

# Dahua HDCVI Standalone DVR User's Manual

V1.3.1

# Table of Contents

<b>1</b>	<b>FEATURES AND SPECIFICATIONS .....</b>	<b>8</b>
1.1	Overview .....	8
1.2	Features .....	8
1.3	Specifications .....	9
1.3.1	HCVR82XXA-S3 Series .....	9
1.3.2	HCVR84XXL-S3 Series .....	11
1.3.3	HCVR88XXS-S3 Series .....	14
1.3.4	HCVR88XXS-URH-S3 Series .....	16
1.3.5	XVR88XXS Series .....	18
<b>2</b>	<b>OVERVIEW AND CONTROLS .....</b>	<b>21</b>
2.1	Front Panel .....	21
2.1.1	HCVR82XXA-S3/ HCVR84XXL-S3/HCVR88XXS-S3/ XVR88XXS Series .....	21
2.1.2	HCVR88XXS-URH-S3 Series .....	22
2.2	Rear Panel .....	22
2.2.1	HCVR82XXA-S3 Series .....	22
2.2.2	HCVR84XXL-S3/HCVR88XXS-S3/ HCVR88XXS-URH-S3/XVR88XXS Series .....	24
2.3	Connection Sample .....	28
2.4	Remote Control .....	29
2.5	Mouse Control .....	31
2.6	Virtual Keyboard & Front Panel .....	32
2.6.1	Virtual Keyboard .....	32
2.6.2	Front Panel .....	33

<b>3</b>	<b>INSTALLATION AND CONNECTIONS .....</b>	<b>34</b>
3.1	Check Unpacked DVR.....	34
3.2	About Front Panel and Rear Panel.....	34
3.3	HDD Installation.....	34
3.3.1	HDD Calculation .....	34
3.3.2	HDD Installation .....	35
3.3.3	Rack Installation.....	39
3.4	Connecting Power Supply.....	39
3.5	Connecting Video Input and Output Devices .....	39
3.5.1	Connecting Video Input.....	39
3.5.2	Connecting Video Output .....	39
3.6	Connecting Audio Input & Output, Bidirectional Audio .....	40
3.6.1	Audio Input.....	40
3.6.2	Audio Output.....	40
3.7	Alarm Input and Output Connection .....	40
3.7.1	Alarm Input and Output Details .....	41
3.7.2	Alarm Input Port .....	42
3.7.3	Alarm Output Port.....	42
3.7.4	Alarm Output Relay Parameters.....	42
3.8	Change DVR Button Battery.....	43
3.9	RS485 .....	43
3.10	Other Interfaces .....	44
<b>4</b>	<b>OVERVIEW OF NAVIGATION AND CONTROLS.....</b>	<b>45</b>

<b>4.1</b>	<b>Initial Settings.....</b>	<b>45</b>
4.1.1	Boot up .....	45
4.1.2	Device Initialization.....	45
4.1.3	Reset Password.....	48
4.1.4	Quick Settings .....	53
<b>4.2</b>	<b>Preview .....</b>	<b>87</b>
4.2.1	Preview Window .....	87
4.2.2	Preview Control.....	88
4.2.3	Right-Click Menu.....	91
4.2.4	Window Switch.....	92
4.2.5	Video Color .....	92
4.2.6	Image.....	95
4.2.7	Auto Focus.....	97
4.2.8	Preview and Display.....	98
4.2.9	Tour.....	101
<b>4.3</b>	<b>Search Human Face (Optional).....</b>	<b>104</b>
<b>4.4</b>	<b>Fisheye.....</b>	<b>105</b>
4.4.1	Fisheye De-Warp During Preview Interface .....	105
4.4.2	Fisheye De-Warp During Playback.....	107
<b>4.5</b>	<b>Smart Track.....</b>	<b>107</b>
<b>4.6</b>	<b>PTZ Control.....</b>	<b>108</b>
4.6.1	PTZ Settings.....	108
4.6.2	PTZ Operation.....	109
4.6.3	Coaxial Control.....	111
4.6.4	Set PTZ Functions .....	112
4.6.5	Call PTZ Functions .....	115
<b>4.7</b>	<b>Navigation Bar .....</b>	<b>116</b>
4.7.1	Main Menu .....	117
4.7.2	Output Screen .....	117
4.7.3	Previous/Next Screen .....	117
4.7.4	Tour.....	117
4.7.5	Favorites .....	117
4.7.6	Channel.....	119
4.7.7	PTZ .....	120
4.7.8	Color .....	120
4.7.9	Search .....	120



4.7.10	Alarm Status .....	120
4.7.11	Channel Info .....	120
4.7.12	Registration.....	120
4.7.13	Network .....	120
4.7.14	HDD Manager.....	121
4.7.15	USB Manager .....	121
<b>4.8</b>	<b>Record and Snapshot.....</b>	<b>121</b>
4.8.1	Record and Snapshot Control .....	121
4.8.2	Snapshot.....	125
<b>4.9</b>	<b>Search and Playback.....</b>	<b>129</b>
4.9.1	Instant Playback.....	129
4.9.2	Search .....	129
4.9.3	Smart Search Playback .....	136
4.9.4	Mark Playback.....	137
4.9.5	Playback Image.....	138
4.9.6	Splice Playback.....	138
4.9.7	File List .....	139
4.9.8	Other Aux Functions .....	141
<b>4.10</b>	<b>Backup.....</b>	<b>141</b>
4.10.1	File Backup .....	141
4.10.2	USB Device Auto Pop-up.....	142
<b>4.11</b>	<b>Network.....</b>	<b>143</b>
4.11.1	TCP/IP .....	143
4.11.2	Connection.....	144
4.11.3	WIFI.....	145
4.11.4	3G/4G .....	146
4.11.5	PPPoE .....	147
4.11.6	DDNS.....	148
4.11.7	Sync Time .....	150
4.11.8	Email .....	151
4.11.9	UPnP.....	152
4.11.10	SNMP.....	154
4.11.11	Multicast .....	155
4.11.12	Register .....	157
4.11.13	Alarm Center.....	158
4.11.14	P2P .....	159

<b>4.12</b>	<b>Account Manager .....</b>	<b>160</b>
4.12.1	Add User .....	160
4.12.2	Modify user .....	163
4.12.3	Change Password.....	165
4.12.4	Add/Modify Group .....	166
4.12.5	ONVIF User .....	167
<b>4.13</b>	<b>Voice Manager.....</b>	<b>169</b>
4.13.1	File Manager.....	169
4.13.2	Schedule .....	170
<b>4.14</b>	<b>Alarm Events.....</b>	<b>171</b>
4.14.1	Video Detect .....	171
4.14.2	Smart Plan (Optional).....	181
4.14.3	IVS (Optional) .....	182
4.14.4	Face Detection (Optional).....	193
4.14.5	People Counting (Optional) .....	194
4.14.6	Audio Detect .....	195
4.14.7	Smart Track (Optional).....	196
4.14.8	Alarm Settings .....	200
4.14.9	Abnormality .....	208
4.14.10	Alarm Output.....	212
<b>4.15</b>	<b>Storage.....</b>	<b>212</b>
4.15.1	HDD Manager.....	212
4.15.2	FTP.....	213
4.15.3	HDD Group .....	215
4.15.4	Quota .....	218
4.15.5	HDD Detect.....	219
4.15.6	RAID.....	222
4.15.7	iSCSI.....	227
<b>4.16</b>	<b>Channel Manager.....</b>	<b>228</b>
4.16.1	Image.....	228
4.16.2	Channel Name.....	230
4.16.3	Channel Type .....	231
<b>4.17</b>	<b>System Settings.....</b>	<b>233</b>
4.17.1	RS232.....	233
4.17.2	POS.....	234

4.17.3	Security.....	237
<b>4.18</b>	<b>System Maintain .....</b>	<b>239</b>
4.18.1	Auto Maintain.....	239
4.18.2	Import/Export .....	240
4.18.3	Default .....	241
4.18.4	System Upgrade .....	241
<b>4.19</b>	<b>Remote Device Manager.....</b>	<b>242</b>
4.19.1	Connection Status.....	242
4.19.2	Firmware .....	243
4.19.3	Camera Upgrade.....	244
<b>4.20</b>	<b>Info.....</b>	<b>244</b>
4.20.1	System Info .....	244
4.20.2	Event Info .....	251
4.20.3	Network Info.....	253
4.20.4	Log Info.....	255
<b>4.21</b>	<b>Shutdown.....</b>	<b>257</b>
<b>5</b>	<b>WEB OPERATION .....</b>	<b>259</b>
<b>5.1</b>	<b>Network Connection.....</b>	<b>259</b>
<b>5.2</b>	<b>Device Initialization.....</b>	<b>259</b>
<b>5.3</b>	<b>Login.....</b>	<b>262</b>
<b>5.4</b>	<b>Reset Password.....</b>	<b>263</b>
<b>5.5</b>	<b>Preview .....</b>	<b>265</b>
5.5.1	LAN Mode .....	265
5.5.2	WAN Login.....	272
<b>5.6</b>	<b>Search Human Face .....</b>	<b>272</b>

<b>5.7</b>	<b>Setup .....</b>	<b>273</b>
5.7.1	Camera.....	273
5.7.2	Network .....	291
5.7.3	Event.....	313
5.7.4	Storage.....	347
5.7.5	Setting .....	360
5.7.6	Security .....	384
<b>5.8</b>	<b>Playback .....</b>	<b>385</b>
5.8.1	Search Record .....	386
5.8.2	Mark Playback.....	388
5.8.3	Splice Playback.....	390
5.8.4	Fisheye Playback De-Warp.....	391
5.8.5	File List .....	391
5.8.6	Playback.....	392
5.8.7	Download .....	392
5.8.8	Load more.....	393
5.8.9	Lock or Unlock File .....	396
<b>5.9</b>	<b>Alarm .....</b>	<b>396</b>
<b>5.10</b>	<b>Information.....</b>	<b>397</b>
5.10.1	Version.....	397
5.10.2	Log .....	398
5.10.3	Online User .....	399
5.10.4	HDD .....	400
5.10.5	Network Sniffer .....	401
5.10.6	Report .....	401
<b>5.11</b>	<b>Log out.....</b>	<b>402</b>
<b>5.12</b>	<b>Un-install Web Control.....</b>	<b>403</b>
<b>6</b>	<b>SMARTPSS.....</b>	<b>404</b>
<b>7</b>	<b>FAQ .....</b>	<b>405</b>

<b>APPENDIX A</b>	<b>HDD CAPACITY CALCULATION .....</b>	<b>413</b>
<b>APPENDIX B</b>	<b>COMPATIBLE BACKUP DEVICES .....</b>	<b>415</b>
Appendix B-1	Compatible USB list.....	415
Appendix B-2	Compatible SD Card list.....	416
Appendix B-3	Compatible Portable HDD list.....	416
Appendix B-4	Compatible USB DVD List.....	416
Appendix B-5	Compatible SATA DVD List.....	416
Appendix B-6	Compatible SATA HDD List.....	417
<b>APPENDIX C</b>	<b>COMPATIBLE CD/DVD BURNER LIST.....</b>	<b>421</b>
<b>APPENDIX D</b>	<b>COMPATIBLE DISPLAYER LIST .....</b>	<b>422</b>
<b>APPENDIX E</b>	<b>COMPATIBLE SWITCHER.....</b>	<b>423</b>
<b>APPENDIX F</b>	<b>COMPATIBLE WIRELESS MOUSE LIST.....</b>	<b>424</b>
<b>APPENDIX G</b>	<b>EARTHING.....</b>	<b>425</b>
<b>APPENDIX H</b>	<b>RAID INTRODUCTION.....</b>	<b>431</b>
Appendix H-1	About RAID.....	431

Appendix H-2 RAID Level.....	431
Appendix H-3 RAID Capacity Calculation.....	433
Appendix H-4 RAID Usage Suggestions.....	433
APPENDIX I RJ45-RS232 CONNECTION CABLE DEFINITION .....	434

## **Welcome**

Thank you for purchasing our HDCVI DVR!

This user's manual is designed to be a reference tool for the installation and operation of your system.

Here you can find information about this series standalone DVR features and functions, as well as a detailed menu tree.

Before installation and operation please read the following safeguards and warnings carefully!

# Cybersecurity Recommendations

## Cybersecurity Recommendations

### Mandatory actions to be taken towards cybersecurity

#### 1. Change Passwords and Use Strong Passwords:

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

#### 2. Update Firmware

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

### “Nice to have” recommendations to improve your network security

#### 1. Change Passwords Regularly

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

#### 2. Change Default HTTP and TCP Ports:

- Change default HTTP and TCP ports for systems. These are the two ports used to communicate and to view video feeds remotely.
- These ports can be changed to any set of numbers between 1025-65535. Avoiding the default ports reduces the risk of outsiders being able to guess which ports you are using.

#### 3. Enable HTTPS/SSL:

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

#### 4. Enable IP Filter:

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

#### 5. Change ONVIF Password:

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



## **6. Forward Only Ports You Need:**

- Only forward the HTTP and TCP ports that you need to use. Do not forward a huge range of numbers to the device. Do not DMZ the device's IP address.
- You do not need to forward any ports for individual cameras if they are all connected to a recorder on site; just the NVR is needed.

## **7. Disable Auto-Login on SmartPSS:**

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

## **8. Use a Different Username and Password for SmartPSS:**

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

## **9. Limit Features of Guest Accounts:**

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

## **10. UPnP:**

- UPnP will automatically try to forward ports in your router or modem. Normally this would be a good thing. However, if your system automatically forwards the ports and you leave the credentials defaulted, you may end up with unwanted visitors.
- If you manually forwarded the HTTP and TCP ports in your router/modem, this feature should be turned off regardless. Disabling UPnP is recommended when the function is not used in real applications.

## **11. SNMP:**

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

## **12. Multicast:**

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

## **13. Check the Log:**

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

login to your system and what was accessed.

**14. Physically Lock Down the Device:**

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

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

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

**16. Isolate NVR and IP Camera Network**

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

# 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 DVR before completing installation.

Do not place objects on the DVR.

## 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 DVR should be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.

## 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!

**RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.**

**DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.**

## Safety Instruction

Icon	Note
 DANGER	Indicates a high potential hazard which, if not avoided, will result in death or serious injury.

Icon	Note
 WARNING	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
 CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, lower performance, or unpredictable result.
 Anti-static	Indicates it is the static sensitive device.
 Electric shock risk	Indicates presence of dangerous high voltage. There is a risk of electric shock to persons.
 High power laser radiation risk	Indicates presence of high power laser radiation.
 <b>Tips</b>	It is intended to help you to fix a problem or save your time.
 <b>Note</b>	Provides additional information to emphasize or supplement important points of the main text.

## Revision History

No.	Version	Revision Content	Release Time
1	V1.3.1	Add two chapters: Privacy protection notice and about the manual.	2018.05

## Privacy Protection Notice

As the device user or data controller, you might collect personal data of others' such as face, fingerprints, car plate number, Email address, phone number, GPS and so on. You need to be in compliance with the local privacy protection laws and regulations to protect the legitimate rights and interests of other people by implementing measures include but not limited to: providing clear and visible identification to inform data subject the existence of surveillance area and providing related contact.

## About the Manual

- The Manual is for reference only. If there is inconsistency between the Manual and the actual product, the actual product shall prevail.
- We are not liable for any loss caused by the operations that do not comply

with the Manual.

- The Manual would be updated according to the latest laws and regulations of related regions. For detailed information, see the paper User's Manual, CD-ROM, QR code or our official website. If there is inconsistency between paper User's Manual and the electronic version, the electronic version shall prevail.
- All the designs and software are subject to change without prior written notice. The product updates might cause some differences between the actual product and the Manual. Please contact the customer service for the latest program and supplementary documentation.
- There still might be deviation in technical data, functions and operations description, or errors in print. If there is any doubt or dispute, please refer to our final explanation.
- Upgrade the reader software or try other mainstream reader software if the Guide (in PDF format) cannot be opened.
- All trademarks, registered trademarks and the company names in the Manual are the properties of their respective owners.
- Please visit our website, contact the supplier or customer service if there is any problem occurred when using the device.
- If there is any uncertainty or controversy, please refer to our final explanation.

# 1 FEATURES AND SPECIFICATIONS

## 1.1 Overview

This standalone series DVR is an excellent digital monitor product designed for security field.

It adopts embedded Linux OS to maintain reliable operation. Popular H.264 compression algorithm and G.711 audio compression technology realize high quality, low bit stream. Unique frame by frame play function is suitable for detailed analysis. It has various functions such as record, playback, monitor at the same time and can guarantee audio video synchronization. This series product has advanced technology and strong network data transmission function.

This series device adopts embedded design to achieve high security and reliability. It can work in the local end, and at the same time, when connecting it to the professional surveillance software (PSS), it can connect to the security network to realize strong network and remote monitor function.

This series product can be widely used in various areas such as banking, telecommunication, electric power, interrogation, transportation, intelligent resident zone, factory, warehouse, resources, and water conservancy.

## 1.2 Features

This series product has the following features:

- **Real-time surveillance**

Support VGA port and HDMI port. Realize the surveillance through displayer. Support HDMI, VGA, and TV output at the same time.

- **Storage function**

Special data format to guarantee data security and can remove the risk of the vicious data modification. Support digital watermark.

- **Compression format**

Support multiple-channel audio and video. An independent hardware decodes the audio and video signal from each channel to maintain video and audio synchronization.

- **Backup function**

Support backup operation via USB port (such as U disk, portable HDD, burner)  
Client-end user can download the file to local HDD to backup via network.

- **Record & playback function**

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 customized zoom function during the preview.

- **Network operation**

Support network remote real-time monitor, remote record search and remote PTZ control.

- **Alarm activation function**

Several relay alarm outputs to realize alarm activation and on-site light control.

The alarm input port and output has the protection circuit to guarantee device safety.

- **Communication port**

RS485 port can realize alarm input and PTZ control.

RS232 port can connect to keyboard, COM port of PC or the matrix control.

Standard Ethernet port can realize network access function.

The dual-network port has the multiple-access, fault-tolerance, load-balance setup mode.

- **PTZ control**

Support PTZ decoder via RS485.

- **Intelligent operation**

Mouse operation function

In the menu, support copy and paste setup function

- **UPNP (Universal Plug and Play)**

Establish mapping connection between LAN and WAN via UPNP protocol.

- **Camera Self-adaptive**

Auto recognize and work with the general analog camera and HD camera.

**Slight function differences may be found due to different series.**

## 1.3 Specifications

### 1.3.1 HCVR82XXA-S3 Series

Name	Parameters	HCVR8204A-S3	HCVR8208A-S3	HCVR8216A-S3
System	Main Processor	Industrial embedded micro controller		
	OS	Embedded LINUX		
Video Parameters	Video Encode Standard	H.264H, H.264, H.264B		
	Encode Resolution	1080P/720P/960H/D1/HD1/2CIF/CIF		

Name	Parameters	HCVR8204A-S3	HCVR8208A-S3	HCVR8216A-S3
	Video Frame Rate	PAL:1/16~25f/s; NTSC: 1/16~30f/s		
	Video Frame Rate	32Kbps-8192Kbps, For 720P: default setup is 2Mbps, max supports 4Mbps. For 1080P: default setup is 4Mbps, max supports 8Mbps.		
	Bit Stream Type	Video stream/composite stream		
	Dual-Stream	Support		
Audio Parameters	Encode Standard	G.711A/G.711U/PCM		
	Audio Sampling Rate	8KHz, 16Bit		
	Audio Bit Rate	64Kbps		
Video Port	Analog Video Input	4-ch BNC port (HDCVI/AHD/CVBS)	8-ch BNC port(HDCVI/AHD/CVBS)	16-ch BNC port(HDCVI/AHD/CVBS)
	Network Video Input	<ul style="list-style-type: none"> <li>● There is no IP channel by default.</li> <li>● Just click one button to add 60 IP channels.</li> <li>● Support A/D switch function, max supports 64 IP channels.</li> <li>● Resolution: Max 1200W.</li> <li>● Decode standard: H.265.</li> <li>● Connection total network width: 256Mbps</li> </ul>	<ul style="list-style-type: none"> <li>● There is no IP channel by default.</li> <li>● Just click one button to add 56 IP channels.</li> <li>● Support A/D switch function, max supports 64 IP channels.</li> <li>● Resolution: Max 1200W.</li> <li>● Decode standard: H.265.</li> <li>● Connection total network width: 256Mbps</li> </ul>	<ul style="list-style-type: none"> <li>● There is no IP channel by default.</li> <li>● Just click one button to add 48 IP channels.</li> <li>● Support A/D switch function, max supports 64 IP channels.</li> <li>● Resolution: Max 1200W.</li> <li>● Decode standard: H.265.</li> <li>● Connection total network width: 256Mbps</li> </ul>
	Video Output	1-channel VGA output, 2-channel HDMI output, VGA and HDMI1 output of the same video source;		



Name	Parameters	HCVR8204A-S3	HCVR8208A-S3	HCVR8216A-S3
		VGA and HDMI2 output of different video sources; HDMI1 supports 4K output, HDMI2 supports 1080P output.		
	Loop Output	N/A		
	Matrix Output	N/A		
Audio Port	External Audio Input	4-channel RCA port		
	Coaxial Audio Input	4-channel	8-channel	16-channel
	Audio Output	1-channel RCA port. Output port reuses the bidirectional talk output port.		
	Bidirectional Talk Input	One independent audio talk input port. Output port (RCA) reuses the audio output port.		
Record	Record Mode	Schedule record/manual record/MD record/alarm record		
	Playback Mode	Instant playback, normal playback, event playback, mark playback, smart playback		
	Record Playback	Max 1/4/8/16-channel playback Customized channel setup playback Max 16-channel 1080P realtime playback or 1200W non realtime playback		
	Backup Mode	HDD, burner, USB device, network backup		
Alarm	Alarm Input	16-channel alarm input		
	Alarm Output	3-channel output		
HDD	HDD Port	2 SATA ports, one eSATA port		
	One HDD Space	8T		
Communication Port	Network	2 RJ45 port, 1000Mbps Ethernet port		
	Communication	1 RS485 port, 1 RS232 port		
	USB	3 USB ports(One USB2.0 port at the front panel and two USB3.0 ports at the rear panel)		
Others	Power	DC12V		
	Power Consumption	≤25W	≤27W	≤32W
	Working Temperature	-10°C – +55°C		
	Working Humidity	10%~90%		
	Dimensions	1U case, 323mm (W) x375mm (D) x53mm (H)		
	Weight	≤2.30KG	≤2.35KG	≤2.45KG
	Installation Mode	Desk		

### 1.3.2 HCVR84XXL-S3 Series

Name	Parameters	HCVR8404L-S3	HCVR8408L-S3	HCVR8416L-S3
System	Main Processor	Industrial embedded micro controller		
	OS	Embedded LINUX		
Video Parameters	Video Encode Standard	H.264H, H.264, H.264B		
	Encode Resolution	1080P/720P/960H/D1/HD1/2CIF/CIF		
	Video Frame Rate	PAL:1/16~25f/s; NTSC: 1/16~30f/s		
	Video Frame Rate	32Kbps-8192Kbps, For 720P: default setup is 2Mbps, max supports 4Mbps. For 1080P: default setup is 4Mbps, max supports 8Mbps.		
	Bit Stream Type	Video stream/composite stream		
	Dual-Stream	Support		
Audio Parameters	Encode Standard	G.711A/G.711U/PCM		
	Audio Sampling Rate	8KHz, 16Bit		
	Audio Bit Rate	64Kbps		
Video Port	Analog Video Input	4-ch BNC port (HDCVI/AHD/CVBS)	8-ch BNC port(HDCVI/AHD/CVBS)	16-ch BNC port(HDCVI/AHD/CVBS)
	Network Video Input	<ul style="list-style-type: none"> <li>● There is no IP channel by default.</li> <li>● Just click one button to add 60 IP channels.</li> <li>● Support A/D switch function, max supports 64 IP channels.</li> <li>● Resolution: Max 1200W.</li> <li>● Decode standard: H.265.</li> <li>● Connection total network width: 256Mbps</li> </ul>	<ul style="list-style-type: none"> <li>● There is no IP channel by default.</li> <li>● Just click one button to add 56 IP channels.</li> <li>● Support A/D switch function, max supports 64 IP channels.</li> <li>● Resolution: Max 1200W.</li> <li>● Decode standard: H.265.</li> <li>● Connection total network width: 256Mbps</li> </ul>	<ul style="list-style-type: none"> <li>● There is no IP channel by default.</li> <li>● Just click one button to add 48 IP channels.</li> <li>● Support A/D switch function, max supports 64 IP channels.</li> <li>● Resolution: Max 1200W.</li> <li>● Decode standard: H.265.</li> <li>● Connection total network width: 256Mbps</li> </ul>

Name	Parameters	HCVR8404L-S3	HCVR8408L-S3	HCVR8416L-S3
				network width: 256Mbps
	Video Output	1-channel VGA output, 2-channel HDMI output, 1-channel VIDEO OUT, VGA and HDMI1 output of the same video source; VGA and HDMI2 output of different video sources; VIDEO OUT supports multiple-window analog channel output. HDMI1 supports 4K output, HDMI2 supports 1080P output.		
	Loop Output	N/A		
	Matrix Output	VIDEO OUT supports multiple-window analog channel output.		
Audio Port	External Audio Input	4-channel BNC port		
	Coaxial Audio Input	4-channel	8-channel	16-channel
	Audio Output	1-channel BNC port.		
	Bidirectional Talk Input	One independent audio talk input port and one independent output port (BNC)		
Record	Record Mode	Schedule record/manual record/MD record/alarm record		
	Playback Mode	Instant playback, normal playback, event playback, mark playback, smart playback		
	Record Playback	Max 1/4/8/16-channel playback Customized channel setup playback Max 16-channel 1080P realtime playback or 1200W non realtime playback		
	Backup Mode	HDD, burner, USB device, network backup		
Alarm	Alarm Input	16-channel alarm input		
	Alarm Output	6-channel output		
HDD	HDD Port	4 SATA port, one eSATA port		
	One HDD Space	8T		
Communication Port	Network	1 RJ45 port, 1000Mbps Ethernet port		
	Communication	1 RS485 port, 1 RS232 port, 1 RS422 port		
	USB	3 USB ports(One USB2.0 port at the front panel and two USB3.0 ports at the rear panel)		
Others	Power	AC90V~264V		
	Power Consumption	≤33W	≤35W	≤40W
	Working Temperature	-10℃ – +55℃		
	Working Humidity	10%~90%		

Name	Parameters	HCVR8404L-S3	HCVR8408L-S3	HCVR8416L-S3
	Dimensions	1.5U case, 440mm (W) x410mm (D) x70mm (H)		
	Weight	≤6.95KG	≤6.90KG	≤7.00KG
	Installation Mode	Desk		

### 1.3.3 HCVR88XXS-S3 Series

Name	Parameters	HCVR8804S-S3	HCVR8808S-S3	HCVR8816S-S3
System	Main Processor	Industrial embedded micro controller		
	OS	Embedded LINUX		
Video Parameters	Video Encode Standard	H.264H, H.264, H.264B		
	Encode Resolution	1080P/720P/960H/D1/HD1/2CIF/CIF		
	Video Frame Rate	PAL:1/16~25f/s; NTSC: 1/16~30f/s		
	Video Frame Rate	32Kbps-8192Kbps, For 720P: default setup is 2Mbps, max supports 4Mbps. For 1080P: default setup is 4Mbps, max supports 8Mbps.		
	Bit Stream Type	Video stream/composite stream		
	Dual-Stream	Support		
Audio Parameters	Encode Standard	G.711A/G.711U/PCM		
	Audio Sampling Rate	8KHz, 16Bit		
	Audio Bit Rate	64Kbps		
Video Port	Analog Video Input	4-ch BNC port (HDCVI/AHD/CVBS)	8-ch BNC port(HDCVI/AHD/CVBS)	16-ch BNC port(HDCVI/AHD/CVBS)
	Network Video Input	<ul style="list-style-type: none"> <li>There is no IP channel by default.</li> <li>Just click one button to add 60 IP channels.</li> <li>Support A/D switch function, max supports 64 IP channels.</li> <li>Resolution: Max 1200W.</li> <li>Decode standard: H.265.</li> </ul>	<ul style="list-style-type: none"> <li>There is no IP channel by default.</li> <li>Just click one button to add 56 IP channels.</li> <li>Support A/D switch function, max supports 64 IP channels.</li> <li>Resolution: Max 1200W.</li> <li>Decode standard: H.265.</li> </ul>	<ul style="list-style-type: none"> <li>There is no IP channel by default.</li> <li>Just click one button to add 48 IP channels.</li> <li>Support A/D switch function, max supports 64 IP channels.</li> <li>Resolution:</li> </ul>

Name	Parameters	HCVR8804S-S3	HCVR8808S-S3	HCVR8816S-S3
		<ul style="list-style-type: none"> <li>Connection total network width: 256Mbps</li> </ul>	Connection total network width: 256Mbps	Max 1200W. <ul style="list-style-type: none"> <li>Decode standard: H.265.</li> </ul> Connection total network width: 256Mbps
	Video Output	1-channel VGA output, 2-channel HDMI output, 1-channel VIDEO OUT, VGA and HDMI1 output of the same video source; VGA and HDMI2 output of different video sources; VIDEO OUT supports multiple-window analog channel output. HDMI1 supports 4K output, HDMI2 supports 1080P output.		
	Loop Output	N/A		
	Matrix Output	VIDEO OUT supports multiple-window analog channel output.		
Audio Port	External Audio Input	4-channel BNC port	8-channel BNC port	16-channel BNC port
	Coaxial Audio Input	4-channel	8-channel	16-channel
	Audio Output	1-channel BNC port.		
	Bidirectional Talk Input	One independent audio talk input port and one independent output port (BNC)		
Record	Record Mode	Schedule record/manual record/MD record/alarm record		
	Playback Mode	Instant playback, normal playback, event playback, mark playback, smart playback		
	Record Playback	Max 1/4/8/16-channel playback Customized channel setup playback Max 16-channel 1080P realtime playback or 1200W non realtime playback		
	Backup Mode	HDD, burner, USB device, network backup		
Alarm	Alarm Input	16-channel alarm input		
	Alarm Output	6-channel output		
HDD	HDD Port	8 SATA ports, one eSATA port		
	One HDD Space	8T		
Communication Port	Network	2 RJ45 ports, 1000Mbps Ethernet port		
	Communication	1 RS485 port, 1 RS232 port, 1 RS422 port		
	USB	4 USB ports(Two USB2.0 ports at the front panel and two USB3.0 ports at the rear panel)		

Name	Parameters	HCVR8804S-S3	HCVR8808S-S3	HCVR8816S-S3
Others	Power	AC90V~264V		
	Power Consumption	≤33W	≤35W	≤40W
	Working Temperature	-10℃ – +55℃		
	Working Humidity	10%~90%		
	Dimensions	2U case, 440mm (W) ×460mm (D) ×89mm (H)		
	Weight	≤7.25KG	≤7.30KG	≤7.40KG
	Installation Mode	Desk		

### 1.3.4 HCVR88XXS-URH-S3 Series

Name	Parameters	HCVR8808S-URH-S3	HCVR8816S-URH-S3
System	Main Processor	Industrial embedded micro controller	
	OS	Embedded LINUX	
Video Parameters	Video Encode Standard	H.264H, H.264, H.264B	
	Encode Resolution	1080P/720P/960H/D1/HD1/2CIF/CIF	
	Video Frame Rate	PAL:1/16~25f/s; NTSC: 1/16~30f/s	
	Video Frame Rate	32Kbps-8192Kbps, For 720P: default setup is 2Mbps, max supports 4Mbps. For 1080P: default setup is 4Mbps, max supports 8Mbps.	
	Bit Stream Type	Video stream/composite stream	
	Dual-Stream	Support	
Audio Parameters	Encode Standard	G.711A/G.711U/PCM	
	Audio Sampling Rate	8KHz, 16Bit	
	Audio Bit Rate	64Kbps	
Video Port	Analog Video Input	8-ch BNC port(HDCVI/AHD/CVBS)	16-ch BNC port(HDCVI/AHD/CVBS)
	Network Video Input	<ul style="list-style-type: none"> <li>There is no IP channel by default.</li> <li>Just click one button to add 56 IP channels.</li> <li>Support A/D switch function. After you disabled one analog channel, you can add one IP channel. System max supports 64</li> </ul>	<ul style="list-style-type: none"> <li>There is no IP channel by default.</li> <li>Just click one button to add 48 IP channels.</li> <li>Support A/D switch function. After you disabled one analog channel, you can add one IP channel. System max supports 64</li> </ul>

Name	Parameters	HCVR8808S-URH-S3	HCVR8816S-URH-S3
		<p>IP channels.</p> <ul style="list-style-type: none"> <li>The connection bandwidth is 160Mbps when there are some IP channels. The connection bandwidth is 200Mbps when there all IP channels.</li> </ul>	<p>IP channels.</p> <ul style="list-style-type: none"> <li>The connection bandwidth is 160Mbps when there are some IP channels. The connection bandwidth is 200Mbps when there all IP channels.</li> </ul>
	Video Output	<p>1-ch PAL/NTSC, BNC (1.0VP- P, 75Ω) composite video signal output.  1-ch VGA output.  2-ch HDMI output. HDMI port1 has the same video source as the VGA. HDMI port2 can have different video source from the VGA, support GUI operation.  Support TV/VGA/HDMI1/HDMI2 video output at the same time.</p>	
	Loop Output	N/A	
	Matrix Output	VIDEO OUT supports multiple-window analog channel output.	
Audio Port	External Audio Input	8-chanel BNC port	16-chanel BNC port
	Coaxial Audio Input	8-channel	16-channel
	Audio Output	1-channel BNC port.	
	Bidirectional Talk Input	One independent audio talk input port and one independent output port (BNC)	
Record	Record Mode	Schedule record/manual record/MD record/alarm record	
	Playback Mode	Instant playback, normal playback, event playback, mark playback, smart playback	
	Record Playback	Max 1/4/8/16-channel playback Customized channel setup playback Max 16-channel 1080P realtime playback or 12MP non realtime playback	
	Backup Mode	HDD, burner, USB device, network backup	
Alarm	Alarm Input	16-channel alarm input	
	Alarm Output	6-channel output	
HDD	HDD Port	8 SATA ports, one eSATA port	
	One HDD Space	8T	
Communication Port	Network	2 RJ45 ports, 1000Mbps Ethernet port	
	Communication	1 RS485 port, 1 RS232 port, 1 RS422 port	
	USB	4 USB ports(Two USB2.0 ports at the front panel and two USB3.0 ports at the rear panel)	
Others	Power	AC90~264V 50+2% Hz	
	Power Consumption	≤40W (No adapter, no HDD)	

Name	Parameters	HCVR8808S-URH-S3	HCVR8816S-URH-S3
	Working Temperature	-10°C – +55°C	
	Working Humidity	10%~90%	
	Dimensions	2U case, 444(W) x430 (D) x87mm(H)	
	Weight	11.5-13.0KG(No HDD)	
	Installation Mode	Desktop/rack installation	

### 1.3.5 XVR88XXS Series

Name	Parameters	XVR8808S	XVR8816S
System	Main Processor	Industrial embedded micro controller	
	OS	Embedded LINUX	
Video Parameters	Video Encode Standard	H.264	
	Encode Resolution	4K/4MP/1080P/720P/960H/D1/HD1/2CIF/CIF	
	Video Frame Rate	PAL:1/16~25f/s; NTSC: 1/16~30f/s	
	Video Frame Rate	32Kbps-12288Kbps, For 720P: default setup is 2Mbps, max supports 4Mbps. For 1080P: default setup is 4Mbps, max supports 8Mbps.	
	Bit Stream Type	Video stream/composite stream	
	Dual-Stream	Support	
Audio Parameters	Encode Standard	G.711A/G.711U/PCM	
	Audio Sampling Rate	8KHz, 16Bit	
	Audio Bit Rate	64Kbps	
Video Port	Analog Video Input	8-ch BNC port (HDCVI/AHD/HDTV/IVBS)	16-ch BNC port (HDCVI/AHD/HDTV/IVBS)
	Network Video Input	<ul style="list-style-type: none"> <li>There is no IP channel by default.</li> <li>Just click one button to add 56 IP channels.</li> <li>Support A/D switch function. After you disabled one analog channel, you can add one IP channel. System max supports 64 IP channels. Connection total network width:</li> </ul>	<ul style="list-style-type: none"> <li>There is no IP channel by default.</li> <li>Just click one button to add 48 IP channels.</li> <li>Support A/D switch function. After you disabled one analog channel, you can add one IP channel. System max supports 64 IP channels. Connection total network width:</li> </ul>



Name	Parameters	XVR8808S	XVR8816S
		256Mbps.	256Mbps.
	Video Output	1-ch PAL/NTSC, BNC (1.0VP- P, 75Ω) composite video signal output. 1-ch VGA output. 2-ch HDMI output. HDMI port1 has the same video source as the VGA. HDMI port2 can have different video source from the VGA, support GUI operation. Support TV/VGA/HDMI1/HDMI2 video output at the same time.	
	Loop Output	Support	
	Matrix Output	VIDEO OUT supports multiple-window analog channel output.	
Audio Port	External Audio Input	8-channel BNC port	16-channel BNC port
	Coaxial Audio Input	N/A	N/A
	Audio Output	1-channel 200-3000mv 5KΩ, BNC port.	
	Bidirectional Talk Input	One independent audio talk input port and one independent output port (200-3000mv 5KΩ,BNC)	
Record	Record Mode	Schedule record/manual record/MD record/alarm record	
	Playback Mode	Instant playback, normal playback, event playback, mark playback, smart playback	
	Record Playback	Max 1/4/8/16-channel playback Customized channel setup playback Max 16-channel 1080P realtime playback or 12MP non realtime playback	
	Backup Mode	HDD, burner, USB device, network backup	
Alarm	Alarm Input	16-channel alarm input	
	Alarm Output	6-channel output (Include one controllable DC+12V output)	
HDD	HDD Port	8 SATA ports, one eSATA port	
	One HDD Space	8T	
Communication Port	Network	2 RJ45 ports, 1000Mbps Ethernet port	
	Communication	1 RS485 port, 1 RS232 port, 1 RS422 port	
	USB	4 USB ports(Two USB2.0 ports at the front panel and two USB3.0 ports at the rear panel)	
Others	Power	AC90~264V 50+2% Hz	
	Power Consumption	≤40W (With adapter, no HDD)	
	Working Temperature	-10°C – +55°C	
	Working Humidity	10%~90%	
	Dimensions	2U case, 444(W) x460 (D) x89mm(H)	
	Weight	7.0-8.0KG(No HDD)	

<b>Name</b>	<b>Parameters</b>	<b>XVR8808S</b>	<b>XVR8816S</b>
	Installation Mode	Desktop/rack installation	

## 2 Overview and Controls

This section provides information about front panel and rear panel. When you install this series DVR for the first time, please refer to this part first.

### 2.1 Front Panel

#### 2.1.1 HCVR82XXA-S3/ HCVR84XXL-S3/HCVR88XXS-S3/ XVR88XXS Series

For HCVR82XXA-S3, the front panel is shown as below. See Figure 2-1.

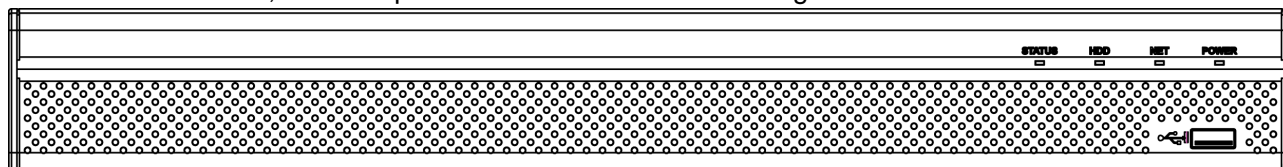


Figure 2-1

For HCVR84XXL-S3, the front panel is shown as below. See Figure 2-2.

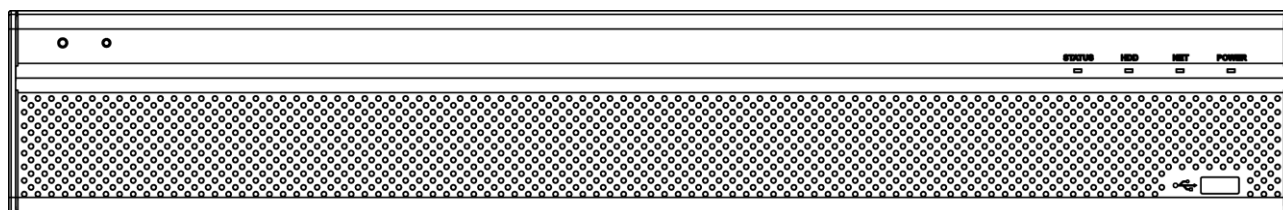


Figure 2-2

For HCVR88XXS-S3/XVR88XXS, the front panel is shown as below. See Figure 2-3.

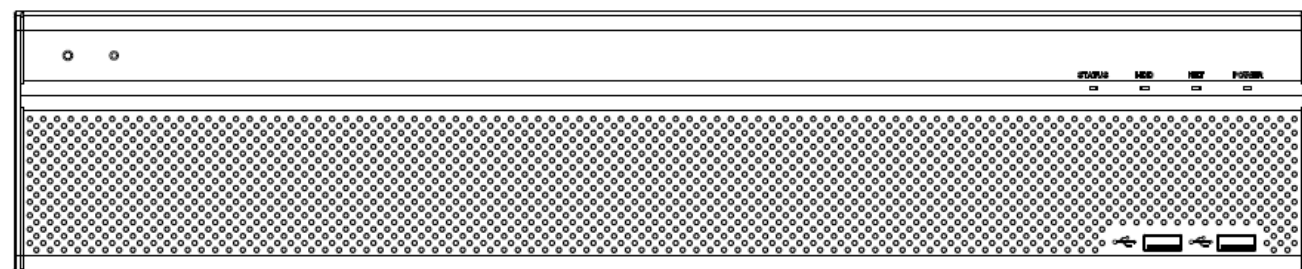



Figure 2-3

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

Icon	Name	Function
STATUS	Status indicator light	The blue light becomes on when the device is malfunction.
HDD	HDD status indicator light	The blue light becomes on when the HDD is malfunction.
NET	Network status indicator light	The blue light becomes on when the network connection is abnormal.
POWER	Power status indicator light	The blue light is on when the power connection is OK.

Icon	Name	Function
	USB port	Connect to peripheral USB storage device, mouse and etc.

### 2.1.2 HCVR88XXS-URH-S3 Series

The front panel is shown as in Figure 2-4.

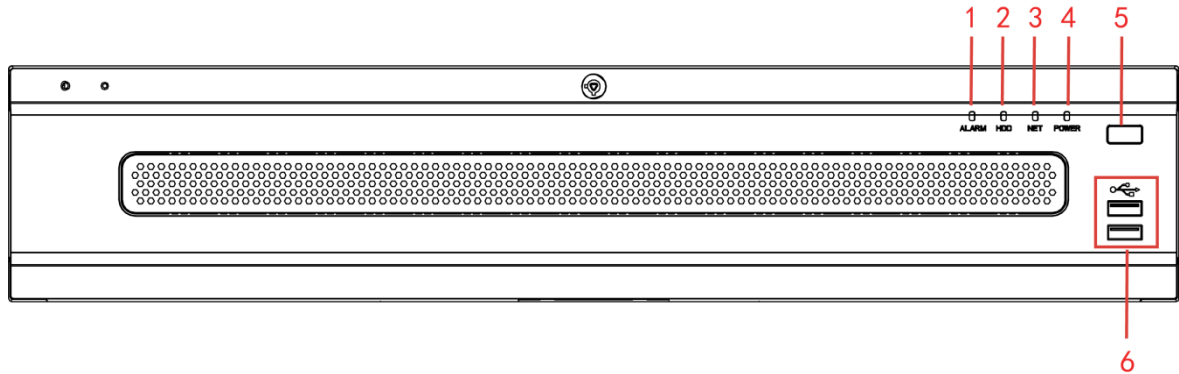




Figure 2-4

Please refer to the following sheet for detailed information.

SN	Name	Icon	Function
1	Alarm indicator light	ALARM	Alarm indicator light <ul style="list-style-type: none"> <li>The light becomes on when there is an alarm such as local alarm, IPC alarm and other abnormal event.</li> <li>The light becomes off when there is no alarm.</li> </ul>
2	HDD indicator light	HDD	HDD indicator light <ul style="list-style-type: none"> <li>The light becomes on when there is no HDD, HDD error or HDD space is insufficient.</li> <li>The light is off when the HDD is working properly.</li> </ul>
3	Network indicator light	NET	Network indicator light <ul style="list-style-type: none"> <li>The light becomes on when the network is abnormal.</li> <li>The light becomes off when the network is working properly.</li> </ul>
4	Power indicator light	POWER	Power indicator light <ul style="list-style-type: none"> <li>The light becomes on when the power supplying connection is OK.</li> <li>The light becomes off when there is no power connection.</li> </ul>
5	Power on-off button		Press it to boot up or shut down the device.
6	USB port		Connect to peripheral USB device, portable HDD and etc.

## 2.2 Rear Panel

### 2.2.1 HCVR82XXA-S3 Series

The rear panel is shown as below. See Figure 2-5.

Here we use HCVR8216A-S3 as an example.

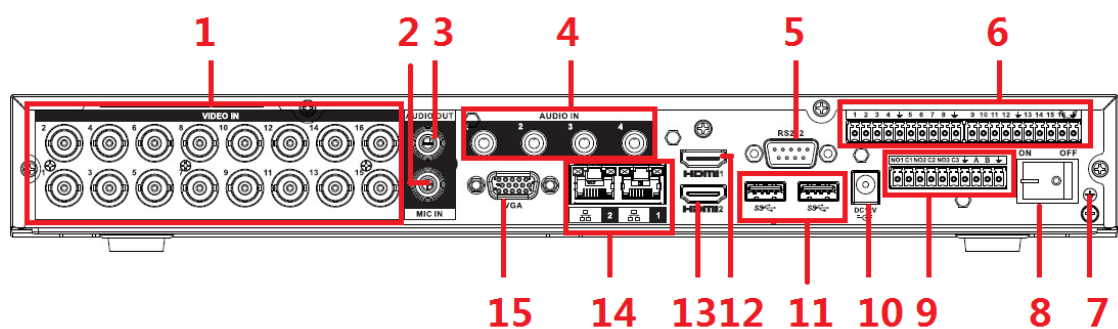






Figure 2-5

Please refer to the following sheet for detailed information.

SN	Icon	Name	Note
1	VIDEO IN	Video input port	Connect to analog camera to input video signal.
2	MIC IN	Audio input port	Bidirectional talk input port. It is to receive the analog audio signal output from the devices such as microphone, pickup.
3	AUDIO OUT	Audio output port	Audio output port. It is to output the analog audio signal to the devices such as the sound box.
4	AUDIO IN	Audio input port	It is to receive the analog audio signal output from the devices such as microphone.
5	RS-232	RS-232 debug COM.	It is for general COM debug to configure IP address or transfer transparent COM data.
6	1~16	Alarm input port 1~16	<ul style="list-style-type: none"> <li>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).</li> <li>When your alarm input device is using external power, please make sure the device and the DVR have the same ground.</li> </ul>
		GND	Ground
7		GND	Ground
8		Power switch	Power on/off button.

SN	Icon	Name	Note	
9	NO1~NO3	Alarm output port 1~5	<ul style="list-style-type: none"> <li>● 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.</li> <li>● NO: Normal open alarm output port.</li> <li>● C: Alarm output public end.</li> </ul>	
	C1~C3			
	A	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.
		GND		Ground
10		Power input port	Input DC 12V.	
11		USB port	USB port. Connect to mouse, USB storage device, USB burner and etc.	
12	HDMI1	High Definition Media Interface 1	High definition audio and video signal output port. It outputs the same video source as VGA. It supports 4K resolution output and supports mouse operation and control. Please note when the HDMI output resolution is 4K, the VGA output stops.	
13	HDMI2	High Definition Media Interface 2	High definition audio and video signal output port. It max supports 1080P resolution. Its video source can be different from the HDMI1/VGA. It supports digital channel output.	
14		Network port	1000M Ethernet port	
15	VGA	VGA video output	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.	

### 2.2.2 HCVR84XXL-S3/HCVR88XXS-S3/ HCVR88XXS-URH-S3/XVR88XXS Series

The HCVR84XXL-S3 rear panel is shown as below. See Figure 2-6.  
Here we use HCVR8416L-S3 as an example.

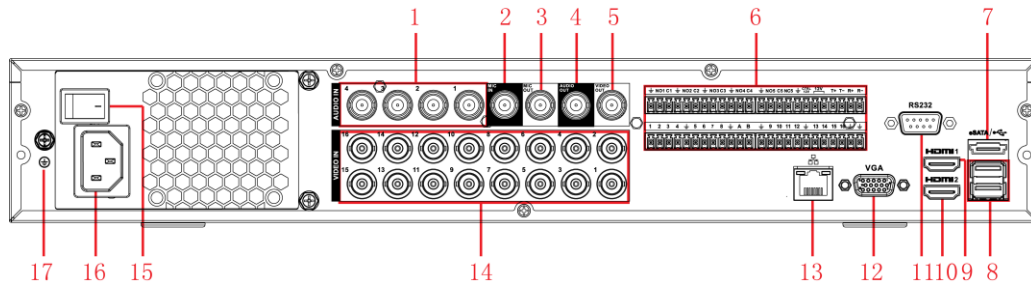


Figure 2-6

The HCVR88XXS-S3 rear panel is shown as below. See Figure 2-7.  
Here we use HCVR8816S-S3 as an example.

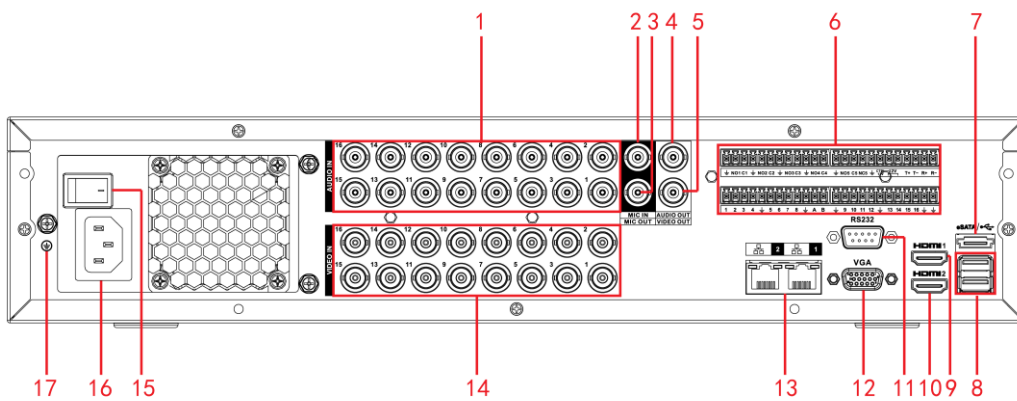


Figure 2-7

The HCVR88XXS-URH-S3 rear panel is shown as below. See Figure 2-8.  
Here we use HCVR8816S-URH-S3 as an example.

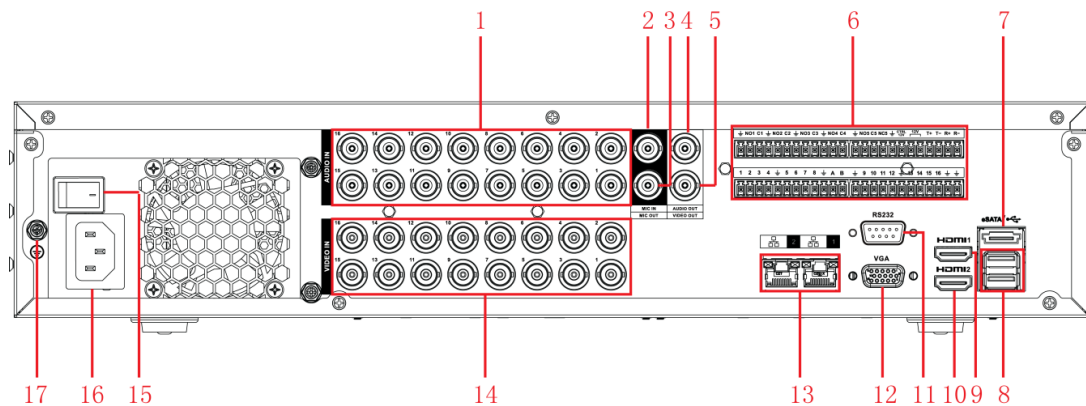


Figure 2-8

The XVR88XXS rear panel is shown as below. See Figure 2-9.  
Here we use XVR8816S as an example.

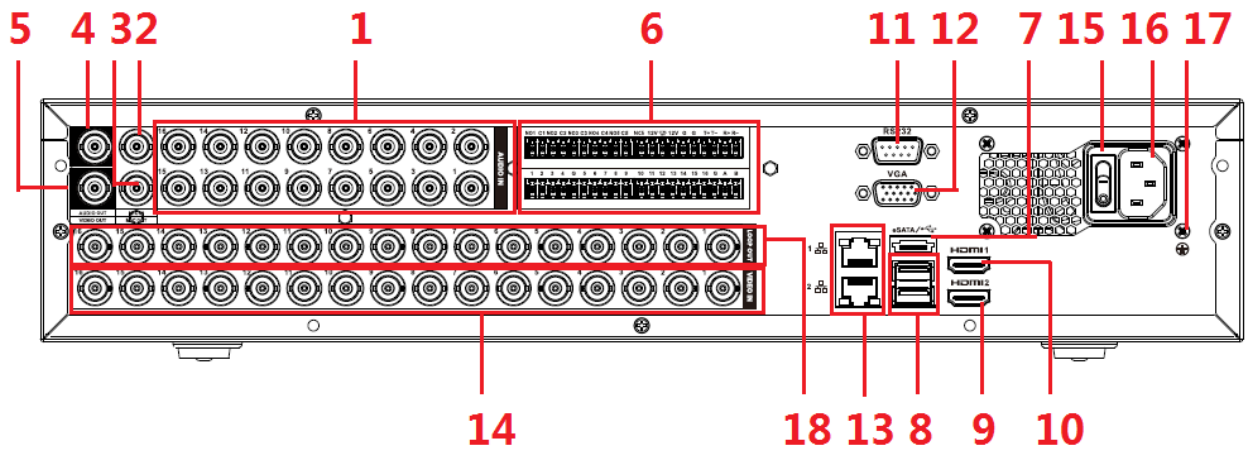








Figure 2-9

Please refer to the following sheet for detailed information.

SN	Icon	Name	Note
1	AUDIO IN	Audio input port	It is to receive the analog audio signal output from the devices such as microphone.
2	MIC IN	Audio input port	Bidirectional talk input port. It is to receive the analog audio signal output from the devices such as microphone, pickup.
3	MIC OUT	Bidirectional talk output port	Output bidirectional talk analog signal to sound box and etc. <ul style="list-style-type: none"> <li>● Bidirectional talk output.</li> <li>● Audio output of single-window monitor mode.</li> <li>● Audio output of single-window playback mode.</li> </ul>
4	AUDIO OUT	Audio output port	Audio output port. It is to output the analog audio signal to the devices such as the sound box.
5	VIDEO OUT	Video output port	Connect to output devices such as TV.



SN	Icon	Name	Note
6	1~16	Alarm input port 1~16	<ul style="list-style-type: none"> <li>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 port 9 to port 12, the fourth group is from port 13 to port 16. They are to receive the signal from the external alarm source. There are two types; NO (normal open)/NC (normal close).</li> <li>When your alarm input device is using external power, please make sure the device and the DVR have the same ground.</li> </ul>
	NO1~NO5	Alarm output port 1~5	<ul style="list-style-type: none"> <li>5 groups of alarm output ports. (Group 1 : port NO1 ~ C1, Group 2:port NO2~C2, Group 3:port NO3~C3. 4:port NO4~C4. 5:port NO5~C5.).Output alarm signal to the alarm device. Please make sure there is power to the external alarm device.</li> <li>NO: Normal open alarm output port.</li> <li>NC: Normal close alarm output port.</li> <li>C: Alarm output public end.</li> </ul>
	C1~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.
	T+, T-, R+, R-	Four-cable full-duplex 485 port.	T+, T-: Send out cable. R+, R-: Input cable.
	CTRL 12V	Control power output	Control power output of the 6 <sup>th</sup> alarm output channel. <ul style="list-style-type: none"> <li>When there is an alarm output, close the power output.</li> <li>When the alarm is cancelled, open the power output.</li> </ul>
	GND	Ground	
7	eSATA	eSATA port	External SATA port. It can connect to the device of the SATA port.
8		USB port	USB port. Connect to mouse, USB storage device, USB burner and etc.

SN	Icon	Name	Note
9	HDMI1	High Definition Media Interface 1	High definition audio and video signal output port. It outputs the same video source as VGA. It supports 4K resolution output and supports mouse operation and control. Please note when the HDMI output resolution is 4K, the VGA output stops.
10	HDMI2	High Definition Media Interface 2	High definition audio and video signal output port. It max supports 1080P resolution. Its video source can be different from the HDMI1/VGA. It supports digital channel output.
11	RS-232	RS-232 debug COM.	It is for general COM debug to configure IP address or transfer transparent COM data.
12	VGA	VGA video output	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.
13		Network port	1000M Ethernet port
14	VIDEO IN	Video input port	Connect to analog camera to input video signal.
15		Power switch	Power on/off button.
16		Power socket	Power input port
17		GND	Ground
18	Loop out	Loop output port	Output the video signal of the corresponding video input port.

## 2.3 Connection Sample

The connection sample is shown as below. See Figure 2-10.

The following interface is based on the HCVR8816S-S3 series product.

