Network Video Recorder User’s Manual

V 3.5.0

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Welcome

Thank you for purchasing our network video recorder!
This user’s manual is designed to be a reference tool for your system.
Please open the accessory bag to check the items one by one in accordance with the list below.
Contact your local retailer ASAP if something is missing or damaged in the bag.

Important Safeguards and Warnings

1．Electrical safety

All installation and operation here should conform to your local electrical safety codes.
The product must be grounded to reduce the risk of electric shock.
We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

2．Transportation security

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

3．Installation

Keep upwards. Handle with care.
Do not apply power to the NVR before completing installation.
Do not place objects on the NVR

4．Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers.
We are not liable for any problems caused by unauthorized modifications or attempted repair.

5．Environment

The NVR should be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.
This series product shall be transported, storage and used in the specified environments.

6. Accessories

Be sure to use all the accessories recommended by manufacturer.
Before installation, please open the package and check all the components are included.
Contact your local retailer ASAP if something is broken in your package.

7. Lithium battery

Improper battery use may result in fire, explosion, or personal injury!
When replace the battery, please make sure you are using the same model!

Before your operation please read the following instructions carefully.

- **Installation environment**
  - ✧ Keep away from extreme hot places and sources；
  - ✧ Avoid direct sunlight；
  - ✧ Keep away from extreme humid places；
  - ✧ Avoid violent vibration；
  - ✧ Do not put other devices on the top of the NVR；
  - ✧ Be installed in well ventilated place; do not block the vent.

- **Accessories**

Check the following accessories after opening the box：

- **Please refer to the packing list in the box ***

1 Features and Specifications

1.1 Overview

This series NVR is a high performance network video recorder. This series product support local preview, multiple-window display, recorded file local storage, remote control and mouse shortcut menu operation, and remote management and control function.

This series product supports centre storage, front-end storage and client-end storage. The monitor zone in the front-end can be set in anywhere. Working with other front-end devices such as IPC, NVS, this series product can establish a strong surveillance network via the CMS. In the network system, there is only one network cable from the monitor centre to the monitor zone in the whole network. There is no audio/video cable from the monitor centre to the monitor zone. The whole project is featuring of simple connection, low-cost, low maintenance work.

This series NVR can be widely used in many areas such as public security, water conservancy, transportation and education.

1.2 Features

Real-time Surveillance	• VGA, HDMI port. Connect to monitor to realize real-time surveillance. Support TV/VGA/HDMI output at the same time. • Short-cut menu when preview. • Support popular PTZ decoder control protocols. Support preset, tour and pattern.
Playback	• Support each channel real-time record independently, and at the same time it can support search, forward play, network monitor, record search, download and etc. • Support various playback modes: slow play, fast play, backward play and frame by frame play. • Support time title overlay so that you can view event accurate occurred time • Support specified zone enlargement.
User Management	• Each group has different management powers that can be edited freely. Every user belongs to an exclusive group.
Storage	• Via corresponding setup (such as alarm setup and schedule setup), you can backup related audio/video data in the network video recorder. • Support Web record and record local video and storage the file in the client end.
Alarm	• Respond to external alarm simultaneously (within 200MS), based on user's pre-defined relay setup, system can process the alarm input correctly and prompt user by screen and voice (support pre-recorded audio). • Support central alarm server setup, so that alarm information can remotely notify user automatically. Alarm input can be derived from various connected peripheral devices. • Alert you via email/sms.

Network Monitor	• Through network, sending audio/video data compressed by IPC or NVS to client-ends, then the data will be decompressed and display. If bandwidth is big enough, latency is less than 500ms • Support max 20 connections at the same time. • Transmit audio/video data by HTTP, TCP, UDP, MULTICAST, RTP/RTCP and etc. • Transmit some alarm data or alarm info by SMTP. • Support WEB access in WAN/LAN.
Window Split	• Adopt the video compression and digital process to show several windows in one monitor. Support 1/4/8/9/16/ 25/36-window display when preview and 1/4/9/16-window display when playback.
Record	• Support normal/motion detect/alarm record function. Save the recorded files in the HDD, USB device, client-end PC, or network storage server. You can search or playback the saved files at the local-end or via the Web/USB device.
Backup	• Support network backup, USB2.0 record backup function, the recorded files can be saved in network storage server, peripheral USB2.0 device, burner and etc.
Network Management	• Supervise NVR configuration and control power via Ethernet. • Support management via WEB.
Peripheral Equipment Management	• Support peripheral equipment management such as protocol setup and port connection. • Support transparent data transmission such as RS232 (RS-422), RS485 (RS-485).
Auxiliary	• Support switch between NTSC and PAL. • Support real-time system resources information and running statistics display. • Support log file. • Local GUI output. Shortcut menu operation via mouse. • IR control function (For some series product only.). Shortcut menu operation via remote control. • Support IPC or NVS remote video preview and control.

1.3 Specifications

1.3.1 NVR21/21-P/21-S Series

Parameter	**Specifications**		
	21 Series	**21-S Series**	**21-P Series**
System Resources	Max support 8-ch standard definition with the transmission rate of 2Mbps for each channel; 4-channel 720P, with the transmission rate of 4Mbps for each channel; 2-channel 1080P, with the transmission rate of 8Mbps for each channel; Support 20 online users at the same time, The image delay time of each channel is under 500ms.		
Operation System	Embedded Linux real-time operation system		
Operation Interface	WEB/Local GUI		

Video Compression	H.264/MJPEG	
Encode Capacity	For H.264, it max supports 8-channel D1, 4-channel 720P, 2-channel 1080P.	
Audio Compression	G.711a	
Video Output	1-channel VGA analog video output.	
Video Input	4/8-ch network video input	
HDMI	1-ch HDMI output. HDMI version is 1.3.	
Audio Input	N/A	
Audio Output	N/A	
Window Split	1/4/9-window	
Multiple-channel Playback	Max 8-channel D1/4-channel 720P/2-channel 1080P playback.	
Alarm Input	N/A	
Alarm Output	N/A	
Storage	1 built-in SATA ports.	
RS232 Port	One RS232 port to debug transparent COM data.	
RS485 port	N/A	
USB2.0 Port	2 peripheral USB2.0 ports. One at the front panel and one at the rear panel.	
Network Connection	One RJ45 10/100Mbps self-adaptive Ethernet port.	
Power Port	One power port, power adapter. Input DC 12V.	Two power ports, power adapter. Input DC 12V or DC 48V.
Power Button	No on/off button. Connect to the power cable to boot up.	
Power Button	N/A	
Clock	Built-in clock.	
Indication Light	One power status indication light. One network status indication light. One HDD status indication light.	
Power Consumption	＜12W(Exclude HDD)	
Working Temperature	－10℃～＋55℃	

Working Humidity	10%－90%
Air pressure	86kpa－106kpa
Dimension	205mm×205mm×52mm
Weight	0.5~1KG（Exclude HDD）
Installation	Desk installation

1.3.2 NVR21H Series

Parameter	**Specifications**	
	210XH Series	**210XH-P Series**
System Resources	Max support 8-ch standard definition with the transmission rate of 2Mbps for each channel; 4-channel 720P, with the transmission rate of 4Mbps for each channel; 2-channel 1080P, with the transmission rate of 8Mbps for each channel; Support 20 online users at the same time, The image delay time of each channel is under 500ms.	
Operation System	Embedded Linux real-time operation system	
Operation Interface	WEB/Local GUI	
Video Compression	H.264/MJPEG	
Encode Capacity	For H.264, it max supports 8-channel D1, 4-channel 720P, 2-channel 1080P.	
Audio Compression	G.711a	
Video Output	1-channel VGA analog video output.	
Video Input	4/8-ch network compression video input	
HDMI	1-ch HDMI output. HDMI version is 1.3.	
Audio Input	1-ch bidirectional talk input	
Audio Output	1-ch bidirectional talk output	
Window Split	1/4/9-window	
Multiple-channel Playback	Max 8-channel D1/4-channel 720P/2-channel 1080P playback.	
Alarm Input	2-ch alarm input	
Alarm Output	2-ch alarm output	
Storage	1 built-in SATA port.	
RS232 Port	N/A	

RS485 port	N/A	
USB2.0 Port	2 peripheral USB2.0 ports. One at the front panel and one at the rear panel.	
Network Connection	One RJ45 10/100Mbps self-adaptive Ethernet port.	4 PoE ports. Built-in Switch. Support PoE function.
Power Port	One power port, power adapter. Input DC 12V.	Two power ports, power adapter. Input DC 12V or DC 48V.
Power Button	No on/off button. Connect to the power cable to boot up.	
On-off Button	N/A	
Clock	Built-in clock.	
IR Remote Control Receiver	Support IR remote control	
Indication Light	One network status indication light.	
Power Consumption	＜12W(Exclude HDD)	
Working Temperature	－10℃～＋55℃	
Working Humidity	10%－90%	
Air pressure	86kpa－106kpa	
Dimension	205mm×205mm×52mm	
Weight	0.5~1KG（Exclude HDD）	
Installation	Desk installation	

1.3.3 NVR22 Series

Parameter	**Specifications**		
	2204 Series	**2208 Series**	**2216 Series**
System Resources	Max support 16-ch standard definition with the transmission rate of 2Mbps for each channel; 16-channel D1, 8-channel 720P, with the transmission rate of 4Mbps for each channel; 4-channel 1080P, with the transmission rate of 8Mbps for each channel; Support 20 online users at the same time, The image delay time of each channel is under 500ms.		
Operation System	Embedded Linux real-time operation system		
Operation Interface	WEB/Local GUI		

Video Compression	H.264/MJPEG
Encode Capacity	It max supports 16-channel D1, 8-channel 720P, 4-channel 1080P.
Audio Compression	G.711a
Video Output	1-channel VGA analog video output.
Video Input	4/8/16-ch network compression video input
HDMI	1-ch HDMI output. HDMI version is 1.3.
Audio Input	N/A
Audio Output	N/A
Window Split	4/8/9/16-window
Multiple-channel Playback	Max 16-channel D1/8-channel 720P/4-channel 1080P real-time playback.
Alarm Input	N/A
Alarm Output	N/A
Storage	2 built-in SATA ports.
RS232 Port (RS-422)	One RS232 port to debug transparent COM data.
RS485 port (Rs-485)	One RS485 port to control PTZ. Support various protocols.
USB2.0 Port	2 peripheral USB2.0 ports.
Network Connection	One RJ45 10/100/1000Mbps self-adaptive Ethernet port.
Power Port	One power port, power adapter. Input DC 12V.
Power Button	One button. At the rear panel.
Power On-off Button	One button. At the front-panel.
IR Remote Control Receiver	Support IR remote control
Clock	Built-in clock.
Indication Light	Sixteen record status indication light. One power status indication light. One network status indication light. One HDD status indication light.

Power Consumption	＜12W(Exclude HDD)
Working Temperature	－10℃～＋55℃
Working Humidity	10%－90%
Air pressure	86kpa－106kpa
Dimension	375mm×287mm×52mm
Weight	1.5~2.5KG（Exclude HDD）
Installation	Desk installation

1.3.4 NVR24 Series

Parameter	**Specifications**	
	2408 Series	**2416 Series**
System Resources	Max support 16-ch standard definition with the transmission rate of 2Mbps for each channel; 16-channel D1, 8-channel 720P, with the transmission rate of 4Mbps for each channel; 4-channel 1080P, with the transmission rate of 8Mbps for each channel; Support 20 online users at the same time, The image delay time of each channel is under 500ms.	
Operation System	Embedded Linux real-time operation system	
Operation Interface	WEB/Local GUI	
Video Compression	H.264/MJPEG	
Encode Capacity	It max supports 16-channel D1, 8-channel 720P, 4-channel 1080P.	
Audio Compression	G.711a	
Video Output	1-channel VGA analog video output.	
Video Input	8/16-ch network compression video input	
HDMI	1-ch HDMI output. HDMI version is 1.3.	
Audio Input	N/A	
Audio Output	N/A	
Window Split	4/8/9/16-window	
Multiple-channel Playback	Max 16-channel D1/8-channel 720P/4-channel 1080P real-time playback.	
Alarm Input	8-ch alarm input	
Alarm Output	3-ch alarm output	

	Relay output. Relay （DC 30V 1A，AC 125V 0.5A（Activation output）） Including one controllable DC +12V output.
Storage	4 built-in SATA ports. 1 eSATA port.
RS232 Port (RS-422)	One RS232 port to debug transparent COM data.
RS485 port (Rs-485)	One RS485 A/B port to control PTZ. Support various protocols.
USB2.0 Port	2 peripheral USB2.0 ports.
Network Connection	One RJ45 10/100/1000Mbps self-adaptive Ethernet port.
Power Port	One power port, AC100～240V 50+2% Hz
Power Button	One button. At the rear panel.
Power On-off Button	One button. At the front-panel.
IR Remote Control Receiver	Support IR remote control
Clock	Built-in clock.
Indication Light	Sixteen record status indication light. One power status indication light.
Power Consumption	＜12W(Exclude HDD)
Working Temperature	－10℃～＋55℃
Working Humidity	10%－90%
Air pressure	86kpa－106kpa
Dimension	440mm×405mm×70mm
Weight	1.5~2.5KG（Exclude HDD）
Installation	Desk installation

1.3.5 NVR31H Series

Parameter	**Specifications**	
	310XH Series	**310XH-P Series**
System Resources	Max support 8-ch standard definition with the transmission rate of 2Mbps for each channel; 4-channel 720P, with the transmission rate of 4Mbps for each channel; 2-channel 1080P, with the transmission rate of 8Mbps for each channel; Support 20 online users at the same time,	

	The image delay time of each channel is under 500ms.	
Operation System	Embedded Linux real-time operation system	
Operation Interface	WEB/Local GUI	
Video Compression	H.264/MJPEG	
Encode Capacity	For H.264, it max supports 8-channel D1, 4-channel 720P, 2-channel 1080P.	
Audio Compression	G.711a	
Video Output	1-channel VGA analog video output.	
Video Input	4/8-ch network compression video input	
HDMI	1-ch HDMI output. HDMI version is 1.4.	
Audio Input	1-ch bidirectional talk input	
Audio Output	1-ch bidirectional talk output	
Window Split	1/4/9-window	
Multiple-channel Playback	Max 8-channel D1/4-channel 720P/2-channel 1080P playback.	
Alarm Input	2-ch alarm input	
Alarm Output	1-ch alarm output	
Storage	1 built-in SATA port.	
RS232 Port	N/A	
RS485 port	N/A	
USB2.0 Port	2 peripheral USB2.0 ports. One at the front panel and one at the rear panel.	
Network Connection	One RJ45 10/100Mbps self-adaptive Ethernet port.	4 PoE ports. Built-in Switch. Support PoE function.
Power Port	One power port, power adapter. Input DC 12V.	Two power ports, power adapter. Input DC 12V or DC 48V.
On-off Button	One button at the front panel.	
Clock	Built-in clock.	
IR Remote Control Receiver	Support IR remote control	
Indication Light	One network status indication light.	

Power Consumption	＜12W(Exclude HDD)
Working Temperature	－10℃～＋55℃
Working Humidity	10%－90%
Air pressure	86kpa－106kpa
Dimension	325mm×242mm×55mm
Weight	1.25KG（Exclude HDD）
Installation	Desk installation

1.3.6 NVR31/31-W/31-S/31-P Series

Parameter	**Specifications**			
	31 Series	**31-W Series**	**31-S Series**	**31-P Series**
System Resources	Max support 16-ch standard definition with the transmission rate of 2Mbps for each channel; 8-channel 720P, with the transmission rate of 4Mbps for each channel; 4-channel 1080P, with the transmission rate of 8Mbps for each channel; Support 20 online users at the same time, The image delay time of each channel is under 500ms.			
Operation System	Embedded Linux real-time operation system			
Operation Interface	WEB/Local GUI			
Video Compression	H.264/MPEG4			
Encode Capacity	For H.264, it max supports 16-channel D1, 8-channel 720P, 4-channel 1080P.			
Audio Compression	G.711a			
Video Output	1-channel VGA analog video output.			
Video Input	4/8/16-ch network compression video input			
HDMI	1-ch HDMI output. HDMI version is 1.4.			
Audio Input	1-ch bidirectional audio input			
Audio Output	N/A			
Wireless AP antenna	N/A	Two wireless AP antennas	N/A	N/A
Window Split	1/4/9-window			
Multiple-channel Playback	Max 16-channel D1/8-channel 720P/4-channel 1080P playback.			
Alarm Input	N/A			

Alarm Output	N/A	
Storage	One built-in SATA port.	
RS232 Port	N/A	
RS485 port	N/A	
USB2.0 Port	One peripheral USB2.0 port.	
Network Connection	One RJ45 10/100Mbps self-adaptive Ethernet port.	
Power Port	One power port, power adapter. Input DC 12V.	Two power ports, power adapter. Input DC 12V or DC 48V.
Power Button	No on/off button. Connect to the power cable to boot up.	
Power Button	N/A	
Clock	Built-in clock.	
Indication Light	One power status indication light. One network status indication light. One HDD status indication light.	
Power Consumption	＜12W(Exclude HDD)	
Working Temperature	－10℃～＋55℃	
Working Humidity	10%－90%	
Air pressure	86kpa－106kpa	
Dimension	270mmX205mmX41mm	
Weight	600-700G（Exclude HDD）	
Installation	Desk installation	

1.3.7 NVR32/32-P/32-8P Series

Parameter	**Specifications**		
	32 Series	**32-P Series**	**32-8P Series**
System Resources	Max support 16-ch standard definition with the transmission rate of 2Mbps for each channel; 8-channel 720P, with the transmission rate of 4Mbps for each channel; 4-channel 1080P, with the transmission rate of 8Mbps for each channel; Support 20 online users at the same time, The image delay time of each channel is under 500ms.		

Operation System	Embedded Linux real-time operation system		
Operation Interface	WEB/Local GUI		
Video Compression	H.264/MPEG4		
Encode Capacity	For H.264, it max supports 16-channel D1, 8-channel 720, 4-channel 1080P.		
Audio Compression	G.711a		
Video Output	1-channel VGA analog video output.		
Video Input	4/8/16-ch network compression video input		
HDMI	1-ch HDMI output. HDMI version is 1.4.		
Audio Input	1-ch bidirectional audio input		
Audio Output	1-ch bidirectional talk output.		
Window Split	4/8/9/16-window		
Multiple-channel Playback	Max 16-channel D1/8-channel 720P/4-channel 1080P playback.		
Alarm Input	4/8/16-ch series product support 4/8/16-ch alarm input respectively.		
Alarm Output	3-ch alarm output		
	Relay output. Relay （DC 30V 1A，AC 125V 0.5A（Activation output）） Including one controllable DC +12V output.		
Storage	2 built-in SATA ports.		
RS232 Port	One RS232 port to debug transparent COM data.		
RS485 port	One RS485 port to control PTZ. Support various protocols.		
USB2.0 Port	2 peripheral USB2.0 ports.		
Network Connection	One RJ45 10/100M/1000Mbps self-adaptive Ethernet port.		
Power Port	One power port, power adapter. Input DC 12V.	Two power ports, power adapter. Input DC 12V or DC 48V.	Two power ports, power adapter. Input DC 12V or DC 48V.
Power Button	One power button in the rear panel.		
Power Button	One power button in the front panel.		
IR Remote Control Receiver	Support IR remote control		

Clock	Built-in clock.
Indication Light	● 16 record status indication lights ● One power status indication light. ● One alarm status indication light. ● One network status indication light. ● One HDD status indication light.
Power Consumption	＜12W(Exclude HDD)
Working Temperature	－10℃～＋55℃
Working Humidity	10%－90%
Air pressure	86kpa－106kpa
Dimension	375mm×287mm×52mm
Weight	1.5～2.5 KG（Exclude HDD）
Installation	Desk installation/Rack installation

1.3.8 NVR32V/32V-P Series

Parameter	**Specifications**	
	32V Series	**32V-P Series**
System Resources	Max support 16-ch standard definition with the transmission rate of 2Mbps for each channel; 8-channel 720P, with the transmission rate of 4Mbps for each channel; 4-channel 1080P, with the transmission rate of 8Mbps for each channel; Support 20 online users at the same time, The image delay time of each channel is under 500ms.	
Operation System	Embedded Linux real-time operation system	
Operation Interface	WEB/Local GUI	
Video Compression	H.264/MPEG4	
Encode Capacity	For H.264, it max supports 16-channel D1, 8-channel 720, 4-channel 1080P.	
Audio Compression	G.711a	
Video Output	1-channel VGA analog video output.	
Video Input	4/8/16-ch network compression video input	
HDMI	1-ch HDMI output. HDMI version is 1.4.	
Audio Input	1-ch bidirectional audio input	
Audio Output	1-channel bidirectional talk output.	
Window Split	4/8/9/16-window	

Multiple-channel Playback	Max 16-channel D1/8-channel 720P/4-channel 1080P playback.	
Alarm Input	4/8/16-ch series product support 4/8/16-ch alarm input respectively.	
Alarm Output	3-ch alarm output	
	Relay output. Relay （DC 30V 1A，AC 125V 0.5A（Activation output）） Including one controllable DC +12V output.	
Storage	2 built-in SATA ports	
	1 peripheral eSATA port	
RS485 port	One RS485 port to control PTZ. Support various protocols.	
USB2.0 Port	3 peripheral USB2.0 ports.	
Network Connection	One RJ45 10/100M/1000Mbps self-adaptive Ethernet port.	
Power Port	One power port, power adapter. Input DC 12V.	Two power ports, power adapter. Input DC 12V or DC 48V.
Power Button	One power button in the rear panel.	
Power Button	One power button in the front panel.	
IR Remote Control Receiver	Support IR remote control	
Clock	Built-in clock.	
Power Consumption	＜12W(Exclude HDD)	
Working Temperature	－10℃～＋55℃	
Working Humidity	10%－90%	
Air pressure	86kpa－106kpa	
Dimension	100mm×220mm×146mm	
Weight	1～2KG（Exclude HDD）	
Installation	Desk installation	

1.3.9 NVR34V/34V-P Series

Parameter	**Specifications**	
	34V Series	**34V-P Series**
System Resources	Max support 16-ch standard definition with the transmission rate of 2Mbps for each channel; 8-channel 720P, with the transmission rate of 4Mbps for each channel; 4-channel 1080P, with the transmission rate of 8Mbps for each channel; Support 20 online users at the same time, The image delay time of each channel is under 500ms.	

Operation System	Embedded Linux real-time operation system
Operation Interface	WEB/Local GUI
Video Compression	H.264/MPEG4
Encode Capacity	For H.264, it max supports 16-channel D1, 8-channel 720, 4-channel 1080P.
Audio Compression	G.711a
Video Output	1-channel VGA analog video output.
Video Input	4/8/16-ch network compression video input
HDMI	1-ch HDMI output. HDMI version is 1.4.
Audio Input	1-ch bidirectional audio input
Audio Output	1-channel bidirectional talk output.
Window Split	4/8/9/16-window
Multiple-channel Playback	Max 16-channel D1/8-channel 720P/4-channel 1080P playback.
Alarm Input	4/8/16-ch series product support 4/8/16-ch alarm input respectively.
Alarm Output	3-ch alarm output
	Relay output. Relay （DC 30V 1A，AC 125V 0.5A（Activation output）） Including one controllable DC +12V output.
Storage	4 built-in SATA ports
	1 peripheral eSATA port
RS485 port	One RS485 port to control PTZ. Support various protocols.
USB2.0 Port	3 peripheral USB2.0 ports.
Network Connection	One RJ45 10/100M/1000Mbps self-adaptive Ethernet port.
Power Port	One power port. AC100～240V 50+2% Hz
Power Button	One power button in the rear panel.
Power Button	One power button in the front panel.
IR Remote Control Receiver	Support IR remote control
Clock	Built-in clock.

Power Consumption	＜12W(Exclude HDD)
Working Temperature	－10℃～＋55℃
Working Humidity	10%－90%
Air pressure	86kpa－106kpa
Dimension	157.5mm×220mm×172mm
Weight	1.5～2.5KG（Exclude HDD）
Installation	Desk installation

1.3.10 NVR38 Series

Parameter	**Specifications**
	38 Series
System Resources	Max support 16-ch standard definition with the transmission rate of 2Mbps for each channel; 8-channel 720P, with the transmission rate of 4Mbps for each channel; 4-channel 1080P, with the transmission rate of 8Mbps for each channel; Support 20 online users at the same time, The image delay time of each channel is under 500ms. For the 32-channel product of the 38 series, it supports 8-channel 1080p/5Mbps (extra stream D1/1Mbps), 16-channel 720p/2Mbps (extra CIF/640kbps), 32-channel D1/1Mbps.
Operation System	Embedded Linux real-time operation system
Operation Interface	WEB/Local GUI
Video Compression	H.264/MPEG4
Encode Capacity	For H.264, it max supports 16-channel D1, 8-channel 720, 4-channel 1080P.
Audio Compression	G.711a
Video Output	1-channel VGA analog video output.
Video Input	4/8/16/32-ch network compression digital video input
HDMI	1-ch HDMI output. HDMI version is 1.4.
Audio Input	1-ch bidirectional audio input
Audio Output	1-channel bidirectional talk output.
Window Split	4/8/9/16-window
Multiple-channel Playback	Max 16-channel D1/8-channel 720P/4-channel 1080P playback.
Alarm Input	4/8/16/32-ch series product support 4/8/16/16-ch alarm input respectively.

Alarm Output	6-ch alarm output
	Relay output. Relay （DC 30V 1A，AC 125V 0.5A（Activation output）） Including one controllable DC +12V output.
Storage	8 built-in SATA ports
	1 peripheral eSATA port
RS232 Port	One RS232 port to debug transparent COM data.
RS485 port	One RS485 port to control PTZ. Support various protocols.
USB2.0 Port	4 peripheral USB2.0 ports.
Network Connection	One RJ45 10/100M/1000Mbps self-adaptive Ethernet ports.
Power Port	One power port. AC100～240V 50+2% Hz
Power Button	One power button in the rear panel.
Power Button	One power button in the front panel.
IR Remote Control Receiver	One IR remote control receiver in the front panel.
Clock	Built-in clock.
Indication Light	● 16 record status indication lights ● One system running status indication light. ● One remote control indication light.
Power Consumption	＜40W(Exclude HDD)
Working Temperature	－10℃～＋55℃
Working Humidity	10%－90%
Air pressure	86kpa－106kpa
Dimension	440mm*460mm*89mm
Weight	5.5～6.5KG（Exclude HDD）
Installation	Desk installation

1.3.11 NVR50 Series

Parameter	**Specifications**
	50 Series
System Resources	Max 160Mbps bit stream. 32-channel 720P/5Mbps or 32-channel 1080P/5Mbps.

	Support 20 online users at the same time, The image delay time of each channel is under 500ms.
Operation System	Embedded Linux real-time operation system
Operation Interface	WEB/Local GUI
Video Compression	H.264/MPEG4
Encode Capacity	For H.264, it max supports 32*D1,16*720,8*1080P
Audio Compression	G.711a
Video Output	1-channel VGA analog video output.
Video Input	8/16/32-ch network compression video input
HDMI	1-ch HDMI output. HDMI version is 1.3.
Audio Input	1-ch bidirectional audio input
Audio Output	1-ch bidirectional talk output.
Window Split	1/4/8/9/16/25/36-window
Multiple-channel Playback	Max 16-channel playback.
Alarm Input	16-ch alarm input
Alarm Output	6-ch alarm output
	Relay output. Relay （DC 30V 1A，AC 125V 0.5A（Activation output）） Including one controllable DC +12V output.
Storage	16 built-in SATA ports at the front panel. Support Drawn-out HDD installation.
	1 external eSATA port
RS232 Port (RS-422)	One RS232 port to debug transparent COM data.
RS485 port (RS-485)	One RS485 port to control PTZ. Support various protocols.
USB2.0 Port	4 peripheral USB2.0 ports.
Network Connection	2 RJ45 10/100M/1000Mbps self-adaptive Ethernet ports.
Power Port	One power port, AC100～240V 50+2% Hz
Power Button	One power button in the front panel.
Clock	Built-in clock.

Indication Light	● No record status indication light. ● One system working disk indication light. ● One alarm status indication light. ● One network status indication light.
Power Consumption	＜40W(Exclude HDD)
Working Temperature	－10℃～＋55℃
Working Humidity	10%－90%
Air pressure	86kpa－106kpa
Dimension	3U case: 448mm×490mm×133.2mm
Weight	10.5kg～11.5kg（Exclude HDD）
Installation	Desk installation

1.3.12 NVR52/52-P Series

Parameter	**Specifications**	
	52 Series	**52-P Series**
System Resources	Max 160Mbps bit stream. 32-channel 720P/5Mbps or 32-channel 1080P/5Mbps. Support 20 online users at the same time, The image delay time of each channel is under 500ms.	
Operation System	Embedded Linux real-time operation system	
Operation Interface	WEB/Local GUI	
Video Compression	H.264/MPEG4	
Encode Capacity	For H.264, it max supports 32*D1,16*720,8*1080P	
Audio Compression	G.711a	
Video Output	1-channel VGA analog video output.	
Video Input	4/8/16/32-ch network compression video input	
HDMI	1-ch HDMI output. HDMI version is 1.3.	
Audio Input	1-ch bidirectional audio input	
Audio Output	1-ch bidirectional talk output.	
Window Split	1/4/8/9/16/25/36-window	
Multiple-channel Playback	Max 16-channel playback.	
Alarm Input	8-ch alarm input	
Alarm Output	3-ch alarm output	

	Relay output. Relay （DC 30V 1A，AC 125V 0.5A（Activation output）） Including one controllable DC +12V output.	
Storage	2 built-in SATA ports.	
RS232 Port (RS-422)	One RS232 port to debug transparent COM data.	
RS485 port (RS-485)	One RS485 port to control PTZ. Support various protocols.	
USB2.0 Port	2 peripheral USB2.0 ports.	
Network Connection	One RJ45 10/100M/1000Mbps self-adaptive Ethernet port.	
Power Port	One power port, power adapter. Input DC 12V.	Two power ports, power adapter. Input DC 12V or DC 48V.
Power Button	One power button in the rear panel.	
Power Button	One power button in the front panel.	
IR Remote Control Receiver	Support IR remote control	
Clock	Built-in clock.	
Indication Light	● 16 record status indication lights ● One power status indication light. ● One alarm status indication light. ● One network status indication light. ● One HDD status indication light.	
Power Consumption	＜12W(Exclude HDD)	
Working Temperature	－10℃～＋55℃	
Working Humidity	10%－90%	
Air pressure	86kpa－106kpa	
Dimension	375mm×287mm×52mm	
Weight	1.5～2.5 KG（Exclude HDD）	
Installation	Desk installation	

1.3.13 NVR54/54-8P/54-16P Series

Parameter	**Specifications**		
	54 Series	**54-8P Series**	**54-16P Series**
System Resources	Max 160Mbps bit stream. 32-channel 720P/5Mbps or 32-channel 1080P/5Mbps. Support 20 online users at the same time, The image delay time of each channel is under 500ms.		

Operation System	Embedded Linux real-time operation system		
Operation Interface	WEB/Local GUI		
Video Compression	H.264/MPEG4		
Encode Capacity	For H.264, it max supports 32-channel D1,16-channel 720P,8-channel 1080P		
Audio Compression	G.711a		
Video Output	1-channel VGA analog video output.		
Video Input	8/16/32-ch network compression video input		
HDMI	1-ch HDMI output. HDMI version is 1.3.		
Audio Input	1-ch bidirectional talk input		
Audio Output	1-ch bidirectional talk output.		
Window Split	1/4/8/9/16/25/36-window		
Multiple-channel Playback	Max 16-channel playback.		
Alarm Input	8-ch alarm input	16-ch alarm input	16-ch alarm input
Alarm Output	3-ch alarm output	6-ch alarm output	6-ch alarm output
	Relay output. Relay （DC 30V 1A，AC 125V 0.5A（Activation output）） Including one controllable DC +12V output.		
Storage	4 built-in SATA ports.		
	1 peripheral eSATA port		
RS232 Port (RS-422)	One RS232 port to debug transparent COM data.		
RS485 port (RS-485)	One RS485 port to control PTZ. Support various protocols.		
USB2.0 Port	3 peripheral USB2.0 ports.		
Network Connection	Two RJ45 10/100M/1000Mbps self-adaptive Ethernet ports.	One RJ45 10/100M/1000Mbps self-adaptive Ethernet port.	
Power Port	One power port. AC100～240V 50+2% Hz		
Power Button	One power button in the rear panel.		
Power On-off Button	One power on-off button in the front panel.		
IR Remote Control	Support IR remote control		

Receiver	
Clock	Built-in clock.
Indication Light	● 16 record status indication lights ● One system running status indication light. ● One remote control button indication light.
Power Consumption	＜40W(Exclude HDD)
Working Temperature	－10℃～＋55℃
Working Humidity	10%－90%
Air pressure	86kpa－106kpa
Dimension	440mm × 407mm × 70mm
Weight	5kg～6kg（Exclude HDD）
Installation	Desk installation

1.3.14 NVR58 Series

Parameter	**Specifications**
	58 Series
System Resources	Max 160Mbps bit stream. 32-channel 720P/5Mbps or 32-channel 1080P/5Mbps. Support 20 online users at the same time, The image delay time of each channel is under 500ms.
Operation System	Embedded Linux real-time operation system
Operation Interface	WEB/Local GUI
Video Compression	H.264/MPEG4
Encode Capacity	For H.264, it max supports 32-channel D1,16-channel 720P,8-channel 1080P
Audio Compression	G.711a
Video Output	1-channel VGA analog video output.
Video Input	8/16/32-ch network compression video input
HDMI	1-ch HDMI output. HDMI version is 1.3.
Audio Input	1-ch bidirectional audio input
Audio Output	1-ch bidirectional talk output.
Window Split	1/4/8/9/16/25/36-window

Multiple-channel Playback	Max 16-channel playback.
Alarm Input	16-ch alarm input
Alarm Output	6-ch alarm output
	Relay output. Relay （DC 30V 1A，AC 125V 0.5A（Activation output）） Including one controllable DC +12V output.
Storage	8 built-in SATA ports.
	1 peripheral eSATA port
RS232 Port (RS-422)	One RS232 port to debug transparent COM data.
RS485 port (RS-485)	One RS485 port to control PTZ. Support various protocols.
USB2.0 Port	4 peripheral USB2.0 ports.
Network Connection	Two RJ45 10/100M/1000Mbps self-adaptive Ethernet ports.
Power Port	One power port. AC100-240V, 50-60Hz, 1.9A.
Power Button	One power button in the rear panel.
Power Button	One power button in the front panel.
IR Remote Control Receiver	Support IR remote control
Clock	Built-in clock.
Indication Light	● 16 record status indication lights ● One system running status indication light. ● One remote control button indication light.
Power Consumption	＜40W(Exclude HDD)
Working Temperature	－10℃～＋55℃
Working Humidity	10%－90%
Air pressure	86kpa－106kpa
Dimension	440mm×460mm×89mm
Weight	5.5～6.5 KG（Exclude HDD）
Installation	Desk installation

2 Front Panel and Rear Panel

2.1 Front Panel

2.1.1 NVR21/21-P/21-S/31/31-W/31-P/31-S Series

The NVR21/21-P/21-S front panel is shown as in Figure 2-1.

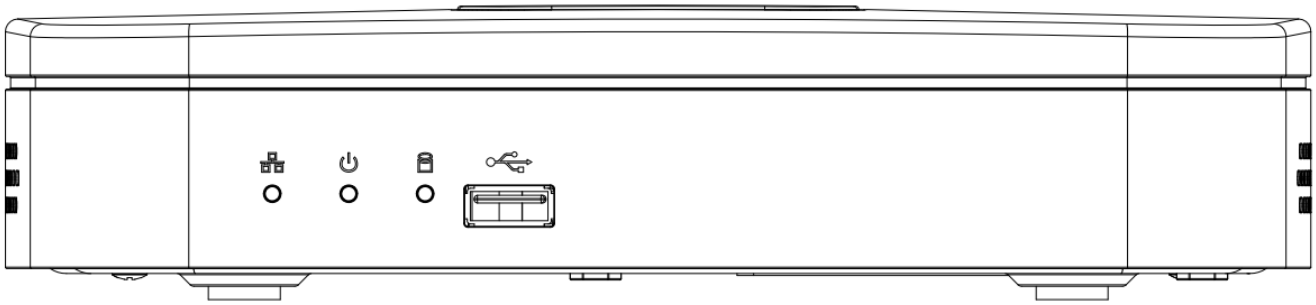


Figure 2-1

The NVR31/31-W/31-P/31-S front panel is shown as in Figure 2-2.

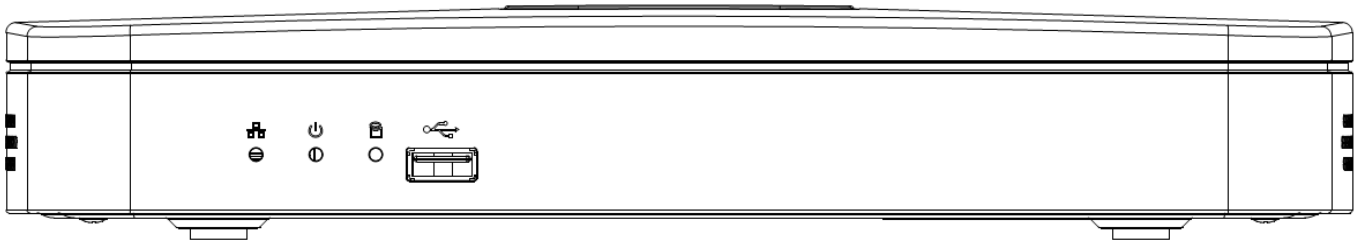


Figure 2-2

Please refer to the following sheet for detailed information.

Icon	Name	Function
⏻	Power indicator light	The blue light becomes on when the power connection is OK.
🖧	Network status indicator light	The blue light becomes on when the network connection is abnormal or offline.
🖴	HDD status indictor light	The red light becomes on when HDD is abnormal or HDD space is below the threshold.
⇄	USB	USB port. Connect to USB storage device, mouse burner and etc.

2.1.2 NVR21H Series

The front panel is shown as in Figure 2-3.

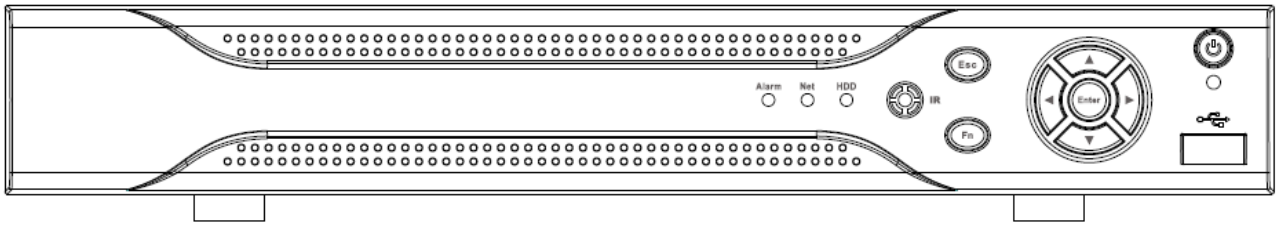


Figure 2-3

Please refer to the following sheet for detailed information.

Name	Icon	Function
Power button		Power button, press this button for three seconds to boot up or shut down NVR.
Up/ Down	▲▼	Activate current control, modify setup, and then move up and down.
		Increase/decrease numeral.
		Assistant function such as PTZ menu.
Left/ Right	◄ ►	Shift current activated control,
		When playback, click these buttons to control playback bar.
ESC	Esc	Go to previous menu, or cancel current operation.
		When playback, click it to restore real-time monitor mode.
Enter	Enter	Confirm current operation
		Go to default button
		Go to menu
Assistant	Fn	One-window monitor mode, click this button to display assistant function: PTZ control and image color.
		Backspace function: in numeral control or text control, press it for 1.5seconds to delete the previous character before the cursor.
		In motion detection setup, working with Fn and direction keys to realize setup.
		In text mode, click it to switch between numeral, English character(small/capitalized) and etc.
		Realize other special functions.
USB port		To connect USB storage device, USB mouse.

Network abnormal indication light	Net	Network error occurs or there is no network connection, the light becomes red to alert you.
HDD abnormal indication light	HDD	HDD error occurs or HDD capacity is below specified threshold value, the light becomes red to alert you.
IR Receiver	IR	It is to receive the signal from the remote control.
Alarm indication light	Alarm	The light becomes on when there is an alarm.

2.1.3 NVR31H Series

The front panel is shown as below. See Figure 2-4.

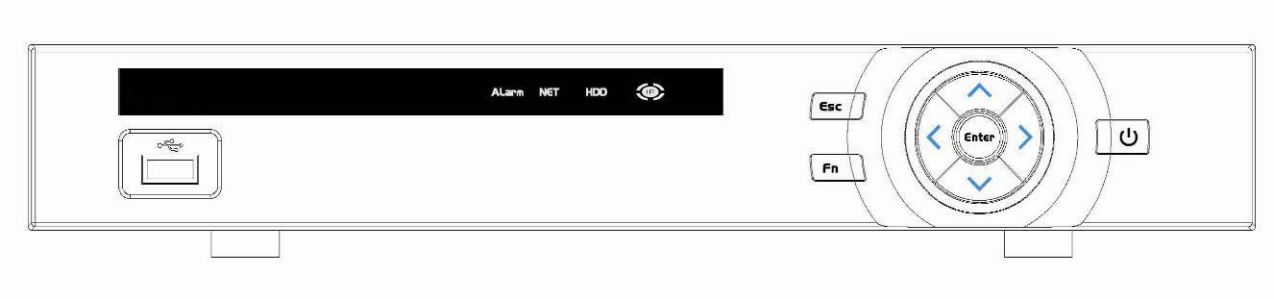


Figure 2-4

Please refer to the following sheet for front panel button information.

Name	Icon	Function
Power button	⏻	Power button, press this button for three seconds to boot up or shut down NVR.
Up Down	▲、▼	Activate current control, modify setup, and then move up and down.
		Increase/decrease numeral.
		Assistant function such as PTZ menu.
Left Right	◄ ►	Shift current activated control,
		When playback, click these buttons to control playback bar.
ESC	ESC	Go to previous menu, or cancel current operation.
		When playback, click it to restore real-time monitor mode.
Enter	ENTER	Confirm current operation
		Go to default button

		Go to menu
Slow play		Multiple slow play speeds or normal playback.
Assistant	Fn	One-window monitor mode, click this button to display assistant function: PTZ control and image color.
		Backspace function: in numeral control or text control, press it for 1.5seconds to delete the previous character before the cursor.
		In motion detection setup, working with Fn and direction keys to realize setup.
		In text mode, click it to switch between numeral, English character(small/capitalized) and etc.
		Realize other special functions.
USB port		To connect USB storage device, USB mouse.
Network abnormal indication light	Net	Network error occurs or there is no network connection, the light becomes red to alert you.
HDD abnormal indication light	HDD	HDD error occurs or HDD capacity is below specified threshold value, the light becomes red to alert you.
IR Receiver	IR	It is to receive the signal from the remote control.

2.1.4 NVR32/32-P Series

The front panel is shown as in Figure 2-5.

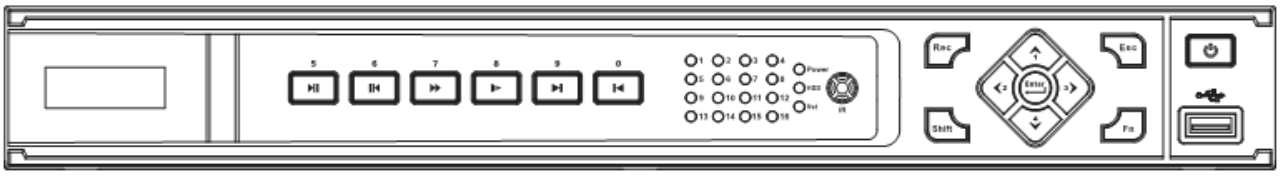


Figure 2-5

Please refer to the following sheet for front panel button information.

Name	Icon	Function
Power button	⏻	Power button, press this button for three seconds to boot up or shut down NVR.
Number button	Number 0-9 and etc	● Input Arabic number ● Switch channel

Shift	↑	● In textbox, click this button to switch between numeral, English (Small/Capitalized), donation and etc. ● Enable or disable tour.
Fast play	▶▶	Various fast speeds and normal playback.
Slow play	▶	Multiple slow play speeds or normal playback.
Play/Pause	▶ II	● In backward playback or pause mode, click this button to go normal playback. ● In normal playback click this button to pause playback ● In pause mode, click this button to resume playback.
Reverse/Pause	II ◀	● In normal playback or pause mode, click this button to reverse ● playback
Play previous	I◀	In playback mode, playback the previous video
Play Next	▶I	● In playback mode, playback the next video
Up/Down	∧, ∨	● Activate current control, modify setup, and then move up and down. ● Increase/decrease numeral. ● Assistant function such as PTZ menu.
Left/Right	<, >	● Shift current activated control, and then move left and right. ● When playback, click these buttons to control playback bar.
ESC	**ESC**	● Go to previous menu, or cancel current operation. ● When playback, click it to restore real-time monitor mode.
Enter	**ENTER**	● Confirm current operation ● Go to default button ● Go to menu
Assistant	**Fn**	● One-window monitor mode, click this button to display assistant function: PTZ control and image color. ● Backspace function: in numeral control or text control, press it for 1.5 seconds to delete the previous character before the cursor. ● In motion detection setup, working with Fn and direction keys to realize setup. ● In text mode, click it to switch between numeral, English character (small/capitalized) and etc. ● In HDD management interface, you can click it to switch HDD record information and other information (Menu prompt) ● Realize other special functions.

Record	**REC**	Manually stop/start recording, working with direction keys or numeral keys to select the recording channel.
Window switch	**Mult**	Click it to switch one-window/multiple-window.
USB2.0 port		To connect USB2.0 storage device, USB2.0 mouse, burner and etc.
Record light	**1-16**	For 4/8/16 channel device: indication light on means that the channel is in recording.
Power indication light	**Power**	Power indication light.
HDD abnormal indication light	**HDD**	HDD error occurs or HDD capacity is below specified threshold value, the light becomes red to alert you.
Network abnormal indication light	**Net**	Network error occurs or there is no network connection, the light becomes red to alert you.
IR Receiver	**IR**	It is to receive the signal from the remote control.

2.1.5 NVR50 Series

The front panel is shown as in Figure 2-6.

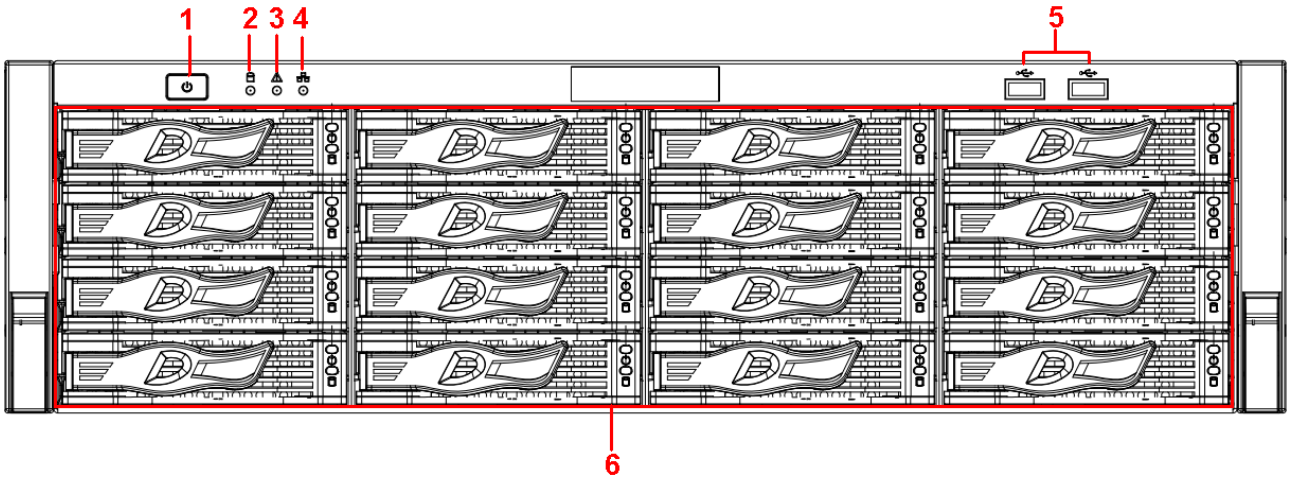


Figure 2-6

Please refer to the following sheet for detailed information.

SN	Name	Icon	Function
1	Power button		Press it once to turn on the device. Press it for a long time to turn off the device (**Usually we do not recommend**).
2	System HDD Indication light		The blue alarm light is on when there is no disk, disk is abnormal or disk space is lower than a specified threshold.
3	Alarm indication light		The alarm indication light becomes red once an alarm occurred.

4	Network indication light		The network alarm indication light is blue when the device Is offline or network is abnormal.
5	USB2.0 port		Connect to USB2.0 storage device,mouse, burner and etc.
6	16-HDD slots	/	/

After you remove the front panel, you can see there are 16 HDDs. From the left to the right and from the top to the bottom, it ranges from 1~4, 5~8, 9~12, 13~16. See Figure 2-7.

You can see there are two indication lights on the HDD bracket.

- The power indication light is at the top. The light is yellow after you connected the device to the power.
- The read-write indication light is at the bottom. The blue light flashes when system is reading or writing the data.

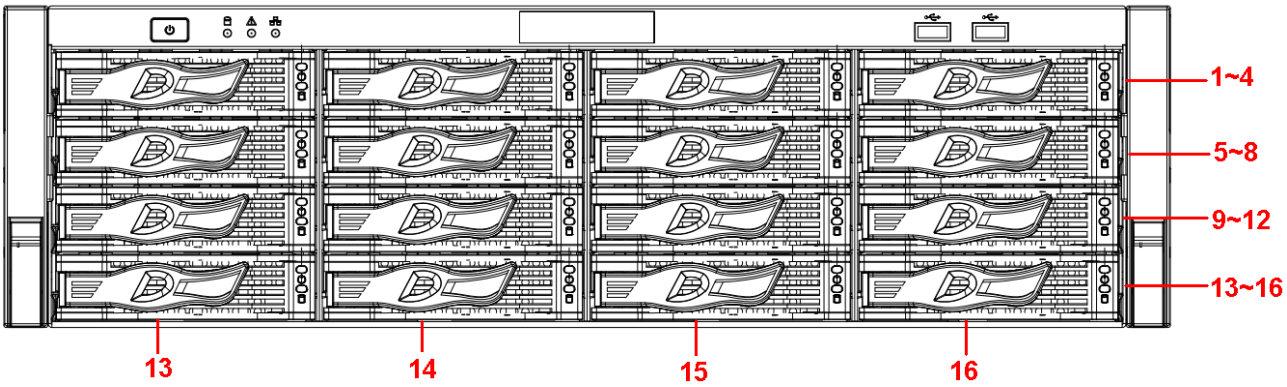


Figure 2-7

2.1.6 NVR22/32-8P/52/52-P Series

The front panel is shown as below. See Figure 2-8.

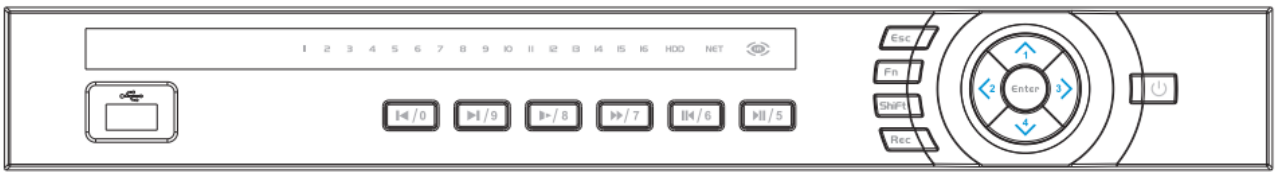


Figure 2-8

Please refer to the following sheet for front panel button information.

Name	Icon	Function
Power button		Power button, press this button for three seconds to boot up or shut down NVR.
USB2.0 port		To connect USB storage device, USB mouse, burner and etc.
Up/1 Down/4	▲,▼	● Activate current control, modify setup, and then move up and down. ● Change setup. Increase/decrease numeral. ● Assistant function such as PTZ menu.

Left/2 Right/3	◀, ▶	Shift current activated control, move left or right. When playback, click these buttons to control playback bar.
Play/Pause /5	▶ II	In normal playback click this button to start/pause playback.
Reverse/Pause /6	II ◀	In normal playback or pause mode, click this button to reverse playback.
Fast play/7	▶▶	Various fast speeds and normal playback.
Slow play/8	▶	Multiple slow play speeds or normal playback.
Play Next/9	▶|	In playback mode, playback the next video
Play previous/0	|◀	In playback mode, playback the previous video.
HDD abnormal indication light	HDD	HDD error occurs or HDD capacity is below specified threshold value, the light becomes red to alert you.
Network abnormal indication light	Net	Network error occurs or there is no network connection, the light becomes red to alert you.
Record light	1-16	System is recording or not. It becomes on when system is recording.
IR Receiver	IR	It is to receive the signal from the remote control.
ESC	Esc	● Go to previous menu, or cancel current operation. ● When playback, click it to restore real-time monitor mode.
Enter	Enter	● Confirm current operation. ● Go to default button. ● Go to menu.
Assistant	Fn	● One-window monitor mode, click this button to display assistant function: PTZ control and image color. ● Backspace function: in numeral control or text control, press it for 1.5seconds to delete the previous character before the cursor. ● In motion detection setup, working with Fn and direction keys to realize setup. ● In text mode, click it to switch between numeral, English character (small/capitalized) and etc. ● Realize other special functions.
Shift	Shift	● In textbox, click this button to switch between numeral, English (Small/Capitalized), donation and etc. ● During tour process, enable/disable tour. ● Click it to auto adjust resolution after device booted up.
Record	Rec	Manually stop/start recording, working with direction keys or numeral keys to select the recording channel.

2.1.7 NVR24/54/54-8P/54-16P Series

The front panel is shown as in Figure 2-9.

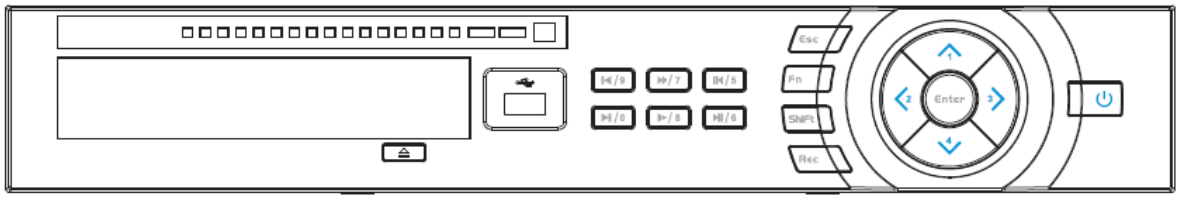


Figure 2-9

Please refer to the following sheet for front panel button information.

Name	Icon	Function
Power button		Power button, press this button for three seconds to boot up or shut down NVR.
Shift	Shift	In textbox, click this button to switch between numeral, English(Small/Capitalized),donation and etc.
Up/1 Down/4	▲、▼	Activate current control, modify setup, and then move up and down.
		Increase/decrease numeral.
		Assistant function such as PTZ menu.
		In text mode, input number 1/4 (English character G/H/I)
Left/2 Right/3	◄ ►	Shift current activated control,
		When playback, click these buttons to control playback bar. In text mode, input number 2(English character A/B/C) /3(English character D/E/F)
ESC	ESC	Go to previous menu, or cancel current operation.
		When playback, click it to restore real-time monitor mode.
Enter	ENTER	Confirm current operation
		Go to default button
		Go to menu
Record	REC	Manually stop/start recording, working with direction keys or numeral keys to select the recording channel.
Slow play/8		Multiple slow play speeds or normal playback. In text mode, input number 8 (English character T/U/V).
Assistant	Fn	One-window monitor mode, click this button to display assistant function: PTZ control and image color.
		Backspace function: in numeral control or text control, press it for 1.5seconds to delete the previous character before the cursor.

		In motion detection setup, working with Fn and direction keys to realize setup.
		In text mode, click it to switch between numeral, English character(small/capitalized) and etc.
		Realize other special functions.
Fast play/7	⏩	Various fast speeds and normal playback. In text mode, input number 7 (English character P/Q/R/S).
Play previous/0	⏮	In playback mode, playback the previous video In text mode, input number 0.
Reverse/Pause/6	⏸◀	In normal playback or pause mode, click this button to reverse playback In reverse playback, click this button to pause playback.
Play Next/9	⏭	In playback mode, playback the next video In menu setup, go to down ward of the dropdown list. In text mode, input number 9 (English character W/X/Y/Z)
Play/Pause /5	▶⏸	In normal playback click this button to pause playback In pause mode, click this button to resume playback. In text mode, input number 5(English character J/K/L).
USB port		To connect USB storage device, USB mouse.
Network abnormal indication light	Net	Network error occurs or there is no network connection, the light becomes red to alert you.
HDD abnormal indication light	HDD	HDD error occurs or HDD capacity is below specified threshold value, the light becomes red to alert you.
Record light	1-16	System is recording or not. It becomes on when system is recording.

2.1.8 NVR32V/32V-P Series

The front panel is shown as below. See Figure 2-10.

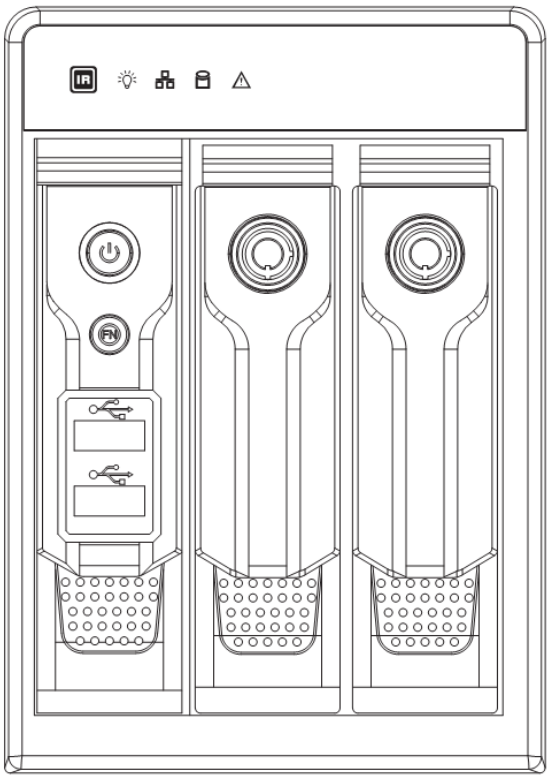


Figure 2-10

Please refer to the following sheet for front panel button information.

Name	Icon	Function
Power button	⏻	Power button, press this button for three seconds to boot up or shut down NVR.
Assistant	Fn	● One-window monitor mode, click this button to display assistant function: PTZ control and image color. ● Backspace function: in numeral control or text control, press it for 1.5 seconds to delete the previous character before the cursor. ● In motion detection setup, working with Fn and direction keys to realize setup. ● In text mode, click it to switch between numeral, English character (small/capitalized) and etc. ● In HDD management interface, you can click it to switch HDD record information and other information (Menu prompt) ● Realize other special functions.
USB2.0 port		To connect USB2.0 storage device, USB2.0 mouse, burner and etc.
Power indication light		Power indication light.
HDD abnormal indication light		HDD error occurs or HDD capacity is below specified threshold value, the light becomes red to alert you.

Network abnormal indication light		Network error occurs or there is no network connection, the light becomes red to alert you.
Alarm indicator light	⚠	The light becomes on when an alarm occurred.

2.1.9 NVR34V/34V-P Series

The front panel is shown as in Figure 2-11.

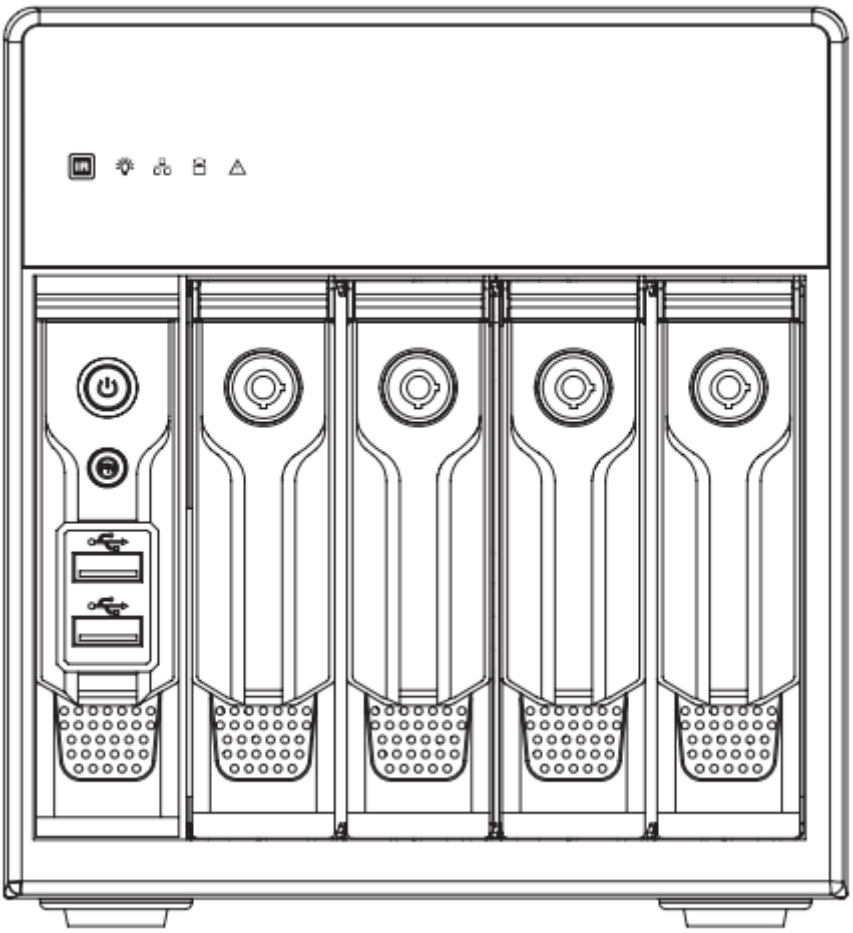


Figure 2-11

Please refer to the following sheet for front panel button information.

Name	Icon	Function
Power button	⏻	Power button, press this button for three seconds to boot up or shut down NVR.
Assistant	Fn	● One-window monitor mode, click this button to display assistant function: PTZ control and image color. ● Backspace function: in numeral control or text control, press it for 1.5 seconds to delete the previous character before the cursor. ● In motion detection setup, working with Fn and direction keys to realize setup. ● In text mode, click it to switch between numeral, English character (small/capitalized) and etc.

		● In HDD management interface, you can click it to switch HDD record information and other information (Menu prompt) ● Realize other special functions.
USB2.0 port		To connect USB2.0 storage device, USB2.0 mouse, burner and etc.
Power indication light		Power indication light.
HDD abnormal indication light		HDD error occurs or HDD capacity is below specified threshold value, the light becomes red to alert you.
Network abnormal indication light		Network error occurs or there is no network connection, the light becomes red to alert you.
Alarm indicator light		The light becomes on when an alarm occurred.

2.1.10 NVR38/58 Series

The front panel is shown as in Figure 2-12.

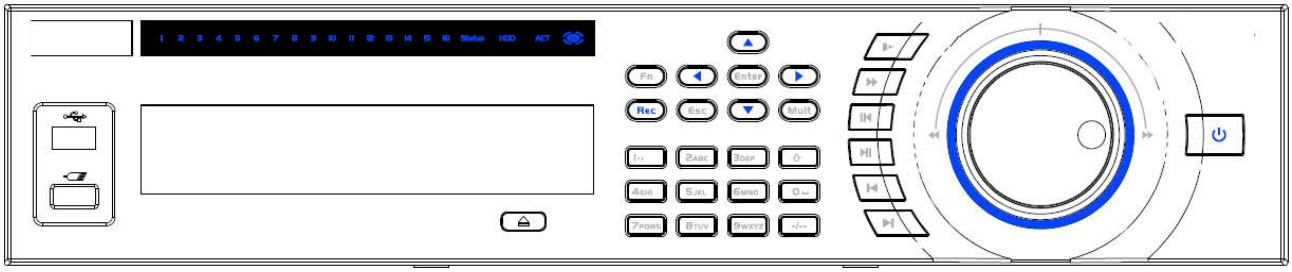


Figure 2-12

Please refer to the following sheet for front panel button information.

Name	Icon	Function
Power button		Power button, press this button for three seconds to boot up or shut down NVR.
Number button	Number 0-9 and etc	● Input Arabic number ● Switch channel
Input number more than 10	-/--	If you want to input a number more than 10, please click this button and then input.
Shift		● In textbox, click this button to switch between numeral, English (Small/Capitalized), donation and etc. ● Enable or disable tour.
Fast play		Various fast speeds and normal playback.
Slow play		Multiple slow play speeds or normal playback.

Play/Pause	►II	● In normal playback click this button to pause playback ● In pause mode, click this button to resume playback.
Reverse/Pause	II◄	● In normal playback or pause mode, click this button to reverse ● playback
Play previous	|◄	In playback mode, playback the previous video
Play Next	►|	In playback mode, playback the next video
Up/ Down	▲, ▼	● Activate current control, modify setup, and then move up and down. ● Increase/decrease numeral. ● Assistant function such as PTZ menu.
Left/ Right	◄, ►	● Shift current activated control, and then move left and right. ● When playback, click these buttons to control playback bar.
ESC	**ESC**	● Go to previous menu, or cancel current operation. ● When playback, click it to restore real-time monitor mode.
Enter	**ENTER**	● Confirm current operation ● Go to default button ● Go to menu
Assistant	**Fn**	● One-window monitor mode, click this button to display assistant function: PTZ control and image color. ● Backspace function: in numeral control or text control, press it for 1.5 seconds to delete the previous character before the cursor. ● In motion detection setup, working with Fn and direction keys to realize setup. ● In text mode, click it to switch between numeral, English character (small/capitalized) and etc. ● In HDD management interface, you can click it to switch HDD record information and other information (Menu prompt) ● Realize other special functions.
Record	**REC**	Manually stop/start recording, working with direction keys or numeral keys to select the recording channel.
Window switch	**Mult**	Click it to switch one-window/multiple-window.
Shuttle(outer ring)		● In real-time monitor mode it works as left/right direction key. ● In playback mode, counter clockwise to forward and clock wise to backward.

Jog(inner dial)		● Up/down direction key. ● Playback mode, turn the inner dial to realized frame by frame playback. (Only applies to some special versions.)
USB2.0 port		To connect USB2.0 storage device, USB2.0 mouse, burner and etc.
Record light	**1-16**	For 4/8/16 channel device: indication light on means that the channel is in recording. For 32 channel device, channel 17-32 reuse the indication light 1 to 16. For example, the first indication light has the following four statuses: ● The first indication light flashes slowly when the 1-channel is recording while the 17-channel does not record. ● The firs indication light flashes quickly when the 1-channel does not record while the 17-channel is recording. ● The first indication light is on when the 1-channel is recording and the 17-channel is recording. ● The first indication light is off when the 1-channel does not record and the 17-channel does not record.
Remote control indication light	**ACT**	Remote control indication light
Status indication light	**Status**	If there is Fn indication light, current status indication light is null.
Power indication light	**PWR**	Power indication light

2.2 Rear Panel

2.2.1 NVR21/21-P/21-S Series

The NVR21 series rear panel is shown as below. See Figure 2-13.

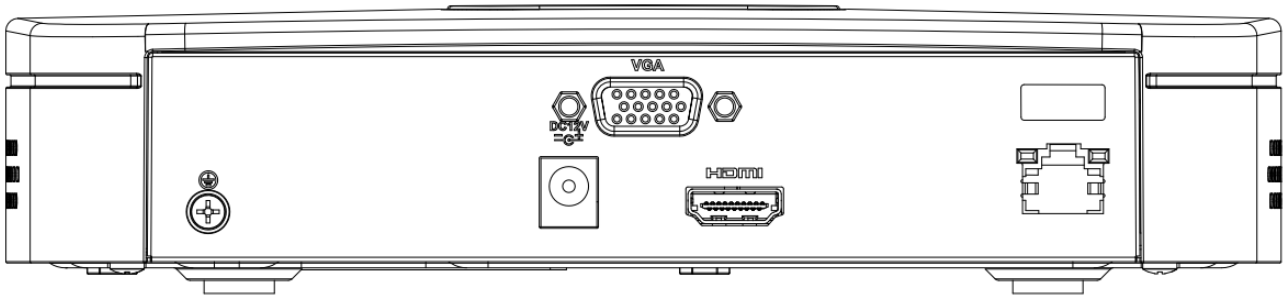


Figure 2-13

The NVR21-P series rear panel is shown as below. See Figure 2-14.

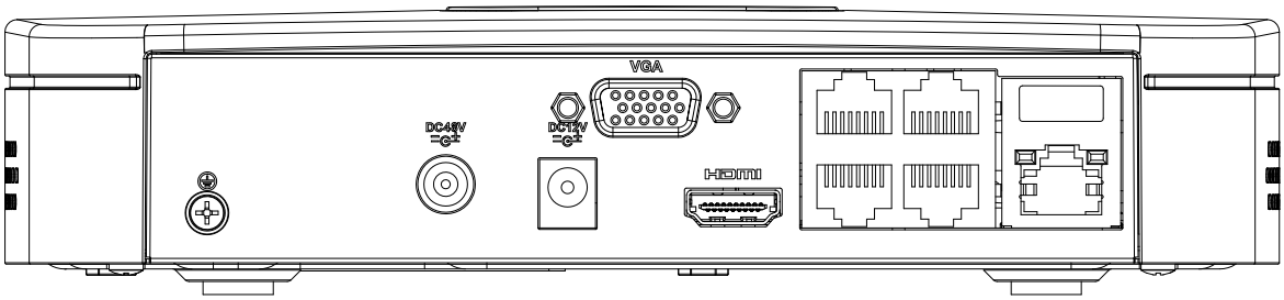


Figure 2-14

The NVR21-S series rear panel is shown as below. See Figure 2-15.

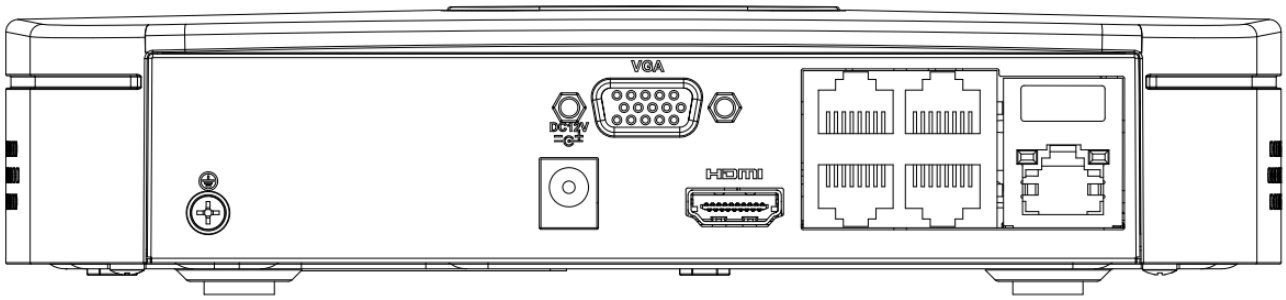


Figure 2-15

Please refer to the following sheet for detailed information.

Port Name		Function
	Network port	10M/100Mbps self-adaptive Ethernet port. Connect to the network cable.
HDMI	High Definition Media Interface	High definition audio and video signal output port. It transmits uncompressed high definition video and multiple-channel data to the HDMI port of the display device. HDMI version is 1.3.
VGA	VGA video output port	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.
	GND	Alarm input port GND port.
DC 12V	Power input port	Power port. Input 12V DC/2A.
DC 48V	Power input port	Switch power port. Input DC 48V//1.04A. **Please note 21/21-S series does not have this port.**
PoE PORTS	Four PoE ports	Built-in Switch supports PoE function. The 4 PoE ports series product supports total 48V 50W. **Please note 21series does not have this port.**

2.2.2 NVR21H/21H-P/31H/31H-P Series

The NVR210XH/310XH series rear panel is shown as below. See Figure 2-16.

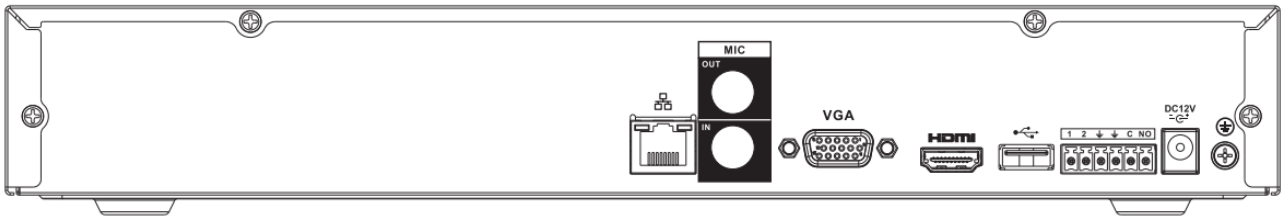


Figure 2-16

The NVR210XH-P/310XH-P series rear panel is shown as below. See Figure 2-17.

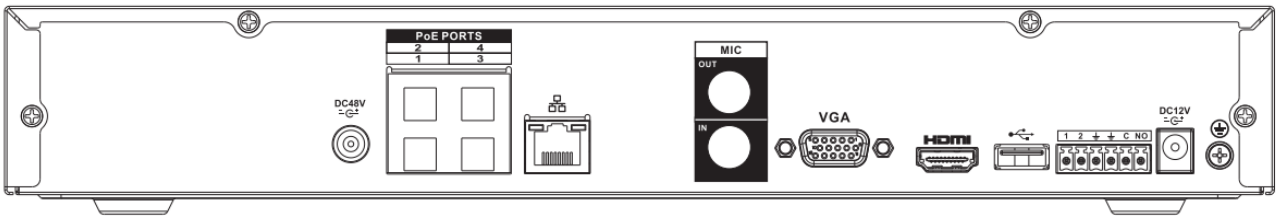


Figure 2-17

Please refer to the following sheet for detailed information.

Port Name		Function
DC 48V	Power input port	Switch power port. Input DC 48V/1.04A.
PoE PORTS	Four PoE ports	Built-in Switch supports PoE function.
	Network port	10M/100Mbps self-adaptive Ethernet port. Connect to the network cable.
MIC OUT	Audio output port	Audio output port. It is to output the analog audio signal to the devices such as the sound box. ● Bidirectional talk output. ● Audio output on 1-window video monitor. ● Audio output on 1-window video playback.
MIC IN	Audio input port	Bidirectional talk input port. It is to receive the analog audio signal output from the devices such as mike phone, pickup.
VGA	VGA video output port	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.
HDMI	High Definition Media Interface	High definition audio and video signal output port. It transmits uncompressed high definition video and multiple-channel data to the HDMI port of the display device. HDMI version is 1.3.

Port Name		Function
1.2	Alarm input port 1～2	● Alarm input port. ● When your alarm input device is using external power, please make sure the device and the NVR have the same ground.
⏚	Alarm input port ground end	Alarm input ground end.
NO	Alarm output port	● Alarm output port. Output alarm signal to the peripheral alarm device. Please make sure there is power to the external alarm device. ● NO: Normal open alarm output port. ● C: Alarm output public end.
C		
DC 12V	Power input port	Input DC 12V/2A.
⇐	USB port	Connect to peripheral USB storage device, mouse, DVD-burner and etc.

2.2.3 NVR22 Series

The NVR22 series rear panel is shown as below. See Figure 2-18.

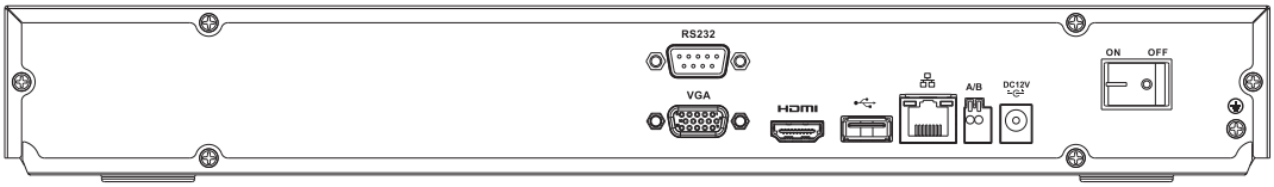


Figure 2-18

Please refer to the following sheet for detailed information.

Port Name		Function
RS232(RS-422)	232 debug COM.	It is for general COM debug to configure IP address or transfer transparent COM data.
VGA	VGA video output port	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.
HDMI	High Definition Media Interface	High definition audio and video signal output port. It transmits uncompressed high definition video and multiple-channel data to the HDMI port of the display device. HDMI version is 1.3.
⇐	USB2.0 port.	USB2.0 port. Connect to mouse, USB storage device, CD-Burner and etc.
品	Network port	10M/100M/1000Mbps self-adaptive Ethernet port. Connect to the network cable.
A	RS485 (RS-485)	RS485_A port. It is the cable A. You can connect to the control devices such as speed dome PTZ.

Port Name		Function
B	communication port	RS485_B.It is the cable B. You can connect to the control devices such as speed dome PTZ.
DC 12V	Power input port	Input DC 12V/4A.
Power button	/	Power on/off button.
⏚	GND	Alarm input ground end.

2.2.4 NVR24 Series

The NVR24 series rear panel is shown as below. See Figure 2-19.

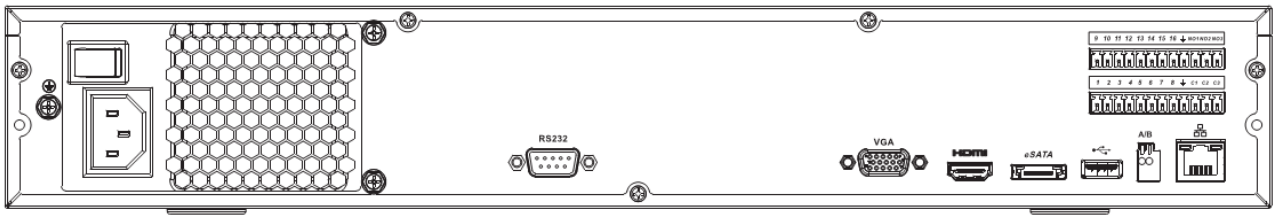


Figure 2-19

Please refer to the following sheet for detailed information.

Icon	Port Name	Function
RS232	RS232（RS-422）	It is for general COM debug to configure IP address or transfer transparent COM data.
VGA	VGA video output port	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.
HDMI	High Definition Media Interface	High definition audio and video signal output port. It transmits uncompressed high definition video and multiple-channel data to the HDMI port of the display device. HDMI version is 1.3.
eSATA	eSATA port	External SATA port. It can connect to the device of the SATA port. Please jump the HDD when there is peripheral connected HDD.
	USB2.0 port.	Connect to USB storage device, mouse, burning DVD-ROM and etc.
	Network port	10M/100/1000Mbps self-adaptive Ethernet port. Connect to the network cable.
A	RS485 (RS-485) communication port	RS485_A port. It is the cable A. You can connect to the control devices such as speed dome PTZ.
B		RS485_B.It is the cable B. You can connect to the control devices such as speed dome PTZ.

Icon	Port Name	Function
	Power button	Power on/off button.
	Alarm input port ground end	Alarm input ground end.
1～8	Alarm input port 1-8.	● There are two groups. The first group is from port 1 to port 4; the second group is from port 5 to port 8. They are to receive the signal from the external alarm source. There are two types; NO (normal open)/NC (normal close). ● When your alarm input device is using external power, please make sure the device and the NVR have the same ground.
	Alarm input port ground end	Alarm input ground end.
NO1～NO3 C1～C3	Alarm output port 1～3	● 3 groups of alarm output ports. (Group 1：port NO1～C1,Group 2:port NO2 ～ C2,Group 3:port NO3 ～ C3）).Output alarm signal to the alarm device. Please make sure there is power to the external alarm device. ● NO：Normal open alarm output port. ● C：Alarm output public end.

2.2.5 NVR31/31-W /31-P/31-S Series

The NVR31series rear panel is shown as below. See Figure 2-20.

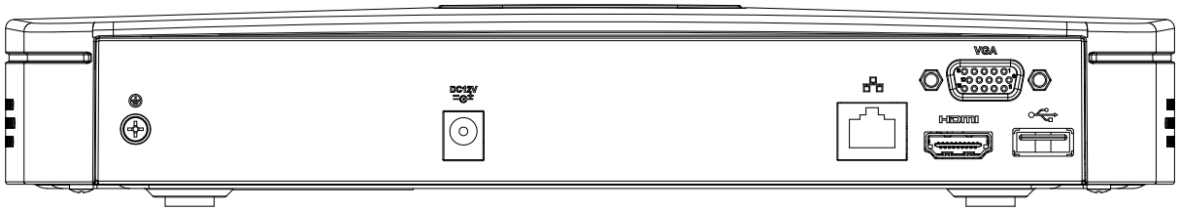


Figure 2-20

The NVR31-W series rear panel is shown as below. See Figure 2-21.

