Video Matrix Platform

User’s Manual

V2.0.0

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Cybersecurity Recommendations

Mandatory actions to be taken towards cybersecurity

1. Change Passwords and Use Strong Passwords:

The number one reason systems get “hacked” is due to having weak or default passwords. It is recommended to change default passwords immediately and choose a strong password whenever possible. A strong password should be made up of at least 8 characters and a combination of special characters, numbers, and upper and lower case letters.

2. Update Firmware

As is standard procedure in the tech-industry, we recommend keeping NVR, DVR, and IP camera firmware up-to-date to ensure the system is current with the latest security patches and fixes.

“Nice to have” recommendations to improve your network security

1. Change Passwords Regularly

Regularly change the credentials to your devices to help ensure that only authorized users are able to access the system.

2. Change Default HTTP and TCP Ports:

● Change default HTTP and TCP ports for systems. These are the two ports used to communicate and to view video feeds remotely.

● These ports can be changed to any set of numbers between 1025-65535. Avoiding the default ports reduces the risk of outsiders being able to guess which ports you are using.

3. Enable HTTPS/SSL:

Set up an SSL Certificate to enable HTTPS. This will encrypt all communication between your devices and recorder.

4. Enable IP Filter:

Enabling your IP filter will prevent everyone, except those with specified IP addresses, from accessing the system.

5. Change ONVIF Password:

On older IP Camera firmware, the ONVIF password does not change when you change the system’s credentials. You will need to either update the camera’s firmware to the latest revision or manually change the ONVIF password.

6. Forward Only Ports You Need:

● Only forward the HTTP and TCP ports that you need to use. Do not forward a huge range of numbers to the device. Do not DMZ the device's IP address.

● You do not need to forward any ports for individual cameras if they are all connected to a recorder on site; just the NVR is needed.

7. Disable Auto-Login on SmartPSS:

Those using SmartPSS to view their system and on a computer that is used by multiple people should disable auto-login. This adds a layer of security to prevent users without the appropriate credentials from accessing the system.

8. Use a Different Username and Password for SmartPSS:

In the event that your social media, bank, email, etc. account is compromised, you would not want someone collecting those passwords and trying them out on your video surveillance system. Using a different username and password for your security system will make it more difficult for someone to guess their way into your system.

9. Limit Features of Guest Accounts:

If your system is set up for multiple users, ensure that each user only has rights to features and functions they need to use to perform their job.

10. UPnP:

● UPnP will automatically try to forward ports in your router or modem. Normally this would be a good thing. However, if your system automatically forwards the ports and you leave the credentials defaulted, you may end up with unwanted visitors.

● If you manually forwarded the HTTP and TCP ports in your router/modem, this feature should be turned off regardless. Disabling UPnP is recommended when the function is not used in real applications.

11. SNMP:

Disable SNMP if you are not using it. If you are using SNMP, you should do so only temporarily, for tracing and testing purposes only.

12. Multicast:

Multicast is used to share video streams between two recorders. Currently there are no known issues involving Multicast, but if you are not using this feature, deactivation can enhance your network security.

13. Check the Log:

If you suspect that someone has gained unauthorized access to your system, you can check the system log. The system log will show you which IP addresses were used to login to your system and what was accessed.

14. Physically Lock Down the Device:

Ideally, you want to prevent any unauthorized physical access to your system. The best way to achieve this is to install the recorder in a lockbox, locking server rack, or in a room that is behind a lock and key.

15. Connect IP Cameras to the PoE Ports on the Back of an NVR:

Cameras connected to the PoE ports on the back of an NVR are isolated from the outside world and cannot be accessed directly.

16. Isolate NVR and IP Camera Network

The network your NVR and IP camera resides on should not be the same network as your public computer network. This will prevent any visitors or unwanted guests from getting access to the same network the security system needs in order to function properly.

Preface

Overview

This document mainly introduces functional feature, installation, use, operation and maintenance of Video Matrix Platform.

Applicable Model

Video Matrix Platform-4U-E

Symbol Definition

The following symbols may appear in the document. Please refer to the table below for the respective definition.

Symbol	Note
 Danger	It means highly potential danger. It will cause severe injury or casualties if it fails to avoid.
 Warning	It means moderate or low potential danger. It may cause slight or moderate injury if it fails to avoid.
 Caution	It means potential risk. It may cause device damage, data loss, weaker performance or other unpredictable consequences if it fails to avoid.
 Anti-static	It means electrostatic-sensitive device.
 Protection against electric shock	It means high-voltage danger.
 Laser radiation	It means intensive laser radiation.
Tip	It means that it can help you to solve some problems or save your time.
 Note	It means the additional information, which is the emphasis and supplement of the main body.

Revision Record

No.	Version No.	Revision Content	Release Date
1	V2.0.0	Baseline Revision V3.0 Project	2017.11.30

Important Safeguards and Warnings

The following description is the correct application method of the device. Please read the manual carefully before use, in order to prevent danger and property loss. Strictly conform to the manual during application and keep it properly after reading.

Operating Requirement

- Please don't place and install the device in an area exposed to direct sunlight or near heat generating device.
- Please don't install the device in a humid, dusty or fuliginous area.
- Please keep its horizontal installation, or install it at stable places, and prevent it from falling.
- Please don't drip or splash liquids onto the device; don't put on the device anything filled with liquids, in order to prevent liquids from flowing into the device.
- Please install the device at well-ventilated places; don't block its ventilation opening.
- Use the device only within rated input and output range.
- Please don't dismantle the device arbitrarily.
- Please transport, use and store the device within allowed humidity and temperature range.

Power Requirement

- Please make sure to use batteries according to requirements; otherwise, it may result in fire, explosion or burning risks of batteries!
- To replace batteries, only the same type of batteries can be used!
- The product shall use electric wires (power wires) recommended by this area, which shall be used within its rated specification!
- Please make sure to use standard power adapter matched with this device. Otherwise, the user shall undertake resulting personnel injuries or device damages.
- Please use power supply that meets SELV (safety extra low voltage) requirements, and supply power with rated voltage that conforms to Limited Power Source in IEC60950-1. For specific power supply requirements, please refer to device labels.
- Products with category I structure shall be connected to grid power output socket, which is equipped with protective grounding.
- Appliance coupler is a disconnecting device. During normal use, please keep an angle that facilitates operation.

Table of Contents

1 Product Overview

1.1 Introduction

Video Matrix Platform is designed by referring to ATCA (Advanced Telecommunications Computing Architecture) as a modern telecommunication-level device which supersedes DVR, decoder, analog matrix, video wall controller and is compatible with past and current network monitoring environments.

Main Application:

- Flexible equipping of Function Card;
- Support input of analog/HD camera and various IPCs;
- HDMI, DVI and other outputs. It achieves matrix switch, encoding and decoding with these abundant ports.
- Support network storage that leads to centralized storage management.
- Support online real-time preview.

Figure 1-1

1.2 Functional Feature

This product is a digital video matrix system with functions of digital video switch, multiple operation access, centralized management and distributed deployment. It achieves switches among analog signal, digital signal, HD network signal and HD digital video signal and making HD image available on video walls. This platform product integrates video signal encoding/decoding, centralized data storage, online real-time preview and various networks, pre-plan, log, user right management, device maintenance functions and etc., and allows HD video command/dispatch and video conference system.

1.2.1 Structural Feature

- 19 inch 4U standard rack case for universal uses.
- Card-type ATCA structure with strong expansibility and flexibility.
- 2 groups of fans for intelligent temperature controlling, stabilized air passage with the case structure to balance internal temperature.
- Dual-channel redundant power supply for continuous working of device and security of data.
- Double blade Function Card.

1.2.2 Hardware Feature

- Intel x86 patform for device expandability and fluency when system is in full load.
- High-speed connector on compression card, x4 PCI-E gen2 and 12V DC power supply, for fluency of high-speed data flow.
- Compression card's hot swap button and indicator for users' flexible extension on the application and knowledge of compression card status.
- Various ports of compression card, such as USB, serial, Internet interface, HDMI, BNC, DVI and etc. which guarantee device functions and simplify operation and debugging done by users and technical staffs.
- Each Function Card works independently to balance system's work load and ensure fluency.
- Duel-high-speed non-blocking design for rear panel to meet demand of large volume A/V data transmission.

1.2.3 Software Feature

Embedded LINUX OS: safe, reliable, stable, efficient, easy development and maintenance.

Matrix Switch Control

- Analog, network, digital video signal input and switch output.
- Signal non-compression direct switch output
- Keyboard control switch
- Modular input, output card design, switch matrix for different specifications of digital videos.

A/V Encoding Input

- Adopt MPEG4 coding standard, H.264 video compression standard, dual stream technology, VBR, composite streaming, video streaming encoding, and A/V sync during composite streaming encoding;
- A/V encoding card supports 32-ch BNC (CVBS signal), 8-CH HD-SDI, 4-CH DVI (support DVI, VGA, HDMI signal), 8-ch HDCVI, 4-ch VGA, 4-ch HDMI (support DVI, HDMI signal) and 2-ch HDMI (4k acquisition).

- Max support 80-ch HD video encoding capacity or 320-ch SD video encoding capacity.
- Support non-standard stream.
- Support SVAC/MPEG4/H.264/MJPEG/H265 video standards.

A/V Decoding Output

- DVI, HDMI output display.
- 1/4/6/8/9/16/25/36 window split and free split.
- Fluency function doubles original video 25 fps or 30 fps into 50 fps or 60 fps respectively, and thus enhances fluency to view high-speed moving objects.
- A single card supports max 6-ch HDMI HD A/V decoding capacity, 4-ch 4K HD decoding capacity, 32-ch 1080P HD video decoding capacity, 64-ch 720P HD video decoding capacity and 64-ch D1 and lower SD video decoding capacity.
- Support 1200W, 800W, 500W and 300W HD video decoding.
- Support 320-ch 1080P/60-ch 4K (3840*2160@30fps HDMI) decoding capacity.
- Support max 40-ch 4K output.
- Support 60-ch HD output.
- Support max 320-ch 1080P H.265 bit stream real-time output.
- Support 30 preset scenes; user may customize each TV wall layout.

Video Wall Splicing

- Random splicing among 60 screens.
- Digital zoom in.
- Open window and roaming; a single screen supports 16 windows.
- Combined window supports 1/4/6/8/9/16/25/36 splits.
- Point-to-point HD background display.

Record and Storage

- Scheduled record and mobile detection record.
- Pre-record and delay record.
- Redundant record, support to lock and unlock record file.
- Lock and unlock record files.
- HDD pack management.
- IPSAN, ISCSI standard network protocol storage, support NVR, NAS, EVS and other centralized storages.

Network Function

- 6 RJ45 ports, supporting 1000M network.
- Support TCP/IP protocol stack, including TCP, UDP, RTP, RTSP, PPPoE, DHCP, DNS, DDNS, NTP, SADP, SMTP, ISCSI etc.
- Support NAS, IP SAN network centralized storage, and support receiving system log remotely.
- Support management software to achieve remote switching between analog and digital

videos on video wall and control with keyboard.

- Support remotely receiving and configuring parameter, remotely rebooting and remotely inputting/outputting parameters.

Other Functions

- Complete set of operation, alarm, abnormality and log recording facilitates user and technical staff's maintenance.
- Complete user authority management and storage management, while the authority can be subdivided into a channel and a single HDD, making the device more user-friendly.
- Support local and remote online upgrade, guarantee timely update to meet changing market demand.
- Support network storage to accommodate demand from medium to large monitoring systems.
- Multiple users and clients login, convenient for users to preview and manage monitoring whenever and wherever possible.

1.3 Introduction to Compression Cards in System

Name	Model	Functional Module	Description	Note
Platform Host	Video Matrix Platform-4U-E	Video Matrix Platform host	● 1 4U host case，support 10 Function Cards ● 1 MBC0004 main control panel ● 1 control panel ● 1 built-in power adaptor	Standard (dual-redundant power optional)
Input Module	VEC0804HS	HD-SDI encoding card	● 8-ch HD-SDI video input (BNC) ● 2-ch RS485 interface	Optional
	VEC0404HD	DVI encoding card	4-ch DVI video input	Optional (support DVI, VGA, HDMI)
	VEC0804HC	HDCVI encoding card	8-ch BNC video input (HDCVI)	Optional
	VEC0404HV	VGA encoding card	4-ch VGA video input	Optional
	VEC0404HH	HDMI encoding card	4-ch HDMI video input	Optional
	VEC3204FB	CVBS encoding card	● 32-ch CVBS video input ● 2-ch RS485 interface	Optional

Output Module	VDC0404UD	4K encoding card	4-ch DVI video output interface	Optional
	VDC0605H	HDMI encoding card	6 HDMI video output interface	Optional

Table 1-1

1.4 Host System

1.4.1 4U Host Case

Video Matrix Platform with 19-inch 4U structure host case includes Function Card slot, power interface and intelligent temperature-controlled fan. For product appearance, please see Figure 1-2.

Figure 1-2

- Front panel, for displaying device working status.

	ON/OFF button. It is blue after power on.
	Device power indicator. ● It is off when the device is power off. ● It is red when the device is power on.
	Device alarm indicator. ● It is red when the device goes wrong. ● It is off when the device is normal.
	System status indicator. It is yellow after the device is booted and operating normally.

Table 1-2

- According to back view of the case, air intake is in the left of the case while air outtake is in the right. The air intake with dust filter shall be cleaned every two months.
- 2 groups of intelligent temperature-controlled fan allow hot swap.
- 10 interface board slots of Function Card are labeled in sequence and used to install rear interface board of Function Card.
- Interface board slots of main control panel, marked as “M”.

- Interface board slots of control panel, marked as “C”.
- Dual-power module supports 220V module.

1.4.2 Main Control Panel

1.4.2.1 Interface Introduction

Figure 1-3

No.	Interface	Function
1	Reset Button	Restore default setups
2	Power Indicator of Main Control Panel	Display power status of main control panel
	System Status Indicator	Display system working status
	PCI-E Status Indicator	Display PCI-E working status
3	USB Interface	1 USB3.0 and 2 USB2.0 for connection to mouse, keyboard and USB
4	VGA	Local display output interface
5	Audio Input	Audio input
6	Audio Output	Audio mixing output
7	RJ45 Interface	2 gigabit network ports, for transmission of network A/V data and network control signal

Table 1-3

Caution

To guarantee normal use, connect network interface 2 on main control panel to any network interface on control panel via a network cable.

1.4.2.2 Performance Feature

- High-speed connector, including ten x4 PCI-E gen2, 12V DC power and I^2C.
- Memory slot, 1-slot single channel, 4G DDR3L memory.
- Fan interface, power/rotation rate control (CPU)
- 3 indicators (power status indicator, system running status indicator, PCI-E status indicator)

1.4.3 Control Panel

1.4.3.1 Interface Introduction

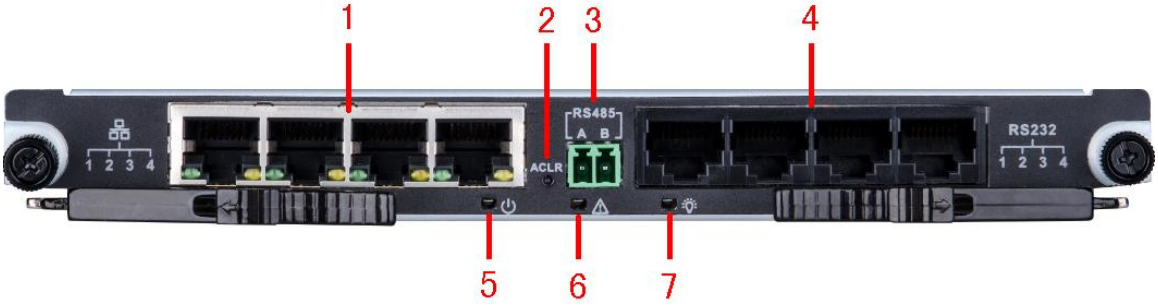


Figure 1-4

No.	Interface	Function
1	RJ45 Network Interface	4 gigabit network ports, for transmission of network A/V data and network control signal
2	Alarm Reset Button	Clear alarm signal
3	RS485	Control PTZ
4	RJ45 to RS232	● Serial interface 1, 2 and 3, used to control peripheral device ● Serial interface 4, reserved
5	Power Indicator of Main Control Panel	Display power status of main control panel
6	Alarm Indicator	Display alarm status
7	System Status Indicator	Display system working status

Table 1-4

1.4.3.2 Performance Feature

- Control device power on/off and working status monitoring.
- When system gives an alarm, alarm reset button clears system alarm.
- 3 indicators (power indicator, system alarm indicator and system running status indicator)
- RS232 serial interface connects central control device or debug PC.

1.5 Function Card

Function Card with blade modular design is mainly used to input analog and digital image, centralized encoding compression, remote preview, network centralized storage, centralized management and centralized decoding etc..

1.5.1 VEC0404HD Video Matrix Platform 4-CH DVI Encoding Card

Figure 1-5

1.5.1.1 Main Performance and Function

Performance Feature

- 4-ch DVI-I video interface input, supporting DVI, VGA and HDMI input
- 2 hot swap buttons
- 4 indicators
- High-speed connector, including x4 PCI-E gen2,12V DC power

Encoding Function

- Video encoding parameter is independent and adjustable in each channel, including resolution, frame rate, code rate, image quality and etc.
- Each channel supports schedule and event as compression parameters
- Support composite stream and video stream encoding
- Support picture compression and network transmission in 4 CIF or CIF under JPEG standard
- Support watermark technology

1.5.1.2 Interface Introduction

VIN video input interface and DVI-I interface.

1.5.1.3 Technical Parameter

Model	**VEC0404HD**	
A/V Input	Video Input	4-ch DVI-I interface
A/V Encoding Parameter	Video Compression Standard	H.264, MPEG4
	Video Encoding Resolution	1080P, 1680×1050, 1440×900, 1366×768, 1280×1024, 1280×960, 1280×800, 1280×720, 1152×864, 1024×768 and 800×600
	Video Frame	1 fps～60 fps

	Code rate	3584kbps～8129kbps, customizable, max 8129kbps
	Dual Stream	Support

1.5.2 VEC0404HV Video Matrix Platform 4-CH VGA Encoding Card

Figure 1-6

1.5.2.1 Main Performance and Function

Performance Feature

- 4-ch VGA video interface input, supporting VGA input
- 2 hot swap buttons
- 4 indicators
- High-speed connector, including x4 PCI-E gen2,12V DC power

Encoding Function

- Video encoding parameter is independent and adjustable in each channel, including resolution, frame rate, code rate, image quality and etc.
- Each channel supports schedule and event as compression parameters
- Support composite stream and video stream encoding
- Support picture compression and network transmission in 4 CIF or CIF under JPEG standard
- Support watermark technology

1.5.2.2 Interface Introduction

VIN video input interface and VGA interface.

1.5.2.3 Technical Parameter

Model	**VEC0404HD**	
A/V Input	Video Input	4-ch VGA interface
A/V Encoding Parameter	Video Compression Standard	H.264, MPEG4

	Video Encoding Resolution	UXGA@60Hz, 1080P@60Hz, 1080P@50Hz, 720P@50Hz, 720P@60Hz, 1024×768@60Hz, 1024×768@75Hz, 1280×1024@60Hz and 1280×1024@75Hz
	Video Frame	1 fps～60 fps
	Code rate	3584kbps～8129kbps, customizable, max 8129kbps
	Dual Stream	Support

1.5.3 VEC0804HS Video Matrix Platform 8-CH HD SDI Encoding Card

Figure 1-7

1.5.3.1 Main Performance and Function

Performance Feature

- 8-ch HD-SDI video interface input
- 2-ch RS485 interface
- 2 hot swap buttons
- 4 indicators
- High-speed connector, including x4 PCI-E gen2,12V DC power

Encoding Function

- Video encoding parameter is independent and adjustable in each channel, including resolution, frame rate, code rate, image quality and etc.
- Each channel supports schedule and event as compression parameters
- Support composite stream and video stream encoding; audio and video synchronization during composite stream coding
- Support picture compression and network transmission in 4 CIF or CIF under JPEG standard
- Support watermark technology

1.5.3.2 Interface Introduction

VIN video input interface and BNC interface.

1.5.3.3 Technical Parameter

Model	VEC0804HS	
A/V Input	Video Input	8-ch SDI (BNC) interface (electrical level: 1.0Vp-p; impedance: 75Ω)
A/V Encoding Parameter	Video Compression Standard	H.264, MPEG4
	Video Encoding Resolution	1080P/720P/D1/HD1/2CIF/CIF/QCIF
	Video Frame	1 fps～30 fps
	Code rate	3584kbps ～ 8129kbps, customizable, max 8129kbps
	Dual Stream	Support

1.5.4 VEC0804HC Video Matrix Platform 8-CH HDCVI Encoding Card

Figure 1-8

1.5.4.1 Main Performance and Function

Performance Feature

- 8-ch BNC video input interface, support HDCVI signal input
- 8-ch audio input, embedded
- Support reverse control
- 2 hot swap buttons
- 4 indicators
- High-speed connector, including x4 PCI-E gen2,12V DC power

Encoding Function

- Video encoding parameter is independent and adjustable in each channel, including resolution, frame rate, code rate, image quality and etc.
- Each channel supports schedule and event as compression parameters
- Support composite stream and video stream encoding; audio and video synchronization during composite stream coding
- Support picture compression and network transmission in 4 CIF or CIF under JPEG standard
- Support watermark technology

1.5.4.2 Interface Introduction

A/V input interface, BNC interface.

1.5.4.3 Technical Parameter

Model	**VEC804HC**	
A/V Input	Video Input	8-ch BNC
	Audio Input	8-ch HDCVI embedded
A/V Encoding Parameter	Video Compression Standard	H.264, MPEG4
	Video Encoding Resolution	1080P, 720P
	Video Frame	1 fps～30 fps
	Code rate	3584kbps～8129kbps, customizable, max 8129kbps
	Dual Stream	Support
	Audio Compresson Standard	G711a, PCM, G711u
	Audio Code Rate	8K16BIT

1.5.5 VEC0404HH Video Matrix Platform 4-CH HDMI Encoding Card

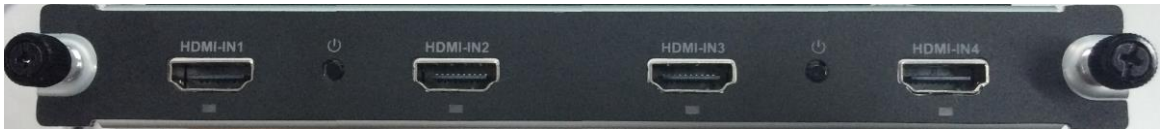


Figure 1-9

1.5.5.1 Main Performance and Function

Performance Feature

- 4-ch HDMI video interface input, support DVI and HDMI signal input
- 2 hot swap buttons
- 4 indicators
- High-speed connector, including x4 PCI-E gen2, 12V DC power

Encoding Function

- Video encoding parameter is independent and adjustable in each channel, including resolution, frame rate, code rate, image quality and etc.
- Each channel supports schedule and event as compression parameters
- Support composite stream and video stream encoding
- Support picture compression and network transmission in 4 CIF or CIF under JPEG

standard

- Support watermark technology

1.5.5.2 Interface Introduction

VIN video input interface, HDMI interface.

1.5.5.3 Technical Parameter

Model	**VEC0404HH**	
A/V Input	Video Input	4-ch, HDMI
	Audio Input	4-ch, HDMI interface (embedded)
A/V Encoding Parameter	Video Compression Standard	H.264, MPEG4
	Video Encoding Resolution	1080P, 1680×1050, 1440×900, 1366×768, 1280×1024, 1280×960, 1280×800, 1280×720, 1152×864, 1024×768, 800×600
	Video Frame	1 fps～60 fps
	Code rate	3584kbps～8192kbps, customizable, max 8192kbps
	Dual Stream	Support
	Audio Compresson Standard	G711a, PCM, G711u
	Audio Code Rate	8K16BIT

1.5.6 VEC3204FB Video Matrix Platform 32-CH CVBS Encoding Card

Figure 1-10

1.5.6.1 Main Performance and Function

Performance Feature

- 32-ch CVBS video interface input
- 2-ch RS485 interface
- 2 hot swap buttons
- 2 indicators
- High-speed connector, including x4 PCI-E gen2, 12V DC power

Encoding Function

- Video encoding parameter is independent and adjustable in each channel, including resolution, frame rate, code rate, image quality and etc.
- Each channel supports schedule and event as compression parameters
- Support composite stream and video stream encoding
- Support picture compression and network transmission in 4 CIF or CIF under JPEG standard
- Support watermark technology

1.5.6.2 Interface Introduction

VIN video input interface, 2-ch DB26 interface, convertor to 32-ch BNC.

1.5.6.3 Technical Parameter

Model	**VEC3204FB**	
A/V Input	Video Input	2-ch DB26 interface, convertor to 32-ch CVBS (BNC) (level: 1.0Vp-p; resistance: 75Ω)
A/V Encoding Parameter	Video Compression Standard	H.264, MPEG4
	Video Encoding Resolution	D1/960H
	Video Frame Rate	PAL: 1 fps～25 fps, NTSC: 1 fps～30 fps
	Video Code Rate	3584kbps～8129kbps, customizable, max 8129kbps
	Dual Stream	Support

1.5.7 VDC0404UD Video Matrix Platform 4-CH 4K Decoding Card

Figure 1-11

1.5.7.1 Main Performance and Function

Performance Feature

- 4-ch DVI digital video interface output
- 1 hot swap button
- 4 indicators

- High-speed connector, including x4 PCI-E gen2, 12V DC power

1.5.7.2 Interface Introduction

VOUT video output interface, DVI interface

1.5.7.3 Technical Parameter

Model	**VDC0404UD**	
A/V Output	Video Output	4-ch DVI digital video interface output
A/V Decoding Parameter	Video Compression Standard	H.264, H.265, MPEG4, SVAC, MJPEG
	Video Decoding Resolution	4096×2160@30Hz, 3840×2160@30Hz, 1080P@50/60Hz, 1280×720@50/60Hz, 1024×768@60Hz
	Video Process Capacity	● 6-ch 1080p@30Hz SVAC or 4-ch 1080p@30Hz H.265 ● 64-ch D1 or 32-ch 1080p or 4-ch 4K decoding output ● 24-ch D1 format non-standard decoding output
	Display Mode	1/4/6/8/9/16/25/36 split, free split

1.5.8 VDC0605H Video Matrix Platform 6-CH HDMI Decoding Card

Figure 1-12

1.5.8.1 Main Performance and Function

Performance Feature

- 6-ch HDMI digital video interface output
- 1 hot swap button
- 6 indicators
- High-speed connector, including x4 PCI-E gen2, 12V DC power

1.5.8.2 Interface Introduction

VOUT video output interface, HDMI interface

1.5.8.3 Technical Parameter

Model	**VDC0605H**	
A/V Output	Video Output	6-ch HDMI video interface; Support 4K output display(4-ch supports 4K, 2-ch supports 1080P)
	Audio Output	6-ch HDMI interface, audio embedded
A/V Decoding Parameter	Video Compression Standard	H.264, H.265, MPEG4, SVAC, MJPEG
	Decoding Resolution	1200W/800W/500W/300W/1080P/UXGA/720P/D1
	Video output resolution	4096×2160@30fps，3840×2160@30fps，1920×1080P@60fps，1280×1024P@60fps，1280×720P@60fps, 1024×768P@60fps
	Video Process Capacity	● 8-ch 4096×2160@25fps, 8-ch 3840×2160@30fps, 32-ch 1080p@30fps(H.264, H.265), 72-ch 720p@30fps, 150-ch D1 decoding ● 32-ch 1080P H.265 decoding ● 8-ch 1080P SVAC decoding ● 24-ch non-standard D1 decoding
	Display Mode	1/4/6/8/9/16/25/36 split, free split

2 Device Installation


Caution

During installation of Video Matrix Platform, please refer to relevant state standards of engineering construction for detailed requirements.

2.1 Inspection Steps

When you receive Video Matrix Platform, please inspect it according to the following steps.

Step 1 Inspect whether there are obvious damages on its appearance.
The material of product package should be able to protect the product from most impacts during transportation.

Step 2 please open the external package, and check whether any part of accessories is missing. You may refer to accompanied accessory bag. After you have checked that all parts are included, you may remove protective film on the device.

Step 3 Please open device case to inspect data cable and power cable of front panel, and see if the connection between main control panel and interface board is loose. Inspect whether main control panel, control panel and function card are inserted tightly.


Caution

One label at the side of the case owns serial number and other information of the device, which shall be provided when dialing after-sales calls. This label shall be protected well, and shall not be torn or discarded; otherwise, we may not be able to provide effective service.

2.2 Accompanied Assessory Bag

Accompanied assessory bag includes user's manual, disk and certificate of quality. When you unpackage the product, please make sure that all contents match the checklist.

2.3 Device Installation

2.3.1 Preparation of Installation Environment

As a system-level monitoring device, Video Matrix Platform is usually used in central machine room of monitoring system. Its installation site shall meet national and local machine room construction standards.

Video Matrix Platform is a standard rack-mounted device fixed in a cabinet. Please pay attention to the following points during installation and use:

- Ensure that the cabinet is sufficiently firm to support Video Matrix Platform and accessories. During installation, avoid dangers resulting from uneven mechanical load.
- Ensure that A/V cable owns sufficient installation space. Bending radius of cables shall not be less than 5 times as many as their outer diameter.
- Ensure well ventilation. It is suggested that its installation position shall be more than 50cm above the ground.

Power Supply Requirement

Rated voltage range: AC 100V-AC 120V, AC 200V-AC 240V, 50Hz/60Hz.

Anti-interference Requirement

- On-site power supply system shall take effective anti-interference measures.
- Working ground shall not be shared with ground wire or lightning protection device of electrical device, and shall keep away from them as far as possible.
- Keep away from high-power radio transmitting stations, radars and high-frequency heavy-current devices.
- When necessary, adopt electromagnetic shielding methods to resist interference.

Environmental Requirement

- Ensure that temperature in the cabinet is 0℃～50℃.
- Ensure that humidity in the machine room is 10%RH～90%RH.
- Ensure air ventilation required by safe operation of the device.

2.3.2 Installation Steps

Step 1 Remove interface sheath on rear panel of the case, as shown in Figure 2-1.

Note

Please remove the black interface sheath before inserting Function Card.

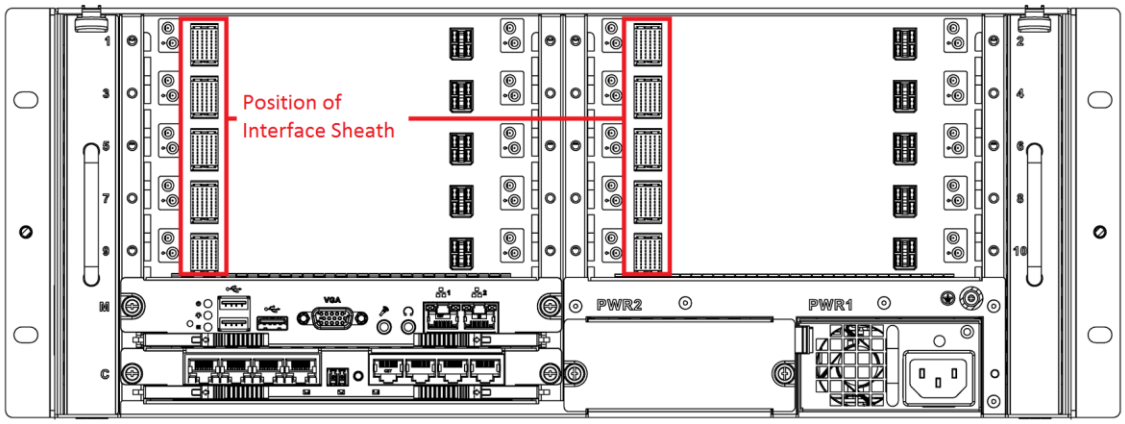


Figure 2-1

Step 2 Insert main control panel and control panel into slots of the case according to Figure 2-2, and tighten screws.

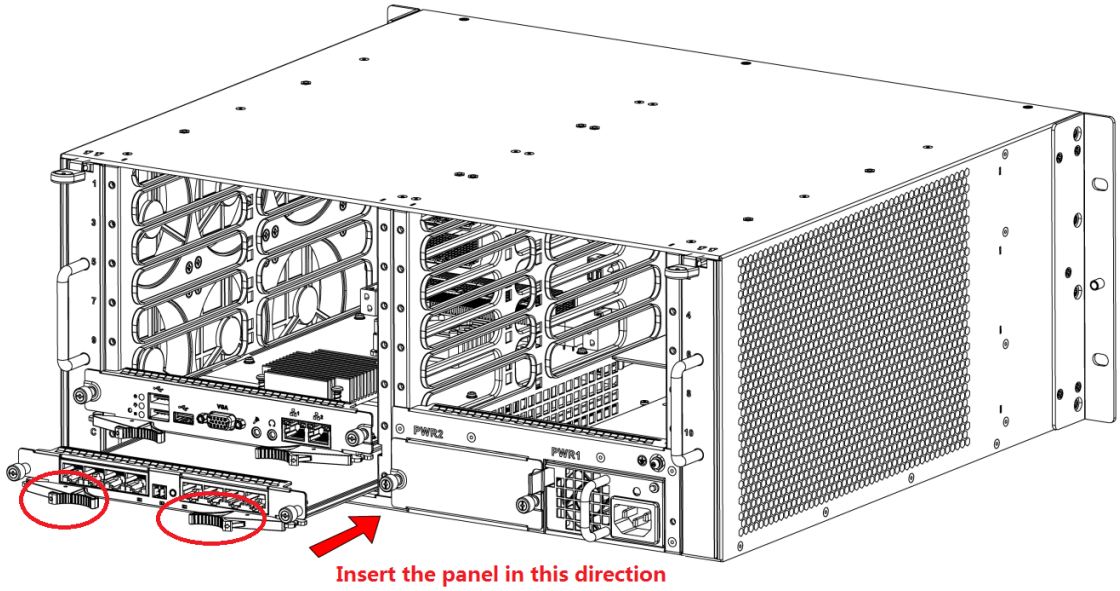


Figure 2-2

Note

When inserting main control panel and control panel, pull the extraction tool, and then insert the panel in place by pushing the extraction tool inward.

Step 3 Insert Functional Card according to actual needs. Its installation mode is the same as that of main control panel and control panel.

Step 4 Insert left and right fan boxes into corresponding positions, until the top snap joint is fixed, as shown in Figure 2-3.

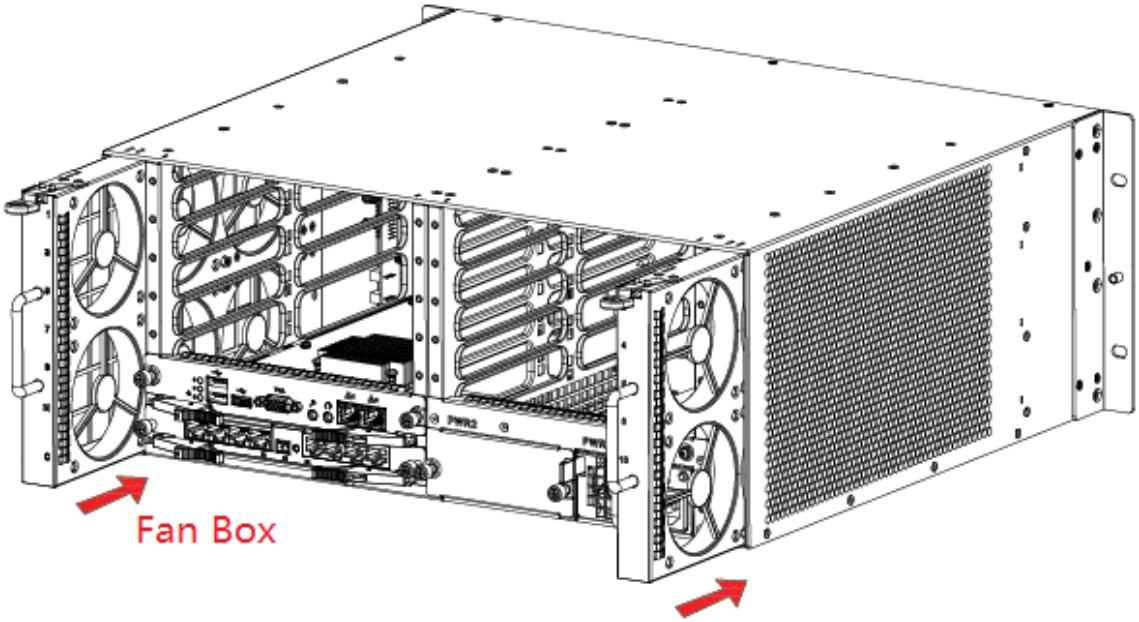


Figure 2-3

Step 5 Insert power supply and fix it, as shown in Figure 2-4.

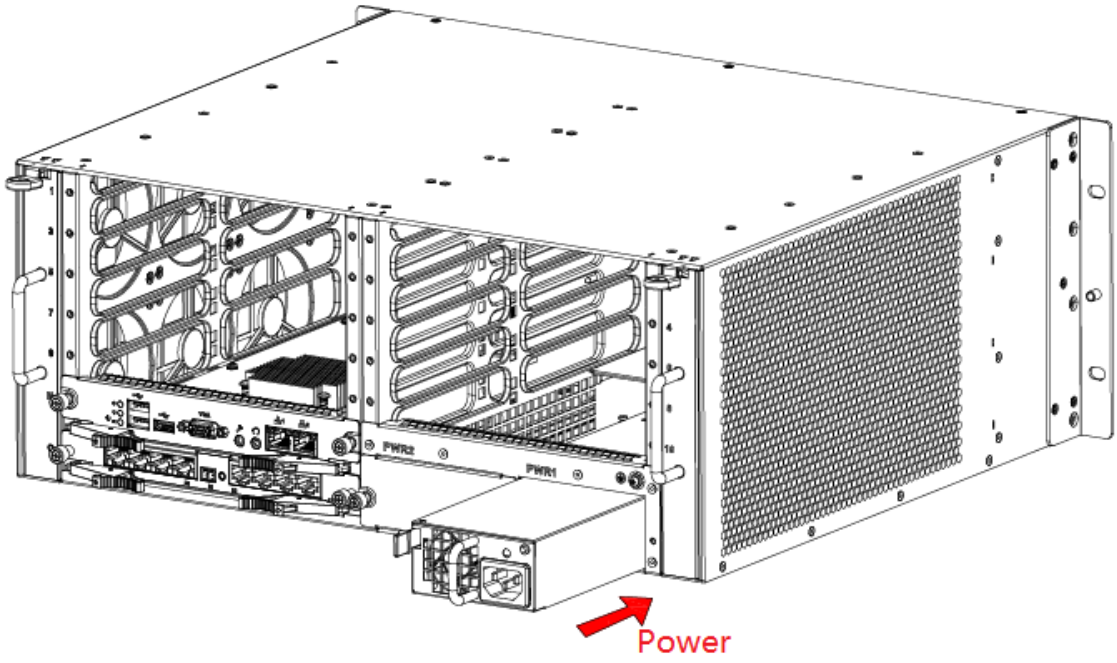


Figure 2-4

Step 6 Connect network interface 2 of main control panel and network interface of control panel with a gigabit network cable; connect network interface 1 of main control panel and client network, as shown in Figure 2-5.

Note

To guarantee normal use, ensure that network interface 2 of main control panel and any network interface of control panel are connected with a gigabit network cable.

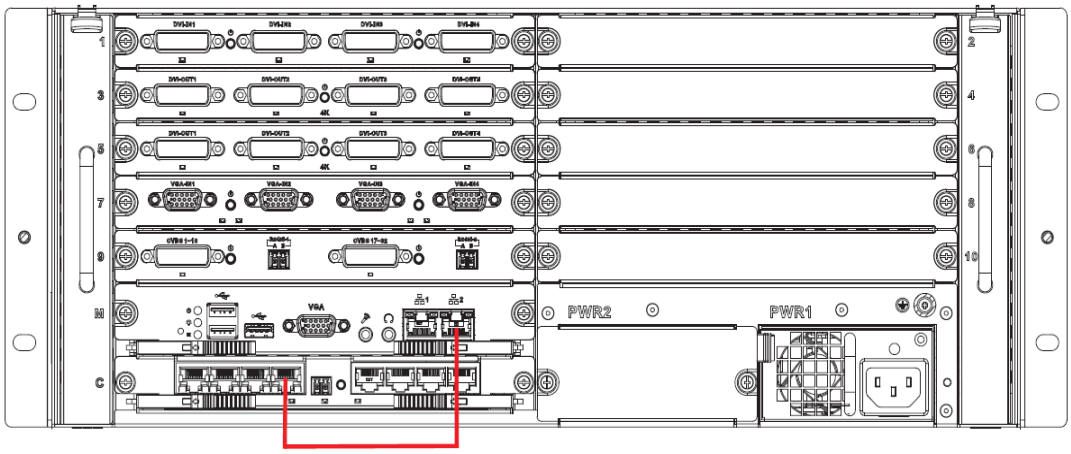


Figure 2-5

Step 7 Ground terminal of Video Matrix Platform shall realize reliable grounding, as shown in
Figure 2-6.

Caution

To guarantee personal safety and device safety, Video Matrix Platform and those devices (such as video wall and PC) connected with the platform with cables shall be grounded.

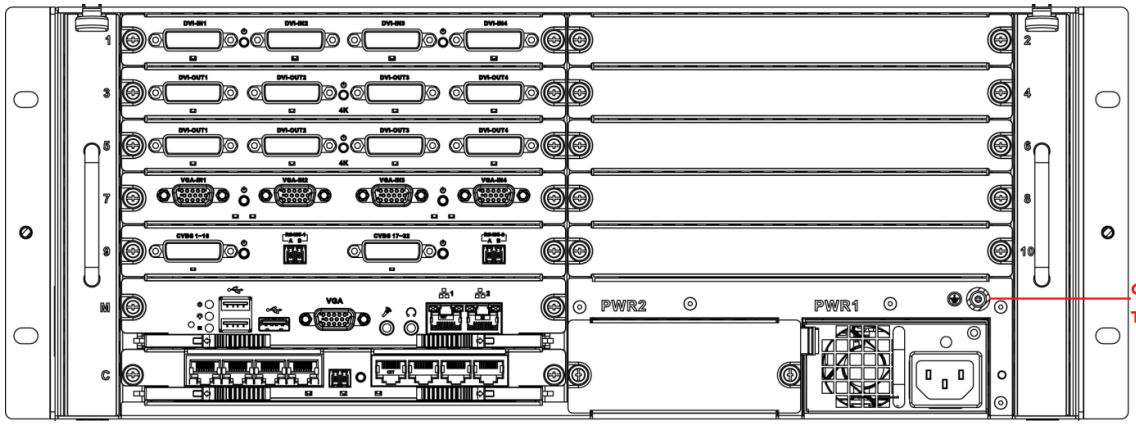


Figure 2-6

Note

At present, power supply of most devices can be grounded directly. In this case, their grounding terminals don't require grounding treatment.

Step 8 Connect network cable, VGA cable and other cables according to actual needs.

Step 9 Plug in and press ON/OFF key to boot the device.

2.3.3 Booting/shutdown

2.3.3.1 Booting

Plug in power cable, and press power switch on front panel. Power indicator turns on and

device boots up, followed by 90s booting interface.

Please pay attention to the following points during booting:

- Make sure whether the supplied voltage is within 100V～240V 47Hz～63Hz. Turn on the device after you check power cable connection.
- We recommend you to use power supply with stable voltage and little interference (refer to international standard), which help the device to work stably and prolong service life. This will also benefit external devices such as camera. UPS is the best choice if possible.

2.3.3.2 Shutdown

There are two shutdown methods:

- Method 1: Enter “Main Menu> Shut down System”, and choose “Shut down Device”.
- Method 2: Press ON button on the panel for 5s.


Caution

- Method 1 is recommended, in order to protect the device from damages due to unexpected outage.
- Stop all operations of the device, before you unplug the device from power supply.

2.3.3.2.1 Outage Recovery

In case of outage or forced shutdown during working, after connecting power supply again, the device will automatically save and resume previous working status.

2.3.3.2.2 Replace Button Battery


Caution

Before replacement, please export and save configurations, or all configurations will be lost!

We recommend that the same type of battery should be used. Inspect system time regularly. Generally speaking, battery shall be replaced once a year, to guarantee system time accuracy.

Note

Before you operate in local interface, you must connect monitor and other control devices (i.e. mouse, keyboard) to the device.

3.1 Basic Operation of Software Interface

3.1.1 Enter System Menu

Step 1 After you properly turn on the device, the system pops up “Device Initialization” interface, as shown in Figure 3-1.

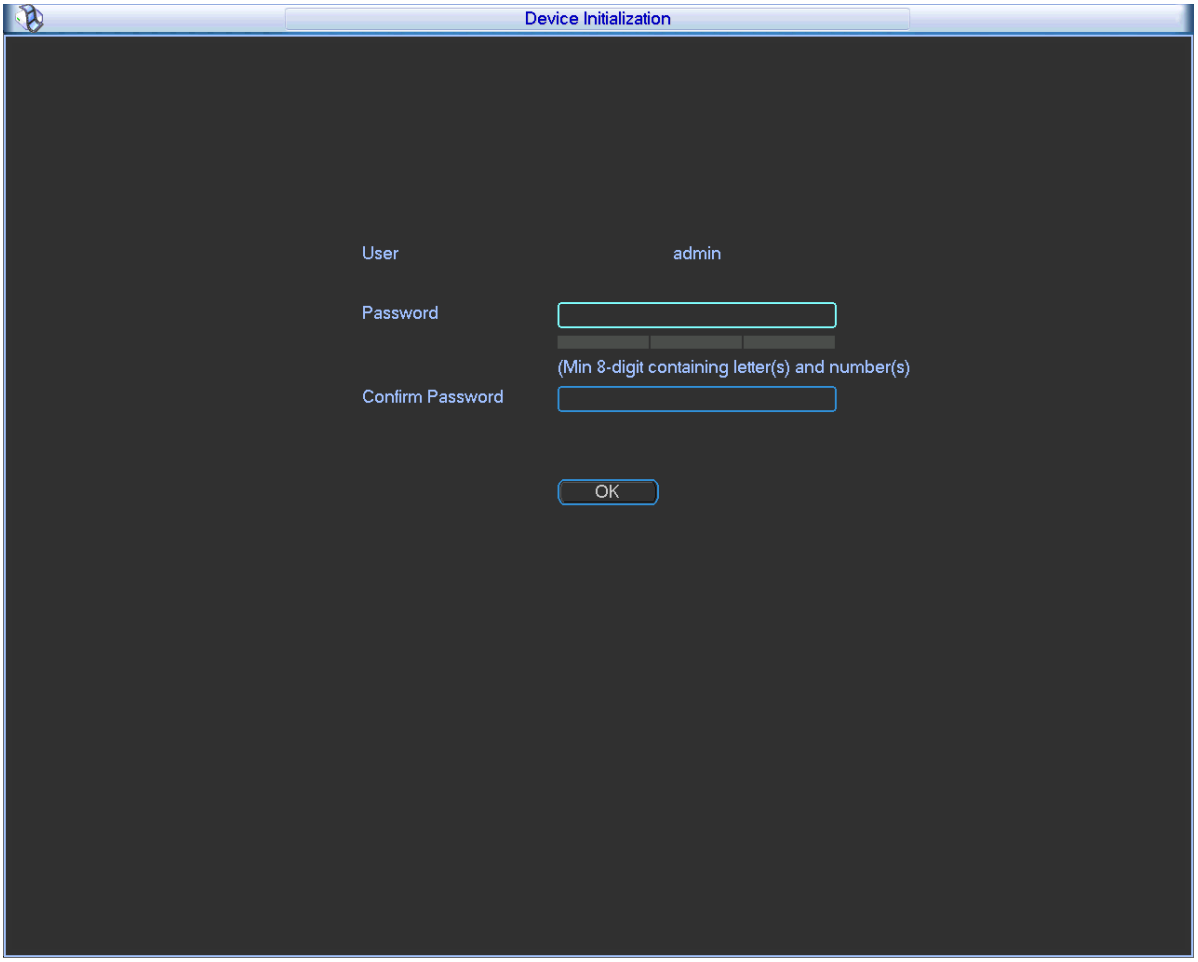


Figure 3-1

Step 2 Set the password of admin user.

Note

Password can be non-blank characters with 8～32 digits and shall include at least 2 types of characters, including capital letter, small letter, number and special character (except “‘”, “"”, “;”, “:” and “&”). New password and confirmed password shall be the same. Please set a highly safe password according to password strength.

Step 3 Click “OK” to complete configuration.

Step 4 Click the right mouse button.

The system displays “System Login” interface, as shown in Figure 3-2.

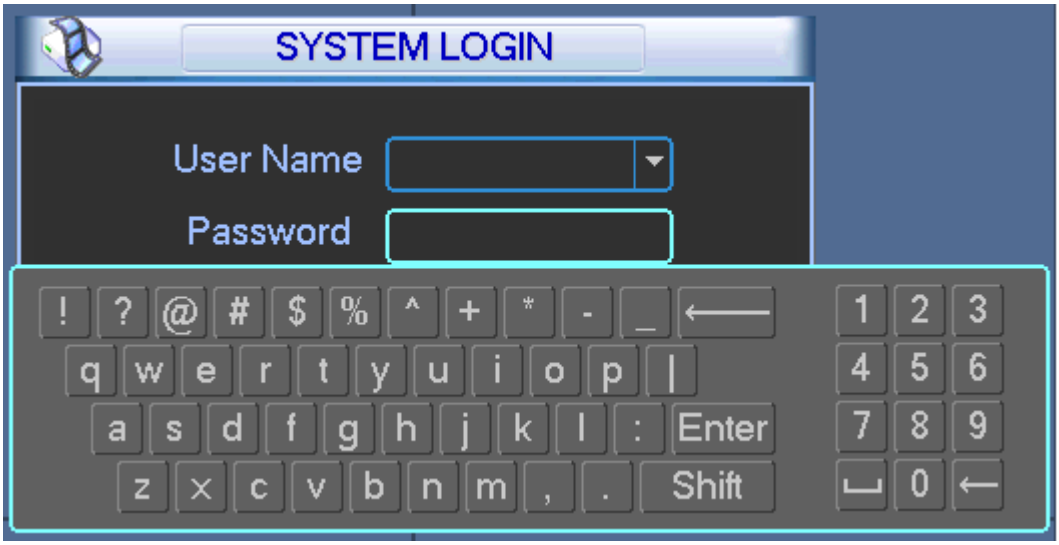


Figure 3-2

Step 5 Input password, click “OK” to log into the system.

Note

Password security measure: in case that password is wrong for 5 times within every 30 minutes, the account will be locked.

3.1.2 Main Interface

After normal login, the system enters main interface, as shown in Figure 3-3. For various icon definitions, please refer to Table 3-1.

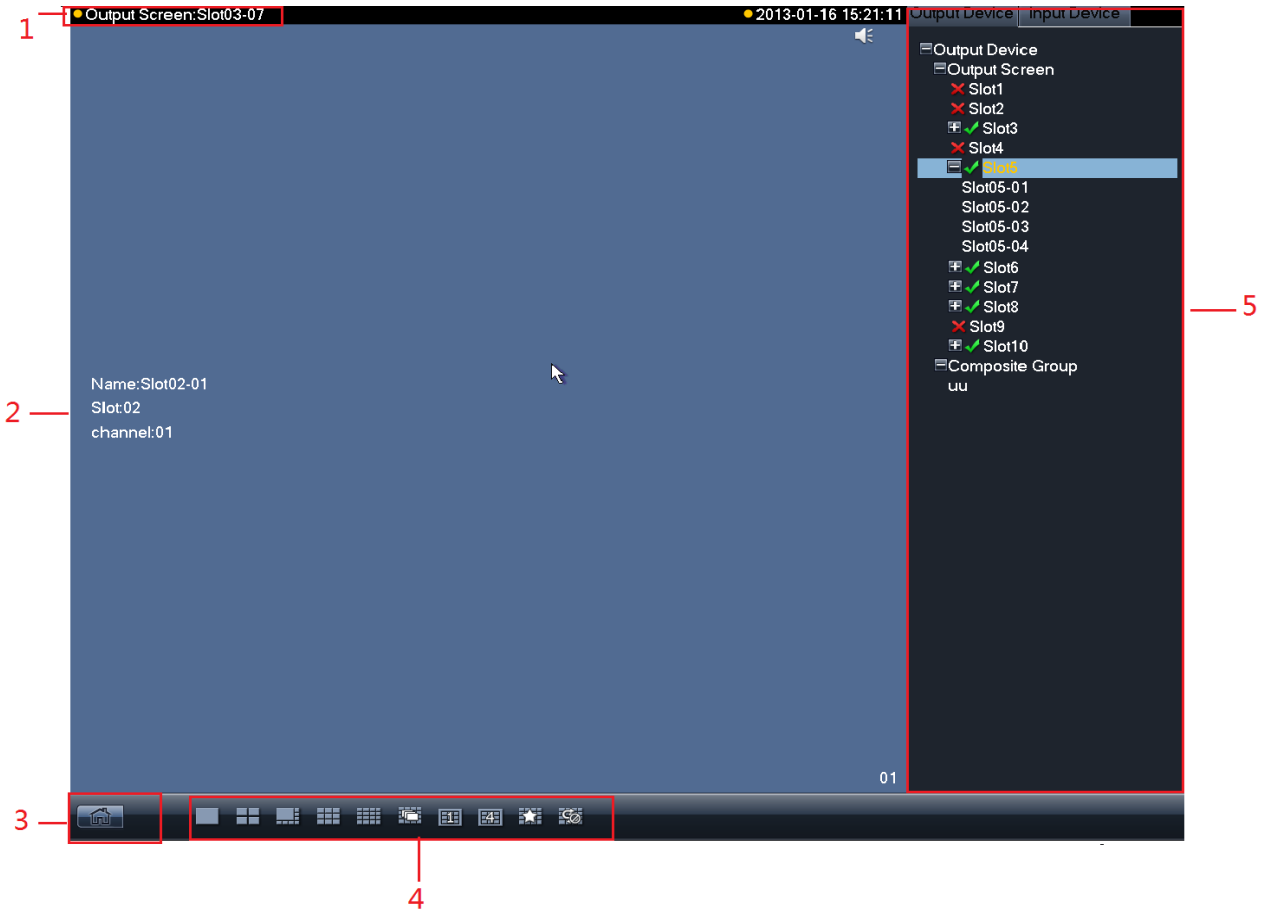


Figure 3-3

No.	Name	Function Description	
1	Current output	Display current output slot name.	
2	Display Window	• Display current output screen or video wall's splicing diagram. • Click channel. If its corresponding area turns yellow, it is selected successfully. • Support simultaneous display of 1, 4, 6, 8, 9 and 16 channels.	
			Sound on/off.
3	Shortcut Menu		Click to enter homepage.
4	Display Control Area	Display mode selection area	Display mode：Single channel, 4-ch, 6-ch, 8-ch, 9-ch and 16-ch available. (HD decoding card and SD decoding card are different) • Under single channel mode, select1～16 single channel. • Under 4-ch mode, you may switch among 1st ～4th channel, 5th～8th channel, 9th～12th channel and 13th～16th channel. • Under 6-ch mode, you may switch among 1st ～6th channel, 7th～12th channel and 13th～18th channel. • Under 8-ch mode, you may switch among 1st ～8th channel and 9th～16th channel. • Under 9-channel mode, you may switch among 1st～9th channel and 8th～16th channel. • Under 16-ch mode, you may view all 1～16 channels at the same time.

			Independent display button. It allows an independent view of any window selected in a single screen or independent view plus crossing screen function in a composite screen. To exit, you need to re-split and drag selected window.
			Realize single splitting function of all units of composite screen.
			Split all composite screen units into four.
			Favorites，you may save combination of display channels which you often monitor.
			Tour button. Support tour decoding and wall display.
5	Input and Output Device	Show input and output devices of each slot and channel. ●  Click this button to switch to output device list. ●  Click this button to switch to input device list.	

Table 3-1

3.1.3 Output Device Tree

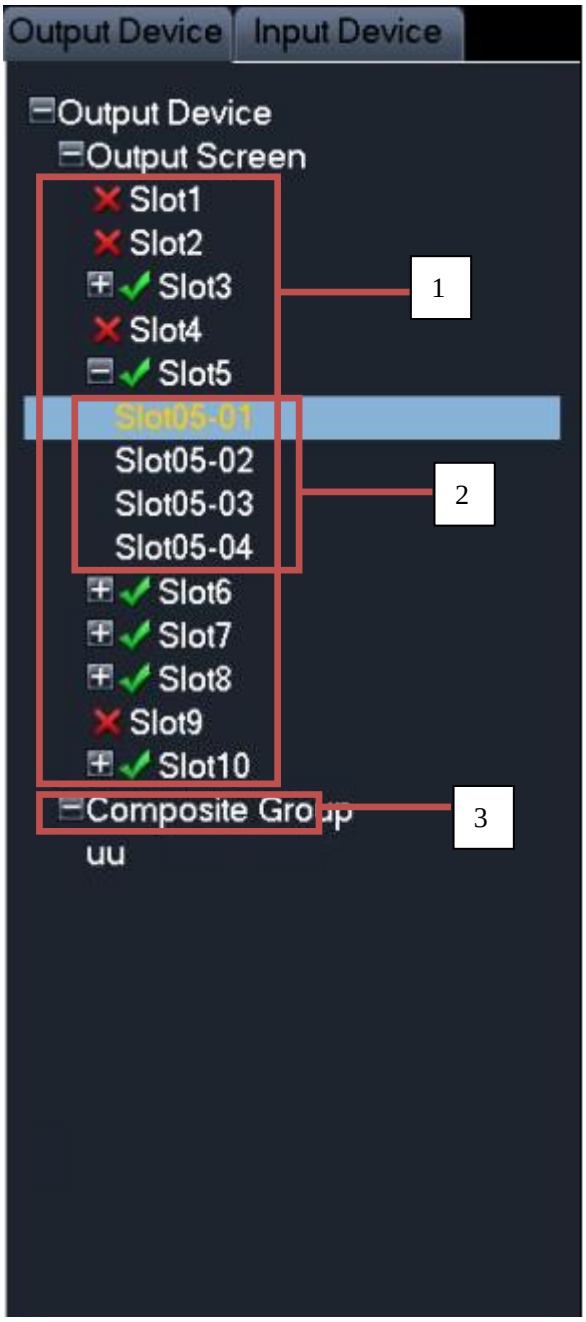


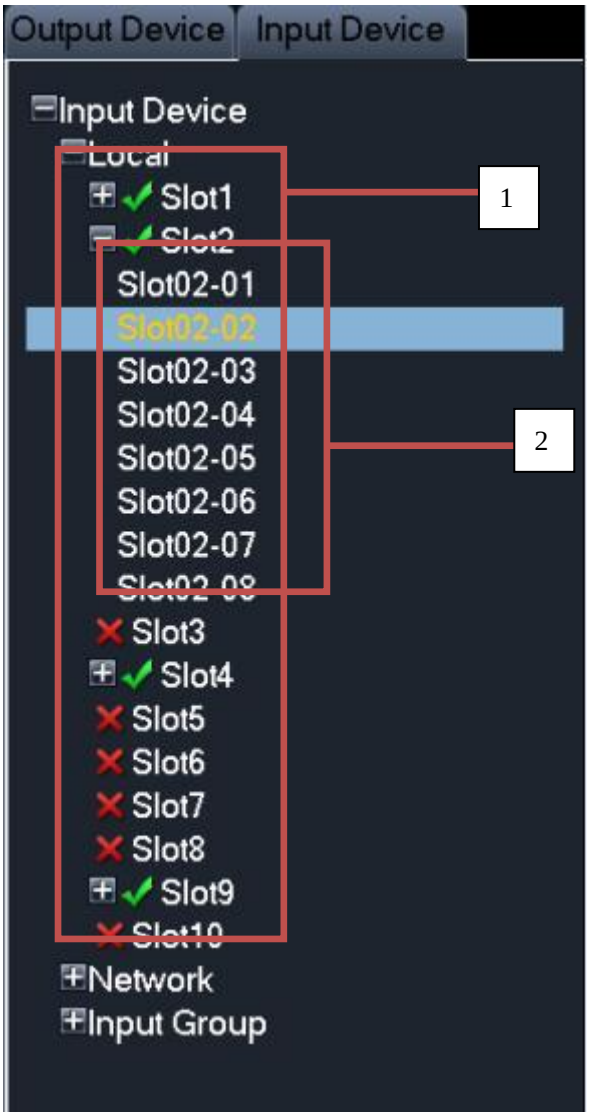
Figure 3-4

No.	Name	Function Description
1	Output Card List Area	List of output cards inserted in slot. When an output card is inserted into current slot, ⊞ will be displayed. You may click it to extend the list, as ⊞ will change to ⊟. Meanwhile, the current output card's corresponding output interface name will be listed.
2	Output Interface List Area	Display all output interface names under current output card. You may switch display control area to current output interface by double clicking on output interface name, and thus achieve control over displayed contents of current output interface.

3	Composite Screen List Area	Display current composite screen list. You may double click composite screen to switch from display control area to current composite screen, and thus achieve control over displayed contents of current composite screen.

Table 3-2

3.1.4 Input Device Tree



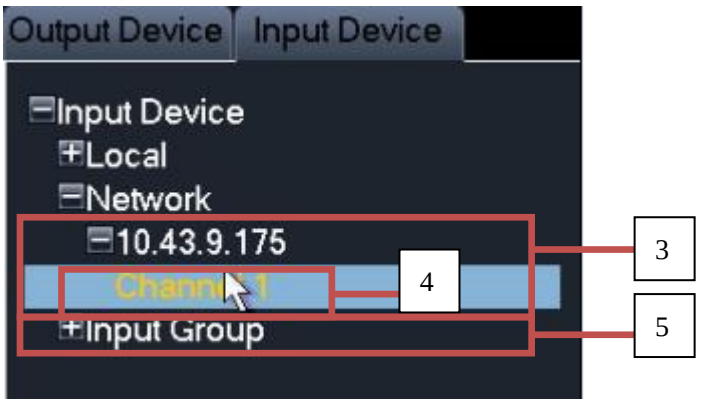


Figure 3-5

No.	Name	Function Description
1	Input Card List Area	List of input card inserted in slot. When an input card is inserted into current slot, ⊞ will be displayed. You may click it to extend the list, as ⊞ will change to ⊟. Meanwhile, the current input card's corresponding input interface name will be listed.
2	Input Interface List Area	Display all input interface names under current input card. After control area displays, select channel. By double clicking input interface name, you may switch from local input channel to currently selected input channel.
3	Remote Input List Area	Display added remote device list, and devices may be DVR, IPC and other encoding devices. It will display ⊞ icon in case of multiple channels, and extend to be ⊟ by clicking it. Meanwhile, channels supported by current remote device will be listed.
4	Remote Input Channel List Area	Display all input channel names under current remote device. After selecting the channel at display control area, double click input interface name; switch from remote input channel to currently selected input channel.
5	Input Group	When there is input group, it will display ⊞ icon and you may click it to extend the list as ⊟. Current input group name will be displayed.

Table 3-3

3.1.5 Display Control Area

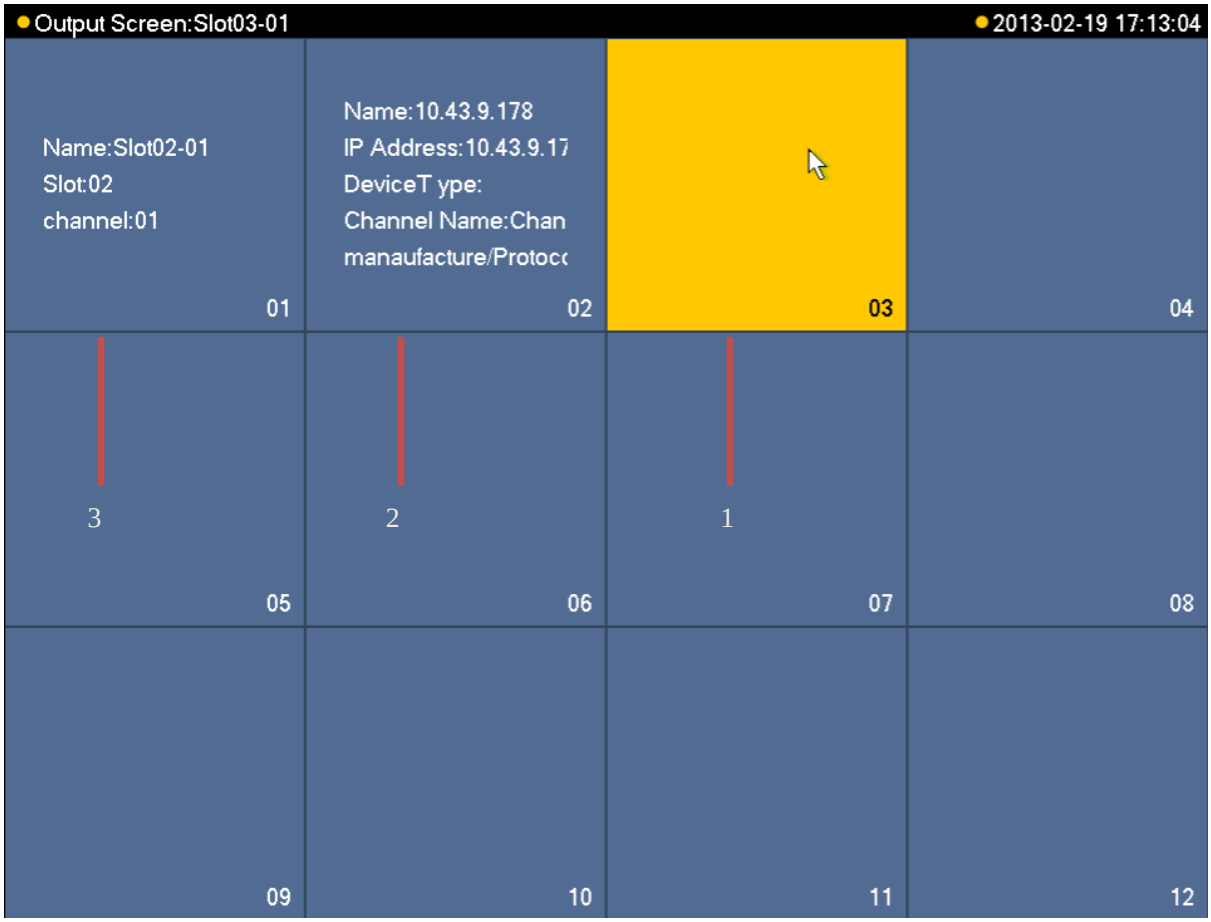


Figure 3-6

No.	Name	Function Description
1	Blank Area	In case that current output channel of current output interface does not have corresponding input channel, the status info is blank. Click this channel to view it, and its corresponding area will turn yellow.
2	Remote Input Display	If output channel of current output interface has set remote input device channel, device ID, IP address, device type, channel name, manufacturer protocol will be displayed. Click this channel;  icon will appear, in order to close displayed contents in this channel.
3	Local Input Display	If output channel of current output interface has set local input device channel, name, slot position and channel will be displayed. Click this channel;  icon will appear, in order to close displayed contents in this channel.

Table 3-4

3.1.6 Display Setup

3.1.6.1 Input and Output Setup

After the first booting, the device does not have output by default. It can be set at main menu.

Step 1 In output device area, double click the output channel name and select corresponding split window in the display window. The corresponding window turns yellow, as shown in Figure 3-7.

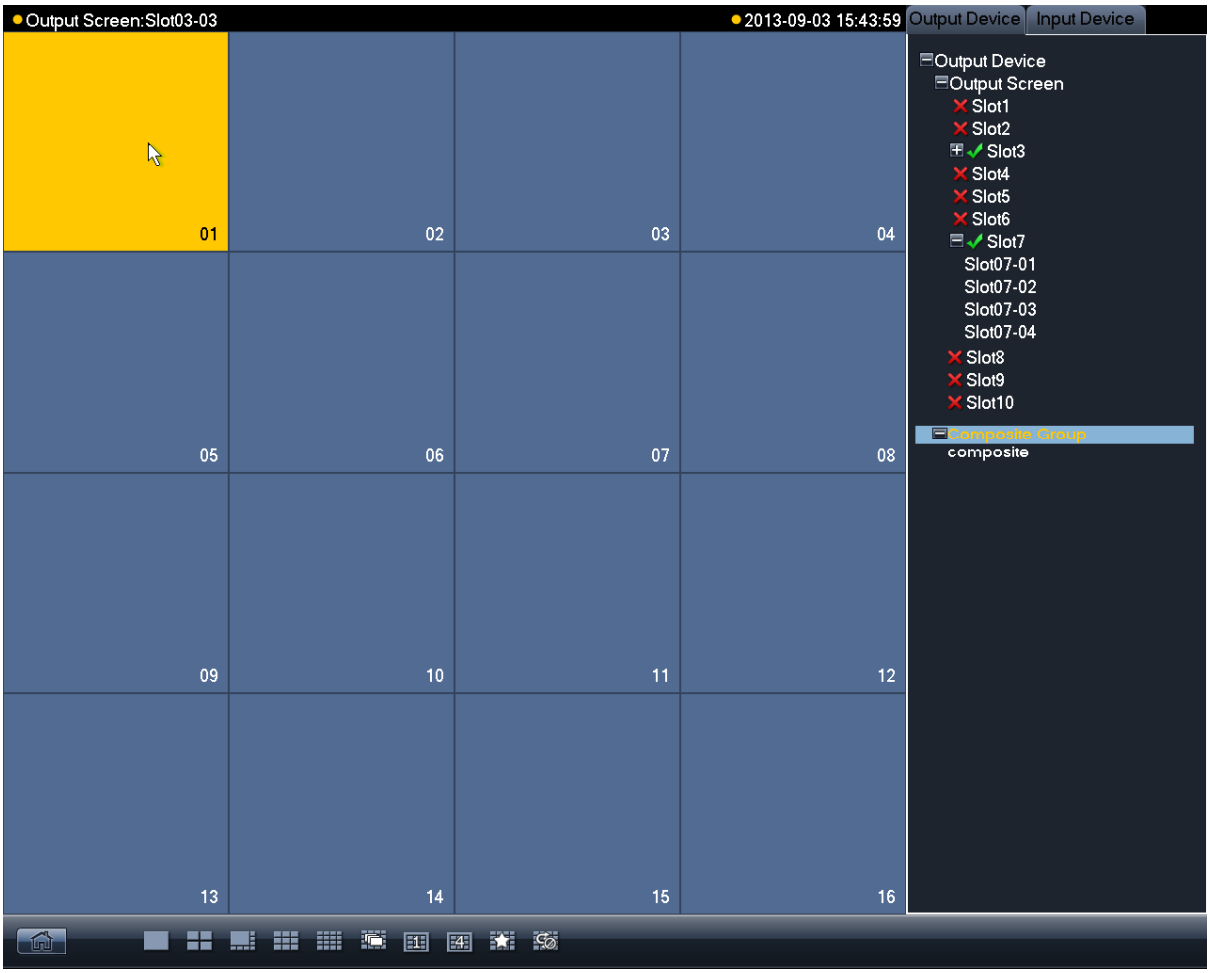


Figure 3-7

Step 2 Switch to input device list, double click corresponding input channel and configure signal source to the output interface, as shown in Figure 3-8.

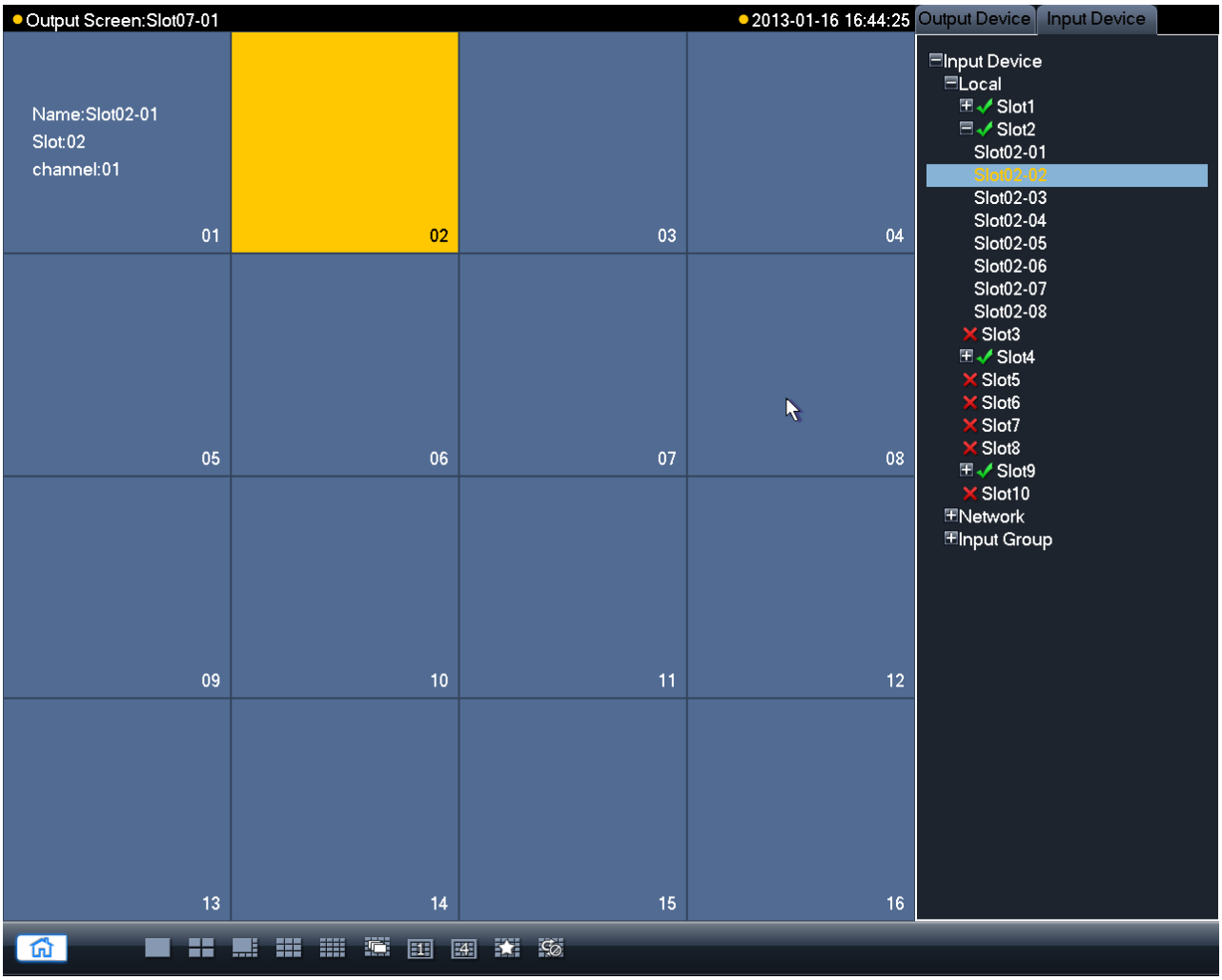


Figure 3-8

3.1.6.2 Menu Introduction

Click the right mouse button on homepage, and the system pops up a functional menu, as shown in Figure 3-9. For specific functional descriptions, please refer to Table 3-5.

