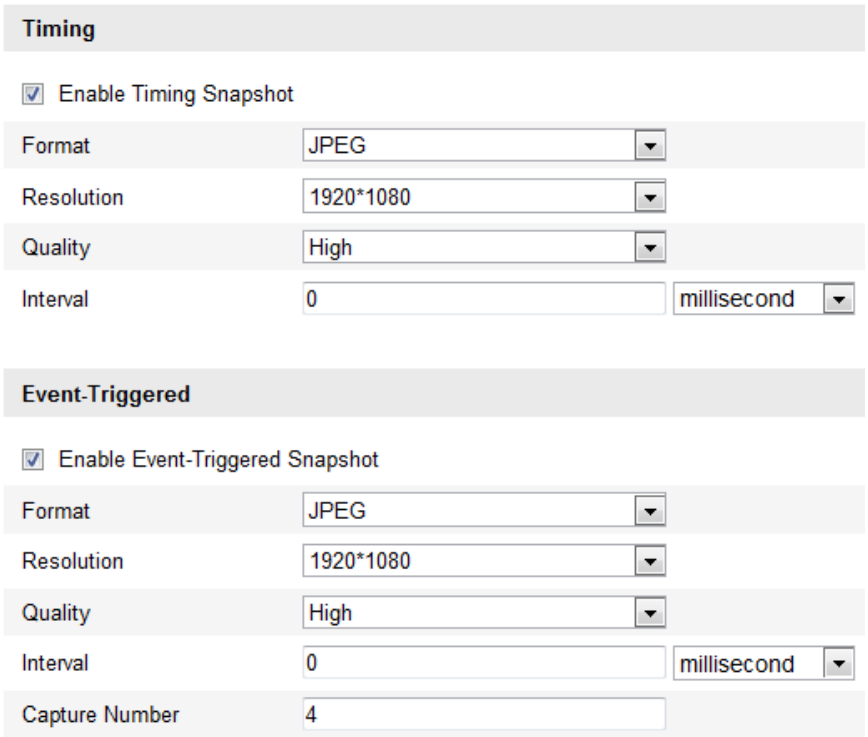


Figure 6-47 Snapshot Settings

Chapter 7 Record Settings

Before you start:

To configure record settings, please make sure that you have the network storage device within the network or the SD card inserted in your speed dome.

7.1 Configuring NAS Settings

Before you start:

The network disk should be available within the network and properly configured to store the recorded files, log files, etc.

Steps:

1. Add the network disk
   (1) Enter the NAS (Network-Attached Storage) Settings interface:
   Configuration > Advanced Configuration > Storage > NAS

HDD No.	Type	Server Address	File Path
1	NAS	10.99.105.249	/dvr/test
2	NAS		
3	NAS		
4	NAS		

Figure 7-1 Add Network Disk

   (2) Enter the IP address of the network disk, and the default format of file path is */dvr/share* as shown in Figure 7-1.

   Note: The network disk file path name *share* is user-defined while creating the DVR network storage. Please refer to the *User Manual of NAS* for creating the file path.

   (3) Click Save to add the network disk.

   Note: After having saved successfully, you need to reboot the speed dome to activate the settings.
2. Initialize the added network disk.
   (1) Enter the HDD Settings interface (**Advanced Configuration > Storage > Storage Management**), in which you can view the capacity, free space, status, type and property of the disk.
   (2) If the status of the disk is **Uninitialized** as shown in Figure 7-2, check the corresponding checkbox to select the disk and click Format to start initializing the disk.

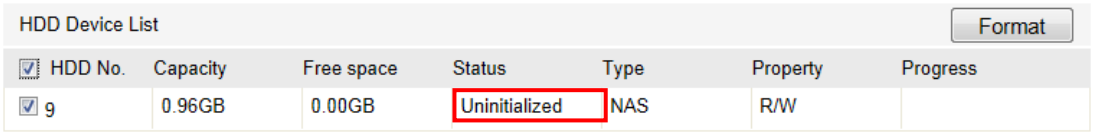


Figure 7-2 Initialize Disk

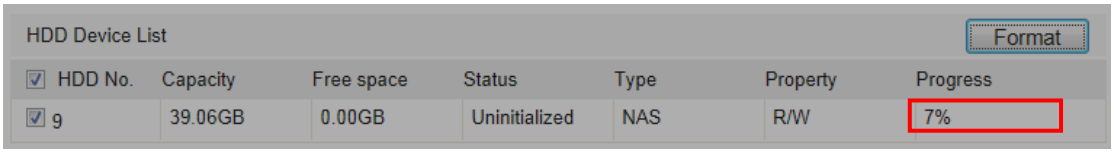


Figure 7-3 Initializing

When the initialization completed, the status of disk will become **Normal** as shown in Figure 7-4**.**

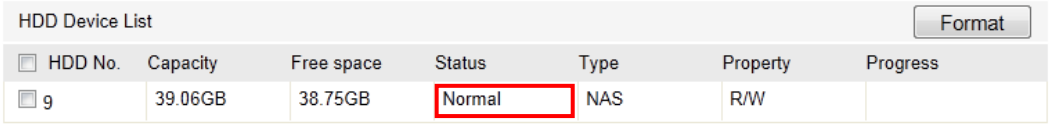


Figure 7-4 View Disk Status

Notes:

- Up to 8 NAS disks can be connected to the speed dome.
- To initialize and use the SD card after insert it to the speed dome, please refer to the steps of NAS disk initialization.

7.2 Configuring Recording Schedule

Purpose:

There are two kinds of recording for the speed domes: manual recording and scheduled recording. For the manual recording, refer to Section ***4.4 Recording and Capturing Pictures Manually***. In this section, you can follow the instructions to configure the scheduled recording. By default, the record files of scheduled recording are stored in the SD card (if supported) or in the network disk.

Steps:

1. Enter the Record Schedule Settings interface:
   Configuration > Advanced Configuration> Storage > Record Schedule

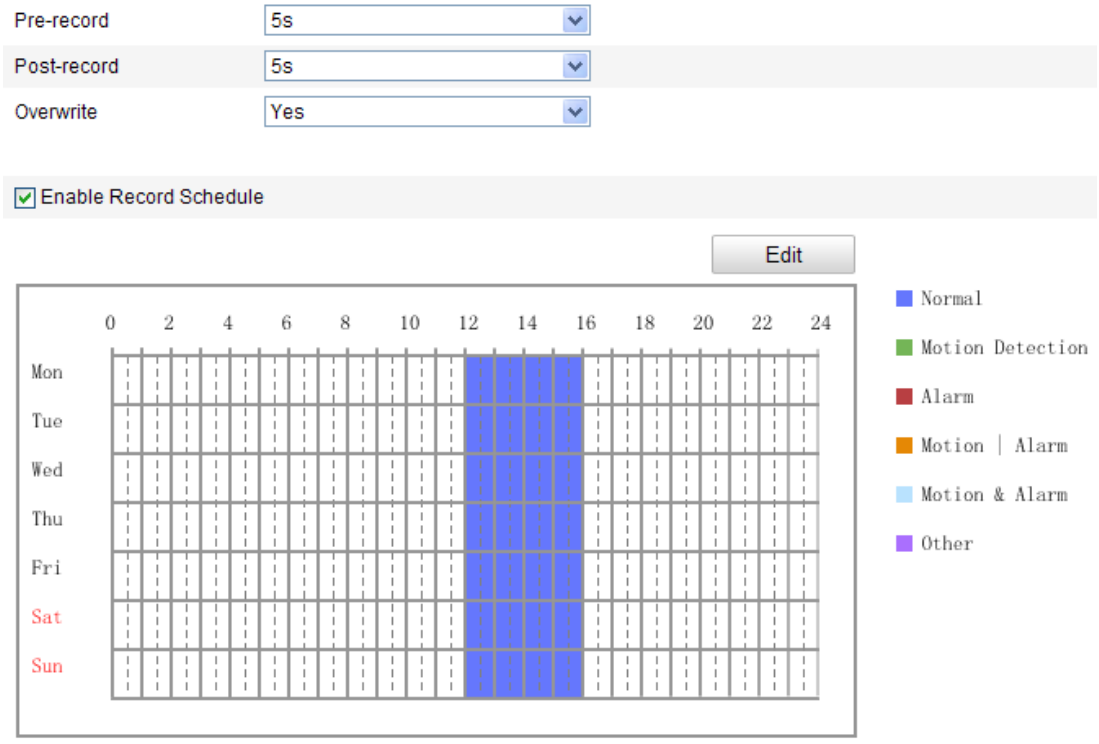


Figure 7-5 Recording Schedule Interface

2. Check the checkbox of **Enable Record Schedule** to enable scheduled recording.
3. Set the record parameters of the speed dome.