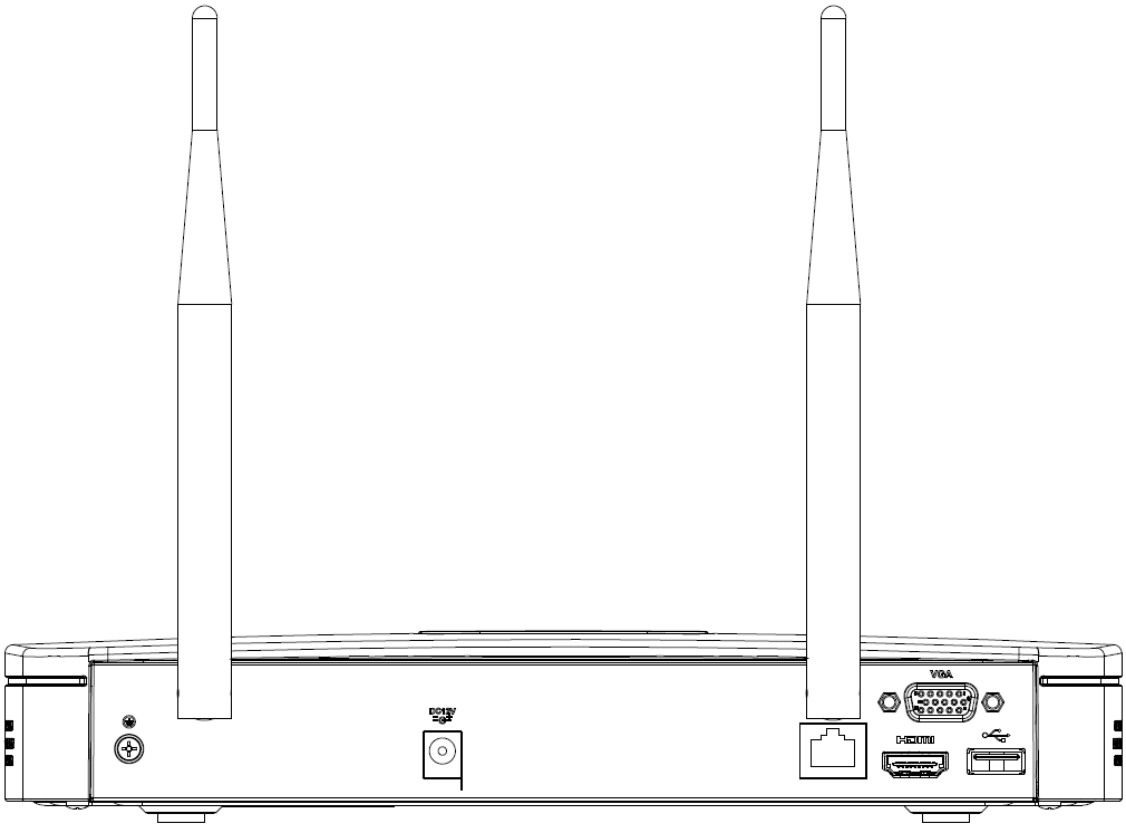


Figure 2-21

The NVR31-P series rear panel is shown as below. See Figure 2-22.

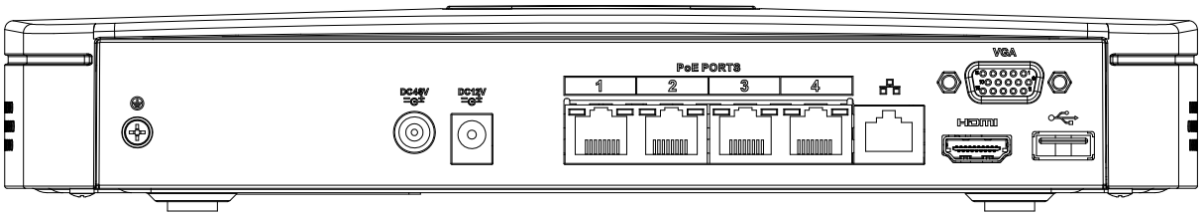


Figure 2-22

The NVR31-S series rear panel is shown as below. See Figure 2-23.

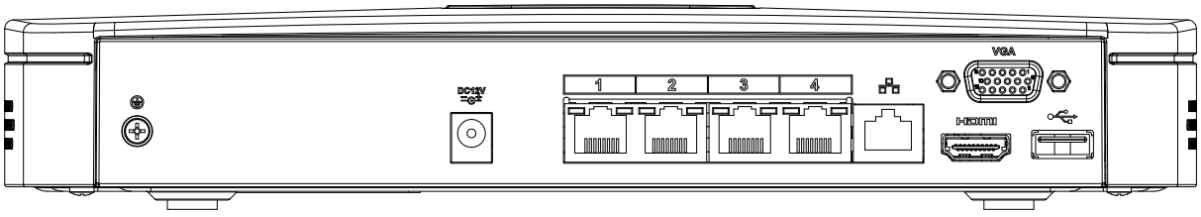


Figure 2-23

Please refer to the following sheet for detailed information.

Port Name		Function
	Network port	10M/100Mbps self-adaptive Ethernet port. Connect to the network cable.

Port Name		Function
HDMI	High Definition Media Interface	High definition audio and video signal output port. It transmits uncompressed high definition video and multiple-channel data to the HDMI port of the display device. HDMI version is 1.4.
VGA	VGA video output port	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.
⏚	GND	Alarm input port GND port.
DC 12V	Power input port	Power port. Input DC12V /2A.
DC 48V	Power input port	Switch power port. Input DC 48V//1.04A.
PoE PORTS	4 PoE ports	Built-in Switch supports PoE function. The 4 PoE ports series product supports total 48V 50W.
⇐	USB 2.0 port	USB 2.0 port. Conenct to mouse.
Wireless AP		Support wireless hotspot function. Use WIFI to connect to the network camera when there is a hotspot.

2.2.6 NVR32 Series

The rear panel is shown as below. See Figure 2-24.

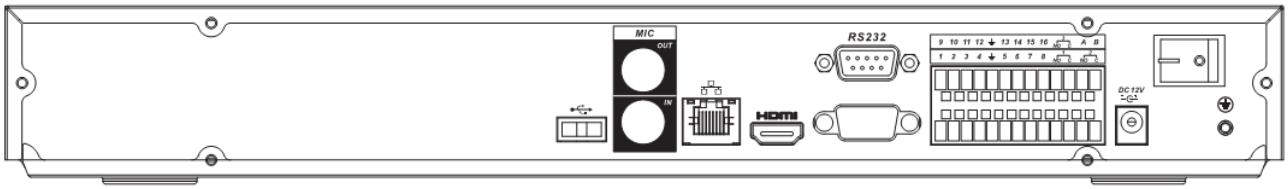


Figure 2-24

Please refer to the following sheet for detailed information.

Port Name		Function
⇐	USB2.0 port.	Connect to USB2.0 mouse.
品	Network port	10M/100M/1000Mbps self-adaptive Ethernet port. Connect to the network cable.
RS232(RS-422)	RS-232 debug COM.	It is for general COM debug to configure IP address or transfer transparent COM data.

Port Name		Function
HDMI	High Definition Media Interface	High definition audio and video signal output port. It transmits uncompressed high definition video and multiple-channel data to the HDMI port of the display device. HDMI version is 1.4.
VGA	VGA video output port	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.
1-16	Alarm input port.	● There are four groups. The first group is from port 1 to port 4, the second group is from port 5 to port 8, the third group is from 9 to 12, and the fourth group is from 13 to 16. They are to receive the on-off signal from the external alarm source. There are two types; NO (normal open)/NC (normal close). ● When your alarm input device is using external power, please make sure the device and the NVR have the same ground.
⏚	Alarm input port ground end	Alarm input ground end.
NO1 to NO3	3-ch alarm output port	• 3 groups of alarm output ports. (Group 1：port NO1～C1,Group 2:port NO2～C2,Group 3:port NO3～C3）).Output alarm signal to the alarm device. Please make sure there is power to the external alarm device. • NO：Normal open alarm output port. • C：Alarm output public end.
C1 to C3		
A	RS485 (RS-485) communication port	RS485_A port. It is the cable A. You can connect to the control devices such as speed dome PTZ.
B		RS485_B.It is the cable B. You can connect to the control devices such as speed dome PTZ.
DC 12V	Power input port	Input DC 12V/5A.
Power button	/	Power on/off button.

2.2.7 NVR32-P/32-8P Series

The rear panel of the NVR32-P series is shown as below. See Figure 2-25.

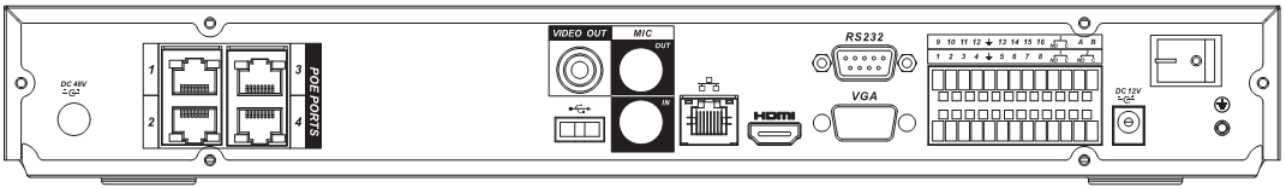


Figure 2-25

The rear panel of the NVR32-8P series is shown as below. See Figure 2-26.

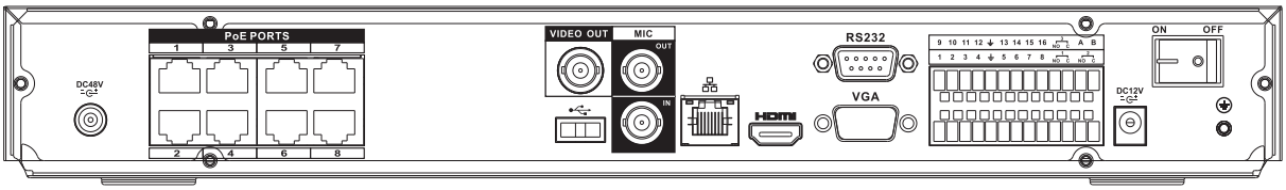


Figure 2-26

Please refer to the following sheet for detailed information.

Port Name		Function
	USB2.0 port.	Connect to USB2.0 mouse.
	Network port	10M/100M/1000Mbps self-adaptive Ethernet port. Connect to the network cable.
RS232(RS-422)	232 debug COM.	It is for general COM debug to configure IP address or transfer transparent COM data.
HDMI	High Definition Media Interface	High definition audio and video signal output port. It transmits uncompressed high definition video and multiple-channel data to the HDMI port of the display device. HDMI version is 1.4.
VGA	VGA video output port	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.
1-16	Alarm input port.	● There are four groups. The first group is from port 1 to port 4, the second group is from port 5 to port 8, the third group is from 9 to 12, and the fourth group is from 13 to 16. They are to receive the signal from the external alarm source. There are two types; NO (normal open)/NC (normal close). ● When your alarm input device is using external power, please make sure the device and the NVR have the same ground.
	Alarm input port ground end	Alarm input ground end.

Port Name		Function
NO1 to NO3	3-ch alarm output port	• 3 groups of alarm output ports. (Group 1：port NO1～C1,Group 2:port NO2～C2,Group 3:port NO3～C3）).Output alarm signal to the alarm device. Please make sure there is power to the external alarm device. • NO：Normal open alarm output port. • C：Alarm output public end.
C1 to C3		
A	RS485 (RS-485) communication port	RS485_A port. It is the cable A. You can connect to the control devices such as speed dome PTZ.
B		RS485_B.It is the cable B. You can connect to the control devices such as speed dome PTZ.
DC 12V	Power input port	Input 12V DC.
Power button	/	Power on/off button.
PoE PORTS	/	Built-in Switch supports PoE function. The 4 PoE ports series product supports total 48V 50W. The 8 PoE ports series product supports total 48V 120W.
DC 48V	Power input port	Switch power port. Input DC 48V/1.04A (32-P) or DC 48V/2.5A (32-8P).
VIDEO OUT	Video input port	CVBS output
MIC IN	Audio input port	Bidirectional talk input port. It is to receive the analog audio signal output from the devices such as mike phone, pickup.
MIC OUT	Audio output port	Audio output port. It is to output the analog audio signal to the devices such as the sound box. • Bidirectional talk output. • Audio output on 1-window video monitor. • Audio output on 1-window video playback.

2.2.8 NVR32V/32V-P Series

The NVR32V series rear panel is shown as below. See Figure 2-27.

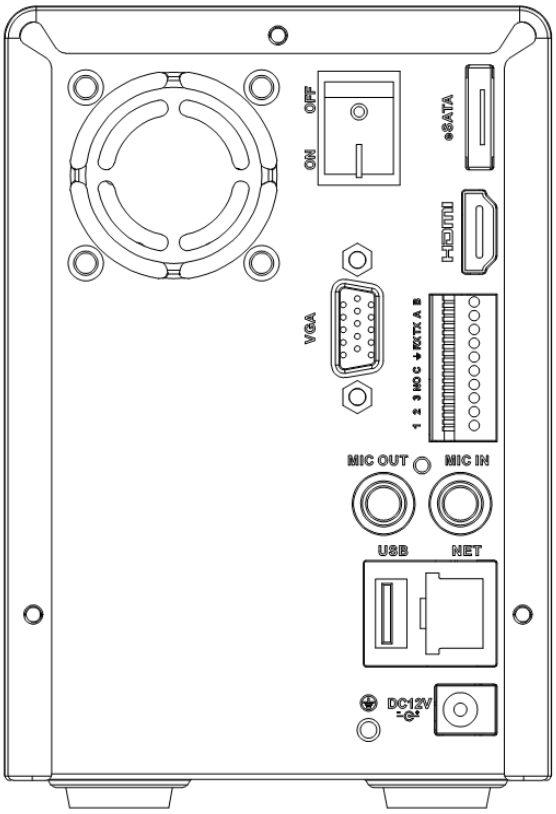


Figure 2-27

The NVR32V-P rear panel is shown as below. See Figure 2-28.

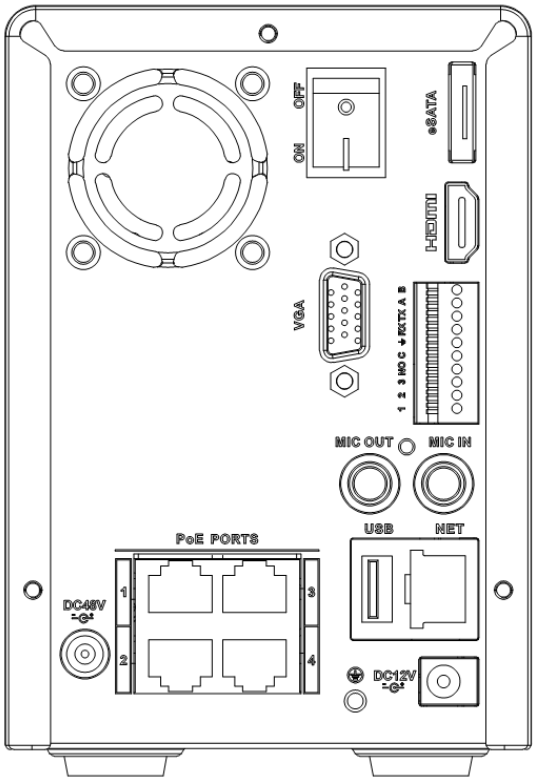


Figure 2-28

Please refer to the following sheet for detailed information.

Port Name		Function
USB2.0	USB2.0 port.	Connect to USB2.0 mouse.
NET	Network port	10M/100M/1000Mbps self-adaptive Ethernet port. Connect to the network cable.
HDMI	High Definition Media Interface	High definition audio and video signal output port. It transmits uncompressed high definition video and multiple-channel data to the HDMI port of the display device. HDMI version is 1.4.
VGA	VGA video output port	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.
1-3	Alarm input port 1-3.	● Alarm input port. ● When your alarm input device is using external power, please make sure the device and the NVR have the same ground.
	Alarm input port ground end	Alarm input ground end.
NO	Alarm output port	• 3 groups of alarm output ports. (Group 1：port NO1～C1,Group 2:port NO2～C2,Group 3:port NO3～C3）).Output alarm signal to the alarm device. Please make sure there is power to the external alarm device. • NO：Normal open alarm output port. • C：Alarm output public end.
C		
A	RS485 (RS-485) communication port	RS485_A port. It is the cable A. You can connect to the control devices such as speed dome PTZ.
B		RS485_B.It is the cable B. You can connect to the control devices such as speed dome PTZ.
	Power input port	Input DC12V/5A.
Power button	/	Power on/off button.
PoE PORTS	4 PoE ports	Built-in Switch supports PoE function. The 4 PoE ports series product supports total 48V 50W. **Please note the 32V series product does not have this port.**

Port Name		Function
DC 48V	Power input port	Switch power port. Input DC 48V/1.0.4A. **Please note the 32V series product does not have this port.**
MIC IN	Audio input port	Bidirectional talk input port. It is to receive the analog audio signal output from the devices such as mike phone, pickup.
MIC OUT	Audio output port	Audio output port. It is to output the analog audio signal to the devices such as the sound box. ● Bidirectional talk output. ● Audio output on 1-window video monitor. ● Audio output on 1-window video playback.
eSATA	eSATA port	External SATA port. It can connect to the device of the SATA port. Please jump the HDD when there is peripheral connected HDD.

2.2.9 NVR34V/34V-P Series

The NVR34V series rear panel is shown as below. See Figure 2-29.

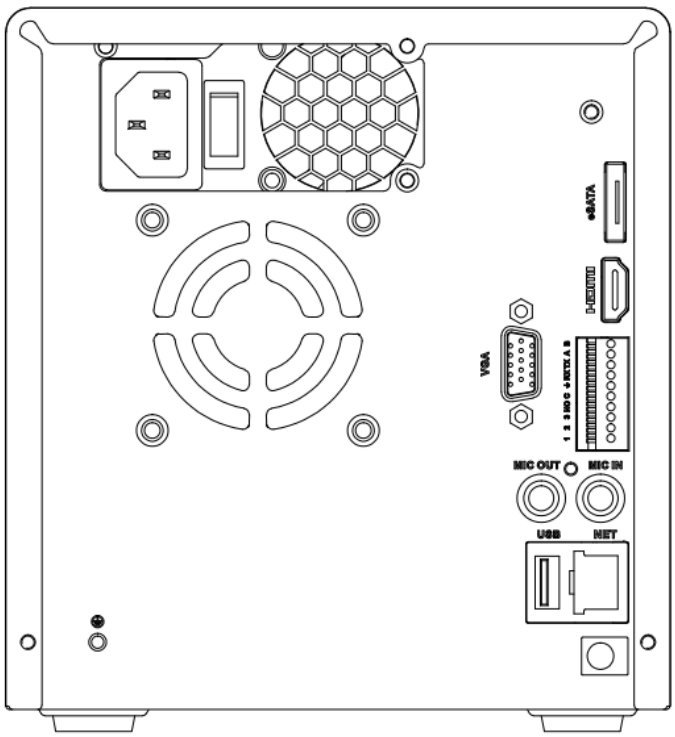


Figure 2-29

The NVR34V-P rear panel is shown as below. See Figure 2-30.

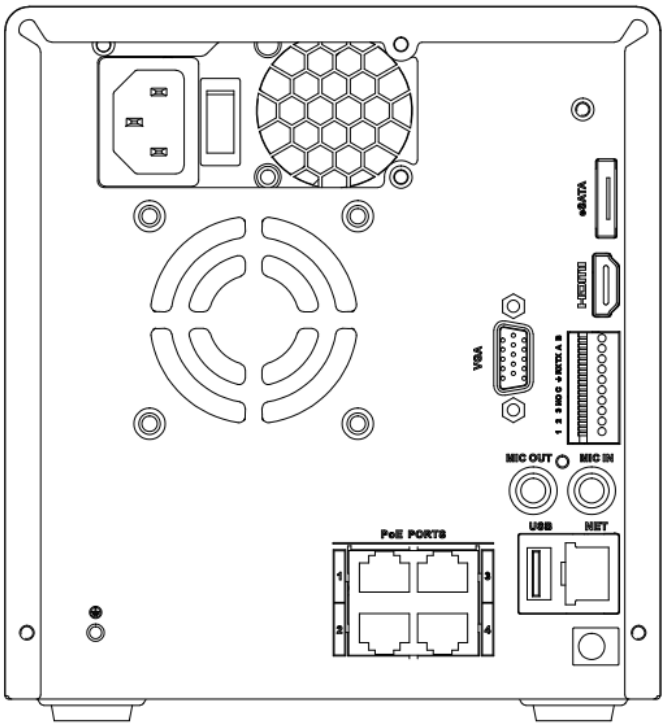


Figure 2-30

Please refer to the following sheet for detailed information.

Port Name		Function
USB2.0	USB2.0 port.	Connect to USB2.0 mouse.
NET	Network port	10M/100M/1000Mbps self-adaptive Ethernet port. Connect to the network cable.
HDMI	High Definition Media Interface	High definition audio and video signal output port. It transmits uncompressed high definition video and multiple-channel data to the HDMI port of the display device. HDMI version is 1.4.
VGA	VGA video output port	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.
1-3	Alarm input port 1-3.	● Alarm input port. ● When your alarm input device is using external power, please make sure the device and the NVR have the same ground.
⏚	Alarm input port ground end	Alarm input ground end.
NO	Alarm output port	• Alarm output ports. Output alarm signal to the alarm device. Please make sure

Port Name		Function
C		there is power to the external alarm device. • NO：Normal open alarm output port. • C：Alarm output public end.
A	RS485 (RS-485) communication port	RS485_A port. It is the cable A. You can connect to the control devices such as speed dome PTZ.
B		RS485_B.It is the cable B. You can connect to the control devices such as speed dome PTZ.
Power input port	/	Power port. Input 220V DC.
Power button	/	Power on/off button.
PoE PORTS	4 PoE ports	Built-in Switch supports PoE function. The 4 PoE ports series product supports total 48V 50W.
MIC IN	Audio input port	Bidirectional talk input port. It is to receive the analog audio signal output from the devices such as mike phone, pickup.
MIC OUT	Audio output port	Audio output port. It is to output the analog audio signal to the devices such as the sound box. • Bidirectional talk output. • Audio output on 1-window video monitor. • Audio output on 1-window video playback.
eSATA	eSATA port	External SATA port. It can connect to the device of the SATA port. Please jump the HDD when there is peripheral connected HDD.

2.2.10 NVR38 Series

The NVR38 series rear panel is shown as below. See Figure 2-31.

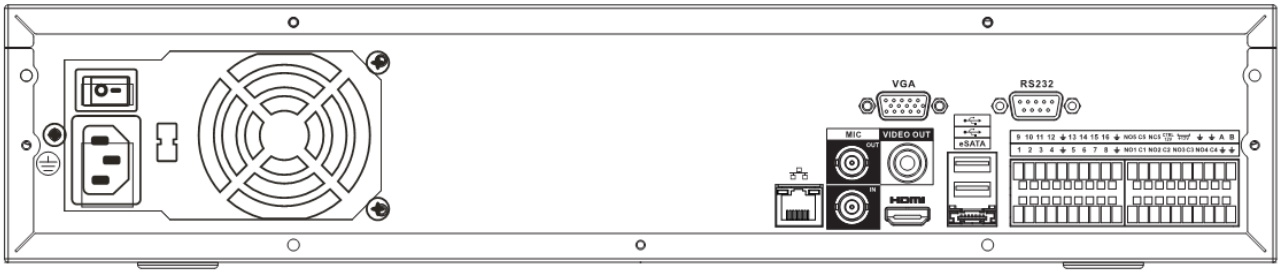


Figure 2-31

Please refer to the following sheet for detailed information.

Port Name		Function
Power button	/	Power on/off button.
Power input port	/	Input AC 220V power.
MIC IN	Audio input port	Bidirectional talk input port. It is to receive the analog audio signal output from the devices such as mike phone, pickup.
MIC OUT	Audio output port	Audio output port. It is to output the analog audio signal to the devices such as the sound box. ● Bidirectional talk output. ● Audio output on 1-window video monitor. ● Audio output on 1-window video playback.
1-16	Alarm input port 1-16.	● There are four groups. The first group is from port 1 to port 4, the second group is from port 5 to port 8, the third group is from 9 to 12, and the fourth group is from 13 to 16. They are to receive the signal from the external alarm source. There are two types; NO (normal open)/NC (normal close). ● When your alarm input device is using external power, please make sure the device and the NVR have the same ground.
⏚	Ground end	Alarm input ground end.
NO1 to NO5	5-ch alarm output port	● 5 groups of alarm output ports. (Group 1：port NO1～C1,Group 2:port NO2～C2,Group 3:port NO3～C3, Group 4：port NO4～C4, Group 5: port NO5, C5, NC5).Output alarm signal to the alarm device. Please make sure there is power to the external alarm device. ● NO: Normal open alarm output port. ● C: Alarm output public end. ● NC: Normal close alarm output port.
C1 to C5		
NC5		
A	RS485 communication port	RS485_A port. It is the cable A. You can connect to the control devices such as speed dome PTZ.
B		RS485_B.It is the cable B. You can connect to the control devices such as speed dome PTZ.

Port Name		Function
CTRL 12V	/	Controller 12V power output. It is to control the on-off alarm relay output. It can be used to control the device alarm output. At the same time, it can also be used as the power input source of some devices such as the alarm detector.
+12V	/	+12V power output port. It can provide the power to some peripheral devices such as the camera or the alarm device. Please note the supplying power shall be below 1A.
	Network port	One 10M/100M/1000Mbps self-adaptive Ethernet port. Connect to the network cable.
eSATA	eSATA port	External SATA port. It can connect to the device of the SATA port. Please jump the HDD when there is peripheral connected HDD.
	USB2.0 port.	Connect to USB2.0 mouse.
RS232(RS-422)	RS232 debug COM.	It is for general COM debug to configure IP address or transfer transparent COM data.
HDMI	High Definition Media Interface	High definition audio and video signal output port. It transmits uncompressed high definition video and multiple-channel data to the HDMI port of the display device. HDMI version is 1.4.
VGA	VGA video output port	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.
VIDEO OUT	Video output port	CVBS output

2.2.11 NVR50 Series

The NVR50 series rear panel is shown as below. See Figure 2-32.

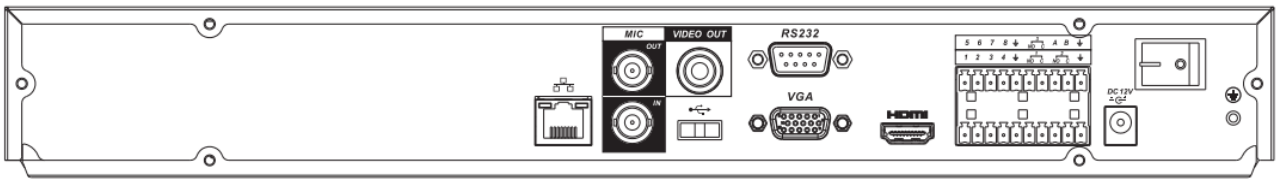


Figure 2-32

Please refer to the following sheet for detailed information.

Port Name		Function
Power button	/	Power on/off button.
Power input port	/	Input AC 220V power.

Port Name		Function
MIC IN	Audio input port	Bidirectional talk input port. It is to receive the analog audio signal output from the devices such as mike phone, pickup.
MIC OUT	Audio output port	Audio output port. It is to output the analog audio signal to the devices such as the sound box. ● Bidirectional talk output. ● Audio output on 1-window video monitor. ● Audio output on 1-window video playback.
1-16	Alarm input port 1-16.	● There are four groups. The first group is from port 1 to port 4, the second group is from port 5 to port 8, the third group is from 9 to 12, and the fourth group is from 13 to 16. They are to receive the signal from the external alarm source. There are two types; NO (normal open)/NC (normal close). ● When your alarm input device is using external power, please make sure the device and the NVR have the same ground.
⏚	Ground end	Alarm input ground end.
NO1 to NO5	5-ch alarm output port	● 5 groups of alarm output ports. (Group 1：port NO1～C1,Group 2:port NO2～C2,Group 3:port NO3～C3, Group 4： port NO4～C4, Group 5: port NO5, C5, NC5).Output alarm signal to the alarm device. Please make sure there is power to the external alarm device. ● NO: Normal open alarm output port. ● C: Alarm output public end. ● NC: Normal close alarm output port.
C1～C5		
NC5		
A	RS485 （RS-485）communication port	RS485_A port. It is the cable A. You can connect to the control devices such as speed dome PTZ.
B		RS485_B.It is the cable B. You can connect to the control devices such as speed dome PTZ.
CTRL 12V	/	Controller 12V power output. It is to control the on-off alarm relay output. It can be used to control the device alarm output. At the same time, it can also be used as the power input source of some devices such as the alarm detector.
+12V	/	+12V power output port. It can provide the power to some peripheral devices such as the camera or the alarm device. Please note the supplying power shall be below 1A.
	Network port	10M/100M/1000M self-adaptive Ethernet ports. Connect to the network cable.

Port Name		Function
eSATA	eSATA port	External SATA port. It can connect to the device of the SATA port. Please jump the HDD when there is peripheral connected HDD.
	USB2.0 port	Connect to USB mouse.
RS232 （RS-422）	RS232 debug COM.	It is for general COM debug to configure IP address or transfer transparent COM data.
HDMI	High Definition Media Interface	High definition audio and video signal output port. It transmits uncompressed high definition video and multiple-channel data to the HDMI port of the display device. HDMI version is 1.3.
VGA	VGA video output port	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.
VIDEO OUT	Video output port	CVBS output

2.2.12 NVR52 Series

The NVR52 series rear panel is shown as below. See Figure 2-33.

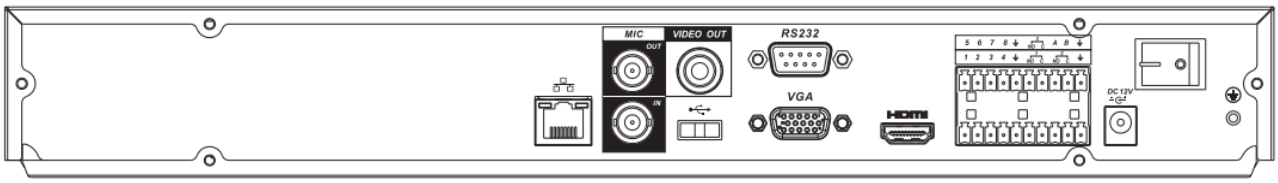


Figure 2-33

Please refer to the following sheet for detailed information.

Port Name		Function
USB2.0	USB2.0 port.	Connect to USB2.0 mouse.
	Network port	10M/100M/1000Mbps self-adaptive Ethernet port. Connect to the network cable.
RS232(RS-422)	RS232 debug COM.	It is for general COM debug to configure IP address or transfer transparent COM data.
HDMI	High Definition Media Interface	High definition audio and video signal output port. It transmits uncompressed high definition video and multiple-channel data to the HDMI port of the display device. HDMI version is 1.3.
VGA	VGA video output port	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.

Port Name		Function
1-8	Alarm input port 1-8.	● There are two groups. The first group is from port 1 to port 4; the second group is from port 5 to port 8. They are to receive the signal from the external alarm source. There are two types; NO (normal open)/NC (normal close). ● When your alarm input device is using external power, please make sure the device and the NVR have the same ground.
⏚	Alarm input port ground end	Alarm input ground end.
NO1～NO3	Alarm output port 1～3	● 3 groups of alarm output ports. (Group 1：port NO1～C1,Group 2:port NO2～C2,Group 3:port NO3～C3）).Output alarm signal to the alarm device. Please make sure there is power to the external alarm device. ● NO：Normal open alarm output port. ● C：Alarm output public end.
C1～C3		
A	RS485 (RS-485) communication port	RS485_A port. It is the cable A. You can connect to the control devices such as speed dome PTZ.
B		RS485_B.It is the cable B. You can connect to the control devices such as speed dome PTZ.
DC 12V	Power input port	Input DC 12V/5A.
Power button		Power on/off button.
VIDEO OUT	Video input port	CVBS output
MIC IN	Audio input port	Bidirectional talk input port. It is to receive the analog audio signal output from the devices such as mike phone, pickup.
MIC OUT	Audio output port	Audio output port. It is to output the analog audio signal to the devices such as the sound box. ● Bidirectional talk output. ● Audio output on 1-window video monitor. ● Audio output on 1-window video playback.

2.2.13 NVR52-P Series

The NVR52-P series rear panel is shown as below. See Figure 2-34.

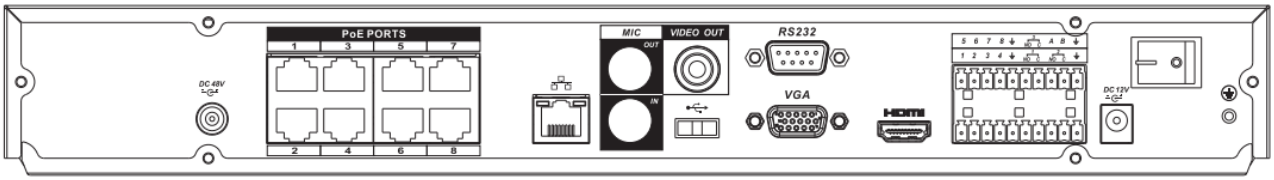


Figure 2-34

Please refer to the following sheet for detailed information.

Port Name		Function
USB2.0	USB2.0 port.	Connect to USB2.0 mouse.
	Network port	10M/100M/1000Mbps self-adaptive Ethernet port. Connect to the network cable.
RS232	RS232 debug COM.	It is for general COM debug to configure IP address or transfer transparent COM data.
HDMI	High Definition Media Interface	High definition audio and video signal output port. It transmits uncompressed high definition video and multiple-channel data to the HDMI port of the display device. HDMI version is 1.3.
VGA	VGA video output port	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.
1-8	Alarm input port 1-8.	● There are two groups. The first group is from port 1 to port 4; the second group is from port 5 to port 8. They are to receive the signal from the external alarm source. There are two types; NO (normal open)/NC (normal close). ● When your alarm input device is using external power, please make sure the device and the NVR have the same ground.
	Alarm input port ground end	Alarm input ground end.
NO1～NO3	Alarm output port 1～3	● 3 groups of alarm output ports. (Group 1：port NO1～C1,Group 2:port NO2～C2,Group 3:port NO3～C3）).Output alarm signal to the alarm device. Please make sure there is power to the external alarm device. ● NO：Normal open alarm output port. ● C：Alarm output public end.
C1～C3		

Port Name		Function
A	RS485 (RS-485) communication port	RS485_A port. It is the cable A. You can connect to the control devices such as speed dome PTZ.
B		RS485_B.It is the cable B. You can connect to the control devices such as speed dome PTZ.
DC 12V	Power input port	Input DC12V/5A.
Power button	/	Power on/off button.
PoE PORTS	8 PoE ports	Built-in Switch supports PoE function. The 8 PoE ports series product supports total 48V 120W.
DC 48V	Power input port	Switch power port. Input DC 48V/2.5A.
VIDEO OUT	Video input port	CVBS output
MIC IN	Audio input port	Bidirectional talk input port. It is to receive the analog audio signal output from the devices such as mike phone, pickup.
MIC OUT	Audio output port	Audio output port. It is to output the analog audio signal to the devices such as the sound box. ● Bidirectional talk output. ● Audio output on 1-window video monitor. ● Audio output on 1-window video playback.

2.2.14 NVR54/54-8P/54-16P

The NVR54 series rear panel is shown as below. See Figure 2-35.

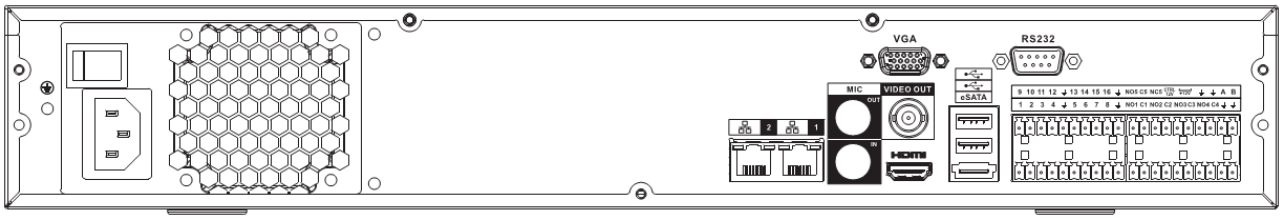


Figure 2-35

The NVR54-8P series rear panel is shown as below. See Figure 2-36.

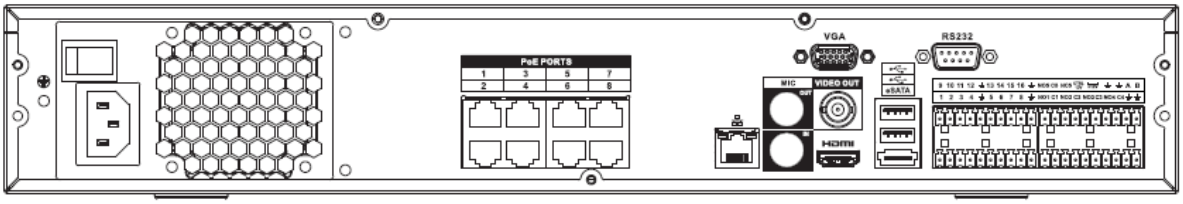


Figure 2-36

The NVR54-16P series rear panel is shown as below. See Figure 2-37.

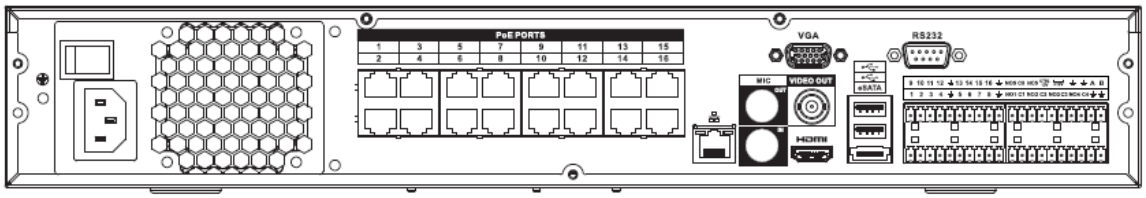


Figure 2-37

Please refer to the following sheet for detailed information.

Icon	Port Name	Function
	Power on-off button	Power on-off button
	Power input port	Input AC 220V.
PoE PORTS	PoE port	Built-in Switch supports PoE function. **Please note 54-8P supports total 8 PoE ports and 54-16P supports total 16 PoE ports.**
MIC IN	Audio input port	Bidirectional talk input port. It is to receive the analog audio signal output from the devices such as mike phone, pickup.
MIC OUT	Audio output port	Audio output port. It is to output the analog audio signal to the devices such as the sound box. ● Bidirectional talk output. ● Audio output on 1-window video monitor. ● Audio output on 1-window video playback.
VIDEO OUT	Video output port	CVBS output
HDMI	High Definition Media Interface	High definition audio and video signal output port. It transmits uncompressed high definition video and multiple-channel data to the HDMI port of the display device. HDMI version is 1.3.

Icon	Port Name	Function
1～16	Alarm input port 1～16	● There are four groups. The first group is from port 1 to port 4, the second group is from port 5 to port 8, the third group is from 9 to 12, and the fourth group is from 13 to 16. They are to receive the signal from the external alarm source. There are two types; NO (normal open)/NC (normal close). ● When your alarm input device is using external power, please make sure the device and the NVR have the same ground.
	Alarm input port ground end	Alarm input ground end.
NO1～NO5	Alarm output port 1～5	● 5 groups of alarm output ports. (Group 1：port NO1～C1,Group 2:port NO2～C2,Group 3:port NO3～C3, Group 4：port NO4～C4, Group 5: port NO5, C5, NC5).Output alarm signal to the alarm device. Please make sure there is power to the external alarm device. ● NO: Normal open alarm output port. ● C: Alarm output public end. ● NC: Normal close alarm output port.
C1～C5		
NC5		
A	RS485 (RS-485) communication port	RS485_A port. It is the cable A. You can connect to the control devices such as speed dome PTZ.
B		RS485_B.It is the cable B. You can connect to the control devices such as speed dome PTZ.
CTRL 12V	/	Controller 12V power output. It is to control the on-off alarm relay output. It can be used to control the device alarm output. At the same time, it can also be used as the power input source of some devices such as the alarm detector.
+12V	/	+12V power output port. It can provide the power to some peripheral devices such as the camera or the alarm device. Please note the supplying power shall be below 1A.
	Network port	10M/100M/1000M self-adaptive Ethernet port. Connect to the network cable. **Please note 54 series has two Ethernet ports. The 54-8P and 54-16P has one Ethernet port respectively.**
eSATA	eSATA port	External SATA port. It can connect to the device of the SATA port. Please jump the HDD when there is peripheral connected HDD.

Icon	Port Name	Function
	USB2.0 port.	Connect to USB2.0 storage device , mouse, burner and etc..
RS232（RS-422）	RS232 debug COM.	It is for general COM debug to configure IP address or transfer transparent COM data.
VGA	VGA video output port	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.

2.2.15 NVR58 Series

The NVR58 series rear panel is shown as below. See Figure 2-38.

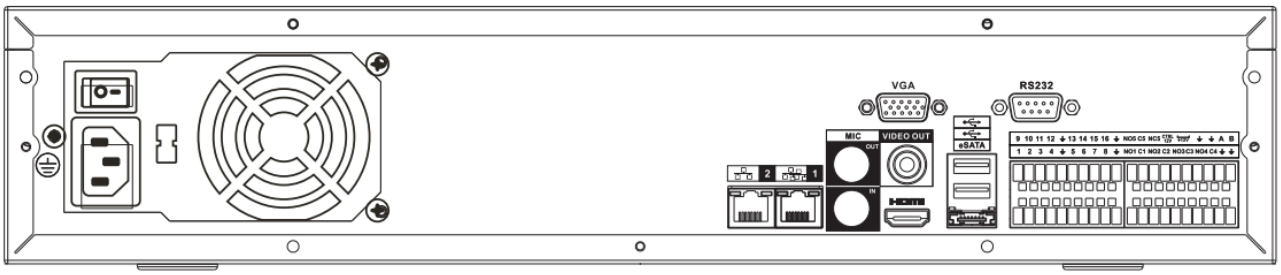


Figure 2-38

Please refer to the following sheet for detailed information.

Port Name		Function
Power button	/	Power on/off button.
Power input port	/	Input AC 220V power.
MIC IN	Audio input port	Bidirectional talk input port. It is to receive the analog audio signal output from the devices such as mike phone, pickup.
MIC OUT	Audio output port	Audio output port. It is to output the analog audio signal to the devices such as the sound box.
1-16	Alarm input port 1-16.	● There are four groups. The first group is from port 1 to port 4, the second group is from port 5 to port 8, the third group is from 9 to 12, and the fourth group is from 13 to 16. They are to receive the signal from the external alarm source. There are two types; NO (normal open)/NC (normal close). ● When your alarm input device is using external power, please make sure the device and the NVR have the same ground.
	Ground end	Alarm input ground end.

Port Name		Function
NO1 to NO5	5-ch alarm output port	• 5 groups of alarm output ports. (Group 1：port NO1～C1,Group 2:port NO2～C2,Group 3:port NO3～C3, Group 4：port NO4～C4, Group 5: port NO5, C5, NC5).Output alarm signal to the alarm device. Please make sure there is power to the external alarm device. • NO: Normal open alarm output port. • C: Alarm output public end. • NC: Normal close alarm output port.
C1 to C5		
NC5		
A	RS485（RS-485）communication port	RS485_A port. It is the cable A. You can connect to the control devices such as speed dome PTZ.
B		RS485_B.It is the cable B. You can connect to the control devices such as speed dome PTZ.
CTRL 12V	/	Controller 12V power output. It is to control the on-off alarm relay output. It can be used to control the device alarm output. At the same time, it can also be used as the power input source of some devices such as the alarm detector.
+12V	/	+12V power output port. It can provide the power to some peripheral devices such as the camera or the alarm device. Please note the supplying power shall be below 1A.
	Network port	Two 10M/100M/1000M self-adaptive Ethernet ports. Connect to the network cable.
eSATA	eSATA port	External SATA port. It can connect to the device of the SATA port. Please jump the HDD when there is peripheral connected HDD.
	USB port.	Connect to USB mouse.
RS232(RS-422)	RS232 debug COM.	It is for general COM debug to configure IP address or transfer transparent COM data.
HDMI	High Definition Media Interface	High definition audio and video signal output port. It transmits uncompressed high definition video and multiple-channel data to the HDMI port of the display device. HDMI version is 1.3.
VGA	VGA video output port	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.

2.3 Alarm Connection

2.3.1 Alarm Port

The alarm port is shown as below. See Figure 2-39. The following figure is based on the NVR38 series.

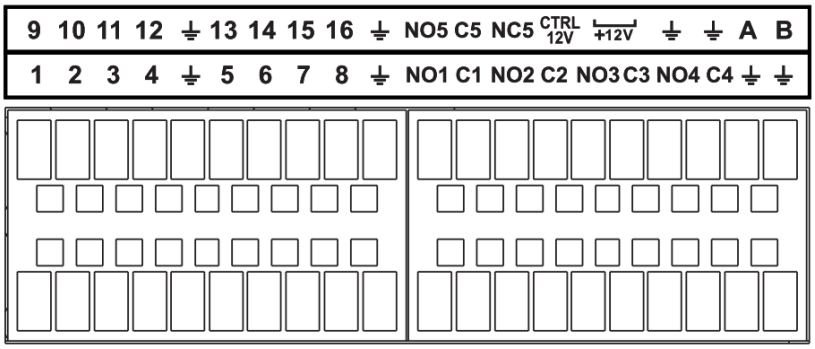


Figure 2-39

Icon	Function
1～16	ALARM1～ALARM16. The alarm becomes activated in the low level.
NO1 C1，NO2 C2，NO3 C3，NO4 C4	Four NO activation output groups. (On-off button).
NO5 C5 NC5	One NO/NC activation output group. (On-off button).
CTRL 12V	Control power output. Disable power output when alarm is canceled. Current is 500mA.
＋12V	Rated current output. Current is 500mA.
⏚	GND
A/B	485 communication port. They are used to control devices such as PTZ. Please parallel connect 120TΩ between A/B cables if there are too many PTZ decoders.

Note

- Different models support different alarm input ports. Please refer to the specifications sheet for detailed information.
- Slight difference may be found on the alarm port layout.

2.3.2 Alarm input port

Connect the positive end (+) of the alarm input device to the alarm input port (ALARM IN 1～16) of the NVR. Connect the negative end (-) of the alarm input device to the ground end (⏚) of the NVR.

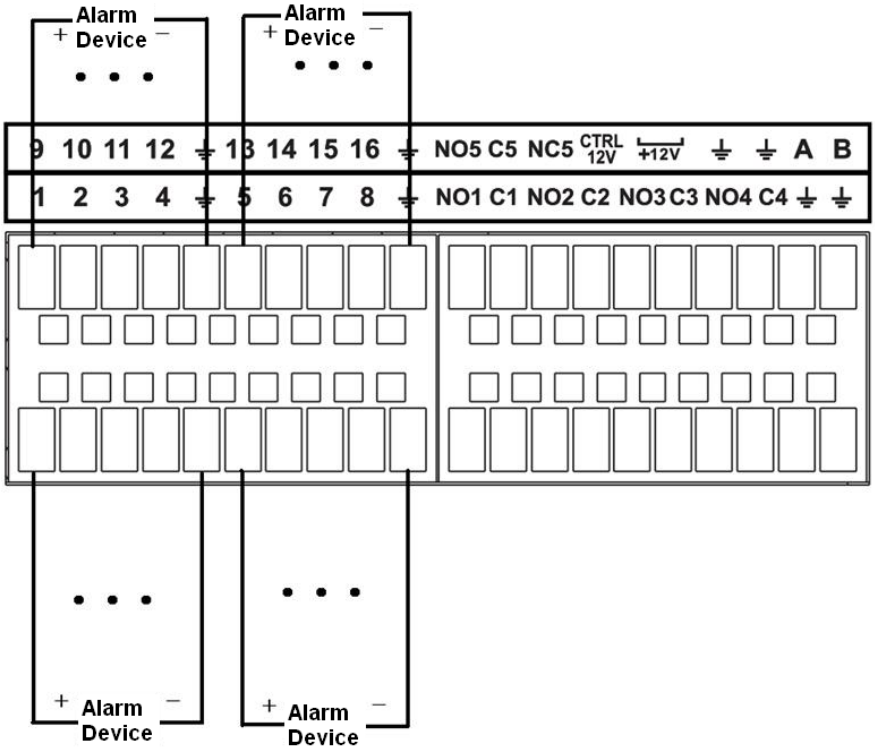


Figure 2-40

Note

- There are two alarm input types: NO/NC.
- When connect the ground port of the alarm device to the NVR, you can use any of the GND ports ( ).
- Connect the NC port of the alarm device to the alarm input port (ALARM) of the NVR.
- When there is peripheral power supplying for the alarm device, please make sure it is earthed with the NVR.

2.3.3 Alarm input and output port

- There is peripheral power supplying for the external alarm device.
- In case overload may result in NVR damage, please refer to the following relay specifications for detailed information.
- A/B cable of the RS485 is for the A/B cable connection of the speed PTZ.

2.3.4 Alarm relay specifications

Model:	**JRC-27F**	
Material of the touch	Silver	
Rating （Resistance Load）	Rated switch capacity	30VDC 2A, 125VAC 1A
	Maximum switch power	125VA 160W
	Maximum switch voltage	250VAC, 220VDC
	Maximum switch currency	1A
Insulation	Between touches with same polarity	1000VAC 1minute

	Between touches with different polarity	1000VAC 1minute
	Between touch and winding	1000VAC 1minute
Surge voltage	Between touches with same polarity	1500V (10×160us)
Length of open time	3ms max	
Length of close time	3ms max	
Longevity	Mechanical	50×106 MIN (3Hz)
	Electrical	200×103 MIN (0.5Hz)
Temperature	-40℃ ~+70℃	

2.4 Bidirectional talk

2.4.1 Device-end to PC-end

Device Connection

Please connect the speaker or the pickup to the first audio input port in the device rear panel. Then connect the earphone or the sound box to the audio output port in the PC.

Login the Web and then enable the corresponding channel real-time monitor.

Please refer to the following interface to enable bidirectional talk. See Figure 2-41.

Figure 2-41

Listening Operation

At the device end, speak via the speaker or the pickup, and then you can get the audio from the earphone or sound box at the pc-end. See Figure 2-42.

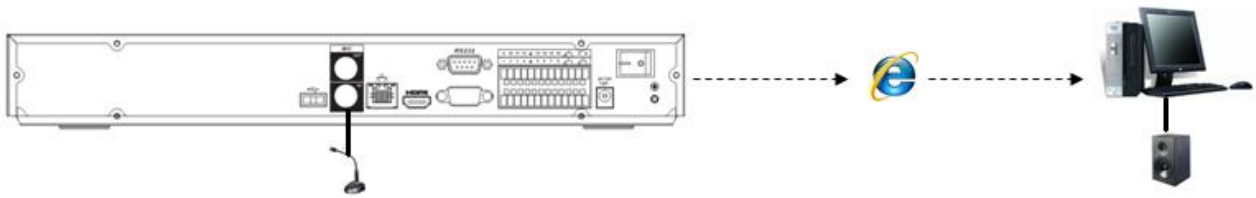


Figure 2-42

2.4.2 PC-end to the device-end

Device Connection

Connect the speaker or the pickup to the audio output port in the PC and then connect the earphone or the sound box to the first audio input port in the device rear panel.
Login the Web and then enable the corresponding channel real-time monitor.
Please refer to the above interface (Figure 2-41) to enable bidirectional talk.

Listening Operation

At the PC-end, speak via the speaker or the pickup, and then you can get the audio from the earphone or sound box at the device-end. See Figure 2-43.

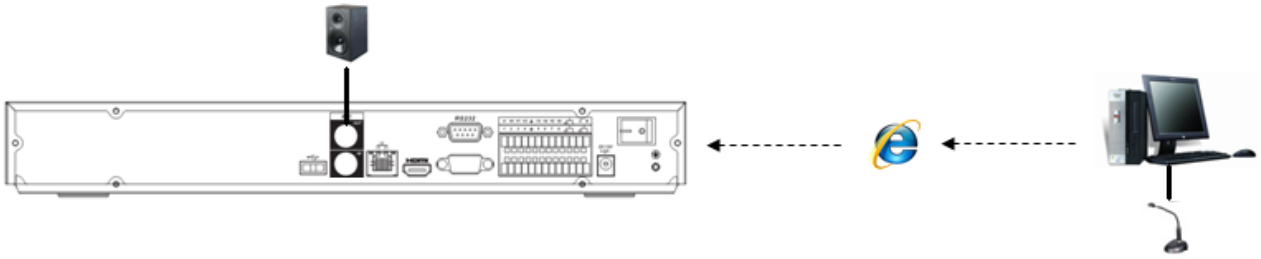


Figure 2-43

2.5 Mouse Operation

Please refer to the following sheet for mouse operation instruction.

Left click mouse	When you have selected one menu item, left click mouse to view menu content.
	Modify checkbox or motion detection status.
	Click combo box to pop up dropdown list
	In input box, you can select input methods. Left click the corresponding button on the panel you can input numeral/English character (small/capitalized). Here ← stands for backspace button. __ stands for space button. In English input mode: _stands for input a backspace icon and ← stands for deleting the previous character. In numeral input mode: _ stands for clear and ← stands for deleting the previous numeral.

Double left click mouse	Implement special control operation such as double click one item in the file list to playback the video.
	In multiple-window mode, double left click one channel to view in full-window. Double left click current video again to go back to previous multiple-window mode.
Right click mouse	In real-time monitor mode, pops up shortcut menu.
	Exit current menu without saving the modification.
Press middle button	In numeral input box: Increase or decrease numeral value.
	Switch the items in the check box.
	Page up or page down
Move mouse	Select current control or move control
Drag mouse	Select motion detection zone
	Select privacy mask zone.

3 HDD Installation

Important：

Please turn off the power before you replace the HDD.

The pictures listed below for reference only.

For the first time install, please be aware that whether the HDDs have been installed.
You can refer to the Appendix for recommended HDD brand. Please use HDD of 7200rpm or higher. Usually we do not recommend the PC HDD.
Please follow the instructions below to install hard disk.

3.1 NVR21/21-P/21-S/31/31-P/31-S Series

1. Loosen the screws of the upper cover and side panel.	2. Fix four screws in the HDD (Turn just three rounds).	3. Place the HDD in accordance with the four holes in the bottom.

4. Turn the device upside down and then turn the screws in firmly.	5. Fix the HDD firmly.	6. Connect the HDD cable and power cable.

7. Put the cover in accordance with the clip and then place the upper cover back.	8. Secure the screws in the rear panel and the side panel.

3.2 NVR22/32/32-P/32-8P/52/52-P Series

1. Loosen the screws of the upper cover and side panel.

2. Fix four screws in the HDD (Turn just three rounds).

3. Place the HDD in accordance with the four holes in the bottom.

4. Turn the device upside down and then turn the screws in firmly.

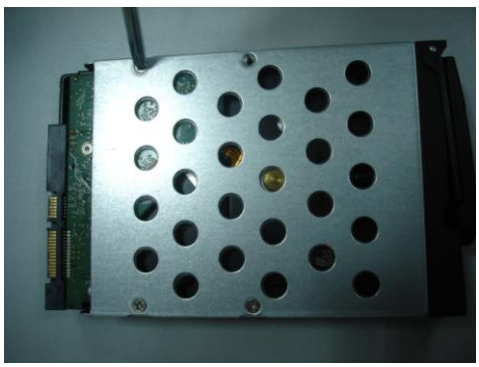
5. Fix the HDD firmly.

6. Connect the HDD cable and power cable.

7. Put the cover in accordance with the clip and then place the upper cover back.

8. Secure the screws in the rear panel and the side panel.

3.3 NVR32V/32V-P/34V/34V-P Series



①Use 4 screws to secure the HDD

②Put the HDD to the HDD box at the front.

③Pull the HDD knob up when you put the HDD into the box in case the knob buckle may strike the front panel.	④Put the knob back after you insert the HDD to the SATA board.

3.4 NVR50 Series

① Use four screws to secure the HDD.	② Put the HDD to the HDD box at the front panel of the device. .

③ Please pull the handle up when you are inputing the HDD box in case the the handle collides with the front panel	④ After put the HDD box to the SATA board, put the handle back..

3.5 NVR24/38 /54/58 Series

① Use the screwdriver to loose the screws of the rear panel and then remove the front cover.

② Put the HDD to the HDD bracket in the chassis and then line up the four screws to the four holes in the HDD. Use the screwdriver to fix the screws firmly to secure HDD on the HDD bracket

③ Connect to the HDD data cable to the main board and the HDD port respectively. Loosen the power cable of the chassis and connect another end of the power cable to the HDD port.

④ After connect the cable, put the front cover back to the device and then fix screws of the rear panel.

4 Network Connection

Please refer to Figure 4-1 for connection sample.

The following figure is based on the NVR38 series product.

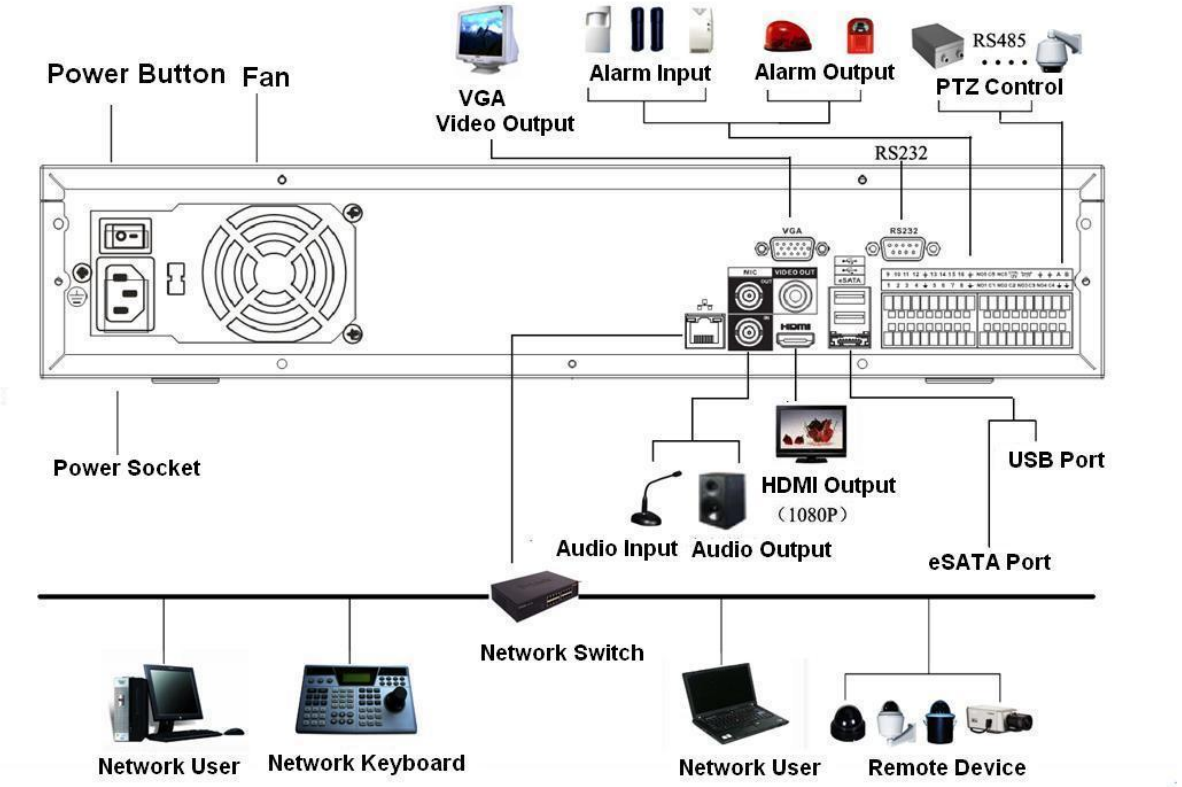


Figure 4-1

5 Local Basic Operation

5.1 Boot up and Shutdown

5.1.1 Boot up

Before the boot up, please make sure:

- The rated input voltage matches the device power on-off button. Please make sure the power wire connection is OK. Then click the power on-off button.
- The external power is DC 12V/AC 100V-240V.
- Always use the stable current, if necessary UPS is a best alternative measure.

Please follow the steps listed below to boot up the device.

- Connect the device to the monitor and then connect a mouse.
- Connect power cable.
- Click the power button at the front or rear panel and then boot up the device. After device booted up, the system is in multiple-channel display mode by default.

5.1.2 Shutdown

Note

- When you see corresponding dialogue box “System is shutting down…” Do not click power on-off button directly.
- Do not unplug the power cable or click power on-off button to shutdown device directly when device is running (especially when it is recording.)

There are three ways for you to log out.

a) Main menu (recommended)

From Main Menu->Shutdown, select shutdown from dropdown list.

Click OK button, you can see device shuts down.

b) From power on-off button on the front panel or remote control

Press the power on-off button on the NVR front panel or remote control for more than 3 seconds to shutdown the device.

c) From power on-off button on the rear panel.

5.2 Startup Wizard

After device successfully booted up, it goes to startup wizard.

Click Cancel/Next button, you can see system goes to login interface.

Tips

Check the box Startup button here, system goes to startup wizard again when it boots up the next time.

Cancel the Startup button, system goes to the login interface directly when it boots up the next time.

Figure 5-1

Click Cancel button or Next Step button, system goes to login interface. See Figure 5-2.
System consists of four accounts:

- **Username**: admin. **Password**: admin. (administrator, local and network)
- **Username**: 888888. **Password**: 888888. (administrator, local only)
- **Username**: 666666. **Password**: 666666(Lower authority user who can only monitor, playback, backup and etc.)
- **Username**: default. **Password**: default (hidden user). Hidden user “default” is for system interior use only and can not be deleted. When there is no login user, hidden user “default” automatically login. You can set some rights such as monitor for this user so that you can view some channel view without login.

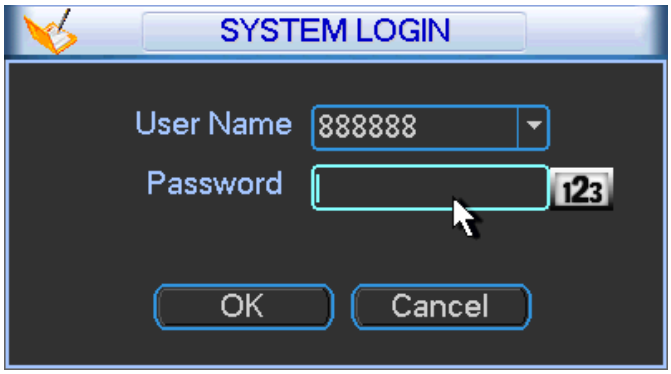


Figure 5-2

Note:
For security reason, please modify password after you first login.
Within 30 minutes, three times login failure will result in system alarm and five times login failure will result in account lock!

Click OK button, you can go to General interface. See Figure 5-3.
For detailed information, please refer to chapter 5.12.1.

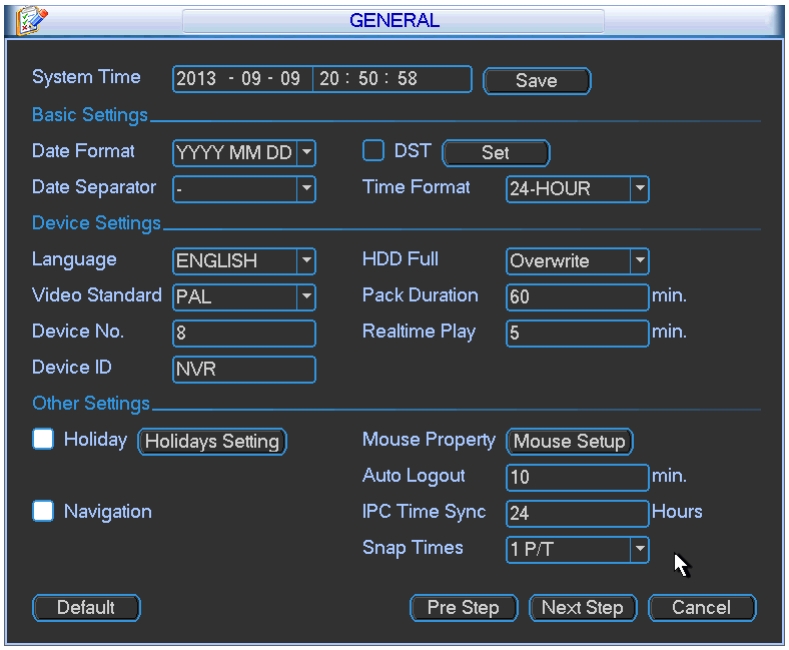


Figure 5-3

Click Next button, you can go to network interface. See Figure 5-4
For detailed information, please refer to chapter 5.10.2.

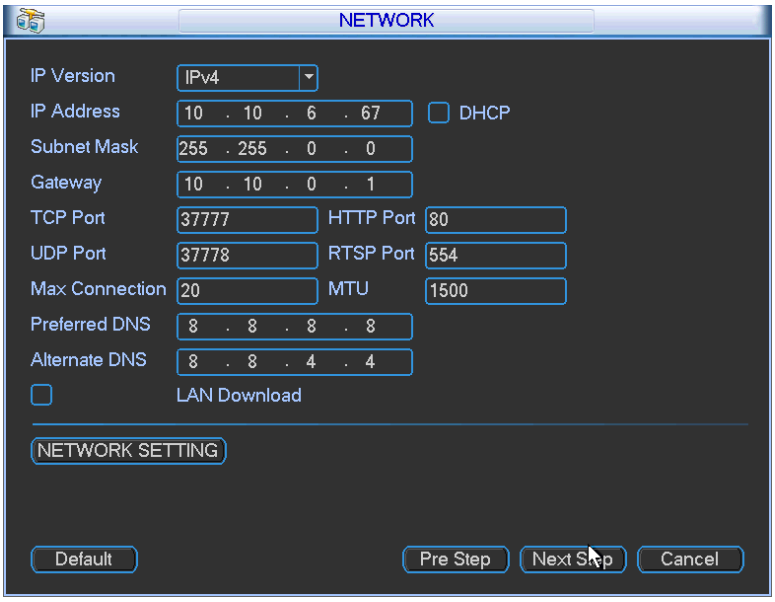


Figure 5-4

Click Next button, you can go to remote device interface. See Figure 5-5
For detailed information, please refer to chapter 5.3.

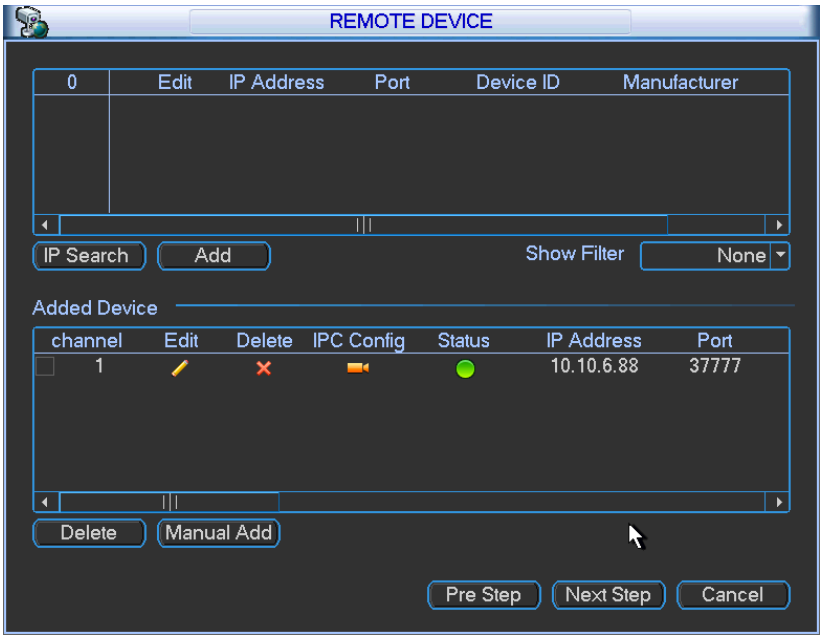


Figure 5-5

Click Next button, you can go to Schedule interface. See Figure 5-6.
For detailed information, please refer to chapter 5.6.2.

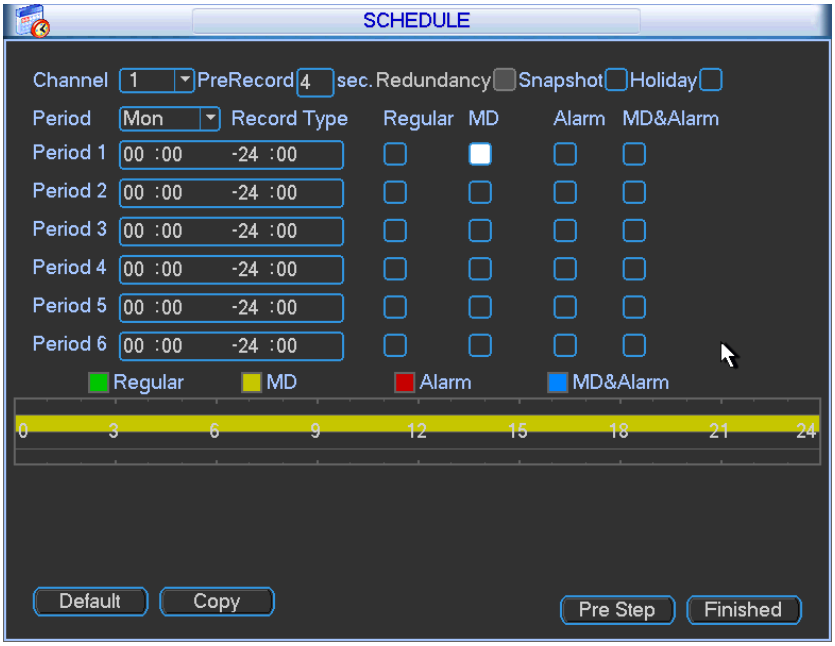


Figure 5-6

Click Finish button, system pops up a dialogue box. Click the OK button, the startup wizard is complete. See Figure 5-7.

Figure 5-7

5.3 Remote Device

5.3.1 Remote Device Connection

From Mani menu->Remote device or right click mouse on the preview interface and then select remote device item, you can see the following interface. See Figure 5-8.

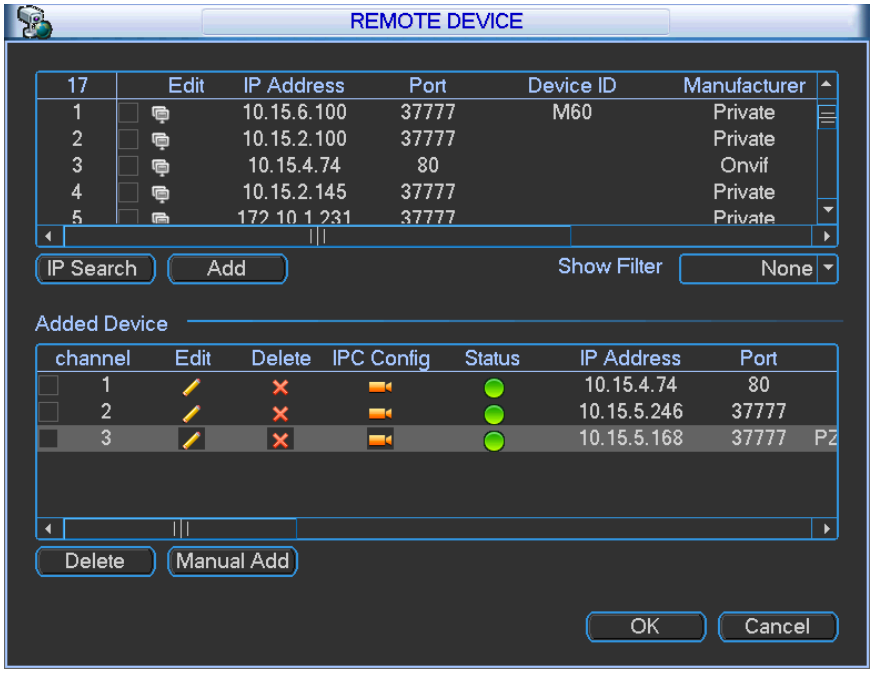


Figure 5-8

Click IP search button, you can view the searched IP addresses at the top pane of the interface. Double click an IP address or check one IP address and then click Add button, you can add current device to the bottom pane of the interface. System supports batch add function.

Click Add button, you can add a device directly. Here you can set TCP/UPD/auto connection mode. The default setup is TCP. See Figure 5-9.

Important

Please note the manual add function is for Dahua, Panasonic, Sony, Dynacolor, Samsung, AXIS, Arecont, ONVIF and Custom. When the type is the custom, you can just input URL address, user name and password connect to the network camera without considering network camera manufacture. Please contact your network camera manufacturer for the URL address.

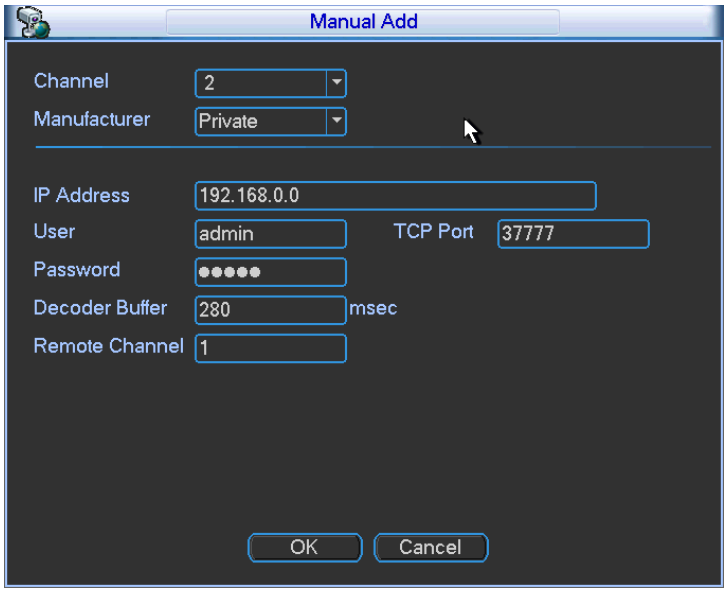


Figure 5-9

Set remote device corresponding information (For some series product only).

- IP search: Click it to search IP address.
- Add: Click it to connect to the selected device and add it to the Added device list. Support Batch add.
- Show filter: You can use it to display the specified devices from the added device.
- IPC config: Double click the on the IPC config column, you can go to the IPC setup interface. See Figure 5-10.
  - Config File: It is to select network camera configuration file. The options include day/night/normal/switch by period. Select switch by period from the dropdown list, you need to set sunrise time and sunset time.
  - Auto iris: This function is for the product of auto iris. You can check the box before enable to turn on this function. The auto iris may change if the light becomes different. When you disable this function, the iris is at the max. System does not add the auto iris function in the exposure control. This function is on by default.
  - Mirror: It is to switch video left and right limit. This function is disabled by default.
  - 3D NR: It is the 3D noise reduction function.
  - Saturation: It is to adjust monitor window saturation. The value ranges from 0 to 100. The default value is 50. The larger the number, the strong the color is. This value has no effect on the general brightness of the whole video. The video color may become too strong if the value is too high. For the grey part of the video, the distortion may occur if the white balance is not accurate. Please note the video may not be attractive if the value is too low. The recommended value ranges from 40 to 60.
  - Brightness: It is to adjust monitor window bright. The value ranges from 0 to 100. The default value is 50. The larger the number, the bright the video is. When you input the value here, the bright section and the dark section of the video will be adjusted accordingly. You can use this function when the whole video is too dark or too bright. Please note the video may become hazy if the value is too high. The recommended value ranges from 40 to 60.

- Contrast: It is to adjust monitor window contrast. The value ranges from 0 to 100. The default value is 50. The larger the number, the higher the contrast is. You can use this function when the whole video bright is OK but the contrast is not proper. Please note the video may become hazy if the value is too low. If this value is too high, the dark section may lack brightness while the bright section may over exposure .The recommended value ranges from 40 to 60.
- Sharpness: The value here is to adjust the edge of the video. The larger the value is, the clear the edge is and vice versa. Please note there is noise if the value here is too high. The default value is 1 and the recommended value ranges from 0 to 15.
- Flip: It is to switch video up and bottom limit. This function is disabled by default. The options include: no flip/flip 180° /clockwise 90° /counter clockwise 90° .
- Light: Please select from the dropdown list. The option includes: Disable/enable/WDR/HLC. When this function is on, system can automatically expose according to environment so that you can view the darkest section of the video.
- Scene mode (Profile): It is to set white balance mode. It is to affect the whole video hue. The default setup is auto.
  - Auto: The auto white balance is on. System can auto compensate the color temperature to make sure the vide color is proper.
  - Sunny: The threshold of the white balance is in the sunny mode.
  - Night: The threshold of the white balance is in the night mode.
  - Customized: System supports customized setup.
- Day/Night mode: Here is to set video color or black and white mode.
  - Color: Camera only outputs color video.
  - Auto: Camera auto selects color or black and white video according to device feature (Video whole brightness or there is any IR light or not.).
  - Black and white: Camera only outputs black and white video.

- Delete: Please select one device in the Added device list and then click it to remove.
- Manual add: Click it to add the IPC manually. The port number is 37777. The default user name is **admin** and password is **admin**.

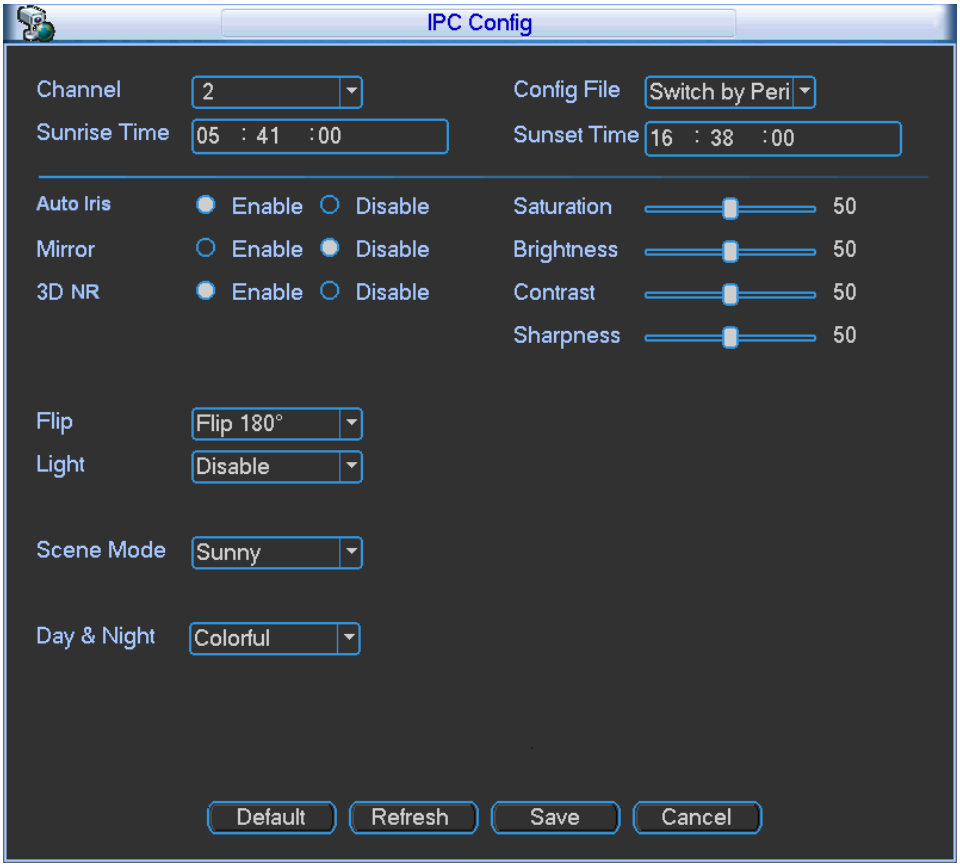


Figure 5-10

Tips

For some series product, on the preview interface and then right click mouse, click IPC config item, you can go to Figure 5-10. See Figure 5-11.

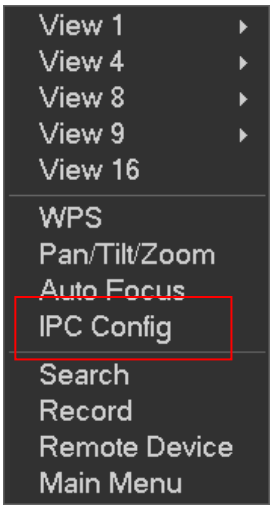


Figure 5-11

5.3.2 Short-Cut Menu

In the preview interface, for the channel of no IPC connection, you can click the icon “+” in the centre of the interface to quickly go to the Remote Device interface. See Figure 5-12.

Figure 5-12

5.3.3 UPNP

Important

Do not connect the switch to the PoE port, otherwise the connection may fail!

Please connect the IPC to the PoE port of the device rear panel (Figure 5-13), system can auto connect to the network camera. Please note the following figure is for reference only.

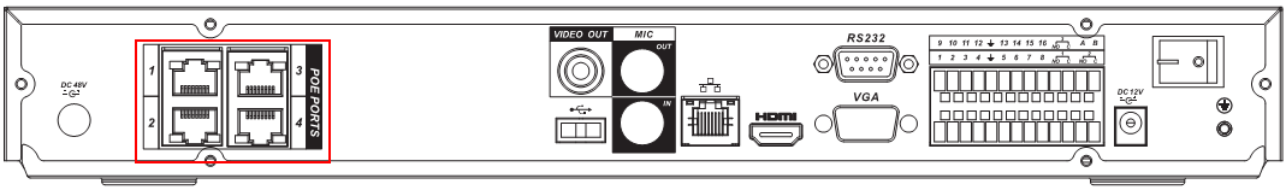


Figure 5-13

5.3.4 Built-in Switch Setup

The built-in switch function is for product of PoE port.

From Network->Network Server->Switch, you can set switch IP address, subnet mask, gateway and etc. See Figure 5-14.

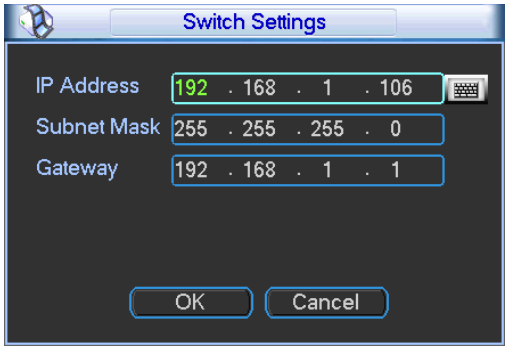


Figure 5-14

5.4 Preview

After device booted up, the system is in multiple-channel display mode. See Figure 5-15.Please note the displayed window amount may vary. The following figure is for reference only.