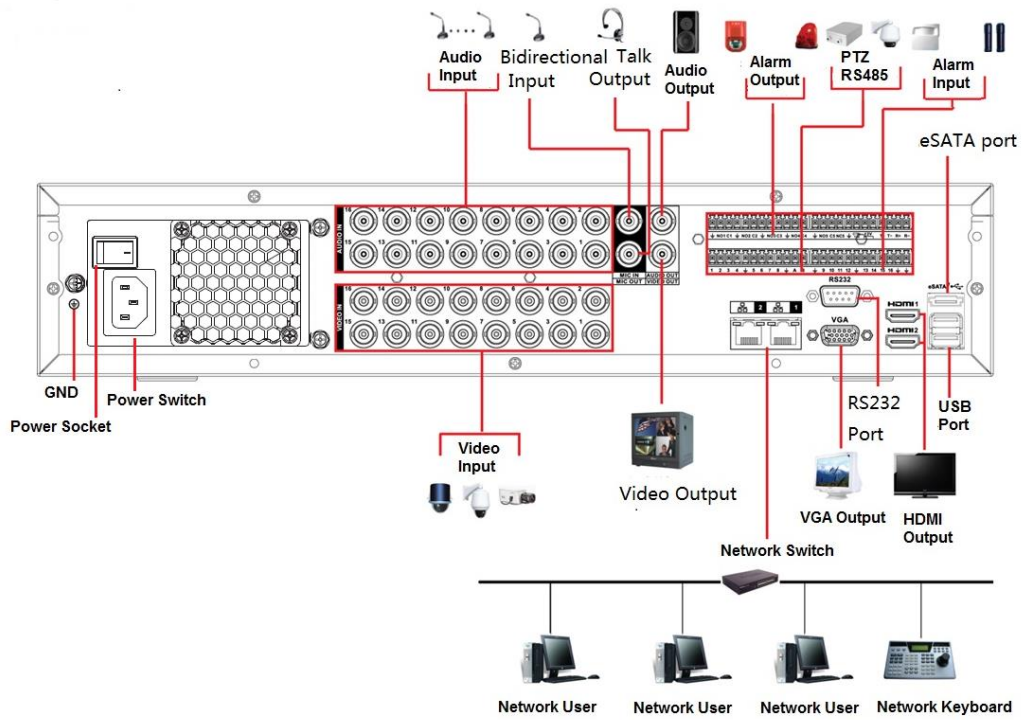


Figure 2-10

## 2.4 Remote Control

The remote control interface is shown as in Figure 2-11.

Please note remote control is not our standard accessory and it is not included in the accessory bag.

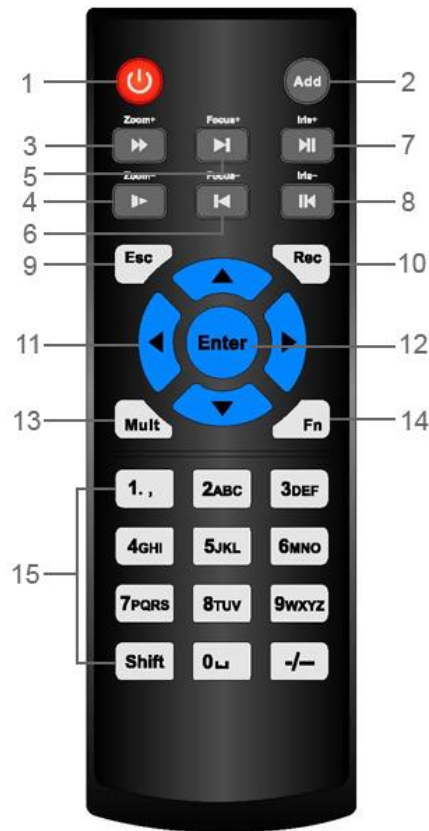




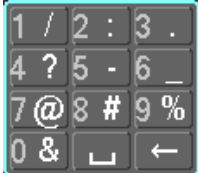
Figure 2-11

SN	Name	Function
1	Power button	Click it to boot up or shut down the device.
2	Address	Click it to input device number, so that you can control it.
3	Forward	Various forward speeds and normal speed playback.
4	Slow play	Multiple slow play speeds or normal playback.
5	Next record	In playback mode, playback the next video.
6	Previous record	In playback mode, playback the previous video.
7	Play/Pause	In pause mode, click this button to realize normal playback. In normal playback click this button to pause playback. In real-time monitor mode, click this button to enter video search menu.
8	Reverse/pause	Reverse playback pause mode, click this button to realize normal playback. In reverse playback click this button to pause playback.
9	Esc.	Go back to previous menu or cancel current operation (close upper interface or control)
10	Record	Start or stop record manually In record interface, working with the direction buttons to select the record channel. Click this button for at least 1.5 seconds, system can go to the Manual Record interface.

SN	Name	Function
11	Direction keys	Switch current activated control, go to left or right. In playback mode, it is to control the playback process bar. Aux function(such as switch the PTZ menu)
12	Enter /menu key	go to OK button go to the menu
13	Multiple-window switch	Switch between multiple-window and one-window.
14	Fn	In 1-ch monitor mode: pop up assistant function: PTZ control and Video color.
		Switch the PTZ control menu in PTZ control interface.
		In motion detection interface, working with direction keys to complete setup.
		In text mode, click it to delete character.
15	0-9 number key	Input password, channel or switch channel.
		Shift is the button to switch the input method.

## 2.5 Mouse Control

Left mouse	click	System pops up password input dialogue box if you have not logged in. In real-time monitor mode, you can go to the main menu.
		When you have selected one menu item, left click mouse to view menu content.
		Implement the control operation.
		Modify checkbox or motion detection status.
		Click combo box to pop up drop down list

	<p>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.</p> <p>In English input mode: _ stands for input a backspace icon and ← stands for deleting the previous character.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p>In numeral input mode: _ stands for clear and ← stands for deleting the previous numeral.</p> <p>When input special sign, you can click corresponding numeral in the front panel to input. For example, click numeral 1 you can input“/” , or you can click the numeral in the on-screen keyboard directly.</p> 
<p>Double left click mouse</p>	<p>Implement special control operation such as double click one item in the file list to playback the video.</p> <p>In multiple-window mode, double left click one channel to view in full-window.</p> <p>Double left click current video again to go back to previous multiple-window mode.</p>
<p>Right click mouse</p>	<p>In real-time monitor mode, DVR pops up shortcut menu. For different series product, the shortcut menu displayed contents may vary.</p> <p>Exit current menu without saving the modification.</p>
<p>Press middle button</p>	<p>In numeral input box: Increase or decrease numeral value.</p> <p>Switch the items in the check box.</p> <p>Page up or page down</p>
<p>Move mouse</p>	<p>Select current control or move control</p>
<p>Drag mouse</p>	<p>Select motion detection zone</p> <p>Select privacy mask zone.</p>

## 2.6 Virtual Keyboard & Front Panel

### 2.6.1 Virtual Keyboard

The system supports two input methods: numeral input and English character (small and capitalized) input.

Move the cursor to the text column, the text is shown as blue, input button pops up on the right. Click that button to switch between numeral input and English input (capitalized and small), Use > or < to shift between small character and capitalized character.

### **2.6.2 Front Panel**

Move the cursor to the text column. Click Fn key and use direction keys to select number you wanted. Please click enter button to input.

## 3 Installation and Connections

**Note:** All the installation and operations here should conform to your local electric safety rules.

### 3.1 Check Unpacked DVR

When you receive the DVR from the forwarding agent, please check whether there is any visible damage. The protective materials used for the package of the DVR can protect most accidental clashes during transportation. Then you can open the box to check the accessories.

Please check the items in accordance with the list. Finally you can remove the protective film of the DVR.

#### **Note**

Remote control is not a standard accessory and it is not included in the accessory bag.

### 3.2 About Front Panel and Rear Panel

The model in the front panel is very important; please check according to your purchase order.

The label in the rear panel is very important too. Usually we need you to represent the serial number when we provide the service after sales.

### 3.3 HDD Installation

#### 3.3.1 HDD Calculation

Calculate total capacity needed by each DVR 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 DVR 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 DVR

Step 4: According to Formula (4) to calculate total capacity (accumulation)  $q_T$  that is needed for all channels in DVR 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

You can refer to the following sheet for the file size in one hour per channel. (All the data listed below are for reference only.)

Bit stream size (max)	File size	Bit stream size (max)	File size
96K	42M	128K	56M
160K	70M	192K	84M
224K	98M	256K	112M
320K	140M	384K	168M
448K	196M	512K	225M
640K	281M	768K	337M
896K	393M	1024K	450M
1280K	562M	1536K	675M
1792K	787M	2048K	900M
3072Kbps	1350M	4096K	1800M
6144Kbps	2700M	8192Kbps	3600M

**Note**

- All information listed in the above sheet for reference only. We are not reliable for any damage or loss resulting from it.
- For the space marked by the HDD manufacturer, 1K=1000Bytes, while for the computer OS, 1K=1024Bytes. So, the space recognized by the computer system is less than the marked space on the HDD. Please pay attention to it.
- All HDD space marked by the HDD manufacturer is shown as below: 1T=1000G, 1G=1000M, 1M=1000K, 1K=1000Bytes.
- All HDD space marked by the HDD manufacturer shall become the computer OS space after the corresponding calculation. For example:  
 1T(marked by the HDD manufacturer)=1000G/(1.024\*1.024\*1.024)=931G(OS space),  
 500G=500G/ (1.024\*1.024\*1.024) =465G

**3.3.2 HDD Installation**



### Important

**Shut down the device and then unplug the power cable before you open the case to replace the HDD!**

**All figures listed below for reference only!**

This series DVR has 1 to 8 HDDs (no limitation for capacity). Please use HDD of 7200rpm or higher. Usually we do not recommend the HDD for the PC. You can refer to the Appendix for recommended HDD brand.

Please follow the instructions listed below to install hard disk.

#### 3.3.2.1 The 1U Series

The 1U series includes HCR82XXA- -S3.

This series DVR has two SATA HDDs.



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

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 Connect the HDD cable and power cable.

⑥ Put the cover in accordance with the clip and then place the upper cover back. Secure the screws in the rear panel and the side panel.

#### 3.3.2.2 The 1.5U Series

The 1.5U series includes HCVR84XXL-S3.

This series DVR max has four SATA HDDs. Please use HDD of 7200rpm or higher.



① Loosen the screws of the upper cover. Remove the cover.



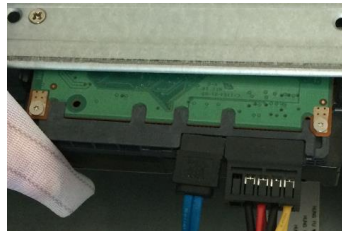
② Line up the HDD to the four holes of the HDD bracket. Use four screws to fix HDD.



③ Connect the one end of the HDD cable to the HDD.



④ Connect the other end of the HDD cable to the mainboard.



⑤ Connect the power cable to the HDD.



⑥ Put the cover back and fix the screws to secure firmly.

### 3.3.2.3 The general 2U Series

The 2U series includes HCVR88XXS-S3/XVR88XXS.

This series DVR max supports 8 SATA HDDs. Please use HDD of 7200rpm or higher.



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



② Fix the HDD(s) on the bracket. Remove the top bracket if you want to install HDD to the bottom bracket.



③ Connect the one end of the HDD cable to the HDD.



- ④ Connect the other end of the HDD cable to the mainboard.
- ⑤ Connect the power cable to the HDD.
- ⑥ Put the cover back and fix the screws to secure firmly.

**Important:**

If the HDD amount is less than four, you do not need to install the HDD bracket. When there is a bracket, please make sure the installation direction of HDDs is the same.

**3.3.2.4 The Removable Front Panel 2U Series**

The removable front panel 2U series includes HCVR88XXS-URH-S3.

This series DVR max supports 8 SATA HDDs. Please use HDD of 7200rpm or higher.



- ① Turn the key into the hole in the front panel.
- ② Open the front panel.
- ③ Put the HDD to the slot and adjust the handle to secure it.



- ④ Put the front panel back and use the key to fix firmly.

**HDD Handle Installation**



- ① Turn the key into the hole in the front panel.
- ② Open the front panel.

### 3.3.3 Rack Installation

The DVR occupies 1.5U/2U rack units of vertical rack space.

- Use twelve screws to fix the unit
- Please make sure the indoor temperature is below 35°C (95°F).
- Please make sure there is 15cm (6 inches) space around the device to guarantee sound ventilation.
- Please install from the bottom to the top.
- If there are more accessories connected in the rack, please take precaution measures in case the rack power is overload.

## 3.4 Connecting Power Supply

Please check input voltage and device power button match or not.

We recommend you use UPS to guarantee steady operation, DVR life span, and other peripheral equipment operation such as cameras.

## 3.5 Connecting Video Input and Output Devices

### 3.5.1 Connecting Video Input

The video input interface is BNC. The input video format includes: PAL/NTSC BNC(1.0V<sub>P-P</sub>, 75Ω.)

The video signal should comply with your national standards.

The input video signal shall have high SNR, low distortion; low interference, natural color and suitable lightness.

#### **Guarantee the stability and reliability of the camera signal:**

The camera shall be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.

The camera and the DVR should have the same grounding to ensure the normal operation of the camera.

#### **Guarantee stability and reliability of the transmission line**

Please use high quality, sound shielded BNC. Please select suitable BNC model according to the transmission distance.

If the distance is too long, you should use twisted pair cable, and you can add video compensation devices or use optical fiber to ensure video quality.

You should keep the video signal away from the strong electromagnetic interference, especially the high tension current.

#### **Keep connection lugs in well contact**

The signal line and shielded wire should be fixed firmly and in well connection. Avoid dry joint, lap welding and oxidation.

### 3.5.2 Connecting Video Output

Video output includes a BNC (PAL/NTSC 1.0V<sub>P-P</sub>, 75Ω) output, a VGA output and HDMI output. System supports BNC, VGA and HDMI output at the same time.

When you are using pc-type monitor to replace the monitor, please pay attention to the

following points:

- To defer aging, do not allow the pc monitor to run for a long time.
- Regular demagnetization will keep device maintain proper status.
- Keep it away from strong electromagnetic interference devices.

Using TV as video output device is not a reliable substitution method. You also need to reduce the working hour and control the interference from power supply and other devices. The low quality TV may result in device damage.

## **3.6 Connecting Audio Input & Output, Bidirectional Audio**

### **3.6.1 Audio Input**

These series products audio input port adopt BNC port.

Due to high impedance of audio input, please use active sound pick-up.

Audio transmission is similar to video transmission. Try to avoid interference, dry joint, loose contact and it shall be away from high tension current.

### **3.6.2 Audio Output**

The audio output signal parameter is usually over 200mv 1K $\Omega$  (BNC or RCA). It can directly connect to low impedance earphone, active sound box or amplifier-drive audio output device.

If the sound box and the pick-up cannot be separated spatially, it is easy to arouse squeaking. In this case you can adopt the following measures:

- Use better sound pick-up with better directing property.
- Reduce the volume of the sound box.
- Using more sound-absorbing materials in decoration can reduce voice echo and improve acoustics environment.
- Adjust the layout to reduce happening of the squeaking.

## **3.7 Alarm Input and Output Connection**

Please read the followings before connecting.

### **1. Alarm input**

- a. Please make sure alarm input mode is grounding alarm input.
- b. Grounding signal is needed for alarm input.
- c. Alarm input needs the low level voltage signal.
- d. Alarm input mode can be either NC (normal Open) or NO (Normal Close)
- e. When you are connecting two DVRs or you are connecting one DVR and one other device, please use a relay to separate them,

### **2. Alarm output**

The alarm output port should not be connected to high power load directly (It shall be less than 1A) to avoid high current which may result in relay damage. Please use the co contactor to realize the connection between the alarm output port and the load.

### 3. How to connect PTZ decoder

- Ensure the decoder has the same grounding with DVR, otherwise you may not control the PTZ. Shielded twisted wire is recommended and the shielded layer is used to connect to the grounding.
- Avoid high voltage. Ensure proper wiring and some thunder protection measures.
- For too long signal wires, 120Ω should be parallel connected between A, B lines on the far end to reduce reflection and guarantee the signal quality.
- “485 A, B” of DVR cannot parallel connect with “485 port” of other device.
- The voltage between of A, B lines of the decoder should be less than 5v.

### 4. Please make sure the front-end device has soundly earthed.

Improper grounding may result in chip damage.

#### 3.7.1 Alarm Input and Output Details

##### Important

Please refer to the specifications for the alarm input and output channel amount. Do not merely count the alarm input and out channel amount according to the ports on the rear panel.

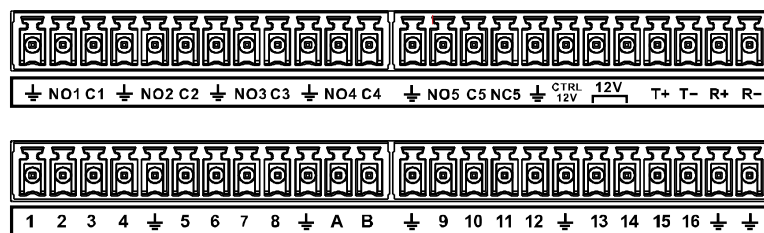


Figure 3-1

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	ALARM 1 to ALARM 16. The alarm becomes active in low voltage.
NO1 C1, NO2 C2, NO3 C3, NO4 C4,	There are four groups of normal open activation output (on/off button)
NO5 C5 NC5,	There is one group of normal open activation output (on/off button)
CTRL 12V	Control power output of the 6 <sup>th</sup> alarm output channel. Voltage current: 500mA. <ul style="list-style-type: none"> <li>● When there is an alarm output, close the power output.</li> <li>● When the alarm is cancelled, open the power output.</li> </ul>
+12V	Rated current. Voltage current: 500mA.
⊥	Ground cable.

485 A/B	485 communication port. They are used to control devices such as decoder. 120Ω should be parallel connected between A, B lines if there are too many PTZ decoders.
T+,T-,R+,R-	They are four-wire full-duplex RS485 port T+ T-: output wire R+ R-: input wire

### 3.7.2 Alarm Input Port

Please refer to the following sheet for more information.

- Grounding alarm inputs. Normal open or Normal close type)
- Please parallel connect COM end and GND end of the alarm detector (Provide external power to the alarm detector).
- Please parallel connect the Ground of the DVR and the ground of the alarm detector.
- Please connect the NC port of the alarm sensor to the DVR alarm input(ALARM)
- Use the same ground with that of DVR if you use external power to the alarm device.

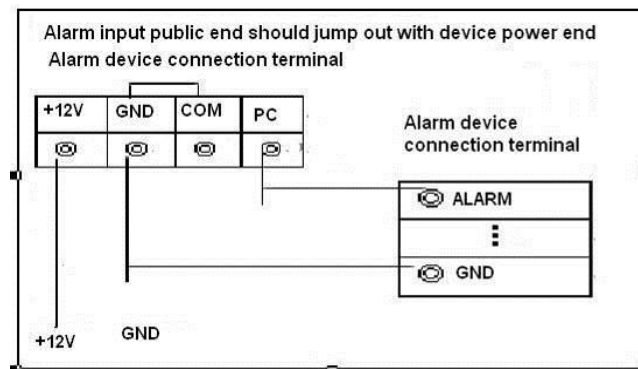


Figure 3-2

### 3.7.3 Alarm Output Port

- Provide external power to external alarm device.
- To avoid overloading, please read the following relay parameters sheet carefully.
- RS485 A/B cable is for the A/B cable of the PTZ decoder.
- T+,T-,R+,R- are four-wire double duplex RS485 port.  
T+ T-: output wire  
R+ R-: input wire

### 3.7.4 Alarm Output Relay Parameters



#### Note

Refer to the actual product for relay model information.

#### Relay Specification

Model		HFD23/005-1ZS	HRB1-S-DC5V
Material of the touch		AgNi+ gold-plating	AuAg10/AgNi10/CuNi30
Rating (Resistance Load)	Rated switch capacity	30V DC 1A/125V AC 0.5A	24V DC 1A/125V AC 2A
	Maximum	62.5VA/30W	250VA/48W



Model		HFD23/005-1ZS	HRB1-S-DC5V
	switch power		
	Maximum switch voltage	125V AC/60V DC	125V AC/60V DC
	Maximum switch current	2A	2A
Insulation	Between touches	400VAC 1 minute	500VAC 1 minute
	Between touch and winding	1000VAC 1 minute	1000VAC 1 minute
Turn-on Time		5ms max	5ms max
Turn-off Time		5ms max	5ms max
Longevity	Mechanical	1×10 <sup>7</sup> times (300 times/MIN)	5×10 <sup>6</sup> times (300 times/MIN)
	Electrical	1×10 <sup>5</sup> times (30 times/MIN)	2.5×10 <sup>4</sup> times (30 times/MIN)
Working Temperature		-30°C ~ +70°C	-40°C ~ +70°C

### 3.8 Change DVR Button Battery

Please make sure to use the same battery model if possible.

We recommend replace battery regularly (such as one-year) to guarantee system time accuracy.



**WARNING**

Before replacement, please save the system setup, otherwise, you may lose the data completely!

### 3.9 RS485

When the DVR receives a camera control command, it transmits that command up the coaxial cable to the PTZ device. RS485 is a single-direction protocol; the PTZ device can't return any data to the unit. To enable the operation, connect the PTZ device to the RS485 (A,B) input on the DVR.

Since RS485 is disabled by default for each camera, you must enable the PTZ settings first. This series DVRs support multiple protocols such as Pelco-D, Pelco-P.

To connect PTZ devices to the DVR:

1. Connect RS485 A,B on the DVR rear panel.
2. Connect the other end of the cable to the proper pins in the connector on the camera.
3. Please follow the instructions to configure a camera to enable each PTZ device on the DVR.

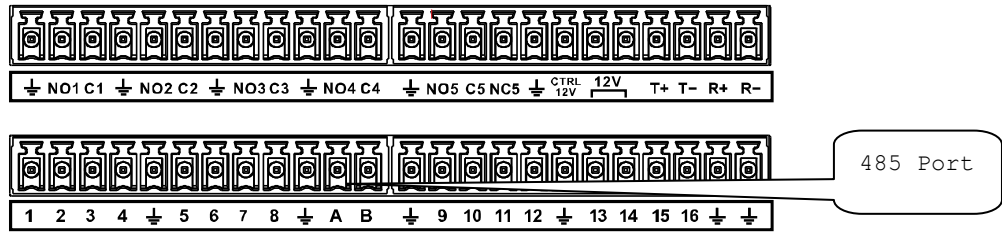


Figure 3-3

### 3.10 Other Interfaces

There are still other interfaces on the DVR, such as USB port.

## 4 Overview of Navigation and Controls



### Note

- The figures listed in the following chapters for reference only. Refer to the actual product for detailed information. The operations are the same.
- For some functions, please left click mouse to enter the menu contents and right click menu to go back to the previous menu. Refer to chapter 2.5 Mouse control for detailed information.

### 4.1 Initial Settings

#### 4.1.1 Boot up



#### WARNING

- 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.
- To protect device, please connect device to the power adapter first and then connect the power cable.
- Always use the stable current, if necessary UPS is a best alternative measure.

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

Step 1 Connect the device to the monitor and then connect a mouse.

Step 2 Connect power cable.

Step 3 Click the power button at the front or rear panel and then boot up the device.  
After device booted up, the device is in multiple-channel display mode by default.  
If the boot up time is in the record period, the device automatically goes to auto record mode, the corresponding channel indicator light is on, and device is working properly.

#### 4.1.2 Device Initialization

If it is your first time to use the device, please set a login password of **admin** (system default user).



### Note

For your device safety, please keep your login password of **admin** well after the initialization steps, and change the password regularly.

#### Steps:

Step 1 Boot up device.

Device displays device initialization interface. See Figure 4-1.

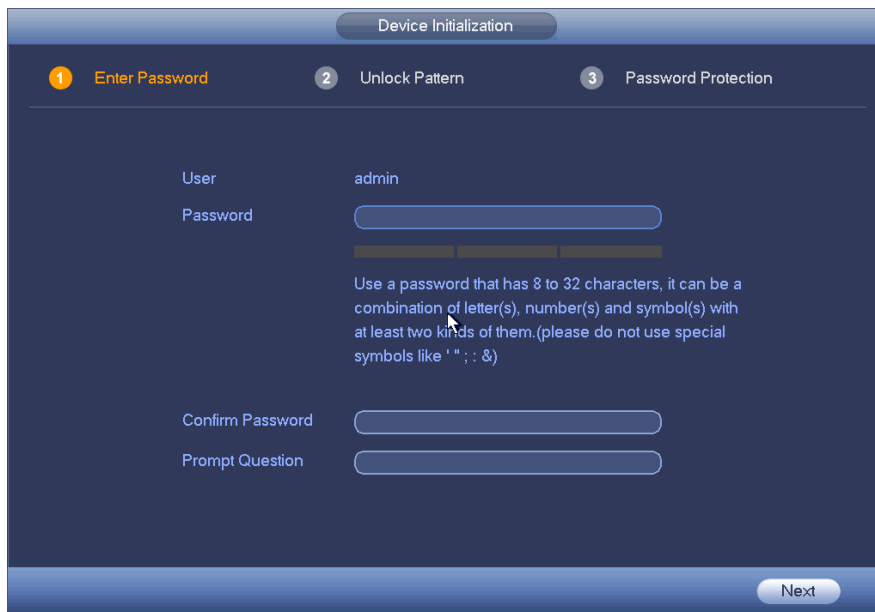



Figure 4-1

Step 2 Set login password of **admin**.

- User name: The default user name is **admin**.
- Password/confirm password: The password ranges from 8 to 32 digitals. It can contain letters, numbers and special characters (excluding “”,””, “;”, “:”, “&” ) . The password shall contain at least two categories. Usually we recommend the strong password.
- Prompt question: If you set the prompt question here. On the login interface, click , device can display the corresponding prompt question for you to remind the password.



WARNING

**STRONG PASSWORD RECOMMENDED-For your device own safety, please create a strong password of your own choosing. We also recommend you change your password periodically especially in the high security system.**

Step 3 Click Next.

Device goes to unlock pattern interface. See Figure 4-2.

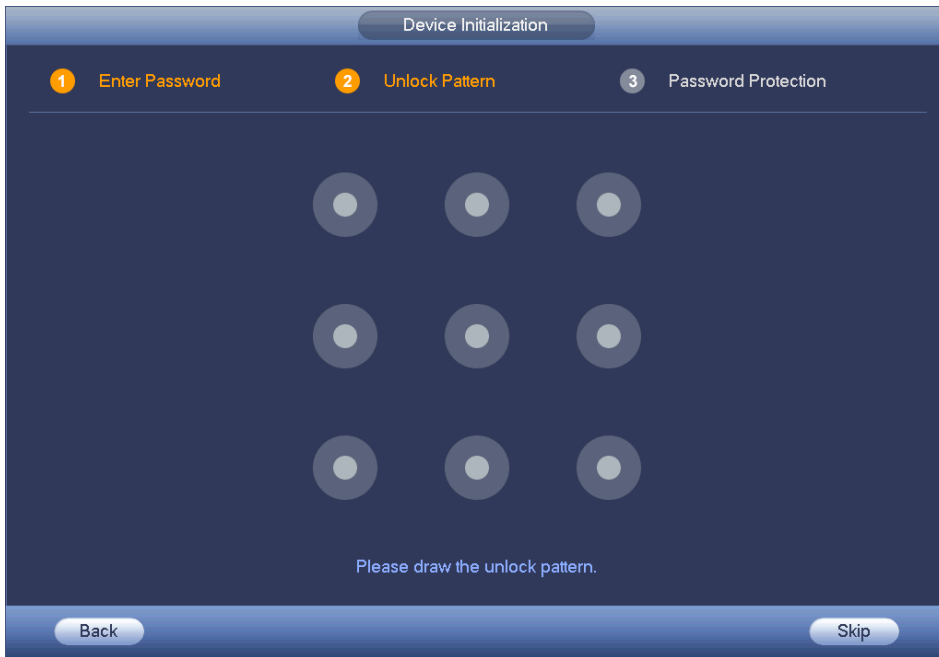


Figure 4-2

Step 4 Set unlock pattern.

After set unlock pattern, device goes to password protection interface. See Figure 4-3.

 **Note**

- The unlock pattern shall at least contain 4 grids.
- Device adopts unlock pattern to login by default if you have set pattern here. If there is no unlock pattern, please input the password to login.
- Click Skip if there is no need to set unlock pattern.

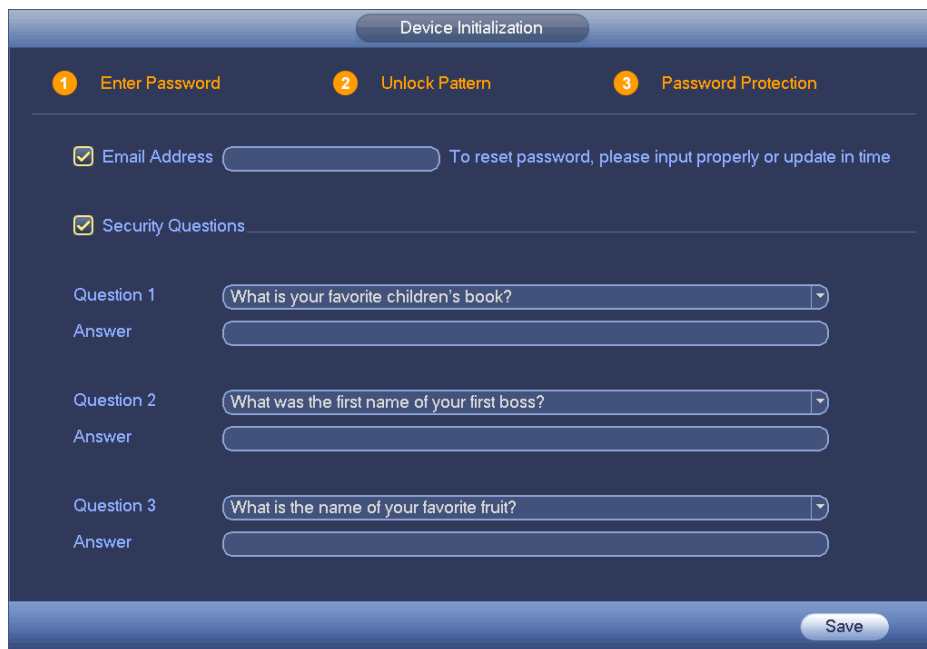


Figure 4-3

Step 5 Set security questions.



**Note**

- After setting the security questions here, you can use the email you input here or answer the security questions to reset admin password. Refer to chapter 4.1.3 Reset password for detailed information.
- Cancel the email or security questions box and then click Next button to skip this step.
- Email: Input an email address for reset password purpose. In case you forgot password in the future, input the security code you got on the assigned email to reset the password of admin. If you have not input email here or you need to update the email information, please go to the main menu->Setting->System->Account to set.
- Security question: Set security questions and corresponding answers. Properly answer the questions to reset admin password. In case you have not input security question here or you need to update the security question information, please go to the main menu->Setting->System->Account to set.

Step 6 Click OK to complete the device initialization setup.

Device goes to startup wizard interface. Refer to chapter 0 Quick Settings for detailed information.

### 4.1.3 Reset Password

If you forgot **admin** password, you can reset the password by email or by answering the security questions.

#### Steps:

Step 1 Go to the device login interface. See Figure 4-4 or Figure 4-5. .

- If you have set unlock pattern, device displays unlock pattern login interface. See Figure 4-4. Click “Forgot unlock pattern”, device goes to Figure 4-5.
- If you have not set unlock pattern, device displays password interface. See Figure 4-5.



**Note**

Click Switch user button in Figure 4-4 or click the user name in Figure 4-5 and then select a user from the dropdown list, you can login via other account.

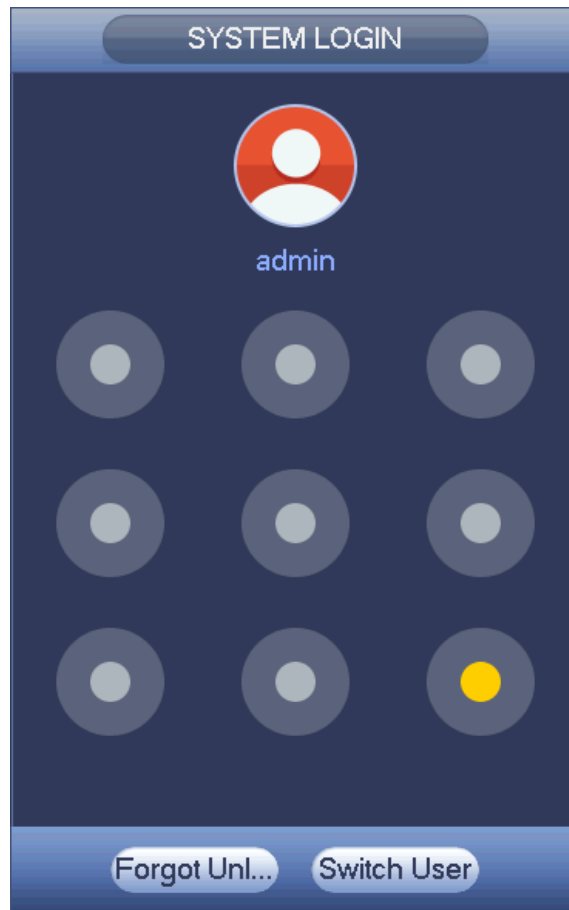


Figure 4-4



Figure 4-5

Step 2 Click .

- If you have not input email address information when you are initializing the device, the interface is shown as in Figure 4-6. Please input an email address and then click Next button, devices goes to Figure 4-7.

- If you have input email when you are initializing the device, device goes to Figure 4-7.

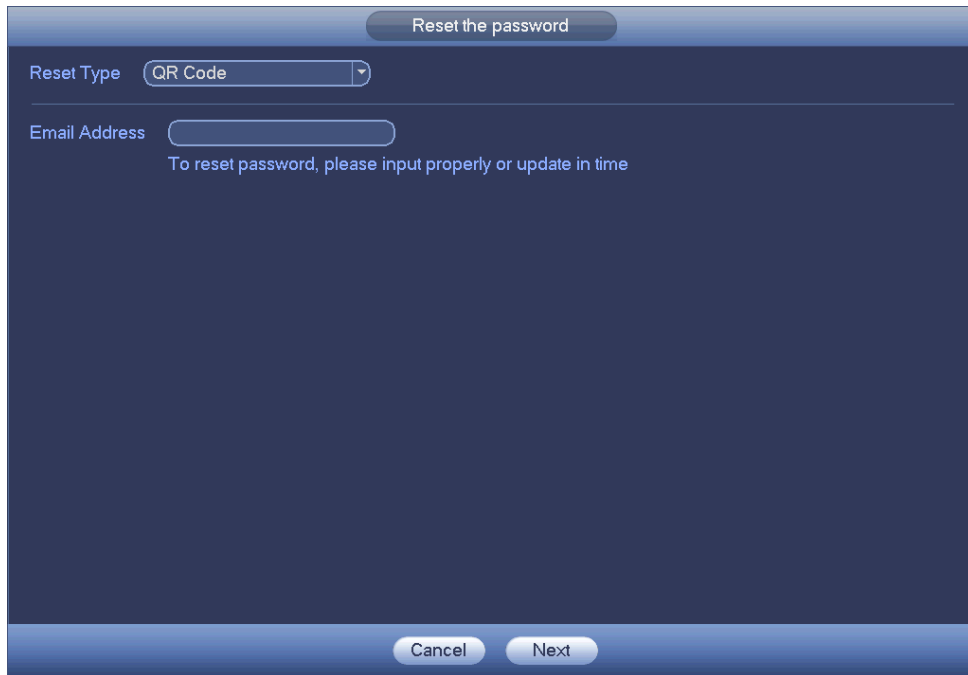


Figure 4-6



Figure 4-7

Step 3 Reset login password.

There are two ways to reset the password: Scan QR code and reset by email/security questions (local menu only)

- Email



In Figure 4-7, follow the prompts on the interface to scan the QR code, and then input the security code you get via the assigned email.



**WARNING**

- ✧ For the same QR code, max scan twice to get two security codes. Refresh the QR code if you want to get security code again.
- ✧ The security code on your email is only valid for 24 hours.
- Security questions

In Figure 4-6, select security question from the drop down list. Device displays security question interface. See Figure 4-8. Please input the correct answers here.



**Note**

There is no security question item from the dropdown list if you have not set the security question and corresponding answers when initializing the device.

Reset the password

Reset Type: Security Questions

Question 1: What is your favorite children's book?  
Answer: [Text Input Field]

Question 2: What was the first name of your first boss?  
Answer: [Text Input Field]

Question 3: What is the name of your favorite fruit?  
Answer: [Text Input Field]

Cancel Next

Figure 4-8

Step 4 Click Next button.

Device displays reset password interface. See Figure 4-9.

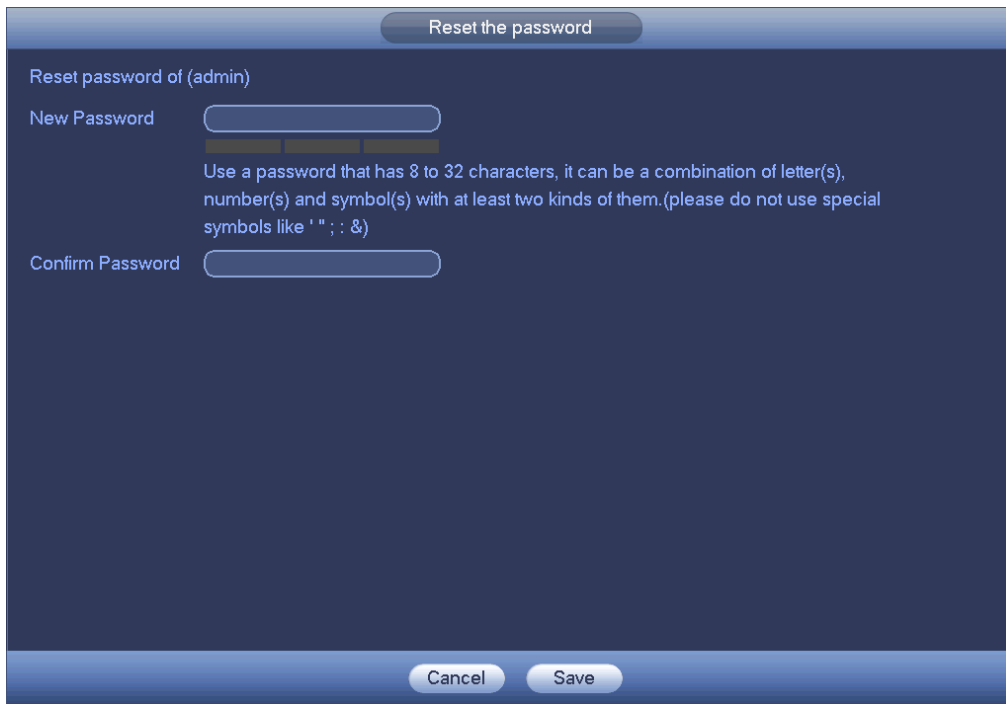


Figure 4-9

Step 5 Input new password and then confirm.



WARNING

**STRONG PASSWORD RECOMMENDED-For your device own safety, please create a strong password of your own choosing. The password shall be at least 8-digit containing at least two types of the following categories: letters, numbers and symbols. We also recommend you change your password periodically especially in the high security system.**

Step 6 Click Save button to complete the reset setup.

Device pops up dialogue box asking you to sync the password to the camera connecting by the default protocol. See Figure 4-10. Click OK to change the camera password. See Figure 4-11.



**Note**

The following dialogue pops up if there is a IP channel.

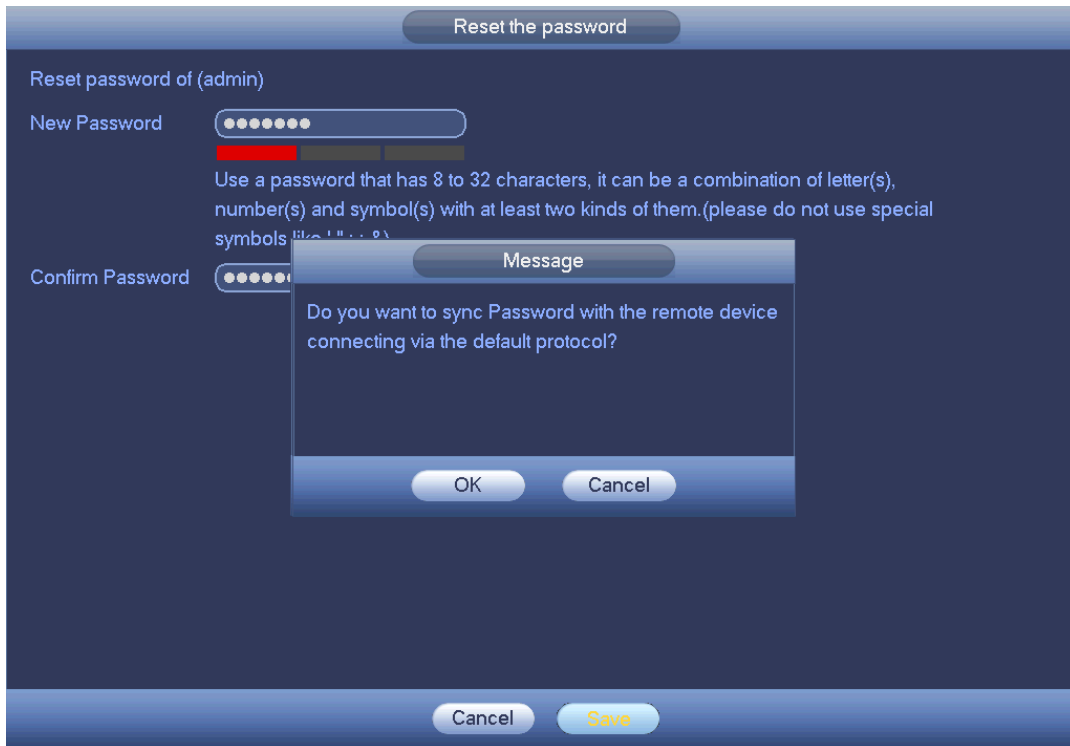


Figure 4-10



Figure 4-11

#### 4.1.4 Quick Settings

The startup wizard and the configuration wizard can guide you to complete the basic settings so that the device can work properly.

- Startup wizard: After initialize the device, system goes to the startup wizard interface. See Figure 4-12.
- Configuration wizard: On the preview interface, right click mouse and then click configuration wizard. The setting items are the same as the startup wizard.



Figure 4-12

 **Note**

- 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.
- From main menu->Setting->System->General->General, you can enable/disable startup wizard.

Step 1 Click Next.

Enter login interface. See Figure 4-13 or Figure 4-14.

 **Note**

- In Figure 4-12, click Cancel button, device enters login interface. See Figure 4-13. After login, device goes to multiple-window preview mode by default.
- If you have not set unlock pattern, the interface is shown as in Figure 4-14.

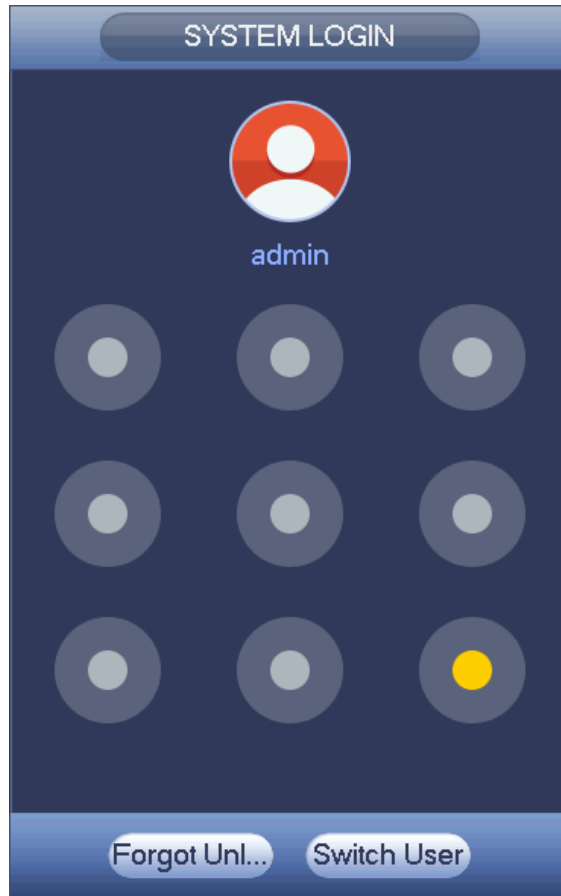


Figure 4-13



Figure 4-14

- Step 2 Draw the unlock pattern or input the user password.  
Device enters startup wizard after login. After setting current page, click Next to set parameters



WARNING

- Five times login failure may result in account lock. For each login failure, system pops up remain attempt amount.
- In case you forgot unlock pattern, click Forgot unlock pattern in Figure 4-13. Device goes to Figure 4-14 for you to input password.

#### 4.1.4.1 General

Besides startup wizard and configuration wizard, from main menu->Setting->System->General, you can also go to the General interface too.

##### 4.1.4.1.1 General

Step 1 Click General tab.

Enter General interface. See Figure 4-15.

Step 2 Set parameters.

- Device ID: Please input a corresponding device name here.
- Device No: Here you can set device number.
- 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.)
- Video standard: There are two formats: NTSC and 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. Please note, DVR will not overwrite the locked files. Please refer to chapter 0 to lock or unlock a file.
- Pack duration: Here is for you to specify record duration. There are two ways for you to set.
  - ◇ Time length: It is to pack according to time. The value ranges from 1 to 60 minutes. Default value is 60 minutes.
  - ◇ File length: It is to pack according to file length. The default setup is 1024M. The value ranges from 128M to 2048M.
- Instant playback: It is to set playback time you can view in the preview interface. The value ranges from 5 to 60 minutes.
- 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.
- IPC Time Sync: You can input an interval here to synchronize the DVR time and IPC time.
- Navigation bar: Check the box here, system displays the navigation bar on the interface.
- 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.
- Mouse sensitivity: You can set double click speed via dragging the slide bard. You can Click Default button to restore default setup.



Figure 4-15

Step 3 Click Apply or Save to complete setup.

#### 4.1.4.1.2 Date and Time

Step 1 Click Date and Time tab.

Enter date and time interface. See Figure 4-16.

Step 2 Set parameters.

- Date format: There are three types: YYYY-MM-DD: MM-DD-YYYY 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. Here you can set start time and end time by setting corresponding week setup or by setting corresponding date setup.
- NTP: It is to set NTP server information. Check the NTP box to enable this function.
- ✧ Host IP: Input the server IP that installed the NTP server.
- ✧ Manual update: Click it, you can sync DVR time with the NTP server manually.
- ✧ Port: System supports TCP transmission only. The port value is 123.
- ✧ Interval: It is to set the sync time interval between the DVR and the NTP server. The value ranges from 0 to 65535 minutes.



Figure 4-16

Step 3 Click Apply or Save to complete setup.

#### 4.1.4.1.3 Holiday

Step 1 Click Holiday tab.

Enter holiday interface. See Figure 4-17.



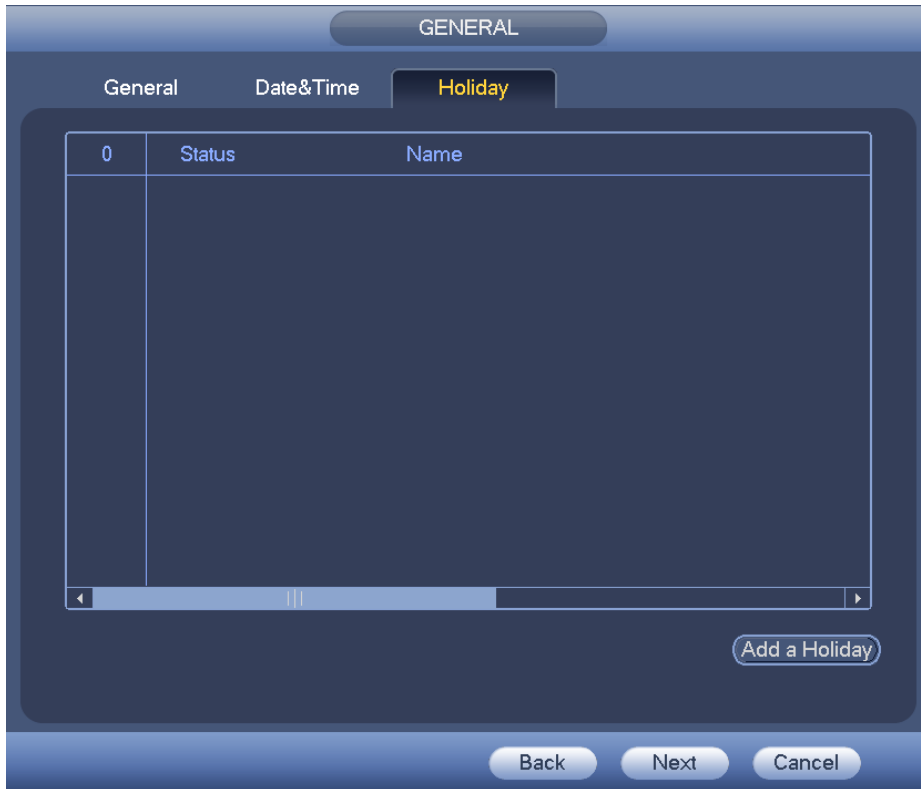


Figure 4-17

- Step 2 Click Add new holiday button.  
 Enter Add new holiday interface. See Figure 4-18.



Figure 4-18

- Step 3 Input new holiday information. It is to set holiday name, repeat mode and start/end time.



### Note



Click Add more to add more holidays if necessary.

Step 4 Click Add button.

Device goes back to Figure 4-17 to display the new holiday.



### Note

- The new holiday state is on by default. Select from the dropdown list to disable.
- Drag the slide bar, click  to edit holiday, click  to delete holiday.



### Note

After successfully set holiday here, you can view holiday item in Schedule interface. It is for you to set holiday schedule record/snapshot settings.

#### 4.1.4.2 Network

Before the operation, make sure the device has properly connected the network cable.

Besides startup wizard and configuration wizard, from main menu->Setting->Network->TCP/IP, you can also go to the network interface.

Step 1 From main menu->Setting->Network->TCP/IP.

Enter TCP/IP interface. See Figure 4-19.

Step 2 Set parameters.

- Network Mode: Includes multiple access, fault tolerance, and load balancing. **Please note the network mode is not for product of single-Ethernet card.**
  - ◇ Multiple-address mode: eth0 and eth1 operate separately. You can use the services such as HTTP, RTP service via eth0 or the eth1. Usually you need to set one default card (default setup is eth0) to request the auto network service from 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 fault-tolerance: In this mode, device uses bond0 to communicate with the external devices. You can focus on one host IP address. At the 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.
- Default Network Card: Please select eth0/eth1/bond0(optional) after enable multiple-access function

- Main Network Card: Please select eth0/eth1 (optional).after enable multiple access function.

**Note: Some series support the above three configurations and supports functions as multiple-access, fault-tolerance and load balancing.**

- 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.
- 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 cannot 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 cannot modify IP/Subnet mask /Gateway.
- 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 DVR 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.
- Preferred DNS server: DNS server IP address.
- Alternate DNS server: DNS server alternate address.



Figure 4-19

Step 3 Click Apply or Save to complete setup.

#### 4.1.4.3 P2P

You can add a device via the client on the cellphone or the platform.

- You can use your cell phone to scan the QR code and add it to the cell phone client.
- Go to the P2P management platform, via the SN from scanning the QR code, you can access the device in the WAN. Please refer to the P2P operation manual.

Besides startup wizard and configuration wizard, from main menu->Setting->Network->P2P, you can also go to the P2P interface. See Figure 4-20.

Check the box to enable P2P function, and status is online. Cell phone or the platform can add and access the device.

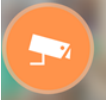




Figure 4-20

Here we use cell phone APP to continue.

Step 1 Use cell phone to scan the QR code and download the APP.

Step 2 After installation, run the APP and Live Preview, enter the main interface. Now you can add device to the APP.

1. Open App; tap  to go to the Live preview.
2. Tap  at the top left corner, you can see the main menu.
3. Tap Device manager button, you can use several modes (P2P/DDNS/IP and etc.) to add the device. Click  to save current setup. Tap Start Live preview to view all-channel video from the connected device. See Figure 4-21.

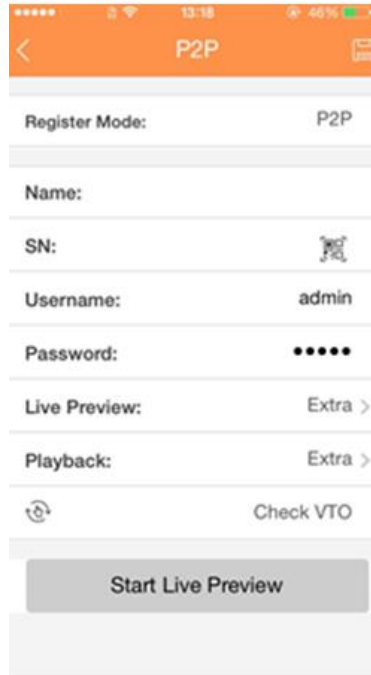


Figure 4-21

#### 4.1.4.4 Registration

 **Note**

You can only see the registration interface if you have set IP channel (Chapter 4.16.3). The DVR supports ONVIF standard protocol.

It is to add/delete the camera to the corresponding channel and view the corresponding information.

Besides startup wizard and configuration wizard, from the main menu->Setting->Camera-> Registration or on the preview window and then right click mouse and then select Camera Registration, you can go to the Registration interface. See Figure 4-22.

Click IP search, and then select device in the searched results, click Add button.

- Uninitialized: Click Uninitialized, device display uninitialized remote device. Select a device from the list and then click Initialize, you can set remote device initial user name and password. Refer to chapter 4.1.4.4.1 Initialize camera for detailed information.
- Show filter: Select from the dropdown list to display the corresponding devices.
  - ✧ None: There is a filter. Device displays all remote devices.
  - ✧ IPC: Device displays network camera.
  - ✧ DVR: Device display storage device such as DVR, NVR and etc.
- IP search: Click it to search IP address. It includes device IP address, port, device name, manufacturer, type. Use your mouse to click the item name, you can refresh display order. Click IP address, system displays IP address from small to large. Click IP address again, you can see icon, system displays IP address from large to small.

You can click other items to view information conveniently. For the network device already added to the device, you can see there is a small icon “\*” after the SN in case there is repeatedly add operation.



- Add: Click it to connect to the selected device and add it to the Added device list. Support Batch add.
- Edit: Click button  or double click a device in the list, you can change channel setup.
- Delete: Please select one device in the Added device list and then click  to remove.
- Organize videos: Click to set channel sequence. Click Move up or Move down to set. Refer to chapter 4.1.4.4.4 Organize videos for detailed information.
- Export: Export the added device list to the USB device. Refer to chapter 4.1.4.4.7 Export for detailed information.
- Import: Click to add several devices at the same time. Refer to chapter 4.1.4.4.8 Import for detailed information.



Figure 4-22

#### 4.1.4.4.1 Initialize Camera

The initialize function in registration interface is to change connected camera login password and IP address.

### Steps:

Step 1 From main menu->Setting->Camera->Registration.

Enter Registration interface. See Figure 4-23.

- Step 2 Click IP search and check the Uninitialized box.  
Device displays uninitialized camera.



Figure 4-23

- Step 3 Select a camera to be initialized and then click Initialize button.  
Device displays password setup interface. See Figure 4-24 and Figure 4-25.



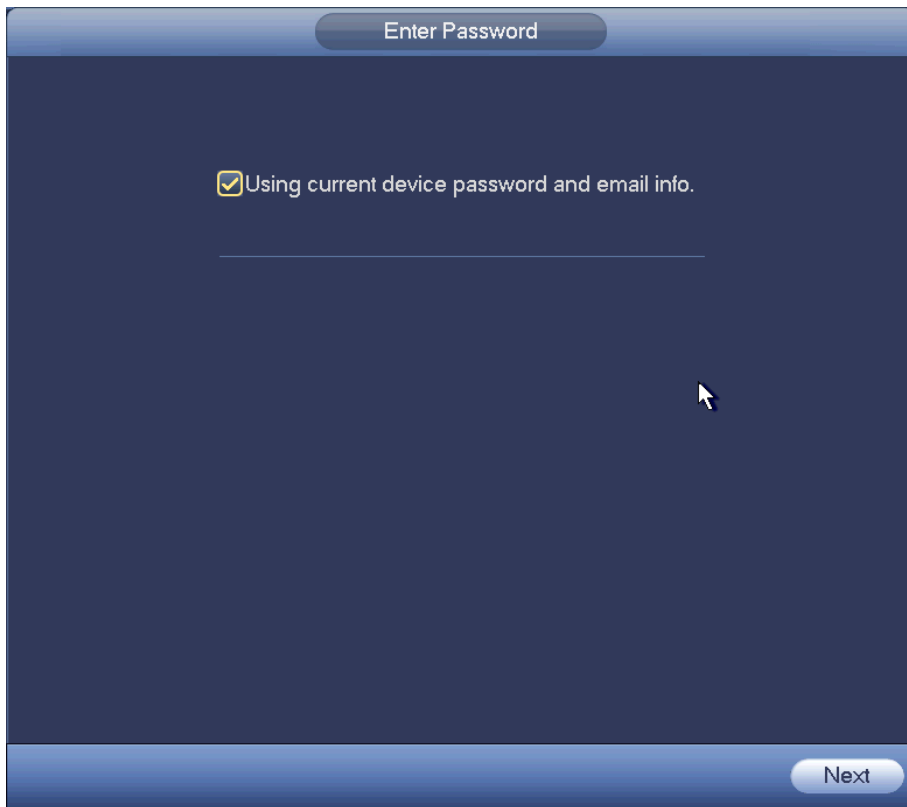


Figure 4-24



Figure 4-25

Step 4 Set camera password.

- Using current device password and email: Check the box to use DVR current admin account and email information. There is no need to set password and email. Please go to step 7.
- User name/password: The user name is **admin**. The password ranges from 8 to 32 digitals. It can contain letters, numbers and special characters (excluding “” “” “,” “.” “&”) . The password shall contain at least two categories. Usually we recommend the strong password.



**WARNING**

**STRONG PASSWORD RECOMMENDED-For your device own safety, please create a strong password of your own choosing. We also recommend you change your password periodically especially in the high security system.**

Step 5 Click Next button.

Enter input email interface. See Figure 4-26.

The screenshot shows a dark blue interface with a title bar at the top containing the text "Security Questions". Below the title bar, there is a checked checkbox labeled "Email" followed by an empty text input field and the text "( To reset password )". At the bottom of the interface, there are three buttons: "Back", "Next", and "Skip".

Figure 4-26

Step 6 Set email information.

Email: Input an email address for reset password purpose.



**Note**

Cancel the box and then click Next or Skip if you do not want to input email information here.

Step 7 Click Next button.

Enter Modify IP address interface. See Figure 4-27.

1	Serial No.	IP Address
1	1D004B0YAZ00003	192.168.1.108

Figure 4-27

Step 8 Set camera IP address.

- Check DHCP, there is no need to input IP address, subnet mask, and default gateway. Device automatically allocates the IP address to the camera.
- Check Static, and then input IP address, subnet mask, default gateway and incremental value.