Figure 7-6 Record Parameters

- **Pre-record:** The time you set to start recording before the scheduled time or the event. For example, if an alarm triggers recording at 10:00, and the pre-record time is set as 5 seconds, the speed dome starts to record at 9:59:55.
  The Pre-record time can be configured as No Pre-record, 5 s, 10 s, 15 s, 20 s, 25 s, 30 s or not limited.
  Note: The pre-record time changes according to the video bitrate.
- **Post-record:** The time you set to stop recording after the scheduled time or the event. For example, if an alarm triggered recording ends at 11:00, and the post-record time is set as 5 seconds, the speed dome records until 11:00:05.
  The Post-record time can be configured as 5 s, 10 s, 30 s, 1 min, 2 min, 5 min or 10 min.
- **Overwrite**: If you enable his function and the HDD is full, the new record files overwrite the oldest record files automatically.

Note: The Pre-record and Post-record parameters vary depending on the speed

dome model.

4. Click Edit to edit the record schedule.

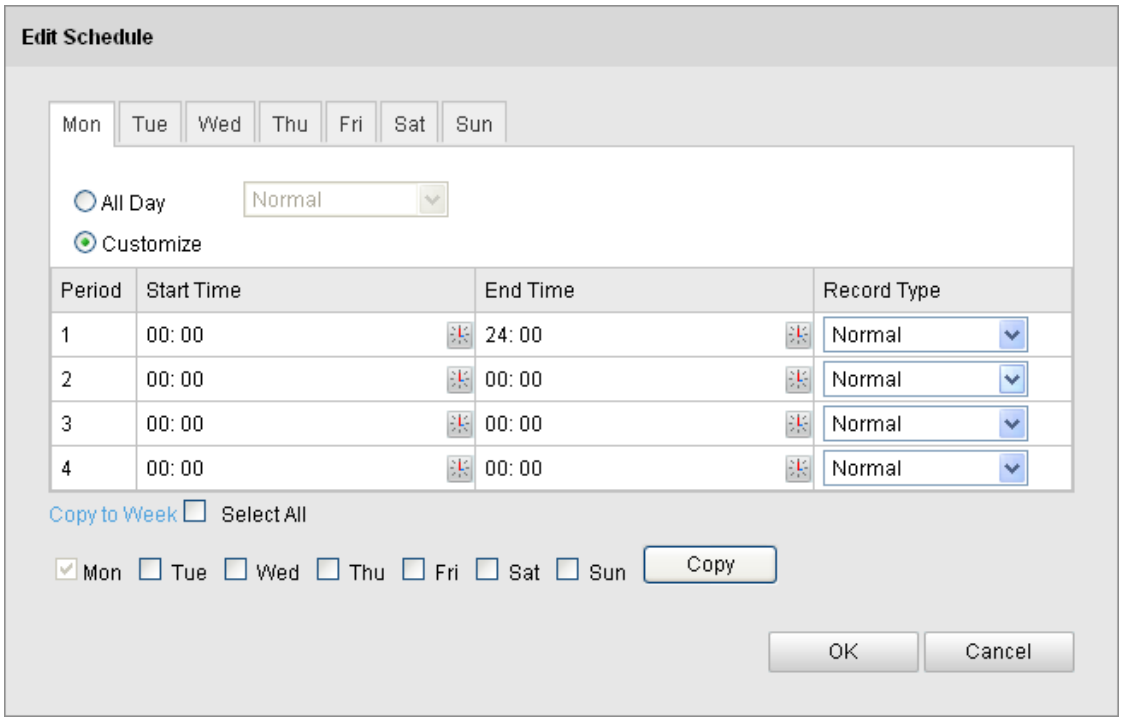


Figure 7-7 Record Schedule

5. Choose the day to set the record schedule.

(1) Set all-day record or segment record:

- If you want to configure the all-day recording, please check the **All Day** checkbox.
- If you want to record in different time sections, check the **Customize** checkbox. Set the **Start Time** and **End Time.**

  Note: The time of each segment can't be overlapped. Up to 4 segments can be configured.

(2) Select a **Record Type**. The record type can be Normal, Motion Detection, Alarm, Motion | Alarm, Motion & Alarm.

- **Normal**

  If you select **Normal**, the video will be recorded automatically according to the time of the schedule.

- **Record Triggered by Motion Detection**

  If you select **Motion Detection**, the video will be recorded when the motion is detected.

  Besides configuring the recording schedule, you have to set the motion detection area and check the checkbox of **Trigger Channel** in the **Linkage Method** of Motion Detection Settings interface. For detailed information, please refer to the *Step **1 Set the Motion Detection Area** in the* Section

6.6.1 Configuring Motion Detection.

- **Record Triggered by Alarm**

  If you select **Alarm**, the video will be recorded when the alarm is triggered via the external alarm input channels.

  Besides configuring the recording schedule, you have to set the **Alarm Type** and check the checkbox of **Trigger Channel** in the **Linkage Method** of **Alarm Input Settings** interface. For detailed information, please refer to Section ***6.6.4 Configuring External Alarm Input***.

- **Record Triggered by Motion & Alarm**

  If you select **Motion & Alarm**, the video will be recorded when the motion and alarm are triggered at the same time.

  Besides configuring the recording schedule, you have to configure the settings on the **Motion Detection** and **Alarm Input Settings** interfaces. Please refer to Section ***6.6.1*** and Section ***6.6.4*** for detailed information.

- **Record Triggered by Motion | Alarm**

  If you select **Motion | Alarm**, the video will be recorded when the external alarm is triggered or the motion is detected.

  Besides configuring the recording schedule, you have to configure the settings on the **Motion Detection** and **Alarm Input Settings** interfaces. Please refer to Section ***6.6.1*** and Section ***6.6.4*** for detailed information.