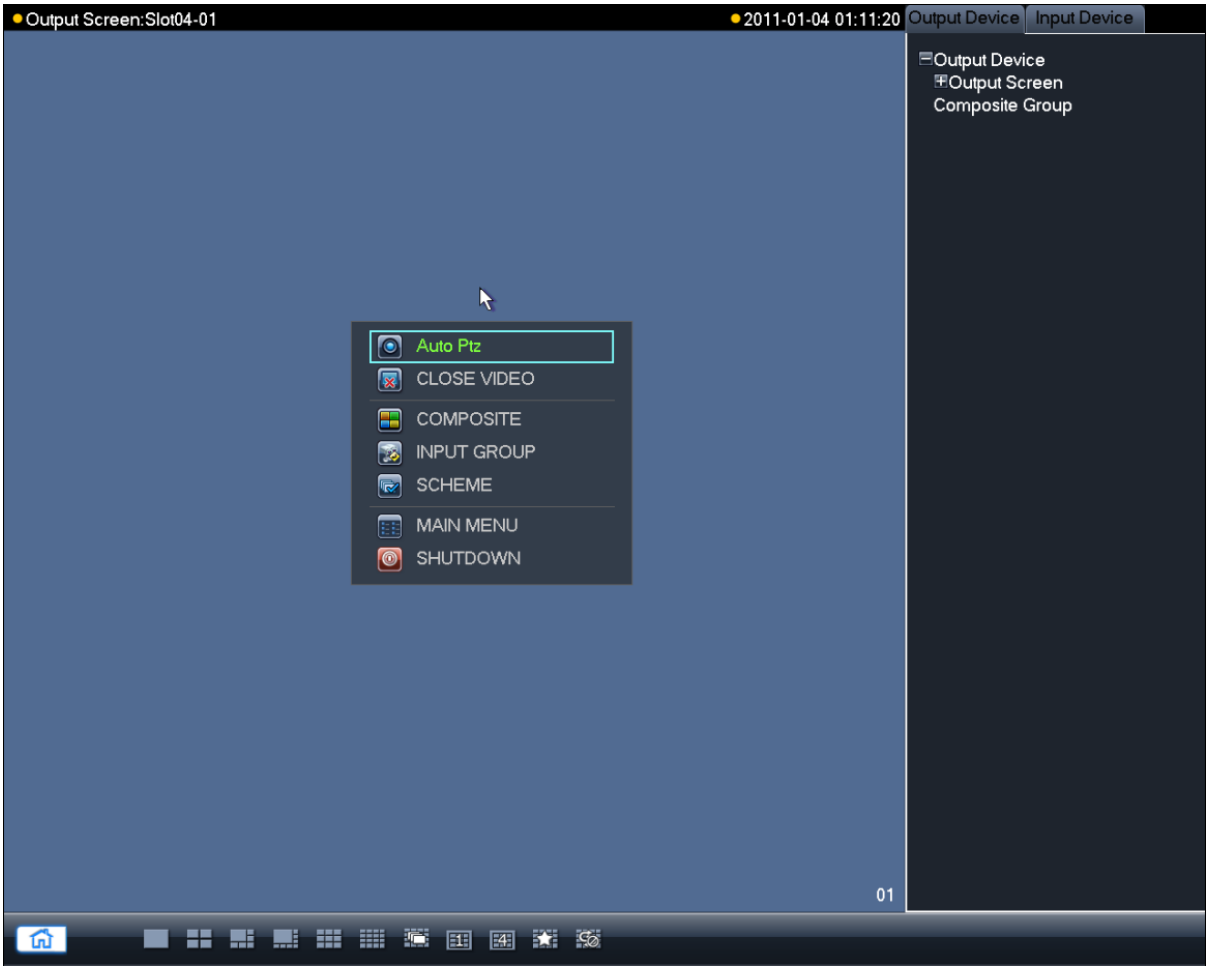


Figure 3-9

Name	Description
Auto PTZ	Use this function when input device supports auto PTZ.
Close Video	Delete channel configuration of current output screen.
Composite	Enter to operate composite screen interface.
Input Group	Config input group. Display all video config of input group on the output screen. When signal source of input group is more than the max split of output screen, auto tour starts.
Scheme	Config scheme. Save all output screen config of current device.
Main Menu	Display main menu.
Shutdown	Shut down the device.

Table 3-5

3.1.7 Input Group

Step 1 Click right mouse button to select “Input Group”.

The system displays “Input Group” interface, as shown in Figure 3-10.

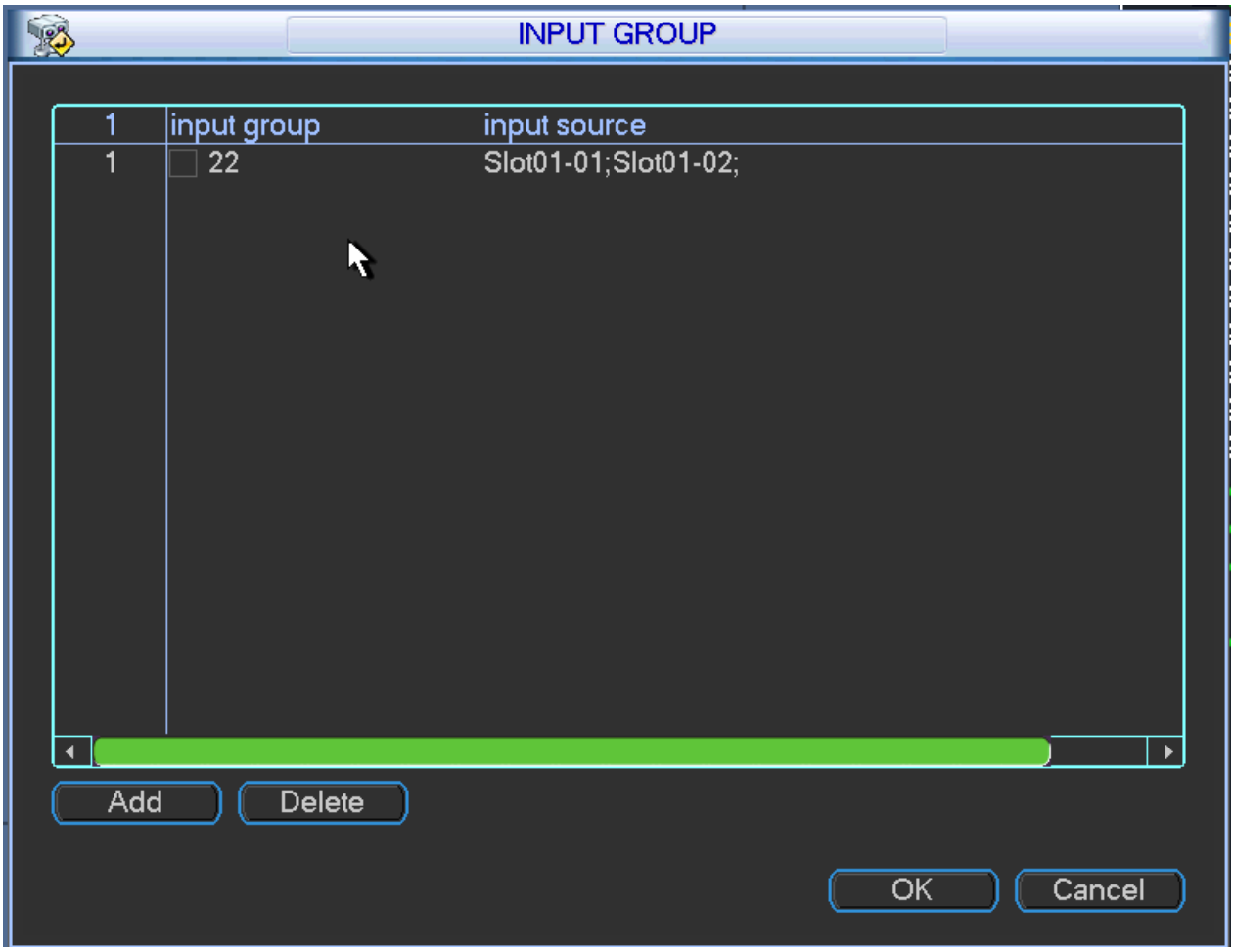


Figure 3-10

Step 2 Click “Add”.

The system displays “Add Input Group” interface, as shown in Figure 3-11.

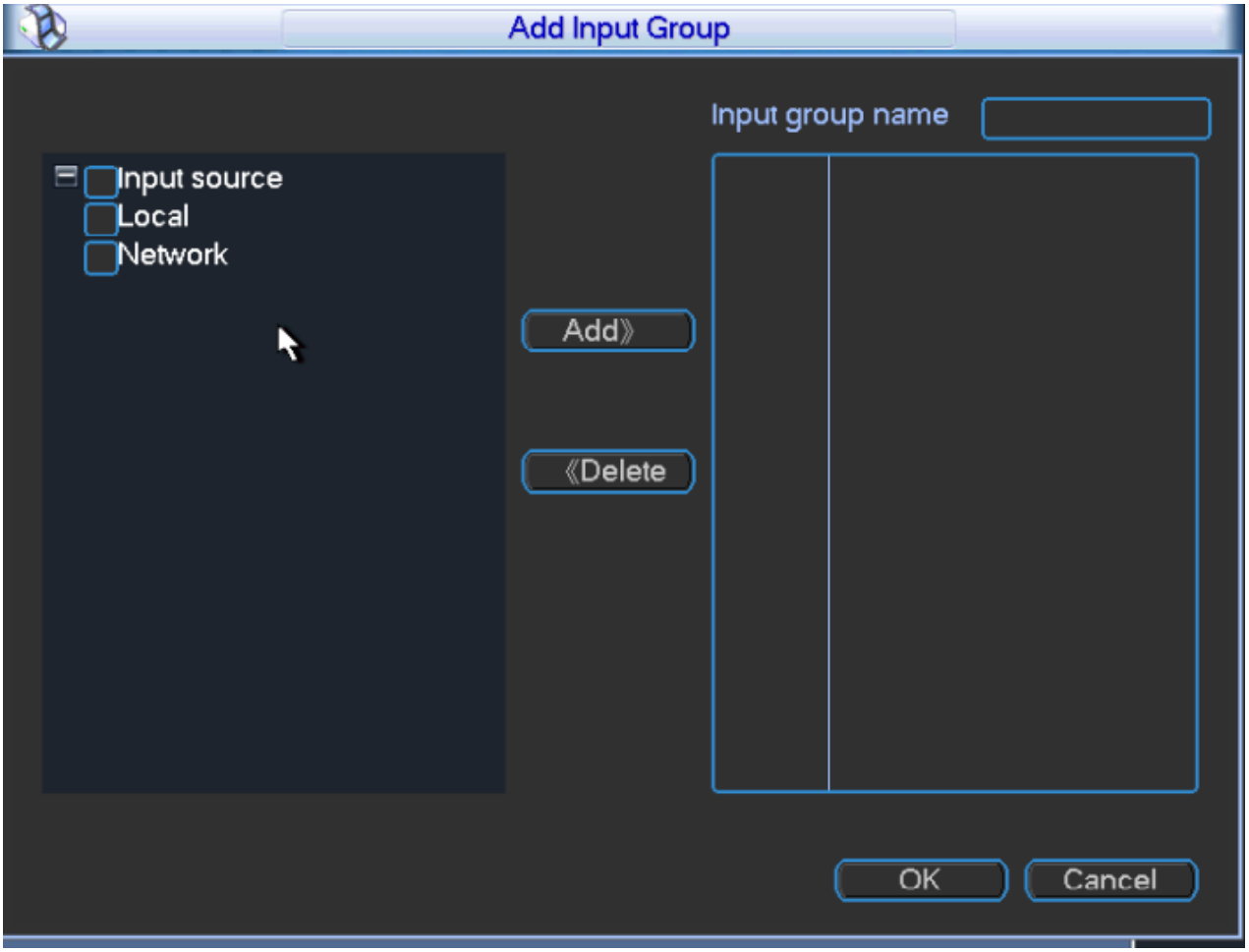


Figure 3-11

Step 3 Select local or network signal source that shall be added to input group. Click “Add”.

Note

means that it is selected.

Step 4 Fill in “Input Group Name” and click “OK”, as shown in Figure 3-12.

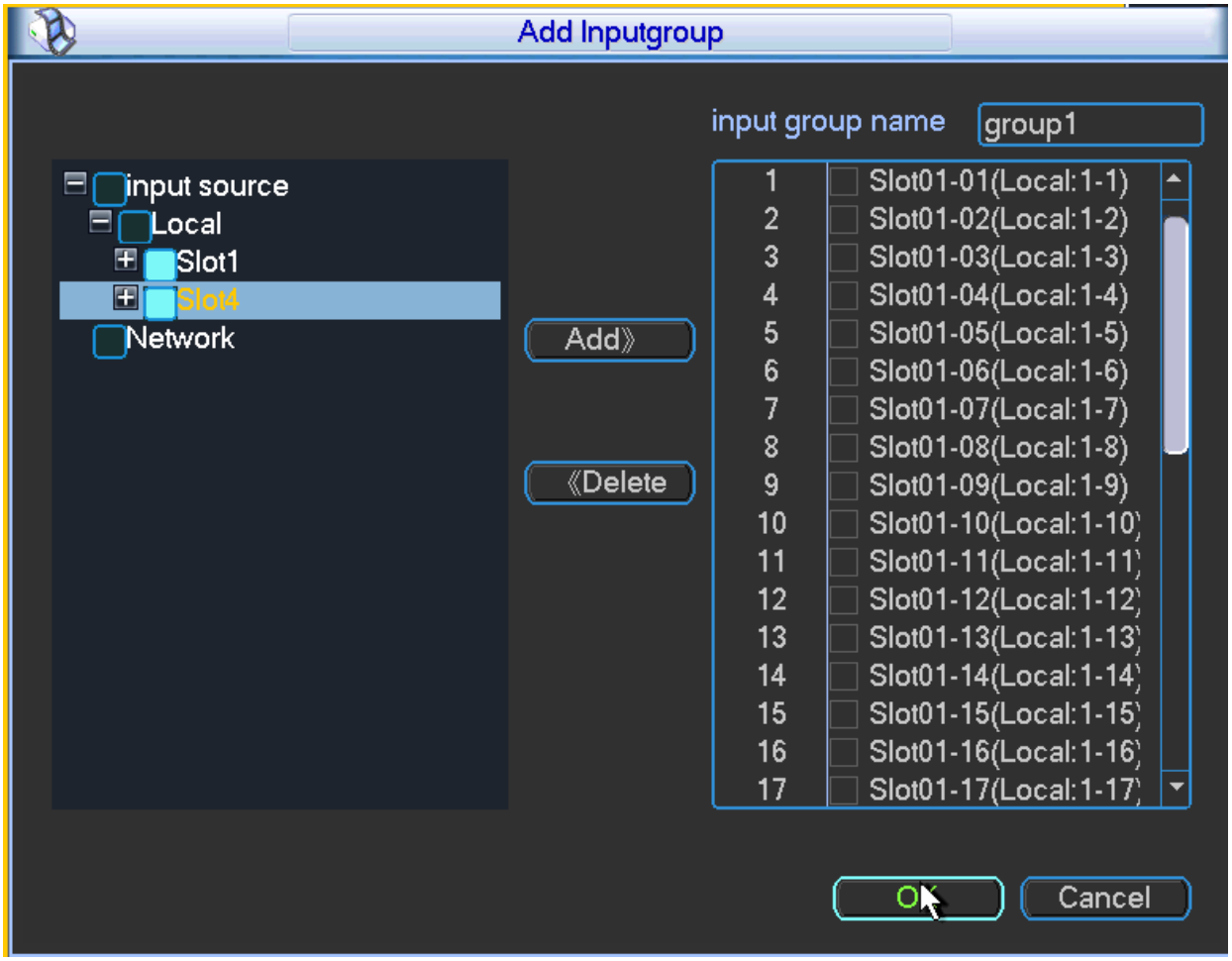


Figure 3-12

Note

- Repeat Step 4 to add multiple input groups.
- Select the corresponding check box; click “Delete” to delete this input group.

On completion, the system displays Figure 3-13.

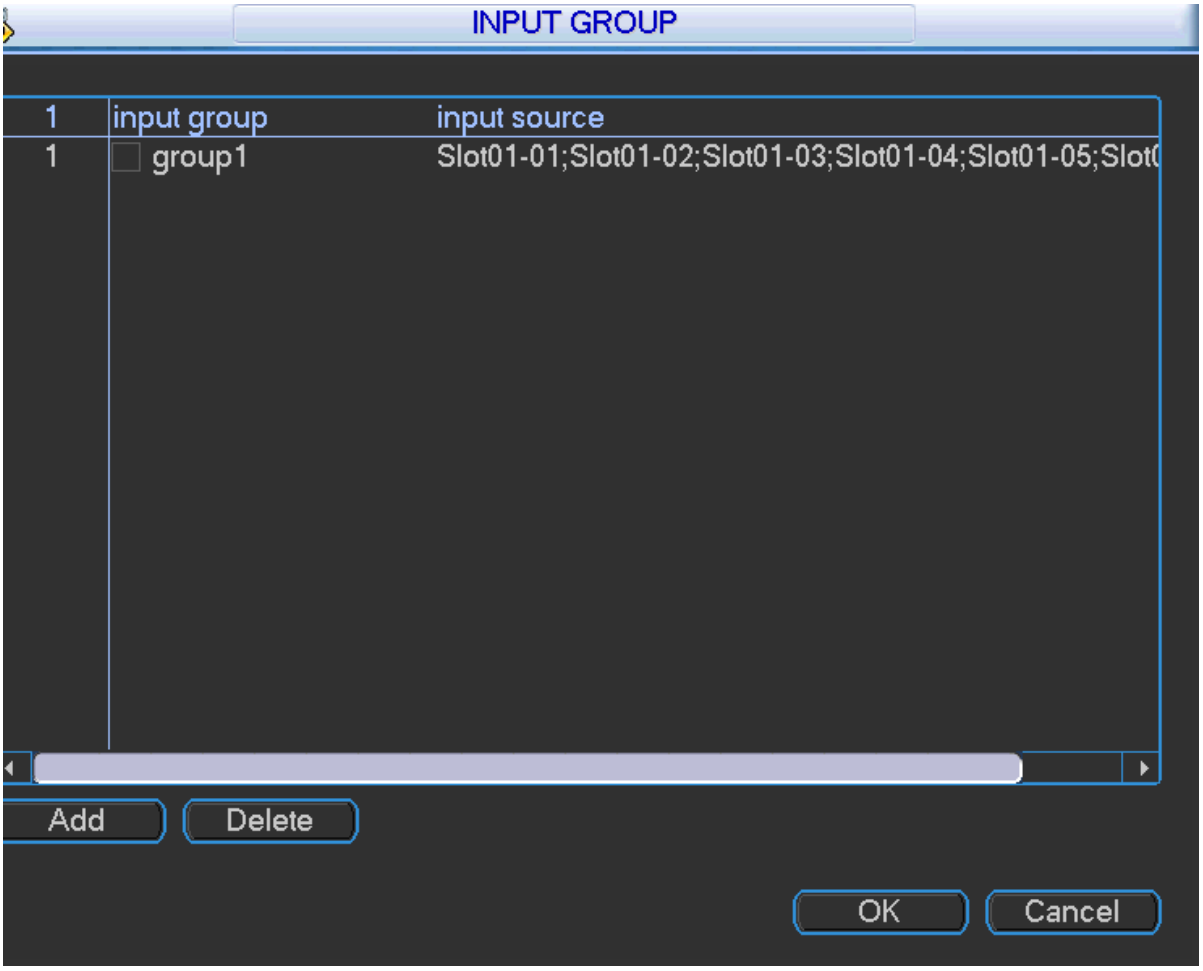


Figure 3-13

Step 5 Click “OK”.

You can see the added input group on the homepage, as shown in Figure 3-14.

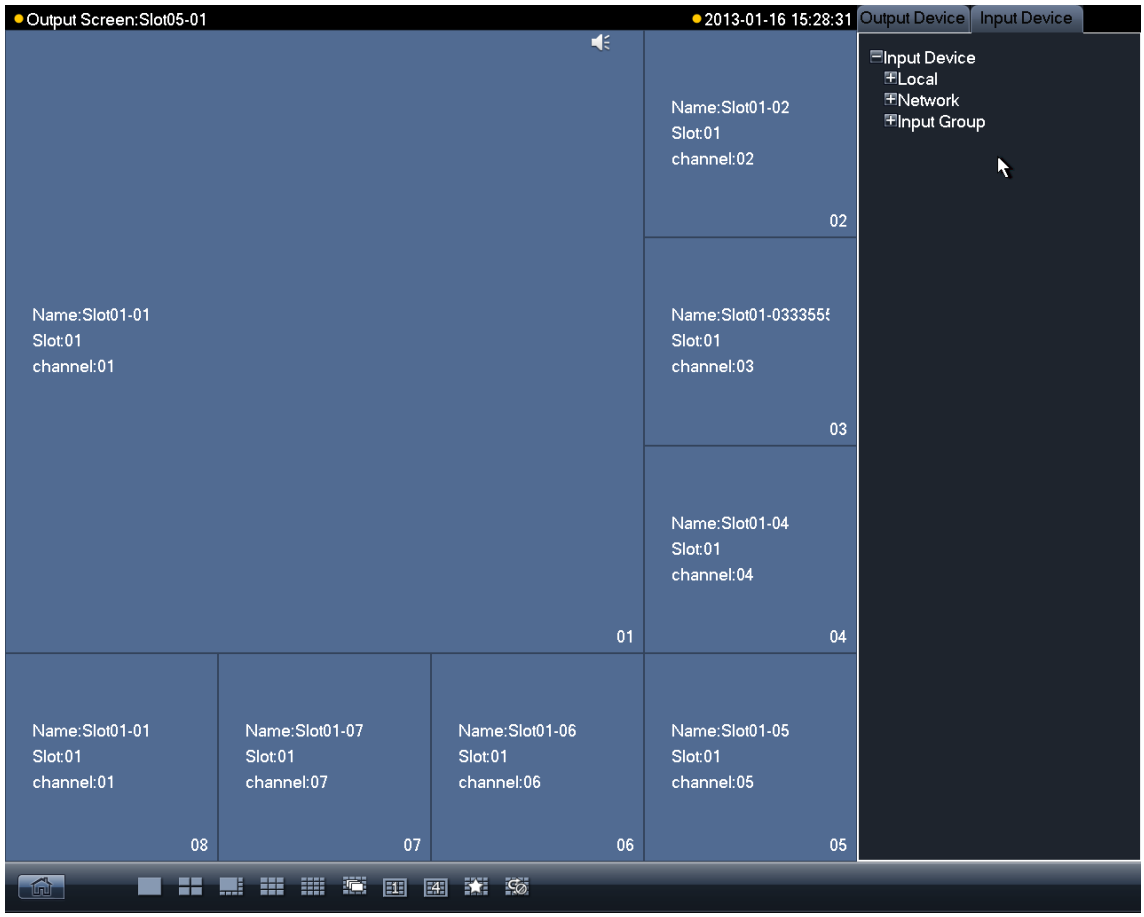


Figure 3-14

Step 6 In output device list, double click output channel name and select one output channel. Its corresponding window turns yellow, as shown in Figure 3-15.

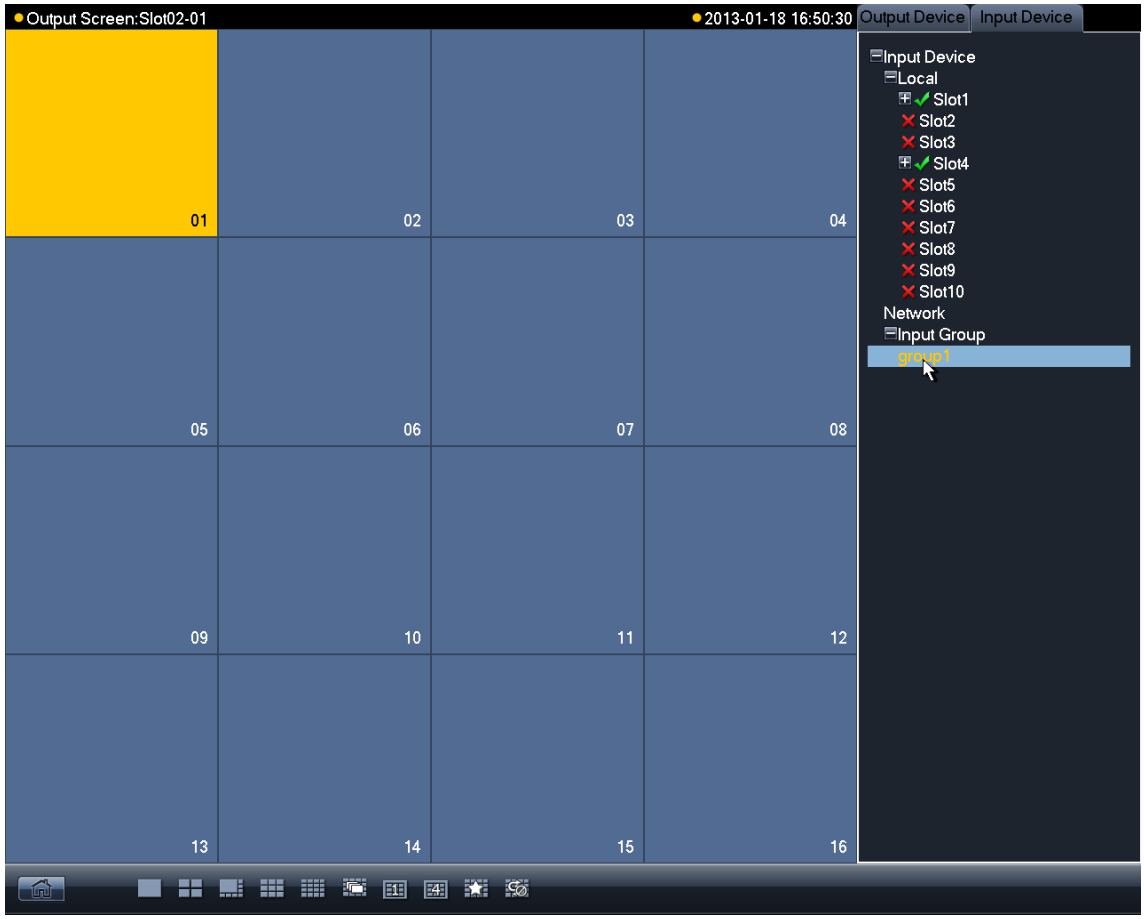


Figure 3-15

Step 7 Switch to input device list. Double click configured input group, you will see that configured signal source appear on output channel. See Figure 3-16.

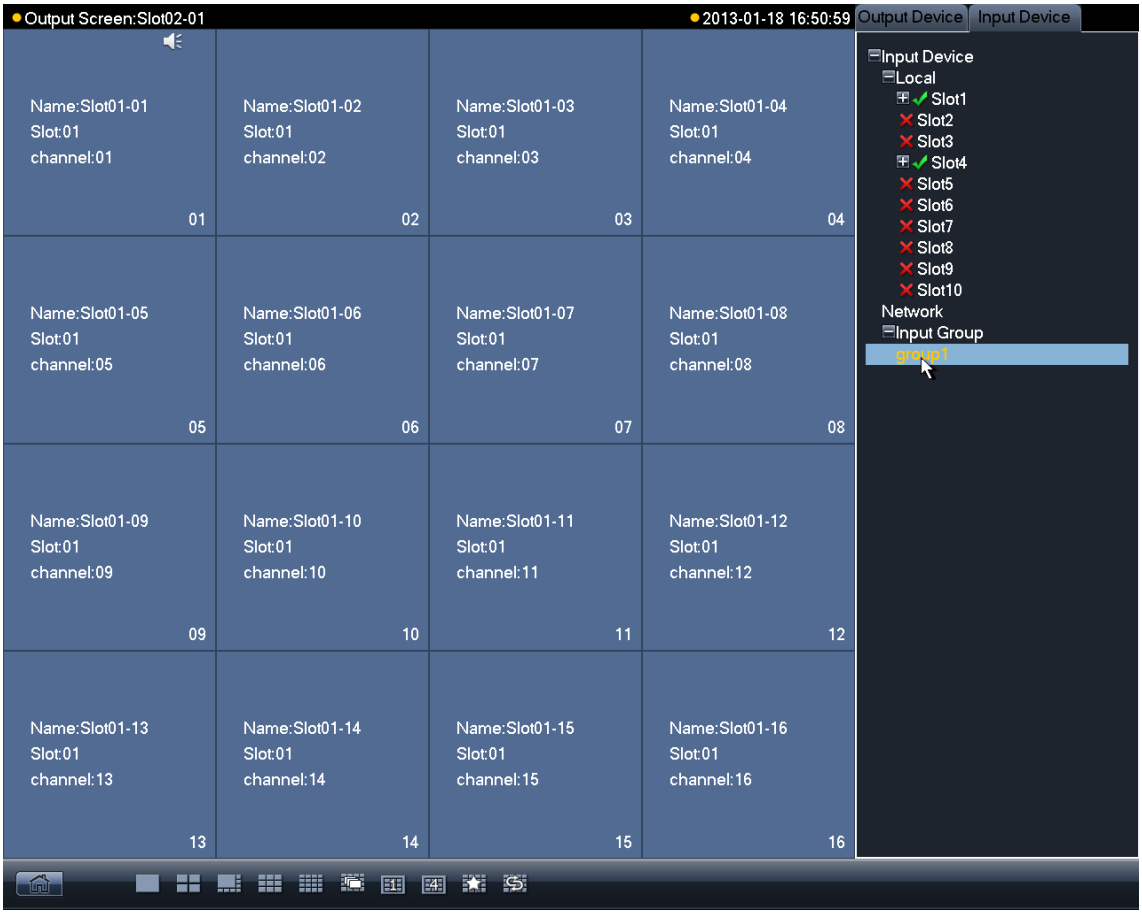


Figure 3-16

Note

If image config quantity of input group is more than the max split of current interface, auto tour starts.

3.1.8 Scheme

Step 1 Select “Scheme” with right mouse button.

The system displays “Scheme” interface, as shown in Figure 3-17.

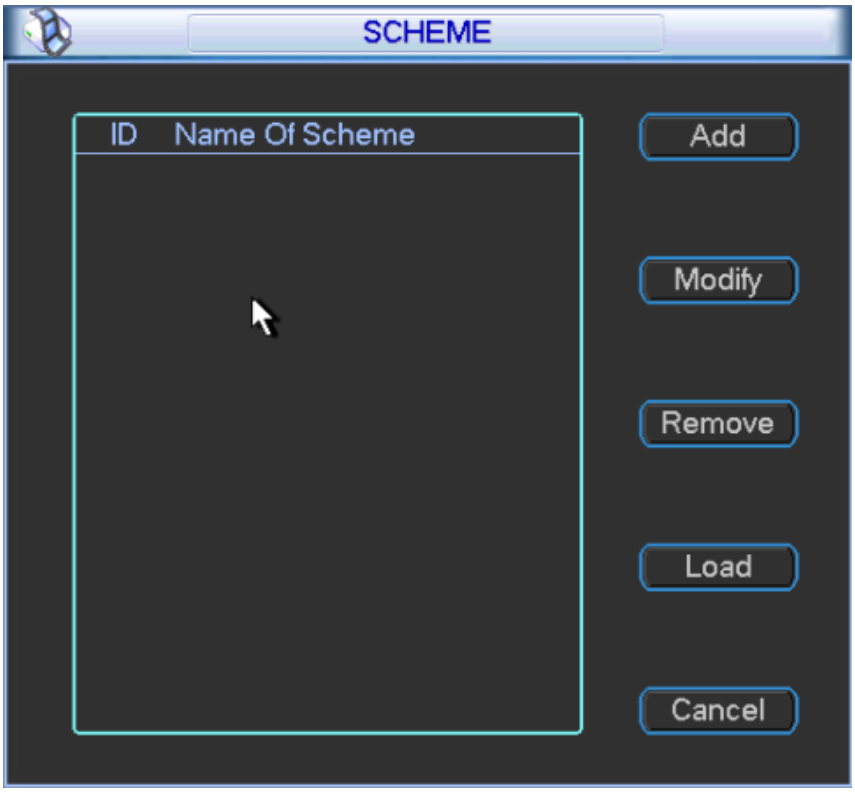


Figure 3-17

Step 2 Click “Add”.

The system displays “Add Scheme” interface, as shown in Figure 3-18.

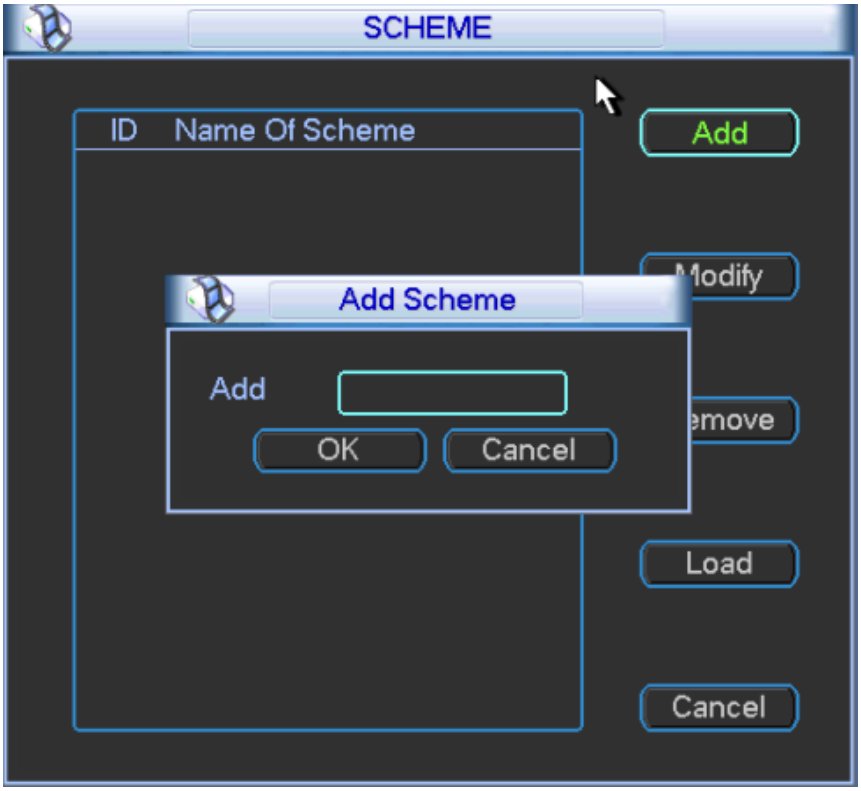


Figure 3-18

Step 3 Input scheme name and click “OK”.

- Select one scheme and click “Modify” to rename it, as shown in Figure 3-19.

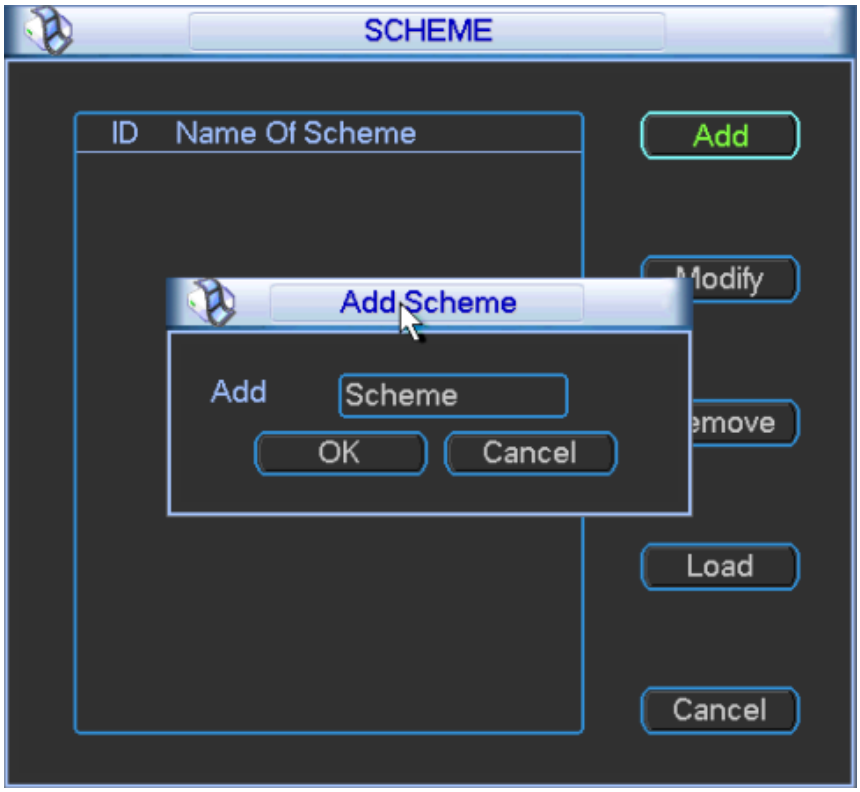


Figure 3-19

- Select one scheme and click “Remove” to remove it.
- Select one scheme and click “Load” to operate it.

Note

The scheme cannot be saved if it is not configured.

3.2 Advanced Menu Operation

3.2.1 Main Menu

Main menu consists of setup, advanced, remote device, info and shutdown, as shown in Figure 3-20.

Note

- Setup in all submenus will become effective only after they are saved; otherwise you will lose all modified setups.
- If check box is filled with “■” or ticked, it is selected; otherwise, it is not selected. This note applies to the whole manual.

Figure 3-20

3.2.2 Menu Navigation

Main Menu	Level 1 Submenu	Description
Info	HDD Info	SATA interface status, HDD total capacity, free space， video start/end time and etc.
	BPS	Wave pattern means that calculation of each channel's current bit stream size and used capacity per hour.
	Log	It displays system logs for important events. You may appoint log for event that requires recording.
	Version	It displays system hardware features, software version, release date and etc.
	Online Users	View online user info.
	Status	View device fan, card info and its temperature info, source info, net percentage, CPU percentage and memory percentage.
Setup	General	It includes system time, video record saving method, local device no. and etc.
	Encode	AV encoding mode, frame rate, quality and other parameter setup.
	Schedule	It includes timing setup for general video record, motion detection and external alarm.
	RS232	Set serial function, baud rate and other parameters.
	Network	Set network address, video data transmission protocol, PPPoE and DDNS function.

	Detect	Set motion detection sensitivity, area and handling (alarm output and boot up video record) parameter, video loss, black screen detection and etc.
	Pan/tilt/zoom	Set communication protocol, baud rate and other parameters of PTZ device.
	Display	Set menu output and monitoring tour parameter.
	Default	Select to restore factory setups for all or part of configurations. Note User accounts do not have recovery function.
Advanced	HDD Manage	HDD management, emptying HDD and etc. Note If you edit HDD property, you must reboot the system to make change effective.
	Abnormality	Set alarm for abnormal events, such as no HDD, HDD error.
	Record	Boot up or shut down channel schedule.
	Account	Maintain user group and user account.
	Auto Maintain	Set auto maintenance items.
	Video Wall	Config video wall output.
	Raid Manager	Config Raid for record storage.
Remote Device	-	Add and delete remote device.
Shutdown	-	Log off menu user, shut down system, reboot system and switch user.

Table 3-6

3.2.3 Info

Submenu includes HDD info, BPS, log, version, online users and status, as shown in Figure 3-21.

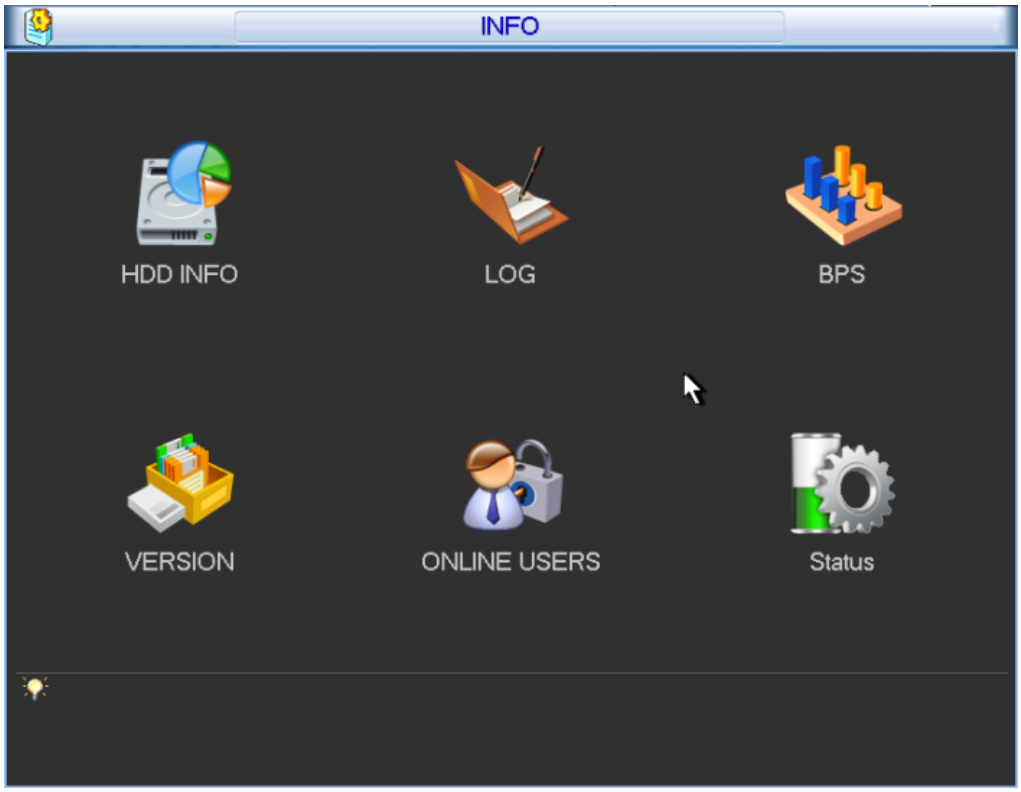


Figure 3-21

3.2.3.1 HDD Info

Display HDD interface status, total space of all HDDs, free space, video recording start and end time, status and etc. In main menu, select “Info> HDD Info”, and the system displays Figure 3-22.

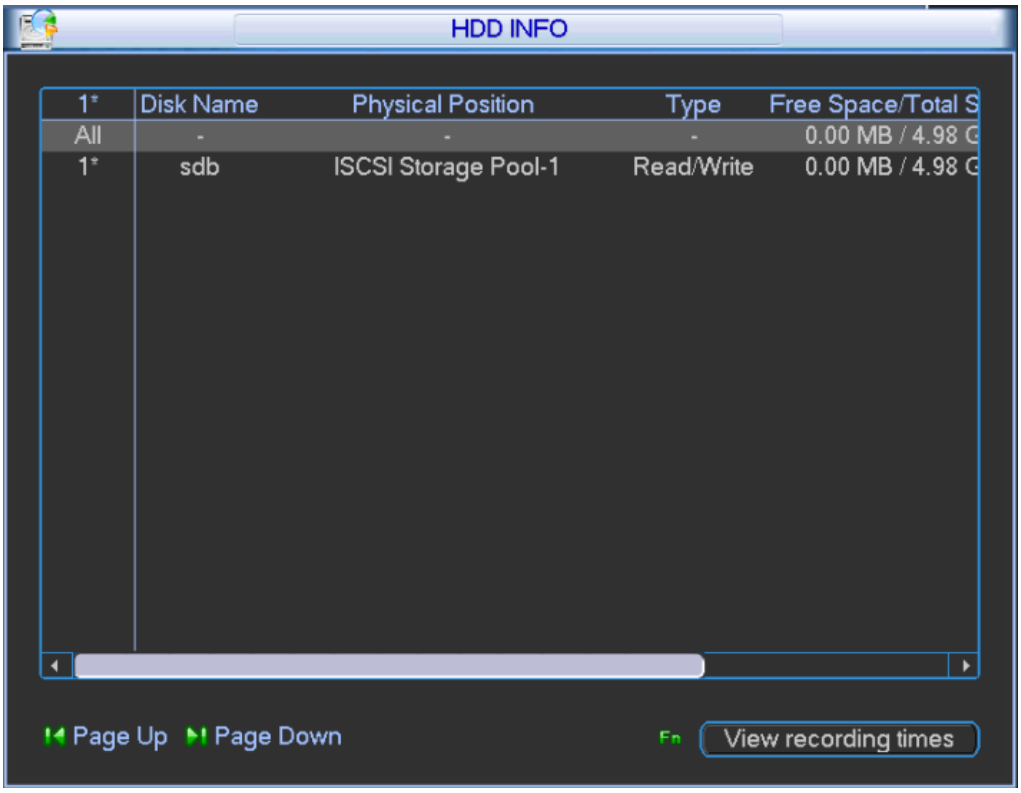


Figure 3-22

Note

In HDD info, add “*” after SN means that it is current working disk (i.e. 1*). Status info bar

shows whether there is conflict in the disk. If disk is damaged, system shows “?”.

After system is booted up, in case of any conflict, system goes to HDD info interface directly, as shown in Figure 3-23. System does not require you to deal with it forcedly. In case of disk conflict, the user checks whether system time and HDD time are identical or not. If they are identical, please go to General to adjust system time, or go to HDD Management to format HDD and then reboot device.

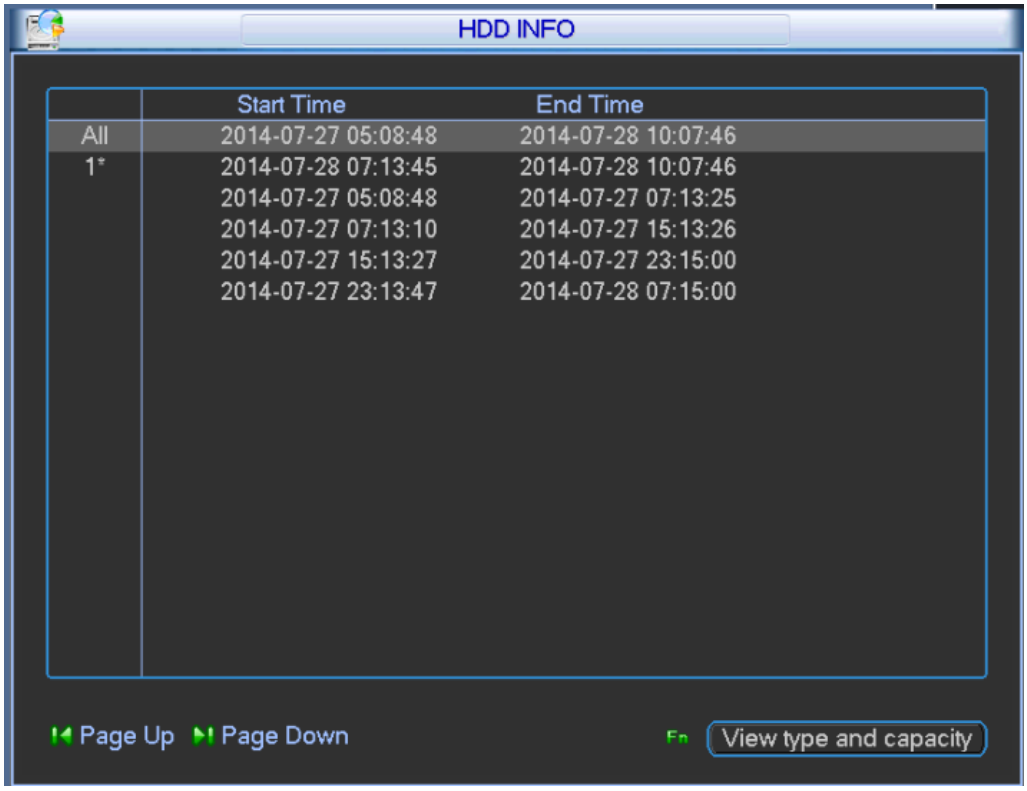


Figure 3-23

Note

Click View recording times and this icon switches to View type and capacity, so as to view HDD type and capacity info.

3.2.3.2 Log

This interface displays system log files.

In main menu, select “Info> Log”, and the system displays Figure 3-24. Log type includes system, config, storage, alarm, record, account, clear, and playback. Pleased select start time and end time, then click “Search” button. You can view the log files in list format, and use page up/down button to turn pages.

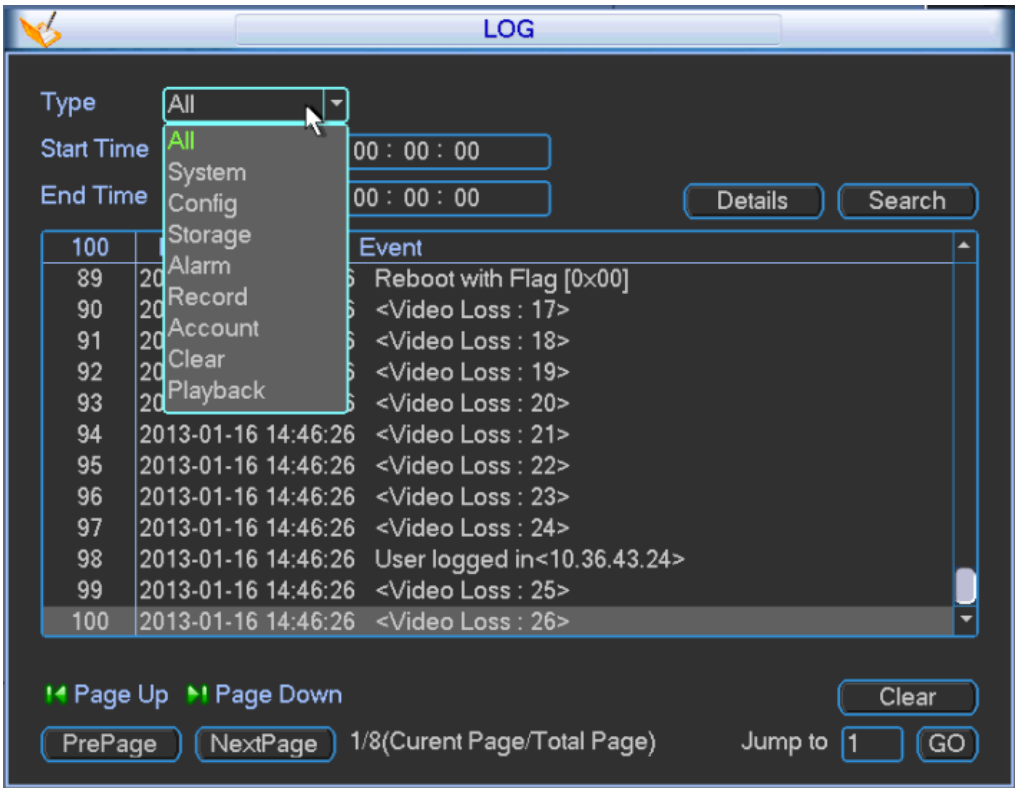


Figure 3-24

3.2.3.3 BPS

Display bit stream (Kb/S) and used space (MB/H) in a real-time way, while wave pattern better shows changes in bit stream.

In main menu, select “Info> BPS”, and the system displays Figure 3-25.

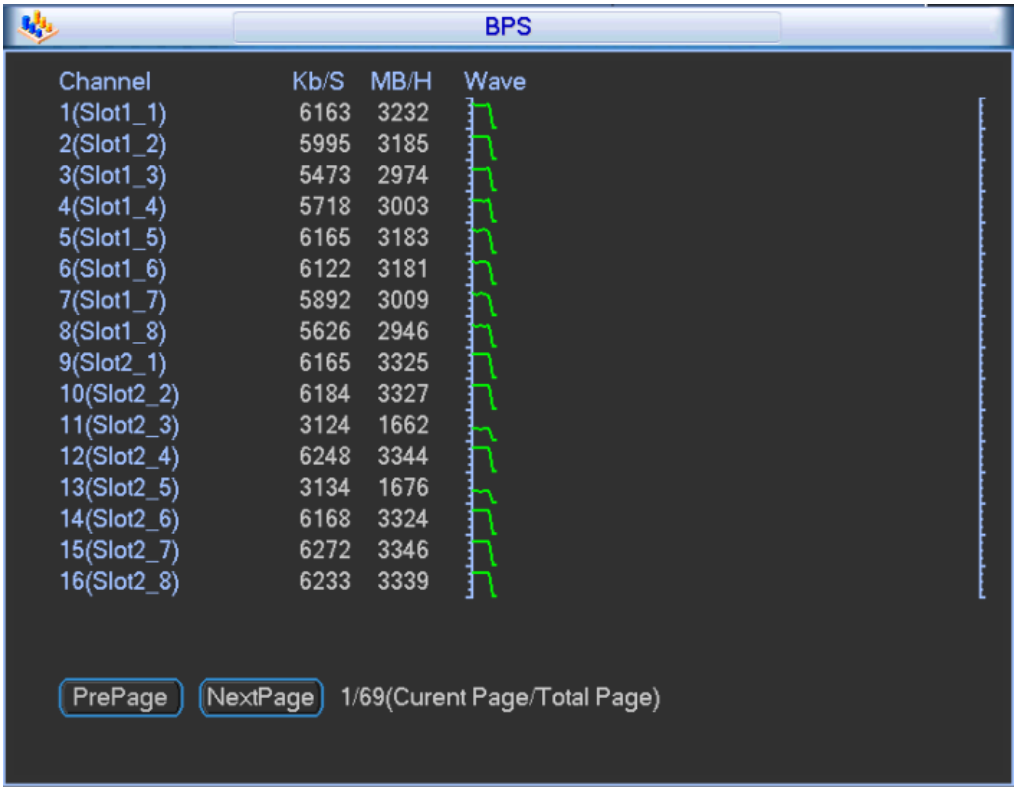


Figure 3-25

3.2.3.4 Version

Display system version, release date, WEB version and their SN. Click “Start” to upgrade system after connecting a USB device.

Caution

Ensure that USB has been inserted into the device, and upgrade file in USB shall be “update.bin”. Then, click “Start” to upgrade the system.

3.2.3.5 Online Users

View network users connected to the device; disconnect or shield the selected users (check box) for a set period up to 65,535s.

In main menu, select “Info> Online Users”, and the system displays Figure 3-26.

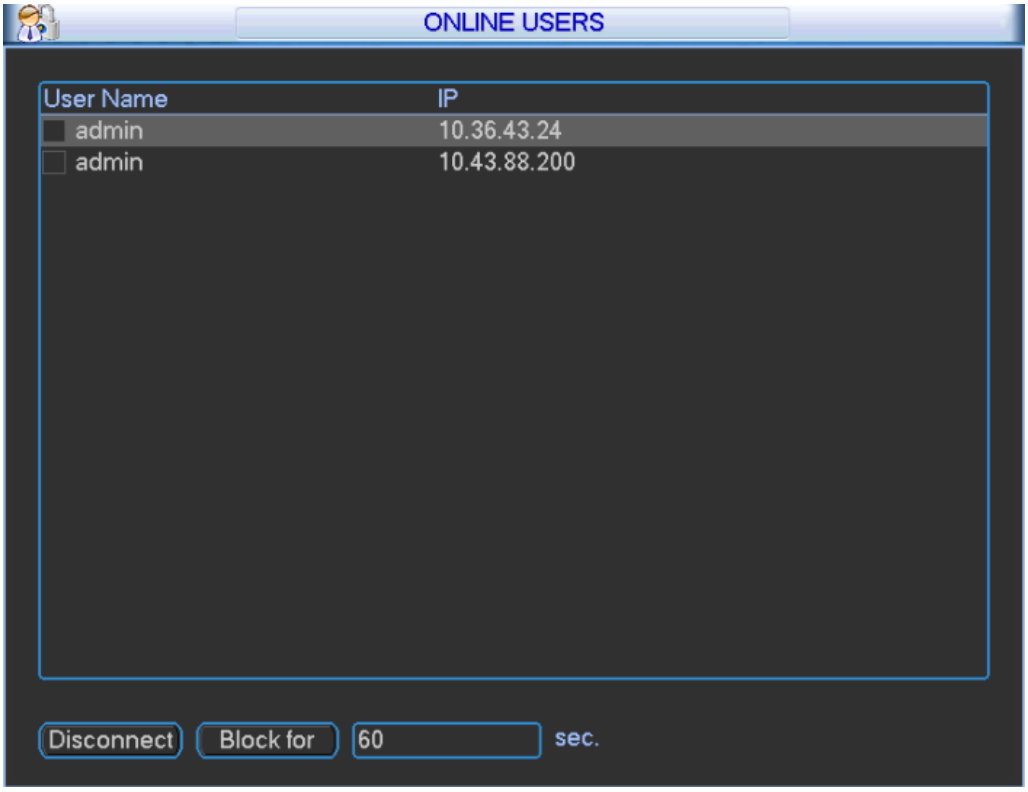


Figure 3-26

3.2.3.6 Status

View fan speed, card information, temperature information, source information, device time, net percentage, CPU percentage and memory percentage.

In main menu, select “Info> Status”, and the system displays Figure 3-27. For parameter descriptions, please refer to Table 3-7.

Figure 3-27

Parameter	Description
Fan speed	Display speed of two fans of current device.
Card information	Display card information of each slot, including type, encoding/decoding, as well as current status of each card, including data exchange and online status.
Temperature information	Display current temperature and status of each card.
Source information	Display status of two groups of power source.
Time	Display current time of the device.
Net percentage	Display net receiving and transmitting rate of every network port.
CPU percentage	Display usage percentage of each CPU.
Memory percentage	Display usage percentage of memory.

Table 3-7

3.2.4 Setup

Submenu includes general, encode, schedule, RS232, network, detect, pan/tilt/zoom, display, and default.

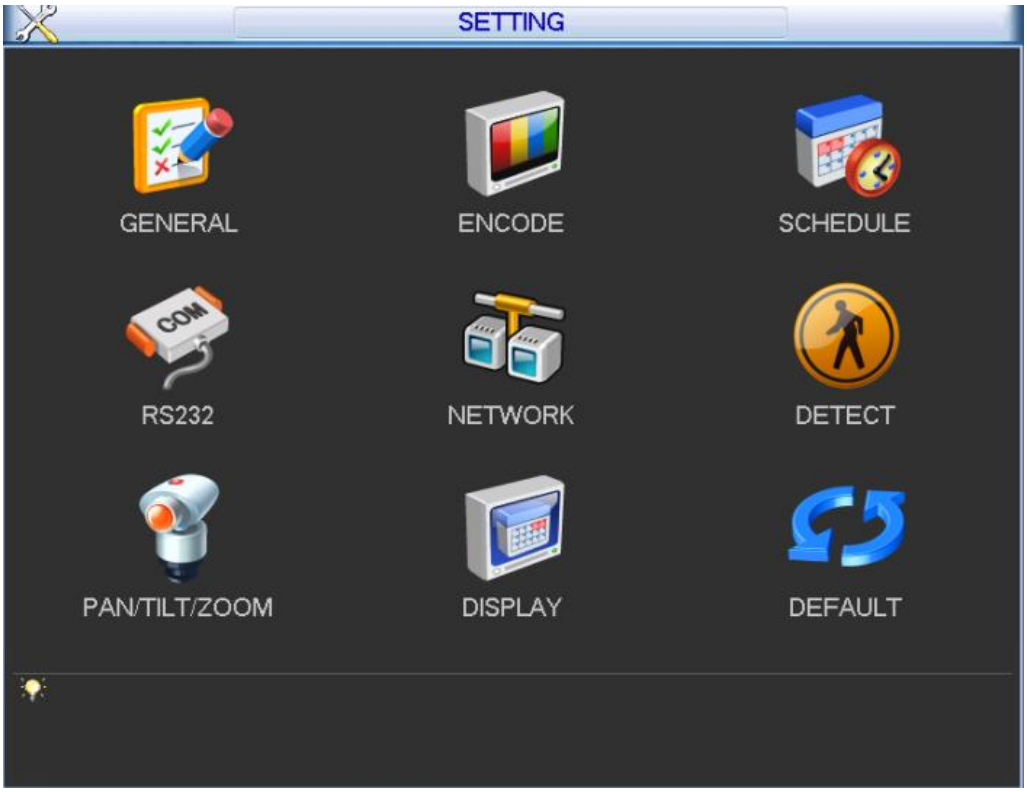


Figure 3-28

Note

Only authorized users can enter system setup. Please refer to “Account” for user authority configuration.

3.2.4.1 General

Step 1 In main menu, select “Setup>General”, and the system displays “General” interface, as shown in Figure 3-29.

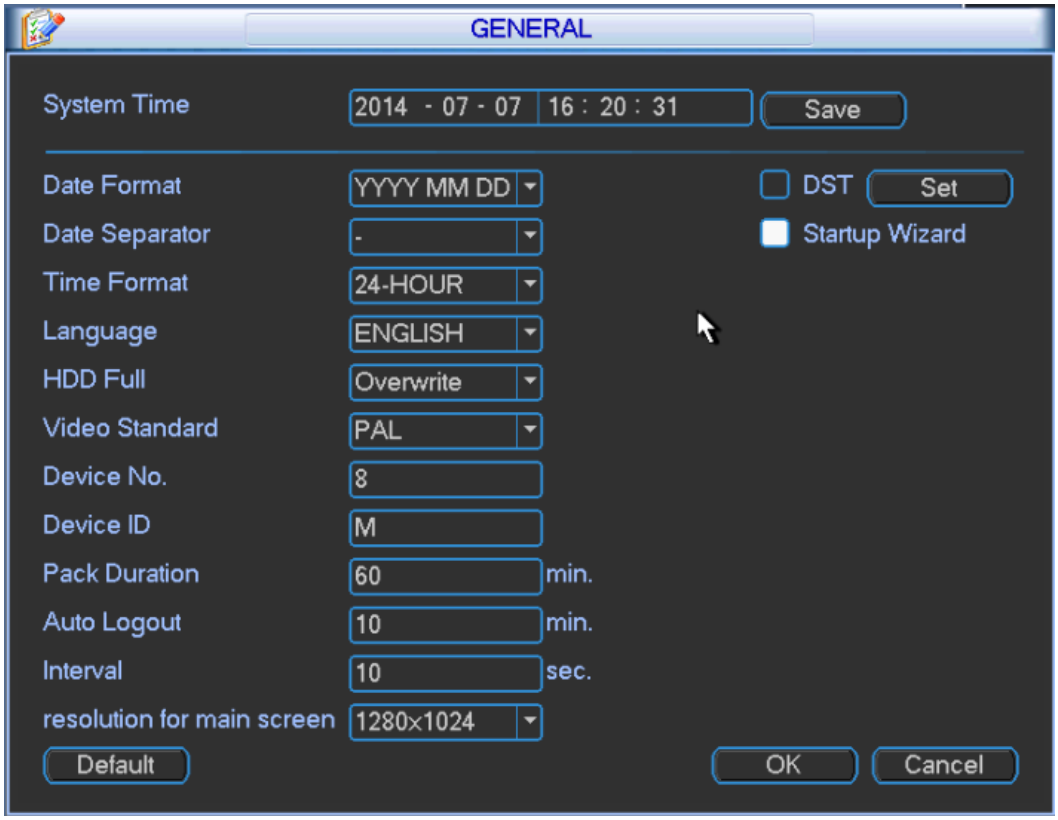


Figure 3-29

Step 2 Configure the parameters according to needs. Please refer to Table 3-8 for specific configuration.

Caution

System time shall not be changed arbitrarily, or it may not be able to search videos. System time can be changed when it is not HDD recording time or when recording is stopped.

Parameter	Description
System time	Change system date and time. Click “Save” after change.
Date format	Select date format, including YYYY MM DD, MM DD YYYY or DD MM YYYY.
Date separator	Serve as separator of date format.
Time format	Include 24-hour system and 12-hour system.
Language	Switch menu language, including SIMPLIFIED CHINESE and ENGLISH.
HDD full	Stop or overwrite. ● Condition of stopping recording: stop recording when current working HDD is overwritten or it is full and the next HDD is not empty. ● Condition of overwriting: if current working HDD is full and the next HDD is not empty, the system overwrites previous recording files.
Video standard	Select video standard, which is PAL by default.
Device no.	Set the number of this device.
Device ID	Edit identity of this device.
Pack duration	Specify duration of each file. It is 60 minutes by default and 120 minutes at most.
Auto logout	Set menu standby time to be 0 minute～60 minutes. Standby time is not set in case of 0 minute. If a time period is set, the system logs out automatically after this time period. Users are required to log in again, in order to operate the menu.
Interval	Set the interval of tour, ranging from 10s to 120s.
Resolution for main screen	It is 1280×1024 by default.
Startup wizard	Select to run startup wizard or not when the system starts. Tick the check box to enable it.

DST	Tick the check box and click “Set”. The system displays Figure 3-30 and Figure 3-31. By setting week or date, set start time and end time of DST. For example, DST in EU countries starts from the last Sunday in March to the last Sunday in October. EU countries change time simultaneously at 2:00, the last Sunday in March according to Greenwich Mean Time. Depending on different time zones, local time in western European time zone (UTC) countries (such as Britain, Ireland and Portugal), Central European time zone (UTC+1) countries (such as France, Germany and Italy) and Eastern European time zone (UTC+2) countries (such as Finland and Greece) changes from 02:00/03:00 to 03:00/04:00. A reverse adjustment is made at 03:00, the last Sunday in October according to Greenwich Mean Time.

Table 3-8

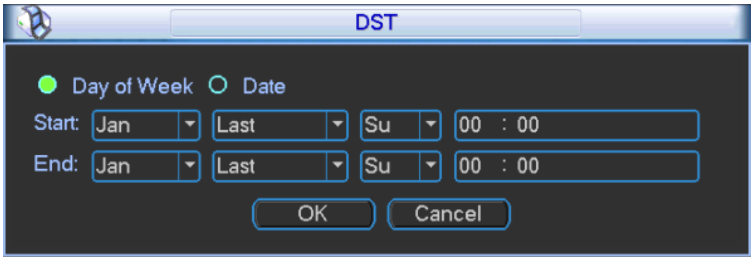


Figure 3-30

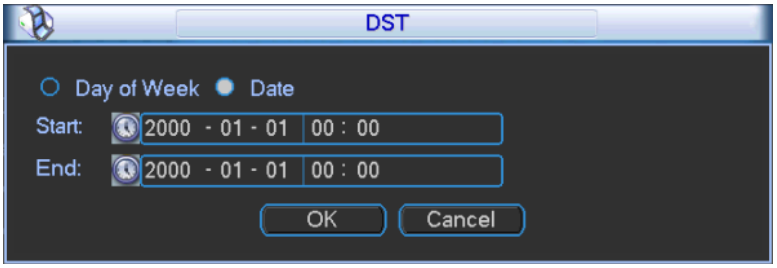


Figure 3-31

Step 3 Click “OK” to complete configuration.

3.2.4.2 Encode

Step 1 In main menu, select “Setup>Encode”, and the system displays “Encode” interface, as shown in Figure 3-32.

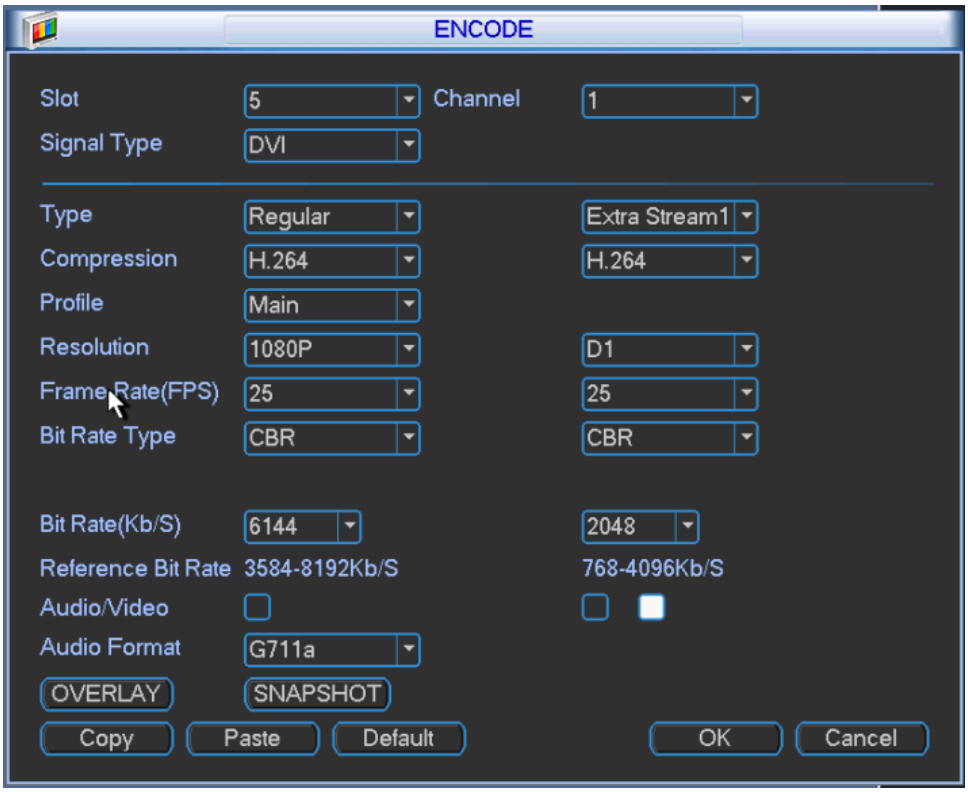


Figure 3-32

Step 2 Configure the parameters according to needs. Please refer to Table 3-9 for specific configuration.

Parameter	Description
Slot	Select the slot you want.
Channel	Select the channel you want.
Signal type	Select signal type.
Audio type	NORMAL and HDMI.
Video type	Select among regular, MD and alarm.
Compression	H.264 mode.
Profile	Main and Baseline.
Resolution	Main stream resolution of standard definition encoding board supports D1/HD1/2CIF/CIF/QCIF, and high definition encoding board supports 1080P/720P/D1.
Frame rate	Pal standard: 1 fps～25 fps.
Bit rate type	System supports two types: CBR and VBR. Image quality cannot be set in CBR mode and can be selected from level 1 to level 6 in VBR mode. Level 6 has the best image quality.
Bit rate	Set bit rate to change image quality. The higher the rate is, the better the image quality will be. Reference bit rate provides you with the optimal reference range.
Audio/video	It is enabled when the icon is filled with white. Main stream video is ON by default. When “Audio” is filled with white, it means that recording file is audio-video combined stream. Regarding extended stream, select video first, and then select audio.
Audio format	Choose audio format, including G711a, G711u and PCM.
Overlay	Set to overlay block, time or channel on the image.
Snapshot	Set snapshot frequency.

Table 3-9

Note

In encoding setting, encoding parameters of remote device cannot be set.

Step 3 Click “OK” to complete configuration.

Overlay

Step 1 Click “Overlay”, and the system displays “Overlay” interface, as shown in Figure 3-33.

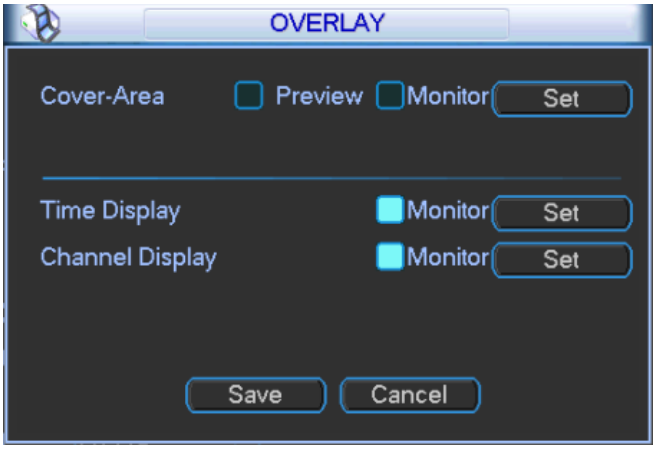


Figure 3-33

Step 2 Configure the parameters according to needs. Please refer to Table 3-10 for specific configuration.

Parameter	Description
Cover area	Select “Preview” and “Monitor”, click “Set” to enter corresponding channel. Use the mouse to select any size of area. One channel image supports max. 4 cover areas. It consists of two types: ● Preview: the covered area cannot be viewed by anyone in previous status. ● Monitor: the covered area cannot be viewed by anyone in a real-time way.
Time display	Time title is overlaid when every channel encoding is overlaid. Select to overlay time title to encoding data or not, and set the time position. Click “Set” and drag the title to a proper position. If it is set to overlay, time will be displayed on the file when playing back recording file.
Channel display	Channel title is overlaid when every channel encoding is overlaid. Select to overlay channel title to encoding data or not, and set the channel position. Click “Set” and drag the title to a proper position. If it is set to overlay, channel will be displayed on the file when playing back recording file.