**Note**

- If it is to change several devices IP addresses at the same time, please input incremental value. Device can add the fourth address of the IP address one by one to automatically allocate the IP addresses.
- If there is IP conflict when changing static IP address, device pops up IP conflict dialogue box. If batch change IP address, device automatically skips the conflicted IP and begin the allocation according to the incremental value

Step 9 Click Next button.

Device begins initializing camera. See Figure 4-28.

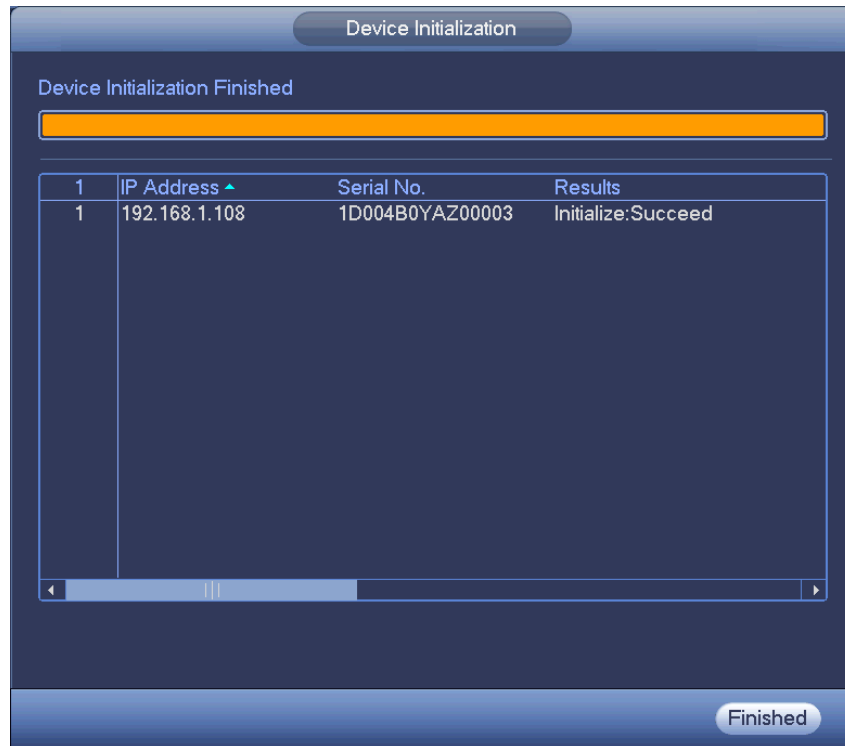


Figure 4-28

Step 10 Click Finish to complete the initialization.

#### 4.1.4.4.2 Auto Add

Step 1 Click IP Search, device displays searched results.



Step 2 Double click an IP address or select an IP address and then click Add button, it is to register the device to the DVR. Device supports batch add.

#### 4.1.4.4.3 Manual Add

Step 1 Click Manual add to register the camera manually. There are three modes: TCP/UDP/Auto. The default setup is TCP. See Figure 4-29.

Step 2 Input the corresponding value and then click OK button.

#### Note

- This series product supports the IPC from many popular manufactures such as Sony, Hitachi, Axis, Samsung, Dynacolor, Arecont, Onvif and Dahua.
- System default IP address is 192.168.0.0 if you do not input IP address. System will not add current IP address.
- You cannot add two or more devices in the Manual Add interface (Figure 4-29.). Click OK button, system connects to the corresponding front-end device of current channel on the interface.
-  means connection successful.  means connection failed.

A dialog box titled "Manual Add" with a dark blue background. It contains several input fields: "Channel" (dropdown menu with "15"), "Manufacturer" (dropdown menu with "Private"), "IP Address" (text field with "192.168.0.0"), "TCP Port" (text field with "37777"), "User Name" (text field with "admin"), "Password" (password field with six dots), "Remote Channel" (text field with "1"), and "Decoder Buffer" (dropdown menu with "Default"). At the bottom right, there are "OK" and "Cancel" buttons.

Channel	15
Manufacturer	Private
IP Address	192.168.0.0
TCP Port	37777
User Name	admin
Password	••••••
Remote Channel	1
Decoder Buffer	Default

Figure 4-29


#### 4.1.4.4.4 Organize videos

It is to set customized preview channel sequence.

Step 1 Click organize videos button.

Enter Organize videos interface. See Figure 4-58.

 **Note**

Click  to view the camera video.

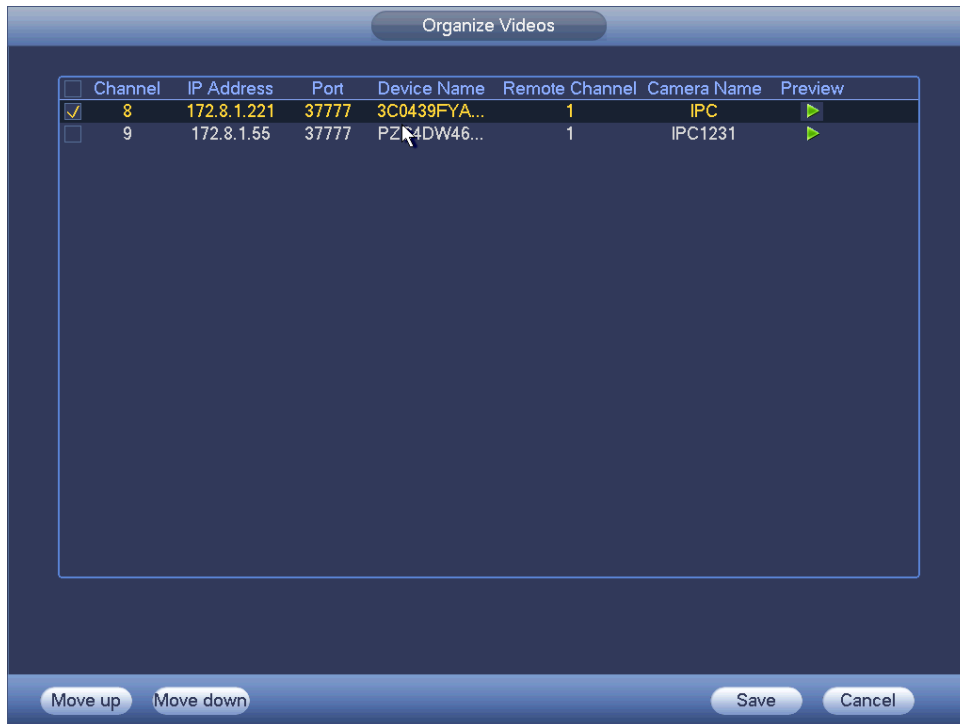


Figure 4-30

Step 2 Select a channel.

Step 3 Click Move up or Move down,

Step 4 Click Save to set remote device channel sequence.

In Figure 4-31, it is to move the original channel 8 to channel 9.

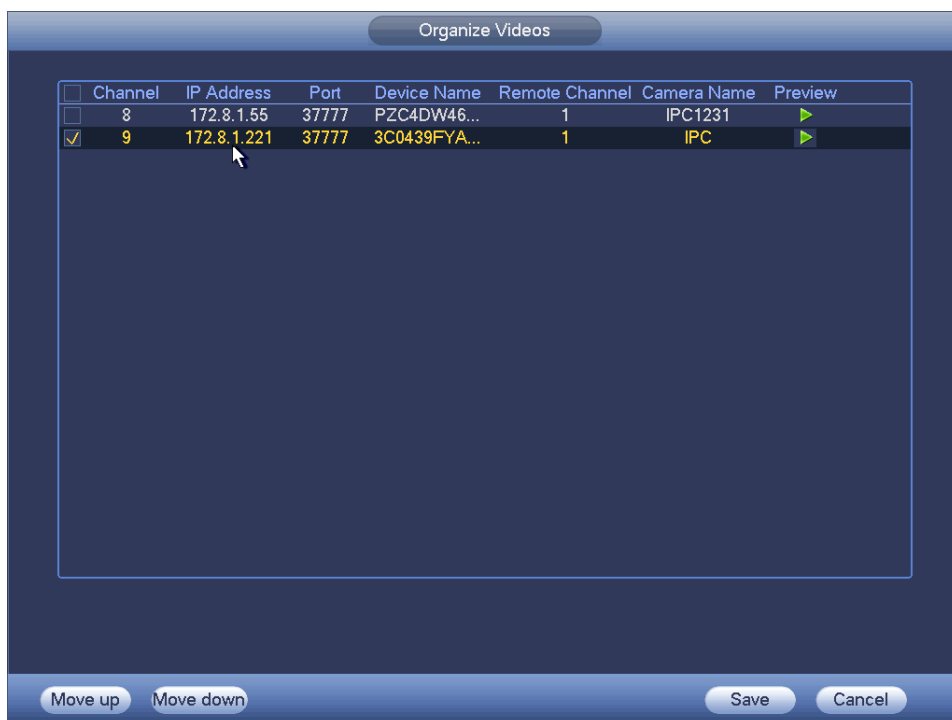



Figure 4-31

#### 4.1.4.4.5 Modify or Delete Device

- Click  or double click a device in the added list. Device pops up the following dialogue box. See Figure 4-32.



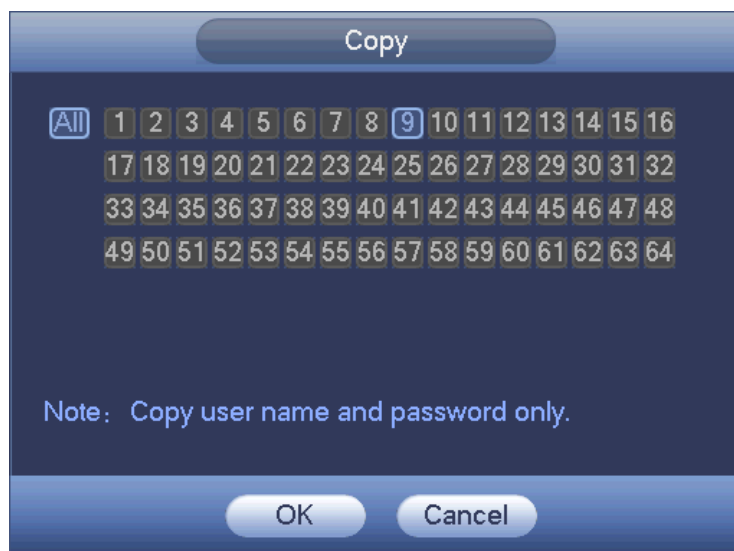
The 'Edit' dialog box contains the following fields:

Channel	15
Manufacturer	Dahua
IP Address	172.8.2.27
TCP Port	37777
User Name	admin
Password	•••••
Remote Channel	1
Decoder Buffer	Default

Buttons: Copy, OK, Cancel

Figure 4-32

- ◇ Select a channel from the dropdown list and change the parameters.
- ◇ Click Copy, device pops up the following dialogue box. It is to copy the user name and password to the selected channel(s). See Figure 4-33.



The 'Copy' dialog box displays a grid of channel numbers:

All	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64

Note: Copy user name and password only.

Buttons: OK, Cancel

Figure 4-33


- Click  to disconnected the camera and remove it from the added list.


- Select one or several device(s) in the added list, click Delete button to delete. Check the box before the channel number to select all channels at the same time.

#### 4.1.4.4.6 Change IP

It is to change camera IP address. Support change one by one or batch add.

- Change One by One

Click , you can change the information such as IP address, subnet mask, and default gateway, user name, password of the checked device. See Figure 4-34. Click Add button and then click OK, you can add current device to the list,



The screenshot shows a 'Modify IP' dialog box with the following fields and values:

Field	Value
IP Address	10 . 15 . 5 . 187
Subnet Mask	255 . 255 . 0 . 0
Default Gateway	10 . 15 . 0 . 1
User Name	admin
Password	
Add	<input checked="" type="checkbox"/>

Figure 4-34

- Batch Add


Check several devices at the same time and then click the edit button . See Figure 4-35. Please check Batch modify button and then input start IP, end IP and default gateway.





Figure 4-35

Click Add button and then click OK, it is to add devices to the list,

#### 4.1.4.4.7 IP Export

System can export the Added device list to your local USB device.

Step 1 Insert the USB device and then click the Export button.

Enter the following interface. See Figure 4-36.

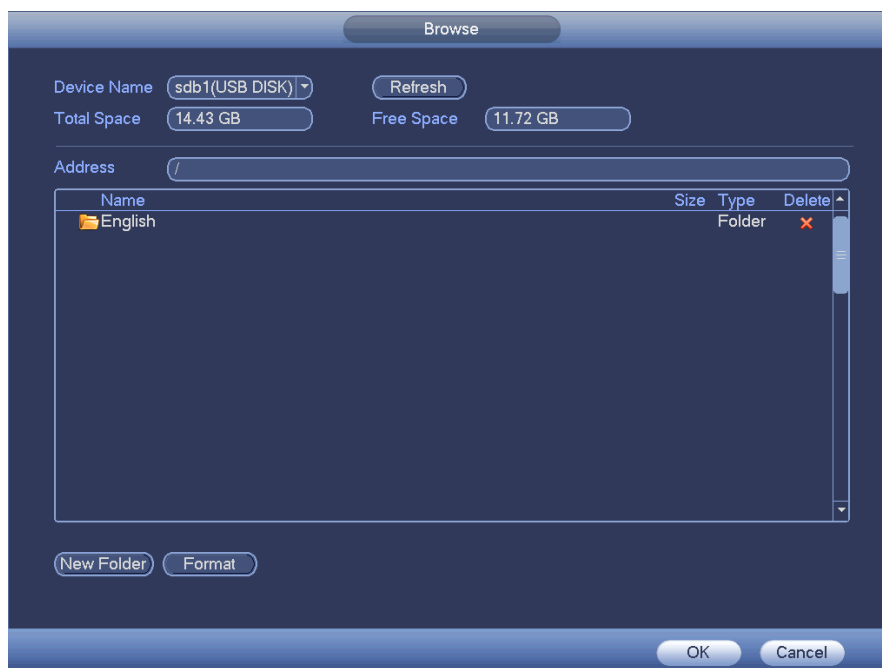


Figure 4-36

Step 2 Select the directory and then click the OK button.

System pops up a dialogue box to remind you successfully exported.

Step 3 Please click OK button to exit.

 **Note**

The exported file extension name is .CVS. The file information includes IP address, port, remote channel number, manufacturer, user name and password.

#### 4.1.4.4.8 IP Import

Import IP address to add the camera.

Step 1 Click Import button.

Enter Browse interface. See Figure 4-37.



Figure 4-37

Step 2 Select the import file and then click the OK button.

System pops up a dialogue box to remind you successfully exported.

 **Note**

If the imported IP has conflicted with current added device, system pops up a dialogue box to remind you. You have two options:

- OK: Click OK button, system uses the imported setup to overlay current one.
- Cancel: Click Cancel button, system adds the new IP setup.

Step 3 Please click OK button to exit.



**WARNING**

- You can edit the exported .CVS file. **Do not change the file format; otherwise it may result in import failure.**
- Does not support customized protocol import and export.
- The import and export device shall have the same language format.

#### 4.1.4.5 Encode

It is to set video bit streams, image bit streams, and video overlay parameters.

Besides startup wizard and configuration wizard, from main menu->Setting->Camera->Encode, you can also go to the following interface.

##### 4.1.4.5.1 Encode

Step 1 Click Encode tab.

Enter Encode interface. See Figure 4-38.

Step 2 Set parameters.

- Channel: Select the channel you want.
- Smart codec: Check the box to enable smart codec function. It can lower bit streams, enhance compression rate, and reduce HDD storage space. Please note this function is for main stream only.
- 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.264H, H.264, H.264B, and MJPEG.
  - ◇ H.264H: It is the High Profile compression algorithm. It has the high encode compression rate. It can achieve high quality encode at low bit stream. Usually we recommend this type.
  - ◇ H.264 is the general compression algorithm.
  - ◇ H.264B is the Baseline algorithm. Its compression rate is low. For the same video quality, it has high bit stream requirements.
- Resolution: It is to set video resolution. The higher the resolution is, the better the video quality is.
- 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.
- Audio format: Please select from the dropdown list. There are three options: G711a/G711u/PCM.
- Audio source: Please select from the dropdown list. There are two options: local/HDCVI. For local mode, the audio signal is from the Audio In port. For HDCVI mode, the audio signal is from the coaxial cable of the camera.
- Audio sampling: It refers to the audio signal sampling times in one second. The higher the rate is, the higher the audio quality is. There are two modes: 8K/16K. The default setup is 8K. HDCVI audio max supports 16K.

Step 3 Click Save button.



Figure 4-38

#### 4.1.4.5.2 Snapshot

It is set snapshot mode for each channel, and picture size, quality and frequency.

Step 1 Click Snapshot tab, enter the following interface. See Figure 4-39.

Step 2 Set parameters.

- Manual snap: The manual snapshot amount. The value ranges from 1 to 5.
- Snapshot mode: There are two modes: timing and trigger. If you set timing mode, you need to set snapshot frequency. If you set trigger snapshot, you need to set snapshot activation operation.
- Image size: Here you can set snapshot picture size.
- Image quality: Here you can set snapshot quality. The value ranges from 1 to 6.
- Interval: It is for you to set timing (schedule) snapshot interval.



Figure 4-39

Step 3 Click Apply or Save to complete setup.

#### 4.1.4.5.3 Overlay

It is to set preview or monitor cover-area, and time/channel title position.

Step 1 Click Overlay tab, interface is shown as in Figure 4-40.

Step 2 Set parameters.

- Cover area: Here is for you to set cover area. You can drag you mouse to set proper section size. In one channel video, system max supports 4 zones in one channel.
- Preview/monitor: privacy mask has two types. Preview and Monitor. Preview means the privacy mask zone cannot be viewed by user when system is in preview status. Monitor means the privacy mask zone cannot 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 4-41. 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 4-41 and Figure 4-40 respectively to complete the setup.



Figure 4-40

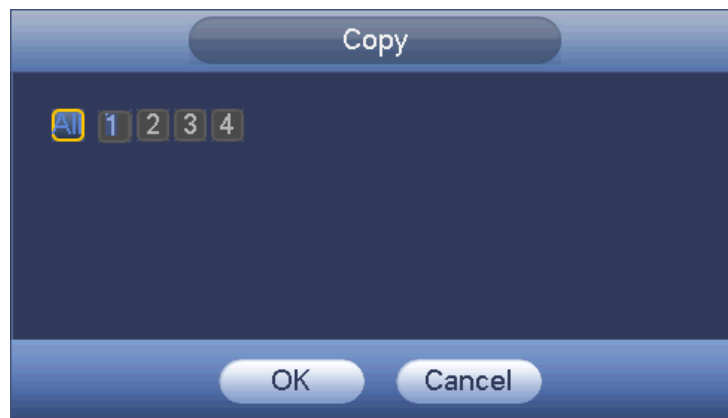


Figure 4-41

Step 3 Click Apply or Save to complete setup.

#### 4.1.4.5.4 Video PIP

PIP (Picture in picture) is to overlay the video from other channel(s) on current channel. It can realize PIP function during the preview or encode process. It is suitable for the realtime surveillance and record search and playback. It is easy for you to manage the video or records of corresponding channels.

When you are setting PIP, each 8 channels can be included in one group. The original channel and the overly channel shall be in the same group.

Step 1 Click Video PIP tab.

Enter the PIP interface. See Figure 4-42.

Step 2 Set parameters.

- P0: It means there is no overlay channel.
- P1: There is one overlay channel.
- P2: There are two overlay channels.

 **Note**

You can set two P1 or one P2.

Step 3 Click Set button, you can use your mouse to set the overlay video to the corresponding position. Drag the mouse to zoom in or zoom out the overlay video.

Step 4 Click Apply to complete the setup.

 **Note**

- The PIP function is about the video collection overlay. For the video already overlaid, it cannot be used as the main video to overlay another video. For example, once channel 3 and channel 4 has been overlaid to channel 1, you cannot overlay other channel to channel 3 or channel 4.
- For PIP function, there is only audio output from the main video; the overlay channel does not support audio output function.
- The PIP function does not support IVS rule setup.



Figure 4-42

#### 4.1.4.6 Storage

It is to manage HDD storage space.

Besides startup wizard and configuration wizard, from main menu->Setting->Storage->Basic, you can also go to the following interface.

Step 1 From main menu->Setting->Storage->Basic.

Enter Basic interface, See Figure 4-43.

Step 2 Set parameters.

- HDD full: It is to select working mode when hard disk is full. There are two options: stop recording or rewrite.
- ◇ Stop: If current HDD is full while there is no idle HDD, then system stops recording,
- ◇ Overwrite: If the current HDD is full while there is no idle HDD, then system overwrites the previous files.

 **Note**

DVR does not overwrite the locked files. Please refer to chapter 0 to lock or unlock a file.

- Pack duration: Here is for you to specify record duration. There are two ways for you to set.
- ◇ Time length: It is to pack according to time. The value ranges from 1 to 60 minutes. Default value is 60 minutes.
- ◇ File length: It is to pack according to file length. The default setup is 1024M. The value ranges from 128M to 2048M.
- Auto delete old files:
- ◇ Never: Do not auto delete old files.
- ◇ Customized: input customized period here, system can auto delete corresponding old files.

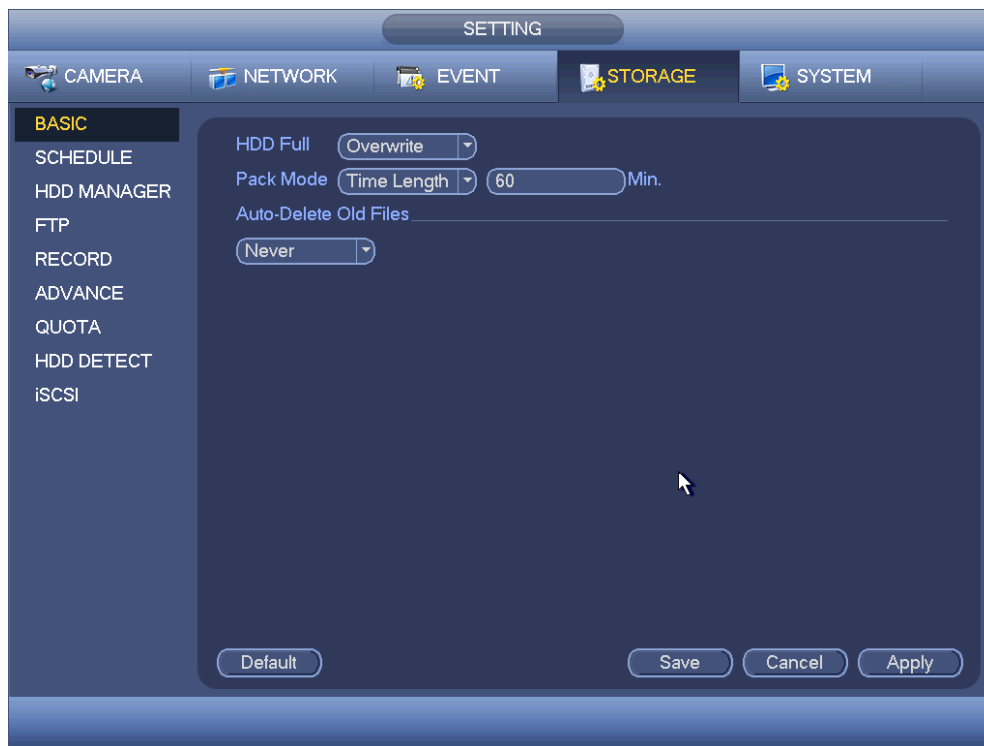


Figure 4-43



#### 4.1.4.7 Schedule

Besides startup wizard and configuration wizard, from main menu->Setting->Storage->Schedule, you can also go to the following interface.



##### Note




- You need to have proper rights to implement the following operations. Please make sure the HDDs have been properly installed.
- After the system booted up, it is in default 24-hour regular mode. You can set record type and time in schedule interface.
- Please note you need to go to main menu->Setting->System->General->Holiday to set holiday date first, otherwise, there is no holiday setup item.


##### 4.1.4.7.1 Record

Step 1 Click Next button, enter Schedule interface. See Figure 4-142.


Step 2 Set parameters.

- Channel: Please select the channel number first. You can select “all” if you want to set for the whole channels.

✧ : Sync connection icon. Select icon  of several dates, all checked items can be edited together. Now the icon is shown as .

✧ : Click it to delete a record type from one period.

- Record Type: Please check the box to select corresponding record type. There are five types: Regular/MD (motion detect)/Alarm/MD&Alarm/intelligent.
- Week day: There are eight options: ranges from Saturday to Sunday and all.
- Holiday: It is to set holiday setup. Please note you need to go to the General interface (Main Menu->Setting->System->General) to add holiday first. Otherwise you cannot see this item.
- 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. 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->Setting->Storage->HDD Manager). **Please note this function is null if there is only one HDD.**
- ANR: It is to save video to the SD card of the camera in case the network connection fails. After the network connection resumed, the system can get the video from the SD card and there is no risk of record loss. Device only upload the specified period record if the disconnection time is longer than the value you set here.

- Period setup: Click button  after one date or a holiday, you can see an interface shown as in Figure 4-105. There are five record types: regular, motion detection (MD), Alarm, MD & alarm and intelligent.

Please following the steps listed below to draw the period manually.

- ✧ Select a channel you want to set. See Figure 4-114.



Figure 4-44

✧ Set record type. See Figure 4-113.

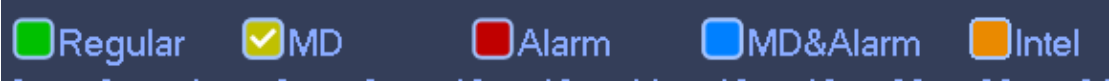


Figure 4-45

✧ Please draw manually to set record period. There are six periods in one day. See Figure 4-46.

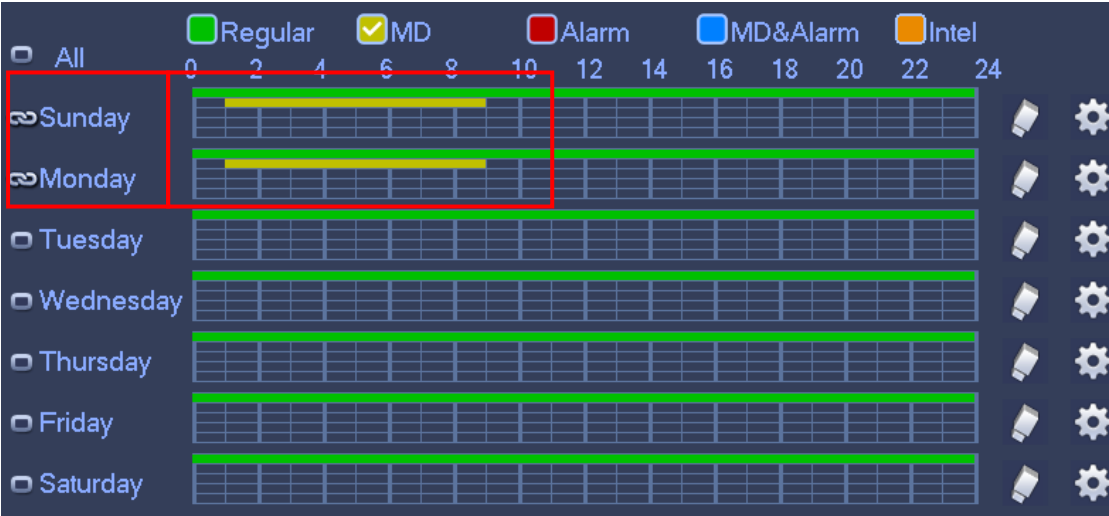


Figure 4-46

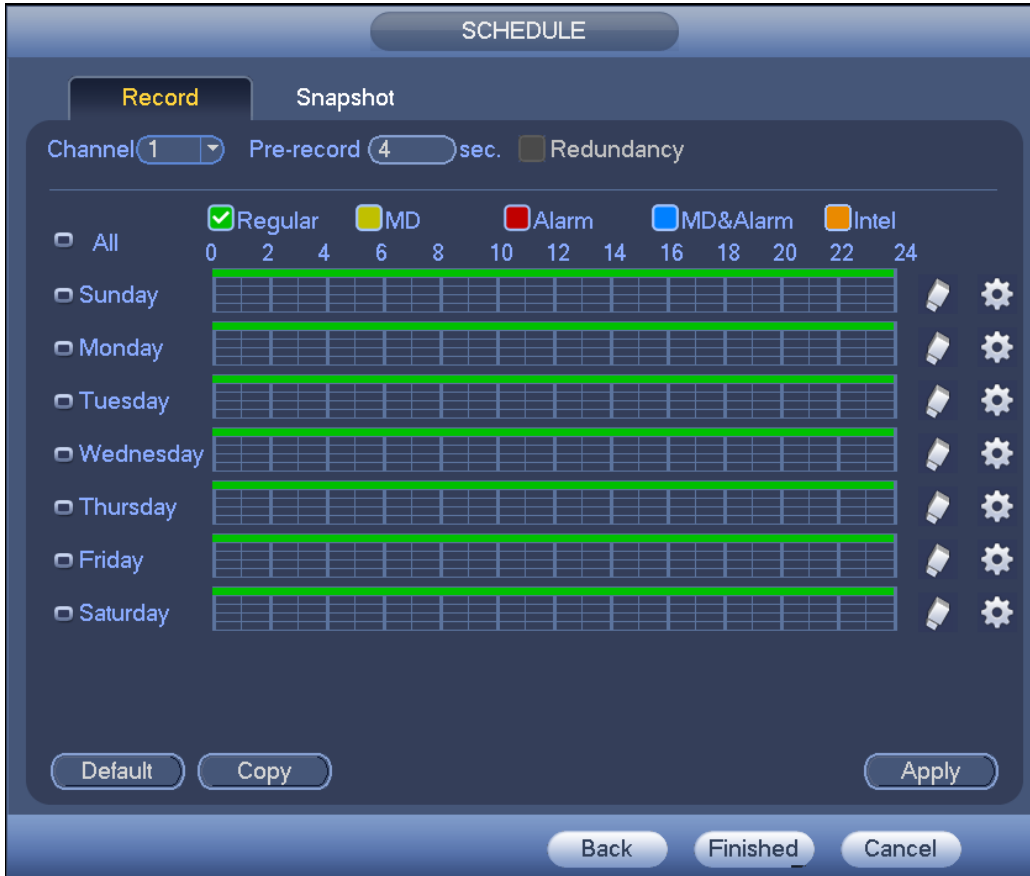


Figure 4-47

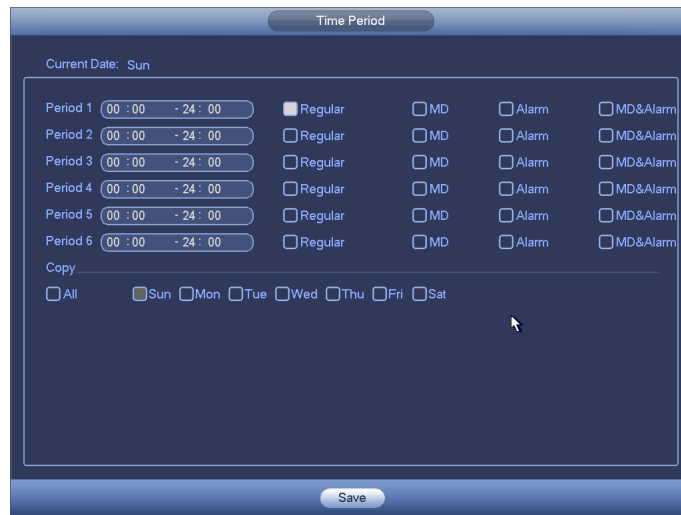


Figure 4-48

Step 3 Click Apply to exit.

 **Note**

After setting in the Schedule interface, please refer to the following contents to enable schedule record function.

- From main menu->Setting->Event, select corresponding event and then enable record function. Refer to chapter 4.14 Alarm events for detailed information.
- From main menu->Setting->Storage->Record, set record mode as auto. Refer to chapter 4.8 Record and Snapshot for detailed information.

#### 4.1.4.7.2 Snapshot

Device snapshots images as you set here.

Refer to chapter 4.1.4.7.1 Record for detailed information.

#### Note

After setting in the Schedule interface, please refer to the following contents to enable schedule snapshot function.

- From main menu->Setting->Event, select corresponding event and then enable snapshot function. Refer to chapter 4.14 Alarm events for detailed information.
- From main menu->Setting->Storage->Record, enable snapshot function. Refer to chapter 4.8 Record and Snapshot for detailed information.

### 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 4-49. You can see current channel name is grey such as channel 1. Now you can select the channel you want to paste such as channel 5/6/7. If you want 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.

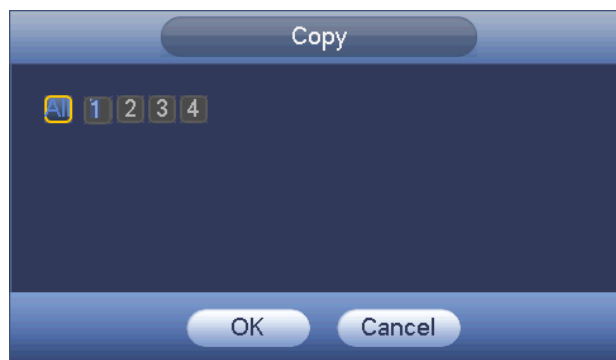


Figure 4-49

### Redundancy

Redundancy function allows you to memorize record file in several disks. When there is file damage occurred in one disk, there is a spare one in the other disk. You can use this function to maintain data reliability and safety.

- In the main menu, from Setting->Storage-> Schedule, you can highlight redundancy button to enable this function.

- In the main menu, from Main menu->Setting->Storage->HDD Manager, you can set one or more disk(s) as redundant. You can select from the dropdown list. System auto overwrites old files once hard disk is full.

Please note only read/write disk or read-only disk can backup file and support file search function, so you need to set at least one read-write disk otherwise you cannot record video.



#### Note

#### About redundancy setup:

- If current channel is not recording, current setup gets activated when the channel begin recording the next time.
- If current channel is recording now, current setup will get activated right away, the current file will be packet and form a file, then system begins recording as you have just set.

After you completed all the setups, please click Save button.

#### Playback or search in the redundant disk.

There are two ways for you to playback or search in the redundant disk.

- Set redundant disk(s) as read-only disk or read-write disk (Main menu->Setting->Storage->HDD Manager)). System needs to reboot to get setup activated. Now you can search or playback file in redundant disk.
- Dismantle the disk and play it in another PC.

## 4.2 Preview

### 4.2.1 Preview Window

After you logged in, the system is in live viewing mode. See Figure 4-50. It is to display system date, time, channel name and window No. If you want to change system date and time, please refer to general settings (Main Menu->Setting->System->General). If you want to modify the channel name, please refer to the display settings (Main Menu->Camera->CAM name)

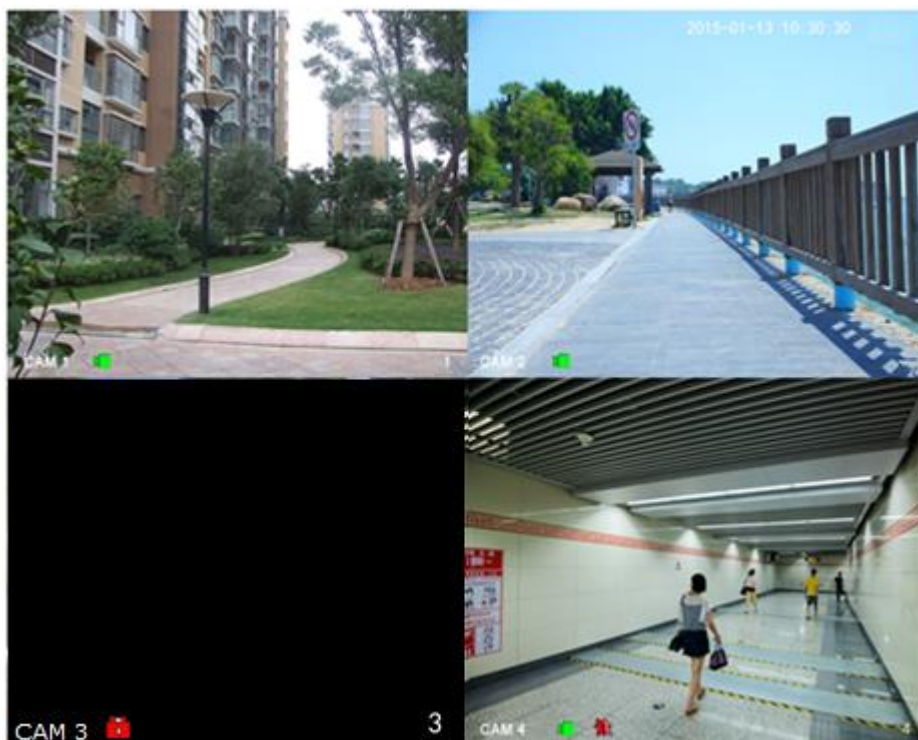






Figure 4-50

SN	Icon	Function
1		When current channel is recording, system displays this icon.
2		When motion detection alarm occurs, system displays this icon.
3		When video loss alarm occurs, system displays this icon.
4		When current channel is in monitor lock status, system displays this icon.

 **Tips**

Preview drag: If you want to change position of channel 1 and channel 2 when you are previewing, you can left click mouse in the channel 1 and then drag to channel 2, release mouse you can switch channel 1 and channel 2 positions.

### 4.2.2 Preview Control

Move you mouse to the top center of the video of current channel, you can see system pops up the preview control interface. See Figure 4-51 and Figure 4-52.



**Note**

If your mouse stays in this area for more than 6 seconds and has no operation, the control bar automatically hides.



Figure 4-51 Analog Channel



Figure 4-52 Digital Channel

#### 4.2.2.1 Instant playback

It is to playback the previous 5-60 minutes record of current channel.

Please go to the Main menu->Setting->->System->General to set instant playback time.

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 instant 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.



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

During instant playback interface:

- System supports play, pause, exit and drag function.
- In preview playback mode, system may shield current channel title and record information. When you exit instant playback, you can view the channel title, record information again.
- During preview playback mode, system does not support split and switch function.

#### 4.2.2.2 Digital zoom


It is to zoom in specified zone of current channel. It supports zoom in function in multiple-channel mode. There are two ways for you to zoom in.

- Click button , the button is shown as . Drag the mouse to select a zone, you can zoom in the specified zone. You can drag in any direction you desire.
- Put the mouse at the center of the zone you want to zoom in, and move the mouse, you can zoom in the specified zone. You can drag in any direction you desire.

Right click mouse to cancel zoom and go back to the original interface.

#### 4.2.2.3 Manual record function

It is to backup the video of current channel to the USB device. System cannot backup the video of multiple-channel at the same time.

Click button , system begins recording. Click it again, system stops recording. You can find the record file on the flash disk.

#### 4.2.2.4 Manual Snapshot

Click  to snapshot 1-5 times. The snapshot file is saved on the USB device or HDD.

You can go to the Search interface (chapter 4.9) to view.

#### 4.2.2.5 Freeze

Click  to freeze current video.

#### 4.2.2.6 Mute (For analog channel only)

Click to mute. Click again to enable audio function when preview.

Please note this function is for one-window mode only.

#### 4.2.2.7 Bidirectional talk (For camera connected via private protocol only)

If the connected front-end device supports bidirectional talk function, you can click this

button. Click button  to start bidirectional talk function the icon now is shown as

. Now the rest bidirectional talk buttons of digital channel becomes null too.

Click  again, you can cancel bidirectional talk and the bidirectional talk buttons of

other digital channels become as .



#### 4.2.2.8 Registration (For digital channel only)

It is a shortcut menu. Click it to go to the Registration interface to add/delete remote device or view its corresponding information. Please refer to chapter 4.1.4.4 for detailed information.

### 4.2.3 Right-Click Menu

On the preview interface, right click mouse, you can view menu interface shown as in Figure 4-53.



#### Note

After you go to the corresponding interface, right click mouse to go back to the upper-level.

- Window split mode: You can select window amount and then select channels.
- Previous screen/next screen: Click it to go to the previous screen/next screen. For example, if you are using 4-split mode, the first screen is displaying the channel 1-4, click Next screen, you can view channel 5-8.
- PTZ: Click it to go to PTZ interface. For detailed operation information, please refer to chapter 4.6.
- Fisheye: It is to set fisheye installation mode and display mode. For detailed operation information, please refer to chapter 4.4.
- Smart track: It is to view the smart track image. For detailed operation information, please refer to chapter 4.14.7.
- Auto focus: Please make sure you connected network camera supports this function. For detailed operation information, please refer to chapter 4.2.6.
- Color setting: Set video corresponding information. For detailed operation information, please refer to chapter 4.2.5.
- Image: Set camera video parameters. For detailed operation information, please refer to chapter 4.16.1.
- Display: Set video output rate. For detailed operation information, please refer to chapter 4.2.8.1.
- Sub port: Click it to switch to HDMI2 port.
- Search: Click it to go to Search interface to search and playback a record file. For detailed operation information, please refer to chapter 4.9.
- Face search: It is to display human face list and view human face record. For detailed operation information, please refer to chapter 4.3.
- Record control: Enable/disable record/snapshot channel. For detailed operation information, please refer to chapter 4.8.
- Alarm output: Enable/disable alarm output function. For detailed operation information, please refer to chapter 4.14.10.
- Camera registration: Click it to go to registration interface. Here you can search and add remote device. For detailed operation information, please refer to chapter 4.1.4.4.
- Video matrix: Set video matrix tour channel and interval. For detailed operation information, please refer to chapter 4.2.9.2.

- Main menu: Go to system main menu interface.

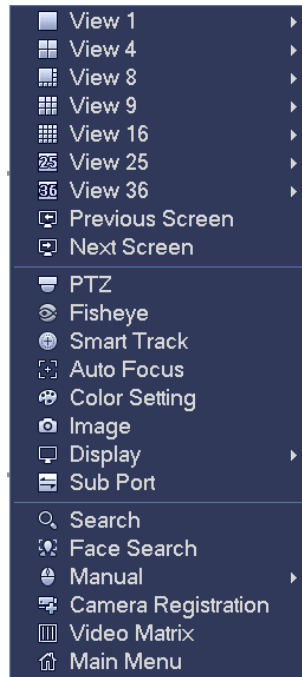


Figure 4-53

#### 4.2.4 Window Switch

System supports 1/4/8/9/16-window (The options here depend on your product channel amount). You can select from the dropdown list. See Figure 4-54.

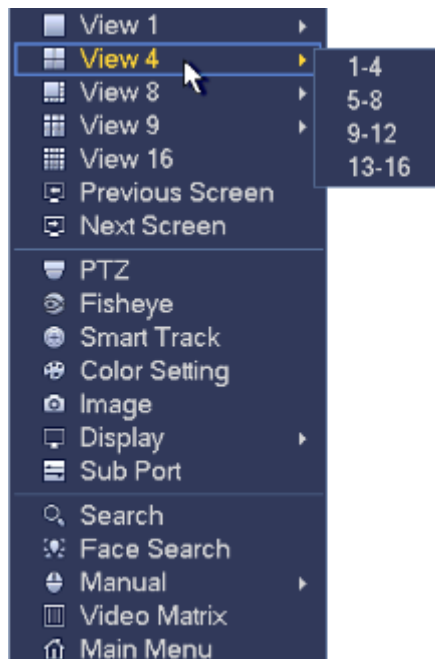


Figure 4-54

#### 4.2.5 Video Color

It is to set analog channel video color.



**Note**

The following interface may vary due to different camera series.

If it is the IP channel, right click mouse and click Color, system pops up IPC config interface. Refer to chapter 4.16.1 for detailed information.

Step 1 On the preview window, right click mouse and then select Color.  
Enter the following interface. See Figure 4-55.



Figure 4-55

Please refer to the following sheet for detailed information.

Item	Note
Channel	There are two periods in one day. You can set different sharpness, brightness, and contrast setup for different periods.
Auto iris	It is for the camera installed auto iris. This function is enabled by default. <ul style="list-style-type: none"> <li>● Check the enable box to enable auto iris function. The auto iris changes accordingly when the light changes.</li> <li>● Check the disable box to disable auto iris function. The iris is at the max value. The auto iris adjustment is off during the exposure control process.</li> </ul>
Mirror	Change video left/right video. This function is disabled by default.
Flip	Flip the video according to the requirements. The flip degrees depend on the connected camera.

Item	Note
BLC	<p>There are two options: Open/close.</p> <ul style="list-style-type: none"> <li>● Open: Auto exposure according to the environment light. It is to view the darkest object in the image.</li> <li>● Close: Close BLC.</li> </ul>
Scene mode	<p>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.</p> <ul style="list-style-type: none"> <li>● Auto: The auto white balance is on. System can auto compensate the color temperature to make sure the vide color is proper.</li> <li>● Sunny: The threshold of the white balance is in the sunny mode.</li> <li>● Night: The threshold of the white balance is in the night mode.</li> <li>● Customized: It is to set the gain of the red/blue channel. The value reneges from 0 to 100.</li> </ul>
Day&night	<p>It is to set the image mode: color/black and white/auto. It has no relationship with the configuration file setup. The default setup is auto.</p> <ul style="list-style-type: none"> <li>● Color: Camera outputs color image.</li> <li>● Auto: System auto select image mode(color/black and white) according to the camera features(the whole brightness or there is IR light or not.)</li> <li>● Black and white: Camera outputs black and white image.</li> </ul>
Brightness	<p>It is to adjust monitor window bright. The value ranges from 0 to 100. The default value is 50.</p> <p>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.</p>
Contrast	<p>It is to adjust monitor window contrast. The value ranges from 0 to 100. The default value is 50.</p> <p>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</p>

Item	Note
	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, 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.
Gain	The gain adjust is to set the gain value. The default value may vary due to different device models. The smaller the value, the low the noise. But the brightness is also too low in the dark environments. It can enhance the video brightness if the value is high. But the video noise may become too clear.
Refresh	Click it to get latest setup.
Default	Click it to restore factory default setup.
Cancel	Click to cancel current setup.
Copy	Click to copy current channel setup to other channel.

#### 4.2.6 Image


If you connected analog camera supports this function, you can set analog channel properties.

- Step 1 On the preview window, right click mouse and then select Image.  
Enter image interface. See Figure 4-56.



Figure 4-56

Please refer to the following sheet for detailed information.

Item	Note
Video standard	Please select according to your actual situation. There are two options:PAL/NTSC.
Resolution	It is to set video resolution: 720P@25, 720P@30,1080P@25,1080P@30,4MP@25,4MP@30,4K@12,4K@15, 4M@25,4M@30.   <b>Note</b> The loop device supports 4MP@25,4MP@30,4K@12,4K@15,4M@25,4M@30.
Brightness	It is to adjust monitor window bright. The default value is 7.  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 0 to 15.

Item	Note
Contrast	It is to adjust monitor window contrast. The default value is 7. 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 0 to 15.
Saturation	It is to adjust monitor window saturation. The default value is 7. 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 0 to 15.
Sharpness	The value here is to adjust the edge of the video. The value ranges from 0 to 100. 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.
Flip	It is to set flip or pan operation.
Day&night	It is to set the image mode: color/black and white/auto. It has no relationship with the configuration file setup. The default setup is auto. <ul style="list-style-type: none"> <li>● Color: Camera outputs color image.</li> <li>● Auto: System auto select image mode(color/black and white) according to the camera features(the whole brightness or there is IR light or not.)</li> <li>● Black and white: Camera outputs black and white image.</li> </ul>
Defog	In the fog or haze environment, you can enable defog function to enhance video effect. <ul style="list-style-type: none"> <li>● Close: It is to close defog mode.</li> <li>● Manual: Select different defog intensity manually.</li> <li>● Auto: It is to auto adjust video to guarantee clear image.</li> </ul>
Refresh	Click it to get latest setup.
Default	Click it to restore factory default setup.

Step 2 Click Save to complete the setup.

#### 4.2.7 Auto Focus



##### Note

- This function is for the motorized-lens network camera.
- For HDMI HD auto focus camera, you can go to the PTZ control interface to set. Please refer to Chapter 4.6.

On the preview interface, right click mouse and then select Auto focus, you can go to the following interface. See Figure 4-57.

It is to set auto focus and zoom function. Click auto focus function, camera can realize auto focus function.

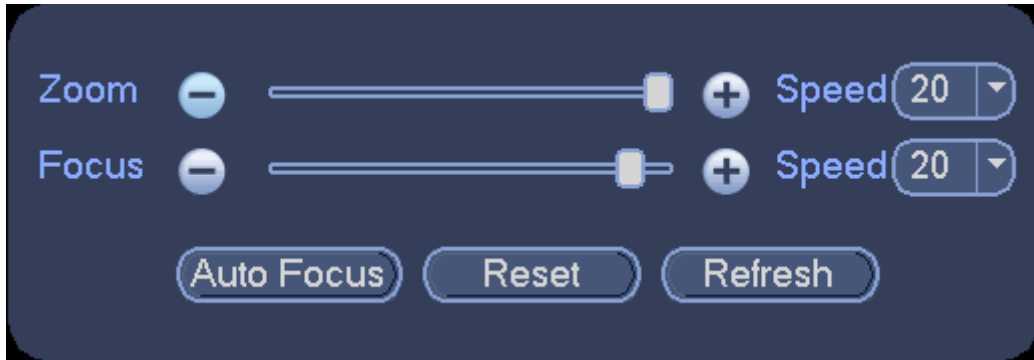


Figure 4-57

## 4.2.8 Preview and Display

It is to display preview video effect including image display mode, OSD and etc.

### 4.2.8.1 Display Output

On the preview interface, right click mouse and then select video output mode, there are two options: full screen (4:3) and original scale 16:9). Current output mode is checked by . See Figure 4-58.

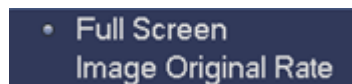


Figure 4-58

### 4.2.8.2 Display Effect

It is to enable/disable time title, channel title display and set menu transparency.

Step 1 From main menu->Setting->System->Display->Display.

Display setup interface is shown as below. See Figure 4-59.

Step 2 Set parameters.

- Time display: You can select to display time or not when system is playback.
- Channel display: You can select to display channel name or not when system is playback.
- Original rate: Check the box here, the video can be displayed at its actual size.
- IVS rule preview: Check the box here, you can view IVS rule name on the preview window.
- POS info: Check the box here; you can view POS information on the preview window.

#### Note

Make sure the POS function is on.

- Transparency: Here is for you to adjust menu transparency. The higher the value is, the more transparent the menu is.
- Screen enable: It is to set video output port.
- ◇ Screen 1: It refers to the screen connected to the VGA or the HDMI port. The video source is the same.



- ✧ Screen 2: It refers to the screen connected to the HDMI2 port. Check the box here to view the video from the network work camera; otherwise, it only displays the video from the analog camera.
- Screen No.: Select a screen from the dropdown list and then you can set resolution.
- Resolution: It is to set DVR resolution.
- ✧ System supports the following resolutions: 1920×1080, 1280×1024, 1280×720, 1024×768, 2560×1440, 3840×2160@25fps, 3840×2160@30fps.
- ✧ The default VGA/ HDMI1/HDMI2 resolution is 1280×1024.
- ✧ Please note the system needs to reboot to activate new setup.

 **Note**

Right now, HDMI2 does not support 2560×1440, 3840×2160@25fps, 3840×2160@30fps.

- Preview mode: Please select preview mode from the dropdown list. It includes two options:
  - ✧ General: There is no information on the preview window.
  - ✧ Human face: System displays human face information on the right pane of the preview window.



Figure 4-59

Step 3 Click Apply or Save to complete setup.

#### 4.2.8.3 TV Adjust

It is to adjust video output effect of the VIDEO OUT port.

Step 1 From main menu->Setting->System->Display->TV Adjust.

Enter TV adjust interface. See Figure 4-60.



Figure 4-60

Step 2 Drag slide bar to adjust each item.

Step 3 Click Apply or Save to complete setup.

#### 4.2.8.4 Zero-Channel Encoding

It is to enable and set zero-channel encoding function so that you can view several video sources at one channel from WEB.

Step 1 From main menu->Setting->System->Display->Zero channel.

Enter zero-channel encoding interface. See Figure 4-61.

- Enable: This function is disabled by default. Check the box here to enable this function so that you can control the zero-channel encoding function at the WEB.
- Compression: System default setup is H.264. You can set according to device capability.
- Resolution: The resolution value may vary due to different device capabilities. Please select from the dropdown list.
- Frame rate: PAL: 1-25f/s. NTSC: 1-30f/s. The frame rate value may vary due to different device capabilities. Please select from the dropdown list.
- Bit Rate: The default setup is 1024Kb/S. The bit rate value may vary due to different device capabilities and frame rate setups. Please select from the dropdown list.

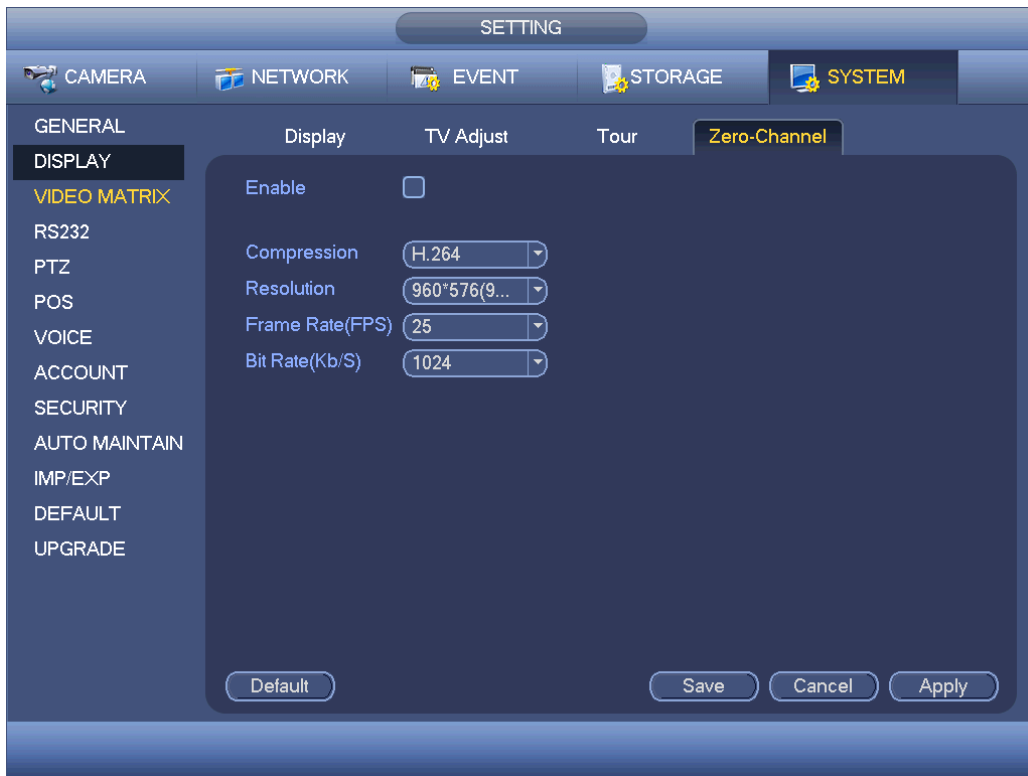


Figure 4-61

Step 4 Click Apply or Save to complete setup.

If this function is disabled, you cannot operate zero-channel encoding function at the WEB, the video is black or null even you operate when the function is disabled. After you enabled this function, login the Web and you can select zero-channel encoding mode at

the right corner of the interface . Select a mode; you can view the local preview video.

## 4.2.9 Tour

It is to view multiple-channel video at the specified interval on the preview window.

### 4.2.9.1 Tour Settings

It is to set tour mode, tour channel and interval.

Step 1 From main menu->Setting->System->Display->Tour.

Enter tour interface. See Figure 4-62.

Step 2 Set parameters.







- Enable tour: Highlight box here to enable this function.
- Screen No.: It is to select the screen you want to enable tour function.
- Interval: System supports 1/8/-window tour. Input proper interval value here. The value ranges from 5-120 seconds. It is for schedule tour/alarm/motion detect tour.
- Split: You can select window split mode from the dropdown list.
- Channel group: It is to display all channel groups on current split mode. You can edit and delete a channel group here. Double click an item in the list; you can edit its channel group setup. Right now system max supports 64.

- Add: Under specified window split mode, click it to add channel group.
- Delete: Click it to remove selected channel group.
- Move up: Click it to move current selected channel up.
- Move down: Click it to move current selected channel down.
- Default: Click it to restore default setup.



Figure 4-62

Step 3 Click Apply or Save to complete setup.

- Use mouse or Shift button to switch  and  button to enable /disable tour.
-  means the tour function is enabled and  means tour function is disabled. Use mouse click the icon or the "Shift" button on the remote control to set.
- On the navigation bar, click  or  to enable/disable tour function.

#### 4.2.9.2 Video Matrix

It is to set matrix video output, tour channel and its interval. It is to set VIDEO OUT port tour and its interval

Step 1 From main menu->Setting->System->Video matrix.

Enter video matrix interface. See Figure 4-63.

Step 2 Set parameters.

- Enable tour: Check the box here to enable this function.
- Interval: Input proper interval value here.

- Resolution: The resolution of the tour window. Please note this function is for HDMI only.
- Split: You can select window split mode from the dropdown list. For BNC, it supports 1-split mode only. For HDMI, it supports 1/4/9/16-split mode. Some series product support 24/36-split. Please refer to the actual product.
- Add: Under specified window split mode, click it to add channel group. See Figure 4-64.
- Modify: Double click a channel or select a channel and then click Modify button, you can change current channel setup. See Figure 4-65.
- Delete: Click it to remove selected channel group.
- Move up: Click it to move current selected channel up.
- Move down: Click it to move current selected channel down.
- Default: Click it to restore default setup.



Figure 4-63



Figure 4-64



Figure 4-65

Step 3 Click Apply or Save to complete setup.

### 4.3 Search Human Face (Optional)



**Note**

This function is for some series product only.

On the preview window, right click mouse and then select face search, or from the main menu, click Face search, you can go to the following interface. See Figure 4-66.