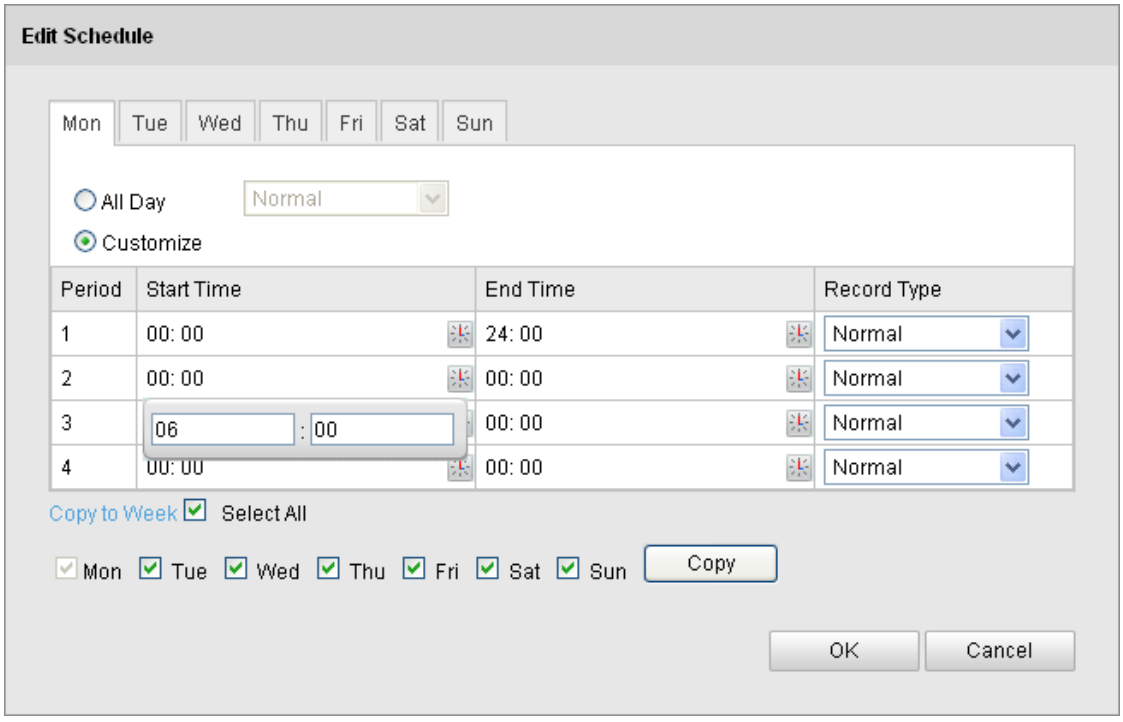


Figure 7-8 Edit Record Schedule

(3) Check the checkbox ☐ Select All and click Copy to copy settings of this day to the whole week. You can also check any of the checkboxes before the

date and click Copy.

(4) Click OK to save the settings and exit the **Edit Record Schedule** interface.

6. Click Save to save the settings.

Chapter 8 Playback

Purpose:

This section explains how to view the remotely recorded video files stored in the network disks or SD cards.

Task 1: To play back the video files

Steps:

1. Click Playback on the menu bar to enter playback interface.

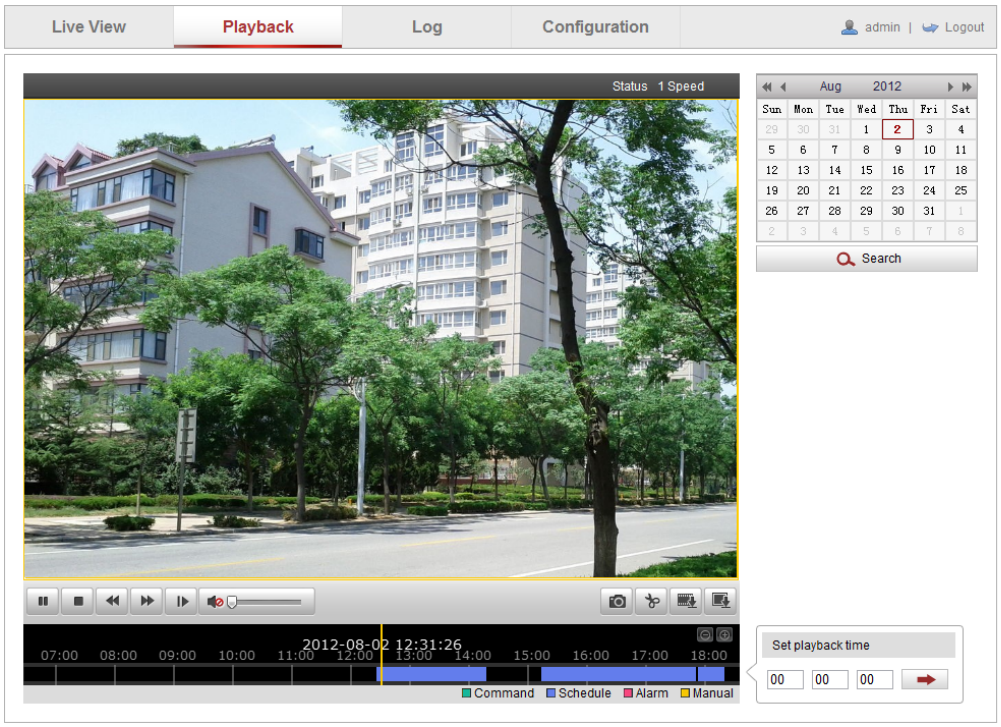


Figure 8-1 Playback Interface

2. Select the date and click Search.

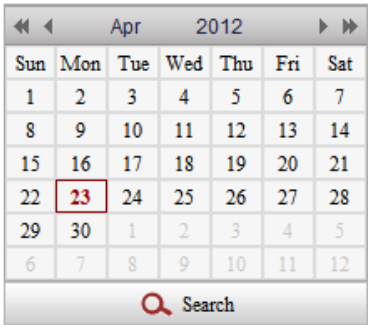


Figure 8-2 Search Video

3. Click to play the video files found on this date.

The toolbar on the bottom of Playback interface can be used to control playing process.

Figure 8-3 Playback Toolbar

Table 8-1 Description of the buttons

Button	Operation	Button	Operation
	Play		Capture a picture
	Pause		Start/Stop clipping video files
	Stop		Audio on and adjust volume/Mute
	Speed down		Download video files
	Speed up		Download captured pictures
	Display playback status		Playback by frame

Note: You can choose the file paths locally for downloaded playback video files and pictures in Local Configuration interface. Please refer to Section ***6.1 Configuring Local Parameters*** for details.

Drag the progress bar with the mouse to locate the exact playback point. You can also input the time and click to locate the playback point in the **Set playback time** field. You can also click to zoom out/in the progress bar.

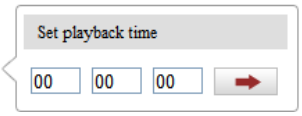


Figure 8-4 Set Playback Time

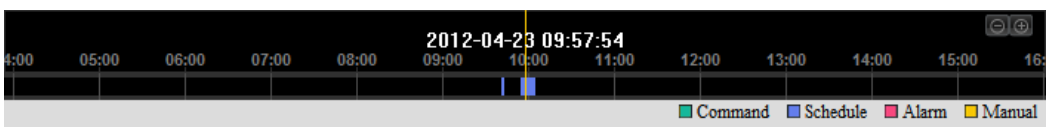


Figure 8-5 Progress Bar

The different colors of the video on the progress bar stand for the different video

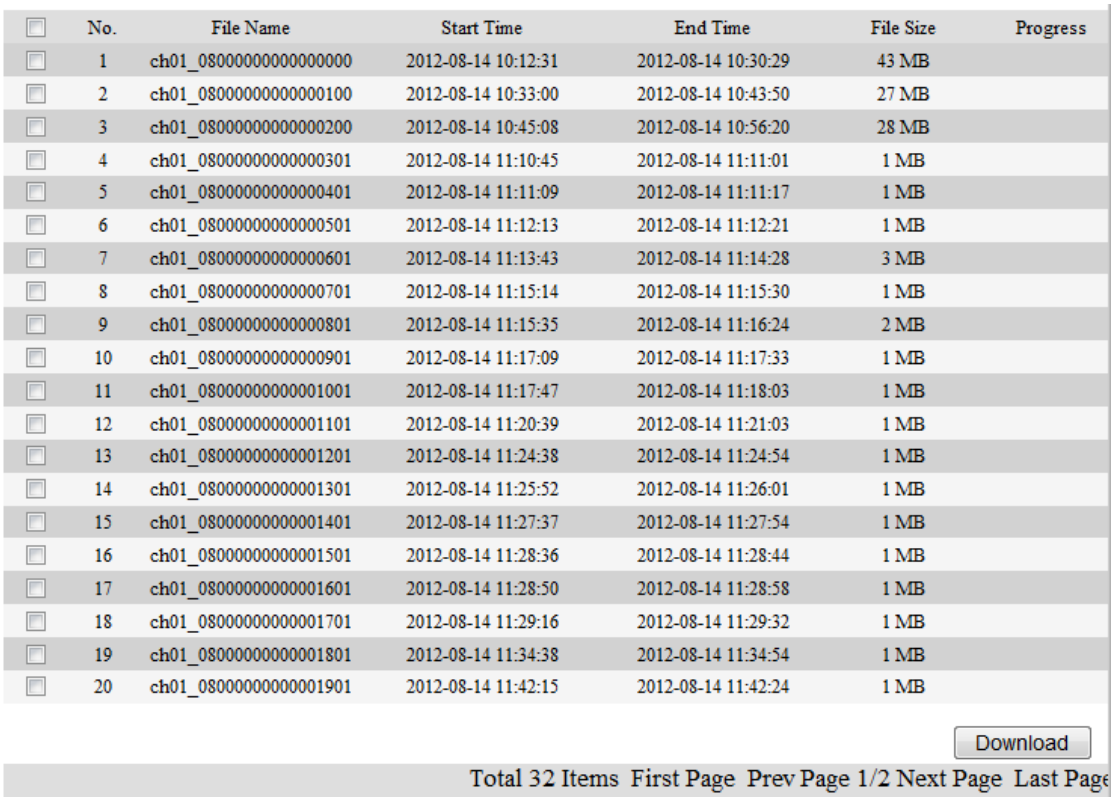
types as shown in Figure 8-6.