Table 3-10

Note

All kinds of titles cannot overlay each other.

Step 3 Click “Save” to complete configuration.

3.2.4.3 Schedule

After the first booting, default mode is “no recording”. Enter the menu to set continuous recording within scheduled time.

Step 1 In main menu, select “Setup>Schedule”, and the system displays “Schedule” interface, as shown in Figure 3-34 and Figure 3-35.

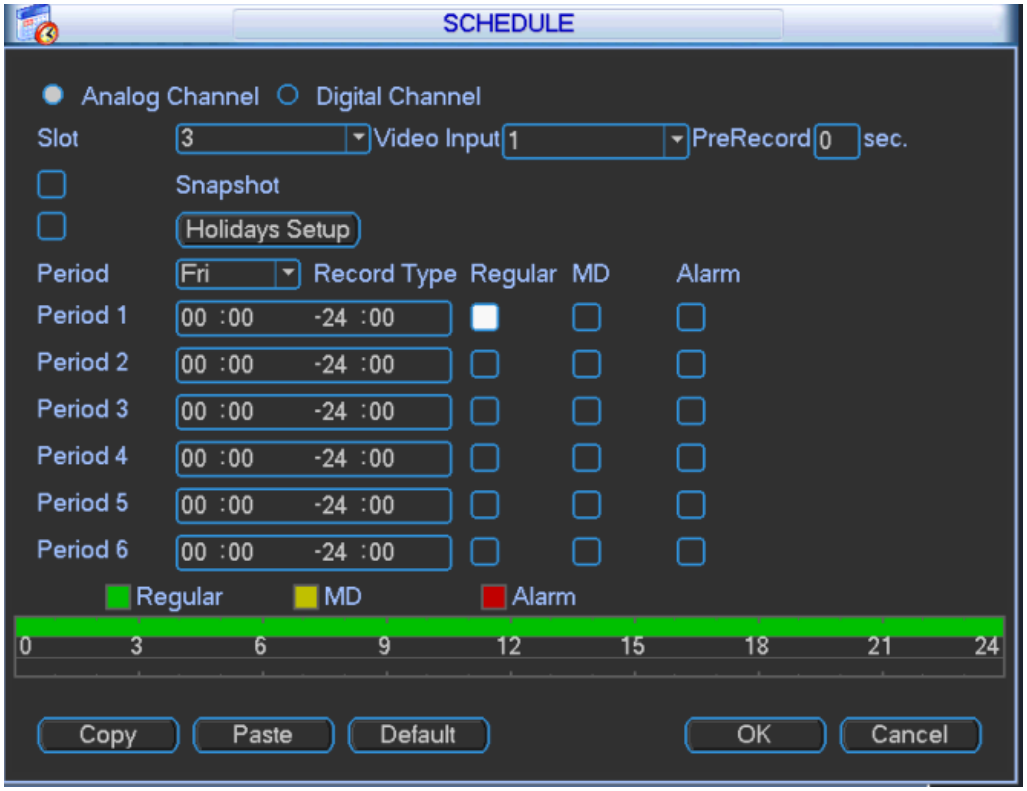


Figure 3-34

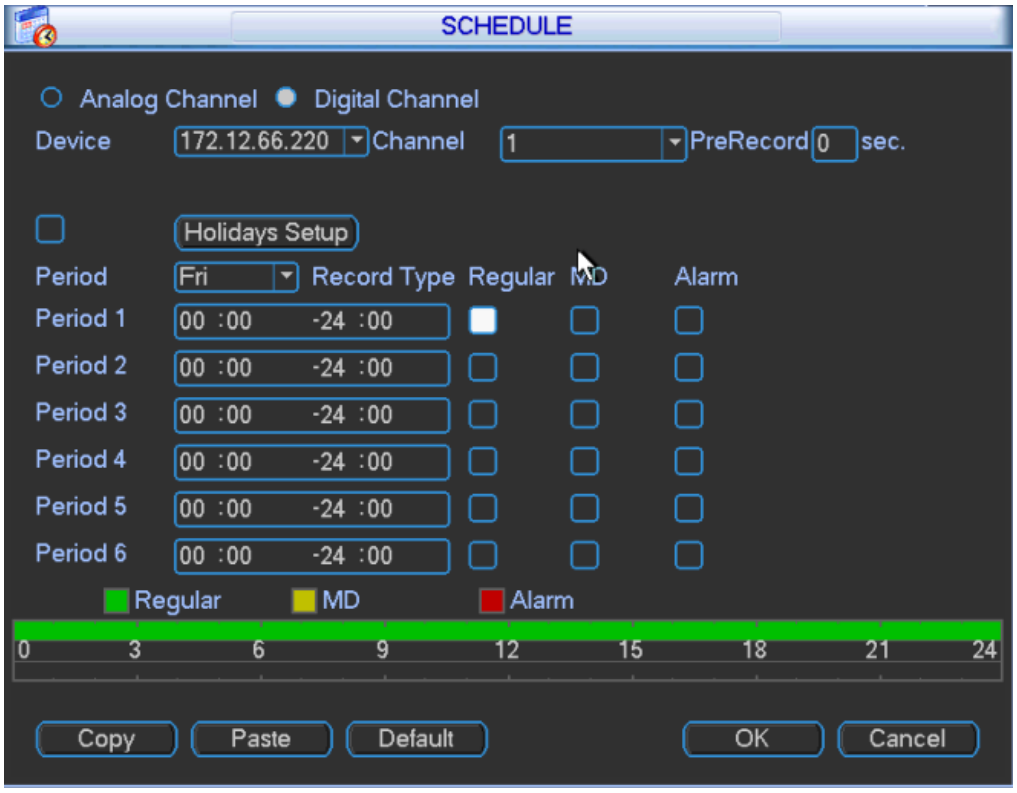


Figure 3-35

Step 2 Configure the parameters according to needs. Please refer to Table 3-10 for specific configuration.

Parameter	Description
Analog channel/digital channel	Select analog channel or digital channel.
Slot	Please select the slot number first. You can select “All” if you want to set all the slots.
Video input	Please select the channel number first. You can select “All” if you want to set all the channels.
Device	IP address of remote device.
Channel	Channel number of remote device.
Snapshot	It is enabled when the icon is filled with blue. Schedule to snapshot at 1 piece/second by default, which can be modified in encoding setup.
Holidays setup	It is enabled when the icon is filled with blue. One-month holidays can be set.
Period	Set general recording periods, so recording can be started within the scheduled period. Select one day of each week and there are six periods every day. Select “All” to set all of them.
Pre-record	Record for 0s～30s before the event occurs. Note The time period depends on bit stream. If bit stream value is relatively large, it may fail to reach the set pre-record time.
Record type	There are three types: regular, motion detect (MD) and alarm. In the diagram of time period, color bar shows whether record type in this time period is valid or not. Green means that regular recording is valid, yellow means that MD recording is valid and red means that alarm recording is valid.

Table 3-11

Step 3 Click “OK” to complete configuration.

Quick Setup

User setup of Channel X can be copied to Channel Y, in order to realize the same recording setup. For example, select Channel 1 and set recording status. Then, click “Copy”, switch to Channel 3 and click “Paste”. Recording status setup of Channel 3 will be the same as that of Channel 1.

The user can save the setup of every channel, or save all of them after all channels are set.

3.2.4.4 RS232

Step 1 In main menu, select “Setup>RS232”, and the system displays “RS232” interface, as shown in Figure 3-36.

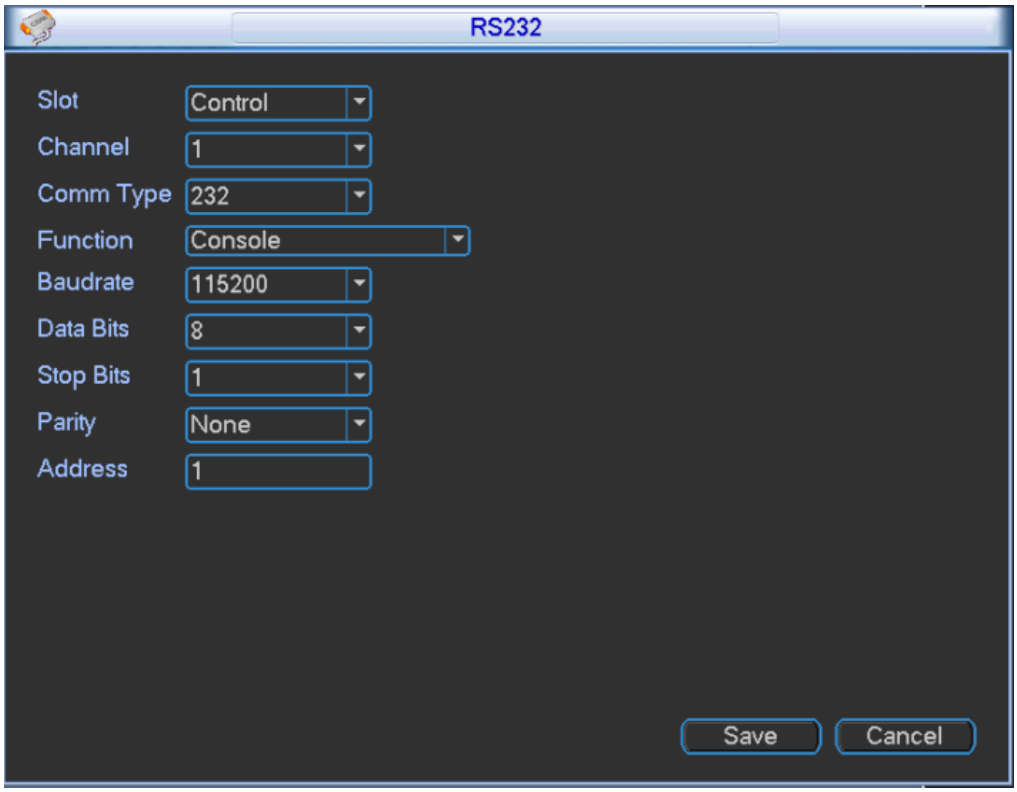


Figure 3-36

Step 2 Configure the parameters according to needs. Please refer to Table 3-12 for specific configuration.

Parameter	Description
Function	Select from nine types of corresponding serial port control protocols: ● Console: use serial port and mini-terminal software to upgrade programs and debug. ● Transparent serial: it is connected with PC directly to transmit data. ● Matrix control: control the matrix with external analog keyboard. ● PELCO keyboard: control the matrix with PELCO keyboard. ● PLC controller: carry out control management with external PLC controller. ● Hikvision protocol: connect Hikvision devices to control. ● PELCO9760: connect PELCO9760 device. ● PELCO analog matrix: connect PELCO analog matrix to control. ● PELCO analog matrix ASCII: connect PELCO analog matrix ASCII to control.
Baudrate	Select proper baudrate.
Data bits	Select 5～8.
Stop bits	There are two values: 1 and 2.
Parity	It consists of odd, even, checkmark and none.
Address	Set a proper address.

Table 3-12

Note

Default function of the system is console, baudrate is 115200, data bits are 8, stop bit is 1 and parity is none.

Step 3 Click “Save” to complete configuration.

3.2.4.5 Network

Step 1 In main menu, select “Setup> Network”, and the system displays “Network” interface, as shown in Figure 3-37.

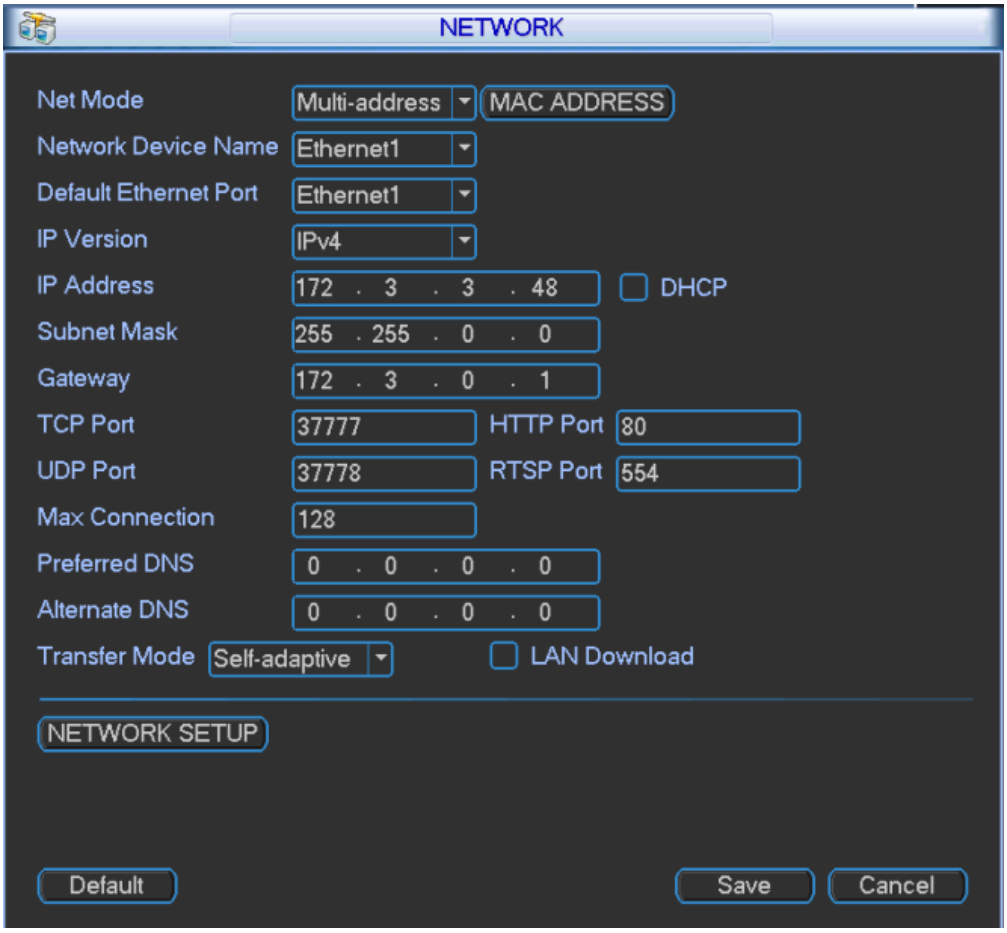


Figure 3-37

Step 2 Configure the parameters according to needs. Please refer to Table 3-13 for specific configuration.

Parameter	Description
Net mode	It is multi-address mode by default.
Network device name	Ethernet 1～2 are available.
Default Ethernet port	Ethernet 1～2 are available. It is seen and optional only in multi-address and network bridge mode.
IP version	IPv4 and IPv6.
IP address	Input number to change IP address; set “Subnet Mask” and “Gateway” of this IP address.
DHCP	Automatic search of IP. When DHCP is enabled, IP/Subnet mask/Gateway cannot be set. If current DHCP becomes effective, IP/Subnet mask/Gateway display the value of DHCP; if DHCP is not effective, they display 0.0.0.0. To view current IP, disable DHCP, so IP info obtained by non-DHCP will be displayed automatically. If DHCP becomes effective and is disabled, previous IP info cannot be displayed. Re-set IP parameters according to needs. When PPPoE is operating, IP/Subnet mask/Gateway and DHCP cannot be changed.

TCP port	Default value is 37777, to be set according to actual needs.
UDP port	Default value is 37778, to be set according to actual needs.
HTTP port	Default value is 80, to be set according to actual needs.
RTSP port	Default value is 554, to be set according to actual needs.
Max connection	Number of connection is 0～128. System supports maximum 128 users. 0 means that no connection is allowed.
Preferred DNS/ alternate DNS	Set DNS server address.
Transfer mode QOS	Select the priority among fluency/video quality/self-adaptive. Network adjusts stream automatically according to setup.
LAN download	Under the condition of sufficient bandwidth, high-speed downloading speed is 1.5～2 times as many as ordinary downloading speed.
Network setup	Click to enter network setup interface, as shown in Figure 3-38. Tick the check box corresponding to every function. For specific configuration methods, please refer to “3.2.4.5.1 IP Filter” ～ “3.2.4.5.8 iSCSI Setup”.

Table 3-13

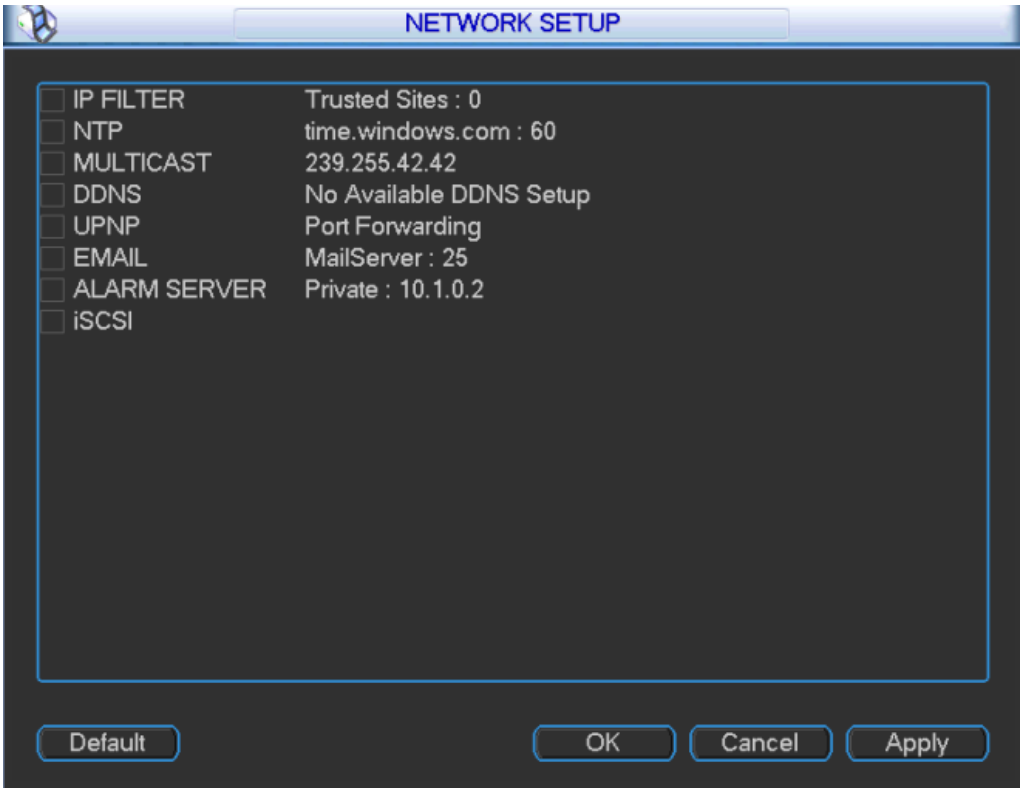


Figure 3-38

Step 3 Click “Save” to complete configuration.

3.2.4.5.1 IP Filter

To strengthen network security and protect device data, IP host’s authority of accessing Video Matrix Platform shall be set (IP host refers to PC or server with IP). Trusted sites mean that trusted IP hosts are able to access Video Matrix Platform, whereas distrusted sites mean that distrusted IP hosts are prohibited from accessing Video Matrix Platform.

Note

If this item isn’t selected, any IP can access this device.

Step 1 In main menu, select “Setup> Network> Network Setup > IP Filter”, and the system

displays “IP Filter” interface, as shown in Figure 3-39.

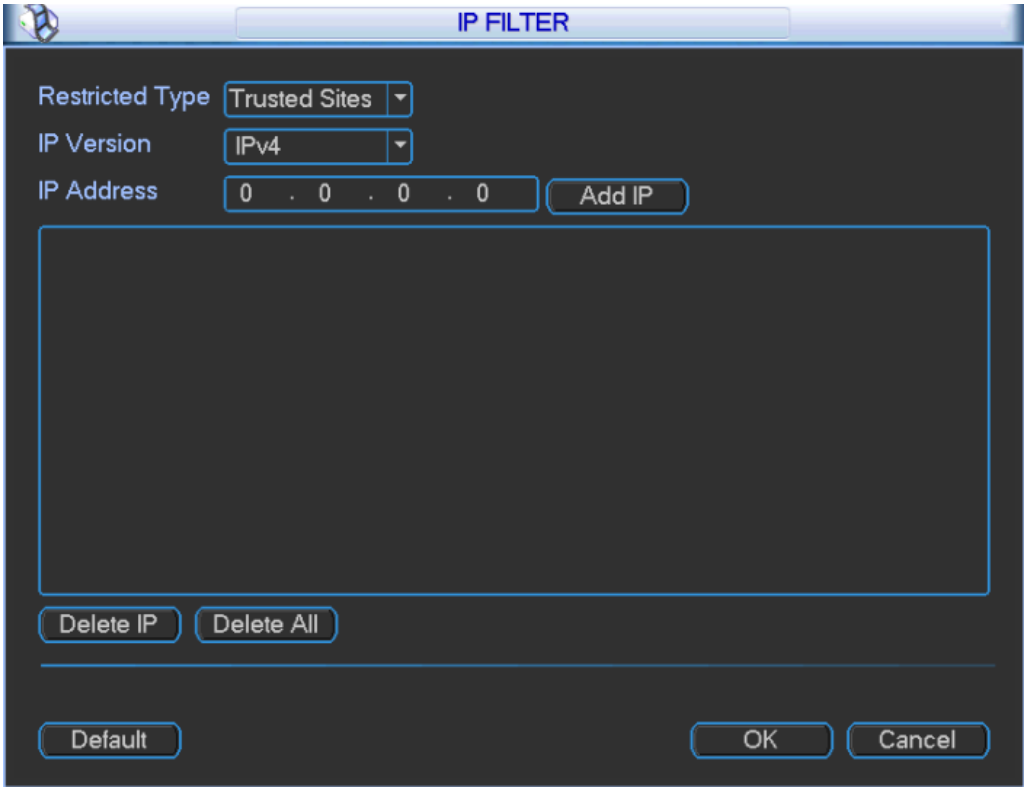


Figure 3-39

Step 2 Configure the parameters according to needs. Please refer to Table 3-14 for specific configuration.

Parameter	Description
Restricted type	Select trusted sites or distrusted sites.
IP version	Select IPv4 or IPv6.
IP address	Input IP address and click “Add IP”.
Delete IP	Select IP address and click this icon to delete this IP address.
Delete All	Click this icon to delete all IP addresses.

Table 3-14

Step 3 Click “OK” to complete configuration.

3.2.4.5.2 NTP Setup

After setup of NTP server, Video Matrix Platform will correct time and synchronize with the server.

Note

First, install SNTP server in PC. In Windows 7 system, “net start w32time” command can be used to boot up the server.

Step 1 In main menu, select “Setup> Network> Network Setup > NTP”, and the system displays “NTP” interface, as shown in Figure 3-40.

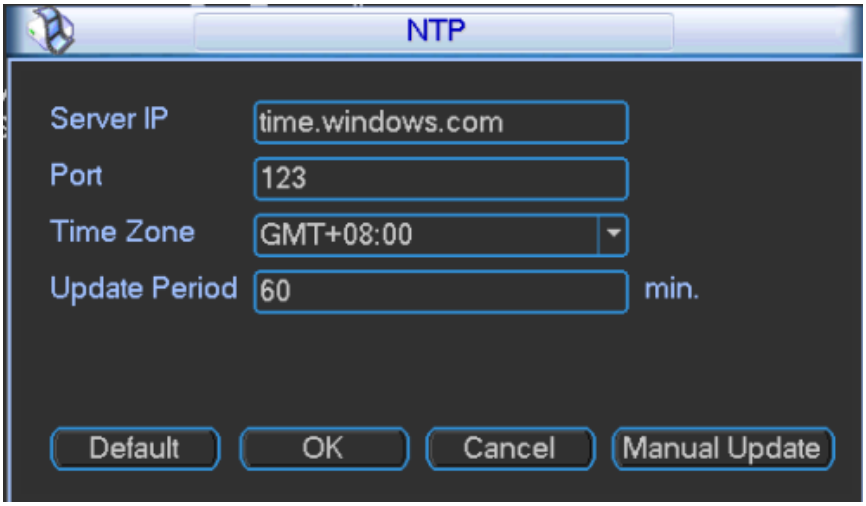


Figure 3-40

Step 2 Configure the parameters according to needs. Please refer to Table 3-15 for specific configuration.

Parameter	Description
Server IP	Input IP address of your PC where SNTP server has been installed.
Port	This SNTP supports TCP transmission only. Default port is 123.
Time zone	Select your corresponding time zone here.
Update period	The period is over 1 minute, and max. update period is 65,535 minutes.

Table 3-15

Step 3 Click “OK” to complete configuration.

3.2.4.5.3 Multicast

To access the device via network and preview video, in case of exceeding access upper limit of the device, video cannot be previewed. In this case, set multicast IP of the device and access via multicast protocol.

Step 1 In main menu, select “Setup> Network> Network Setup > Multicast”, and the system displays “Multicast” interface, as shown in Figure 3-41.

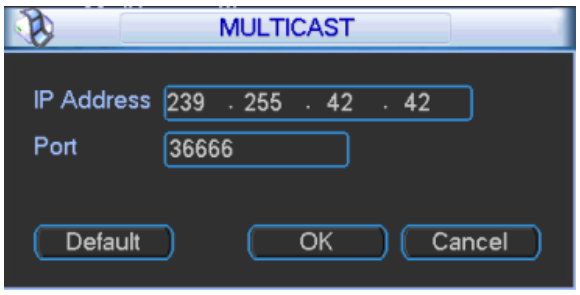


Figure 3-41

Step 2 Configure the parameters according to needs. Please refer to Table 3-16 for specific configuration.

Parameter	Description
IP address	Multicast IP address to access the device.
Port	Multicast port number to access the device.

Table 3-16

Step 3 Click “OK” to complete configuration.

3.2.4.5.4 DDNS

DDNS (Dynamic Domain Name Server) is used to dynamically update domain name and IP address on DNS server when device IP address changes frequently, so as to ensure that the user can access the device with the domain name.

Before configuration, please confirm DDNS type supported by the device.

- If DDNS type is Private DDNS or Quick DDNS, it is unnecessary to register domain name.
- If DDNS type is other types, please use WAN PC to log onto the website of DDNS server provider and register domain name.

Note

After registering on DDNS website successfully and login, the info of all connected devices under this registered user can be viewed.

Step 1 In main menu, select “Setup> Network> Network Setup > DDNS”, and the system displays “DDNS” interface, as shown in Figure 3-42.

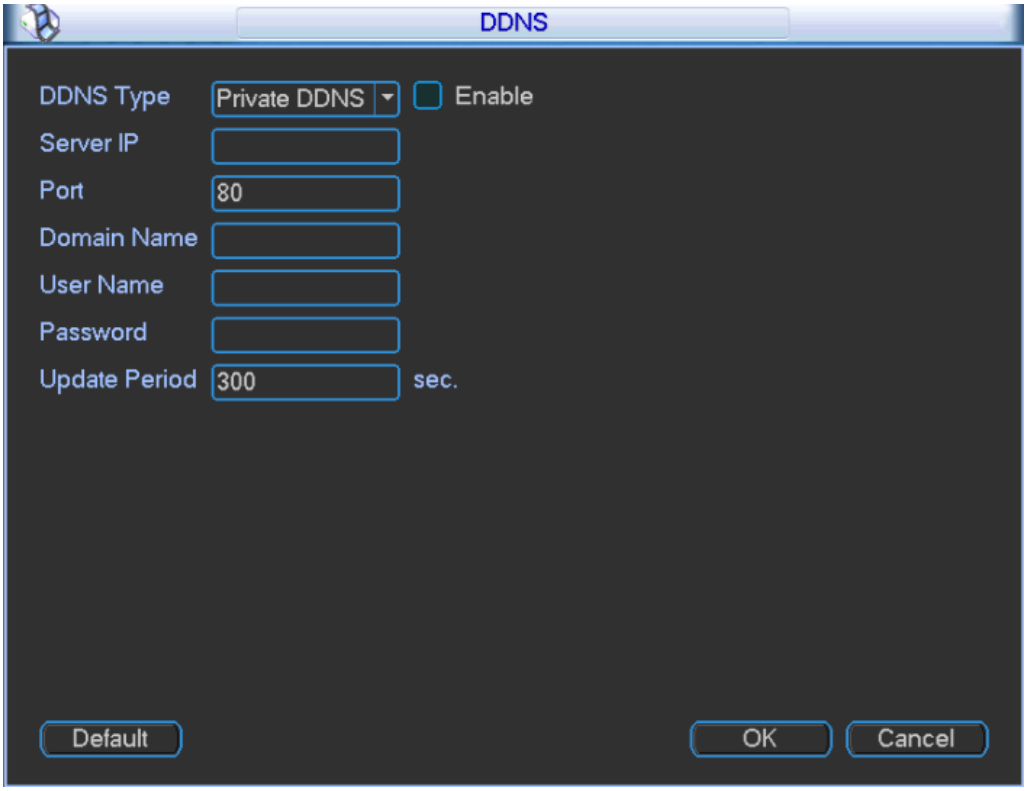


Figure 3-42

Step 2 Configure the parameters according to needs. Please refer to Table 3-17 for specific configuration.

Parameter	Description
DDNS type	Name of DDNS server provider, including CN99 DDNS, NO-IP DDNS, Private DDNS and Dyndns DDNS. Multiple types of DDNS coexist; they can be selected and set according to needs. Select “Enable” to enable DDNS function.
Server IP	Input IP address of DDNS server.
Port	Input port number of DDNS server.
Domain name	Domain name that is registered by the user on the website of DDNS server provider.
User name	Input user name and password obtained from DDNS server provider. The user needs to register an account (including user name and password) on the website of DDNS server provider.
Password	

Parameter	Description
Update period	It means regular interval to launch update requests after designated DDNS update is started. The unit is second.

Table 3-17

Step 3 Click “OK” to complete configuration.

Open IE browser, input domain name and thus link to WEB query page of this device.

Note

Private DDNS function shall work with special DDNS server and special PSS.

3.2.4.5.5 UPNP

Realize WAN access to LAN.

Step 1 In main menu, select “Setup> Network> Network Setup > UPNP”, and the system displays “UPNP” interface, as shown in Figure 3-43.

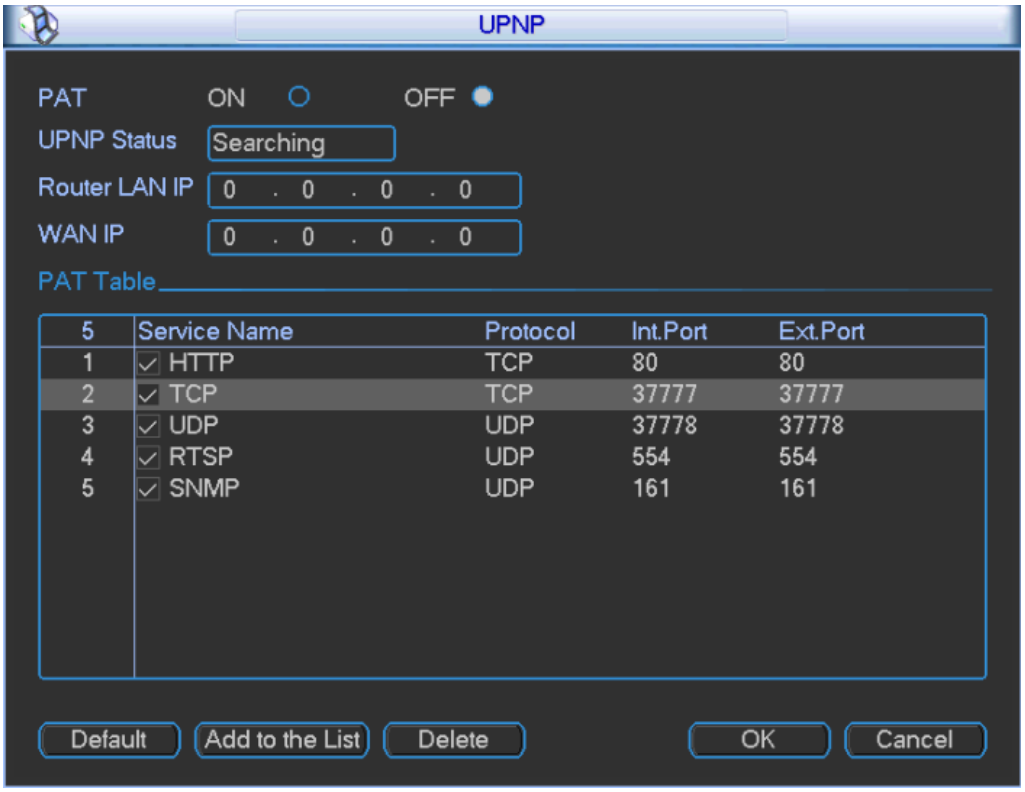


Figure 3-43

Step 2 Configure the parameters according to needs. Please refer to Table 3-18 for specific configuration.

Parameter	Description
PAT	Enable PAT function.
UPNP status	Display UPNP status, including successful, failed and searching.
Router LAN IP	LAN IP address set by the router.
WAN IP	WAN IP address set by the router.
PAT table	Display info of added port.
Add to the list	Add a new port.
Delete	Delete the selected port.

Table 3-18

Note

Double click the added port to modify its configurations, as shown in Figure 3-44.

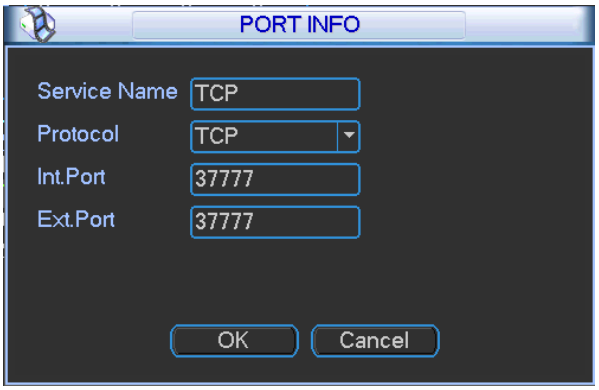


Figure 3-44

Step 3 Click “OK” to complete configuration.

3.2.4.5.6 Email

By setting the Email, an email will be sent to the set Email box in case of alarm, motion detection and abnormal event.

Step 1 In main menu, select “Setup> Network> Network Setup > Email”, and the system displays “Email” interface, as shown in Figure 3-45.

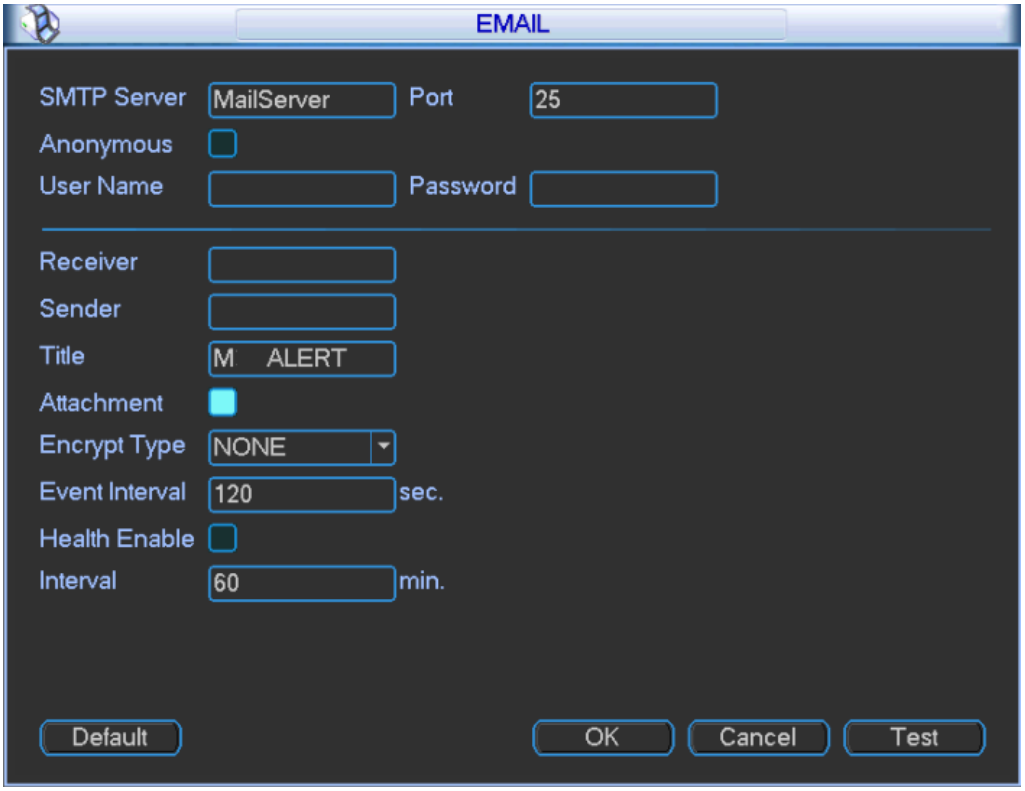


Figure 3-45

Step 2 Configure the parameters according to needs. Please refer to Table 3-19 for specific configuration.

Parameter	Description
SMTP server	Address of SMTP server.
Port	Port number of SMTP server.
Anonymous	When it is selected, anonymous function is enabled.
User name	User name of SMTP server.
Password	Password of SMTP server.
Sender	Sender’s Email address.

Parameter	Description
Receiver	Receiver's Email address. 3 addresses (to be separated with colons) are supported.
Title	Support Chinese, English and Arabic numerals. Max. 32-digit characters can be input.
Attachment	Select "Support Attachment", to allow the sending of attachments.
Encrypt type	Select encryption type, including NONE, SSL and TLS.
Event interval	It ranges from 0 to 3,600 seconds. 0 means there is no interval. When the alarm, video detection or abnormal event activates Email, system sends Email according to the interval you specified here, rather than sending Email immediately. This function is very useful when there are too many Emails activated by abnormal events, which may result in heavy load on the email server.
Health enable	When it is selected, health Email function is enabled.
Interval	The system sends test info Emails according to intervals (30 minutes ~ 1440 minutes), and thus determines whether Email connection is successful.

Table 3-19

Click "OK" to complete configuration.

Step 3 Click "Test"; check whether Email receiving and sending function is normal. With correct configurations, Email box is able to receive test Email.

3.2.4.5.7 Alarm Server

If alarm server has been deployed, video matrix platform connects with alarm server. Therefore, when video matrix platform produces an alarm, the alarm info will be uploaded to alarm server in a real-time way.

Note

In order to upload alarms to alarm server, "Alarm Upload" shall be selected during configuration of alarm setup and exception handling.

Step 1 In main menu, select "Setup> Network> Network Setup > Alarm Server", and the system displays "Alarm Server" interface, as shown in Figure 3-46.

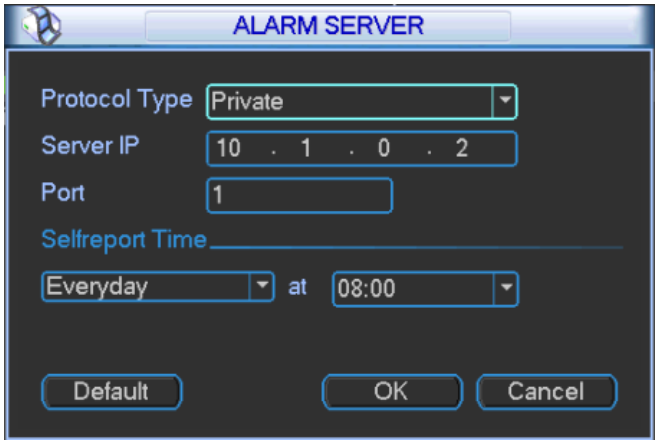


Figure 3-46

Step 2 Configure the parameters according to needs. Please refer to Table 3-20 for specific configuration.

Parameter	Description
Protocol type	Select "Alarm Server".

Server IP	IP address and communication port of PC that has installed with alarm client.
Port	
Self-report time	Report the device status within fixed cycle. For example, Channel Mask:00000000000000000000 Alarm type:400c Ip&port:172.8.6.7:53657 Domain name: Occur time:2015-11-26 08:00:00

Table 3-20

Step 3 Click “OK” to complete configuration. Open the client at alarm server, and the client will receive alarms, as shown in Figure 3-47.

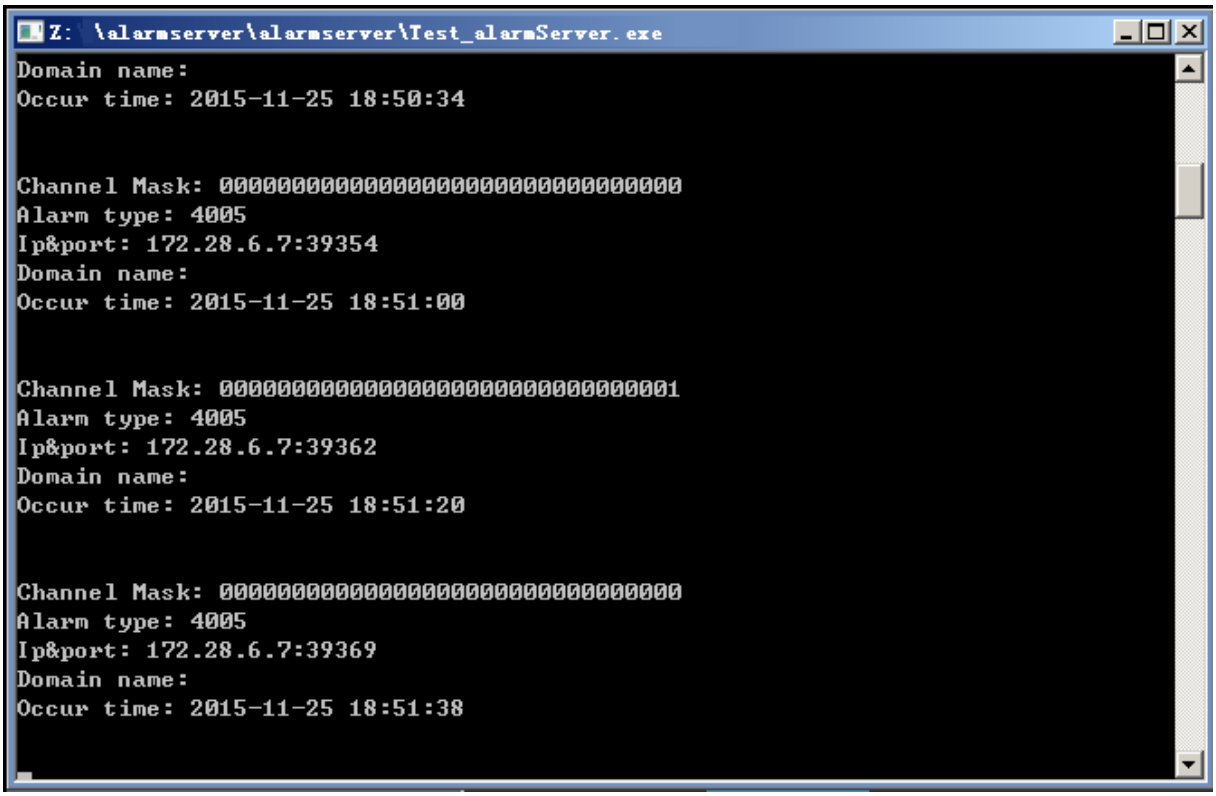


Figure 3-47

3.2.4.5.8 iSCSI

Videos can be stored on iSCSI server.

Step 1 In main menu, select “Setup> Network> Network Setup > iSICI”, and the system displays “iSICI” interface, as shown in Figure 3-48.

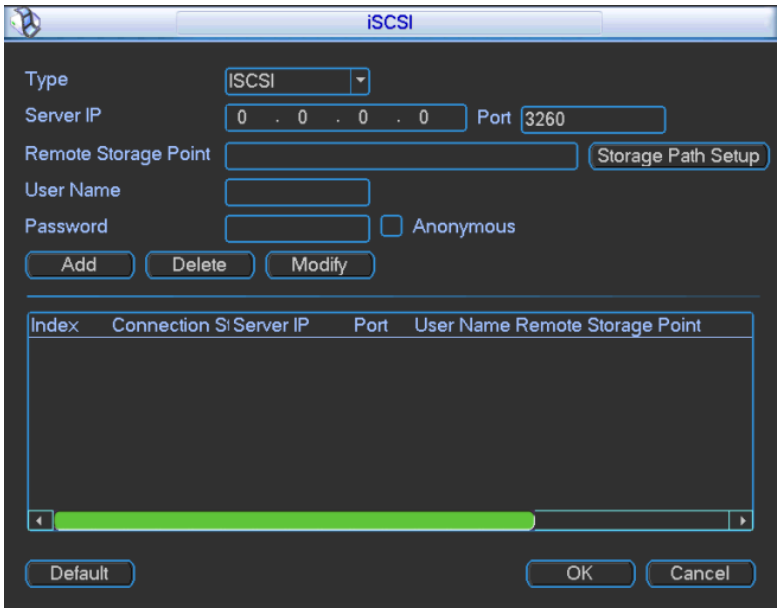


Figure 3-48

Step 2 Select “Type” to be “iSCSI”; input “Server IP” and “Port”.

Step 3 Click “Storage Path Setup”, and the system displays “Storage Path Setup” interface, as shown in Figure 3-49.

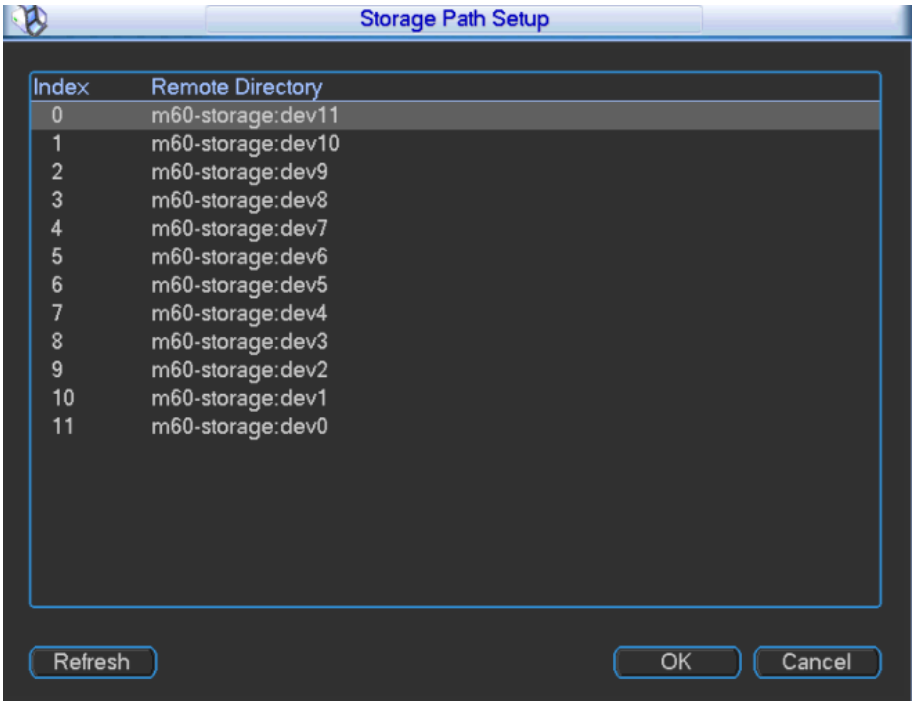


Figure 3-49

Step 4 Select corresponding remote directory and click “OK”. The system returns to “iSCSI” interface.

Step 5 Input correct “User Name” and “Password”, and click “Add”.

Step 6 Click “OK” to complete configuration. The list displays the added iSCSI server, as shown in Figure 3-50.

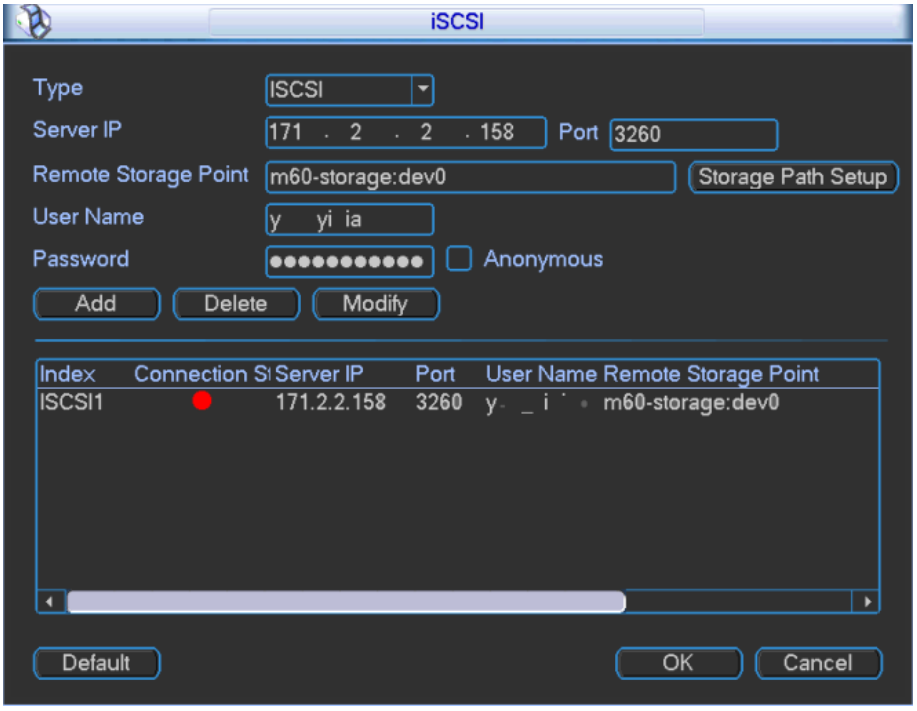


Figure 3-50

3.2.4.6 Video Detection

Video detection adopts computer vision and image processing technique to deal with video images acquired by camera, obtain real-time dynamic info, and realize signal control and info release.

In main menu, select “Setup> Detect”, and the system displays “Detect” interface, as shown in Figure 3-51.

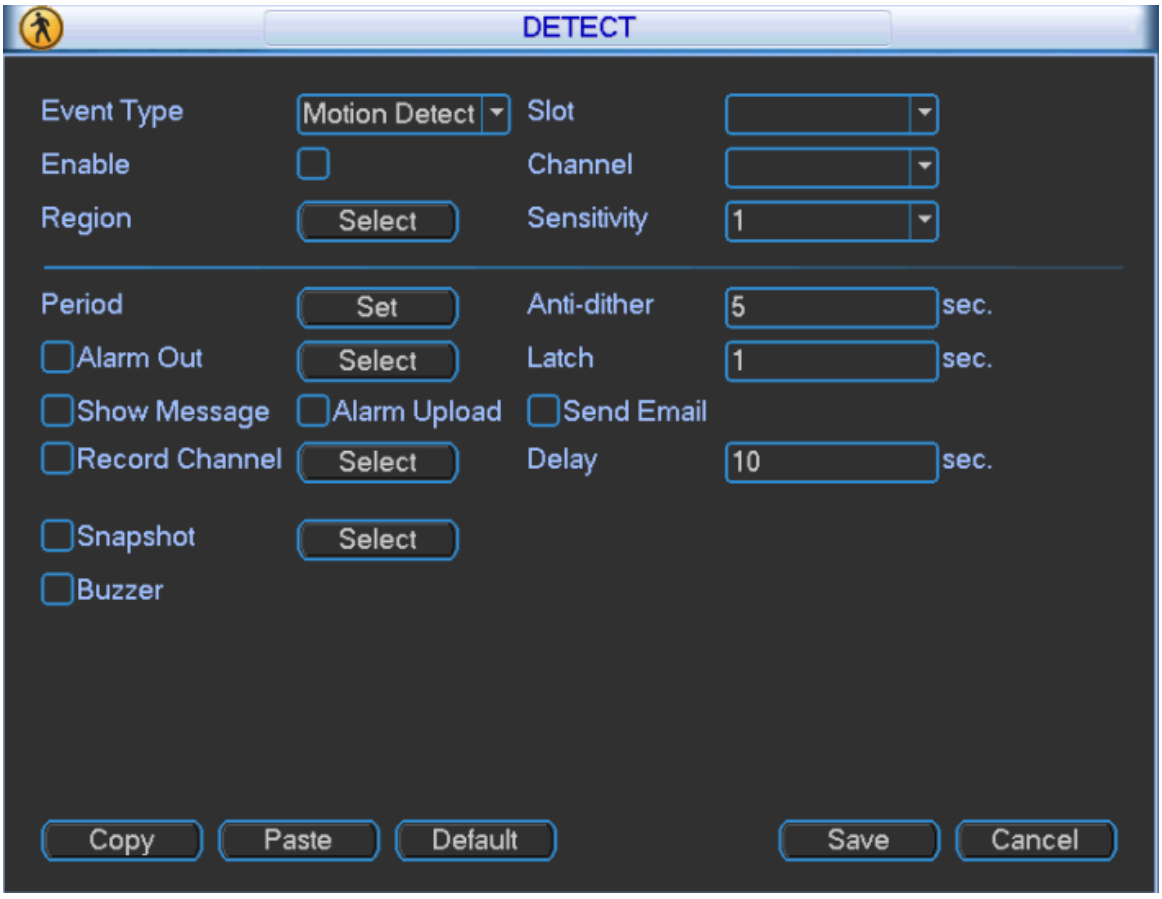


Figure 3-51

Note

“Enable” switch shall be selected and filled in with white. Otherwise, this function is invalid.

3.2.4.6.1 Motion Detection

An alarm is triggered when the system detects dynamic objects that reach preset sensitivity.

Step 1 Select “Event Type” to be “Motion Detection”. The system displays Figure 3-52.

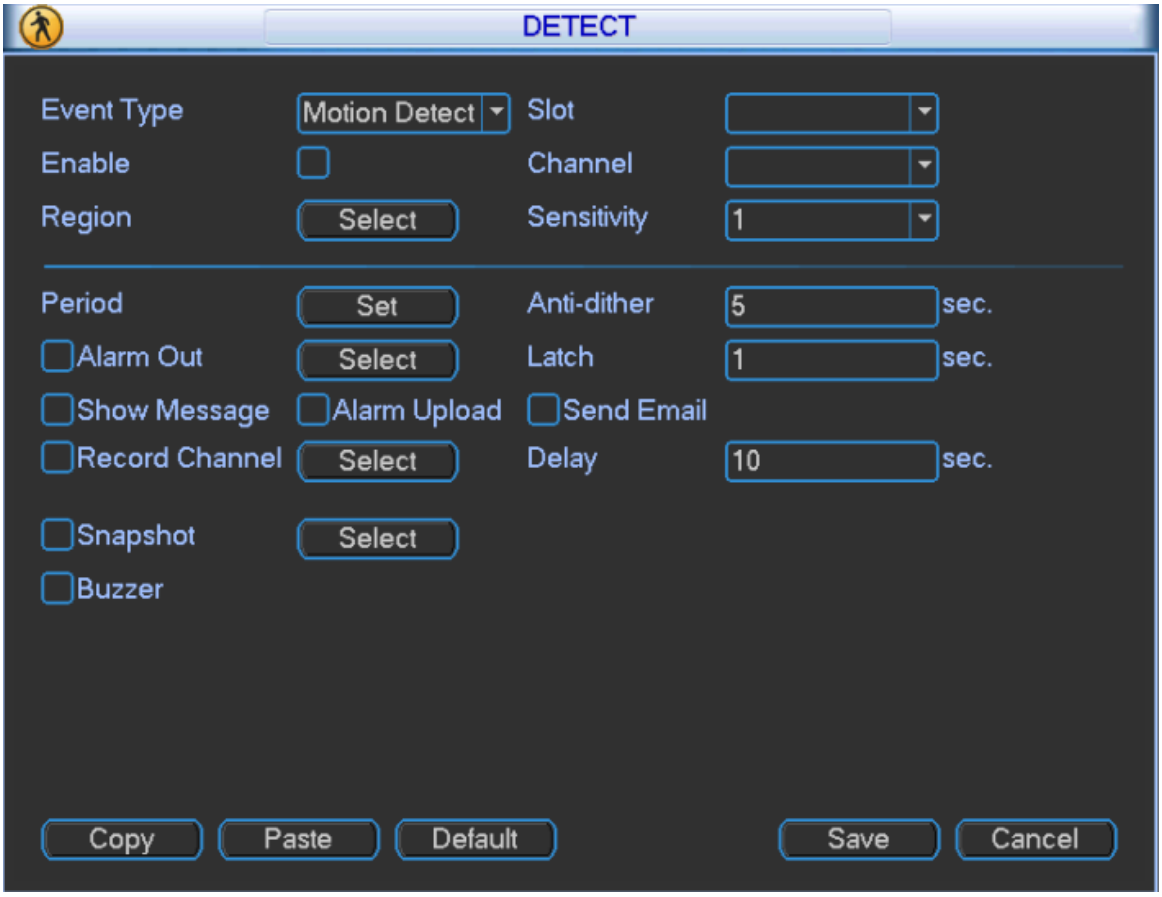


Figure 3-52

Step 2 Configure the parameters according to needs. Please refer to Table 3-21 for specific configuration.

Parameter	Description
Slot	Select the slot that shall be set.
Enable	It is selected when the check box is filled with white.
Channel	Select one channel under one slot of motion detection region, or select all (all channels under this slot are set to motion detection type).
Region	Set motion detection region. For specific operations, please refer to “Region Setup”.
Sensitivity	It ranges from 1 to 6, among which 6 owns the highest sensitivity.
Period	Set arming and disarming period. Within the set period, link corresponding configuration items to active alarm. For specific operations, please refer to “Setup of Arming and Disarming Period”.
Anti-dither	Only one motion detection event is recorded within the set anti-dither period.

Parameter	Description	
Alarm Out	When alarm output connects with alarm device (such as light and alarm whistle), in case of motion detection alarms, the system will send alarm info to the alarm device.	
Latch	Continue to alarm for a certain period after motion detection alarm is finished.	
Show Message	In case of motion detection alarms, local host screen of video matrix platform shows alarm info.	
Alarm Upload	In case of motion detection alarms, alarm info is sent to alarm server. Note It is required to connect alarm server. For specific operations, please refer to “3.2.4.5.7 Alarm Server”.	
Send Email	In case of motion detection alarms, an Email is sent to the set Email box. Note It is required to set Email. For specific operations, please refer to “3.2.4.5.6 Email”.	
Record Channel	In case of motion detection alarms, the system records videos of the selected channel (multiple choices are available). Note In case of motion detection alarms, system recording shall meet the following two conditions: ● Motion detection recording has been enabled. For specific operations, please refer to “3.2.4.3 Schedule”. ● Automatic recording has been set. For specific operations, please refer to “3.2.5.3 Record”.	
Delay	Continue to record for a certain period after motion detection alarm is finished.	
Snapshot	In case of motion detection alarms, trigger and snapshot images of the selected channel.	
Buzzer	In case of motion detection alarms, send buzzing prompts.	
Copy	Copy operation.	After modifying the interface, previous copy, paste and default functions are still
Paste	Paste operation.	

Parameter	Description	
Default	During default operations, according to the set channel and type, only detection type of current channel can be set to default value. For example, during default operations of masking detection interface, only masking detection can be set by default, and this operation is invalid to other types.	valid. What is different is that during pasting, only copy or paste the same type of setup. That is to say, video loss setup cannot be copied and pasted to masking detection (for example, masking detection of channel 1 can only be copied to masking detection of other channles, rather than copied to other types), and so on. Note The same setup of channels can adopt quick copy and paste function. However, during motion detection setup, in case of copy function, motion detection region parameters cannot be copied, because video content of every channel is usually different.

Table 3-21

Step 3 Click “Save” to complete configuration.

Region Setup

Click “Select” in the right of “Region”. The system displays Figure 3-53.

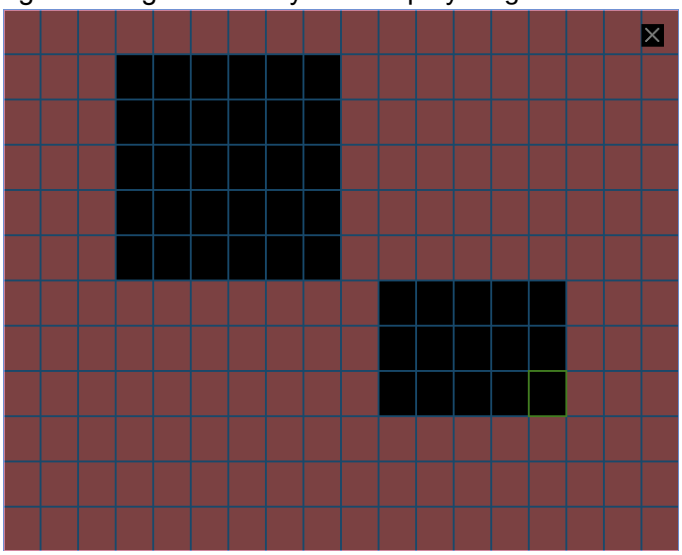


Figure 3-53

Region with green sides is current position of cursor; shadow region is motion detection region; black region is disarmed region.

Drag the region with mouse directly to select motion detection region; click the right mouse button to save and exit current setup region.

Setup of Arming and Disarming Period

Step 1 Click “Set” in the right of “Periord”. The system displays setup interface of arming and disarming period, as shown in Figure 3-54.

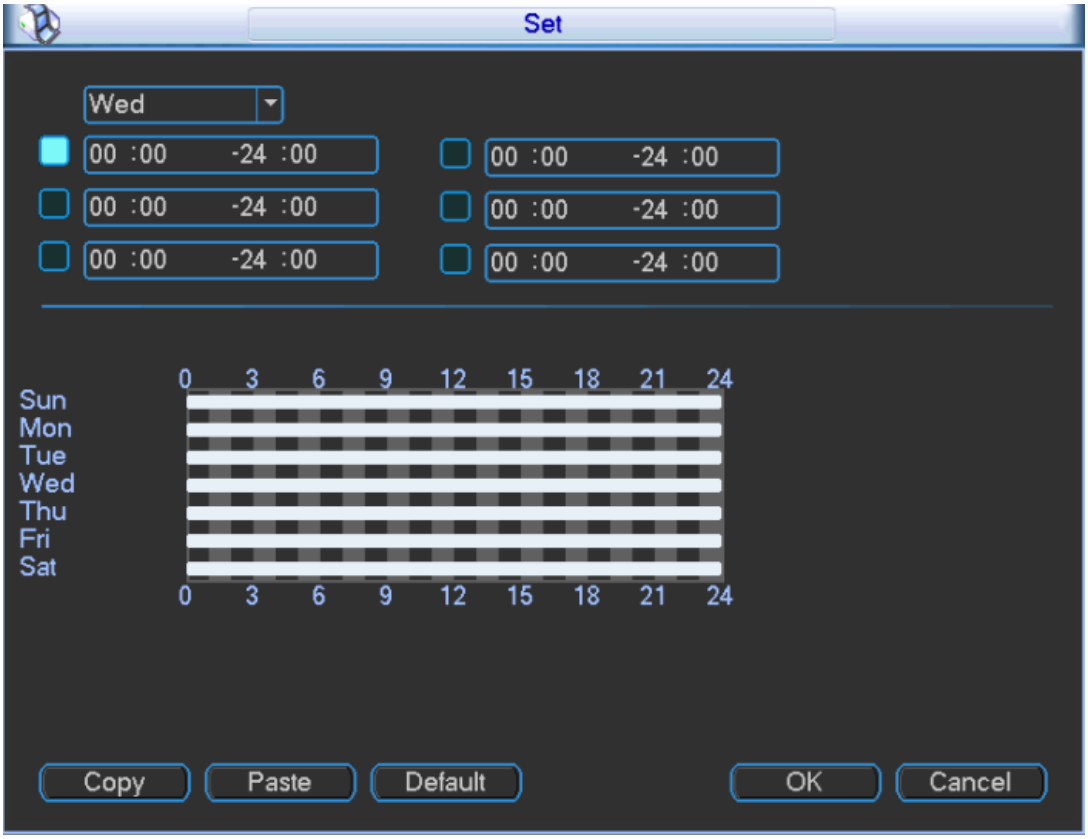


Figure 3-54

Step 2 Select week day and set corresponding period.

Note

- There are six periods everyday available for setup.
- By ticking the check box in front of period, the set time will take effect.
- Please select “All” to set all of them.

Besides setup of everyday one by one, time can be set in the following ways.

1. From the pulldown menu, select work day or free day, as shown in Figure 3-55.
2. Click “Set” in the right; divide work day and free day, as shown in Figure 3-56. The user divides them according to needs. For example, set Monday to Friday as work days, Saturday and Sunday as free days.
3. Click “Save” to return to Figure 3-55.

Then, select work day or free day to set recording time.

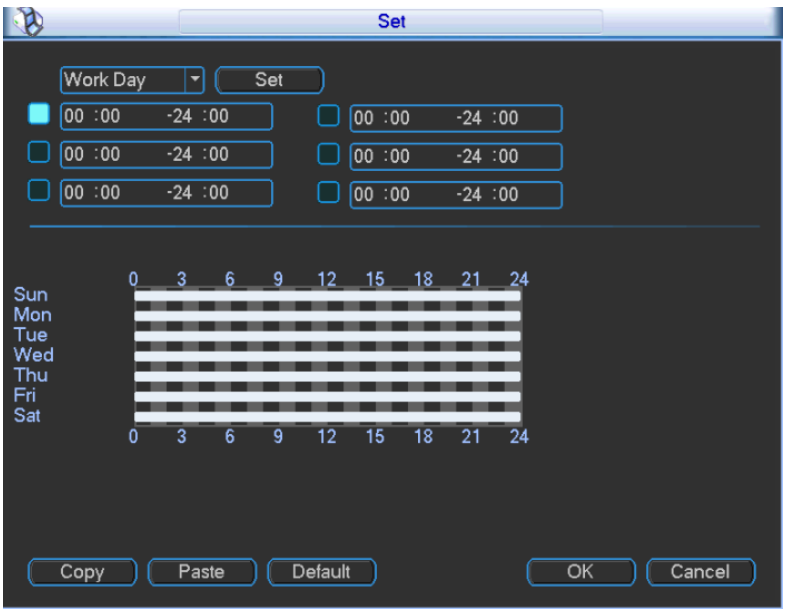


Figure 3-55

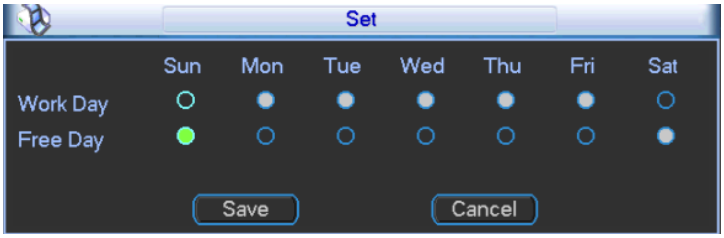


Figure 3-56

Step 3 Click “OK” to complete configuration.

3.2.4.6.2 Video Loss

Trigger an alarm in case of video loss.

Step 1 Select “Event Type” to be “Video Loss”. The system displays Figure 3-57.

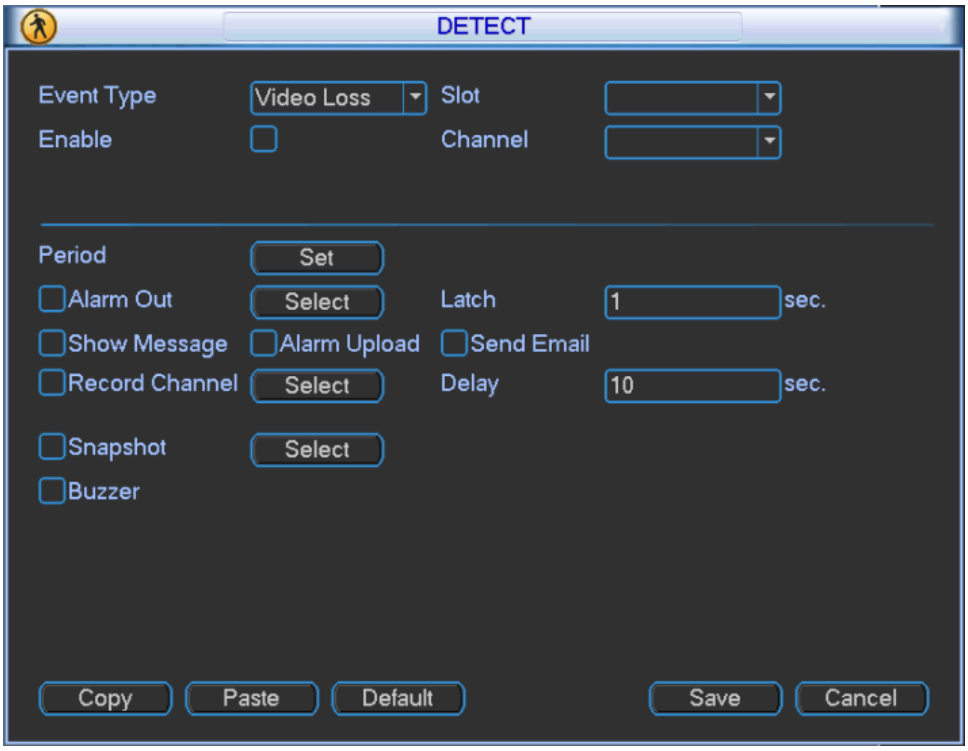


Figure 3-57

Step 2 Configure the parameters according to needs. Please refer to Table 3-21 for specific configuration.

Step 3 Click “Save” to save configuration.

3.2.4.6.3 Camera Masking

When someone masks the camera maliciously, on-site videos cannot be viewed. This phenomenon can be prevent effectively by setting masking alarm.

Step 1 Select “Event Type” to be “Camera Masking”. The system displays Figure 3-58.

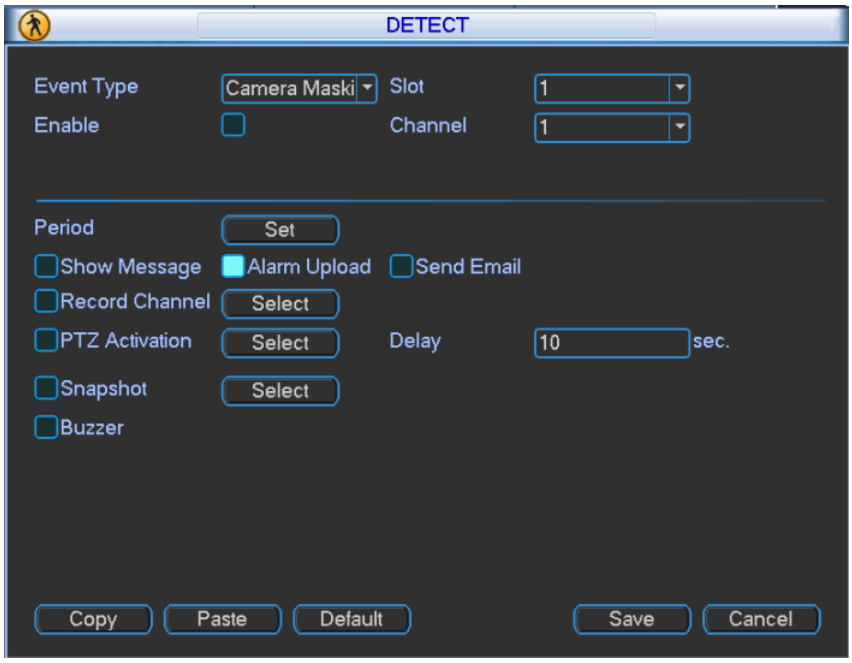


Figure 3-58

Step 2 Configure the parameters according to needs. Please refer to Table 3-21 for specific configuration.

Step 3 Click “Save” to save configuration.

3.2.4.7 Pan/Tilt/Zoom

Device protocol, baudrate, address and parity shall be the same as camera protocol, baudrate, address and parity, in order to control PTZ.

Note

Determine preset address of camera in advance; ensure that A and B cables of camera shall be connected with A and B interfaces of one interface board of video matrix platform correctly.

Step 1 In main menu, select “Setup > Pan/Tilt/Zoom”. The system displays “Pan/Tilt/Zoom” interface, as shown in Figure 3-59.

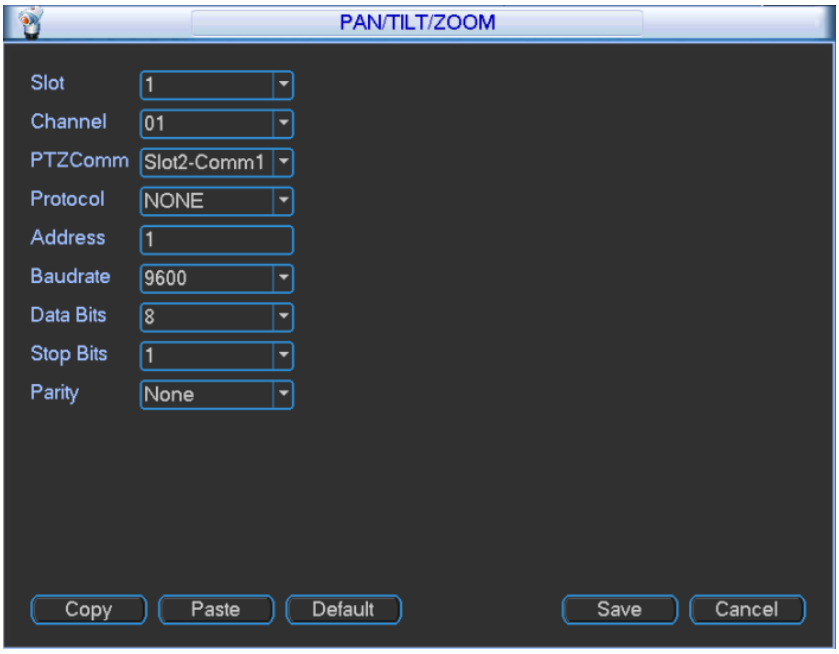


Figure 3-59

Step 2 Configure the parameters according to needs. Please refer to Table 3-22 for specific

configuration.