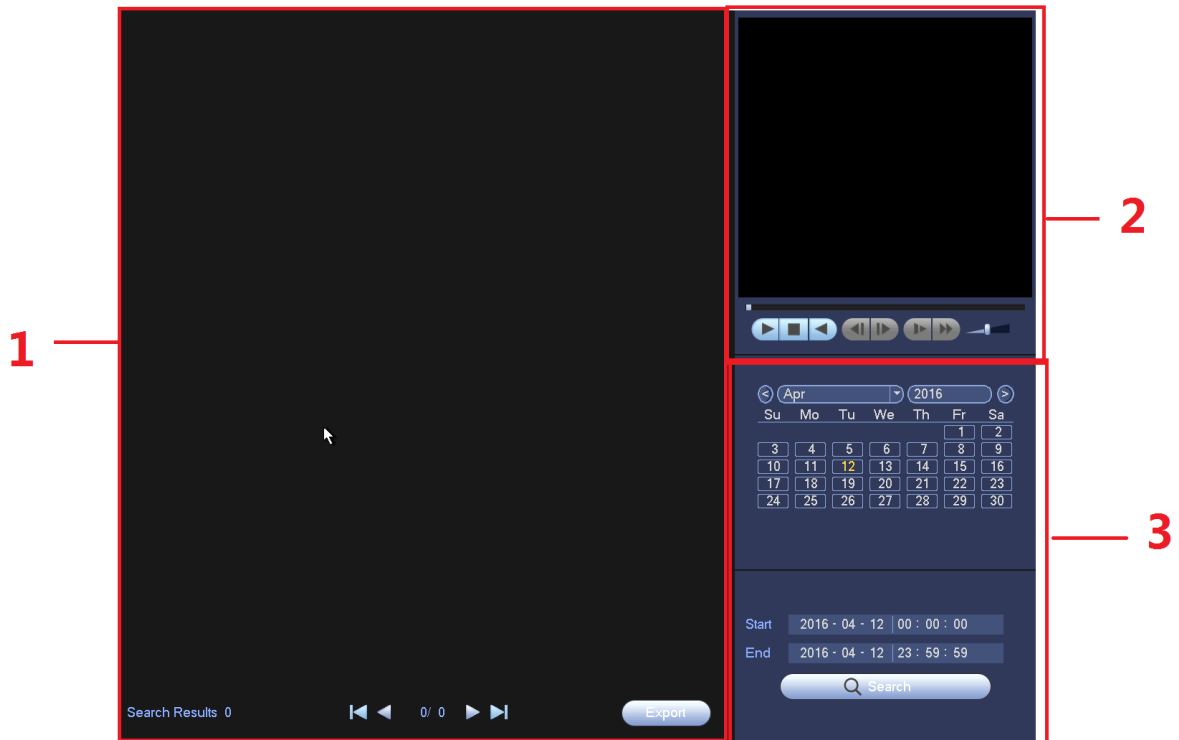



Figure 4-66

Please refer to the following sheet for detailed information.

SN	Name	Function
1	Display pan	<ul style="list-style-type: none"> <li>It is to display human face detection file list. The latest file is at the bottom.</li> <li>Click Export, you can export the selected file to the USB device. There are two types: image/record. <ul style="list-style-type: none"> <li>Image: Export the recognized human face image.</li> <li>Record: Export the record file before and after 10 seconds when the DVR recognizes the human face.</li> </ul> </li> </ul>
2	Playback pane	Play the searched record file or image. Double click the file or click button  to playback.
3	Search pane	Set date, start time and end time, click Search button, you can view the corresponding file list.

## 4.4 Fisheye

### 4.4.1 Fisheye De-Warp During Preview Interface

On the preview interface, select fisheye channel and then right click mouse, you can select fisheye. Now you can see an interface shown as in Figure 5-71. You can set fisheye installation mode and display mode.

#### Note

- For the non-fisheye channel, system pops up dialogue box to remind you it is not a fisheye channel and does not support de-warp function.
- If system resources are insufficient, system pops up the corresponding dialogue box too.
- 180° fisheye supports wall mount de-warp mode.

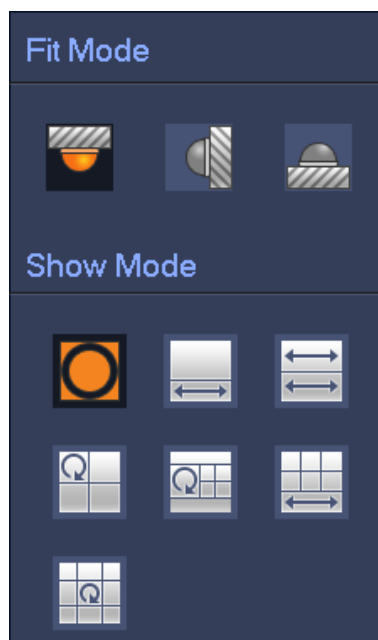

















Figure 4-67

There are three installation modes: ceiling mount/wall mount/ground mount. The different installations modes have different de-warp modes. Please refer to the following sheet for detailed information.

Installation modes	Icon	Note
 ( Ceiling mount)		360°panorama original view
		1 de-warp window+1 panorama stretching
 ( Ground mount)		2 panorama stretching view
		1 360° panorama view+3 de-warp windows
		1 360°panorama view+4 de-warp windows
		4 de-warp windows+1 panorama stretching
		1 360° panorama view+8 de-warp windows
 (Wall mount)		360°panorama original view
		Panorama stretching
		1 panorama unfolding view+3 de-warp windows
		1 panorama unfolding view +4 de warp windows
		1 panorama unfolding view +8 de warp windows

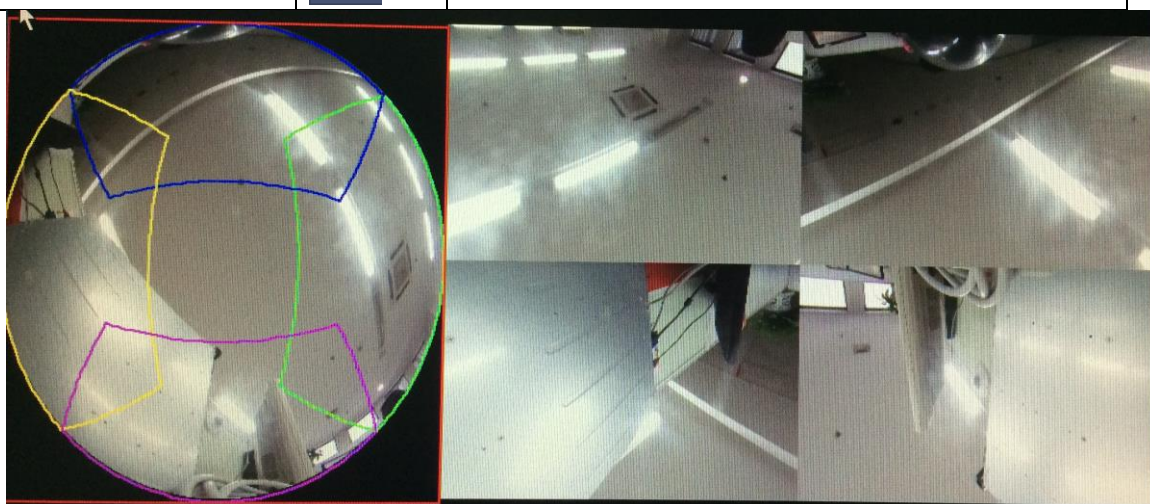


Figure 4-68

In Figure 4-68, you can adjust the color pane on the left pane or use your mouse to



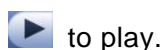
change the position of the small images on the right pane to realize fisheye de-warp. Please use the mouse to zoom in/zoom out, move/rotate the image. (Please note this function is not for wall mount mode)


#### 4.4.2 Fisheye De-Warp During Playback

Step 1 On the main menu, click Search button.

Enter Search interface.

Step 2 Select 1-window playback mode and corresponding fisheye channel, click



Step 3 Right click the , you can go to the de-warp playback interface. For detailed information, please refer to chapter 4.4.1 Fisheye de-warp during preview interface.

### 4.5 Smart Track

It is to view the triggered video of the fisheye&PTZ camera. The fisheye is the main camera to view the whole surveillance condition, the PTZ camera works as the slave camera to view the details.

Step 1 On the preview interface, select the corresponding window, right click mouse and then select Smart track.

Enter smart track interface. See Figure 4-69.

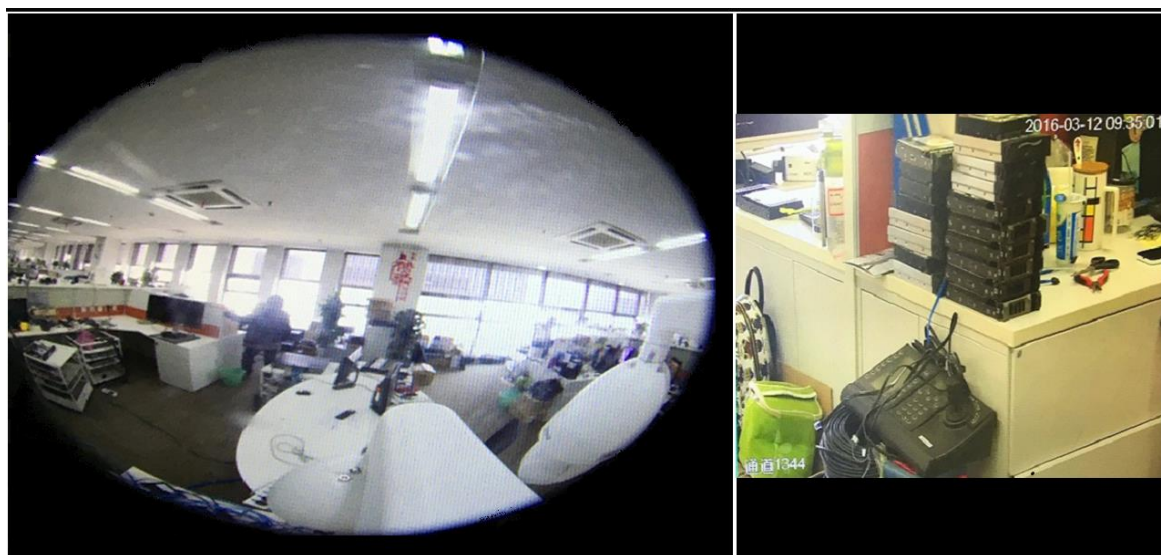


Figure 4-69

Step 2 Click a position on the fisheye video, PTZ camera turns to the corresponding position and support zoom in/zoom out function.



#### Note

Please refer to chapter 4.14.7 Smart track for setup information.

## 4.6 PTZ Control



### Note

- Make sure the PTZ camera and the DVR network connection is OK and the corresponding settings are right.
- Slight difference may be found on the user interface.

### 4.6.1 PTZ Settings

Step 1 Set PTZ camera address.

Step 2 Connect DVR and PTZ camera.

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

Step 3 In the main menu, from Setting->System->PTZ.

Enter PTZ interface. See Figure 4-70.

- Channel: Select PTZ camera connected channel number.
- PTZ type: There are two options: local/remote. Please select remote if you are connecting to the network PTZ camera.
- Control mode: You can select control mode from the dropdown list. There are two options: Serial/HDCVI. For HDCVI series product, please select HDCVI. The control signal is sent to the PTZ via the coaxial cable. For the serial mode, the control signal is sent to the PTZ via the RS485 port.
- Protocol: Select PTZ camera protocol such as PELCOD.
- Address: Input corresponding PTZ address. The default setup is 1.



### Note

Make sure the input address is the as the PTZ camera. Otherwise, you cannot control the camera.

- Baud rate: Select baud rate. The default setup is 9600.
- Data bit: Select data bit. The default setup is 8.
- Stop bit: Select stop bit. The default setup is 1.
- Parity: Select parity. The default setup is None.



Figure 4-70

For digital channel, the interface is shown as below. See Figure 4-71.



Figure 4-71

Step 4 Click Apply or Save to complete setup.

#### 4.6.2 PTZ Operation



The PTZ setup is shown as in See Figure 4-72.

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

The PTZ operation is only valid in one-window mode.

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. If you are using direction buttons on the front panel, there are only four directions: up/down/left/right.

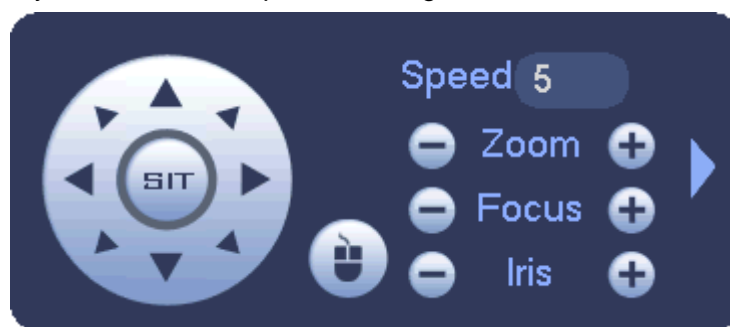








Figure 4-72


In the middle of the eight direction arrows, there is a 3D intelligent positioning key. See Figure 4-73. 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. It can realize PTZ automatically. The smaller zone you dragged, the higher the speed.



Figure 4-73

Name	Function key	function	Shortcut key	Function key	function	Shortcut key
Zoom		Near	▶		Far	▶▶
Focus		Near	◀		Far	▶
Iris		close	◀		Open	▶

In Figure 4-72, click  to open the menu, you can set preset, tour, pattern, scan and

etc. See Figure 4-74.



Figure 4-74

Please refer to the following sheet for detailed information.

Please note the above interface may vary due to different protocols. The button is grey and cannot be selected once the current function is null.

Right click mouse or click the ESC button at the front panel to go back to the Figure 4-72.

Icon	Function	Icon	Function
	Preset		Flip
	Tour		Reset
	Pattern		Aux
	Scan		Aux on-off button
	Rotate		Go to menu
Icon	Function	Icon	Function

### 4.6.3 Coaxial Control

#### Note

- Coaxial control function is for some series cameras only
- Please refer to the user's manual for detailed information.

In Figure 4-74, there are two ways for you to call the menu and set.

- Mode 1: For general HDCVI camera only, Not for PTZ camera.

Click "Iris +" to call the OSD menu of the HDCVI camera. See Figure 4-75. Use direction buttons to select the parameters and click the "Iris +" to confirm.

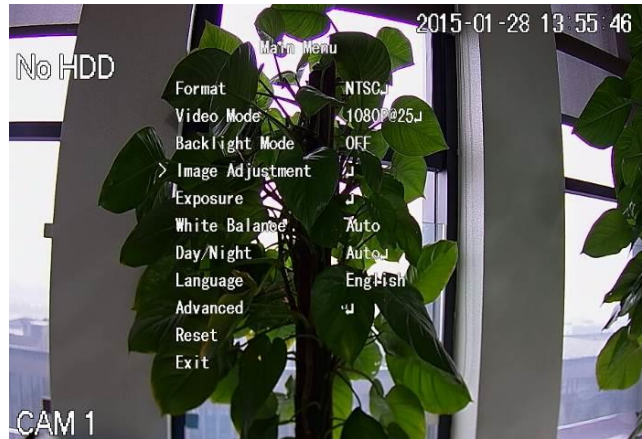


Figure 4-75

- Mode 2: For all HDCVI cameras.




Click , you can view menu operation interface. See Figure 4-76. Click the Enter button; you can see the OSD menu of the HDCVI camera. See Figure 4-75. Use direction buttons to select the parameters and click the “OK” to confirm.



Figure 4-76

 **Note**

Coaxial cable control is not for all cameras. Please check before the operation.

#### 4.6.4 Set PTZ Functions


In Figure 4-72, click  to open the menu, you can set preset, tour, pattern, scan and etc. See Figure 4-77.



Figure 4-77

Please refer to the following sheet for detailed information.

Please note the above interface may vary due to different protocols. The button is grey and cannot be selected once the current function is null.

Right click mouse or click the ESC button at the front panel to go back to the Figure 4-72.

Icon	Function	Icon	Function
	Preset		Flip
	Tour		Reset
	Pattern		Aux
	Scan		Aux on-off button
	Rotate		Go to menu

#### 4.6.4.1 PTZ Function Setup

Click , you can go to the following interface to set preset, tour, pattern, and scan. See Figure 4-78.



Figure 4-78

### Preset Setup

In Figure 4-78, click preset button and use eight direction arrows to adjust camera to the proper position. The interface is shown as in Figure 4-79.

Click Set button and then input preset number.

Click Set button to save current preset.



Figure 4-79

### Tour Setup

In Figure 4-78, click tour button.

Input tour value and preset No. Click Add preset button to add current preset to the tour. See Figure 4-80.

#### Tips

Repeat the above steps to add more presets to the tour. Click Del preset button to remove it from the tour. Please note some protocols do not support delete preset function.



Figure 4-80

### Pattern Setup

In Figure 4-78, click Pattern button and input pattern number. See Figure 4-81.

Click Begin button to start direction operation. Or you can go back to Figure 4-72 to operate zoom/focus/iris/direction operation.



In Figure 4-81, click End button.



Figure 4-81

### Scan Setup

In Figure 4-78, click Scan button. See Figure 4-82.

Use direction buttons to set camera left limit and then click Left button.



Use direction buttons to set camera right limit and then click Right button. Now the scan setup process is complete.





Figure 4-82

## 4.6.5 Call PTZ Functions



### Call Preset

In Figure 4-74, input preset value and then click  to call a preset. Click  again to stop call.



### Call Pattern

In Figure 4-74, input pattern value and then click  to call a pattern. Click  again to stop call.


### Call Tour

In Figure 4-74, input tour value and then click  to call a tour. Click again  to stop call.

### Call Scan

In Figure 4-74, input Scan value and then click  to call a tour. Click again  to stop call.

### Rotate


In Figure 4-74, click  to enable the camera to rotate.

System supports preset, tour, pattern, scan, rotate, light and etc function.

#### Note:

- Preset, tour and pattern all need the value to be the control parameters. You can define it as you require.
- You need to refer to your camera user's manual for Aux definition. In some cases, it can be used for special process.

### Aux

Click , system goes to the following interface. The options here are defined by the protocol. The aux number is corresponding to the aux on-off button of the decoder. See Figure 4-83.

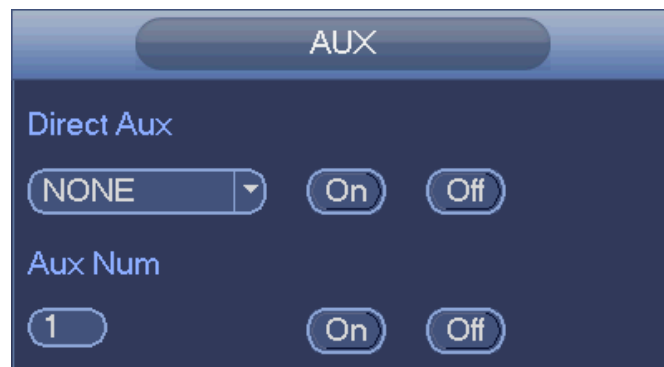


Figure 4-83

## 4.7 Navigation Bar



#### Note

Go to the Main menu->Setting->System->General to enable navigation bar function; otherwise you cannot see the following interface.

On the preview window, left click mouse, you can see the navigation bar is shown as below. See Figure 4-84.

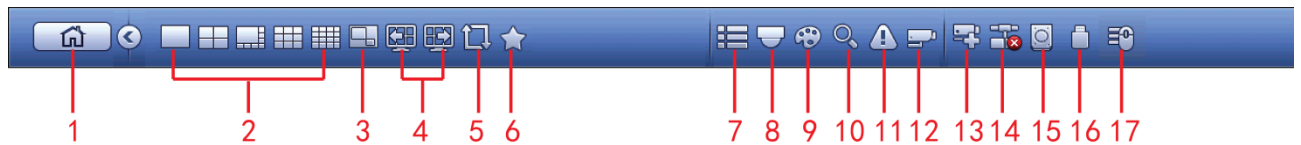



Figure 4-84




#### 4.7.1 Main Menu

Click button  to go to the main menu interface.



#### 4.7.2 Output Screen

Select corresponding window-split mode and output channels.

#### 4.7.3 Previous/Next Screen

Click  to go to the previous screen, click  to go to the next screen. For example, if you are using 4-split mode, the first screen is displaying the channel 1-4, click , you can view channel 5-8.

#### 4.7.4 Tour

Click button  to enable tour, the icon becomes , you can see the tour is in process.

#### 4.7.5 Favorites


Click , system pops up add/edit favorites. See Figure 4-85.



Figure 4-85

In Figure 4-85, click Add to favorites; you can see the following interface. See Figure 4-86 . Here you can input customized favorites name. System max supports 31-character. Click OK button, you can save current favorites name.

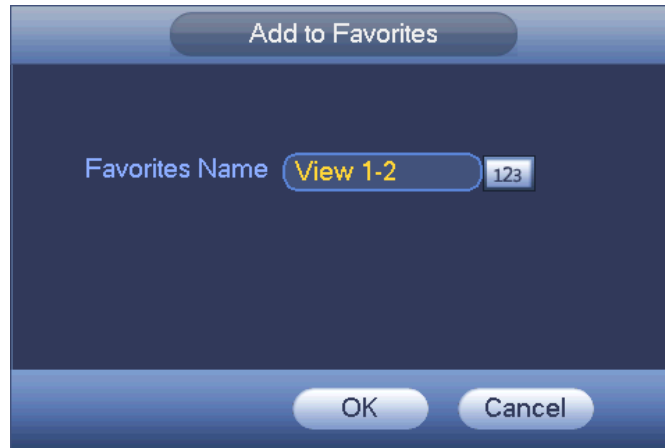


Figure 4-86

In Figure 4-85, click Edit favorites; you can see an interface shown as in Figure 4-87. Check the corresponding box and then select Delete, you can remove specified item(s).



Figure 4-87

Double click a name; you can change its name. See Figure 4-88. Input a new name and then click OK button.



Figure 4-88

#### 4.7.6 Channel

It is to pop up channel tree. You can left click to select a channel on the tree and then drag it to the preview window on the left pane. See Figure 4-89.

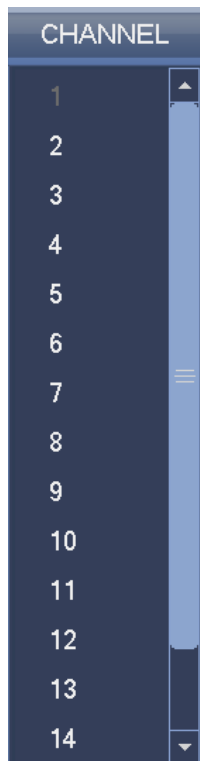



Figure 4-89


### 4.7.7 PTZ

Click , system goes to the PTZ control interface. Please refer to chapter 4.6.


### 4.7.8 Color

Click button , system goes to the color interface. Please refer to chapter 4.2.8.


### 4.7.9 Search

Click button , system goes to search interface. Please refer to chapter 4.9.

### 4.7.10 Alarm Status

Click button , system goes to alarm status interface. It is to view device status and channel status. Please refer to chapter 4.20.2.

### 4.7.11 Channel Info

Click button , system goes to the channel information setup interface. It is to view information of the corresponding channel. See Figure 4-90.




The screenshot shows a window titled "CHANNEL INFO" with a table of channel parameters. The table has columns for Channel, Motion, Video Loss, Tampering, Record Status, Record Mode, Resolution, Frame Rate, and Bit Rate. The data is as follows:


Channel	Motion	Video Loss	Tampering	Record Status	Record Mode	Resolution	Frame Rate	Bit Rate
1	●	⚠	●	■	Regular	1920*1080	30	
2	●	⚠	●	■	Regular	1920*1080	30	
3	●	⚠	●	■	Regular	1920*1080	30	
4	●	⚠	●	■	Regular	1920*1080	30	
5	●	⚠	●	■	Regular	1920*1080	30	
6	●	⚠	●	■	Regular	1920*1080	30	
7	●	⚠	●	■	Regular	1920*1080	30	
8	●	⚠	●	■	Regular	1920*1080	30	
9	●	⚠	●	■	Regular	1920*1080	30	
10	●	⚠	●	■	Regular	1920*1080	30	
11	●	⚠	●	■	Regular	1920*1080	30	
12	●	⚠	●	■	Regular	1920*1080	30	
13	●	⚠	●	■	Regular	1920*1080	30	
14	●	⚠	●	■	Regular	1920*1080	30	
16	●	●	●	■	Regular	1920*1080	9	8

Figure 4-90


### 4.7.12 Registration

Click , system goes to an interface for you to view remote device information. Please refer to chapter 4.1.4.4.

### 4.7.13 Network

Click , system goes to the network interface. It is to set network IP address, default gateway and etc. Please refer to chapter 4.11.

#### 4.7.14 HDD Manager

Click , system goes to the HDD manager interface. It is to view and manage HDD information. Please refer to chapter 4.15.1.

#### 4.7.15 USB Manager

Click , system goes to the USB Manager interface. See Figure 4-91.

It is to view USB information, backup and update. Please refer to chapter 4.10.1 File backup, chapter 4.20.4 Log, chapter 4.18.2 Import/export, and chapter 4.18.4 System upgrade for detailed information.



Figure 4-91

## 4.8 Record and Snapshot

### 4.8.1 Record and Snapshot Control

The record includes auto record and manual record. The main stream and sub stream support customized settings. Besides, device supports snapshot function.

- Auto: Automatically record video of the specified record type at the specified period.
- Manual: Record for 24 hours. The record type is regular.
- Snapshot: Enable schedule snapshot function.



**CAUTION**

Please make sure you have storage right before use the manual reord function. Install the format HDD on the DVR before you use this function

The record priority is: Alarm>Motion detect>Regular.

**4.8.1.1 Schedule Record**

System can record regularly as you specified.

- On the preview interface, right click mouse and then select Manual->Record, or in the main menu, from Setting->Storage->Record, check the box to enable schedule function of corresponding channels. See Figure 4-92.

Name	Function
Channel	It displays all analog channels and connected IP channel(s). Select one or more channel(s). Check All to select all channels.
State	Display current channel status. It includes auto, manual, stop,enable, disable. <input checked="" type="radio"/> : Highlighted means current state has been checked. <input type="radio"/> : means current state has not been checked.
Main stream	Set the record type of the main stream, sub stream. It includes: manual, auto and close. <ul style="list-style-type: none"> <li>● Manual: It has the highest priority. No matter channel is in which mode right now, click manual, the corresponding channel begins general record.</li> </ul>
Sub stream	<ul style="list-style-type: none"> <li>● Auto: Automatically record video of the specified record type at the specified period. Refer to chapter 4.1.4.7 Schedule to set schedule record type.</li> <li>● Close: All-channel stops record.</li> </ul>
Snapshot	Select one or more channel(s)and then enable/disable snapshot function.

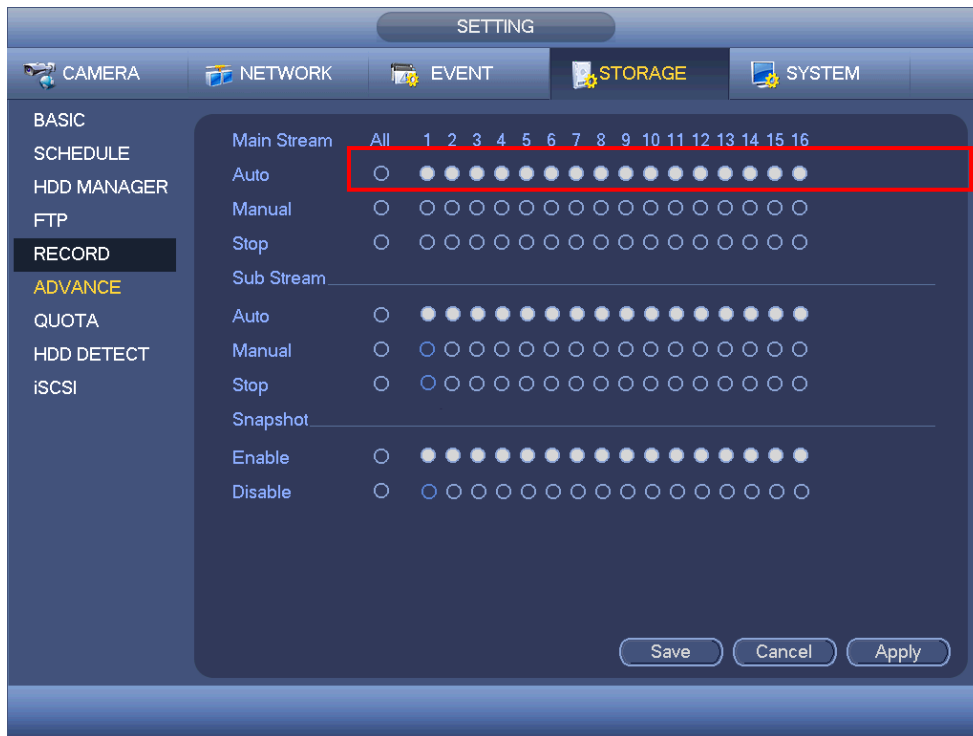


Figure 4-92



In main menu, from Setting-> Schedule->Record interface, please enable record function and then select regular mode and set corresponding period. See Figure 4-93.

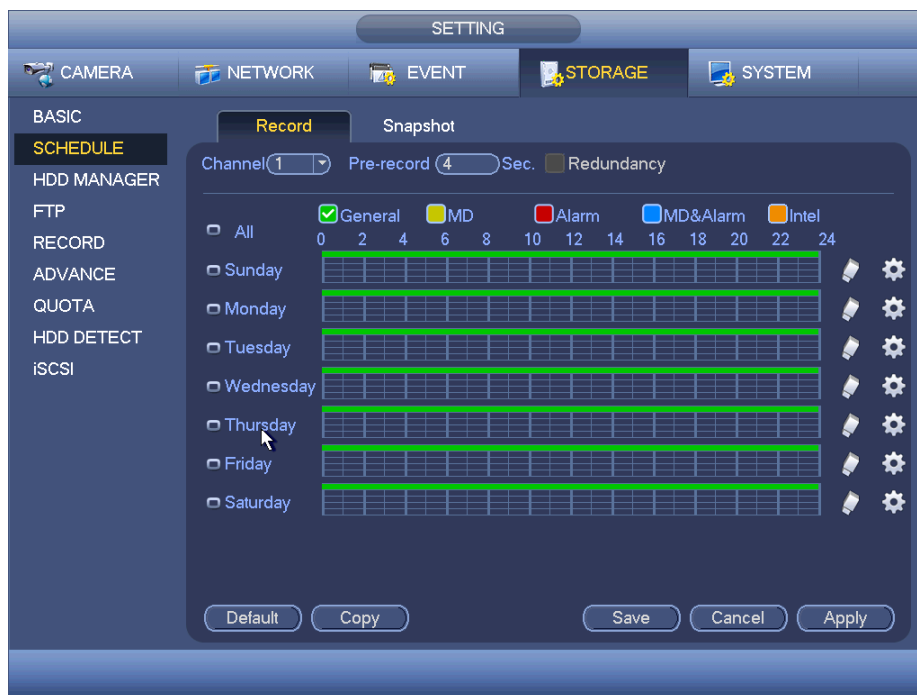


Figure 4-93

#### 4.8.1.2 Event/Alarm Record

System can record video once corresponding event occurs.

##### 4.8.1.2.1 Event record

For event record function, here we use motion detection alarm to follow.

From Main menu->Setting->Video detect->Motion detect, you can set motion detect alarm record function. See Figure 4-94.

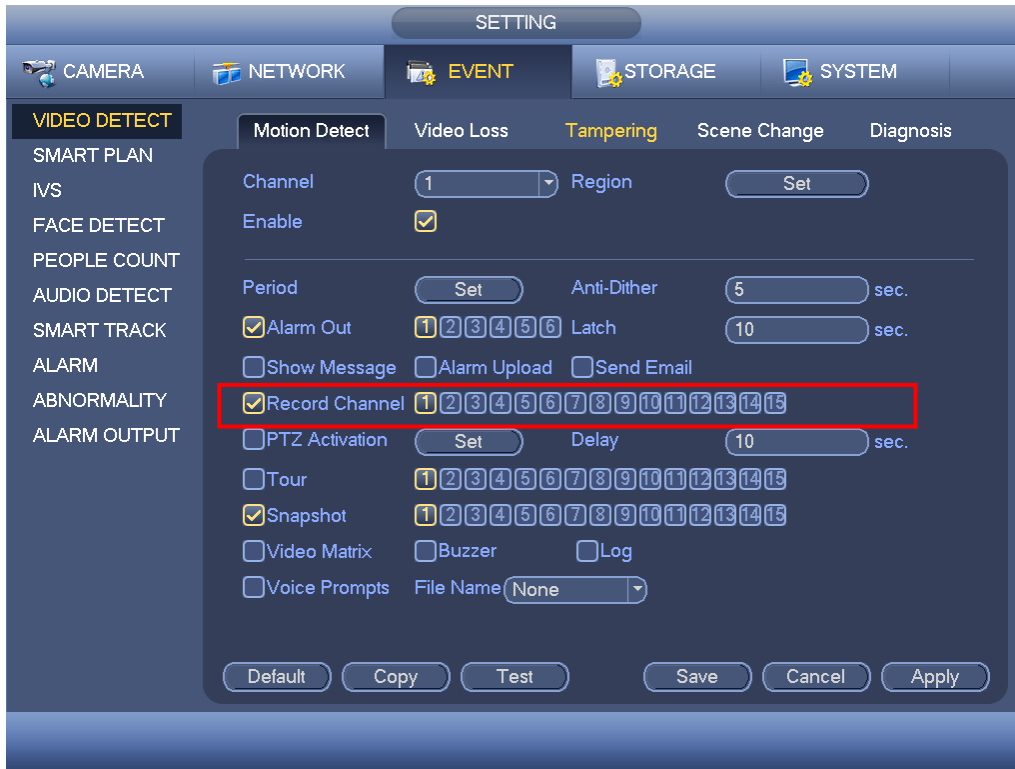


Figure 4-94

#### 4.8.1.2.2 Alarm record

From Main menu->Setting->Alarm->Local, you can set local alarm record function. See Figure 4-95.

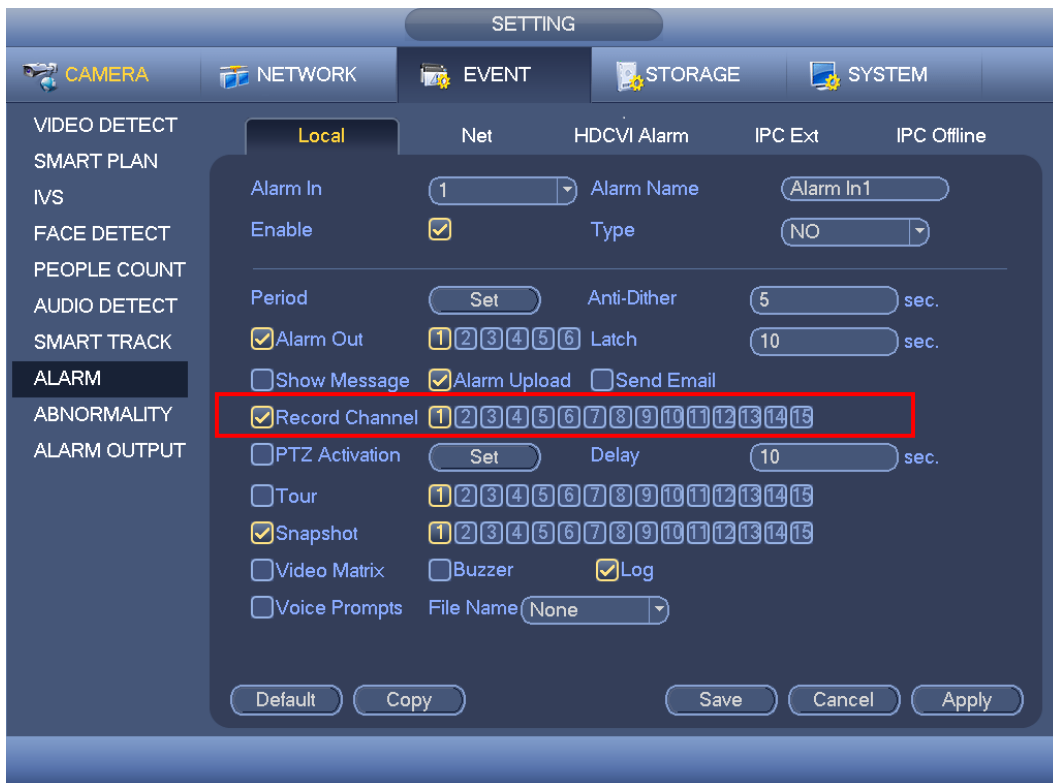


Figure 4-95

## 4.8.2 Snapshot

### 4.8.2.1 Schedule Snapshot

- On the preview interface, right click mouse and then select Manual->Record, or in the main menu, from Setting->Storage->Record, check the box to enable snapshot function of corresponding channels. See Figure 4-96.
- In main menu, from Setting->Camera->Encode->Snapshot interface, here you can input snapshot mode as regular, size, quality and frequency. See Figure 4-97.
- In main menu, from Setting-> Schedule->Snapshot interface, please enable snapshot function. See Figure 4-98.

Please refer to the following figure for detailed information.

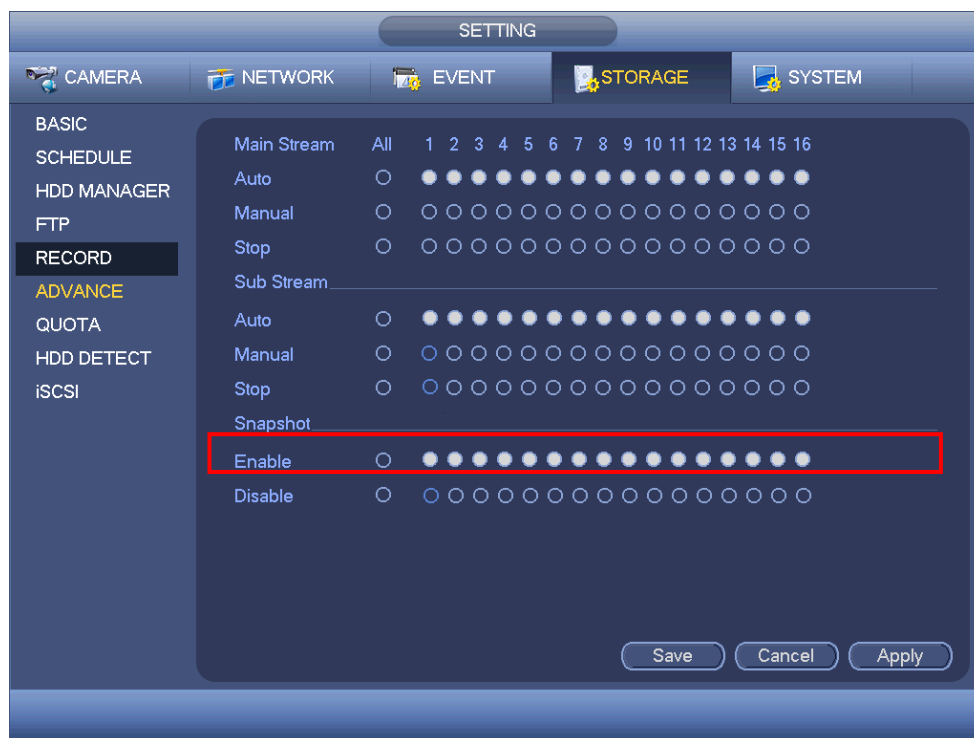


Figure 4-96

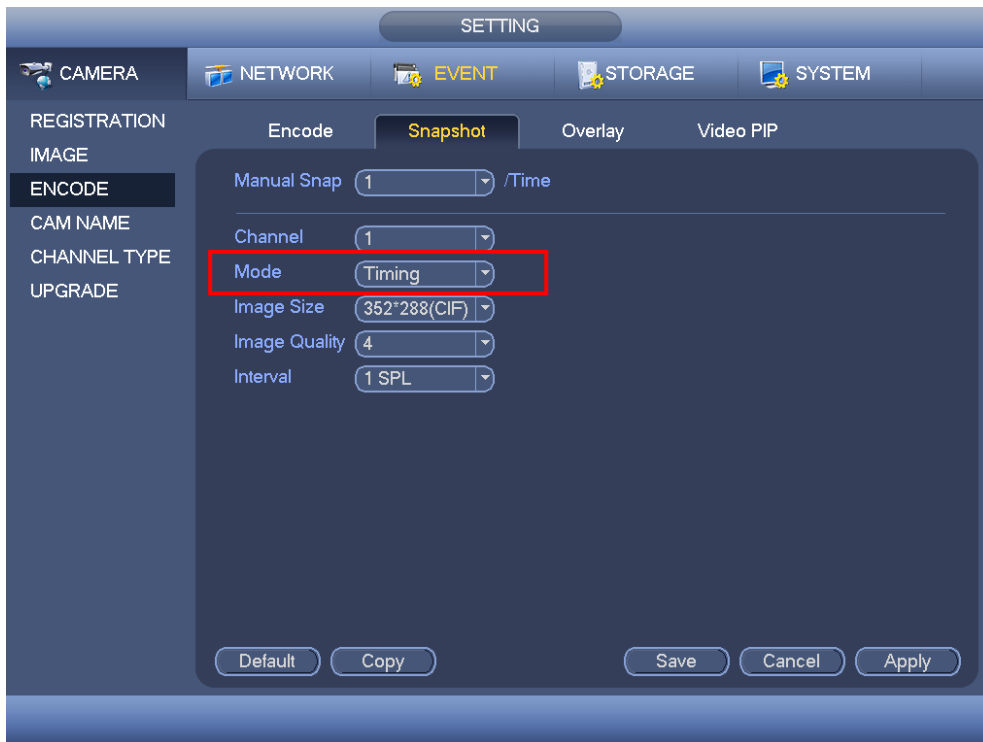


Figure 4-97

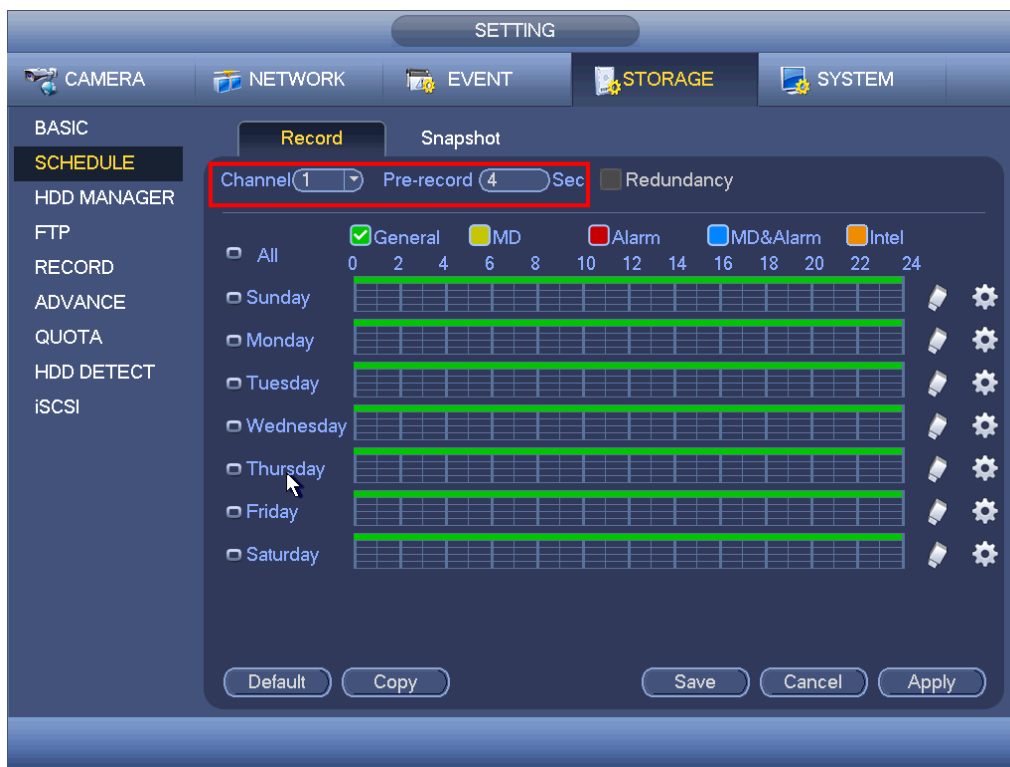


Figure 4-98

#### 4.8.2.2 Trigger Snapshot

Please follow the steps listed below to enable the activation snapshot function. After you enabled this function, system can snapshot when the corresponding alarm occurs.

- In main menu, from Setting->Camera->Encode->Snapshot interface, here you can input snapshot mode as trigger, size, quality and frequency. See Figure 4-99.
- In main menu, from Setting->Video detect->Motion detect, please enable snapshot function for specified channels (Figure 4-100). Or In main menu, from Setting->Event->Alarm (Figure 4-101) please enable snapshot function for specified channels.

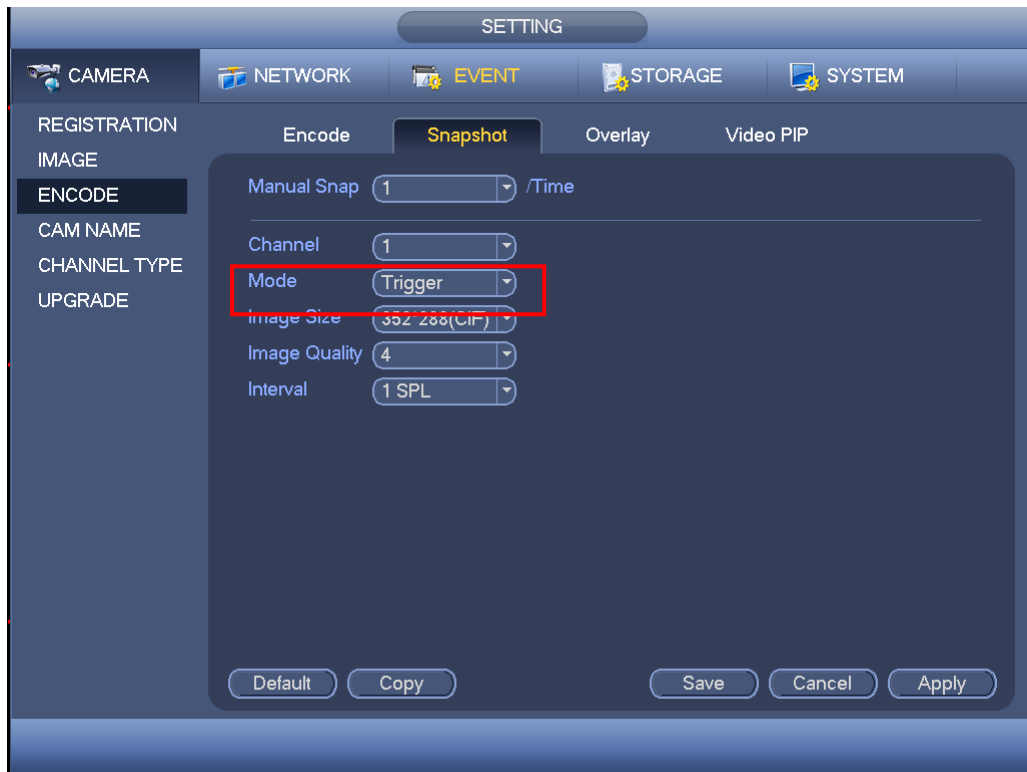


Figure 4-99

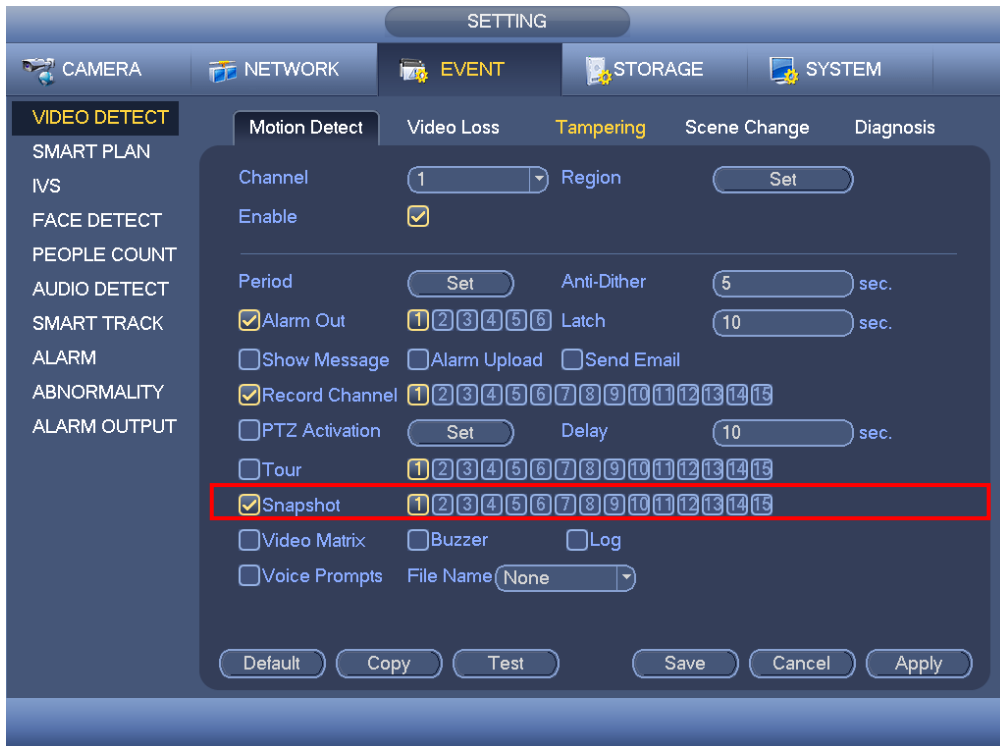


Figure 4-100

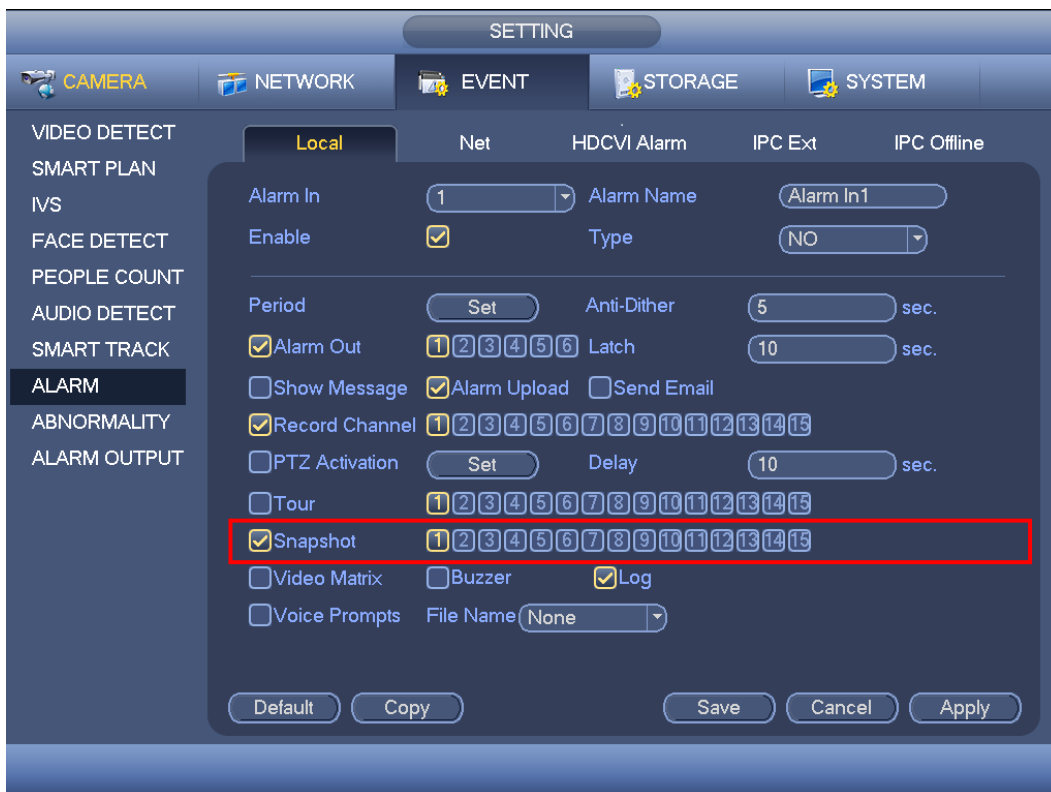


Figure 4-101

#### 4.8.2.3 Priority

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 an alarm occurs, and otherwise system just operates the schedule snapshot.

#### 4.8.2.4 Image FTP

In the main menu, from Setting->Network->FTP, you can set FTP server information. Please enable FTP function and then click save button. See Figure 4-102.

Please boot up corresponding FTP server.

Please enable schedule snapshot (Chapter 4.8.2.1) or activation snapshot (Chapter 4.8.2.2) first, now system can upload the image file to the FTP server.

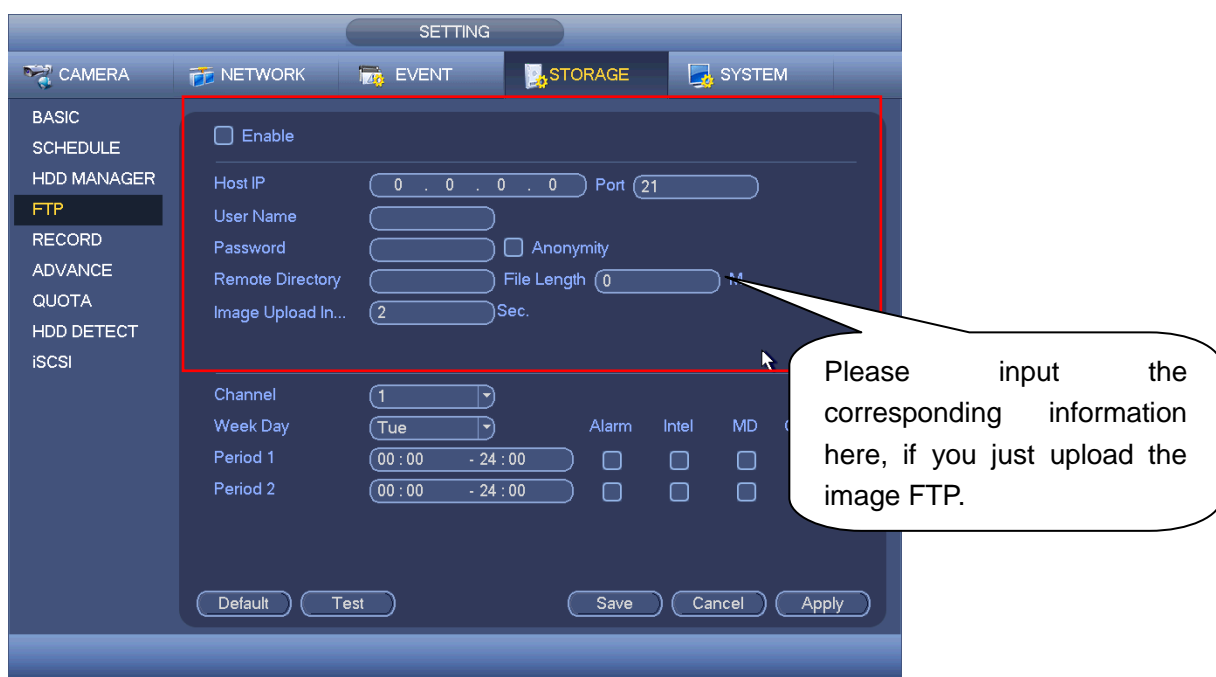


Figure 4-102

## 4.9 Search and Playback

It is to search and play corresponding file or image.

### 4.9.1 Instant Playback

Please refer to chapter 4.2.2.1 Instant playback for instant playback information.

### 4.9.2 Search

Click search button in the main menu, search interface is shown as below. See Figure 4-103.

#### Note

The following figure for reference only. Slight difference may be found on the user interface.

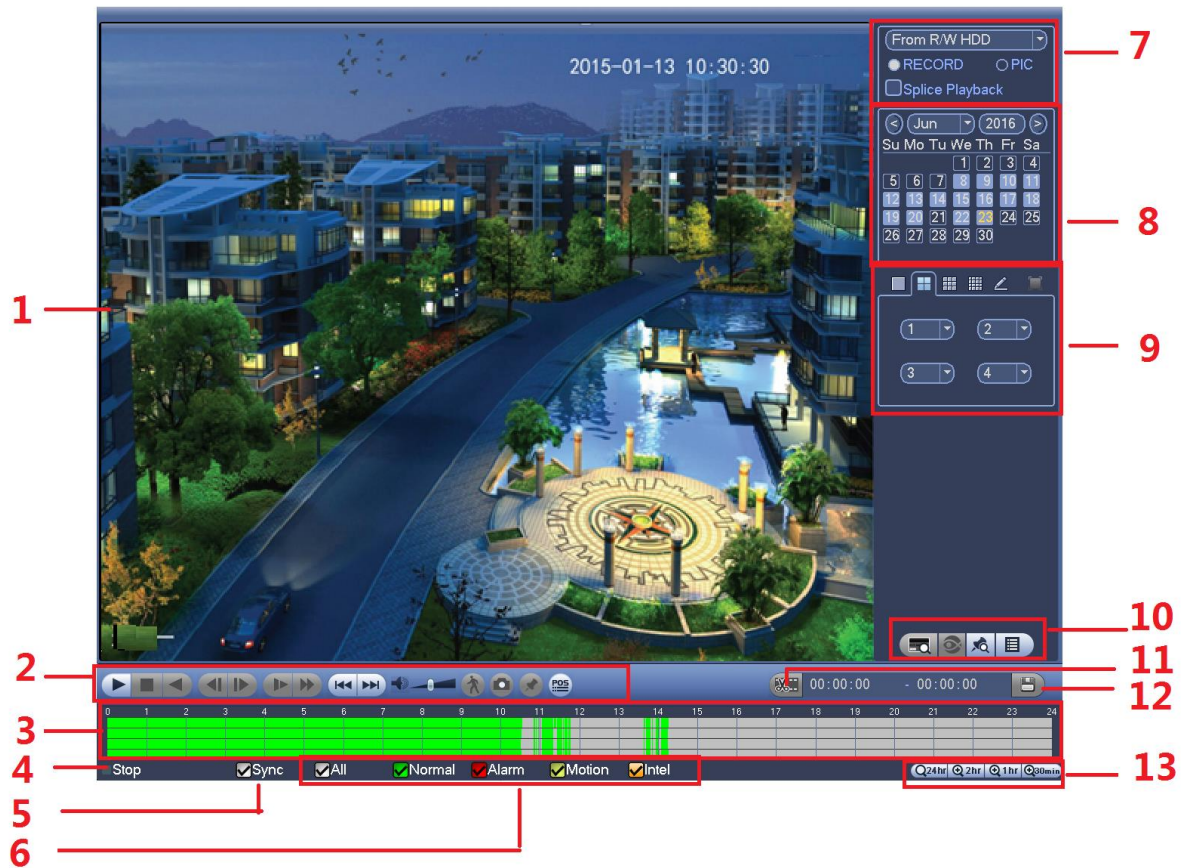


















Figure 4-103





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. (It depends on the product channel amount).
2	Playback control pane	Please refer to chapter 4.9.2.1 for detailed information.