Figure 8-6 Video Types

Task 2: To download the video files

Steps:

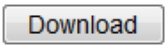
1. Click on the playback interface. The pop-up menu is shown in Figure 8-7. All the video files are listed.



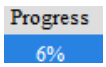
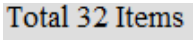
	No.	File Name	Start Time	End Time	File Size	Progress
	1	ch01_08000000000000000	2012-08-14 10:12:31	2012-08-14 10:30:29	43 MB	
	2	ch01_08000000000000100	2012-08-14 10:33:00	2012-08-14 10:43:50	27 MB	
	3	ch01_08000000000000200	2012-08-14 10:45:08	2012-08-14 10:56:20	28 MB	
	4	ch01_08000000000000301	2012-08-14 11:10:45	2012-08-14 11:11:01	1 MB	
	5	ch01_08000000000000401	2012-08-14 11:11:09	2012-08-14 11:11:17	1 MB	
	6	ch01_08000000000000501	2012-08-14 11:12:13	2012-08-14 11:12:21	1 MB	
	7	ch01_08000000000000601	2012-08-14 11:13:43	2012-08-14 11:14:28	3 MB	
	8	ch01_08000000000000701	2012-08-14 11:15:14	2012-08-14 11:15:30	1 MB	
	9	ch01_08000000000000801	2012-08-14 11:15:35	2012-08-14 11:16:24	2 MB	
	10	ch01_08000000000000901	2012-08-14 11:17:09	2012-08-14 11:17:33	1 MB	
	11	ch01_08000000000001001	2012-08-14 11:17:47	2012-08-14 11:18:03	1 MB	
	12	ch01_08000000000001101	2012-08-14 11:20:39	2012-08-14 11:21:03	1 MB	
	13	ch01_08000000000001201	2012-08-14 11:24:38	2012-08-14 11:24:54	1 MB	
	14	ch01_08000000000001301	2012-08-14 11:25:52	2012-08-14 11:26:01	1 MB	
	15	ch01_08000000000001401	2012-08-14 11:27:37	2012-08-14 11:27:54	1 MB	
	16	ch01_08000000000001501	2012-08-14 11:28:36	2012-08-14 11:28:44	1 MB	
	17	ch01_08000000000001601	2012-08-14 11:28:50	2012-08-14 11:28:58	1 MB	
	18	ch01_08000000000001701	2012-08-14 11:29:16	2012-08-14 11:29:32	1 MB	
	19	ch01_08000000000001801	2012-08-14 11:34:38	2012-08-14 11:34:54	1 MB	
	20	ch01_08000000000001901	2012-08-14 11:42:15	2012-08-14 11:42:24	1 MB	

Figure 8-7 Video Downloading interface

2. Check the checkbox in front of the video files that you need to download.

3. Click  to download the video files.

Notes:

- The progress ratio  displays the downloading ratio of the video file.
- You can click to stop the downloading.
- The total number  displays the amount of the video files.
- The video files are not all listed on one page. You can click

First Page Prev Page 1/2 Next Page Last Page to turn pages.

Chapter 9 Log Searching

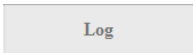
Purpose:

The operation, alarm, exception and information of the speed dome can be stored in log files. You can also export the log files on your demand.

Before you start:

Please configure network storage for the speed dome or insert a SD card in the speed dome.

Steps:

1. Click 

on the menu bar to enter log searching interface.

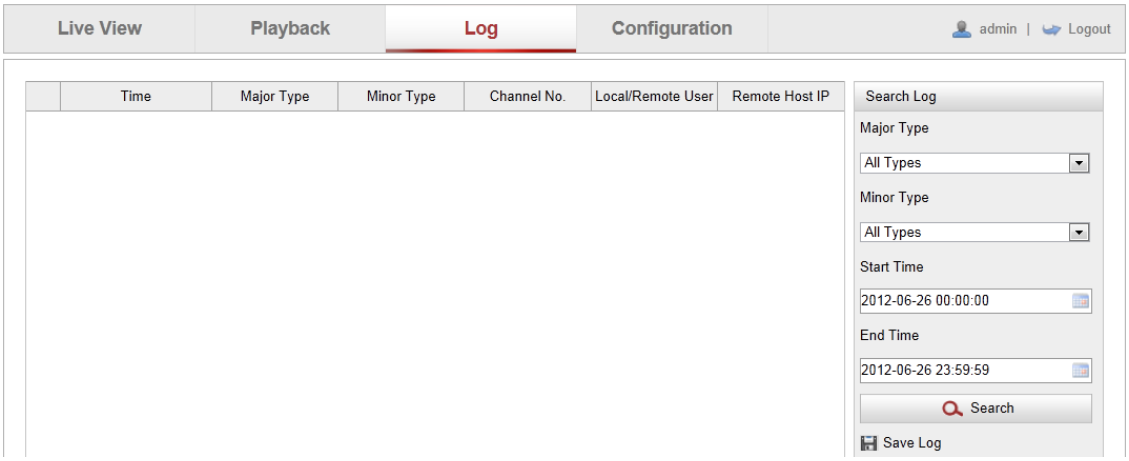


Figure 9-1 Log Searching Interface

2. Set the log search conditions to specify the search, including the Major Type, Minor Type, Start Time and End Time as shown in Figure 9-2.
3. Click

to search log files. The matched log files will be displayed on the **Log** interface.

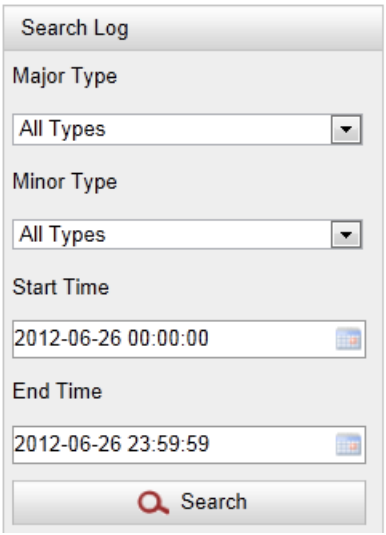


Figure 9-2 Log Searching

4. To export the log files, click to save the log files in your computer.

Chapter 10 Others

10.1 Managing User Accounts

Enter the User Management interface:
Configuration >**Basic Configuration**> **Security > User**
Or **Configuration** > **Advanced Configuration**> **Security > User**
The **admin** user has access to create, modify or delete other accounts. Up to 32 user accounts can be created.