Parameter	Description
Slot	Select slot to connect.
Channel	Select channel to connect.
PTZ Comm	Select to connect A and B cables of camera with A and B cable interfaces of board card.
Protocol	Select camera protocol with corresponding brand and model (for example, PELCO-D).
Address	It is corresponding camera address. Default value is 1. Note This address must be identical with camera; otherwise, control over PTZ is invalid.
Baudrate	Select corresponding baudrate, so as to control PTZ and camera in corresponding channel. Default value is 9600.
Data Bits	Default value is 8.
Stop Bits	Default value is 1.
Parity	Default setup is none.

Table 3-22

When card of corresponding slot is HDCVI encoding card, you can set reverse control of front-end, as shown in Figure 3-60.

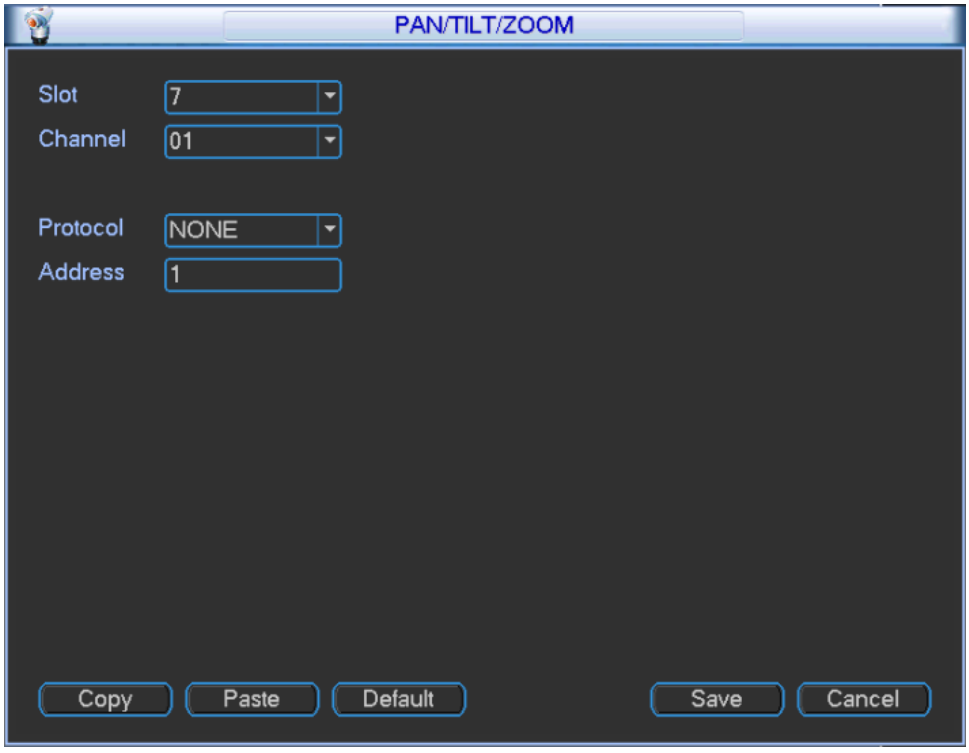


Figure 3-60

Step 3 Click “Save” to save configuration.

3.2.4.8 Display

In main menu, select “Setup > Display”. The system displays “Display” interface, as shown in Figure 3-61.

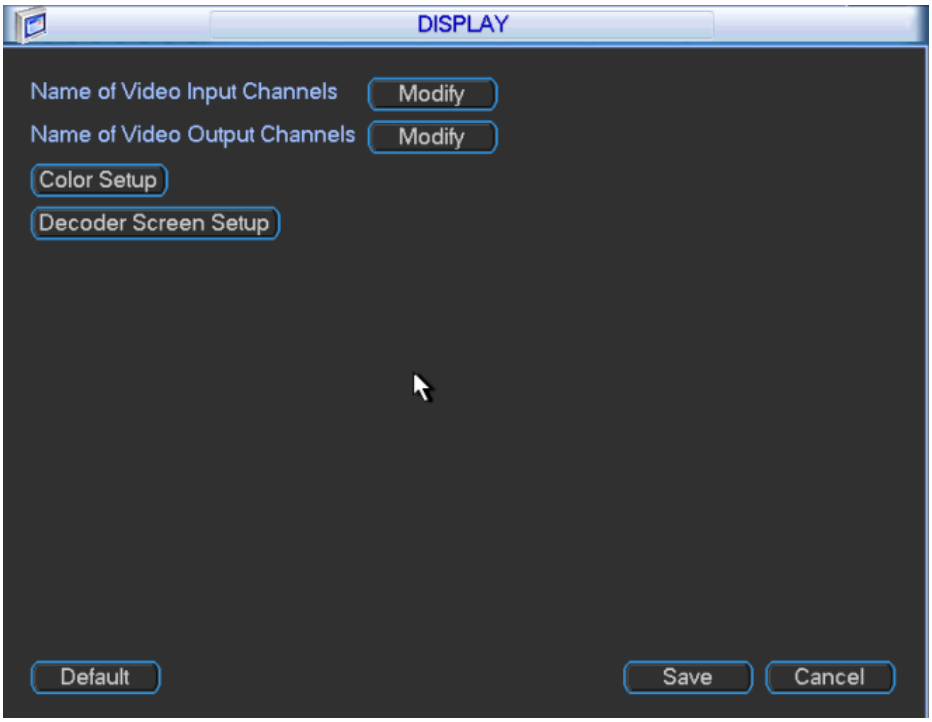


Figure 3-61

3.2.4.8.1 Modify Name of Input Channels

Step 1 Click “Modify” in the right of “Channel Name”. The system displays “Name of Video Input Channels” interface, as shown in Figure 3-62.

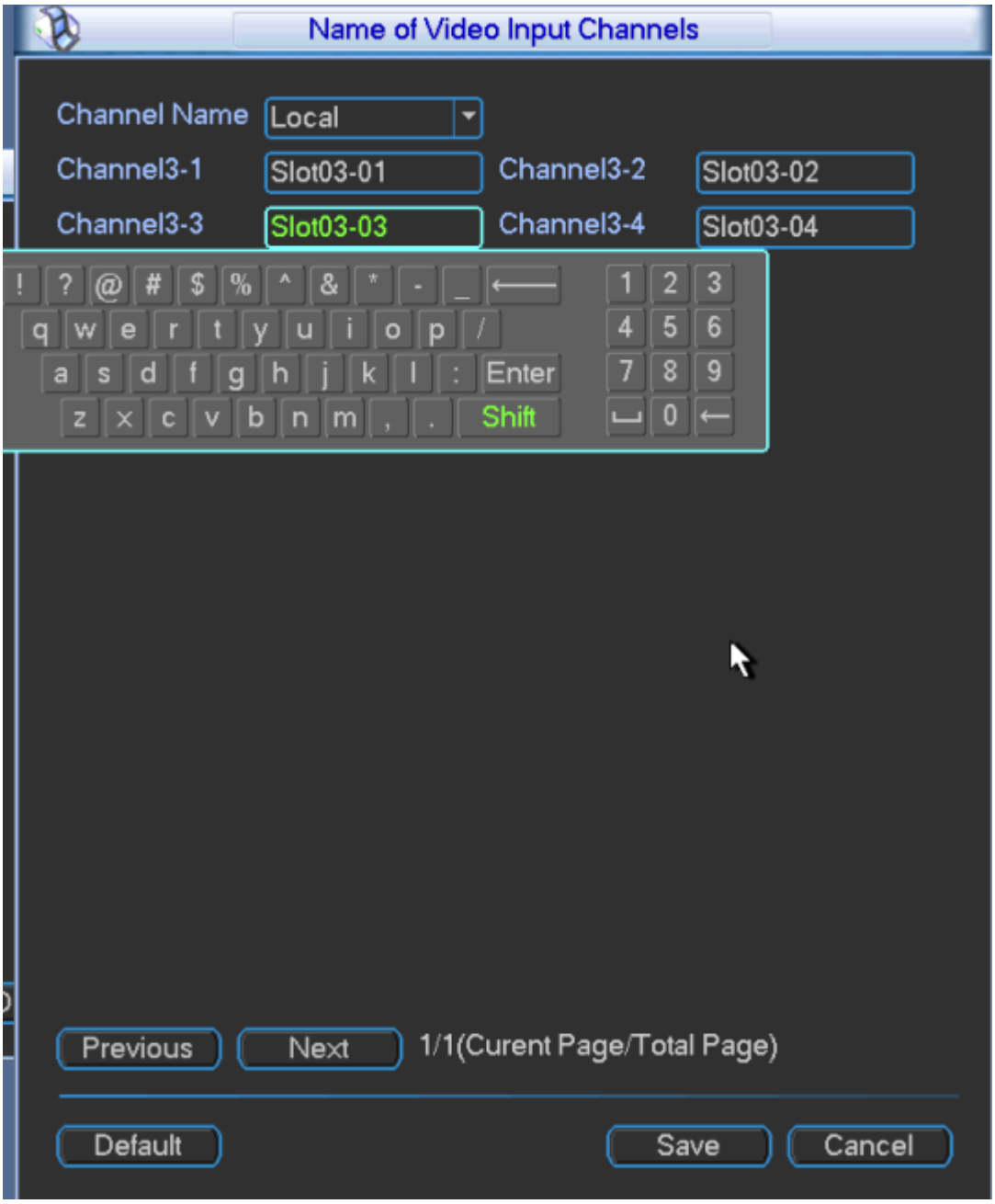


Figure 3-62

Step 2 Modify the name of input channels according to needs.

Step 3 Click “Save” to save configuration.

3.2.4.8.2 Modify Name of Output Channels

Step 1 Click “Modify” in the right of “Channel Name”. The system displays “Name of Video Output Channels” interface, as shown in Figure 3-63.

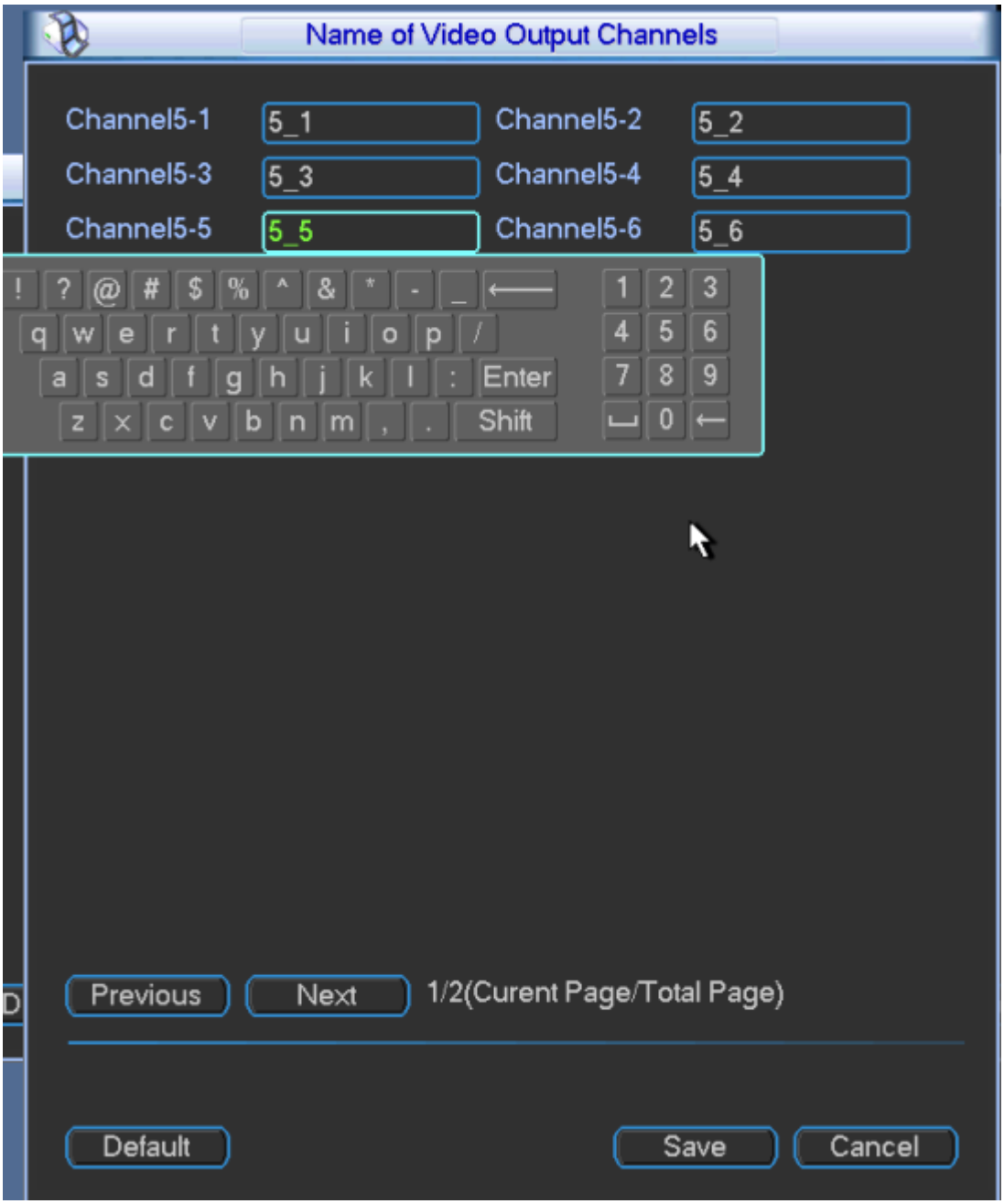


Figure 3-63

Step 2 Modify the name of output channels according to needs.

Step 3 Click “Save” to save configuration.

3.2.4.8.3 Color Setup

Step 1 Click “Color Setup”. The system displays “Color Setup” interface, as shown in Figure 3-64.

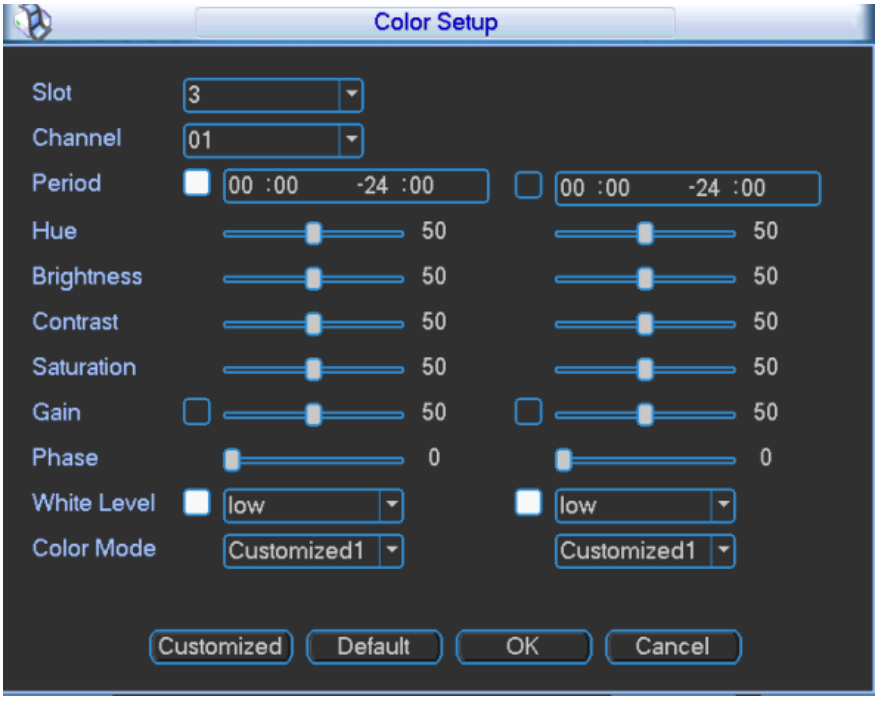


Figure 3-64

Step 2 Configure the parameters according to needs. Please refer to Table 3-23 for specific configuration.

Parameter	Description
Slot	Select the slot to configure color.
Channel	Select the channel to configure color.
Period	Configure different color for two periods.
Hue	Adjust image hue.
Brightness	Adjust overall brightness of image linearly. The larger the value is, the brighter the image becomes; and vice versa. When this value is large, the image dims easily.
Contrast	Adjust image contract. The larger the value is, the more contrasted the image becomes; and vice versa. When this value is large, dark part of the image is too dark, while bright part overexposes easily. When this value is small, the image dims.
Saturation	Adjust image shade. The larger the value is, the deeper the color becomes, and vice versa. This value doesn't affect overall brightness of the image.
Gain	Adjust gain of the image.
Phase	Adjust phase of the image.
White Level	Adjust white level of the image.
Color Mode	Select color mode, which can be customized.

Table 3-23

Step 3 Click "OK" to complete configuration.

3.2.4.8.4 Decoder Screen Setup

Step 1 Click "Decoder Screen Setup". The system displays "Decoder Screen Setup" interface, as shown in Figure 3-65.

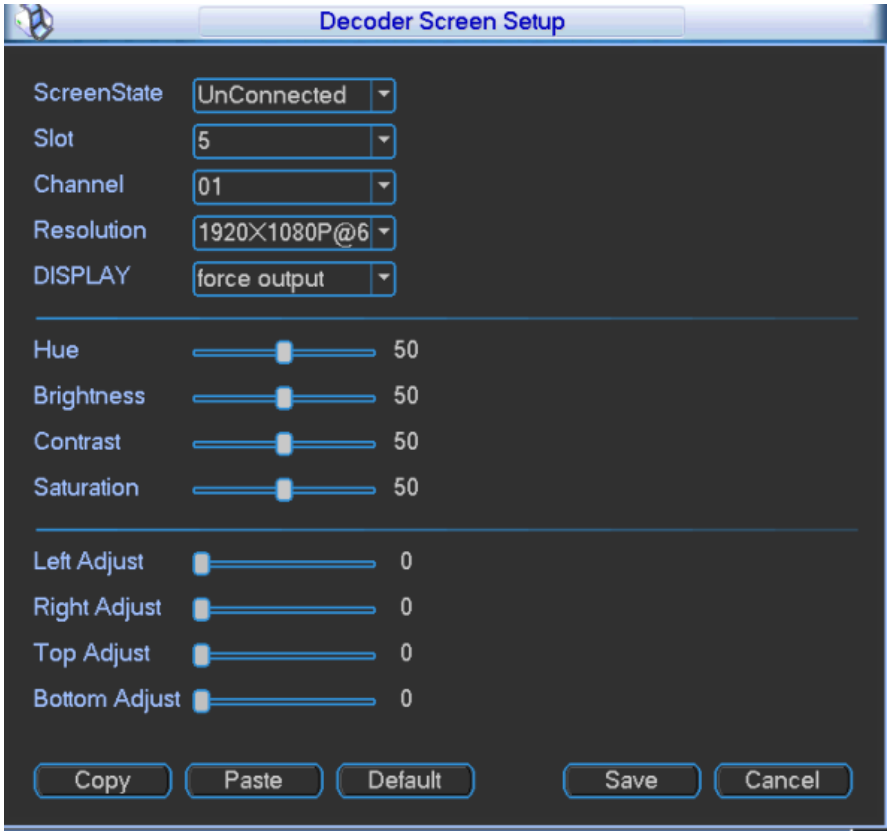


Figure 3-65

Step 2 Configure the parameters according to needs. Please refer to Table 3-24 for specific configuration.

Parameter	Description
Screen State	Configure screen connection state.
Slot	Select the slot of screen to be configured.
Channel	Select the channel of screen to be configured.
Resolution	Set screen resolution.
Display	Set display mode of screen. Hot plug and force output are available. ● Hot plug: images are output only when device output interface is connected with the display. ● Force output: images are output even when device output interface is not connected with the display.
Hue	Set screen hue, ranging from 0 to 100.
Brightness	Set screen brightness, ranging from 0 to 100.
Contrast	Set screen contrast, ranging from 0 to 100.
Saturation	Set screen saturation, ranging from 0 to 100.
Left Adjust	Set left margin of screen, ranging from 0 to 100.
Right Adjust	Set right margin of screen, ranging from 0 to 100.
Top Adjust	Set top margin of screen, ranging from 0 to 100.
Bottom Adjust	Set bottom margin of screen, ranging from 0 to 100.
Copy/Paste	After one channel is configured, click “Copy”, select another channel and click “Paste”. The configuration content will be copied to the channel.

Table 3-24

Step 3 Click “Save” to save configuration.

3.2.4.9 Default

The system restores to default ex-factory configuration state. Select specific items according to menu options.

In main menu, select “Setup > Default”. The system displays “Default” interface, as shown in Figure 3-66.

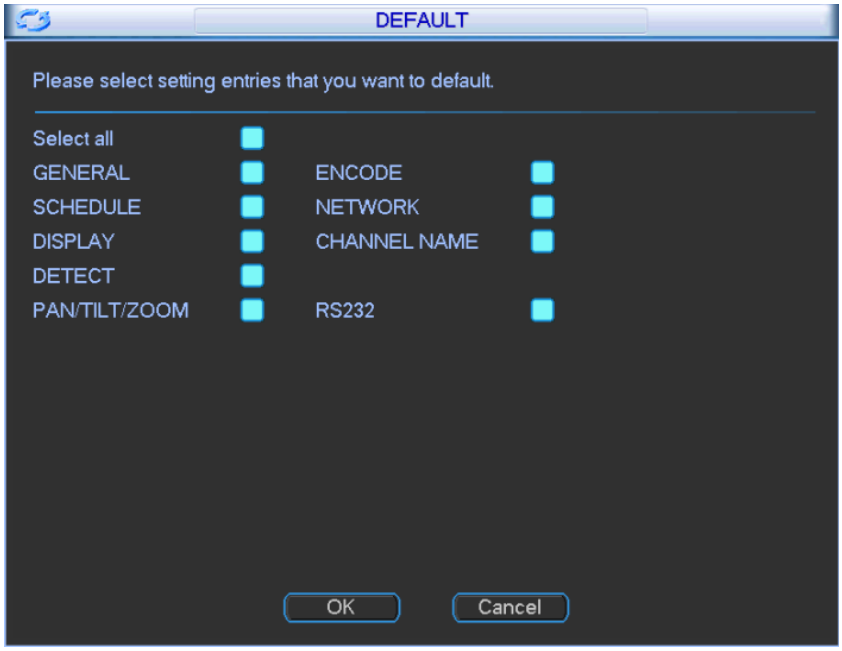


Figure 3-66

Note

Menu color, language, video standard and user account will not be restored.

3.2.5 Advanced

Advanced menu includes HDD Manage, Abnormality, Record, Account, Auto Maintain, Video Wall and Raid Manager, as shown in Figure 3-67.

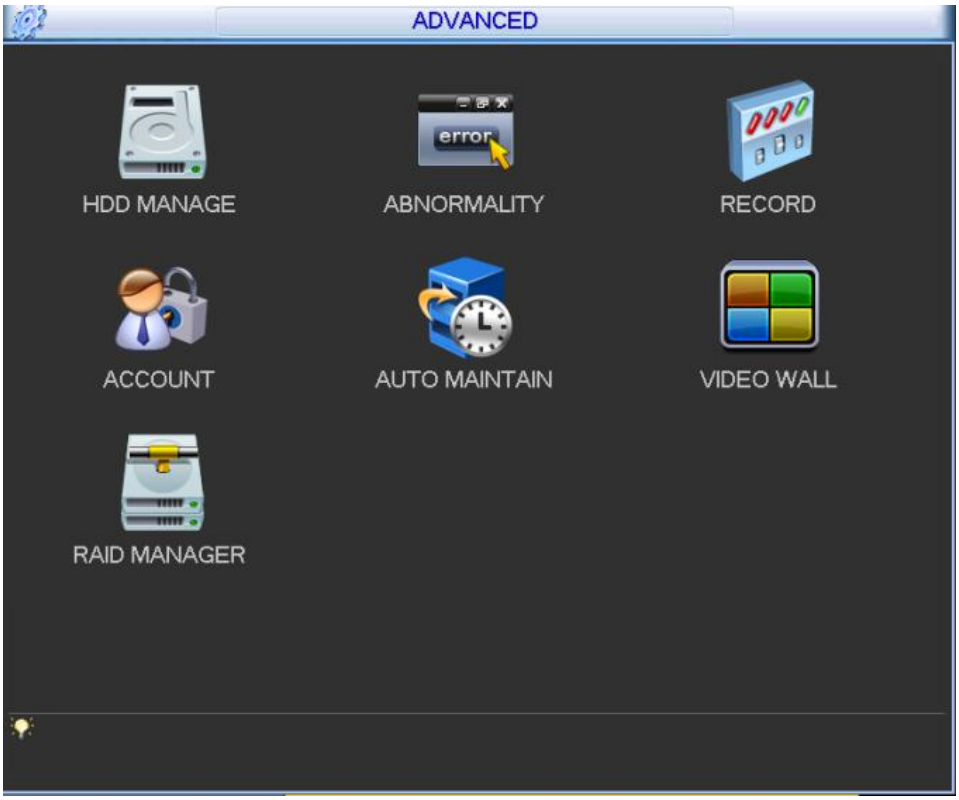


Figure 3-67

3.2.5.1 HDD Management

In HDD Management interface, set type, format, HDD group, disk name, status and capacity.

Step 1 In main menu, select “Advance > HDD Manage”. The system displays “HDD Manage” interface, as shown in Figure 3-68.

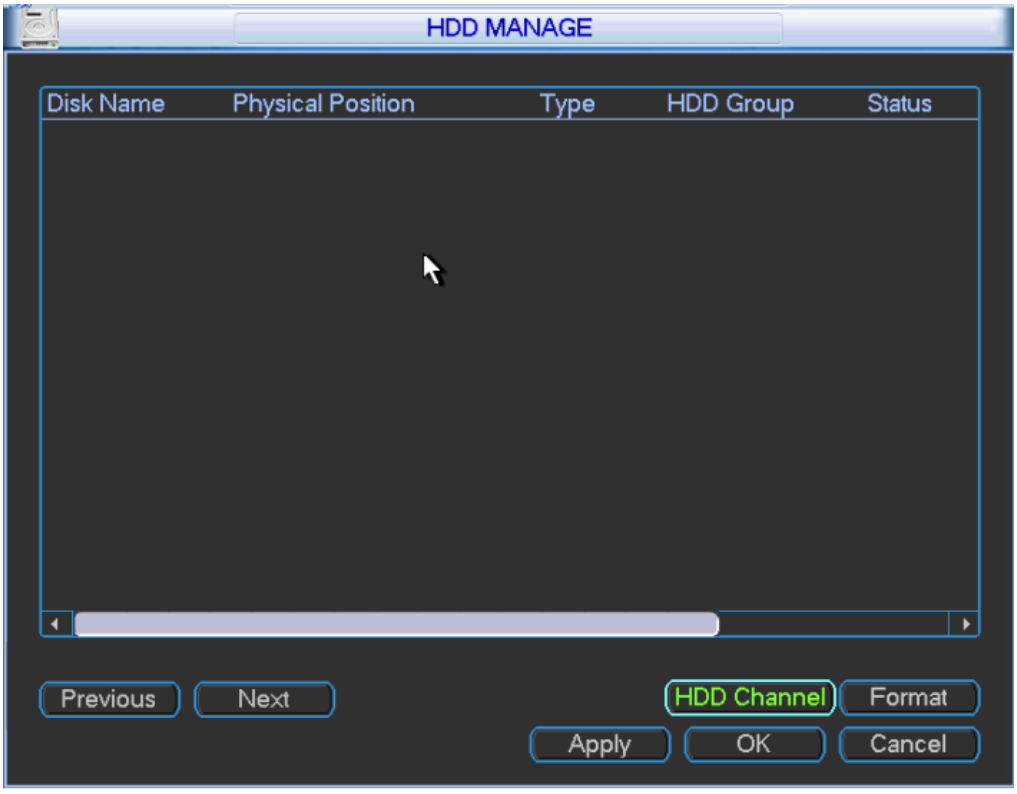


Figure 3-68

Step 2 Configure the parameters according to needs. Please refer to Table 3-25 for specific configuration.

Parameter	Description
Name	Display disk name.
Type	Set HDD to be read-write disk and read only disk. Note To prevent cyclic covering, HDD can be set to be read only disk.
HDD Group	Set remote storage directory of current interface, or group number of external HDD.
Status	Display operating status of HDD.
Free Space /Total Space	Display free space and total space of HDD.
HDD Channel	According to actual needs, set corresponding HDD group for local or remote input signal. Slot is to set local video input, whereas digital channel is to set remote video input (setup method is the same as local input), as shown in Figure 3-69.
Format	Format the disk and clear data.

Table 3-25

Figure 3-69

Step 3 Click “Apply” or “OK” to complete configuration.

3.2.5.2 Abnormality

Trigger an alarm when device status is found to be the same as preset event type.

Step 1 In main menu, select “Advance > Abnormality”. The system displays “Abnormality” interface, as shown in Figure 3-70.

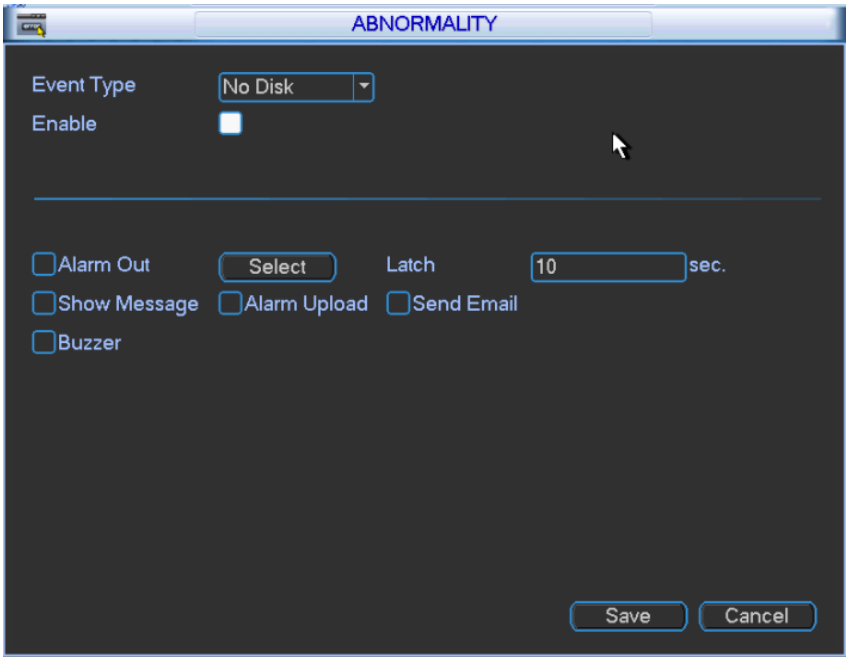


Figure 3-70

Step 2 Configure the parameters according to needs. Please refer to Table 3-26 for specific configuration.

Parameter	Description
Event Type	It includes no disk, disk error, capacity warning, disconnection, IP conflict and MAC conflict. One and more events can be set.
Enable	It is selected when the check box is filled with white.
Alarm Out	Select alarm output channel (multiple channels can be selected). In case of alarm, the system enables the channel alarm automatically.
Latch	The alarm stops after delaying for 10s～300s.
Show Message	In case of alarm, local host screen of video matrix platform shows alarm message.
Alarm Upload	In case of alarm, alarm message is sent to alarm server. Note It is required to connect alarm server. For specific operations, please refer to “3.2.4.5.7 Alarm Server”.
Send Email	In case of alarm, an Email is sent to the set Email box. Note It is required to set Email. For specific operations, please refer to “3.2.4.5.6 Email”.
Buzzer	In case of alarm, send buzzing prompts.

Table 3-26

Step 3 Click “Save” to save configuration.

3.2.5.3 Record

Control recording of every channel and network device in every slot manually.

Record mode consists of auto, manual and stop.

- Auto: record according to record mode of every period in record setup.
- Manual: carry out normal recording, regardless of record mode in record setup.

- Stop: stop recording.

In main menu, select “Advance > Record”. The system displays “Record” interface, as shown in Figure 3-71.

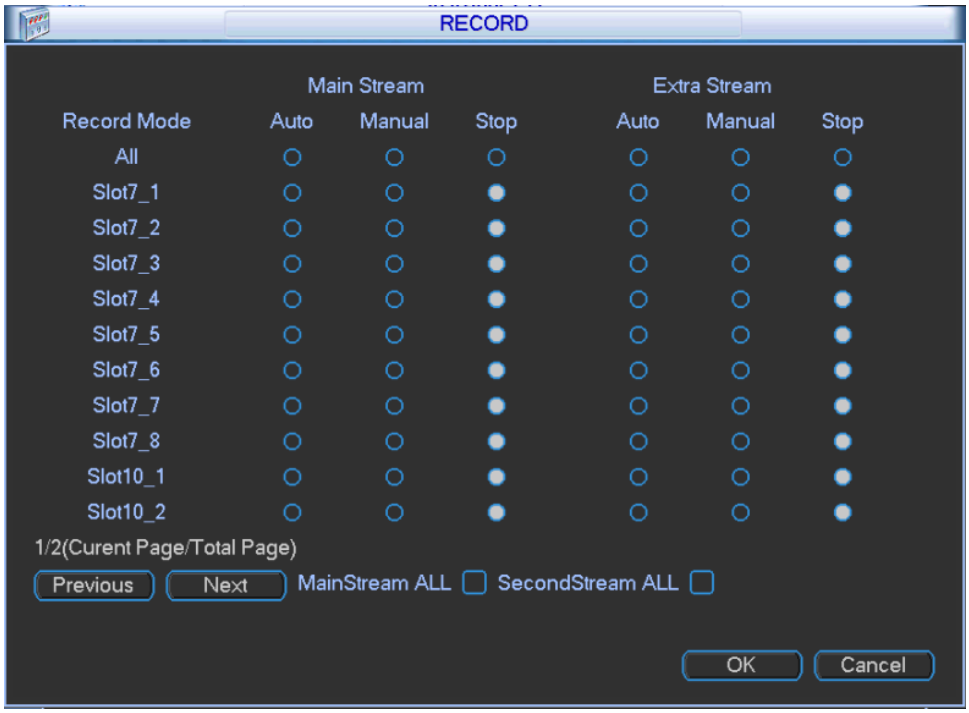


Figure 3-71

3.2.5.4 Account

View all user accounts, groups and statuses.

Default User

Default user name is admin.

Group and User Description

User management adopts group and user modes. Every user name and group name is single, which shall not be repeated.

- The system supports max. 64 users and 20 groups.
- Ex-factory setup includes user and admin group, which shall not be deleted.
- Group user can modify authorities within the authority scope of the group.
- Every user shall belong to one group, and one user belongs to one group only. By selecting the group, user’s authority can only be a subset of the group authority, not exceeding authority property of this group.
- User name and group name consist of 6 bytes at most. Space before or after the string is invalid; there can be space in the middle. Valid string includes letter, number, underline, subtraction sign and dot, while other characters are not allowed.

In main menu, select “Advance > Account”. The system displays “Account” interface, as shown in Figure 3-72.

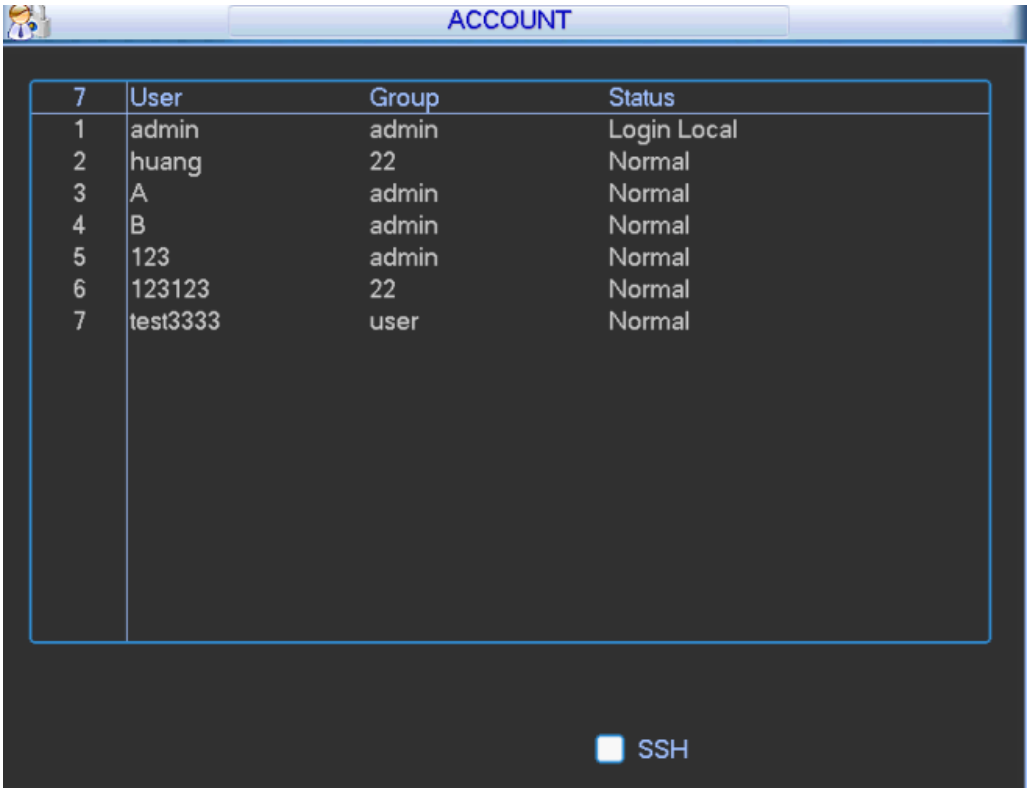


Figure 3-72

Note

SSH is used by technicians to turn on back-stage debugging port. It is closed by default.

3.2.5.5 Auto Maintain

The user can set periods to auto-reboot system and auto-delete old files.

- Auto-reboot System is able to reboot the system at fixed time, in order to guarantee system stability and service life.
- Auto-delete Old Files is able to delete overdue files.

In main menu, select “Advance > Auto Maintain”. The system displays “Auto Maintain” interface, as shown in Figure 3-73.

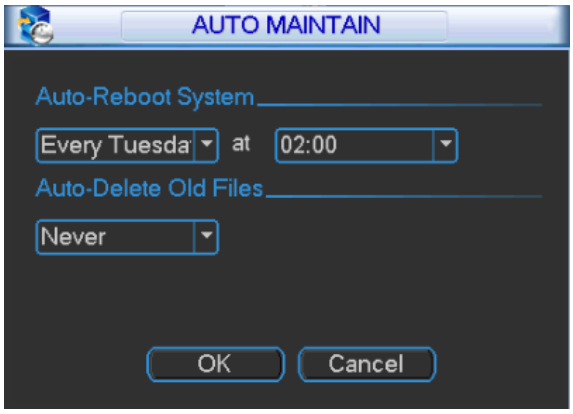


Figure 3-73

3.2.5.6 Video Wall

Configure functions of video wall.

In main menu, select “Advance > Video Wall”. The system displays “Video Wall” interface, as shown in Figure 3-74.

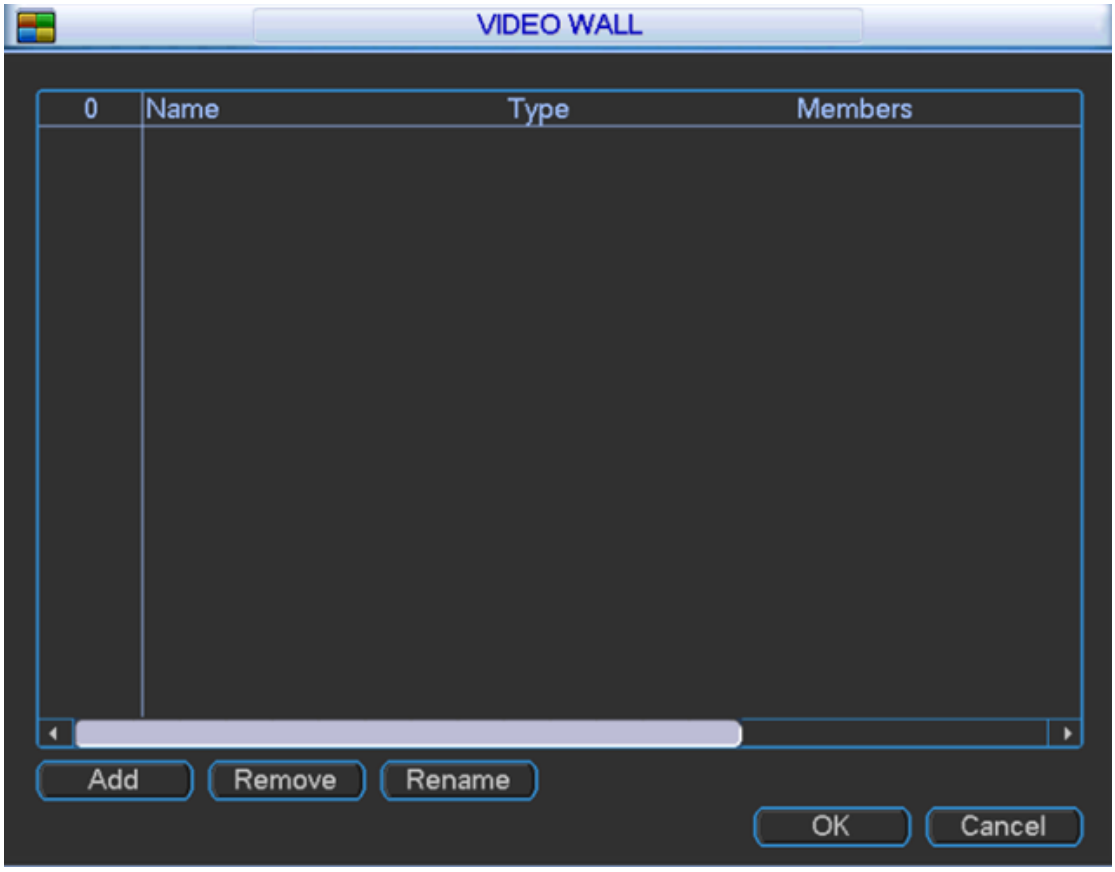


Figure 3-74

3.2.5.6.1 Add Video Wall

Step 1 Click “Add”. The system displays “Add Video Wall” interface, as shown in Figure 3-75.

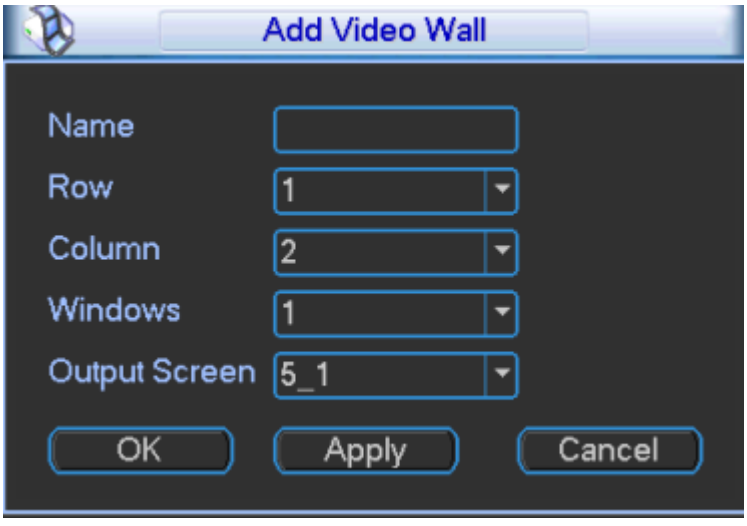


Figure 3-75

Step 2 Configure the parameters according to needs. Please refer to Table 3-27 for specific configuration.

Parameter	Description
Name	Set the name of video wall.
Row	Set splicing unit row of video wall.
Column	Set splicing unit column of video wall.

Parameter	Description
Windows	Rank all splicing units according to row followed by column.
Output Screen	Output channel of every splicing unit.

Table 3-27

Step 3 Click “Apply” or “OK”.

Note

When selecting corresponding windows and output screen every time, click “Apply”.

The system returns to “Video Wall” interface, as shown in Figure 3-76.

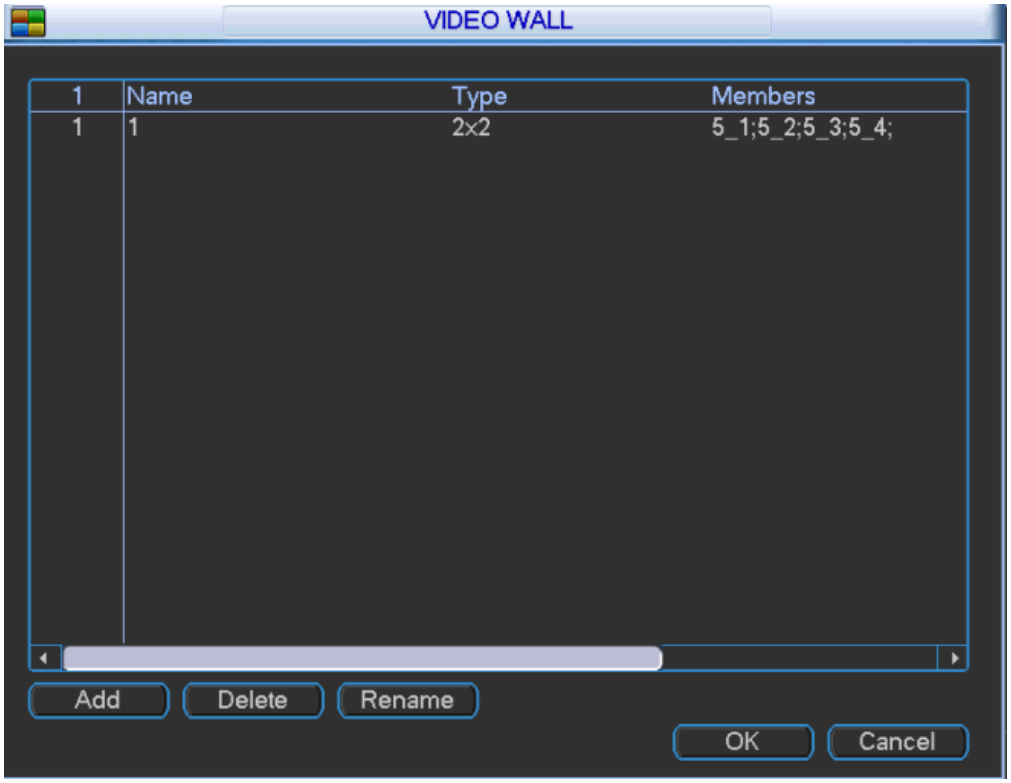


Figure 3-76

Note

When selecting corresponding windows and output screen every time, click “Apply”.

3.2.5.6.2 Remove Video Wall

Select the video wall, and click “Remove” to remove it.

3.2.5.6.3 Rename

Select the video wall, and click “Rename” to rename it, as shown in Figure 3-77.

Figure 3-77

3.2.5.7 Raid Manager

With RAID Manager, independent physical disks are combined to redundant disk pack. Provide

a bigger storage space in the form of logical disk, enhance system I/O performance, data availability and data security.

Note

At present, the device supports Raid0, Raid1, Raid5, Raid6 and Raid10.

Raid Type	Required Disk Quantity
Raid0	At least 2 disks.
Raid1	Only 2 disks.
Raid5	At least 3 disks. It is suggested that Raid5 should consists of 4 to 6 disks.
Raid6	At least 4 disks. It is suggested that Raid6 should consists of 4 to 6 disks.
Raid10	At least 4 disks.

Table 3-28

In main menu, select “Advance > Raid Manager”. The system displays “Raid Manager” interface, as shown in Figure 3-78.

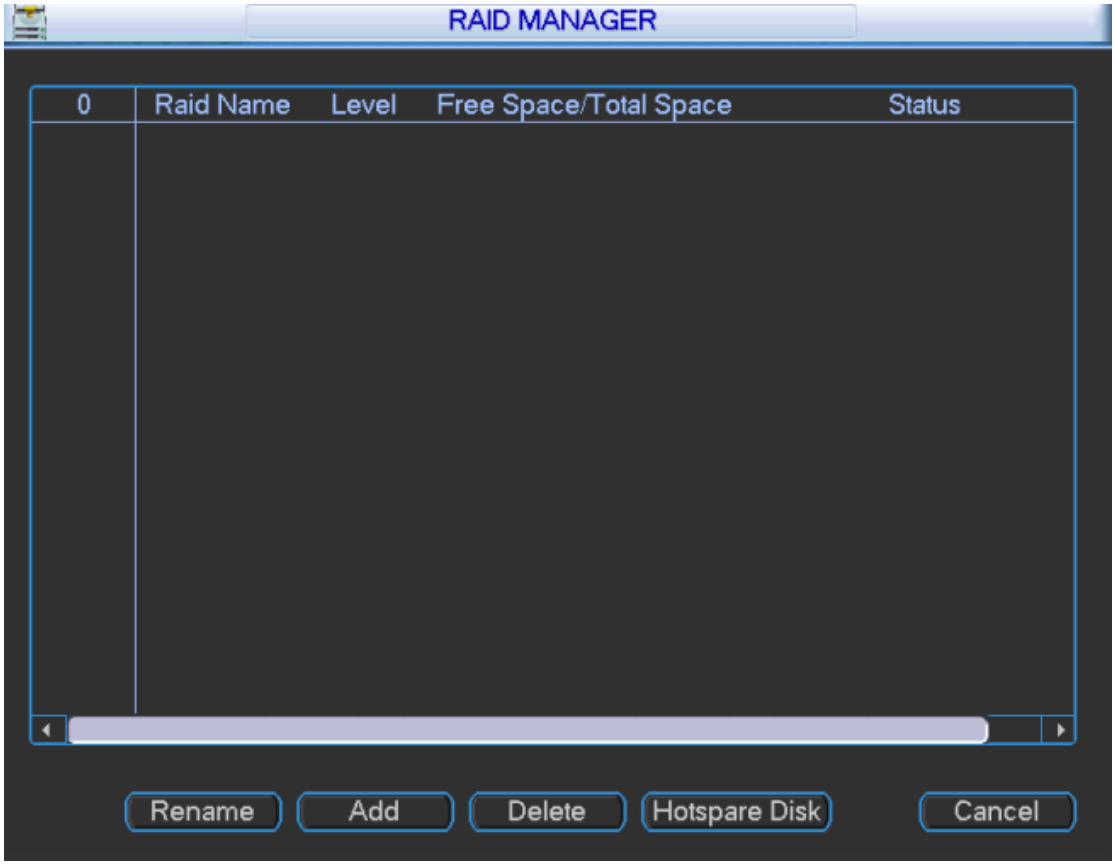


Figure 3-78

Add Raid

Step 1 Click “Add”. The system displays “Add Raid” interface, as shown in Figure 3-79.

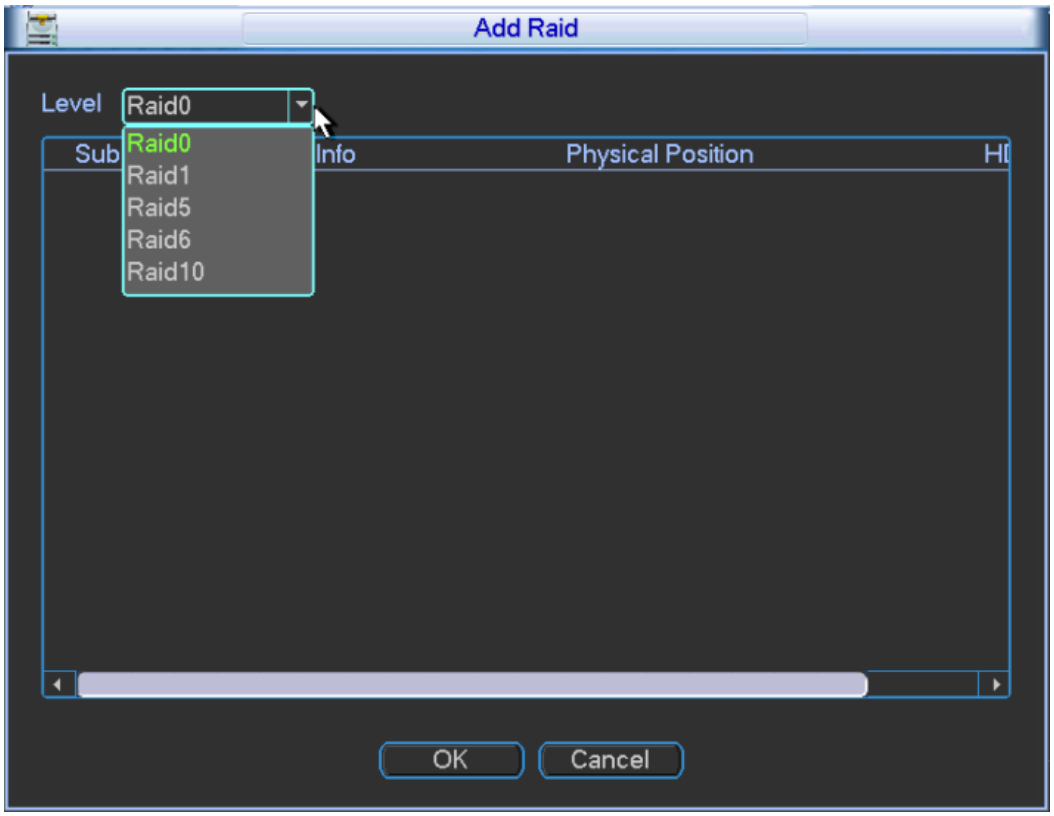


Figure 3-79

Step 2 Select “Level” and select disk quantity according to system prompts.

Step 3 Click “OK” to complete configuration.

Delete Raid

Select Raid and click “Delete” to delete this Raid.

Hotspare Disk

Hotspare disk shall be configured only when the device configures RAID.

Step 1 Click “Hotspare Disk”. The system displays “Hotspare Disk” interface, as shown in Figure 3-80.

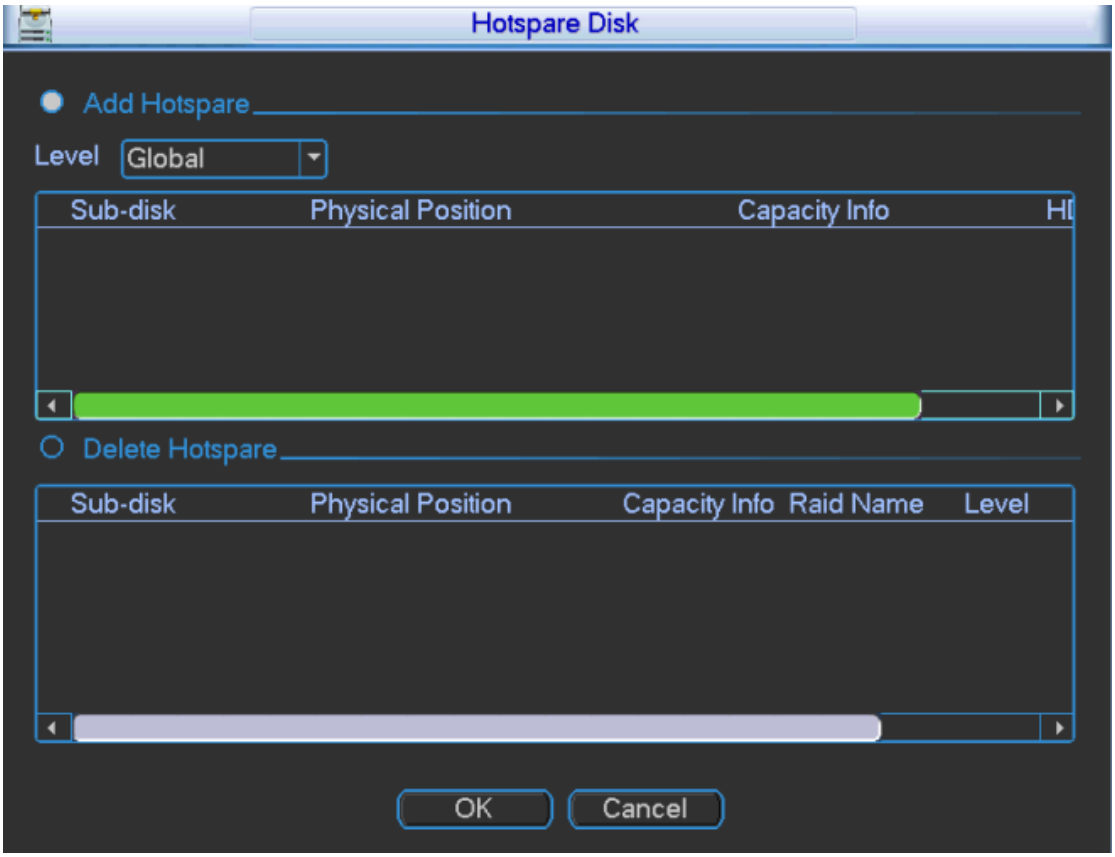


Figure 3-80

Step 2 Select “Add Hotspare”.

Step 3 Select “Level” and sub-disk; click “OK”.

To delete it, please select “Delete Hotspare” and sub-disk; click “OK”.

3.2.6 Remote Device

The user can add remote devices manually or automatically, and modify, delete and upgrade them.

In main menu, select “Advance > Remote Device”. The system displays “Remote Device” interface, as shown in Figure 3-81.

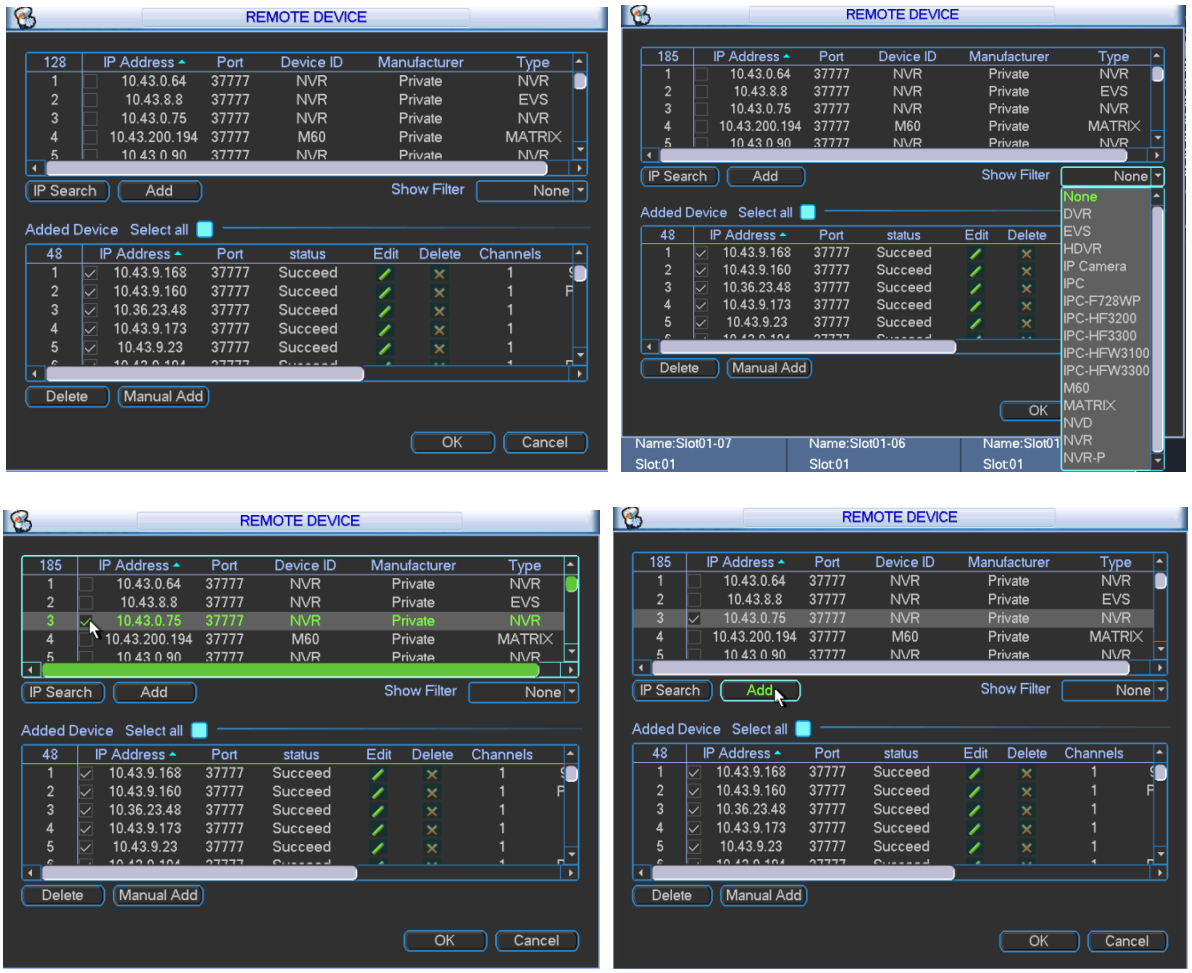


Figure 3-81

3.2.6.1 Search and Add

Step 1 Click “IP Search”. The list displays the info of devices that have been found.

Step 2 Tick the check box in front of one device info, and click “Add”. Therefore, the device will be added to the list of “Added Device”.

Note

Select “All” to select all devices.

Tip

In the pulldown box in the right of “Show Filter”, select filter conditions, fill in filter value, and thus search the filtered device info.

Step 3 Click “OK” to complete configuration.

3.2.6.2 Manual Add

Step 1 Click “Manual Add”. The system displays “Manual Add” interface, as shown in Figure 3-82.

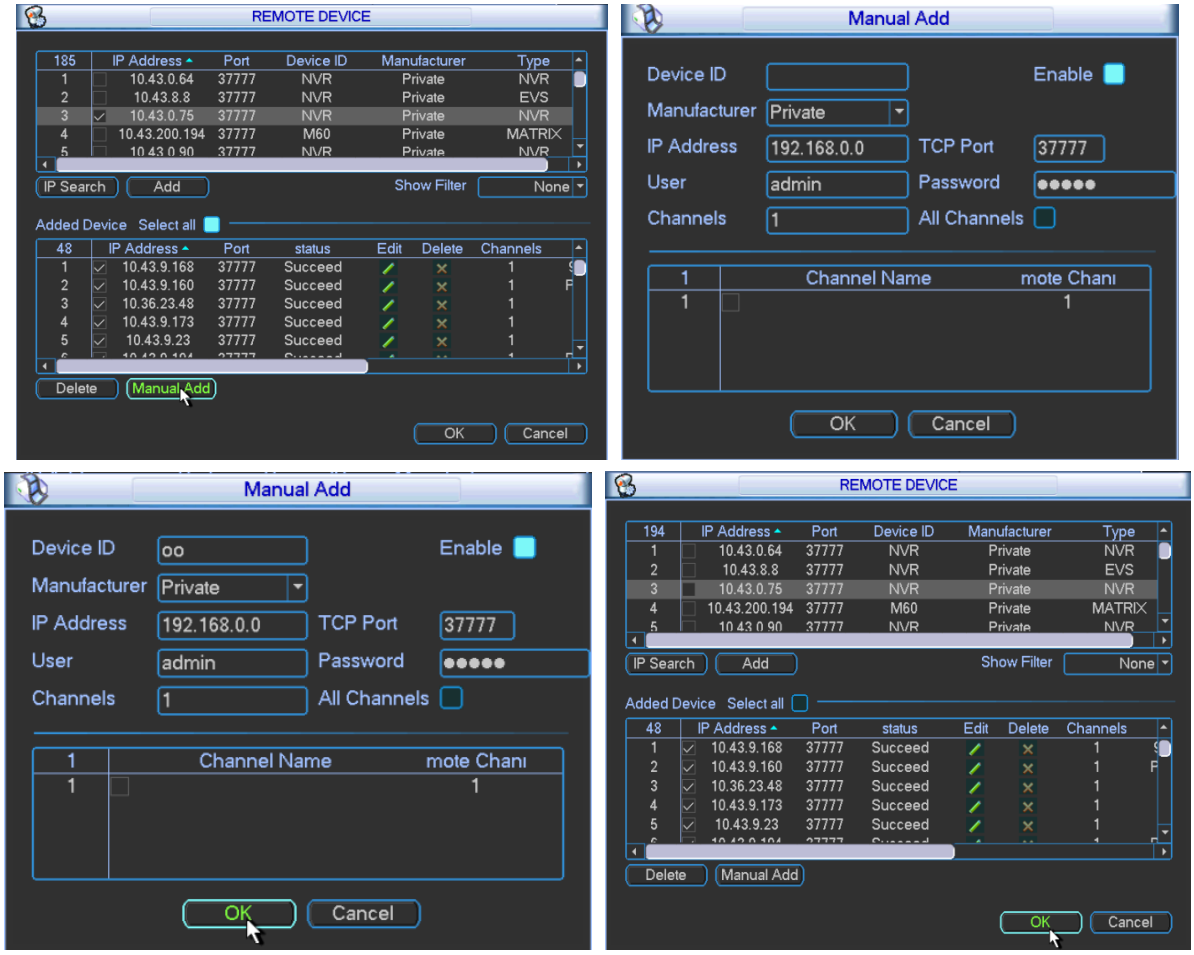


Figure 3-82

Step 2 Configure the parameters according to needs. Please refer to Table 3-29 for specific configuration.

Parameter	Description
Device ID	Input the name of device to be added, tick the check box and fill it with white, so as to enable the device.
Manufacturer	Select it from pull-down box according to actual conditions, including Private, Panasonic, Sony, Dynacolor, Samsung, AXIS, Sanyo, Pelco, Arecont, Onvif, LG, Watchnet, Canon, PSIA, GB28181, AirLive and JVC.
IP Address	Input IP address of remote device.
TCP Port	Communication port of TCP protocol, to be set according to actual conditions. Default value is 37777.
User/Password	Input user name and password to log in remote device.
Protocol	Select protocol used by remote device.
Char Set	Select character Setup of remote device.
Channels	Select channel number to be connected. All channels can be selected.

Table 3-29

Step 3 Click “OK” to complete configuration. Device info will be displayed in the list of “Added Device.”

3.2.6.3 Edit Remote Device

Click , and “Edit” dialog box pops up. Please refer to Table 3-29 to edit remote device info, and click “OK” to save it.

3.2.6.4 Delete Remote Device

Click or select an added remote device and click “Delete” to delete it.

3.2.7 Shutdown

Here, you can log out menu user, shut down, restart system and switch user.

In main menu, select “Shutdown”. The system displays “Shutdown” interface, as shown in Figure 3-83.

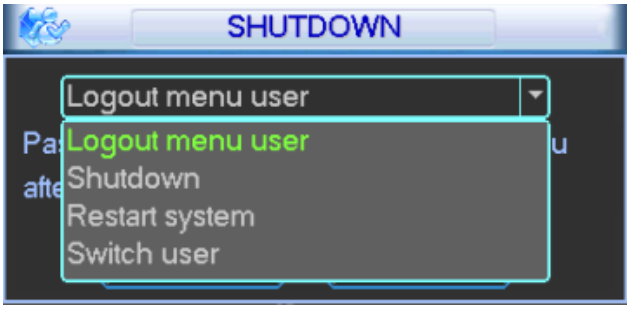


Figure 3-83

- Logout menu user: log out menu. You need to input password when you login the next time.
- Shutdown: exit the system and turn off power.
- Restart system: exit the system and restart it.
- Switch user: log out current account and use another account to log in.

4 WEB Operation

4.1 Network Connection

Step 1 Ensure that video matrix platform and PC have been connected with network correctly.

Step 2 Set the IP address, subnet mask and gateway of PC and video matrix platform respectively. For network Setup of video matrix platform, please refer to “4.5.2 Network Setup”.

- In case of no router in the network, please distribute IP address in the same network segment.
- In case of router in the network, corresponding gateway and subnet mask shall be set.

Step 3 Use ping ***.***.***.*** (IP of video matrix platform) to check whether network connection is OK or not.

Step 4 Open IE browser, in “Tool > Internet Option> Security> Custom Level”, select ActiveX and plug-in to be “Enable” or “Prompt”.

Note

Recommended IE browser is IE8 and above version.

Step 5 At address bar of IE browser, input IP address of video matrix platform.

4.2 Login and Logout

Step 1 At address bar of the browser, input IP address of video matrix platform (taking 172.9.4.111 for example). That is to say, input http://172.9.4.111 in address bar and press [Enter] key.

After successful connection, the system displays “Device Initialization” interface, as shown in Figure 4-1.

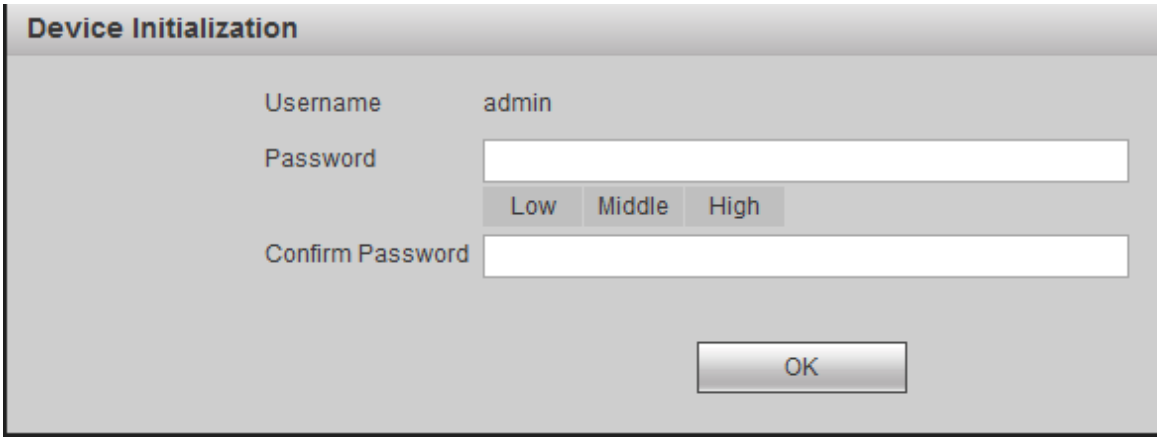


Figure 4-1

Step 2 Set a password of admin user.

Note

Password can be 8 ~ 32-digit non-empty characters; it can consist of at least two types among capital letter, small letter, number and special character (except “‘”, “"”, “;”, “:” and “&”). “Password” and “Confirm Password” shall be the same. Please set a high-security password according to password strength prompt.

Step 3 Click “OK”.

The system displays login interface, as shown in Figure 4-2.

Figure 4-2

Step 4 Input username and password, and click “Login” to login the system. The system displays Figure 4-3.

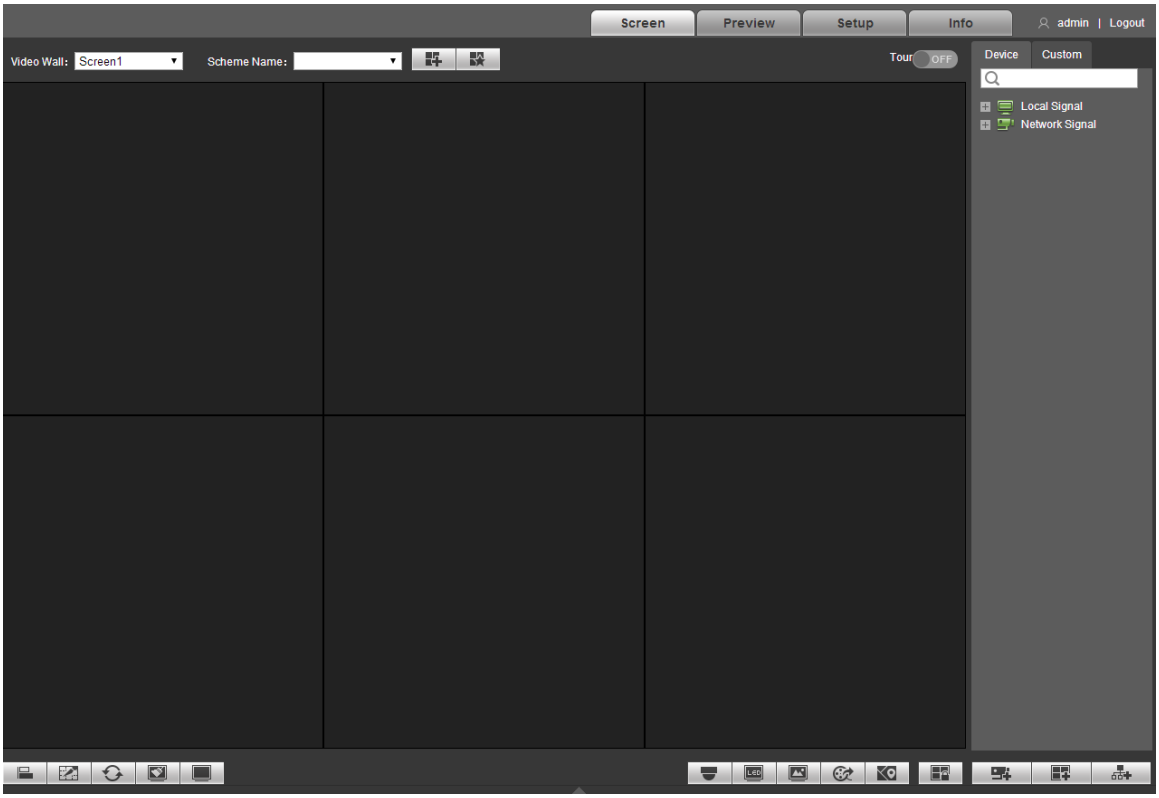


Figure 4-3

Step 5 Install or load the controls according to system prompt.

Note

Click “Logout” to log out the system.

4.3 Video Wall

Click “Video Wall” tab and the system displays “Video Wall” interface, as shown in Figure 4-4. For functional introduction of TV wall interface, please refer to Table 4-1.