SN	Name	Function
3	Time bar	<p>It is to display the record type and its period in current search criteria.</p> <ul style="list-style-type: none"> <li>● In 4-window playback mode, there are corresponding four time bars. In other playback mode, there is only one time bar.</li> <li>● Use the mouse to click one point of the color zone in the time bar, system begins playback.</li> <li>● If the current interface is playing now, the time bar zooms in the period of the current playback time when you are playing the file.</li> <li>● The time bar will change once you modify the playback mode or the channel option.</li> <li>● 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. The orange stands for intelligent record file.</li> <li>● For some series product, right click the idle space on the time bar, system automatically goes to the next video file to play.</li> </ul>
4	Plat status	It is to display current play status. It includes play/stop/fast play/slow play and etc.
5	Sync playback	Check the boxed here, you can playback the video of the same time from multiple-channel.
6	Record type	<p>Check the box(es) here to select searched record type(s).</p> <p> <b>Note</b> Intelligent record is for some series product.</p>
7	Search type	<p>It is to search the picture or the recorded file.</p> <ul style="list-style-type: none"> <li>● Select to play from the read-write HDD, from peripheral device or from redundancy HDD.</li> <li>● Before 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.</li> </ul> <p> <b>Note</b> 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.</p>
8	Calendar	<p>The blue highlighted date means there is picture or file. Otherwise, there is no picture or file.</p> <p>In any play mode, click the date you want to see, you can see the corresponding record file trace in the time bar.</p>

SN	Name	Function								
9	Playback mode and channel selection pane.	<p>Playback mode: 1/4/9/16-channel. Customized channel supports channel you desired. (It may vary due to different series.)</p> <ul style="list-style-type: none"> <li>● Select window split mode</li> <li>◇ 1/4/9/16-channel. (It may vary due to different series.)</li> <li>◇ Click  to go to full-screen. Right click mouse to exit full-screen.</li> </ul> <p> <b>Note</b></p> <p>The window split mode depends on the system channel amount. Refer to the actual interface for detailed information.</p> <ul style="list-style-type: none"> <li>● Select channel(s).</li> <li>◇ 1~n(n depends on device channel amount.) means the main stream. A1~An(n depends on device channel amount.) means the sub stream.</li> <li>◇ 1-window split mode: select any channel.</li> <li>◇ 4-window split mode: Select any four channels. 9/16-window split mode, please select the specified channel group.</li> <li>● The time bar will change once you modify the playback mode or the channel option.</li> </ul>								
10	List Pane	<table border="1"> <tr> <td></td> <td> <p>POS record list</p> <p>Click it, you can search POS record. System supports fuzzy search and accurate search. You can view the results on the right pane. Double click the file name to playback.</p> </td> </tr> <tr> <td></td> <td> <p>Mark button.</p> <p>Click it to display all files of mark icon. Double click a file to play.</p> <p>You can refer to chapter 4.9.4 for detailed information.</p> </td> </tr> <tr> <td></td> <td> <p>File list</p> <p>Click it to view searched file. Here you can lock or unlock file.</p> <p>You can refer to chapter 0for detailed information.</p> </td> </tr> <tr> <td></td> <td> <p>Fisheye de-warp playback. You can refer to chapter 4.4 for detailed information.</p> </td> </tr> </table>		<p>POS record list</p> <p>Click it, you can search POS record. System supports fuzzy search and accurate search. You can view the results on the right pane. Double click the file name to playback.</p>		<p>Mark button.</p> <p>Click it to display all files of mark icon. Double click a file to play.</p> <p>You can refer to chapter 4.9.4 for detailed information.</p>		<p>File list</p> <p>Click it to view searched file. Here you can lock or unlock file.</p> <p>You can refer to chapter 0for detailed information.</p>		<p>Fisheye de-warp playback. You can refer to chapter 4.4 for detailed information.</p>
	<p>POS record list</p> <p>Click it, you can search POS record. System supports fuzzy search and accurate search. You can view the results on the right pane. Double click the file name to playback.</p>									
	<p>Mark button.</p> <p>Click it to display all files of mark icon. Double click a file to play.</p> <p>You can refer to chapter 4.9.4 for detailed information.</p>									
	<p>File list</p> <p>Click it to view searched file. Here you can lock or unlock file.</p> <p>You can refer to chapter 0for detailed information.</p>									
	<p>Fisheye de-warp playback. You can refer to chapter 4.4 for detailed information.</p>									
11	Clip	<p>It is to edit the file and save.</p> <p>You can refer to chapter 4.9.2.2 for detailed information.</p>								
12	Backup	<p>It is to backup files. You can refer to chapter 4.9.2.3 for detailed information.</p>								

SN	Name	Function
13	Time bar unit	<ul style="list-style-type: none"> <li>The option includes: 、、和。The smaller the unit, the larger the zoom rate. You can accurately set the time in the time bar to playback the record.</li> <li>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.</li> </ul>














#### 4.9.2.1 Playback Control




The playback control interface is shown as below. See Figure 4-104.



Figure 4-104


Please refer to the following sheet for more information.


Icon	Function
	Play/Pause In slow play mode, click it to switch between play/pause.
	Backward play <ul style="list-style-type: none"> <li>In normal play mode, left click the button, the file begins backward play. Click it again to pause current play.</li> <li>In backward play mode, click  or  to restore normal play.</li> </ul>
	Display previous frame/next frame. <ul style="list-style-type: none"> <li>When pause the normal playback file, click  or  to playback frame by frame.</li> <li>In frame by frame playback mode, click  or  to resume normal playback mode.</li> </ul>
	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.
	Adjust the volume of the playback
	Smart search . You can refer to chapter 4.9.3 for detailed information.


Icon	Function
	Click the snapshot button in the full-screen mode, the system can snapshot 1 picture. 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.
	Mark button. Please note this function is for some series product only. Please make sure there is a mark button in the playback control pane. You can refer to chapter 4.9.4 for detailed information.
	Display/hide POS information. In 1-channel playback mode, you can click it to display/hide POS information on the video.

#### 4.9.2.2 Clip

This function allows you to clip some footages to a new file and then save to the USB device. See Figure 4-105. Please follow the steps listed below.

Step 1 Select a record first and then click  to playback.

Step 2 Select a time at the time bar and then click  to start clip,

Step 3 Select a time at the time bar and then click  to stop clip,


Step 4 Click , system pops up dialogue box to save the clip file.



Figure 4-105

#### Note

- Clip function is for one-channel/multiple-channel.
- Max save 1024 files at the same time.
- This function is null if there is selected file(s) in the file list.

#### 4.9.2.3 Backup

This function is to backup files you checked in the file list, or the file you just clip.

Step 1 On the main menu, click backup button.

Enter backup interface. See Figure 4-106. It is to view devices information such as backup device name and its total space and free space. The device includes CD-RW, DVD burner, USB device, flash disk, eSATA backup.

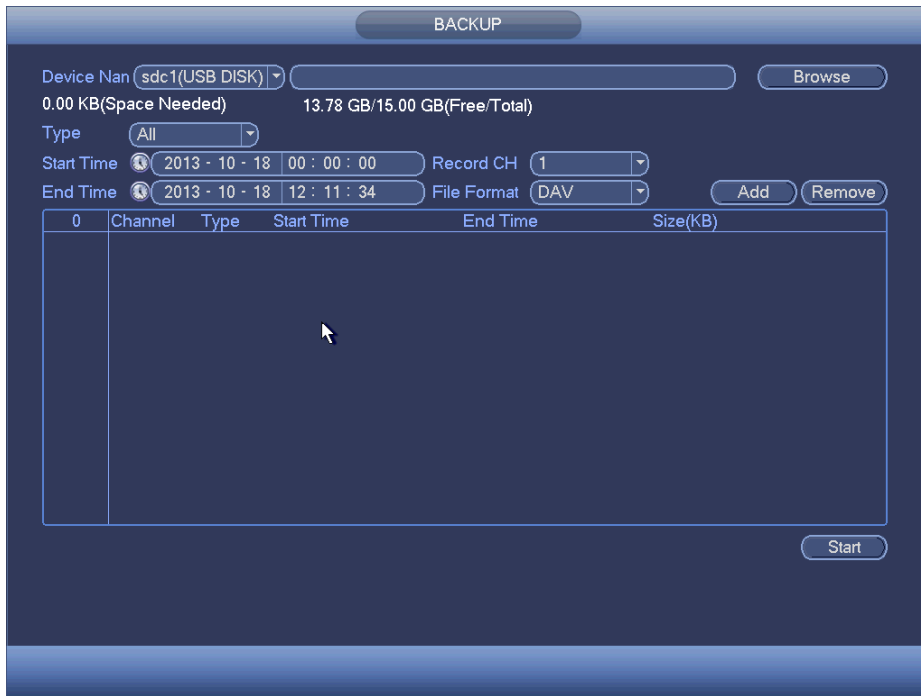


Figure 4-106

- Step 2 Select backup device and then set channel, file start time and end time.  
 Step 3 Click add button, system begins search. All matched files are listed below. System automatically calculates the capacity needed and remained. See Figure 4-107.

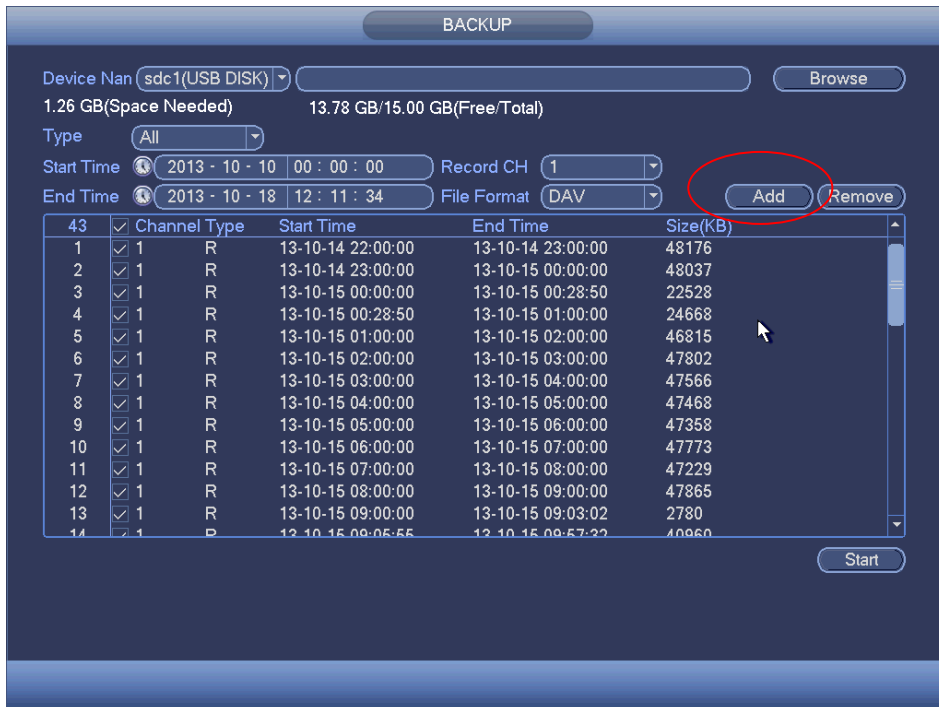


Figure 4-107

- Step 4 System only backup files with a ✓ before channel name. You can use Fn or cancel button to delete ✓ after file serial number.

Step 5 Click Start button, system begins copy. At the same time, the backup button becomes stop button. You can view the remaining time and process bar at the left bottom. See Figure 4-108.

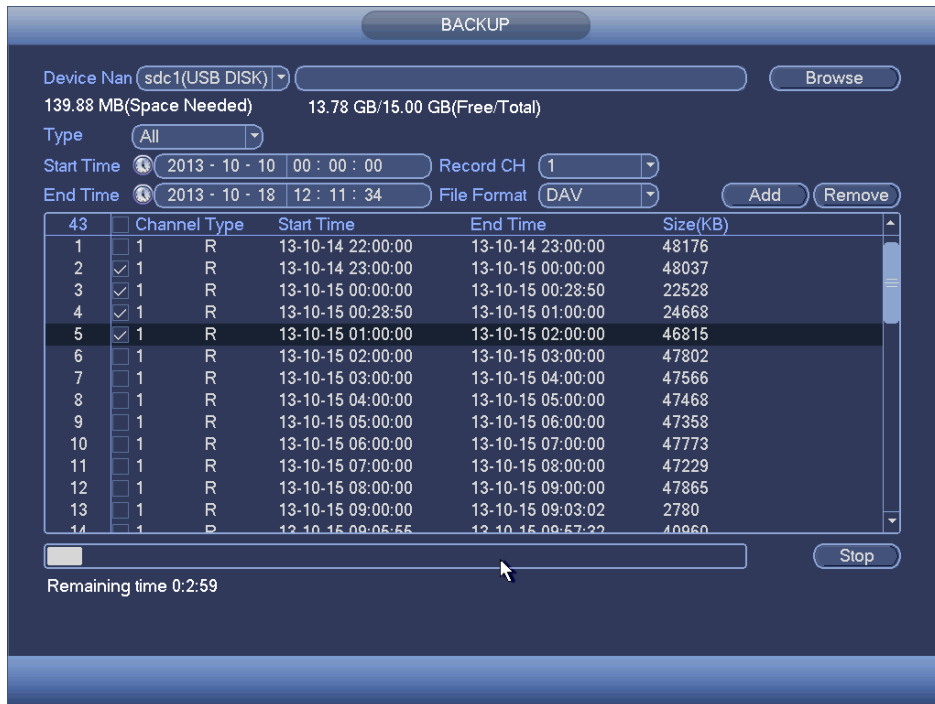


Figure 4-108

**Note**

During backup process, you can click ESC to exit current interface for other operation. The system will not terminate backup process.

### 4.9.3 Smart Search Playback

**Note**

This function is for some series product only.

During playback process, it can analyze the motion detect zone in the scene and give the analysis result.

This function is for channel that already enabled motion detect function (main menu->Setting->Event->Video detect->Motion detect).


Step 1 Select a channel to playback video and then click . You can view the grids on the playback video.


**Note**

- This function is for one-channel playback mode.
- If you are in multiple-channel playback mode, double click a channel first to switch to one-channel playback mode.

Step 2 Left click mouse and then drag to select smart search zones(22\*18 (PAL), 22\*15

(NTSC) ).


Step 3 Click  to go to smart search and playback. System is going to playback all motion detect record footages.

Step 4 Click  again to stop smart search function.

#### 4.9.4 Mark Playback

When you are playback record, you can mark the record when there is important information. After playback, you can use time or the mark key words to search corresponding record and then play. It is very easy for you to get the important video information.

- **Add Mark**

Step 1 When system is playback, click Mark button . Enter add mark interface. See Figure 4-109.

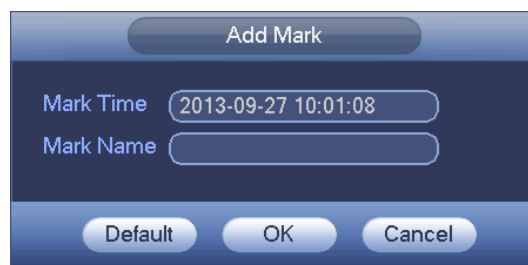



Figure 4-109

Step 2 Input mark name and then click OK button. System displays file name on mark file list.

- **Playback Mark**

During 1-window playback mode, click mark file list button  in Figure 4-103. Enter mark file list interface. Double click one mark file, you can begin playback from the mark time.

- **Play before mark time**


It is to set to begin playback from previous N seconds of the mark time.



**Note**

Usually, system can playback previous N seconds record if there is such kind of record file. Otherwise, system playbacks from the previous X seconds when there is such as kind of record.

- **Mark Manager**

Click the mark manager button  on the Search interface (Figure 4-103); you can go to Mark Manager interface. See Figure 4-110. System can manage all the record mark information of current channel by default. You can view all mark information of current channel by time.

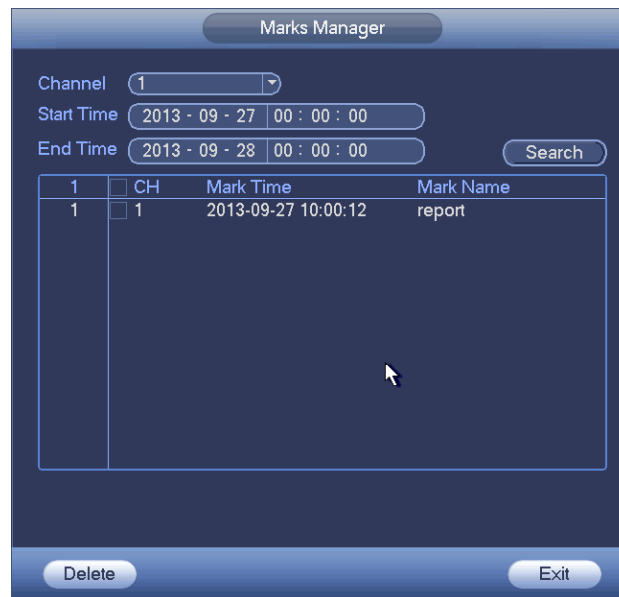


Figure 4-110

- **Modify**

Double click one mark information item, you can see system pops up a dialogue box for you to change mark information. You can only change mark name here.

- **Delete**

Here you can check the mark information item you want to delete and then click Delete button, you can remove one mark item. .



**Note**


- After you go to the mark management interface, system needs to pause current playback. System resume playback after you exit mark management interface.
- If the mark file you want to playback has been removed, system begins playback from the first file in the list.

#### 4.9.5 Playback Image

It is to search and play the image.

Step 1 From main menu->Search, or on the preview window right click mouse and then click Search, you can go to the search interface.

Step 2 At the top right corner, select image and then input playback interval.

Step 3 Select date and channel, click  to play.

#### 4.9.6 Splice Playback



For the large record file, you can use splice playback function to play the same file in several sections at the same time. It is very convenient for you to find the video footages you desire.

Step 1 On the main menu, click Search button, or right click mouse and then select Search. Enter Search interface. See Figure 4-103.

Step 2 On the right pane, check the box to enable splice playback function, and then set channel, date, split mode. The splice playback interface is shown as below. Each section has a small triangle; you can adjust it to set time. See Figure 4-111.



#### Note

- System supports 1/4/8/16-split mode. Slight different may be found here. The 4-channel series product supports 4-split mode. The 8-channel series product support 8-split mode. The 16-channel or higher series product supports 16-split mode.
- The min period of each section is 5 minutes. For the record is less than 20 minutes, if you select 4-split mode (or more than 4-split mode), system can auto adjust so that the each section period is 5 minutes. In this situation, some channel may have no video.

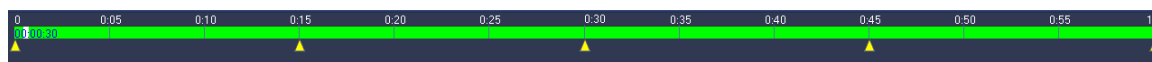



Figure 4-111

Step 3 Click  to playback.

### 4.9.7 File List

Click , system displays file list. It displays the first channel of the record. See Figure 4-112.

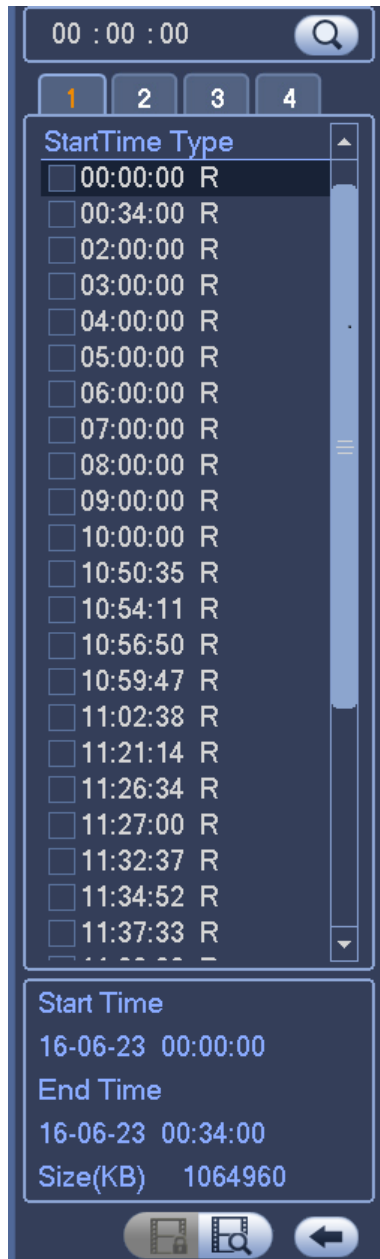





Figure 4-112


- Check a file name, double click file or click  to play.
- Input accurate time at the top column, you can search records of current day.
- System max displays 128 record files in one list.
- Click  to go back to the calendar/channel selection interface.

#### Lock or Unlock File

- In Figure 4-112, select a file first and then click . You can lock it in case it is overwritten in the future.

 **Note**

The file is writing or is overwriting cannot be locked.

- Click  you can view the locked file. See Figure 4-113.

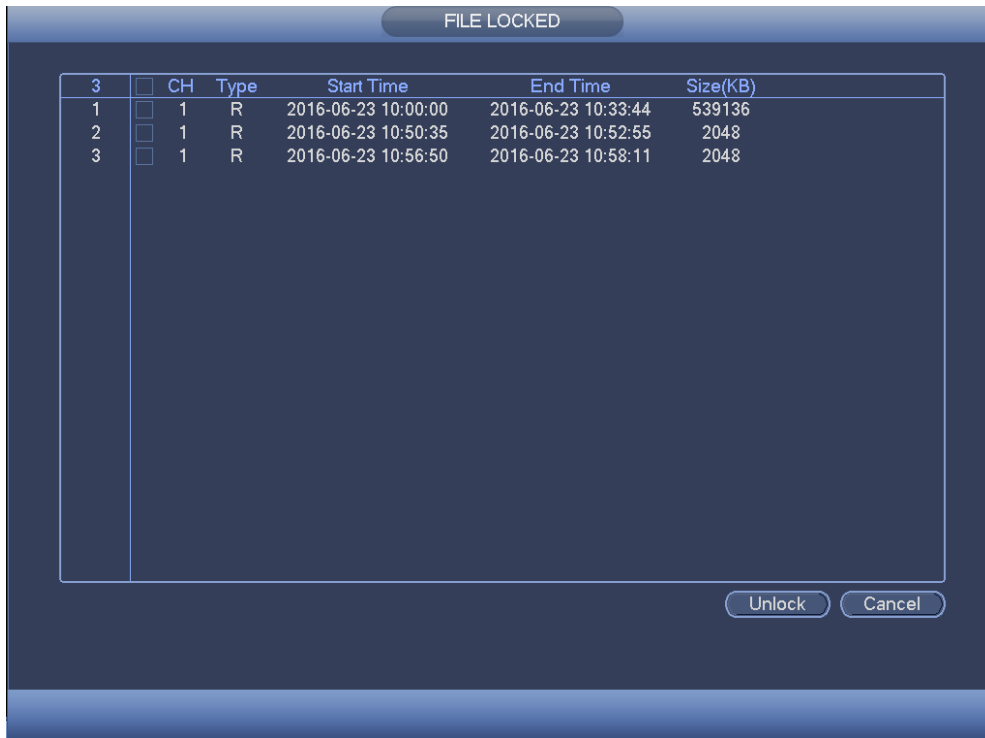


Figure 4-113

- Select a file in the above figure and then click Unlock.

## 4.9.8 Other Aux Functions

### 4.9.8.1 Digital Zoom

In 1-window playback mode, left click mouse to select any zone on the screen, you can zoom in current zone. Right click mouse to exit.

### 4.9.8.2 Switch Channel

During playback mode, select from the dropdown list to switch playback channel (For 1/4-window split mode only). This function is not for the channel of no record. The smart search channel does not support this function either.

## 4.10 Backup

### 4.10.1 File Backup

In the main menu and then click Backup button, select file backup path, record type and etc, and then click Start, you can backup files to the corresponding path. See Figure 4-114.

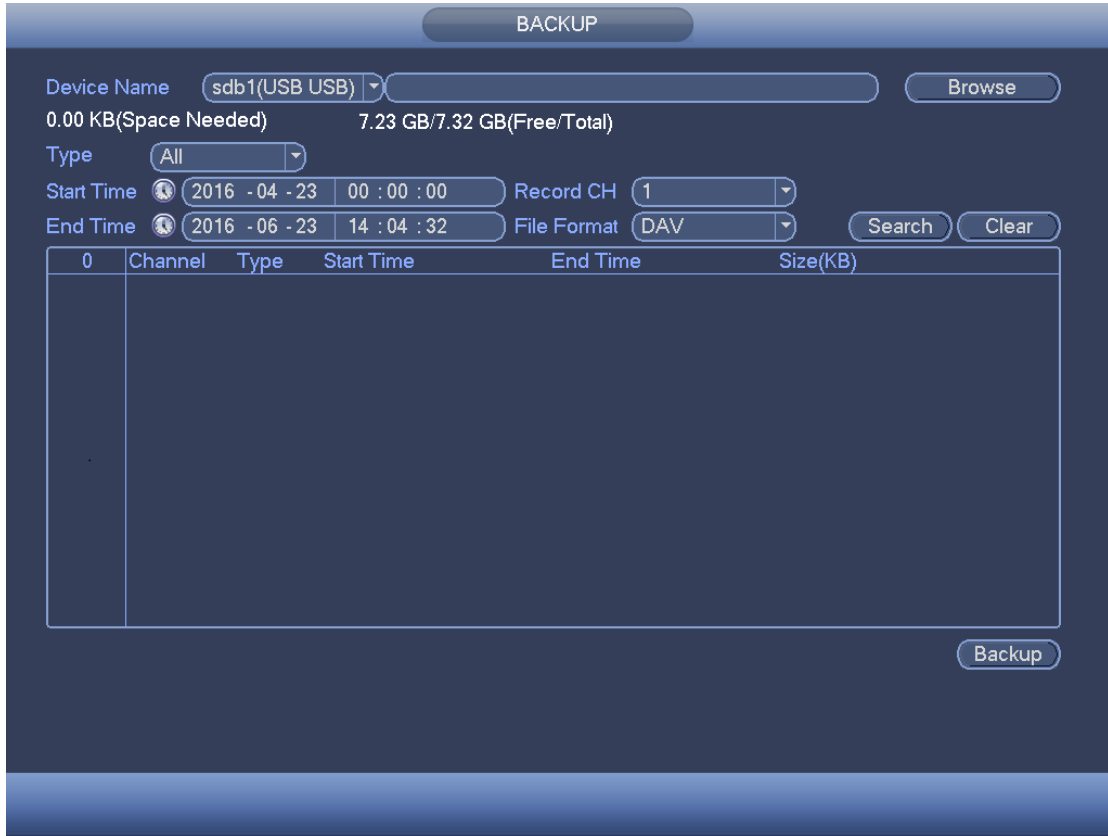


Figure 4-114

#### 4.10.2 USB Device Auto Pop-up

After you inserted the USB device, system can auto detect it and pop up the following dialogue box. It allows you to conveniently backup file, log, configuration or update system. See Figure 4-115. Please refer to chapter 4.10.1 File backup, chapter 4.20.4 Log, chapter 4.18.2 Import/export, and chapter 4.18.4 Upgrade for detailed information.



Figure 4-115

## 4.11 Network

### 4.11.1 TCP/IP

From main menu->Setting->Network->TCP/IP, you can go to the following interface.

The single network adapter interface is shown as in Figure 4-116 and the dual network adapters interface is shown as in Figure 4-117. For detailed information, please go to chapter 4.1.4.2.



Figure 4-116



Figure 4-117

### 4.11.2 Connection

It is to set port max amount and port value.

Step 1 From main menu->Setting->Network->Connection.

Enter setup interface. See Figure 4-118.

Step 2 Set parameters.

- Max connection: The max client login amount (such as WEB, platform, cellphone and etc). The value ranges from 0 to 128(default).
- TCP port: Default value is 37777.
- UDP port: Default value is 37778.
- HTTP port: Default value is 80. If you are using the browser to access the device, please add the corresponding port value if you have changed the default setup. Check the Enable box to enable this function.
- HTTPS port: Default value is 443. Check the box to enable HTTPS function.
- RTSP port: Default value is 554.
- POS port: It is to transmit data. The value ranges from 1 to 65535. Default value is 38800.



#### Note

System needs to reboot after you changed and saved any setup of the above five ports.

Please make sure the port values here do not conflict.



Figure 4-118

Step 3 Click Apply or Save to complete setup.

### 4.11.3 WIFI

After setting WIFI, device can connect network camera via WIFI. There is no need to connect network cable. It can lower device installation difficulty and is convenient to use the device.

Step 1 From main menu->Setting->Network->WIFI.

Enter WIFI interface. See Figure 4-119.

Step 2 Set parameters.

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



Figure 4-119

Step 3 Click Apply or Save to complete setup.



#### Note

After successful connection, you can see WIFI connection icon at the top right corner of the preview interface.

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

#### 4.11.4 3G/4G

Step 1 From main menu->Setting->Network->3G/4G.

Enter 3G/4G setup interface. See Figure 4-120.

Step 2 Set parameters.

- Pane 1: Display 3G/4G signal intensity after you enabled 3G/4G function.
- Pane 2: Display 3G/4G module configuration information after you enabled 3G/4G function.
- Pane 3: Display 3G/4G module status information after you enabled 3G/4G function.

It is to display current wireless network signal intensity such as EVDO, CDMA1x, WCDMA, WCDMA, EDGE and etc.

- 3G/4G module: It is to display current wireless network adapter name.
- 3G/4G Enable/Disable: Check the box here to enable 3G/4G module.
- Network type: There are various network types for different 3G/4G 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/4G network dialup number you got from your ISP.
- User name: It is the user name for you to login the 3G/4G network.
- Password: It is the password for you to login the 3G/4G 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/4G network connection period is 5 seconds. The device automatically disconnect when time is up. If there is no extra stream, 3G/4G network connection is valid all the time.  
**If the alive time is 0, then the 3G/4G network connection is valid all the time.**
- Dial: Here you can enable or disable 3G/4G network connection/disconnection manually.
- 3G/4G wireless network: Here is to display wireless network status, SIM card status, dial status. If the 3G/4G connection is OK, then you can see the device IP address the wireless network automatically allocates.



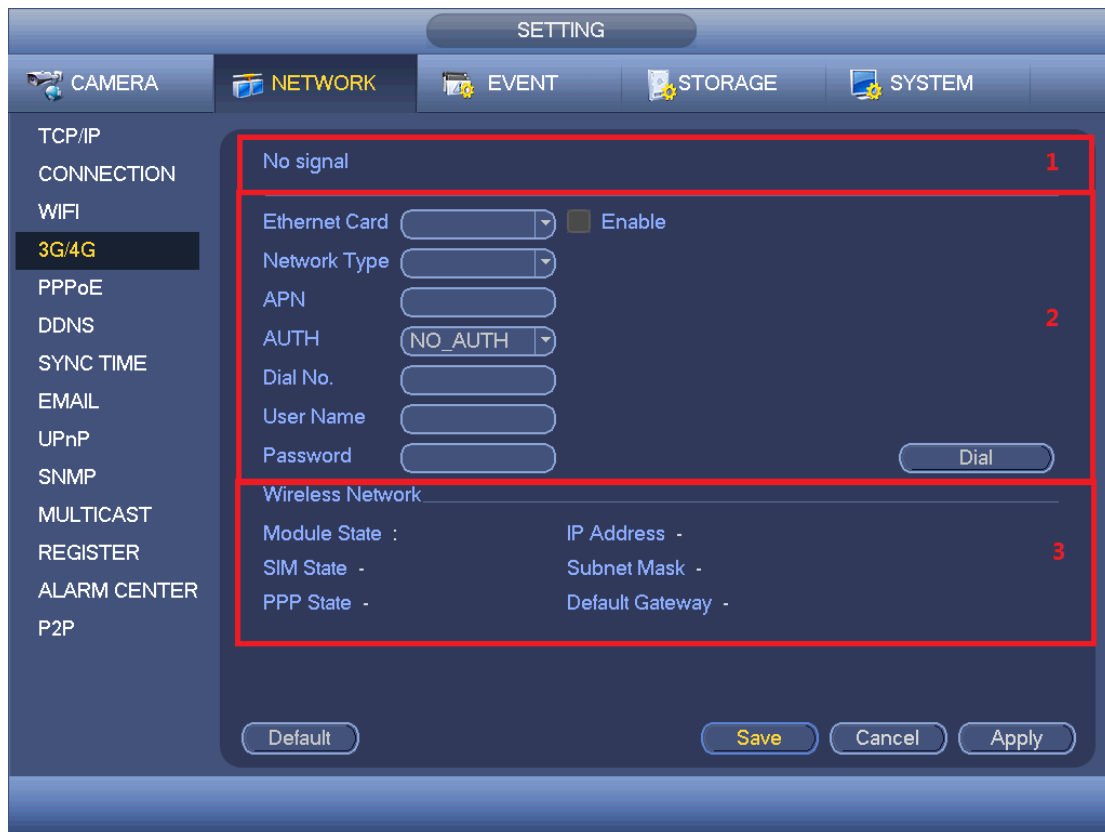


Figure 4-120

Step 3 Click Apply or Save to complete setup.

#### 4.11.5 PPPoE

Use PPPoE(Point-to-Point Protocol over Ethernet) to establish network connection. Device can get a dynamic IP address in the WAN. Before the operation, please contact your ISP (Internet service provider) for PPPoE user name and password.

Step 1 From main menu->Setting->Network->PPPoE.

Enter PPPoE interface. See Figure 4-121.

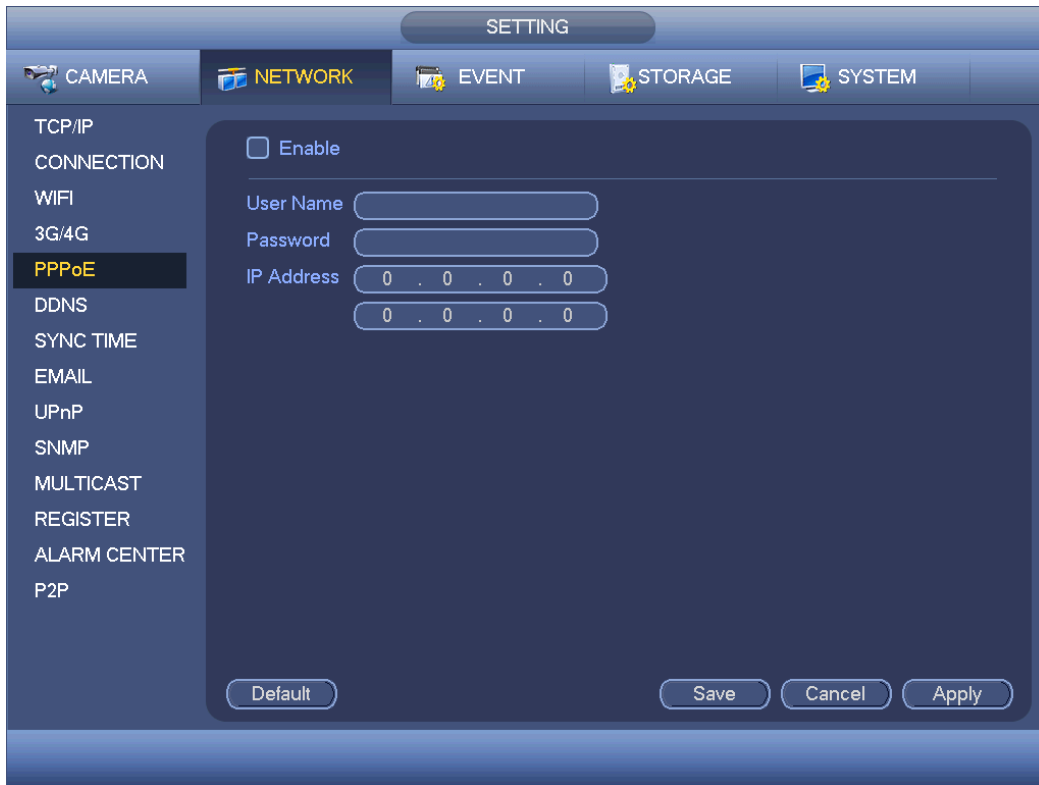


Figure 4-121

- Step 2 Check the box to enable this function. Input PPPoE name and PPPoE password.  
 Step 3 Click Apply or Save to complete setup.

DVR needs to reboot to activate new setup. After rebooting, DVR will connect to internet automatically. The IP in the PPPoE is the DVR dynamic value. You can access this IP to visit the device.



**Note**

After enable PPPoE function, the IP address in the main menu->Setting->Network->TCP/IP is read-only.

**4.11.6 DDNS**

DDNS(Dynamic Domain Name Server) is to dynamically refresh the DNS domain name and IP address if the device IP address has changed frequently. The user can use the domain to access the device.

**Preparation**

Before the operation, make sure the device supports DNS type and go to the DDNS service provider website to register the domain name via the PC.

- If the DDNS type is Dahua DDNS, there is no need to register DDNS.
- If the DDNS type is not Dahua DDNS, please go to the corresponding DDNS website to register user name, password, domain name and etc.



**Note**

After you successfully registered and logged in the DDNS website, you can view all connected device information of current login user.

Step 1 From main menu->Setting->Network->DDNS.

Enter DDNS setup interface. See Figure 4-122.



Figure 4-122

Step 2 Check the box to enable DDNS function and then input corresponding parameters.

If the DDNS type is Dahua DDNS:

- DDNS type: CN99 DDNS, NO-IP DDNS, Dahua DDNS, Dyndns DDNS and sysdns DDNS.
- Address: For Dahua DDNS, the default address is www.dahuaddns.com. It is read-only.
- Domain Mode: There are two modes: Default domain name and custom domain name. The default domain name is MAC address dahuaddns.com. The custom domain name is to input customized settings. The default domain name is name.dahuaddns.com.
- Email: Input email address when accessing DDNS server provider.
- Test: After setting, click it to check the domain registration is OK or not. Go to the next step is the test is OK. Check the network connection if the test fails.

If the DDNS type is not Dahua DDNS:

- Type/address:

- ✧ Dyndns DDNS is members.dyndns.org.
- ✧ NO-IP DDNS is dynupdate.no-ip.com.
- ✧ CN99 DDNS is members.3322.org.
- Domain: The domain name registered on the DDNS service provider website.
- User name/password: Input the user name and password got from the DDNS service provider. Make sure you have logged in the DDNS service provider website to register an account (user name and password).
- Interval: After DDNS boots up, it sends out refresh query regularly. The unit is minute.

Step 3 Click Apply or Save to complete setup.

Open a browser and input domain name, click Enter button.

The setting is right if you can view device WEB interface. Otherwise, please check the parameters.

#### 4.11.7 Sync Time

This function allows specified IP host to change device time in case several hosts are syncing time with the device.

Step 1 From main menu->Setting->Network->Sync time.

Enter Sync time interface. See Figure 4-123.

Step 2 Check the box to enable Sync time function.

Step 3 Refer to chapter 4.17.3 Security for setup information.

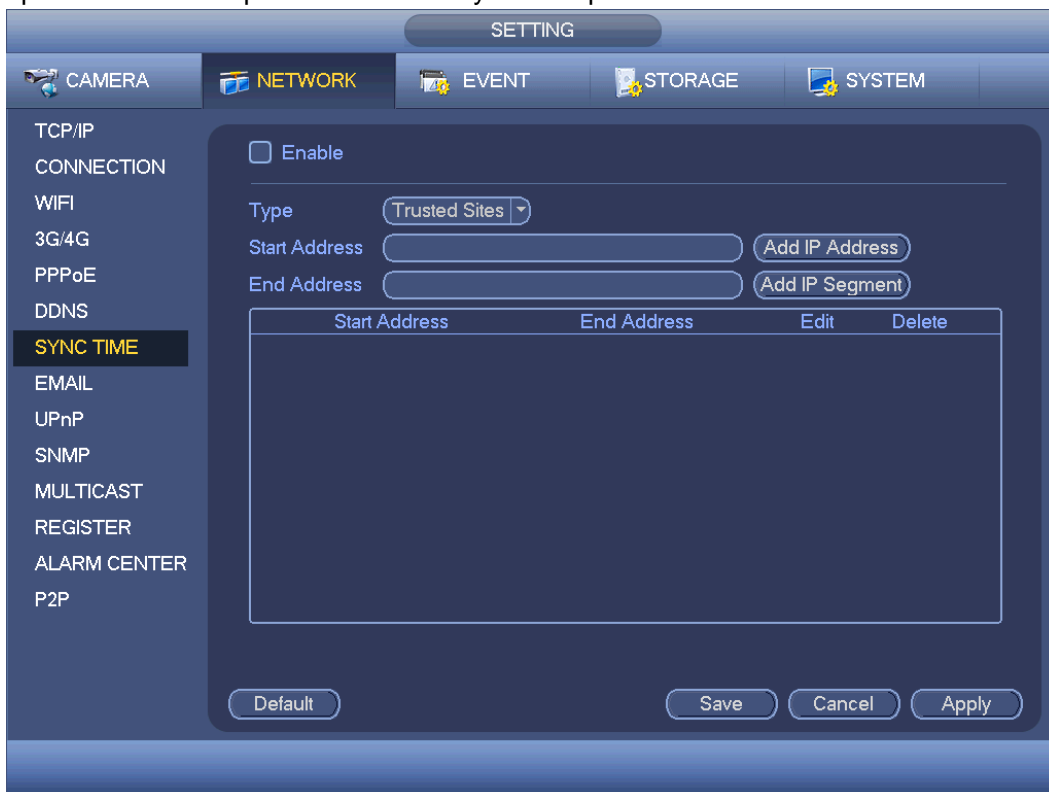


Figure 4-123

Step 4 Click Apply or Save to complete setup.



#### Note

If the DVR has enabled NTP service, the device will sync time with the NTP server regularly. The sync or change time operation of the IP address in the whitelist will be invalid, unless the NTP server and the IP address in the whitelist is the same.

### 4.11.8 Email

After you set email function, system can send out an email once there is an alarm, video detection event, abnormality event, intelligent event and etc.

Step 1 From main menu->Setting->Network->Email.

Enter email interface. See Figure 4-124.

Step 2 Set parameters.

- 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 address 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 addresses. System automatically filters same addresses if you input one receiver repeatedly.
- Encryption type: System supports NONE, SSL and TLS.
- 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. Please note system will not send out the email immediately when the alarm occurs. When the alarm, motion detection or the abnormality 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 abnormality events, which may result in heavy load for the email server.
- 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.
- Health email interval: The value ranges from 30 to 14440 minutes. System can send out the email to test as the interval you set here.



Figure 4-124

Step 3 Click Apply or Save to complete setup.

#### 4.11.9 UPnP

The UPnP protocol is to establish a mapping relationship between the LAN and the WAN.

##### Preparation

- Login the router, set router WAN IP address.
- Enable router UPnP function.
- Connect the DVR with the LAN port of the router.

Step 1 Input the router IP address in the LAN in Figure 4-116 (main menu->Setting->Network->TCP/IP).

Step 2 From main menu->Setting->Network->UPnP.  
Enter UPnP interface. See Figure 4-125.

Step 3 Set parameters.

- UPnP Enable/Disable: Turn on or off the UPnP function of the device.
- Status: When the UPnP is offline, it shows as "Searching". 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.
- 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 DVR.
- 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 4-126.

 **Note**

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.



The screenshot shows the 'SETTING' menu with 'NETWORK' selected. The 'UPnP' option is highlighted in the left sidebar. The main area displays the 'PAT' status as 'Disable'. Below this, there are input fields for 'LAN IP' and 'WAN IP', both set to '0 . 0 . 0 . 0'. The 'PAT Table' is shown as a table with 7 rows and 6 columns: 'Service Name', 'Protocol', 'Int.Port', 'Ext.Port', and 'Edit'. The table contains the following data:

	Service Name	Protocol	Int.Port	Ext.Port	Edit
1	HTTP	TCP	80	80	
2	TCP	TCP	37777	37777	
3	UDP	UDP	37778	37778	
4	RTSP	UDP	554	554	
5	RTSP	TCP	554	554	
6	SNMP	UDP	161	161	
7	HTTPS	TCP	443	443	

At the bottom of the interface, there are buttons for 'Default', 'Save', 'Cancel', and 'Apply'.

Figure 4-125



Figure 4-126

Step 4 Click Apply or Save to complete setup.

After setting UPnP, open the browser and then input `http://WAN IP: External IP port` to access the device.

Step 5

#### 4.11.10 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.

#### Preparation

- Install corresponding software tool such as MIB Builder and MG-SOFT MIB Browser.
- Contact technical engineer to get two MIB files of the current version.

Step 1 From main menu->Setting->Network->SNMP.

Enter SNMP interface. See Figure 4-127.





Figure 4-127

Step 2 Set parameters.

- Enable: Check the box to enable SNMP function.
- Version: Check the box and then select version. DVR can process the corresponding version information.
- SNMP port: The agent applications listening port on the DVR.
- Read/write community: The read/write community string the agent applications supports.
- Trap address: The Trap information destination address of the agent applications on the DVR.
- Trap port: The Trap information destination port of the agent applications on the DVR.

Step 3 In Figure 4-127, 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.

Step 4 Compile the above mentioned two MIB file via the software MIB Builder.

Step 5 Run MG-SOFT MIB Browser to load the file from the previous step to the software.

Step 6 Input the device IP you want to manage in the MG-SOFT MIB Browser. Please set the corresponding version for your future reference.

Step 7 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.

#### 4.11.11 Multicast

When you are access the device and view the video, the error occurs if the connected

device amount has reached the threshold. In this situation, please set multicast IP to use multicast protocol to access.

Step 1 From main menu->Setting->Network->Multicast.

Enter multicast interface. See Figure 4-128.

Step 2 Set parameters.

- Enable: Check the box here to enable multicast function.
- IP address: The multicast IP address (0.0.0.0~255.255.255.255).
- Port: The multicast port value(1025~65000).

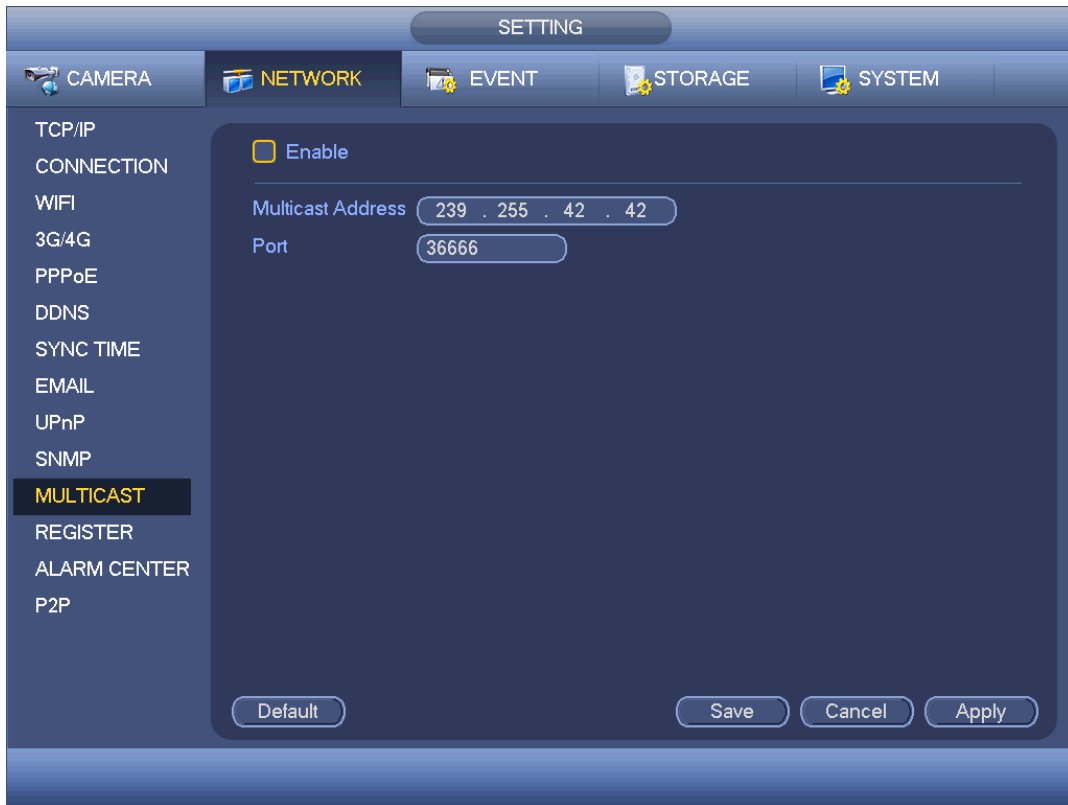


Figure 4-128

Step 3 Click Apply or Save to complete setup.

Use WEB to login, you can see the following interface. See Figure 4-132. Select login type as the Multicast from the dropdown list. After you 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 video.

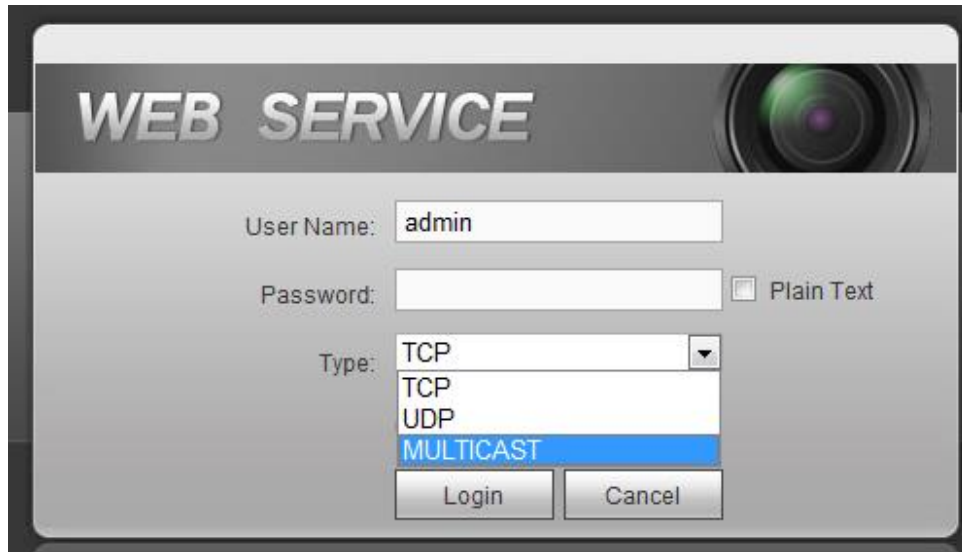


Figure 4-129

#### 4.11.12 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 DVR 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.

Step 1 From main menu->Setting->Network->Register.

Enter register interface. See Figure 4-130.

Step 2 Set parameters.

- Enable: Check the box to enable auto register function.
- Server IP address: The server IP address or server domain name you want to register.
- Port: The auto registration port value of the server.
- Sub-device ID: The device ID allocated by the server.



Figure 4-130

Step 3 Click Apply or Save to complete setup.

#### 4.11.13 Alarm Center

It is to set alarm center server. Once there is an alarm event, system can send out the alarm to the alarm center. Please refer to chapter 4.14 Alarm events to set upload function.

Step 1 From main menu->Setting->Network->Alarm center.

Enter alarm center interface. See Figure 4-131.

Step 2 Set parameters.

- Enable: Check the box to enable alarm center function.
- Host IP/Port: The IP address and the communication port of the PC that have installed the alarm client.
- Self-report time: Select alarm upload time from the dropdown list.



Figure 4-131

Step 3 Click Apply or Save to complete setup.

#### 4.11.14 P2P

You can use cellphone client or the management platform to access the device.

- You can use your cell phone to scan the QR code and add it to the cell phone client.
- Via the SN from scanning the QR code, you can access the device in the WAN.

Please refer to the P2P operation manual included in the resources CD.

From main menu->Setting->Network->P2P, you can go to the following interface, the P2P interface is shown as in Figure 4-132.

Refer to chapter 4.1.4.3 P2P for detailed information.



Figure 4-132

## 4.12 Account Manager

It is to manage users, user group and ONVIF user, set admin security questions.

### Note

- For the user name, the string max length is 31-byte, and for the user group, the string max length is 15-byte. The user name can only contain English letters, numbers and “\_”, “@”, “.”.
- The default user amount is 64 and the default group amount is 20. System account adopts two-level management: group and user. The user authorities shall be smaller than group authorities (The **admin** user authorities are set by default).
- For group or user management, there are two levels: admin and user. The user name shall be unique and one user shall only belong to one group.

### 4.12.1 Add User

Step 1 From main menu->Setting->System->Account->User.  
Enter user interface. See Figure 4-133.



Figure 4-133

Step 2 Click Add user button in Figure 4-133.

The interface is shown as in Figure 4-134.



Figure 4-134

Step 3 Input the user name, password, select the group it belongs to from the dropdown list. Then you can check the corresponding rights for current user.

 **Note**

For convenient user management, usually we recommend the general user right is lower than the admin account.

Step 4 Click the Set button after the period, you can set valid period to use current account. See Figure 4-135.



Figure 4-135

Step 5 Click Set button, you can set six periods in one day. See Figure 4-136.

Step 6 Check the box after the period, you can enable current setup.

 **Note**

Check the box before the week; it is to save period settings to selected week day.






Figure 4-136

Step 7 Click OK button.

#### 4.12.2 Modify user

From main menu->Setting->System->Account->User, click , you can go to the following interface to change user information. See Figure 4-137.

Modify User

User Name: 1      User MAC:

Modify Password:

Old Password:

New Password:

Confirm Password:

Group: admin

Memo:

Period: Setting

Authority: \_\_\_\_\_

**System**    Playback    Monitor

<input checked="" type="checkbox"/> All	<input checked="" type="checkbox"/> SYSTEM	<input checked="" type="checkbox"/> SYSTEM INFO	<input checked="" type="checkbox"/> MANUAL CONT...
<input checked="" type="checkbox"/> ACCOUNT	<input checked="" type="checkbox"/> EVENT	<input checked="" type="checkbox"/> NETWORK	<input checked="" type="checkbox"/> CAMERA
<input checked="" type="checkbox"/> STORAGE	<input checked="" type="checkbox"/> BACKUP	<input checked="" type="checkbox"/> DEVICE MAINT...	
<input checked="" type="checkbox"/> SECURITY			

Save    Cancel

Figure 4-137

For **admin** user, you can change the email, enable/disable unlock pattern, change password prompt question, set security questions. See Figure 4-138.

Modify User

User Name: admin      User MAC:

Modify Password:

Old Password:

New Password:

Confirm Password:

Group: admin

Memo: admin 's account

Unlock Pattern

Prompt Question: c1111111      Security Questions:


Authority: \_\_\_\_\_

**System**    Playback    Monitor

<input checked="" type="checkbox"/> All	<input checked="" type="checkbox"/> SYSTEM	<input checked="" type="checkbox"/> SYSTEM INFO	<input checked="" type="checkbox"/> MANUAL CONT...
<input checked="" type="checkbox"/> ACCOUNT	<input checked="" type="checkbox"/> EVENT	<input checked="" type="checkbox"/> NETWORK	<input checked="" type="checkbox"/> CAMERA
<input checked="" type="checkbox"/> STORAGE	<input checked="" type="checkbox"/> BACKUP	<input checked="" type="checkbox"/> DEVICE MAINT...	
<input checked="" type="checkbox"/> SECURITY			

Save    Cancel

Figure 4-138

- Input email information and then click Save, it is to set/change email address.
- Check the box to enable unlock pattern and then click , click Save to change unlock pattern.
- Set security question

Step 1 Click Security question, enter the following interface. See Figure 4-139.

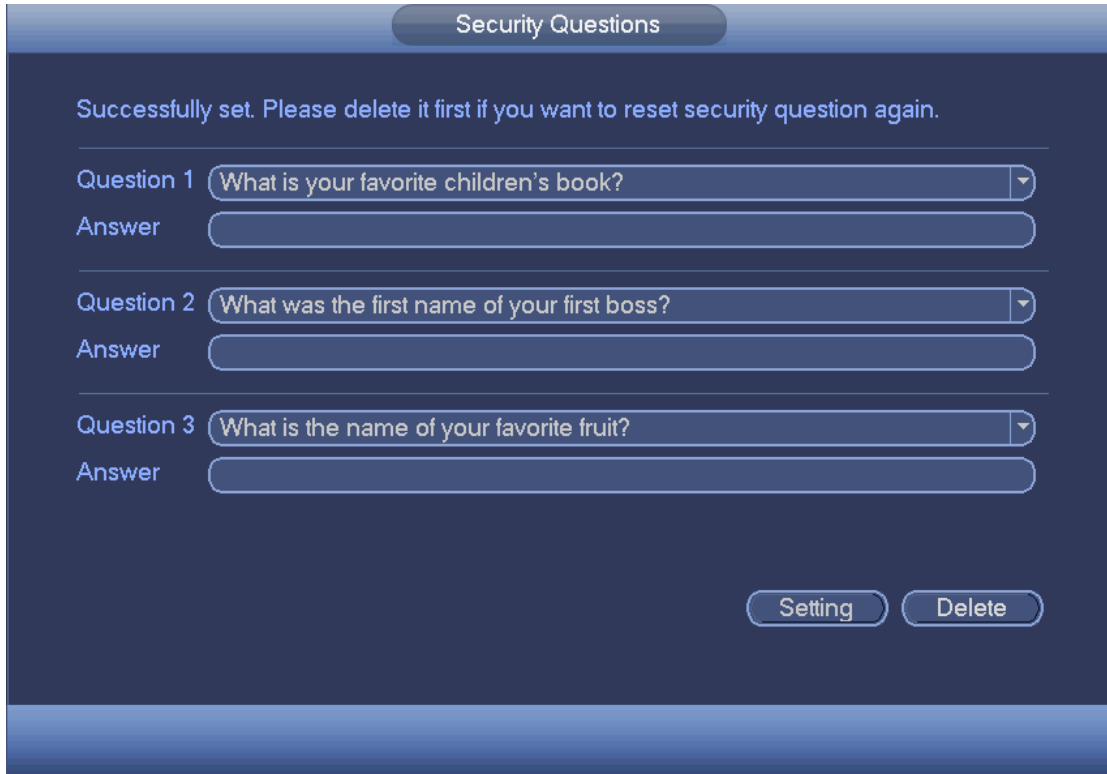


Figure 4-139

Step 2 Input answers and then click Save button.

After successfully set security questions, you can answer the security questions to reset admin password.

#### Note

Select security questions from the dropdown list and then input the proper answers, click Delete button to reset security questions and answers again.

### 4.12.3 Change Password

In Figure 4-137, check the Modify password box, you can change password. Please input old password, and then input new password twice to confirm.