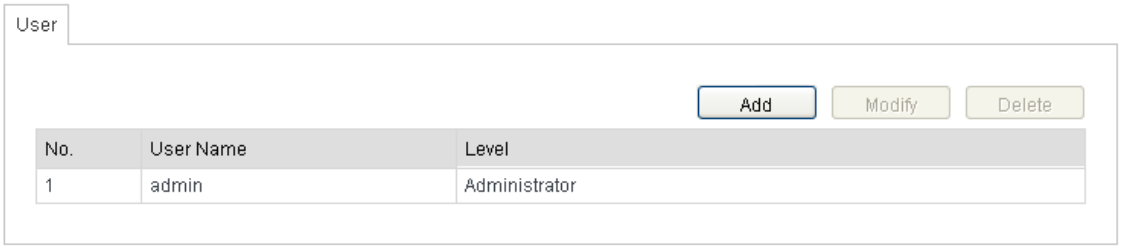


Figure 10-1 User Information

- Add a User

Steps:

1. Click Add to add a user.
2. Input the new **User Name**, select **Level** and input **Password**.

Note: The level indicates the permissions you give to the user. You can define the user as **Operator** or **User**.

3. In the **Basic Permission** field and **Camera Configuration** field, you can check or uncheck the permissions for the new user.
4. Click OK to finish the user addition.

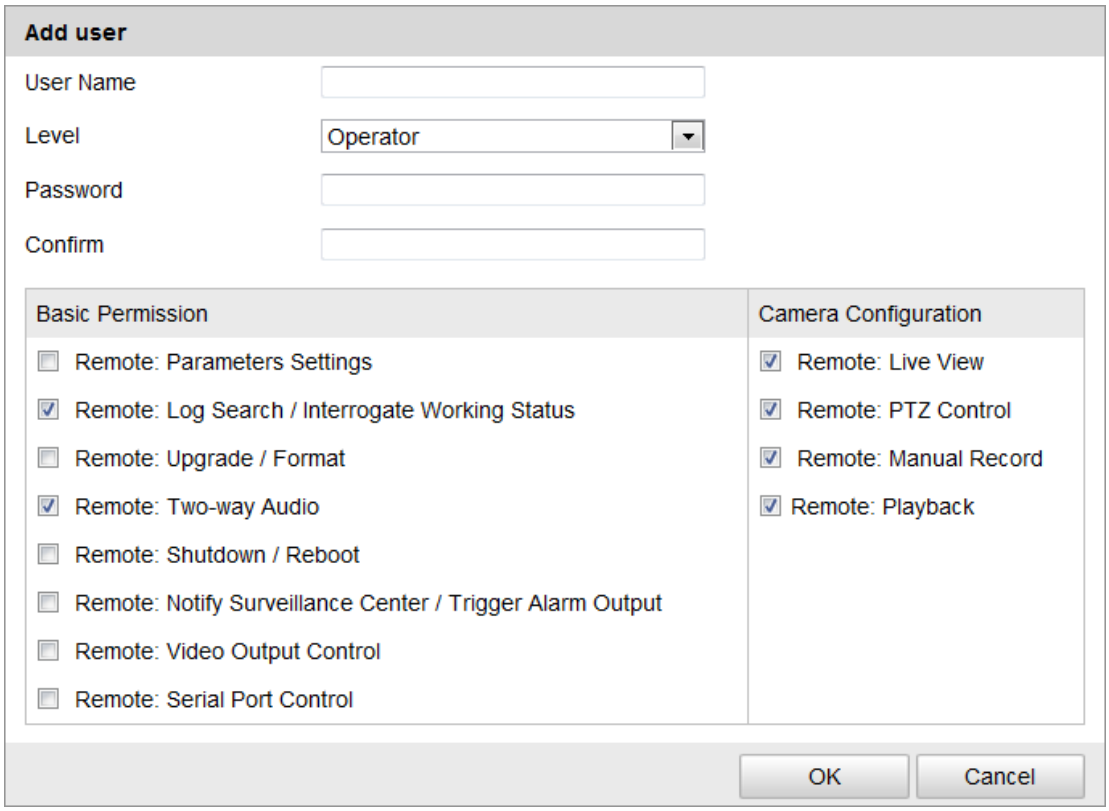


Figure 10-2 Add a User

- Modify a User

Steps:

1. Left-click to select the user from the list and click Modify.
2. Modify the **User Name**, **Level** or **Password**.
3. In the **Basic Permission** field and **Camera Configuration** field, you can check or uncheck the permissions.
4. Click OK to finish the user modification.

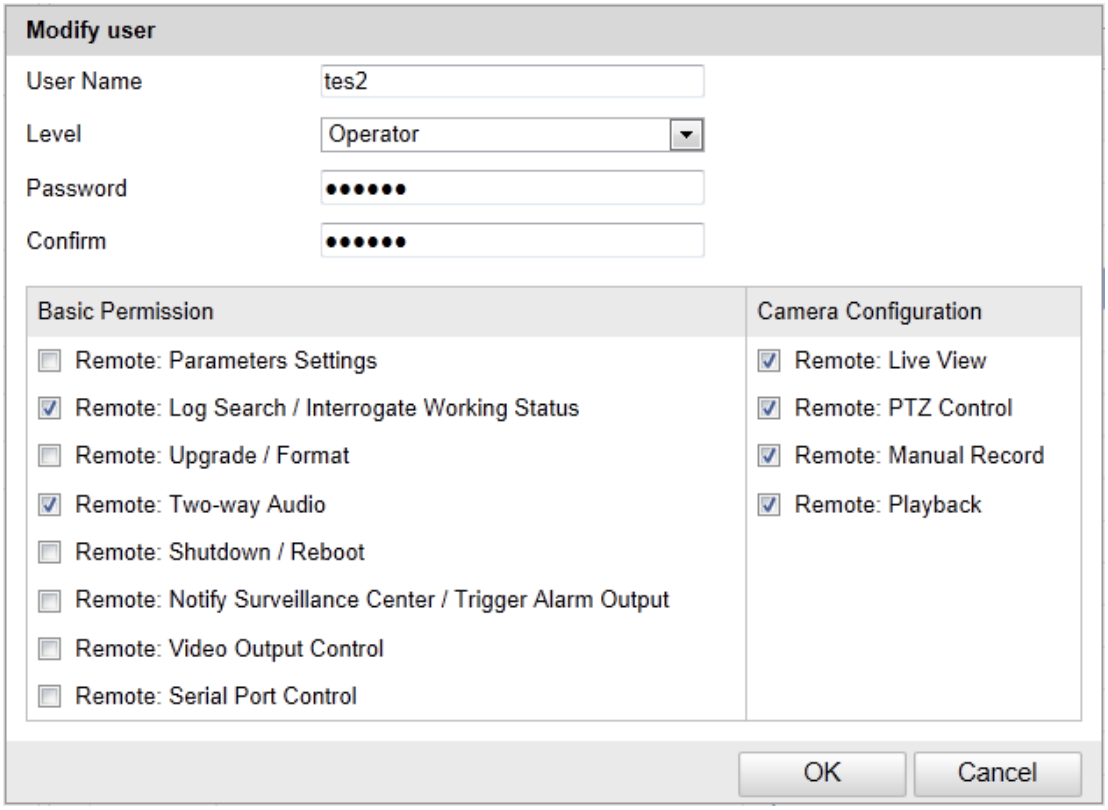


Figure 10-3 Modify a User

- Delete a User

Steps:

1. Left-click the user name you want to delete and click Delete.
2. Click OK on the pop-up dialogue box to delete the user.

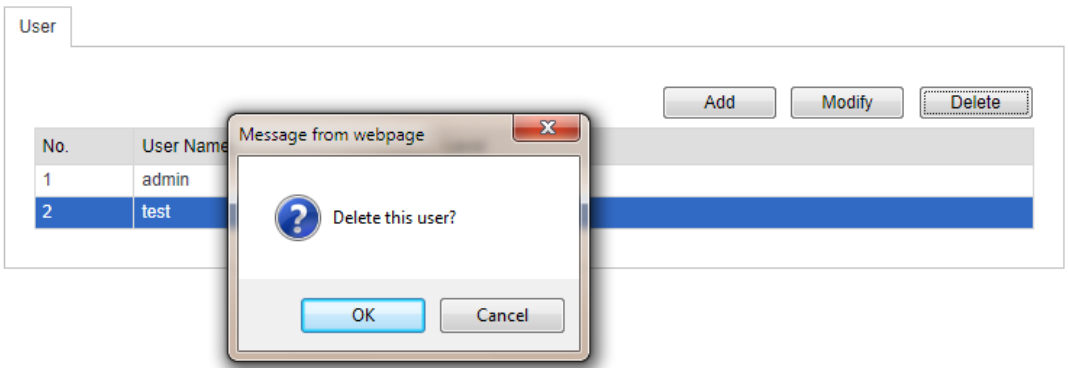


Figure 10-4 Delete a User

10.2 Configuring RTSP Authentication

Purpose:

You can specifically secure the stream data of live view.