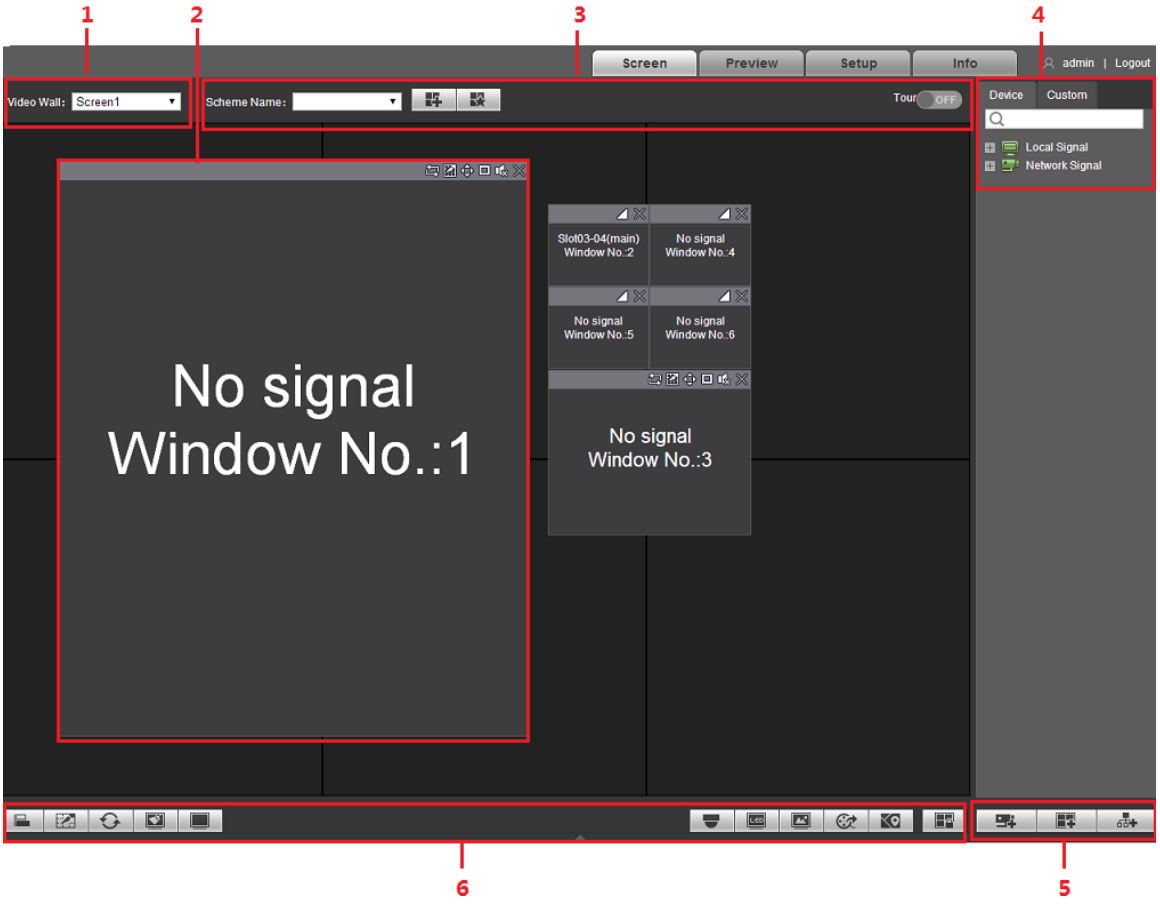


Figure 4-4

No.	Name	Description
1	Video Wall Selection Zone	After adding TV wall, in “Video Wall”, select TV wall to be viewed and configured. For specific operation, please refer to “4.3.1 Add Video Wall”.
2	Window Config	Add, adjust or put a window at the bottom and turn off signal. For specific operation, please refer to “4.3.2 Window”.
3	Scheme Management	Add, view, rename/delete a scheme; set scheme tour. For specific operation, please refer to “4.3.4 Scheme”.

No.	Name	Description
4	Signal Management	Select different tabs to operate. ● In “Device Tree” tab, view local signal and device channel info; configure signal preview on wall. ● In “Custom” tab, view signal group info and configure signal tour on wall.
5	Config Signal	● Click  to enter “Network Signal” interface. You can add a device here. For specific operation, please refer to “4.5.5.1 Network Signal”. ● Click  to enter “Video Wall Config” interface. You can add TV wall here. For specific operation, please refer to “4.5.6.1 Video Wall”. ● Click  to enter “Custom” interface. You can customize signals here. For specific operation, please refer to “4.5.5.3 Custom”.
6	Video Wall Management	Automatically align window, split window, refresh TV wall, clear screen, control screen swtich, PTZ control, configure virtual LED, set background, set decoding strategy, view small map, zoom in and out the window, lock or unlock TV wall. For specific operation, please refer to “4.3.5 Video Wall Management”.

Table 4-1

4.3.1 Add Video Wall

During the first login, please add video wall, as shown in Figure 4-5.

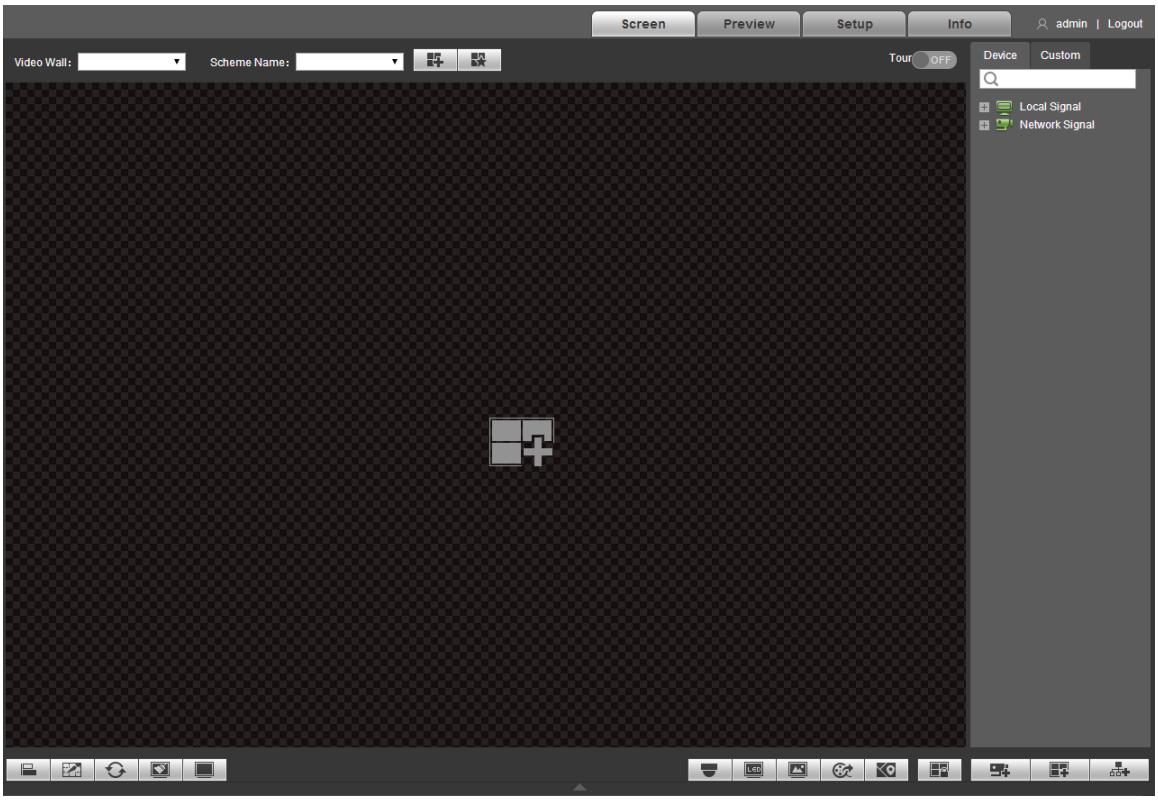


Figure 4-5

Click  in the center or  at the lower right corner, enter “TV Wall Config” interface. For specific configuration method, please refer to “4.5.6.1 video wall”.

4.3.2 Window

4.3.2.1 Add Window

Hold the left mouse button and draw a window on TV wall, as shown in Figure 4-6.

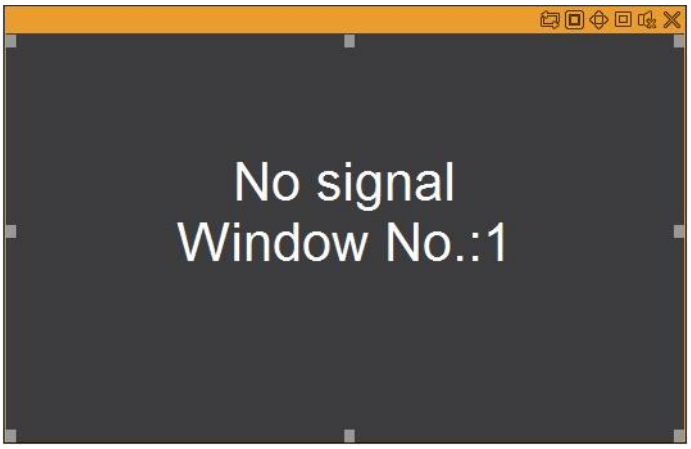


Figure 4-6

- Select the window, hold the left mouse button and move. The selected window will be

moved to the required position.

- Select the window, drag any directional control point and thus change the window size.
- Select the window; press the right mouse button to select “Bottom”, and the window will be put at the bottom of other windows.
- Select a window whose signal is going on wall, press the right mouse button to select “Close Signal”, and the signal will be closed.

4.3.2.2 Adjust Window

There are adjustment icons at the upper right corner of the window, as shown in Figure 4-7.

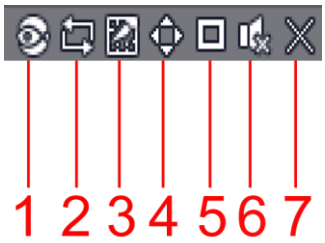


Figure 4-7

For icon descriptions, please refer to Table 4-2.

No.	Name	Description
1	Fisheye	Click this icon to enter fisheye interface. For specific configurations, please refer to “4.3.2.3 Fisheye”. Note Only fisheye devices support this function.
2	Start/Stop Signal Tour	Click this icon to start signal tour and the icon becomes . Click to stop signal tour. For specific configurations, please refer to “Step 3 Signal on Wall”. ● Click ; output the signal to this window. ● Hold the left mouse button and drag the signal to designated window. The signal will be output to the window. ● Select the window, double click channel preview or main/sub-stream. The signal will be output to the window.
3	Split	Split the window into 2-split (horizontal/vertical), 4-split, 9-split and 16-split. Note When the window is maximized or pasted to the screen, this icon becomes. Click this icon to drag the window to any position.
4	Paste	Click this icon to paste the window to the region.
5	Maximize	Click this icon to maximize the window.
6	Audio	Click this icon to turn on/off audio.
7	Close	Click this icon to close this window.

Table 4-2

4.3.2.3 Fisheye

According to actual environment, set the fix mode and display mode of fisheye devices.

Note

Only fisheye devices support this function.

Click  to enter fisheye preview interface. Setup interface is in the right of preview interface, as shown in Figure 4-8. For specific configurations, please refer to Table 4-3.

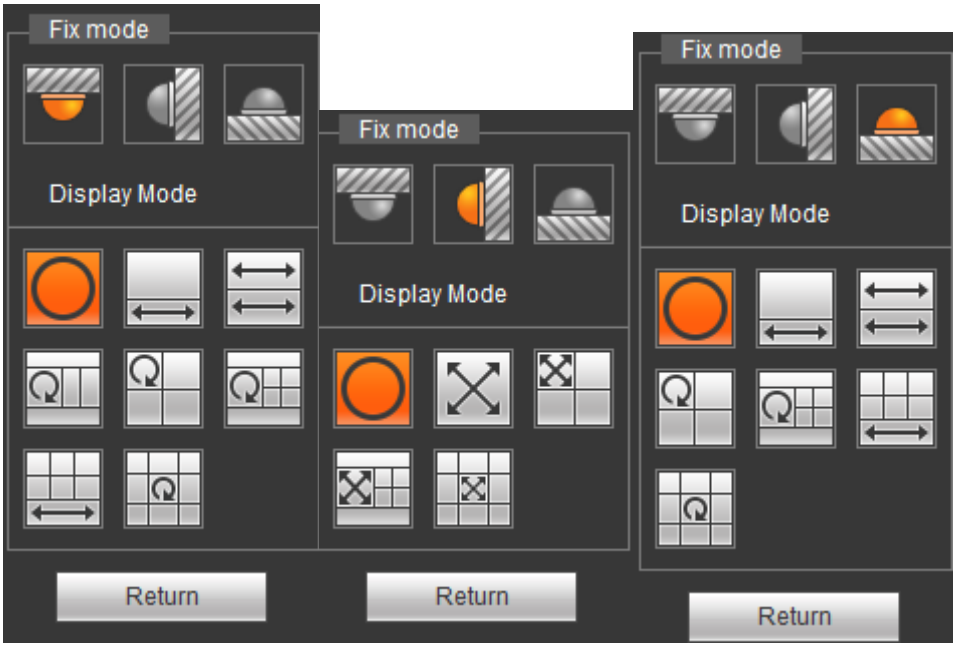


Figure 4-8

Parameter	Description	
Fix Mode	There are three fix modes, including top mounting, wall mounting and floor mounting.	
Display Mode	Display mode refers to presenting mode of current screen (which supports original image mode by default). According to different fix modes, other presenting modes are available: ● Top mounting: 1P+1, 2P, 1+2, 1+3, 1+4, 1P+6 and 1+8. ● Wall mounting: 1P, 1P+3, 1P+4 and 1P+8. ● Floor mounting: 1P+1, 2P, 1+3, 1+4, 1P+6 and 1+8. Note When switching fix mode, original image mode is presented by default.	
Top/Wall/Floor Mounting	 Original Image	Original image without correction.

Parameter	Description	
Top/ Floor Mounting	 1P+1	360° rectangular unfolded panorama + independent sub-image, whose sub-frame supports zoom and movement. Rectangular unfolded panorama also supports to move starting point left and right.
	 2P	2 associated 180° rectangular unfolded images; two sub-windows combine to 360° panorama at any time, which is also known as “double panorama”. Both rectangular unfolded images support to move starting point left and right, and support inter-linkage.
	 1+2	Original image + 2 independent sub-images, whose sub-frame supports zoom and movement. Original image also supports to rotate and change starting point (floor mounting doesn’t have this display mode).
	 1+3	Original image + 3 independent sub-images, whose sub-frame supports zoom and movement. Original image also supports to rotate and change starting point.
	 1+4	Original image + 4 independent sub-images, whose sub-frame supports zoom and movement. Original image also supports to rotate and change starting point.
	 1P+6	360° rectangular unfolded panorama + 6 independent sub-images, whose sub-frame supports zoom and movement. Rectangular unfolded panorama also supports to move starting point left and right.
	 1+8	Original image + 8 independent sub-images, whose sub-frame supports zoom and movement. Original image also supports to rotate and change starting point.
Wall Mounting	 1P	180° rectangular unfolded panorama from left to right. Support to move up and down and change vertical angle of view.
	 1P+3	180° rectangular unfolded panorama + 3 independent sub-images, whose sub-frame supports zoom and movement. Rectangular unfolded panorama also supports to move up and down and change vertical angle of view.

Parameter	Description	
	 1P+4	180° rectangular unfolded panorama + 4 independent sub-images, whose sub-frame supports zoom and movement. Rectangular unfolded panorama also supports to move up and down and change vertical angle of view.
	 1P+8	180° rectangular unfolded panorama + 8 independent sub-images, whose sub-frame supports zoom and movement. Rectangular unfolded panorama also supports to move up and down and change vertical angle of view.
Return		Click “return” to return to “Video Wall” interface.

Table 4-3

4.3.3 Signal Config

You can directly select signal, or search this signal in search bar.

4.3.3.1 Device Tree

Display all signal sources in device tree.

- Local signal: display local signal source. For specific configurations, please refer to “4.5.5.2 Local Signal”.
- Network signal: display signal source of the added device in “Remote Device”. Click  to add. For specific adding methods, please refer to “4.5.5.1 Network Signal”.

4.3.3.2 Signal Group

Display the added group and signal source in “Signal Group”. For specific adding methods, please refer to “4.5.5.3 Signal Group”.

4.3.3.3 Signal on Wall

Through this operation, signals can go on wall.

Step 1 Select one window on TV wall, or hold left mouse button to draw a box on TV wall.

Step 2 Select signal source in “Device Tree” or “Signal Group”. Take “Device Tree” as an example, as shown in Figure 4-9.

Figure 4-9

Step 3 Signal goes on wall.

- Click to output this signal to the window.
- Hold left mouse button to drag signal to designated window. This signal will be output to the window.
- Select a window, double click channel preview or main/sub-stream. This signal will be output to the window.

4.3.3.4 Signal Tour

Signal tour supports tour among multiple signals in one window.

Note

You must set signal group in “Favorites”. For specific configuration methods, please refer to “4.5.5.3 Signal Group”.

Step 1 Select a window to tour signal.

Step 2 In “Signal Group>Favorites”, select one signal group, hold left mouse button to drag the signal group to designated window. The window will start to tour automatically.

Step 3 Click .

The system displays all signal info in the window, as shown in Figure 4-10.

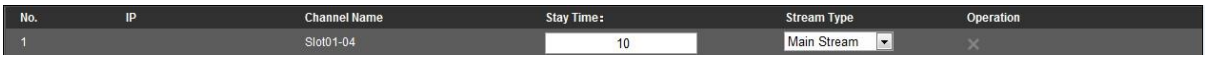


Figure 4-10

Step 4 Set “Stay Time” and “Stream Type”.

Note

- Click corresponding to one signal, so the signal won’t appear in tour list. But it still exists in signal group.
- The Setup takes effect at once.
- Click at the top right corner to stop signal tour.

4.3.4 Scheme

Scheme refers to TV wall plan, including current split mode, video source info and tour setup of

TV wall.

4.3.4.1 Add Scheme

Step 1 Customize window layout on screen.

Step 2 Click  . The system pops up “Save Scheme” window, as shown in Figure 4-11.

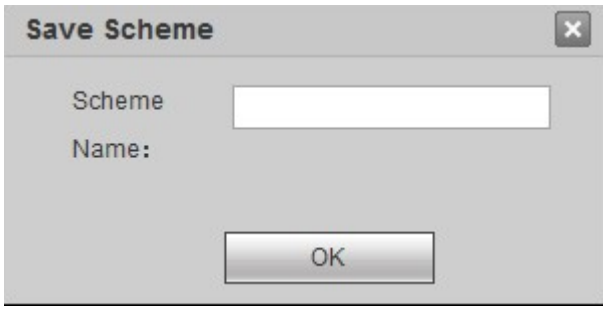


Figure 4-11

Step 3 Enter customized “Scheme Name”.

Note

If new scheme name overlays existing scheme name, the system will ask if you want to overwrite info. If you overwrite info, the existing scheme will be replaced by new scheme.

Step 4 Click “OK” to complete the adding of scheme.

After adding the scheme successfully, you can select the scheme in “Scheme Name” in homepage.

4.3.4.2 Scheme Setup

Click  . The system pops up “Scheme Setup” window, as shown in Figure 4-12.

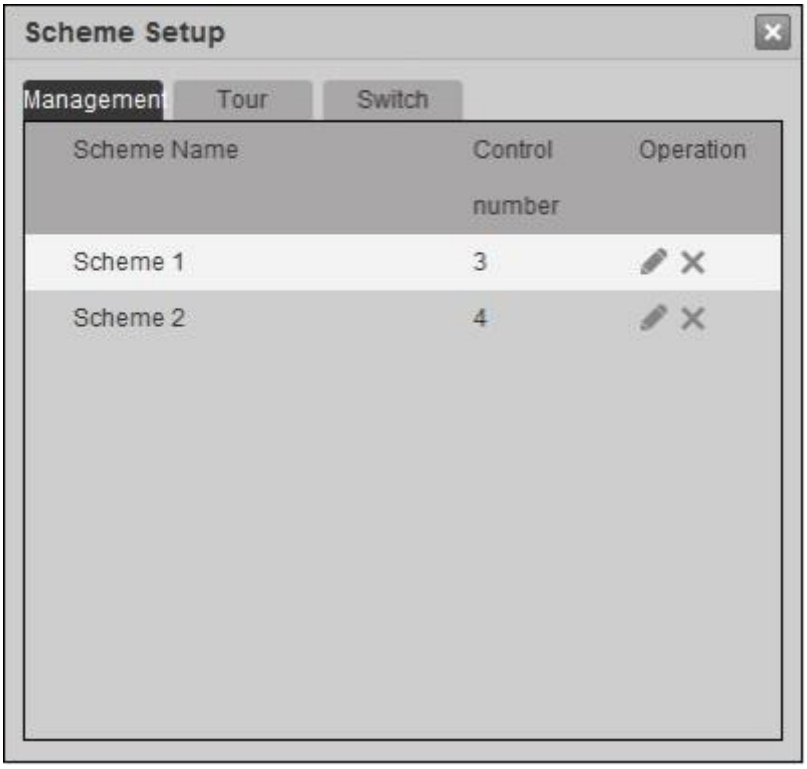


Figure 4-12

4.3.4.2.1 Management

After adding the scheme successfully, you can rename or delete it.

Step 1 Click  . The system pops up “Scheme Setup” dialog box.

Step 2 Select “Management” tab. The system displays “Management” interface, as shown in Figure 4-13.

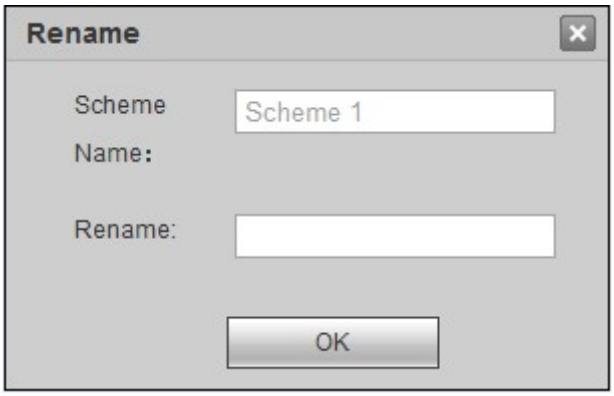


Figure 4-13

Step 3 Rename or delete the scheme.

- Click  to rename the scheme.
- Click  to delete the scheme.

4.3.4.2.2 Tour

Step 1 Select “Tour” tab. The system displays “Tour” interface, as shown in Figure 4-14.

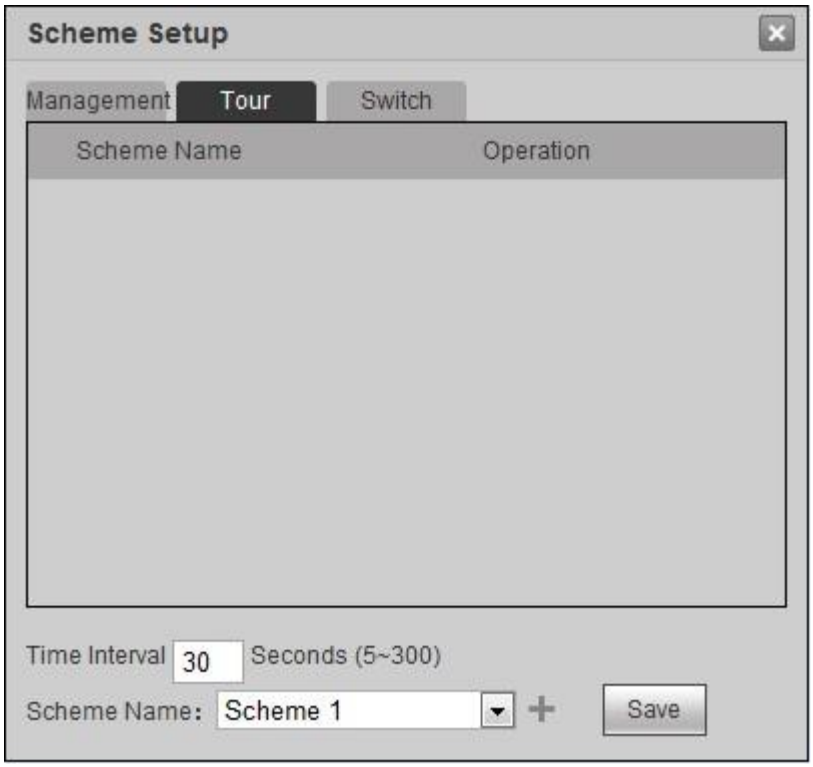


Figure 4-14

Step 2 Set “Time Interval”.

Time interval refers to single scheme tour time. If it is set for many times, the system will tour according to the time interval set at last.

Step 3 Select “Scheme Name” and click . Repeat this step to add multiple schemes.

Note

- Click corresponding to the scheme, to adjust tour sequence.
- One scheme can be added only once.

Step 4 Click “Save” to save configuration.

Click Tour OFF behind “Tour” at the top right corner of TV wall, to start tour.

Then, tour status is displayed at the lower right corner of TV wall, as shown in Figure 4-15.

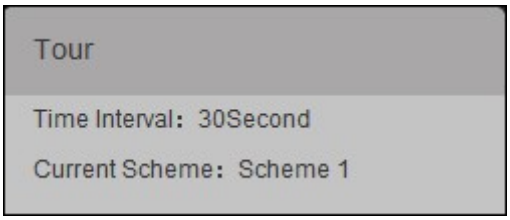


Figure 4-15

4.3.4.2.3 Switch

After Setup switch time for a scheme, the system will switch to this scheme automatically at the switch time.

Step 1 Select “Switch” tab. The system displays “Switch” interface, as shown in Figure 4-16.

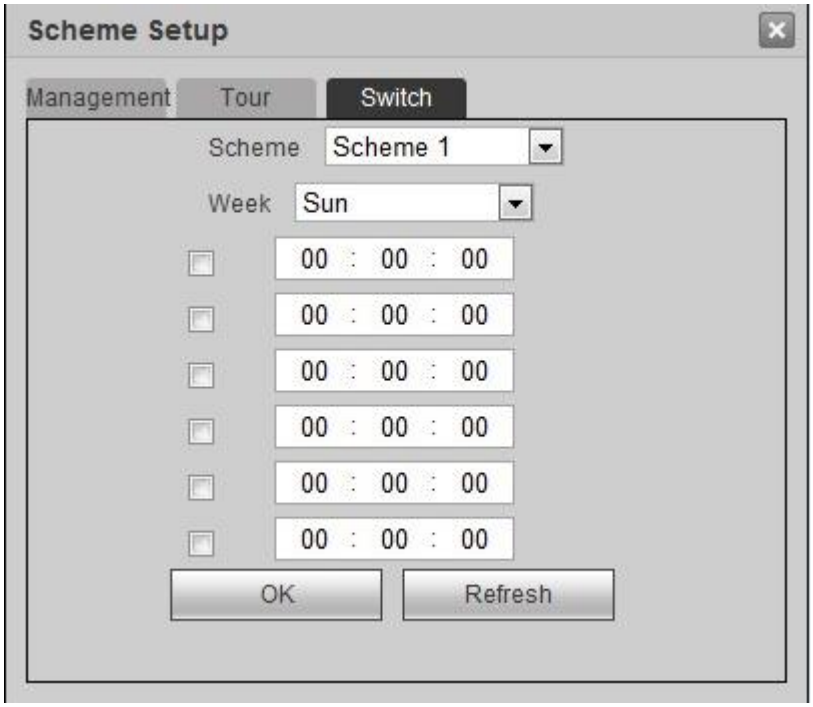


Figure 4-16

Step 2 Select “Scheme” and “Week”. Set the switch time.

Note

- After selecting, it takes effect at the selected time point.
- The time of two schemes shall not be the same.

Step 3 Click “OK” to complete the setup.

4.3.5 Video Wall Management

4.3.5.1 Auto Alignment

Click , and all windows will align automatically in the following way, as shown in Figure 4-17.

- Under the precondition of filling in the whole TV wall, divide every window equally.
- Windows are arranged horizontally from top to bottom.

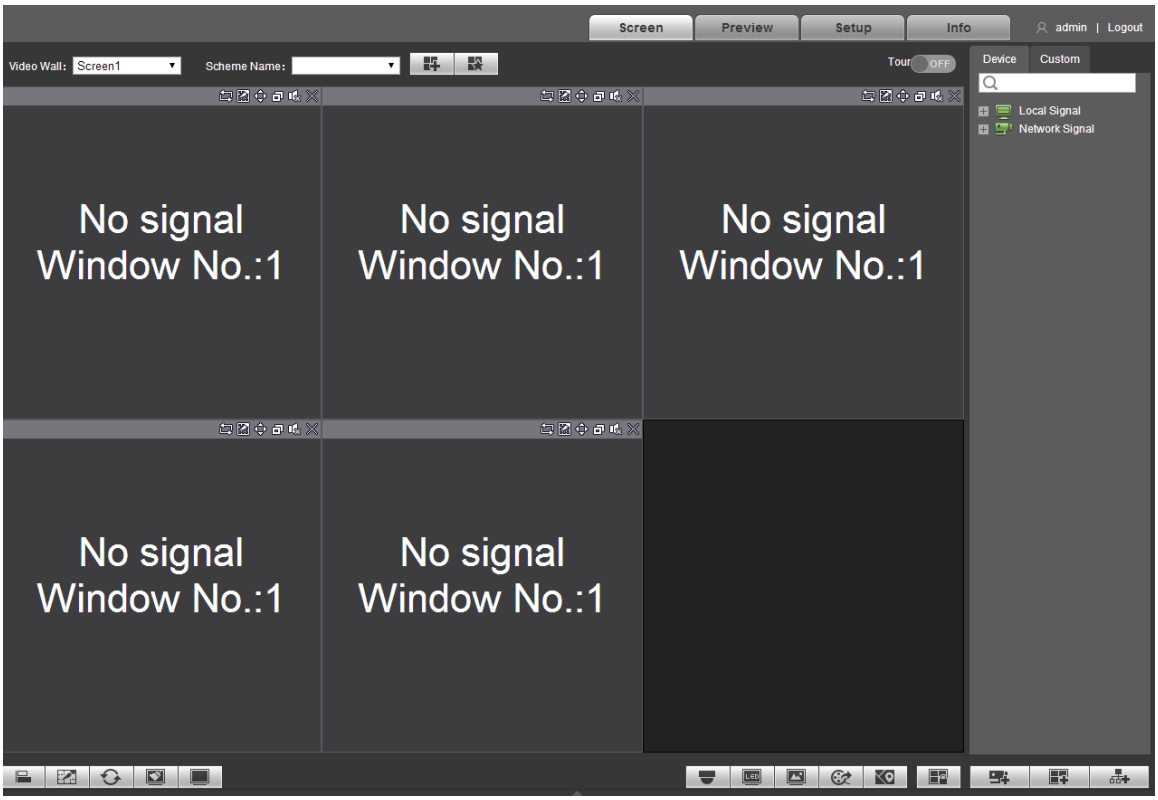


Figure 4-17

4.3.5.2 Window Division

Step 1 Select a window and click  . The system displays “Window Division” interface, as shown in Figure 4-18.

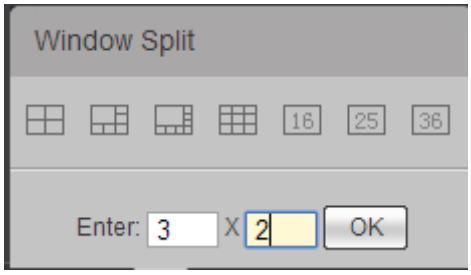


Figure 4-18

Step 2 Select existing window division mode, or input row and rank manually, to customize the mode.

Step 3 Click “OK”.

4.3.5.3 Refresh Video Wall

Click  to refresh channel preview and layout info of current TV wall.

4.3.5.4 Clear

Click  to clear the screen.

4.3.5.5 Screen Management

Click  . The system displays “Screen Power” interface, as shown in Figure 4-19.

- Select “Block” and the screen. You can turn on or off the screen.
- Select “All Blocks” and the blocks. You can turn on or off screens of the selected blocks.

Note

Select “All”, to select all screens or blocks.

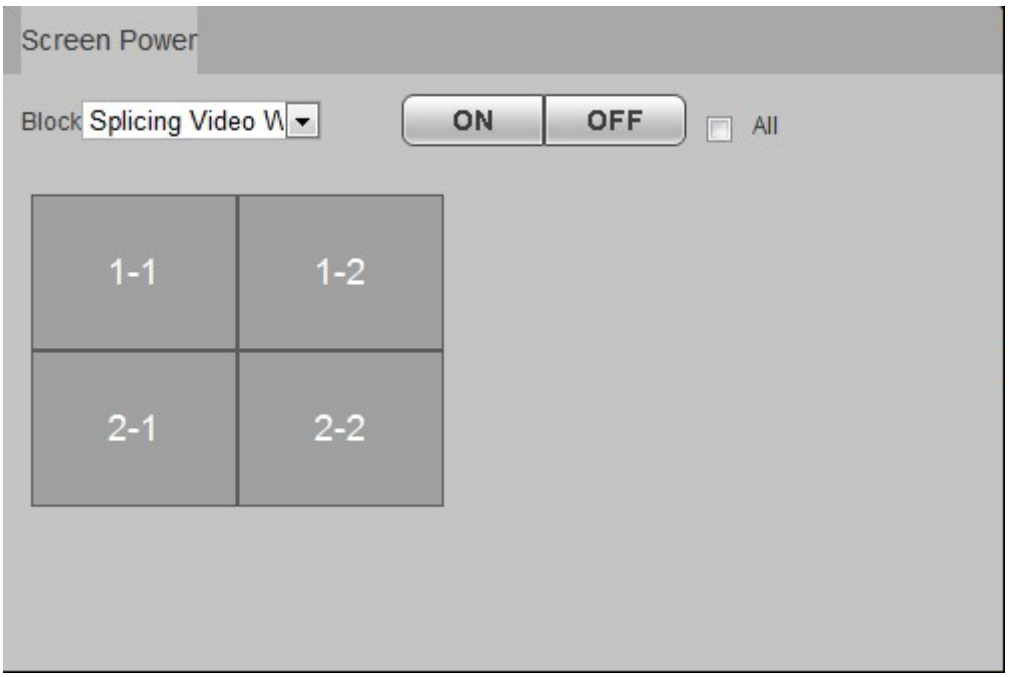


Figure 4-19

4.3.5.6 PTZ Control

It supports PTZ control for camera with PTZ function.

Note

To realize PTZ control with local serial port, configure PTZ parameters and ensure correct wiring. For specific operations, please refer to “4.5.1.8 PTZ Setup”.

Select display window unit where the signal locates; click  . The system displays “PTZ Control” interface, as shown in Figure 4-20. For functional description, please refer to Table 4-4.

Figure 4-20

Parameter	Description
Directional Control	Control PTZ to rotate in eight directions, including up, down, left, right, upper left, upper right, lower left and lower right.
Step	Control PTZ rotating speed. 1～8 steps can be set.
Zoom	Click + or − to adjust zoom.
Focus	Click + or − to adjust definition.
Iris	Click + or − to adjust brightness.
PTZ Menu	Click Open to open PTZ menu of preview interface; then press direction keys to select different functions and operate PTZ. Click OFF to close PTZ menu of preview interface.

Table 4-4

4.3.5.7 Virtual LED

Add title overlay on screen via virtual LED.

Step 1 Click LED. The system displays virtual LED interface, as shown in Figure 4-21.

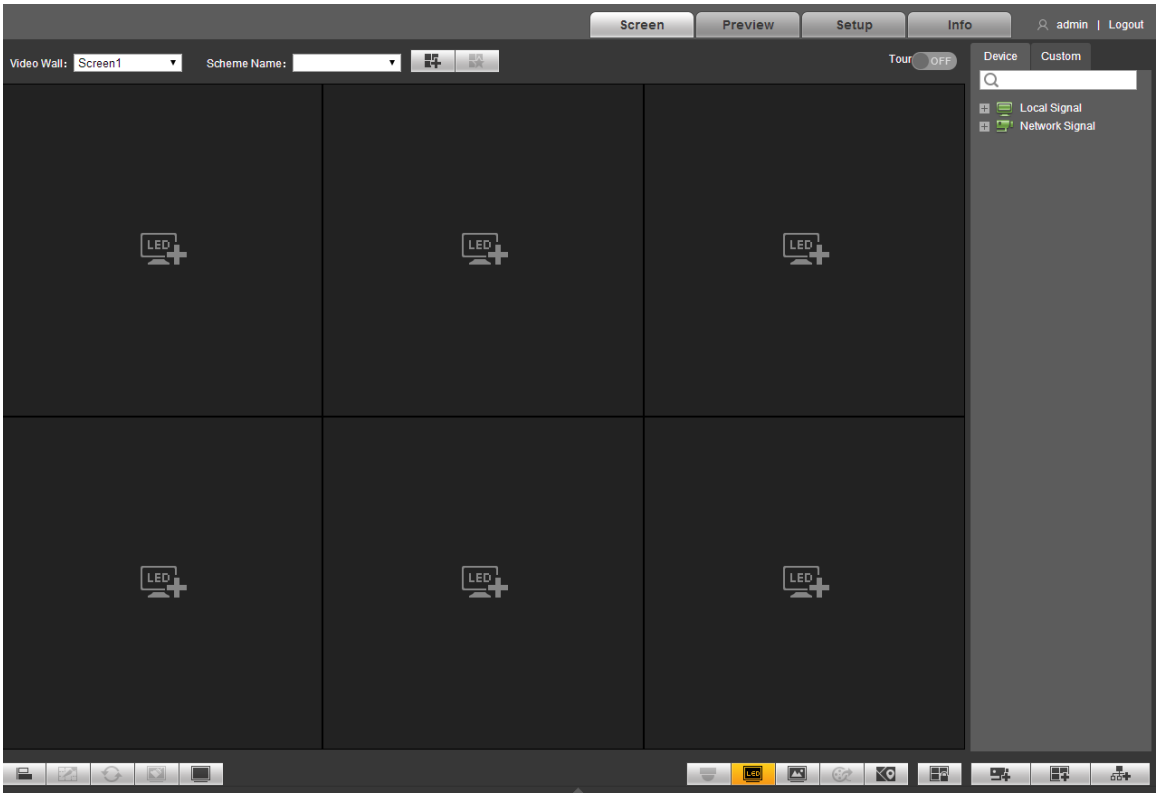


Figure 4-21

Step 2 Click  . The system displays “Virtual LED” interface, as shown in Figure 4-22.

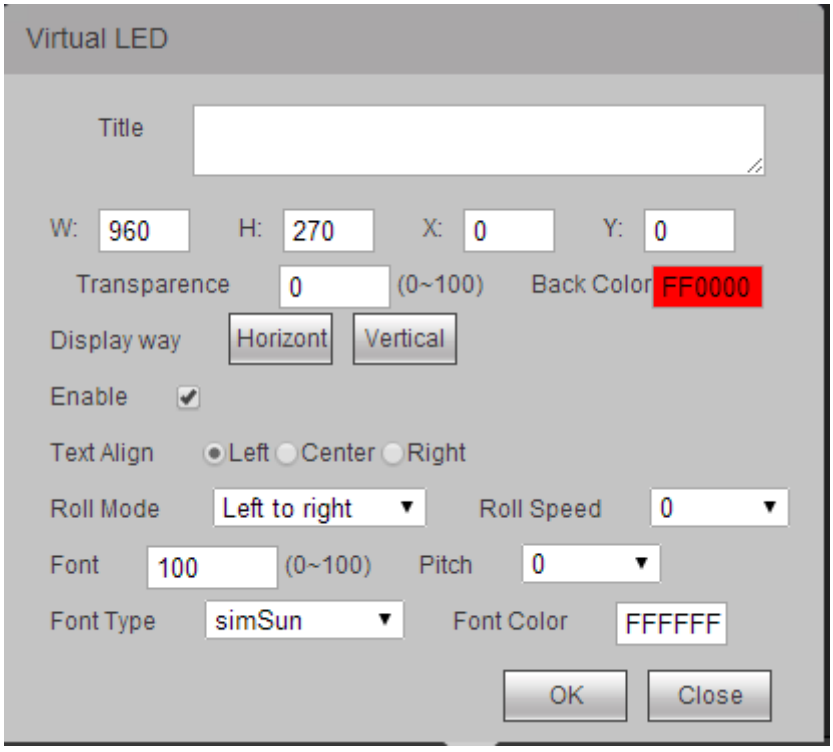


Figure 4-22

Step 3 According to actual conditions, set title content, font and display way and so on.

Step 4 Click “OK”. Virtual LED displays the title, as shown in Figure 4-23.

Figure 4-23

4.3.5.8 Background Setup

After setting the background, it will be displayed on the screen.

Note

Background can only be selected from pictures that have been uploaded to the system. For specific operations, please refer to “4.5.1.6 Picture”.

Step 1 Click  . The system displays “Background Setup” interface, as shown in Figure 4-24.

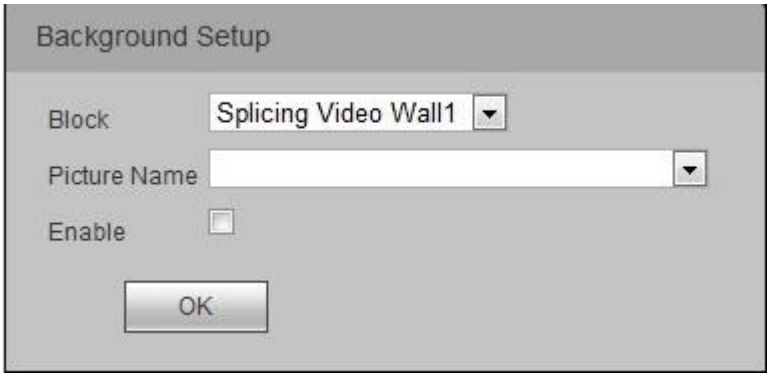


Figure 4-24

Step 2 Select “Block” and “Picture Name”, and tick “Enable”.

Step 3 Click “OK”.

4.3.5.9 Decoding Strategy

Only network signal supports this function.

Step 1 Select network signal window and click  . The system displays “Decoding Strategy” interface, as shown in Figure 4-25.

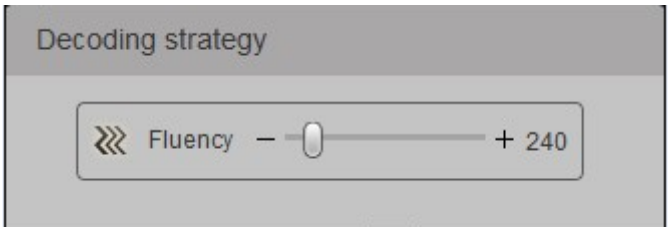


Figure 4-25

Step 2 Drag the slider to adjust window fluency. Greater fluency value represents lower definition of the image. Please set it according to actual conditions.

4.3.5.10 Small Map

Adjust all windows through small map.

Step 1 Click  . The system displays “Small Map” interface, as shown in Figure 4-26.

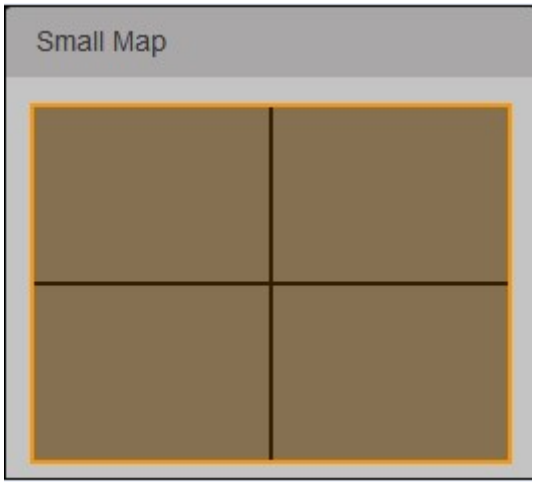


Figure 4-26

Step 2 Click the window in small map, drag any directional control point to adjust window size, or scroll mouse wheel to zoom window size in the small map.

If the window in small map zooms out, corresponding window in TV wall will zoom in. If the window in small map zooms in, corresponding window in TV wall will zoom out.

4.3.5.11 Lock Video Wall

Click  to lock TV wall; the user cannot operate the window. Click it once again to unlock

TV wall.

4.4 Preview

Select “Preview” tab. The system displays Figure 4-27.

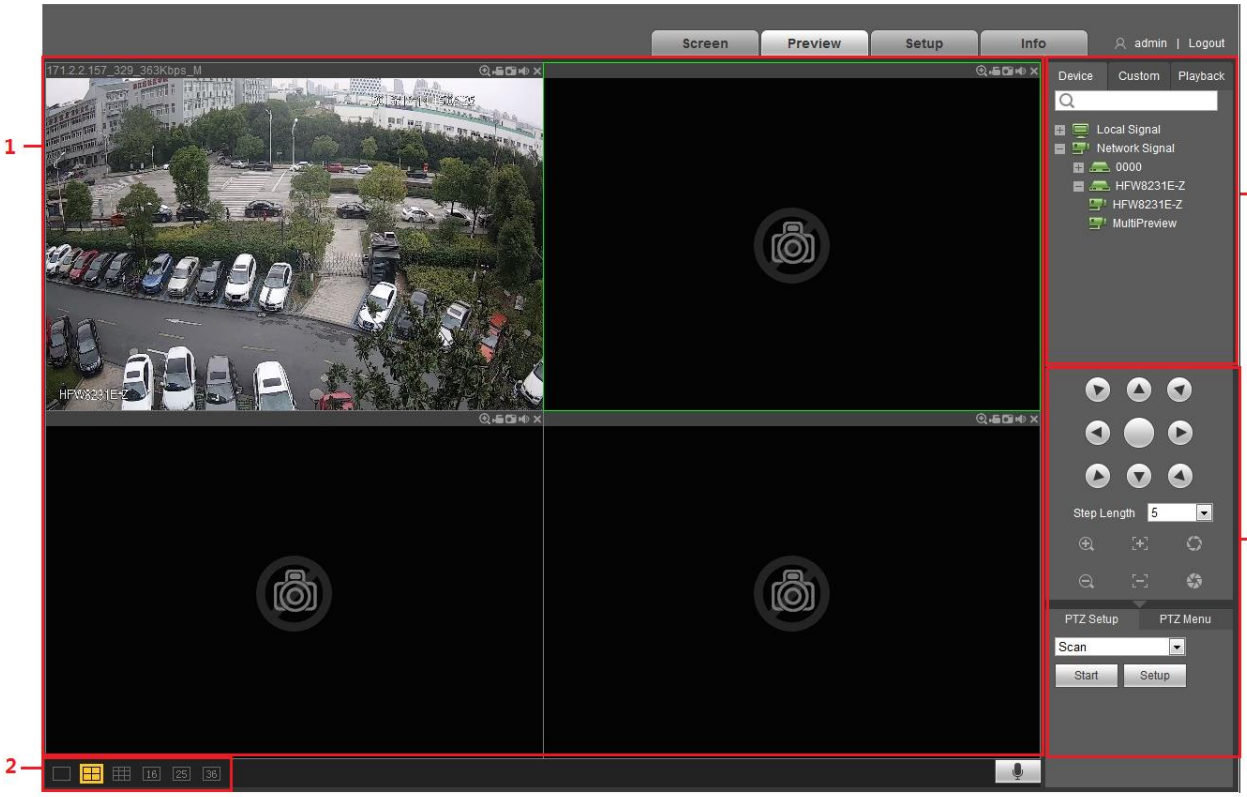


Figure 4-27

For specific functional description, please refer to Table 4-5.

No.	Name	Description
1	Window	Preview window video. For window functions, please refer to “4.4.1 Window”.
2	Window Split	Support 4, 9, 16, 25, and 36 splits.
3	PTZ Control	Carry out simple PTZ operations of cameras with PTZ function. For specific functional description, please refer to “4.4.3 PTZ Control”.
4	Signal Config	Configure signal or open playback interface. For signal configuration, please refer to “4.4.2 Signal Config”.

Table 4-5

4.4.1 Window

Schematic diagram of functions at the top right corner of window are shown in Figure 4-28.

Figure 4-28

For specific functional description, please refer to Table 4-6.

No.	Name	Description
1	Local Zoom	● Click this icon. When a video is in original mode, select any part with left mouse button, to zoom in this part. Then you can hold left mouse button to drag video. Right click to resume. ● Click this icon, and you can scroll to zoom in/out.
2	Local Record	Click this icon to record video. Video files are saved to monitoring record path set in “4.5.1.10 Storage Path”.
3	Snapshot	Click this icon to snapshot. Snapshot files are saved to monitoring snapshot path set in “4.5.1.10 Storage Path”.
4	Audio ON	Click this icon to enable audio of video.
5	Close	Close the window.

Table 4-6

4.4.2 Signal Config

Select signals directly, or enter signal name in search bar to search it.

4.4.2.1 Device Tree

Display all signal sources in device tree.

- Local signal: display local signal source. For specific configurations, please refer to

“4.5.5.2 Local Signal”.

- Network signal: display signal source of the added device in “Remote Device”. For specific adding methods, please refer to “4.5.5.1 Network Signal”.

4.4.2.2 Signal Group

Display the added group and signal source in “Signal Group”. For specific adding methods, please refer to “4.5.5.3 Signal Group”.

4.4.2.3 Image Preview

Preview video images in preview window.

Step 1 Select one preview window.

Step 2 In “Device Tree” or “Signal Group”, select signal source; click the signal source to preview images in corresponding window.

4.4.3 PTZ Control

It supports PTZ control for camera with PTZ function.

Note

To realize PTZ control with local serial port, configure PTZ parameters and ensure correct wiring. For specific operations, please refer to “4.5.1.8 PTZ Setup”.

PTZ control is shown in Figure 4-29.

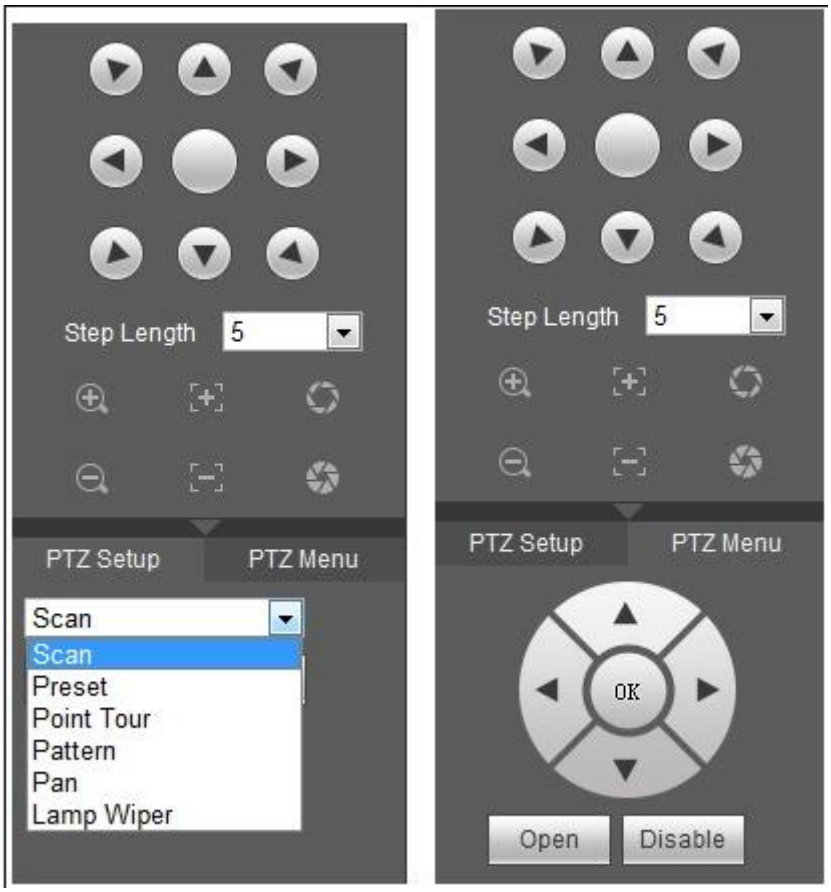


Figure 4-29

For PTZ parameter descriptions, please refer to Table 4-7.

Parameter	Description
Scan	● Click “Setup”, rotate camera with direction keys, and click “Set Left Border” and “Set Right Border” to set border of PTZ scan. ● Click “Start”, and PTZ starts to scan; click “Stop” to stop scanning.
Preset	● In the input box, enter preset value, click “View” to rotate camera to corresponding position of preset. ● Click “Add” to add one preset.
Point Tour	● In the input box, enter tour route and click “Start” to start tour; click “Stop” to stop tour. ● Enter preset number, click “Add”, to add it to the last preset of this tour route.
Pattern	● Enter pattern path, click “Start” to start pattern; click “Stop” to stop pattern. ● Click “Add” to set a new pattern path with start and end record.
Pan	Click “Start” to pan; click “Stop” to stop pan.
Lamp Wiper	Click “Open” to enable lamp and wiper; click “Disable” to turn off lamp and wiper.

Table 4-7

For other setups, please refer to “4.3.5.6 PTZ Control”.

4.5 Setup

4.5.1 System Setup

You can set general, user, backup, maintenance, upgrade, picture management, fan control, PTZ, serial and storage path.

4.5.1.1 General

4.5.1.1.1 Set General Info

Step 1 Select “Setup> System Config> General Config> General”. The system displays Figure 4-30.

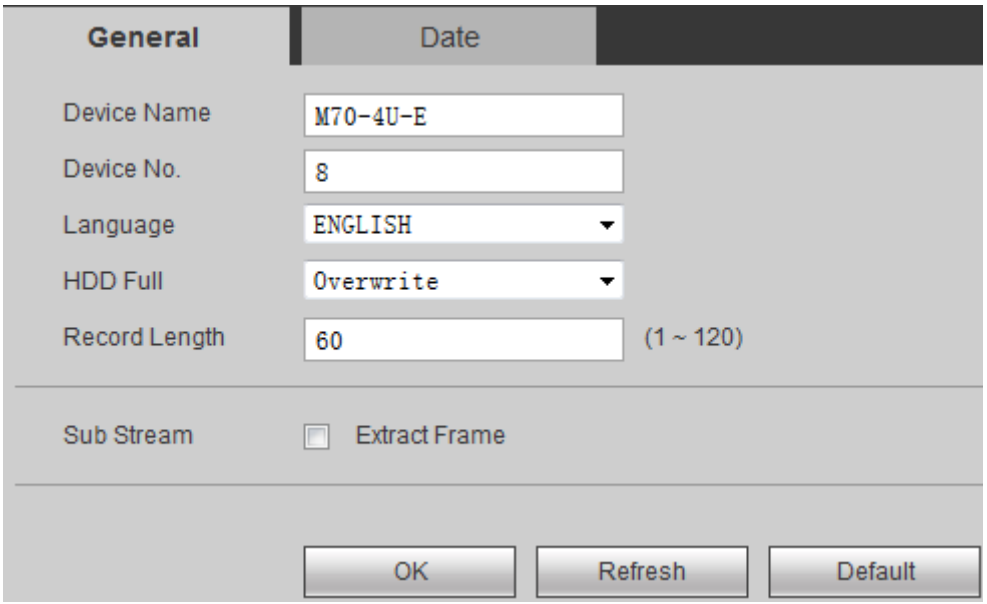


Figure 4-30

Step 2 Configure parameters according to actual needs. For specific configuration methods, please refer to Table 4-8.

Parameter	Description
Device Name	Set device name.
Device No.	Set device no. .
Language	System language is determined by and corresponds to program package language.
HDD Full	Set to overwrite or stop when HDD is full.
Record Length	Set record length, ranging from 1 minute～120 minutes. Default value is 60 minutes.
Extract Frame	Tick the check box. The system will extract sub-stream 2 in network channel, and show it in channel list.

Table 4-8

Step 3 Click “OK” to put it into effect.

4.5.1.1.2 Set Date

Step 1 Select “Setup> System Config> General Config> Date”. The system displays Figure 4-31.

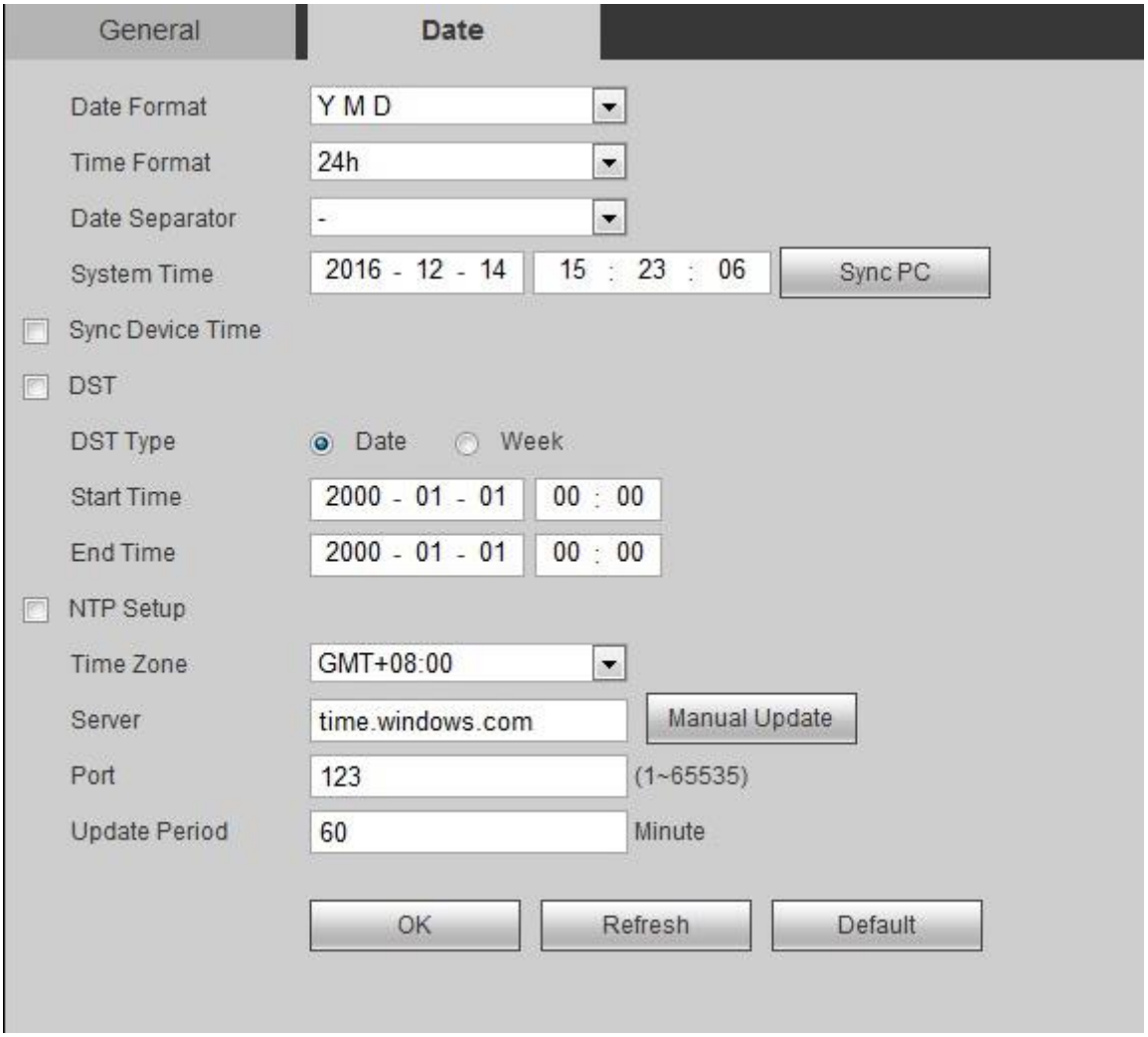


Figure 4-31

Step 2 Configure parameters according to actual needs. For details, please refer to Table 4-9.

Parameter	Description
Date Format	Select date format.
Time Format	Select time format.
Date Separator	Select date separator.
System Time	Set system time; click “Sync PC” to sync time with PC.
Sync Device Time	Select check box to enable auto syn of remote device time.
DST	Select check box to enable DST.
DST Type	Select DST type, by “Date” and “Week”.
Start Time/ End Time	● When “DST Type” selects “Date”, enter year, month, day, start time and end time. ● When “DST Type” selects “Week”, select month, week, start time and end time in dropdown list.
NTP Setup	Select check box to enable NTP sync.
Time Zone	Select time zone.
Server	Enter server address or domain name.

Parameter	Description
Port	Enter NTP server port no..
Update Period	Set update period, which is the time interval for sync update with NTP server.

Table 4-9

Step 3 Click “OK” to put it into effect.

4.5.1.2 User Management

Only those with user management authority can manage users.

- Username and user group contain up to 6 digits of letter, number and underline.
- Password can be 8~32 digits of non-empty characters, including at least 2 types of capital letter, small letter, number and special character (except “‘”, “"”, “;”, “:” and “&”). The user can modify his/her own password, as well as other users’ passwords.
- According to factory setups, the quantity of user and group is 64 and 20 respectively. Please pay attention to the quantity limitation.
- User management adopts group and user leve. Group name and username cannot be repeated; one user belongs to one group only.
- Current user cannot modify his/her own authority.

During initialization, there is 1 default user “admin” as the high-authority user.

4.5.1.2.1 User

In “Setup> System Config> User > User Management > User”, add user, delete user and modify password.

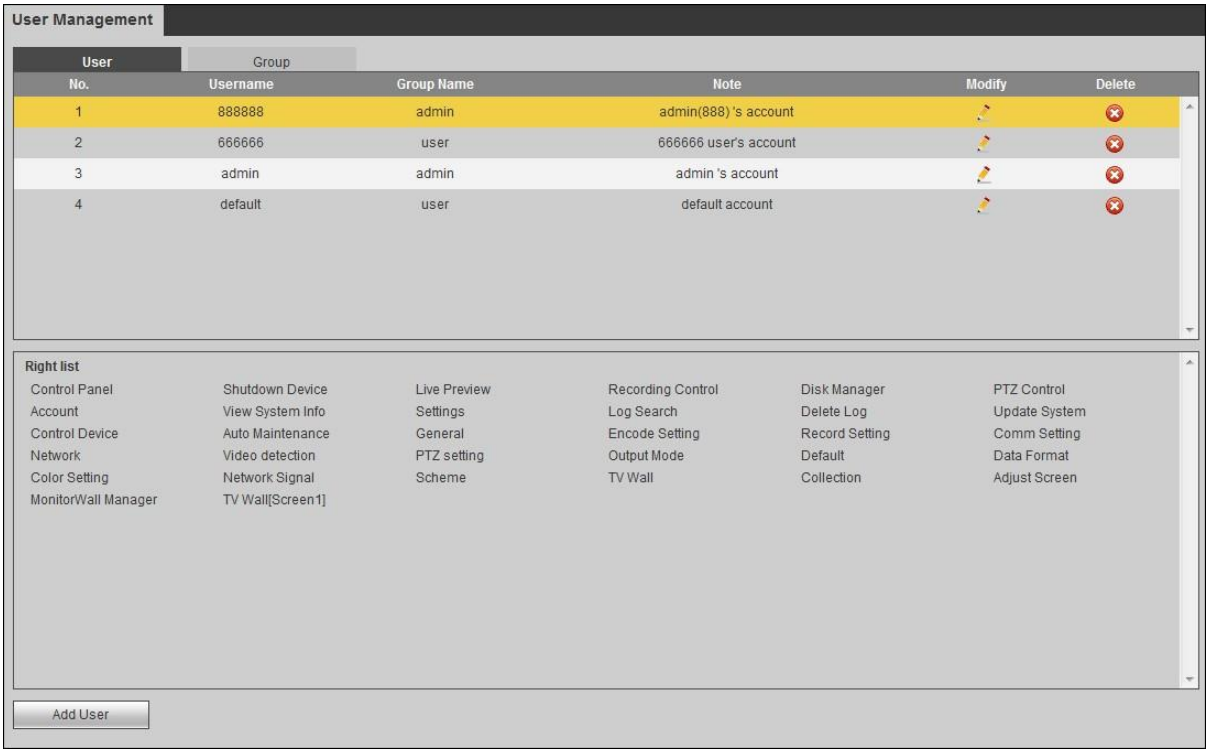


Figure 4-32

Add User

Add users to the group and set their authority control. Default user “admin” with the highest authority shall not be deleted.

Step 1 Click “Add User”. The system displays “Add User” interface, as shown in Figure 4-33.

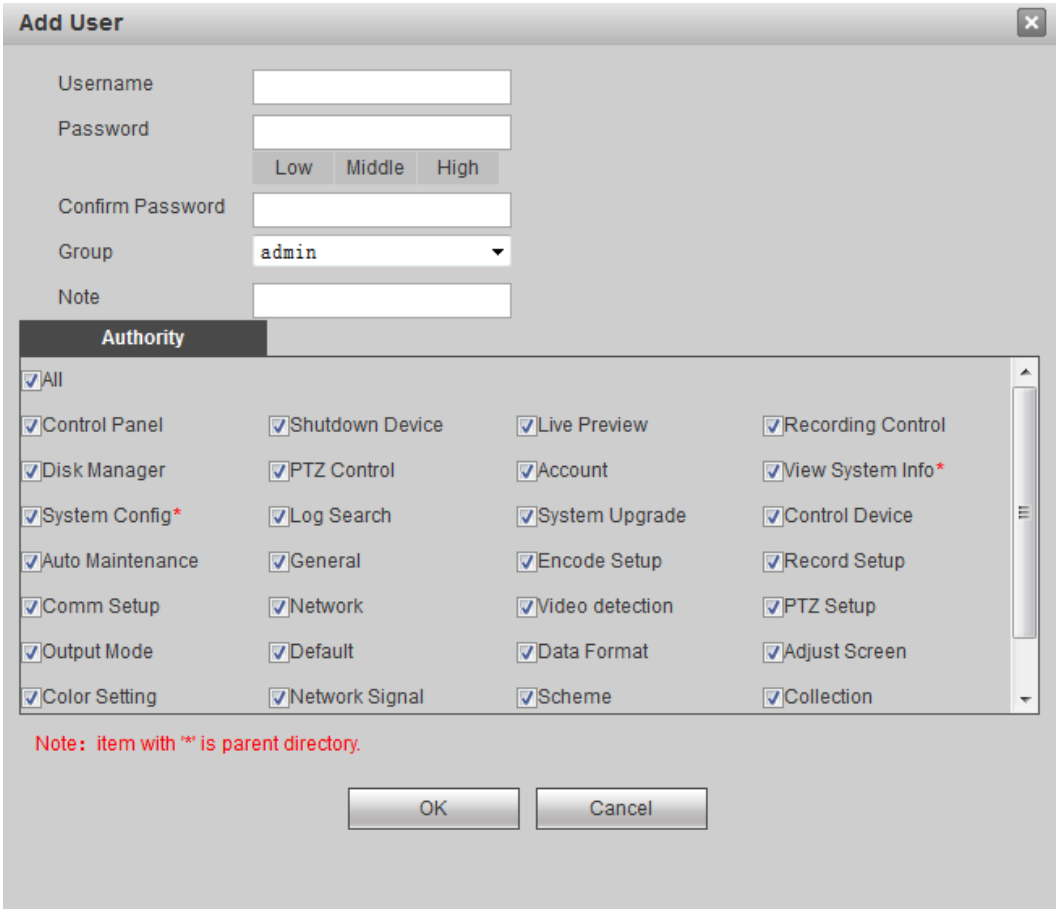


Figure 4-33

Step 2 Enter “Username”, “Password” and “Confirm Password”, select “Group” and fill in “Note”.

Note

- Once a user belongs to a group, his/her authority must be within subset of this group, rather than beyond the scope of group authority.
- To facilitate user management, it is recommended that general user’s authority should be lower than that of high-level user.

Step 3 In “Authority List”, select user authority.

- Tick a check box to enable this function authority.
- Tick “All” to select all rights.

Step 4 Click “OK” to put it into effect.

Modify User

Step 1 Click corresponding to the user. The system pops up “Modify User” interface, as shown in Figure 4-34.

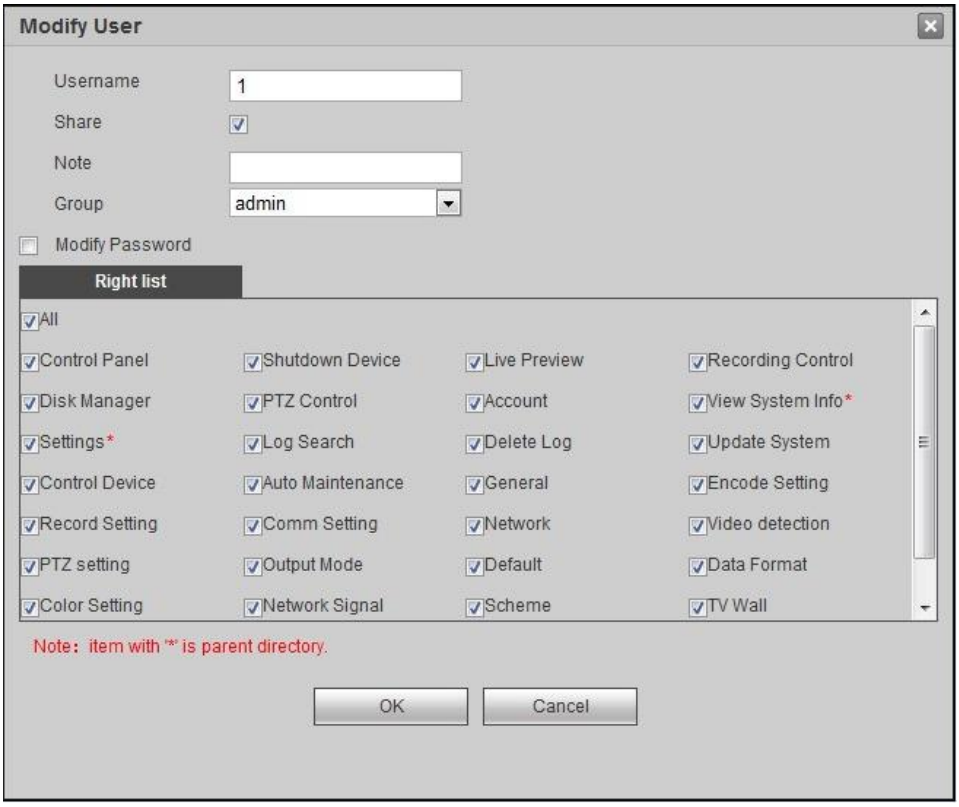


Figure 4-34

Step 2 Modify user info according to actual needs.

Note

Default user can modify password only, but cannot modify other info.

Step 3 Click “OK” to put it into effect.

Modify Password

Step 1 Select “Modify Password”.

Step 2 Enter old password; enter new password and confirm password.

Step 3 Click “OK”.

Delete User

Click corresponding to the user, to delete the user.

4.5.1.2.2 Group

In “Setup> System Config> User > User Management > Group”, add group, delete group and modify group password.

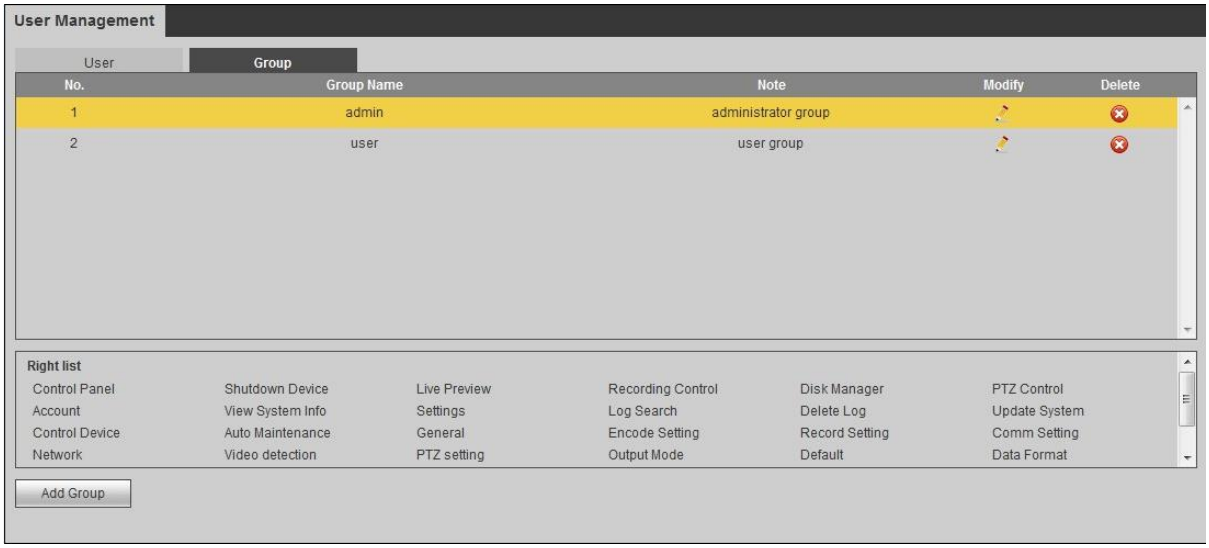


Figure 4-35

Add Group

For specific operations, please refer to “4.5.1.2.1 User”.

Modify Group

For specific operations, please refer to “4.5.1.2.1 User”.

Delete Group

For specific operations, please refer to “4.5.1.2.1 User”.

4.5.1.3 Config Backup

Select “Setup> System Config> Config Backup”. The system displays Figure 4-36.

Figure 4-36

- Click “Import Config” and select config file (.backup) to import config file.
- Click “Export Config” and select storage path to export config file as a backup.

4.5.1.4 System Maintenance

Select “Setup> System Config> System Maintenance”. The system displays Figure 4-37.