- Password/confirm password: The password ranges from 8 to 32 digitals. It can contain letters, numbers and special characters (excluding “”, “”, “,”, “:”, “&”). The password shall contain at least two categories. Usually we recommend the strong password.



WARNING

**STRONG PASSWORD RECOMMENDED-For your device own safety, please create a strong password of your own choosing. We also recommend you change your password periodically especially in the high security system.**

#### 4.12.4 Add/Modify Group

Step 1 From main menu->Setting->System->Account->Group.

Enter add group interface. See Figure 4-140.



Figure 4-140

Step 2 Click add group button in Figure 4-140.

Enter Add group the interface. See Figure 4-141.

Step 3 Input group name and then input some memo information if necessary. Check the box to select authorities.



Figure 4-141

#### 4.12.5 ONVIF User

When the camera from the third party is connected with the DVR via the ONVIF user, please use the verified ONVIF account to connect to the DVR. Here you can add/delete/modify user

##### Note

The default ONVIF user is **admin**. It is created after you initialize the DVR.

Step 1 From main menu->Setting->System->Account->ONVIF User.  
Enter ONVIF interface. See Figure 4-142.

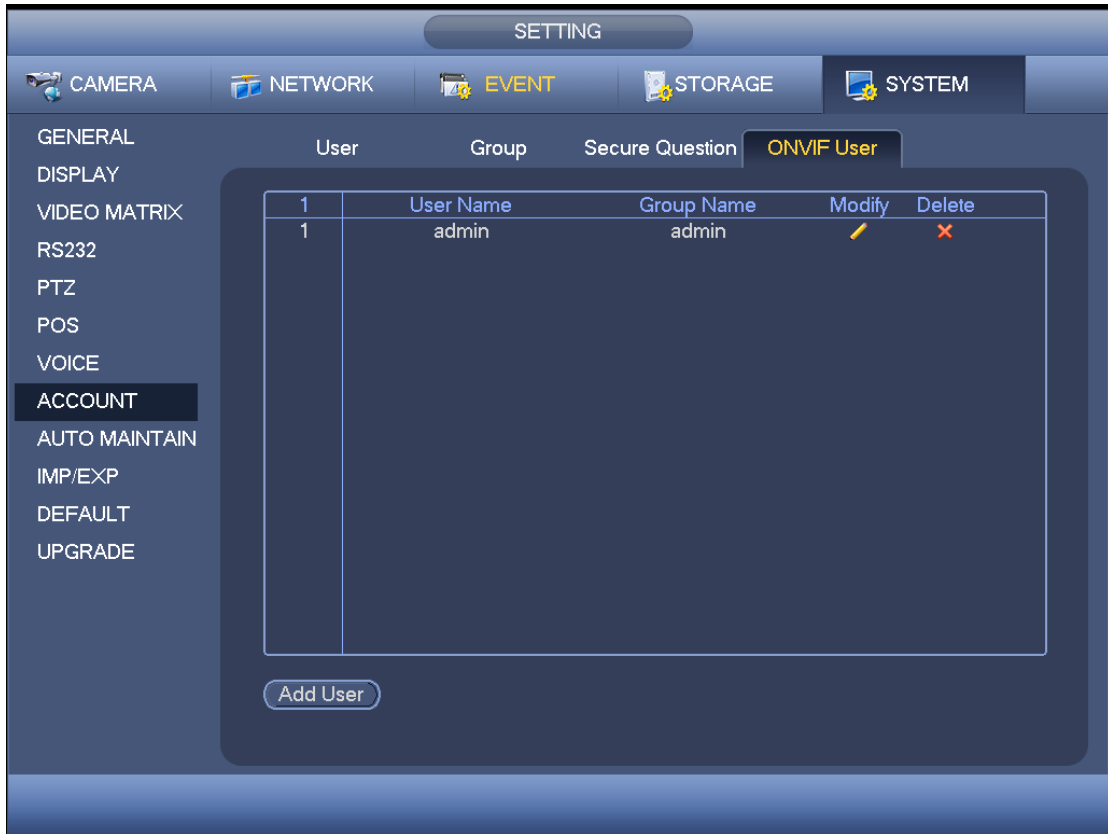


Figure 4-142

- Step 2 Click Add user button.  
 Enter Add user interface. See Figure 4-143.

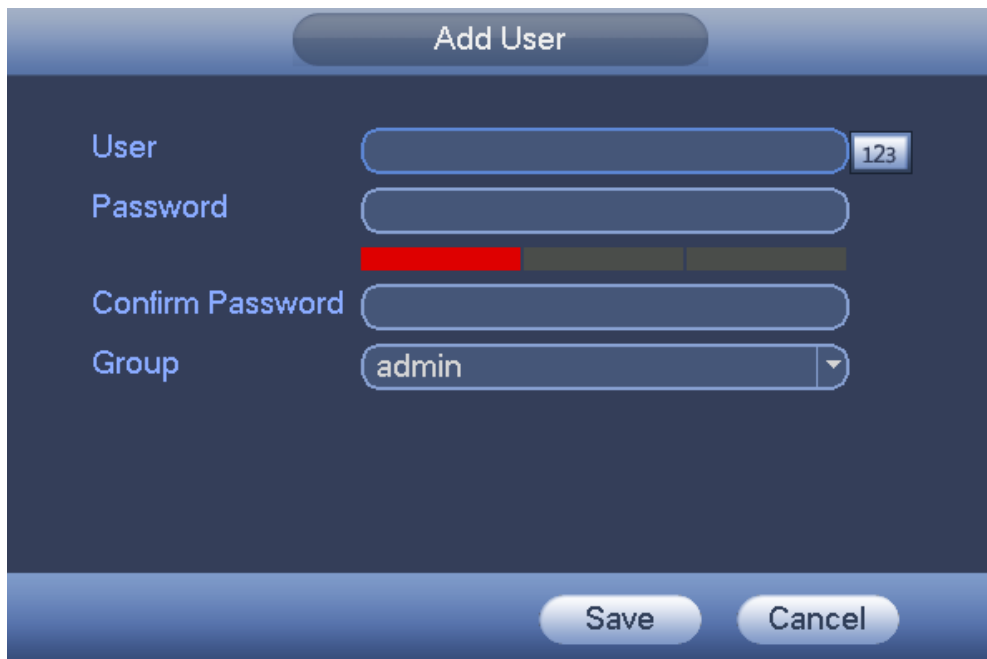




Figure 4-143

- Step 3 Set user name, password and then select group from the dropdown list.  
 Step 4 Click Save to complete setup.

 **Note**

Click  to change user information, click  to delete current user.

## 4.13 Voice Manager

The audio function is to manage audio files and set schedule play function. It is to realize audio broadcast activation function.

### 4.13.1 File Manager

It is to add audio file, listen to the audio file, or rename/delete audio file. Here you can also set audio volume.

Step 1 From main menu->Setting->System->Voice->File Manager.

Enter file manager interface. See Figure 4-144.

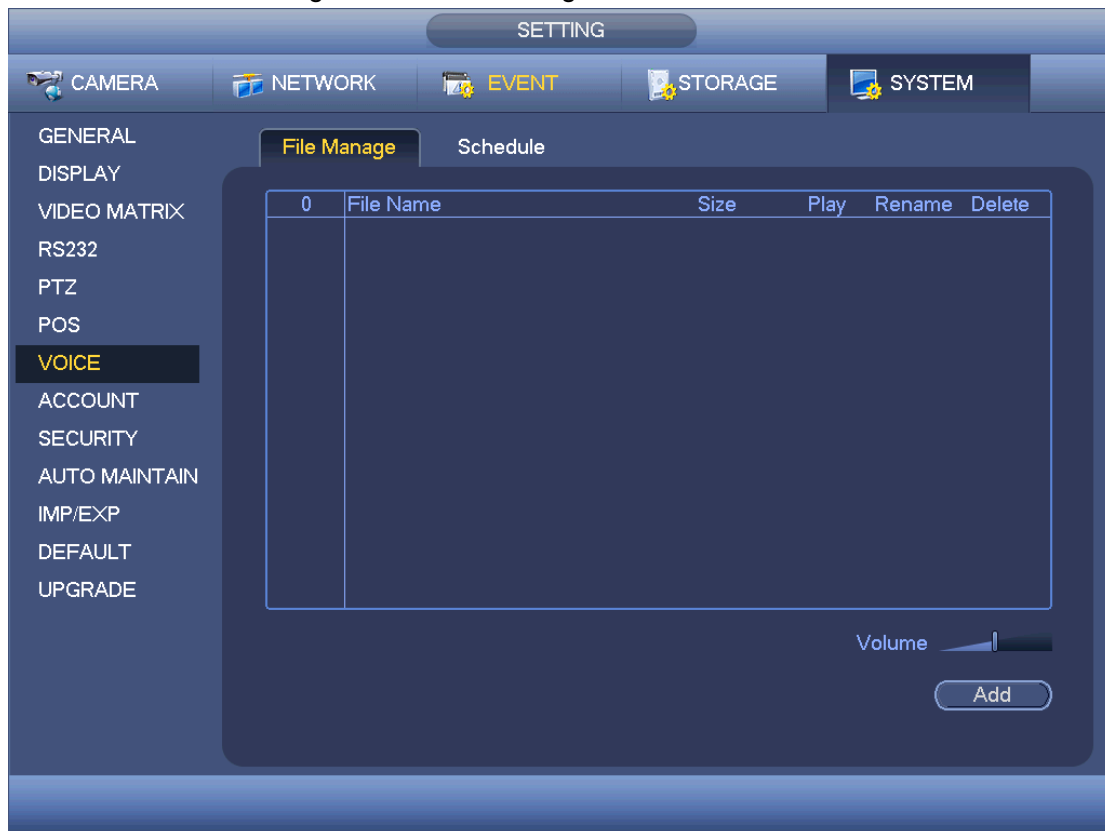


Figure 4-144

Step 2 Click Add button, it is to add audio file and import the audio file via the USB device. See Figure 4-145.

The newly added audio file will be saved on the HDD of the device; you do not need to connect to USB device again.



Figure 4-145

Step 3 Click OK button.

#### 4.13.2 Schedule

It is to set schedule broadcast function. You can play the different audio files in the specified periods.

Step 1 From main menu->Setting->System->Voice->Schedule.

Enter Schedule interface. See Figure 4-146.

Step 2 Set parameters.

- Period: There are six periods. Check the box to enable current setup.
- File name: Select audio file you want to play.
- Interval: It is the audio file repeated interval in the specified period.
- Repeat: It is to set audio file repeat times in the specified period.
- Output port: There are two options: MIC (default)/audio. When reuse the MIC port and bidirectional talk port, the bidirectional port has the higher priority. Please make sure your purchased product has audio port, otherwise, you cannot use this function.

Step 3 Click Apply or Save to complete setup.



#### Note

- The audio file end time depends on the audio file size and the interval setup.
- Priority: Bidirectional talk>Event trigger alarm>Trial listening>Audio schedule broadcast.





Figure 4-146

## 4.14 Alarm Events



### CAUTION

For the channel connected to the analog fisheye, the intelligent function is null. Please refer to the interface of your purchased product for detailed information.

### 4.14.1 Video Detect

Video detect includes motion detect, video loss, tampering, scene changing, diagnosis.

#### 4.14.1.1 Motion Detect

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

Step 1 From main menu->Setting->Event->Video detect->Motion Detect.





Enter motion detect interface. See Figure 4-147.

Step 2 Set parameters.

- 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.
- Enable PIR: The PIR function is enabled by default if the connected remote device supports the PIR function. When the PIR function is on, motion detection function is

on by default. The motion detect event occurs when these two function are enabled at the same time. If the PIR function is disabled, check the enable box to enable the general motion detect function.

 **Note**

- ◇ The channel type shall be CVI if you want to enable PIR function.
- ◇ If the remote device does not support PIR function, the PIR item on the interface is grey or is hiding. That is to say, the PIR function is null.
- Region: Click select button, the interface is shown as in Figure 4-148. 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.
- Sensitivity: System supports 6 levels. The sixth level has the highest sensitivity.
- 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.
- Period: Click set button, you can see an interface is shown as in Figure 4-150. Here you can set motion detect period. System only enables motion detect operation in the specified periods. It is not for video loss or the tampering. There are two ways for you to set periods. Please note system only supports 6 periods in one day.
- ◇ In Figure 4-150, Select icon  of several dates, all checked items can be edited together. Now the icon is shown as . Click  to delete a record type from one period.
- ◇ In Figure 4-150. Click button  after one date or a holiday, you can see an interface shown as in Figure 4-151. There are four record types: regular, motion detection (MD), Alarm, MD & alarm.
- 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 center) if you enabled current function.
- Send email: System can send out email to alert you when an alarm occurs.
- Record channel: System auto activates motion detection channel(s) to record once an alarm occurs. Please make sure you have set MD record in Schedule 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. Such as go to preset, tour & pattern when there is an alarm. Click “select” button, you can see an interface is shown as in Figure 4-149.
- 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 alarm occurs. System one-window tour.
- Snapshot: You can enable this function to snapshot image when a motion detect alarm occurs.
- Video matrix: Check the box here to enable this function. When an alarm occurs, VIDEO OUTPUT port displays device video output. It displays video (1-window tour) from alarm activation channel you select at the Record channel interface. It has high priority than the tour setup in Main menu->Setting->System->Video matrix. Please note this function is for some series product only.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when alarm occurs.
- Log: Check the box here, system can record motion detect log.
- Test: Click it to test current motion detect setup (do not need to save). Click Select button after Region, you can set motion detect area.
- Voice prompts: Check the box here to trigger audio broadcast function. You can select specified audio file here. System can play the audio file once the corresponding event occurs.

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

In Figure 4-148, 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.

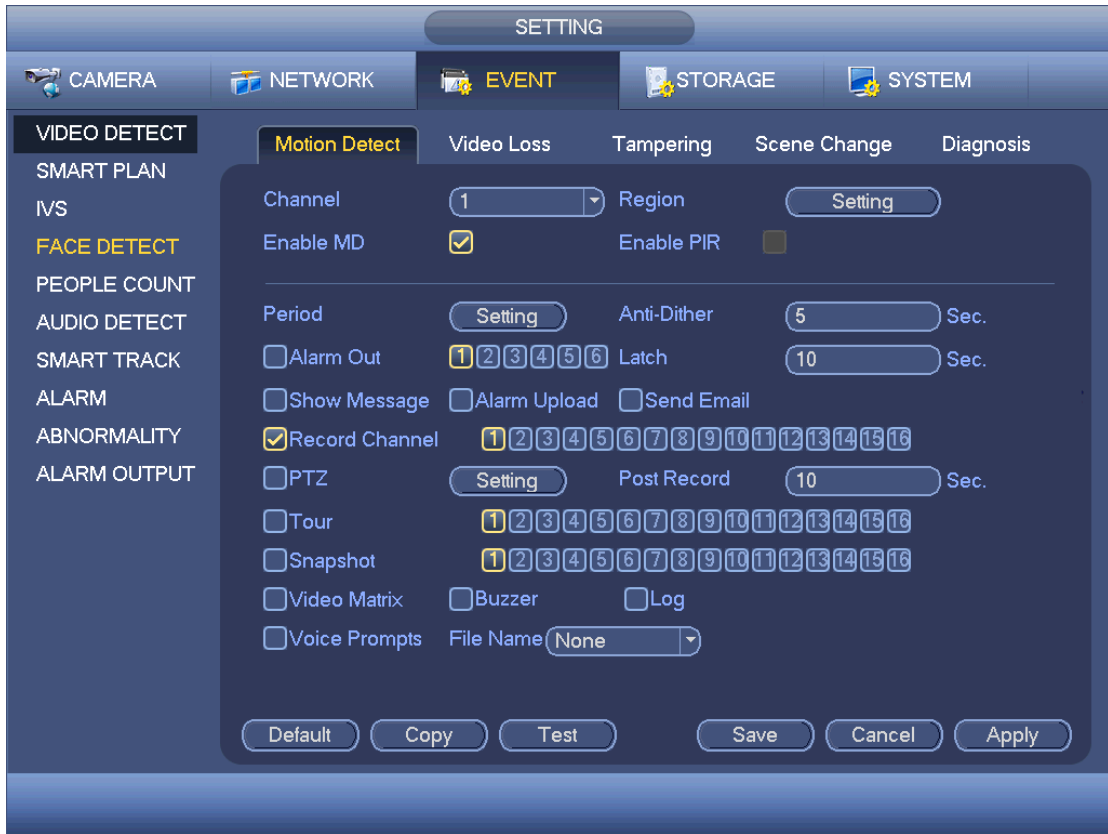


Figure 4-147

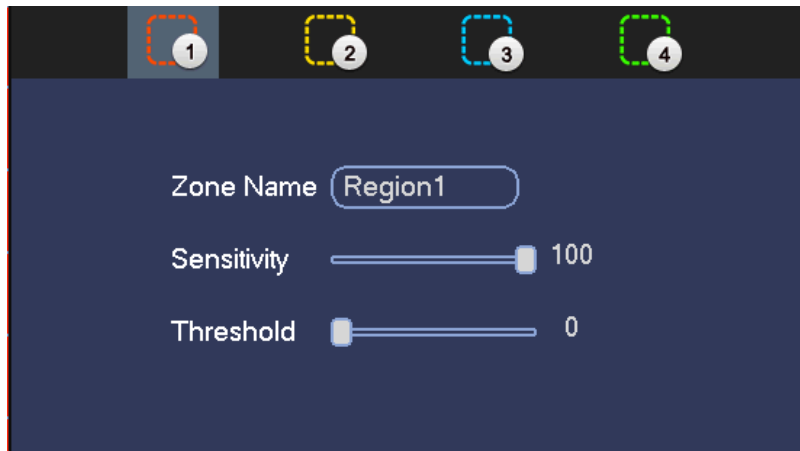


Figure 4-148

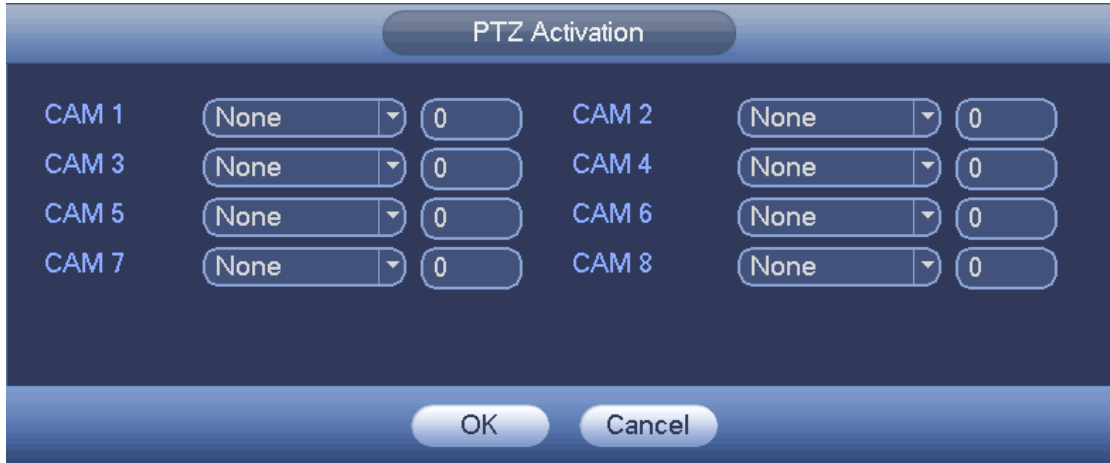


Figure 4-149

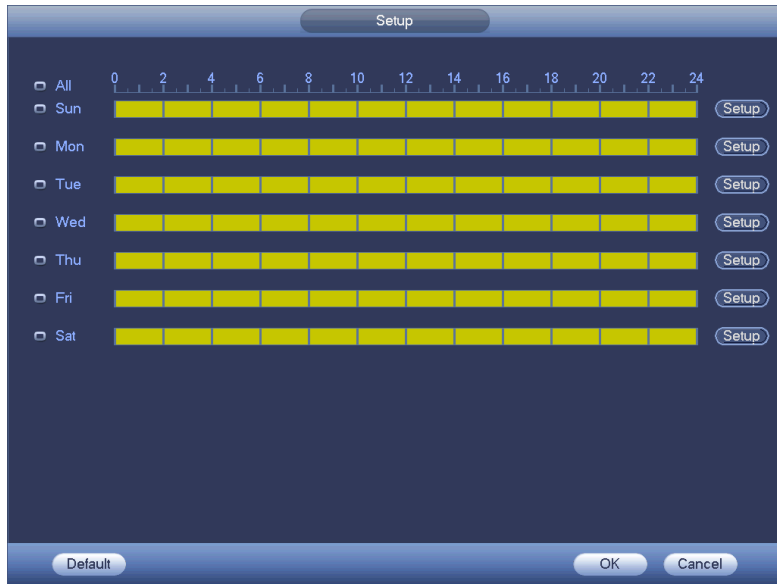


Figure 4-150



Figure 4-151

Step 3 Click Apply or Save to complete setup.

#### 4.14.1.2 Video Loss

This function allows you to be informed when video loss phenomenon occurred. You can enable alarm output channel and then enable show message function.

Step 1 From main menu->Setting->Event->Video detect->Video loss.

Enter motion detect interface. See Figure 4-152.

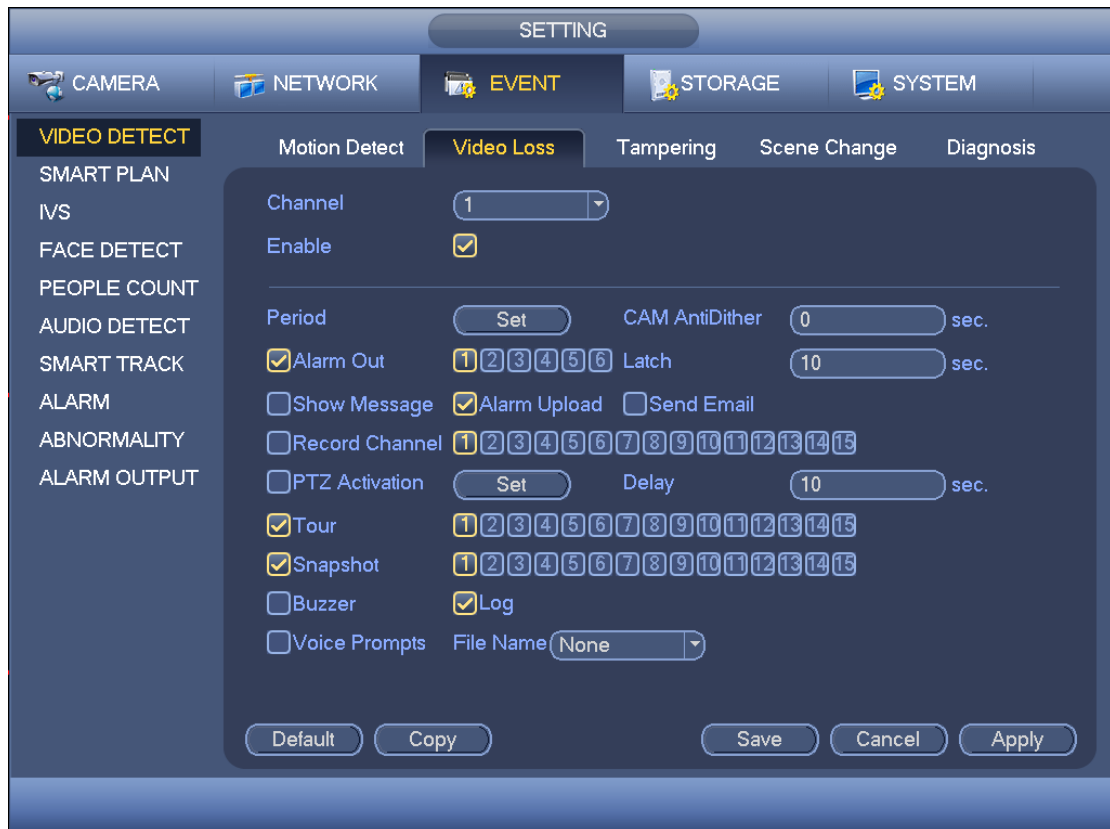


Figure 4-152

Step 2 Video loss does not have region and sensitivity. Please refer to chapter 4.14.1.1 motion detection for detailed information.

 **Note**

Camera anti-dither: Once the video loss alarm disappears in the specified period, system does not trigger an alarm.

Step 3 Click Apply or Save to complete setup.

### 4.14.1.3 Tampering

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.

Step 1 From main menu->Setting->Event->Video detect->Video loss.

Enter Video loss interface. See Figure 4-153.



Figure 4-153

- Step 2 Please refer to chapter 4.14.1.1 motion detection for detailed information.  
 Step 3 Click Apply or Save to complete setup.

#### 4.14.1.4 Scene Changing

When the detected scene has changed, system can generate an alarm.

- Step 1 From main menu->Setting->Event->Video detect->Scene change.  
 Enter scene changing interface. See Figure 4-154.





Figure 4-154

Step 2 Please refer to chapter 4.14.1.1 motion detection for detailed information.

Step 3 Click Apply or Save to complete setup.

#### 4.14.1.5 Diagnosis

System can trigger an alarm when the stripe, noise, color cast, out of focus, over exposure event occurred.

Step 1 From main menu->Setting->Event->Video detect->Diagnosis.

Enter diagnosis interface. See Figure 4-155.



Figure 4-155

Step 2 Select a channel from the dropdown list and check the box to enable this function.

Step 3 Click the Rule Set button, or move the cursor to Set button and then click the Enter button on the front panel, the interface is shown as below. See Figure 4-156.

Step 4 Check corresponding type and then input alarm threshold.

- Stripe: The strip occurs when the device is old or there is electronic interference. There may be cross strip, vertical strip, slanting strip and etc.
- Noise: The video noise refers to the blurry video, poor video quality. It may result from the optical system distortion or the hardware problem during the video transmission when recording.
- Color cast: Usually the video is color containing RGB. When these three colors displayed in abnormal rate, we can say color cast occurred.
- Out of focus: The clear video presents abundant video details. The video definition decreases when the distortion event occurs. The out of focus event may result from many sources such as video transmission, processing and etc.
- Over exposure: The color brightness refers to the image pixel intensity. Black is the darkest and the white is the brightest. We use number 0 to stand for black and use number 255 to stand for white. Once the brightness threshold of the whole image has exceeded the threshold value, it means the image is over exposure.
- Threshold: The value ranges from 1 to 30. System can generate an alarm once the

value is higher than the threshold you set here.

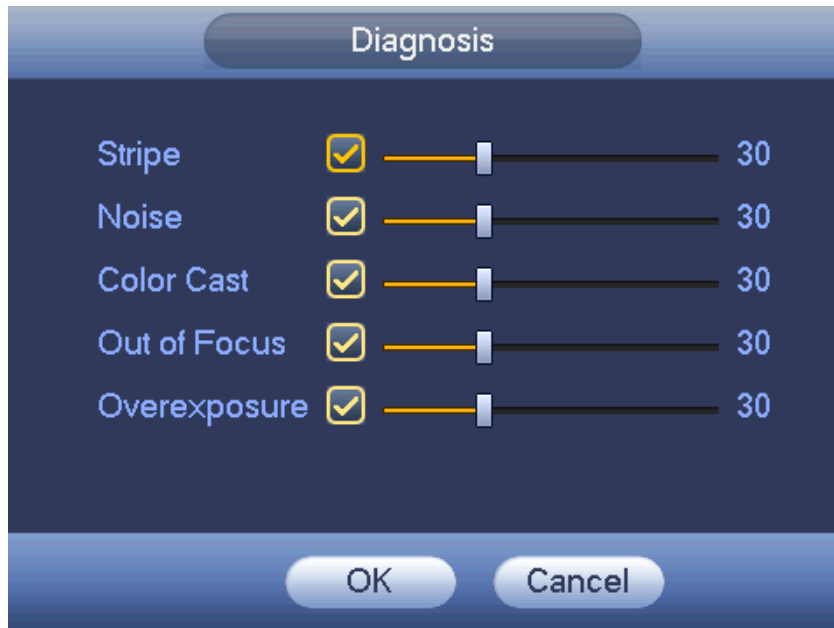


Figure 4-156

Step 5 Click OK to save threshold settings.

Enter diagnosis interface.

Step 6 Please refer to chapter 4.14.1.1 motion detection for detailed information

Step 7 Click Apply or Save to complete setup.

#### 4.14.2 Smart Plan (Optional)

**The smart plan is for the smart network camera. If you do not set a rule here, you cannot use the intelligent functions in IVS (Chapter 4.14.3), Face detection (Chapter 4.14.4) and People counting (Chapter 4.14.4) when you are connecting to a smart network camera.**

In this interface, you can quickly add an intelligent rule for one preset. The intelligent rule includes human face detection, behavior analytics and people counting.

Step 1 From main menu->Setting->Event->Smart plan.

Smart plan interface is shown as below. See Figure 4-157.



Figure 4-157

Step 2 Select a channel number from the dropdown list and set the smart plan.

Step 3 Click Apply or Save to complete setup.

#### 4.14.3 IVS (Optional)

**Please contact your service engineer or local retailer if you cannot use IVS function.**

Once any object violate the rule, the DVR can trigger an alarm and alert you as the specified alarm mode.

Here you can set IVS rule. System can generate an alarm as the mode you previously set once there is any object violates the rule

Step 1 From main menu->Setting->Event->IVS.

Enter IVS interface. See Figure 4-158.

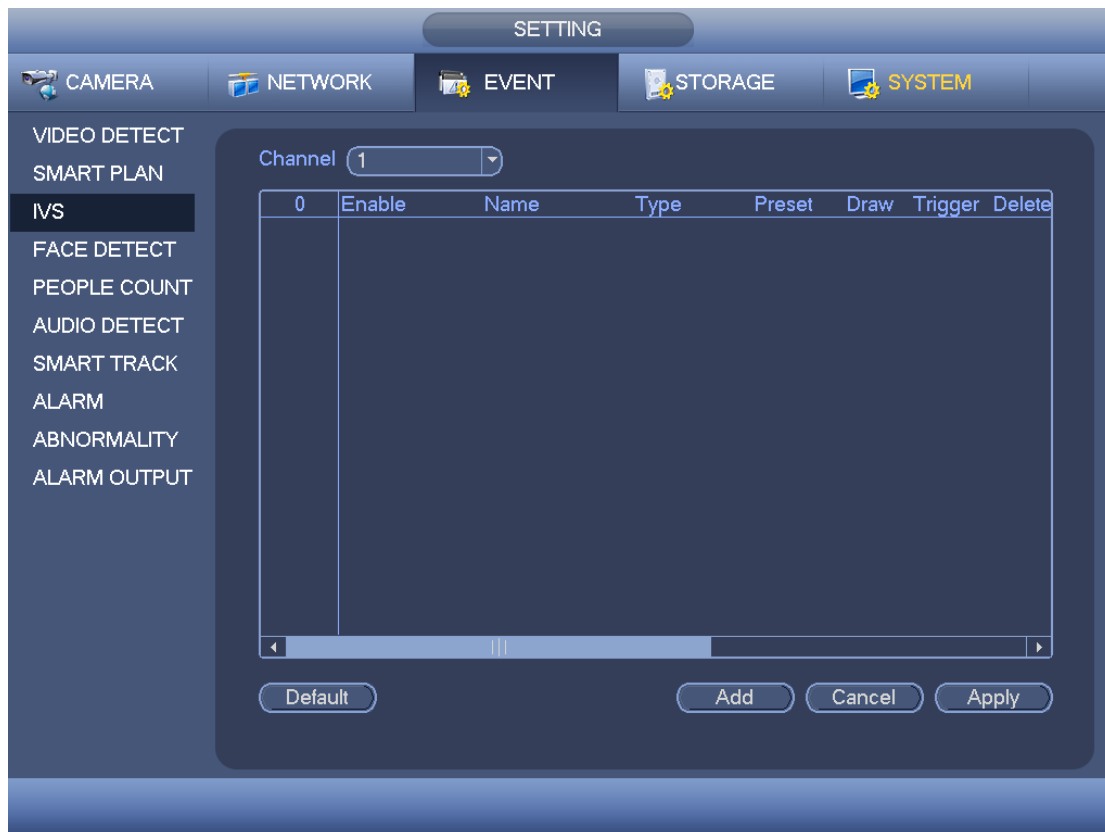


Figure 4-158

- Step 2 Select a channel from the dropdown list.
- Step 3 Click Add button to add a rule and then select a rule type from the dropdown list.
- Step 4 Set corresponding parameters.
- Step 5 Check the box to enable current rule.
- Step 6 Click Apply or Save to complete setup.

#### 4.14.3.1 Tripwire (Optional)

System generates an alarm once there is any object crossing the tripwire in the specified direction.

- The tripwire supports customized setup. It can be a straight line or a curve.
- Support one-direction or dual-direction detection.
- Support several tripwires at the same scene suitable for complicated environment.
- Support object size filter.

Step 1 From main menu->Setting->Event->IVS, click Add button to add a rule and select the rule type as tripwire.

The interface is shown as below. See Figure 4-159.

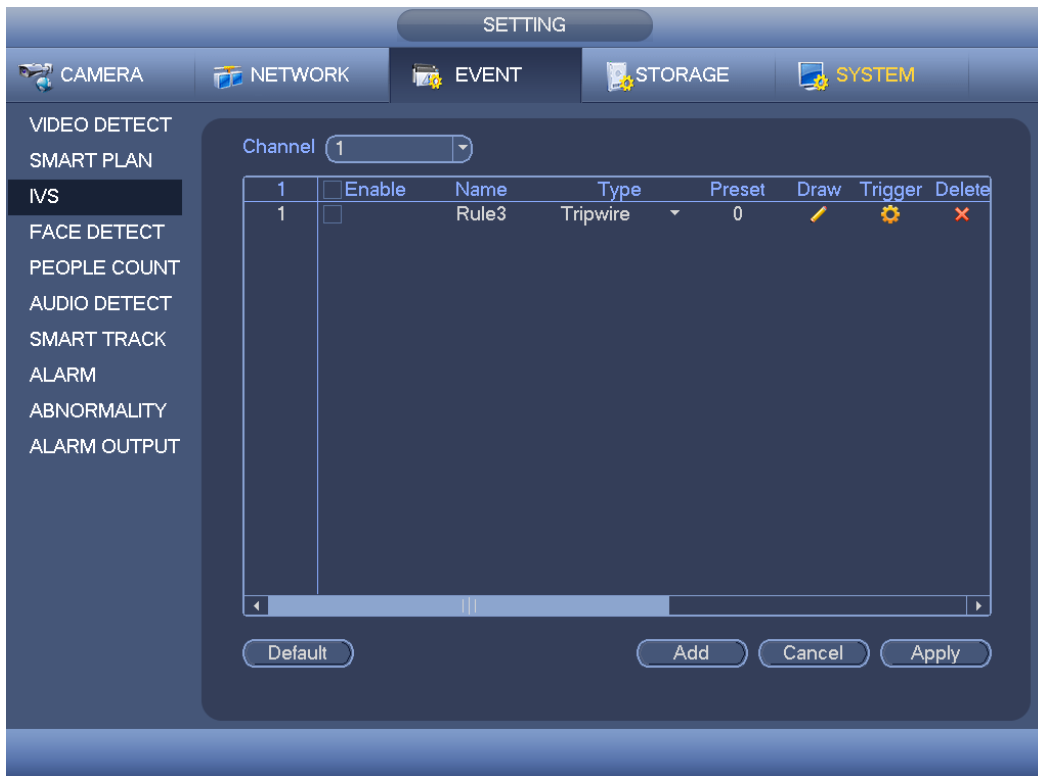



Figure 4-159

Step 2 Draw tripwire.

1. Click Draw button  to draw the tripwire. See Figure 4-160.







Figure 4-160

2. Select direction, and then input customized rule name.
  - Name: Input customized rule name.
  - Direction (L→R/R→L/Both): System can generate an alarm once there is any object crossing in the specified direction.
  - Target filter: Click , you can set filter object size. Each rule can set two sizes (min size/max size). Once the object is smaller than the min size or larger than the max size, there is no alarm. Please make sure the max size is larger than the min size.
3. Left click mouse to draw a tripwire. The tripwire can be a direct line, curve or polygon. Right click mouse to complete.
4. Click OK.  
Complete drawing tripwire.

Step 3 Click  to set parameters.

Enter triggered parameters interface. See Figure 4-161.

Step 4 Set parameters.

- Period: Click set button, you can see an interface is shown as in Figure 4-150. Here you can set tripwire period. System only enables tripwire operation in the specified periods. There are two ways for you to set periods. Please note system only supports 6 periods in one day.
- ✧ In Figure 4-150, Select icon  of several dates, all checked items can be edited together. Now the icon is shown as . Click  to delete a record type from one period.
- ✧ In Figure 4-150. Click button  after one date or a holiday, you can see an interface shown as in Figure 4-151.
  - Alarm output: when an alarm occurs, system enables peripheral alarm devices.
  - Latch: when tripwire 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.
  - Send email: System can send out email to alert you when an alarm occurs.
  - Record channel: System auto activates tripwire channel(s) to record once an alarm occurs. Please make sure you have set intelligent record in Schedule 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. Such as go to preset, tour & pattern when there is an alarm. Click “set” button, you can see an interface is shown as in Figure 4-162.
  - 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. Please go to main menu->Setting->System->Display->Tour to set tour type and interval (chapter 4.2.9)
- Snapshot: You can enable this function to snapshot image when a motion detect alarm occurs.
- Video matrix: Check the box here to enable this function. When an alarm occurs, VIDEO OUTPUT port displays device video output. It displays video (1-window tour) from alarm activation channel you select at the Record channel interface. It has high priority than the tour setup in Main menu->Setting->System->Video matrix. Please note this function is for some series product only.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when an alarm occurs.
- Log: Check the box here, system can record corresponding alarm log.
- Voice prompts: Check the box here to trigger audio broadcast function. You can select specified audio file here. System can play the audio file once the corresponding event occurs.



Figure 4-161



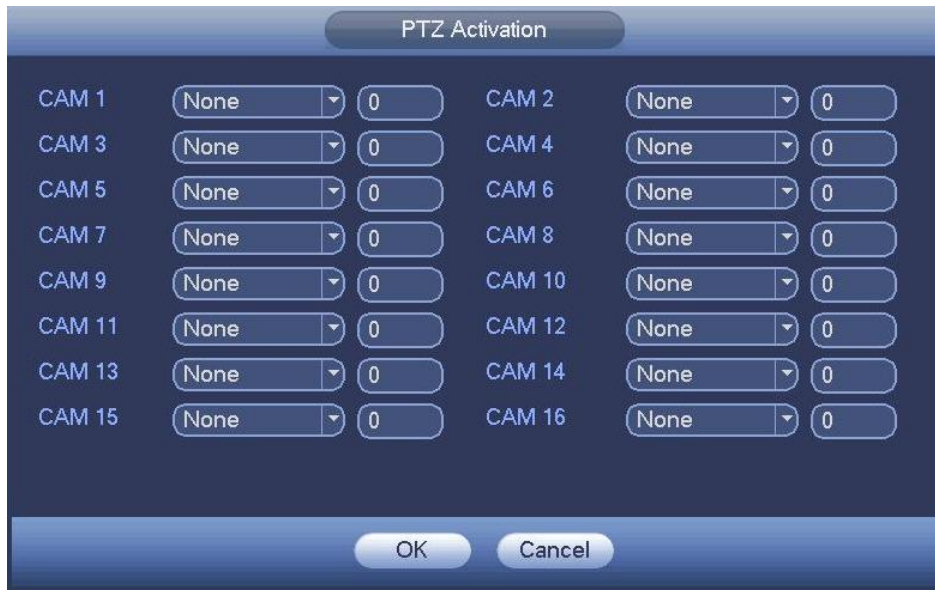


Figure 4-162

Step 5 Click OK button in Figure 4-161.

Device goes back to Figure 4-159.

Step 6 Check the Enable box to enable tripwire function. Click Apply or Save to complete setup.

Device begins tripwire detection.

#### 4.14.3.2 Intrusion (Cross warning zone) (Optional)

System generates an alarm once there is any object entering or exiting the zone in the specified direction.

- System supports customized area shape and amount.
- Support appear/cross detection.
- Can detect the moving object operation in the specified zone, customized trigger amount and staying time.
- Support objects filter function.

Step 1 From main menu->Setting->Event->IVS, click Add button and then select type as intrusion, the interface is shown as below. See Figure 4-163.

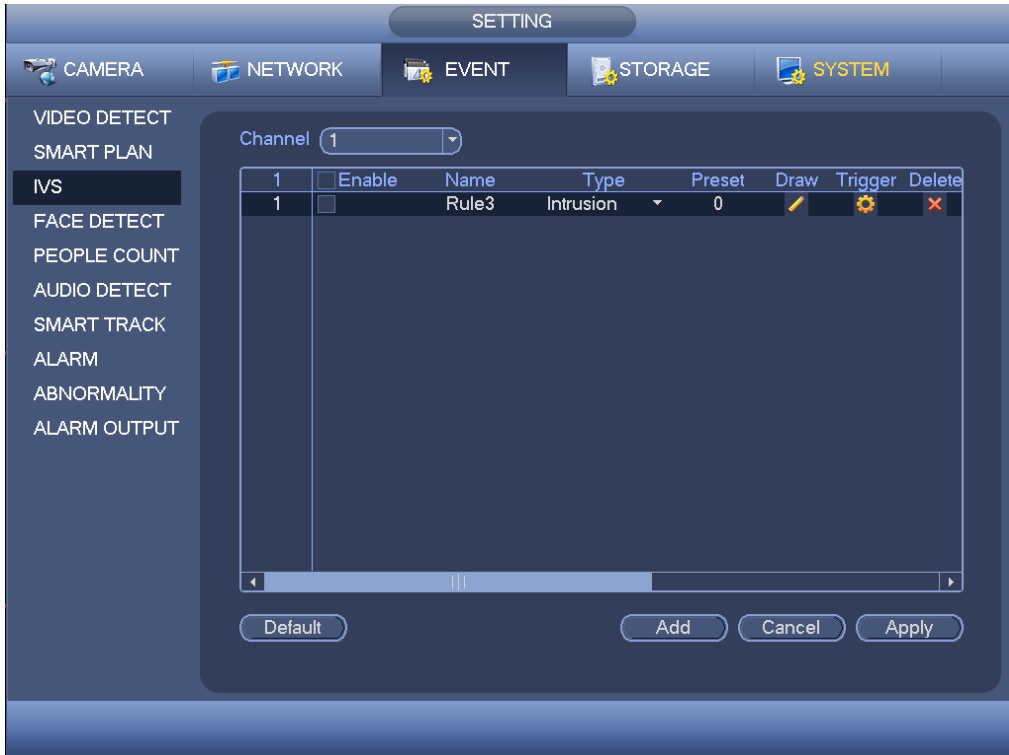


Figure 4-163

Step 2 Draw the zone.

1. Click draw button to draw the zone. See Figure 4-164.

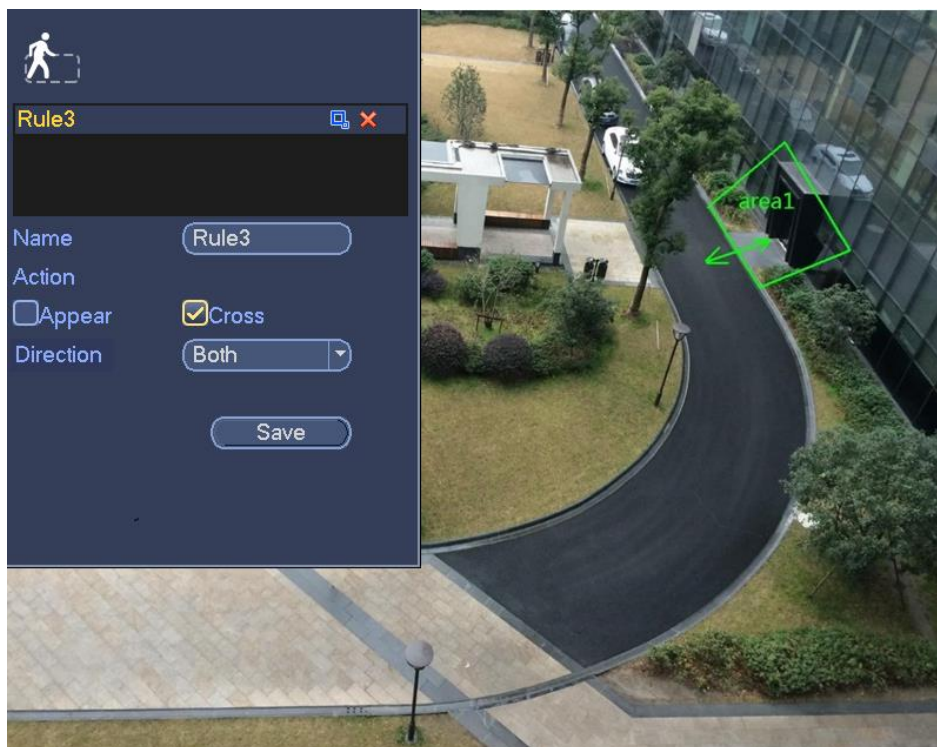




Figure 4-164

2. Select direction, and then input customized rule name.
  - Name: Input customized rule name.
  - Action: You can set intrusion action: appear/cross.
  - Direction (Entry/Exit/Both): System can generate an alarm once there is any object crossing in the specified direction.
  - Target filter: Click , you can set filter object size. Each rule can set two sizes (min size/max size). Once the object is smaller than the min size or larger than the max size, there is no alarm. Please make sure the max size is larger than the min size.
3. Left click mouse to draw a warning zone. Right click mouse to complete the setup.
4. Click OK.  
Complete drawing intrusion rule.

Step 3 Click , it is to set parameters.

Please refer to chapter 4.14.3.1 to set other parameters.

Step 4 Check the Enable box to enable intrusion function. Click Apply or Save to complete setup.

Device begins intrusion detection.

#### 4.14.3.3 Abandoned Object Detect (Optional)

System generates an alarm when there is abandoned object in the specified zone.

- System supports customized area shape and amount.
- Support duration setup.
- Support objects filter function.

Step 1 From main menu->Setting->Event->IVS, click Add button and then select the type as abandoned object. The object interface is shown as below. See Figure 4-165.

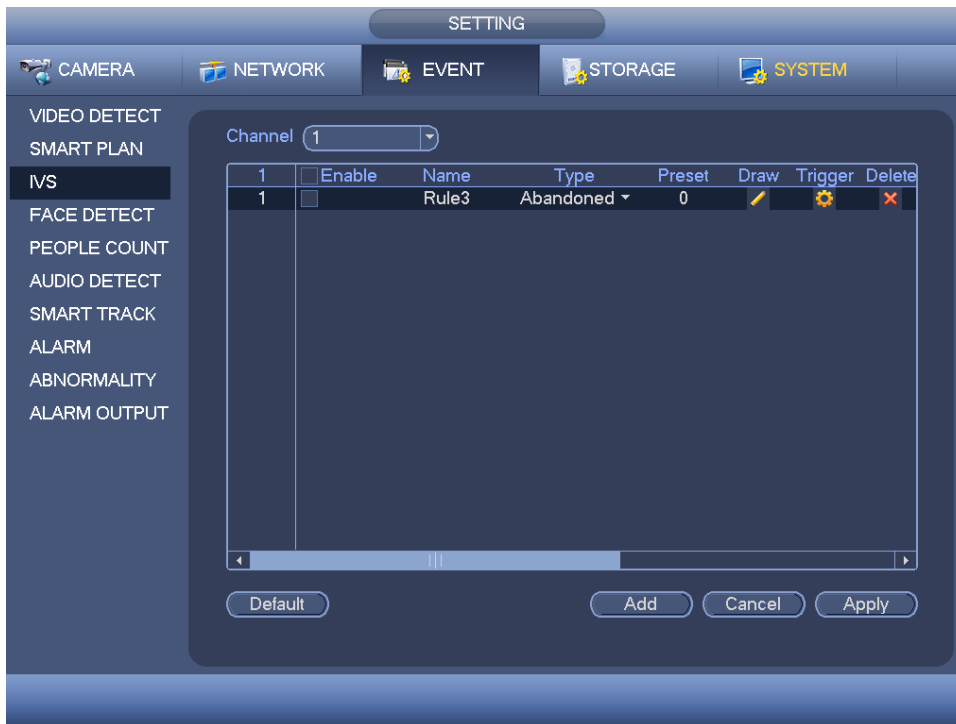


Figure 4-165

Step 2 Draw the zone.



1. Click draw button  to draw the zone. See Figure 4-166.



Figure 4-166

2. Set parameters.
  - Name: Input customized rule name.
  - Period: System can generate an alarm once the object is in the zone for the specified period.
  - Target filter: Click , you can set filter object size. Each rule can set two sizes (min size/max size). Once the object is smaller than the min size or larger than the max size, there is no alarm. Please make sure the max size is larger than the min size.
3. Left click mouse to draw a zone, until you draw a rectangle, you can right click mouse.
4. Click OK.  
Complete drawing abandoned object detection rule.

Step 3 Click , it is to set parameters.

Please refer to chapter 4.14.3.1 to set other parameters.

Step 4 Check the Enable box to enable abandoned object detection function. Click Apply or Save to complete setup.  
Device begins abandoned object detection.

#### 4.14.3.4 Missing Object Detection (Optional)

System generates an alarm when there is missing object in the specified zone.

- System supports customized area shape and amount.
- Support duration setup.
- Support objects filter function.

Step 1 From main menu->Setting->Event->IVS, select the type as abandoned object, the object interface is shown as below. See Figure 4-167.

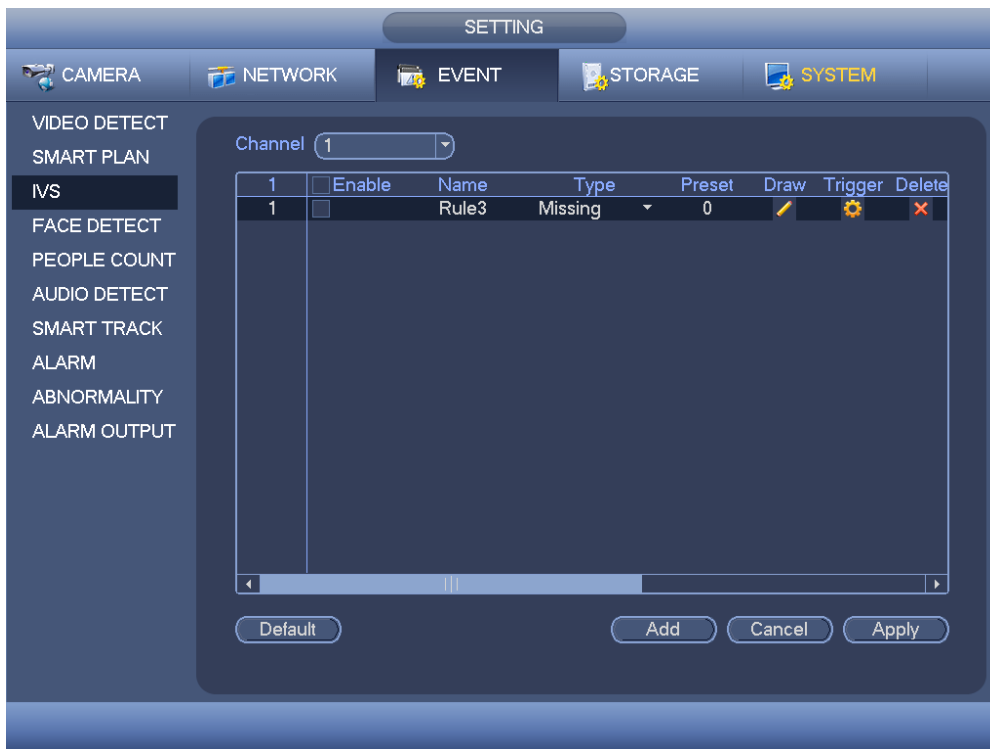



Figure 4-167

Step 2 Draw the zone.

1. Click Draw button  to draw a zone. See Figure 4-168.

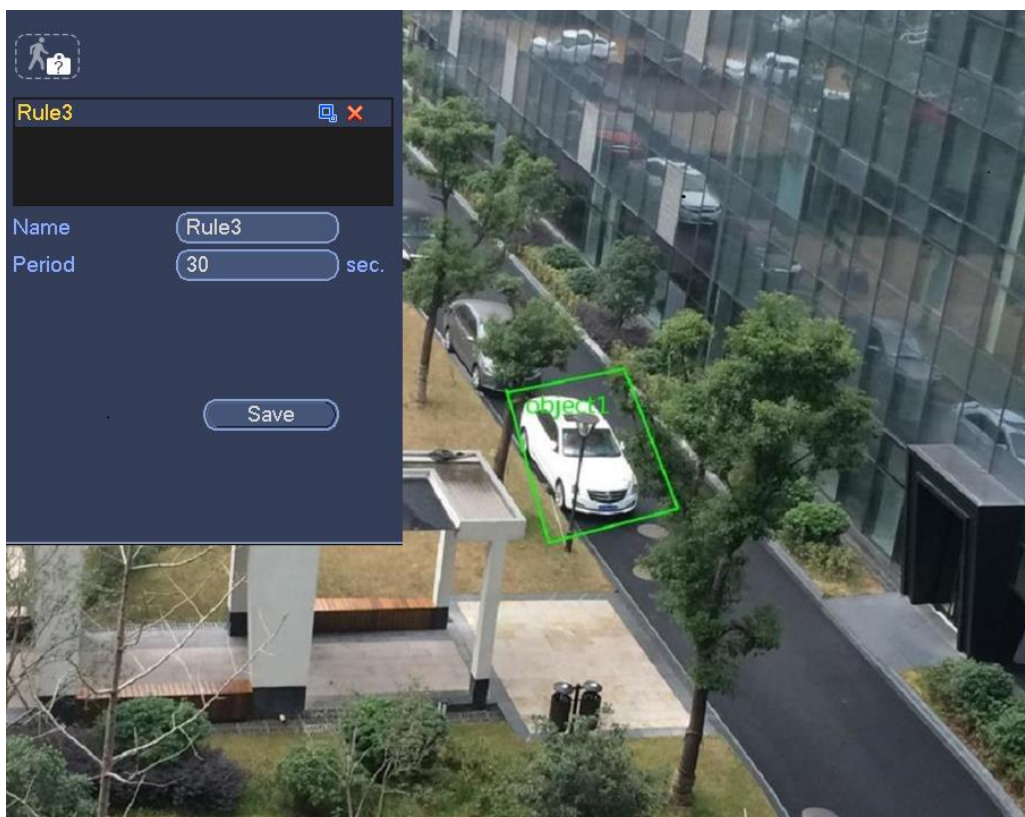



Figure 4-168



2. Set parameters.
  - Name: Input customized rule name.
  - Period: System can generate an alarm once the object in the zone is missing for the specified period.
  - Target filter: Click , you can set filter object size. Each rule can set two sizes (min size/max size). Once the object is smaller than the min size or larger than the max size, there is no alarm. Please make sure the max size is larger than the min size.
3. Left click mouse to draw a zone, until you draw a rectangle, you can right click mouse.
4. Click OK.  
Complete drawing missing object detection rule.

Step 3 Click , it is to set parameters.

Please refer to chapter 4.14.3.1 motion detect to set other parameters.

Step 4 Check the Enable box to enable missing object detection function. Click Apply or Save to complete setup.

Device begins missing object detection.

#### 4.14.4 Face Detection (Optional)

This function is to detect whether there is any human face in the detection zone. Once there is a human face in the detection zone, system can use a rectangle to highlight human face in the preview window.



##### Note

- Please connect to a smart network camera if you want to use face detection function.
- Please make sure the connected smart network camera supports face detection function.

Step 1 From main menu->Setting->Event->Face detect.  
Enter face detection interface Figure 4-169.

Step 2 Set parameters.

- Enable: Check the box to enable face detection function.
- Face ROI (Region of Interest): Check the box here, system can enhance the human face display pane. Please make sure you connected camera supports this function. Otherwise the checkbox is grey.
- Log: Check the box here, system can record face detection log.

Refer to the chapter 4.14.3.1 motion detection to set other parameters.

Step 3 Click Apply or Save to complete setup.

Face detection setting is complete.



Figure 4-169

#### 4.14.5 People Counting (Optional)

System can calculate the entry/exit people amount in the specified zone. It can generate an alarm when the amount has exceeded the threshold.

Step 1 From main menu->Setting->Event->People counting.

Enter people counting interface. See Figure 4-170.

Step 2 Set parameters.

- Enable: Check the box to enable people counting function.
- OSD overlay: Check the box here; you can view the people amount on the surveillance video.
- Rule setup: Click Set button, you can set people counting zone, name, and direction (entry/exit).
- Entry No.: It is to set people entry amount. System can generate an alarm once the amount has exceeded the threshold.
- Exit No.: It is to set people exit amount. System can generate an alarm once the amount has exceeded the threshold.
- Remaining No.: It is to set people staying amount in the zone. System can generate an alarm once the amount has exceeded the threshold.

Refer to the chapter 4.14.3.1 motion detection to set other parameters.





Figure 4-170

Step 3 Click Apply or Save to complete setup.

 **Note**

After you set the people counting function, from main menu->Info->Event->People counting, you can view people counting statistics report. Please refer to chapter 4.20.2.2 for detailed information.

#### 4.14.6 Audio Detect

System can generate an alarm once it detect the audio input is abnormal or audio volume changes.

 **Note**

- Please connect to a smart network camera if you want to use audio detection function.
- Please make sure the connected smart network camera supports audio detection function.

Step 1 From main menu->Setting->Event->Audio detect.

Enter Audio detect interface. See Figure 4-171.

Step 2 Set parameters.

- Input abnormal: Check the box here, system can generate an alarm once the audio input is abnormal.

- Intensity change: Check the box here, system can generate an alarm once the audio volume becomes strong.
- Sensitivity: It refers to the audio recognition sensitivity. The higher the value is, the higher the sensitivity is.
- Threshold: It is to set intensity change threshold. The smaller the value is, the higher the sensitivity is.
- Log: Check the box here, system can record audio detect alarm log.

Refer to the chapter 4.14.3.1 motion detection to set other parameters.



Figure 4-171

Step 3 Click Apply or Save to complete setup.

#### 4.14.7 Smart Track (Optional)

The smart track function includes fisheye+PTZ camera and fixed camera +PTZ camera. The smart track function refers to a system consisting of the fisheye (fixed camera) and the PTZ camera. The fisheye(fixed camera) is the master camera to view the whole surveillance situation, and the PTZ camera is the slave camera to view the details.

#### Note

180°fisheye camera does not support smart track function.

#### Preparation

- The fisheye and the PTZ camera shall surveillance proper zone.
- The fisheye and the PTZ camera shall use the private protocol to add.