Steps:

1. Enter the RTSP Authentication interface**:**
   Configuration> **Advanced Configuration**> **Security** > **RTSP Authentication**

Figure 10-5 RTSP Authentication

2. Select the **Authentication** type **basic** or **disable** in the drop-down list to enable or disable the RTSP authentication.
3. Click Save to save the settings.

10.3 Configuring Anonymous Visit

When you enable this function, you can log into the camera without a username and password.

In login interface, check the **Anonymous** checkbox and click **Login** to enter the camera as shown in Figure 10-7.

Figure 10-6 Anonymous Login

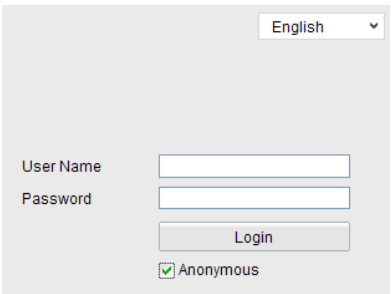


Figure 10-7 Login Interface

10.4 Configuring IP Address Filter

With this function on, the camera allows certain IP addresses whether to log in or not.

Filter Type	Description
Forbidden	Forbid the IP addresses added in the **IP Address Filter** interface to log in.
Allowed	Allow only the IP addresses added in the **IP Address Filter** interface to log in.

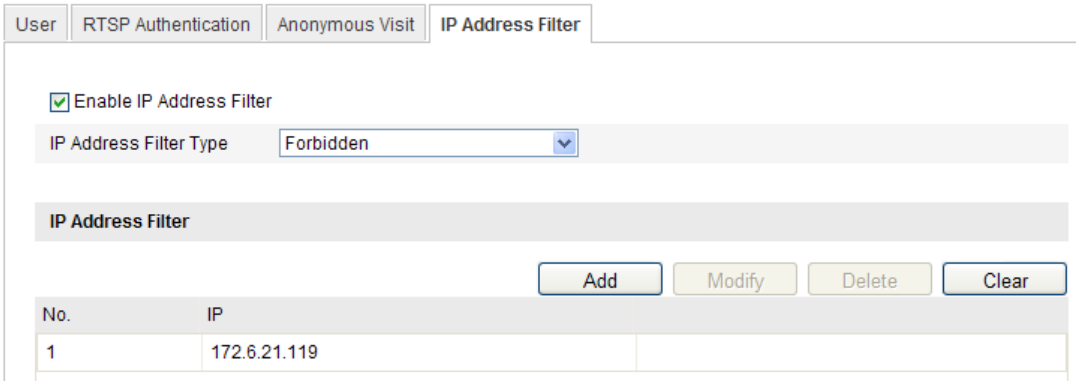


Figure 10-8 IP Address Filter

10.5 Viewing Device Information

Enter the Device Information interface:

Configuration > **Basic Configuration**> **System** > **Device Information**

Or **Configuration** > **Advanced Configuration**> **System** > **Device Information**

In the **Device Information** interface, you can edit the Device Name.
Other information of the network speed dome, such as Model, Serial No., Firmware Version, Encoding Version, Number of Channels, Number of HDDs, Number of Alarm Input and Number of Alarm Output are displayed. The information cannot be changed in this menu. It is the reference for maintenance or modification in future.

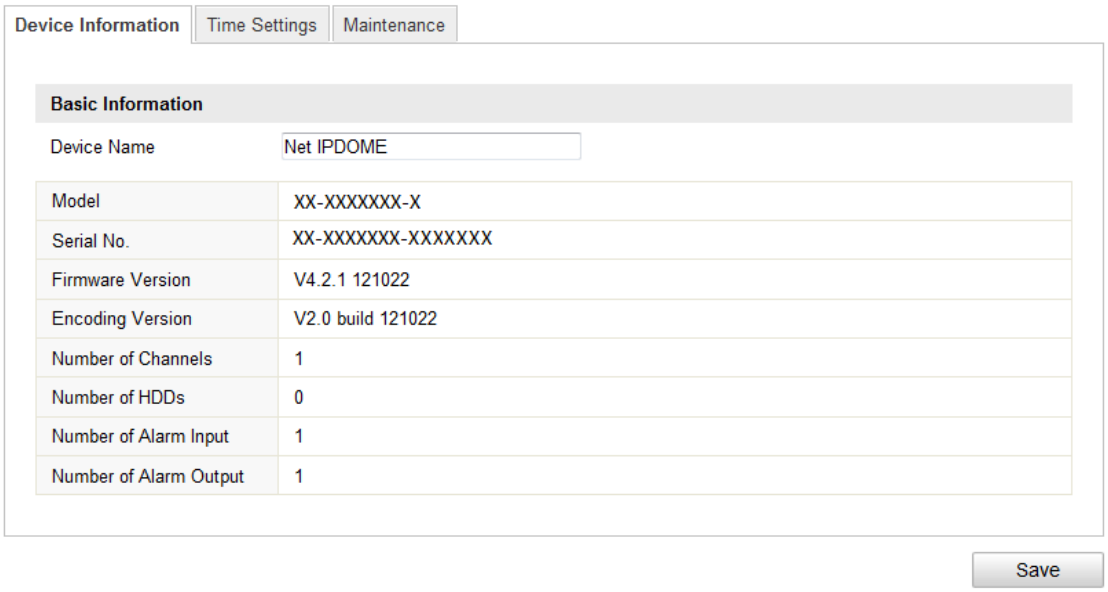


Figure 10-9 Device Information

10.6 Maintenance

10.6.1 Rebooting the Speed Dome

Steps:

1. Enter the Maintenance interface:
   Configuration > **Basic Configuration> System > Maintenance**
   Or **Configuration** > **Advanced Configuration> System > Maintenance:**
2. Click Reboot to reboot the network speed dome.

Figure 10-10 Reboot the Device

10.6.2 Restoring Default Settings

Steps:

1. Enter the Maintenance interface:
   Configuration > **Basic Configuration> System > Maintenance**
   Or **Configuration** > **Advanced Configuration> System > Maintenance**

2. Click Restore or Default to restore the default settings.

Note: Clicking Default restores all the parameters to default settings including the IP address and user information. Please use this button with caution.

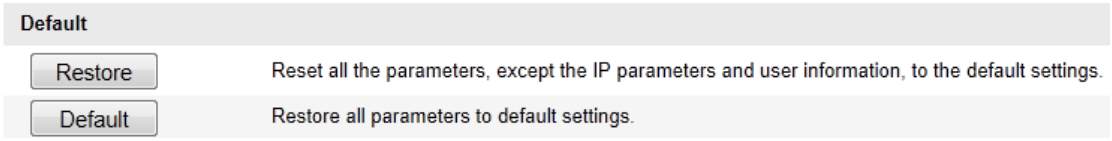


Figure 10-11 Restore Default Settings

10.6.3 Importing/Exporting Configuration File

Steps:

1. Enter the Maintenance interface:
   Configuration > **Basic Configuration> System > Maintenance**
   Or **Configuration** > **Advanced Configuration> System > Maintenance**
2. Click Browse to select the local configuration file and then click Import to start importing configuration file.
   Note: You need to reboot the speed dome after importing configuration file.
3. Click Export and set the saving path to save the configuration file in local storage.