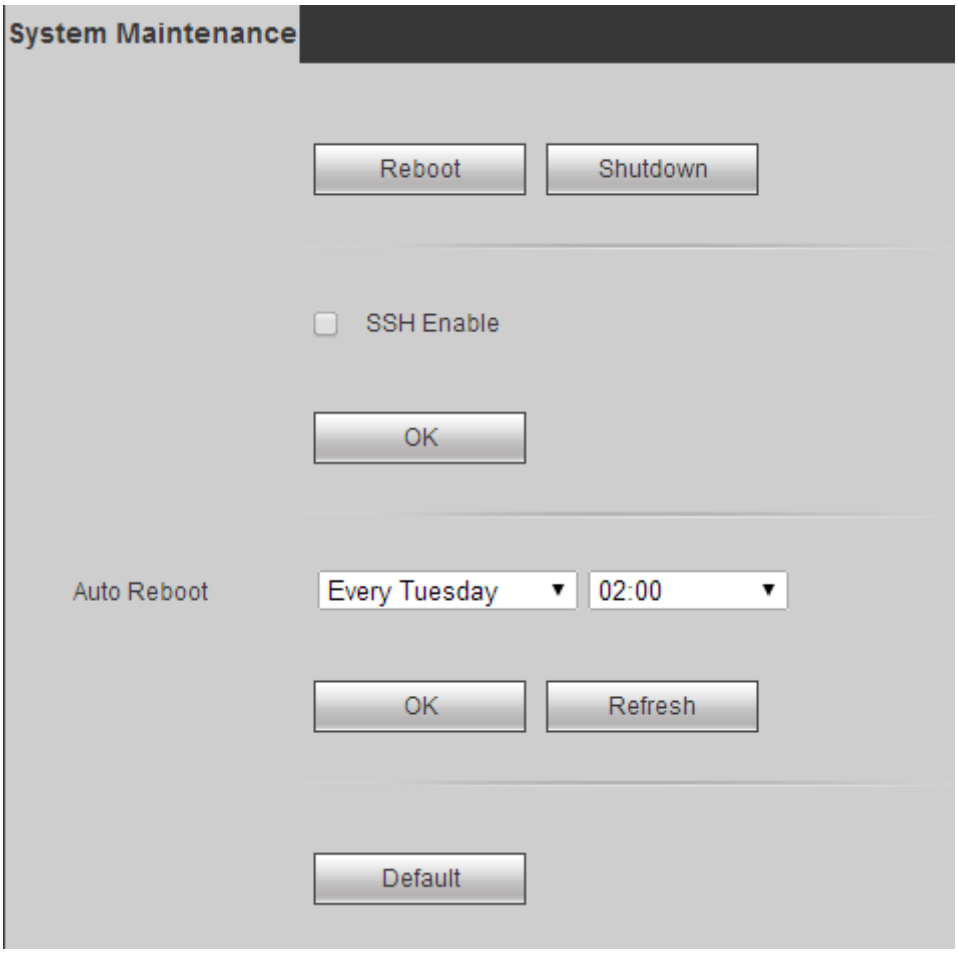


Figure 4-37

- In case of manual reboot, click “Reboot” to reboot the system at once. Click “Shutdown” to shut down the system at once.
- In case of auto reboot, set auto reboot week and time, and click “OK”.
- Click “Default”, and the system will restore default setups. Be careful!

4.5.1.5 System Upgrade

Step 1 Select “Setup> System Config> System Upgrade”. The system displays “System Upgrade” interface, as shown in Figure 4-38.

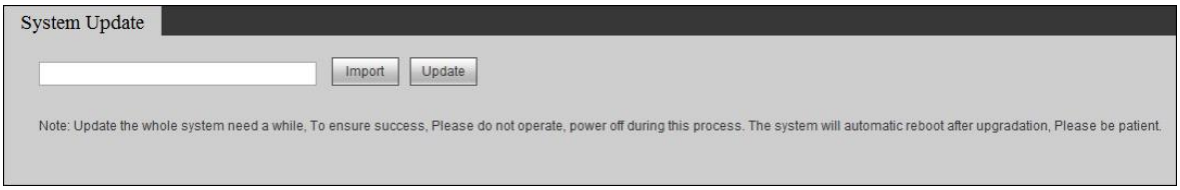


Figure 4-38

Step 2 Click “Import” to select upgrade file.

Step 3 Click “Upgrade” to upgrade. Progress bar will be displayed during upgrade.

According to system prompt, the device will reboot the system automatically after uploading upgrade files. Please keep power-on, and wait patiently for completion of auto reboot.

4.5.1.6 Picture Management

After uploading background picture, the background picture can be used as screen background.

Step 1 Select “Setup> System Config> Picture Management”. The system displays Figure 4-39.

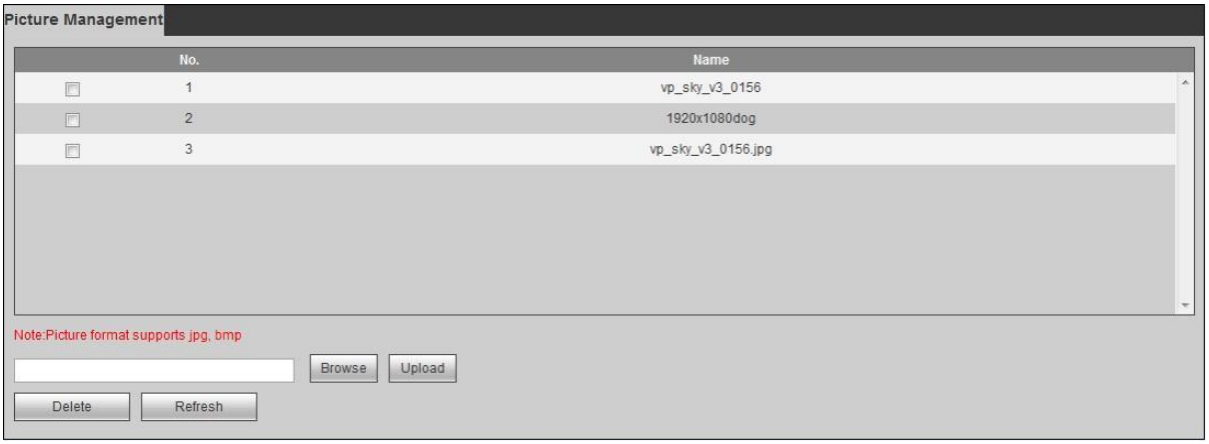


Figure 4-39

Step 2 Click “Browse” to select a local picture.

Step 3 Click “Upload” to upload local picture to the controller.

Note

- Select one picture and click “Delete” to delete it.
- After a background is uploaded successfully, select corresponding background in TV wall config. For specific operations, please refer to “4.3.5.8 Background Setup”.

4.5.1.7 Fan Control

4.5.1.7.1 Intelligent Temperature Control

Select “Setup> System Config> Fan Control> Intelligent Temperature Control”. The system displays Figure 4-40.

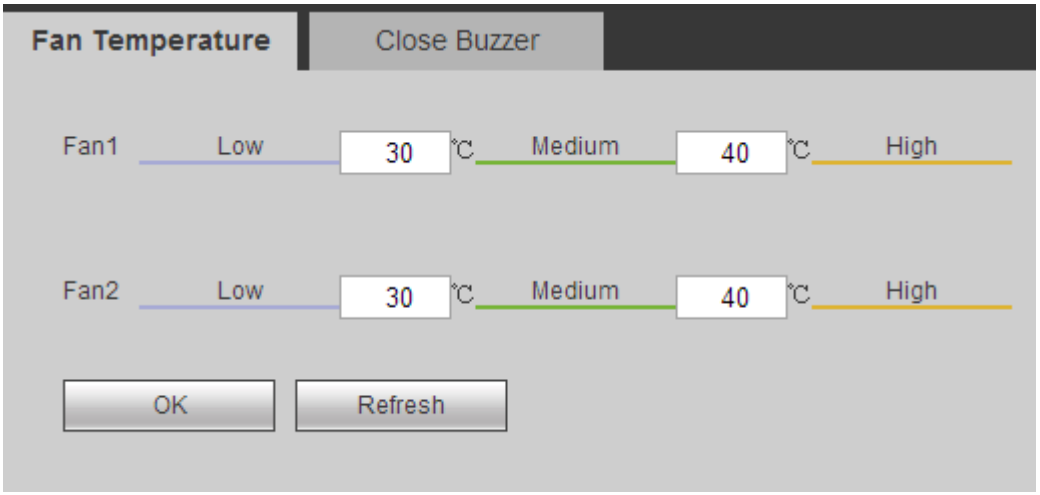


Figure 4-40

There are three levels: low speed, medium speed, and high speed. Different temperature ranges correspond to different speeds.

4.5.1.7.2 Close Buzzer

Select “Setup> System Config> Fan Control> Close Buzzer”. The system displays Figure 4-41.

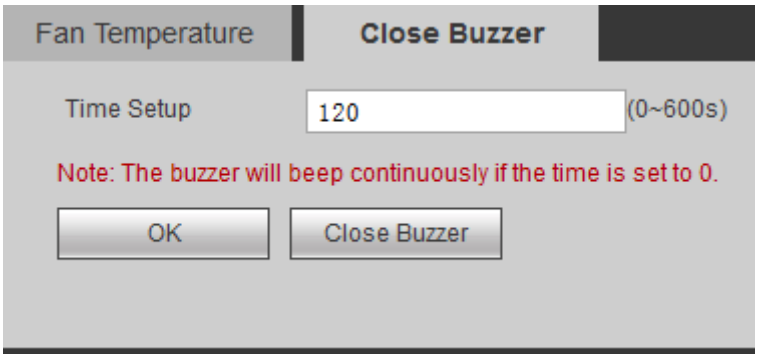


Figure 4-41

Delay time of closing buzzer can be 0s～600s.

4.5.1.8 PTZ Setup

Device protocol, baud rate, address and parity shall be the same as camera protocol, baud rate, address and parity, in order to control PTZ.

Step 1 Select “Setup> System Config> PTZ Setup”. The system displays “PTZ Setup” interface. Device type includes “Local” and “Analog Matrix”, as shown in Figure 4-42 and Figure 4-43.

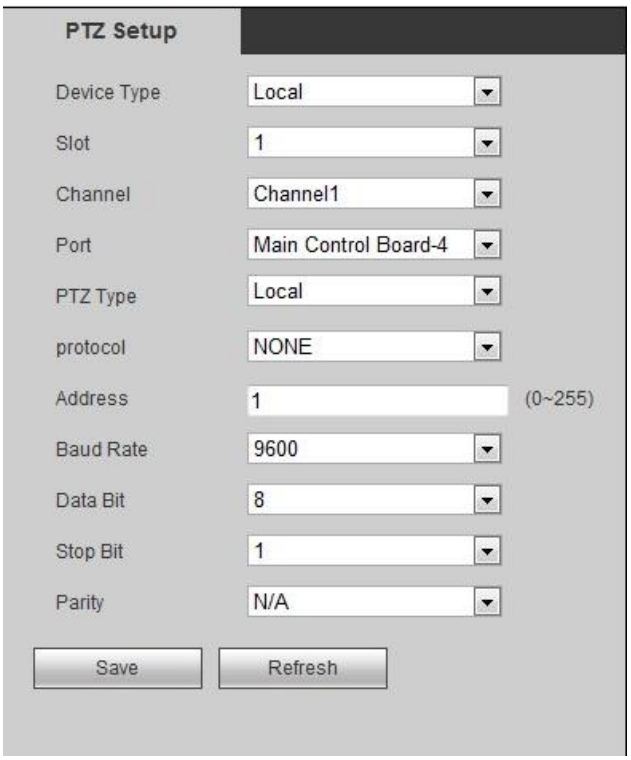


Figure 4-42

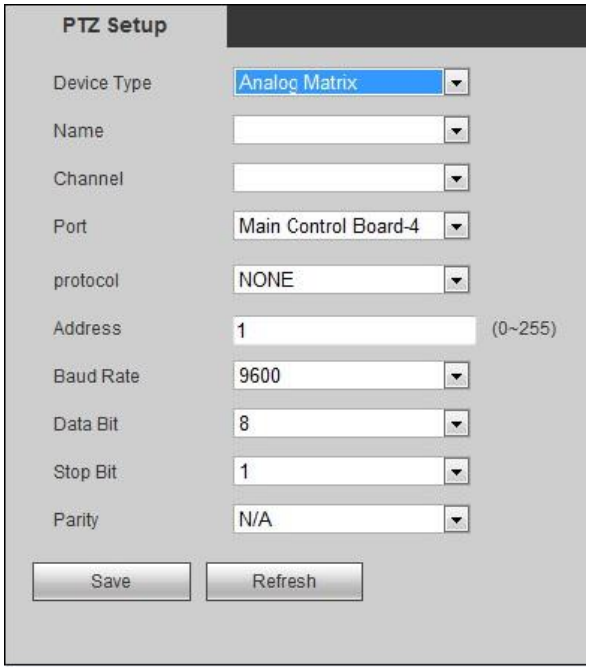


Figure 4-43

Step 2 Configure PTZ parameters. For details, please refer to Table 4-10.

Parameter	Description
Device Type	Select device type to be controlled, including “Local” and “Analog Matrix”.
Name	Select name of the device to be controlled.
Slot	Select corresponding slot.
Channel	Select channel to be configured.
Port	Select corresponding port.

Parameter	Description
PTZ Type	Support local PTZ only.
Protocol	Select device protocol; keep consistent with camera.
Address	Set device address, ranging from 0 to 255.
Baud Rate	Set baud rate of device; keep consistent with camera.
Data Bit	Set device data bit, including 5, 6, 7 and 8.
Stop Bit	Set device stop bit, including stop bit 1 and stop bit 2.
Parity	It includes odd, even, checkmark and N/A. Keep consistent with camera parity.

Table 4-10

Step 3 Click “Save” to save configuration.

4.5.1.9 Serial Port

Data bit, baud rate and address of serial port shall be consistent with the connected device, in order to communicate with the device.

Step 1 Select “Setup> System Config> Comm Setup”. The system displays “Comm Setup” interface, as shown in Figure 4-44.

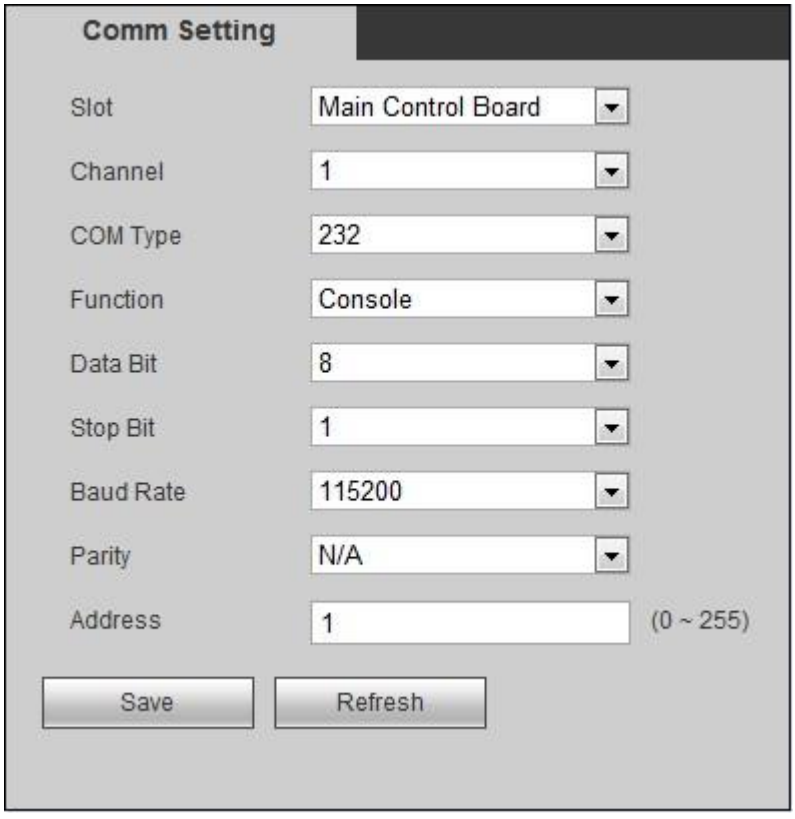


Figure 4-44

Step 2 Configure serial port parameters. For details, please refer to Table 4-11.

Parameter	Description
Slot	Select slot to be configured.
Channel	Select channel to be configured.
COM Type	Default type is RS232.
Function	Set COM function.

Parameter	Description
Data Bit	Set COM data bit, including 5, 6, 7 and 8.
Stop Bit	Set COM stop bit, including stop bit 1 and stop bit 2.
Baud Rate	Set COM baud rate; please keep consistent with the connected device.
Parity	Set COM parity, including odd, even, checkmark and N/A.
Address	Set COM address, ranging from 0 to 255.

Table 4-11

Step 3 Click “Save” to save configuration.

4.5.1.10 Set Storage Path

Set monitor snapshot path and monitor record path.

Step 1 Select “Setup> System Config> Storage Path”. The system displays “Storage Path” interface, as shown in Figure 4-45.

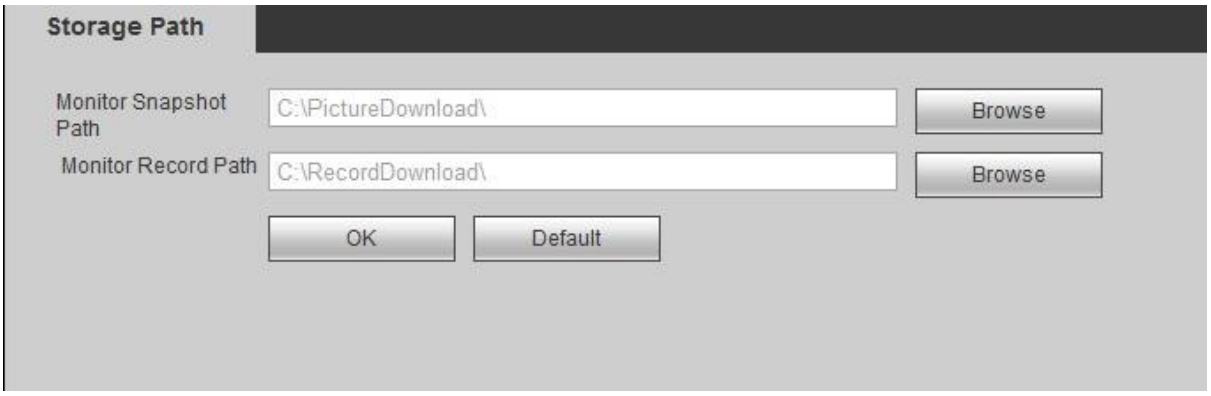


Figure 4-45

Step 2 Click “Browse” to set storage path of snapshot and record.

Step 3 Click “OK” to save configuration.

Note

Click “Default” to restore default path, which is “C:\PictureDownload” and “C:\RecordDownload”.

4.5.2 Network Setup

4.5.2.1 TCP/IP

Device IP address and DNS server shall be configured, so as to communicate with other devices in the networking.

Note

- Before setting network parameters, please ensure that the device has been connected with network correctly.
- In case of no router in network, please allocate IP address in the same segment.
- In case of router in network, please set corresponding gateway and subnet mask.

Step 1 Select “Setup>Network> TCP/IP”. The system displays “TCP/IP” interface, as shown in

Figure 4-46.

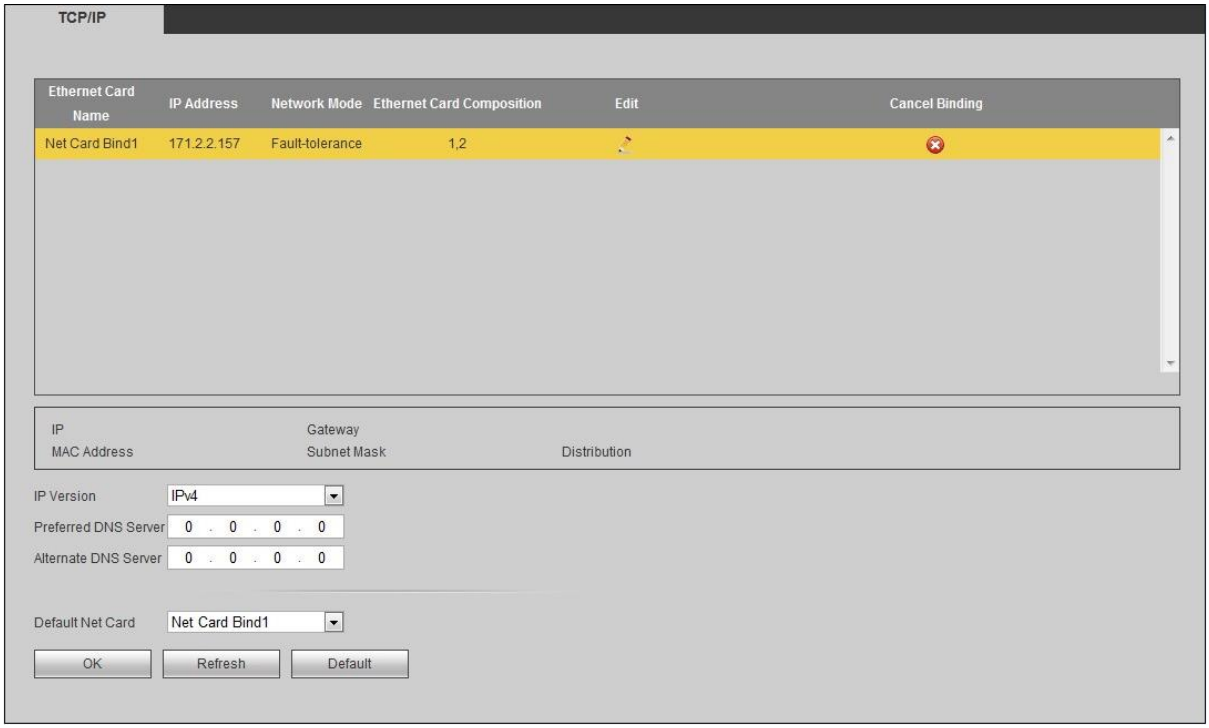


Figure 4-46

Step 2 Configure TCP/IP parameters. For parameter descriptions, please refer to Table 4-12.

Parameter	Description
IP Version	Select IP version: IPv4 or IPv6.
Preferred DNS Server	Fill in IP address of DNS server.
Alternate DNS Server	Fill in IP address of alternate DNS server.
Default Net Card	Select default net card.

Table 4-12

Step 3 Click  to modify net card info, as shown in Figure 4-47 or Figure 4-48.

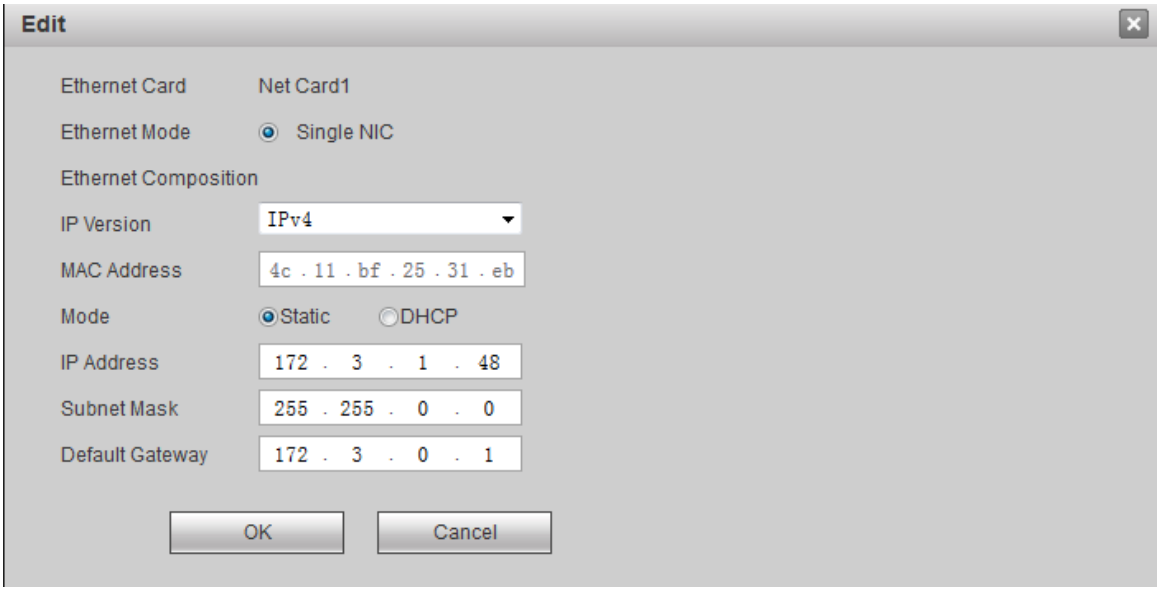


Figure 4-47

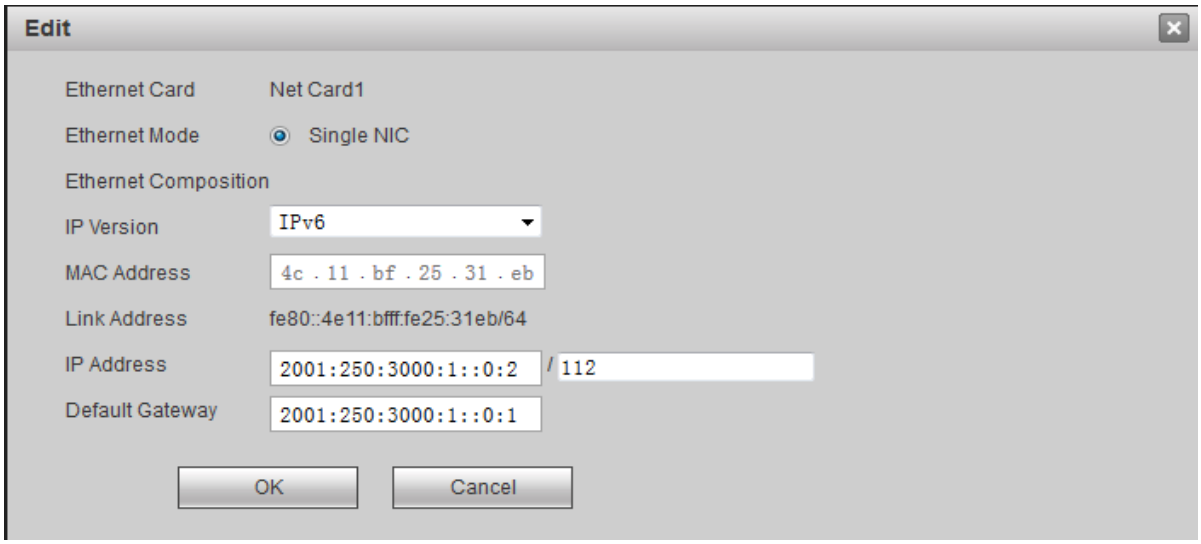


Figure 4-48

For parameter descriptions, please refer to Table 4-13.

Parameter	Description
Ethernet Mode	It is single NIC by default.
IP Version	Select IP version: IPv4 or IPv6.
MAC Address	MAC address of network card.
Mode	● In static mode, IP, subnet mask and default gateway shall be set manually. ● In DHCP mode, search IP automatically.
Link Address	Link address of network card.
IP Address	IP address of the device.
Subnet Mask	Fill in subnet mask according to IP address of the device.
Default Gateway	Fill in default gateway according to IP address of the device.

Table 4-13

Step 4 Click “OK” to complete modification of network card info.

Step 5 Click “OK” to complete configuration.

4.5.2.2 Port

In this interface, configure max. port quantity and each port value of the device.

Step 1 Select “Setup>Network>Connection Setup”. The system displays “Connection Setup” interface, as shown in Figure 4-49.

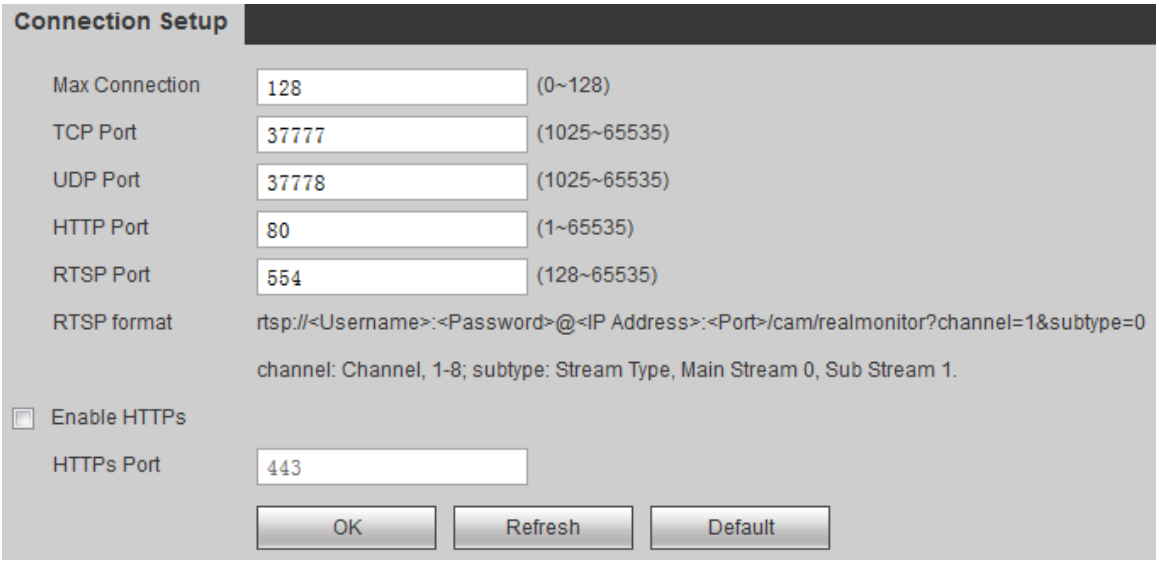


Figure 4-49

Step 2 Configure each port value of the device. For parameter descriptions, please refer to Table 4-14.

Parameter	Description
Max Connection	Number of clients allowed to log in at the same time (for example, WEB client, platform client, mobile client, etc.). Default value is 128.
TCP Port	TCP protocol port to provide communication services, according to the actual needs of users. Default value is 37,777.
UDP Port	User packet protocol port, according to the actual needs of the user. Default value is 37,778.
HTTP Port	HTTP communication port can be set according to the actual needs of the user. Default value is 80. If other values are set, to login with the browser, add a modified port number after the address.
RTSP Port	● RTSP port number is 554 by default. The following formats can be used to play when using QuickTime or VLC in Apple browser to play real-time monitoring. Blackberry also supports this feature. ● URL format of real-time monitoring stream. When requesting RTSP streaming media service of real-time monitoring stream, the URL should be specified in the request channel number, stream type, as well as user name and password if you need authentication information. ● To use BlackBerry to access, stream encoding mode is set to H.264B, resolution is set to CIF, and the audio shall be turned off. **URL format is described as follows:** **rtsp://username:password@ip:port/cam/realmonitor?channel=1&subtype=0** ● Username: username, for example admin.

Parameter	Description
	● Password: password, for example admin. ● IP: device IP, for example 10.7.8.122. ● Port: port number. Default port is 554. It is unnecessary to fill in if it is default. ● Channel: channel number, starting from 1. In case of channel 2, channel=2. ● Subtype: stream type. Main stream is 0 (subtype=0), sub stream is 1 (subtype=1). For example, request sub stream of channel 2 of the device. URL is as follows: **rtsp://admin:admin@10.12.4.84:554/cam/realmonitor?channel=2&subtype=1** If it doesn't need authentication, username and password don't need to be set. Use the following format: **rtsp://ip:port/cam/realmonitor?channel=1&subtype=0**
HTTPs Port	Tick the check box to enable HTTPs. Please set HTTPs port according to actual needs.

Table 4-14

Note

Except "Max Connection", modification of other parameter setups will take effect after reboot.

Step 3 Click "OK" to put it into effect.

4.5.2.3 IP Authority

With IP authority, set users who are allowed to access the device.

- White list: Add the IP of the user who can login the device. If a white list is selected, only those whose IP is listed in the white list can login the device. If the white list is not selected, there is no restriction on the users accessing the device.
- Black list: Add the IP of the user who is denied access to the device. If the user has selected the blacklist, other users' IP addresses can login the device, except IP in black list.
- DO NOT allow user to set device IP into white list.

Step 1 Select "Setup>Network>IP Authority". The system displays "IP Authority" interface, as shown in Figure 4-50.

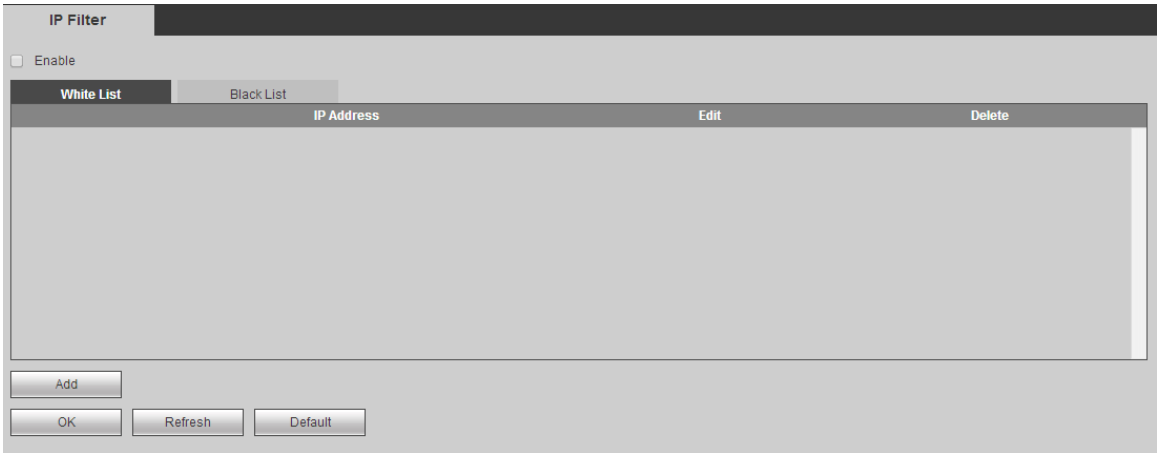


Figure 4-50

Step 2 Select “Enable”; select white list or black list.

- Select “White List”, click “White List” tab to add white list.
  1. Click “Add” and configure IP address info in the dialog box, by reference to Table 4-15.

Parameter	Description
IP Address	Enter IP address of the host to be added.
IP Segment	Enter segment start address and end address.
IPv4	IP address adopts IPv4 format, such as 172.16.5.10.

Table 4-15

  2. Click “OK” to put it into effect. Use IP host in the white list to login WEB interface of the device, you will login successfully.
- Select “Black List”, click “Black List” tab to add black list.
  1. Refer to Table 4-15 and complete adding of black list.
  2. Click “OK” to put it into effect.

     Use IP host in the black list to login WEB interface of the device. The system shows that it has been added to the black list, so you will fail to login.

4.5.2.4 SMTP

By setting SMTP, an Email will be sent in case of alarm, video detection and abnormal event.

In case of alarm, video detection and abnormal event, via SMTP server, an Email will be sent to receiver’s server. The receiver logs into the server to receive the Email.

Step 1 Select “Setup>Network> SMTP> Email Setup”. The system displays “Email Setup” interface, as shown in Figure 4-51.

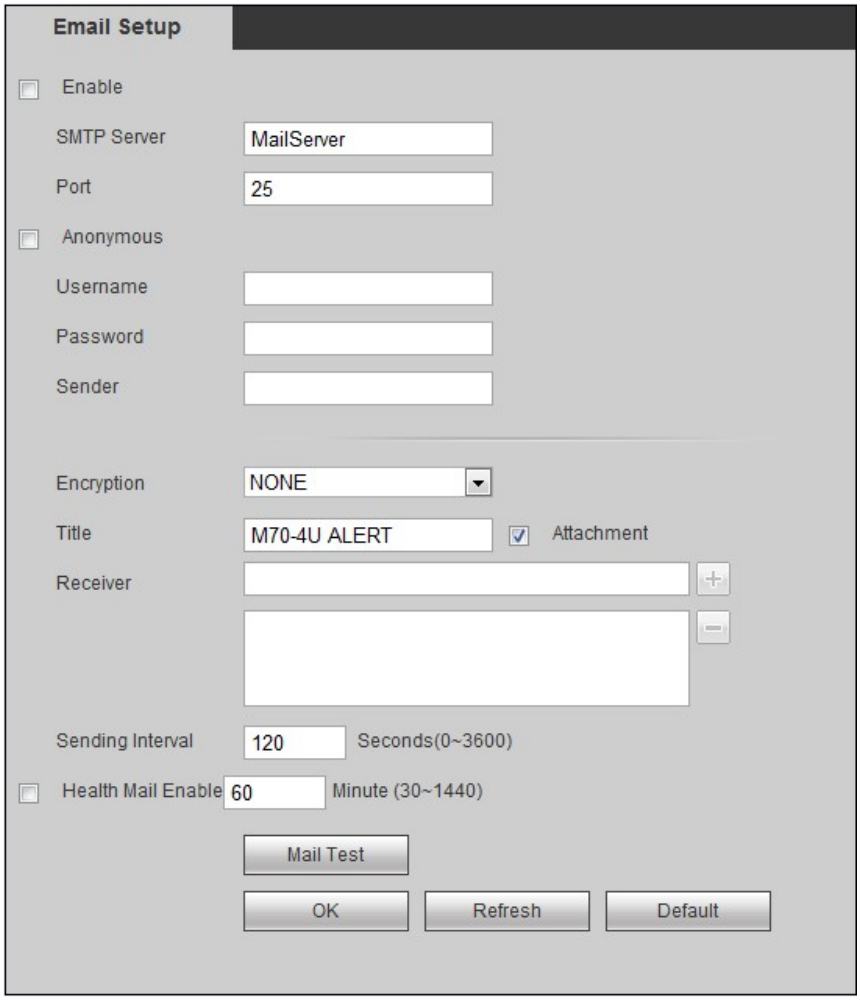


Figure 4-51

Step 2 Configure parameters according to needs. For parameter descriptions, please refer to Table 4-16.

Parameter	Description
Enable	Tick it to enable SMTP.
SMTP Server	IP address of sending server according to SMTP protocol.
Port	Port no. of sending server according to SMTP protocol. Default value is 25.
Anonymous	For anonymous mail-enabled servers, automatic anonymous logins do not require usernames, passwords, and sender information.
Username	Username of sender email
Password	Password of sender email
Sender	Sender email
Encryption	You can select SSL, TLS or NONE.
Title	Message title, customized.

Parameter	Description
Attachment	Select it to send snapshot picture with email.
Receiver	Enter receiving address of Email, which can be sent to three receivers at most.
Sending Interval	Email sending interval. "0" means no interval to send mail. After setting the interval time, when the alarm, video detection and abnormal event triggers Email, Email will not be sent immediately at the triggering moment of alarm signal, but will be sent according to the interval of the same type of previous event. It is mainly used to prevent lots of Emails and overpressure on Email server due to frequent abnormal event.
Health Mail Enable	Health mail is to check whether mail linkage is successful with test info sent by the system. By enabling this function and setting sending interval of health mail, the system will send mail test info according to the interval time.
Mail Test	Test whether mail receiving and sending function is normal. Under the condition of correct configuration, mail box will receive test mails. Before test, please save mail configuration info.

Table 4-16

Step 3 Click “OK” to put it into effect.

4.5.2.5 UPnP

By establishing mapping relation between private network and external network through UPnP protocol, external network users can access the external network IP address to access the internal network device. The internal port is the device port, the external port is the router port, and the user can access the device by accessing the external port. When UPnP is not used on the router, the UPnP function should be disabled to avoid affecting other functions.

Enable UPnP and the device supports UPnP. In Windows XP or Windows Vista system, if the system UPnP is enabled, the device will be automatically detected in Windows Network Neighborhood.

In Windows system, refer to the following steps to install UPnP network service:

Step 1 Open Control Panel; select “Add or Delete Program”.

Step 2 Click “Add/Delete Windows Component”.

Step 3 Click “Network Service” and click “Details”.

Step 4 Select “Internet Gateway Device Discovery and Control Client” and “UPnP User Interface”, confirm and install it.

Configuration steps of UPnP are as follows:

Step 1 Select “Setup>Network> UPnP”. The system displays “UPnP” interface, as shown in Figure 4-52.

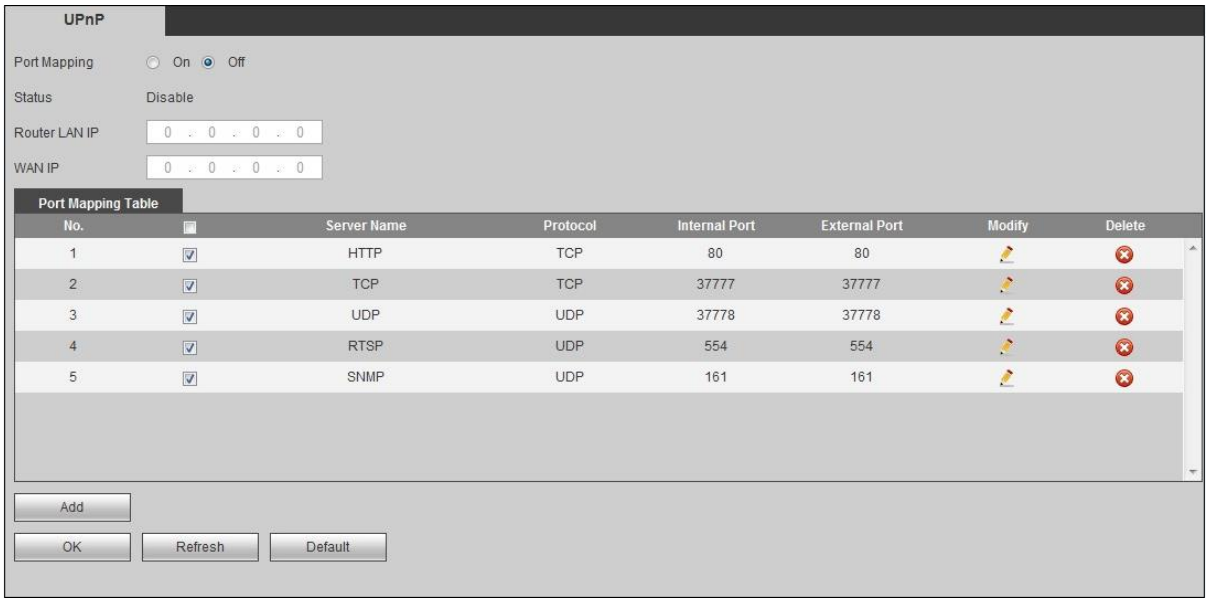


Figure 4-52

Note

In Windows system, if the system UPnP is enabled, the device will be automatically detected in Windows Network Neighborhood.

Step 2 Click “On” to enable port mapping function.

Step 3 Click “OK” to put it into effect.

4.5.2.6 Sync IP

It is used to add computer IP, in order to synchronize system time.

Step 1 Select “Setup>Network> Sync IP”. The system displays “Sync IP” interface, as shown in Figure 4-53.

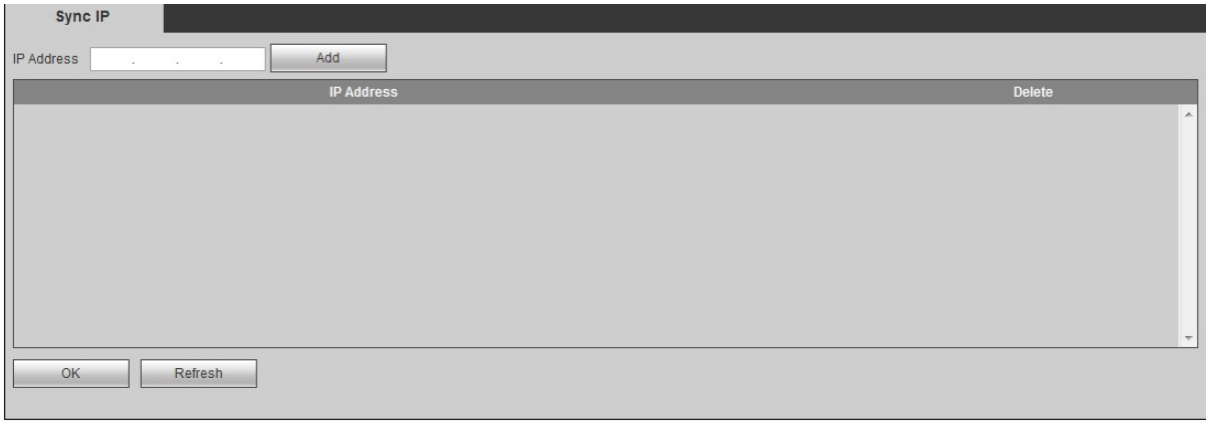


Figure 4-53

Step 2 Enter IP address and click “Add”.

Step 3 Click “OK” to put it into effect.

4.5.3 Storage Management

4.5.3.1 Record Set

Default record mode is 24h continuous record for each channel. Record time and type can be set according to needs.

Step 1 Select “Setup>Storage > Record Set”. The system displays “Record Set” interface, as shown in Figure 4-54 and Figure 4-55.

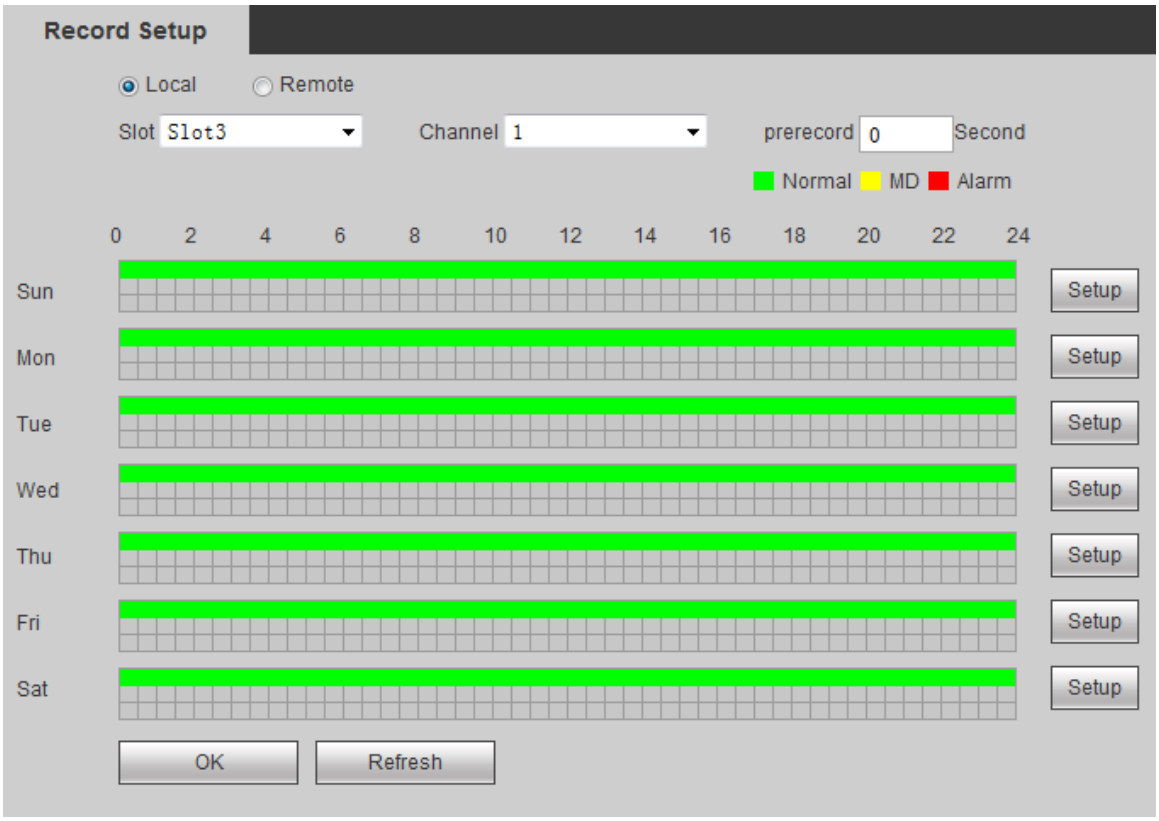


Figure 4-54

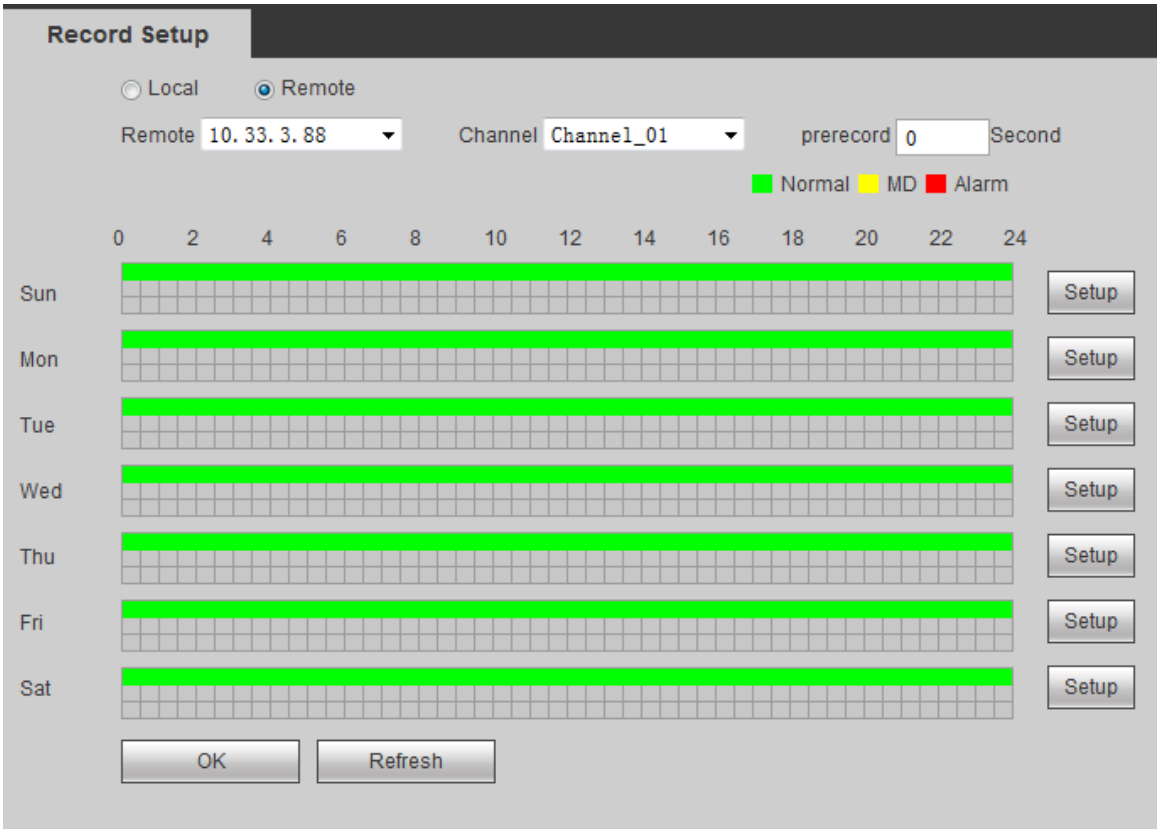


Figure 4-55

Step 2 Set relevant parameters. For parameter descriptions, please refer to Table 4-17.

Parameter	Description
Slot	Select record slot.
Remote	Select remote device IP.
Channel	Select record channel; you can set different record plans for different channels.
Prerecord	Record 1s～30s record before event occurs (record time depends on stream size and status).

Table 4-17

Step 3 Set record plans.

1. Select corresponding week and click “Setup”. The system pops up Figure 4-56.

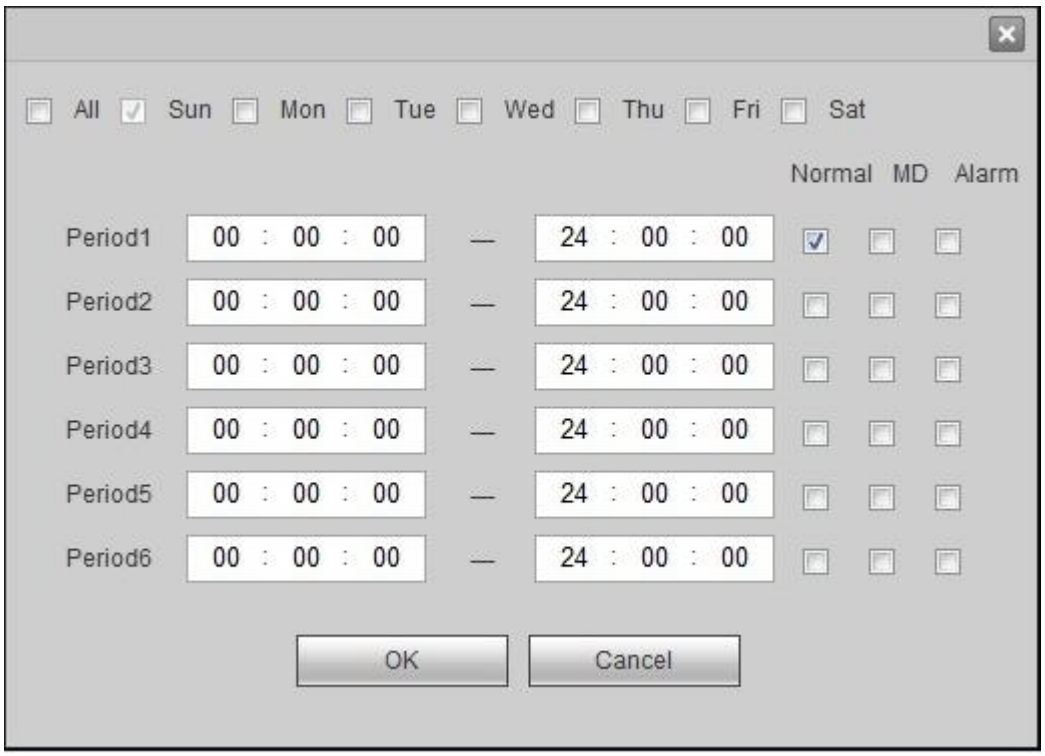


Figure 4-56

2. Set “Record Type” of every period.
   - Every day, six periods are available for setup.
   - Select “All” to apply to all days of a week.
3. Click “OK” to save the setup and close the interface.

Step 4 Click “OK” to put it into effect.

4.5.3.2 Record Control

It includes auto record and manual record. Record mode can be set for main stream and extended stream respectively.

- Auto record: carry out auto record according to selected record type and record time in the record plan.
- Manual record: carry out 24h continuous record for each channel.

Caution

Manual record requires the user having “Storage Setup” authority. Before operation, please ensure that DVR has installed with correct formatted HDD.

Step 1 Select “Setup>Storage > Record Control”. The system displays “Record Control” interface, as shown in Figure 4-57.

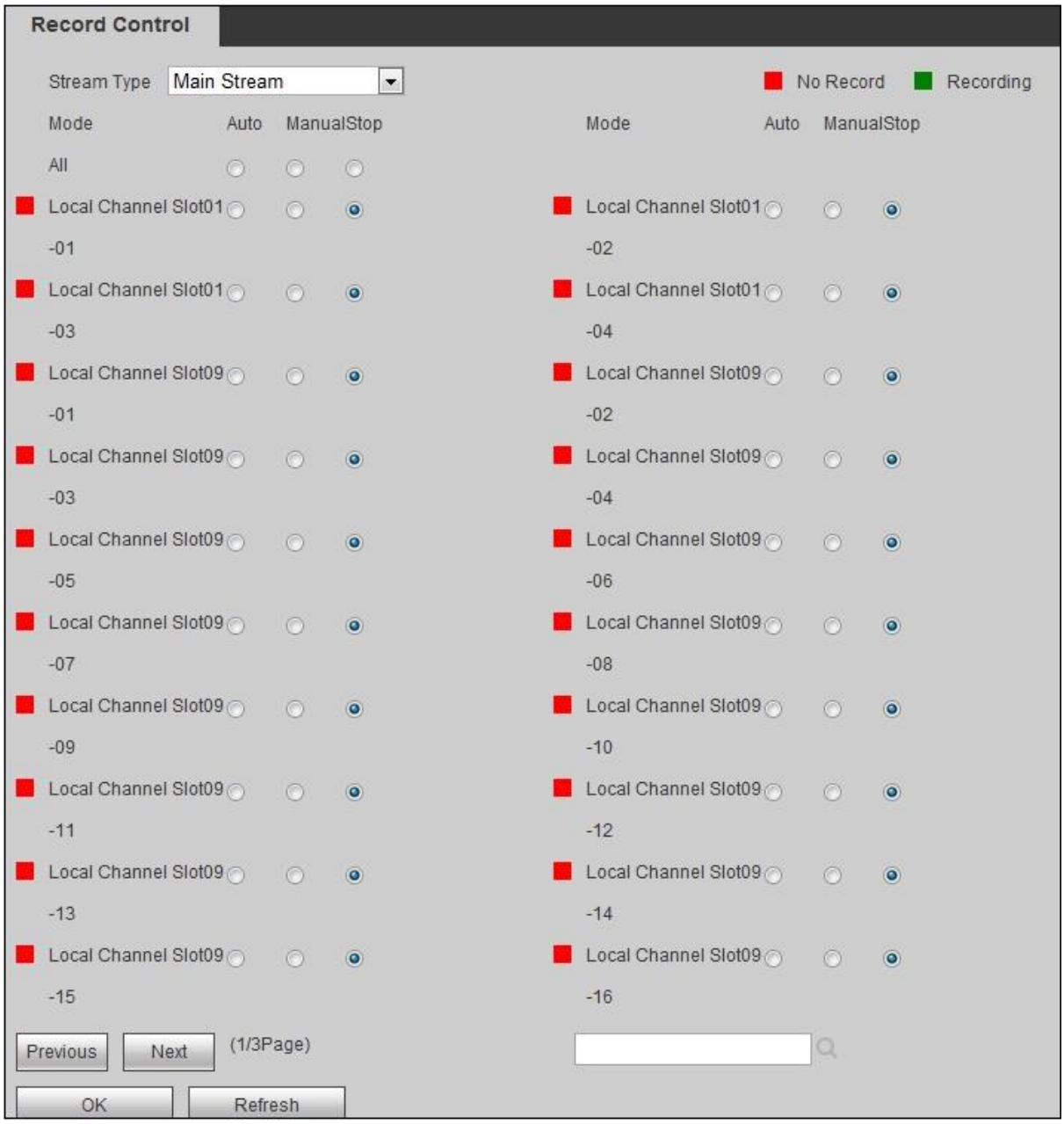


Figure 4-57

Step 2 Set relevant parameters. For parameter descriptions, please refer to Table 4-18.

Parameter		Description
Stream Type		Select the stream type, including main stream and sub stream.
Channel		List all channel numbers of the device. Channel number of the device is the same as the maximum number of channels supported by the device. You can select one or more channels, and select "All" to select all channels.
Mode		List the current mode of corresponding channel, including auto, manual and stop.
Record Control	Manual	With the highest priority, regardless of the current state of the channels, after selecting “Manual”, the corresponding channels will carry out normal record.

	Auto	Record according to record type (normal, MD and alarm) in “Setup>Storage > Record Set”.
	Stop	All channels stop recording.
Search		Enter a keyword in search box and click to search the channel.

Table 4-18

Step 3 Click “OK” to put it into effect.

4.5.3.3 ISCSI

Records can be stored on ISCSI server.

Step 1 Select “Setup>Storage > ISCSI”. The system displays “ISCSI” interface, as shown in Figure 4-58.

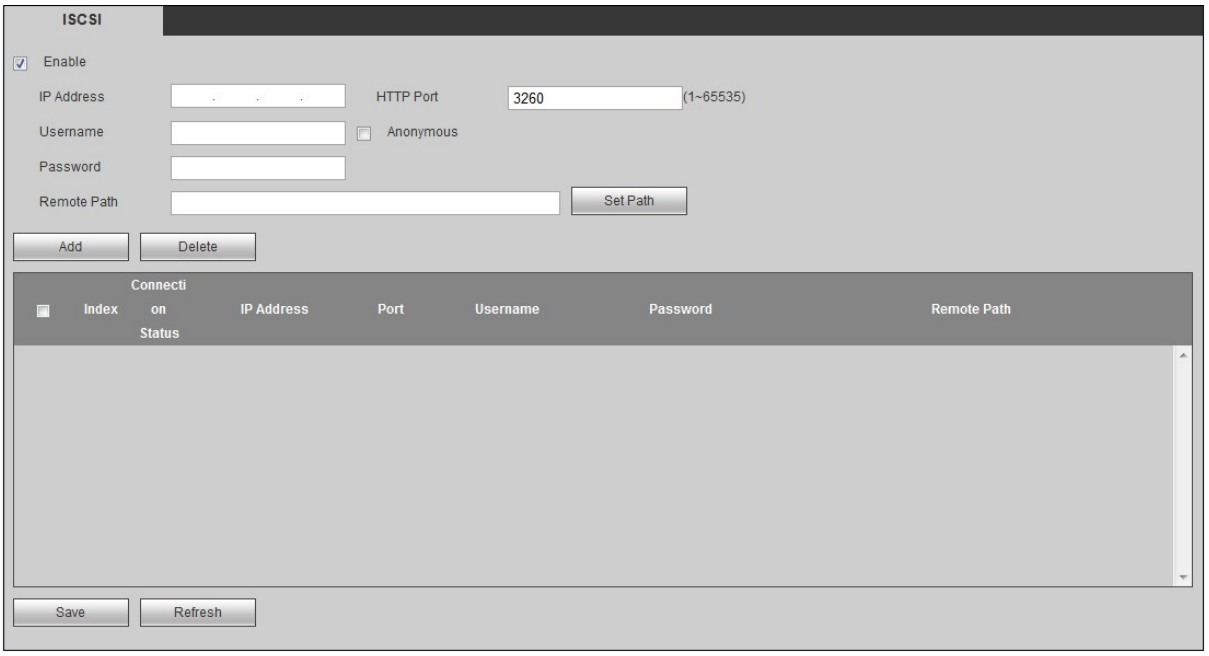


Figure 4-58

Step 2 Set relevant parameters. For parameter descriptions, please refer to Table 4-19.

Parameter	Description
Enable	Tick it to enable this function.
IP Address	IP address of ISCSI server.
HTTP Port	Port number of ISCSI server. Default port is 3260.
Username	Username to login ISCSI server. Select “Anonymous” to login ISCSI server anonymously.
Password	Password to login ISCSI server.
Remote Path	Storage path on ISCSI server.

Table 4-19

Step 3 Click “Add”. The list box displays info about this ISCSI server.

Note

Select ISCSI server info, and click “Delete” to delete this info.

Step 4 Click “Save” to save configurations.

4.5.3.4 Hard Disk Info

4.5.3.4.1 Hard Disk Info

In this interface, view disk status, capacity, bad disk and other info; and operate it.

Step 1 Select “Setup>Storage > Hard Disk Info> Hard Disk Info”. The system displays “Hard Disk Info” interface, as shown in Figure 4-59.

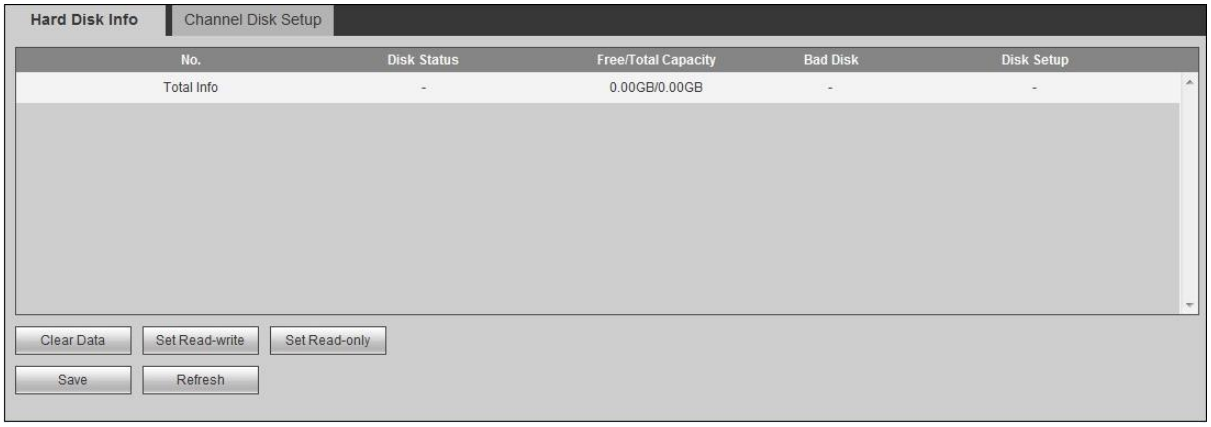


Figure 4-59

Step 2 Set disk group.

- Click “Clear Data” to clear data on the disk.
- Click “Set Read-write” to set the disk as read-write disk.
- Click “Set Read only” to set the disk as read-only disk.

Step 3 Click “Save” to save configurations.

4.5.3.4.2 Channel Disk Setup

In this interface, set channel disk.

Step 1 Select “Setup>Storage > Hard Disk Info> Channel Disk Setup”. The system displays “Channel Disk Setup” interface, as shown in Figure 4-60.

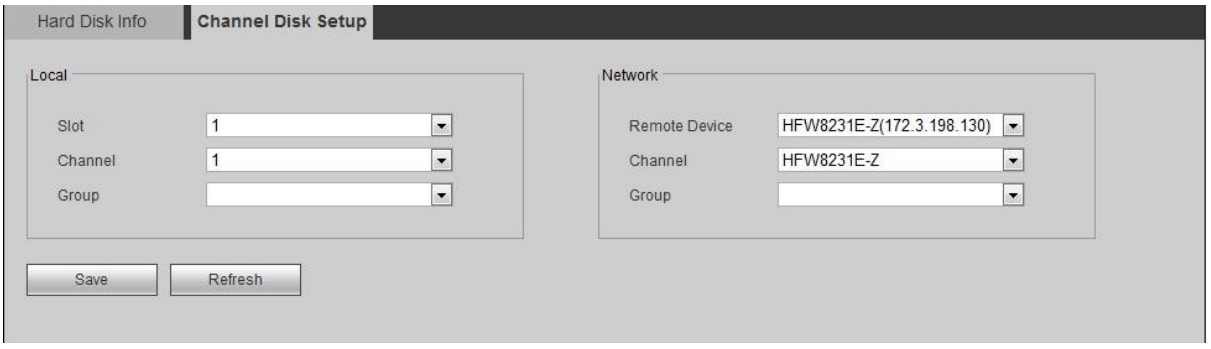


Figure 4-60

Step 2 Set local and network channel disks respectively,

Step 3 Click “Save” to save configurations.

4.5.4 Event Management

4.5.4.1 Alarm

Set network alarm here.

Step 1 Select “Setup>Event > Alarm > Network Alarm”. The system displays Figure 4-61.

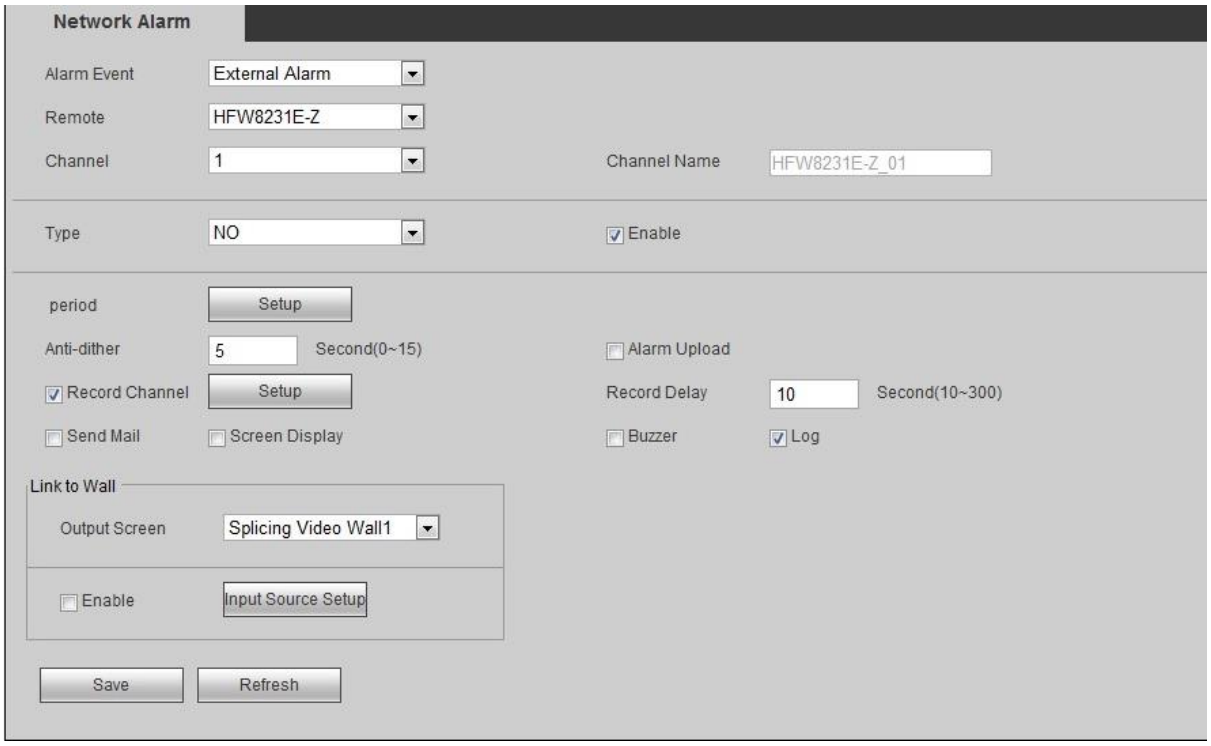


Figure 4-61

Step 2 Configure relevant parameters. For parameter descriptions, please refer to Table 4-20.

Parameter	Description
Alarm Event	Select alarm event, which is external alarm by default.
Remote	Select remote alarm device.
Channel	Select alarm channel.
Channel Name	Input alarm channel name.
Type	External alarm device type, including NO (normally open) and NC (normally close) type. Tick the check box to enable this function.
Period	Set alarm period, so alarm occurs only during set period. Click “Setup” to set alarm period. 1. Select week day. 2. Set period, up to 6 periods. Click “Default Time” to set all to default time, that is 00:00:00～23:59:59. Click “Current Time”, then the period changes to the most recently saved time. 3. In “Apply to” area, select week number to apply, then you can set period to this week. 4. Click “OK”.

Parameter	Description
Anti-dither	In set period, only record one alarm input event.
Alarm Upload	When alarm occurs, alarm info is sent to platform. Note It is required that video matrix platform shall be added to the platform. For specific configurations, please refer to user's manual of the platform.
Record Channel	When alarm occurs, the system records the selected channel (support multiple choices). Click "Setup" to select record channel. Note ● For query and setup of record storage position, please refer to "4.5.1.10 Storage Path". ● When alarm occurs, there are two conditions to be met: ◇ Alarm record is on. For specific operations, please refer to "4.5.3.1 Record Set". ◇ Auto record has been set. For specific operations, please refer to "4.5.3.2 Record Control".
Record Delay	After alarm is ended, continue to record for a certain period.
Send Email	When alarm occurs, send an email to set email box. Note Email address shall have been set. For specific operations, please refer to "4.5.2.4 SMTP".
Screen Display	When alarm occurs, alarm info is displayed on screen of local host.
Buzzer	When alarm occurs, send buzzing.
Log	When alarm occurs, record alarm info in the log.
Output Screen	Set output screen linked on wall.
Input Source Setup	Click "Input Source Setup", select input type, slot and channel, and thus bind input channel with output screen. Tick "Enable" to enable it.

Table 4-20

Step 3 Click "Save" to save configurations.

4.5.4.2 Abnormality

Abnormality includes Network Offline, IP Conflict, MAC Conflict, No HDD, Disk Error and Capacity Warning.

Step 1 Select "Setup>Event > Abnormality". The system displays "Abnormality" interface. Select the type according to needs, such as Figure 4-62, Figure 4-63, Figure 4-64, Figure 4-65, Figure 4-66 or Figure 4-67.