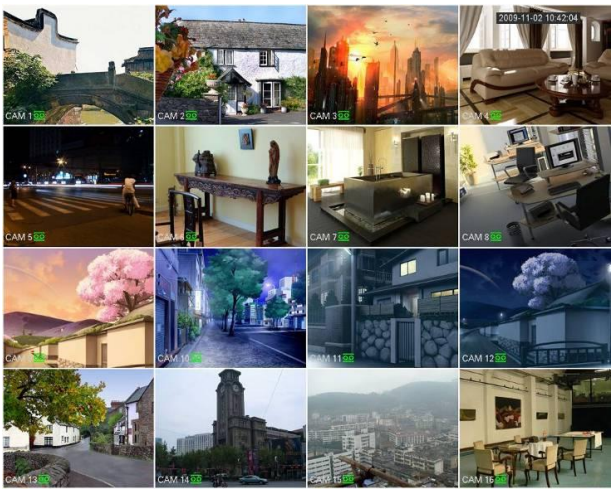


Figure 5-15

5.4.1 Preview Interface

You can overlay the corresponding date, time and channel name on each screen. You can refer to the following sheet for channel record or alarm status information.

1		Recording status	3		Video loss
2		Motion detection	4		Camera lock

Tips

- Preview drag: If you want to change position of channel 1 and channel 16 when you are previewing, you can left click mouse in the channel 1 and then drag to channel 16, release mouse you can switch channel 1 and channel 16 positions.
- Use mouse middle button to control window split: You can use mouse middle button to switch window split amount.

5.4.2 Preview Control

The preview control function has the following features.

- Support preview playback.
  - ✧ In the preview desktop, system can playback previous 5-60 minutes record of current channel. Please go to the Main Menu->General to set real-time playback time.
  - ✧ Support drag and play function. You can use your mouse to select any playback start time.
  - ✧ Support playback, pause and exit function.
  - ✧ Right now, system does not support slow playback and backward playback function.
- Support digital zoom function.
- Support real-time backup function.

You can follow the contents listed below for the operation instruction.

Preview control interface

Move you mouse to the top centre of the video of current channel, you can see system pops

up the preview control interface. See Figure 5-16. If your mouse stays in this area for more than 6 seconds and has no operation, the control bar automatically hides.

Figure 5-16

You can refer to the following sheet for detailed information.

SN	Name	Function
1	Realtime playback	It is to playback the previous 5-60 minutes record of current channel. Please go to the Main Menu->General to set real-time playback time. System may pop up a dialogue box if there is no such record in current channel.
2	Digital zoom	It is to zoom in specified zone of current channel. It supports zoom in function of multiple-channel. The selected area has an icon as and the free area is shown as an icon as .
3	Real-time backup function	It is to backup the video of current channel to the USB2.0 device. System can not backup the video of multiple-channel at the same time. Current selected backup channel has an icon as and the free channel is shown as an icon as . Once the backup started, you can see the free channel is shown as an icon as .
4	Manual Snap	Click it to snap manually. The snapshot picture is saved on the HDD.
5	Remote device add shortcut	It is to go to the remote device connection interface.
6	Bidirectional talk	Support bidirectional talk function with the front-end device.
7		Exit

Playback control

The playback control has the following features.

- Support play, pause, and exit and drag function.

- During the preview playback process, you can not see the channel title and record status of current channel. It will display the channel title and the record status once you exit the preview playback.
- During the preview playback, you can not switch the displayed channel or change current window-display mode.
- Please note, the tour function has the higher priority than the preview playback. System automatically exits the preview playback function and its corresponding interface when the tour function started. You can not control the preview playback until the tour function ended.

5.4.3 Right Click Menu

After you logged in the device, right click mouse, you can see the short cut menu. Please see Figure 5-17.

- Window split mode: You can select window amount and then select channels.
- Pan/tilt/zoom: Click it to go to PTZ interface.
- Color setting: Set video corresponding information.
- Search: Click it to go to Search interface to search and playback a record file.
- Record control: Enable/disable record channel.
- Remote device: Search and add a remote device.
- Alarm output: Generate alarm output signal manually.
- Main menu: Go to system main menu interface.

Tips:

Right click mouse to go back to the previous interface.

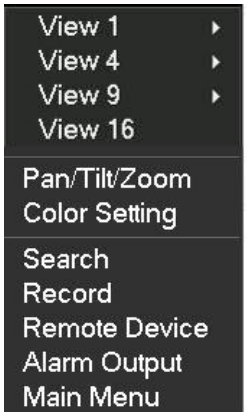


Figure 5-17

5.4.4 Preview Display Effect Setup

5.4.4.1 Video Color

5.4.4.2 Display

From Main Menu->Setting->Display, you can go to the following interface. See Figure 5-18.

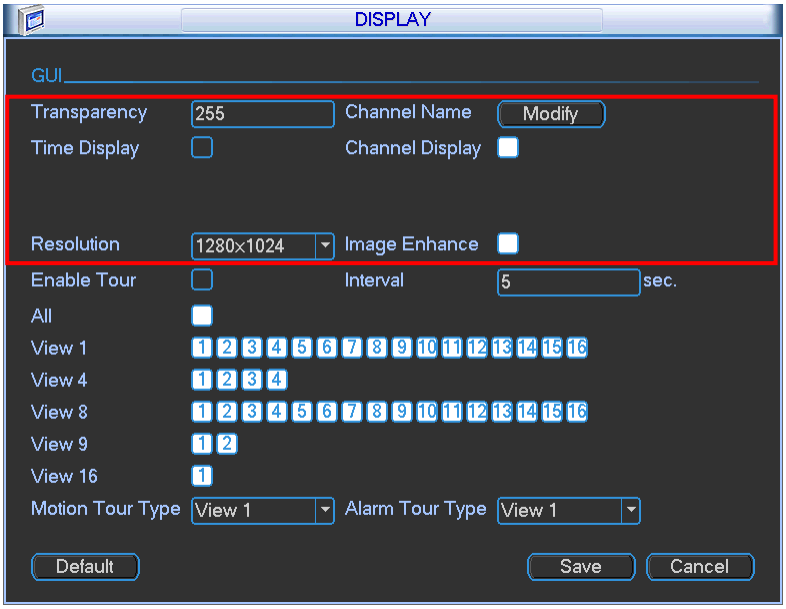


Figure 5-18

Now you can set corresponding information.

- Transparency: Here is for you to adjust transparency. The value ranges from 128 to 255.
- Channel name: Here is for you to modify channel name. System max support 25-digit (The value may vary due to different series). Please note all your modification here only applies to NVR local end. You need to open web or client end to refresh channel name.
- Time display: You can select to display time or not when system is playback.
- Channel display: You can select to channel name or not when system is playback.
- Resolution: There are four options: 1280×1024(default),1280×720,1024×768,800×600. Please note the system needs to reboot to activate current setup.

Click OK button to save current setup.

Note

The display parameter here has no effect on the record file and playback effect.

5.4.5 Preview Parameter

Set preview display mode, channel display sequence and tour setup.

- Set preview display mode: On the preview interface, right click mouse, you can view right-click menu. Now you can select preview window amount and channel.
- Set channel display mode: On the preview interface, if you want to change channel 1 and channel 16 position, please right click channel 1 video window and then drag to the channel 16 video window, release button, you can change channel 1 and channel 16 position.
- Tour setup: Here you can set preview window channel display mode and interval. Please follow the steps listed below.

From Main menu->Setting->Display, you can see an interface shown as in Figure 5-19.

Here you can set tour parameter.

- Enable tour: Check the box here to enable tour function.
- Interval: System supports 1/4/8/9/16-window tour. Input proper interval value here. The value ranges from 5-120 seconds. In tour process, you can use mouse or click Shift to turn on

window switch function. Stands for opening switch function, stands for closing switch function.

- Monitor tour type: System support 1/8-window tour.
- Alarm tour type: System support 1/8-window tour.

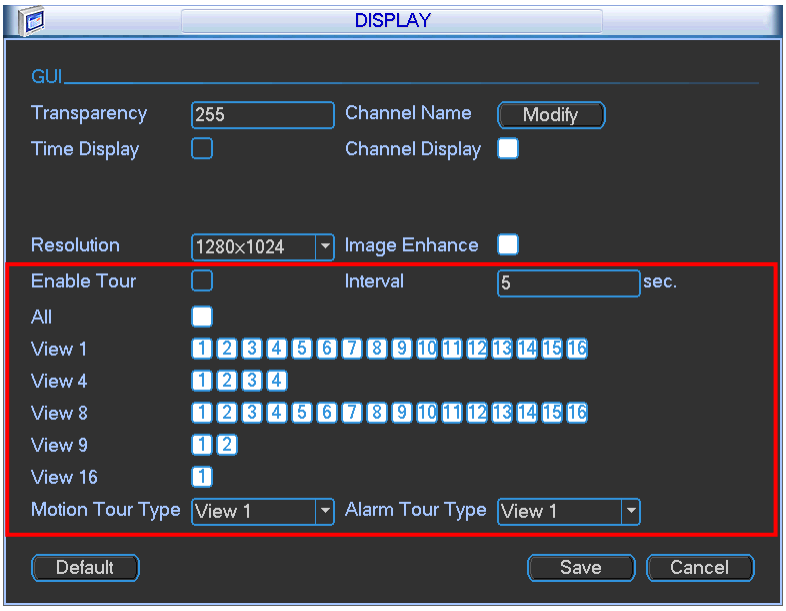


Figure 5-19

In tour mode, you can see the following interface. On the right corner, right click mouse or click shift button, you can control the tour. There are two icons: stands for enabling window switch and stands for disabling window function. See Figure 5-20.

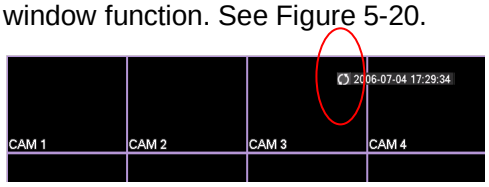


Figure 5-20

Click Save button to save current setup.

5.5 PTZ

Note: All the operations here are based on PELCOD protocol. For other protocols, there might be a little difference.

Cable Connection

Please follow the procedures below to go on cable connection

- Connect the dome RS485 port to NVR 485 port.
- Connect dome video output cable to NVR video input port.
- Connect power adapter to the dome.

In the main menu, click setting, and then click Pan/Tilt Control button. The interface is shown as in Figure 5-21. Here you can set the following items:

- Channel: Select the current camera channel.
- PTZ type: There are two types: local/remote. Please select local mode if you are connect RS485 cable to connect to the Speed dome (PTZ). Please select remote mode if you are connecting to the network PTZ camera.
- Protocol: Select corresponding PTZ protocol(such as PELCOD)
- Address: Default address is 1.
- Baud rate: Select corresponding baud rate. Default value is 9600.
- Data bit: Select corresponding data bits. Default value is 8.
- Stop bit: Select corresponding stop bits. Default value is 1.
- Parity: There are three options: odd/even/none. Default setup is none.

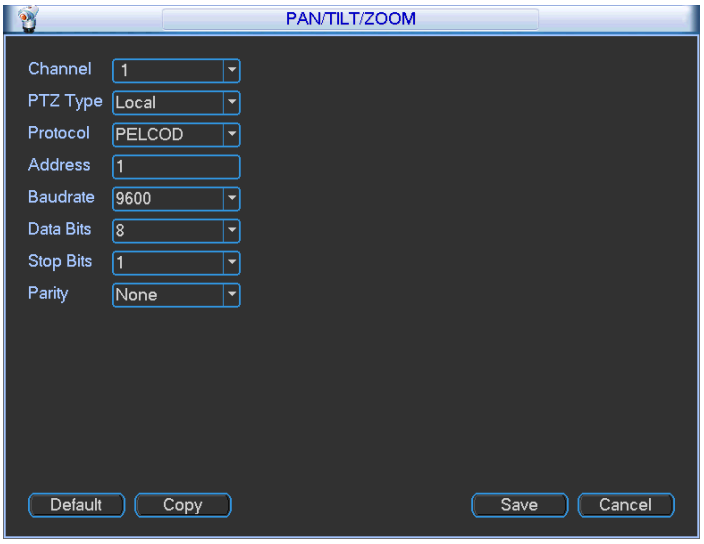


Figure 5-21

If you are connecting to network PTZ, the PTZ type shall be remote. See Figure 5-22.

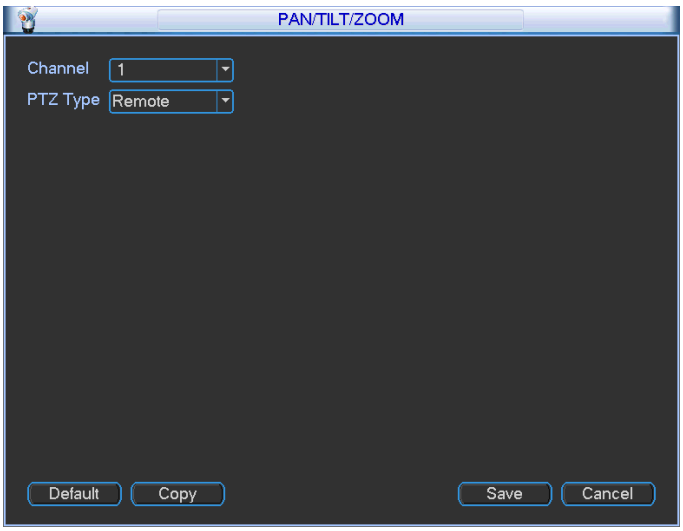


Figure 5-22

After completing all the setting please click save button. Right click mouse (click “Fn” Button in the front panel or click “Fn” key in the remote control). The interface is shown as in Figure 5-23. Please note you can only go to the PTZ control interface when you are in 1-window display mode.

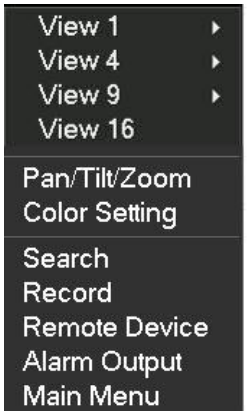


Figure 5-23

Select Pan/Tilt/Zoom, the PTZ setup is shown as in Figure 5-24.

Please note the commend name is grey once device does not support this function.

Double click the title to hide the PTZ menu interface.

Here you can control PTZ direction, speed, zoom, focus, iris, preset, tour, scan, pattern aux function, light and wiper, rotation and etc.

Speed is to control PTZ movement speed. The value ranges from 1 to 8.The speed 8 is faster than speed 1. You can use the remote control to click the small keyboard to set.

You can click and of the zoom, focus and iris to zoom in/out, definition and brightness.

The PTZ rotation supports 8 directions.

Figure 5-24

In the middle of the eight direction arrows, there is a 3D intelligent positioning key. See Figure 5-25. Please make sure your protocol supports this function and you need to use mouse to control.

Click this key, system goes back to the single screen mode. Drag the mouse in the screen to adjust section size. The dragged zone supports 4X to 16X speeds. Drag the mouse from top to the bottom to zoom in. Drag the mouse from bottom to up to zoom out. It can realize PTZ automatically. The smaller zone you dragged, the higher the speed.

Figure 5-25

Here is a sheet for you reference.

Name	Function key	function	Function key	function
Zoom		Near		Far

Focus		Near		Far
Iris		close		Open

Preset/ Patrol/Pattern/Scan

In Figure 5-24, please click the “set” button. The interface is shown as below. See Figure 5-26.
Here you can set the following items:

- Preset
- Tour
- Pattern
- Border

Figure 5-26

In ... Figure 5-24, click page switch button, the interface is shown as in Figure 5-27.
Here you can activate the following functions:

- Preset
- Tour
- Pattern
- Auto scan
- Auto pan
- Flip
- Reset
- Page switch

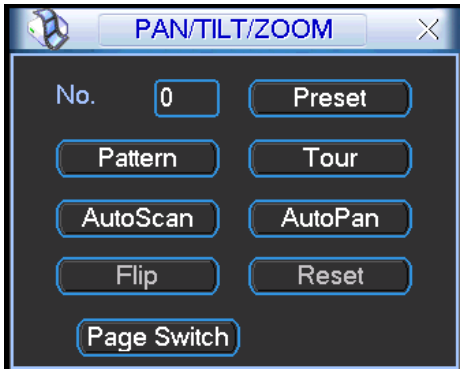


Figure 5-27

Note:

- Preset, tour and pattern all need the value to be the control parameter. You can define it as you require.

- You need to refer to your speed dome user's manual for Aux definition. In some cases, it can be used for special process.
- The following setups are usually operated in the Figure 5-24, Figure 5-26 and Figure 5-27.

Preset Setup

In Figure 5-24, use eight direction arrows to adjust camera to the proper position.

In Figure 5-26, click preset button and input preset number. The interface is shown as in Figure 5-28.

Now you can add this preset to one tour.

Figure 5-28

Activate Preset

In Figure 5-27, please input preset number in the No. blank, and click preset button.

Patrol setup (Tour Setup)

In Figure 5-26, click patrol button. The interface is shown as in Figure 5-29. Input preset number and add this preset to a patrol (tour). For each patrol (tour), you can input max 80 presets.

Figure 5-29

Activate Patrol (tour)

In Figure 5-26, input patrol (tour) number in the No. blank and click patrol button

Pattern Setup

In Figure 5-26, click pattern button and then click "begin" button. The interface is shown as in Figure 5-30. Then you can go to Figure 5-24 to modify zoom, focus, and iris.

Go back to Figure 5-30 and click "end" button. You can memorize all these operations as pattern 1.

Figure 5-30

Activate Pattern Function

In Figure 5-27, input mode value in the No. blank, and click pattern button.

Auto Scan Setup

In Figure 5-28, click border button. The interface is shown as in Figure 5-31.

Please go to Figure 5-24, use direction arrows to select camera left limit

Then please go to Figure 5-31 and click left limit button

Repeat the above procedures to set right limit.

Figure 5-31

Activate Auto Scan

In Figure 5-27, click “Auto Scan” button, the system begins auto scan. Correspondingly, the auto scan button becomes Stop button. Click stop button to terminate scan operation.

Flip

In Figure 5-27, click page switch button, you can see an interface is shown as below. See Figure 5-32. Here you can set auxiliary function. The aux value has relation ship with the Aux button of the decoder.

Click page switch button again, system goes back to Figure 5-24.

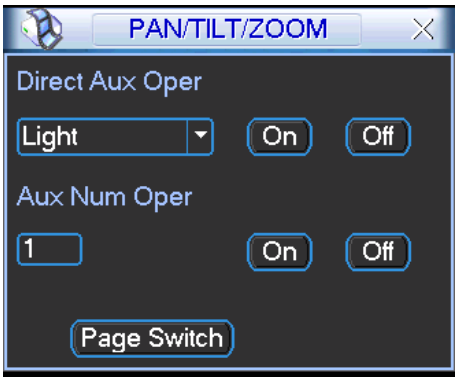


Figure 5-32

5.6 Record and Snapshot

5.6.1 Encode

Encode setting is to set IPC encode mode, resolution, bit stream type and etc

From Main menu->Setting->Encode, you can see the following interface. See Figure 5-33.

- Channel: Select the channel you want.
- Type: Please select from the dropdown list. There are three options: regular/motion detect/alarm. You can set the various encode parameters for different record types.
- Compression: System supports H.264, MPEG4, MJPEG and etc.
- Resolution: The mainstream resolution type is IPC's encoding config. Generally there is D1/720P/1080P.
- Frame rate: It ranges from 1f/s to 25f/s in NTSC mode and 1f/s to 30f/s in PAL mode.
- Bit rate type: System supports two types: CBR and VBR. In VBR mode, you can set video quality.
- Quality: There are six levels ranging from 1 to 6. The sixth level has the highest image quality.
- Video/audio: You can enable or disable the video/audio. Please note, once you enable audio function for one channel, system may enable audio function of the rest channels by default.

Click overlay button, you can see an interface is shown in Figure 5-34.

- ✧ Cover area (Privacy mask): Here is for you to set privacy mask section. You can drag you mouse to set proper section size. In one channel video, system max supports 4 zones in one channel. You can set with Fn button or direction buttons.
- ✧ Preview/monitor: privacy mask has two types. Preview and Monitor. Preview means the privacy mask zone can not be viewed by user when system is in preview status. Monitor means the privacy mask zone can not be view by the user when system is in monitor status.
- ✧ Time display: You can select system displays time or not when you playback. Please click set button and then drag the title to the corresponding position in the screen.
- ✧ Channel display: You can select system displays channel number or not when you playback. Please click set button and then drag the title to the corresponding position in the screen.

- Copy：After you complete the setup, you can click Copy button to copy current setup to other channel(s). You can see an interface is shown as in Figure 5-35. You can see current channel number is grey. Please check the number to select the channel or you can check the

box ALL. Please click the OK button in Figure 5-35 and Figure 5-34 respectively to complete the setup. Please note, once you check the All box, you set same encode setup for all channels. Audio/video enable box, overlay button and the copy button is shield.

Please highlight icon to select the corresponding function.

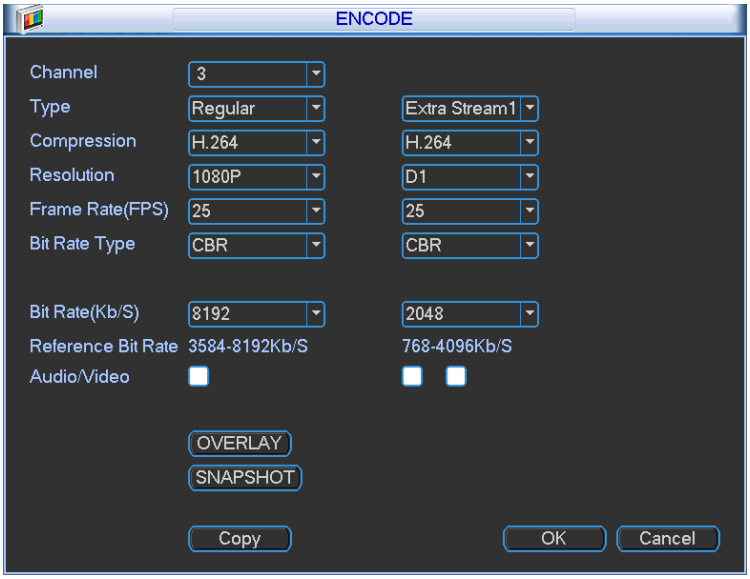


Figure 5-33

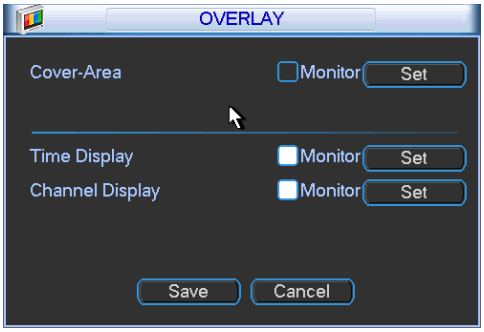


Figure 5-34

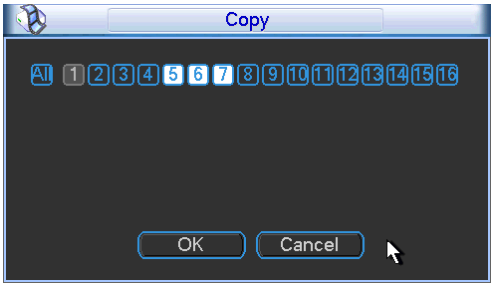


Figure 5-35

5.6.2 Schedule

Set record time, record plan and etc. Please note system is in 24-hour record by default after its first boot up.

In the main menu, from Setting to Schedule, you can go to schedule menu. See Figure 5-36.

- Channel: Please select the channel number first. You can select “all” if you want to set for the whole channels.
- Week day: There are eight options: ranges from Saturday to Sunday and all.
- Pre-record: System can pre-record the video before the event occurs into the file. The value ranges from 1 to 30 seconds depending on the bit stream.
- Redundancy: System supports redundancy backup function. It allows you backup recorded file in two disks. You can highlight Redundancy button to activate this function. Please note, before enable this function, please set at least one HDD as redundant. (Main menu->Advanced->HDD Management). **Please note this function is null if there is only one HDD.**
- Snapshot: You can enable this function to snapshoot image when an alarm occurs.
- Record types: There are four types: regular, motion detection (MD), Alarm, MD & alarm.
- Holiday: Highlight the button here, the holiday settings in General interface (Chapter 5.12.1) becomes activated.

Please highlight icon to select the corresponding function. After completing all the setups please click save button, system goes back to the previous menu.

At the bottom of the menu, there are color bars for your reference. Green color stands for regular recording, yellow color stands for motion detection and red color stands for alarm recording. The white means the MD and alarm record is valid. Once you have set to record when the MD and alarm occurs, system will not record neither motion detect occurs nor the alarm occurs.

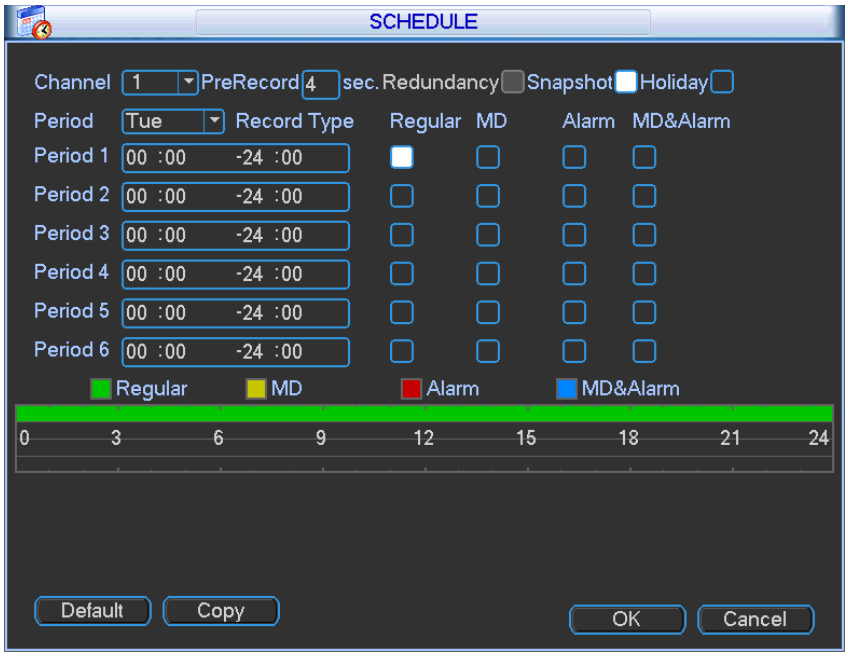


Figure 5-36

Quick Setup

Copy function allows you to copy one channel setup to another. After setting in channel 1, click Copy button, you can go to interface Figure 5-37. You can see current channel name is grey such as channel 1. Now you can select the channel you wan to paste such as channel 5/6/7. If you wan to save current setup of channel 1 to all channels, you can click the first box “ALL”. Click the OK button to save current copy setup. Click the OK button in the Encode interface, the copy function

succeeded.

Please note, if you select ALL in Figure 5-37, the record setup of all channels are the same and the Copy button becomes hidden.

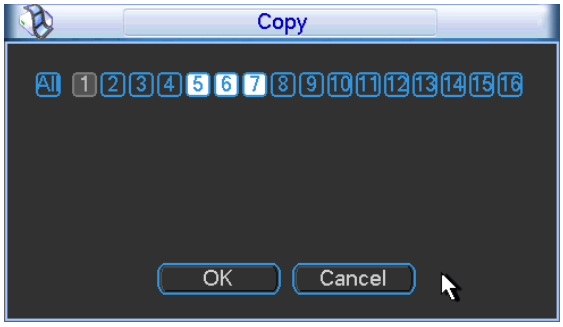


Figure 5-37

Click OK button to save current setup.

5.6.3 Schedule Record/Snapshot

5.6.3.1 Schedule Record

From Main menu->Setting->Schedule, go to the Schedule interface. See Figure 5-36.

Select record channel, period, and record type is general. Please refer to chapter 5.6.2.

Click Copy to copy current setup to other channel(s).

Click OK button.

5.6.3.2 Schedule Snapshot

From Main menu->Setting->Encode, you can go to encode interface. See Figure 5-33.

Select the snapshot channel from the dropdown list and then click Snapshot button. See Figure 5-38.

Select snapshot mode as Timing (Schedule) from the dropdown list and then set picture size, quality and snapshot frequency.

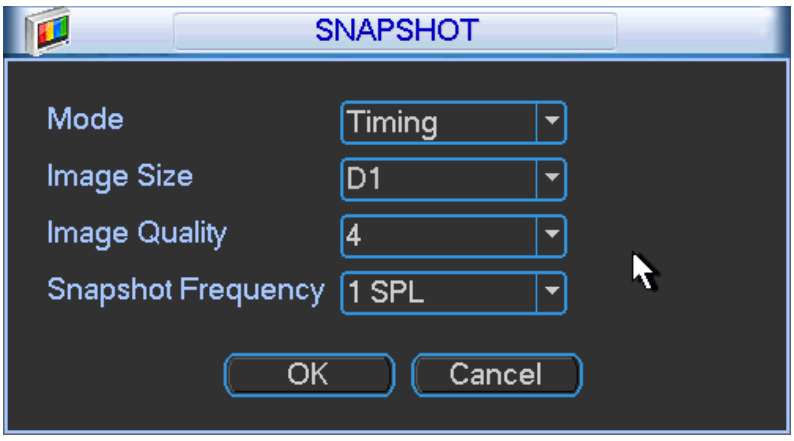


Figure 5-38

From Main menu->Setting->Schedule, you can see Figure 5-36.

Select snapshot channel and enable snapshot function. Set snapshot period.

Click OK button.

Note

Please note the activation snapshot has the higher priority than schedule snapshot. If you have

enabled these two types at the same time, system can activate the activation snapshot when alarm occurs, and otherwise system just operates the schedule snapshot.
Only the activation snapshot supports this function. The schedule snapshot function can not send out picture via the email. But you can upload the picture to a FTP.

5.6.4 Motion detect record/snapshot

5.6.4.1 Motion detect record

a) From Main menu->Setting->Detect, you can go to the following interface. See Figure 5-39.

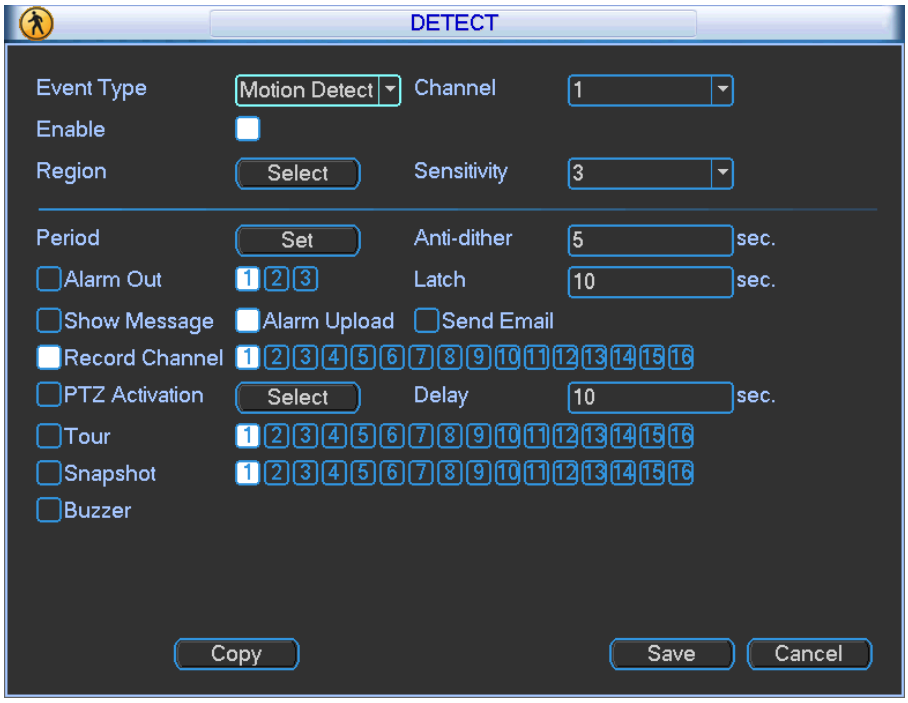


Figure 5-39

b) Select motion detect from the event type dropdown list. Select a channel from the dropdown list and then check the enable button to enable motion detect function.

c) Click Region Select button to set motion detect zone. There are 396(PAL)/330(NTSC) small zones. The green zone is current cursor position. Grey zone is the motion detection zone. Black zone is the disarmed zone. You can click Fn button to switch between the arm mode and disarm mode. In arm mode, you can click the direction buttons to move the green rectangle to set the motion detection zone. After you completed the setup, please click ENTER button to exit current setup. Do remember click save button to save current setup. If you click ESC button to exit the region setup interface system will not save your zone setup.

d) Set sensitivity. Please note the sixth level has the highest sensitivity.

e) Click Save button to complete motion detect setup.

f) From Main menu->Setting-Schedule. See Figure 5-36

g) Set motion detect record channel, period and the record type shall be motion detect (MD). Please refer to chapter 5.6.2.

h) Click Copy button to copy current setup to other channel(s).

i) Click OK button to complete motion detect record setup.

5.6.4.2 Motion Detect Snapshot

a) From Main menu->Setting->Encode, you can go to encode interface. See Figure 5-33.
b) Select the motion detect snapshot channel and then click Snapshot button. See Figure 5-38.
c) In Figure 5-38, select activation snapshot from the dropdown list and then set picture size, quality and snapshot frequency. Click OK button to save current setup.
d) From Mani menu->Setting->Detect, here you can select motion detect type, motion detect channel and then check the enable box. Please refer to chapter 5.6.4.1.
e) Click OK button to complete motion detect setup.

5.6.5 Alarm Record/Snapshot

5.6.5.1 Alarm Record

a) Before you set alarm setup information, please go to chapter 2.3 to connect alarm input and alarm output cable (such as light, siren and etc).
b) In the main menu, from Setting to Alarm, you can see alarm setup interface. See Figure 5-40.

- Alarm in: Here is for you to select channel number.
- Event type: There are four types. Local input/network input/IPC external/IPC offline alarm.
  - ✧ Local input alarm: The alarm signal system detects from the alarm input port.
  - ✧ Network input alarm: It is the alarm signal from the network.
  - ✧ IPC external alarm: It is the on-off alarm signal from the front-end device and can activate the local NVR.
  - ✧ IPC offline alarm: Once you select this item, system can generate an alarm when the front-end IPC disconnects with the local NVR. The alarm can activate record, PTZ, snap and etc. The alarm can last until the IPC and the NVR connection resumes.
- Enable: Please you need to highlight this button to enable current function.
- Type: normal open or normal close.

c) Click Save button to complete alarm setup interface.

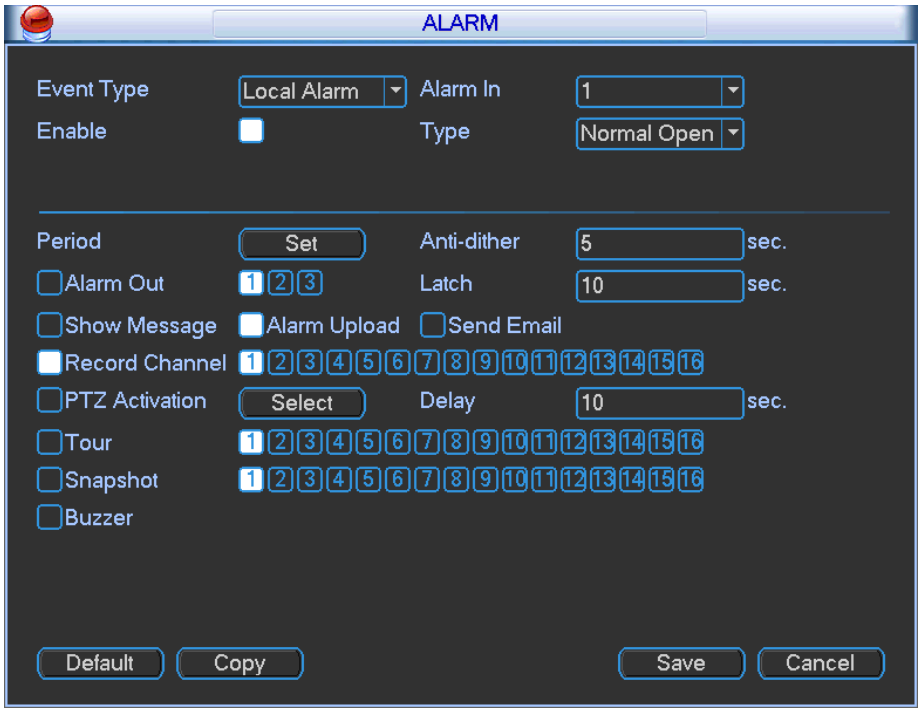


Figure 5-40

d) From Mani menu->Setting->Schedule, you can go to Figure 5-36.
e) Select alarm channel, period and the record type shall be alarm. Please refer to chapter 5.6.2.
f) Click Copy button to copy current setup to other channel(s).
g) Click OK button to save alarm record information.

5.6.5.2 Alarm Snapshot

a) Please refer to Step a) to step c) of chapter 5.6.4.2 to enable timing snapshot.
b) From Main menu->Setting->schedule, you can go to Figure 5-36 to enable snapshot function.
c) From Main menu->Setting->Alarm, you can go to Figure 5-40.to set alarm parameter and enable snapshot function.
d) Click Save button to save alarm snapshot setup.

5.6.6 Manual Record/Snapshot

You need to have proper rights to implement the following operations. Please make sure the HDD has been properly installed.

5.6.6.1 Manual Record

a) Right click mouse or in the main menu, Advanced->Manual Record. Manual record menu is shown as in Figure 5-41.

Tips

You can click Rec button on the front panel (if possible) to go to the Manual Record interface.

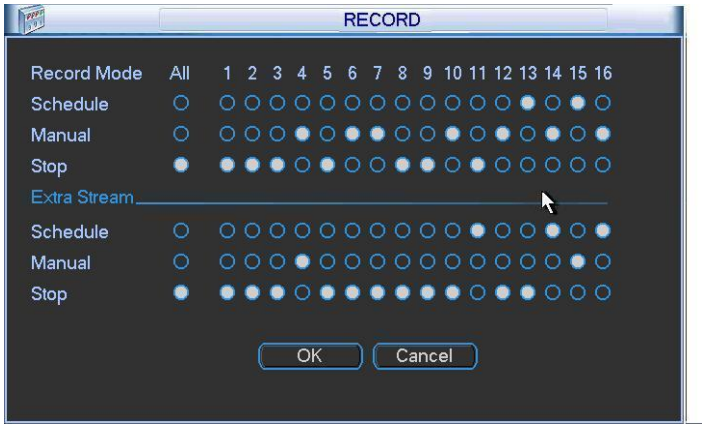


Figure 5-41

b) Check the box here to select manual record channel(s). You can see the corresponding indicator light on the front panel is on.

- Channel: It is to display device all channels.
- Manual: It has the highest priority. Enable corresponding channel to record no matter what period applied in the record setup. Now system is record general file.
- Auto: System enables auto record function as you set in chapter 5.6.2 schedule interface (General/Motion detect/Alarm)
- Stop: Stop current channel record/Snapshot no matter what period applied in the record setup.

c) Click OK button to complete manual record setup.

5.6.6.2 Manual Snapshot

Click button at the preview control bar (Chapter 0), you can snapshot one picture. You can go to chapter 0 to view snapshot picture.

5.6.7 Holiday Record/Snapshot

It is for you to set holiday record or snapshot plan. Please note the holiday record/snapshot setup has the higher priority than the ordinary date record/snapshot setup.

5.6.7.1 Holiday Record

a) From Mani menu->Setting->General, you can go to the following interface. See Figure 5-42.

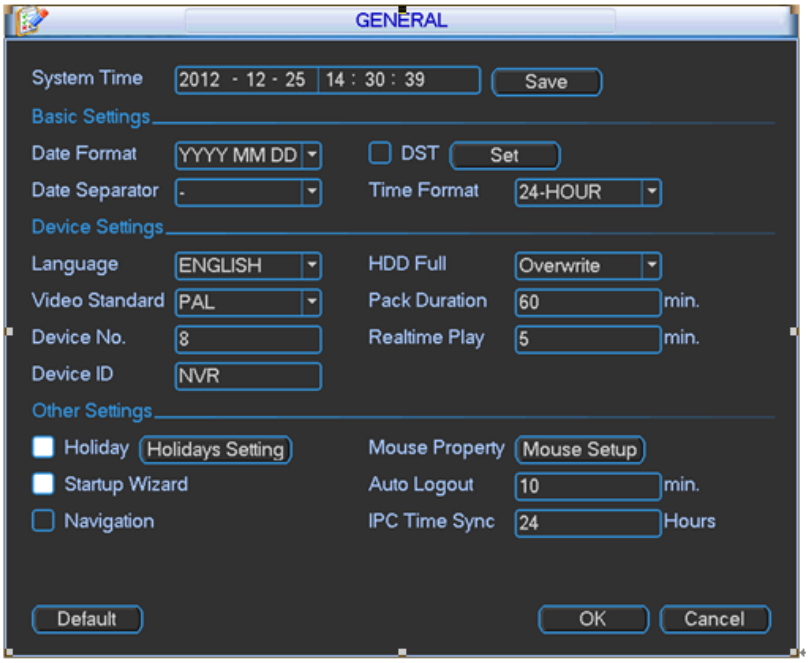


Figure 5-42

b) Check the box here to enable Holiday function. Click Holiday setting, you can see an interface shown as in Figure 5-43. Here you can set holiday date. Please go to the Holidays Period interface to set the holiday date record setup.

✧ When you enable Holiday settings and schedule setup at the same time, holiday setting has the priority. If the selected day is a holiday, then system records as you set in holiday setting. If it is not a holiday, system records as you set in Schedule interface. Please note you need to go to chapter 5.6.2 Schedule to enable Holiday setup. Otherwise you can not enable holiday record setup.

✧ Please note, there is no year setup on the holiday setting. For example, if you set 30th Oct, 2012 as a holiday, then the date of 30th Oct in each year will be set as a holiday. So, general speaking, your holiday setup in other year may also affect the holiday setup in 2012.

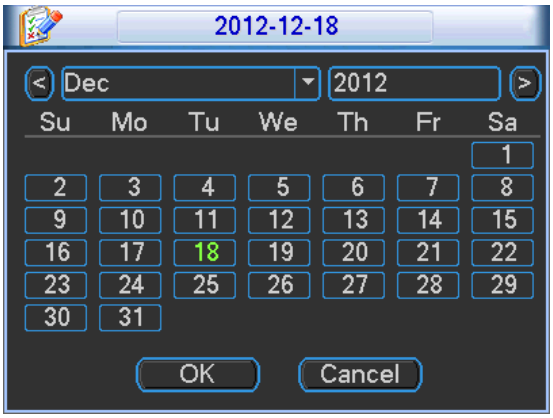


Figure 5-43

c) Click OK button to complete holiday setup.
d) From Main menu->setting->schedule, you can go to schedule interface. Check the box here to enable holiday function and the period shall be set as Holiday. Now you can set period and record type of holiday time.
e) Click OK button to set holiday record setup.

5.6.7.2 Holiday Snapshot

Set Holiday date first. Please refer to step a) to step c) of chapter 5.6.7.1.
From Main menu->Setting->Schedule, you can go to schedule interface. See Figure 5-38. Check the box here to enable holiday function and snapshot function. Set period as Holiday.
Set holiday snapshot type (Timing/activation). Please refer to chapter 5.6.3.2 or chapter 5.6.4.2.

5.6.8 Other Record/Snapshot

Motion detect&Alarm record or snapshot, please refer to chapter 5.6.5.
Video loss or camera masking record or snapshot function, please refer to chapter 5.6.4.

5.7 Playback and Search

5.7.1 Real-time Playback

Please refer to chapter 0 for real-time playback information.

5.7.2 Search Interface

From Main menu->Search, or on the preview interface right click mouse, you can go to the following interface. See Figure 5-44.

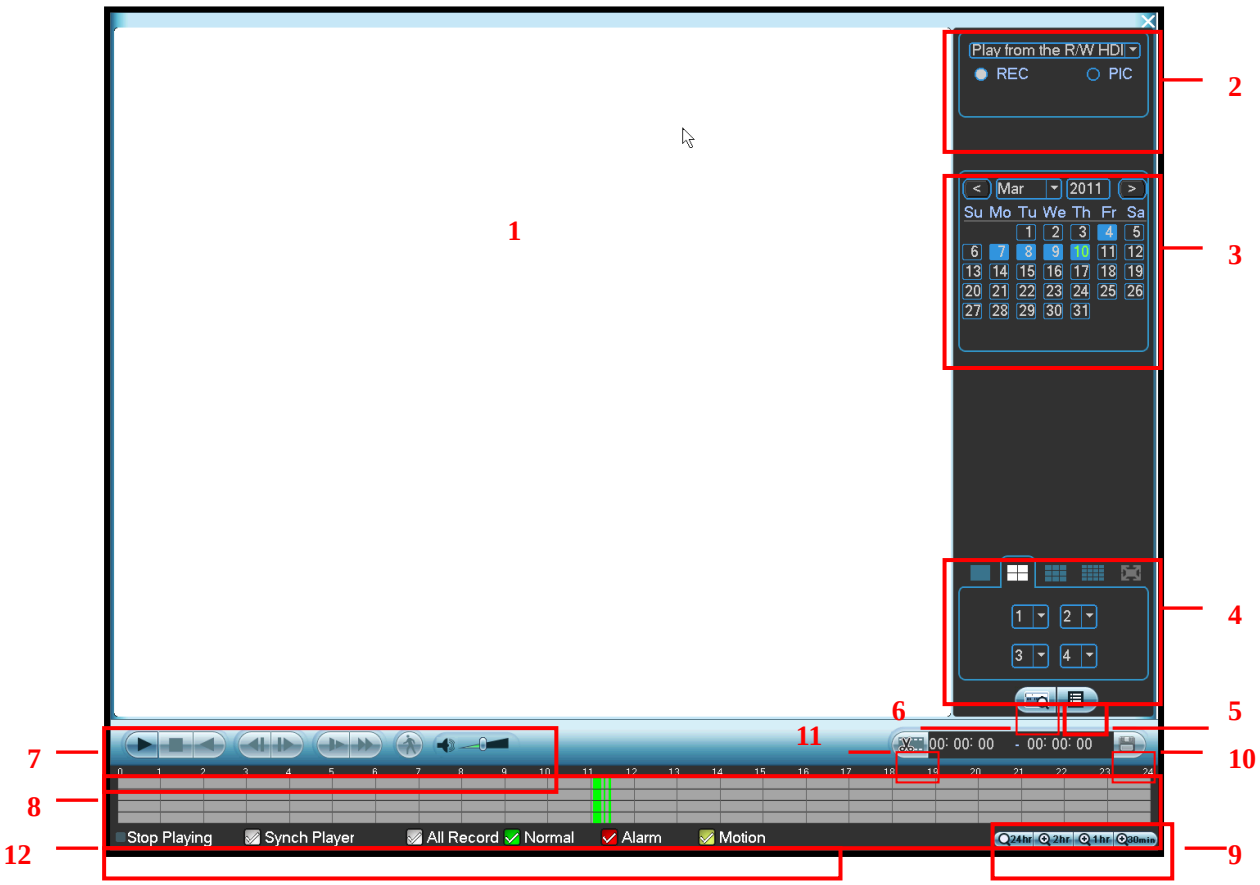
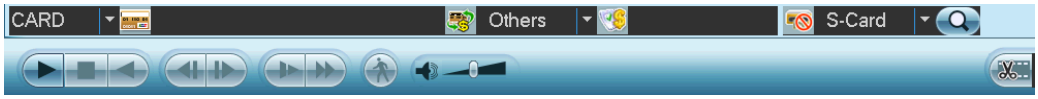


Figure 5-44

Please refer to the following sheet for more information.

SN	Name	Function
1	Display window	● Here is to display the searched picture or file. ● Support 1/4/9/16-window playback.
2	Search type	● Here you can select to search the picture or the recorded file. ● You can select to play from the read-write HDD, from peripheral device or from redundancy HDD. ● Before you select to play from the peripheral device, please connect the corresponding peripheral device. You can view all record files of the root directory of the peripheral device. Click the Browse button; you can select the file you want to play. **Important** Redundancy HDD does not support picture backup function, but it supports picture playback function. You can select to play from redundancy HDD if there are pictures on the redundancy HDD.
3	Calendar	● The blue highlighted date means there is picture or file. Otherwise, there is no picture or file. ● In any play mode, click the date you want to see, you can see the corresponding record file trace in the time bar.
4	Playback mode and channel	● Playback mode：1/4/9/16. (It may vary due to different series.) ✧ In 1-window playback mode: you can select 1-16 channels. ✧ In 4-window playback mode: you can select 4 channels according to your requirement.

<table>
<tr><td></td><td>selection pane.</td><td colspan="2">✧ In 9-window playback mode, you can switch between 1-8 and 9-16 channels.
✧ In 16-window playback mode, you can switch between1-16 and 17-32 channels.
● The time bar will change once you modify the playback mode or the channel option.</td></tr>
<tr><td>5</td><td>File list switch button</td><td colspan="2">● Double click it, you can view the picture/record file list of current day.
● The file list is to display the first channel of the record file.
● The system can display max 128 files in one time. Use the ▲/▼ or the mouse to view the file. Select one item, and then double click the mouse or click the ENTER button to playback.
● You can input the period in the following interface to begin accurate search.

● File type：R—regular record； A—external alarm record；M—Motion detect record.
● Lock file. Click the file you want to lock and click the button to lock. The file you locked will not be overwritten.
● Search locked file: Click the button to view the locked file.
● Return: Click button , system goes back to the calendar and channel setup interface.
Please note:
● System max locks 16 files. The size of the locked file shall be less than the 1/4 of the HDD total space. The first 16G of each partition can not be locked.
● System can only lock one file at one time and can not lock the extra stream. For the file that is writing or overwriting, it can not be locked.</td></tr>
<tr><td>6</td><td>Card number search</td><td colspan="2">The card number search interface is shown as below.
 
</td></tr>
<tr><td rowspan="4">7</td><td rowspan="4">Playback control pane.</td><td>►/ II</td><td>Play/Pause
There are three ways for you to begin playback.
● The play button
● Double click the valid period of the time bar.
● Double click the item in the file list.
In slow play mode, click it to switch between play/pause.</td></tr>
<tr><td>■</td><td>Stop</td></tr>
<tr><td>◄</td><td>Backward play
In normal play mode, left click the button, the file begins backward play. Click it again to pause current play.
In backward play mode, click ►/ II to restore normal play.</td></tr>
<tr><td>|◄/ ►|</td><td>In playback mode, click it to play the next or the previous section. You can click continuously when you are watching the files from the same channel.
In normal play mode, when you pause current play, you can click ◄| and</td></tr>
</table>

			▏▶ to begin frame by frame playback. In frame by frame playback mode, click ▶/⏸ to restore normal playback.
		▶·	Slow play In playback mode, click it to realize various slow play modes such as slow play 1, slow play 2, and etc.
		⏩	Fast forward In playback mode, click to realize various fast play modes such as fast play 1,fast play 2 and etc.
		Note: The actual play speed has relationship with the software version.	
			Smart search
			The volume of the playback
			Click the snapshot button in the full-screen mode, the system can snapshot 1 picture per second. System supports custom snap picture saved path. Please connect the peripheral device first, click snap button on the full-screen mode, you can select or create path. Click Start button, the snapshot picture can be saved to the specified path.
8	Time bar	● It is to display the record type and its period in current search criteria. ● In 4-window playback mode, there are corresponding four time bars. In other playback mode, there is only one time bar. ● Use the mouse to click one point of the color zone in the time bar, system begins playback. ● The time bar is beginning with 0 o'clock when you are setting the configuration. The time bar zooms in the period of the current playback time when you are playing the file. ● The green color stands for the regular record file. The red color stands for the external alarm record file. The yellow stands for the motion detect record file.	
9	Time bar unit	●The option includes: 24H, 12H, 1H and 30M. The smaller the unit, the larger the zoom rate. You can accurately set the time in the time bar to playback the record. ● The time bar is beginning with 0 o'clock when you are setting the configuration. The time bar zooms in the period of the current playback time when you are playing the file.	
10	Backup	Select the file(s) you want to backup from the file list. System max supports files from four channels. Then click the backup button, now you can see the backup menu. Click the start button to begin the backup operation. Check the file again you can cancel current selection. System max supports to display 32 files from one channel.	
11	Clip	● It is to edit the file. ●Please play the file you want to edit and then click this button when you want to edit. You can see the corresponding slide bar in the time bar of the corresponding channel. You can adjust the slide bar or input the accurate time to set the file end time. Click this button again and then save current contents in a new file. .	
12	Record	In any play mode, the time bar will change once you modify the search type.	

	type	
13	Smart search	● When system is playing, you can select a zone in the window to begin motion detect. Click the motion detect button to begin play. ● Current button is null once the motion detect play has begun. ● The system will take the whole play zone as the motion detect region by default. ● The motion detect play stopped once you switch the play file. ● Operations such as set time bar, click the play button, or any file list operation will stop current motion detect play.
Other Functions		
14	Other channel synchronization switch to play when playback	When playing the file, click the number button, system can switch to the same period of the corresponding channel to play.
15	Digital zoom	When the system is in full-screen playback mode, left click the mouse in the screen. Drag your mouse in the screen to select a section and then left click mouse to realize digital zoom. You can right click mouse to exit.
16	Manually switch channel when playback	During the file playback process, you can switch to other channel via the dropdown list or rolling the mouse. This function is null if there is no record file or system is in smart search process.

Note:

All the operations here (such as playback speed, channel, time and progress) have relationship with hardware version. Some series NVRs do not support some functions or playback speeds.

5.7.3 Accurate playback by time

Select records from one day, click the list, you can go to the file list interface. You can input time at the top right corner to search records by time. For example, click time 06:00.00 and then click Search button, you can view all the record files after 06:00.00 (The records includes current time.). Click Play button, you can see system begins play from 06:00.00. See Figure 5-45.

Note

- After you searched files, system implement accurate playback once you click Play for the first time.
- System does not support accurate playback for picture.
- Some series product supports synchronization playback and non-synchronous playback. The synchronization playback supports all channels and non-synchronous playback only supports accurately playback of current select channel.

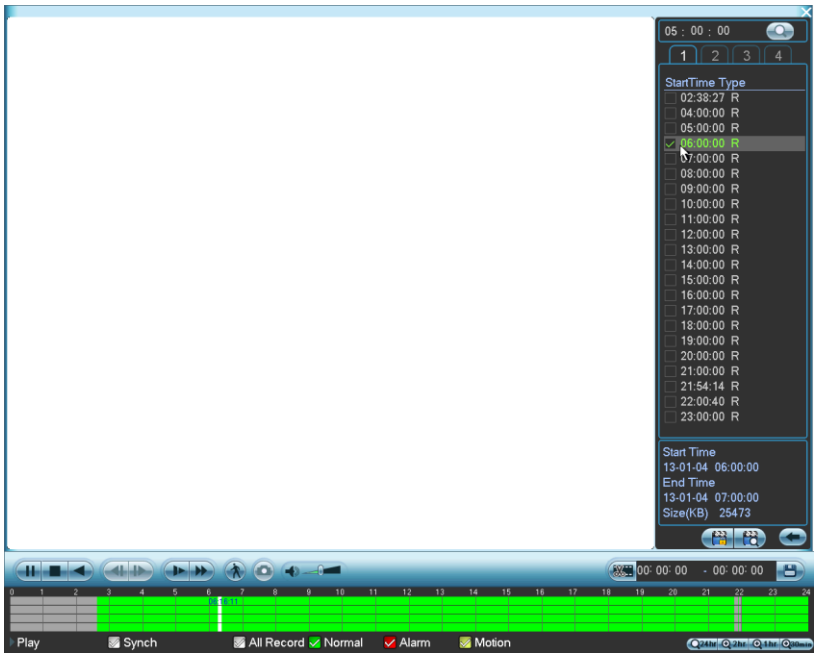


Figure 5-45

5.7.4 Smart Search

During the multiple-channel playback mode, double click one channel and then click the button, system begins smart search. System supports 396(22*18 PAL) and 330(22*15 NTSC) zones. Please left click mouse to select smart search zones. See Figure 5-46.

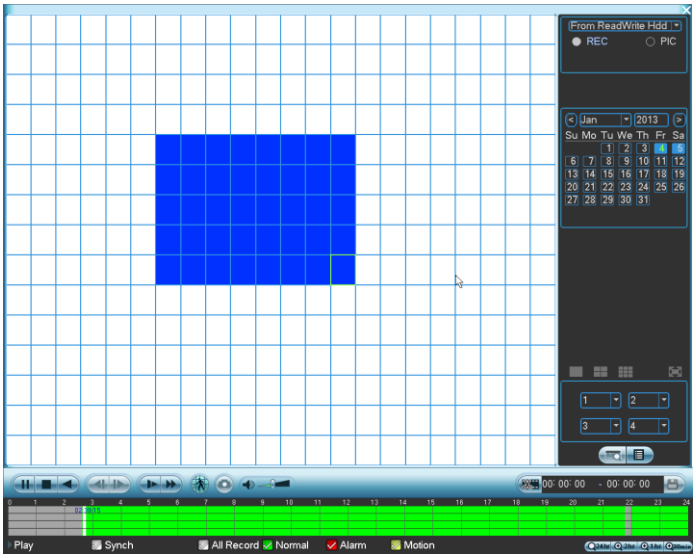


Figure 5-46

Click the , you can go to the smart search playback. Click it again, system stops smart search playback.

Important

- **System does not support motion detect zone setup during the full-screen mode.**

- **Smart search function is for one-channel playback mode only .**

5.7.5 Picture Playback

a) From Main menu->Search, or on the preview interface right click mouse, you can go to Figure 5-44.

b) At the top right pane, you can check the box to select picture and then select playback interval.

c) Please refer to chapter 5.7.2 to select picture you want to view.

5.8 Backup

5.8.1 File Backup

In this interface, you can backup record file to the USB device.

a) Connect USB burner, USB device, SD card or portable HDD and etc to the device.

b) From Main menu->Backup, you can go to the Backup interface. See Figure 5-47

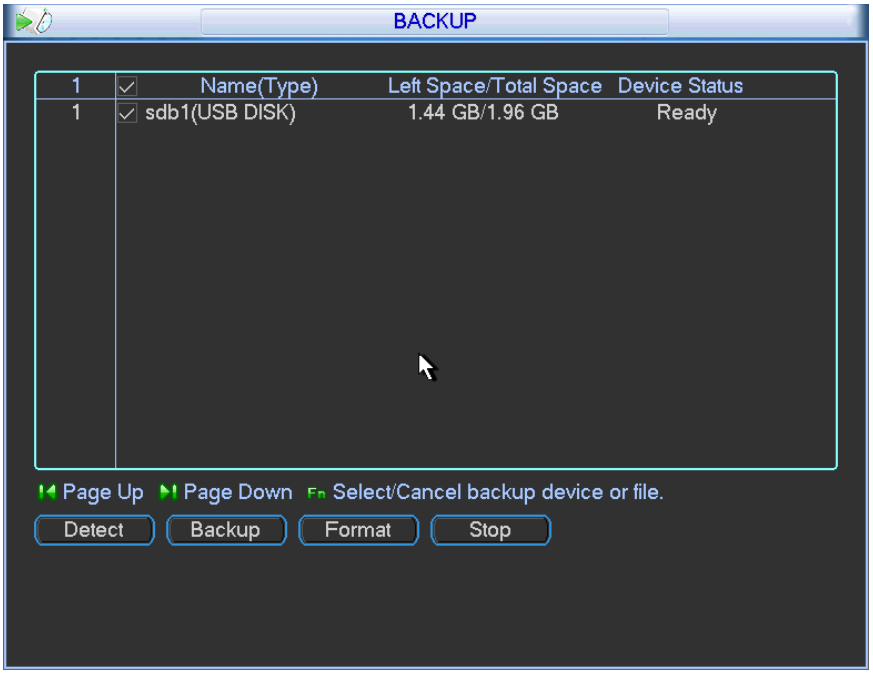


Figure 5-47

c) Select backup device and then set channel, file start time and end time.

d) Click add button, system begins search. All matched files are listed below. System automatically calculates the capacity needed and remained. See Figure 5-48.

e) system only backup files with a √ before channel name. You can use Fn or cancel button to delete √ after file serial number.

f) Click backup button, you can backup selected files. There is a process bar for you reference.

g) When the system completes backup, you can see a dialogue box prompting successful backup.

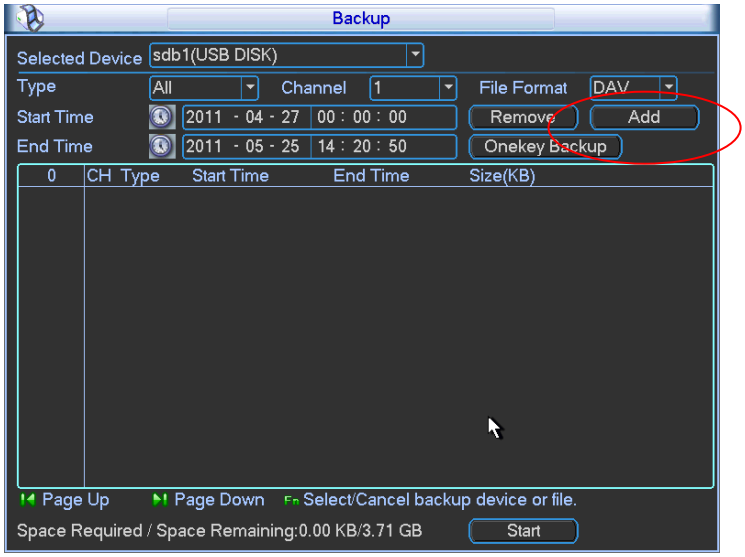


Figure 5-48

h) Click backup button, system begins burning. At the same time, the backup button becomes stop button. You can view the remaining time and process bar at the left bottom.

5.8.2 Config Backup

This function allows you to copy current system configuration to other devices. It also supports import, create new folder, and delete folder and etc function.

From Main menu->Advanced->Config Backup, you can see the configuration file backup interface is shown as below. See Figure 5-49.

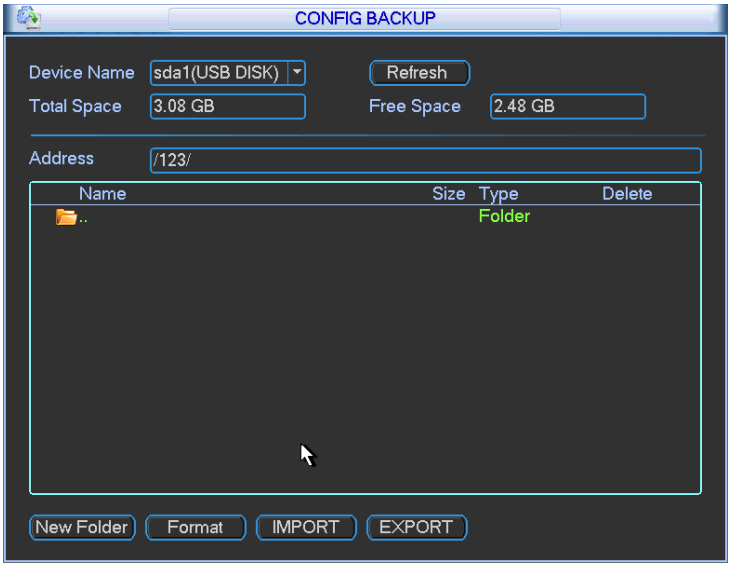


Figure 5-49

- Export: Please connect the peripheral device first and then go to the following interface. Click Export button, you can see there is a corresponding “Config_Time” folder. Double click the folder, you can view some backup files.
- Import: Here you can import the configuration files from the peripheral device to current device. You need to select a folder first. You can see a dialogue box asking you to select a

folder if you are selecting a file. System pops up a dialogue box if there is no configuration file under current folder. After successfully import, system needs to reboot to activate new setup.

- Format: Click Format button, system pops up a dialogue box for you to confirm current operation. System begins format process after you click the OK button.

Note:

- System can not open config backup interface again if there is backup operation in the process.
- System refreshes device when you go to the config backup every time and set current directory as the root directory of the peripheral device.
- If you go to the configuration backup interface first and then insert the peripheral device, please click Refresh button to see the newly added device.

5.9 Alarm

5.9.1 Detect Alarm

5.9.1.1 Motion Detect Alarm

In the main menu, from Setting to Detect, you can see motion detect interface. See Figure 5-50.There is three detection types: motion detection, video loss, camera masking.

- The video loss has no detection region and sensitivity setup and camera masking has no detection region setup.
- You can see motion detect icon if current channel has enabled motion detect alarm.
- You can drag you mouse to set motion detect region without Fn button. Please click OK button to save current region setup. Right click mouse to exit current interface.
- Event type: From the dropdown list you can select motion detection type.
- Channel: Select a channel from the dropdown list to set motion detect function.
- Enable: Check the box here to enable motion detect function.
- Region: Click select button, the interface is shown as in Figure 5-51. Here you can set motion detection zone. There are 396(PAL)/330(NTSC) small zones. The green zone is current cursor position. Grey zone is the motion detection zone. Black zone is the disarmed zone. You can click Fn button to switch between the arm mode and disarm mode. In arm mode, you can click the direction buttons to move the green rectangle to set the motion detection zone. After you completed the setup, please click ENTER button to exit current setup. Do remember click save button to save current setup. If you click ESC button to exit the region setup interface system will not save your zone setup.
- Sensitivity: System supports 6 levels. The sixth level has the highest sensitivity.
- Period: Click set button, you can see an interface is shown as in Figure 5-53. Here you can set for business day and non-business day. In Figure 5-53, click set button, you can see an interface is shown as in Figure 5-54. Here you can set your own setup for business day and non-business day.
- Alarm output: when an alarm occurs, system enables peripheral alarm devices.
- Latch: when motion detection complete, system auto delays detecting for a specified time. The value ranges from 1-300(Unit: second)
- Show message: System can pop up a message to alarm you in the local host screen if you enabled this function.

- Alarm upload: System can upload the alarm signal to the network (including alarm centre) if you enabled current function.
- Send email: System can send out email to alert you when an alarm occurs.
- Record channel: Select the channel to activate recording function once an alarm occurred. Please make sure you have set MD record in encode interface(Main Menu->Setting->Schedule) and schedule record in manual record interface(Main Menu->Advanced->Manual Record)
- PTZ activation: Here you can set PTZ movement when an alarm occurs. System can go to a preset, when there is an alarm. Click "select" button, you can see an interface is shown as in Figure 5-52.
- Record Delay: System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
- Tour: Here you can enable tour function when an alarm occurs. System one-window tour. Please go to chapter 5.3.9 Display for tour interval setup.
- Snapshot: You can enable this function to snapshoot image when motion detect alarm occurs.

Please highlight icon to select the corresponding function. After all the setups please click save button, system goes back to the previous menu.

Note:

In motion detection mode, you can not use copy/paste to set channel setup since the video in each channel may not be the same.

In Figure 5-51, you can left click mouse and then drag it to set a region for motion detection. Click Fn to switch between arm/withdraw motion detection. After setting, click enter button to exit.

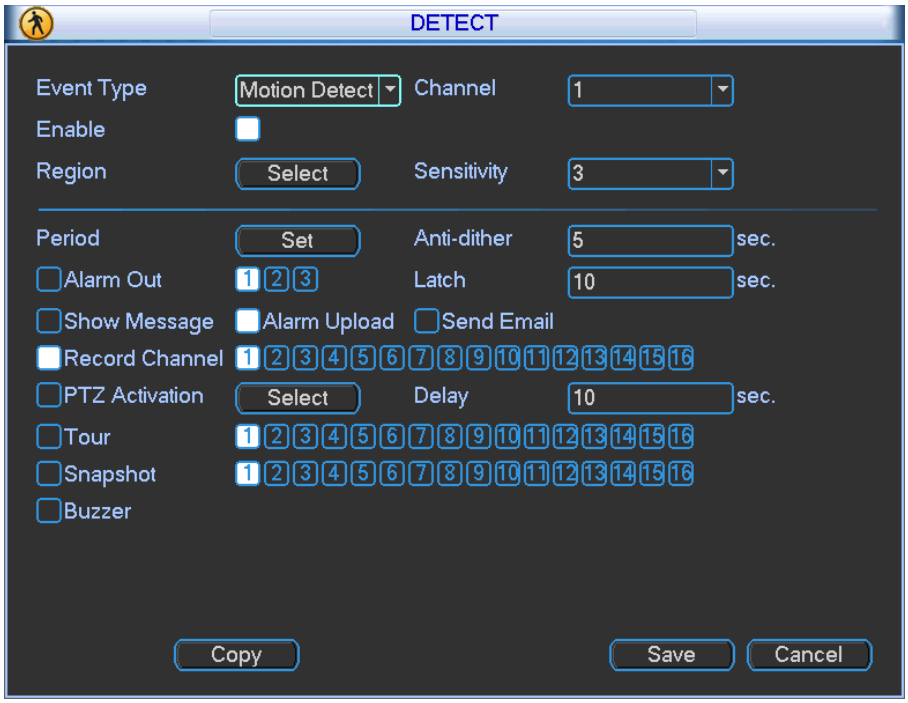


Figure 5-50

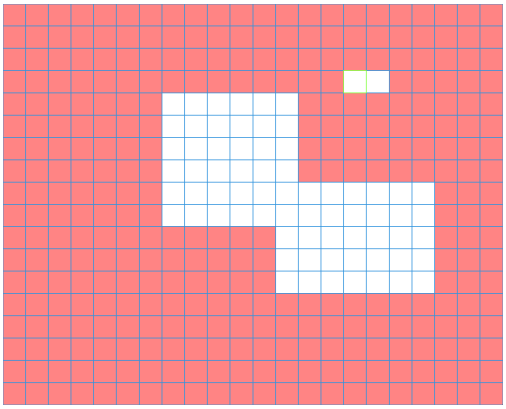


Figure 5-51

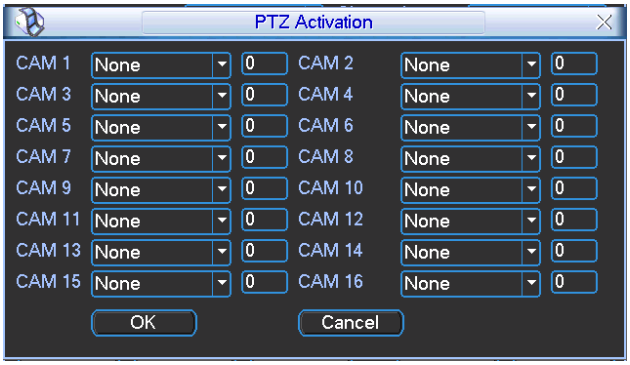


Figure 5-52

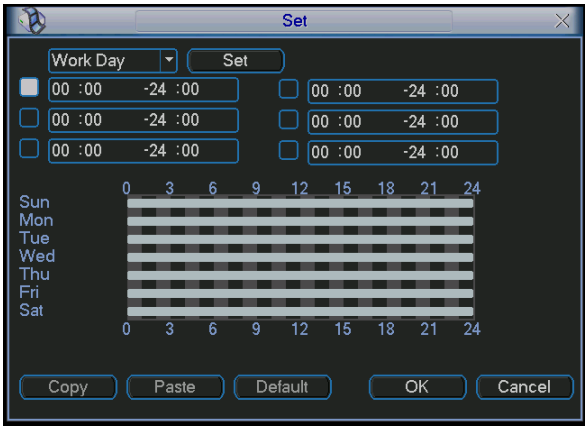


Figure 5-53

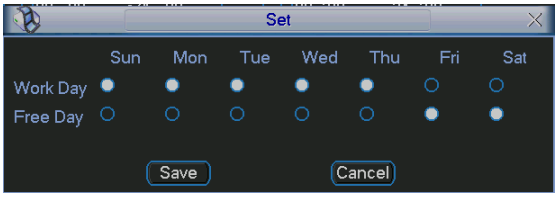


Figure 5-54

5.9.1.2 Video Loss

In Figure 5-50, select video loss from the type list. You can see the interface is shown as in

Figure 5-55. This function allows you to be informed when video loss phenomenon occurred. You can enable alarm output channel and then enable show message function.
You can refer to chapter 5.9.1.1Motion detect for detailed information.

Tips:

You can enable preset/tour/pattern activation operation when video loss occurs.

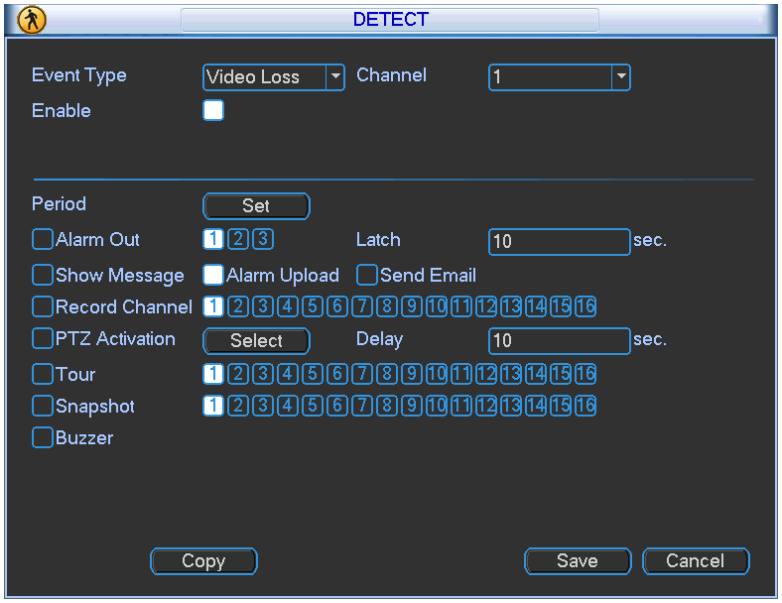


Figure 5-55

5.9.1.3 Camera Masking

When someone viciously masks the lens, or the output video is in one-color due to the environments light change, the system can alert you to guarantee video continuity. Camera masking interface is shown as in Figure 5-56. You can enable alarm output channel and then enable show message function. You can refer to chapter 5.9.1.1Motion detect for detailed information.

Tips:

You can enable preset/tour/pattern activation operation when video loss occurs.

Note:

In Detect interface, copy/paste function is only valid for the same type, which means you can not copy a channel setup in video loss mode to camera masking mode.

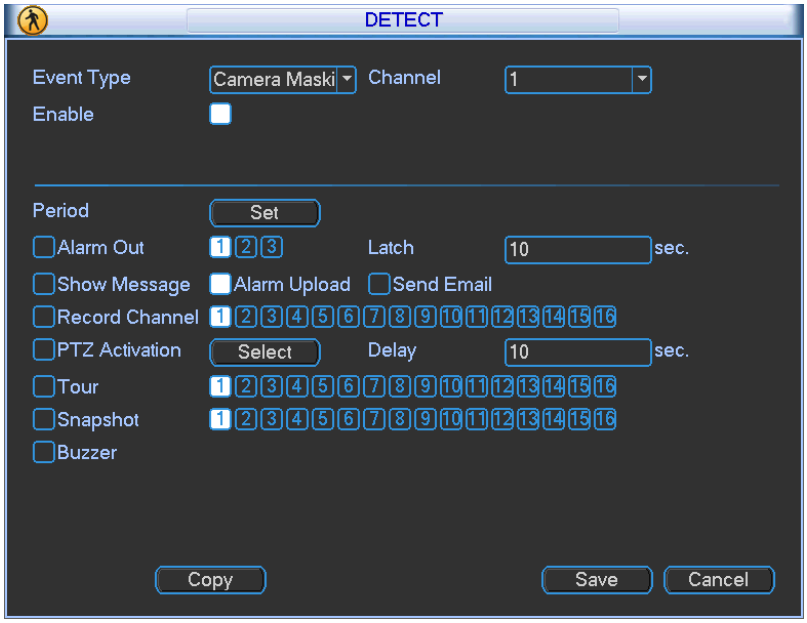


Figure 5-56

5.9.2 Alarm output

Here is for you to set proper alarm output (Auto/manual/stop).

From Main menu->Advanced->Alarm output, you can see an interface shown as in Figure 5-57

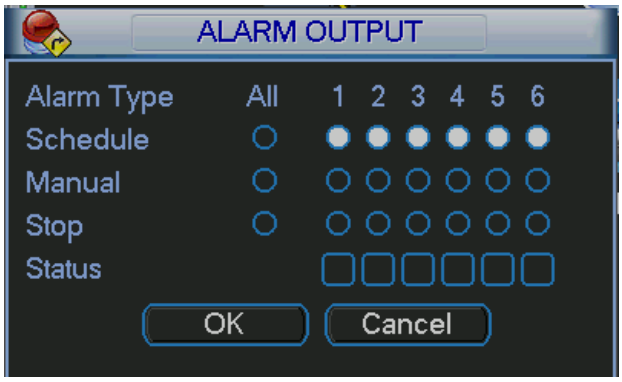


Figure 5-57

Please highlight icon to select the corresponding alarm output.

After all the setups please click OK button, system goes back to the previous menu.

5.9.3 Alarm Setup

In the main menu, from Setting to Alarm, you can see alarm setup interface. See Figure 5-58.

- Alarm in: Here is for you to select channel number.
- Event type: There are four types. Local input/network input/IPC external/IPC offline alarm.
  - ✧ Local input alarm: The alarm signal system detects from the alarm input port.
  - ✧ Network input alarm: It is the alarm signal from the network.
  - ✧ IPC external alarm: It is the on-off alarm signal from the front-end device and can activate the local NVR.
  - ✧ IPC offline alarm: Once you select this item, system can generate an alarm when the front-end IPC disconnects with the local NVR. The alarm can activate record, PTZ, snap and etc. The alarm can last until the IPC and the NVR connection resumes.

- Enable: Please you need to highlight this button to enable current function.
- Type: normal open or normal close.
- Period: It is to set local alarm period. System only enables local alarm in the specified period. Click the Set button; you can select the business day and the non-business day. Please note for the work day/free day setup and the specific work day setup, system just saves the latest setup. For example, the work day ranges from 8:30-17:30 Monday to Friday, and then you set the period 7:10-18:00 for Monday. So, the arm period of the Monday ranges from 7:10 to 18:00. Please highlight the corresponding button to enable this function.
- PTZ activation: When an alarm occurred, system can activate the PTZ operation. The PTZ activation lasts an anti-dither period.
  - ✧ In the Pan/Tilt/Zoom interface (Main menu->Setting-> Pan/Tilt/Zoom), please set video channel, speed dome protocol and etc.
  - ✧ Select the channel of current speed dome as current monitor video and the right click mouse to select Pan/Tilt/Zoom item. Now you can set preset, tour pattern.
  - ✧ In Figure 5-58, click “select” button, you can see an interface is shown as in Figure 5-59. Here you can set the activation operation such as preset tour, pattern and enable.
- Anti-dither: Here you can set anti-dither time. The value ranges from 5 to 600s. The anti-dither time refers to the alarm signal lasts time. It can be seem as the alarm signal activation stays such as the buzzer, tour, PTZ activation, snapshot, channel record. The stay time here does not include the latch time. During the alarm process, the alarm signal can begin an anti-dither time if system detects the local alarm again. The screen prompt, alarm upload, email and etc will not be activated. For example, if you set the anti-dither time as 10 second, you can see the each activation may last 10s if the local alarm is activated. During the process, if system detects another local alarm signal at the fifth second, the buzzer, tour, PTZ activation, snapshot, record channel will begin another 10s while the screen prompt, alarm upload, email will not be activated again. After 10s, if system detects another alarm signal, it can generate an alarm since the anti-dither time is out.
- Alarm output: The number here is the device alarm output port. You can select the corresponding ports(s) so that system can activate the corresponding alarm device(s) when an alarm occurred.
- Latch: When the anti-dither time ended, the channel alarm you select in the alarm output may last the specified period. The value ranges from 1 to 300 seconds. This function is not for other alarm activation operations. The latch is still valid even you disable the alarm event function directly.
- Show message: System can pop up a message to alarm you in the local host screen if you enabled this function.
- Alarm upload: System can upload the alarm signal to the network (including alarm centre and the WEB) if you enabled current function. System only uploads the alarm channel status. You can go to the WEB and then go to the Alarm interface to set alarm event and alarm operation. Please go to the Network interface to set alarm centre information.
- Send email: System can send out the alarm signal via the email to alert you when alarm occurs. Once you enable the snap function, system can also send out an image as the attachment. Please go to the Main Menu->Setting ->Network->Email interface to set.
- Record channel: you can select proper channel to record alarm video (Multiple choices).

- ✧ You need to set alarm record mode as Schedule in Record interface (Main Menu->Advanced->Record). Please note the manual record has the highest priority. System record all the time no matter there is an alarm or not if you select Manual mode.
- ✧ Now you can go to the Schedule interface (Main Menu->Setting->Schedule) to set the record type, corresponding channel number, week and date. You can select the record type:Regular/MD/Alarm/MD&Alarm. Please note, you can not select the MD&Alarm and MD(or Alarm) at the same time.
- ✧ Now you can go to the Encode interface to select the alarm record and set the encode parameter (Main Menu->Setting->Encode).
- ✧ Finally, you can set the alarm input as the local alarm and then select the record channel. The select channel begins alarm record when an alarm occurred. Please note system begins the alarm record instead of the MD record if the local alarm and MD event occurred at the same time.

- Tour: Here you can enable tour function when an alarm occurs. System supports 1/8-window tour. Please go to chapter5.4.4.2 Display for tour interval setup. Please note the tour setup here has higher priority than the tour setup you set in the Display interface. Once there two tours are both enabled, system can enable the alarm tour as you set here when an alarm occurred. If there is no alarm, system implements the tour setup in the Display interface.
- Snapshot: You can enable this function to snapshoot image when an alarm occurs.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when an alarm occurs.