Step 1 From Main menu->Setting->Event->Smart track.  
Enter smart track interface. See Figure 4-172.

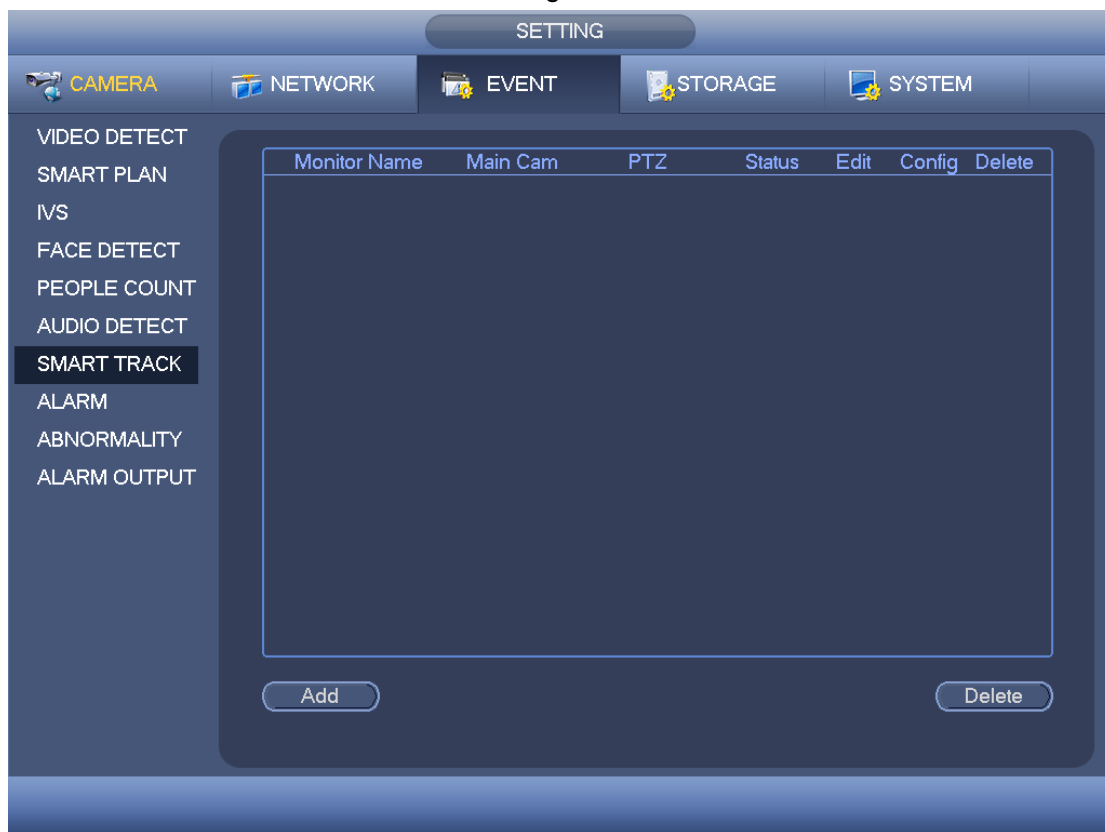


Figure 4-172

Step 2 Add monitor position and set fisheye+PTZ camera relationship.  
1. Click Add button.  
Enter add interface. See Figure 4-173.



Figure 4-173

2. Select fisheye channel and PTZ camera channel, set monitor position name and set parameters.
  - Type: Here you can select smart track mode. It includes: 1 fisheye+1 PTZ camera/1 fisheye+2 PTZ cameras/1 fisheye+3 PTZ cameras.
  - Monitor name: It is the monitor position. Input customized monitor position name.
  - Main channel: Click Select button and then select fisheye from the dialogue box. Click Ok button, you can view the channel number and channel name.
  - PTZ camera: Click Select button and then select corresponding PTZ camera amount from the dialogue box. Click Ok button, you can view PTZ camera channel number, channel name and IP address.
3. Click OK button.  
Monitor position settings are complete. See Figure 4-172.

Step 3 Set calibration, set fisheye and PTZ camera relationship.










1. Click  or double click the monitor line you just added.  
Enter calibration interface. See Figure 4-174.



Figure 4-174

2. On the fisheye displayed zone, left click mouse or move  to confirm the position.
3. On the PTZ camera displayed zone, use the following buttons to adjust the PTZ camera position.

Button	Function
	Zoom
	Focus
	Iris
	Electronic mouse, move it on the interface to control the PTZ direction.
	Fast positioning button. Click it first and then click any position in the video. Left click mouse, you can view the video from the specified position.
	It is to control PTZ movement speed. The higher the value is, the faster the speed is. For example, the step 8 speed is faster than step 1.

4. Click add button and then click  to save.

One group position setting is complete; you can view at the list. See Figure 4-175.



Figure 4-175


5. Repeat the above steps (Step 2-4) to set at least three group positions.



#### Note

- For one PTZ camera, there must be four calibration groups. System max supports 8 group positions. Please make sure the calibration position is accurate.
- For the first calibration group position, please select the reference objects at the far distance to enhance the trigger accuracy.

6. Click OK button.

Calibration setup is complete. Go back to the smart track interface, the status is shown as .



#### Note

After you complete smart track setup, please go to the preview interface and then right click mouse, and then select Smart track, you can view the corresponding video. Please refer to chapter 4.14.7 for detailed information.

### 4.14.8 Alarm Settings

Before operation, please refer to chapter 3.7 Alarm input and output connection properly connected alarm devices such as buzzer.

#### 4.14.8.1 Local alarm

Local alarm refers to the alarm signal system detects from the alarm input port.




Step 1 From Setting->Event->Alarm->Local.


Enter local alarm interface. See Figure 4-176.

Step 2 Set parameters.

- Alarm in: Here is for you to select channel number.
- Type: normal open or normal close.
- PTZ activation: Here you can set PTZ movement when alarm occurs. Such as go to preset, tour& pattern when there is an alarm. Click “select” button, you can see an interface is shown as in Figure 4-177.
- Period: Click set button, you can see an interface is shown as in Figure 4-178. There

are two ways for you to set periods. There are max 6 periods in one day. There are four record types: regular, motion detection (MD), Alarm, MD & alarm.

✧ In Figure 4-178, Select icon  of several dates, all checked items can be edited together. Now the icon is shown as . Click  to delete a record type from one period.

✧ In Figure 4-178. Click button  after one date or a holiday, you can see an interface shown as in Figure 4-179. There are four record types: regular, motion detection (MD), Alarm, MD & alarm.

- Anti-dither: Here you can set anti-dither time. 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.
- 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 center) if you enabled current function.
- Send email: System can send out email to alert you when alarm occurs.
- Record channel: you can select proper channel to record alarm video (Multiple choices). At the same time you need to set alarm record in schedule interface (Main Menu->Setting->Schedule) and select schedule record in manual record interface (Main Menu->Advance->Manual Record).
- Latch: Here is for you to set proper delay duration. Value ranges from 10 to 300 seconds. System automatically delays specified seconds in turning off alarm and activated output after external alarm cancelled.
- Tour: Here you can enable tour function when alarm occurs. System supports 1/8-window tour. 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: System can snapshot corresponding channel when an alarm occurs. 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.

- Video matrix: Check the box here to enable this function. When an alarm occurs, VIDEO OUTPUT port displays device video output. It displays video (1-window tour) from alarm activation channel you select at the Record channel interface. It has high priority than the tour setup in Main menu->Setting->System->Video matrix. Please note this function is for some series product only.
- Log: Check the box here, system can record local alarm log.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when alarm occurs.
- Voice prompts: Check the box here to trigger audio broadcast function. You can select specified audio file here. System can play the audio file once the corresponding event occurs.

Step 3 Click Apply or Save to complete setup.

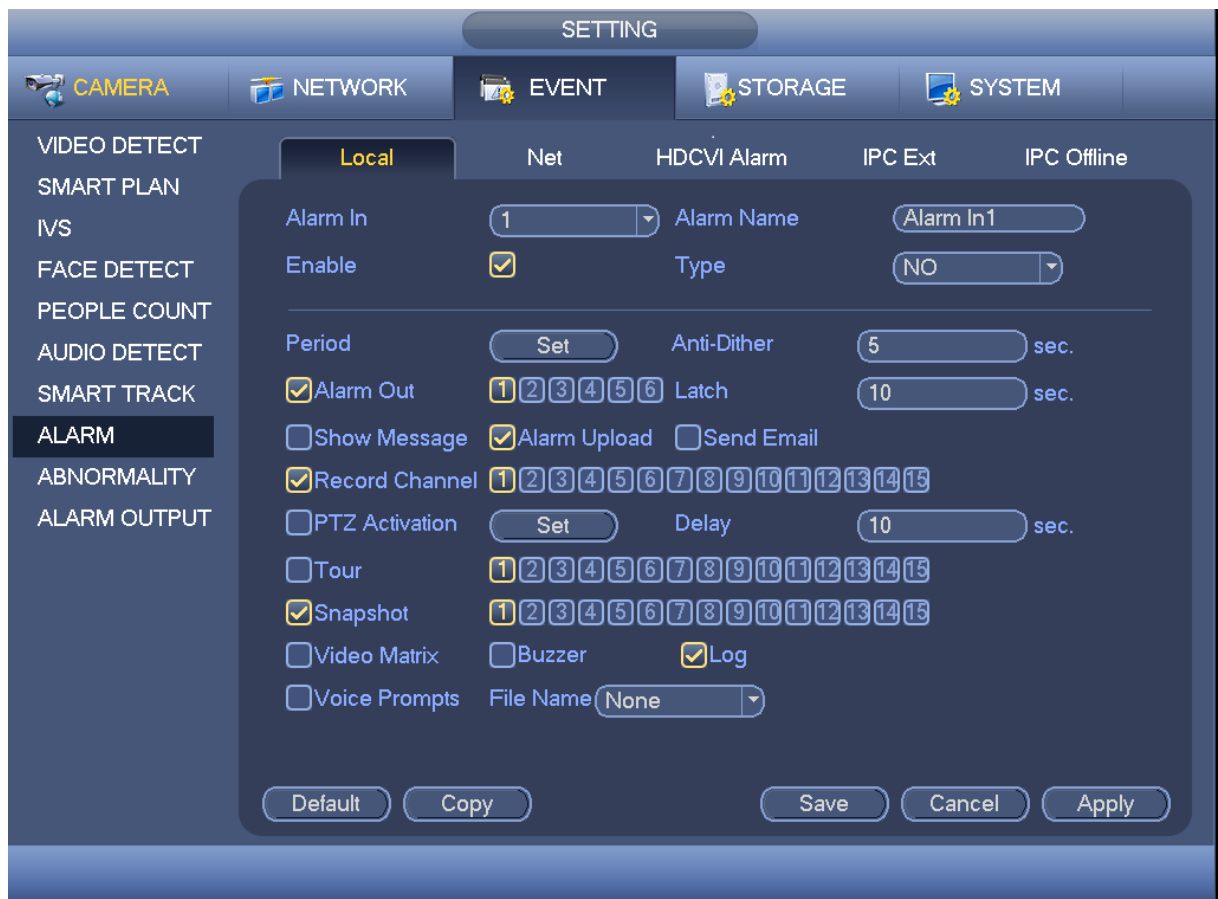


Figure 4-176



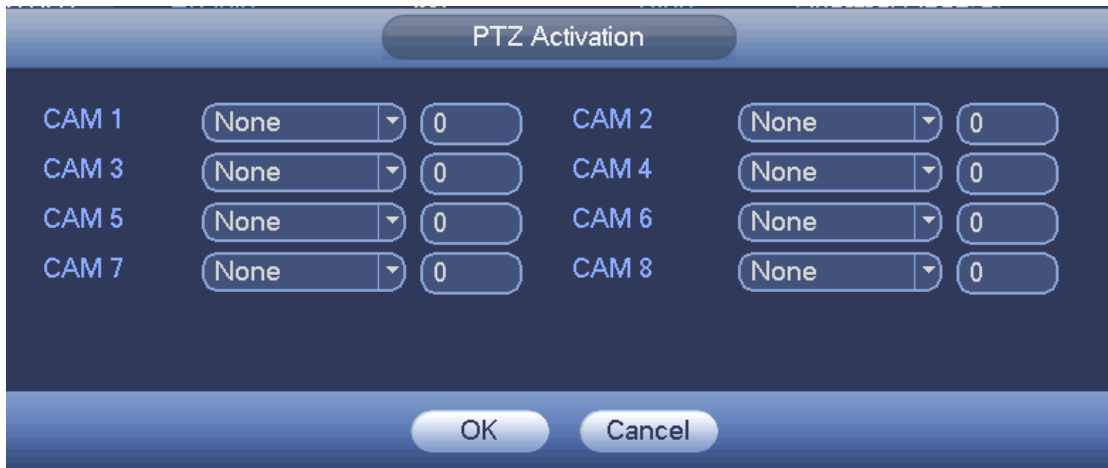


Figure 4-177



Figure 4-178



Figure 4-179

#### 4.14.8.2 Network Alarm

Network alarm refers to the alarm signal from the network.

Step 1 From Main menu->Setting->Event->Alarm->Net.

Enter network alarm interface. See Figure 4-180.

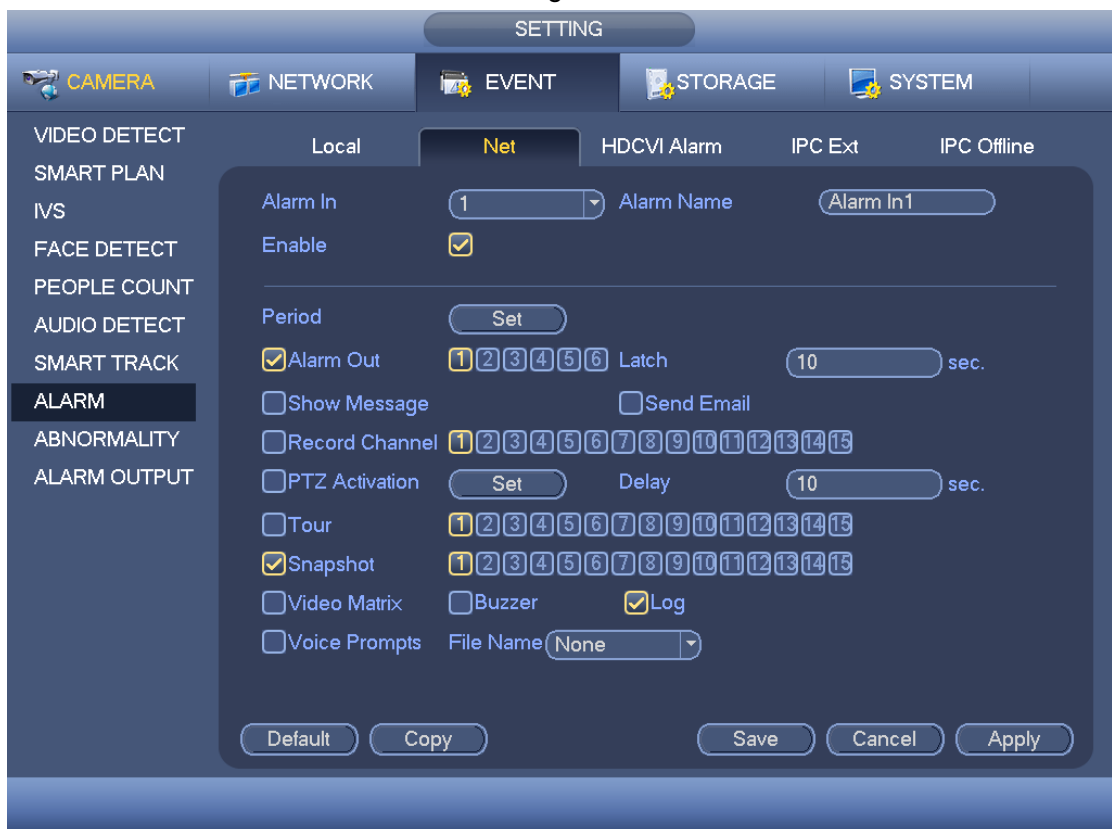


Figure 4-180

Step 2 Refer to chapter 4.14.8.1 Local alarm to set parameters.

Step 3 Click Apply or Save to complete setup.

### 4.14.8.3 HDCVI Alarm

System can get the camera temperature, smoke, external alarm and set corresponding alarm activation operation. This function is null if the camera does not support the alarm function.

Step 1 From Main menu->Setting->Event->Alarm->HDCVI.

Enter HDCVI alarm interface. See Figure 4-181.

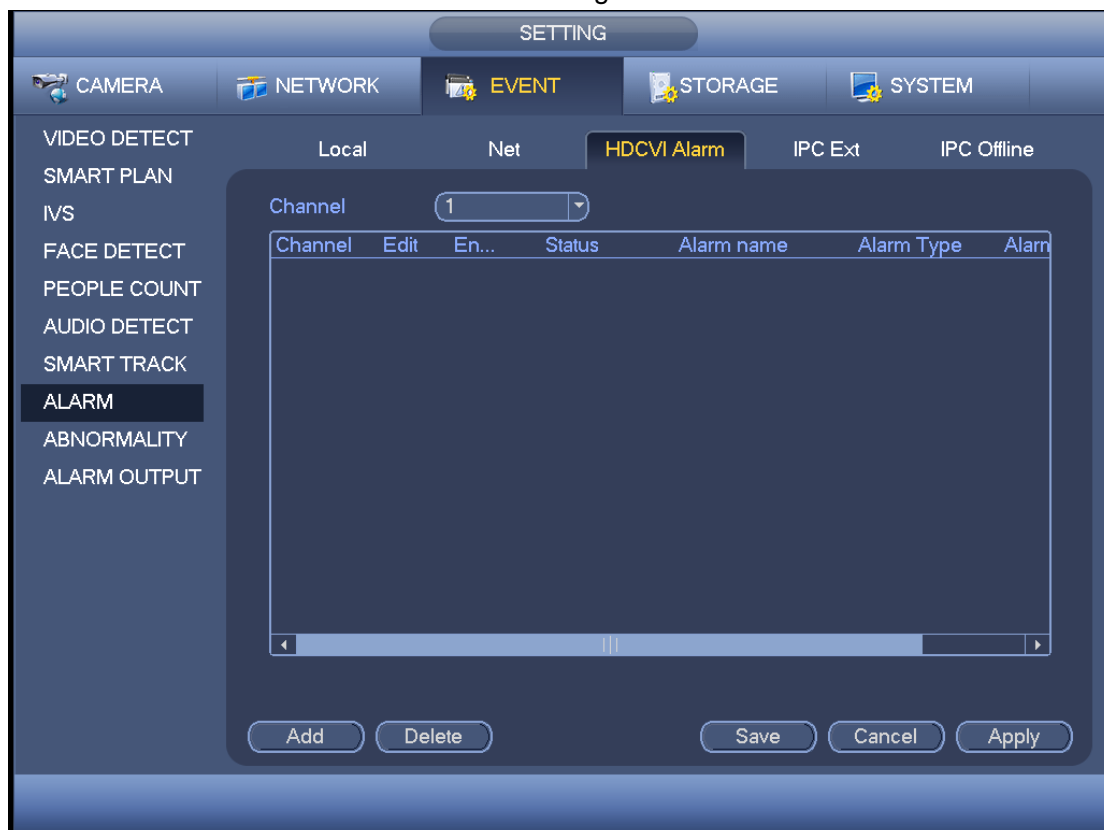


Figure 4-181

Step 2 In Figure 4-181, click Add button.

Enter HDCVI alarm interface. See Figure 4-182.




Figure 4-182

Step 3 Check the box to add alarm input channel.

The displayed alarm input channel amount here depends on the camera amount.

Step 4 Click Add button to add alarm and then click Exit button.

System goes back to Figure 4-181.

Check  to set alarm parameters. Please refer to chapter 4.14.8.1 for detailed information.

Step 5 Check the box to enable HDCVI alarm function. Click Apply or Save to complete setup.

#### 4.14.8.4 IPC External Alarm

IPC external alarm is the on-off alarm signal from the front-end device and can activate the local HDVR.

Step 1 From Main menu->Setting->Event->Alarm->IPC external.

Enter IPC external interface. See

Figure 4-183.



Figure 4-183

Step 2 Please refer to chapter 4.14.8.1 Local alarm to set parameters.

Step 3 Click Apply or Save to complete setup.

#### 4.14.8.5 IPC Offline Alarm

Once you select this item, system can generate an alarm when the front-end IPC disconnects with the local DVR. The alarm can activate record, PTZ, snap and etc. The alarm can last until the IPC and the HDVR connection resumes.

Step 1 From Main menu->Setting->Event->Alarm->IPC offline.

Enter IPC offline alarm interface. See Figure 4-184.

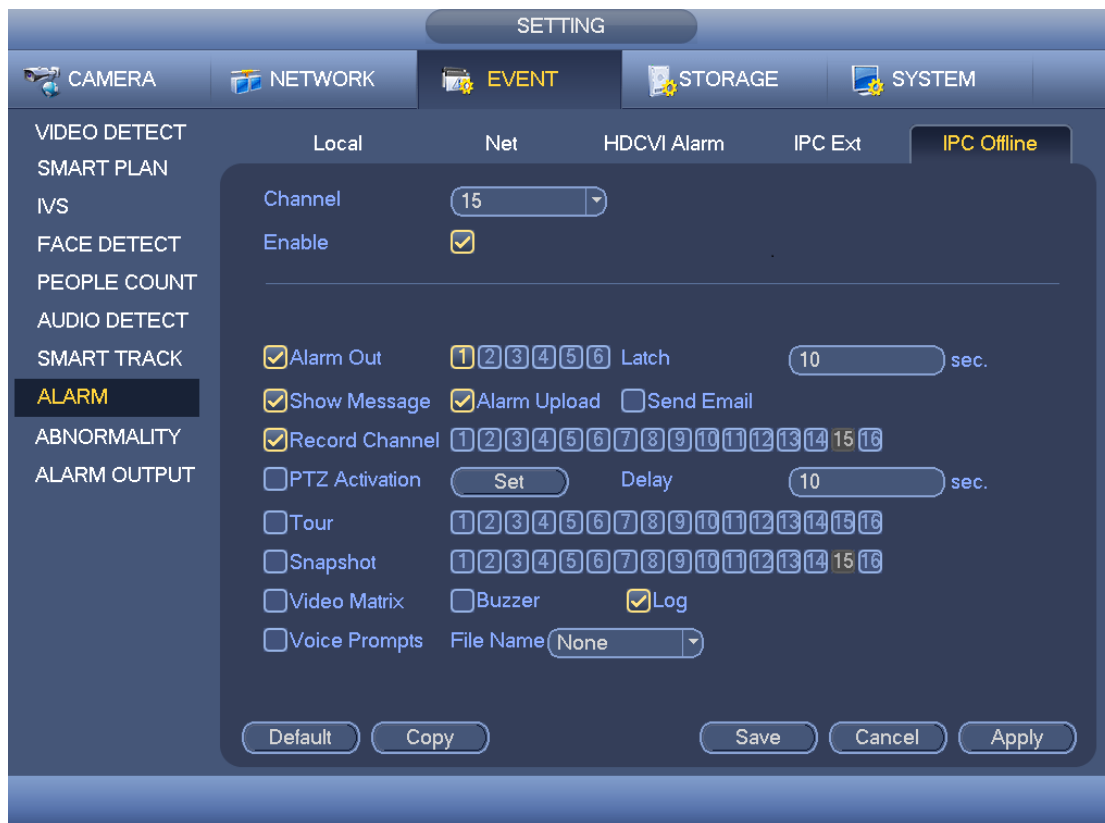


Figure 4-184

Step 2 Please refer to chapter 4.14.8.1 Local alarm to set parameters.

Step 3 Click Apply or Save to complete setup.

#### 4.14.9 Abnormality

Step 1 From main menu->Setting->Event->Abnormality.

Enter abnormality interface. See Figure 4-185.

Step 2 Click the corresponding tab, select event type and set corresponding actions.

- There are four types: HDD/Network/User/Device.
  - ✧ HDD: HDD error, no disk, no space. See Figure 4-185 and Figure 4-186.
  - ✧ Network: Disconnection, IP conflict, MAC conflict. See Figure 4-187.
  - ✧ User:Illegal login. See Figure 4-188 .
  - ✧ Device:Device temperature is too high or fan speed is abnormal. See Figure 4-189.
- Alarm output: Please select alarm activation output port (multiple choices).
- Less than: System can alarm you when the HDD space is less than the threshold you set here. This item is for disk no space type only.
- Max temperature: You can set max temperature value here. The device can generate an alarm once the device temperature is higher than the threshold you set. This item is for high temperature type only.
- Latch: Here you can set corresponding delaying time. The value ranges from 1s-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 center) if you enabled current function. For disconnection event, IP conflict event and MAC conflict event, this function is null.
- Send email: System can send out email to alert you when alarm occurs.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when alarm occurs.
- Log: Check the box here, system can record HDD event log.
- Voice prompts: Check the box here to trigger audio broadcast function. You can select specified audio file here. System can play the audio file once the corresponding event occurs.

Step 3 Click Apply or Save to complete setup.

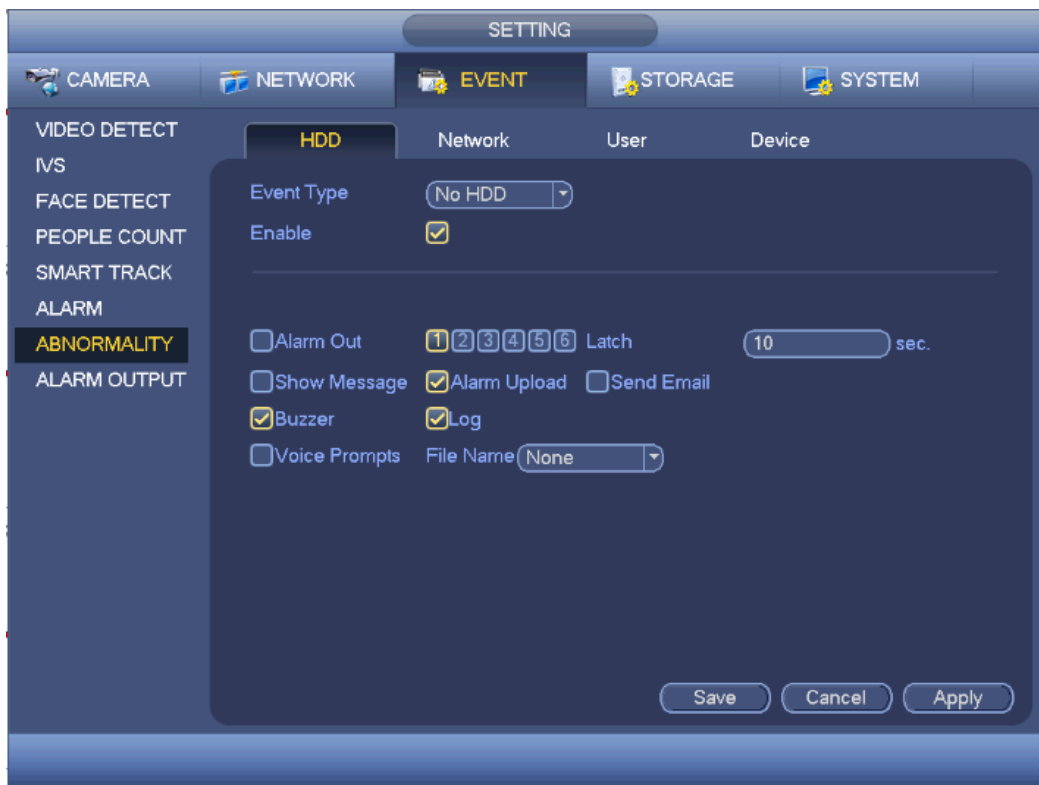


Figure 4-185



Figure 4-186

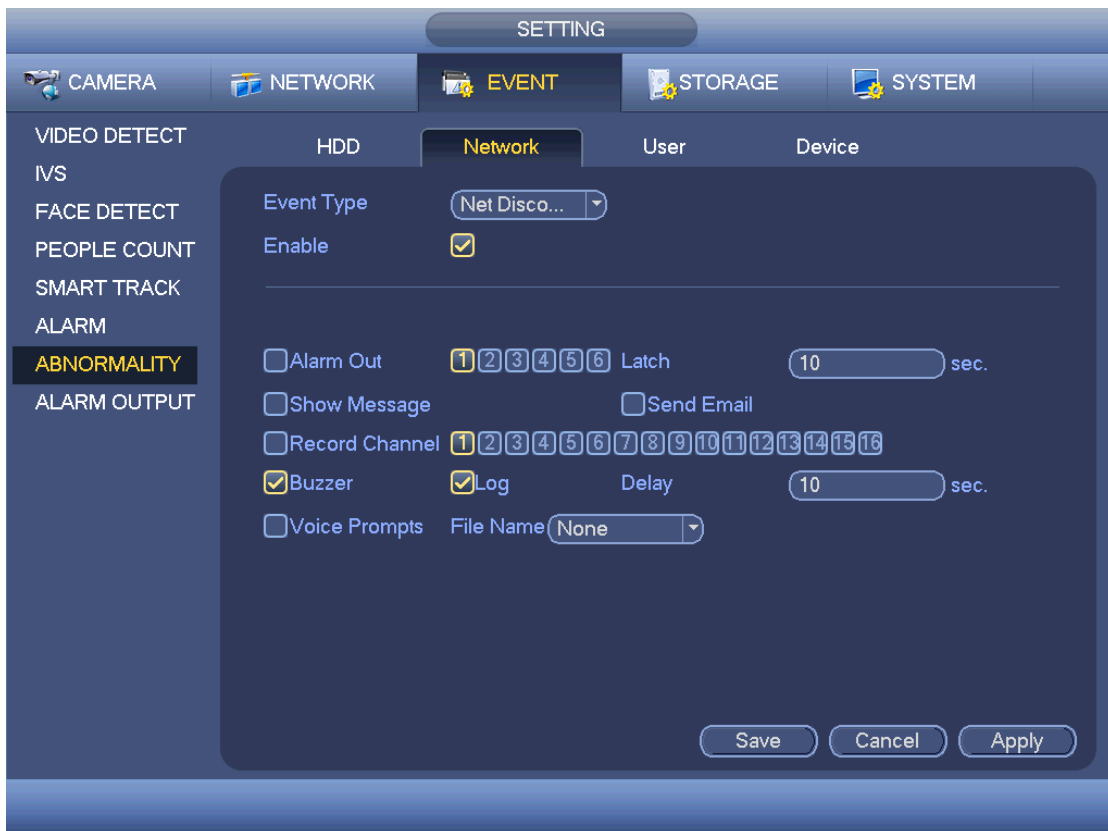


Figure 4-187



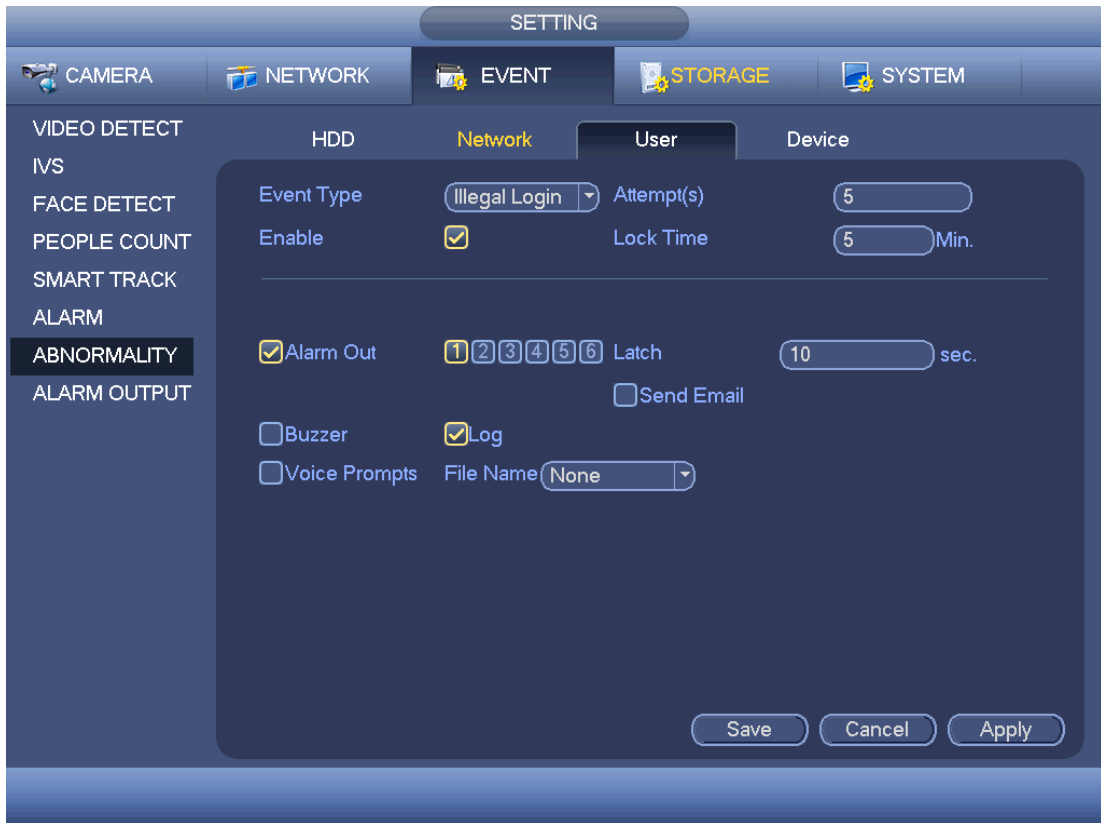


Figure 4-188



Figure 4-189

#### 4.14.10 Alarm Output

It is to set alarm output mode. There are three modes: Auto/manual/stop.

Step 1 From Main menu->Setting->Event->Alarm output.

Enter alarm output interface. See Figure 4-190.

Step 2 Set parameters.

- Auto: The corresponding event triggers the alarm output or cancels alarm.
- Manual: Forcedly trigger alarm output.
- Stop: Forcedly cancel or close alarm output.
- Status: Here you can view alarm output port status. The alarm is enabled if the icon is highlighted.
- Alarm release: Click the OK button, you can clear all alarm output status.

Step 3 Click Apply or Save to complete setup.



Figure 4-190

## 4.15 Storage

It is to manage HDD storage space, detect HDD working status and etc.

### 4.15.1 HDD Manager

It is to view and sett HDD properties and format HDD.

From main menu->Setting->Storage->HDD manager. Enter HDD manager interface. See Figure 4-191.

It is to view current HDD type, status, capacity and etc. The operation includes format HDD, and change HDD property (read and write/read-only/redundancy).

- To prevent files be overwritten in the future, you can set HDD as read-only.
- To backup recorded video file, you can set HDD as redundant HDD.

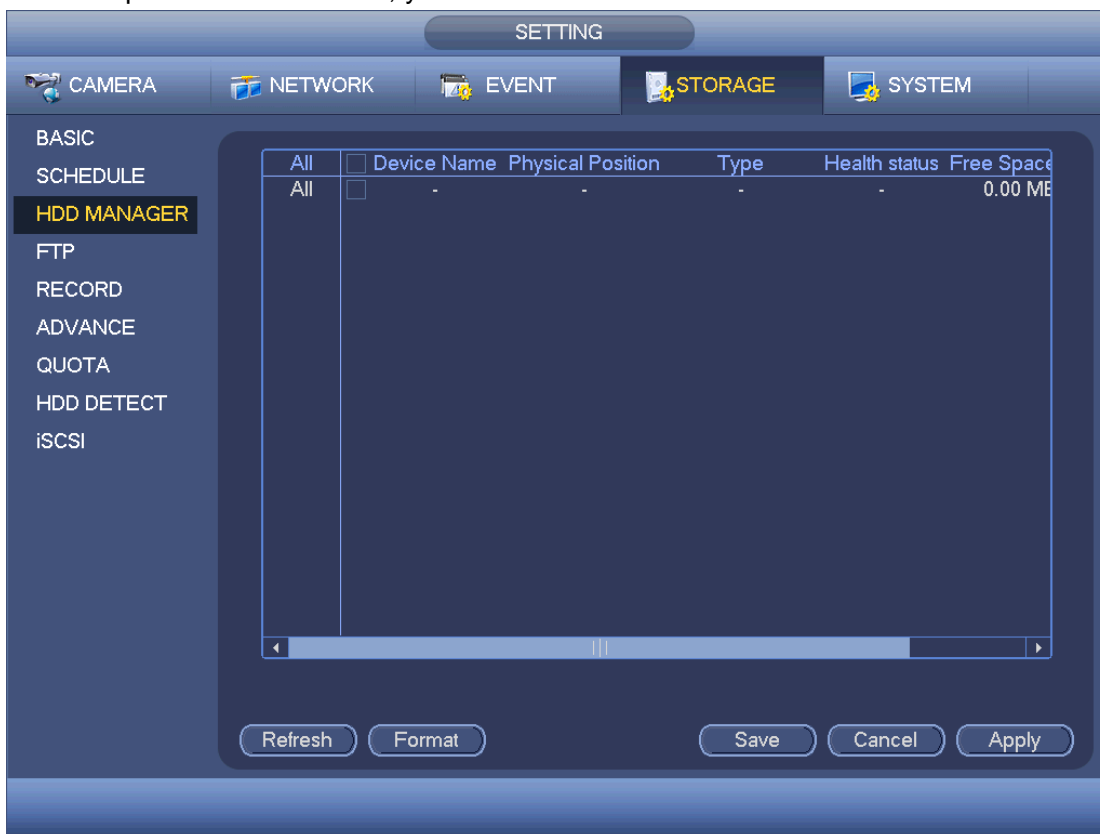


Figure 4-191

#### 4.15.2 FTP

It is to backup record file or image to the FTP to storage or view.

Before the operation, please download or purchase the FTP service tool and install on the PC.



#### Note

For the FTP user, please set FTP folder write right, otherwise system cannot upload the image.

Step 1 From main menu->Setting->Storage->FTP, enter FTP interface. See Figure 4-192.

Step 2 Set parameters.

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.

- Host IP: The host IP you have installed the FTP server.
- Host port: The default setup is 21.
- User name/Password: The account for you to access the FTP server.
- Remote directory: The folder you created under the root path of the FTP according to the corresponding rule.
  - ◇ If there is no remote directory, system can auto create different directories according to the IP, time and channel.

- ◇ If there is remote directory, system can create corresponding folder under the FTP root path and then create different folders according to IP address, time and channel.
  - File length: 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.
  - Image upload interval: It is the image upload interval. If the image upload interval is larger than the image snapshot frequency, system just uploads the lasted image.
    - ◇ If the image interval is 5 seconds and the snapshot frequency is 2 seconds, system will send out the latest image at the buffer at 5 seconds.
    - ◇ If the image upload interval is smaller than the snapshot frequency, system will upload at the snapshot frequency. For example, if the image interval is 5 seconds and the snapshot frequency is 10 seconds, system will send out the image at 10 seconds.
    - ◇ From main menu->Setting->Camera->Encode->Snapshot to set snapshot frequency.
  - Channel: Select a channel from the dropdown list and then set week, period and record type.
  - Week day/Period: Please select from the dropdown list and for each day, you can set two periods.
  - Type: Please select uploaded record type (Alarm/intelligent/motion detect/regular). Please check the box to select upload type.
- Step 3 Click the Test button, you can see the corresponding dialogue box to see the FTP connection is OK or not.
- Step 4 Click Apply or Save to complete setup.



Figure 4-192

### 4.15.3 HDD Group

#### 4.15.3.1 Advanced

It is to set HDD group, and HDD group setup for main stream, sub stream and snapshot operation

##### 4.15.3.1.1 HDD



CAUTION

HDD group and quota mode cannot be valid at the same time. System needs to restart once you change the mode here.

Step 1 From main menu->Setting->Storage->Advanced->HDD.

Enter HDD interface. See Figure 4-193.

Step 2 Set parameters.

- HDD: Here you can view the HDD amount the device can support.
- Group: It lists the HDD Group number of current hard disk.

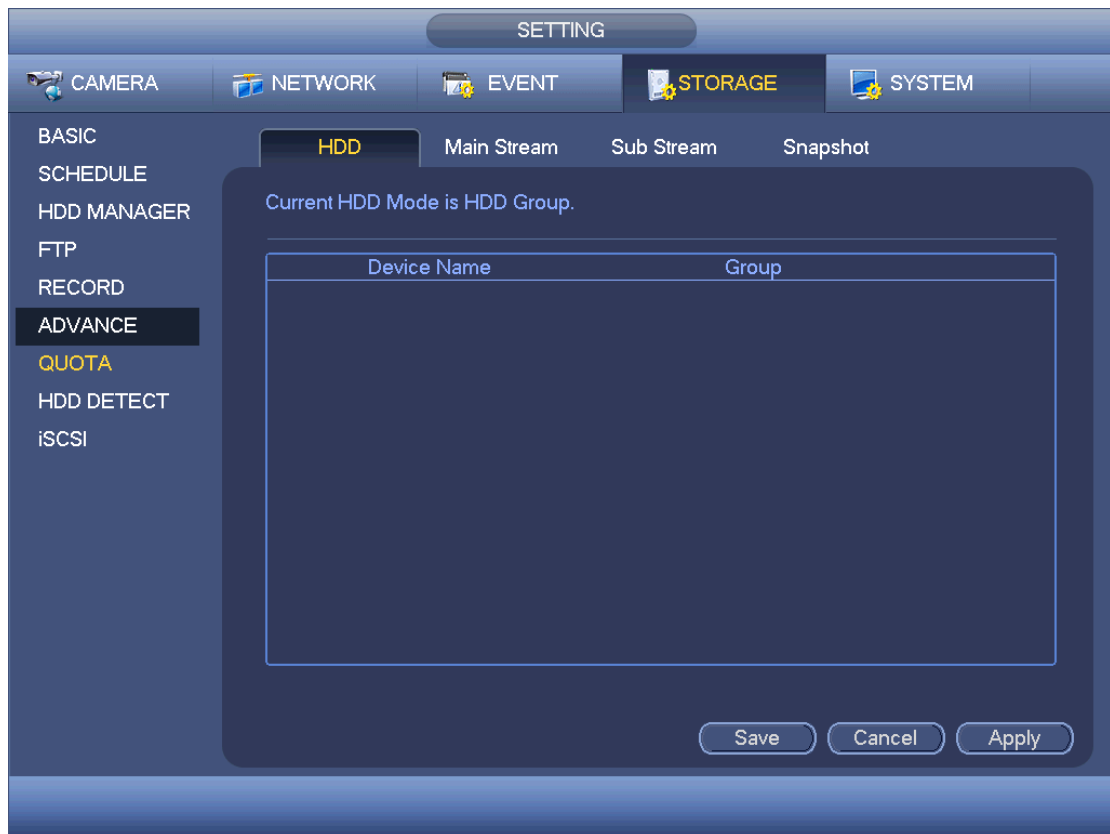


Figure 4-193

- Step 3 Select the correspond group from the dropdown list.
- Step 4 Click main stream/sub stream/snapshot button to set corresponding HDD group information. See Figure 4-194.



Figure 4-194



Figure 4-195



Figure 4-196

Step 5 Click Apply or Save to complete setup.

#### 4.15.4 Quota

It is to set channel storage capacity.



CAUTION

HDD group and quota mode cannot be valid at the same time. System needs to restart once you change the mode here.

Step 1 From main menu->Setting->Storage->Quota.

Enter quota interface. See Figure 4-197.





Figure 4-197

- Step 2 Select a channel from the dropdown list and then select corresponding HDD quota.
- Step 3 Click Apply or Save to complete setup.
- Step 4 Click Statistics to view HDD capacity you set for each channel. See Figure 4-198.



Figure 4-198

#### 4.15.5 HDD Detect

The HDD detect function is to detect HDD current status so that you can clearly understand the HDD performance and replace the malfunction HDD.

#### 4.15.5.1 Detect

Step 1 From main menu->Setting->Storage->HDD Detect->Detect.

Enter detect interface. See Figure 4-199.



Figure 4-199

Step 2 Select detect type and HDD.

- Key area detection: It is to detect the storage files in the key area on the HDD.
- Full detection: It is to scan whole HDD. It may take a long time and may affect the HDD that is saving record file. If there is bad track, the HDD may have error.

Step 3 Click Start detect to begin.

Interface displays corresponding detection information.

#### 4.15.5.2 Report

After the detection operation, go to the detect report to view corresponding information.

Step 1 From main menu->Setting->Storage->HDD Detect->Report.

The report interface is shown as below. See Figure 4-200.

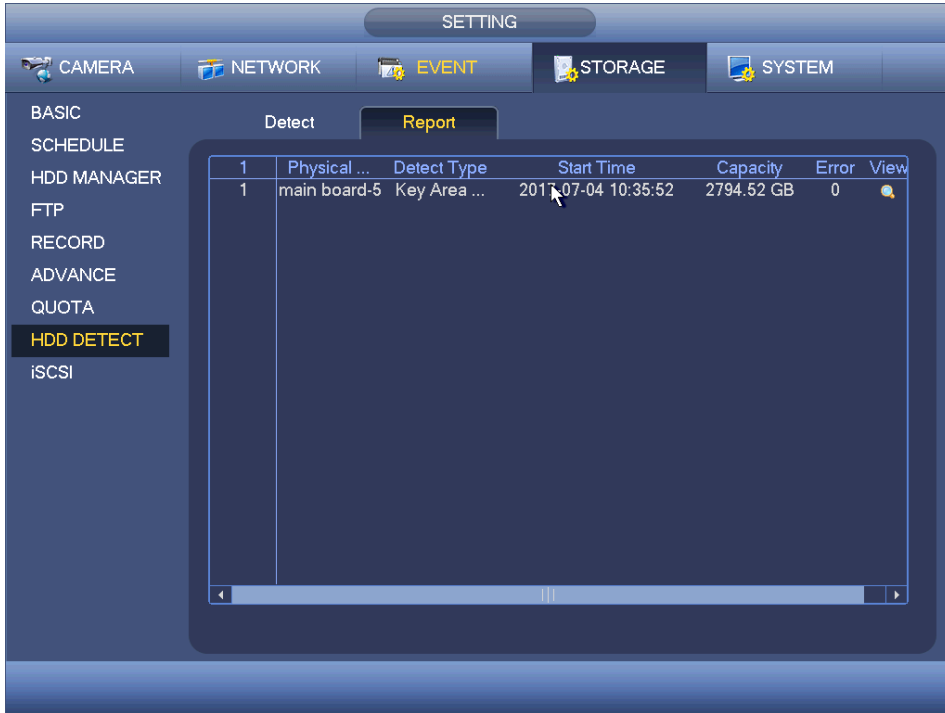


Figure 4-200

Step 2 Click View, you can see the detailed information such as detect result, backup and S.M.A.R.T. See Figure 4-201 and Figure 4-202 .

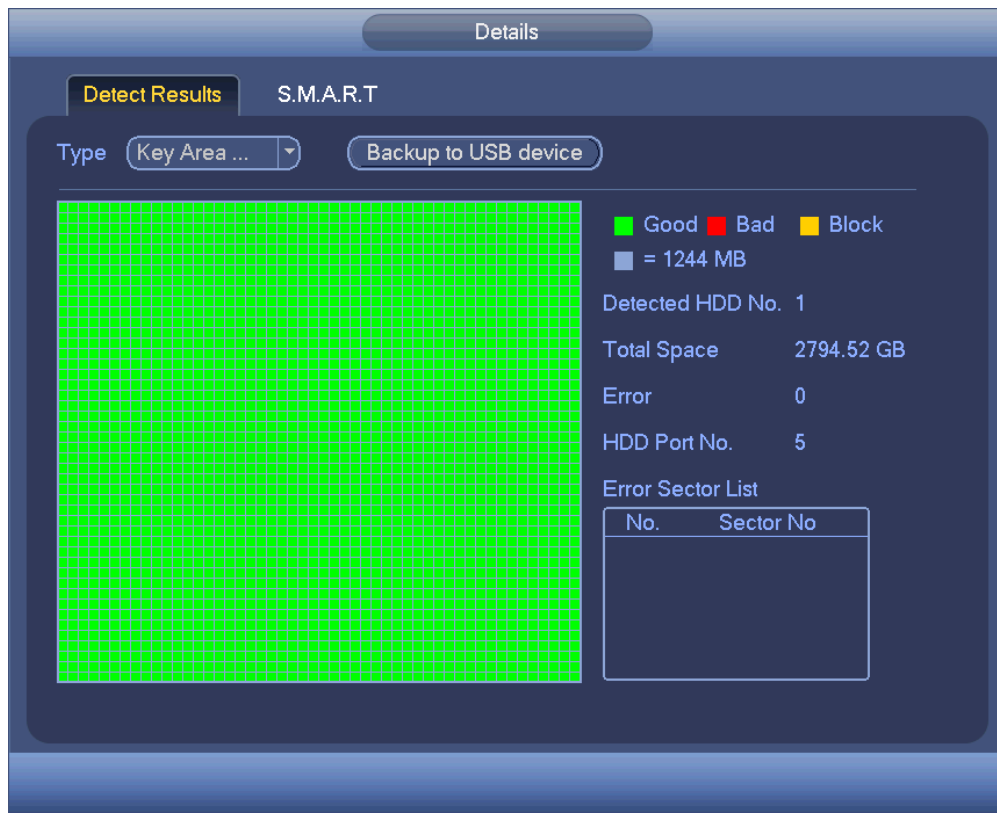


Figure 4-201

Click Backup to USB device to save detection result to the connected UDB device.



Figure 4-202

#### 4.15.6 RAID



##### Note

RAID function is for some series product only.

The RAID (redundant array of independent disks) management can compost the independent HDDs together to provide larger space as the logic HDD. It can enhance system I/O performance, data usage and data security.



##### Note

Right now system supports RAID0/RAID1/RAID5/RAID10. Refer to chapter Appendix RAID introduction for detailed information.

RAID Type	HDD Amount
RAID0	At least 2 HDDs
RAID1	Only 2 HDDs
RAID5	At least 3 HDDs. Usually we recommend 4 to 6 HDDs.
RAID10	At least 4 HDDs. The amount shall be even number.

##### 4.15.6.1 RAID Config

It is to create RAID manually or use one click to create RAID. Device needs to format HDD after implement RAID operation.

Step 1 From main menu->Setting->Storage->RAID->RAID.

Enter RAID interface. See Figure 4-203.

Step 2 Select to create RAID manually or use one click to create RAID, and then set RAID type.

- One click to create RAID
  - ◇ Click it to automatically create RAID5.
  - ◇ For create RAID function, you can select the physical HDD that does not included in the RAID group or the created disk array to create a RAID5. You can refer to the following situations:
    - ◇ There is no RAID, no hotspare disk: System directly creates the RAID5 and creates one hotspare disk at the same time.
    - ◇ There is no RAID, but there is a hotspare disk: System creates the RAID5 only. It uses previous hotspare disk.
    - ◇ There is RAID: System cancel the previous RAID setup and then create the new RAID5. System creates the hotspare disk if there is no one. System uses previous hotspare disk if there is hotspare disk available.
    - ◇ The background will format the virtual disk.
- Create manually
  1. Select RAID type first and then follow the prompts to set HDD amount.
  2. Click Create Manually button, system pops up dialogue box to warning you it is going to clear all data.
  3. Click OK button to complete the operation.



### Note


Click  to delete RAID.



Figure 4-203

#### 4.15.6.2 RAID Info

It is to display RAID name, space, type, member HDD, hotspare HDD, status and etc. From main menu->Setting->Storage->RAID->RAID info, enter RAID info interface. See Figure 4-204.



Figure 4-204

#### 4.15.6.3 Hotspare Disk

In this interface you can add/delete hotspare HDD if you have set RAID.

Step 1 From main menu->Setting->Storage->RAID->Hotspare disk.

Enter hotspare disk interface. See Figure 4-205.



Figure 4-205

Step 2 Click  to set corresponding disk to the hotspare disk. See Figure 4-206.

- Private hotspare: Please select the RAID disk to be added. It becomes the hotspare disk of the specified RAID. Please note only the RAID5 supports private hotspare.
- Global hotspare: It is not for just one RAID. It is for all RAID disks.



Figure 4-206

Step 3 Click OK to complete hotspare disk setting.





Click the  to delete the hotspare disk.

### 4.15.7 iSCSI

#### Note

iSCSI function is for some series product only.

Comparing with traditional HDD storage, iSCSI has large storage space and is easy to manage.

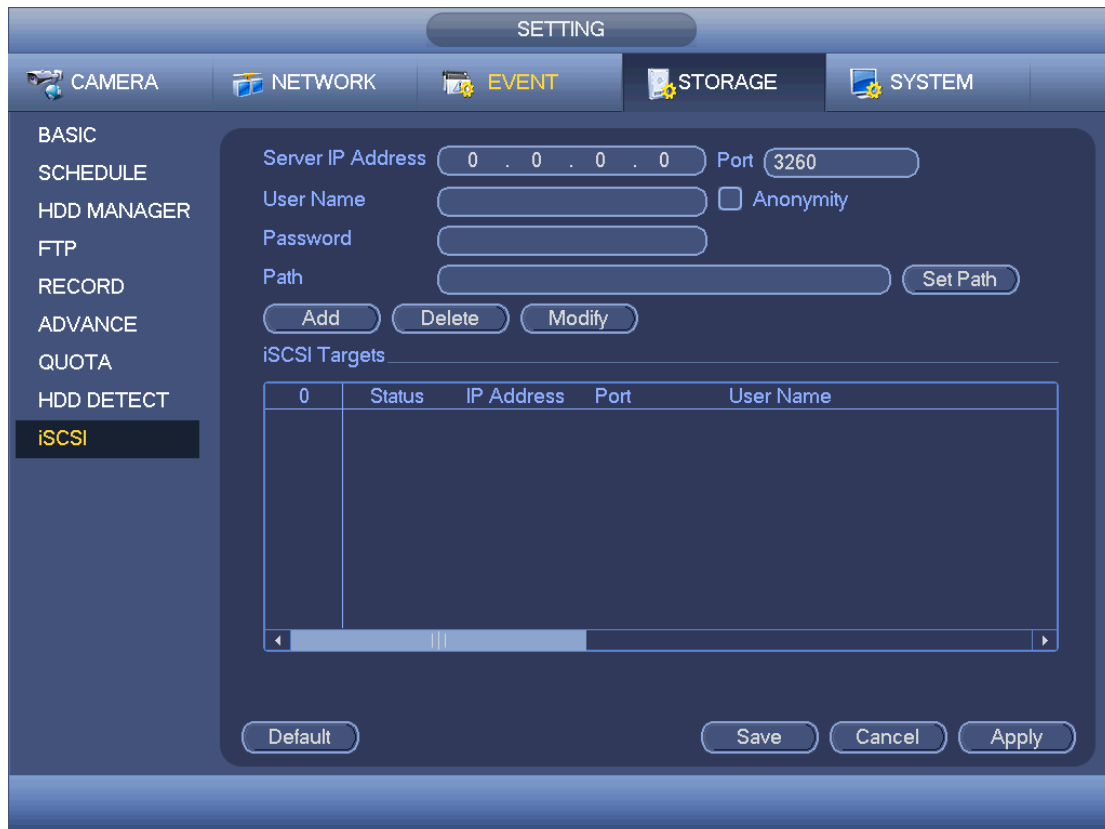
You can set the network mapping HDD so that device can storage audio/video on the network HDD.

Step 1 From Main menu->Setting->Storage->iSCSI.

Enter iSCSI interface. See Figure 4-207.

Step 2 Set parameters.

- Server IP address: It is to input iSCSI server IP address.
- Port: It is to input iSCSI server port value. The default setup is 3260.
- User name/password: It is to input iSCSI server user name and password. Check the Anonymous button if it supports anonymous login.
- Set path: You can click the Set path button to select the remote storage path. Please note each path here stands for one iSCSI share disk. The path has been generated when it is created at the server.
- Add: After you input the above information, click add button to add the new information to the list.



0	Status	IP Address	Port	User Name
---	--------	------------	------	-----------

Figure 4-207

- Step 3 Click Ok button.  
Add the information to the iSCSI list.



### Note

Click the modify/delete button to change or remove the iSCSI HDD.

- Step 4 Click Save to complete the add process.  
From the main menu->setting->Storage-> HDD manage, you can see the corresponding interface.

## 4.16 Channel Manager

It is to set each channel image effect and video connection mode.

### 4.16.1 Image



### Note

For different series cameras, the interface may vary.

It is to set camera parameters and adjust video effect.

- Step 1 From main menu->Setting->Camera->Image.

For analog channel, the camera interface is shown as in Figure 4-208. For digital channel, the camera interface is shown as in Figure 4-209.

- Step 2 Set parameters.

- Channel: Select a channel from the dropdown list.
- 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 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 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.
- Sharpness: The value here is to adjust the edge of the video. The value ranges from 0 to 100. 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 50 and the recommended value ranges from 40 to 60.

- Mirror: It is to switch video up and bottom limit. This function is disabled by default.
- Flip: It is to switch video left and right limit. This function is disabled by default. If you want to flip 90°, the resolution shall not be higher than 720P.
- BLC: It includes several options: BLC/WDR/HLC/OFF.
- ✧ 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.
- 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.
- Image enhancement: It is to enhance video quality. The larger the value is, the clearer the video is. But the noise may become large too.
- 2D NR: It is to process the noise of the single image. The video may become soft after process. The larger the value is, the better the effect is.
- 3D NR: It is to process the multiple-frame (at least two frames). It is to use the frame information between the following two frames to reduce noise. The larger the value is, the better the effect is. The value ranges from 1 to 100. The default value is 50.

Step 3 Click Apply or Save to complete setup.



Figure 4-208



Figure 4-209

#### 4.16.2 Channel Name

It is to change channel name. Please note for digital channel, you can only modify the channel name of the connected network camera.

Step 1 From main menu->Setting->Camera->CAM name.

Enter channel name interface. See Figure 4-210.



Figure 4-210

Step 2 Input new channel name.

Step 3 Click Apply or Save to complete setup.

### 4.16.3 Channel Type

#### Note

Please note this function is for some series product only. Slight different maybe found on the user interface.

From main menu->Setting->Camera->Channel type, the interface is shown as below. See Figure 4-211 or Figure 4-212. It is to set channel type.