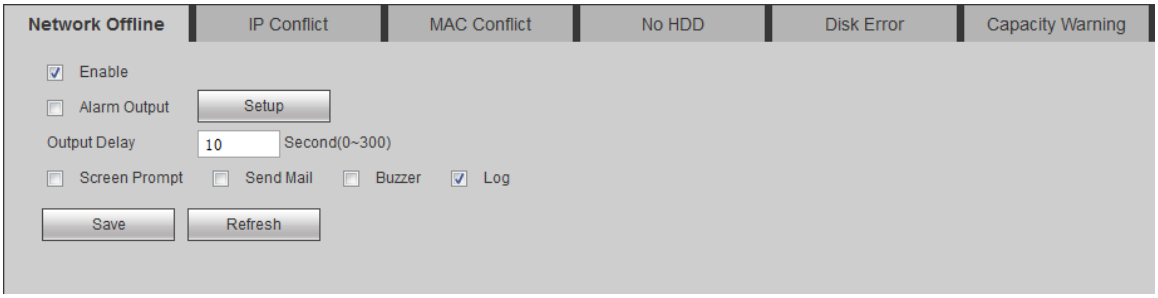


Figure 4-62

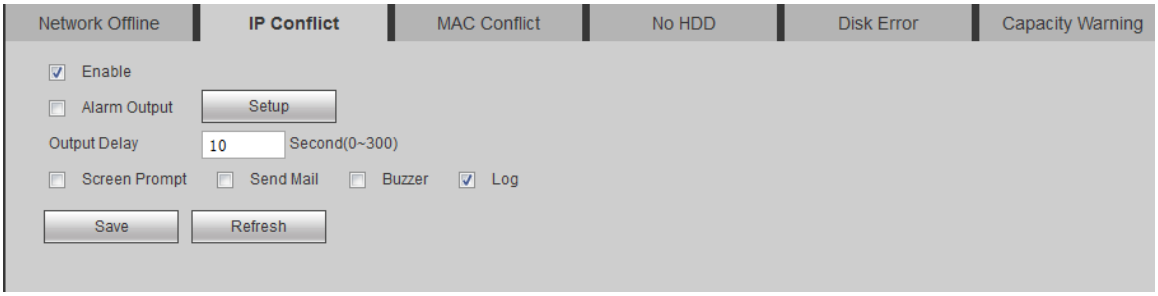


Figure 4-63

Figure 4-64

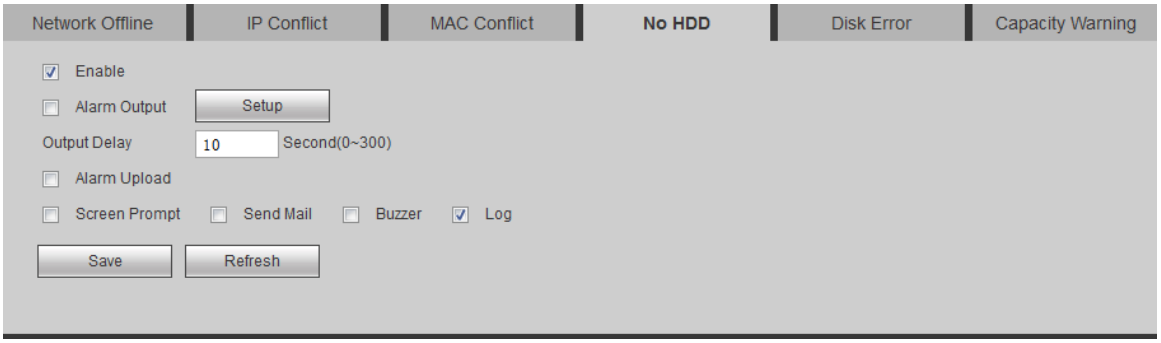


Figure 4-65

Figure 4-66

Figure 4-67

Step 2 Configure relevant parameters. For parameter descriptions, please refer to Table 4-21.

Parameter	Description
Enable	Select it to enable this abnormality alarm.
Limit	Alarm occurs when disk capacity is lower than the limit.
Alarm Upload	Connect alarm device (such as light and alarm whistle) with alarm output. In case of alarm, the system will send alarm info to the alarm device. Click “Setup” to select the slot.
Latch	On completion, the alarm delays for 0s～300s.
Screen Prompt	In case of alarm, alarm info is displayed on local host screen.

Table 4-21

For other configurations, please refer to Table 4-20.

Step 3 Click “Save” to save configurations.

4.5.4.3 Video Detection

Video detection consists of dynamic detection, video loss and tampering. Set the video detection mechanism according to needs.

Step 1 Select “Setup>Event > Video Detection”. The system displays “Video Detection” interface, to select detection types according to needs, as shown in Figure 4-68, Figure 4-69 or Figure 4-70.

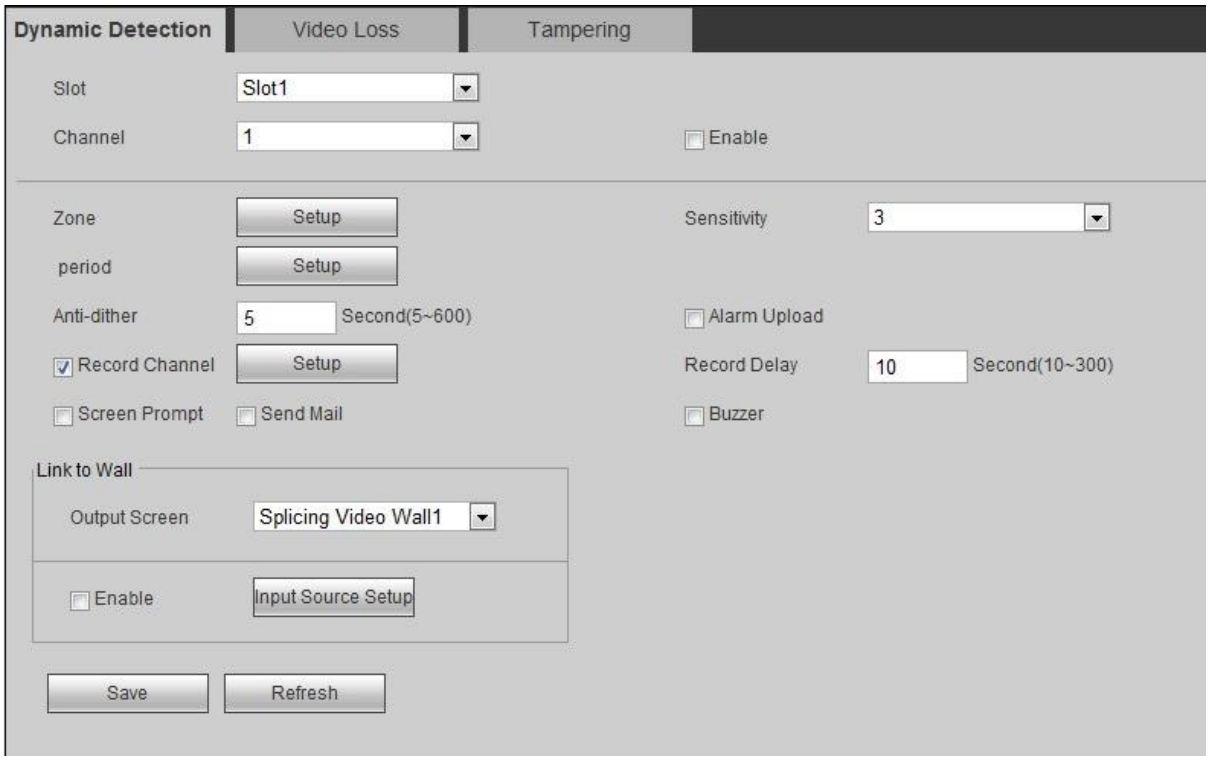


Figure 4-68

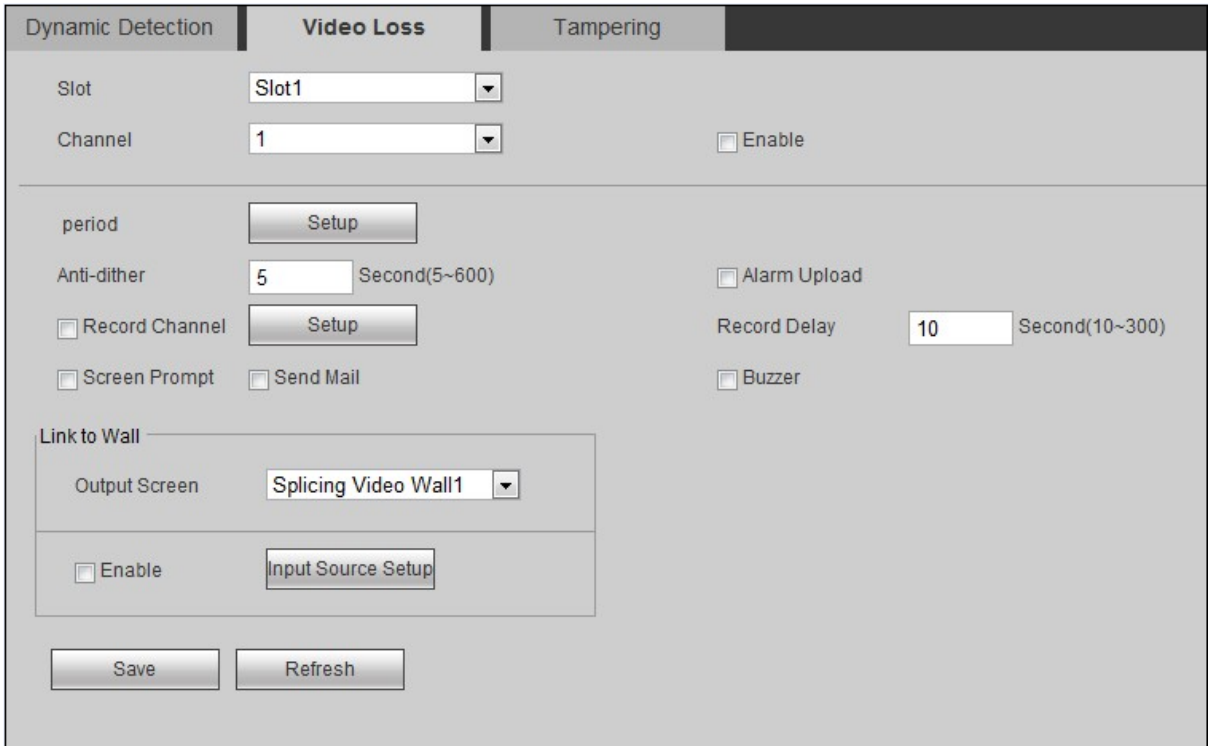


Figure 4-69

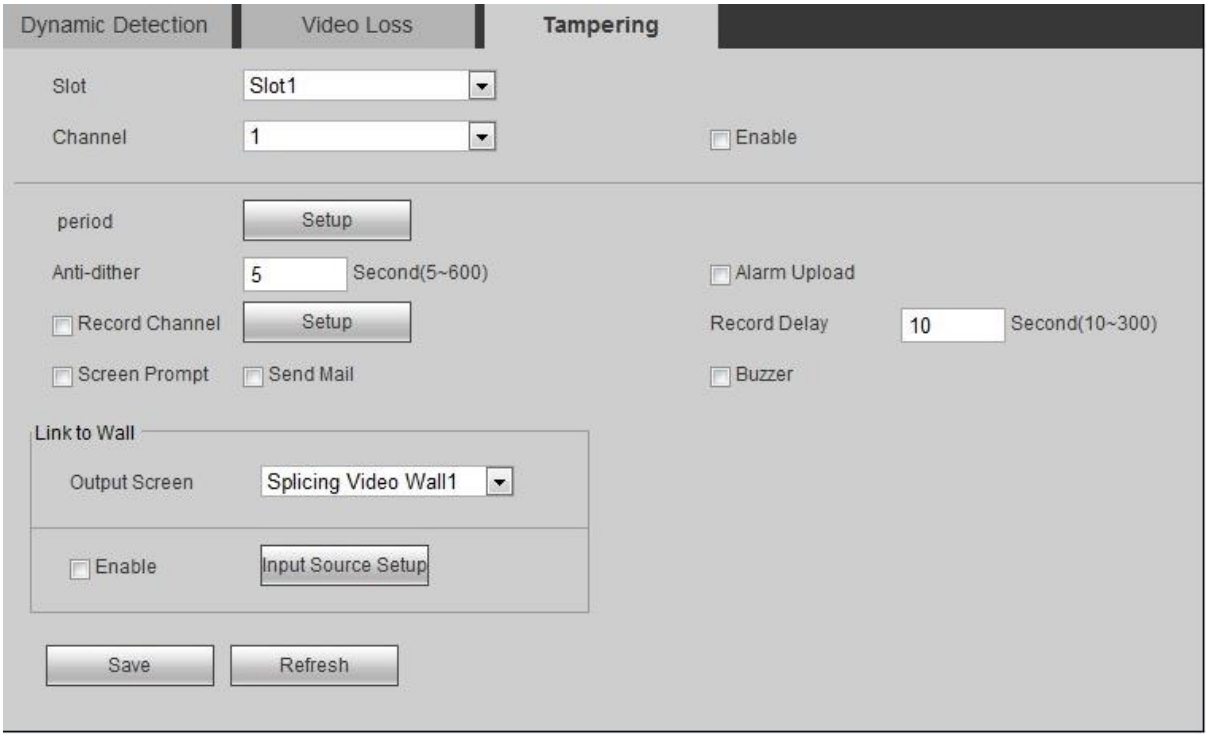


Figure 4-70

Step 2 Configure relevant parameters. For parameter descriptions, please refer to Table 4-22.

Parameter	Description
Slot	Set video detection slot.
Channel	Set video detection channel.
Enable	Tick it to enable all functions of video detection.
Zone	Set dynamic detection zone. Click “Setup”. In the interface, hold left mouse button to select dynamic detection zone.
Sensitivity	Set dynamic detection sensitivity.
Record Channel	Connect alarm device (such as light and alarm whistle) with alarm output. In case of alarm, the system will send alarm info to the alarm device. Click “Setup” to select the slot.
Record Delay	On completion, the alarm delays for 0s～300s.
Screen Prompt	In case of alarm, alarm info is displayed on local host screen.

Table 4-22

Configure relevant parameters. For parameter descriptions, please refer to Table 4-20.

Step 3 Click “Save” to save configurations.

4.5.5 Signal Management

Network signal, local signal and signal group can be managed here.

4.5.5.1 Network Signal

Add device in network to preview network signal and output to wall, and control remote device.

Note

The device shall have decoding board to decode and output network signal onto wall.

Select “Setup>Signal > Network Signal”. The system displays “Network Signal” interface, as shown in Figure 4-71.

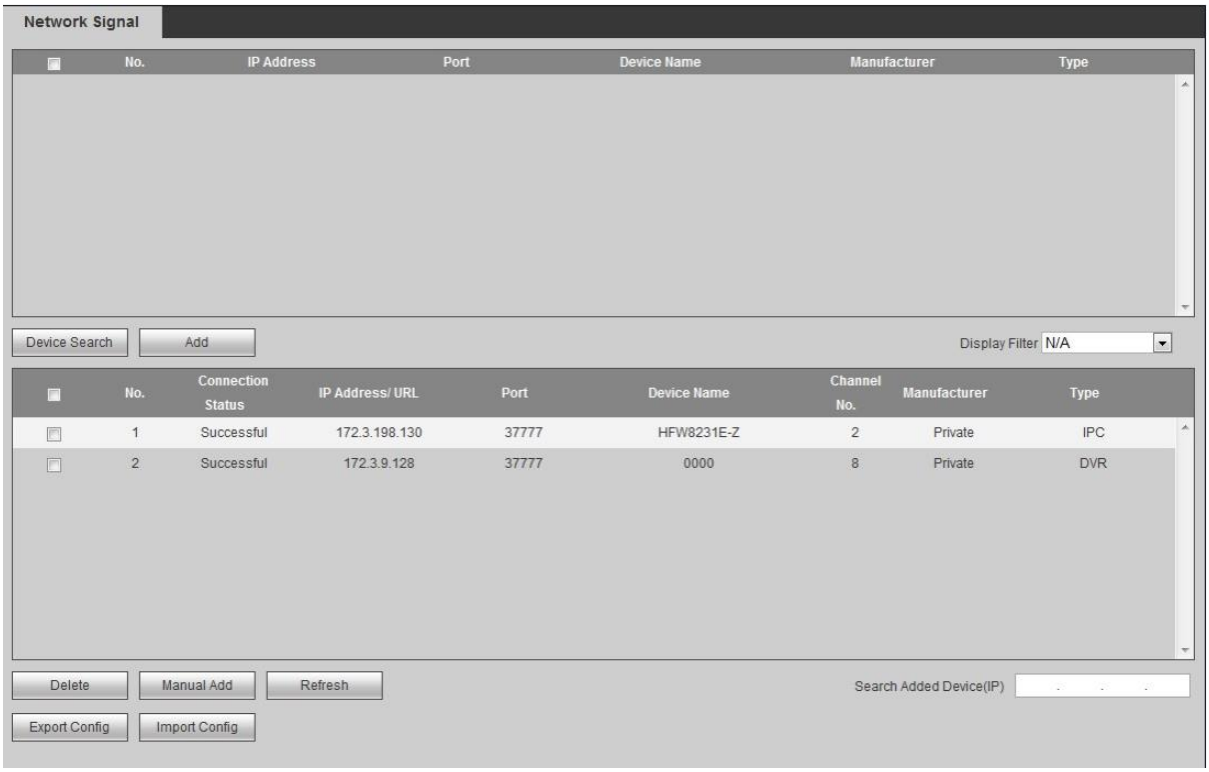


Figure 4-71

Search

Step 1 Click “Device Search”.

The system starts to search all network signals within the LAN, as shown in Figure 4-72.

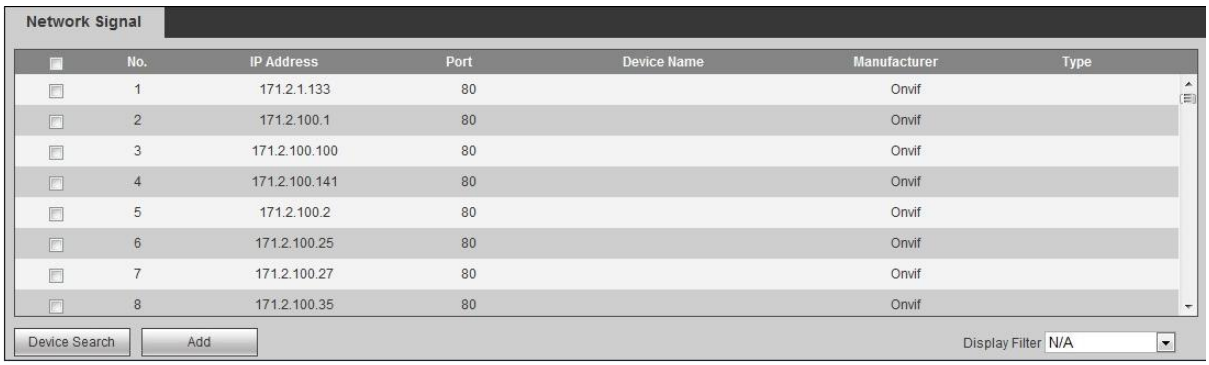


Figure 4-72

Note

Filter device types in “Display Filter”. For example, select “IPC”, the list only displays all IPC devices.

Step 2 Tick the check box corresponding to the network signal, and click “Add”.

The network signal will be displayed in the list, and the system will show “Operate

Successfully”, as shown in Figure 4-73.

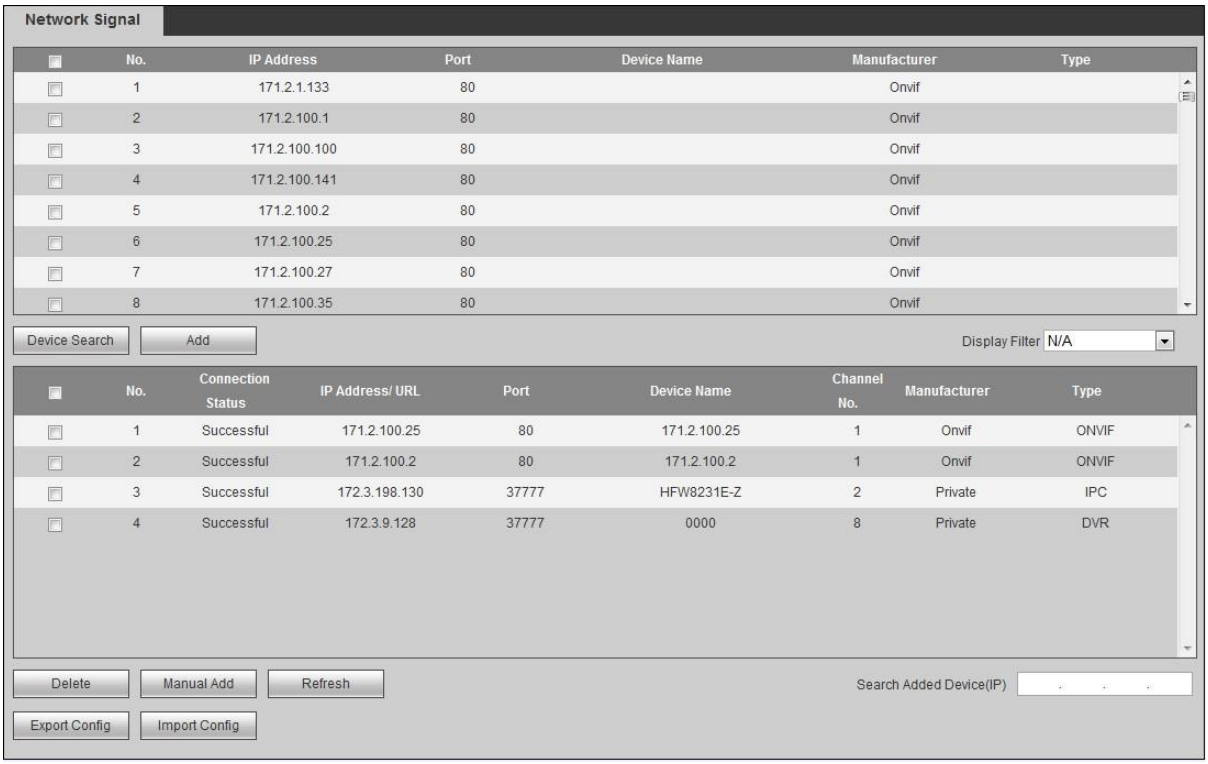


Figure 4-73

- If the device is in normal use, “Connection Status” will change from “Failed” to “Successful” after several seconds. And the system will show “Operate Successfully”.
- If “Connection Status” remains “Failed”, the device may not be power-on, or a black list is set, or it is not included in white list.

Note

Enter IP address in “Search Added Device (IP)” search box, and info about this device will be marked in yellow in the list.

Manual Add

Step 1 Click “Manual Add”.

The system displays “Manual Add” interface, as shown in Figure 4-74.

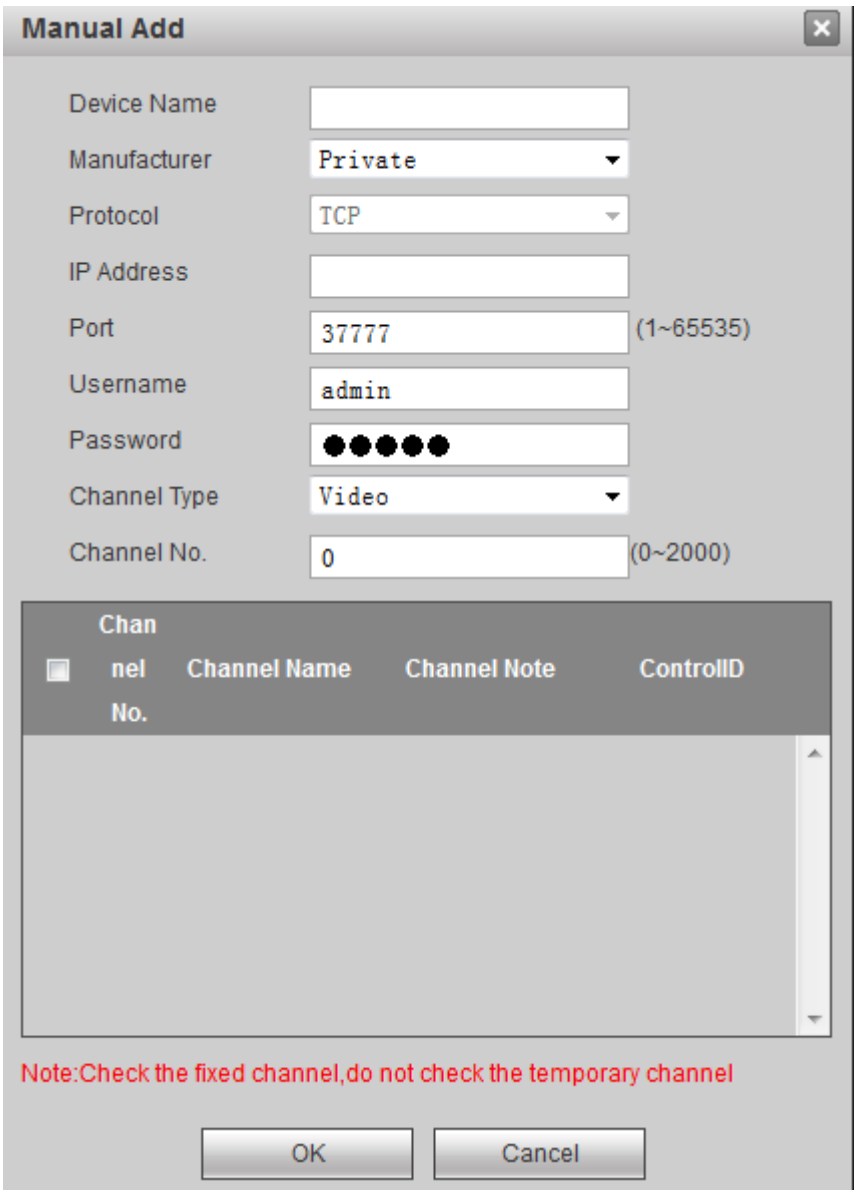


Figure 4-74

Step 2 Configure relevant parameters. For parameter descriptions, please refer to Table 4-23.

Parameter	Description
Device Name	Fill in device name.
Manufacturer	Device manufacturer.
Protocol	Device protocol, default is “TCP”.
IP Address	Set device IP address.
Port	Set the port of added device. Default port is 37777.
Username	Set device username to login.
Password	Set password to login.
Channel Type	Default type is “video”.
Channel No.	Device input channel number.

Table 4-23

Step 3 Click “OK”.

The network signal will be displayed in the list, and the system will show “Operate Successfully”.

Import and Export Config

By importing and exporting config, add network signal in batches.

Note

Please enable HTTPs before importing and exporting config. For specific configurations, please refer to “4.5.2.2 Port”.

- Click “Import Config”, the completed device info will be imported into the system.
- Click “Export Config”, config files will be exported and saved locally.

Step 1 Click “Import Config” or “Export Config” in http environment. The system pops up Figure 4-75.

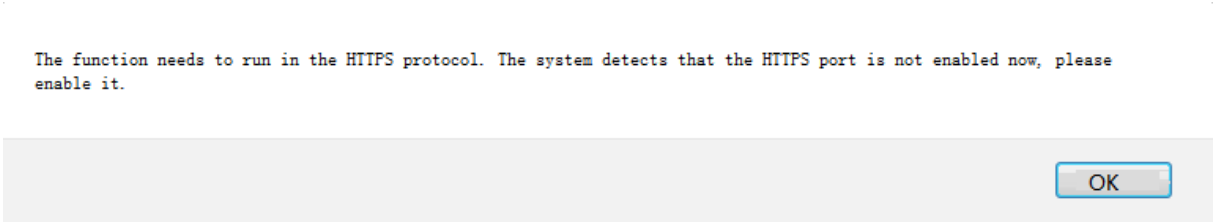


Figure 4-75

Step 2 Click “OK” to skip to HTTPs environment.

Log in the system again, click “Import Config” or “Export Config” to configure them again.

Delete Network Signal

In the added signal list, select the network signal and click “Delete” to delete it.

Sequence

Click each property text, will appear on the right, representing descending sequence of network signal. Click it again to change to , representing ascending sequence, as shown in Figure 4-76 and Figure 4-77.

No.	Connection Status	IP Address/ URL	Port	Device Name	Channel No.	Manufacturer	Type
1	Successful	172.3.198.130	37777	HFW8231E-Z	2	Private	IPC
2	Successful	171.2.100.25	80	171.2.100.25	1	Onvif	ONVIF
3	Successful	171.2.100.2	80	171.2.100.2	1	Onvif	ONVIF
4	Successful	172.3.9.128	37777	0000	8	Private	DVR

Figure 4-76

No.	Connection Status	IP Address/ URL	Port	Device Name	Channel No.	Manufacturer	Type
1	Successful	172.3.9.128	37777	0000	8	Private	DVR
2	Successful	171.2.100.2	80	171.2.100.2	1	Onvif	ONVIF
3	Successful	171.2.100.25	80	171.2.100.25	1	Onvif	ONVIF
4	Successful	172.3.198.130	37777	HFW8231E-Z	2	Private	IPC

Figure 4-77

4.5.5.2 Local Signal

4.5.5.2.1 Set Input Title

Configure input title and control ID of every channel of every board card.

Step 1 Select “Setup>Signal >Local Signal>Input Title”. The system displays “Input Title” interface, as shown in Figure 4-78.

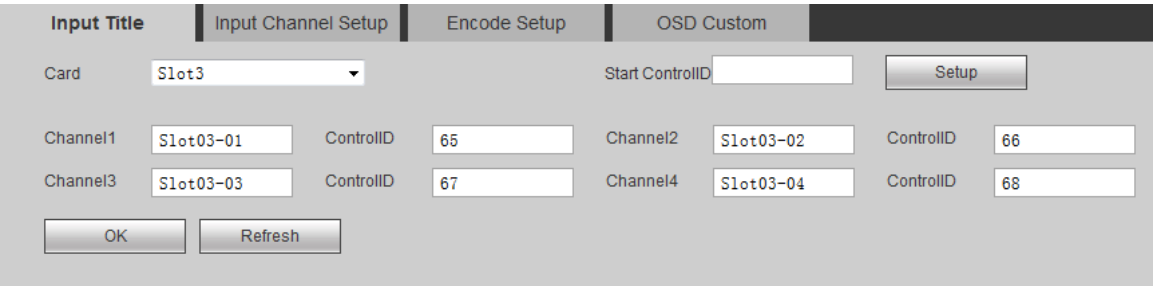


Figure 4-78

Step 2 Select the card; configure channel name and control ID of every channel.

Note

Input “Start ID” and click “Setup”. Control ID of every channel will start numbering from “Start ID”.

Step 3 Click “OK” to complete configuration.

4.5.5.2.2 Set Input Channel

Set the color and cover-area of input channels.

Step 1 Select “Setup>Signal >Local Signal>Input Channel Setup”. The system displays “Input Channel Setup” interface, as shown in Figure 4-79.

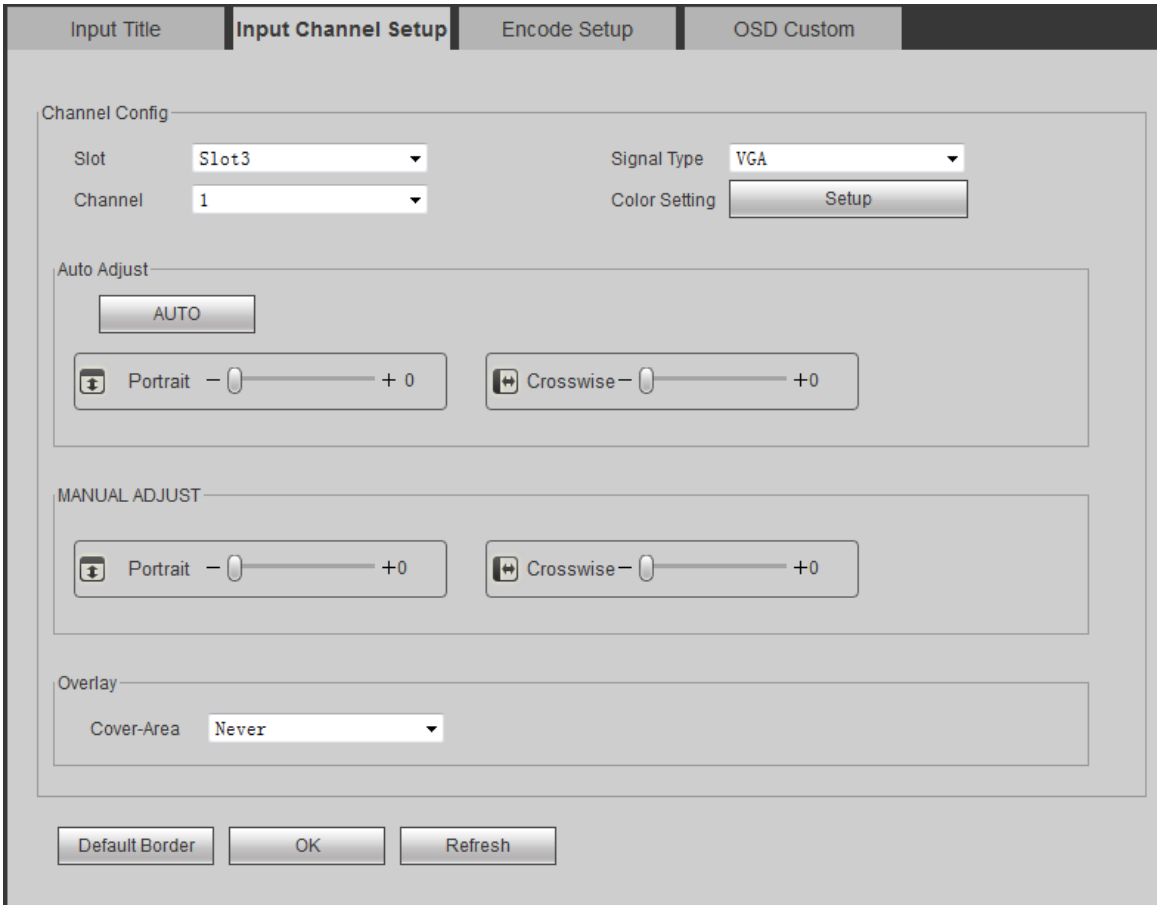


Figure 4-79

Step 2 Configure relevant parameters. For parameter descriptions, please refer to Table 4-24.

Parameter	Description
Slot	Select slot.
Channel	Select channel.
Signal Source Type	Select signal source type according to actual conditions.
Color Setup	Click “Setup” to set image brightness, contrast, saturation and hue, as shown in Figure 4-80. Range is 0～100, which may be set by moving adjusting bar. Click “Default Border” to return to default value.
Auto Adjust	● AUTO: click “AUTO”. The system adjusts image displaying position automatically. ● Portrait: tune image displaying position in portrait direction, ranging from 0 to 15. ● Crosswise: tune image displaying position crosswise, ranging from 0 to 15.
Manual Adjust	● Portrait: manually tune image displaying position in portrait direction, ranging from 0 to 4095. ● Crosswise: manually tune image displaying position crosswise, ranging from 0 to 4095.

Parameter	Description
Overlay	● Set the cover-area on the image, in order to overlay. Options include “Never”, “Preview”, “Monitor” and “All”. ● Select “Preview”, “Monitor” and “All”, and click “Setup” to set the cover-area. At most 4 areas can be set, in the way of left alignment or right alignment.

Table 4-24

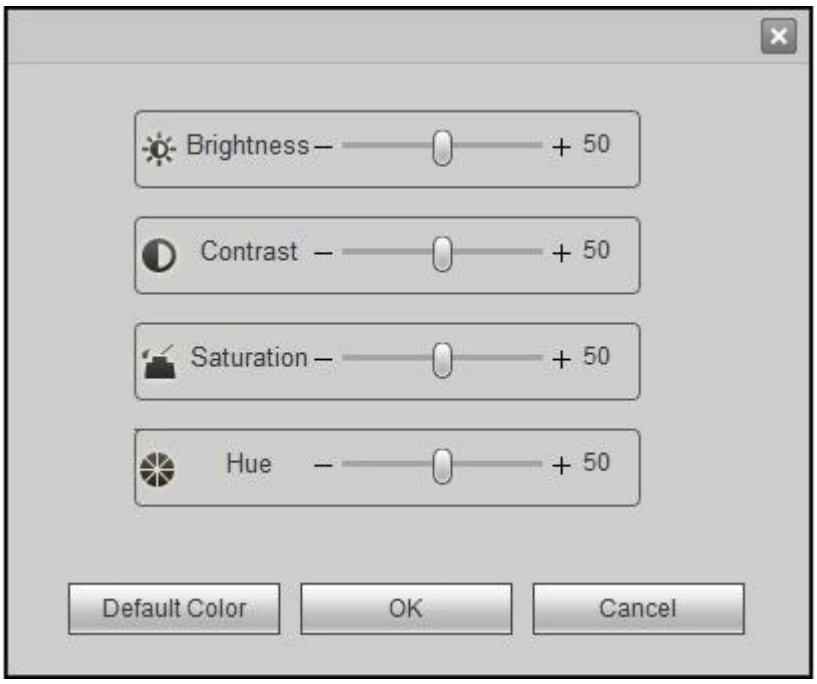


Figure 4-80

Step 3 Click “OK” to complete configuration.

4.5.5.2.3 Encode Setup

Set encoding info here.

Step 1 Select “Setup>Signal >Local Signal> Encode Setup”. The system displays “Encode Setup” interface, as shown in Figure 4-81.

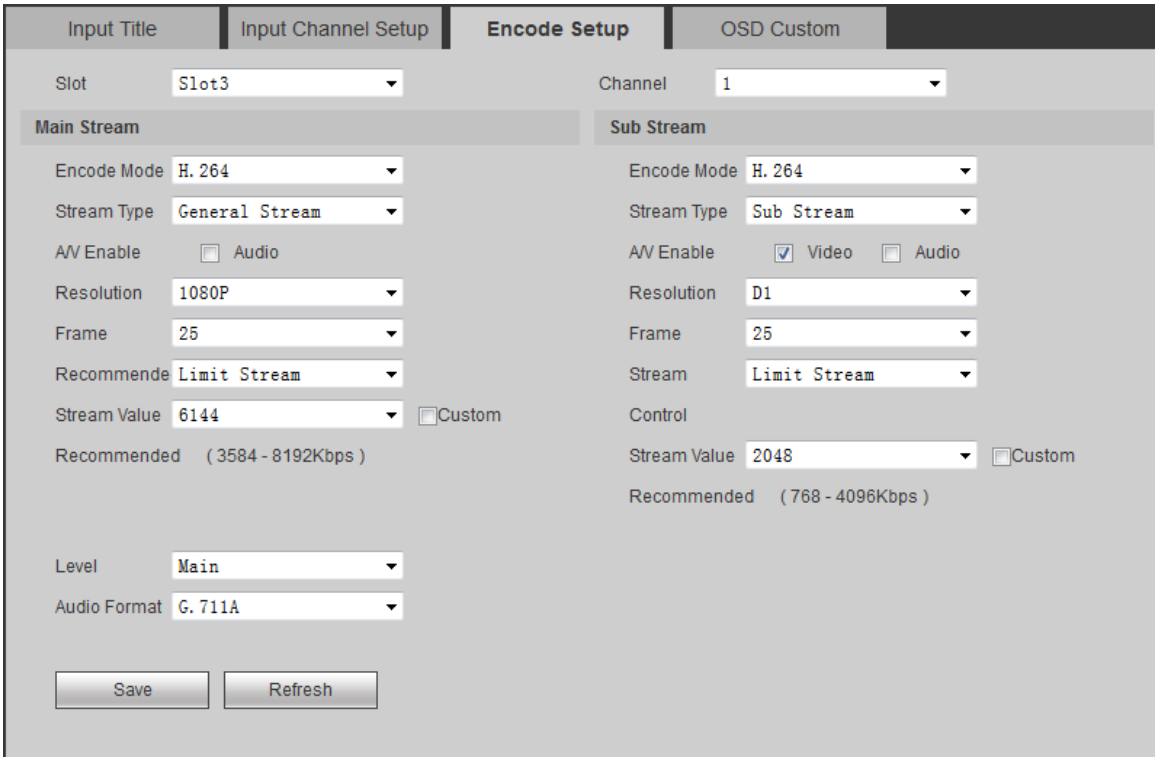


Figure 4-81

Step 2 Configure relevant parameters. For parameter descriptions, please refer to Table 4-25.

Parameter	Description
Slot	Select slot.
Channel	Select channel.
Encode Mode	H.264: Main Profile encode mode.
Stream Type	Main stream includes two kinds: general stream and dynamic detection stream. Sub stream only supports sub stream. Select different streams for different recording events.
A/V Enable	Determine whether audio is captured during recording. The main stream video is turned on by default, while sub stream shall select video before selecting audio.
Resolution	It includes a variety of resolution types. Every type corresponds to different recommended stream value.
Frame	PAL: 1～25 fps or 1～50 fps.
Stream Control	It includes limit stream and variable stream. Picture quality can be set in variable stream mode, rather than limit stream mode.
Stream Value	In variable stream mode, this value is the upper limit of stream. In limit stream mode, this value is a fixed value. Select “Custom” to enter stream value manually.
Recommended	According to resolution and frame configured by the user, recommend a reasonable stream value range to the user.
Level	Baseline and Main are available.

Parameter	Description
Audio Format	Audio format includes G.711A, PCM and G.711Mu. It is G.711A by default. Note Audio format here is effective to audio stream and intercom at the same time.

Table 4-25

Step 3 Click “Save” to save configuration.

4.5.5.2.4 OSD Custom

Carry out custom setup of OSD display info.

Select “Setup>Signal >Local Signal> OSD Custom”. The system displays “OSD Custom” interface, as shown in Figure 4-82.

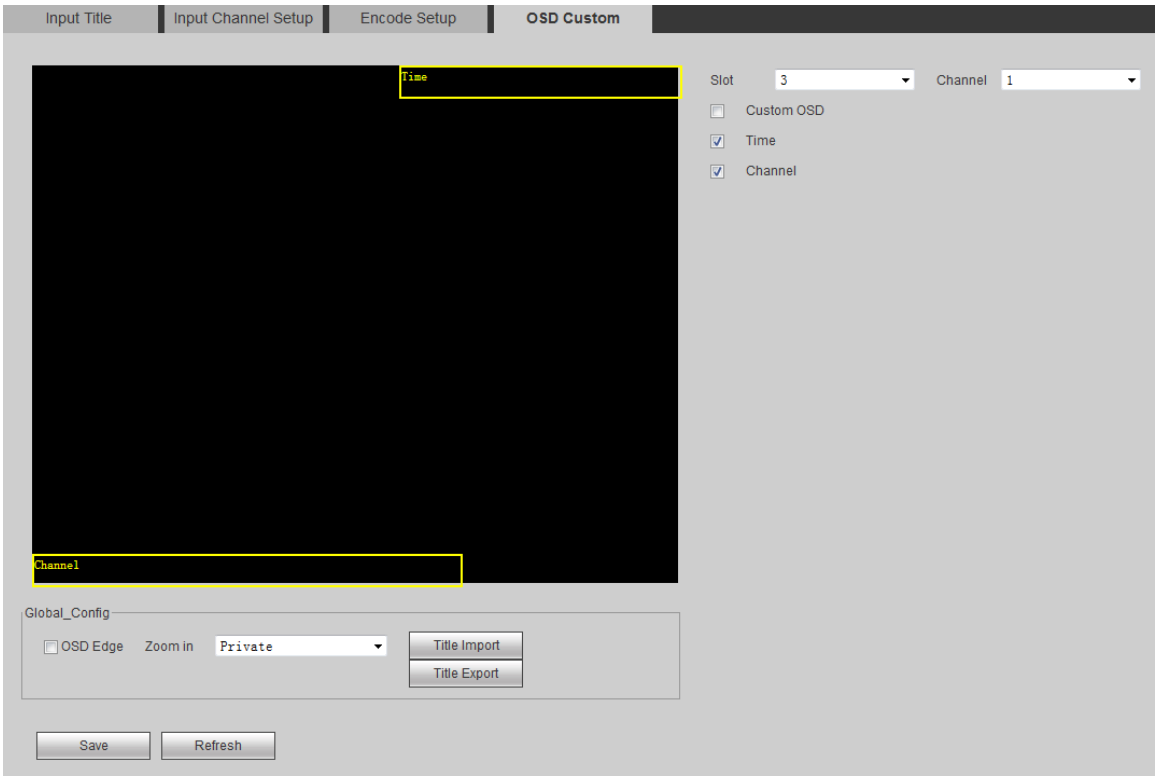


Figure 4-82

Select the slot and channel to be set.

Custom OSD

Step 1 Select “Custom OSD”. The system displays Figure 4-83.

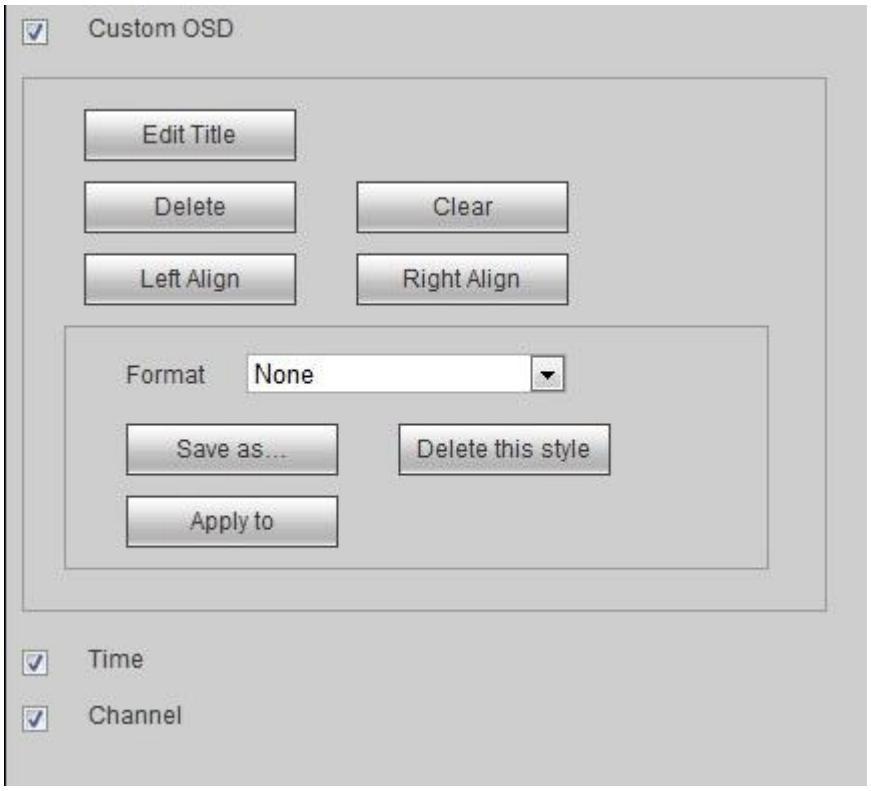


Figure 4-83

Step 2 Click “Edit Title”. The system pops up title editing box, and 6 titles can be set at the same time, as shown in Figure 4-84.

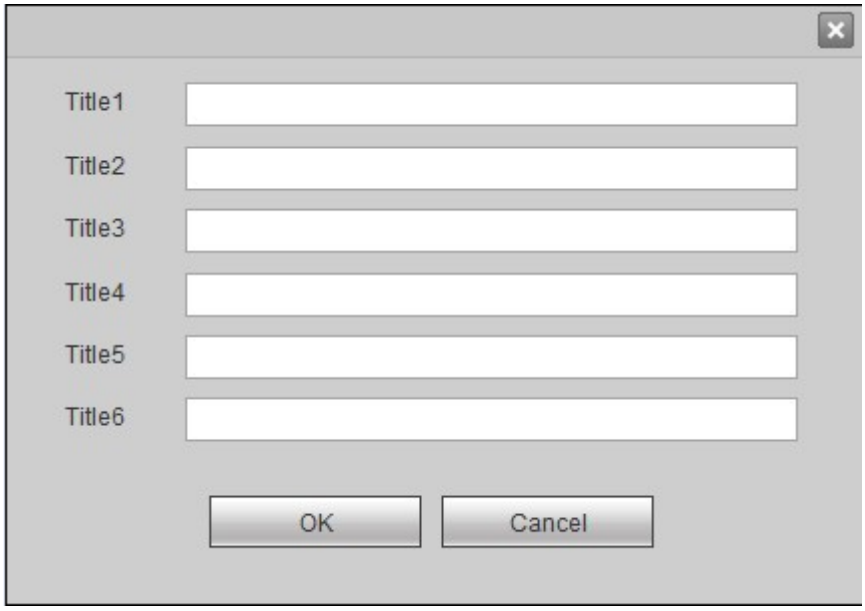


Figure 4-84

Step 3 Edit the titles and click “OK”. Titles are displayed on the left of the interface, as shown in Figure 4-85.

Figure 4-85

Every title can be moved freely.

Select one title:

- Click “Delete” to delete the title.
- Click “Left Align” or “Right Align”. All titles will be aligned on the left or on the right by reference to title position.
- Click “Clear” to clear all titles.

Step 4 Click “Save as” and enter format name to save it.

Note

- Select existing formats in “Format”.
- Click “Apply to”. This custom OSD style will be applied to other slots.
- Click “Delete this style” to delete it.

Set Time Title

Tick “Time”, and time will be displayed. Hold the left mouse button to drag it freely.

Set Channel Title

Tick “Channel”, and channel will be displayed. Hold the left mouse button to drag it freely.

Global Config

Set OSD edge and zoom; with “Title Import” and “Title Export”, set titles in batches.

Figure 4-86

For parameter descriptions, please refer to Table 4-26.

Parameter	Description
OSD Edge	After ticking it, there is a black edge around font.
Zoom in	“Private” and “Standard” are available. It is “Private” by default.
Title Import	Import config table to complete batch config.
Title Export	Export config table; fill in all channel titles.

Table 4-26

4.5.5.3 Signal Group

Customize signal group here.

Step 1 Select “Setup>Signal >Signal Group”. The system displays “Signal Group” interface, as shown in Figure 4-87.

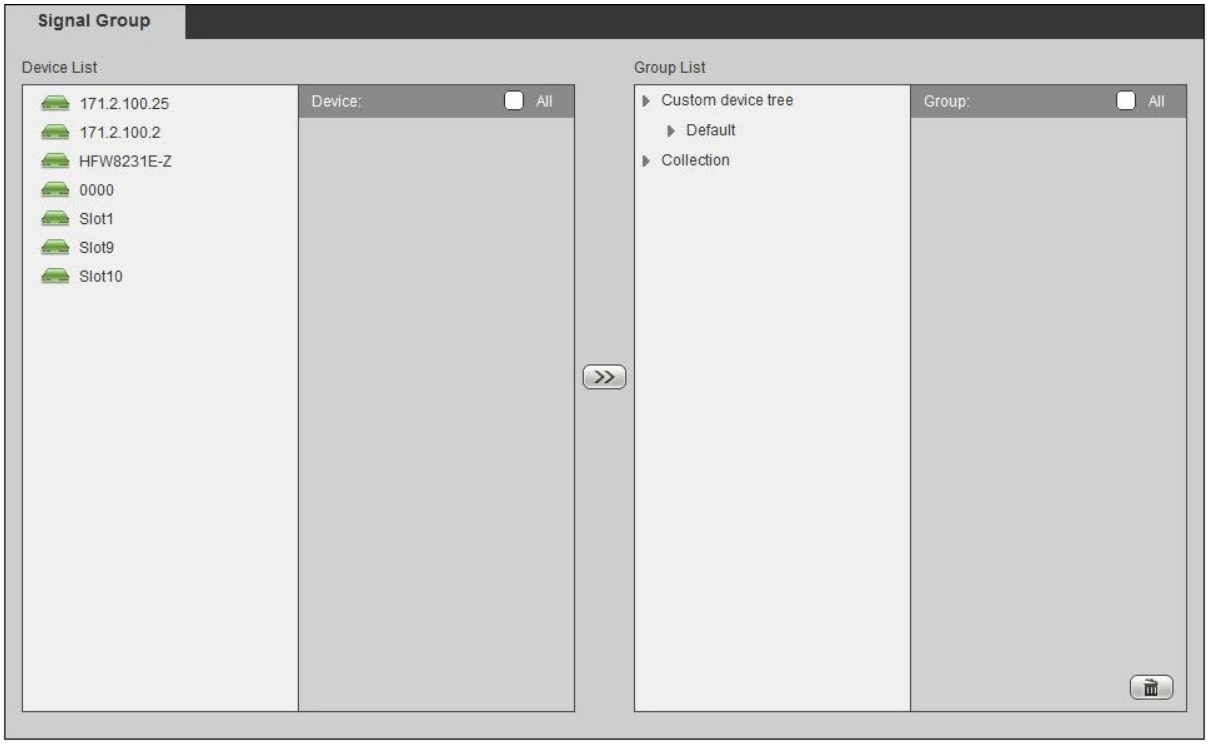


Figure 4-87

Step 2 New group.

1. Move the mouse to “Custom Device Tree” or “Collection” in “Group List”, and click +. The system pops up a dialog box of new group, as shown in Figure 4-88.

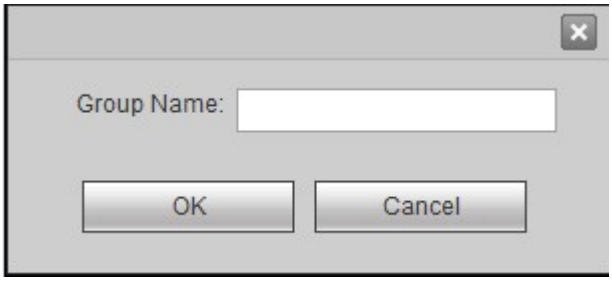


Figure 4-88

2. Enter group name and click “OK”. The system creates a new group, as shown in Figure 4-89.

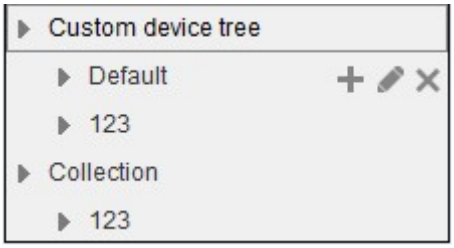


Figure 4-89

Move the mouse to group name, and the system displays Figure 4-90.

Figure 4-90

- Click + to create a new sub-group under the group.

  Note

  A new sub-group under “Collection” cannot be created.

- Click ✎ to rename the group.

- Click ✕ to delete the group.

Step 3 Select signal.

1. Select one device in “Device List”. “Device Name” displays all signals of the device, as shown in Figure 4-91.

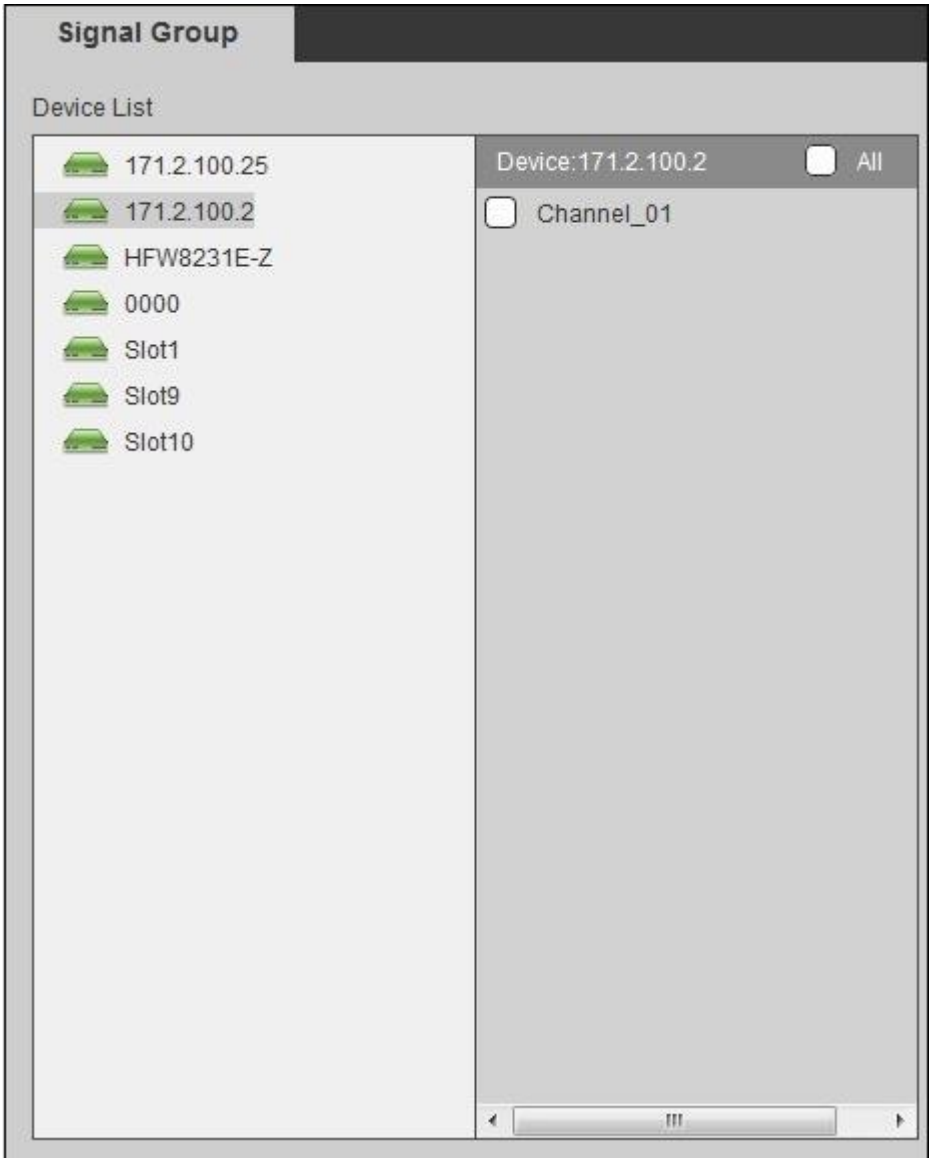


Figure 4-91

2. Select one or multiple signals.

Note

Tick “All” to select all signals.

Step 4 Select one group.

Step 5 Click >> to complete signal group, as shown in Figure 4-92.

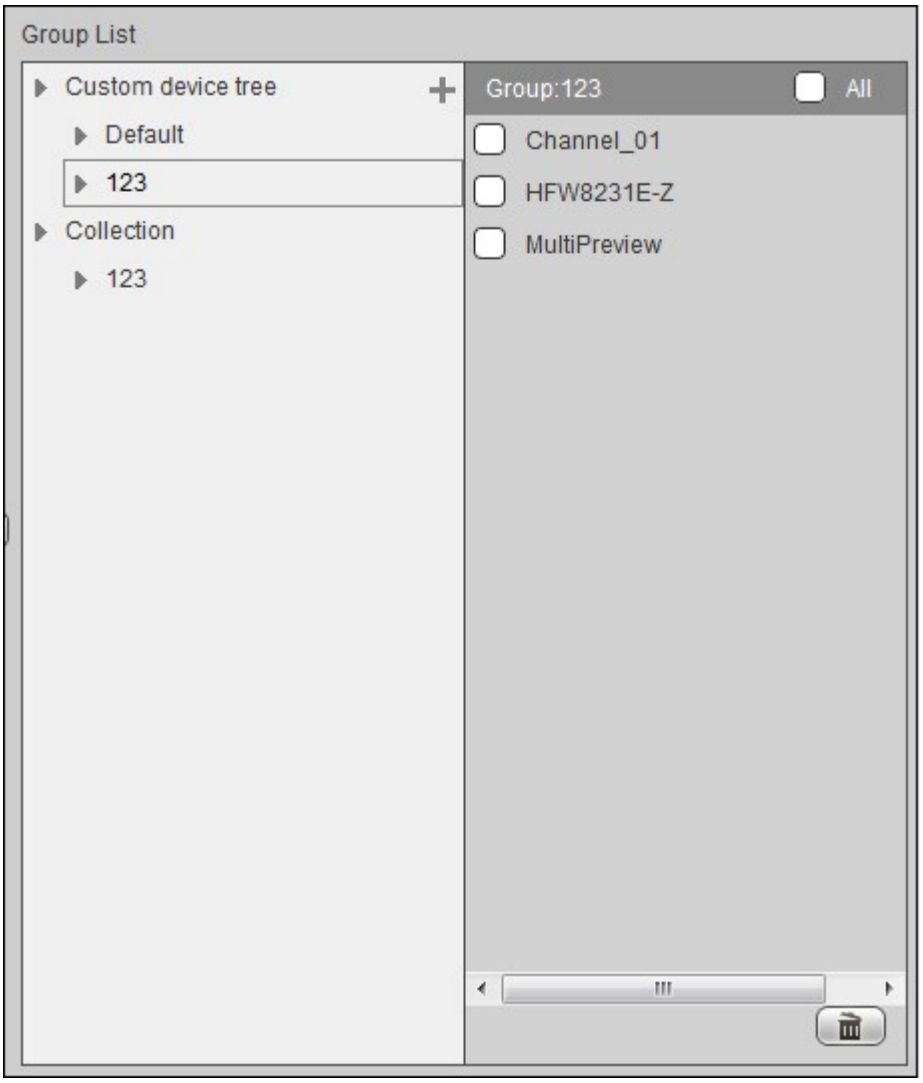


Figure 4-92

- Select one signal under one group, and click  to delete it.
- Tick “All” to select all signals.

4.5.6 Display Management

4.5.6.1 Video Wall

Configure all kinds of video walls according to actual quantity and splicing of screens. Then, in “Video Wall Config” tab, configure to realize video on wall function. For details, please refer to “4.3 Video Wall”.

Select “Setup>Display >Video Wall”. The system displays “Video Wall Config” interface, as shown in Figure 4-93.

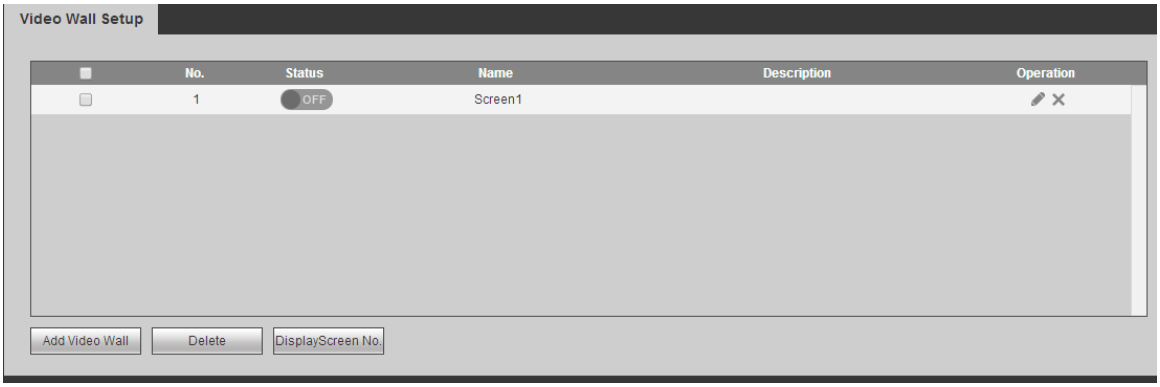


Figure 4-93

4.5.6.1.1 Add Video Wall

Step 1 Click “Add Video Wall”. The system displays “Video Wall Layout Config” interface, as shown in Figure 4-94.

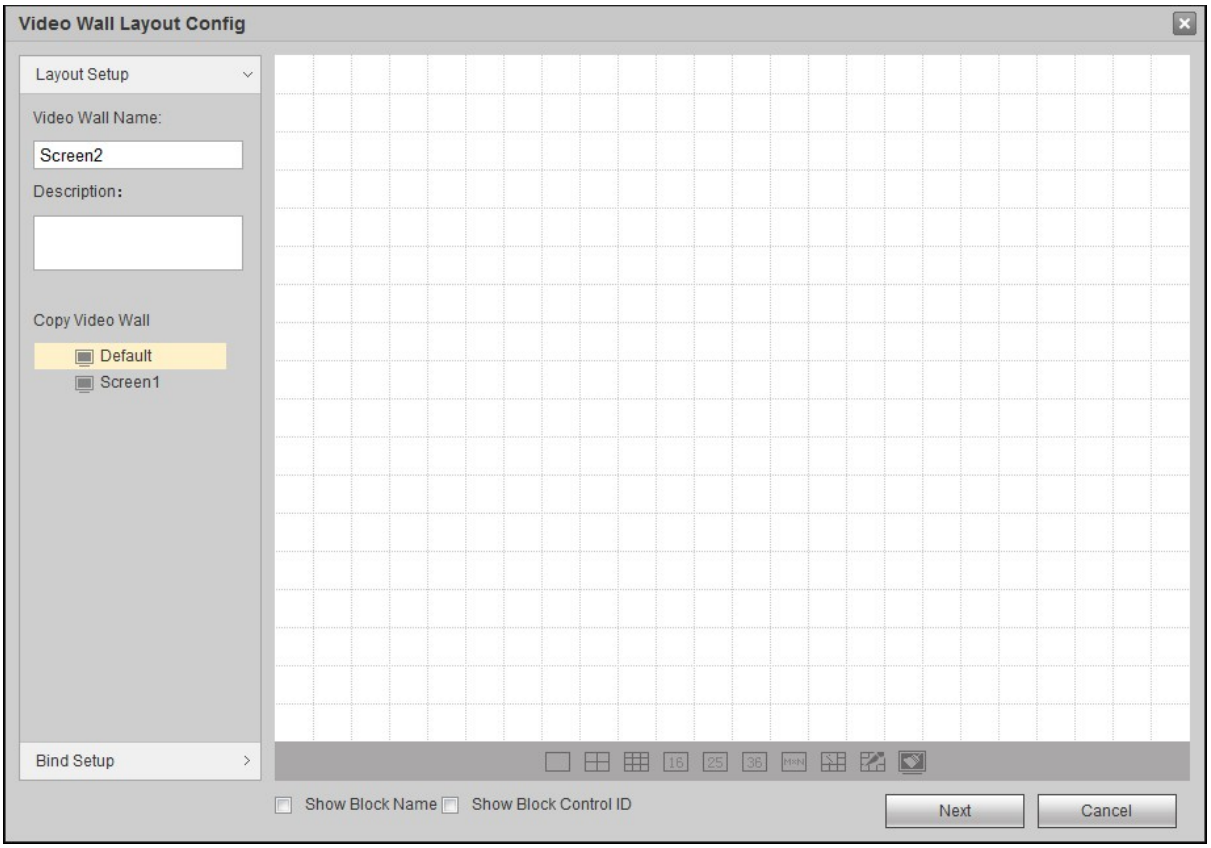


Figure 4-94

Step 2 Set the layout.

1. Customize “Video Wall Name” and “Description”.
2. Click interface icons to add single video wall and splicing video wall quickly, as shown in Figure 4-95. After adding them, the interface is shown in Figure 4-96.

Note

Hold the left mouse button to drag screen position freely.

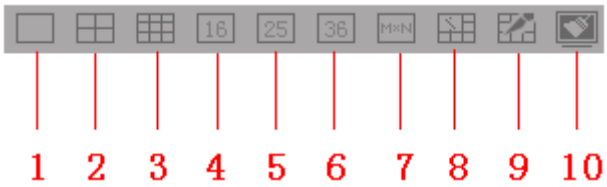


Figure 4-95

No.	Name	Description
1	Single Screen	Click the icon to add a single screen.
2	4-split video wall	Click the icon to add a 4-split video wall.
3	9-split video wall	Click the icon to add a 9-split video wall.
4	16-split video wall	Click the icon to add a 16-split video wall.
5	25-split video wall	Click the icon to add a 25-split video wall.
6	36-split video wall	Click the icon to add a 36-split video wall.
7	Custom Splice	Click this icon to add a custom video wall by entering the number of rows and columns in the pop-up "Custom" screen.
8	Splice	Select the screen you want to splice, click the icon to splice multiple screens together. Note ● The selected screen can not contain the video wall. ● Single screen must be connected horizontally or vertically.
9	Cancel Splice	Select the video wall that you want to cancel, click this icon to cancel the video wall.
10	Clear Video Wall	Clear all video walls on screen.

Table 4-27

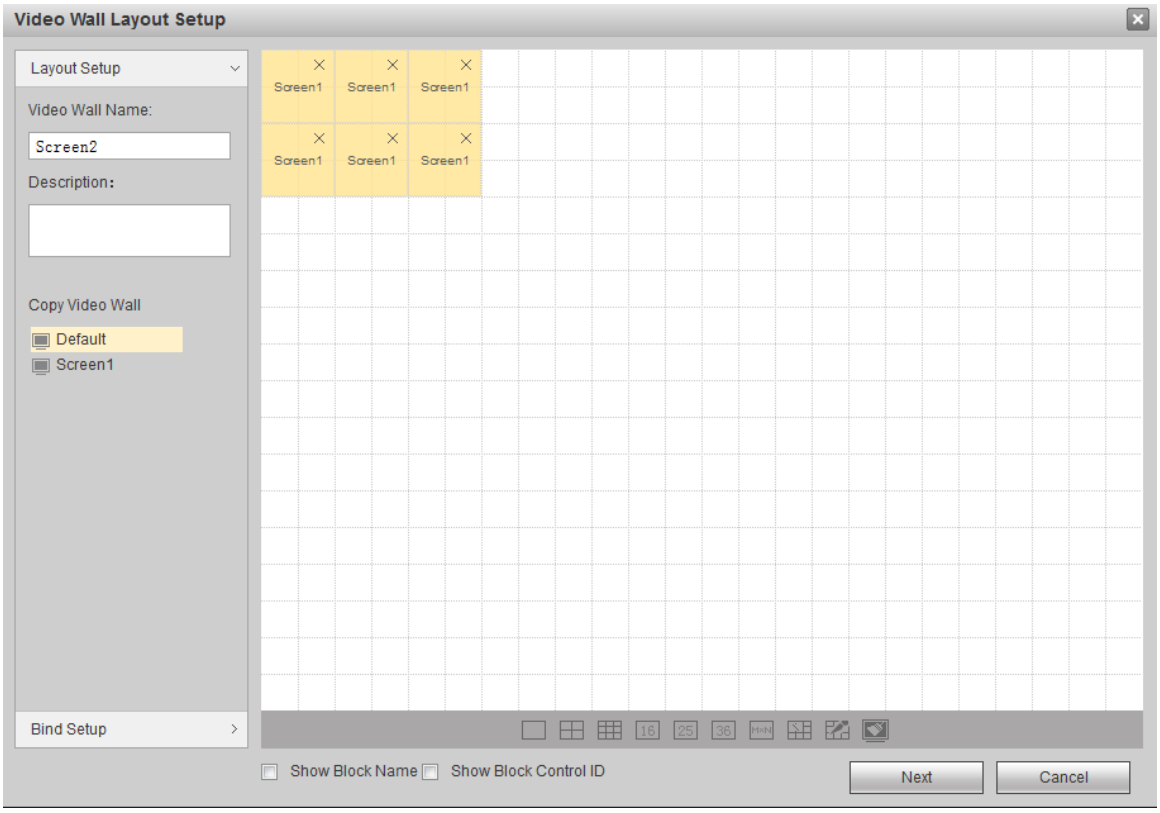


Figure 4-96

Step 3 (Optional) Tick “Show Block Name”. Every splicing video wall will display a block name, such as Splicing Video Wall 1.

Note

- Single video wall stills shows “Splicing Video Wall 1,2…”
- Double click it to modify block name of splicing video wall or single video wall.

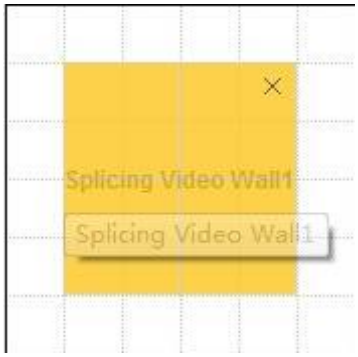


Figure 4-97

Tick “Show Block Control ID”. Control ID of every block will be displayed.

Note

“Show Block Name” and “Show Block Control ID” cannot be selected at the same time.

Step 4 Click “Bind Setup” tab or “Next”. The system displays slot info, as shown in Figure 4-98.

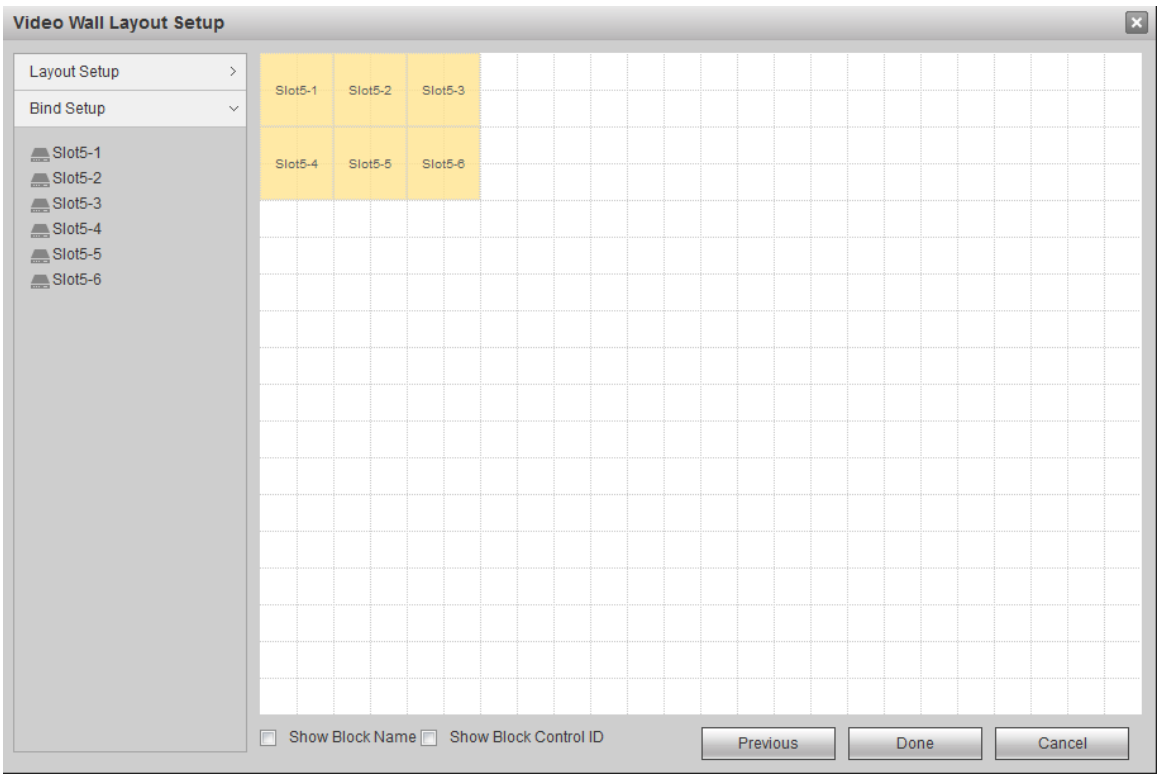


Figure 4-98

Step 5 Hold the left mouse button, drag the slot into screen, so as to bind the slot channel with screen, as shown in Figure 4-99.