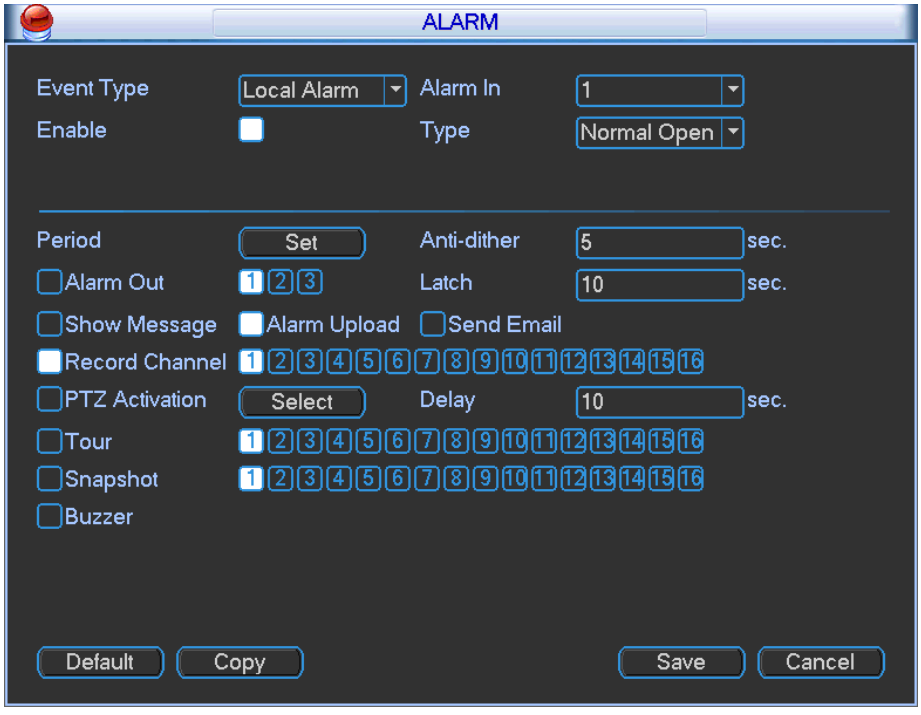


Figure 5-58

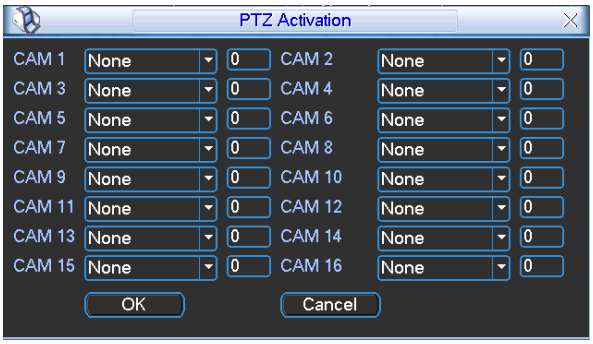


Figure 5-59

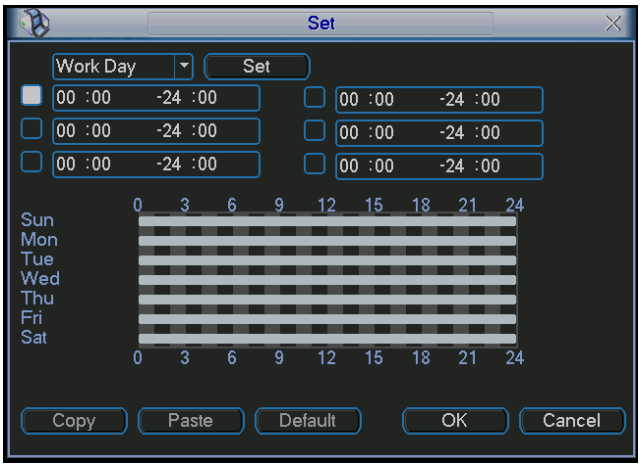


Figure 5-60

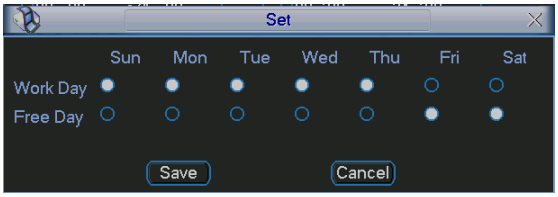


Figure 5-61

Please highlight icon to select the corresponding function. After setting all the setups please click save button, system goes back to the previous menu.

5.9.4 Abnormality

Abnormality interface is shown as in Figure 5-62.

- Event type: There are several options for you such as disk error, no disk, disconnection, IP conflict and etc.
- Alarm output: Please select alarm activation output port (multiple choices).
- Latch: Here you can set corresponding delaying time. The value ranges from 10s-300s. System automatically delays specified seconds in turning off alarm and activated output after external alarm cancelled.
- Show message: system can pop up the message in the local screen to alert you when an alarm occurs.

- Alarm upload: System can upload the alarm signal to the network (including alarm centre) if you enabled current function.
- Send email: System can send out email to alert you when an alarm occurs.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when an alarm occurs.

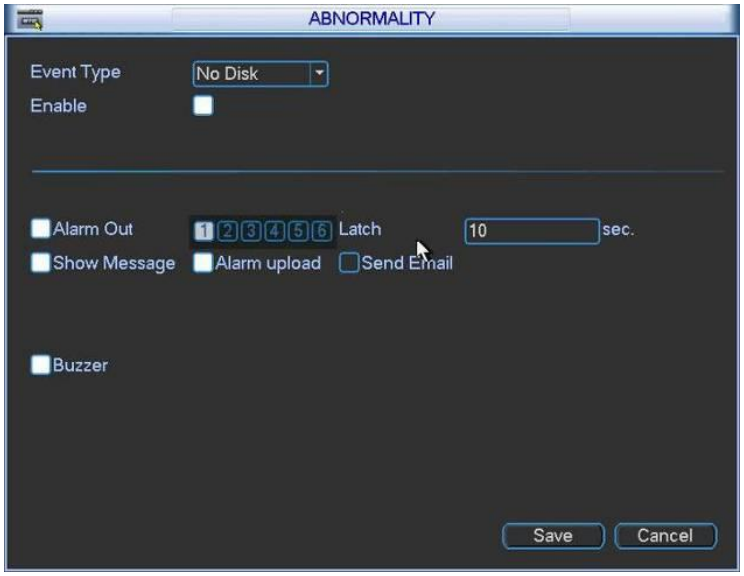


Figure 5-62

5.10 Network

5.10.1 Basic Setup

Here is for you to input network information. See Figure 5-63.

- IP Version: There are two options: IPv4 and IPv6. Right now, system supports these two IP address format and you can access via them.
- MAC address: The host in the LAN can get a unique MAC address. It is for you to access in the LAN. It is read-only.
- IP address: Here you can use up/down button (▲▼) or input the corresponding number to input IP address. Then you can set the corresponding subnet mask the default gateway.
- Subnet prefix: The input value ranges from 0 to 128. It is to mark a specified network MAC address. Usually it includes an organization of multiple-level.
- Default gateway: Here you can input the default gateway. **Please note system needs to check the validity of all IPv6 addresses. The IP address and the default gateway shall be in the same IP section. That is to say, the specified length of the subnet prefix shall have the same string.**
- DHCP: It is to auto search IP. When enable DHCP function, you can not modify IP/Subnet mask /Gateway. These values are from DHCP function. If you have not enabled DHCP function, IP/Subnet mask/Gateway display as zero. You need to disable DHCP function to view current IP information. Besides, when PPPoE is operating, you can not modify IP/Subnet mask /Gateway.
- TCP port: Default value is 37777. You can change if necessary.
- UDP port: Default value is 37778. You can change if necessary.
- HTTP port: Default value is 80.
- RTSP port: Default value is 554.

Important: System needs to reboot after you changed and saved any setup of the above

four ports. Please make sure the port values here do not conflict.

- Max connection: system support maximal 20 users. 0 means there is no connection limit.
- MTU: It is to set MTU value of the network adapter. The value ranges from 1280-7200 bytes. The default setup is 1500 bytes. Please note MTU modification may result in network adapter reboot and network becomes off. That is to say, MTU modification can affect current network service. System may pop up dialog box for you to confirm setup when you want to change MTU setup. Click OK button to confirm current reboot, or you can click Cancel button to terminate current modification. Before the modification, you can check the MTU of the gateway; the MTU of the NVR shall be the same as or is lower than the MTU of the gateway. In this way, you can reduce packets and enhance network transmission efficiency.

The following MTU value is for reference only.

- ✧ 1500: Ethernet information packet max value and it is also the default value. It is the typical setup when there is no PPPoE or VPN. It is the default setup of some router, switch or the network adapter.
- ✧ 1492: Recommend value for PPPoE.
- ✧ 1468: Recommend value for DHCP.
- ✧ Please make sure MTU port does not conflict with other ports.

- Preferred DNS server: DNS server IP address.
- Alternate DNS server: DNS server alternate address.
- Transfer mode: Here you can select the priority between fluency/video qualities.
- LAN download: System can process the downloaded data first if you enable this function. The download speed is 1.5X or 2.0X of the normal speed.

Important

For the IP address of IPv6 version, default gateway, preferred DNS and alternate DNS, the input value shall be 128-digit. It shall not be left in blank.

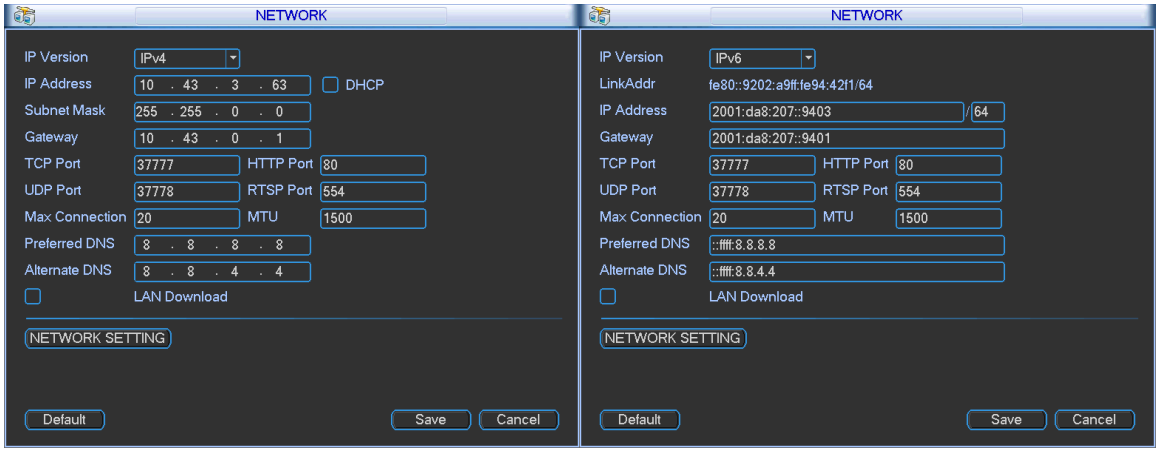


Figure 5-63

After completing all the setups please click save button, system goes back to the previous menu.

5.10.2 Network Setting

Network setting interface is shown as in Figure 5-64. Please draw a circle to enable corresponding function and then double click current item to go to setup interface.

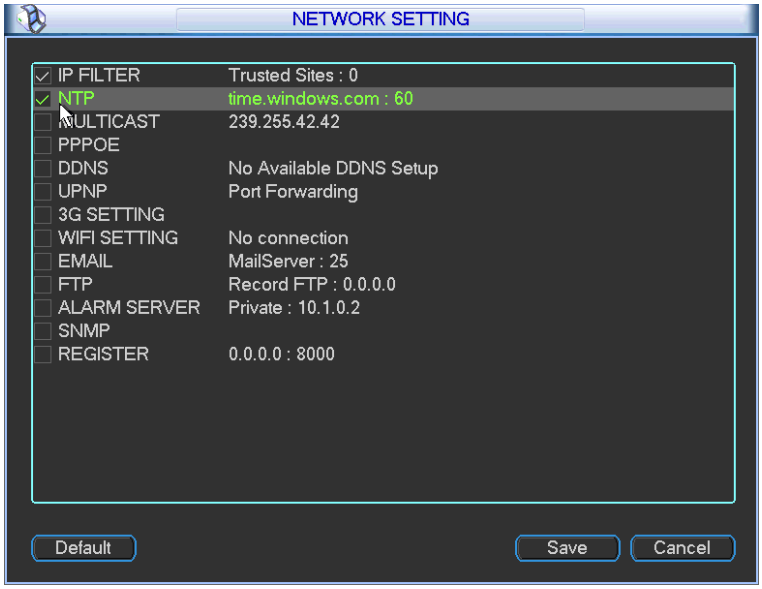


Figure 5-64

5.10.2.1 IP Filter

IP filter interface is shown as in Figure 5-65. You can add IP in the following list. The list supports max 64 IP addresses. System supports valid address of IPv4 and IPv6. **Please note system needs to check the validity of all IPv6 addresses.**

After you enabled trusted sites function, only the IP listed below can access current NVR.

If you enable blocked sites function, the following listed IP addresses can not access current NVR.

- Enable: Highlight the box here, you can check the trusted site function and blocked sites function. You can not see these two modes if the Enable button is grey.
- Type: You can select trusted site and blacklist from the dropdown list. You can view the IP address on the following column.
- Start address/end address: Select one type from the dropdown list, you can input IP address in the start address and end address. Now you can click Add IP address or Add IP section to add.
  a) For the newly added IP address, it is in enable status by default. Remove the √ before the item, then current item is not in the list.
  b) System max supports 64 items.
  c) Address column supports IPv4 or IPv6 format. If it is IPv6 address, system can optimize it. For example, system can optimize aa:0000: 00: 00aa: 00aa: 00aa: 00aa: 00aa as aa:: aa: aa: aa: aa: aa: aa.
  d) System automatically removes space if there is any space before or after the newly added IP address.
  e) System only checks start address if you add IP address. System check start address and end address if you add IP section and the end address shall be larger than the start address.
  f) System may check newly added IP address exists or not. System does not add if input IP address does not exist.
- Delete: Click it to remove specified item.
- Edit: Click it to edit start address and end address. System can check the IP address validity after the edit operation and implement IPv6 optimization.

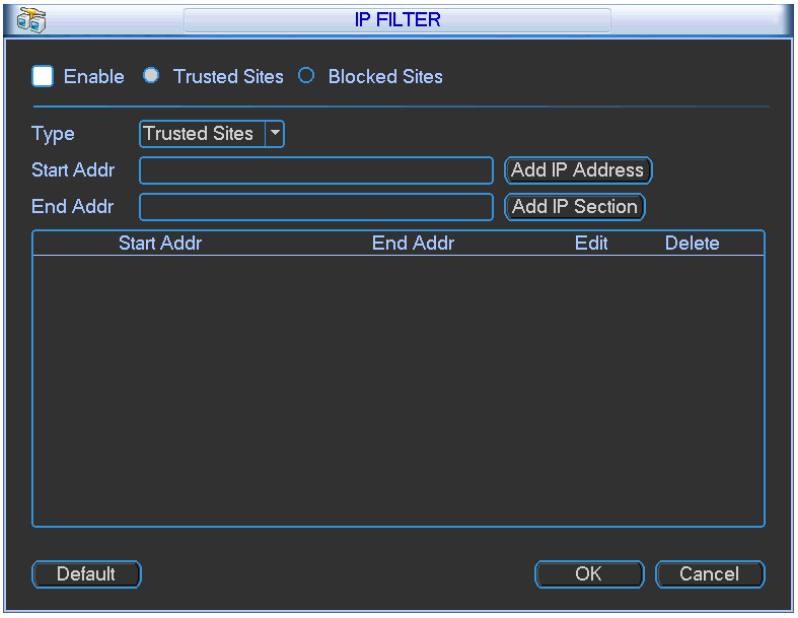


Figure 5-65

5.10.2.2 NTP Setup

This function is to enable NTP server to synchronize time with the NVR to guarantee the system time accuracy.

You need to install SNTP server (Such as Absolute Time Server) in your PC first. In Windows XP OS, you can use command “net start w32time” to boot up NTP service.

NTP setup interface is shown as in Figure 5-66.

- Host IP: Input your PC address.
- Port: This series NVR supports TCP transmission only. Port default value is 123.
- Update interval: minimum value is 1. Max value is 65535. (Unit: minute)
- Time zone: select your corresponding time zone here.
- Update period: You can input interval here.
- Manual update: It allows you to synchronize the time with the server manually.

Here is a sheet for your time zone setup.

City /Region Name	Time Zone
London	GMT+0
Berlin	GMT+1
Cairo	GMT+2
Moscow	GMT+3
New Deli	GMT+5
Bangkok	GMT+7
Beijing (Hong Kong)	GMT+8
Tokyo	GMT+9
Sydney	GMT+10
Hawaii	GMT-10
Alaska	GMT-9
Pacific Time(P.T)	GMT-8
American Mountain Time(M.T)	GMT-7
American Central Time(C.T)	GMT-6
American Eastern Time(E.T)	GMT-5

Atlantic Time	GMT-4
Brazil	GMT-3
Middle Atlantic Time	GMT-2

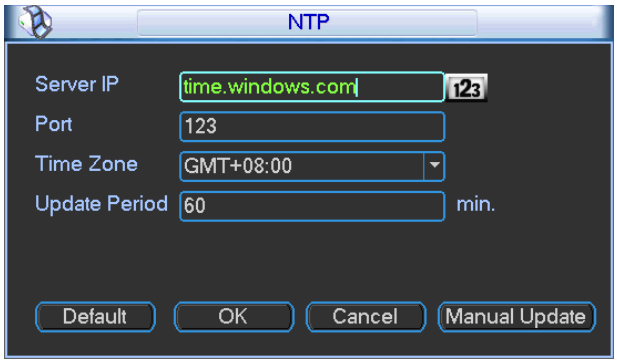


Figure 5-66

5.10.2.3 Multicast

Multicast is a communication between a single sender and multiple receivers on a network. Multicast can transfer one message to multiple destinations simultaneously.

Multiple-cast setup interface is shown as in Figure 5-67.

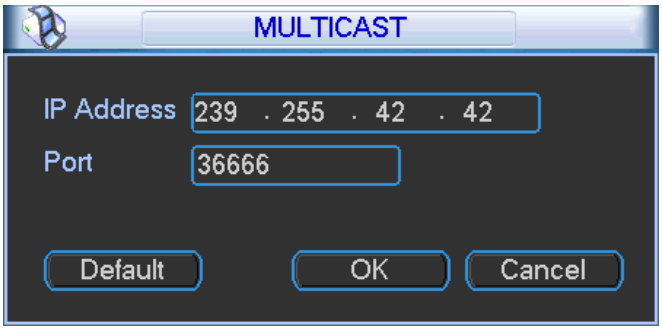


Figure 5-67

Here you can set a multiple cast group. Please refer to the following sheet for detailed information.

- IP multiple cast group address

-224.0.0.0-239.255.255.255

-"D" address space

  - The higher four-bit of the first byte="1110"

- Reserved local multiple cast group address

-224.0.0.0-224.0.0.255

-TTL=1 When sending out telegraph

-For example

224.0.0.1 All systems in the sub-net

224.0.0.2 All routers in the sub-net

224.0.0.4 DVMRP router

224.0.0.5 OSPF router

224.0.0.13 PIMv2 router

- Administrative scoped addressees

-239.0.0.0-239.255.255.255

-Private address space

- Like the single broadcast address of RFC1918
- Can not be used in Internet transmission
- Used for multiple cast broadcast in limited space.

Except the above mentioned addresses of special meaning, you can use other addresses. For example:

Multiple cast IP: 235.8.8.36

Multiple cast PORT: 3666.

After you set multicast function on the local-end and then logged in the Web, the Web can automatically get multiple cast address and add it to the multiple cast groups. You can enable real-time monitor function to view the view.

Please note multiple cast function applies to special series only.

5.10.2.4 PPPoE

After you enable PPPoE server, you can set start IP address and total IP address to limit the PPPoE client-end allocation IP address range.

PPPoE interface is shown as in Figure 5-68.

a) Input “PPPoE name” and “PPPoE password” you get from your ISP (Internet service provider). Click save button, you need to restart to activate your configuration.

b) After rebooting, NVR will connect to internet automatically. The IP in the PPPoE is the NVR dynamic value.

c) Open the IE and then input IP address, you can access this IP to visit the unit.

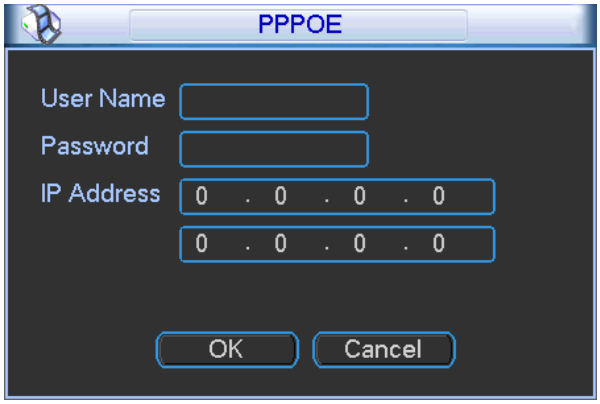


Figure 5-68

5.10.2.5 DDNS

DDNS setup interface is shown as in Figure 5-69.

You need a PC of fixed IP in the internet and there is the DDNS software running in this PC. In other words, this PC is a DNS (domain name server).

In network DDNS, please select DDNS type and highlight enable item. Them please input your PPPoE name you get from you IPS and server IP (PC with DDNS) . Click save button and then reboot system.

Click save button, system prompts for rebooting to get all setup activated.

After rebooting, open IE and input the domain name.

Now you can open DDNSServer web search page.

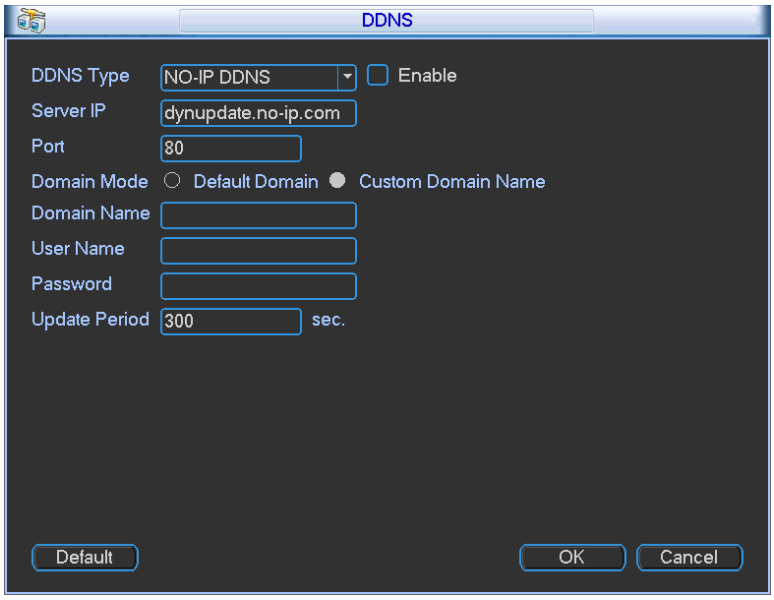


Figure 5-69

Please note NNDS type includes: CN99 DDNS, NO-IP DDNS, Quick DDNS, and Dyndns DDNS. All the DDNS can be valid at the same time, you can select as you requirement.

Quick DDNS function shall work with special DDNS server and special Professional Surveillance Software (PSS).

Quick DDNS and Client-end Introduction

1) Background Introduction

Device IP is not fixed if you use ADSL to login the network. The DDNS function allows you to access the NVR via the registered domain name. Besides the general DDNS, the quick DDNS works with the device from the manufacturer so that it can add the extension function.

2) Function Introduction

The quick DDNS client has the same function as other DDNS client end. It realizes the bonding of the domain name and the IP address. Right now, current DDNS server is for our own devices only. You need to refresh the bonding relationship of the domain and the IP regularly. There is no user name, password or the ID registration on the server. At the same time, each device has a default domain name (Generated by MAC address) for your option. You can also use customized valid domain name (has not registered.).

3) Operation

Before you use our quick DDNS, you need to enable this service and set proper server address, port value and domain name.

- Server address：www.quickddns.com
- Port number：80
- Domain name：There are two modes: Default domain name and customized domain name.

Except default domain name registration, you can also use customized domain name (You can input your self-defined domain name.). After successful registration, you can use domain name to login installed of the device IP.

- User name: It is optional. You can input your commonly used email address.

Important

- Do not register frequently. The interval between two registrations shall be more than 60 seconds. Too many registration requests may result in server attack.
- System may take back the domain name that is idle for one year. You can get a notification email before the cancel operation if your email address setup is OK.

5.10.2.6 UPNP

The UPNP (Universal Plug and Play) protocol is to establish a mapping relationship between the LAN and the WAN. Please input the router IP address in the LAN in Figure 5-63. Double click the UPNP item in Figure 5-64, you can see the following interface. See Figure 5-70.

- UPNP on/off ：Turn on or off the UPNP function of the device.
- Status: When the UPNP is offline, it shows as “Unknown”. When the UPNP works it shows “Success”
- Router LAN IP: It is the router IP in the LAN.
- WAN IP: It is the router IP in the WAN.
- Port Mapping list： The port mapping list here is the one to one relationship with the router’s port mapping setting.
- Enable Switch ☑ : ：It shows that the function of port mapping is enabled in this port.
- List：
  - ✧ Service name：Defined by user.
  - ✧ Protocol： Protocol type
  - ✧ Internal port：Port that has been mapped in the router.
  - ✧ External port：Port that has been mapped locally.
- Default: UPNP default port setting is the HTTP, TCP and UDP of the NVR.
- Add to the list: Click it to add the mapping relationship.
- Delete: Click it to remove one mapping item.

Double click one item; you can change the corresponding mapping information. See Figure 5-71.

Important:

When you are setting the router external port, please use 1024~5000 port. Do not use well-known port 1~255 and the system port 256~1023 to avoid conflict.

For the TCP and UDP, please make sure the internal port and external port are the same to guarantee the proper data transmission.

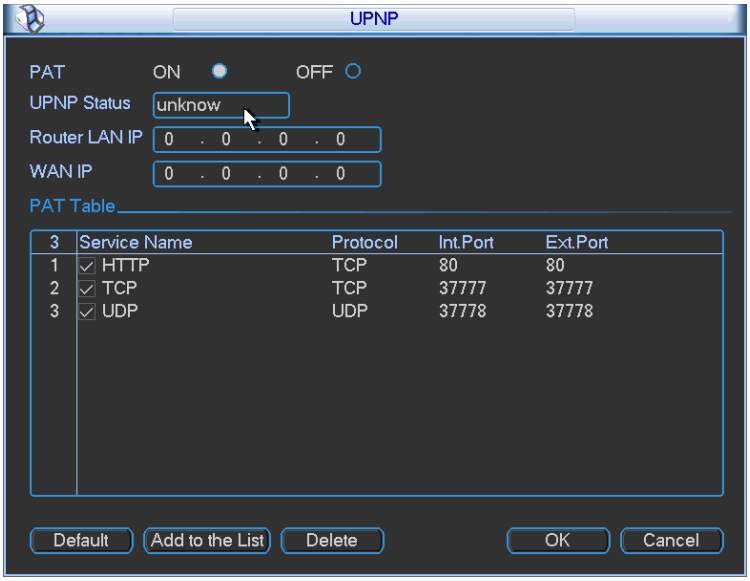


Figure 5-70

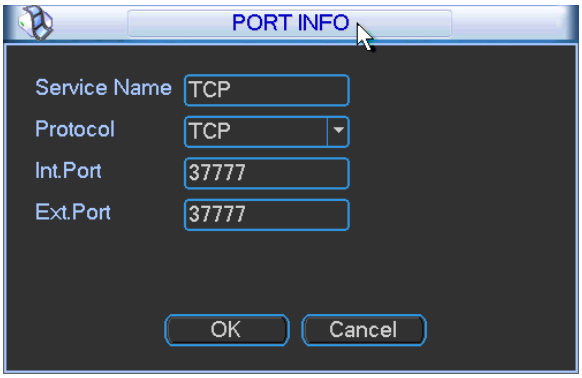


Figure 5-71

5.10.2.7 3G

3G setup interface is shown as below. See Figure 5-72. There are total three panes.

- Pane 1: Display 3G signal intensity after you enabled 3G function.
- Pane 2: Display 3G module configuration information after you enabled 3G function.
- Pane 3: Display 3G module status information after you enabled 3G function.

In this interface, you can realize alarm information cell phone push function.

- 3G module: It is to display current wireless network adapter name.
- 3G Enable/Disable: Check the box here to enable 3G module.
- Network type: There are various network types for different 3G network modules. You can select according to your requirements.
- APN: It is the wireless connection server. It is to set you access the wireless network via which method.
- AUTH: It is the authentication mode. It supports PAP/CHAP.
- Dial number: Please input 3G network dialup number you got from your ISP.
- User name: It is the user name for you to login the 3G network.
- Password: It is the password for you to login the 3G network.
- Pulse interval: You can set dialup duration. Once you disable the extra stream, the connection time begins. For example, if you input 5 seconds here, then 3G network

connection period is 5 seconds. The device automatically disconnect when time is up. If there is no extra stream, 3G network connection is valid all the time. **If the alive time is 0, then the 3G network connection is valid all the time.**

- Dial: Here you can enable or disable 3G network connection/disconnection manually.
- 3G wireless network: Here is to display wireless network status, SIM card status, dial status. If the 3G connection is OK, then you can see the device IP address the wireless network automatically allocates.
- 3G flow control: It is to show the 3G flow you used. See Figure 5-73.

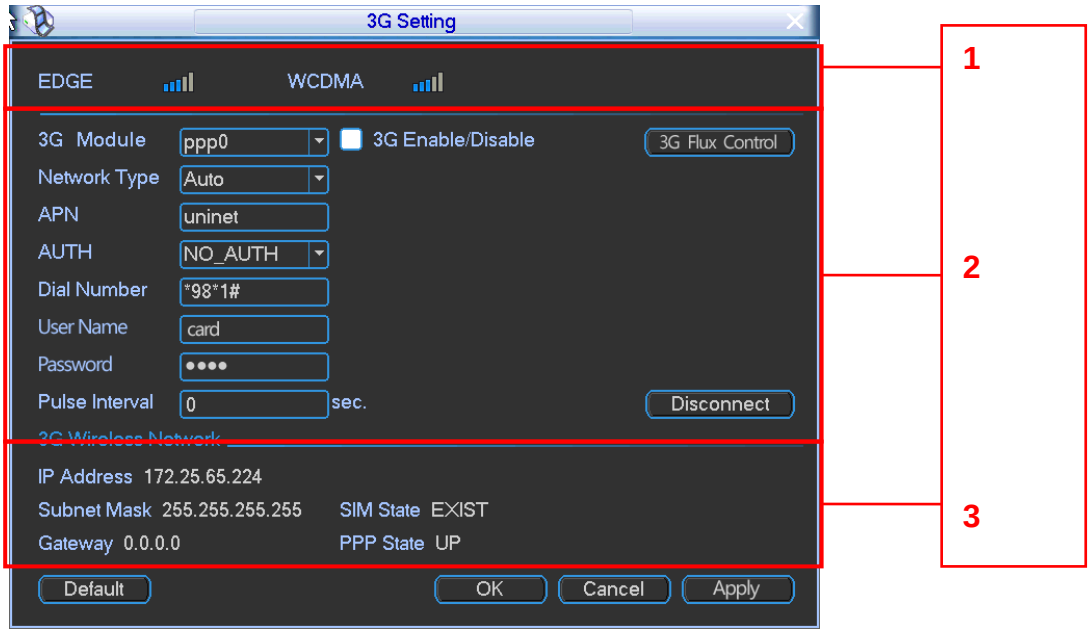


Figure 5-72

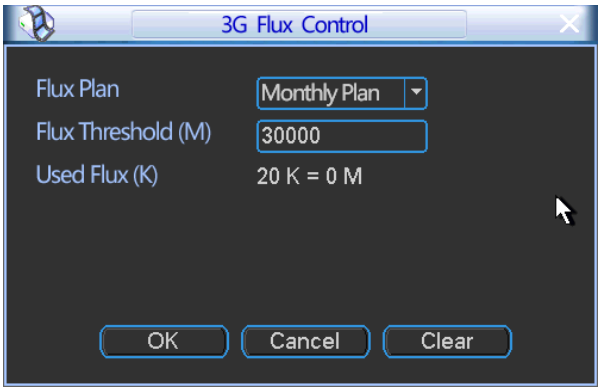


Figure 5-73

5.10.2.8 WIFI

Note

Right now system supports the following WIFI module model: TOTOLINK, N2200UP.

Wi-Fi is the name of a popular wireless networking technology that uses radio waves to provide wireless high-speed Internet and network connections. The standard is for wireless local area networks (WLANs). It is like a common language that all the devices use to communicate to each other.

You can view the WIFI connection status in the Network Setting interface. See Figure 5-74. You can view current connection status and IP address if there is a connection.

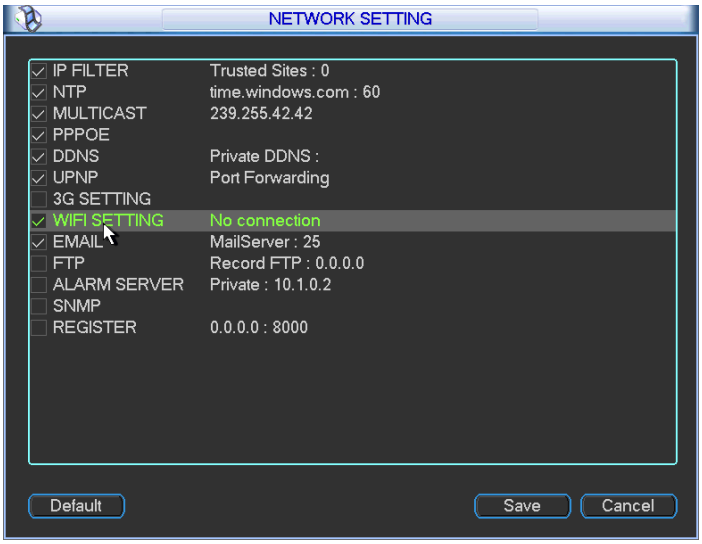


Figure 5-74

The WIFI interface is shown as below. See Figure 5-75.

- Auto connect WIFI: Check the box here, system automatically connects to the previous WIFI hotspot.
- Refresh: You can click it to search the hotspot list again. It can automatically add the information such as the password if you have set it before.
- Disconnect: Here you can click it to turn off the connection.
- Connect: Here you can click it to connect to the hotspot. System needs to turn off current connection and then connect to a new hotspot if there is connection of you selected one. See Figure 5-76.

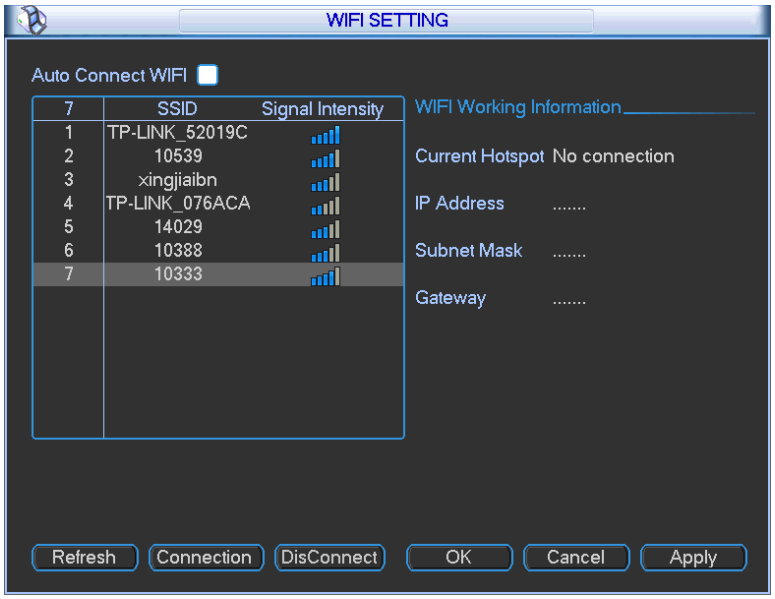


Figure 5-75

Figure 5-76

After successfully connection, you can see the following interface. You can see it is connected now. See Figure 5-77.

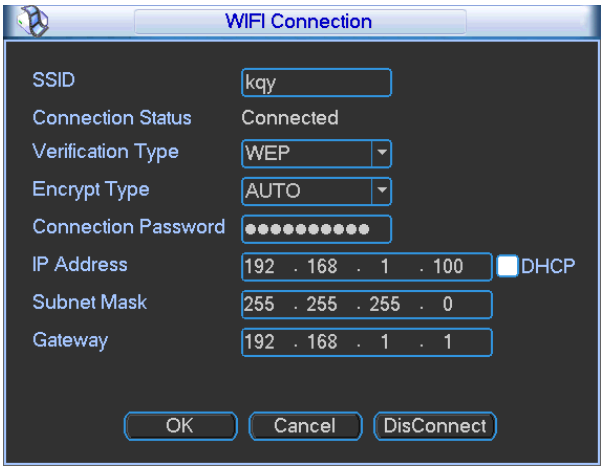


Figure 5-77

- WIFI working status: Here you can view current connection status.

Please note:

- After successful connection, you can see WIFI connection icon at the top right corner of the preview interface.
- When the hotspot verification type is WEP, system displays as AUTO since the device can not detect its encryption type.
- System does not support verification type WPA and WPA2. The display may become abnormal for the verification type and encryption type.

After device successfully connected to the WIFI, you can view the hotspot name, IP address, subnet mask, default gateway and etc. See Figure 5-78.

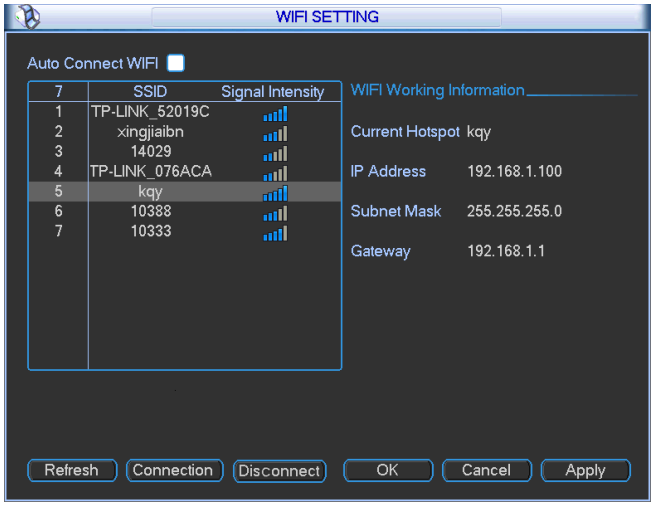


Figure 5-78

5.10.2.9 Email

The email interface is shown as below. See Figure 5-79.

- SMTP server: Please input your email SMTP server IP here.
- Port: Please input corresponding port value here.
- User name: Please input the user name to login the sender email box.
- Password: Please input the corresponding password here.
- Sender: Please input sender email box here.
- Title: Please input email subject here. System support English character and Arabic number. Max 32-digit.
- Receiver: Please input receiver email address here. System max supports 3 email boxes.
- SSL enable: System supports SSL encryption box.
- Interval: The send interval ranges from 0 to 3600 seconds. 0 means there is no interval.
- Health email enable: Please check the box here to enable this function. This function allows the system to send out the test email to check the connection is OK or not.
- Interval: Please check the above box to enable this function and then set the corresponding interval. System can send out the email regularly as you set here. Click the Test button, you can see the corresponding dialogue box to see the email connection is OK or not. See Figure 5-80.

Please note system will not send out the email immediately when the alarm occurs. When the alarm, motion detection or the abnormity event activates the email, system sends out the email according to the interval you specified here. This function is very useful when there are too many emails activated by the abnormity events, which may result in heavy load for the email server.

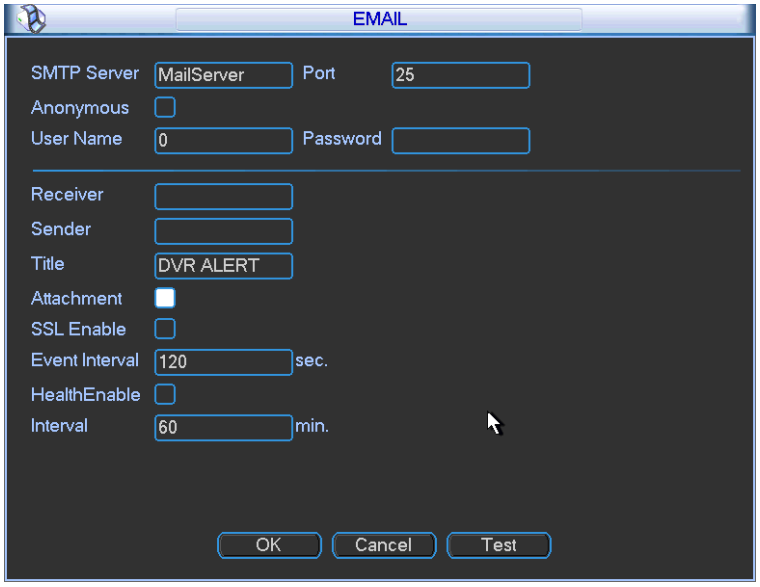


Figure 5-79

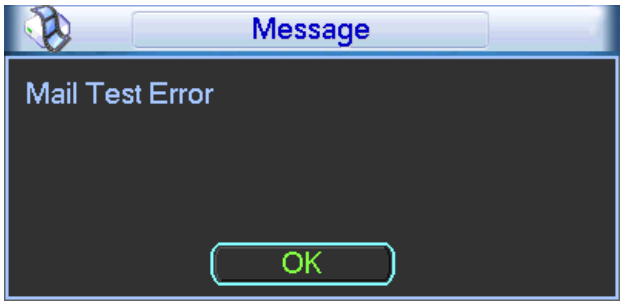


Figure 5-80

5.10.2.10 FTP

Here you can set backup record or file address, remote directory, interval and etc.

You need to download or buy FTP service tool (such as Ser-U FTP SERVER) to establish FTP service.

Please install Ser-U FTP SERVER first. From “start” -> “program” -> Serv-U FTP Server -> Serv-U Administator. Now you can set user password and FTP folder. Please note you need to grant write right to FTP upload user. See Figure 5-81.

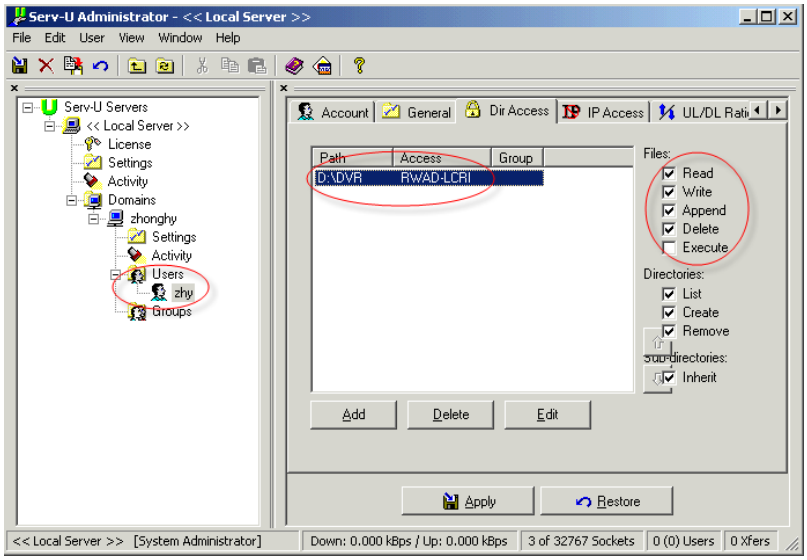


Figure 5-81

You can use a PC or FTP login tool to test setup is right or not.

For example, you can login user ZHY to FTP://10.10.7.7 and then test it can modify or delete folder or not. See Figure 5-82.

Figure 5-82

System also supports upload multiple NVRs to one FTP server. You can create multiple folders under this FTP.

In Figure 5-64, select FTP and then double click mouse. You can see the following interface. See Figure 5-83.

Please highlight the icon in front of Enable to activate FTP function.

Here you can input FTP server address, port and remote directory. When remote directory is null, system automatically create folders according to the IP, time and channel.

User name and password is the account information for you to login the FTP.

File length is upload file length. When setup is larger than the actual file length, system will upload the whole file. When setup here is smaller than the actual file length, system only uploads the set length and auto ignore the left section. When interval value is 0, system uploads all corresponding files.

After completed channel and weekday setup, you can set two periods for one each channel.

Click the Test button, you can see the corresponding dialogue box to see the FTP connection is OK or not. See Figure 5-84.

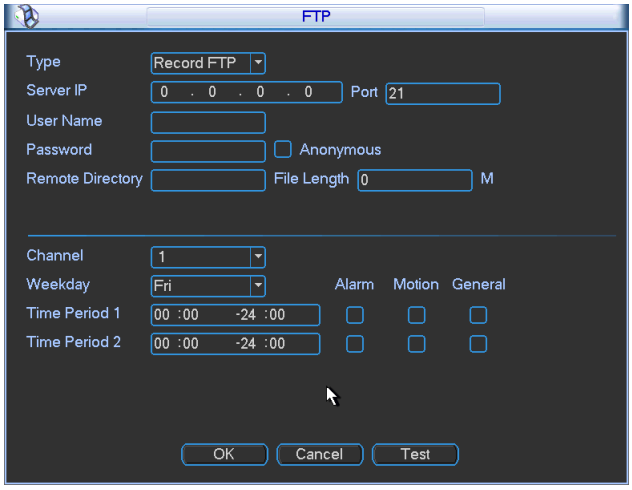


Figure 5-83

Figure 5-84

5.10.2.11 Alarm center

Interface is pre-reserved for the users to develop this function.

5.10.2.12 SNMP

SNMP is an abbreviation of Simple Network Management Protocol. It provides the basic network management frame of the network management system. The SNMP widely used in many environments. It is used in many network device, software and system.

You can set in the following interface. See Figure 5-85.

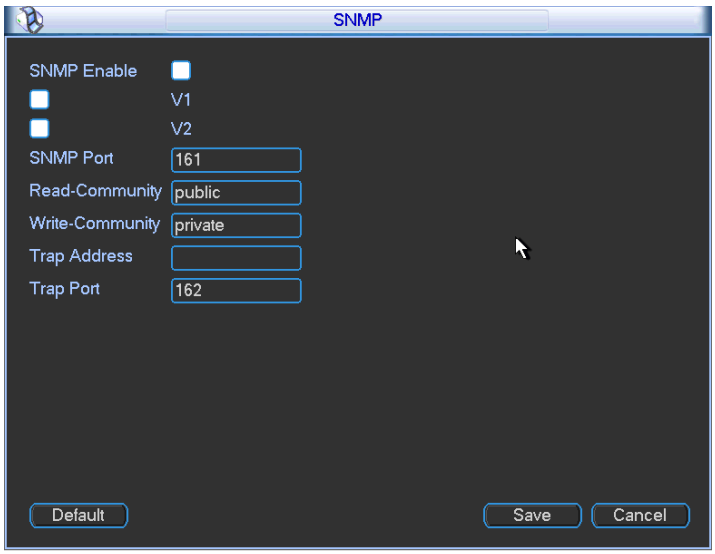


Figure 5-85

Please enable the SNMP function. Use the corresponding software tool (MIB Builder and MG-SOFT MIB Browser. You still need two MIB file: BASE-SNMP-MIB, NVR-SNMP-MIB) to connect to the device. You can get the device corresponding configuration information after successfully connection.

Please follow the steps listed below to configure.

- In Figure 5-64, check the box to enable the SNMP function. Input the IP address of the PC than is running the software in the Trap address. You can use default setup for the rest items.
- Compile the above mentioned two MIB file via the software MIB Builder.
- Run MG-SOFT MIB Browser to load the file from the previous step to the software.
- Input the device IP you want to manage in the MG-SOFT MIB Browser. Please set the corresponding version for your future reference.
- Open the tree list on the MG-SOFT MIB Browser; you can get the device configuration. Here you can see the device has how many video channels, audio channels, application version and etc.

5.10.2.13 Auto register

This function allows the device to auto register to the proxy you specified. In this way, you can use the client-end to access the NVR and etc via the proxy. Here the proxy has a switch function. In the network service, device supports the server address of IPv4 or domain.

Please follow the steps listed below to use this function.

Please set proxy server address, port, and sub-device name at the device-end. Please enable the auto register function, the device can auto register to the proxy server.

1) The setup interface is shown as in Figure 5-86.

Important

Do not input network default port such as TCP port number.

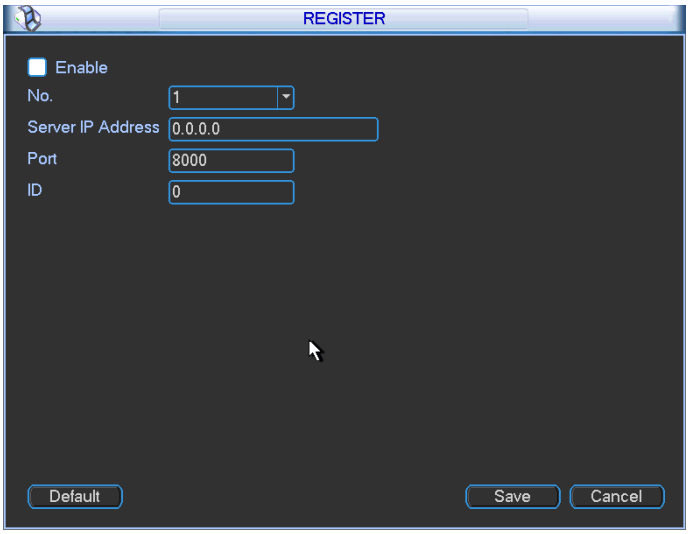


Figure 5-86

2) The proxy server software developed from the SDK. Please open the software and input the global setup. Please make sure the auto connection port here is the same as the port you set in the previous step.

3) Now you can add device. Do not input default port number such as the TCP port in the mapping port number. The device ID here shall be the same with the ID you input in Figure 5-86. Click Add button to complete the setup.

4) Now you can boot up the proxy server. When you see the network status is Y, it means your registration is OK. You can view the proxy server when the device is online.

Important

The server IP address can also be domain. But you need to register a domain name before you run proxy device server.

5.10.2.14 WIFI AP

Please note the WIFI AP is for NVR31-W series product only.

Before you use the WIFI AP function, please set network camera mode as wireless network Ethernet by default and enable WIFI function.

Network settings interface of 31-W series product is shown as below. See Figure 5-87.

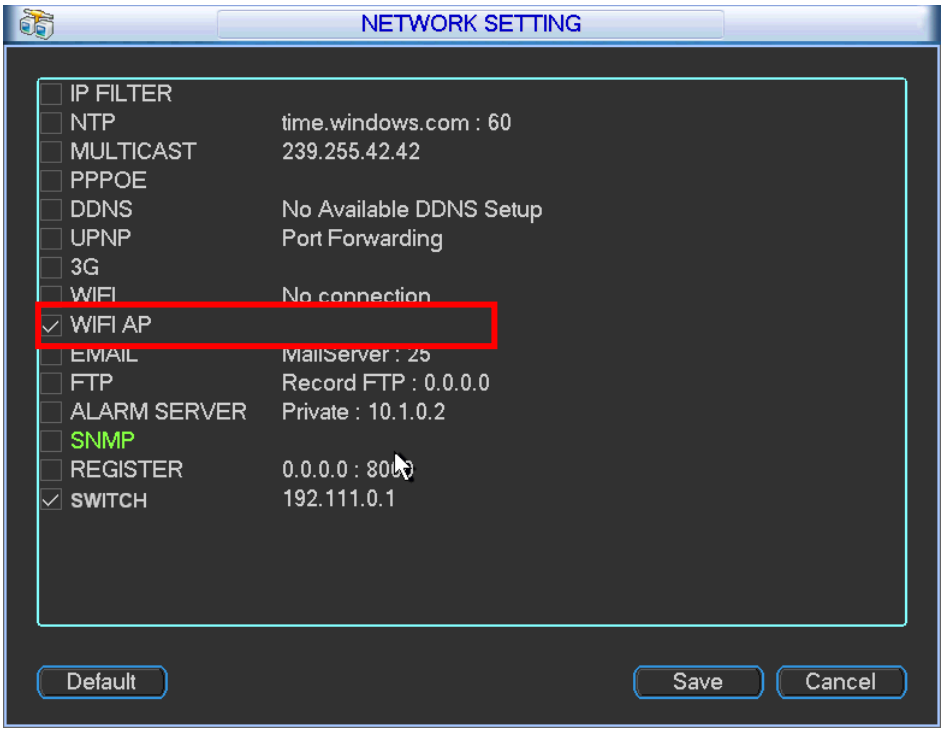


Figure 5-87

Double click WIFI AP item, the WIFI AP interface is shown as below. See Figure 5-88.

- Basic setting: It is to set wireless router information. It includes SSID, encryption mode and password. The default setup is
  - ✧ SSID: NVR_WIFI
  - ✧ Authentication mode: WPA2-PSK
  - ✧ Password: 123456789.
- Save: Click save button to save current customized setup. System needs to restart WIFI AP module to activate new setup. It may take forty to fifty seconds. During the restart process, there is corresponding dialogue box for you reference.
- WPS: WPS button is to search and match WIFI AP SSID when the there is no corresponding network camera information. In Figure 5-88, click WPS button, and then click the WPS button of the network within the 2 minutes. The net indicator light of the network becomes green and flashing. After 30 or 40 seconds, the NVR can add the network camera to a channel.
- Default: The Default button is to restore WIFI AP default setup. The restart process may take forty to fifty seconds. Please note the restart process has no dialogue box. If you can not click

WIFI AP in Figure 5-87 to go to the following interface, it means the restart is still in process. Please wait.

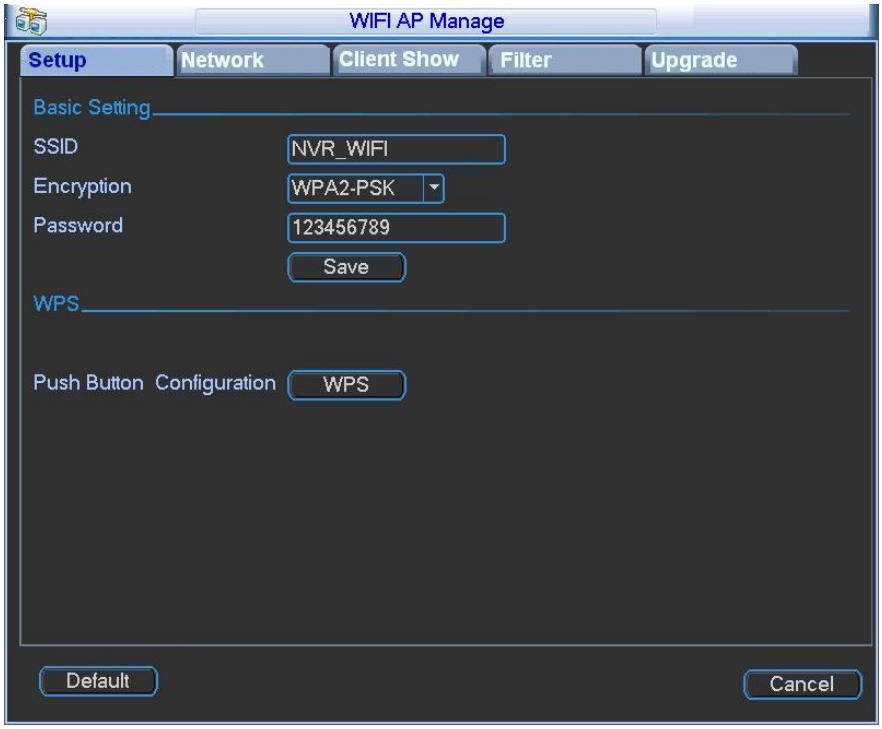


Figure 5-88

Tips

On the preview interface and then right click mouse, you can see an interface shown as below. Here you can click WPS button too. See Figure 5-89.

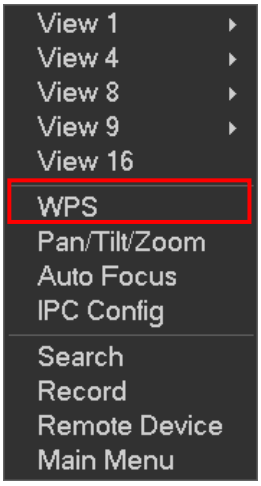


Figure 5-89

Network interface is shown as in Figure 5-90.

It is to set network information of the wireless router of the NVR. After you set network information, please restart WIFI AP.

- Net Mask: It is to set the network subnet mask of the WIFI AP.
- DHCP start/end: It is to set the IP addresses the NVR can allocate to the network camera.

Figure 5-90

Client show interface is for you to view devices (such as network camera, smart phone) connected to the WIFI AP. See Figure 5-91.

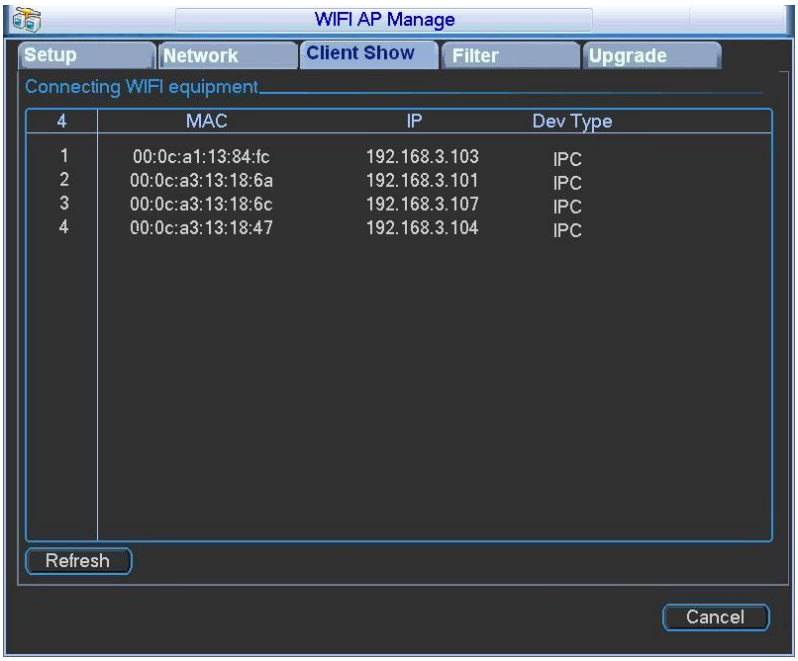


Figure 5-91

Filter interface is shown as below. See Figure 5-92.

- Max IPC No.: It is the max network camera amount the NVR can connect to via WIFI AP by default. Click Ok to save current setup.
- Change sort: Click it to adjust video position of the WIFI devices from the first available channel on the interface.
- Filter: Check the box here to enable black/white list filter function. Please input MAC address. Select state as valid. Input some memo information for you reference.

✧ Allowed MAC in the list to access NVR:: Check the box here to enable white list function. In

this mode, only the network camera in the following list can access the NVR. Please make sure the Mac State is valid.

✧ Forbid MAC in the list to access NVR: Check the box here to enable black list function. In this mode, the network camera in the following list can not access the NVR.

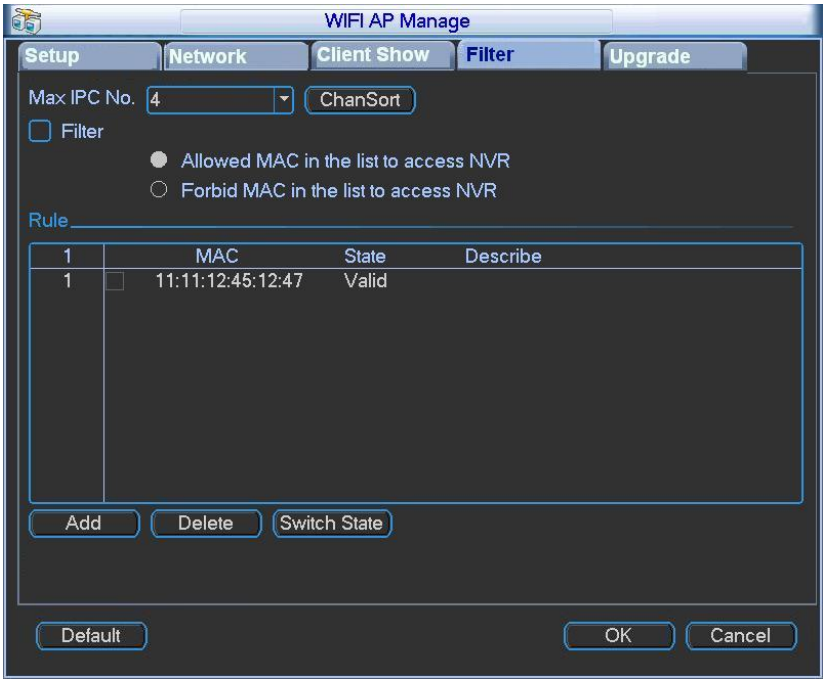


Figure 5-92

Upgrade interface is shown as in Figure 5-93. It is to update wireless router software. Please insert corresponding USB devices containing the upgrade file. Select the corresponding file and then click Start upgrade button to update the wireless router.

Please note the upgrade file extension name shall be **.bin.** The whole upgrade process may take about 2 minutes. **Do not terminate or unplug the power cable during the upgrade process!**

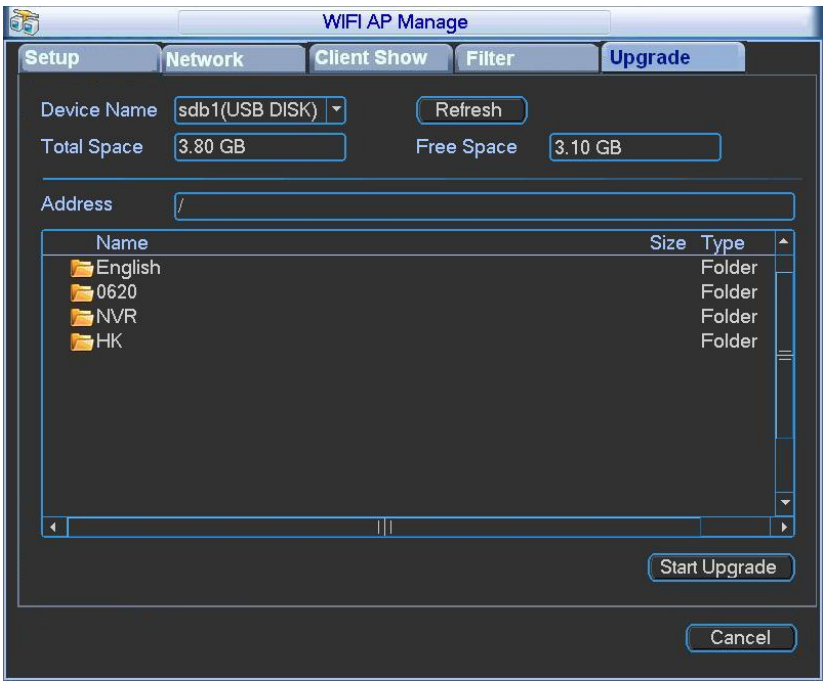


Figure 5-93

Please note:

- NVR wire IP and the WIFI can be in the same IP segment. But these two values can not be the same.
- The WIFI AP reboot process may be slow. Sometimes it may result in wait time out.
- If you want to use WPS function please make sure: a) Current network camera is not in the black/white list. b) The WIFI AP authentication mode shall be WPA2. c) Current WIFI added channel is smaller than the NVR max connected network camera mount.

Tips

You can go to the main menu->Setting->Default, and then select remote device. Click Ok button to restore WIFI AP. See Figure 5-94.

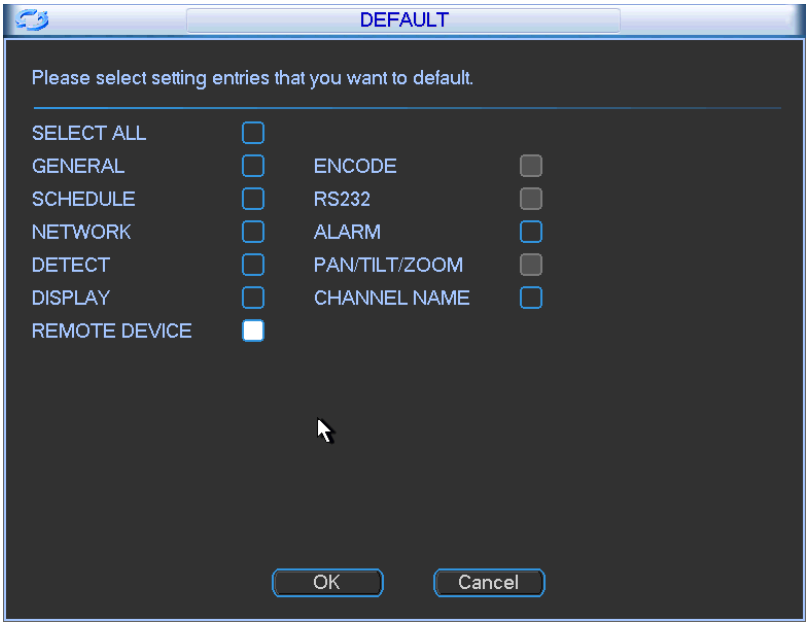


Figure 5-94

5.10.3 Network Test

In this interface, you can see network test and network load information.

5.10.3.1 Network Test

Network test interface is shown as in Figure 5-95.

- Destination IP: Please input valid IPV4 address and domain name.
- Test: Click it to test the connection with the destination IP address. The test results can display average delay and packet loss rate and you can also view the network status as OK, bad, no connection and etc.
- Network Sniffer backup: Please insert USB2.0 device and click the Refresh button, you can view the device on the following column. You can use the dropdown list to select peripheral device. Click Browse button to select the snap path. The steps here are same as preview backup operation.

You can view all connected network adapter names (including Ethernet, PPPoE, WIFI, and 3G), you can click the button on the right panel to begin Sniffer. Click the grey stop button to stop.

Please note system can not Sniffer several network adapters at the same time.

After Sniffer began, you can exit to implement corresponding network operation such as login WEB, monitor. Please go back to Sniffer interface to click stop Sniffer. System can save the packets to the specified path. The file is named after “Network adapter name+time”. You can use software such as Wireshark to open the packets on the PC for the professional engineer to solve complicated problems.

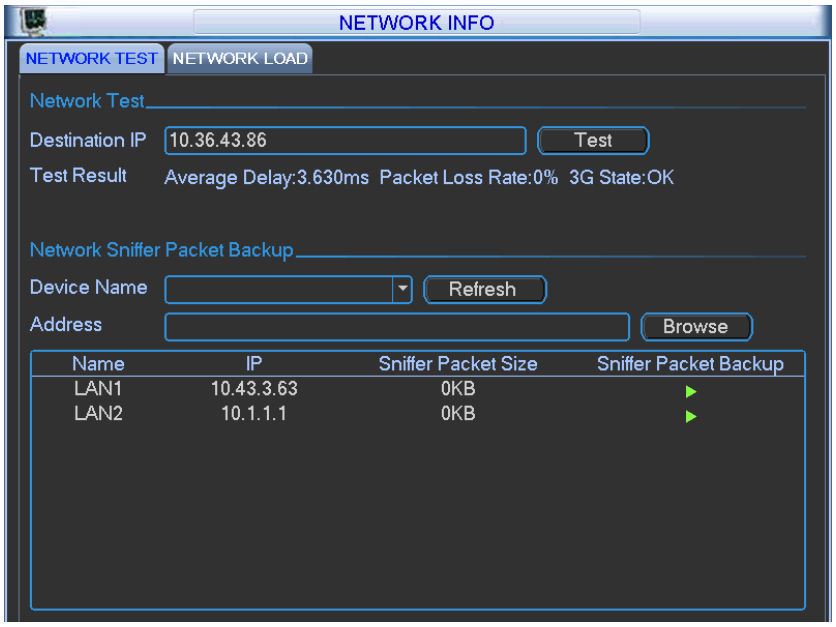


Figure 5-95

5.10.3.2 Network Load

Network load is shown as in Figure 5-96. Here you can view the follow statistics of the device network adapter.

Here you can view information of all connected network adapters. The connection status is shown as offline if connection is disconnected. Click one network adapter, you can view the flow statistics such as send rate and receive rate at the top panel

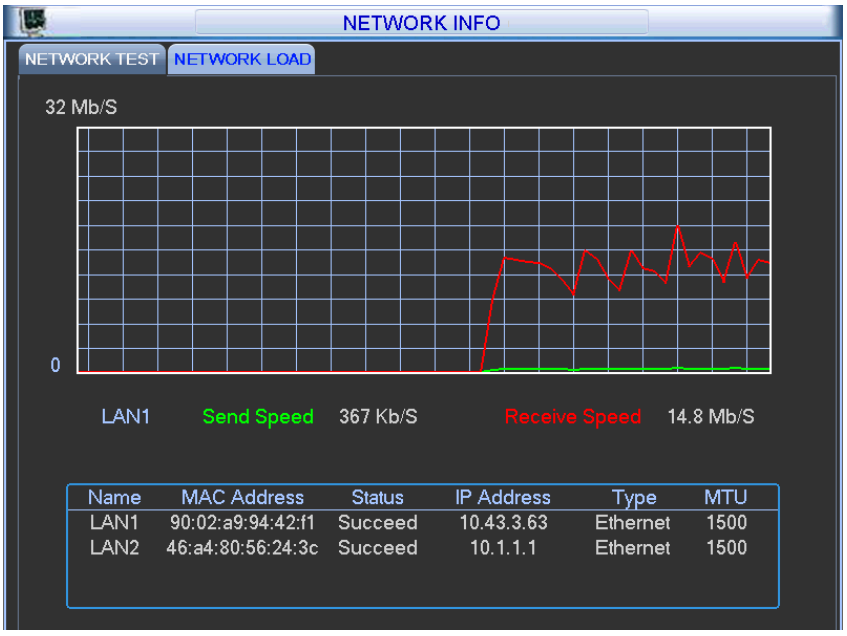


Figure 5-96

5.11 HDD Setup

Here you can view HDD information such as type, status, total capacity, record time and etc. The operation includes format, resume from error, change HDD property (Read write, Read-only). Here you can also set alarm and HDD storage position.

5.11.1 Format

From Mani-menu->Advanced->HDD Management, you can go to HDD management interface. See Figure 5-97.

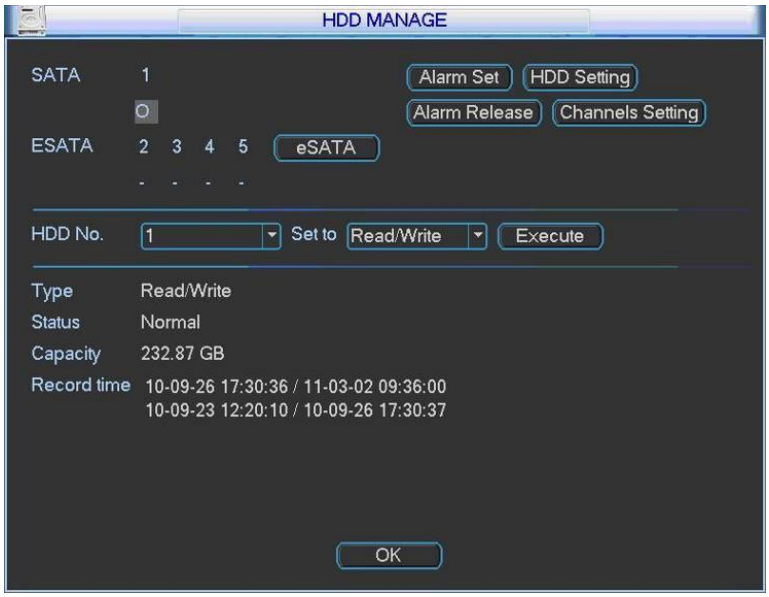


Figure 5-97

Select a HDD and then select format from the dropdown list. Click Execute button.

Click OK button to complete the setup. You can see system needs to restart to activate current setup.

5.11.2 HDD Information

Here is to list hard disk type, total space, free space, and status. See Figure 5-98.

For 32 series product there are max 2 HDDs. For 38 series product there are max 8 HDDs.

○ means current HDD is normal.. - means there is no HDD.

If disk is damaged, system shows as “?”. Please remove the broken hard disk before you add a new one.

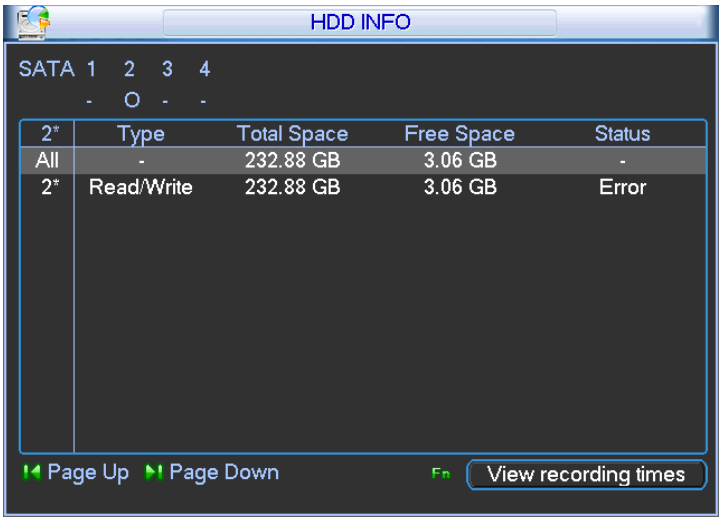


Figure 5-98

In Figure 5-98, click view record d time button, HDD record time information interface is shown as in Figure 5-99.

Figure 5-99

Parameter	Function
SATA	1-4 here means there are 4 HDDS. For different series product, the max HDD amount may vary, When HDD is working properly, system is shown as O. . "_" means there is no HDD.
SN	You can view the HDD amount the device connected to; * means the second HDD is current working HDD.
Type	The corresponding HDD property.
Total space	The HDD total capacity.
Free space	The HDD free capacity.

Status	HDD can work properly or not.
Bad track	Display there is bad track or not.
Page up	Click it to view previous page.
Page down	Click it to view the next page.
View recording time	Click it to view HDD record information (file start time and end time).
View HDD type and capability	Click it to view HDD property, status and etc,

5.11.3 HDD Management

Here is for you to view and implement hard disk management. See Figure 5-100.

You can see current HDD type, status, capacity and record time. When HDD is working properly, system is shown as O. When HDD error occurred, system is shown as X.

- Alarm set: Click alarm set button, the interface is shown as below. See Figure 5-101. (This interface is just like the abnormality setup). Please refer to chapter 5.9.4 for detailed information.
- HDD operation: You can select HDD mode from the dropdown list such as read-only or you can erase all data in the HDD. Please note system needs to reboot to get all the modification activated.

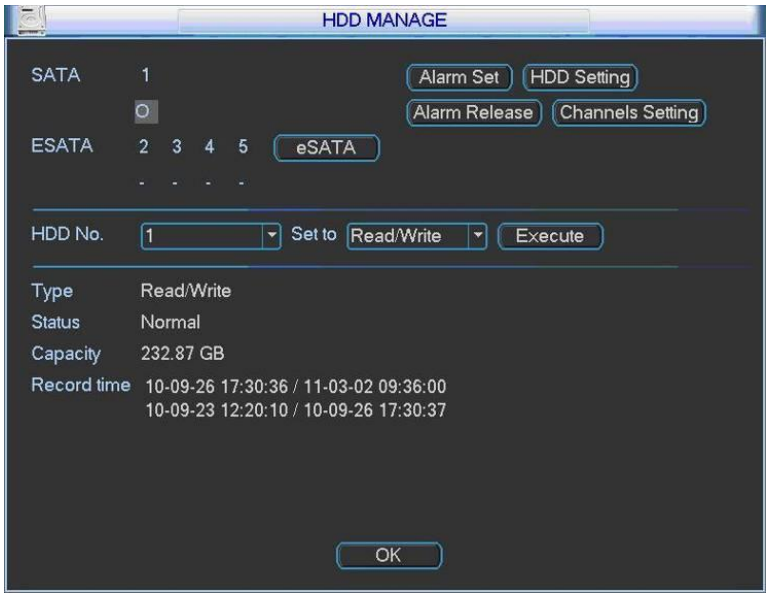


Figure 5-100

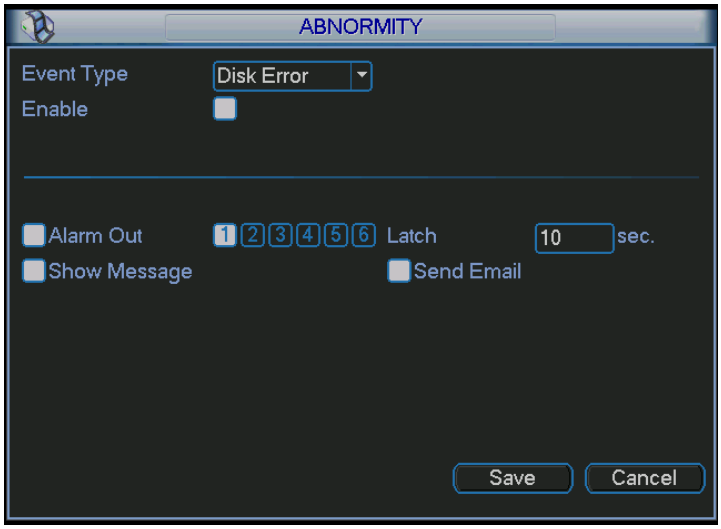


Figure 5-101

HDD Setting

Click the button “HDD Settings” at the top right corner of the Figure 5-100, system will pop up an interface as below. See Figure 5-102.

The number of hard disk from 1 to 2 is shown in the “HDD No.” column (It is to show the max HDD amount you can install). If serial number is highlighted, it means this interface have access to the hard disk, otherwise it does not have access to the hard disk.

The “HDD Group” column lists the HDD Group number of current hard disk. You can select HDD group name from the dropdown list and then click Save button.

Please note, one HDD is corresponding to one group, while one group can have many HDDs. The HDD group No. is corresponding HDD port, the HDD group No. may vary if you change the HDD.

Important

Once you change the HDD Group settings, system will pack the records and snapshots, and then reboot.

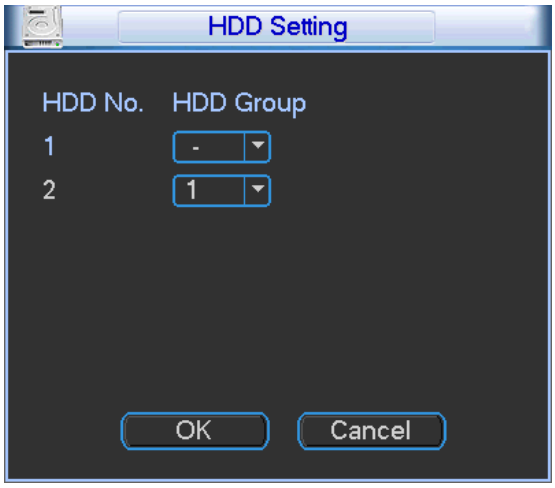


Figure 5-102

Channels Setting

Click the button named with “Channels Settings” at the top right corner of the Figure 5-100, system will pop up an interface shown as in Figure 5-103.

You can set HDDs for main stream, extra stream and snap pictures respectively. The main stream and extra stream of one channel can be saved to different groups.

Channel: It is to display the actual channel number of current NVR.

HDD Group: It is the SN of the HDD group management. For example, if you set two HDD groups such as Group 1 and Group 2, you can see there are two options (1/2) of the HDD group dropdown list.

Important

- Please make sure you have set HDD group for each channel, otherwise you can not save current setup!
- Once you change the HDD Group settings, system will pack the records and then reboot!

Tips

There is an easy way for you to test whether the records from the corresponding channel is saved in the specified HDD. You can remove the HDD and then check the channel can record or not. You can see the channel does not record and you can not search the previous record now.

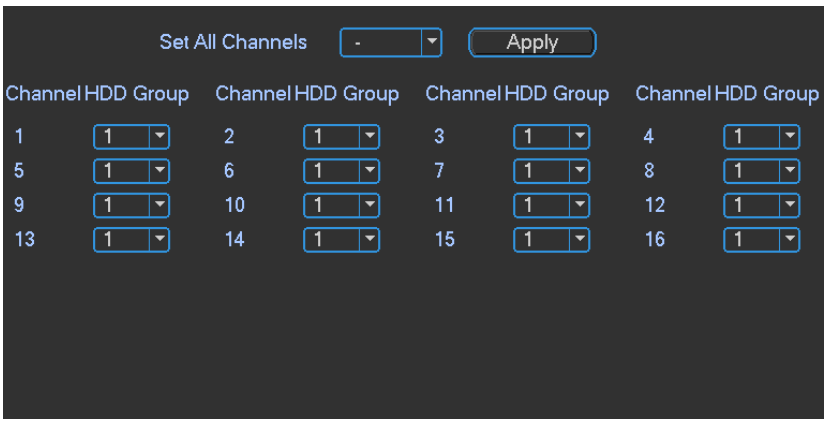


Figure 5-103

5.11.4 eSATA

For the HDD group setup operation, please note:

- Each channel’s records can be stored into the specified HDD Group.
- Each HDD Group is corresponding to several hard disks, while one hard disk is only included in one HDD Group.
- Each channel is only corresponding with one HDD Group, while one HDD Group can store records from several channels.
- HDD Group is only available for read-write HDD and self-defined disks, other types of hard disks cannot be set as HDD Group.

Important:

- eSATA also supports this function, you can manage e-SATA hard disk as local hard disk.
- Current series software version can only set the HDD group operation of the read-write HDDs. It is not for the redundancy HDD.

5.12 Basic Setups

Set NVR basic setup, device setup and other setups.

5.12.1 General

From Main menu->Setting->General, you can go to the general interface. See Figure 5-104.

- System time: Here is for you to set system time
- Date format: There are three types: YYYYY-MM-DD: MM-DD-YYYYY or DD-MM-YYYY.
- Date separator: There are three denotations to separate date: dot, beeline and solidus.
- DST: Here you can set DST time and date. Please enable DST function and then click set button. You can see an interface is shown as in Figure 5-105. Here you can set start time and end time by setting corresponding week setup. In Figure 5-105, enable date button, you can see an interface is shown as in Figure 5-106. Here you can set start time and end time by setting corresponding date setup.
- Time format: There are two types: 24-hour mode or 12-hour mode.

Note:

Since system time is very important, do not modify time casually unless there is a must!

Before your time modification, please stop record operation first!

After completing all the setups please click save button, system goes back to the previous menu.