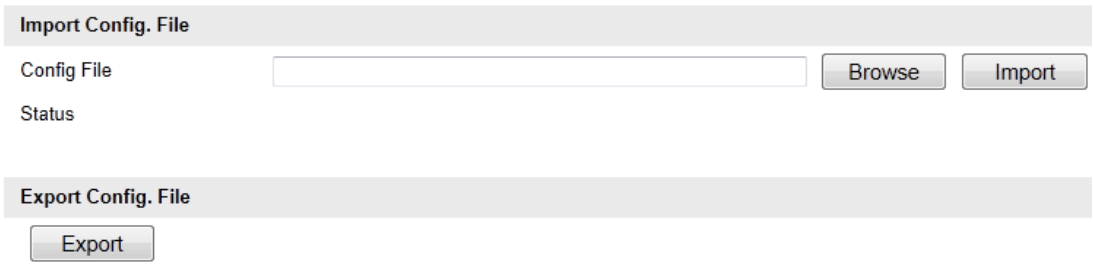


Figure 10-12 Import/Export Configuration File

10.6.4 Upgrading the System

Steps:

1. Enter the Maintenance interface:
   Configuration > **Basic Configuration> System > Maintenance**
   Or **Configuration** > **Advanced Configuration> System > Maintenance**

2. Click Browse to select the local upgrade file and then click Upgrade to start remote upgrade.

Note: The upgrading process will take 1 to 10 minutes. Please don't disconnect power of the speed dome during the process. The speed dome reboots automatically after upgrading.

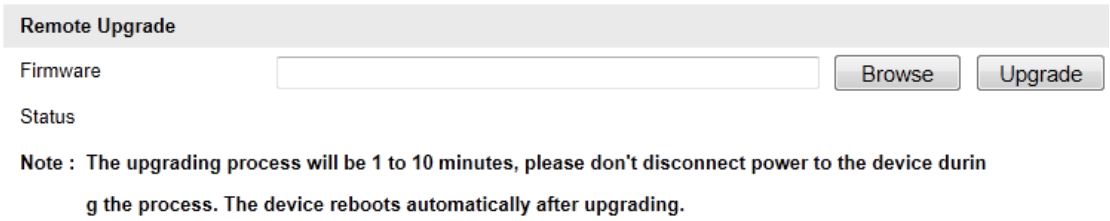


Figure 10-13 Remote Upgrade

10.7 RS-232 Settings

Purpose:

The RS-232 port can be used in two ways:

- Parameters Configuration: Connect a computer to the camera through the serial port. Device parameters can be configured by using software such as HyperTerminal. The serial port parameters must be the same as the serial port parameters of the camera.
- Transparent Channel: Connect a serial device directly to the camera. The serial device will be controlled remotely by the computer through the network.

Steps:

1. Enter RS-232 Port Setting interface:
   Configuration> Advanced Configuration> System > RS232

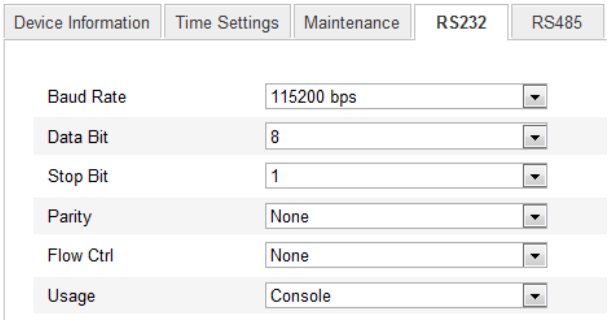


Figure 10-14 RS-232 Settings

Note: If you want to connect the camera by the RS-232 port, the parameters of the RS-232 should be exactly the same with the parameters you configured here.

2. Click Save to save the settings.

10.8 RS-485 Settings

Purpose:

The RS-485 serial port is used to control the PTZ of the camera. The configuring of the PTZ parameters should be done before you control the PTZ unit.

Steps:

1. Enter RS-485 parameter setting interface:

Configuration> Advanced Configuration> System > RS485

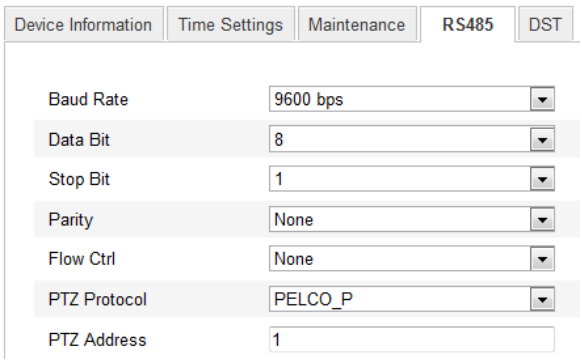


Figure 10-15 RS-485 Settings

2. Set the RS-485 parameters and click Save to save the settings.

   By default, the Baud Rate is set as 9600 bps, the Data Bit is 8, the stop bit is 1 and the Parity and Flow Control is None.

Note: The Baud Rate, PTZ Protocol and PTZ Address parameters of the speed dome should be exactly the same as those of the remote control device.

Appendix

Appendix 1 SADP Software Introduction

- **Description of SADP**

SADP (Search Active Devices Protocol) is a kind of user-friendly and installation-free online device search tool. It searches the active online devices within your subnet and displays the information of the devices. You can also modify the basic network information of the devices using this software.

- **Search active devices online**

  - **Search online devices automatically**

    After launch the SADP software, it automatically searches the online devices every 15 seconds from the subnet where your computer locates. It displays the total number and information of the searched devices in the Online Devices interface. Device information including the device type, IP address and port number, etc. will be displayed.

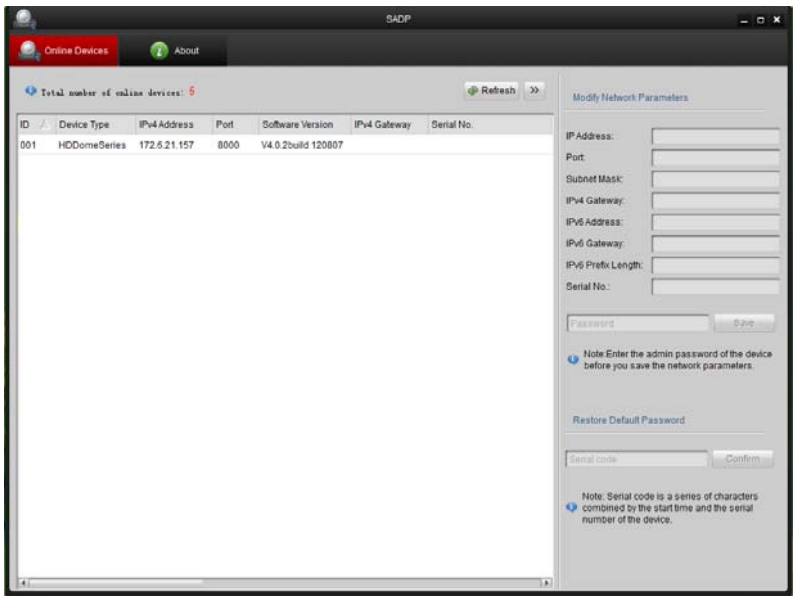


Figure A.1.1 Searching Online Devices

Note: Device can be searched and displayed in the list in 15 seconds after it went online; it will be removed from the list in 45 seconds after it went offline.

  - **Search online devices manually**

    You can also click Refresh to refresh the online device list manually. The newly searched devices will be added to the list.

    Note: You can click △ or ▽ on each column heading to order the

information; you can click » to expand the device table and hide the network parameter panel on the right side, or click « to show the network parameter panel.

- **Modify network parameters**

Steps:

1. Select the device to be modified in the device list and the network parameters of the device will be displayed in the **Modify Network Parameters** panel on the right side.
2. Edit the modifiable network parameters, e.g. IP address and port number.
3. Enter the password of the admin account of the device in the **Password** field and click Save to save the changes.