Note

- All screens on video wall shall be bound with slot channel. Otherwise, when clicking “Done”, the screen will display “A sub-screen isn’t bound with decoding channel”.
- A slot cannot be bound twice. In case of wrong binding, drag the correct slot channel to the screen and cover it directly.
- Click to bind crosswise automatically.
- Click to bind in portrait direction automatically.

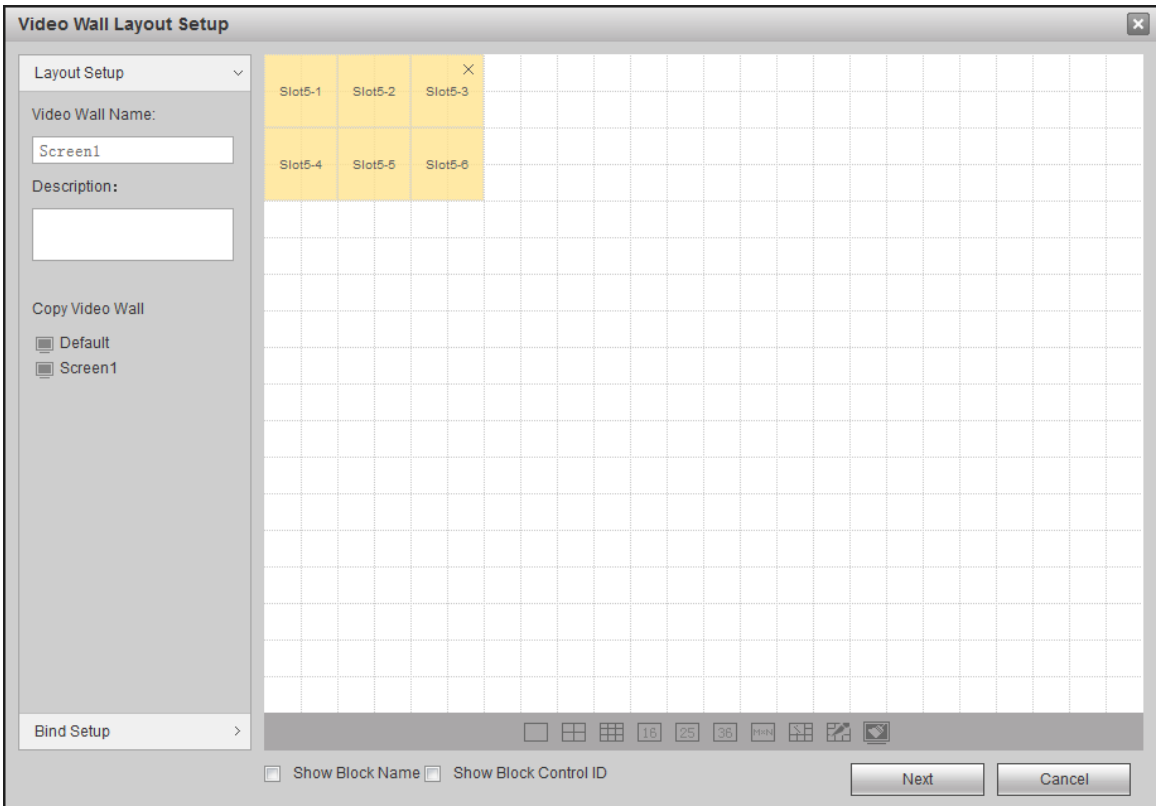


Figure 4-99

Step 6 Click “Done”.

The system exits “Video Wall Layout Config”. New video wall will be displayed in the list, as shown in Figure 4-100.

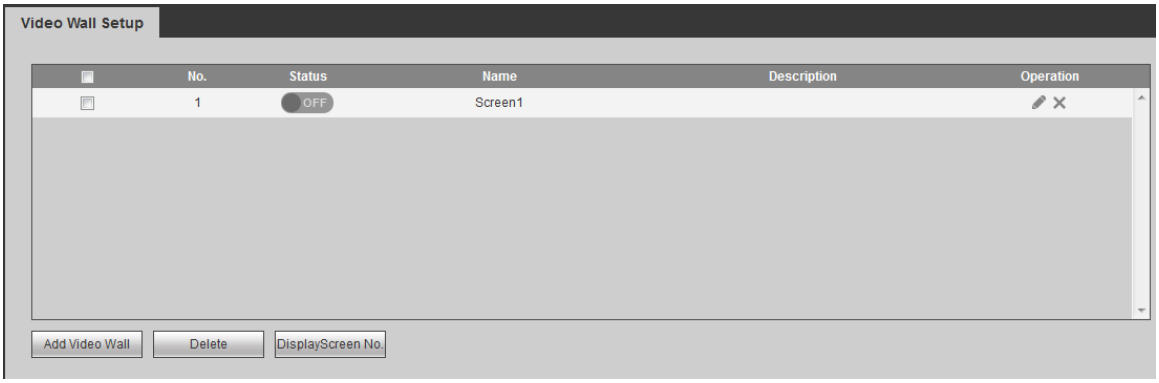


Figure 4-100

4.5.6.1.2 Modify Video Wall

Click  to modify video wall info in “Video Wall Layout Config” interface. For specific operations, please refer to “4.5.6.1.1 Add Video Wall”.

4.5.6.1.3 Delete Video Wall

Tick the check box before video wall; click “Delete” or  . After confirmation, delete the selected video wall.

4.5.6.1.4 Display Screen No.

Click “Display Screen No.” to display screen no. on the video wall. At that time, this icon turns to be “Hide Screen No.”. Click “Hide Screen No.” to cancel the display.

4.5.6.2 Screen Management

4.5.6.2.1 Screen Config

Set manufacturer, serial and com address of each output screen; build communication between screen and device. Com address must match dial address of video wall.

Step 1 Select “Setup>Display >Screen >Screen Config”. The system displays “Screen Config” interface, as shown in Figure 4-101.

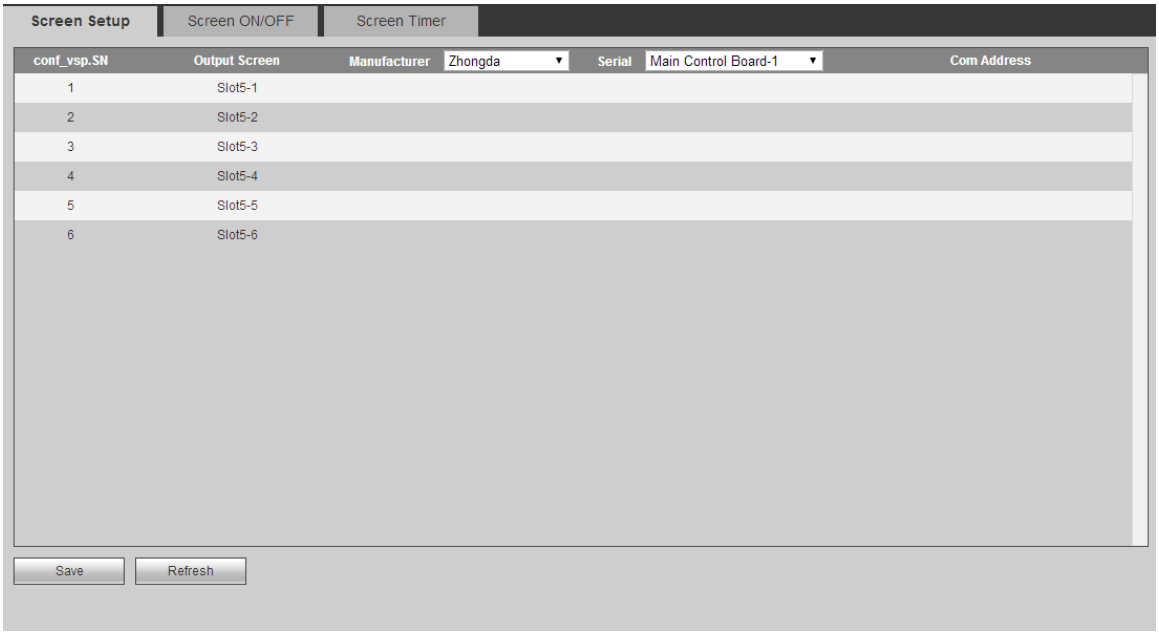


Figure 4-101

Step 2 At corresponding positions of manufacturer, serial and com address in each row, click to display pull-down list or dialog box; configure manufacturer, serial and com address.

Note

- They must match actual manufacturer, serial and com address (dial address) of video wall.
- Click the pull-down list to configure manufacturer and serial port.

Step 3 Click “Save” to save configurations.

4.5.6.2.2 Screen ON/OFF

Screen ON/OFF function is to continuously send on/off commands to all screens according to preset time interval and number of times, and ensure that every screen receives the command and complete on/off operation.

Step 1 Select “Setup>Display >Screen >Screen ON/OFF”. The system displays “Screen ON/OFF” interface, as shown in Figure 4-102.

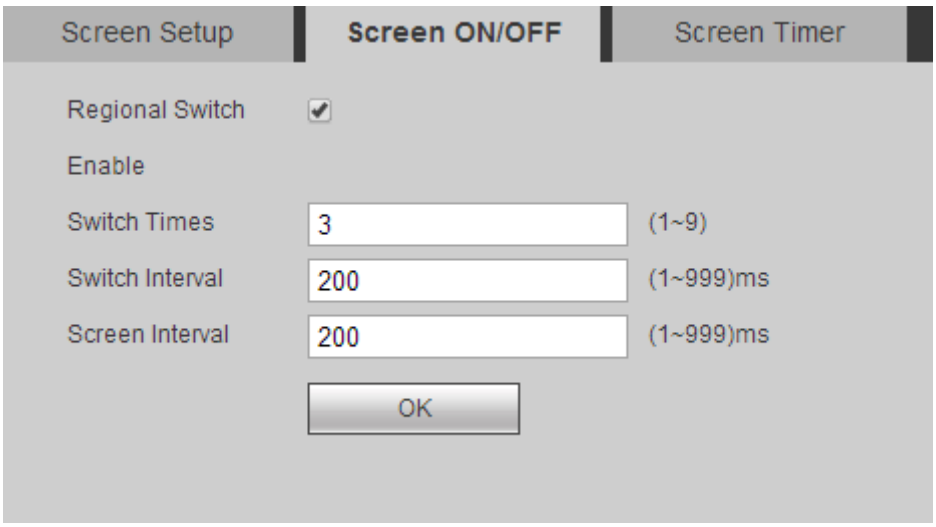


Figure 4-102

Step 2 Configure relevant parameters. For parameter descriptions, please refer to Table 4-28.

Parameter	Description
Regional Switch Enable	Tick it to enable this function.
Switch Times	Times to send commands.
Switch Interval	Interval to send commands.
Screen Interval	Interval that every screen receives commands.

Table 4-28

Step 3 Click “OK” to complete configuration.

4.5.6.2.3 Screen Timer

Configure on/off timer of every screen. Within the set period, every screen turns on/off according to the set switch times, switch interval and screen interval.

Step 1 Select “Setup>Display >Screen >Screen Timer”. The system displays “Screen Timer” interface, as shown in Figure 4-103.

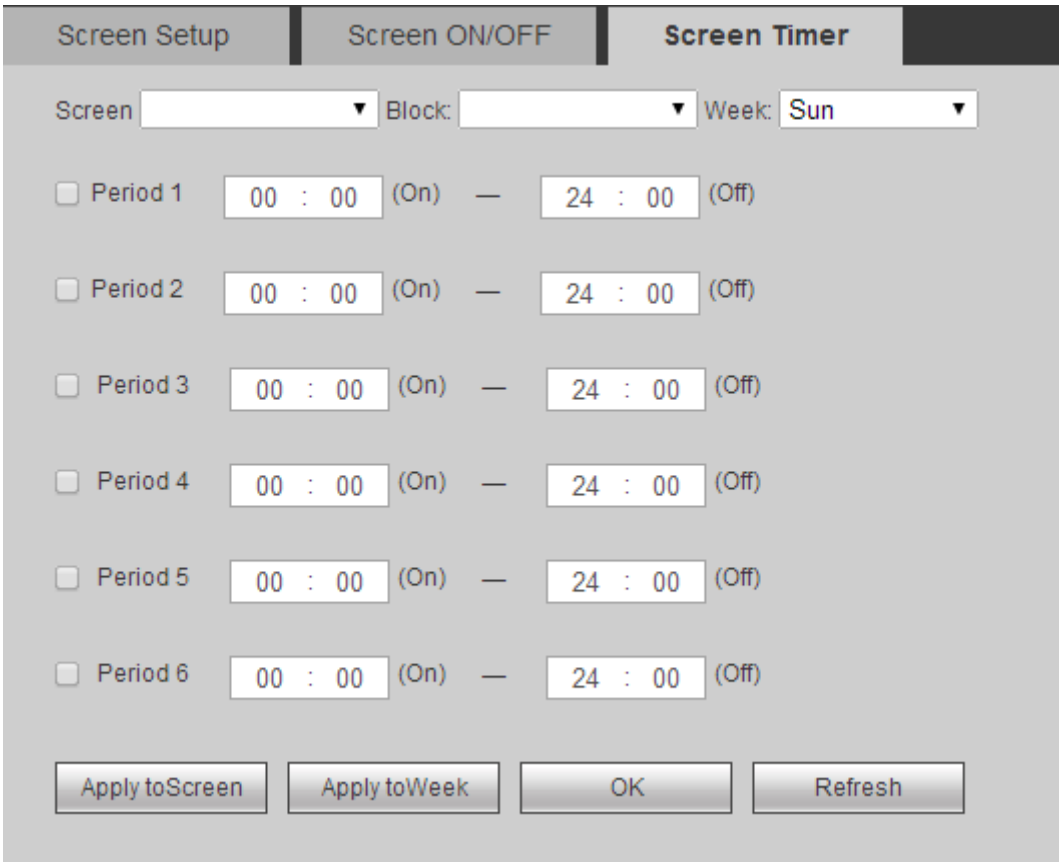


Figure 4-103

Step 2 Select “Screen”, “Block” and “Week”.

Step 3 Select period and configure on/off time.

Note

After you have set periods of one week:

- Click “Apply to Screen” and select other slots in the popped-up interface. The configuration will be applied to other slots.
- Click “Apply to Week” and select other weeks in the popped-up interface. The configuration will be applied to other weeks.

Step 4 Click “OK” to complete configuration.

4.5.6.3 Display Setup

4.5.6.3.1 Display Setup

Configure display slot, channel, resolution, display, edge, hue and color etc., so as to adjust screen display.

Step 1 Select “Setup>Display >Display Setup > Display Setup”. The system displays “Display Setup” interface, as shown in Figure 4-104.

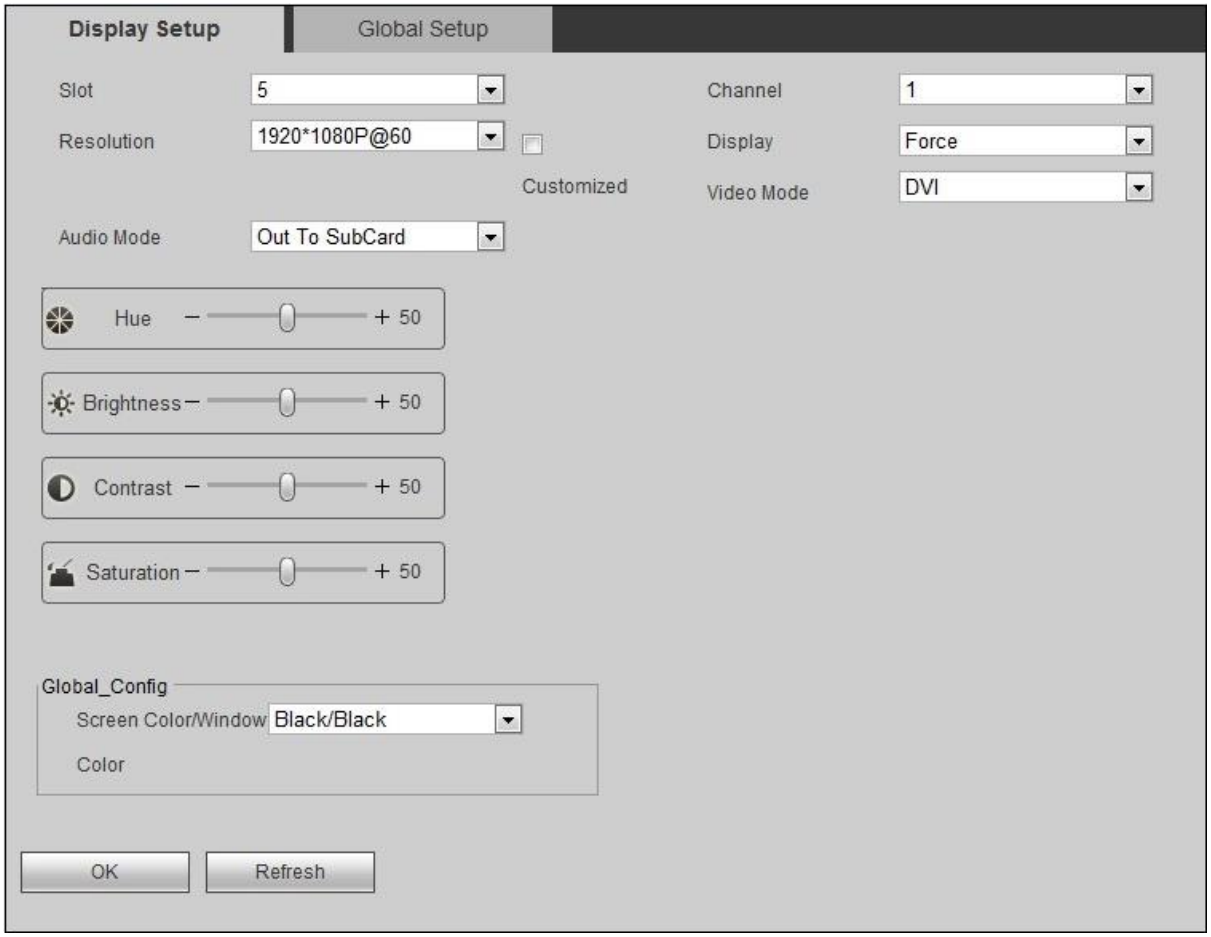


Figure 4-104

Step 2 Configure relevant parameters. For parameter descriptions, please refer to Table 4-29.

Parameter	Description
Slot	Set display slot.
Channel	Set display channel.
Resolution	Set display resolution. Tick “Customized” to customize resolution.
Display	Set display mode, including “Hot Swap” and “Force”. ● Hot swap: output images only when device output port is connected to the display. ● Force: output images even when device output port is not connected to the display.
Audio Mode	Set audio output mode, including “Out to SubCard”, “Out to Main Control” and “Out to SubCard and Main Control”. ● Out to subcard: decoded audio is output from audio output port of subcard. ● Out to main control: decoded audio is output from audio output port of main control. ● Out to subcard and main control: decoded audio is output from audio output port of subcard and main control at the same time.
Video Mode	Set video output mode, including DVI, HDMI and VGA.
Hue	Adjust image hue and saturation.

Parameter	Description
Brightness	Adjust overall brightness of image linearly. The larger the value is, the brighter the image becomes; and vice versa. When this value is large, the image dims easily.
Contrast	Adjust image contract. The larger the value is, the more contrasted the image becomes; and vice versa. When this value is large, dark part of the image is too dark, while bright part overexposes easily. When this value is small, the image dims.
Saturation	Adjust image shade. The larger the value is, the deeper the color becomes, and vice versa. This value doesn't affect overall brightness of the image.
Screen Color/ Window Color	Adjust screen color and window color, including black/black and blue/ green.

Table 4-29

Step 3 Click "OK" to complete configuration.

4.5.6.3.2 Global Setup

Configure global info.

Step 1 Select "Setup>Display >Display Setup > Global Setup". The system displays "Global Setup" interface, as shown in Figure 4-105.

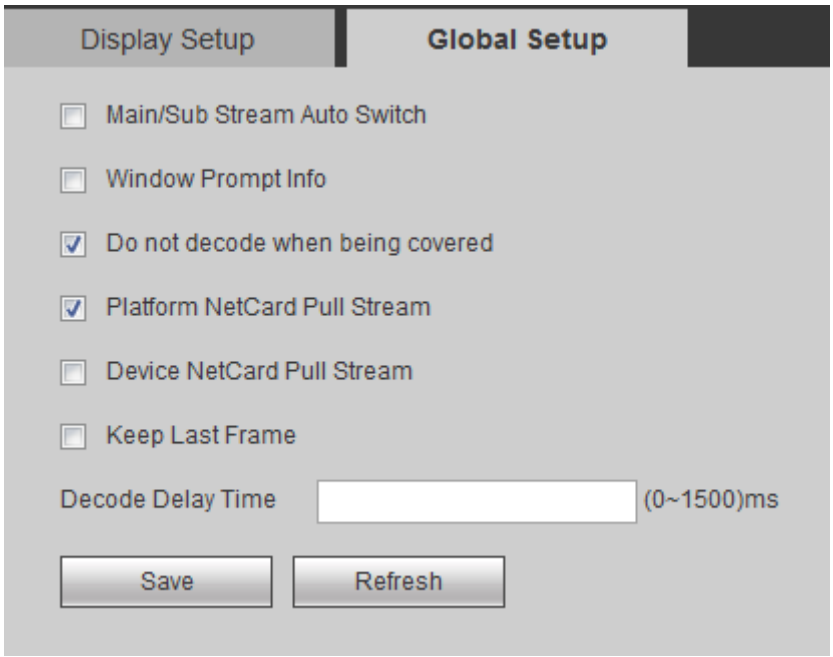


Figure 4-105

Step 2 Tick corresponding check box according to actual needs. For specific configurations, please refer to Table 4-30.

Parameter	Description
Main/Sub Stream Auto Switch	Tick the check box, to enable auto switch of main stream and sub stream.
Window Prompt Info	Tick the check box, to display prompt info on the window.
Do not decode when being covered	Tick the check box, and the covered window suspends decoding.

Parameter	Description
Platform NetCard Pull Stream	Tick the check box, to enable this function.
Device NetCard Pull Stream	Tick the check box, to enable this function.
Keep Last Frame	Tick the check box. When device signal disconnects in case of abnormality, the screen keeps the last frame.
Decode Delay Time	Set decode delay time ranging from 0 to 1500s. The longer the delay time is, the more fluent the image becomes. The shorter the delay time is, the more real-time the image becomes.

Table 4-30

Step 3 Click “Save” to save configuration.

4.5.6.4 Output Name

Configure output name (slot number by default) and control ID of every channel.

- The output name is used to differentiate every channel only.
- When the keyboard or other devices configure wall business, select the output screen according to control ID and carry out configuration.

Step 1 Select “Setup>Display >Output Name”. The system displays “Output Name” interface, as shown in Figure 4-106.

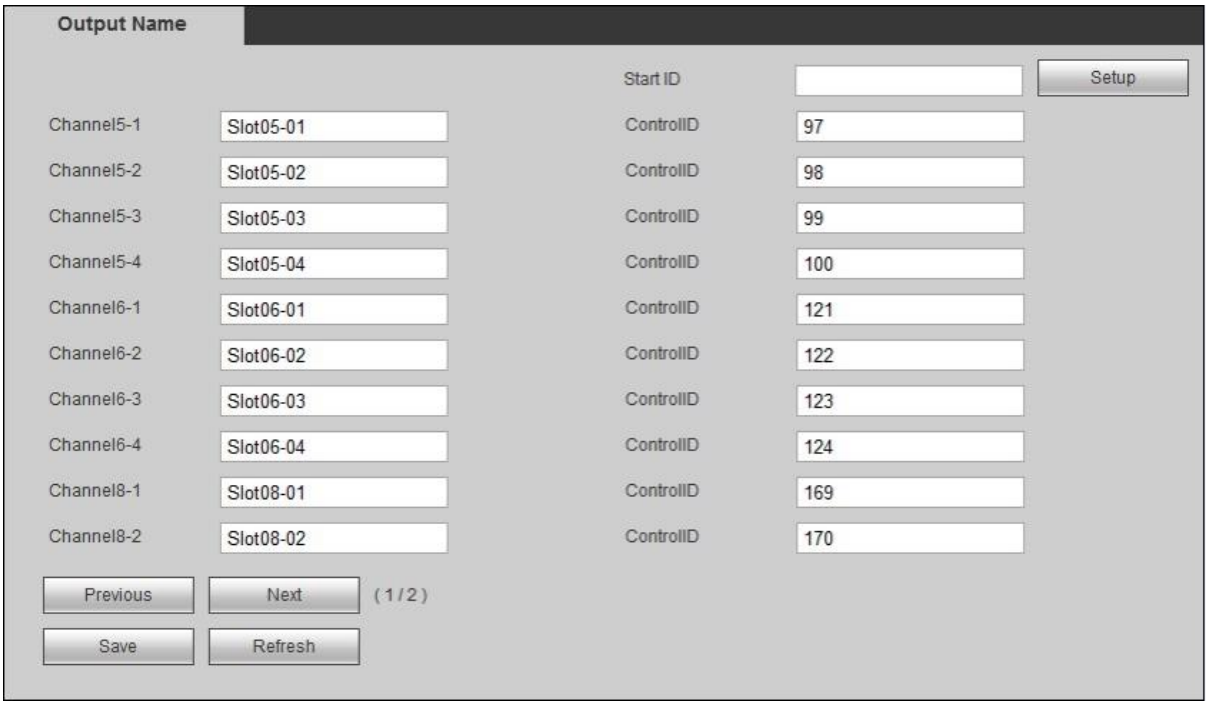


Figure 4-106

Step 2 Configure output name and control ID of every channel.

Note

Input “Start ID” and click “Setup”. Control ID of every channel will start numbering from “Start ID”.

Step 3 Click “Save” to save configuration.

4.5.7 Extension Configuration

4.5.7.1 GB28181

The device supports to connect other devices or servers that conform to GB28181 Protocol, and provides relevant functions such as real-time monitoring and alarm control. By adding a client, it supports to connect subordinate devices or platforms that conform to GB28181 Protocol. By configuring server, as a subordinate device, video matrix platform can be registered to upper platform.

4.5.7.1.1 Client

In “Setup > Extension Config > GB28181 >Client”, add and delete clients, as shown in Figure 4-107.

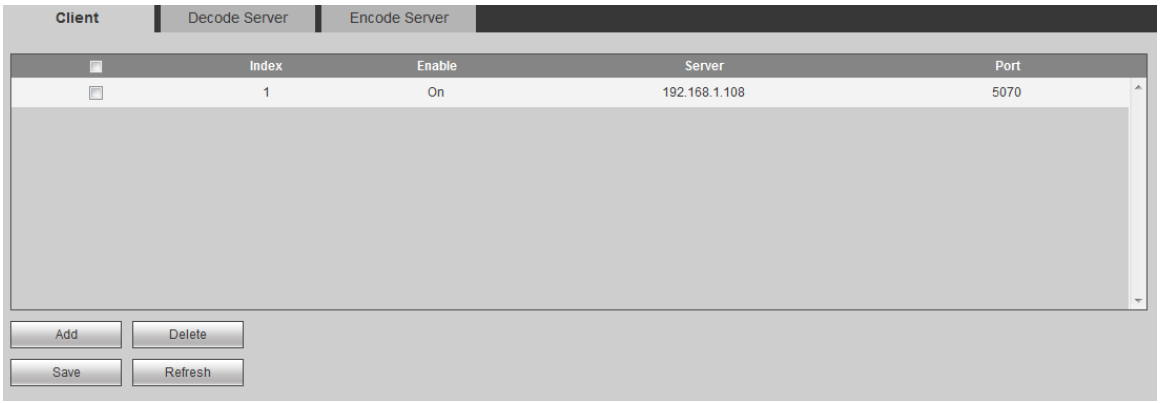


Figure 4-107

Add Client

Step 1 Click “Add”. The system pops up Figure 4-108.

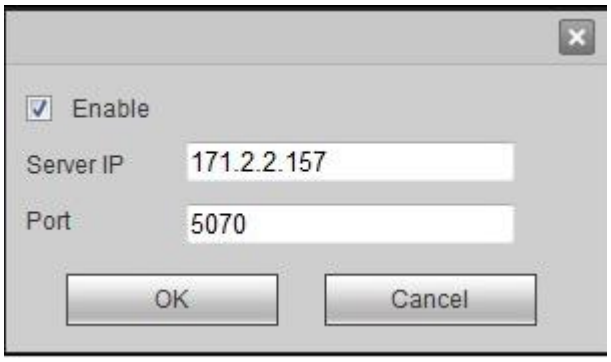


Figure 4-108

Step 2 Set “Server IP” and “Port”, and tick “Enable”.

Step 3 Click “OK” to complete.

Delete Client

Select a client and click “Delete” to delete it.

4.5.7.1.2 Decode Server

Step 1 Select “Setup > Extension Config > GB28181 >Decode Server”. The system displays “Decode Server” interface, as shown in Figure 4-109.

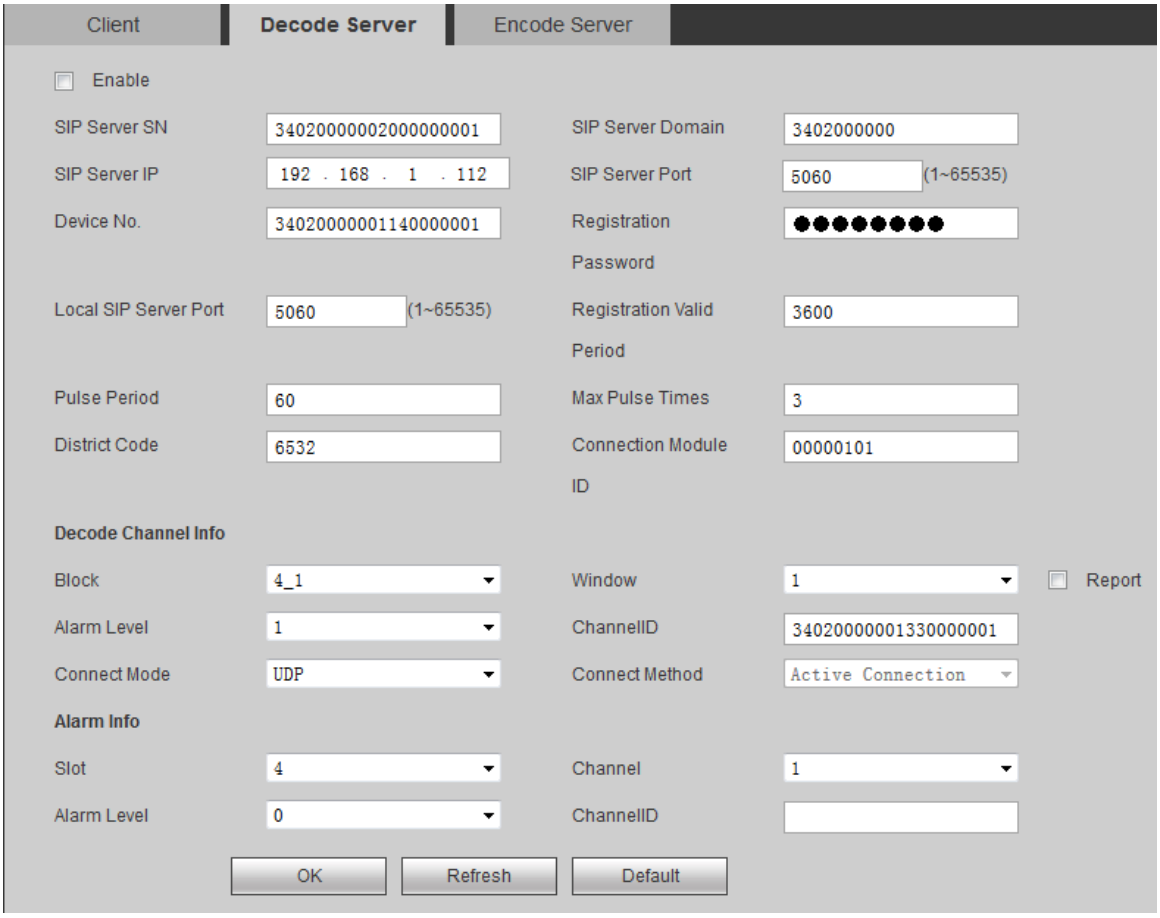


Figure 4-109

Step 2 Configure relevant parameters. For parameter descriptions, please refer to Table 4-31.

Parameter	Description
SIP Server SN	28181 server platform number, which is 34020000002000000002 by default.
SIP Server Domain	28181 server platform domain number, which is 3402000000 by default.
SIP Server IP	28181 server IP. For example, connected server IP is “10.33.3.109”.
SIP Server Port	28181 server port, which is 5060 by default.
Device No.	Exclusive device number distributed by the platform, which is 34020000001140000001 by default.
Registration Password	Default password is 12345678.
Local SIP Server Port	Default port is 5060.
Registration Valid Period	Default period is 300s.
Pulse Period	Keep-alive period between the device and 28181 server. Default period is 60.

Parameter	Description
Max Pulse Times	Count max pulse times between the device and 28181 server. In case of exceeding the times, the device initiates to disconnect with 28181 server. Default value is 3 times.
District Code	Default code is 6532.
Connection Module ID	It represents communication mode between the device and 28181 server, usually a preset value. Default value is 00000101.
Block	Select block.
Window	Select window. Tick “Report” to enable registration with the server.
Alarm Level	Select alarm level. Default value is 1.
Channel ID	Default ID is 34020000001330000001.
Connect Mode	Connection mode between the device and 28181 server, including UDP and TCP.
Connect Method	Connection method is set only under TCP mode, including active connection and passive connection.
Slot	Select alarm slot.
Channel	Select channel number, which is channel 1 by default.
Alarm Level	Select alarm level, which is 0 by default.
Channel ID	Default ID is 34020000001320000001.

Table 4-31

Step 3 Click “OK” to complete configuration.

4.5.7.1.3 Encode Server

Step 1 Select “Setup > Extension Config > GB28181 >Encode Server”. The system displays “Encode Server” interface, as shown in Figure 4-110.

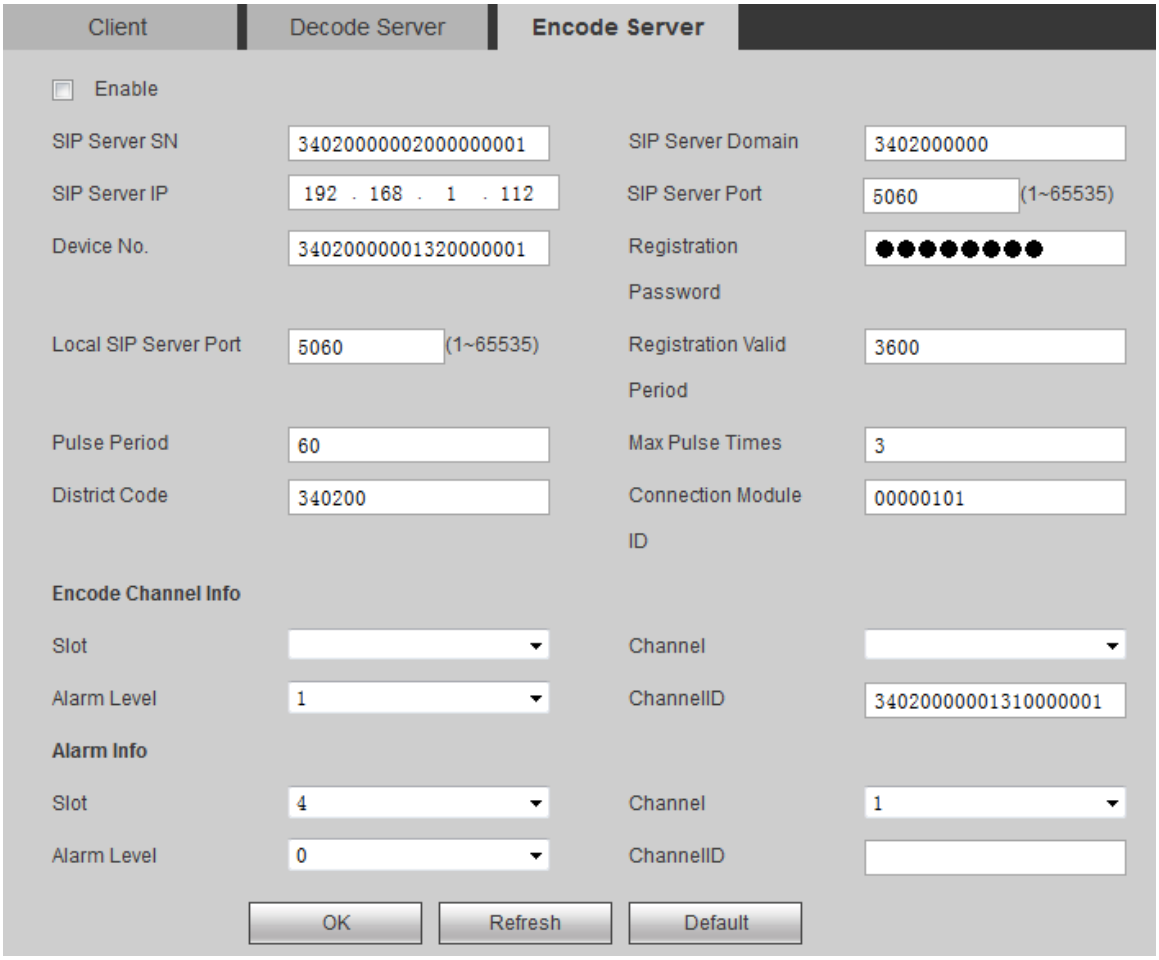


Figure 4-110

Step 2 Configure relevant parameters. For parameter descriptions, please refer to Table 4-32.

Parameter	Description
SIP Server SN	28181 server platform number, which is 34020000002000000001 by default.
SIP Server Domain	28181 server platform domain number, which is 3402000000 by default.
SIP Server IP	28181 server IP. For example, connected server IP is “10.172.16.150”.
SIP Server Port	28181 server port, which is 5060 by default.
Device No.	Exclusive device number distributed by the platform, which is 34020000001320000001 by default.
Registration Password	Default password is 12345678.
Local SIP Server Port	Default port is 5060.
Registration Valid Period	Default period is 3600s.
Pulse Period	Keep-alive period between the device and 28181 server. Default period is 60.
Max Pulse Times	Count max pulse times between the device and 28181 server. In case of exceeding the times, the device initiates to disconnect with 28181 server. Default value is 3 times.
District Code	Default code is 6532.

Parameter	Description
Connection Module ID	It represents communication mode between the device and 28181 server, usually a preset value. Default value is 00000101.
Slot	Select encode channel slot.
Channel	Select channel number, which is channel 1 by default.
Alarm Level	Select alarm level, which is 1 by default.
Channel ID	Default ID is 34020000001330000065.
Slot	Select alarm slot.
Channel	Select channel number, which is channel 1 by default.
Alarm Level	Select alarm level, which is 0 by default.
Channel ID	Set channel ID according to needs.

Table 4-32

Step 3 Click “OK” to complete configuration.

4.6 Info

4.6.1 Device Info

4.6.1.1 Card Info

View info about all cards in “Info > Device Info > Card Info”, as shown in Figure 4-111.

-  : This slot has a card.
-  : This slot has no card.

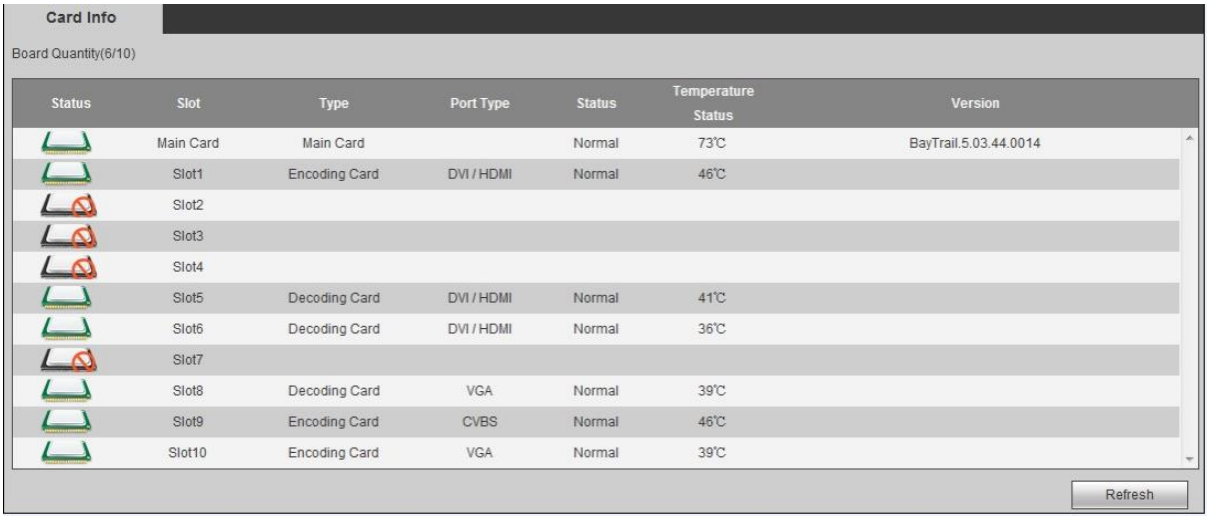


Figure 4-111

4.6.1.2 Decode Info

View info about all channels in “Info > Device Info > Decode Info”, as shown in Figure 4-112.

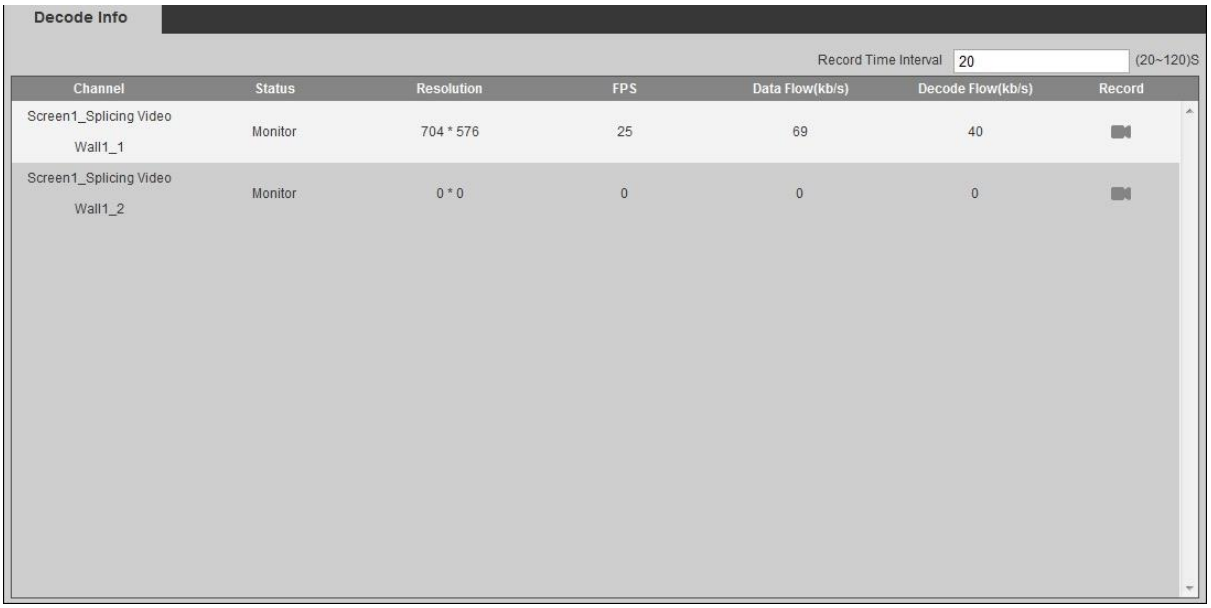


Figure 4-112

Set “Record Time Interval” at top right corner of the interface, and click . The system will record this channel according to the time interval.

4.6.1.3 Device Info

4.6.1.3.1 Device Info

Step 1 Select “Info > Device Info > Device Info” and click “Device Info” tab. The system displays “Device Info” interface, as shown in Figure 4-113.

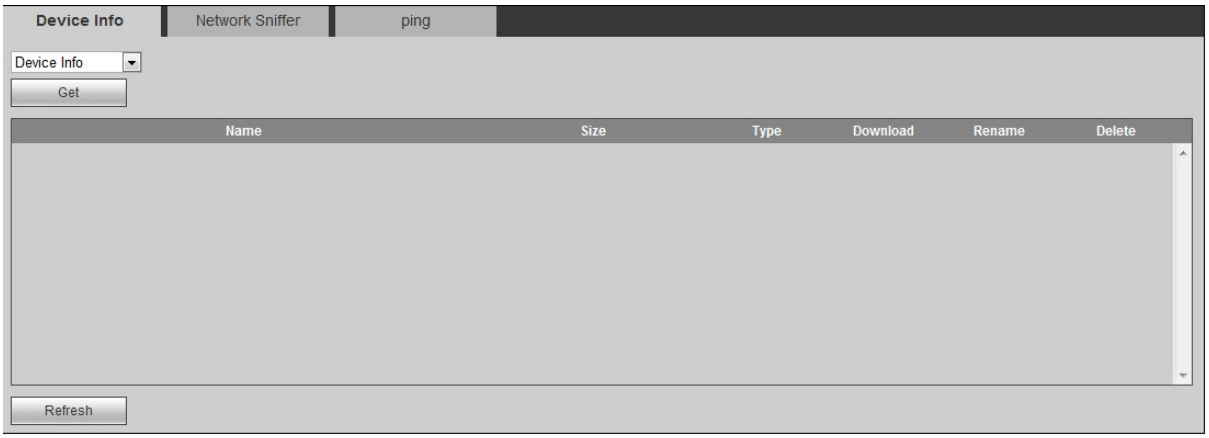


Figure 4-113

Step 2 Select “Device Info” or “Subcard Log” and click “Get”. The system displays corresponding device info or subcard log, as shown in Figure 4-114.

Note

- Click  to download the device info file or subcard log.
- Click  to rename the device info file or subcard log.
- Click  to delete the device info file or subcard log. If it is deleted by mistake, get it again.

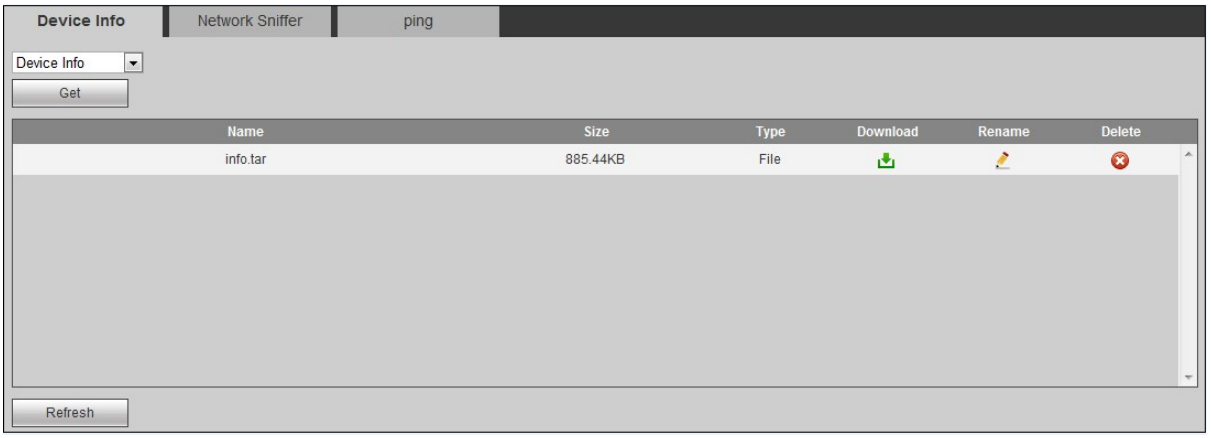


Figure 4-114

4.6.1.3.2 Network Sniffer

Network sniffer is to intercept and capture data packets sent and received by network, save, edit and resend them, in order to inspect network security.

Step 1 Select “Info > Device Info > Device Info” and click “Network Sniffer” tab. The system displays “Network Sniffer” interface, as shown in Figure 4-115.

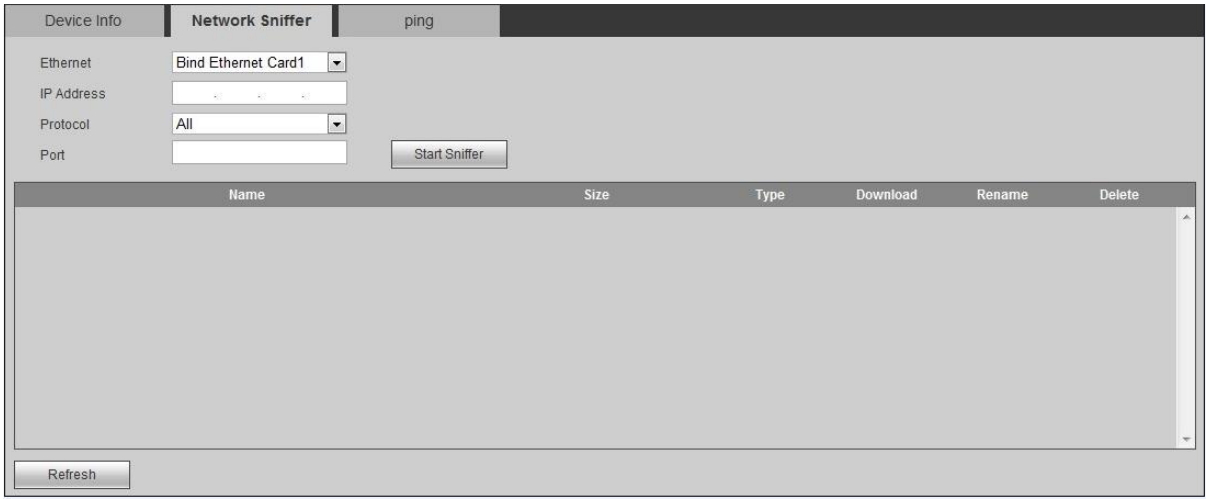


Figure 4-115

Step 2 Set “Ethernet”, “IP Address”, “Protocol” and “Port”, and click “Start Sniffer”.

Step 3 Click “Stop Sniffer” after some time. The system displays the captured data packets, as shown in Figure 4-116.

Note

- Click  to download the file.

- Click  to rename the file.
- Click  to delete the file.

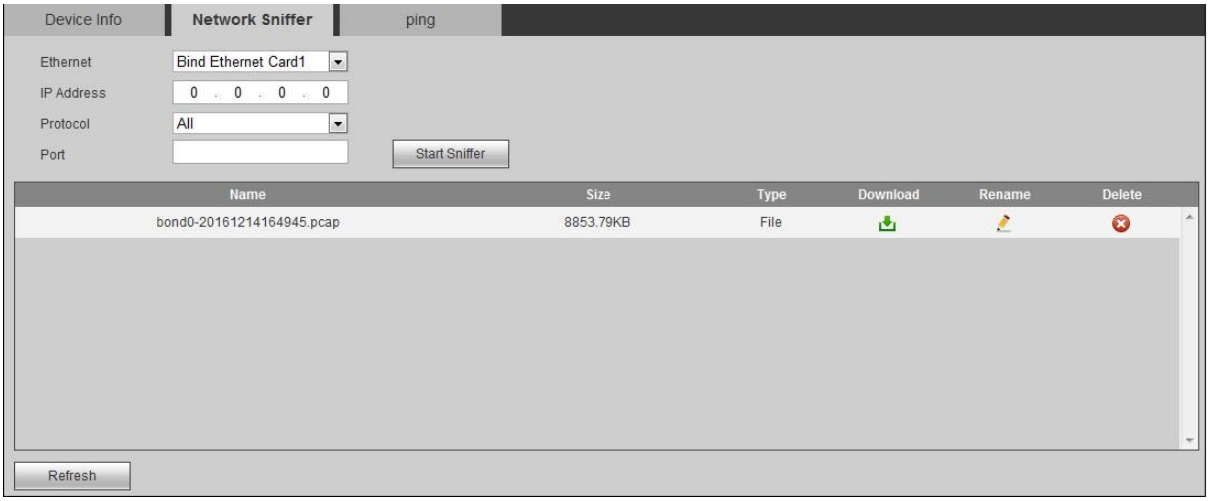


Figure 4-116

4.6.1.3.3 ping

With ping command, check whether front-end device or network device is connected normally.

Step 1 Select “Info > Device Info > Device Info” and click “ping” tab.

Step 2 Input IP address and ping times; click “ping”. The interface displays ping info after several seconds, as shown in Figure 4-117.

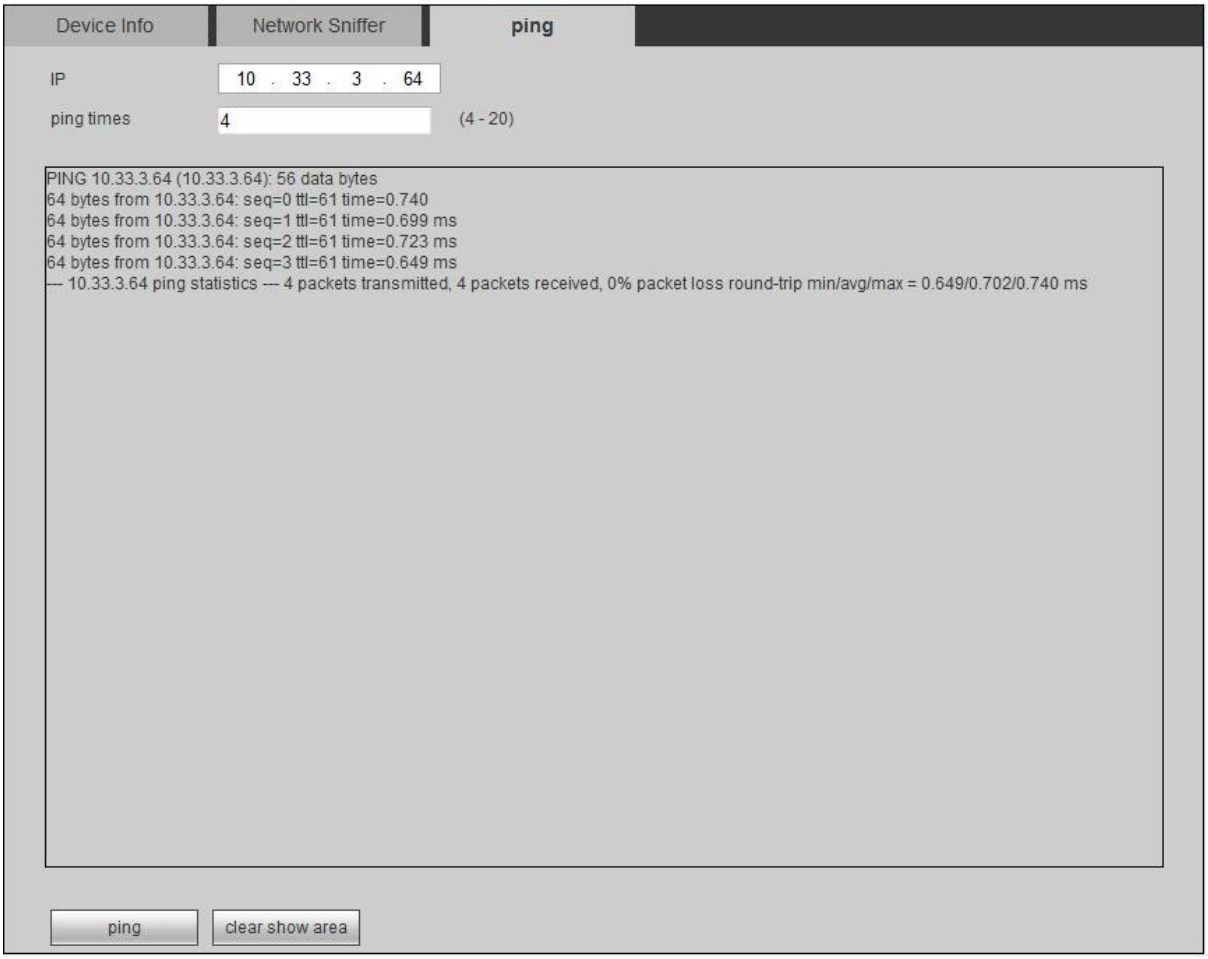


Figure 4-117

Note

When ping is enabled, only one web client can be opened. Otherwise, ping info may not be complete.

4.6.1.4 System Status

In “Info > Device Info > System Status”, you can view network status, CPU status, fan status, power status and memory status, as shown in Figure 4-118.

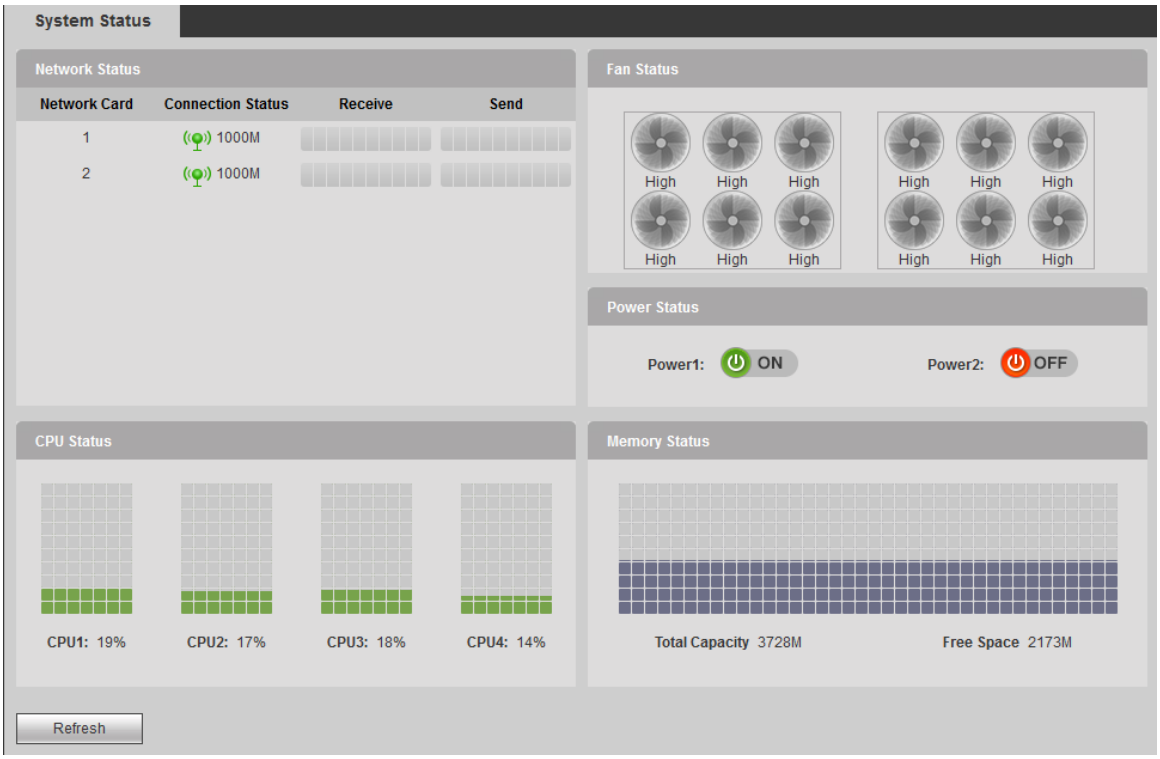


Figure 4-118

- Network status: display connection status of network card, data receiving and sending info.
- CPU status: display CPU status of all cards.
- Fan status: display fan operation status.
- Power status: display on/off status of two power supplies.
- Memory status: display memory usage info.

4.6.1.5 System Log

View device operation info and some system info.

Step 1 Select “Info > Device Info > System Log”. The system displays “System Log” interface, as shown in Figure 4-119.

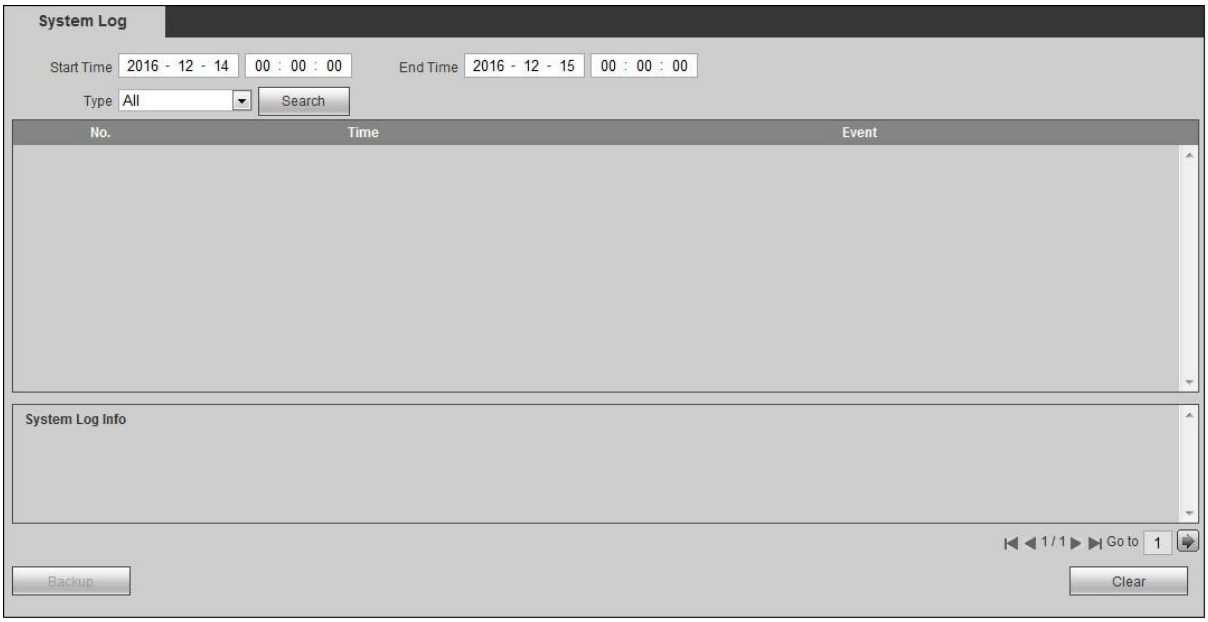


Figure 4-119

Step 2 Set “Start Time”, “End Time”, “Type” and click “Search”. The system displays all matching logs.

Note

- Click one log to display its detailed info.
- Click “Clear” to clear all log info. Log info cannot be classified before clearing.
- Click “Backup” to backup the searched system log info to current PC.

4.6.1.6 Online User

In “Info > Device Info > Online User”, you can view all online users, as shown in Figure 4-120.

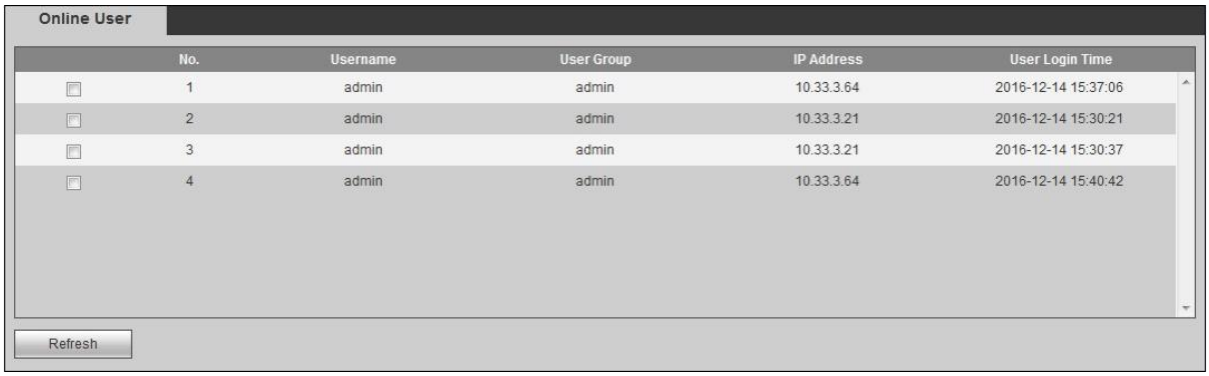


Figure 4-120

4.6.1.7 Version

In “Info > Device Info >Version”, you can view version info about this device, as shown in Figure 4-121.

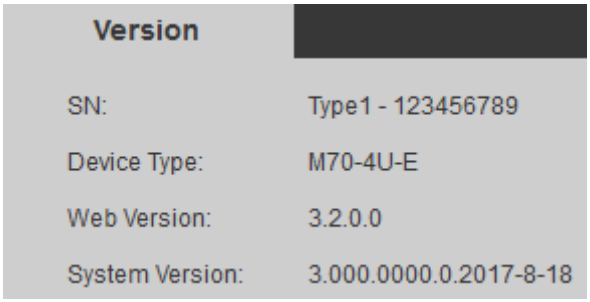


Figure 4-121

Note

The figure is for your reference only. For details, please refer to actual product.

4.6.2 Help

In “Info > Help >User’s Manual”, you can read the user’s manual online, or click “Download” to download it.

5 Platform Software Operation

Besides WEB, remote control can be realized with Digital Surveillance System (DSS) and Professional Surveillance System (PSS). For specific operations, please refer to the user's manual of Digital Surveillance System (DSS) and Professional Surveillance System (PSS).

6.1 FAQ

If your question is not included hereunder, please contact local customer service personnel or call headquarter customer service personnel. We will be always at your service.

1. Q: I cannot boot up the device properly after connecting it to power supply.

A: In case that the device doesn't boot up after normal shutdown and connection with power supply, please press the Power Button on front panel.

2. Q: Device buzzer turns on when I press the Power Button.

A: The device supports dual power, so it alarms if only one power cable is plugged.

- Plug the other power cable.
- Press the red button beside power module socket, in order to cancel buzzer alarm.

3. Q: There is no local operation display after the device is connected with power supply and booted up.

A: This may be due to:

- It takes some time to boot up after connection with power supply. During the period, the screen is black. Booting progress bar appears after a while.
- The interface board is not in good contact with mainboard, so signals of local operation interface are not output to the interface board. Please pull out and plug the interface board again.
- Upgrade error. Please upgrade the program again.
- Program configurations have changed, so the program cannot boot up. Please press RESET hole on main control panel with a needle or equivalent for a few seconds, until the device is rebooted. At this time, configurations have been cleared.
- X86 board breaks down.

4. Q: After the device is booted up, it cannot output decoded images or preview images.

A: This may be due to:

- There is no output by default. Images will be output after relevant output channels are configured.

- Front panel is not in good contact with interface board, so signals are not output to the interface board. Please pull out and plug the front panel again.
- There is an error in front-end device.
- Configured screen and observed screen are not the same one.
- The display doesn't support the output resolution of decoding channel.
- Network error.

5. **Q: There is no video output whether it is one-channel, multiple-channel or all-channel output.**

A: This may be due to:

- The program is incompatible with front-end third-party manufacturers' devices. Upgrade correct program again.
- Video source error.
- Hardware failure.

6. **Q: Real-time image problem. For example, video image color and brightness are distorted seriously.**

A: This may be due to:

- The device is incompatible with the monitor resistance; ground connection is inconsistent.
- Video transmission distance is too far or attenuation of video transmission cable is too large.
- Color and brightness setups are incorrect.

7. **Q: Decoding and output to video wall are not fluent.**

A: This may be due to:

- Poor network environment.
- Setup (frame rate) or failure of front-end device.
- Limitations in decoding capacity of decoding channel.
- Decoding channel failure.

8. **Q: Images on the wall flicker or they are interfered by stripes.**

- Display and video matrix platform have no common grounding.
- Video cable quality is poor or it is too long.

9. **Q: There is no audio during monitoring.**

A: This may be due to:

- It is not an active pickup.

- It is not an active sound device.
- Audio cable breaks down.
- Hardware failure.

10. Q: There is audio during monitoring, but there is no audio during playback.

A: This may be due to:

- Setup problem: audio function is not enabled.
- Corresponding channel has no video input. Playback is discontinuous when the screen is blue.

11. Q: Time display is not correct.

A: This may be due to:

- Wrong setup.
- Bad contact or low voltage of the battery.
- Bad crystal oscillator.

12. Q: Device cannot control PTZ.

A: This may be due to:

- Front-end PTZ failure.
- Incorrect PTZ installation.
- Incorrect wiring.
- PTZ parameter setups in the device are incorrect.
- PTZ protocol doesn't match the device.
- The distance is too far.

13. Q: Motion detection function does not work.

A: This may be due to:

- Period setup is incorrect.
- Motion detection zone setup is incorrect.
- Sensitivity is too low.

14. Q: I cannot login client-end or WEB.

A: This may be due to:

- ActiveX control has been disabled.
- Network connection error.
- Network setup error.
- Username or password is invalid.

- Client-end version is incompatible with program version. Clear C:\Program Files\webrec in PC.

15. Q: There is mosaic or no video when preview or playback video files in the network.

A: This may be due to:

- Network is not stable.
- The client is subject to resource constraints.
- There is area tampering in the device.
- The user doesn't have monitoring authority.
- The device has problems in outputting real-time images.

16. Q: Network connection is not stable.

A: This may be due to:

- Network is not stable.
- IP address conflict.
- MAC address conflict.
- LAN switch malfunction or config problem.
- Network interface card breaks down.

17. Q: Alarm signal cannot be disarmed.

A: This may be due to:

- Alarm setup is incorrect.
- Alarm output has been enabled manually.
- Input device breaks down or connection is incorrect.
- Some program versions may have this problem. Please upgrade your program.

18. Q: Alarm function doesn't work.

A: This may be due to:

- Alarm setup is incorrect.
- Alarm wiring is incorrect.
- Alarm input signal is incorrect.
- Two loops are connected with one alarm device at the same time.

19. Q: Record storage period is not enough.

A: This may be due to:

- Front-end camera has low quality; lens is dirty; it is installed at backlight position; lens has not been adjusted well, leading to large stream.

- HDD capacity is not enough.
- HDD breaks down.

20. Q: I cannot play the downloaded file.

A: This may be due to:

- There is no video player.
- DXB8.1 or higher graphic acceleration software has not been installed.
- There is no DivX503Bundle.exe control when you play the AVI file via media player.
- DivX503Bundle.exe and ffdshow-2004 1012.exe haven't been installed in Windows XP System.

6.2 Use and Maintenance

- Prevent foreign matters entering the device, so as to avoid failure.
- Don't hang the panels downwards during handling and transportation.
- Please complete electrical wiring carefully. Violation in connection procedures will damage the device.
- All external wirings shall prevent short circuit.
- After all cable connections have been completed, connect the power cable.
- After connection, all cables shall be tied with a wiring harness, so as to prevent short circuit, heating and electrical shock risks.
- During wiring, make sure to dismantle (-) binding post of the battery.
- Protect the device from water or excessive dampness, since water and excessive dampness may lead to short circuit, fire or other failures.
- Do not install the device at a position exposed to sunlight during installation. Guarantee well ventilation.
- Damp dust on the circuit board leads to short circuit, affects normal operation or even damages the device. For the purpose of long-term stable operation, please regularly remove dust from the circuit board, connector assembly and case with a brush.
- Please guarantee good grounding, protect video-audio signals from interference, and protect the device from static electricity or induced voltage.
- AV signal cable, RS232 and RS485 ports shall avoid hot plugging, which damages them easily.
- Please keep the device away from high-temperature heat sources and places.
- Please guarantee horizontal fixed installation of the device; ensure normal operation of internal anti-vibration components.
- Please carry out regular systematic inspections.

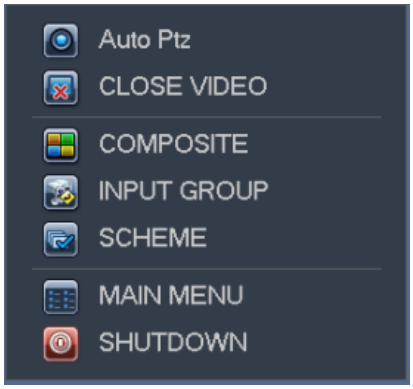
Appendix Mouse Operation

Note

This part illustrates mouse operation with right hand.

A mouse with USB interface shall be plugged into USB port of the device, so as to operate the menu functions.

Click left mouse button	System pops up password input dialogue box if you have not logged in.
	Click one functional menu icon with left mouse button, to enter the menu.
	Implement the control operation.
	Modify status of check box or motion detection block.
	Click combo box to pop up pull-down list.
	 ← means backspace and ␣ means space key. Click Shift to switch upper/lower cases, Chinese/English. 1) In English input mode: space key means to input a space, while backspace key means to clear one character in front of cursor. 2) In numerical input mode: space key means zero clearing, while backspace key means to clear the last number. 3) In specific symbol input mode: space key means to input a space, while backspace key means to clear one symbol in front of cursor. 4) In Chinese input mode, if Chinese phonetic alphabets “zhong” are input, all matching Chinese characters are shown in the input box. Press downward or upward arrow to choose it.
Double click left mouse button	Implement special control operation. For example, double click one item in the file list to playback the video.
	In multi-image mode, double click one channel image with left mouse button, to make it full screen. Double click it again to restore multi-image mode.

Click right mouse button	In real-time monitoring mode, pop up a shortcut menu: Close Video, Composite, Input Group, Scheme, Main Menu and Shutdown. “Close Video” means to close the configured input in the selected window; “Composite” means to merge output channels, and combine on-wall images into one video wall; “Input Group” means to group the input devices, so as to facilitate operation in case of multiple input channels. 
	Exit current menu without saving the modification.
Scroll Mouse Wheel	In numerical input box: Increase or decrease numerical value.
	Switch items in the combo box.
	Page up or page down.
Move mouse	Select and move the control or one item of the control under current coordinate.
Drag mouse	Select a motion detection area with a frame.
	Select cover-area.
	Drag an input channel into the designated output channel.