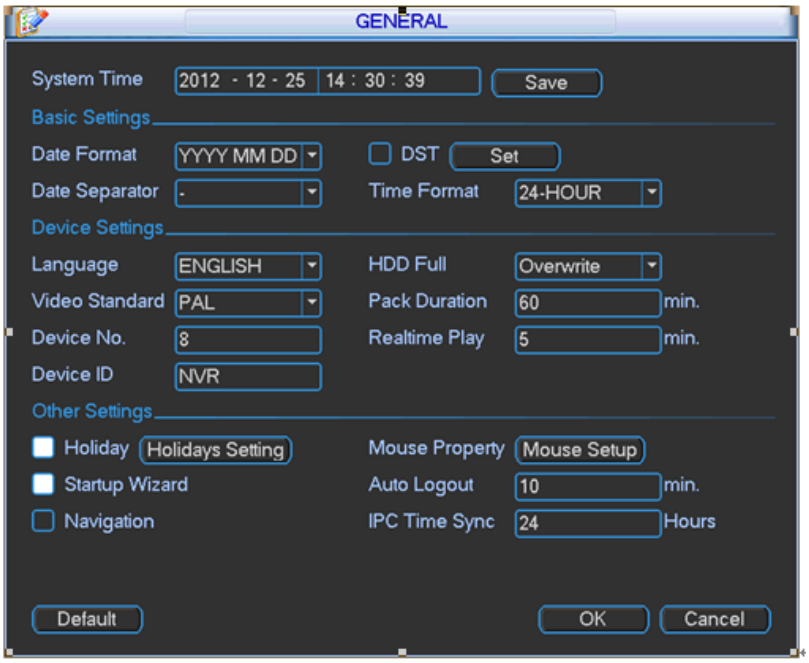


Figure 5-104

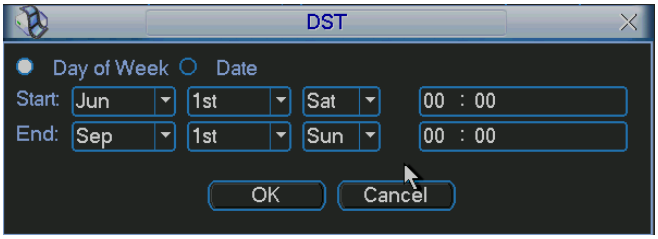


Figure 5-105

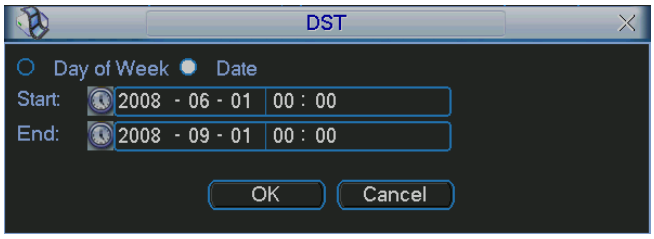


Figure 5-106

5.12.2 Device Setup

From Main menu->Setting->General, you can go to the general interface. See Figure 5-104.

- Language: System supports various languages: Chinese (simplified), Chinese (Traditional), English, Italian, Japanese, French, Spanish (All languages listed here are optional. Slight difference maybe found in various series.)
- HDD full: Here is for you to select working mode when hard disk is full. There are two options: stop recording or rewrite. If current working HDD is overwritten or the current HDD is full while the next HDD is no empty, then system stops recording, If the current HDD is full and then next HDD is not empty, then system overwrites the previous files.
- Pack duration: Here is for you to specify record duration. The value ranges from 60 to 120 minutes. Default value is 60 minutes.
- Device No: When you are using one remote control (not included in the accessory bag) to control several NVRs, you can give a name to each NVR for your management.
- Video standard: There are two formats: NTSC and PAL.
- Realtime play: It is to set playback time you can view in the preview interface. The value ranges from 5 to 60 minutes.
- Device ID: Please input a corresponding device name here.

5.12.3 Other Setups

From Main menu->Setting->General, you can go to the general interface. See Figure 5-104.

- Holiday setting: Click it you can see an interface shown as in Figure 5-107. Here you can set holiday date. Please go to the Holidays Period interface to set the holiday date record setup.
  - ✧ When you enable Holiday settings and schedule setup at the same time, holiday setting has the priority. If the selected day is a holiday, then system records as you set in holiday setting. If it is not a holiday, system records as you set in Schedule interface. Please note you need to go to chapter 5.6.2 Schedule to enable Holiday setup. Otherwise you can not enable holiday record setup.
  - ✧ Please note, there is no year setup on the holiday setting. For example, if you set 30th Oct, 2012 as a holiday, then the date of 30th Oct in each year will be set as a holiday. So, general speaking, your holiday setup in other year may also affect the holiday setup in 2012.
- Mouse property: Click mouse setup button, you can go to mouse setup interface. See Figure 5-108. You can set double click speed via dragging the slide bard. You can Click Default button to restore default setup.
- Startup wizard: Once you check the box here, system will go to the startup wizard directly when the system restarts the next time. Otherwise, it will go to the login interface.
- Auto logout: Here is for you to set auto logout interval once login user remains inactive for a specified time. Value ranges from 0 to 60 minutes.
- Navigation bar: Check the box here, system displays the navigation bar on the interface.

- IPC Time Sync: You can input an interval here to synchronize the NVR time and IPC time.
- Snap times: Here you can set snap picture amount of one click.

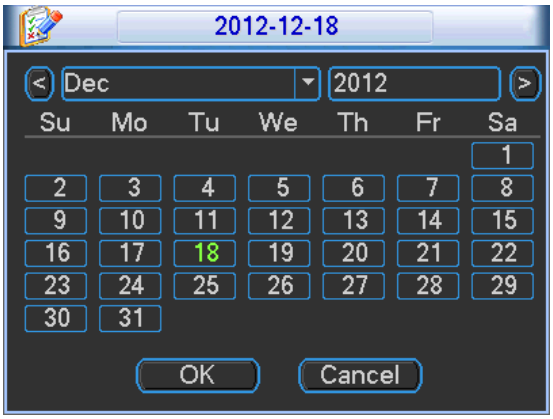


Figure 5-107

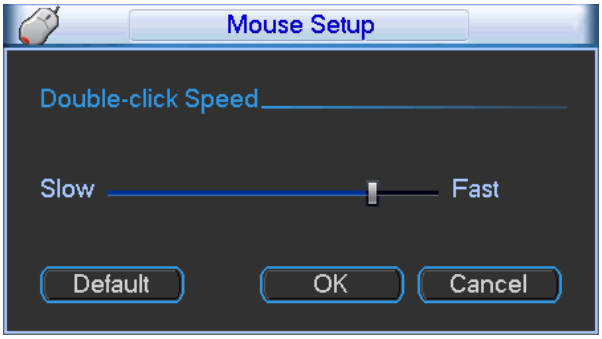


Figure 5-108

5.13 Device Maintenance and Manager

5.13.1 System Info

5.13.1.1 Version

Here is for you to view some version information. See Figure 5-109.

- Channel
- Alarm in
- Alarm out
- System version:
- Build Date
- Web
- Serial number

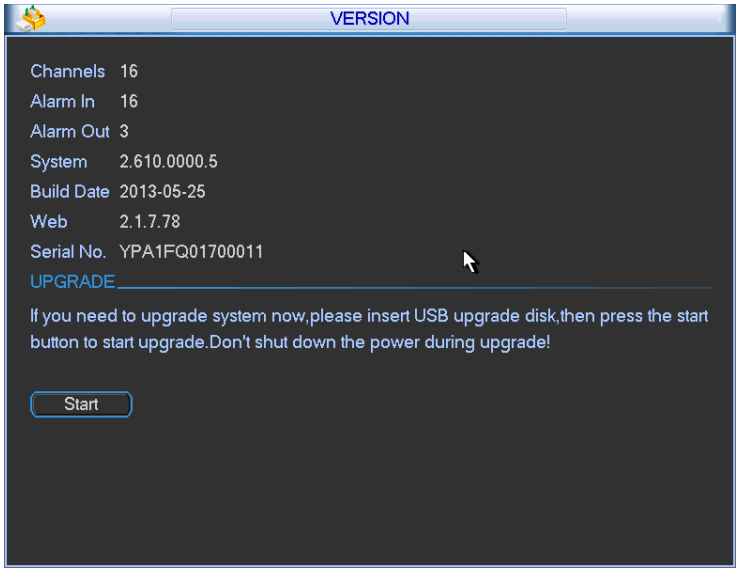


Figure 5-109

5.13.1.2 BPS

Here is for you to view current video data stream (KB/s) and occupied hard disk storage (MB/h). See Figure 5-110.

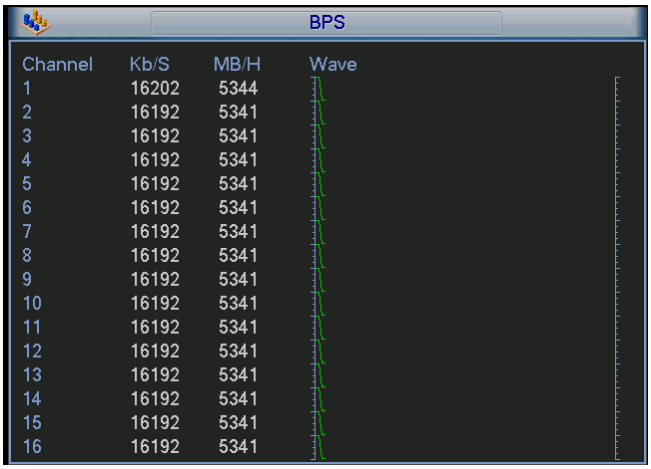


Figure 5-110

For the 32-channel series product, the interface is shown as below. See Figure 5-111.

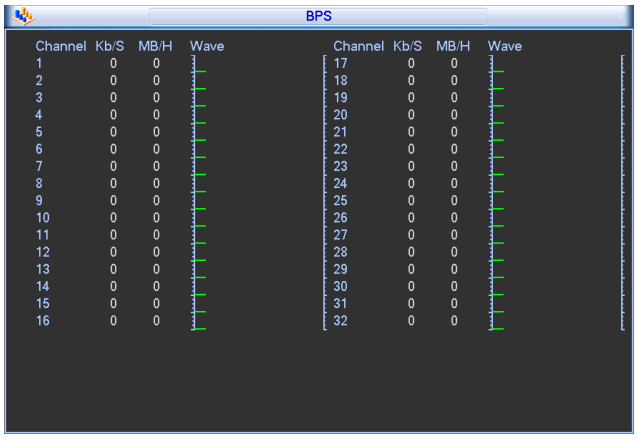


Figure 5-111

5.13.1.3 Online User

Here is for you manage online users connected to the local device. See Figure 5-112.
You can disconnect one user or block one user if you have proper system right.

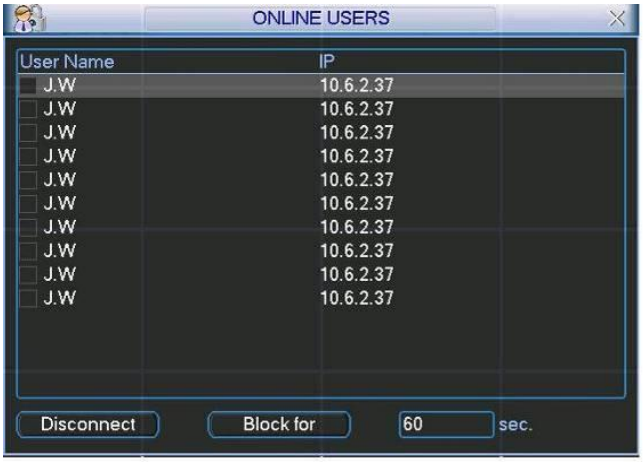


Figure 5-112

5.13.1.4 Remote Device Information

Here you can view the channel status of the remote device, connection log and etc.
Channel status: Here you can view the IPC status of the corresponding channel such as motion detect, video loss, camera masking, alarm and etc. See Figure 5-113.

- : The front-end device supports this function and it is operating properly.
- : There is an alarm.
- : The front-end device does not support this function.

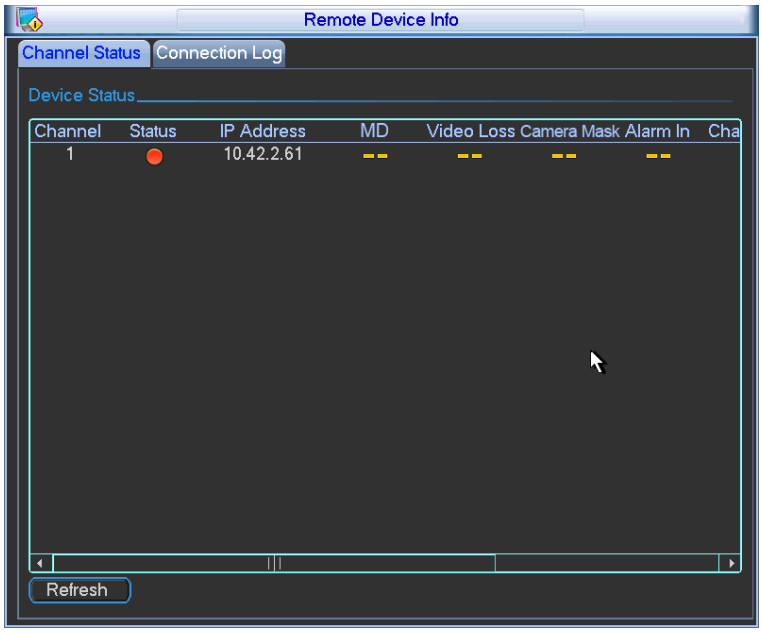


Figure 5-113

Connection log: In this interface, you can search the IPC log information of the corresponding channel. It includes IPC online, offline and etc. See Figure 5-114.

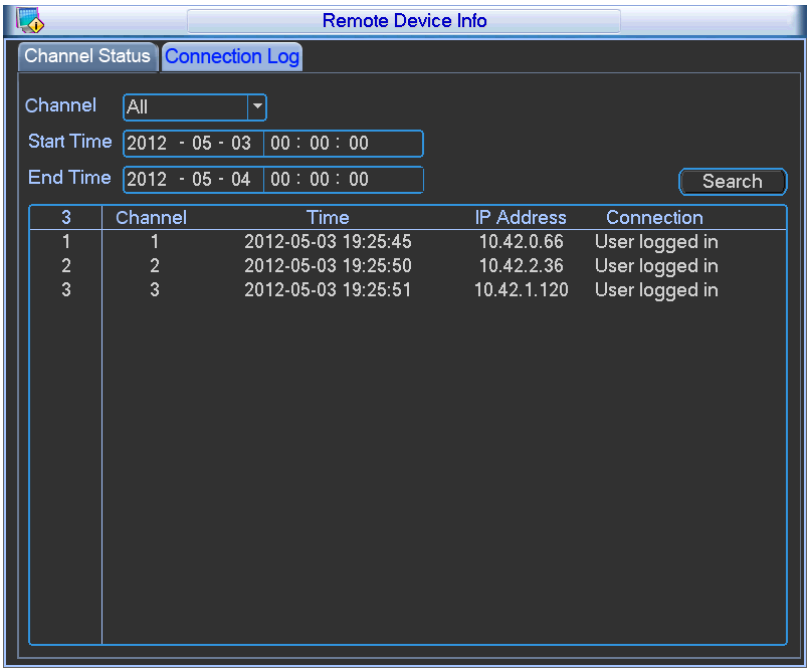


Figure 5-114

5.13.2 Log

5.13.2.1 Search Log Info

From Main menu->Info->Log, you can go to the following interface. See Figure 5-115.

- Start time/end time: Pleased select start time and end time, then click search button. You can view the log files in a list. System max displays 100 logs in one page. It can max save 1024 log files. Please use page up/down button on the interface or the front panel to view more.

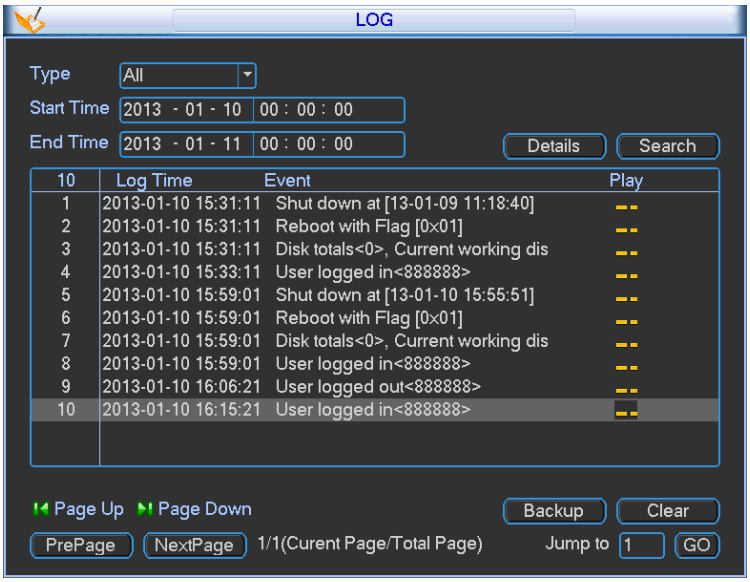


Figure 5-115

5.13.2.2 Backup Log

From Main menu->Info->Log, you can go to the following interface. See Figure 5-116.

Pleased select start time and end time, then click search button. You can view the log files in a list.

Please select a folder you want to save; you can click the backup button to save the log files. After the backup, you can see there is a folder named Log_time on the backup path. Double click the folder, you can see the log file

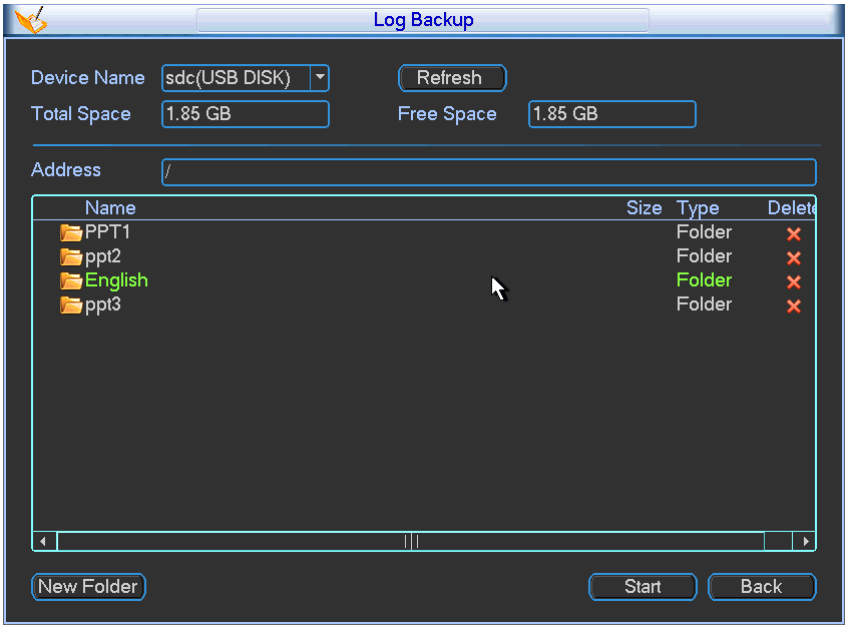


Figure 5-116

5.13.3 Upgrade

From Mani menu->Info->Version, you can go to the following interface. See Figure 5-117.

Insert USB device that contain the upgrade file.

Click Start button and then select the .bin file.

You can see the corresponding dialogue box after the update process is complete.

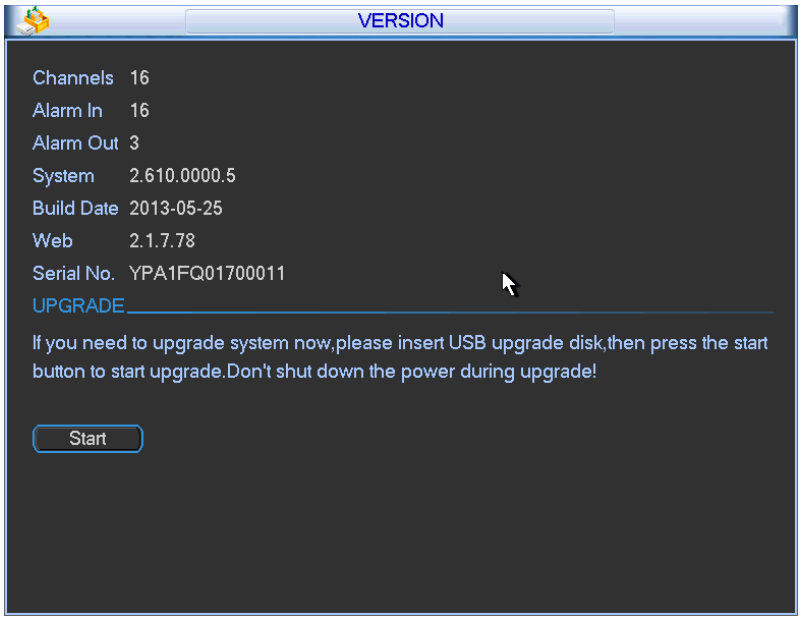


Figure 5-117

Tips

You can use Config Tool to upgrade system.

5.13.4 Default

You can restore factory default setup to fix some problems when the device is running slowly. Configuration error occurred.

From Mani menu->Setting->Default, you can go to the following interface. See Figure 5-118.

Click default icon, system pops up a dialogue box. You can highlight to restore factory default setup.

- Select all
- General
- Schedule
- RS232
- Network
- Alarm
- Detect
- Pan/tilt/zoom
- Display
- Channel name
- Remote device

Please highlight icon to select the corresponding function.

After all the setups please click OK button, system goes back to the previous menu.

Warning!

System menu color, language, time display mode, video format, IP address, user account will not maintain previous setup after default operation!

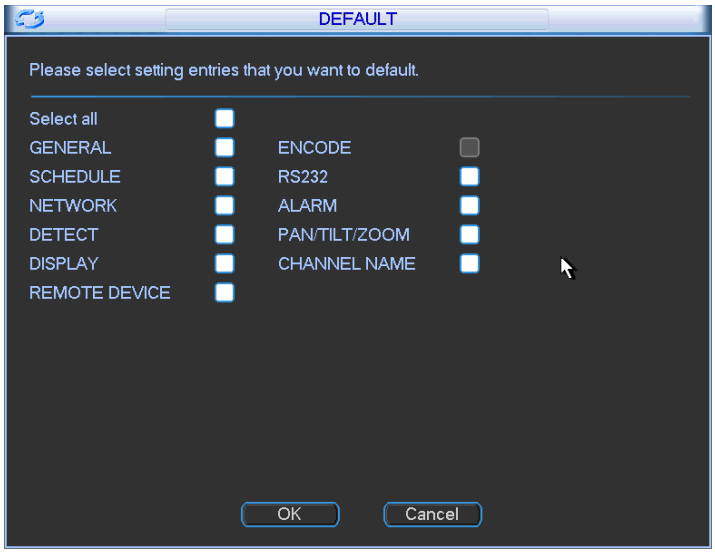


Figure 5-118

5.13.5 RS232

From Mani menu->Setting->RS232, RS232 interface is shown as below. There are five items. See Figure 5-119.

- Function: There are various devices for you to select. Console is for you to use the COM or mini-end software to upgrade or debug the program. The control keyboard is for you to

control the device via the special keyboard. Transparent COM (adapter) is to connect to the PC to transfer data directly. Protocol COM is for card overlay function. Network keyboard is for you to use the special keyboard to control the device. PTZ matrix is to connect to the peripheral matrix control.

- Baud rate: You can select proper baud rate.
- Data bit: You can select proper data bit. The value ranges from 5 to 8.
- Stop bit: There are three values: 1/1.5/2.
- Parity: there are five choices: none/odd/even/space mark.

System default setup is:

- Function: Console
- Baud rate:115200
- Data bit:8
- Stop bit:1
- Parity: None

After completing all the setups please click save button, system goes back to the previous menu.

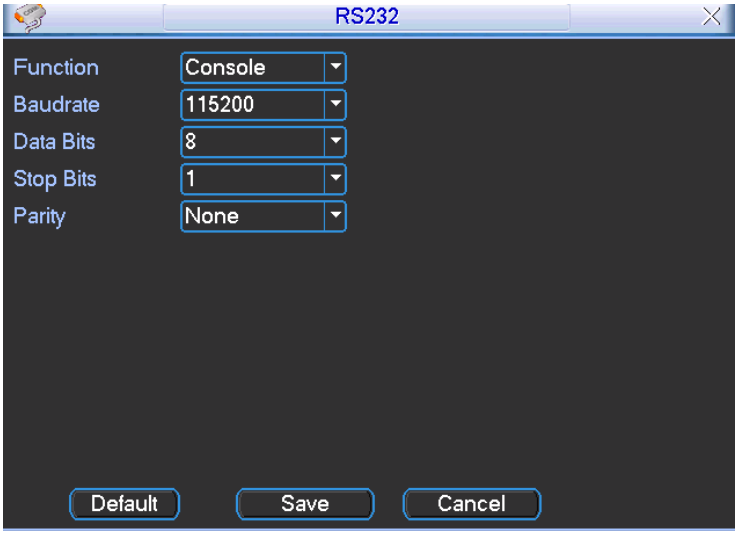


Figure 5-119

5.13.6 Logout /Shutdown/Restart

From Mani menu->Shutdown, you can see an interface shown as in Figure 5-120.

- Logout menu user: log out menu. You need to input password when you login the next time.
- Restart application: reboot device.
- Shutdown: system shuts down and turns off power.
- Restart system: system begins rebooting.
- Switch user: you can use another account to login.

If you shut down the device, there is a process bar for your reference, system waits for 3 seconds and then shut down (You can not cancel).

Please note, sometimes you need to input the proper password to shut down the device.

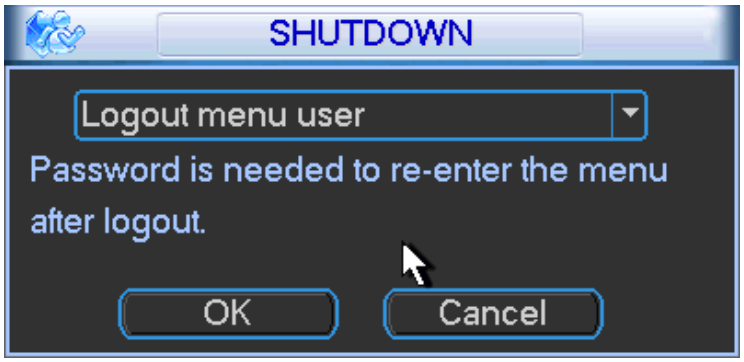

SHUTDOWN
Logout menu user
Password is needed to re-enter the menu after logout.
OK
Cancel

Figure 5-120

6 Quick Configuration Tool

6.1 Overview

Quick configuration tool can search current IP address, modify IP address. At the same time, you can use it to upgrade the device.

Please note the tool only applies to the IP addresses in the same segment.

6.2 Operation

Double click the “ConfigTools.exe” icon, you can see an interface is shown as in Figure 6-1.

In the device list interface, you can view device IP address, port number, subnet mask, default gateway, MAC address and etc.

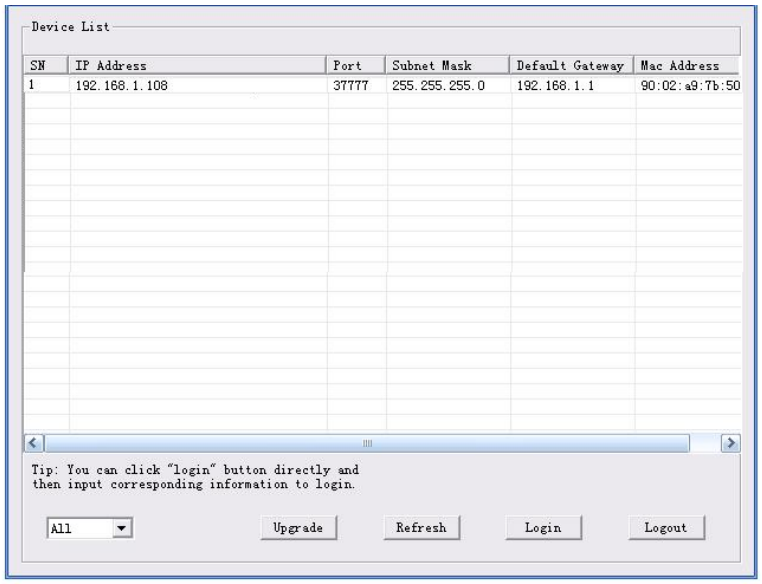


Figure 6-1

Select one IP address and then right click mouse, you can see an interface is shown as in Figure 6-2.

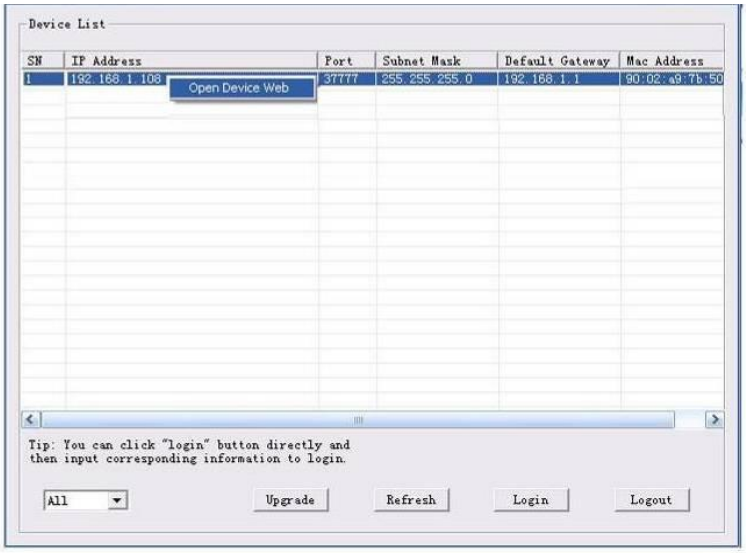


Figure 6-2

Select the “Open Device Web” item; you can go to the corresponding web login interface. See Figure 6-3.

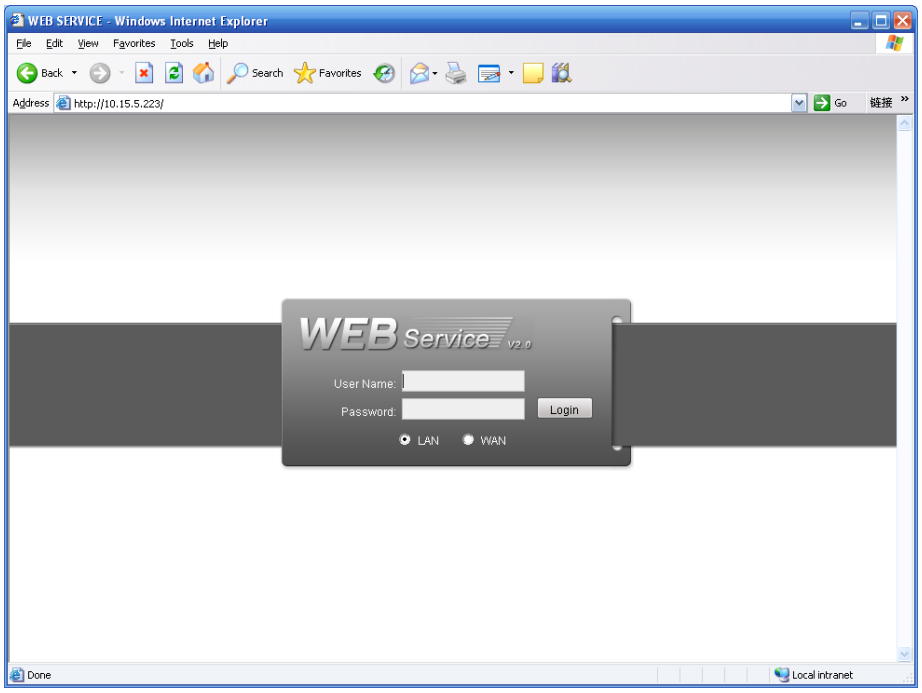


Figure 6-3

If you want to modify the device IP address without logging in the device web interface, you can go to the configuration tool main interface to set.

In the configuration tool search interface (Figure 6-1), please select a device IP address and then double click it to open the login interface. Or you can select an IP address and then click the Login button to go to the login interface. See Figure 6-4.

In Figure 6-4, you can view device IP address, user name, password and port. Please modify the corresponding information to login.

Please note the port information here shall be identical with the port value you set in TCP port in Web Network interface. Otherwise, you can not login the device.

If you are using device background upgrade port 3800 to login, other setups are all invalid.

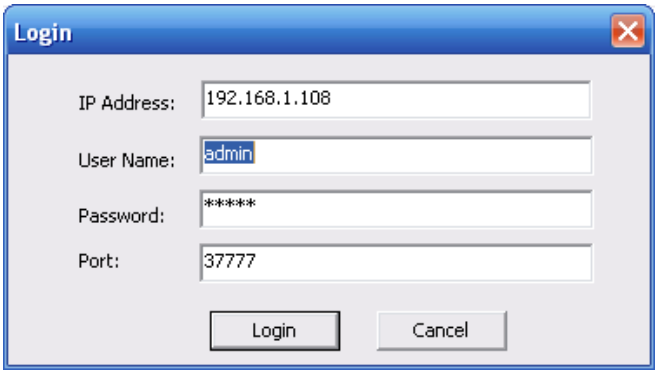


Figure 6-4

After you logged in, the configuration tool main interface is shown as below. See Figure 6-5.

Please refer to the *Quick Configuration Tool User's Manual* included in the resources CD for detail information.

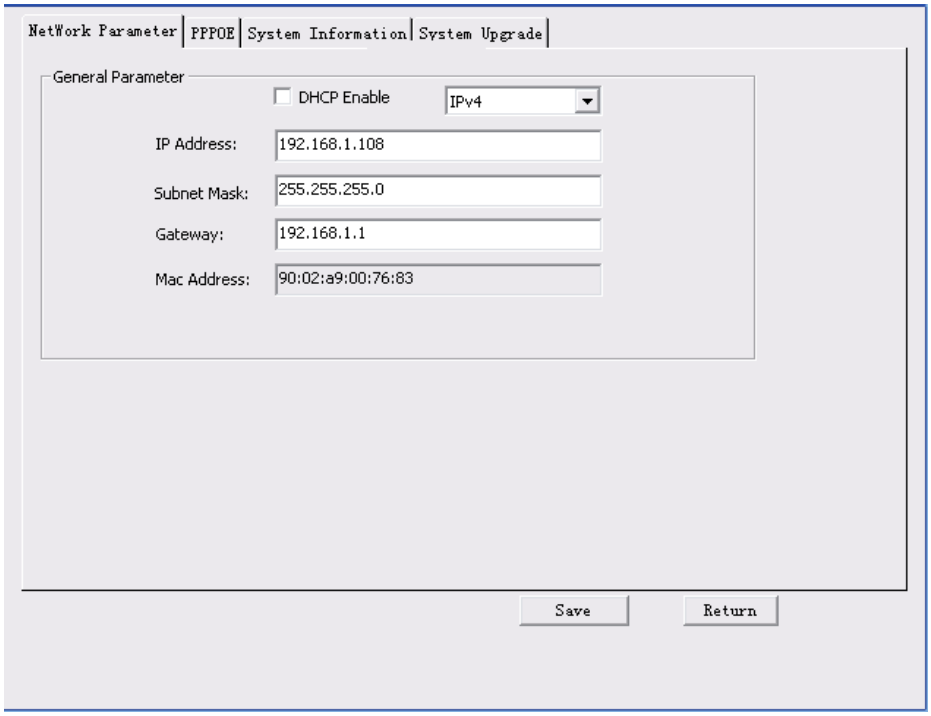


Figure 6-5

For detailed information and operation instruction of the quick configuration tool, please refer to the *Quick Configuration Tool User's Manual* included in the resources CD.

7 Web Operation

Slight difference may be found on the interface.
Your purchased product may not support all the functions listed below.

7.1 General Introduction

The device web provides channel monitor menu tree, search, alarm setup, system setup, PTZ control and monitor window.

7.1.1 Preparation

Before log in, please make sure:

- Network connection is right
- NVR and PC network setup is right. Please refer to network setup(main
- menu->setting->network)
- Use order ping ***.***.***.***(* NVR IP address) to check connection is OK or not. Usually the return TTL value should be less than 255.
- Open the IE and then input NVR IP address.
- System can automatically download latest web control and the new version can overwrite the previous one.
- If you want to un-install the web control, please run *uninstall webrec2.0.bat*. Or you can go to C:\Program Files\webrec to remove single folder. Please note, before you un-install, please close all web pages, otherwise the un-installation might result in error.
- Current series product supports various browsers such as Safari, firebox browser, Google browser. Device only support 1-channel monitor on the Apple PC.

About PoE address setup, operation and allocation.

1) Insert PoE

After you insert PoE, device may try to set a corresponding IP address of the Switch network adapter. First, system tries to set via arp ping. It then uses DHCP if it finds the DHCP is enabled. After successfully set IP address, system may use Switch to send out broadcast, system thinks the connection is OK when there is any response. Now system is trying to login the newly found IPC. Now please check the interface, you can see the corresponding digital channel is active now. You can see a small PoE icon at the top left corner. You can see the PoE channel, PoE port information and etc from the connection list of the remote device interface (Chapter 5.3). For the IP search list, you need to click the IP search to display or refresh.

2) Remove PoE

After you removed PoE, you can see the corresponding digital channel becomes idle (disable). On the remote device interface, it is removed from the connected list. For the IP search list, you need to click the IP search to refresh.

3) After you insert PoE, system follows the principles listed below to map channel.
   a) If it is your first time to insert PoE, system can map it to the first idle channel. After map, the channel can memorize the MAC address of the IPC. It is a <Channel>---<IPC mac> map. If current channel does not connect to other device, system can memorize current MAC address, otherwise it can refresh to the newly added device and memorize the <PoE port>---<Channel>.

b) If it is your second time to insert the PoE, system can check the saved MAC address according to <Channel>---<IPC mac> map to make sure current IPC has connected or not. If system finds the previous information and the channel is idle, system can map it to the previously used channel. Otherwise system goes to the next step.

c) Thirdly, according to the <PoE port>---<Channel> map, system can know the previous mapping channel of current PoE port. System can select current channel if it is free. Otherwise, it goes to the next step:

d) Fourthly, system goes to find the first idle channel it can get.

Generally speaking, once you insert PoE, system follow the steps listed above to find the channel available.

4) When you insert PoE, all channels are in use now.

System can pop up a dialogue box for you to select a channel to overwrite. The title of the pop-up interface is the name of the current operation PoE port. In this interface, All PoE channel become grey and can not select.

7.1.2 Log in

Open the IE and then input the NVR IP address in the address column.

For example, if your NVR IP address is 192.168.1.108, then please input http:// 192.168.1.108 in IE address column. See Figure 7-1.

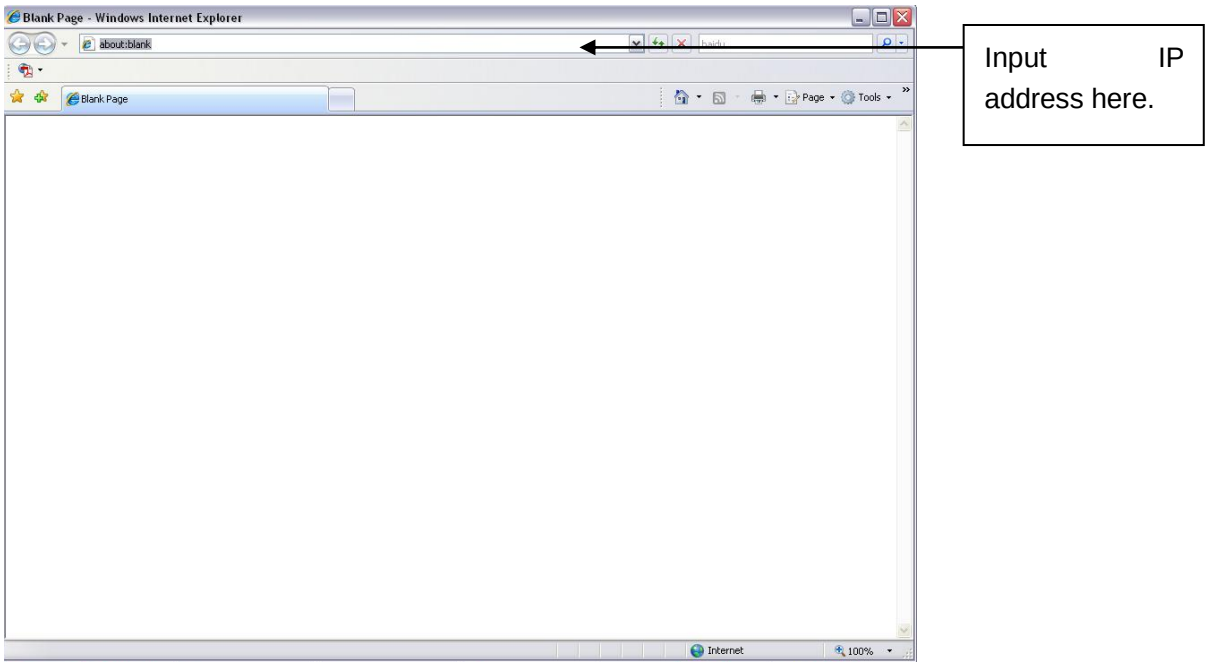


Figure 7-1 IE Interface

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

If you can't download the ActiveX file, please modify your settings as follows. See Figure 7-2.

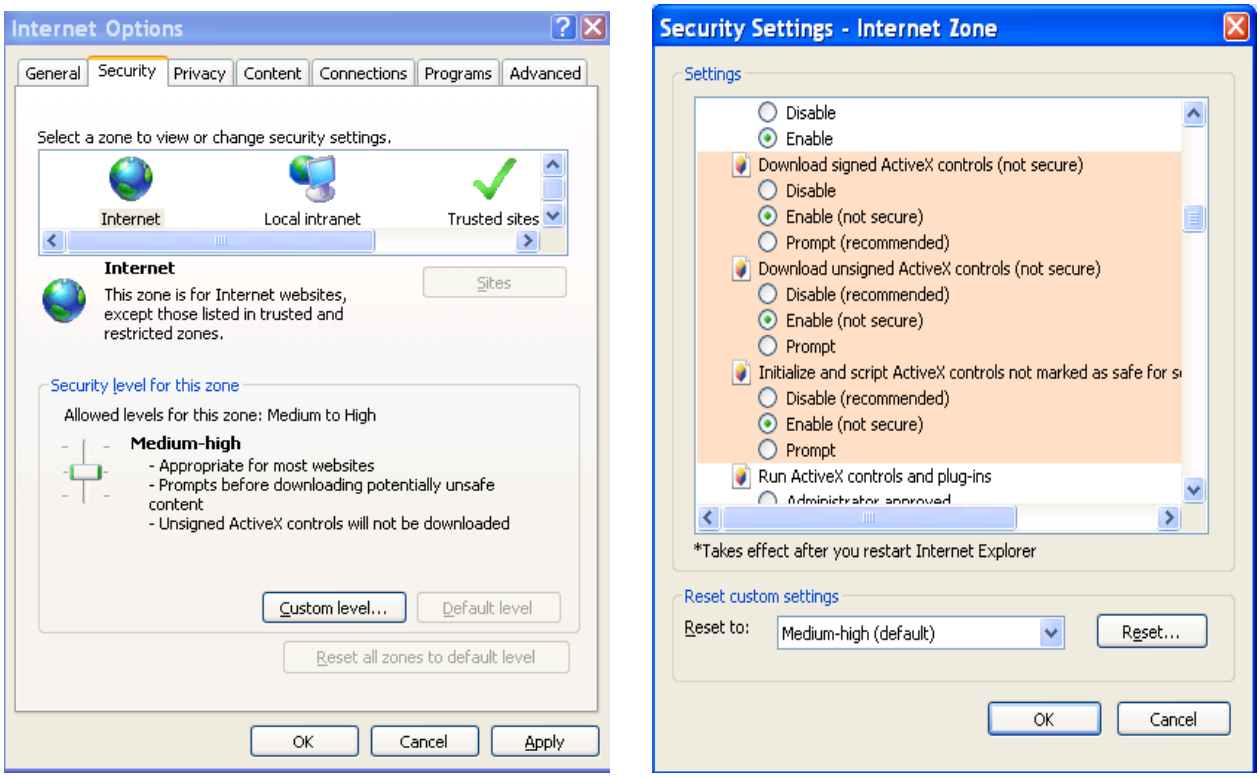


Figure 7-2 IE Safety Setup

After installation, the interface is shown as below. See Figure 7-1.

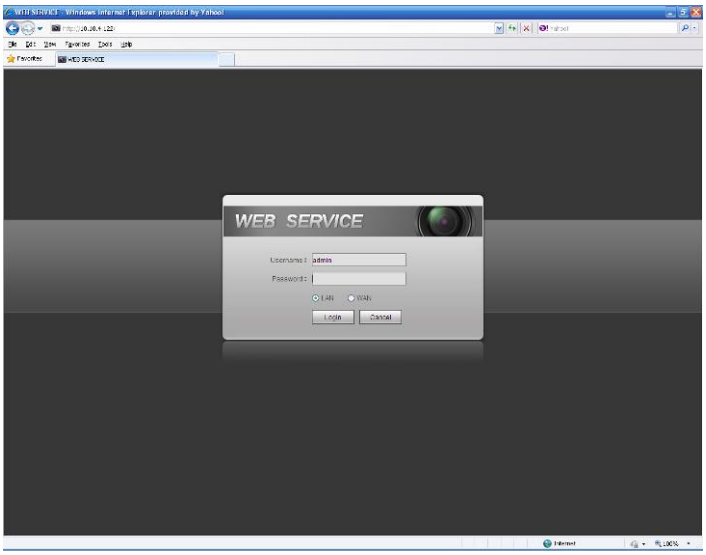


Figure 7-1

Please input your user name and password.

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

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

7.2 LAN Mode

For the LAN mode, after you logged in, you can see the main window. See Figure 7-2.

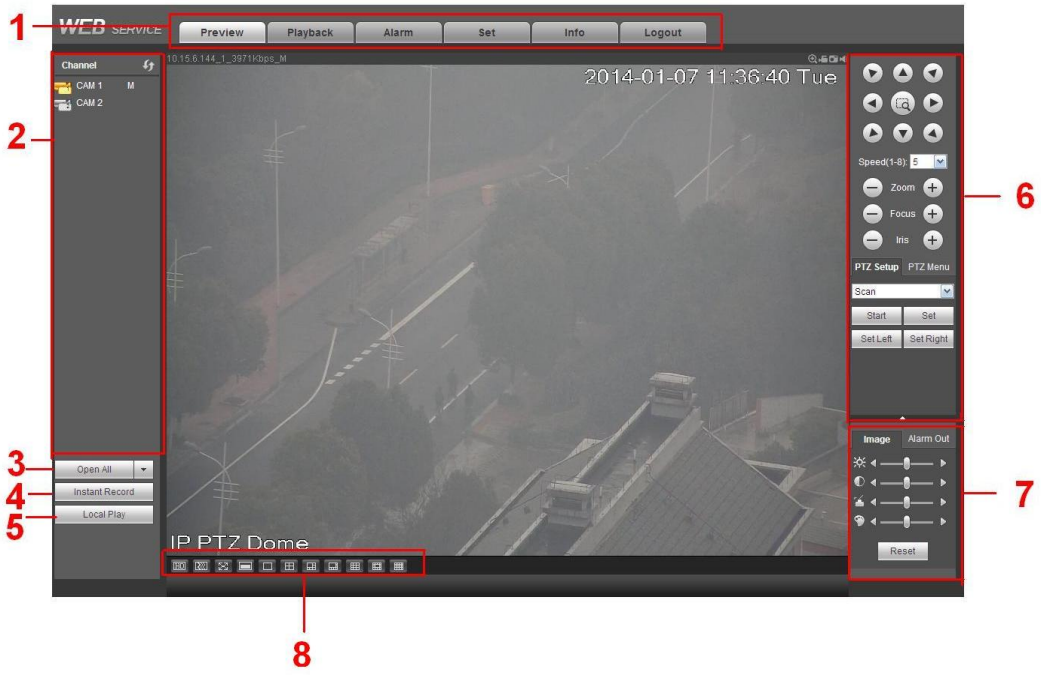


Figure 7-2

This main window can be divided into the following sections.

- Section 1: There are six function buttons: Preview（chapter 7.3）, setup (chapter 7.9), info (Chapter 7.10), playback (chapter 7.7), alarm (chapter 7.8), and logout (chapter 7.11).
- Section 2: There are monitor channels successfully connected to the NVR.

Please refer to Figure 7-3 for main stream and extra stream switch information.

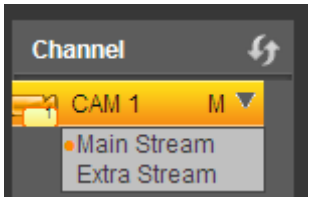


Figure 7-3

- Section 3: Open all. Open all button is to enable/disable all-channel real-time monitor. Here you can select main stream/sub stream too. See Figure 7-4.

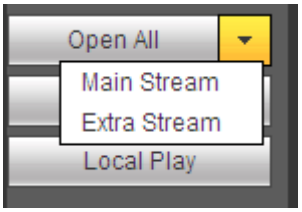


Figure 7-4

- Section 4: Instant record button. Click it, the button becomes yellow and system begins manual record. See Figure 7-5. Click it again, system restores previous record mode.

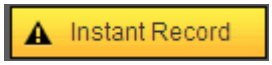


Figure 7-5

- Section 5: Local play button.

The Web can playback the saved (Extension name is dav) files in the PC-end.

Click local play button, system pops up the following interface for you to select local play file. See Figure 7-6.

Figure 7-6

- Section 6: PTZ operation. Please refer to chapter 7.4.
- Section 7: Alarm output and image setup. Please refer to chapter 7.5.
- Section 8: From the left to the right ,you can see video quality/fluency/ full screen/1-window/4-window/6-window/8-window/9-window/13-window/16-window/20-window/ 25-window/36-window.. You can set video fluency and real-time feature priority.

7.3 Real-time Monitor

In section 2, left click the channel name you want to view, you can see the corresponding video in current window.

On the top left corner, you can view device IP(172.11.10.11), channel number(1), network monitor bit stream(2202Kbps) and stream type(M=main stream, S=sub stream). See Figure 7-7.

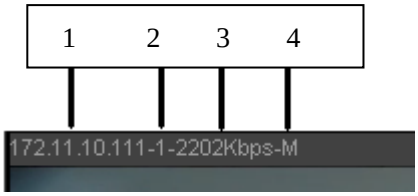


Figure 7-7

On the top right corner, there are six unction buttons. See Figure 7-8.

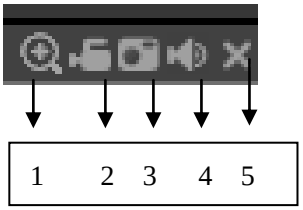


Figure 7-8

- 1: Digital zoom: Click this button and then left drag the mouse in the zone to zoom in. right click mouse system restores original status.

- 2: Local record. When you click local record button, the system begins recording and this button becomes highlighted. You can go to system folder RecordDownload to view the recorded file.
- 3: Snapshot picture. You can snapshoot important video. All images are memorized in system client folder PictureDownload (default).
- 4: Audio :Turn on or off audio.(It has no relationship with system audio setup)
- 5: Close video.

7.4 PTZ

Before PTZ operation, please make sure you have properly set PTZ protocol. (Please refer to chapter 7.9.5.10).

There are eight direction keys. In the middle of the eight direction keys, there is a 3D intelligent positioning key.

Click 3D intelligent positioning key, system goes back to the single screen mode. Drag the mouse in the screen to adjust section size. It can realize PTZ automatically.

Please refer to the following sheet for PTZ setup information.

Parameter	Function
Scan	● Select Scan from the dropdown list. ● Click Set button, you can set scan left and right limit. ● Use direction buttons to move the camera to you desired location and then click left limit button. Then move the camera again and then click right limit button to set a right limit.
Preset	● Select Preset from the dropdown list. ● Turn the camera to the corresponding position and Input the preset value. Click Add button to add a preset.
Tour	● Select Tour from the dropdown list. ● Input preset value in the column. Click Add preset button, you have added one preset in the tour. ● Repeat the above procedures you can add more presets in one tour. ● Or you can click delete preset button to remove one preset from the tour.
Pattern	● Select Pattern from the dropdown list. ● You can input pattern value and then click Start button to begin PTZ movement such as zoom, focus, iris, direction and etc. Then you can click Add button to set one pattern.
Aux	● Please input the corresponding aux value here. ● You can select one option and then click AUX on or AUX off button.
Light and wiper	You can turn on or turn off the light/wiper.

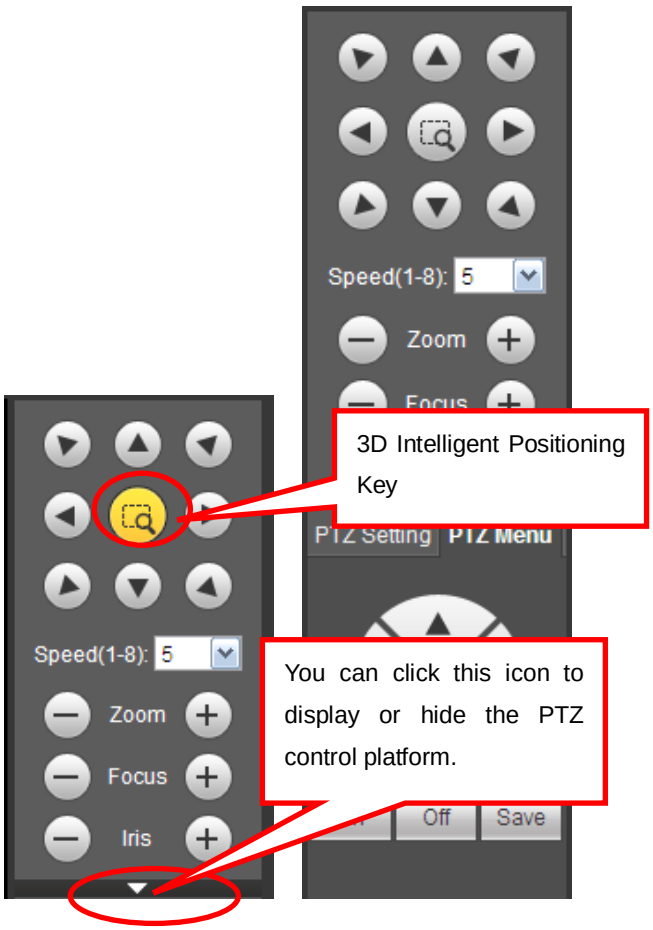


Figure 7-9

7.5 Image/Alarm-out

Select one monitor channel video and then click Image button in section 9, the interface is shown as Figure 7-10.

7.5.1 Image

Here you can adjust its brightness, contrast, hue and saturation. (Current channel border becomes green).

Or you can click Reset button to restore system default setup.

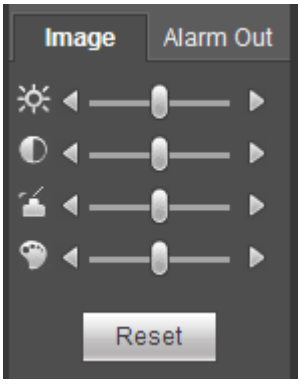


Figure 7-10

7.5.2 Alarm output

Please note some series product does not support alarm output function.

Here you can enable or disable the alarm signal of the corresponding port. See Figure 7-11.

Figure 7-11

7.6 WAN Login

In WAN mode, after you logged in, the interface is shown as below. See Figure 7-12.

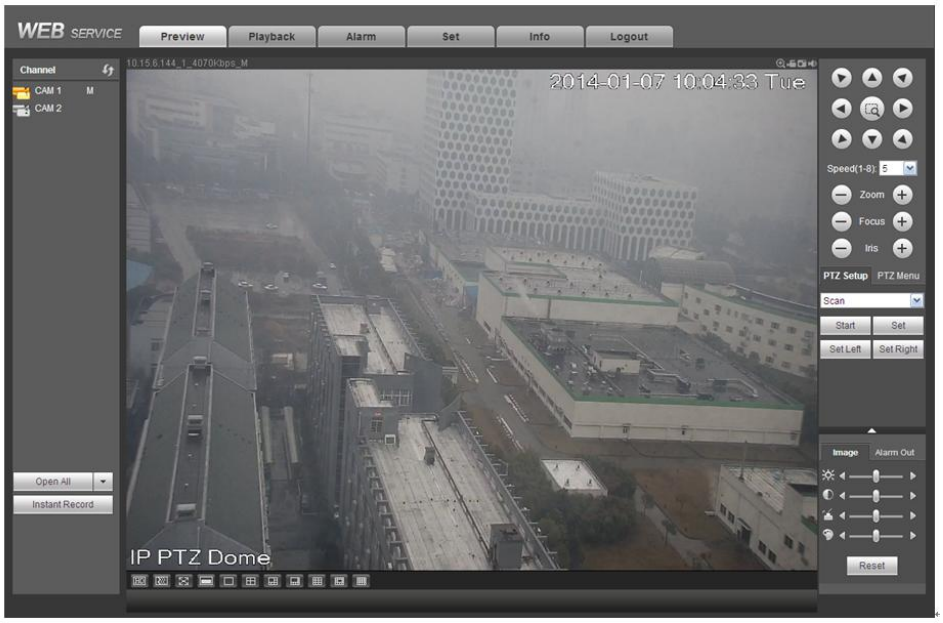


Figure 7-12

Please refer to the following contents for LAN and WAN login difference.

1) In the WAN mode, system opens the main stream of the first channel to monitor by default. The open/close button on the left pane is null.

2) You can select different channels and different monitor modes at the bottom of the interface. See Figure 7-13.

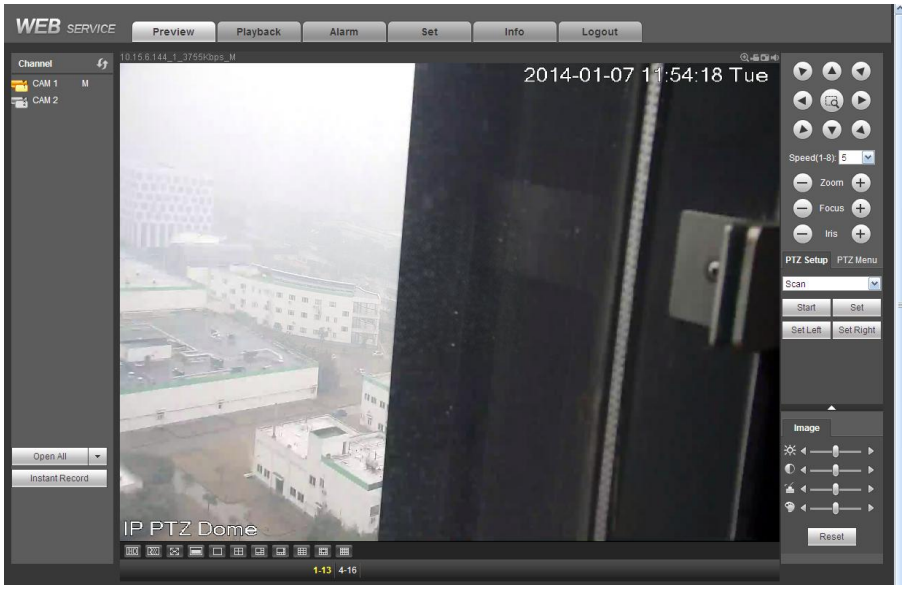


Figure 7-13

Important

The window display mode and the channel number are by default. For example, for the 16-channel, the max window split mode is 16.

3) Multiple-channel monitor, system adopts extra stream to monitor by default. Double click one channel, system switches to single channel and system uses main stream to monitor. You can view there are two icons at the left top corner of the channel number for you reference. M stands for main stream. S stands for sub stream (extra stream).

4) If you login via the WAN mode, system does not support alarm activation to open the video function in the Alarm setup interface.

Important

- For multiple-channel monitor mode, system adopts extra stream to monitor by default. You can not modify manually. All channels are trying to synchronize. Please note the synchronization effect still depends on your network environments.
- For bandwidth consideration, system can not support monitor and playback at the same time. System auto closes monitor or playback interface when you are searching setup in the configuration interface. It is to enhance search speed.

7.7 Playback

Click Playback button, you can see an interface is shown as in Figure 7-14.

Please set record type, record date, window display mode and channel name.

You can click the date on the right pane to select the date. The orange highlighted date is system current date and the blue highlighted date means it has record files.

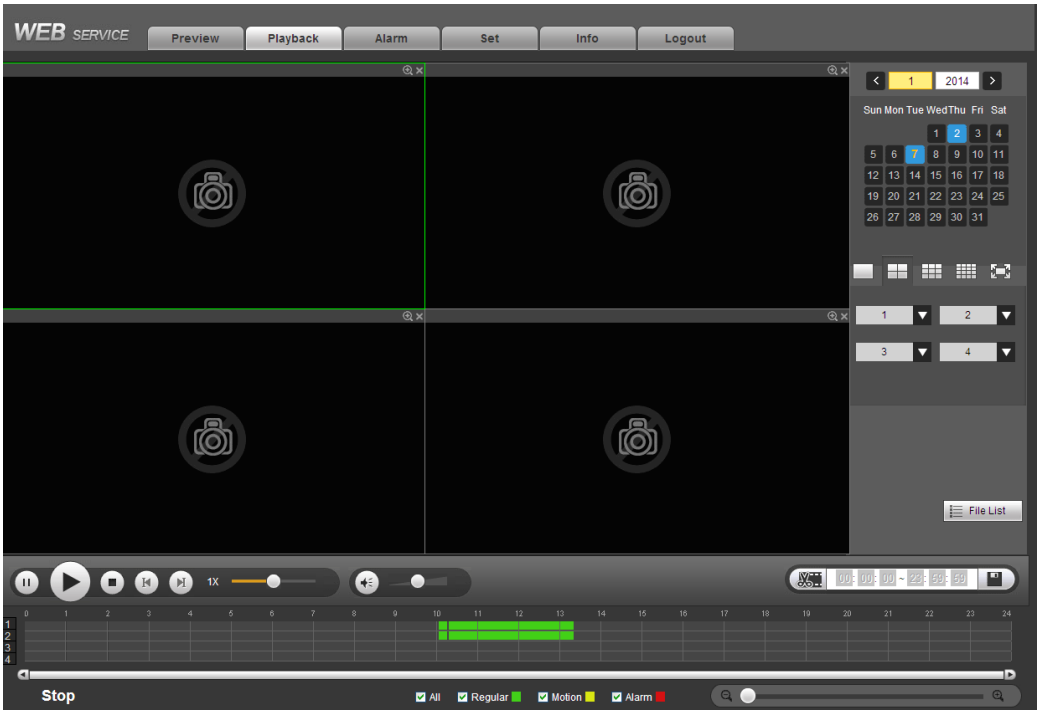


Figure 7-14

Then please click File list button, you can see the corresponding files in the list. See Figure 7-15.

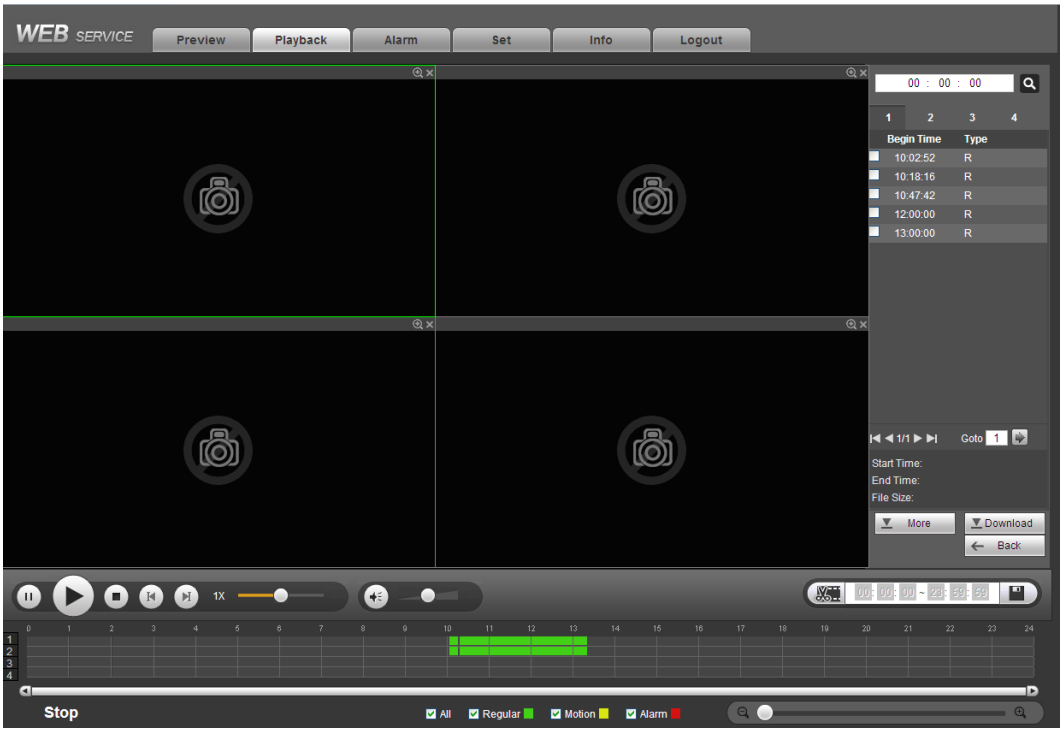


Figure 7-15

Select a file you want to play and then click Play button, system can begin playback. You can select to playback in full-screen. Please note for one channel, system can not playback and download at the same time. You can use the playback control bar to implement various operations such as play, pause, stop, slow play, fast play and etc. See Figure 7-16.

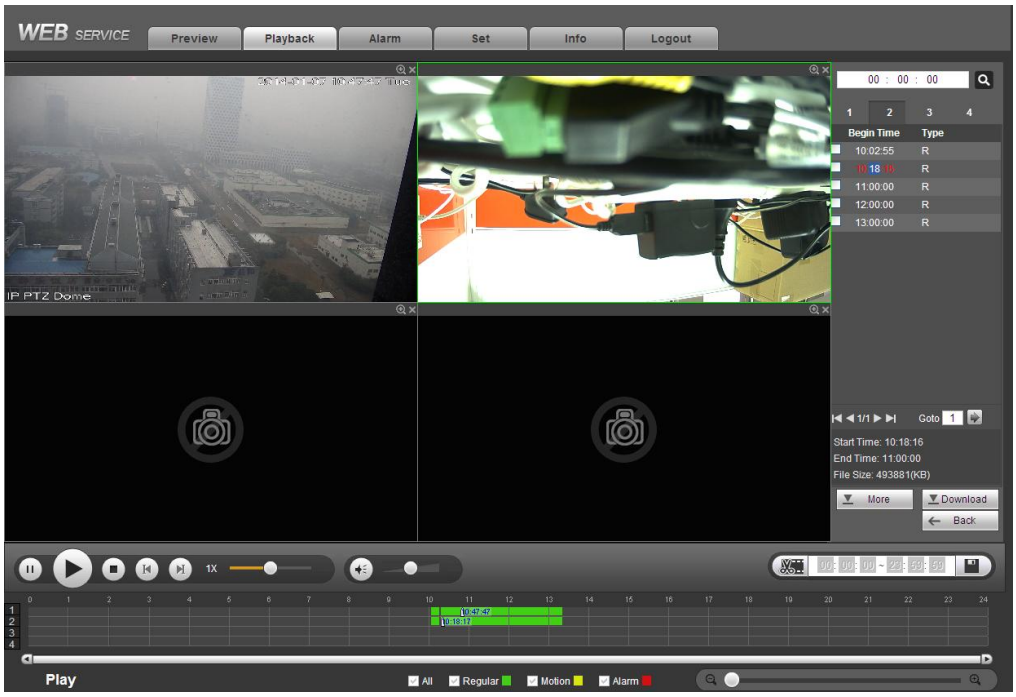


Figure 7-16

Select the file(s) you want to download and then click download button, you can see an interface shown as in Figure 7-17. The Download button becomes Stop button and there is a process bar for your reference. Please go to you default file saved path to view the files.

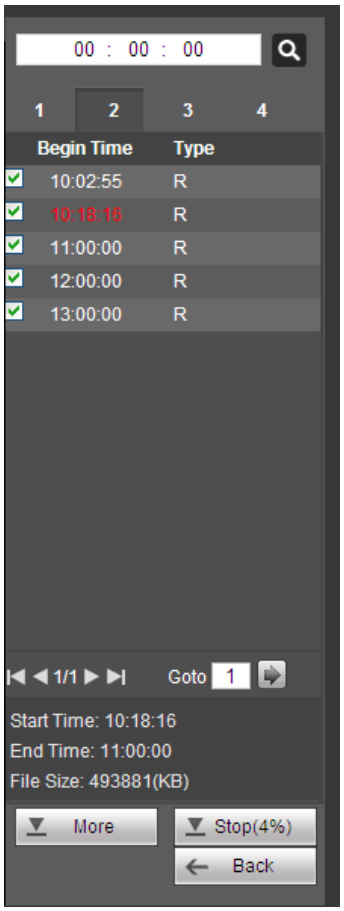


Figure 7-17

Load more

It is for you to search record or picture. You can select record channel, record type and record time to download. There are two download types. The download by file interface is shown as in Figure 7-18 and the download by time interface is shown as in Figure 7-19.

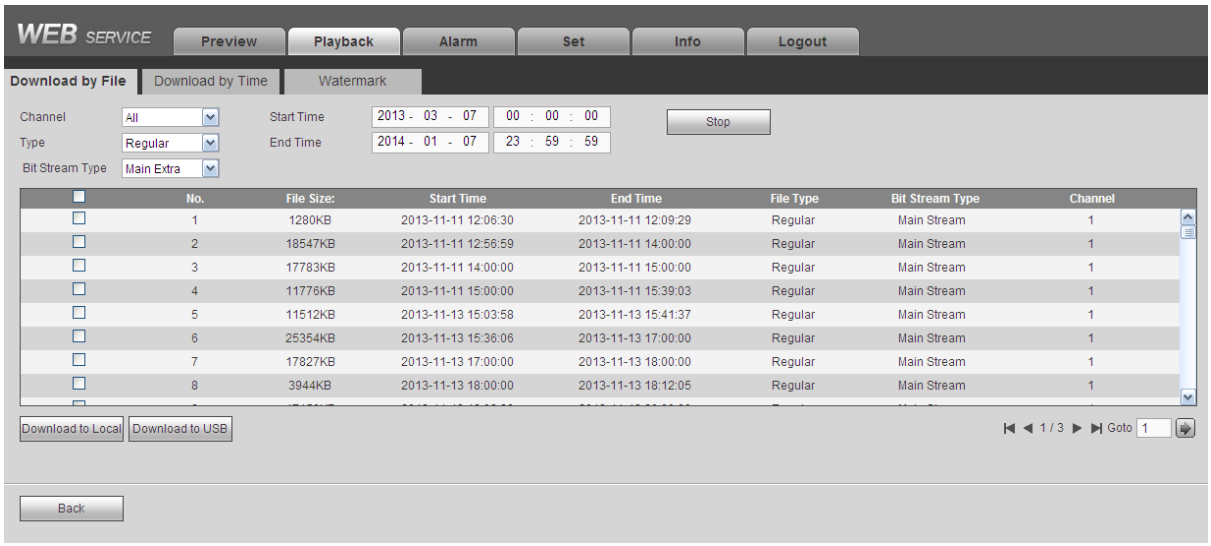


Figure 7-18

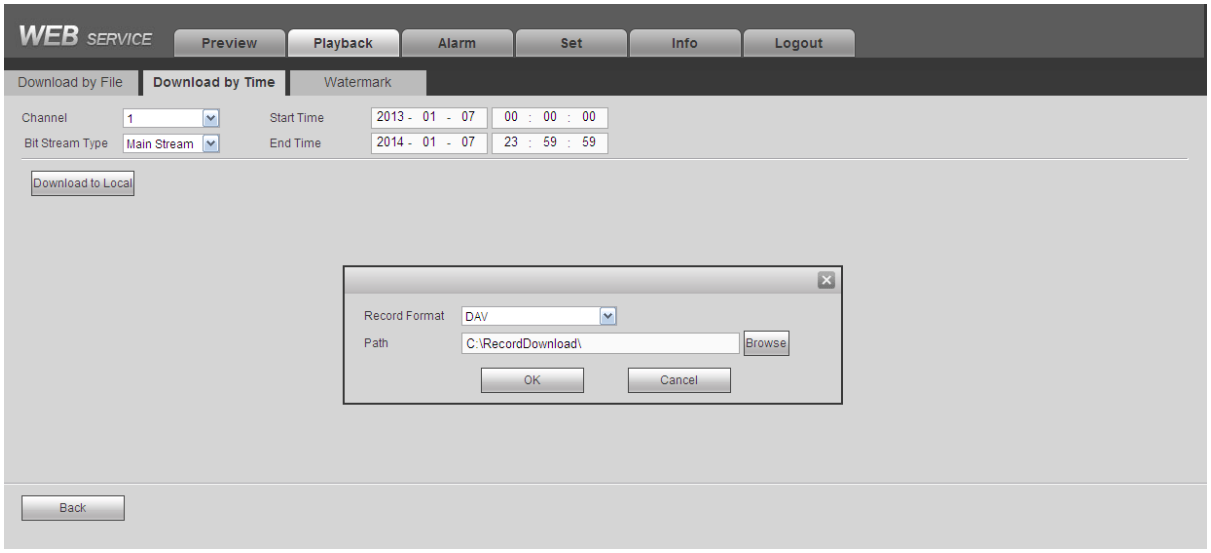


Figure 7-19

Watermark

Watermark interface is shown as In Figure 7-18. Please select a file and then click Verify button to see the file has been tampered with or not

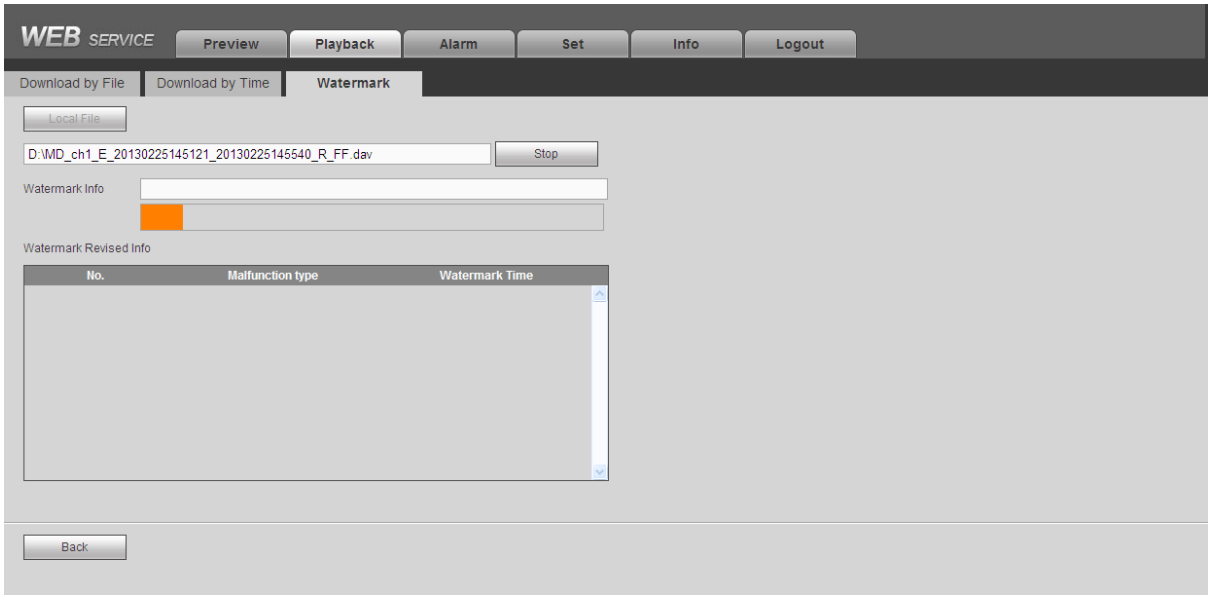


Figure 7-20

7.8 Alarm

Click alarm function, you can see an interface is shown as Figure 7-21.

Here you can set device alarm type and alarm sound setup (Please make sure you have enabled audio function of corresponding alarm events.).

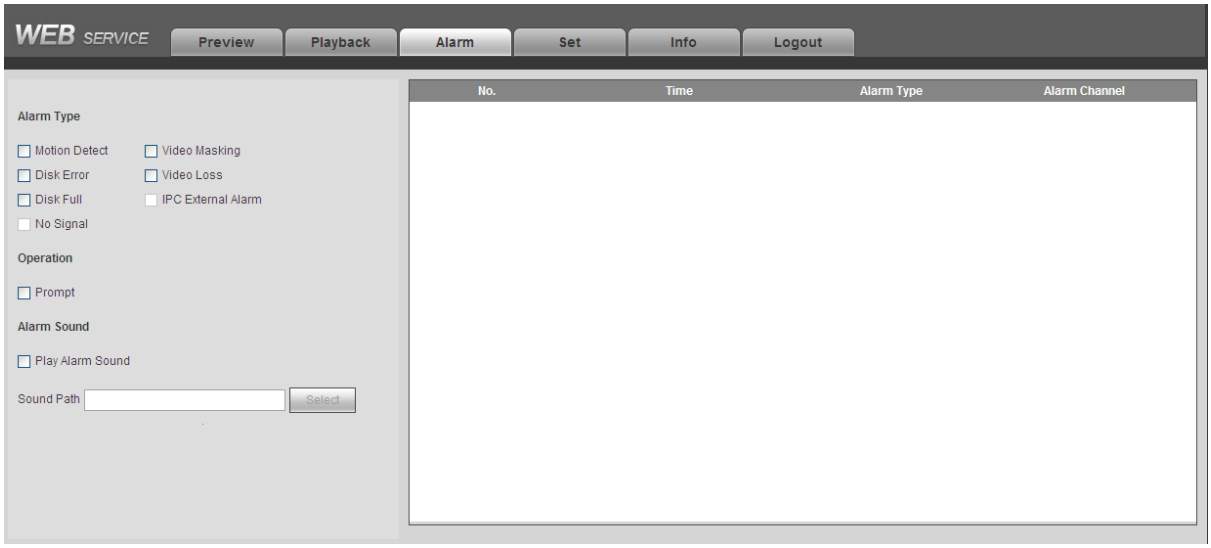


Figure 7-21

Please refer to the following sheet for detailed information.

Type	Parameter	Function
Alarm Type	Video loss	System alarms when video loss occurs.
	Motion detection	System alarms when motion detection alarm occurs.
	Tampering	System alarms when camera is viciously masking.
	Disk full	System alarms when disk is full.
	Disk error	System alarms when disk error occurs.

Type	Parameter	Function
	IPC external alarm	It refers to the on-off signal from the network camera. It can activate the NVR local activation operation.
	No signal	System can generate an alarm when the network camera and the NVR are disconnected.
Operation	Prompt	Check the box here, system can automatically pops up an alarm icon on the Alarm button in the main interface when there is an alarm.
Alarm Sound	Play alarm sound	System sends out alarm sound when an alarm occurs. You can specify as you wish.
	Sound path	Here you can specify alarm sound file.

7.9 Setup

7.9.1 Remote

7.9.1.1 Add Device

Add device interface is shown as below. See Figure 7-22.

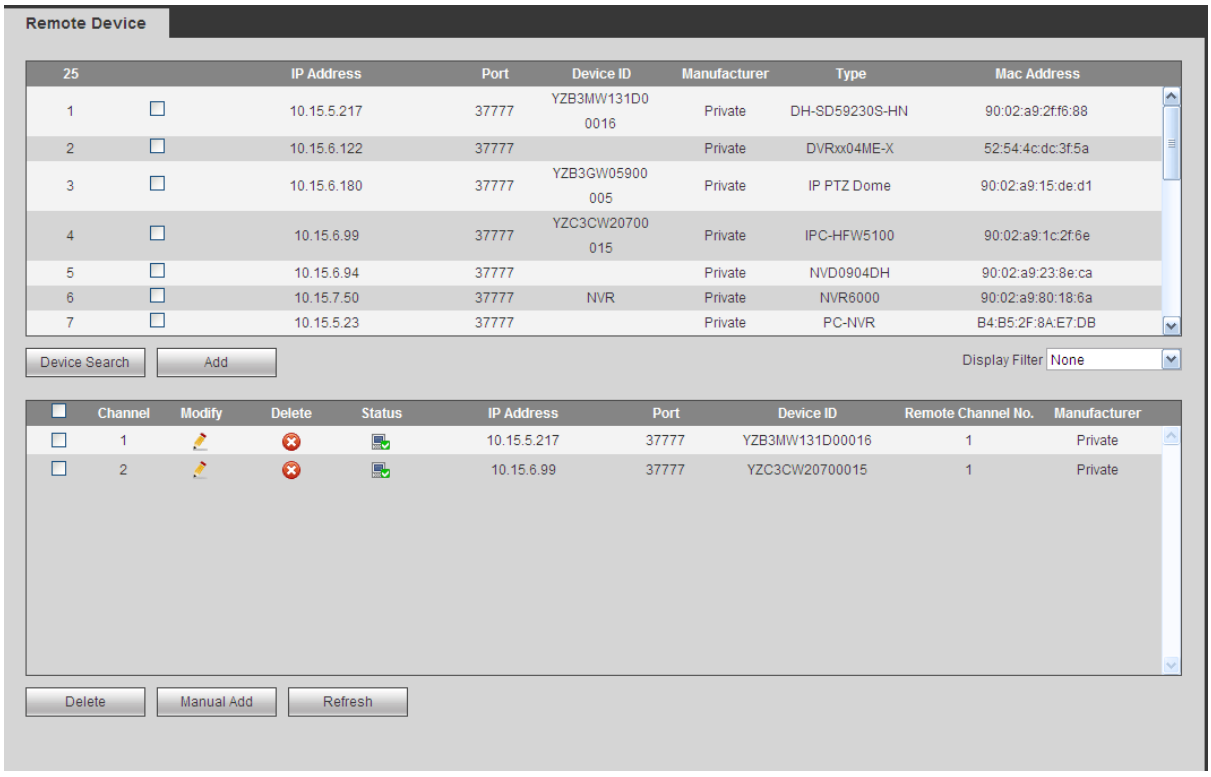


Figure 7-22

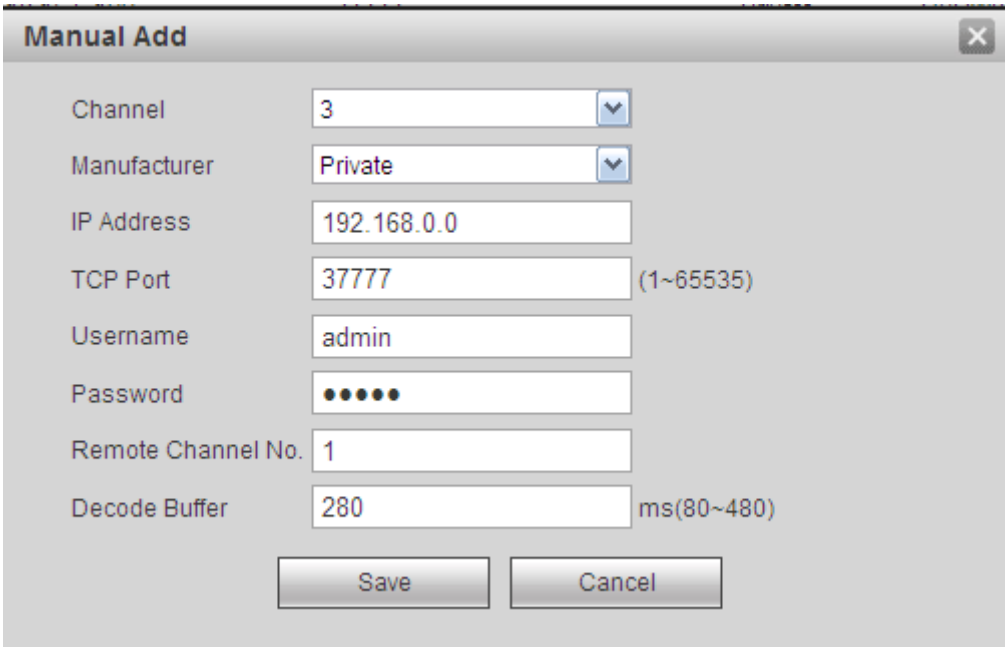


Figure 7-23

Please refer to the following sheet for log parameter information.