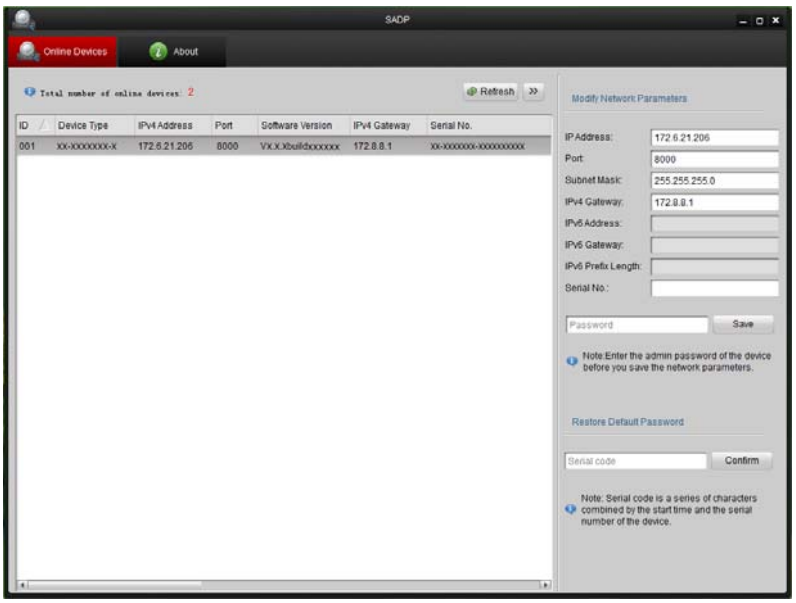


Figure A.1.2 Modify Network Parameters

- **Restore default password**

Steps:

1. Contact our technical engineers to get the serial code.

Note: Serial code is a series of characters combined by the start time and the serial number of the device.

2. Input the code in the **Serial code** field and click Confirm to restore the default password.

Appendix 2 Port Mapping

The following settings are for TP-LINK router (TL-R410). The settings vary depending on different models of routers.

Steps:

1. Select the **WAN Connection Type**, as shown below:

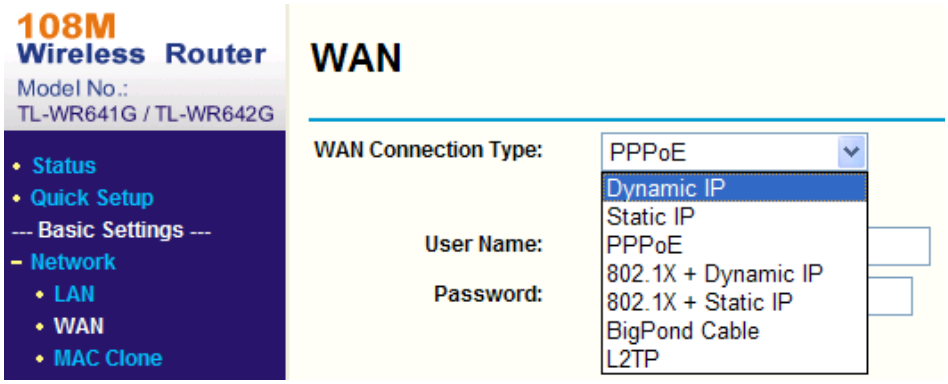


Figure A.2.1 Select the WAN Connection Type

2. Set the **LAN** parameters of the router as in the following figure, including IP address and subnet mask settings.

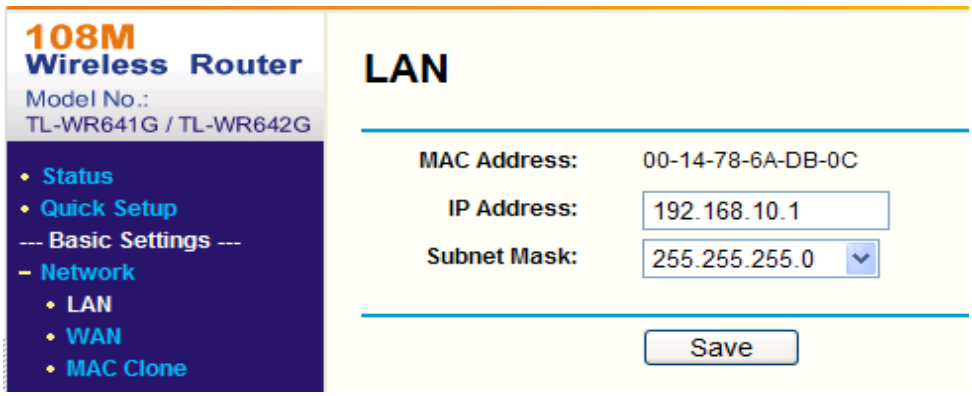


Figure A.2.2 Set the LAN parameters

3. Set the port mapping in the virtual severs of **Forwarding**. You need to forward ports 80, 8000, 8200~8210 and 554 for a speed dome.

Notes:

- You can change 80, 8000 and 554 ports value in the speed dome with web browser or client software.
- In the speed dome, the 8200~8210 ports change with the 8000 port with a constant value of 200. E.g. if the 8000 port is changed to 8005, then the 8200~8210 ports should be changed to 8205~8215.

Example:

When the speed domes are connected to the same router, you can forward the ports of a speed dome as 80, 8000, 8200~8210 and 554 with IP address 192.168.1.23, and the ports of another speed dome as 81, 8001, 8201~8211 and 555 with IP 192.168.1.24. Refer to the steps as below:

Steps:

1. As the settings mentioned above, forward the port 80, 8000, 8200~8210 and 554 for the network speed dome at 192.168.1.23
2. Forward the port 81, 8001, 8201~8211 and 555 for the network speed dome at 192.168.1.24.
3. Enable **ALL** or **TCP** protocols.
4. Check the **Enable** checkbox and click Save.

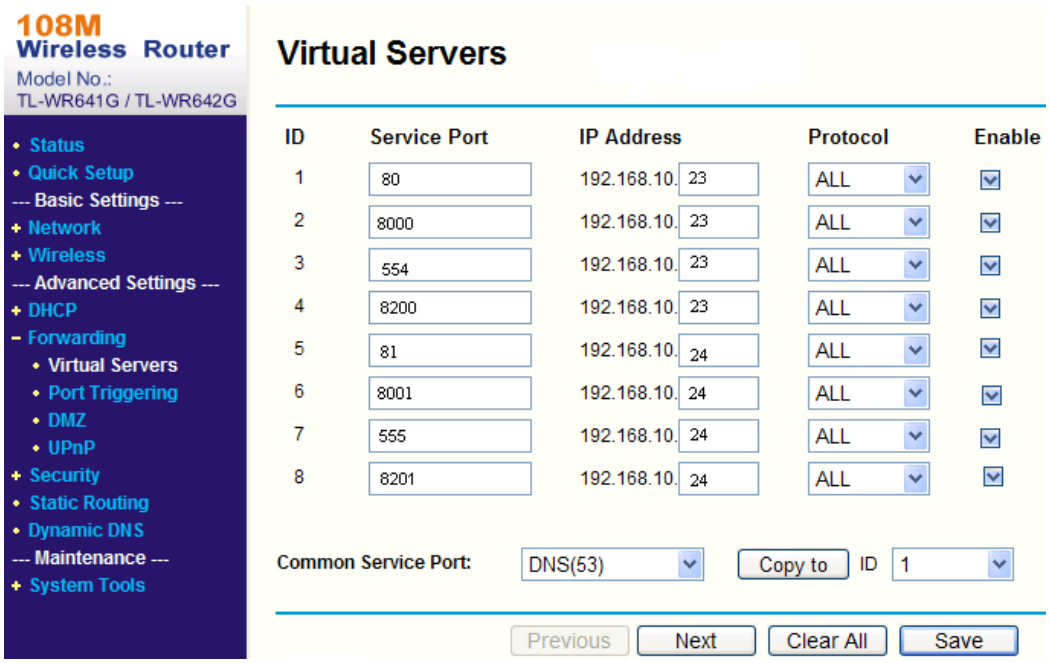


Figure A.2.3 Port Mapping

Note: The port of the network speed dome cannot conflict with other ports. For example, some web management port of the router is 80. Change the speed dome port if it is the same as the management port.