Parameter	Function
Device search	Click Device search button, you can view the searched device information on the list. It includes device IP address, port, device name, manufacturer and type.
Add	Select a device in the list and then click Add button, system can connect the device automatically and add it to the Added device list. Or you can double click one item in the list to add a device.
Modify	Click or any device in the Added device list, you can change the corresponding channel setup.
Delete	Click , you can delete the remote connection of the corresponding channel.
Connection status	: Connection succeeded. : Connection failed.
Delete	Select a device in the Added device list and then click Delete button, system can disconnect the device and remove it from the Added device list.

Parameter	Function
Manual Add	Click it, the interface is shown as in Figure 7-23. Here you can add network camera manually. You can select a channel from the dropdown list (Here only shows disconnection channel.) **Note:** ● System supports manufactures such as Panasonic, Sony, Dynacolor, Samsung, AXIS, Arecont, Dahua and Onvif standard protocol. ● If you do not input IP address here. System uses default IP 192.168.0.0 and system does not connect to this IP. ● Can not add two devices at the same time. Click OK button here, system only connect to the corresponding device of current channel.

7.9.1.2 Conditions

Here you can view device property information. The setups become valid immediately after you set. See Figure 7-24.

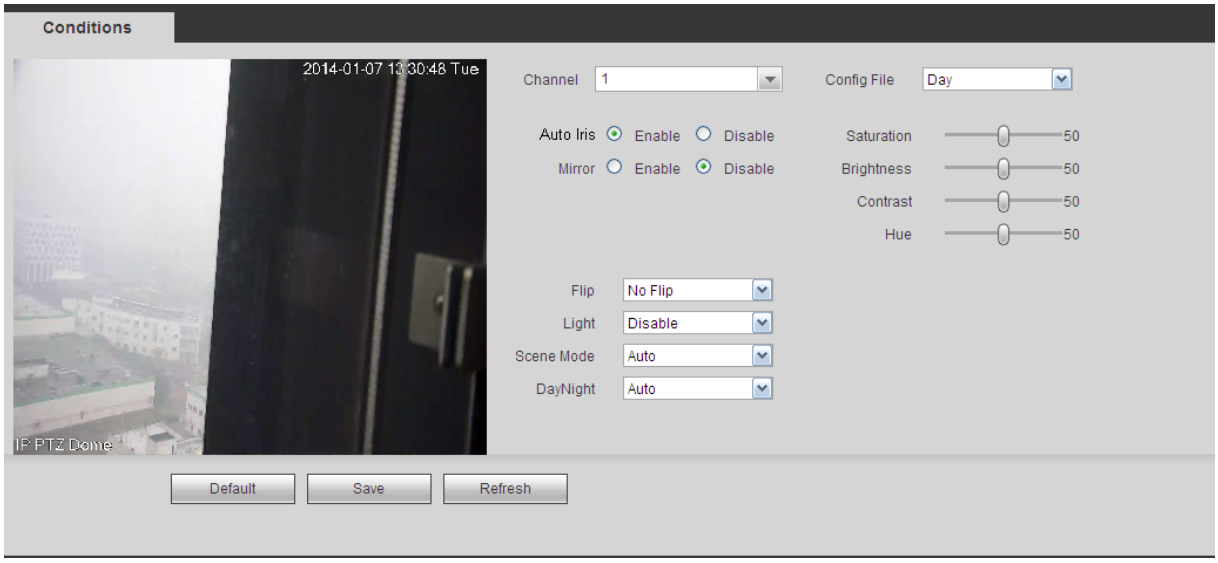


Figure 7-24

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Please select a channel from the dropdown list.
Hue	It is to adjust monitor video brightness and darkness level. The default value is 50. The bigger the value is, the large the contrast between the bright and dark section is and vice versa.
Brightness	It is to adjust monitor window brightness. The default value is 50. The larger the number is , the bright the video is. When you input the value here, the bright section and the dark section of the video will be adjusted accordingly. You can use this

		function when the whole video is too dark or too bright. Please note the video may become hazy if the value is too high. The value ranges from 0 to 100.The recommended value ranges from 40 to 60.
Contrast		It is to adjust monitor window contrast. The value ranges from 0 to 100. The default value is 50. The larger the number is, the higher the contrast is. You can use this function when the whole video bright is OK but the contrast is not proper. Please note the video may become hazy if the value is too low. If this value is too high, the dark section may lack brightness while the bright section may over exposure .The recommended value ranges from 40 to 60.
Saturation		It is to adjust monitor window saturation. The value ranges from 0 to 100. The default value is 50. The larger the number is, the strong the color is. This value has no effect on the general brightness of the whole video. The video color may become too strong if the value is too high. For the grey part of the video, the distortion may occur if the white balance is not accurate. Please note the video may not be attractive if the value is too low. The recommended value ranges from 40 to 60.
White level		It is to enhance video effect.
Auto Iris		It is to enable/disable auto iris function.
Flip		It is to switch video up and bottom limit. This function is disabled by default.
Mirror		It is to switch video left and right limit. This function is disabled by default.
BLC Mode	BLC	The device auto exposures according to the environments situation so that the darkest area of the video is cleared
	WDR	For the WDR scene, this function can lower the high bright section and enhance the brightness of the low bright section. So that you can view these two sections clearly at the same time. The value ranges from 1 to 100. When you switch the camera from no-WDR mode to the WDR mode, system may lose several seconds record video.
	HLC	After you enabled HLC function, the device can lower the brightness of the brightest section according to the HLC control level. It can reduce the area of the halo and lower the brightness of the whole video.
	Off	It is to disable the BLC function. Please note this function is disabled by default.
Scene mode (Profile)		It is to set the white balance mode. It has effect on the general hue of the video. This function is on by default. You can select the different scene mode such as auto, sunny, cloudy, home, office, night, disable and etc to adjust the video to the best quality. ● Auto: The auto white balance is on. System can auto compensate the color temperature to make sure the vide

	color is proper. ● Sunny: The threshold of the white balance is in the sunny mode. ● Night: The threshold of the white balance is in the night mode. ● Customized: You can set the gain of the red/blue channel. The value reneges from 0 to 100.
Day/Night	It is to set device color and the B/W mode switch. The default setup is auto. ● Color: Device outputs the color video. ● Auto: Device auto select to output the color or the B/W video according to the device feature (The general bright of the video or there is IR light or not.) ● B/W: The device outputs the black and white video. ● Sensor: It is to set when there is peripheral connected IR light.

7.9.1.3 Video/Audio

7.9.1.3.1 Encode

The encode interface is shown as below. See Figure 7-25.

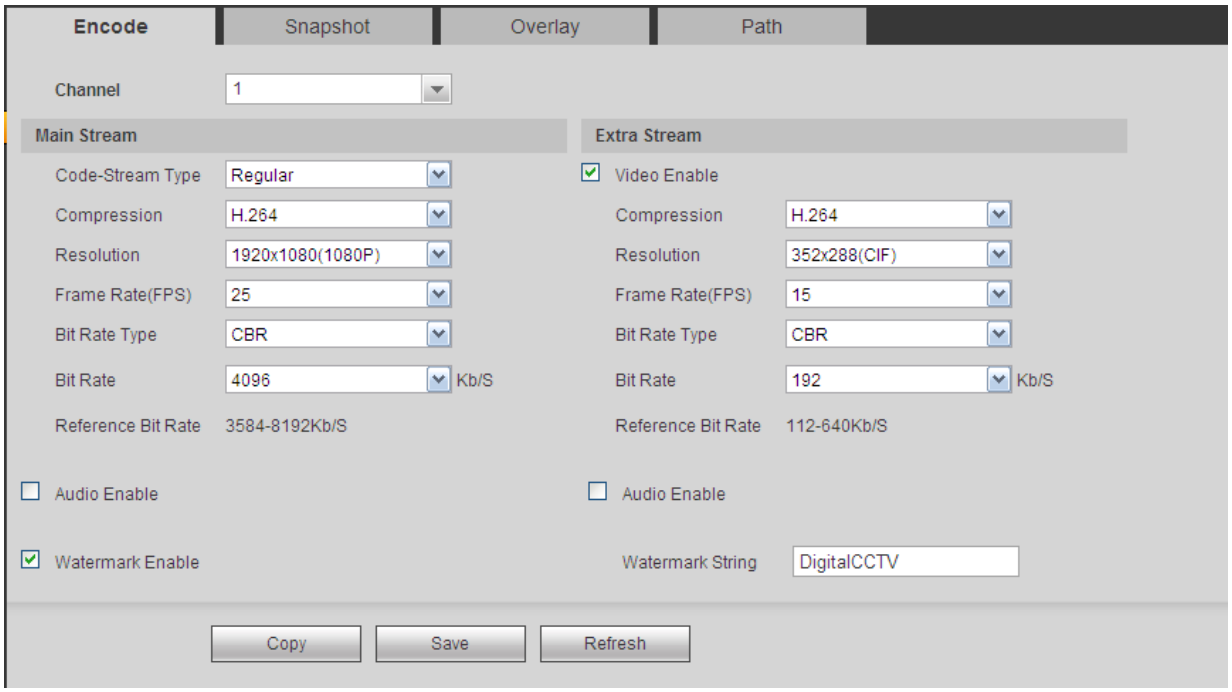


Figure 7-25

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Please select a channel from the dropdown list.
Video enable	Check the box here to enable extra stream video. This item is enabled by default.
Code stream type	It includes main stream, motion stream and alarm stream. You can select different encode frame rates form different recorded events.

	System supports active control frame function (ACF). It allows you to record in different frame rates. For example, you can use high frame rate to record important events, record scheduled event in lower frame rate and it allows you to set different frame rates for motion detection record and alarm record.
Compression	The main bit stream supports H.264. The extra stream supports H.264, MJPG.
Resolution	The resolution here refers to the capability of the network camera.
Frame Rate	PAL：1～25f/s；NTSC：1～30f/s.
Bit Rate	● Main stream: You can set bit rate here to change video quality. The large the bit rate is, the better the quality is. Please refer to recommend bit rate for the detailed information. ● Extra stream: In CBR, the bit rate here is the max value. In dynamic video, system needs to low frame rate or video quality to guarantee the value. The value is null in VBR mode.
Reference bit rate	Recommended bit rate value according to the resolution and frame rate you have set.
I Frame	Here you can set the P frame amount between two I frames. The value ranges from 1 to 150. Default value is 50. Recommended value is frame rate *2.
Watermark enable	This function allows you to verify the video is tampered or not. Here you can select watermark bit stream, watermark mode and watermark character. Default character is DigitalCCTV. The max length is 85-digit. The character can only include number, character and underline.

7.9.1.3.2 Snapshot

The snapshot interface is shown as in Figure 7-26.

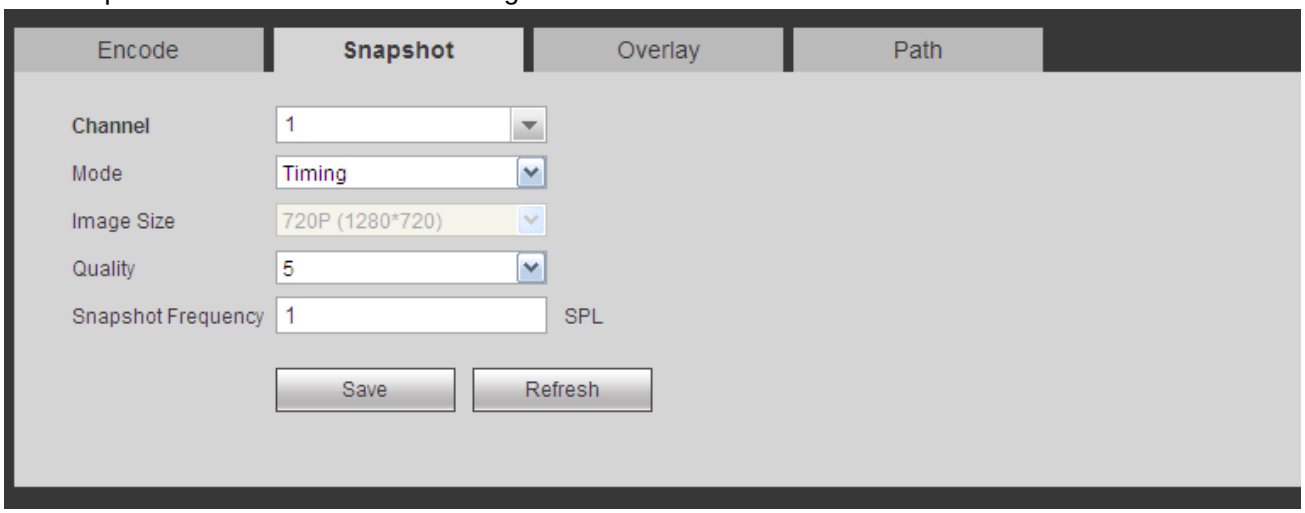


Figure 7-26

Please refer to the following sheet for detailed information.

Parameter	Function
Snapshot type	There are two modes: Regular (schedule) and Trigger. ● Regular snapshot is valid during the specified period you set. ● Trigger snapshot only is valid when motion detect alarm, tampering alarm or local activation alarm occurs.
Image size	It is the same with the resolution of the main stream.
Quality	It is to set the image quality. There are six levels.
Interval	It is to set snapshot frequency. The value ranges from 1s to 7s. Or you can set customized value. The max setup is 3600s/picture.
Copy	Click it; you can copy current channel setup to other channel(s).

7.9.1.3.3Video Overlay

The video overlay interface is shown as in Figure 7-27.

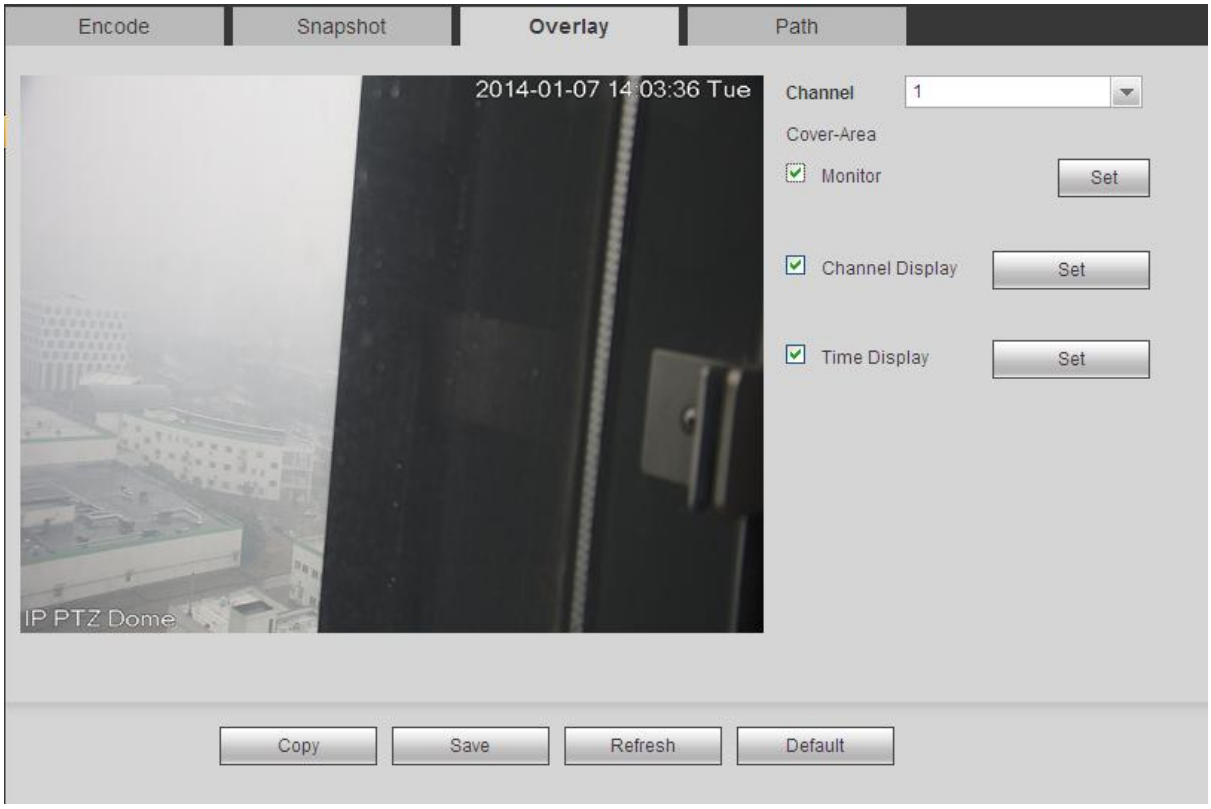


Figure 7-27

Please refer to the following sheet for detailed information.

Parameter	Function
Cover-area	Check Preview or Monitor first. Click Set button, you can privacy mask the specified video in the preview or monitor video. System max supports 4 privacy mask zones.
Time Title	You can enable this function so that system overlays time information in video window. You can use the mouse to drag the time title position. You can view time title on the live video of the WEB or the playback video.

Channel Title	You can enable this function so that system overlays channel information in video window. You can use the mouse to drag the channel title position. You can view channel title on the live video of the WEB or the playback video.

7.9.1.3.4Path

The storage path interface is shown as in Figure 7-28.

Here you can set snap image saved path (in the preview interface) and the record storage path (in the preview interface).The default setup is C:\PictureDownload and C:\RecordDownload.

Please click the Save button to save current setup.

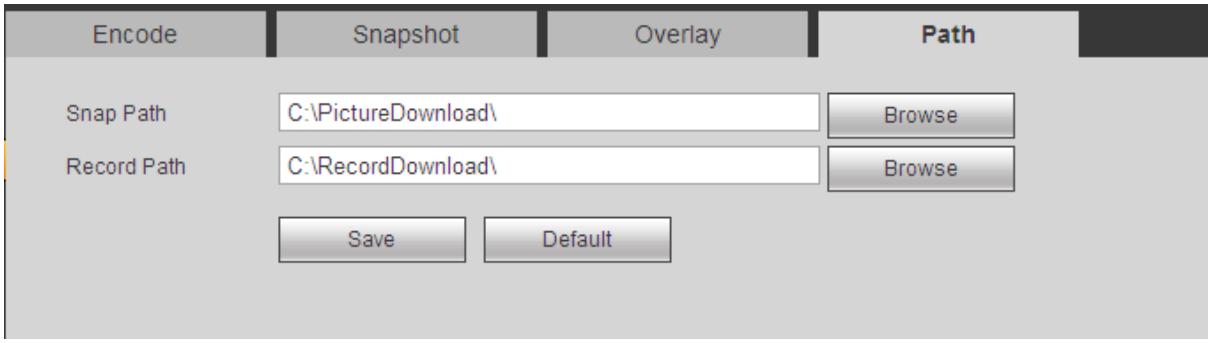


Figure 7-28

7.9.1.4 Channel Name

Here you can set channel name. See Figure 7-29.

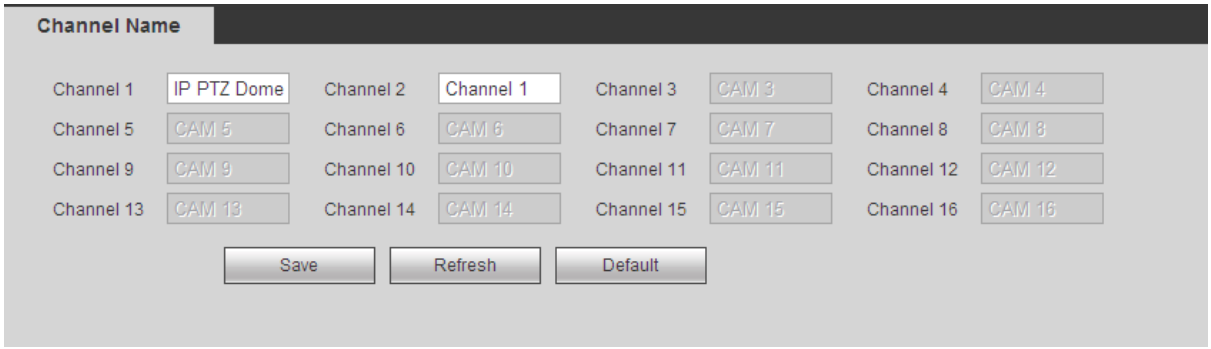


Figure 7-29

7.9.1.5 IPC Upgrade

This interface is to upgrade network camera. See Figure 7-30.

Click Browse button to select upgrade file. Or you can use filter to select several network cameras at the same time.

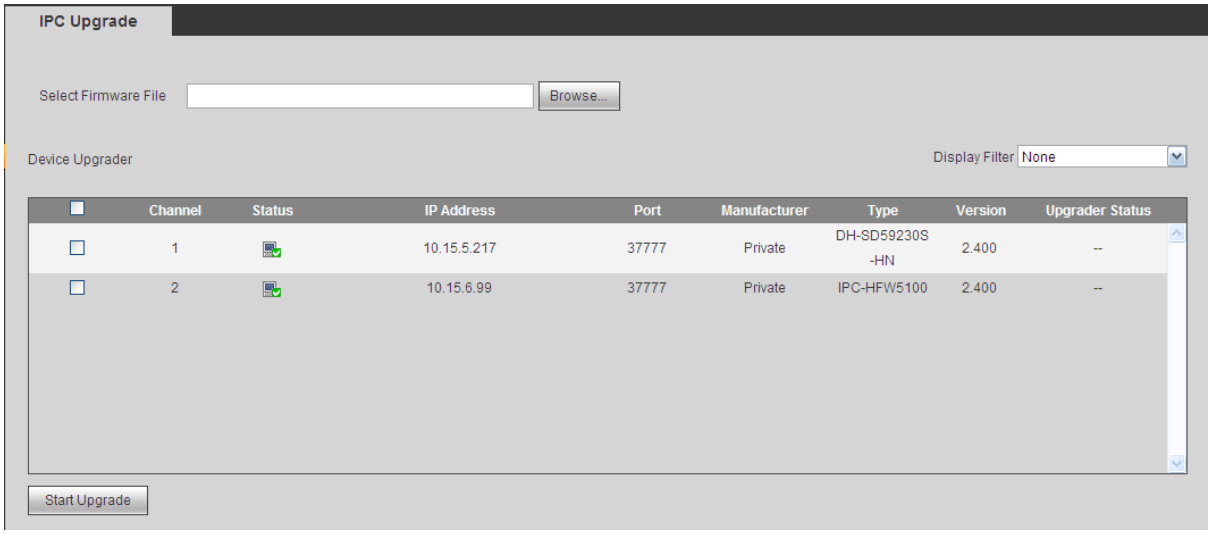


Figure 7-30

7.9.2 Network

7.9.2.1 TCP/IP

The TCP/IP interface is shown as in Figure 7-31.

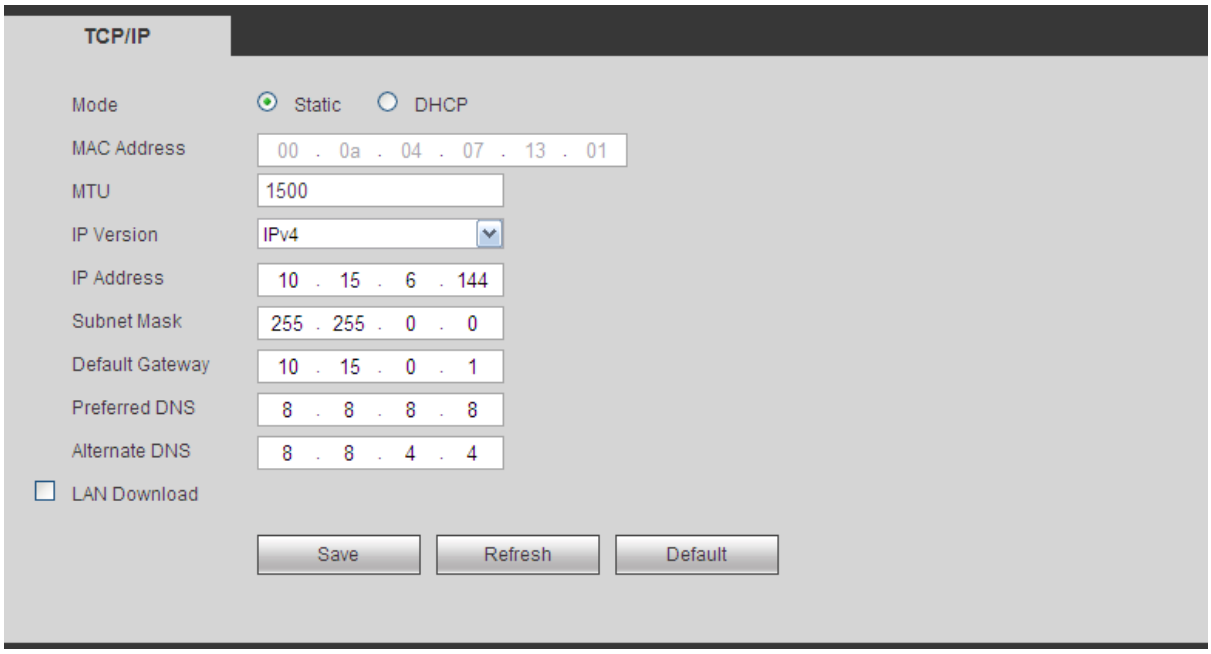


Figure 7-31

Please refer to the following sheet for detailed information.

Parameter	Function
Multiple-address mode	eth0 and eth1 operate separately. You can use the services such as HTTP, RTP service via etho0 or the eth1. Usually you need to set one default card (default setup is etho) to request the auto network service form the device-end such as DHCP, email, FTP and etc. In multiple-address mode, system network status is shown as offline once one card is offline.
Network	In this mode, device uses bond0 to communicate with the external devices. You can focus on one host IP address. At the

fault-tolerance	same time, you need to set one master card. Usually there is only one running card (master card).System can enable alternate card when the master card is malfunction. The system is shown as offline once these two cards are both offline. Please note these two cards shall be in the same LAN.
Load balance	In this mode, device uses bond0 to communicate with the external device. The eth0 and eth1 are both working now and bearing the network load. Their network load are general the same. The system is shown as offline once these two cards are both offline. Please note these two cards shall be in the same LAN.
The above three items for dual-network adapter series only.	
Mode	There are two modes: static mode and the DHCP mode. ● The IP/submask/gateway are null when you select the DHCP mode to auto search the IP. ● If you select the static mode, you need to set the IP/submask/gateway manually. ● If you select the DHCP mode, you can view the IP/submask/gateway from the DHCP. ● If you switch from the DHCP mode to the static mode, you need to reset the IP parameters. ● Besides, IP/submask/gateway and DHCP are read-only when the PPPoE dial is OK.
Mac Address	It is to display host Mac address.
IP Version	It is to select IP version. IPV4 or IPV6. You can access the IP address of these two versions.
IP Address	Please use the keyboard to input the corresponding number to modify the IP address and then set the corresponding subnet mask and the default gateway.
Preferred DNS	DNS IP address.
Alternate DNS	Alternate DNS IP address.
For the IP address of IPv6 version, default gateway, preferred DNS and alternate DNS, the input value shall be 128-digit. It shall not be left in blank.	
LAN load	System can process the downloaded data first if you enable this function. The download speed is 1.5X or 2.0X of the normal speed.

7.9.2.2 Connection

The connection interface is shown as in Figure 7-32.

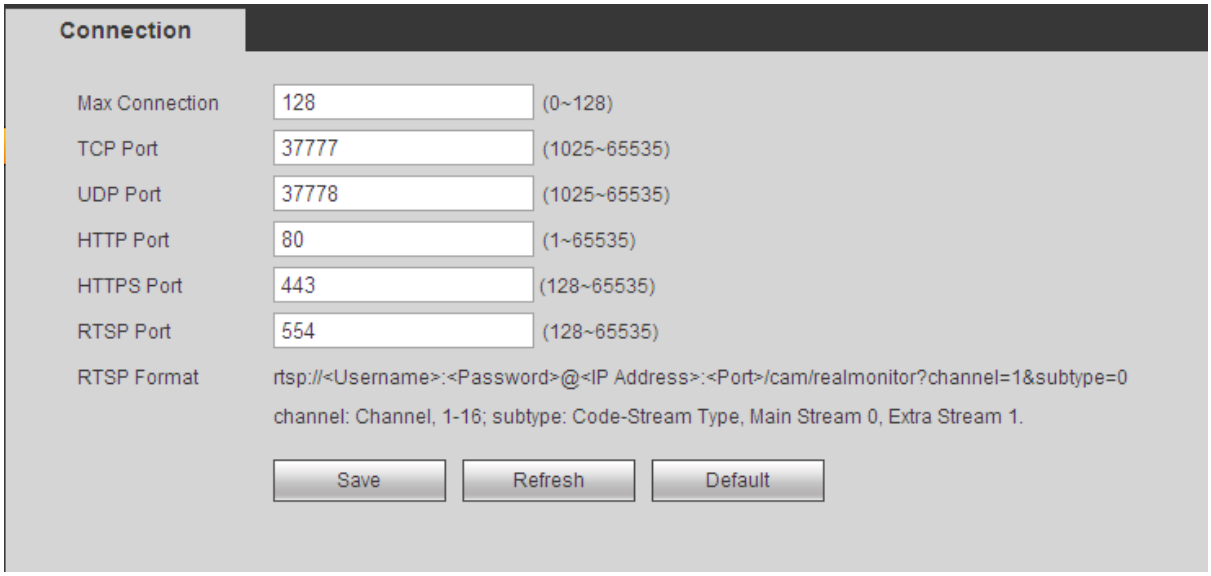


Figure 7-32

Please refer to the following sheet for detailed information.

Parameter	Function
Max connection	It is the max Web connection for the same device. The value ranges from 1 to 120. The default setup is 120.
TCP port	The default value is 37777. You can input the actual port number if necessary.
UDP port	The default value is 37778. You can input the actual port number if necessary.
HTTP port	The default value is 80. You can input the actual port number if necessary.
HTTPS	The default value is 443. You can input the actual port number if necessary.
RTSP port	The default value is 554.

7.9.2.3 WIFI

Please note this function is for the device of WIFI module.

The WIFI interface is shown as in Figure 7-33.

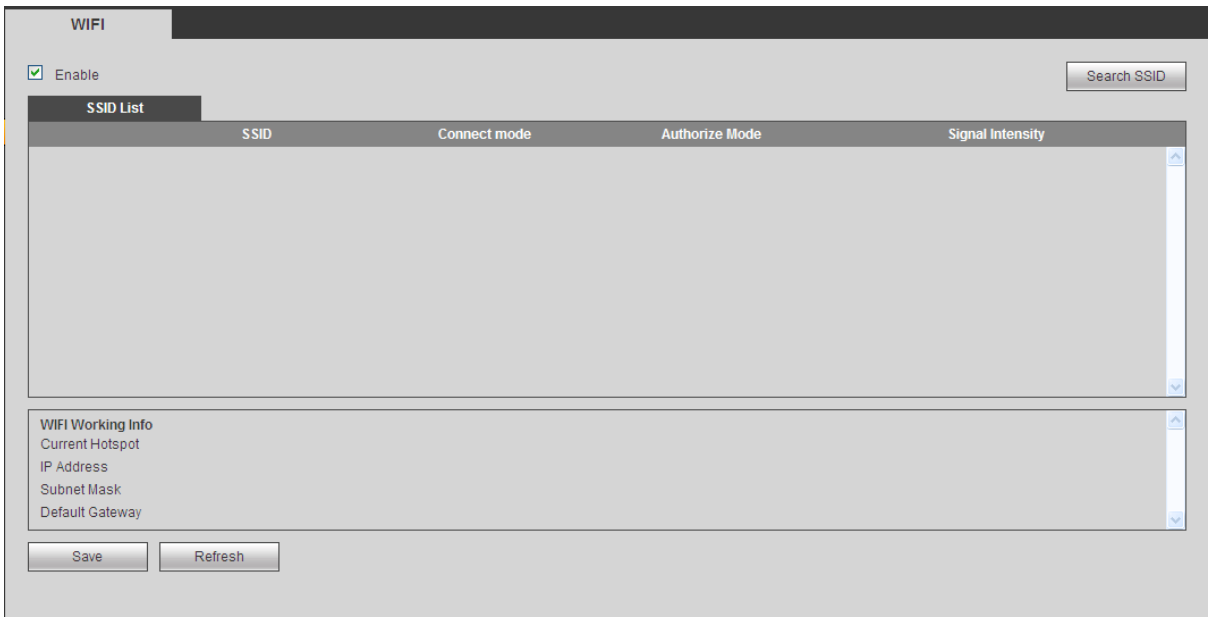


Figure 7-33

Please check the box to enable WIFI function and then click the Search SSID button. Now you can view all the wireless network information in the following list. Double click a name to connect to it. Click Refresh button, you can view latest connection status.

7.9.2.4 WIFI AP

The WIFI AP function is for NVR31-W series product only.

The interface is shown as in the following four figures. For detailed information, please refer to chapter 5.10.2.14.

Figure 7-34

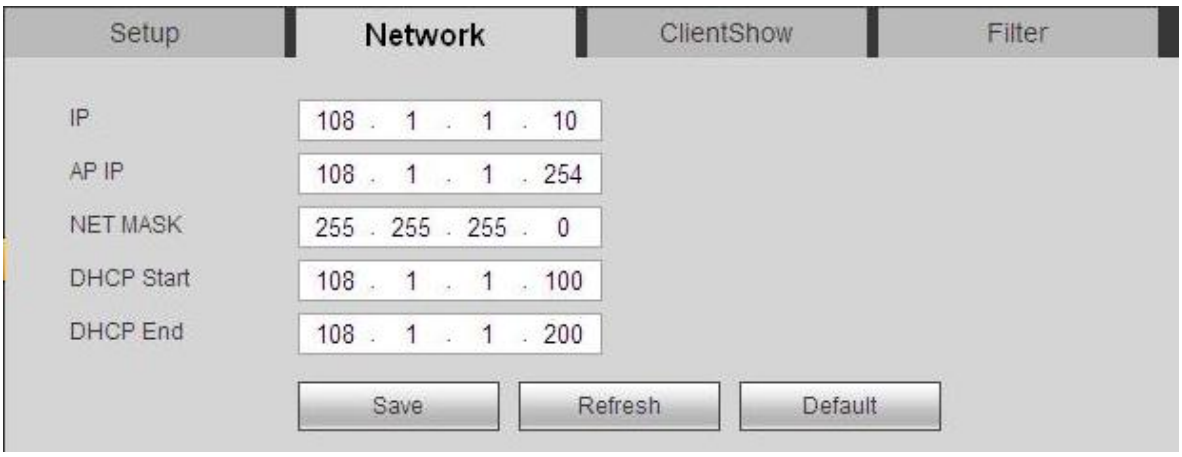


Figure 7-35

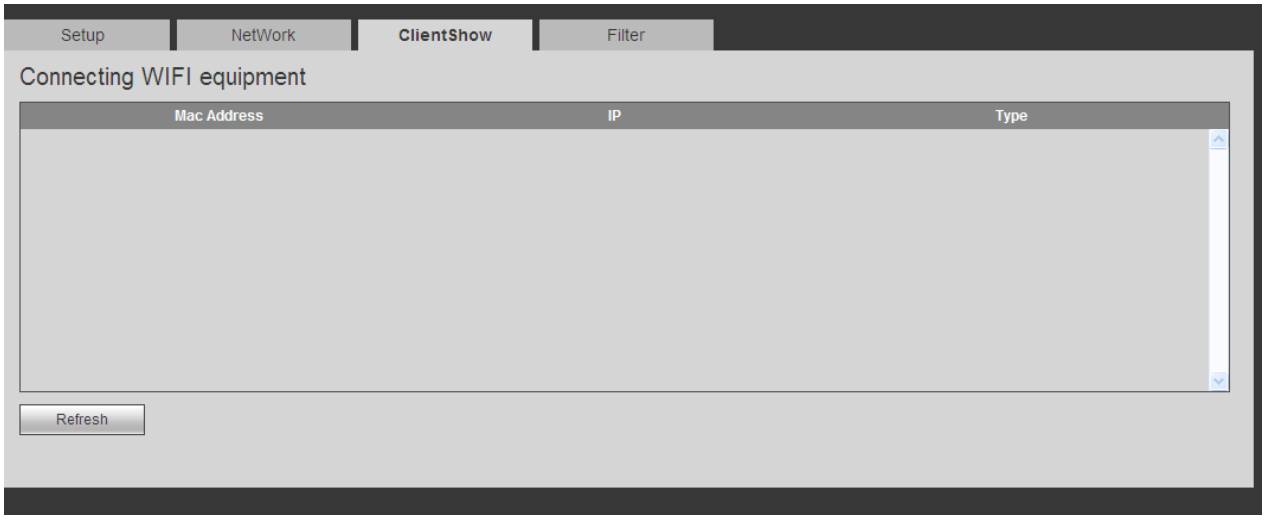


Figure 7-36

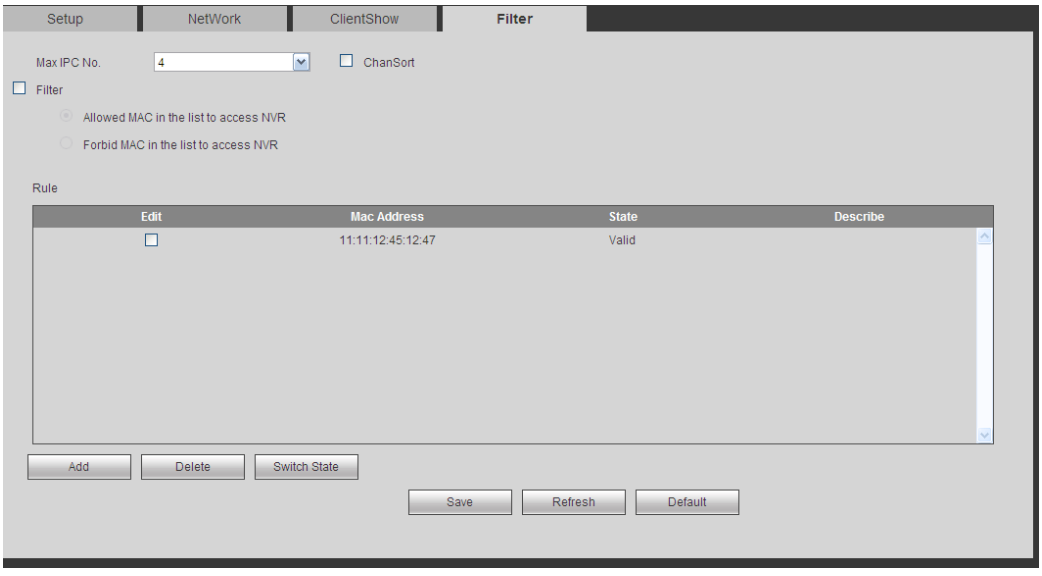


Figure 7-37

7.9.2.5 3G

7.9.2.5.1CDMA/GPRS

The CDMA/GPRS interface is shown as in Figure 7-38.

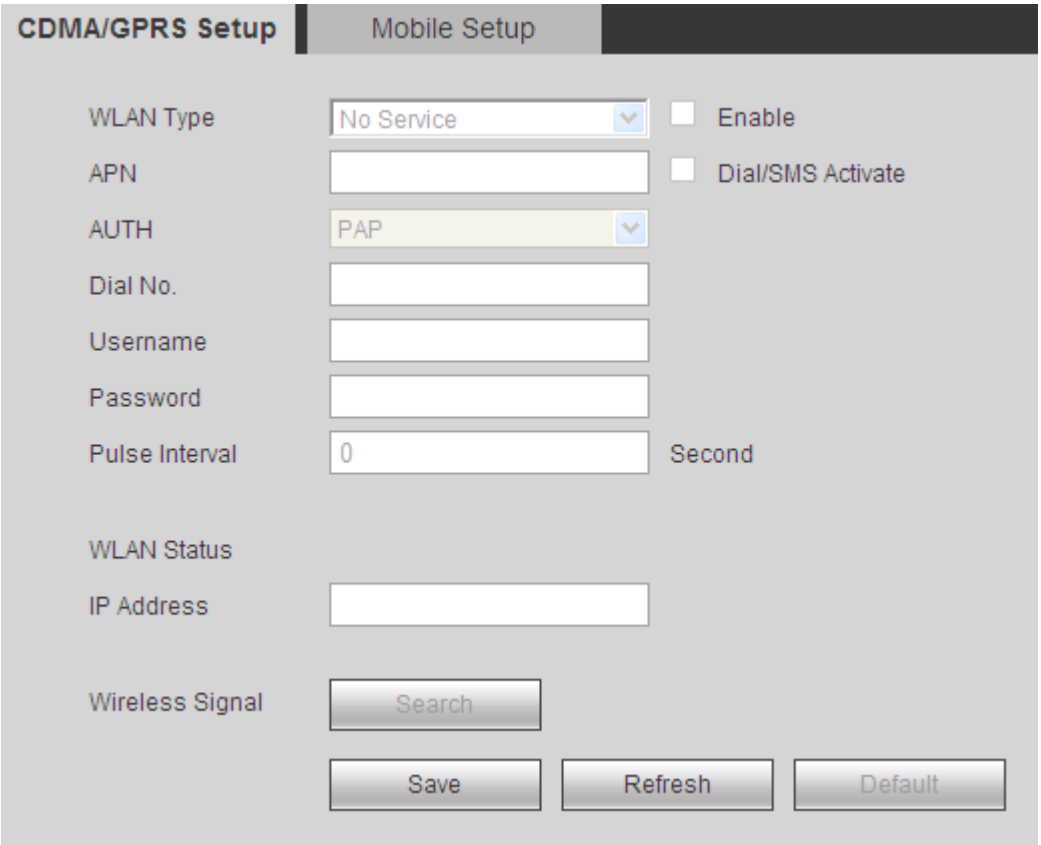


Figure 7-38

Please refer to the following sheet for detailed information.

Parameter	Function
WLAN type	Here you can select 3G network type to distinguish the 3G module from different ISP. The types include WCDMA，CDMA1x and etc.
APN/Dial No.	Here is the important parameter of PPP.
Authorization	It includes PAP,CHAP,NO_AUTH.
Pulse interval	It is to set time to end 3G connection after you close extra stream monitor. For example, if you input 60 here, system ends 3G connection after you close extra stream monitor 60 seconds.
Important ✧ **If the pulse interval is 0, then system does not end 3G connection after you close the extra stream monitor.** ✧ **Pulse interval here is for extra stream only. This item is null if you are using main stream to monitor.**	

7.9.2.5.2Mobile

The mobile setup interface is shown as in Figure 7-39.

Here you can activate or turn off the 3G connected phone or mobile phone, or the phone you set

to get alarm message.

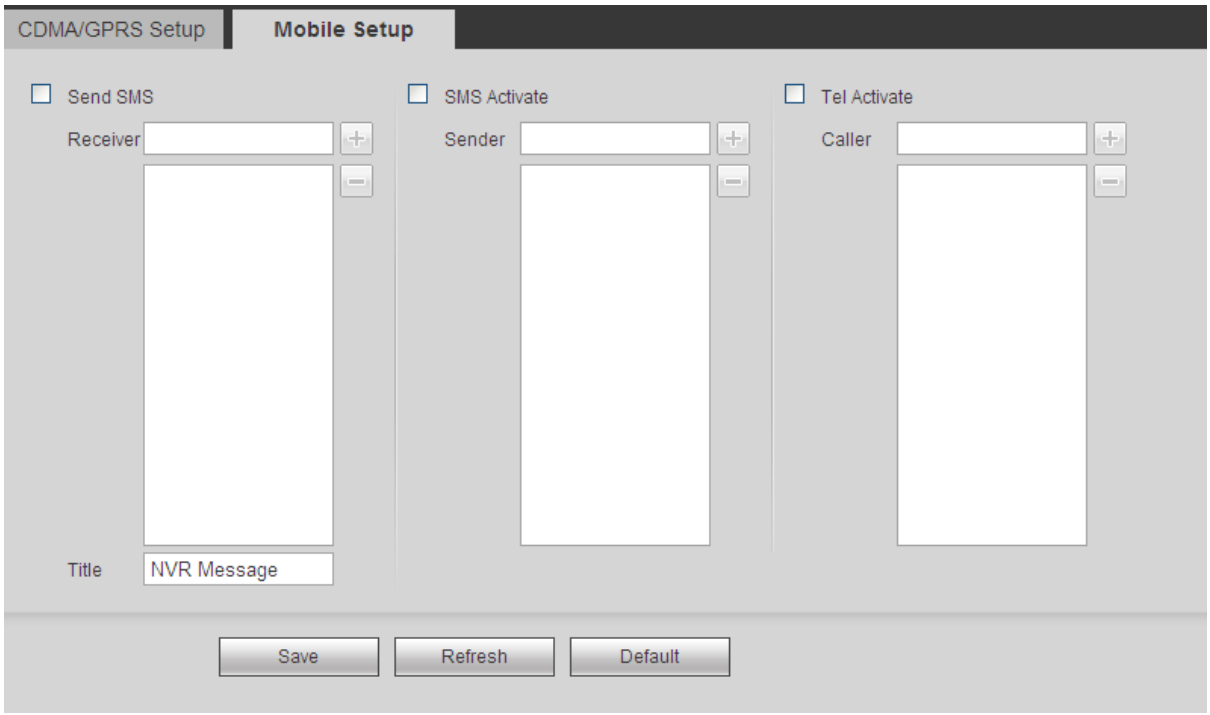


Figure 7-39

7.9.2.6 PPPoE

The PPPoE interface is shown as in Figure 7-40.

Input the PPPoE user name and password you get from the IPS (internet service provider) and enable PPPoE function. Please save current setup and then reboot the device to get the setup activated.

Device connects to the internet via PPPoE after reboot. You can get the IP address in the WAN from the IP address column.

Please note, you need to use previous IP address in the LAN to login the device. Please go to the IP address item to view the device current device information. You can access the client-end via this new address.

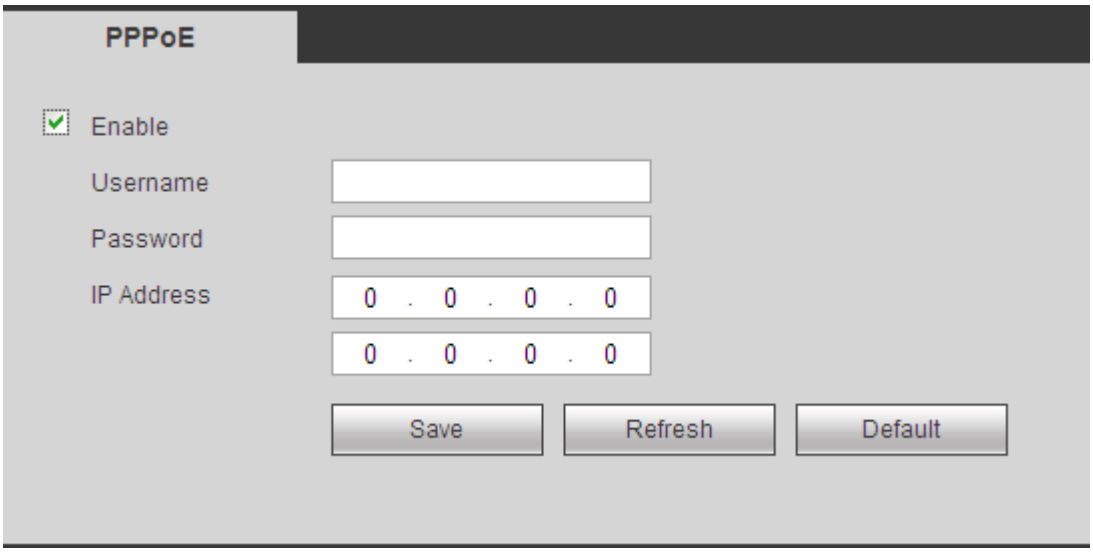


Figure 7-40

7.9.2.7 DDNS

The DDNS interface is shown as in Figure 7-41.

The DDNS is to set to connect the various servers so that you can access the system via the server. Please go to the corresponding service website to apply a domain name and then access the system via the domain. It works even your IP address has changed.

Please select DDNS from the dropdown list (Multiple choices). Before you use this function, please make sure your purchased device support current function.

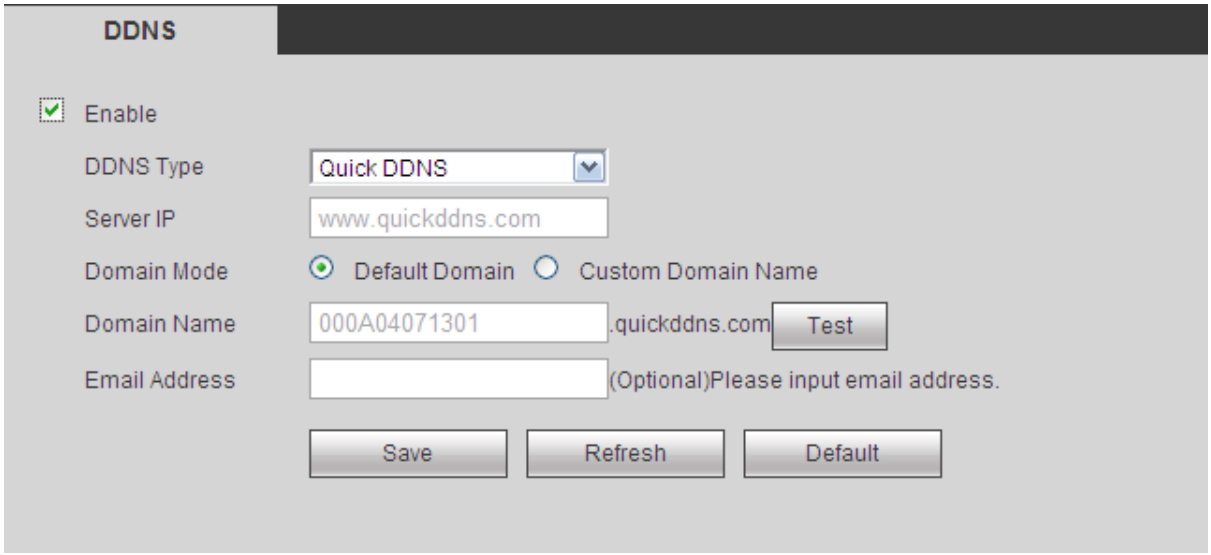


Figure 7-41

Please refer to the following sheet for detailed information.

Parameter	Function
Server Type	You can select DDNS protocol from the dropdown list and then enable DDNS function.
Server IP	DDNS server IP address
Server Port	DDNS server port.
Domain Name	Your self-defined domain name.
User	The user name you input to log in the server.
Password	The password you input to log in the server.
Update period	Device sends out alive signal to the server regularly. You can set interval value between the device and DDNS server here.

Quick DDNS and Client-end Introduction

1) Background Introduction

Device IP is not fixed if you use ADSL to login the network. The DDNS function allows you to access the NVR via the registered domain name. Besides the general DDNS, the quick DDNS works with the device from the manufacturer so that it can add the extension function.

2) Function Introduction

The quick DDNS client has the same function as other DDNS client end. It realizes the bonding of the domain name and the IP address. Right now, current DDNS server is for our own devices only. You need to refresh the bonding relationship of the domain and the IP regularly. There is no user

name, password or the ID registration on the server. At the same time, each device has a default domain name (Generated by MAC address) for your option. You can also use customized valid domain name (has not registered.).

3) Operation

Before you use Quick DDNS, you need to enable this service and set proper server address, port value and domain name.

- Server address：www.quickddns.com
- Port number：80
- Domain name：There are two modes: Default domain name and customized domain name.

Except default domain name registration, you can also use customized domain name (You can input your self-defined domain name.) After successful registration, you can use domain name to login installed of the device IP.

- User name: It is optional. You can input your commonly used email address.

Important

- Do not register frequently. The interval between two registrations shall be more than 60 seconds. Too many registration requests may result in server attack.
- System may take back the domain name that is idle for one year. You can get a notification email before the cancel operation if your email address setup is OK.

7.9.2.8 IP filter

The IP filter interface is shown as in Figure 7-42.

After you enabled trusted sites function, only the IP listed below can access current NVR.

If you enable blocked sites function, the following listed IP addresses can not access current NVR.

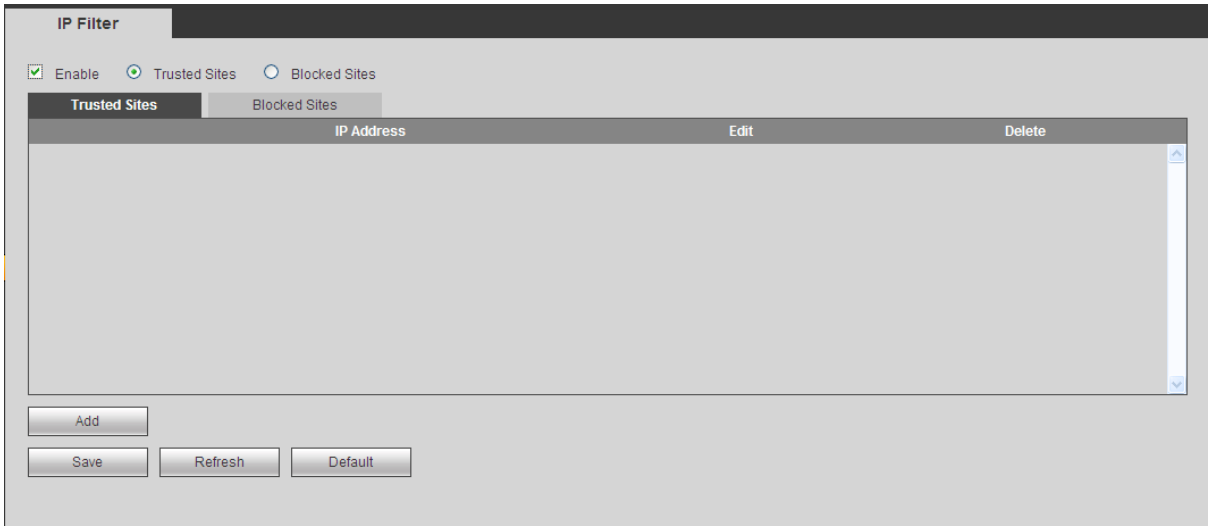


Figure 7-42

7.9.2.9 Email

The email interface is shown as in Figure 7-43.

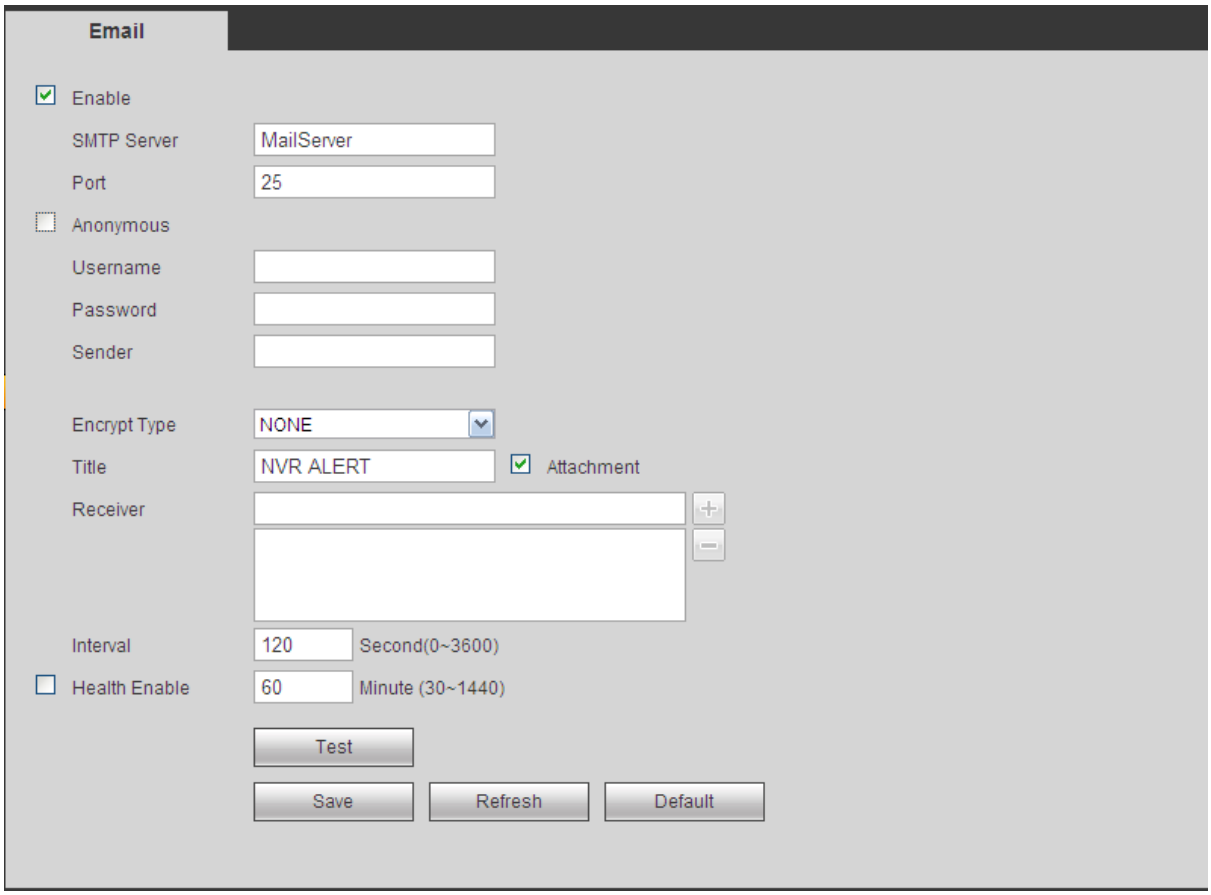


Figure 7-43

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	Please check the box here to enable email function.
SMTP Server	Input server address and then enable this function.
Port	Default value is 25. You can modify it if necessary.
Anonymity	For the server supports the anonymity function. You can auto login anonymously. You do not need to input the user name. password and the sender information.
User Name	The user name of the sender email account.
Password	The password of sender email account.
Sender	Sender email address.
Authentication (Encryption mode)	You can select SSL or none.
Subject	Input email subject here.
Attachment	System can send out the email of the snapshot picture once you check the box here.
Receiver	Input receiver email address here. Max three addresses. It supports SSL, TLS email box.

Parameter	Function
Interval	The send interval ranges from 0 to 3600 seconds. 0 means there is no interval. Please note system will not send out the email immediately when the alarm occurs. When the alarm, motion detection or the abnormity event activates the email, system sends out the email according to the interval you specified here. This function is very useful when there are too many emails activated by the abnormity events, which may result in heavy load for the email server.
Health mail enable	Please check the box here to enable this function.
Update period (interval)	This function allows the system to send out the test email to check the connection is OK or not. Please check the box to enable this function and then set the corresponding interval. System can send out the email regularly as you set here.
Email test	The system will automatically sent out a email once to test the connection is OK or not .Before the email test, please save the email setup information.

7.9.2.10 UPnP

It allows you to establish the mapping relationship between the LAN and the public network. Here you can also add, modify or remove UPnP item. See Figure 7-44.

- In the Windows OS, From Start->Control Panel->Add or remove programs. Click the “Add/Remove Windows Components” and then select the “Network Services” from the Windows Components Wizard.
- Click the Details button and then check the “Internet Gateway Device Discovery and Control client” and “UPnP User Interface”. Please click OK to begin installation.
- Enable UPnP from the Web. If your UPnP is enabled in the Windows OS, the NVR can auto detect it via the “My Network Places”

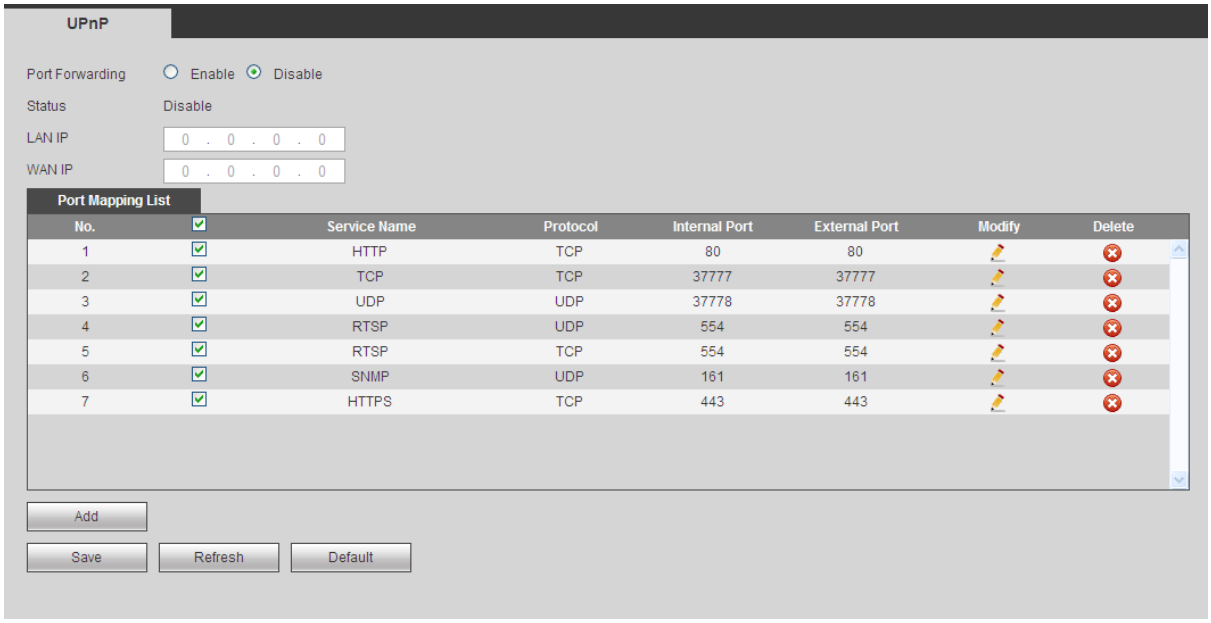


Figure 7-44

7.9.2.11 SNMP

The SNMP interface is shown as in Figure 7-45.

The SNMP allows the communication between the network management work station software and the proxy of the managed device. It is reserved for the 3rd party to develop.

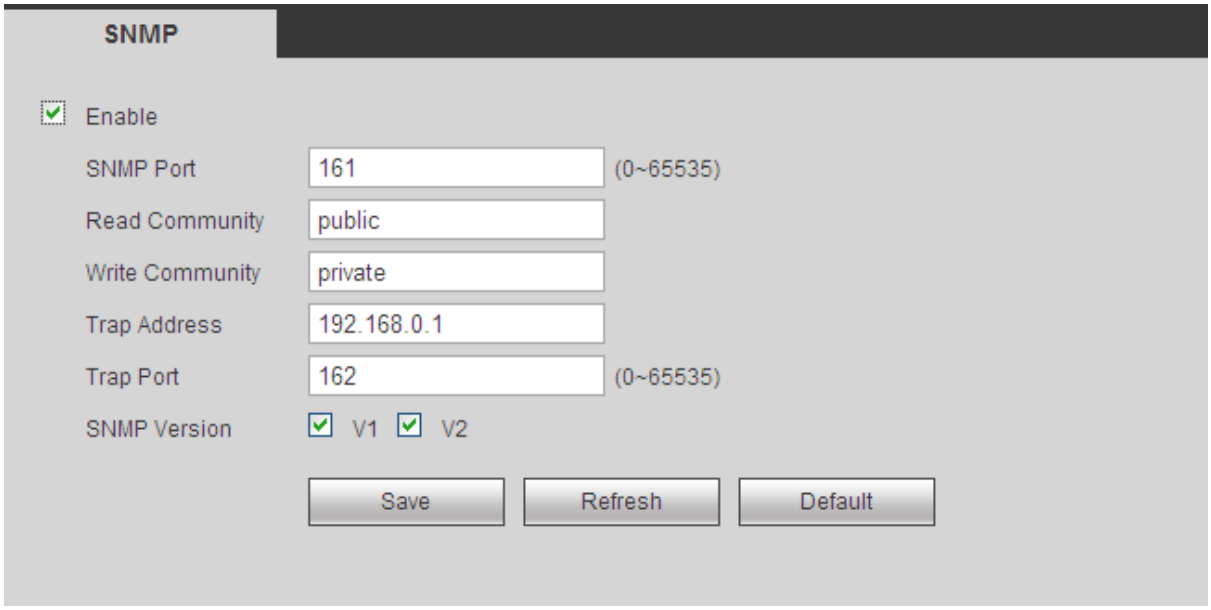


Figure 7-45

Please refer to the following sheet for detailed information.

Parameter	Function
SNMP Port	The listening port of the proxy program of the device. It is a UDP port not a TCP port. The value ranges from 1 to 65535. The default value is 161
Read Community	It is a string. It is a command between the manage process and the proxy process. It defined the authentication, access control and the management relationship between one proxy and one group of the managers. Please make sure the device and the proxy are the same. The read community will read all the objects the SNMP supported in the specified name. The default setup is public.
Write Community	It is a string. It is a command between the manage process and the proxy process. It defined the authentication, access control and the management relationship between one proxy and one group of the managers. Please make sure the device and the proxy are the same. The read community will read/write/access all the objects the SNMP supported in the specified name. The default setup is write.
Trap address	The destination address of the Trap information from the proxy program of the device.
Trap port	The destination port of the Trap information from the proxy program of the device. It is for the gateway device and the client-end PC in the LAN to exchange the information. It is a non-protocol connection port. It has no effect on the network applications. It is a UDP port not TCP port. The value ranges from 1 to 165535. The default value is 162.
SNMP version	● Check V1, system only processes the information of V1. ● Check V2, system only processes the information of V2.

7.9.2.12 Multicast

The multicast interface is shown as in Figure 7-46.

Multicast is a transmission mode of data packet. When there is multiple-host to receive the same data packet, multiple-cast is the best option to reduce the broad width and the CPU load. The source host can just send out one data to transit. This function also depends on the relationship of the group member and group of the outer.

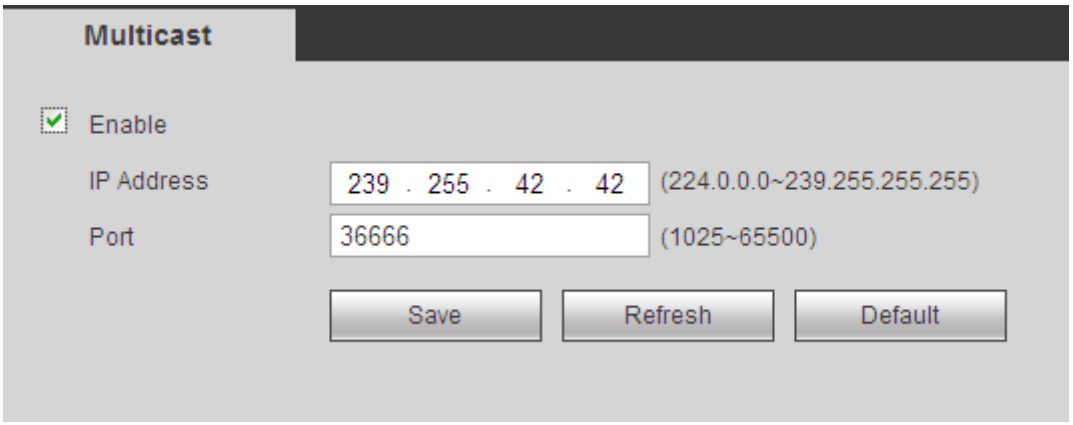


Figure 7-46

7.9.2.13 Auto Register

The auto register interface is shown as below. See Figure 7-47.

This function allows the device to auto register to the proxy you specified. In this way, you can use the client-end to access the NVR and etc via the proxy. Here the proxy has a switch function. In the network service, device supports the server address of IPv4 or domain.

Please follow the steps listed below to use this function.

Please set proxy server address, port, and sub-device name at the device-end. Please enable the auto register function, the device can auto register to the proxy server.

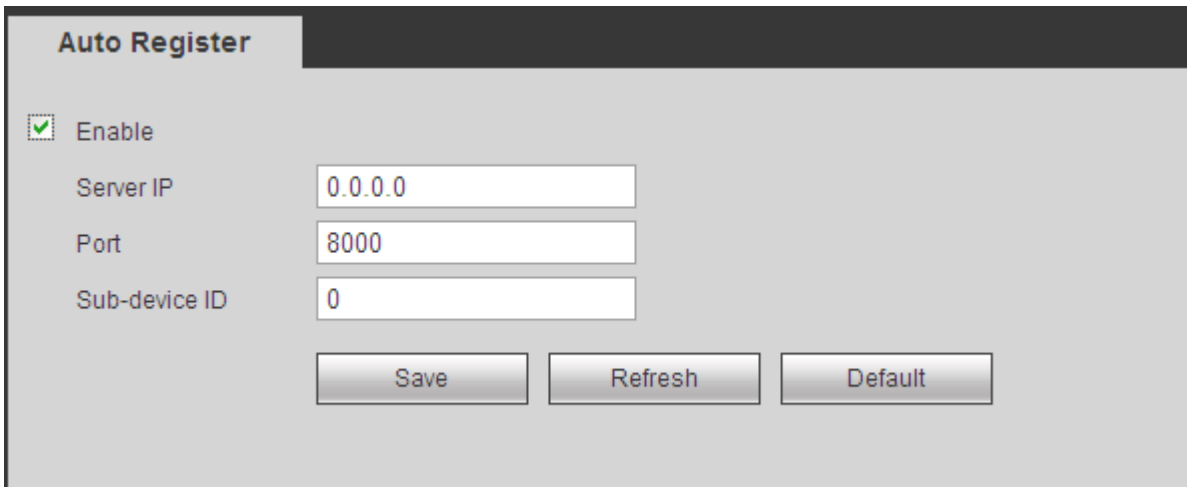


Figure 7-47

7.9.2.14 Alarm Centre

The alarm center interface is shown as below. See Figure 7-48.

This interface is reserved for you to develop. System can upload alarm signal to the alarm center

when local alarm occurs.

Before you use alarm center, please set server IP, port and etc. When an alarm occurs, system can send out data as the protocol defined, so the client-end can get the data.

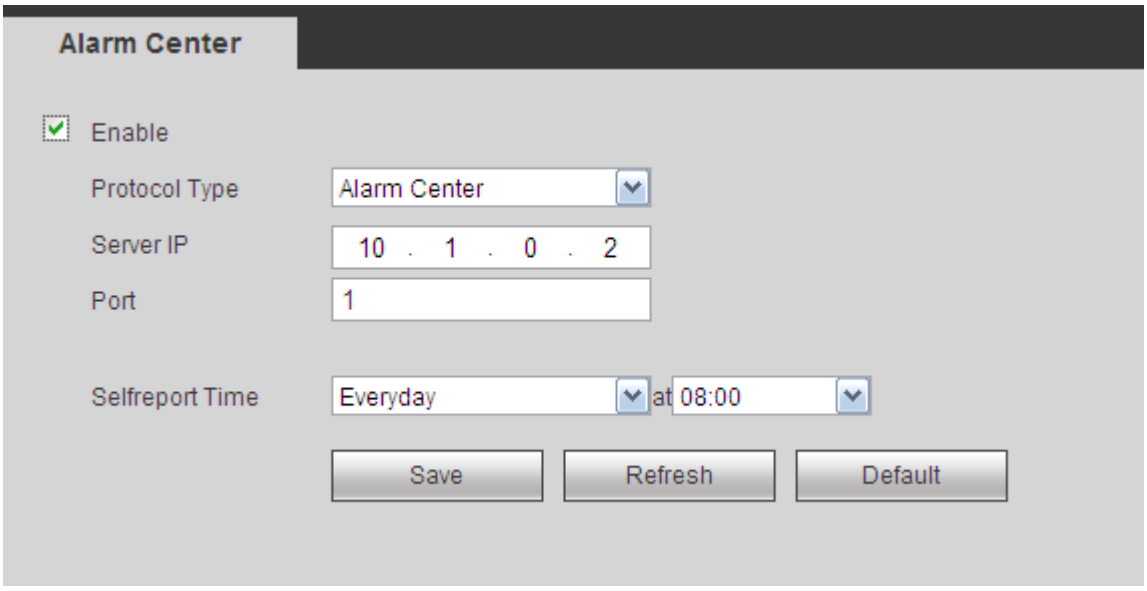


Figure 7-48

7.9.2.15 HTTPS

In this interface, you can set to make sure the PC can successfully login via the HTTPS. It is to guarantee communication data security. The reliable and stable technology can secure the user information security and device safety. See Figure 7-49.

Note

- **You need to implement server certificate again if you have changed device IP.**
- **You need to download root certificate if it is your first time to use HTTPS on current PC.**

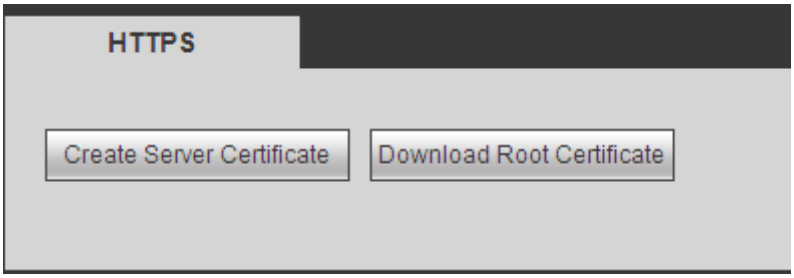
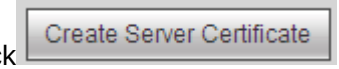


Figure 7-49

7.9.2.15.1 Create Server Certificate

If it is your first time to use this function, please follow the steps listed below.

In Figure 7-49, click 

button, input country name, state name and etc. Click Create button. See Figure 7-50.

Note

Please make sure the IP or domain information is the same as your device IP or domain name.

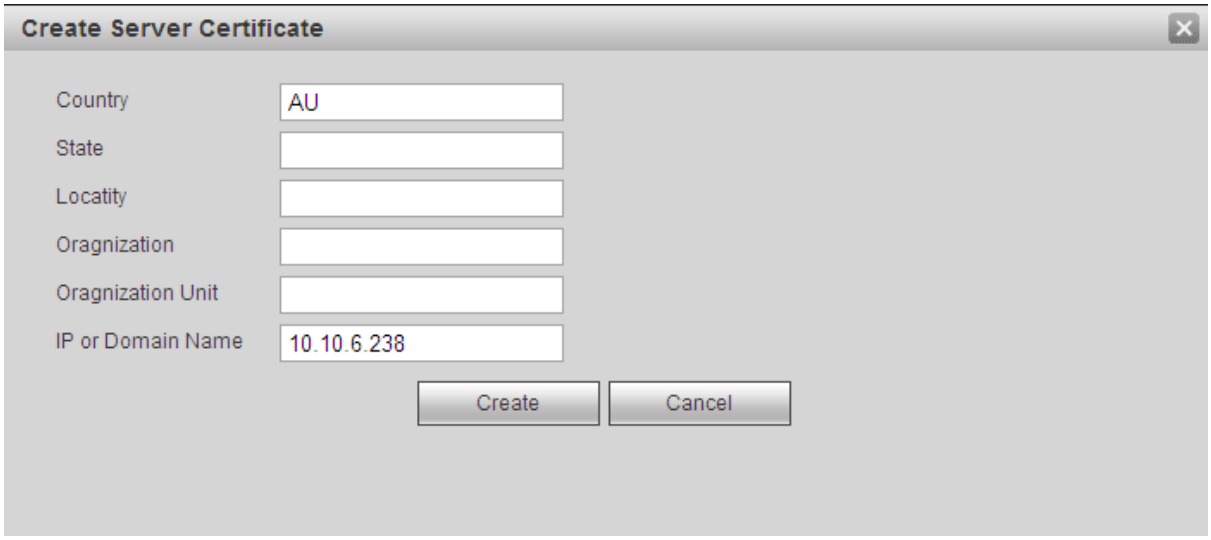


Figure 7-50

You can see the corresponding prompt. See Figure 7-51. Now the server certificate is successfully created.

Figure 7-51

7.9.2.15.2 Download root certificate

In Figure 7-49, click Download Root Certificate button, system pops up a dialogue box. See Figure 7-52.

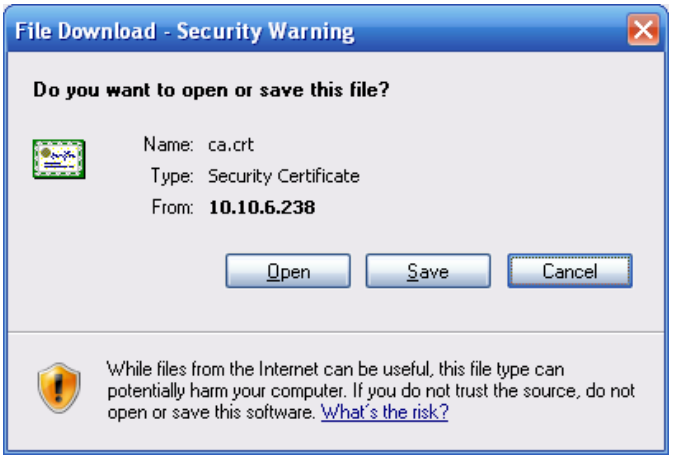


Figure 7-52

Click Open button, you can go to the following interface. See Figure 7-53.

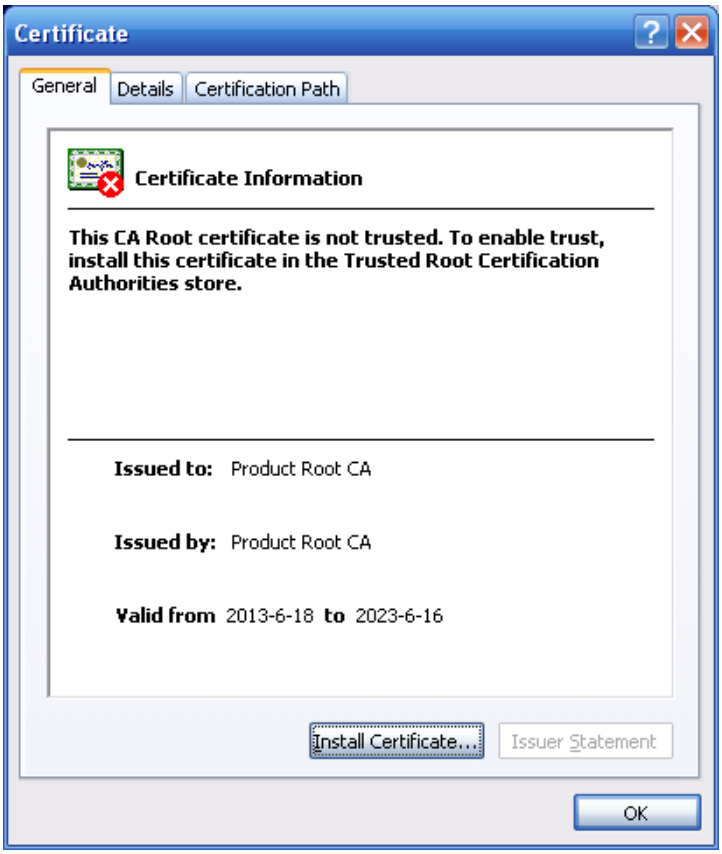


Figure 7-53

Click Install certificate button, you can go to certificate wizard. See Figure 7-54.

Figure 7-54

Click Next button to continue. Now you can select a location for the certificate. See Figure 7-55.

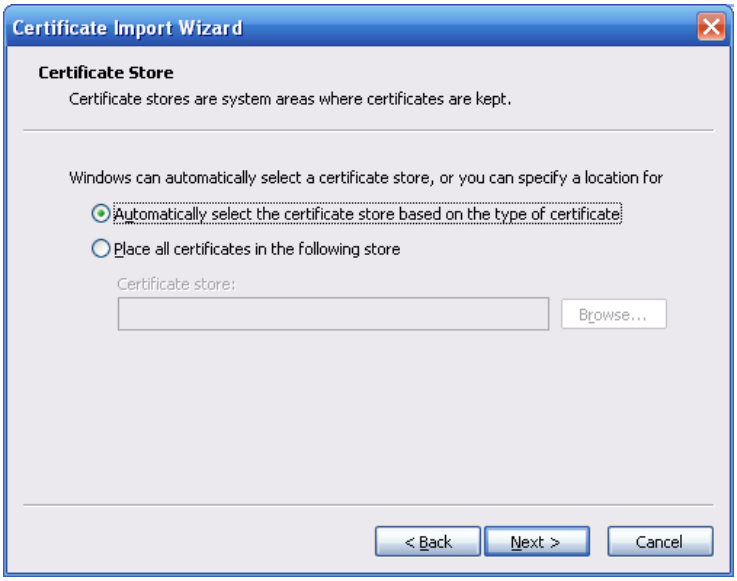


Figure 7-55

Click Next button, you can see the certificate import process is complete. See Figure 7-56.

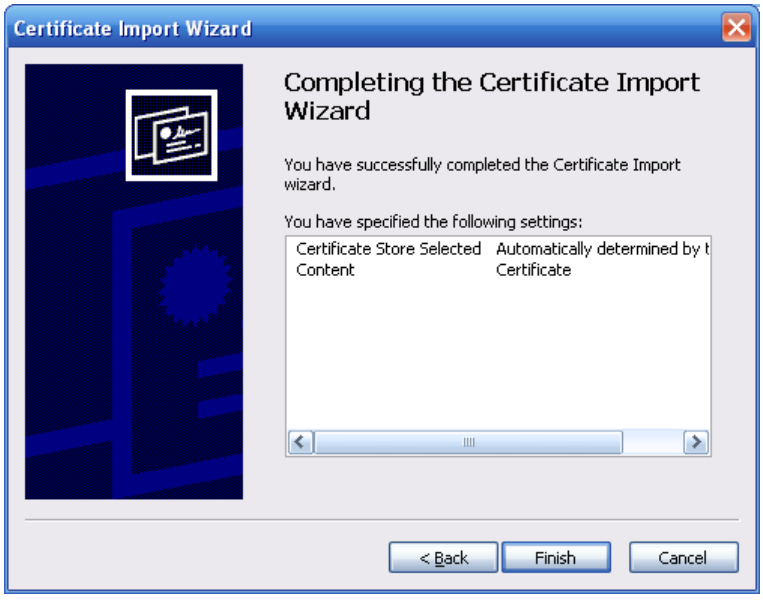


Figure 7-56

Click Finish button, you can see system pops up a security warning dialogue box. See Figure 7-57.

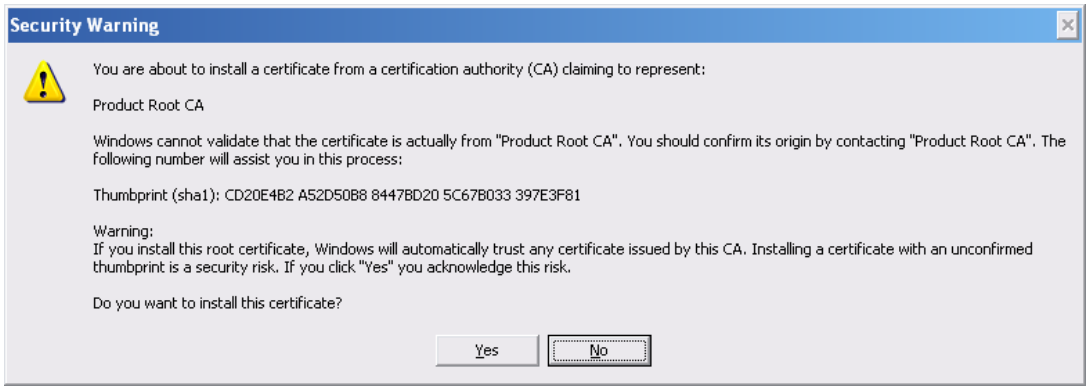


Figure 7-57

Click Yes button, system pops up the following dialogue box, you can see the certificate download is complete. See Figure 7-58.

Figure 7-58

7.9.2.15.3 View and set HTTPS port

From Setup->Network->Connection, you can see the following interface. See Figure 7-59.
You can see HTTPS default value is 443.

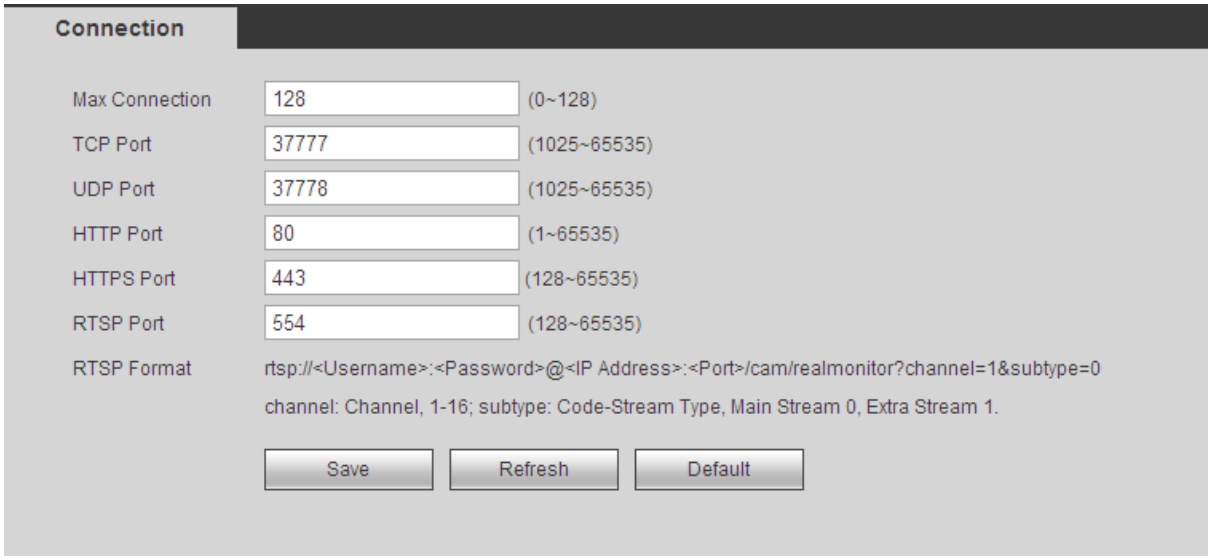


Figure 7-59

7.9.2.15.4 Login

Open the browser and then input https://xx.xx.xx.xx:port.
xx.xx.xx.xx: is your device IP or domain mane.
Port is your HTTPS port. If you are using default HTTPS value 443, you do not need to add port information here. You can input https://xx.xx.xx.xx to access.
Now you can see the login interface if your setup is right.

7.9.3 Event

7.9.3.1 Video detect

7.9.3.1.1 Motion Detect

After analysis video, system can generate a video loss alarm when the detected moving signal reached the sensitivity you set here.

The motion detect interface is shown as in Figure 7-60.

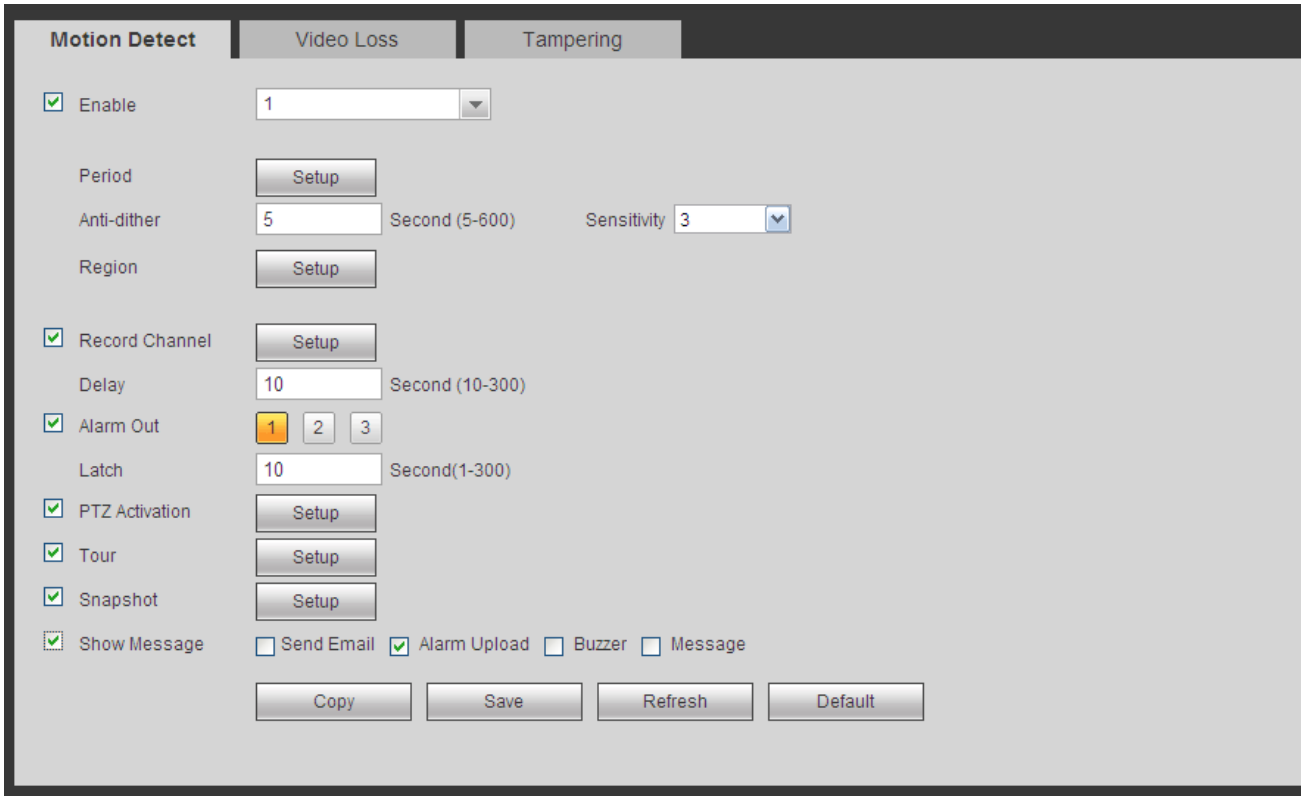


Figure 7-60

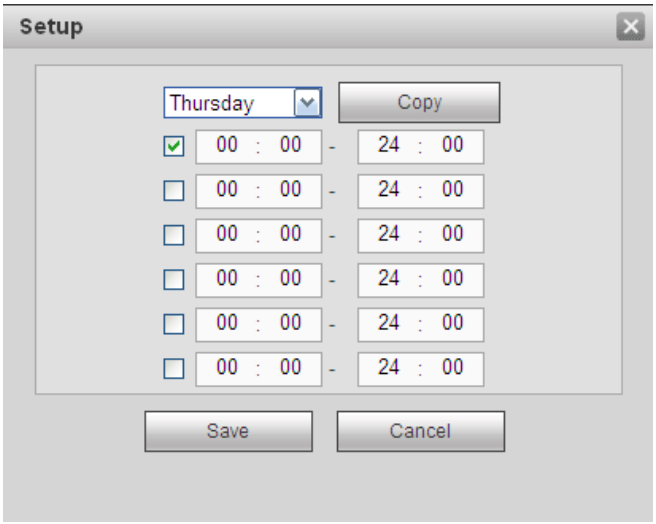


Figure 7-61

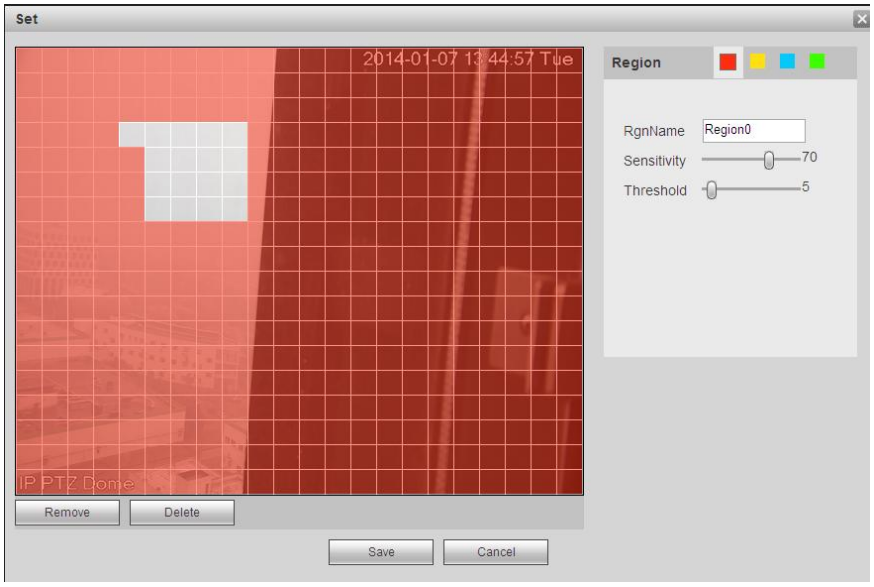


Figure 7-62

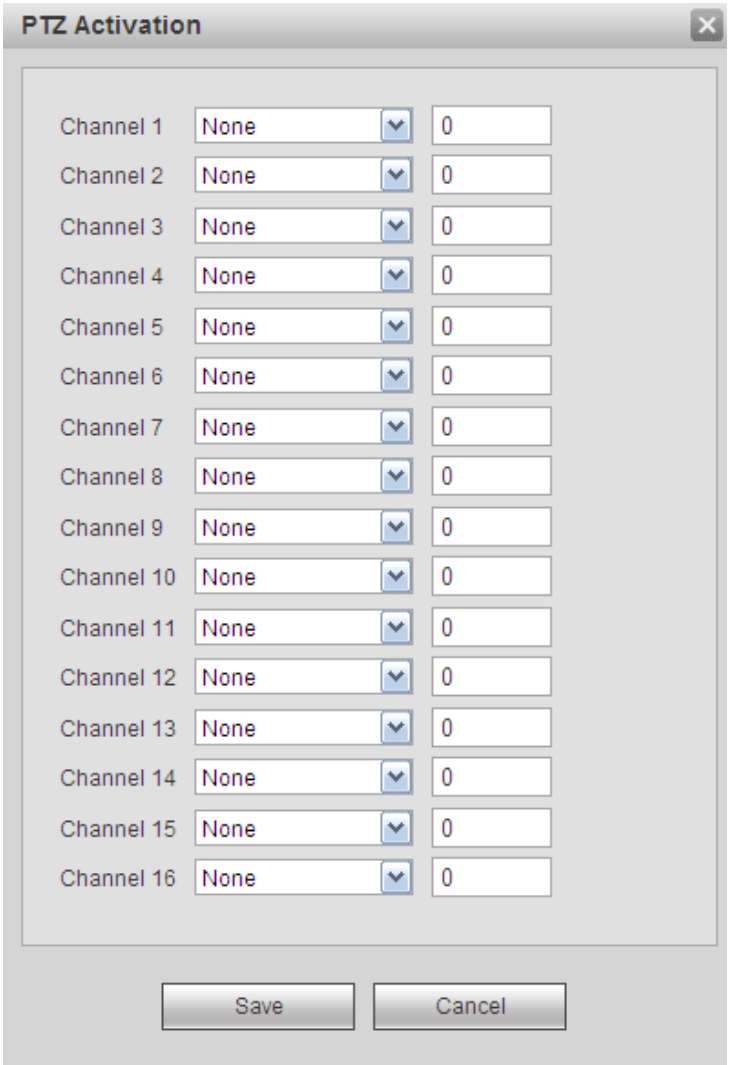


Figure 7-63

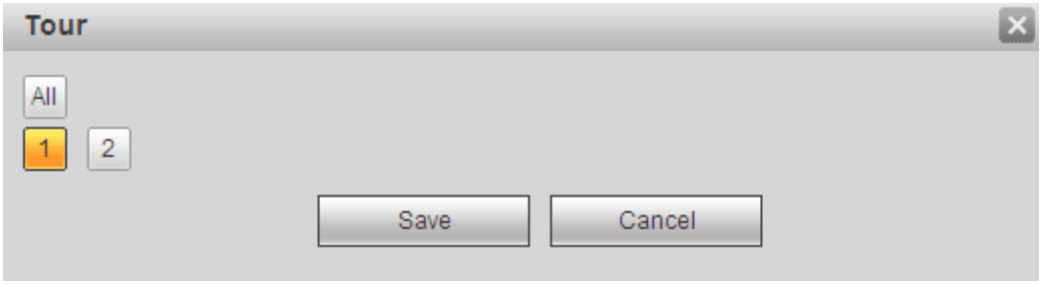


Figure 7-64

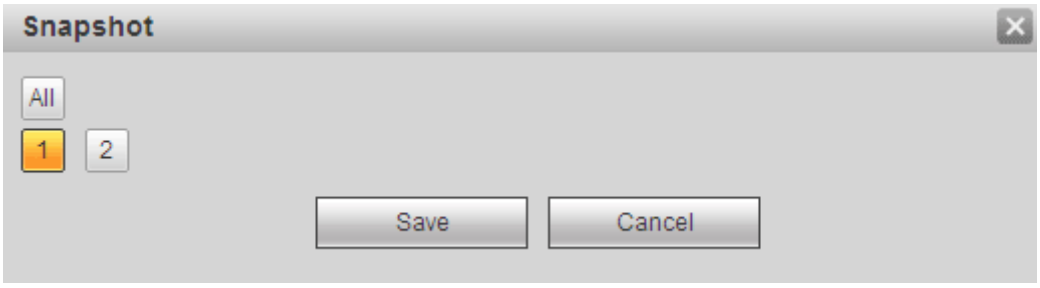


Figure 7-65

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	You need to check the box to enable motion detection function. Please select a channel from the dropdown list.
Period	Motion detection function becomes activated in the specified periods. See Figure 7-61. There are six periods in one day. Please draw a circle to enable corresponding period. Click OK button, system goes back to motion detection interface, please click save button to exit.
Anti-dither	System only memorizes one event during the anti-dither period. The value ranges from 5s to 600s.
Sensitivity	There are six levels. The sixth level has the highest sensitivity.
Region	If you select motion detection type, you can click this button to set motion detection zone. The interface is shown as in Figure 7-62. Here you can set motion detection zone. There are four zones for you to set. Please select a zone first and then left drag the mouse to select a zone. The corresponding color zone displays different detection zone. You can click Fn button to switch between the arm mode and disarm mode. In arm mode, you can click the direction buttons to move the green rectangle to set the motion detection zone. After you completed the setup, please click ENTER button to exit current setup. Do remember click save button to save current setup. If you click ESC button to exit the region setup interface system will not save your zone setup.
Record channel	System auto activates motion detection channel(s) to record once an alarm occurs. Please note you need to set motion detect record period and go to Storage-> Schedule to set current channel as schedule record.

Parameter	Function
Record Delay	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Alarm out	Enable alarm activation function. You need to select alarm output port so that system can activate corresponding alarm device when an alarm occurs.
Latch	System can delay the alarm output for specified time after an alarm ended. The value ranges from 1s to 300s.
Show message	System can pop up a message to alarm you in the local host screen if you enabled this function.
Buzzer	Check the box here to enable this function. The buzzer beeps when an alarm occurs.
Alarm upload	System can upload the alarm signal to the centre (Including alarm centre.
Message	When 3G network connection is OK, system can send out a message when motion detect occurs.
Send Email	If you enabled this function, System can send out an email to alert you when an alarm occurs.
Tour	You need to click setup button to select tour channel. System begins 1-wiindow or multiple-window tour display among the channel(s) you set to record when an alarm occurs. See Figure 7-64.
PTZ Activation	Here you can set PTZ movement when alarm occurs. Such as go to preset X. See Figure 7-63.
Snapshot	Click setup button to select snapshot channel. See Figure 7-65.
Video Matrix	This function is for motion detect only. Check the box here to enable video matrix function. Right now system supports one-channel tour function. System takes “first come and first serve” principle to deal with the activated tour. System will process the new tour when a new alarm occurs after previous alarm ended. Otherwise it restores the previous output status before the alarm activation.

7.9.3.1.2Video Loss

The video loss interface is shown as in Figure 7-66.

Please note video loss does not support anti-dither, sensitivity, region setup. For rest setups, please refer to chapter 7.9.3.1.1 motion detect for detailed information.

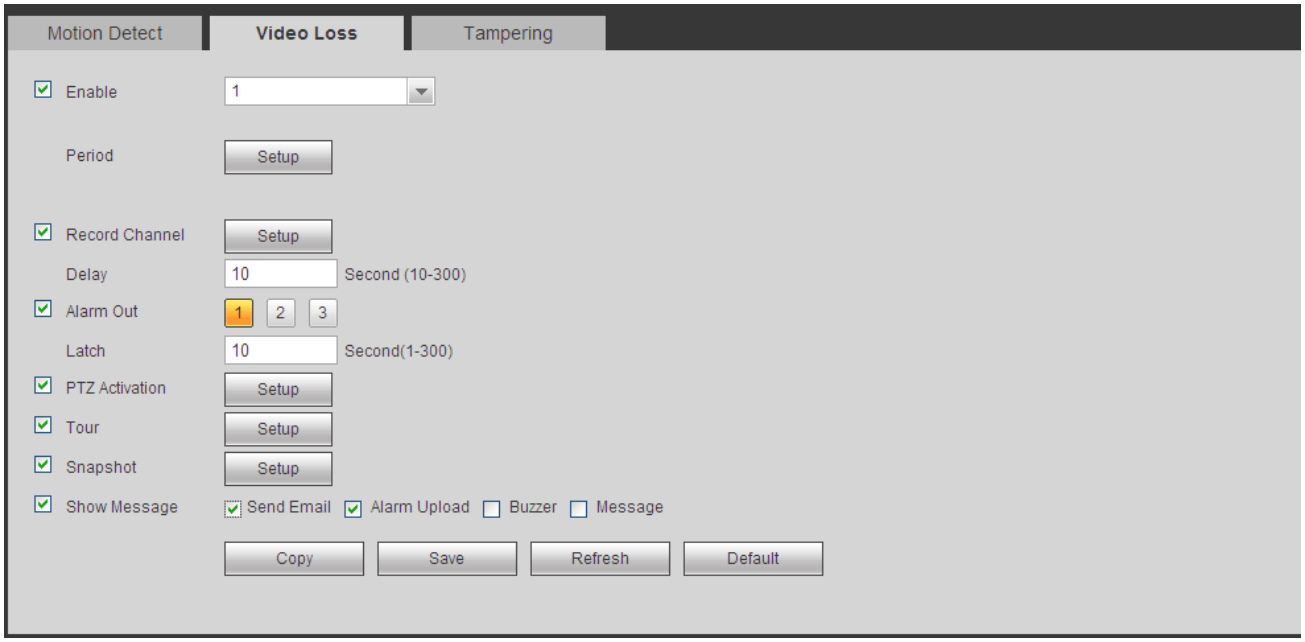


Figure 7-66

7.9.3.1.3Tampering

The tampering interface is shown as in Figure 7-67.

After analysis video, system can generate a tampering alarm when the detected moving signal reached the sensitivity you set here.

For detailed setups, please refer to chapter 7.9.3.1.1 motion detect for detailed information.

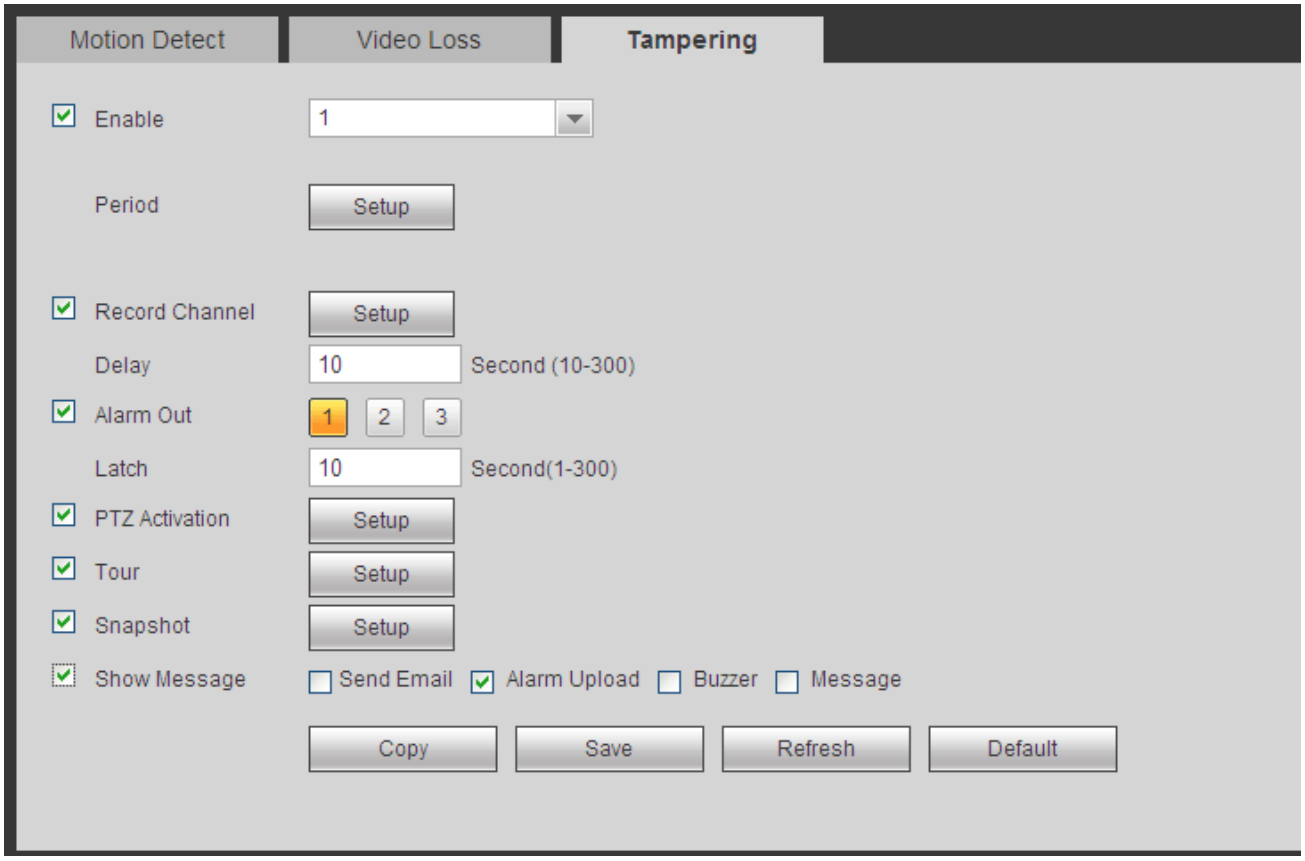


Figure 7-67

7.9.3.2 Alarm

Before operation, please make sure you have properly connected alarm devices such as buzzer. The input mode includes local alarm and network alarm.

7.9.3.2.1Local Alarm

The local alarm interface is shown as in Figure 7-68. It refers to alarm from the local device.

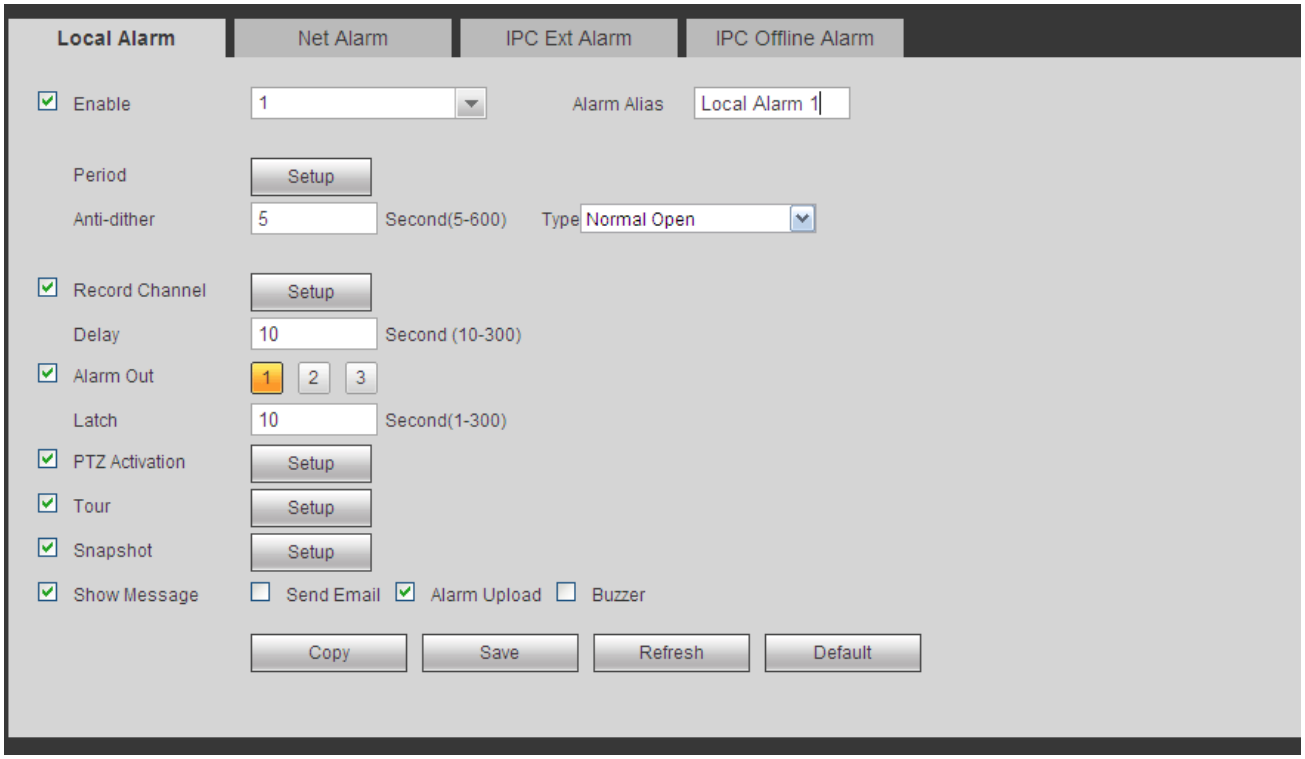


Figure 7-68

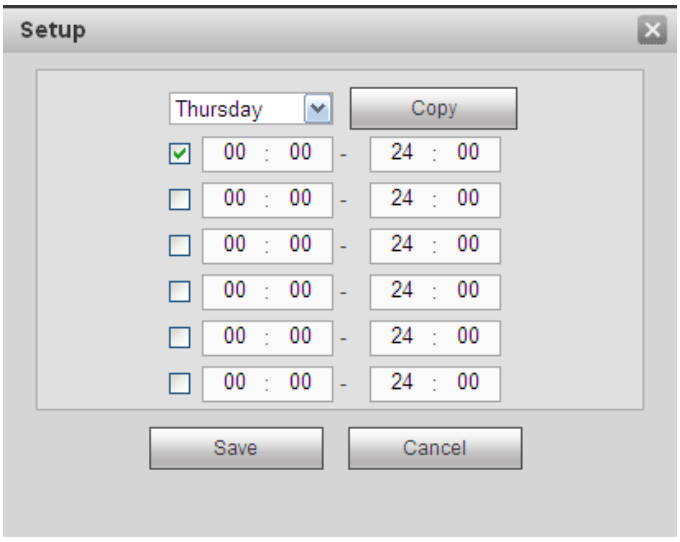


Figure 7-69

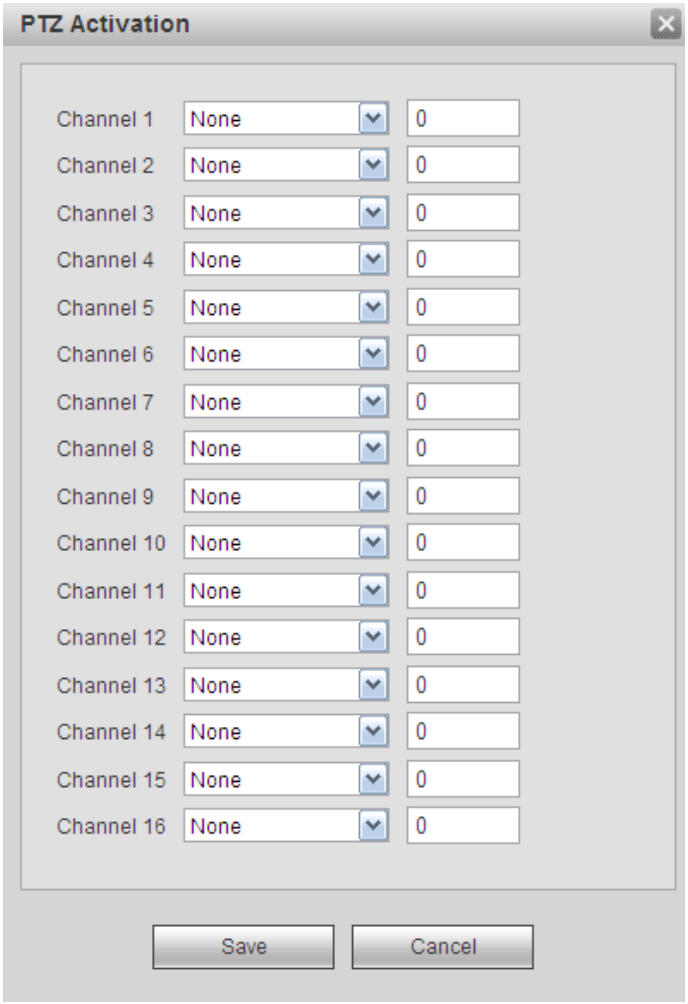


Figure 7-70

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	You need to check the box to enable this function. Please select a channel from the dropdown list.
Period	This function becomes activated in the specified periods. There are six periods in one day. Please draw a circle to enable corresponding period. Select date. If you do not select, current setup applies to today only. You can select all week column to apply to the whole week. Click OK button, system goes back to local alarm interface, please click save button to exit.
Anti-dither	System only memorizes one event during the anti-dither period. The value ranges from 5s to 600s.
Sensor type	There are two options: NO/NC.
Record channel	System auto activates motion detection channel(s) to record once an alarm occurs. Please note you need to set alarm record period and go to Storage-> Schedule to set current channel as schedule record.

Parameter	Function
Record Delay	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Alarm out	Enable alarm activation function. You need to select alarm output port so that system can activate corresponding alarm device when an alarm occurs.
Latch	System can delay the alarm output for specified time after an alarm ended. The value ranges from 1s to 300s.
Show message	System can pop up a message to alarm you in the local host screen if you enabled this function.
Buzzer	Check the box here to enable this function. The buzzer beeps when an alarm occurs.
Alarm upload	System can upload the alarm signal to the centre (Including alarm centre).
Send Email	If you enabled this function, System can send out an email to alert you when an alarm occurs.
Tour	You need to click setup button to select tour channel. System begins 1-wiindow or multiple-window tour display among the channel(s) you set to record when an alarm occurs. See Figure 7-64.
PTZ Activation	Here you can set PTZ movement when alarm occurs. Such as go to preset X. See Figure 7-70.
Snapshot	Click setup button to select snapshot channel. See Figure 7-65.

7.9.3.2.2 Net Alarm

The network alarm interface is shown as in Figure 7-71.

Network alarm refers to the alarm signal from the network. System does not anti-dither and sensor type setup. For setup information, please refer to chapter 7.9.3.2.1.

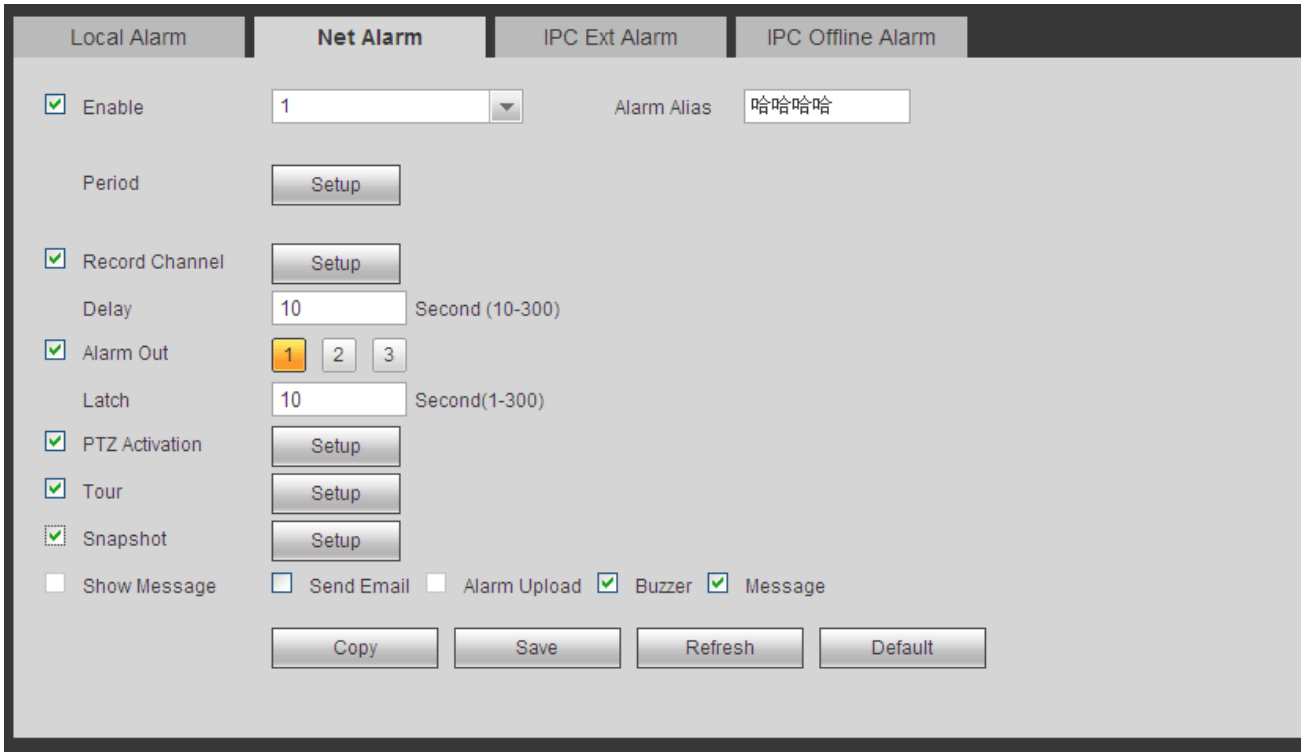


Figure 7-71

7.9.3.2.3IPC external alarm

The IPC external alarm interface is shown as in Figure 7-72.

Network alarm refers to the alarm signal from the network. System does not anti-dither and sensor type setup. For setup information, please refer to chapter 7.9.3.2.1.

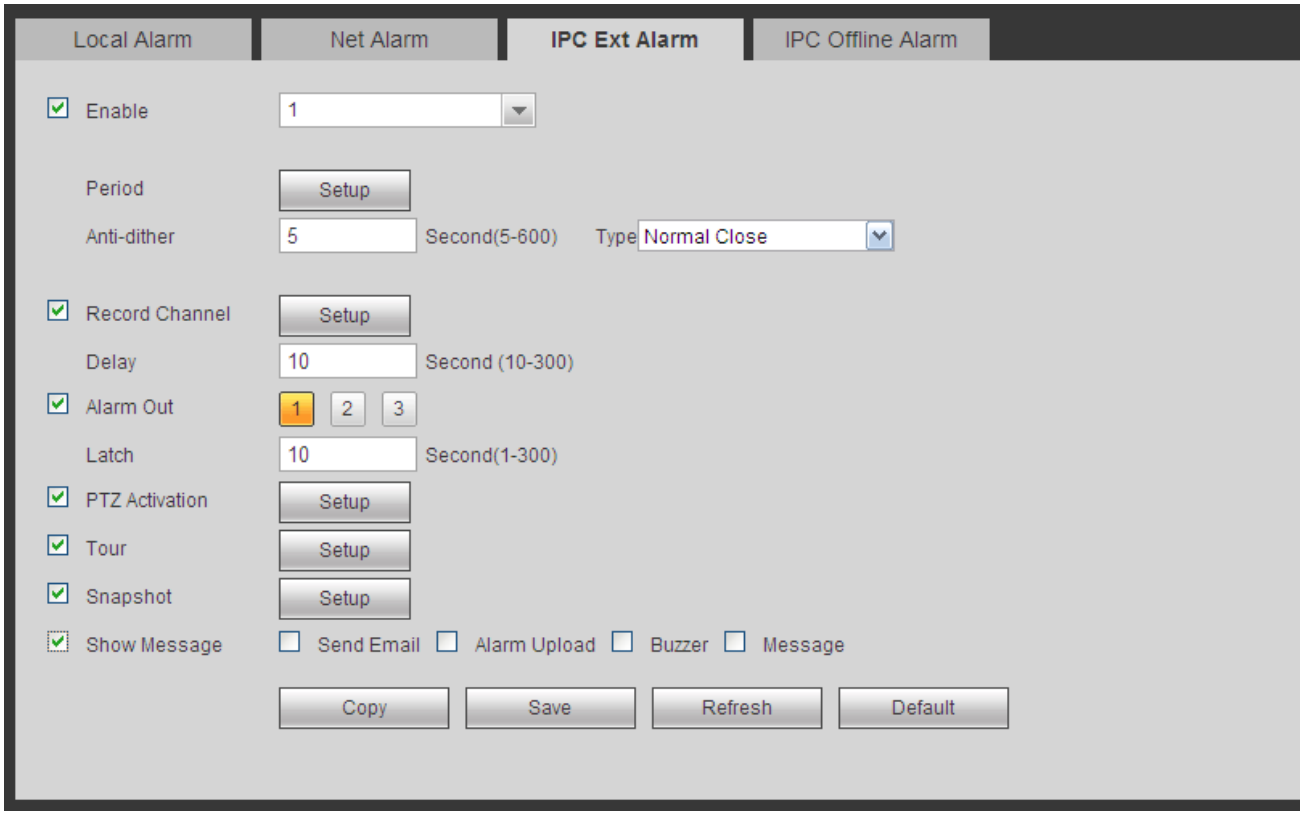


Figure 7-72

7.9.3.2.4IPC Offline Alarm

The IPC offline alarm interface is shown as in Figure 7-73.

System can generate an alarm once the network camera is offline. For setup information, please refer to chapter 7.9.3.2.1.

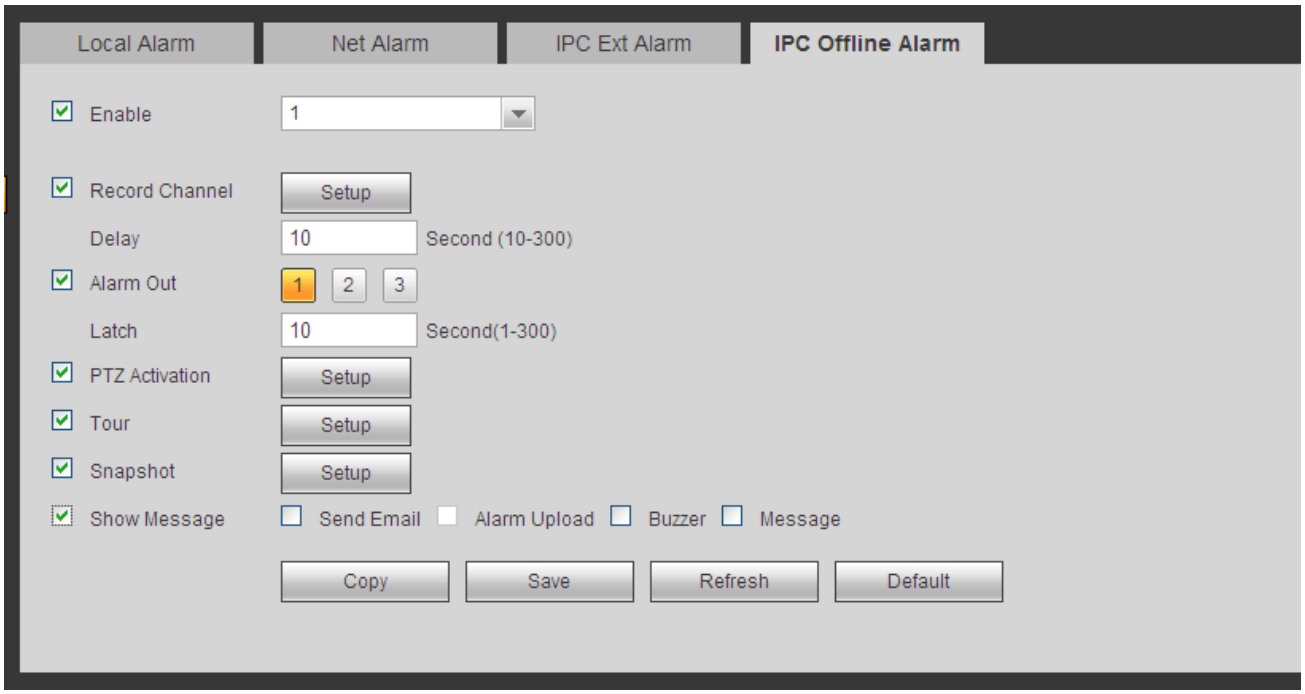


Figure 7-73

7.9.3.3 Abnormality

It includes six types: No disk, disk error, disks no space, disconnect, IP conflict, MAC conflict. See Figure 7-74 through Figure 7-79.

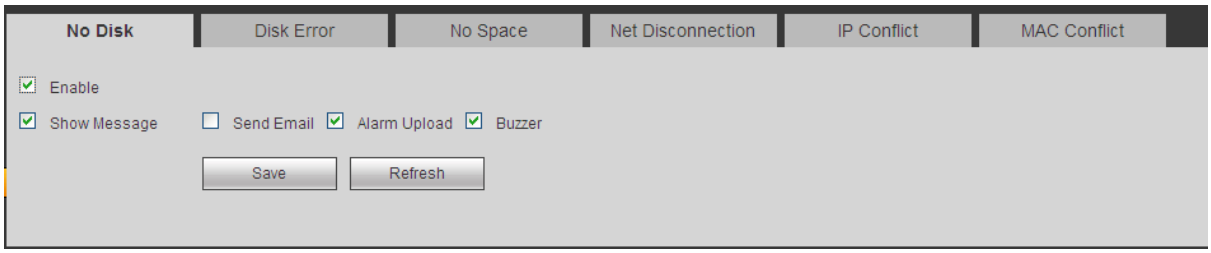


Figure 7-74

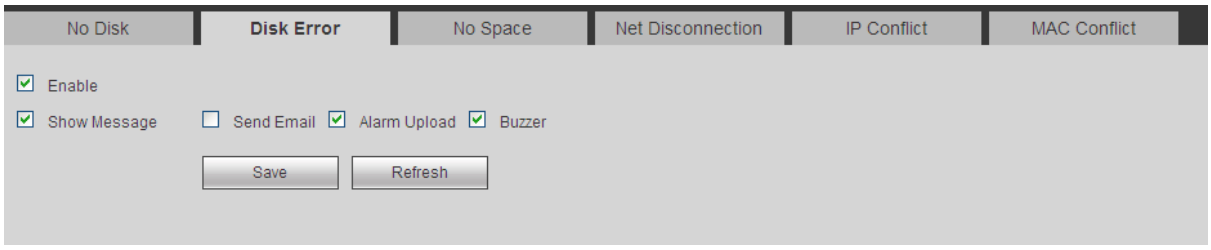


Figure 7-75

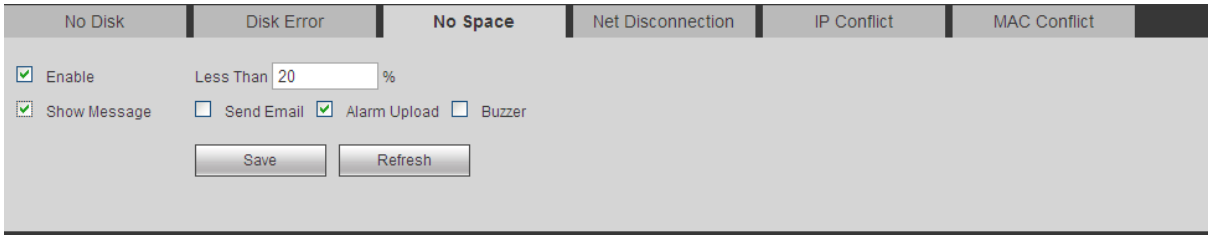


Figure 7-76

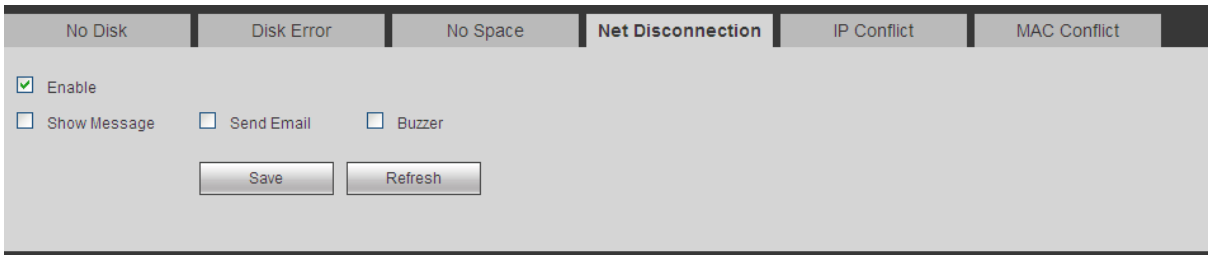


Figure 7-77

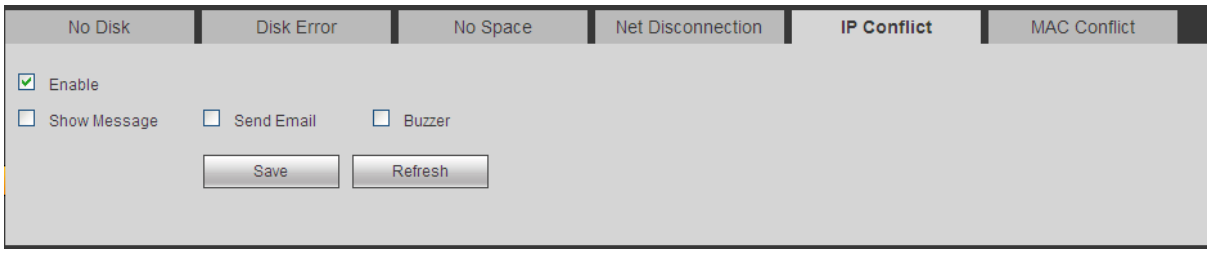


Figure 7-78

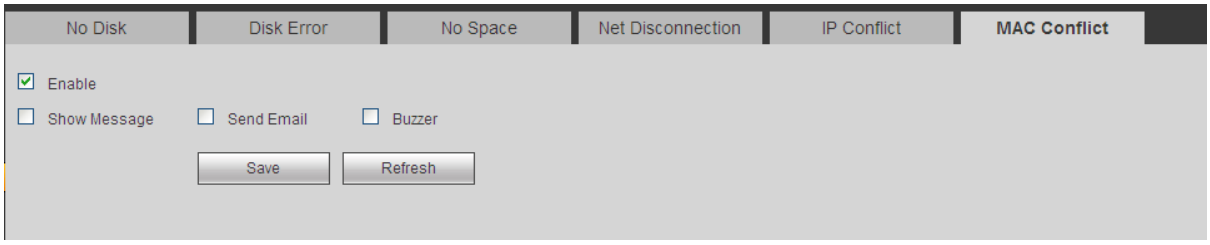


Figure 7-79

Please refer to the following sheet for detailed information.

Parameter	Function
Event Type	The abnormal events include: No disk, disk error, no space, net disconnection, IP conflict and MAC conflict. You can set one or more items here. Less than: You can set the minimum percentage value here (For disk not space only). The device can alarm when capacity is not sufficient. You need to draw a circle to enable this function.
Enable	Check the box here to enable selected function.

Parameter	Function
Alarm Out	Please select corresponding alarm output channel when an alarm occurs. You need to check the box to enable this function.
Latch	The alarm output can delay for the specified time after an alarm stops. The value ranges from 1s to 300s.
Show message	System can pop up a message to alarm you in the local host screen if you enabled this function.
Alarm upload	System can upload the alarm signal to the centre (Including alarm centre.
Send Email	If you enabled this function, System can send out an email to alert you when an alarm occurs.
Buzzer	Check the box here to enable this function. The buzzer beeps when an alarm occurs.

7.9.4 Storage

7.9.4.1 Schedule

In this interfaces, you can add or remove the schedule record setup. See Figure 7-80.

There are four record modes: general (auto), motion detect, alarm and MD&alarm. There are six periods in one day.

You can view the current time period setup from the color bar.

- Green color stands for the general record/snapshot.
- Yellow color stands for the motion detect record/snapshot..
- Red color stands for the alarm record/snapshot.
- Blue color stands for MD&alarm record/snapshot.

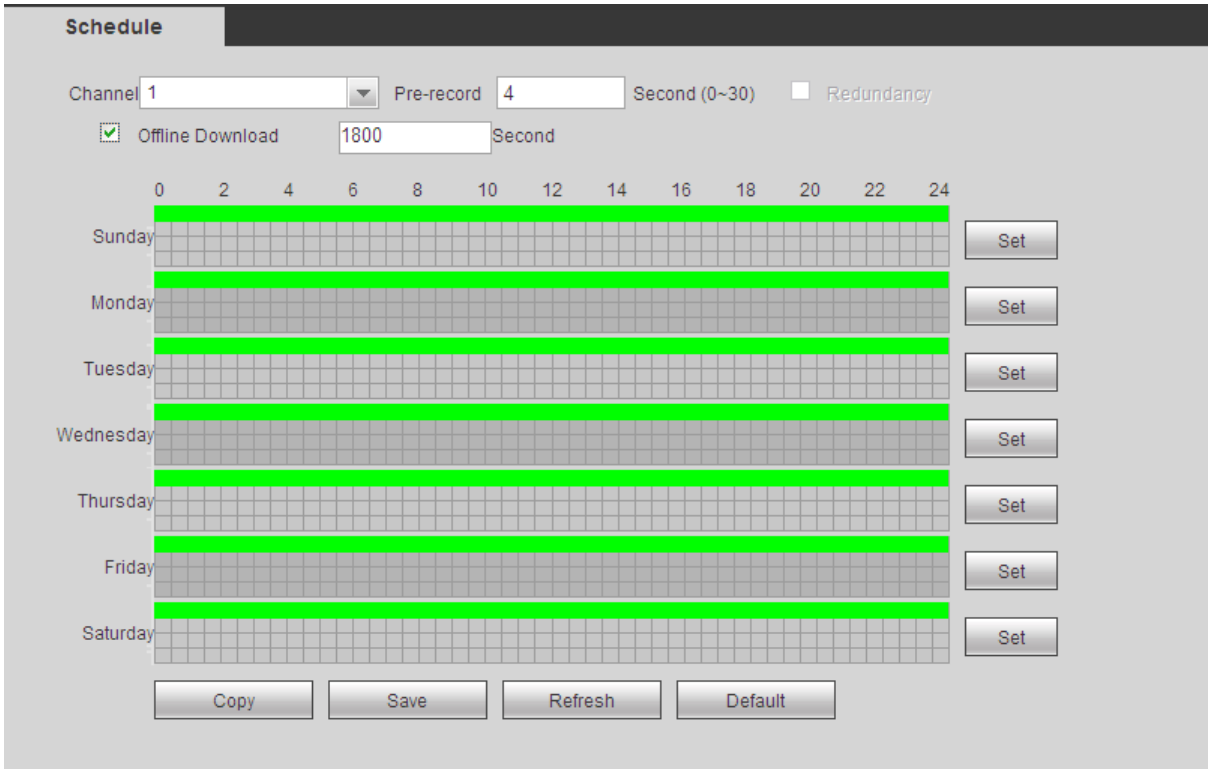


Figure 7-80

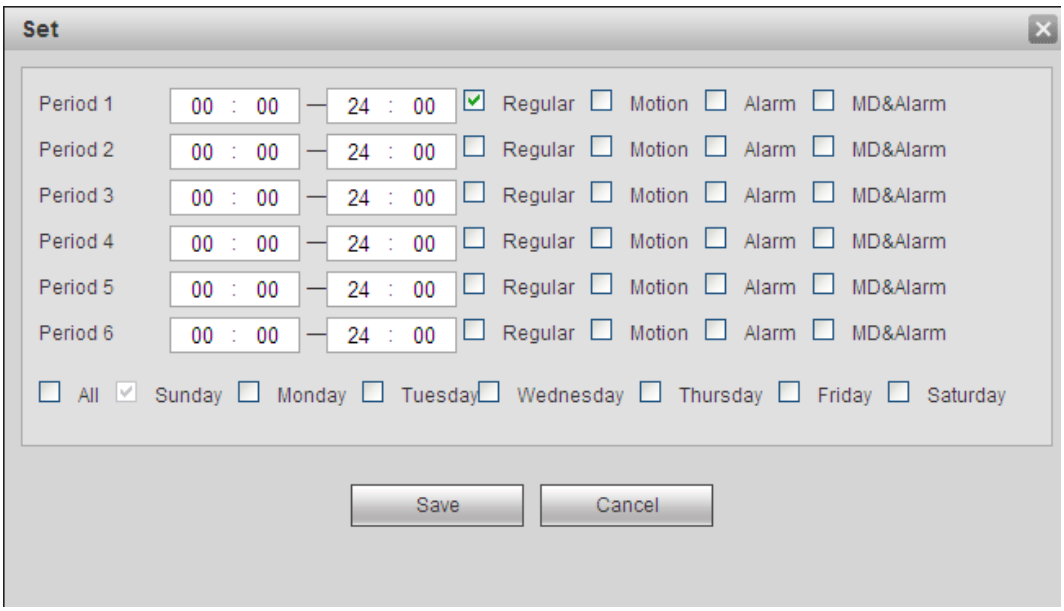


Figure 7-81

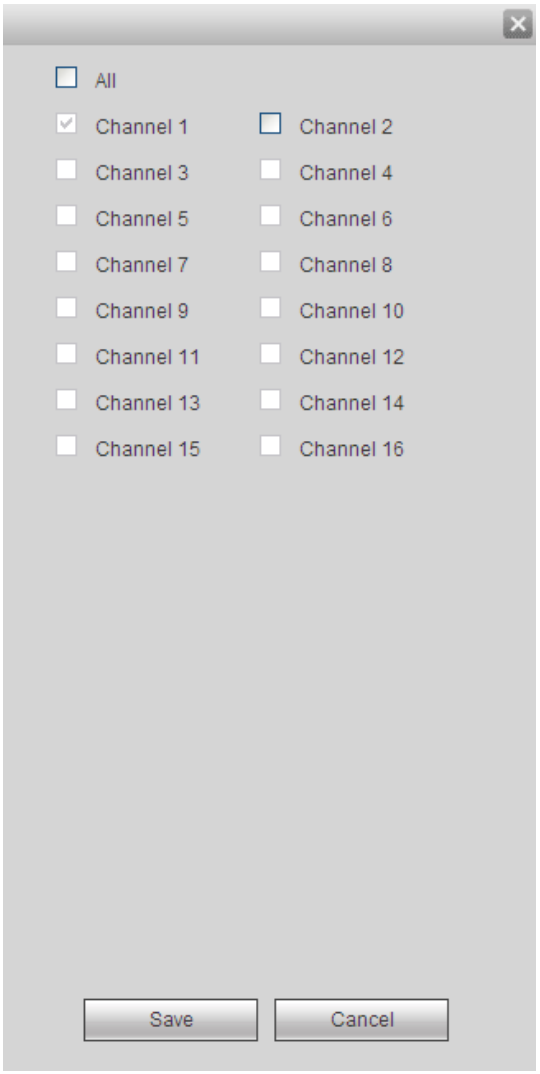


Figure 7-82

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Please select a channel from the dropdown list.
Pre-record	Please input pre-record time here. The value ranges from 0 to 30.
Redundancy	Check the box here to enable redundancy function. **Please note this function is null if there is only one HDD.**
Snapshot	Check the box here to enable snapshot function.
Holiday	Check the box here to enable holiday function.
Setup	Click the Setup button, you can set record period. See Figure 7-81. There are six periods in one day. If you do not check the date at the bottom of the interface, current setup is for today only. Please click Save button and then exit.
Copy	Copy function allows you to copy one channel setup to another. After setting in channel, click Copy button, you can go to interface Figure 7-82. You can see current channel name is grey such as channel 1. Now you can select the channel you wan to paste such as channel 5/6/7. If you wan to save current setup of channel 1 to all channels, you can click the first box “ALL”. Click the OK button to save current copy setup. Click the OK button in the Encode interface, the copy function succeeded.

7.9.4.2 HDD Manager

7.9.4.2.1 Local Storage

The local interface is shown as in Figure 7-83. Here you can see HDD information. You can also operate the read-only, read-write, redundancy (if there are more than one HDD) and format operation.

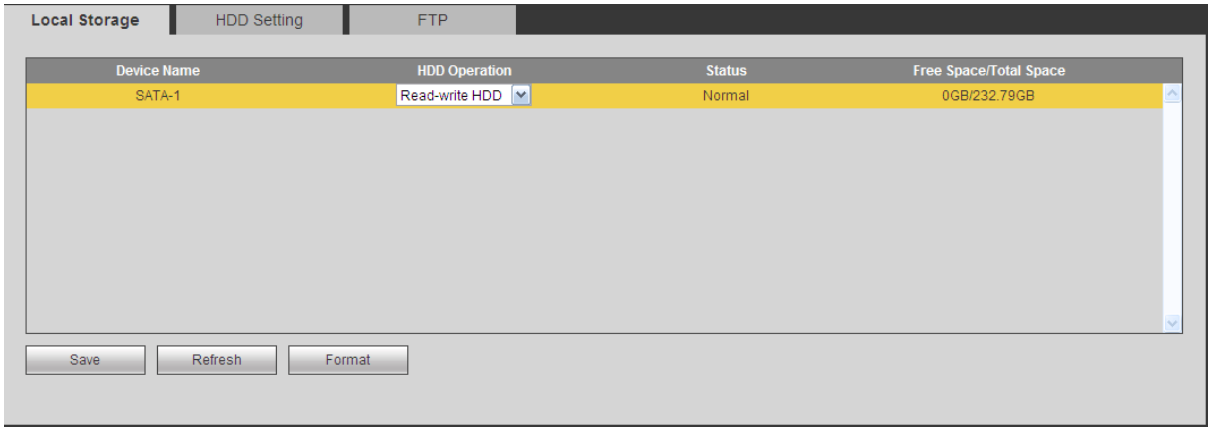


Figure 7-83

7.9.4.2.2 HDD

The HDD interface is to set HDD group. See Figure 7-84.

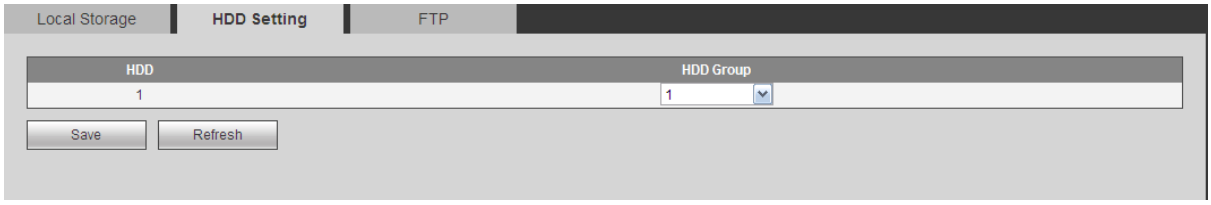


Figure 7-84

7.9.4.2.3 FTP

The FTP interface is to set FTP information. See Figure 7-85.

Please set the FTP as your remote storage location. System can save record file or snapshot picture to the FTP once the network is offline or malfunction.

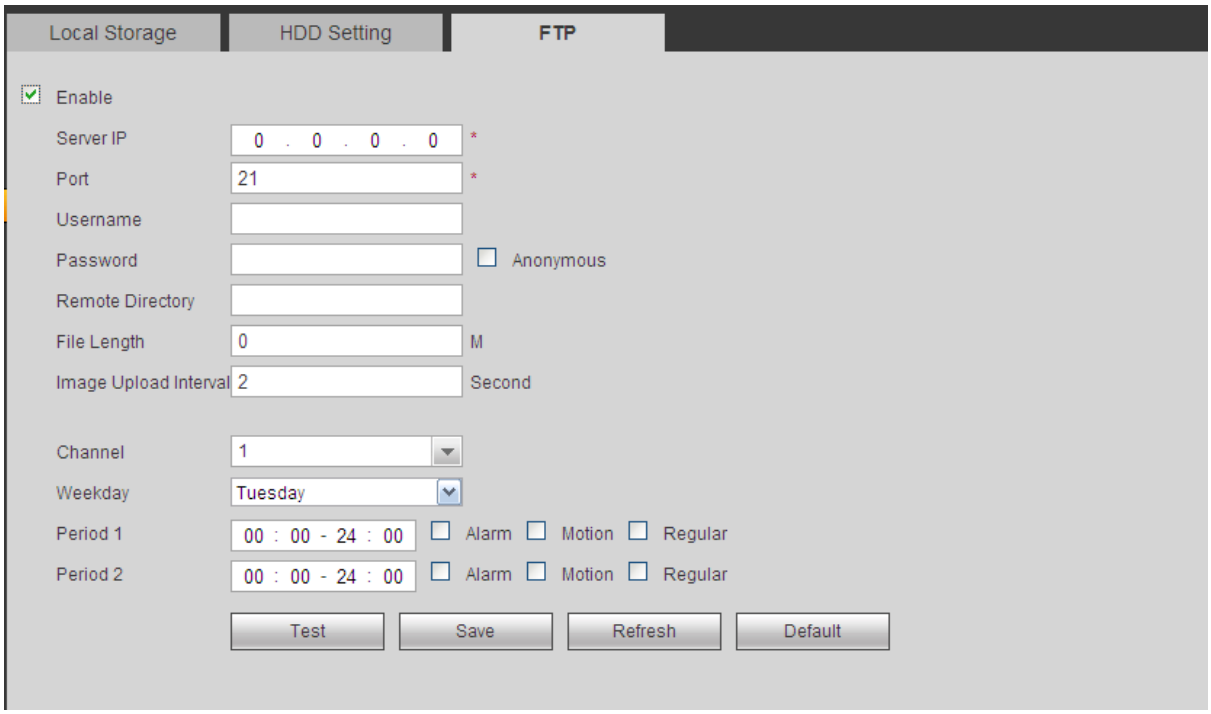


Figure 7-85

7.9.4.3 Record Control

The interface is shown as in Figure 7-86.

Figure 7-86

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Here you can view channel number. The number displayed here is the max channel amount of your device.
Status	There are three statuses: schedule, manual and stop.
Schedule	System enables auto record function as you set in record schedule setup (general, motion detect and alarm).
Manual	It has the highest priority. Enable corresponding channel to record no matter what period applied in the record setup.
Stop	Stop current channel record no matter what period applied in the record setup.
Start all/ stop all	Check the corresponding All button, you can enable or disable all channels record.

7.9.4.4 Storage

7.9.4.4.1 Main Stream

The main stream interface is shown as in Figure 7-87. Here you can set corresponding HDD group to save main stream.

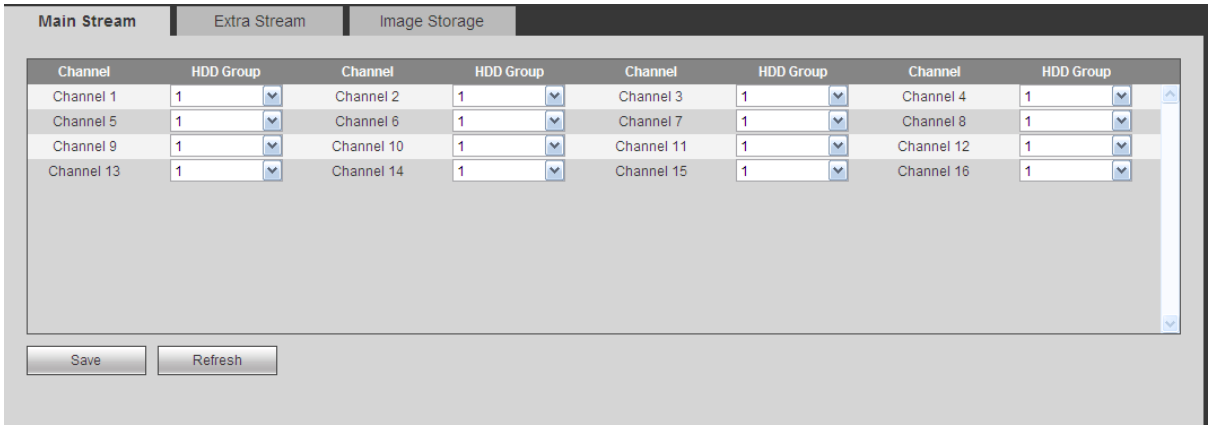


Figure 7-87

7.9.4.4.2 Sub Stream

The sub stream interface is shown as in Figure 7-88.

Here you can set corresponding HDD group to save sub stream.

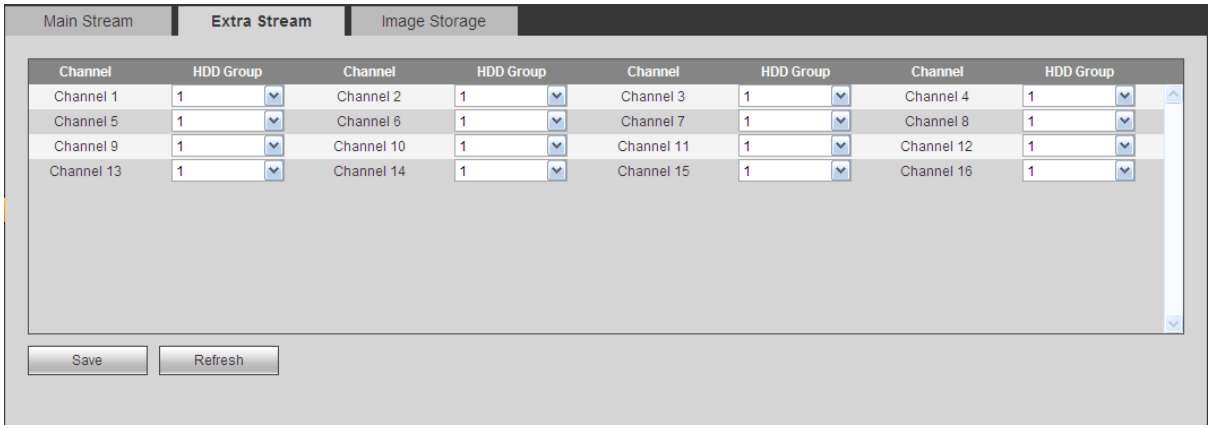


Figure 7-88

7.9.4.4.3 Snapshot

The snapshot interface is shown as in Figure 7-89. Here you can set corresponding HDD group to save snapshot picture.

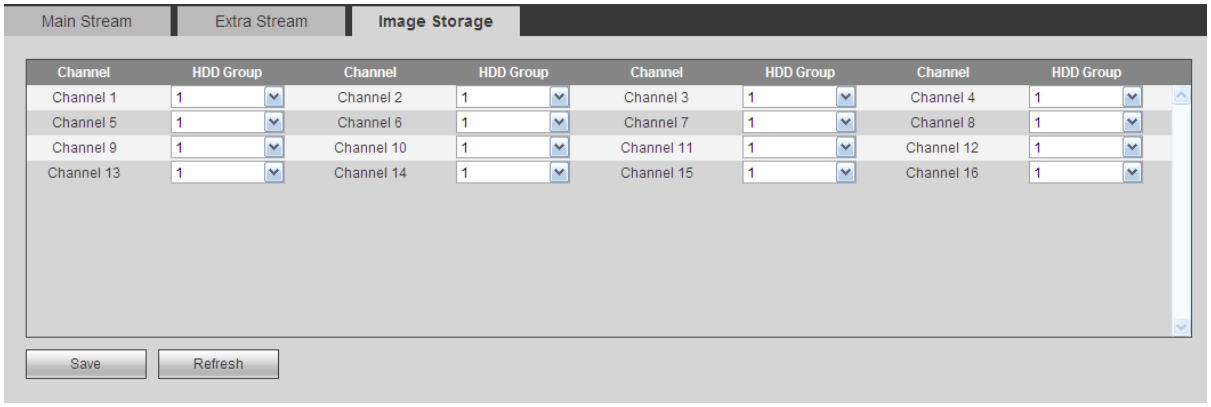


Figure 7-89

7.9.5 Setting

7.9.5.1 General

The general interface includes general, date/time and holiday setup.

7.9.5.1.1 General

The general interface is shown as in Figure 7-90.

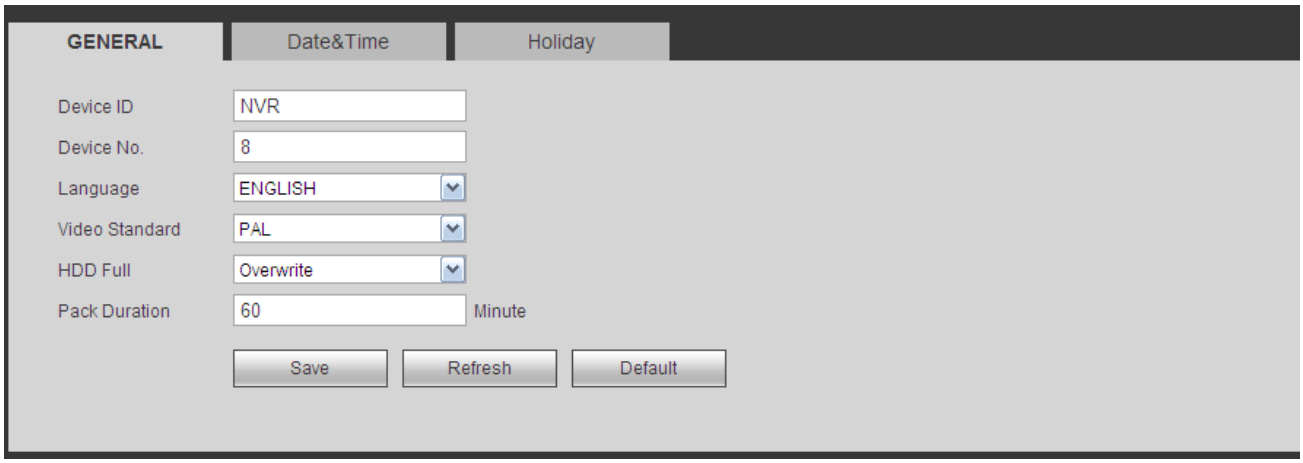


Figure 7-90

Please refer to the following sheet for detailed information.

Parameter	Function
Device ID	It is to set device name.
Device No.	It is device channel number.
Language	You can select the language from the dropdown list. **Please note the device needs to reboot to get the modification activated.**
Video Standard	This is to display video standard such as PAL.
HDD full	Here is for you to select working mode when hard disk is full. There are two options: stop recording or rewrite. If current working HDD is overwritten or the current HDD is full while the next HDD is no empty, then system stops recording, If the current HDD is full and then next HDD is not empty, then system overwrites the previous files.
Pack duration	Here is for you to specify record duration. The value ranges from 1 to 120 minutes. Default value is 60 minutes.

7.9.5.1.2Date and time

The date and time interface is shown as in Figure 7-91

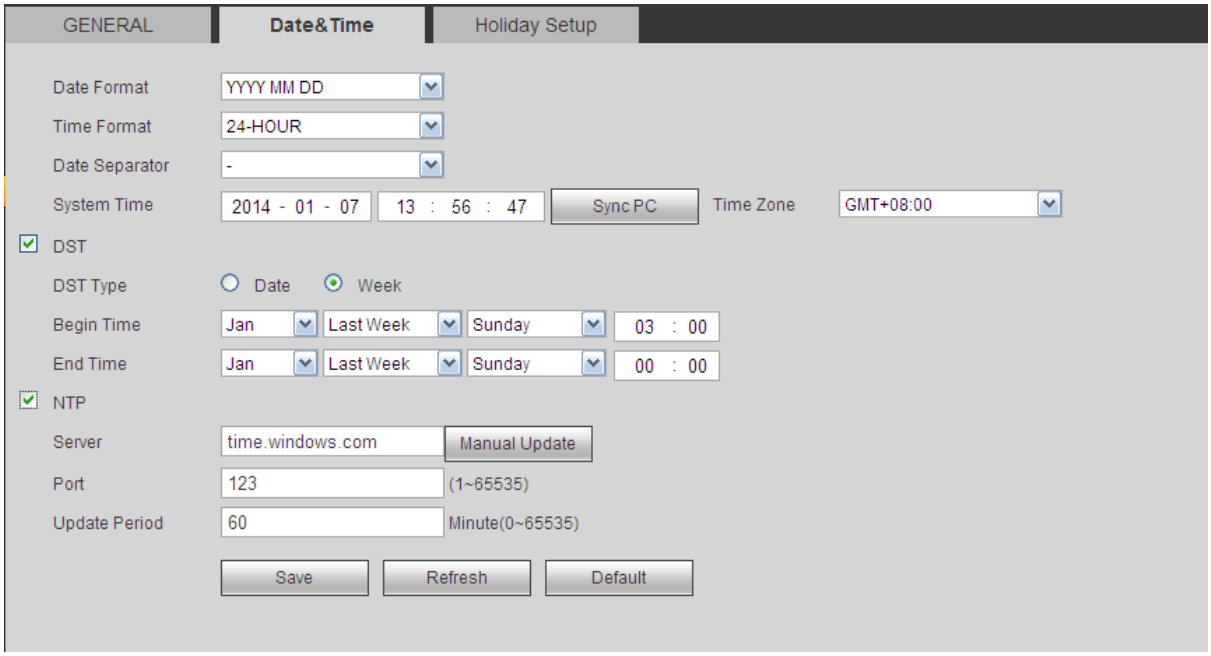


Figure 7-91

Please refer to the following sheet for detailed information.

Parameter	Function
Date format	Here you can select date format from the dropdown list.
Time Format	There are two options: 24-H and 12-H.
Time zone	The time zone of the device.
System time	It is to set system time. It becomes valid after you set.

Sync PC	You can click this button to save the system time as your PC current time.
DST	Here you can set day night save time begin time and end time. You can set according to the date format or according to the week format.
NTP	You can check the box to enable NTP function.
NTP server	You can set the time server address.
Port	It is to set the time server port.
Interval	It is to set the sync periods between the device and the time server.

7.9.5.1.3Holiday Setup

Holiday setup interface is shown as in Figure 7-92.

Here you can click Add holidays box to add a new holiday and then click Save button to save.

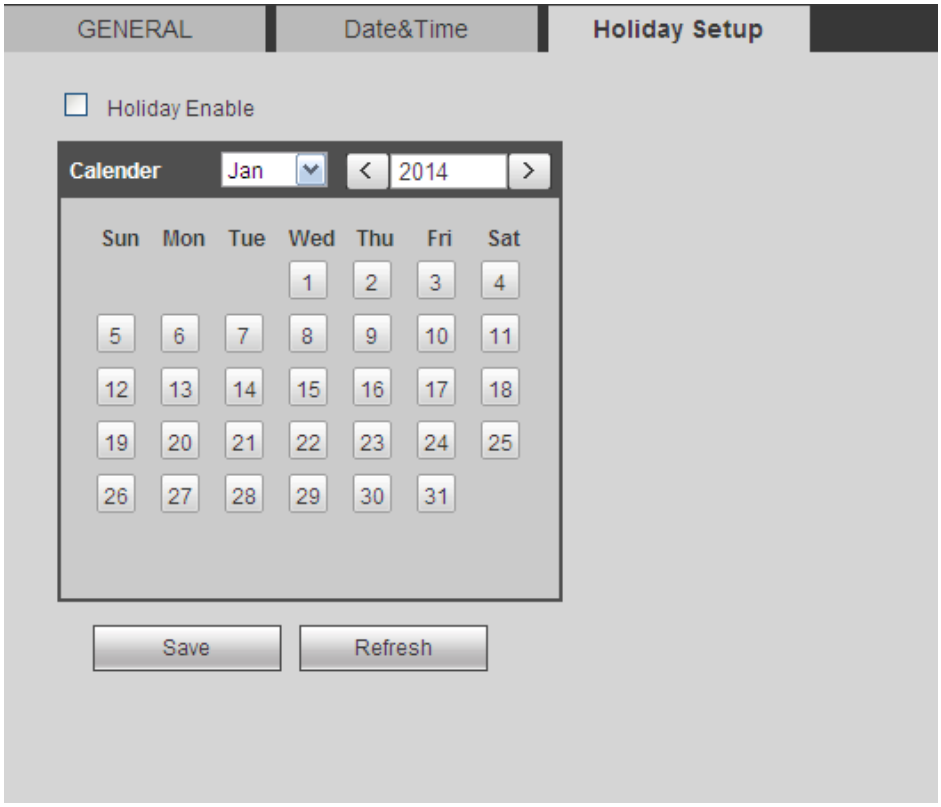


Figure 7-92

7.9.5.2 Account

Note:

- For the character in the following user name or the user group name, system max supports 6-digits. The space in the front or at the end of the string is null. The valid string includes: character, number, and underline.
- The user amount default setup is 20 and the group amount default setup is 8. The factory default setup includes two levels: user and admin. You can set the corresponding group and then set the rights for the respective user in the specified groups.
- User management adopts group/user modes. The user name and the group name shall be unique. One user shall be included in only one group.

7.9.5.2.1User name

In this interface you can add/remove user and modify user name. See Figure 7-93.

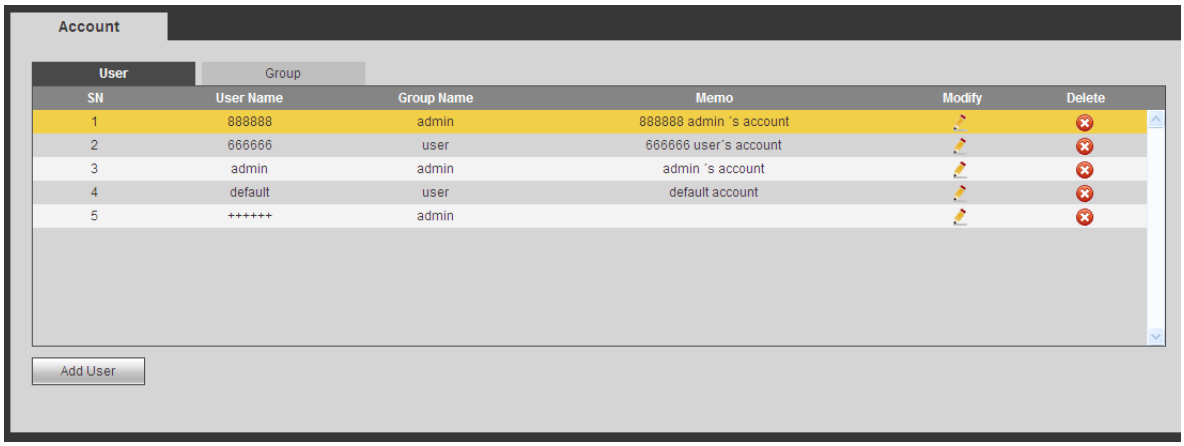


Figure 7-93

Add user: It is to add a name to group and set the user rights. See Figure 7-94.

There are four default users: admin/888888/666666 and hidden user “default”. Except user 6666, other users have administrator right. The user 666666 can only have the monitor rights,.

Hidden user “default” is for system interior use only and can not be deleted. When there is no login user, hidden user “default” automatically login. You can set some rights such as monitor for this user so that you can view some channel view without login.

Here you can input the user name and password and then select one group for current user.

Please note the user rights shall not exceed the group right setup.

For convenient setup, please make sure the general user has the lower rights setup than the admin.

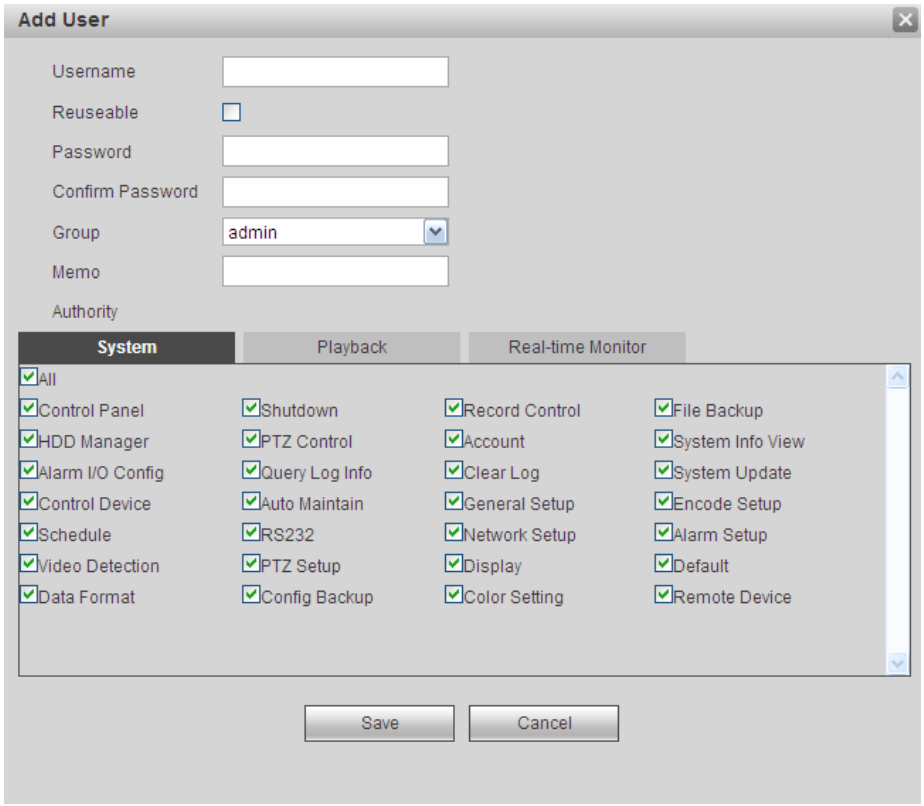


Figure 7-94

Modify user

It is to modify the user property, belonging group, password and rights. See Figure 7-95.

Modify password

It is to modify the user password. You need to input the old password and then input the new password twice to confirm the new setup. Please click the OK button to save.

Please note, the password ranges from 1-digit to 6-digit. It shall include the number only. For the user of the account rights, he can modify the password of other users.

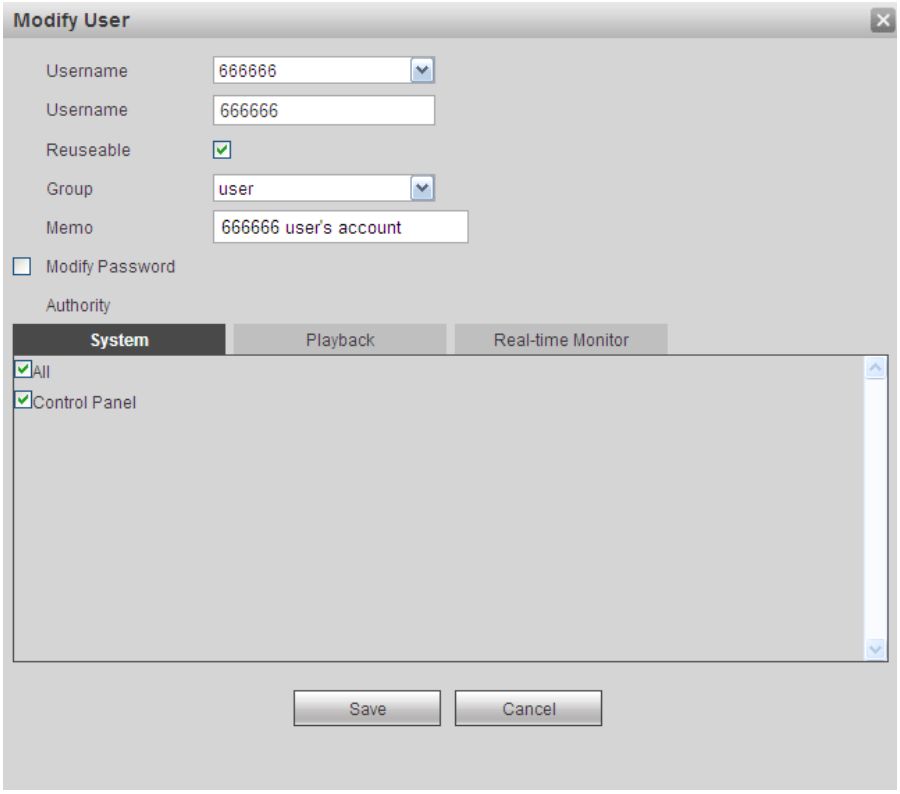


Figure 7-95

7.9.5.2.2Group

The group management interface can add/remove group, modify group password and etc.

The interface is shown as in Figure 7-96.

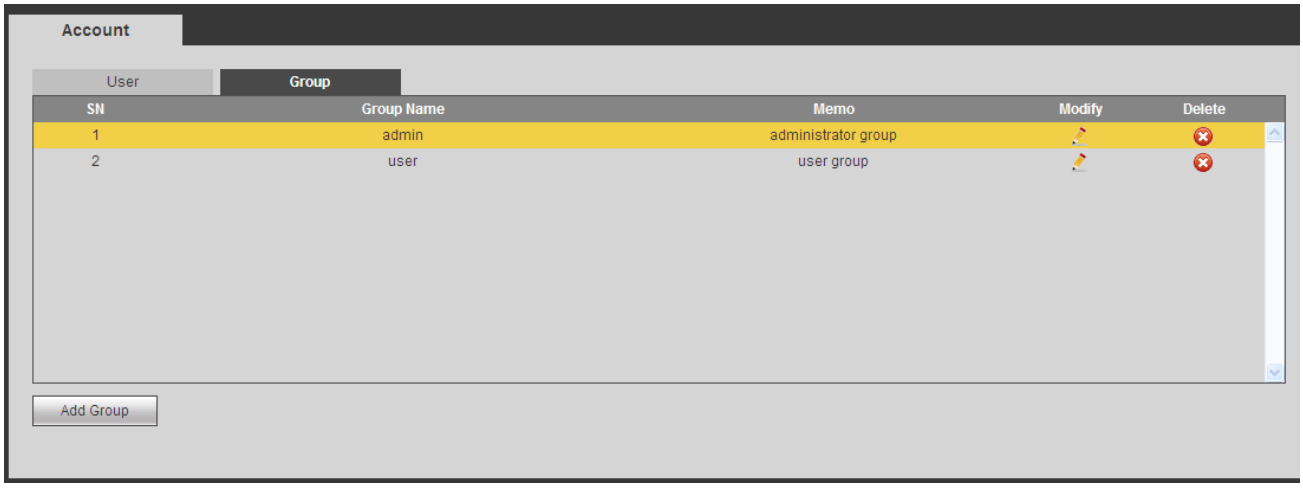


Figure 7-96

Add group: It is to add group and set its corresponding rights. See Figure 7-97.

Please input the group name and then check the box to select the corresponding rights. It includes: shutdown/reboot device, live view, record control, PTZ control and etc.

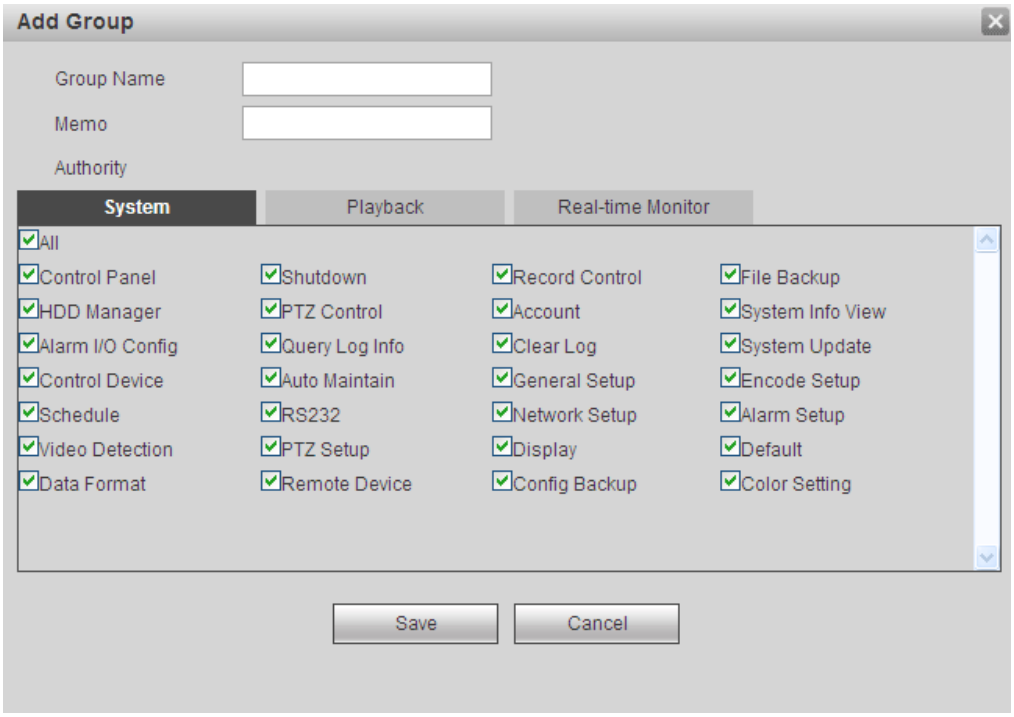


Figure 7-97

Modify group

Click the modify group button, you can see an interface is shown as in Figure 7-98.

Here you can modify group information such as remarks and rights.

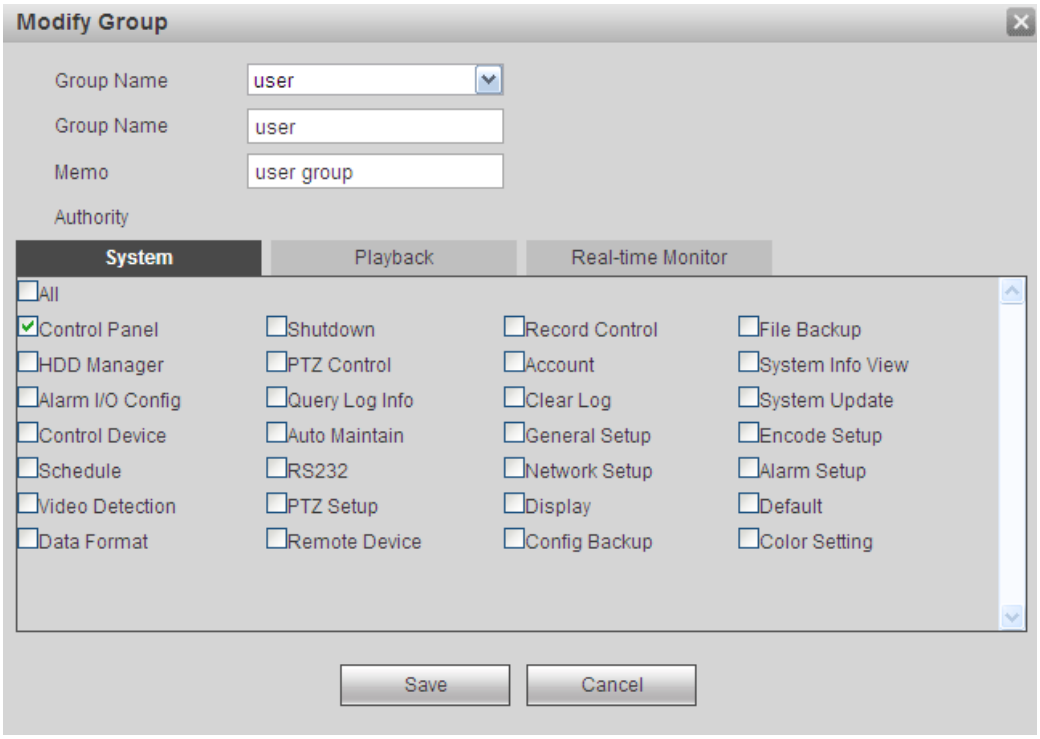


Figure 7-98

7.9.5.3 Display

Display interface includes GUI, TV adjust, Tour and zero-channel encoding.

7.9.5.3.1 Display

Here you can set background color and transparency level. See Figure 7-99.

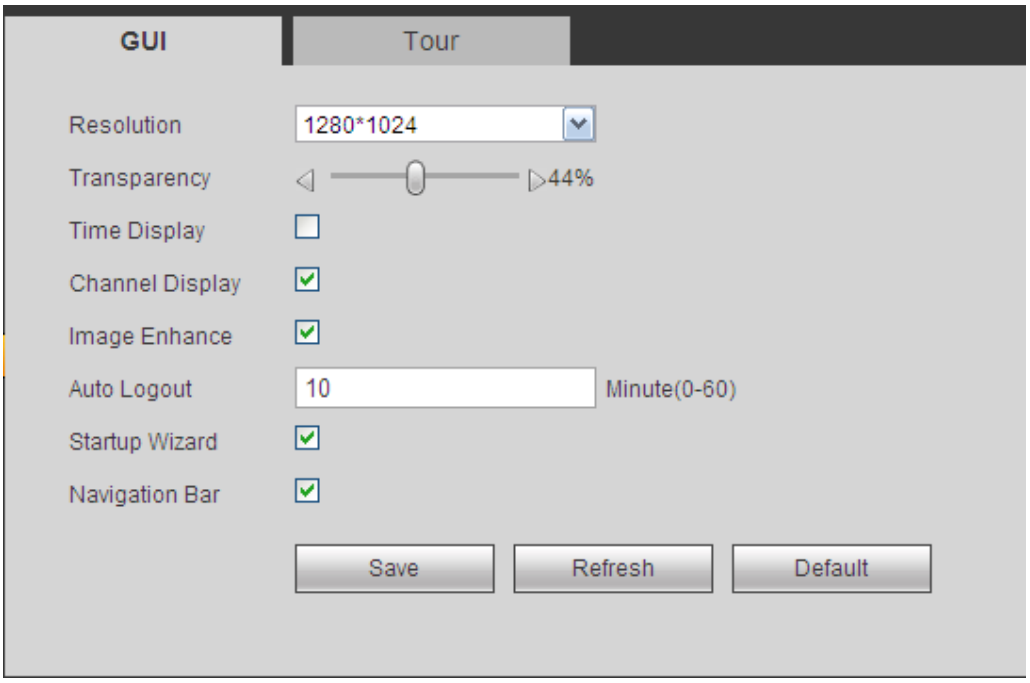


Figure 7-99

Please refer to the following sheet for detailed information.

Parameter	Function
Resolution	There are four options: 1920×1080,1280×1024(default),1280×720,1024×768. Please note the system needs to reboot to activate current setup.
Transparency	Here is for you to adjust transparency. The value ranges from 128 to 255.
Time title/channel title	Check the box here, you can view system time and channel number on the monitor video.
Image enhance	Check the box; you can optimize the margin of the preview video.
Auto logout	Here is for you to set auto logout interval once login user remains inactive for a specified time. Value ranges from 0 to 60 minutes.
Startup wizard	Once you check the box here, system will go to the startup wizard directly when the system restarts the next time. Otherwise, it will go to the login interface.
Navigation bar	Check the box here, system displays the navigation bar on the interface.

7.9.5.3.2 Tour

The tour interface is shown as in Figure 7-100. Here you can set tour interval, split mode, motion detect tour and alarm tour mode.

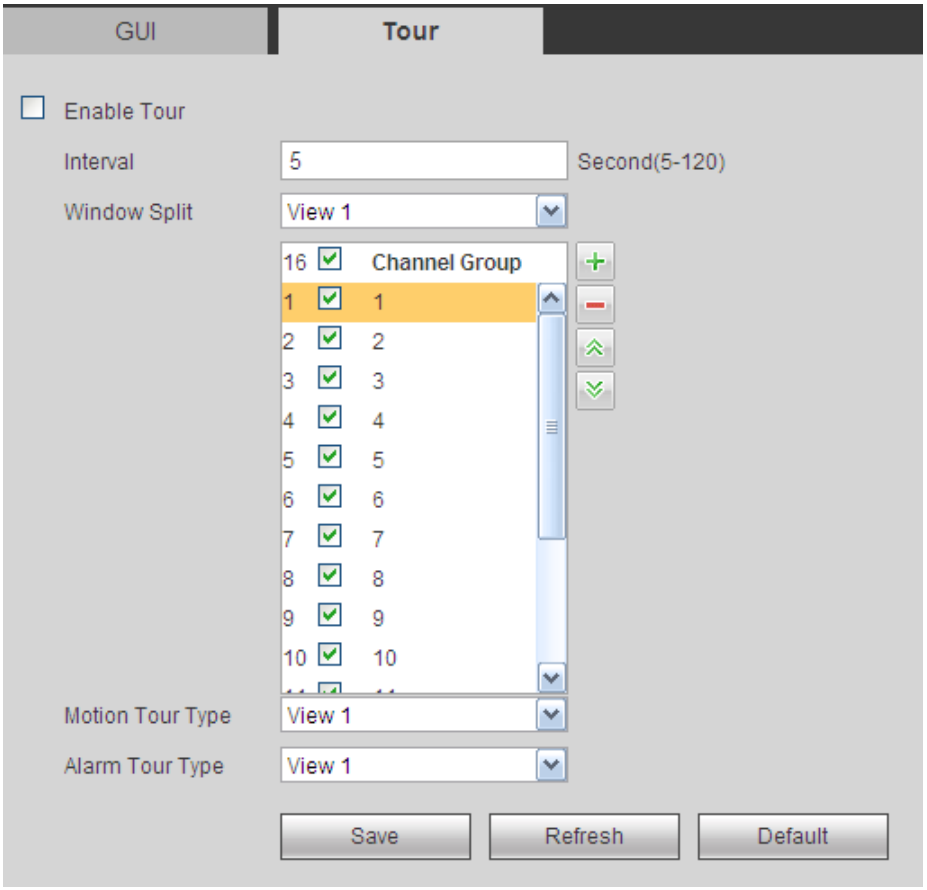


Figure 7-100

Please refer to the following sheet for detailed information.

Parameter	Function
Enable tour	Check the box here to enable tour function.
Interval	Here is for you to adjust transparency. The value ranges from 5 to 120s. The default setup is 5s.
Split	Here you can set window mode and channel group. System can support 1/4/8/9/16/25/36-window according to device channel amount.
Motion tour/Alarm tour	Here you can set motion detect tour/alarm tour window mode. System supports 1/8-window now.

7.9.5.4 Alarm Out

Please note some series product does not support alarm output function.

The alarm output interface is shown as below. See Figure 7-101

Here you can set alarm output mode: auto/manual/stop.

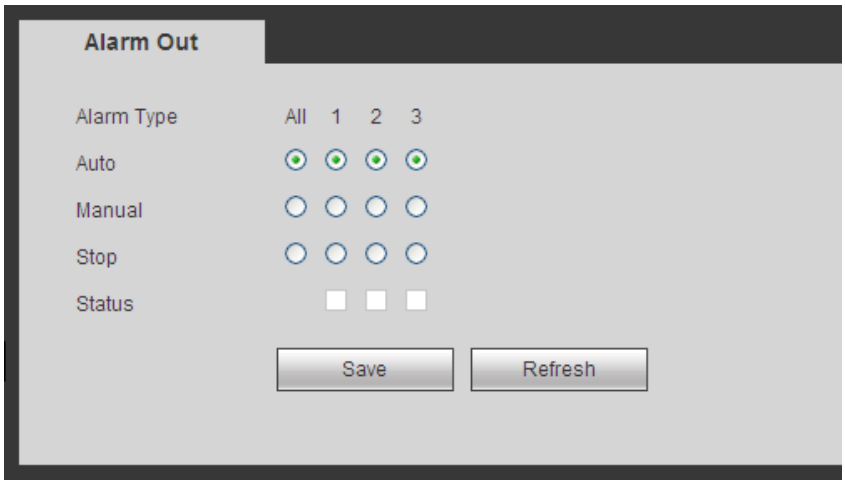


Figure 7-101

7.9.5.5 Default

The default setup interface is shown as in Figure 7-102.

Here you can select Network/Event/Storage/Setting/Camera. Or you can check the All box to select all items.

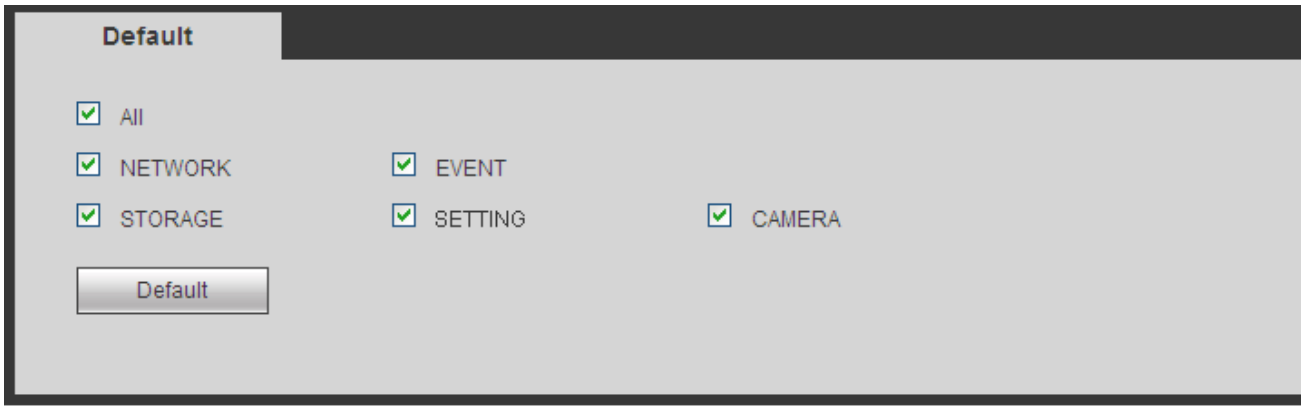


Figure 7-102

7.9.5.6 Import/Export

The interface is shown as in Figure 7-103. This interface is for you to export or import the configuration files.

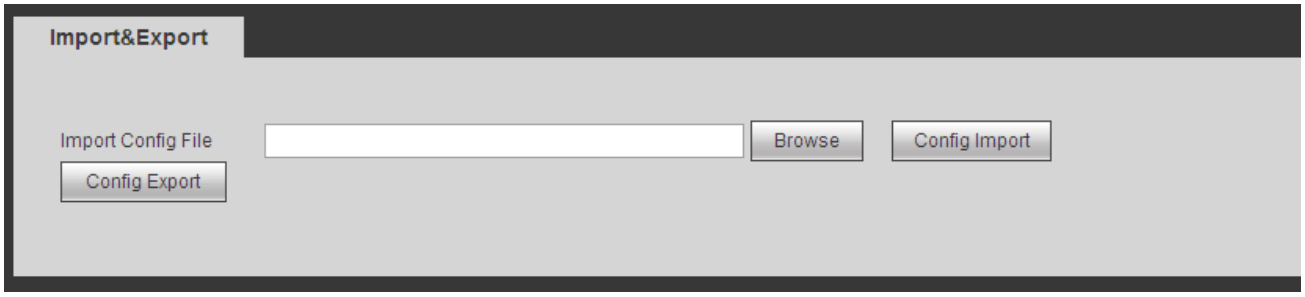


Figure 7-103

Please refer to the following sheet for detailed information.

Parameter	Function
Browse	Click to select import file.
Import	It is to import the local setup files to the system.
Export	It is to export the corresponding WEB setup to your local PC.

7.9.5.7 Auto maintain

The auto maintain interface is shown as in Figure 7-104.

Here you can select auto reboot and auto delete old files interval from the dropdown list.

If you want to use the auto delete old files function, you need to set the file period.

Click Manual reboot button, you can restart device manually.

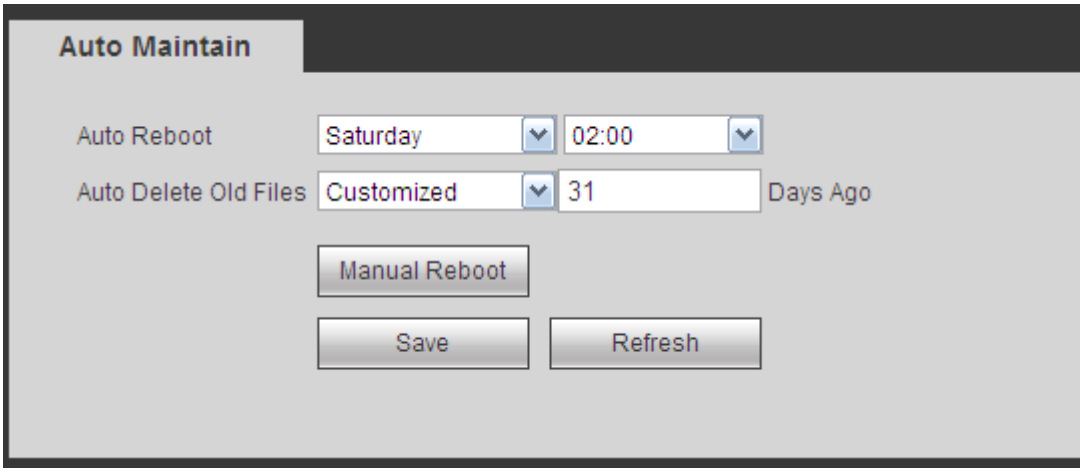


Figure 7-104

7.9.5.8 Upgrade

The upgrade interface is shown as in Figure 7-105.

Please select the upgrade file and then click the update button to begin update. Please note the file name shall be as *.bin. During the upgrade process, do not unplug the power cable, network cable, or shutdown the device.

Important

Improper upgrade program may result in device malfunction! Please make sure the operation is operated under the supervision of the professional engineer!

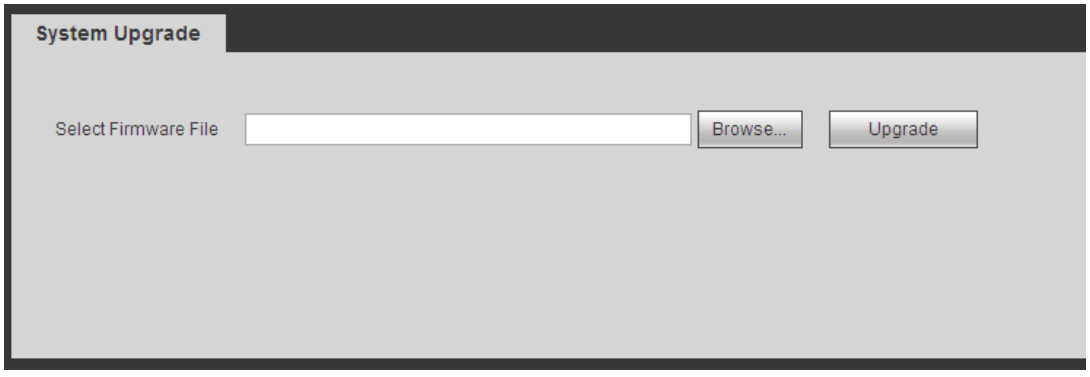


Figure 7-105

7.9.5.9 RS232

The RS232 interface is shown as in Figure 7-106.

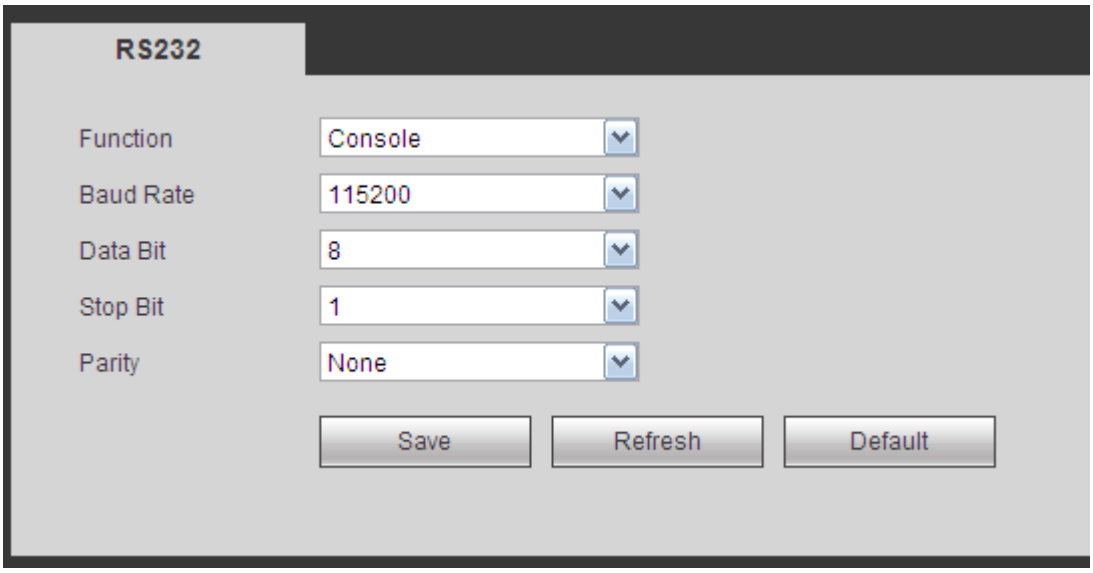


Figure 7-106

Please refer to the following sheet for detailed information.

Parameter	Function
Protocol	Select the corresponding dome protocol. Default setup is console.
Baud Rate	Select the baud rate. Default setup is 115200.
Data Bit	The value ranges from 5 to 8. Default setup is 8.
Stop bit	There are two options: 1/2. Default setup is 1.
Parity	There are five options: none/odd/even/space/mark. Default setup is none.

7.9.5.10 PTZ

The PTZ interface is shown as in Figure 7-107 (Local) and Figure 7-108 (Remote).

Before setup, please check the following connections are right:

- PTZ and decoder connection is right. Decoder address setup is right.
- Decoder A (B) line connects with NVR A (B) line.

Click Save button after you complete setup, you can go back to the monitor interface to control speed dome.

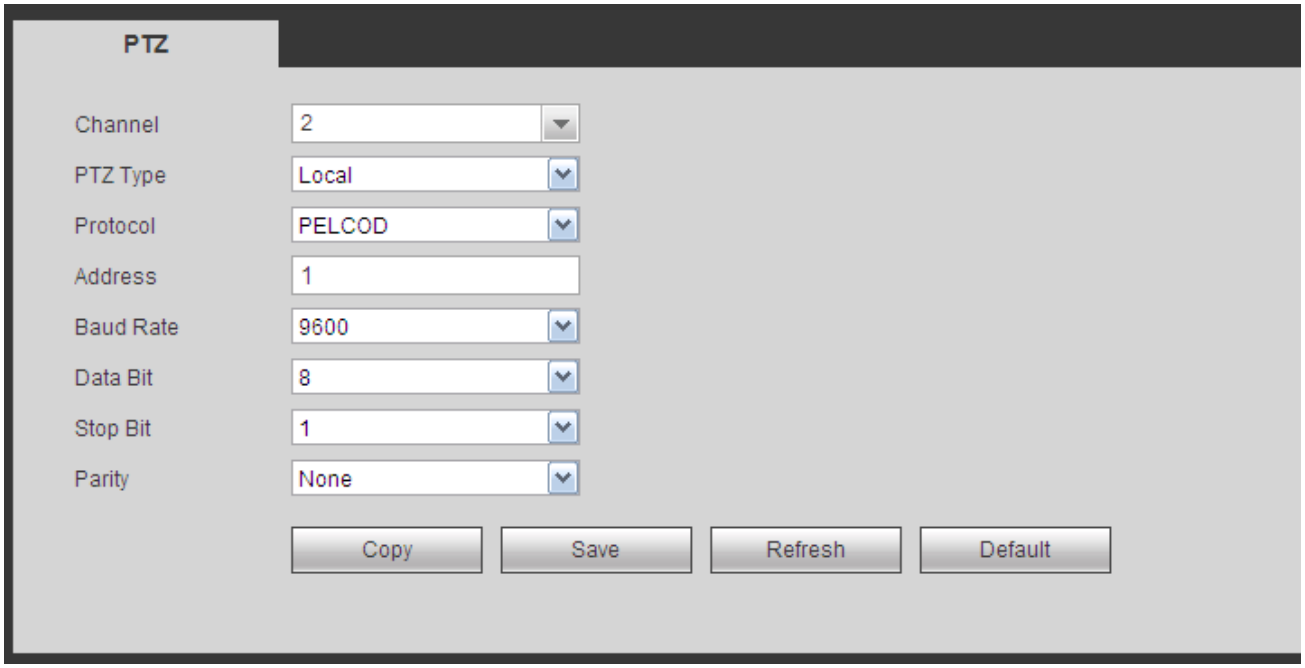


Figure 7-107

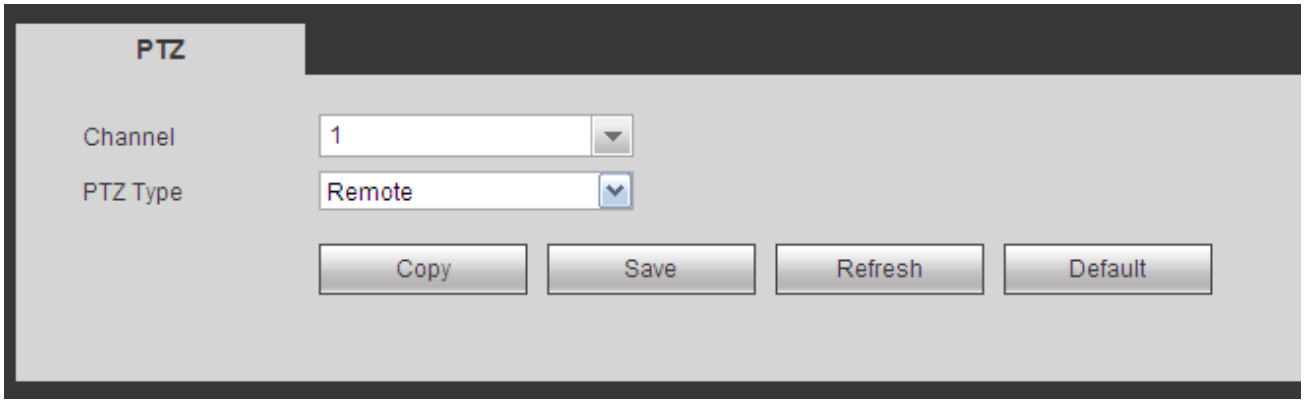


Figure 7-108

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Select speed dome connected channel.
PTZ Type	There are two options: local/remote. Please select remote type if you are connecting to the network PTZ.
Protocol	Select the corresponding dome protocol such as PELCOD.
Address	Set corresponding dome address. Default value is 1. **Please note your setup here shall comply with your dome address; otherwise you can not control the speed dome.**
Baud Rate	Select the dome baud rate. Default setup is 9600.
Data Bit	Default setup is 8. Please set according to the speed dome dial switch setup.
Stop bit	Default setup is 1. Please set according to the speed dome dial switch setup.

Parameter	Function
Parity	Default setup is none. Please set according to the speed dome dial switch setup.

7.9.5.11 Preview Control

The preview control interface is shown as Figure 7-109.

Please select split mode and preview channel from the dropdown list.

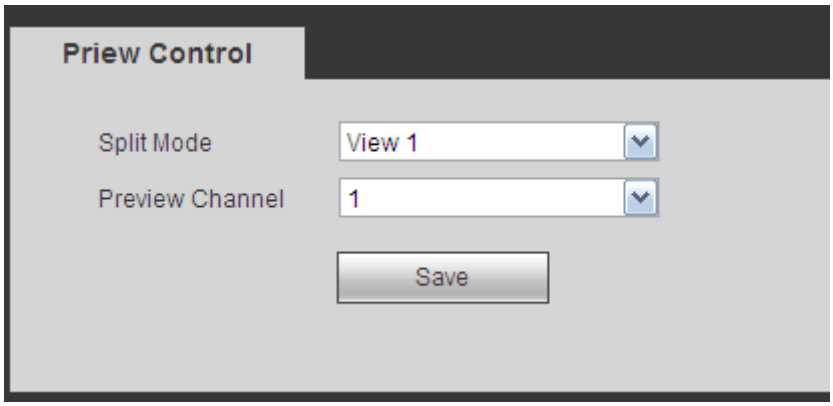


Figure 7-109

7.10 Information

7.10.1 Version

The version interface is shown as in Figure 7-110.

Here you can view record channel, alarm input/output information, software version, release date and etc. Please note the following information is for reference only.

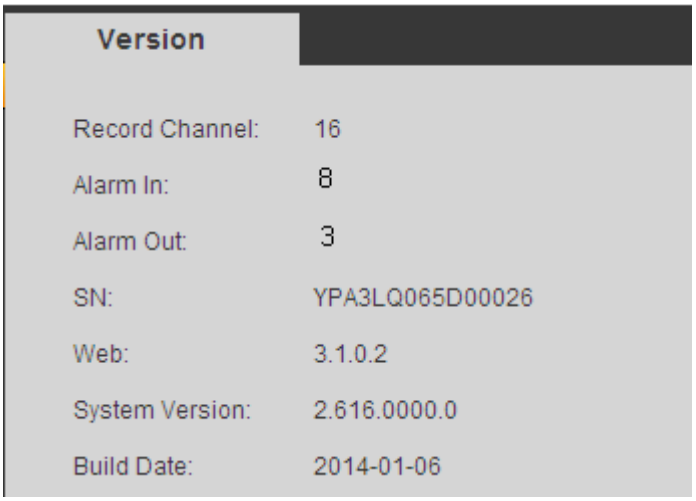


Figure 7-110

7.10.2 Log

Here you can view system log. See Figure 7-111.

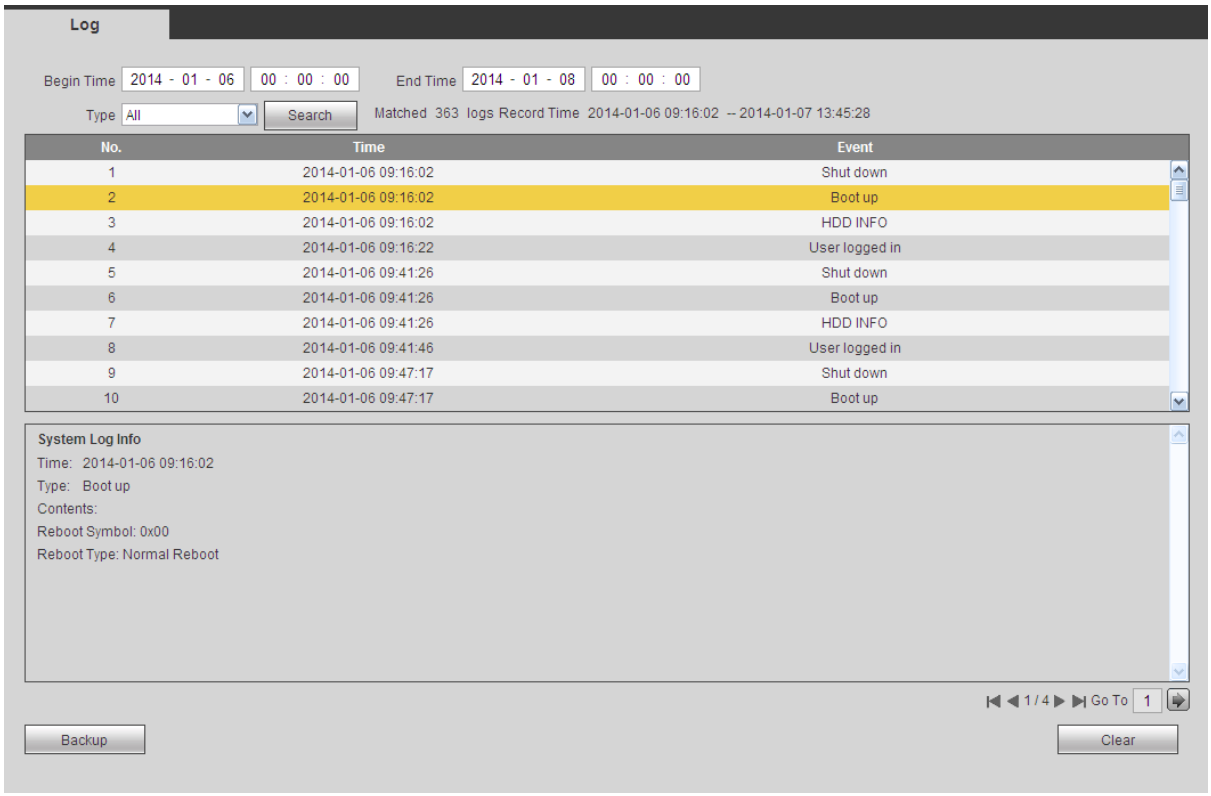


Figure 7-111

Please refer to the following sheet for log parameter information.

Parameter	Function
Type	Log types include: system operation, configuration operation, data operation, event operation, record operation, user management, log clear.
Start time	Set the start time of the requested log.
End time	Set the end time of the requested log.
Search	You can select log type from the drop down list and then click search button to view the list. You can click the stop button to terminate current search operation.
Detailed information	You can select one item to view the detailed information.
Clear	You can click this button to delete all displayed log files. Please note system does not support clear by type.
Backup	You can click this button to backup log files to current PC.

7.10.3 Online User

The online user interface is shown as in Figure 7-112.

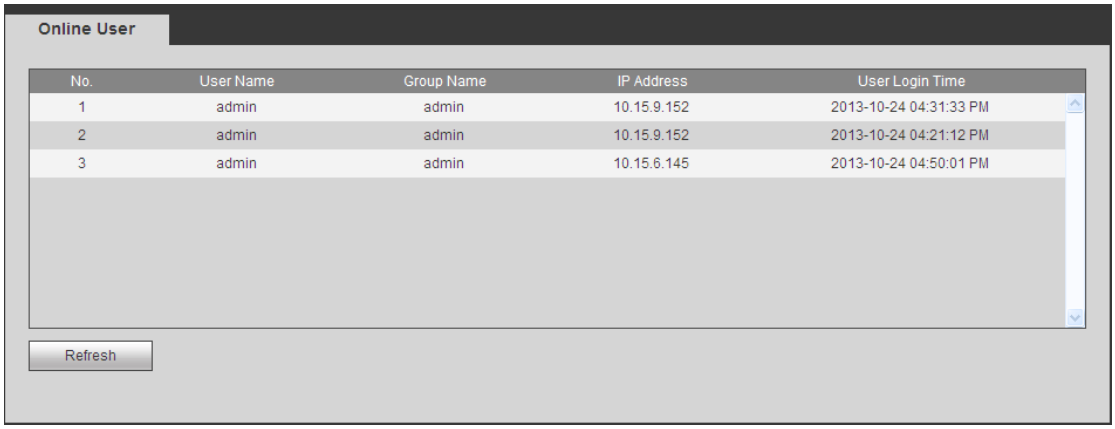


Figure 7-112

7.11 Log out

Click log out button, system goes back to log in interface. See Figure 7-113.
You need to input user name and password to login again.

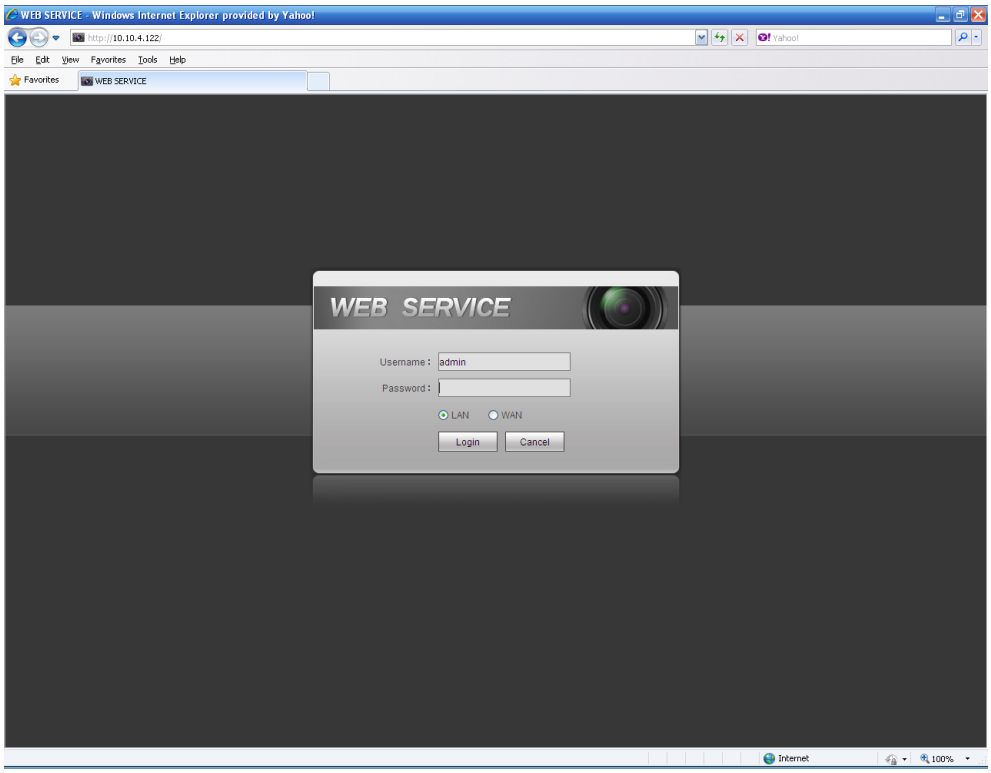


Figure 7-113

7.12 Un-install Web Control

You can use web un-install tool “uninstall web.bat” to un-install web control.

Please note, before you un-installation, please close all web pages, otherwise the un-installation might result in error.

8 FAQ

1. Device can not boot up properly.

There are following possibilities:

- Input power is not correct.
- Power connection is not correct.
- Power switch button is damaged.
- Program upgrade is wrong.
- HDD malfunction or something wrong with HDD ribbon.
- Seagate DB35.1，DB35.2，SV35 or Maxtor 17-g has compatibility problem. Please upgrade to the latest version to solve this problem.
- Front panel error.
- Main board is damaged.

2. Device often automatically shuts down or stops running.

There are following possibilities:

- Input voltage is not stable or it is too low.
- HDD malfunction or something wrong wit the ribbon.
- Button power is not enough.
- Front video signal is not stable.
- Working environment is too harsh, too much dust.
- Hardware malfunction.

3. System can not detect hard disk.

There are following possibilities:

- HDD is broken.
- HDD ribbon is damaged.
- HDD cable connection is loose.
- Main board SATA port is broken.

4. There is no video output whether it is one-channel, multiple-channel or all-channel output.

There are following possibilities:

- Program is not compatible. Please upgrade to the latest version.
- Brightness is 0. Please restore factory default setup.
- There is no video input signal or it is too weak.
- Check privacy mask setup or your screen saver.
- Device hardware malfunctions.

5. Real-time video color is distorted.

There are following possibilities:

- When using BNC output, NTSC and PAL setup is not correct. The real-time video becomes black and white.
- Device and monitor resistance is not compatible.
- Video transmission is too long or degrading is too huge.

- Device color or brightness setup is not correct.

6. Can not search local records.

There are following possibilities:

- HDD ribbon is damaged.
- HDD is broken.
- Upgraded program is not compatible.
- The recorded file has been overwritten.
- Record function has been disabled.

7. Video is distorted when searching local records.

There are following possibilities:

- Video quality setup is too low.
- Program read error, bit data is too small. There is mosaic in the full screen. Please restart the device to solve this problem.
- HDD data ribbon error.
- HDD malfunction.
- Device hardware malfunctions.

8. There is no audio when monitor.

There are following possibilities:

- It is not a power picker.
- It is not a power acoustics.
- Audio cable is damaged.
- Device hardware malfunctions.

9. There is audio when monitor but there is no audio when system playback.

There are following possibilities:

- Setup is not correct. Please enable audio function
- Corresponding channel has no video input. Playback is not continuous when the screen is blue.

10. Time display is not correct.

There are following possibilities:

- Setup is not correct
- Battery contact is not correct or voltage is too low.
- Crystal is broken.

11. Device can not control PTZ.

There are following possibilities:

- Front panel PTZ error
- PTZ decoder setup, connection or installation is not correct.
- Cable connection is not correct.
- PTZ setup is not correct.
- PTZ decoder and device protocol is not compatible.

- PTZ decoder and device address is not compatible.
- When there are several decoders, please add 120 Ohm between the PTZ decoder A/B cables furthest end to delete the reverberation or impedance matching. Otherwise the PTZ control is not stable.
- The distance is too far.

12. Motion detection function does not work.

There are following possibilities:

- Period setup is not correct.
- Motion detection zone setup is not correct.
- Sensitivity is too low.
- For some versions, there is hardware limit.

13. Can not log in client-end or web.

There are following possibilities:

- For Windows 98 or Windows ME user, please update your system to Windows 2000 sp4. Or you can install client-end software of lower version. Please note right now, our device is not compatible with Windows VISTA control.
- ActiveX control has been disabled.
- No dx8.1 or higher. Please upgrade display card driver.
- Network connection error.
- Network setup error.
- Password or user name is invalid.
- Client-end is not compatible with device program.

14. There is only mosaic no video when preview or playback video file remotely.

There are following possibilities:

- Network fluency is not good.
- Client-end resources are limit.
- There is multiple-cast group setup in device. This mode can result in mosaic. Usually we do not recommend this mode.
- There is privacy mask or channel protection setup.
- Current user has no right to monitor.
- Device local video output quality is not good.

15. Network connection is not stable.

There are following possibilities:

- Network is not stable.
- IP address conflict.
- MAC address conflict.
- PC or device network card is not good.

16. Burn error /USB2.0 back error.

There are following possibilities:

- Burner and device are in the same data cable.

- System uses too much CPU resources. Please stop record first and then begin backup.
- Data amount exceeds backup device capacity. It may result in burner error.
- Backup device is not compatible.
- Backup device is damaged.

17. Keyboard can not control device.

There are following possibilities:

- Device serial port setup is not correct
- Address is not correct
- When there are several switchers, power supply is not enough.
- Transmission distance is too far.

18. Alarm signal can not been disarmed.

There are following possibilities:

- Alarm setup is not correct.
- Alarm output has been open manually.
- Input device error or connection is not correct.
- Some program versions may have this problem. Please upgrade your system.

19. Alarm function is null.

There are following possibilities:

- Alarm setup is not correct.
- Alarm cable connection is not correct.
- Alarm input signal is not correct.
- There are two loops connect to one alarm device.

20. Remote control does not work.

There are following possibilities:

- Remote control address is not correct.
- Distance is too far or control angle is too small.
- Remote control battery power is low.
- Remote control is damaged or device front panel is damaged.

21. Record storage period is not enough.

There are following possibilities:

- Camera quality is too low. Lens is dirty. Camera is installed against the light. Camera aperture setup is not correct.
- HDD capacity is not enough.
- HDD is damaged.

22. Can not playback the downloaded file.

There are following possibilities:

- There is no media player.
- No DXB8.1 or higher graphic acceleration software.

- There is no DivX503Bundle.exe control when you play the file transformed to AVI via media player.
- No DivX503Bundle.exe or ffdshow-2004 1012 .exe in Windows XP OS.

23. I forgot local menu operation password or network password

Please contact your local service engineer or our sales engineer for help. We can guide you to solve this problem.

24. There is no video. The screen is in black.

There are following possibilities:

- IPC IP address is not right.
- IPC port number is not right.
- IPC account (user name/password) is not right.

25. The displayed video is not complete.

Please cheek current resolution setup. If the current setup is 1920*1080, then you need to set the monitor resolution as 1920*1080.

26. There is no HDMI output.

There are following possibilities:

- Displayer is not in HDMI mode.
- HDMI cable connection is not right.

27. The video is not fluent when I view in multiple-channel mode from the client-end.

There are following possibilities:

- The network bandwidth is not sufficient. The multiple-channel monitor operation needs at least 100M or higher.
- Your PC resources are not sufficient. For 16-ch remote monitor operation, the PC shall have the following environment: Quad Core, 2G or higher memory, independent displayer, display card memory 256M or higher.

Daily Maintenance

- Please use the brush to clean the board, socket connector and the chassis regularly.
- The device shall be soundly earthed in case there is audio/video disturbance. Keep the device away from the static voltage or induced voltage.
- Please unplug the power cable when you remove the audio/video signal cable, RS232 or RS485 cable.
- Always shut down the device properly. Please press the power button in the front pane for at least three seconds to shut down the device. Otherwise it may result in HDD malfunction.
- Please make sure the device is away from the direct sunlight or other heating sources. Please keep the sound ventilation.
- Please check and maintain the device regularly.

9 Glossary

- **DHCP:** DHCP (Dynamic Host Configuration Protocol) is a network protocol. It is one of the TCP/IP protocol cluster. It is principally used to assign temporary IP addresses to computers on a network.
- **DDNS:** DDNS (Dynamic Domain Name Server) is a service that maps Internet domain names to IP addresses. This service is useful to anyone who wants to operate a server (web server, mail server, ftp server and etc) connected to the internet with a dynamic IP or to someone who wants to connect to an office computer or server from a remote location with software.
- **eSATA**: eSATA(External Serial AT) is an interface that provides fast data transfer for external storage devices. It is the extension specifications of a SATA interface.
- **GPS:** GPS (Global Positioning System) is a satellite system, protected by the US military, safely orbiting thousands of kilometers above the earth.
- **PPPoE: PPPOE (**Point to Point Protocol over Ethernet) is a specification for connecting multiple computer users on an Ethernet local area network to a remote site. Now the popular mode is ADSL and it adopts PPPoE protocol.
- **WIFI:** Wi-Fi is the name of a popular wireless networking technology that uses radio waves to provide wireless high-speed Internet and network connections. The standard is for wireless local area networks (WLANs). It is like a common language that all the devices use to communicate to each other. It is actually IEEE802.11, a family of standard The IEEE (Institute of Electrical and Electronics Engineers Inc.)
- **3G:** 3G is the wireless network standard. It is called 3G because it is the third generation of cellular telecom standards. 3G is a faster network for phone and data transmission and speed Is over several hundreds kbps. Now there are four standards: CDMA2000, WCDMA, TD-SCDMA and WiMAX.
- **Dual-stream:** The dual-stream technology adopts high-rate bit stream for local HD storage such as QCIF/CIF/2CIF/DCIF/4CIF encode and one low-rate bit stream for network transmission such as QCIF/CIF encode. It can balance the local storage and remote network transmission. The dual-stream can meet the difference band width requirements of the local transmission and the remote transmission. In this way, the local transmission using high-bit stream can achieve HD storage and the network transmission adopting low bit stream suitable for the fluency requirements of the 3G network such as WCDMA, EVDO, TD-SCDMA..
- **On-off value:** It is the non-consecutive signal sampling and output. It includes remote sampling and remote output. It has two statuses: 1/0.

10 Appendix A HDD Capacity Calculation

Calculate total capacity needed by each device according to video recording (video recording type and video file storage time).

Step 1: According to Formula (1) to calculate storage capacity q_i that is the capacity of each channel needed for each hour, unit Mbyte.

$$q_i = d_i \div 8 \times 3600 \div 1024 \quad (1)$$

In the formula: d_i means the bit rate, unit Kbit/s

Step 2: After video time requirement is confirmed, according to Formula (2) to calculate the storage capacity m_i, which is storage of each channel needed unit Mbyte.

$$m_i = q_i \times h_i \times D_i \quad (2)$$

In the formula:

h_i means the recording time for each day (hour)

D_i means number of days for which the video shall be kept

Step 3: According to Formula (3) to calculate total capacity (accumulation) q_T that is needed for all channels in the device during **scheduled video recording**.

$$q_T = \sum_{i=1}^{c} m_i \quad (3)$$

In the formula: c means total number of channels in one device

Step 4: According to Formula (4) to calculate total capacity (accumulation) q_T that is needed for all channels in device during **alarm video recording (including motion detection)**.

$$q_T = \sum_{i=1}^{c} m_i \times a\% \quad (4)$$

In the formula：$a\%$ means alarm occurrence rate

11 Appendix B Compatible Network Camera

Please note all the models in the following list are for reference only. For those products not included in the list, please contact your local retailer or technical supporting engineer for detailed information.

Manufacture	Model	Version	Video Encode	Audio/Video	Protocol
AXIS	P1346	5.40.9.2	H264	√	ONVIF, Private
	P3344/P3344-E	5.40.9.2	H264	√	ONVIF, Private
	P5512	—	H264	√	ONVIF, Private
	Q1604	5.40.3.2	H264	√	ONVIF, Private
	Q1604-E	5.40.9	H264	√	ONVIF, Private
	Q6034E	—	H264	√	ONVIF, Private
	Q6035	5.40.9	H264	√	ONVIF, Private
	Q1755	—	H264	√	ONVIF, Private
	M7001	—	H264	√	Private
	M3204	5.40.9.2	H264	√	Private
	P3367	HEAD LFP4_0130220	H264	√	ONVIF
	P5532-P	HEAD LFP4_0130220	H264	√	ONVIF
ACTi	ACM-3511	A1D-220-V3.12.15-AC	MPEG4	√	Private
	ACM-8221	A1D-220-V3.13.16-AC	MPEG4	√	Private
Arecont	AV1115	65246	H264	√	Private
	AV10005DN	65197	H264	√	Private
	AV2115DN	65246	H264	√	Private
	AV2515DN	65199	H264	√	Private
	AV2815	65197	H264	√	Private
	AV5115DN	65246	H264	√	Private
	AV8185DN	65197	H264	√	Private
Bosch	NBN-921-P	—	H264	√	ONVIF
	NBC-455-12P	—	H264	√	ONVIF
	VG5-825	9500453	H264	√	ONVIF
	NBN-832	66500500	H264	√	ONVIF
	VEZ-211-IWTEIVA	—	H264	√	ONVIF
	NBC-255-P	15500152	H264	√	ONVIF
	VIP-X1XF	—	H264	√	ONVIF
Brikcom	B0100	—	H264	√	ONVIF
	D100	—	H264	√	ONVIF
	GE-100-CB	—	H264	√	ONVIF
	FB-100A	v1.0.3.9	H264	√	ONVIF

	FD-100A	v1.0.3.3	H264	√	ONVIF
Cannon	VB-M400	—	H264	√	Private
CNB	MPix2.0DIR	XNETM1120111229	H264	√	ONVIF
	VIPBL1.3MIRVF	XNETM2100111229	H264	√	ONVIF
	IGC-2050F	XNETM2100111229	H264	√	ONVIF
CP PLUS	CP-NC9-K	6.E.2.7776	H264	√	Private, ONVIF
	CP-NC9W-K	6.E.2.7776	H264	√	Private
	CP-ND10-R	cp20111129ANS	H264	√	ONVIF
	CP-ND20-R	cp20111129ANS	H264	√	ONVIF
	CP-NS12W-CR	cp20110808NS	H264	√	ONVIF
	VS201	cp20111129NS	H264	√	ONVIF
	CP-NB20-R	cp20110808BNS	H264	√	ONVIF
	CP-NT20VL3-R	cp20110808BNS	H264	√	ONVIF
	CP-NS36W-AR	cp20110808NS	H264	√	ONVIF
	CP-ND20VL2-R	cp20110808BNS	H264	√	ONVIF
	CP-RNP-1820	cp20120821NSA	H264	√	Private
	CP-RNC-TP20FL3C	cp20120821NSA	H264	√	Private
	CP-RNP-12D	cp20120828ANS	H264	√	Private
	CP-RNC-DV10	cp20120821NSA	H264	√	Private
	CP-RNC-DP20FL2C	cp20120821NSA	H264	√	Private
Dynacolor	ICS-13	d20120214NS	H264	√	Private, ONVIF
	ICS-20W	vt20111123NSA	H264	√	Private, ONVIF
	NA222	—	H264	√	ONVIF
	MPC-IPVD-0313	k20111208ANS	H264	√	Private, ONVIF
	MPC-IPVD-0313AF	k20111208BNS	H264	√	Private, ONVIF
Honeywell	HIDC-1100PT	h.2.2.1824	H264	√	ONVIF
	HIDC-1100P	h.2.2.1824	H264	√	ONVIF
	HIDC-0100P	h.2.2.1824	H264	√	ONVIF

	HIDC-1300V	2.0.0.21	H264	√	ONVIF
	HICC-1300W	2.0.1.7	H264	√	ONVIF
	HICC-2300	2.0.0.21	H264	√	ONVIF
	HDZ20HDX	H20130114NSA	H264	√	ONVIF
LG	LW342-FP	—	H264	√	Private
	LNB5100	—	H264	√	ONVIF
Imatek	KNC-B5000	—	H264	√	Private
	KNC-B5162	—	H264	√	Private
	KNC-B2161	—	H264	√	Private
Panasonic	NP240/CH	—	MPEG4	√	Private
	WV-NP502	—	MPEG4	√	Private
	WV-SP102H	1.41	H264	√	Private, ONVIF
	WV-SP105H	—	H264	√	Private, ONVIF
	WV-SP302H	1.41	H264、MPEG4	√	Private, ONVIF
	WV-SP306H	1.4	H264、MPEG4	√	Private, ONVIF
	WV-SP508H	—	H264、MPEG4	√	Private, ONVIF
	WV-SP509H	—	H264、MPEG4	√	Private, ONVIF
	WV-SF332H	1.41	H264、MPEG4	√	Private, ONVIF
	WV-SW316H	1.41	H264、MPEG4	√	Private, ONVIF
	WV-SW355H	1.41	H264、MPEG4	√	Private, ONVIF
	WV-SW352H	—	H264、MPEG4	√	Private, ONVIF
	WV-SW152E	1.03	H264、MPEG4	√	Private, ONVIF
	WV-SW558H	—	H264、MPEG4	√	Private, ONVIF
	WV-SW559H	—	H264、MPEG4	√	Private, ONVIF
	WV-SP105H	1.03	H264、MPEG4	√	Private, ONVIF
	WV-SW155E	1.03	H264、MPEG4	√	Private, ONVIF
	WV-SF336H	1.44	H264、MPEG4	√	Private, ONVIF
	WV-SF332H	1.41	H264、MPEG4	√	Private, ONVIF
	WV-SF132E	1.03	H264、MPEG4	√	Private, ONVIF
	WV-SF135E	1.03	H264、MPEG4	√	Private, ONVIF
	WV-SF346H	1.41	H264、MPEG4	√	Private, ONVIF
	WV-SF342H	1.41	H264、MPEG4	√	Private, ONVIF
	WV-SC385H	1.08	H264、MPEG4	√	Private, ONVIF
	WV-SC386H	1.08	H264、MPEG4	√	Private, ONVIF
	WV-SP539	1.66	H264、MPEG4	√	ONVIF
	DG-SC385	1.66	H264、MPEG4	√	ONVIF
PELCO	IXSOLW	1.8.1-20110912-1.9082-A1.6617	H264	√	Private
	IDE20DN	1.7.41.9111-O3.6725	H264	√	Private
	D5118	1.7.8.9310-A1.5288	H264	√	Private
	IM10C10	1.6.13.9261-O2	H264	√	Private

		.4657			
	DD4N-X	01.02.0015	MPEG4	√	Private
	DD423-X	01.02.0006	MPEG4	√	Private
	D5220	1.8.3-FC2-20120614-1.9320-A1.8035	H264	√	Private
Samsung	SNB-3000P	2.41	H264、MPEG4	√	Private, ONVIF
	SNP-3120	1.22_110120_1	H264、MPEG4	√	Private, ONVIF
	SNP-3370	1.21_110318	MPEG4	√	Private
	SNB-5000	2.10_111227	H264、MPEG4	√	Private, ONVIF
	SND-5080	—	H264、MPEG4	√	Private
	SNZ-5200	1.02_110512	H264、MPEG4	√	Private, ONVIF
	SNP-5200	1.04_110825	H264、MPEG4	√	Private, ONVIF
	SNB-7000	1.10_110819	H264	√	Private, ONVIF
	SNB-6004	V1.0.0	H264	√	ONVIF
Sony	SNC-DH110	1.50.00	H264	√	Private, ONVIF
	SNC-CH120	1.50.00	H264	√	Private, ONVIF
	SNC-CH135	1.73.01	H264	√	Private, ONVIF
	SNC-CH140	1.50.00	H264	√	Private, ONVIF
	SNC-CH210	1.73.00	H264	√	Private, ONVIF
	SNC-DH210	1.73.00	H264	√	Private, ONVIF
	SNC-DH240	1.50.00	H264	√	Private, ONVIF
	SNC-DH240-T	1.73.01	H264	√	Private, ONVIF
	SNC-CH260	1.74.01	H264	√	Private, ONVIF
	SNC-CH280	1.73.01	H264	√	Private, ONVIF
	SNC-RH-124	1.73.00	H264	√	Private, ONVIF
	SNC-RS46P	1.73.00	H264	√	Private, ONVIF
	SNC-ER550	1.74.01	H264	√	Private, ONVIF
	SNC-ER580	1.74.01	H264	√	Private, ONVIF
	SNC-ER580	1.78.00	H264	√	ONVIF
	SNC-VM631	1.4.0	H264	√	ONVIF
	WV-SP306	1.61.00	H264、MPEG4	√	SDK
	WV-SP306	1.61.00	H264	√	ONVIF
	SNC-VB600	1.5.0	H264	√	Private
	SNC-VM600	1.5.0	H264	√	Private
	SNC-VB630	1.5.0	H264	√	Private
	SNC-VM630	1.5.0	H264	√	Private
SANYO	VCC-HDN4000PC	—	H264	√	ONVIF

12 Appendix C Compatible Backup Device List

Compatible USB drive list

Manufacturer	Model	Capacity
Sandisk	Cruzer Micro	512M
Sandisk	Cruzer Micro	1G
Sandisk	Cruzer Micro	2G
Sandisk	Cruzer Freedom	256M
Sandisk	Cruzer Freedom	512M
Sandisk	Cruzer Freedom	1G
Sandisk	Cruzer Freedom	2G
Kingston	DataTraveler Ⅱ	1G
Kingston	DataTraveler Ⅱ	2G
Kingston	DataTraveler	1G
Kingston	DataTraveler	2G
Maxell	USB Flash Stick	128M
Maxell	USB Flash Stick	256M
Maxell	USB Flash Stick	512M
Maxell	USB Flash Stick	1G
Maxell	USB Flash Stick	2G
Kingax	Super Stick	128M
Kingax	Super Stick	256M
Kingax	Super Stick	512M
Kingax	Super Stick	1G
Kingax	Super Stick	2G
Netac	U210	128M
Netac	U210	256M
Netac	U210	512M
Netac	U210	1G
Netac	U210	2G
Netac	U208	4G
Teclast	Ti Cool	128M
Teclast	Ti Cool	256M
Teclast	Ti Cool	512M
Teclast	Ti Cool	1G
SanDisk	cruzer mirco	2G
SanDisk	cruzer mirco	8G
SanDisk	Ti Cool	2G
SanDisk	Hongjiao	4G
Lexar	Lexar	256MB
Kingston	Data Traveler	1G
Kingston	Data Traveler	16GB
Kingston	Data Traveler	32GB
Aigo	L8315	16GB
Sandisk	250	16GB

Manufacturer	Model	Capacity
Kingston	Data Traveler Locker+	32GB
Netac	U228	8GB

Compatible SD Card List

Please refer to the following sheet for compatible SD card brand.

Brand	Standard	Capacity	Card type
Transcend	SDHC6	16GB	SD
Kingston	SDHC4	4GB	SD
Kingston	SD	2GB	SD
Kingston	SD	1GB	SD
Sandisk	SDHC2	8GB	Micro-SD
Sandisk	SD	1GB	Micro-SD

Compatible Portable HDD List

Please refer to the following sheet for compatible portable HDD brand.

Brand	Model	Capacity
YDStar	YDstar HDD box	40G
Netac	Netac	80G
Iomega	Iomega RPHD-CG" RNAJ50U287	250GB
WD Elements	WCAVY1205901	1.5TB
Newsmy	Liangjian	320GB
WD Elements	WDBAAR5000ABK-00	500GB
WD Elements	WDBAAU0015HBK-00	1.5TB
Seagate	FreeAgent Go(ST905003F)	500GB
Aigo	H8169	500GB

Compatible USB DVD Burner List

Manufacturer	Model
Samsung	SE-S084
Benq	TW200D

Compatible SATA DVD Burner List

Manufacturer	Model
LG	GH22NS30
Samsung	TS-H653 Ver.A
Samsung	TS-H653 Ver.F
Samsung	SH-224BB/CHXH
SONY	DRU-V200S
SONY	DRU-845S

Manufacturer	Model
SONY	AW-G170S
Pioneer	NVR-217CH
Pioneer	NVR-215CHG

Compatible SATA HDD List

Manufacturer	Series	Model	Capacity	Port Mode
Seagate	Seagate SV35.1	ST3250824SV	250G	SATA
Seagate	Seagate SV35.1	ST3500641SV	500G	SATA
Seagate	Seagate SV35.2	ST3250820SV	250G	SATA
Seagate	Seagate SV35.2	ST3320620SV	320G	SATA
Seagate	Seagate SV35.2	ST3500630SV	500G	SATA
Seagate	Seagate SV35.2	ST3750640SV	750G	SATA
Seagate	Seagate SV35.3	ST3250310SV	250G	SATA
Seagate	Seagate SV35.3	ST3500320SV	500G	SATA
Seagate	Seagate SV35.3	ST3750330SV	750G	SATA
Seagate	Seagate SV35.3	ST31000340SV	1T	SATA
Seagate	Seagate SV35.4	ST3320410SV	320G	SATA
Seagate	Seagate SV35.4	ST3250311SV	250G	SATA
Seagate	Seagate SV35.5	ST3500410SV	500G	SATA
Seagate	Seagate SV35.5	ST3500411SV	500G	SATA
Seagate	Seagate SV35.5	ST31000525SV	1T	SATA
Seagate	Seagate SV35.5	ST31000526SV	1T	SATA
Seagate	Seagate SV35.5	ST1000VX000	1T	SATA
Seagate	Seagate SV35.5	ST2000VX003	2T	SATA
Seagate	Seagate SV35.5	ST2000VX002	2T	SATA
Seagate	Seagate SV35.5	ST2000VX000	2T	SATA
Seagate	Seagate SV35.5	ST3000VX000	3T	SATA
Seagate	Seagate Pipeline HD	ST3320410CS	320G	SATA
Seagate	Seagate Pipeline HD	ST3320310CS	320G	SATA
Seagate	Seagate Pipeline HD	ST3500422CS	500G	SATA
Seagate	Seagate Pipeline HD	ST3500321CS	500G	SATA
Seagate	Seagate Pipeline	ST3250412CS	250G	SATA

Manufacturer	Series	Model	Capacity	Port Mode
	HD2			
Seagate	Seagate Pipeline HD2	ST3320311CS	250G	SATA
Seagate	Seagate Pipeline HD2	ST3500414CS	500G	SATA
Seagate	Seagate Pipeline HD2	ST3500312CS	500G	SATA
Seagate	Seagate Pipeline HD2	ST31000424CS	1T	SATA
Seagate	Seagate Pipeline HD2	ST31000322CS	1T	SATA
Seagate	Seagate Pipeline HD2	ST1000VM002	1T	SATA
Seagate	Seagate Pipeline HD2	ST1500VM002	1T	SATA
Seagate	Seagate Pipeline HD2	ST2000VM002	2T	SATA
Seagate	Seagate Pipeline HD2	ST2000VM003	2T	SATA
Seagate	Seagate Constellation ES	ST3500514NS	500G	SATA
Seagate	Seagate Constellation ES	ST31000524NS	1T	SATA
Seagate	Seagate Constellation ES	ST32000644NS	2T	SATA
Seagate	Seagate Constellation ES	ST2000NM0011	2T	SATA
Seagate	Seagate Constellation ES	ST1000NM0011	1T	SATA
Seagate	Seagate Constellation ES	ST500NM0011	500G	SATA
Seagate	Seagate Constellation ES	ST2000NM0031	2T	SATA
Seagate	Seagate Constellation ES	ST1000NM0031	1T	SATA
Seagate	Seagate	ST500NM0031	500G	SATA

Manufacturer	Series	Model	Capacity	Port Mode
	Constellation ES			
Seagate	Seagate Constellation ES	ST2000NM0051	2T	SATA
Seagate	Seagate Constellation ES	ST1000NM0051	1T	SATA
Seagate	Seagate Constellation ES	ST500NM0051	500G	SATA
Seagate	Seagate Constellation ES.2	ST33000650NS	3T	SATA
Seagate	Seagate Constellation ES.2	ST32000645NS	2T	SATA
Seagate	Seagate Constellation ES.2	ST33000651NS	3T	SATA
Seagate	Seagate Constellation ES.2	ST32000646NS	2T	SATA
Seagate	Seagate Constellation ES.2	ST33000652NS	3T	SATA
Seagate	Seagate Constellation ES.2	ST32000647NS	2T	SATA
Westem Digital	Cariar SE	WD3200JD	320G	SATA
Westem Digital	Cariar SE	WD3000JD	300G	SATA
Westem Digital	Cariar SE	WD2500JS	250G	SATA
Westem Digital	Cariar SE16	WD7500KS	750G	SATA
Westem Digital	Cariar SE16	WD5000KS	500G	SATA
Westem Digital	Cariar SE16	WD4000KD	400G	SATA
Westem Digital	Cariar SE16	WD3200KS	320G	SATA
Westem Digital	Cariar SE16	WD2500KS	250G	SATA
Westem	WD Caviar SE16	WD2500YS-01SHB0	250G	SATA

Manufacturer	Series	Model	Capacity	Port Mode
Digital				
Westem Digital	WD Caviar RE16	WD3200YS-01PGB0	320G	SATA
Westem Digital	WD Caviar RE2	WD5000YS-01MPB0	500G	SATA
Westem Digital	WD AV—AVJS	WD2500AVJS-63WDA0	500G	SATA
Westem Digital	WD AV—AVJS	WD3200AVJS-63WDA0	320G	SATA
Westem Digital	WD AV—AVJS	WD5000AVJS-63YJA0	500G	SATA
Westem Digital	WDAV-GP—AVCS	WD5000AVCS-63H1B1	500G	SATA
Westem Digital	WDAV-GP—AVCS	WD7500AVCS-63ZLB0	750G	SATA
Westem Digital	WDAV-GP—AVCS	WD3200AVCS	320G	SATA
Westem Digital	WDAV-GP—AVCS	WD2500AVCS	250G	SATA
Westem Digital	WDAV-GP—EVCS	WD10EVCS-63ZLB0	1T	SATA
Westem Digital	WDAV-GP—EVCS	WD20EVCS-63ZLB0	2T	SATA
Westem Digital	WDAV-GP—AVVS	WD3200AVVS-63L2B0	320G	SATA
Westem Digital	WDAV-GP—AVVS	WD5000AVVS-63ZWB0	500G	SATA
Westem Digital	WDAV-GP—AVVS	WD7500AVVS-63E1B1	750G	SATA
Westem Digital	WDAV-GP—AVVS	WD7500AVVS-63E1B1	750G	SATA
Westem Digital	WDAV-GP—EVVS	WD10EVVS-63E1B1	1T	SATA
Westem Digital	WDAV-GP—EVDS	WD10EVDS-63N5B1	1T	SATA
Westem	WDAV-GP—EVDS	WD15EVDS-63V9B0	1.5T	SATA

Manufacturer	Series	Model	Capacity	Port Mode
Digital				
Westem Digital	WDAV-GP—EVDS	WD20EVDS-63T3B0	2T	SATA
Westem Digital	WDAV-GP—AVDS	WD5000AVDS-63U7B0	500G	SATA
Westem Digital	WD AV-GP	WD30EURS	3T	SATA
Westem Digital	WD AV-GP	WD25EURS	2.5T	SATA
Westem Digital	WD AV-GP	WD20EURS	2T	SATA
Westem Digital	WD AV-GP	WD15EURS	1.5T	SATA
Westem Digital	WD AV-GP	WD10EURS	1T	SATA
Westem Digital	WD AV-GP	WD10EURX	1T	SATA
Westem Digital	WD AV-GP	WD7500AURS	750G	SATA
Westem Digital	WD AV-GP	WD7500AVDS	500G	SATA
Westem Digital	WD AV-GP	WD500AVDS	500G	SATA
Westem Digital	WD AV-GP	WD10EUCX	1T	SATA
Samsung	Samsung—HA	HA500LJ/CE	500G	SATA
Samsung	Samsung—HA	HA751LJ	750G	SATA
Samsung	Samsung—HA	HA101UJ/CE	1T	SATA
Samsung	Samsung—HD	HD502HI/CEC	500G	SATA
Samsung	Samsung—HD	HD103SI/CEC	1T	SATA
Samsung	Samsung—HD	HD154UI/CE	1.5T	SATA
Hitachi	HitachiCinemaStar™ 5K500	HCP725050GLA380	500G	SATA
Hitachi	HitachiCinemaStar™ 7K1000.B	HCT721050SLA360	500G	SATA

Manufacturer	Series	Model	Capacity	Port Mode
Hitachi	HitachiCinemaStar™ 7K1000.B	HCT721075SLA360	750G	SATA
Hitachi	HitachiCinemaStar™ 7K1000.B	HCT721010SLA360	1T	SATA
Maxtor	DiamondMax 20	STM3320820AS	320G	SATA
Maxtor	DiamondMax 20	STM3250820AS	250G	SATA

13 Appendix D Compatible CD/DVD

Manufacturer	Model	Port Mode	Type
Sony	DRX-S50U	USB	DVD-RW
Sony	DRX-S70U	USB	DVD-RW
Sony	AW-G170S	SATA	DVD-RW
Samsung	TS-H653A	SATA	DVD-RW
Panasonic	SW-9588-C	SATA	DVD-RW
Sony	DRX-S50U	USB	DVD-RW
BenQ	5232WI	USB	DVD-RW

14 Appendix E Compatible Displayer List

Brand	Model	Dimension (Unit: inch)
BENQ（LCD）	ET-0007-TA	19-inch (wide screen)
DELL（LCD）	E178FPc	17-inch
BENQ（LCD）	Q7T4	17-inch
BENQ（LCD）	Q7T3	17-inch
LENOVO（LCD）	LXB-L17C	17-inch
SANGSUNG（LCD）	225BW	22-inch (wide screen)
LENOVO(CRT)	LXB-FD17069HB	17-inch
LENOVO(CRT)	LXB-HF769A	17-inch
LENOVO(CRT)	LX-GJ556D	17-inch
Samsung (LCD)	2494HS	24-inch
Samsung (LCD)	P2350	23-inch
Samsung (LCD)	P2250	22-inch
Samsung (LCD)	P2370G	23-inch
Samsung (LCD)	2043	20-inch
Samsung (LCD)	2243EW	22-inch
LG（LCD）	W1942SP	19-inch
LG（LCD）	W2243S	22-inch
LG（LCD）	W2343T	23-inch
BENQ（LCD）	G900HD	18.5-inch
BENQ（LCD）	G2220HD	22-inch
PHILIPS（LCD）	230E	23-inch
PHILIPS（LCD）	220CW9	23-inch
PHILIPS（LCD）	220BW9	24-inch
PHILIPS（LCD）	220EW9	25-inch

15 Appendix F Toxic or Hazardous Materials or Elements

Component Name	Toxic or Hazardous Materials or Elements					
	Pb	Hg	Cd	Cr VI	PBB	PBDE
Sheet Metal(Case)	○	○	○	○	○	○
Plastic Parts（Panel）	○	○	○	○	○	○
Circuit Board	○	○	○	○	○	○
Fastener	○	○	○	○	○	○
Wire and Cable/Ac Adapter	○	○	○	○	○	○
Packing Material	○	○	○	○	○	○
Accessories	○	○	○	○	○	○

Note

O: Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T11363-2006 standard.

X: Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T11363-2006 standard. During the environmental-friendly use period (EFUP) period, the toxic or hazardous substance or elements contained in products will not leak or mutate so that the use of these (substances or elements) will not result in any severe environmental pollution, any bodily injury or damage to any assets. The consumer is not authorized to process such kind of substances or elements, please return to the corresponding local authorities to process according to your local government statutes.

Note

- **This manual is for reference only. Slight difference may be found in the user interface.**
- **All the designs and software here are subject to change without prior written notice.**
- **All trademarks and registered trademarks are the properties of their respective owners.**
- **If there is any uncertainty or controversy, please refer to the final explanation of us.**
- **Please visit our website or contact your local service engineer for more information.**