Figure 4-211

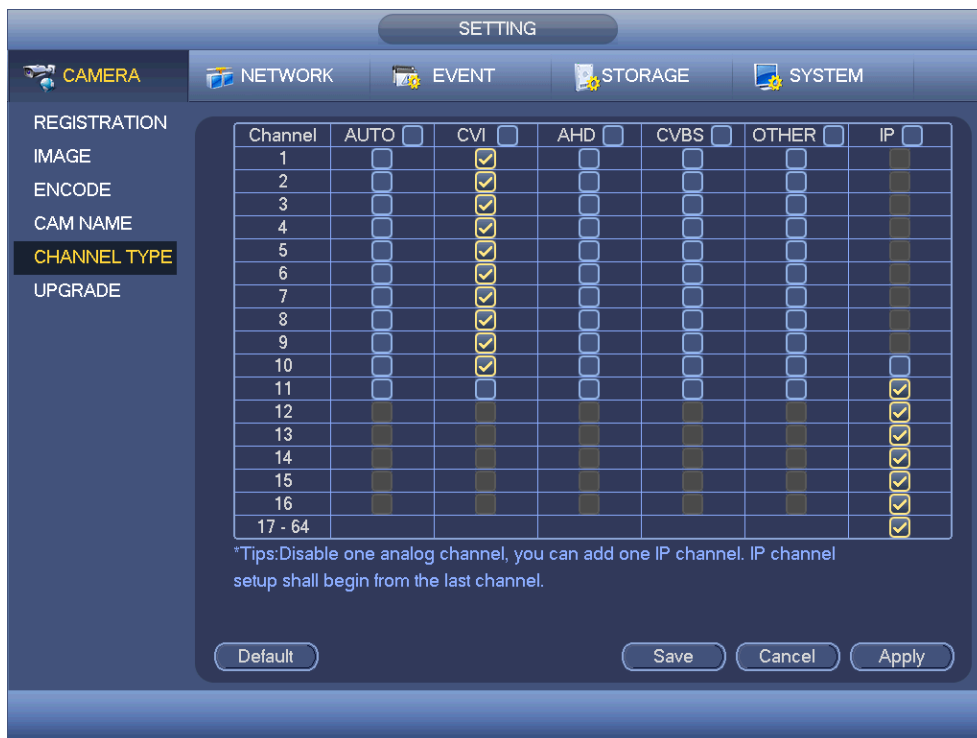


Figure 4-212

- Analog channel (CVBS signal or HDCVI signal and etc.): Please select the corresponding cable and then save. There is no need to reboot.

- Device supports IP channel. The network camera connection shall begin with the last channel. Please note DVR needs to restart to activate new setup.



#### Note

Add IP channel function refers to the extra IP channel amount except current channel total amount (analog+IP). Different series products may support different extra IP channel amount. For 16-channel series product (16 analog channel+48 IP channel), check the channel 17 to channel 64, it is to change these channels to IP channels. See Figure 4-212.

## 4.17 System Settings

### 4.17.1 RS232

Step 1 From main menu->Setting->System->RS232.

Enter RS232 interface. See Figure 4-213.

Step 2 Set parameters.

- Function: There are various devices for you to select. Console is for you to use the COM or mini-end software to debug. The control keyboard is for you to control the device via the special keyboard. Transparent COM (adapter) is to directly connect to the PC to transfer data. 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 two values: 1/2.
- 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

Step 3 Click Apply or Save to complete setup.



Figure 4-213

#### 4.17.2 POS

Connect the DVR with the POS, the DVR can receive the POS information and overlay corresponding info on the video.

#### Note

- For the local-end, this function supports one-window display and playback only. For the Web, it supports multiple-window display and playback.
- This function is for the cashier of the supermarket and etc. The DVR can get the information from the POS and then overlay the txt information on the video.

Step 1 From main menu->Setting->System->POS.

Enter POS interface. See Figure 4-214.



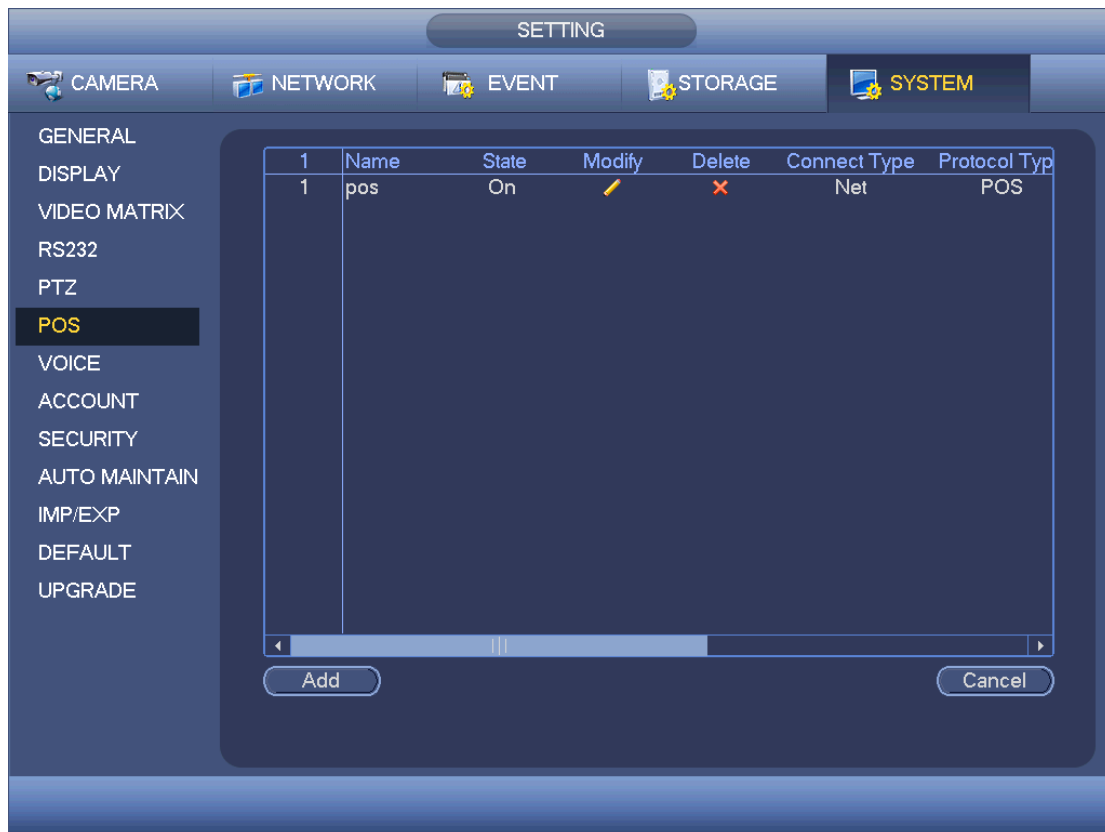


Figure 4-214

Step 2 Click Add button.

Enter config interface. See Figure 4-215.

Step 3 Check the box to enable POS function and set parameters.

- Name: Input POS name.

**Note**

- ◇ The POS device name shall be unique.
- ◇ POS device name max supports 63-digit.
- Connection type: This is for net mode only. Click Setup button, you can set source IP (POS IP address), port is the POS port. Destination IP is the DVR default Ethernet card IP, port is the POS port (read-only). See Figure 4-216.
- Network time out: If there is a network problem, DVR can wait for the specified time you set here to send out the POS information. Once the network time is out, DVR only send out current valid POS information when then network resumes normal.
- Time display: It is to set the POS information displayed time on the video. If you set 5 seconds, then the POS information appears after 5 seconds display.
- Channel Set: Click it to go to Figure 4-217. Select a channel you want to overlay POS information and then click Save button

Config

Enable

Name

Connect Type

Protocol Type

Transaction Start

Transaction End

Line Delimiter

Ignore String

Case Sensitive

Network time is out!  (5~900)sec.

Time Display  (5~600)sec.

---

Figure 4-215

IP Address

Source IP  Port

Destination IP  Port



Figure 4-216



Figure 4-217

Step 4 Click Apply or Save to complete setup.

 **Note**

In Figure 4-214, click  to change setup, click  to delete POS setup.

### 4.17.3 Security

To enhance device network security and protect device data, please set the access right of the IP host (IP host here refers to the IP PC or the server). After you enabled trusted sites function, only the IP listed below can access current DVR.

If you enable blocked sites function, the following listed IP addresses cannot access current DVR.

Step 1 From main menu->Setting->System->Security.

Enter security interface. See Figure 4-218.

Step 2 Check the Enable box.

Select trusted sites/block sites.

- Enable trusted site function and then add the whitelist.
- Enable blocked site function and then add the blacklist.

Step 3 Set parameters.

- 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. System supports max 64 IP addresses.
  - a) For the newly added IP address, it is in enable status by default. Remove the ✓

- before the item, and then current item is not in the list.
- System max supports 64 items.
  - 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.
  - System automatically removes space if there is any space before or after the newly added IP address.
  - 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.
  - 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. See Figure 4-219. System can check the IP address validity after the edit operation and implement IPv6 optimization.
  - Default: Click it to restore default setup. In this case, the trusted sites and blocked sites are both null.
- Step 4 Click Apply or Save to complete setup.
- If you enabled trusted sites, only the IP in the trusted sites list can access the device.
  - If you enabled blocked sites, the IP in the blocked sites cannot access the device.

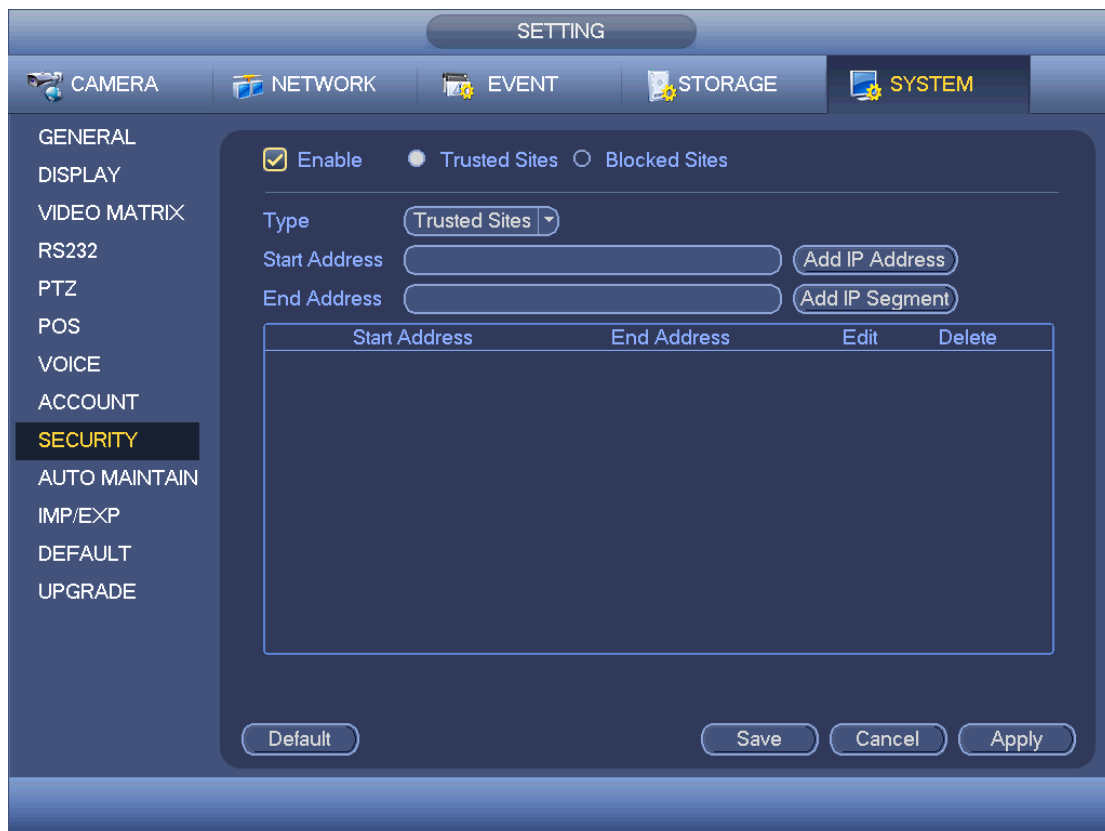


Figure 4-218

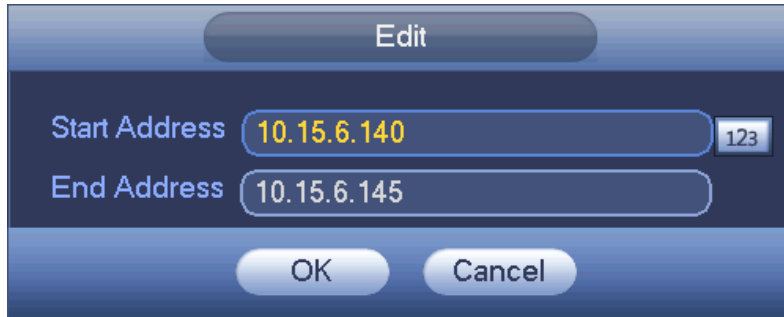


Figure 4-219

## 4.18 System Maintain

### 4.18.1 Auto Maintain

It is to set auto-reboot time during the spare period if the device is running for a long time. It is to enhance device operation speed.

Step 1 From main menu->Setting->System->Auto maintain.

Enter auto maintain interface. See Figure 4-220.

Step 2 Set parameters.

- Auto Reboot: Select a date and time from the dropdown list, system can auto reboot at the specified time.

Step 3 Click Apply or Save to complete setup.

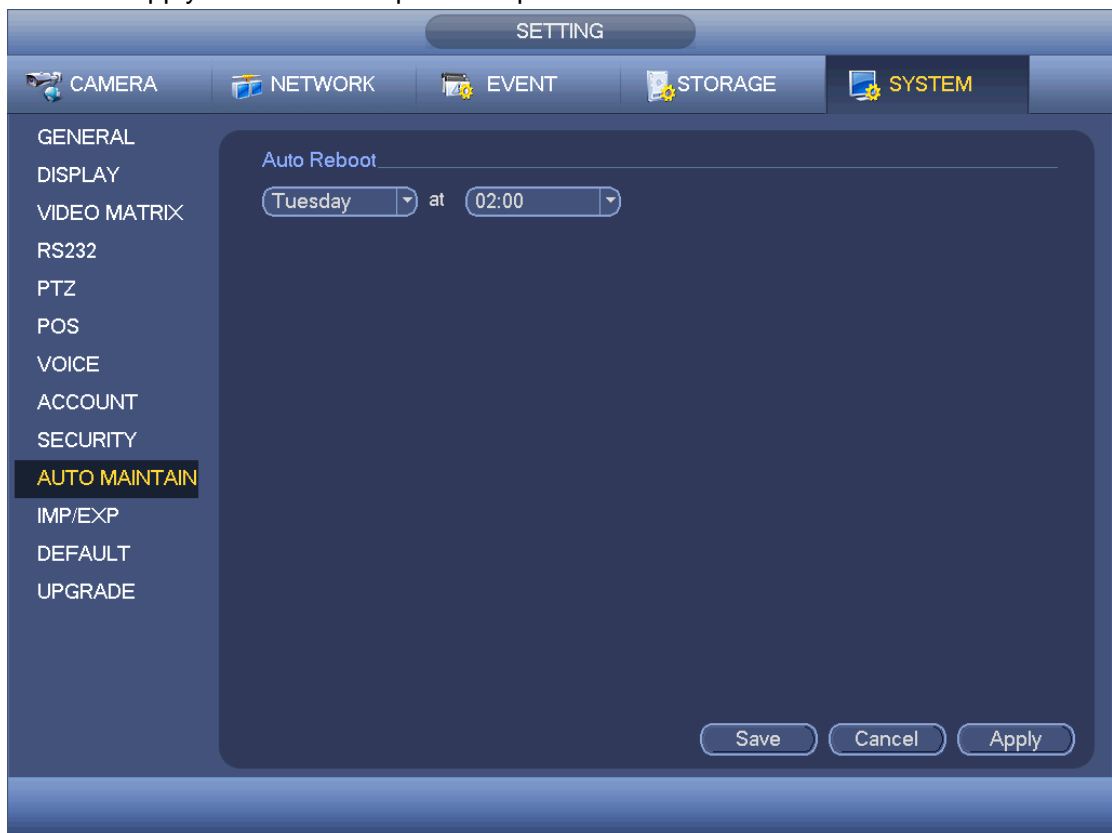


Figure 4-220

## 4.18.2 Import/Export

It is to import/export system configuration. You can use this function when there are several devices need the same setup.

Step 1 From main menu->Setting->System->Import/export.

Enter Import/export interface. See Figure 4-221.

Step 2 Insert peripheral device.

- 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 view the newly added device.

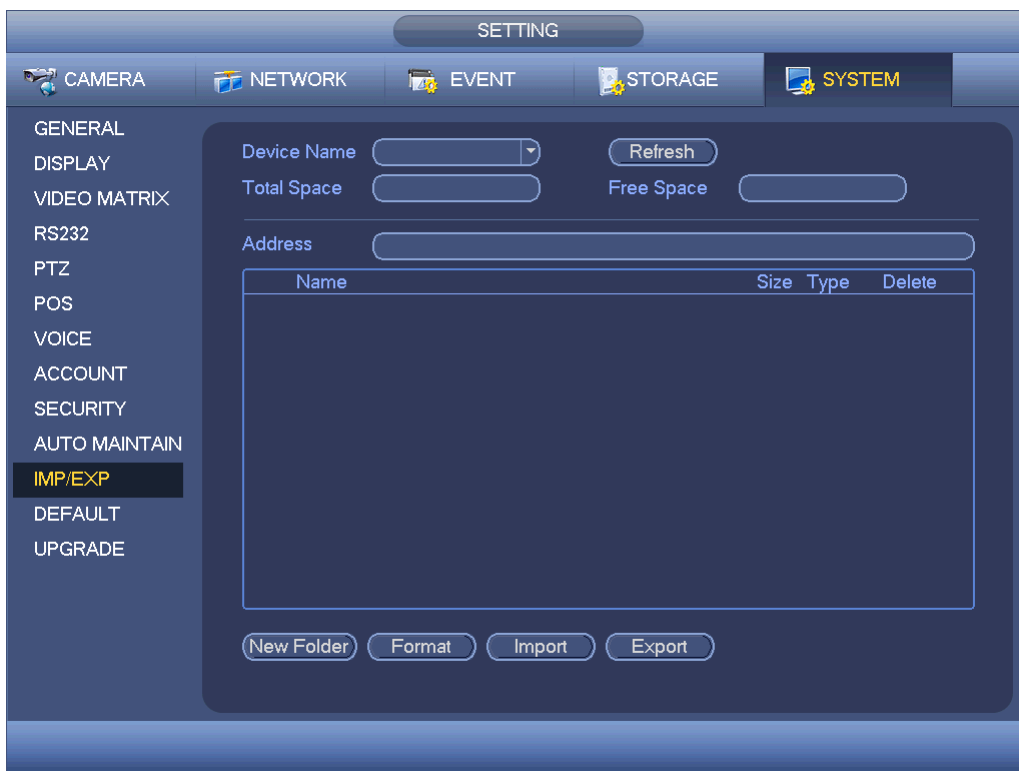


Figure 4-221

### 4.18.3 Default



#### Note

The default function is for admin user only.

It is to restore system to the factory default user. (Select item(s) on the interface to restore specified data.)

From main menu->Setting->System->Default. Enter Default interface. See Figure 4-222.



Figure 4-222

- Select an item on the interface and click Save/Apply button, it is to restore the specified item(s) to the default setup.
- Click factory default button, it is restore all items to factory default setup.

### 4.18.4 System Upgrade

Please upgrade system regularly to guarantee system stability.

From main menu->Setting->System->Upgrade you can see the following interface. See Figure 4-223.

- Start: Please insert the USB device that containing the update file to the device and then click the Start button to begin the update.



Figure 4-223

## 4.19 Remote Device Manager

It is to view remote device running status and upgrade the network camera.

### 4.19.1 Connection Status

It is to view the status of the corresponding network camera channel such as motion detect, video loss, tampering, alarm and etc.

From main menu->Setting->Camera->Remote->Status, enter status interface. See Figure 4-224..






- IPC status: : Front-end does not support. : Front-end supports. : There is alarm event from current front-end.
- Connection status: : Connection succeeded. : Connection failed.
- Refresh: Click it to get latest front-end channel status.





Figure 4-224

#### 4.19.2 Firmware

It is to view channel, IP address, manufacturer, type, system version, SN, video input, audio input, external alarm and etc.

From main menu->Setting->Camera->Remote->Firmware, you can see the following interface. See Figure 4-225.



Figure 4-225

### 4.19.3 Camera Upgrade

It is to update the network camera.

Step 1 From main menu->Setting->Camera->Upgrade.

Enter upgrade interface. See Figure 4-226.

Step 2 Click Browse button and then select the upgrade file.

#### Note

Insert the peripheral device than contain the upgrade file.

Step 3 Select a channel (or you can select device type filter to select several devices at the same time.)

Step 4 Click Start upgrade button to update. You can see the corresponding dialogue once the upgrade is finish. If the camera upgrade operation failed, please check the camera connection.



Figure 4-226

## 4.20 Info

It is to view system information, event information, network information, log information and etc.


### 4.20.1 System Info

It is to view HDD information, record information, bit stream information, version information and etc.

#### 4.20.1.1 HDD Information

It is to list HDD type, total space, free space, video start time and status. If connected to the eSATA HDD, system can display the corresponding information here.

From main menu->Info->System->HDD, enter HDD information interface. See Figure 4-227.

- SN: You can view the HDD amount the device connected to. \* means it is current working HDD.
- Type: The corresponding HDD properties.
- Total space: The HDD total capacity.
- Free space: The HDD free capacity.
- Status: HDD can work properly or not.
- SMART: Click  to display HDD information. See Figure 4-228.

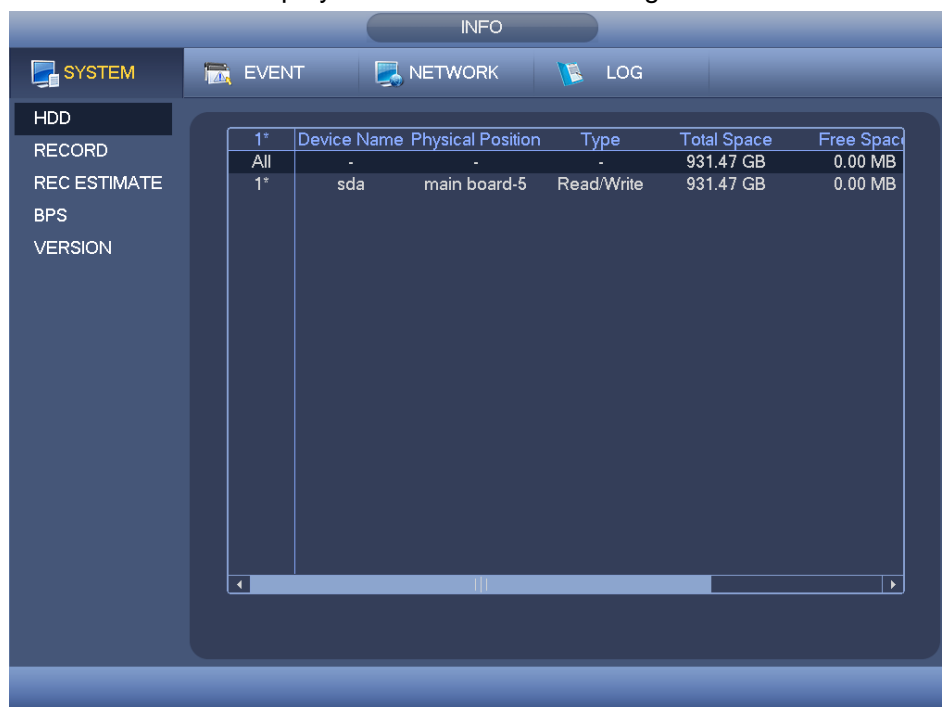


Figure 4-227

S.M.A.R.T INFO

Port 5  
 Model WDC WD10PURX-64E  
 No. WD-WCC4J2PJU2U8  
 Status OK  
 Describe:

Smart ID	Attribute	Threshold	Value	Worst Value	Status
1	Read Error Rate	51	200	200	OK
3	Spin Up Time	21	150	126	OK
4	Start/Stop Count	0	99	99	OK
5	Reallocated Sector Count	140	200	200	OK
7	Seek Error Rate	0	200	200	OK
9	Power On Hours Count	0	99	99	OK
10	Spin-up Retry Count	0	100	100	OK
11	Calibrate Retry Count	0	100	100	OK
12	Power On/Off Count	0	99	99	OK
192	Power-Off Retract Cycle	0	199	199	OK
193	Load/Unload Cycle Count	0	200	200	OK
194	Temperature	0	110	94	OK
196	Reallocated Event Count	0	200	200	OK
197	Current Pending Sector Count	0	200	200	OK
198	Off-line Scan Uncorrectable Count	0	100	253	OK
199	Ultra ATA CRC Error Rate	0	200	200	OK

Figure 4-228

#### 4.20.1.2 Record Info

It is to view record start time and end time

From main menu->Info->System->Record, enter record interface. See Figure 4-229.

INFO

SYSTEM    EVENT    NETWORK    LOG

HDD  
**RECORD**  
 REC ESTIMATE  
 BPS  
 VERSION

	Device Name	Start Time	End Time
All		2016-06-08 15:17:16	2016-06-23 14:23:14
1*	sda	2016-06-23 00:34:00	2016-06-23 11:33:40
	sda	2016-06-23 11:32:37	2016-06-23 13:49:16
	sda	2016-06-08 15:17:16	2016-06-10 14:14:17
	sda	2016-06-23 13:50:28	2016-06-23 14:23:14
	sda	2016-06-10 14:46:39	2016-06-12 12:23:19
	sda	2016-06-12 12:19:27	2016-06-13 09:05:29
	sda	2016-06-13 09:01:33	2016-06-14 20:29:21
	sda	2016-06-14 20:29:21	2016-06-20 19:00:06
	sda	2016-06-22 10:36:07	2016-06-23 00:34:00

Figure 4-229

#### 4.20.1.3 Record Estimate


System can calculate the record time based on the HDD space, or you can input the record time you want to calculate the HDD space you need.

Step 1 From main menu->Info->System->Record estimation.

Enter record estimate interface. See Figure 4-230.



Figure 4-230

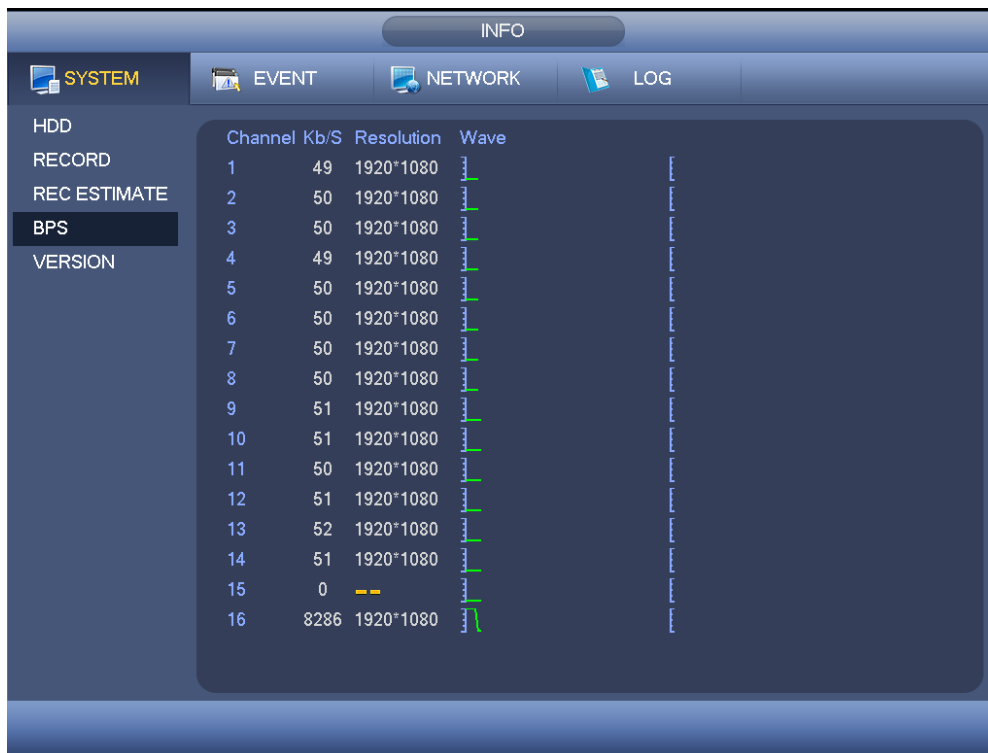
Step 2 Click  after the channel name, system pops up Edit dialogue box. See Figure 4-154. Input resolution, frame rate, bit stream, record time of the corresponding channel, system can calculate the record time based on the channel setup and HDD space.



#### 4.20.1.4 BPS

It is to view current video data stream (KB/s) and resolution

From main menu->Info->System->BPS, enter BPS interface. See Figure 4-234.



The screenshot shows the BPS interface with a table of video data streams. The table has four columns: Channel, Kb/S, Resolution, and Wave. The data is as follows:

Channel	Kb/S	Resolution	Wave
1	49	1920*1080	100%
2	50	1920*1080	100%
3	50	1920*1080	100%
4	49	1920*1080	100%
5	50	1920*1080	100%
6	50	1920*1080	100%
7	50	1920*1080	100%
8	50	1920*1080	100%
9	51	1920*1080	100%
10	51	1920*1080	100%
11	50	1920*1080	100%
12	51	1920*1080	100%
13	52	1920*1080	100%
14	51	1920*1080	100%
15	0	--	100%
16	8286	1920*1080	100%

Figure 4-234

#### 4.20.1.5 Device Status



##### Note

This function is for some series product only.

It is to view fan status, power status, CPU usage, temperature and etc.

From main menu->Info->System->Status, enter device status interface. See Figure 4-235.



Figure 4-235

#### 4.20.1.6 Version

It is to view some version information such as version number, built date, serial number and etc

From main menu->Info->System->Version, enter version interface. See Figure 4-236.



#### Note

The following figure for reference only.





Figure 4-236

## 4.20.2 Event Info

### 4.20.2.1 Event

it is to display device status and channel status.

From main menu->Info->Event->Event, enter event interface. See Figure 4-237.

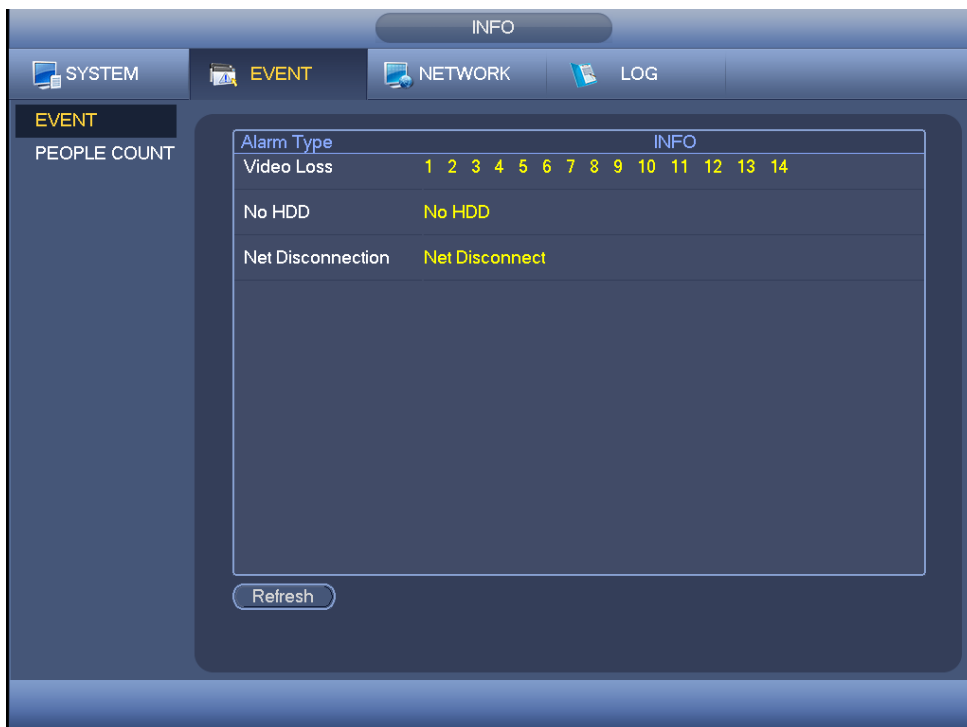


Figure 4-237

#### 4.20.2.2 People Counting

It is to search and view the people counting results of each channel. System can export people counting report. The export file extension name is .bmp.

Step 1 From main menu->Info->Event->People Counting.

Enter people counting interface. See Figure 4-238.

Step 2 Set parameters.

- Channel: Please select a channel from the dropdown list to search people counting result.
- Report type: Please select report type from the dropdown list. It includes daily report, monthly report, and annual report. And then select histogram graph and polygon graph. Please note the daily report max supports 24 hours.
- Start time/end time: Input the people counting start time and end time.
- Flow direction: Check the box to set flow direction such as enter/exit.
- Display number: Check the box, the DVR can display the enter and exit people amount in the report.
- Search: Click Search button, you can view the people counting report at the bottom of the interface.
- Export: Click it and then select path, click Save button to save people counting report to your local PC.




Figure 4-238

Step 3 Click Search.

Device displays people counting statistics report.

## 4.20.3 Network Info

### 4.20.3.1 Online Users

It is to display the connected network user information. Click  to disconnect one user or block one user if you have proper system right. Max disconnection setup is 65535 seconds.

System detects there is any newly added or deleted user in each five seconds and refresh the list automatically.

From main menu->Info->Network->Online users, enter network users interface. See Figure 4-239.



Figure 4-239

### 4.20.3.2 Network Load

It is to 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.

From main menu->Info->Network->Load, network load is shown as in Figure 4-240. Here you can view the follow statistics of the device network adapter.




Figure 4-240


### 4.20.3.3 Network Test

It is to test destination address, backup sniffer packet files.

From main menu->Info->Network->Test, network test interface is shown as in Figure 4-241.

- Destination IP: Please input valid IPV4 address or 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/4G), you can click the button  on the right panel to begin Sniffer. Click the grey stop button to stop. Please note system cannot 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 4-241

#### 4.20.4 Log Info



##### Note

- If there is no HDD, system max supports 10,000 logs.
- If you have connected to the formatted HDD, system max supports 500,000 logs.
- System operation logs are saved in system memory. Other types of logs are saved in the HDD. If there is no HDD, other types of logs are saved in the system memory media.
- The logs are safe when you format the HDD. But the logs may become loss once you removed the HDD from the device.

Step 1 From main menu->Info->Log->Log.  
Enter log interface. See Figure 4-242.



Figure 4-242



Figure 4-243

- Step 2 Select log type and set start time, end time.
- Step 3 Click Search.  
Device displays log information.

- Step 4 Double click a log.  
Device displays detailed information. See Figure 4-243.



**Note**

Use rolling bar to view information, or use Previous/Next to view other log information.

## 4.21 Shutdown



**CAUTION**

- When device displays “System is shutting down...”, do not press the power on-off button.
- Do not unplug the power cable when device is running (especially device is recording video file).
- Unplug the power cable first before you open the case to replace/change the HDD.

### Steps:

- **Use main menu (recommended)**

Step 1 On the main menu, click Shutdown, enter shutdown interface. See Figure 4-244.

Step 2 There are three options: Shutdown/logout/reboot.

For the user who does not have the shut down right, please input corresponding account information to shut down.

- **Use button on the front panel or the remote control to shutdown.**  
Press the power on-off button on the front panel or the remote control for at least 3 seconds.
- **Use power on-off button on the rear power.**



Figure 4-244

## **Auto Resume after Power Failure**

The system can automatically backup video and resume previous working status after power failure.



## 5 WEB OPERATION



### Note

Slightly difference may be found in the interface due to different series.

### 5.1 Network Connection

Before web client operation, please check the following items:

Step 1 Network connection is right

Step 2 DVR and PC network setup is right. Please refer to Chapter 5.7.2 Network (main menu->Setting->Network)

Step 3 Use order ping `***.***.***.***`(\* is DVR IP address) to check connection is OK or not. Usually the return TTL value should be less than 255.



### Note

- Device default IP address is 192.168.1.108.
- Current series product supports various browsers such as Safari, fire fox browser, Google browser. Device supports multiple-channel monitor, PTZ control, DVR parameter setup on the Apple PC.

### 5.2 Device Initialization

If it is your first time to use the device, please set a login password of **admin** (system default user).



### Note

For your device safety, please keep your login password of **admin** well after the initialization steps, and change the password regularly.

#### Steps:

Step 1 Open the browser and then input the device IP address in the address column.

Step 2 Click Enter button.

Device displays device initialization interface. See Figure 5-1.

Figure 5-1

Step 3 Set login password of **admin**.

- User name: The default user name is **admin**.
- Password/confirm password: The password ranges from 8 to 32 digitals. It can contain letters, numbers and special characters (excluding “'”, “””, “;”, “:”, “&” ) . The password shall contain at least two categories. Usually we recommend the strong password.



**WARNING**

**STRONG PASSWORD RECOMMENDED-For your device own safety, please create a strong password of your own choosing. We also recommend you change your password periodically especially in the high security system.**

Step 4 Click Next, device goes to the following interface. See Figure 5-2.

Figure 5-2

Step 5 Set security questions.

 **Note**

- After setting the security questions here, you can use the email you input here or answer the security questions to reset **admin** password Refer to chapter 5.4 Reset password for detailed information.
- Cancel the email or security questions box and then click Next button to skip this step.
- Email: Input an email address for reset password purpose. Scan the QR code to reset the password, you need to receive the security code by the email. Input the security code to reset the password of **admin**. In case you have not input email address here or you need to update the email information, please go to the main interface->System->Account to set. Refer to chapter 5.7.5.8 Account for detailed information.
- Security question: Set security questions and corresponding answers. Properly answer the questions to reset **admin** password. In case you have not input security question here or you need to update the security question information, please go to the local main interface->Setting->System->Account->Security question to set. Refer to chapter 5.7.5.8 Account for detailed information.

 **Note**

If you want to reset password by answering security questions, please go to the local menu interface.

Step 6 Click OK to complete the device initialization setup. See Figure 5-3.



Figure 5-3

### 5.3 Login

Step 1 Open IE and input DVR address in the address column.

System pops up warning information to ask you whether install control or not. See Figure 5-4.

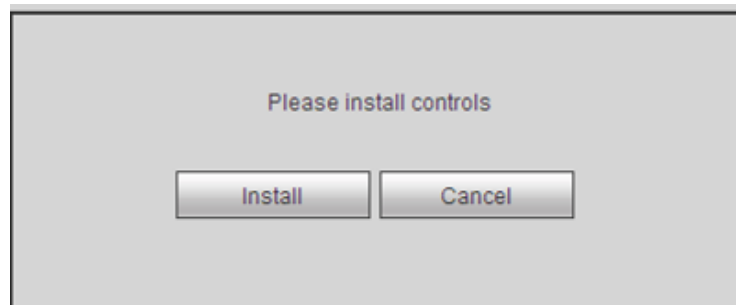


Figure 5-4

Step 2 Please click Install button, system can auto run the installation. Or follow the prompts to save the installation package and install. After installation, the interface is shown as below. See Figure 5-5.



Figure 5-5

Step 3 Please input user name and password.

 **Note**

- Device factory default user name is **admin**. The password is that you set during initialization process. For your device safety, please change the admin password regularly and keep it well.
- Check the Plain text to view the input password.
- In case you forgot password, click Forgot password to reset. Refer to the user's manual for detailed information.
- There are two login model: LAN/WAN. For the difference of these two modes, please refer to chapter 5.5.2 WAN login. .

Step 4 Click Login.

Enter the preview interface.

 **Note**

Delete old plug-in when you want to upgrade new version. Go to C:\Program Files (x86)\webrec\WEB30\WebView\_H"and run uninstallation tool uninst.exe, device automatically deletes the old plug-in.

## 5.4 Reset Password

If you forgot **admin** password, you can reset the password by email or by answering the security questions (local menu only).

### Steps:

Step 1 Open browser and go to the device login interface. See Figure 5-3.



Figure 5-6

Step 2 Click Forgot password, enter the following interface. See Figure 5-7.



Figure 5-7

Step 3 Follow the prompts on the interface and then scan the QR code to get the security code.



**WARNING**

- ✧ For the same QR code, max scan twice to get two security codes. Refresh the QR code if you want to get security code again.
- ✧ The security code on you email is only valid for 24 hours.
- ✧ After five times security code failure, the **admin** account will be locked for 5

minutes.

Step 4 Input the security code on the email and then click Next button.

Step 5 Input new password and then confirm.



WARNING

**STRONG PASSWORD RECOMMENDED-For your device own safety, please create a strong password of your own choosing. The password shall be at least 8-digit containing at least two types of the following categories: letters, numbers and symbols. We also recommend you change your password periodically especially in the high security system.**

Step 6 Click OK button to complete the setup.

## 5.5 Preview

### 5.5.1 LAN Mode

For the LAN mode, after you logged in, you can see the main window. See Figure 5-8.

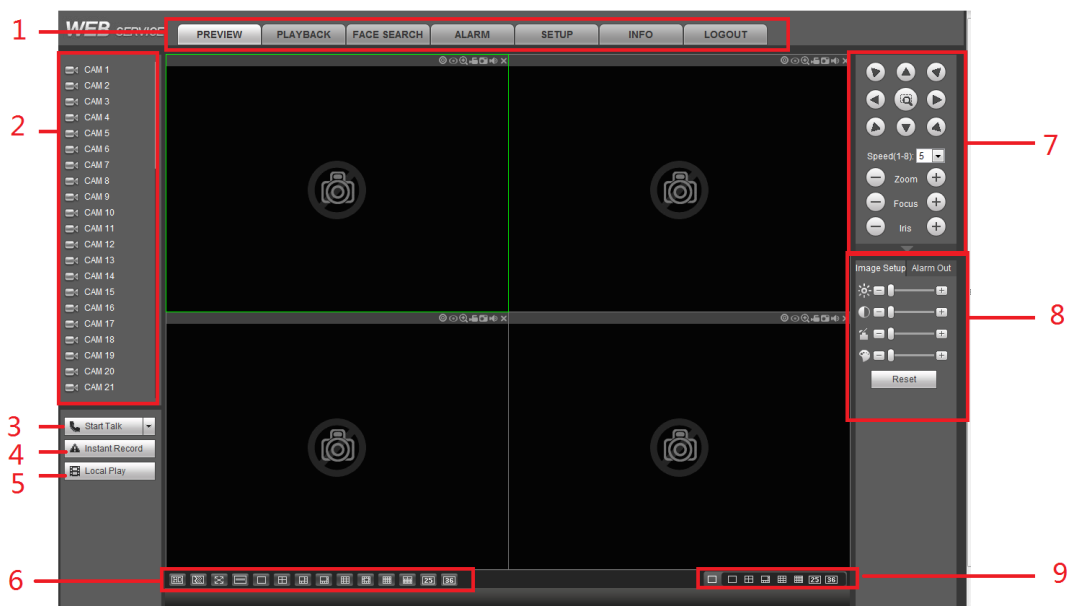


Figure 5-8

Please refer to the following sheet for detailed information.

SN	Name	SN	Name
1	System menu	2	Realtime monitor channel
3	Bidirectional talk	4	Instant record
5	Local playback	6	Switch monitor window
7	PTZ control	8	Image setup /alarm output
9	Zero-channel encoding		

#### 5.5.1.1 System Menu

The system menu interface is shown as below. See Figure 5-9.

Please refer to chapter 5.5 Preview,, chapter 5.7 setup , chapter 5.8 search, chapter 5.9 Alarm, chapter 5.6 Face search and chapter 5.11 Logout for detailed information.



Figure 5-9

### 5.5.1.2 Real-time Monitor

Left click the channel name on the left pane of the main interface; you can see the corresponding video in current window.

On the top left corner, you can view device IP, channel number, network monitor bit stream. See Figure 5-10.



Figure 5-10

Please refer to the following sheet for detailed information.

SN	Name	Function
1-4	Display device information	When there is video, it is to display “Device IP-Monitor channel number-network bit stream-decode mode”. Otherwise, it shows as “No video”.
5	Smart track	Click it to view the smart track video.
6	Fisheye	Click it to set fisheye installation mode and display mode.
7	Digital zoom	Click this button and then left drag the mouse in the zone to zoom in. right click mouse system restores original status.
8	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.



SN	Name	Function
9	Snapshot	You can snapshot important video. All images are memorized in system client folder PictureDownload (default).
10	Audio	Turn on or off audio. <b>Note:</b> It has no relationship with system audio setup.
11	Close video	Close video









### Fisheye de-warp

There are three installation modes: ceiling mount/wall mount/ground mount(180° fisheye supports wall mount only). The different installations modes have different de-warp modes. See Figure 5-11.



Figure 5-11

Please refer to the following sheet for detailed information.

Installation modes	Icon	Note
 ( Ceiling mount )		360°panorama original view
		1 de-warp window+1 panorama stretching
 ( Ground mount )		2 panorama stretching view
		1 360° panorama view+3 de-warp windows
		1 360°panorama view+4 de-warp windows
		4 de-warp windows+1 panorama stretching

Installation modes	Icon	Note
		1 360° panorama view+8 de-warp windows
(Wall mount)		360°panorama original view
		Panorama stretching
		1 panorama unfolding view+3 de-warp windows
		1 panorama unfolding view +4 de warp windows
		1 panorama unfolding view +8 de warp windows

### Open All

Open all button is to enable/disable all-channel real-time monitor. Click it the button becomes yellow. See Figure 5-12.

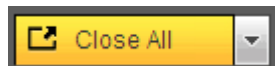


Figure 5-12

### Main stream/sub stream

Please refer to Figure 5-13 for main stream and extra stream switch information.

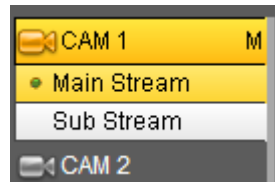


Figure 5-13

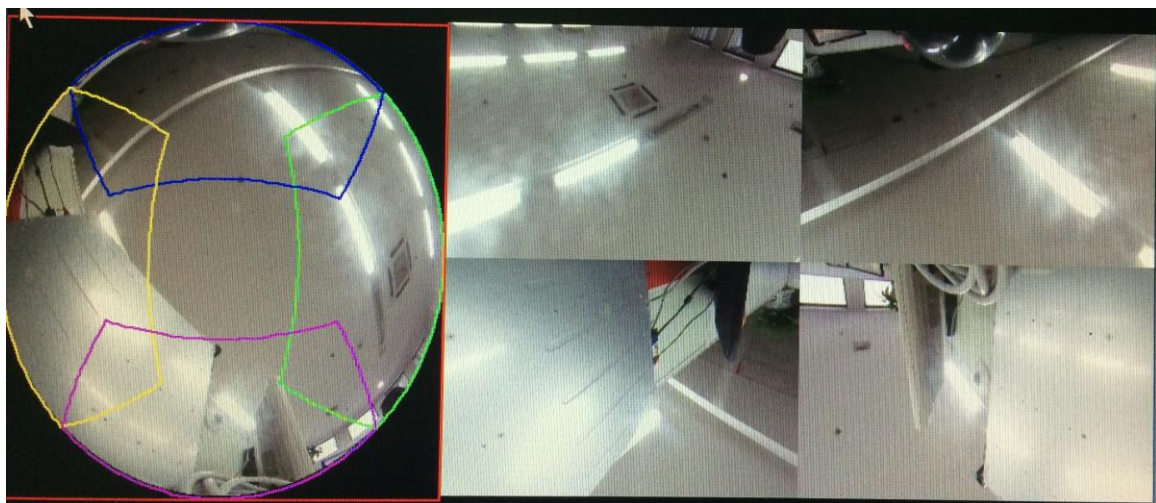


Figure 5-14

In Figure 5-14, you can adjust the color pane on the left pane or use your mouse to change the position of the small images on the right pane to realize fisheye de-warp. Please use the mouse to zoom in/zoom out, move/rotate the image. (Please note this function is not for wall mount mode)

### 5.5.1.3 Start dialogue

You can click this button to enable audio talk. Click **▼** to select bidirectional talk mode. There are four options: DEFAULT, G711a, G711u and PCM. After you enable the bidirectional talk, the Start talk button becomes End Talk button and it becomes yellow. See Figure 5-15.

Please note, if audio input port from the device to the client-end is using the first channel audio input port. During the bidirectional talk process, system will not encode the audio data from the 1-channel.

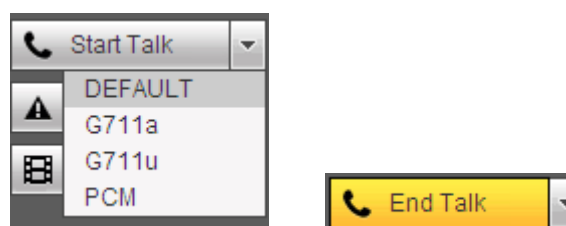


Figure 5-15

### 5.5.1.4 Instant record

Click it, the button becomes yellow and system begins manual record. See Figure 5-16. Click it again, system restores previous record mode..

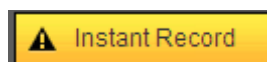


Figure 5-16

### 5.5.1.5 Local play

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 5-17.



Figure 5-17

### 5.5.1.6 Switch monitor window

From the left to the right ,you can see video quality/fluency/ full screen/tilt sync/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. See Figure 5-18.

 **Note**

The following interface may vary due to different series product.



Figure 5-18

### 5.5.1.7 PTZ

Before PTZ operation, please make sure you have properly set PTZ protocol. (Please refer to chapter 5.7.5.5).

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	<ul style="list-style-type: none"> <li>● Select Scan from the dropdown list.</li> <li>● Click Set button, you can set scan left and right limit.</li> <li>● 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.</li> </ul>
Preset	<ul style="list-style-type: none"> <li>● Select Preset from the dropdown list.</li> <li>● Turn the camera to the corresponding position and Input the preset value. Click Add button to add a preset.</li> </ul>
Tour	<ul style="list-style-type: none"> <li>● Select Tour from the dropdown list.</li> <li>● Input preset value in the column. Click Add preset button, you have added one preset in the tour.</li> <li>● Repeat the above procedures you can add more presets in one tour.</li> <li>● Or you can click delete preset button to remove one preset from the tour.</li> </ul>
Pattern	<ul style="list-style-type: none"> <li>● Select Pattern from the dropdown list.</li> <li>● 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.</li> </ul>
Aux	<ul style="list-style-type: none"> <li>● Please input the corresponding aux value here.</li> <li>● You can select one option and then click AUX on or AUX off button.</li> </ul>

Parameter	Function
Light and wiper	You can turn on or turn off the light/wiper.

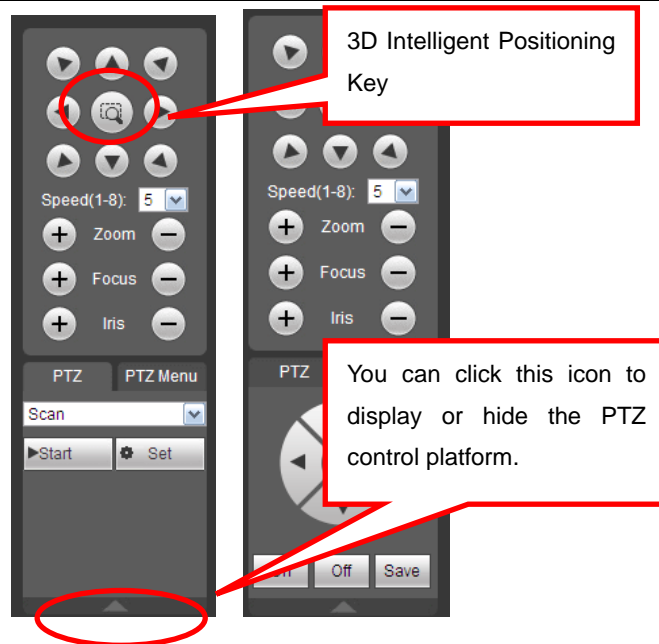


Figure 5-19

#### 5.5.1.8 Image

Here you can adjust its brightness, contrast, hue and saturation. (Current channel border becomes green). See Figure 5-20.

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



Figure 5-20

#### 5.5.1.9 Relay output

Here you can enable or disable the alarm signal of the corresponding port. See Figure 5-21.

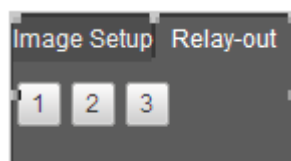


Figure 5-21

#### 5.5.1.10 Zero-channel encoding

This function allows you to view several-channel in one window. It supports 1/4/8/9-channel mode. Please go to chapter 4.2.8.4(local menu) or chapter 5.7.5.2.4 (Web) to enable zero-channel encoding function first.

## 5.5.2 WAN Login

In WAN mode, after you logged in, the interface is shown as below. See Figure 5-22.

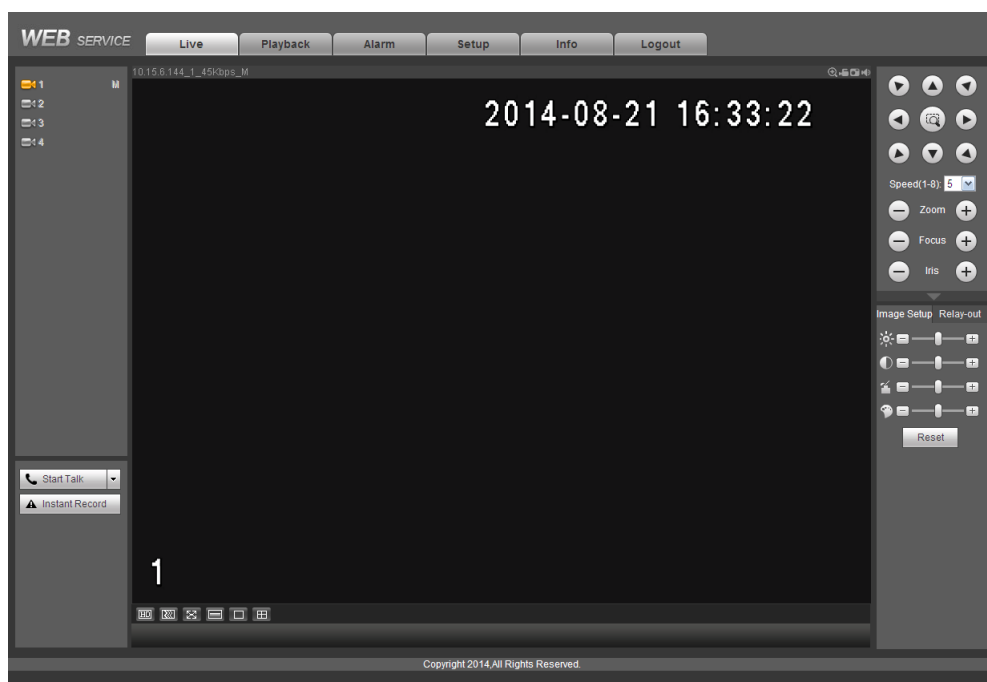


Figure 5-22

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

- The window display mode and the channel number are by default. For example, for the 16-channel, the max window split mode is 16.
- For multiple-channel monitor, system adopts sub 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).

### Important

- For multiple-channel monitor mode, system adopts extra stream to monitor by default. You cannot modify manually. All channels are trying to synchronize. Please note the synchronization effect still depends on your network environments.
- For bandwidth consideration, system cannot 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.

## 5.6 Search Human Face

On the main interface, click Face search button, you can see an interface shown as below. See Figure 5-23.

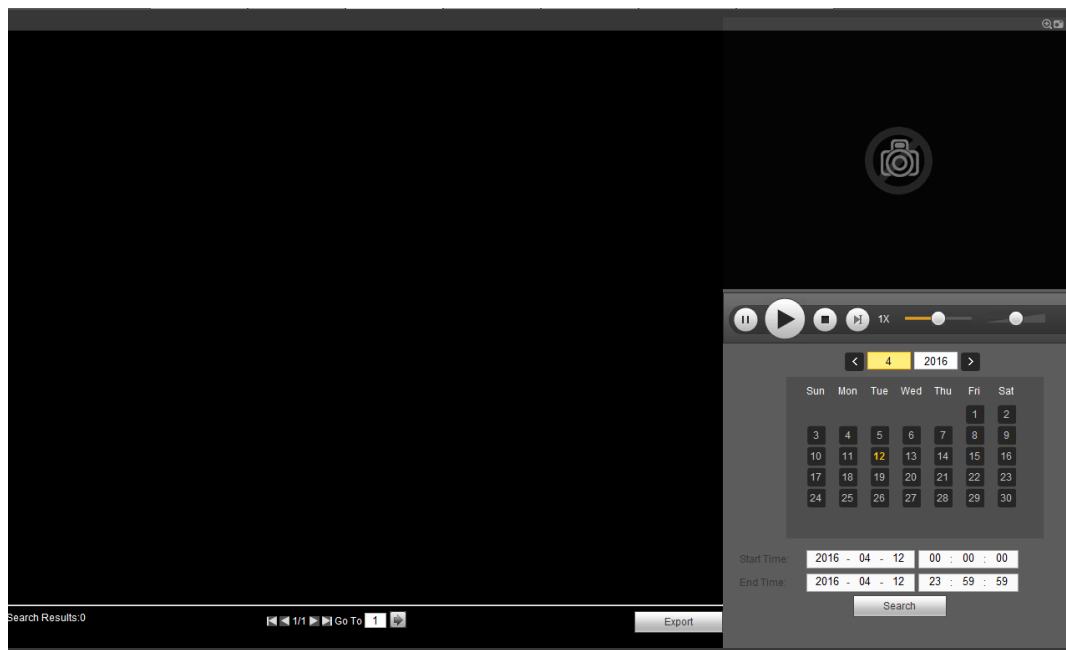



Figure 5-23

Please refer to the following sheet for detailed information.

SN	Name	Function
1	Display pan	<ul style="list-style-type: none"> <li>It is to display human face detection file list. The latest file is at the bottom.</li> <li>Click Export, you can export the selected file to the USB device. There are two types: image/record. <ul style="list-style-type: none"> <li>Image: Export the recognized human face image.</li> <li>Record: Export the record file before and after 10 seconds when the DVR recognizes the human face.</li> </ul> </li> </ul>
2	Playback pane	Play the searched record file or image. Double click or click  to playback.
3	Search pane	Set date, start time and end time, click Search button, you can view the corresponding file list.

## 5.7 Setup

Here is to introduce DVR basic setups and system configurations.

### 5.7.1 Camera

It is to add network camera, set camera properties and set encode parameters.

#### 5.7.1.1 Registration (For digital channel only)

Please go to main menu->Setting->Camera->Channel type to enable IP channel function, otherwise you cannot see the following interface.

Here you can add network camera automatically or manually, set/delete corresponding

information and upgrade network camera.

From main window->Setup->Camera->Registration, registration interface is shown as below. See Figure 5-24.

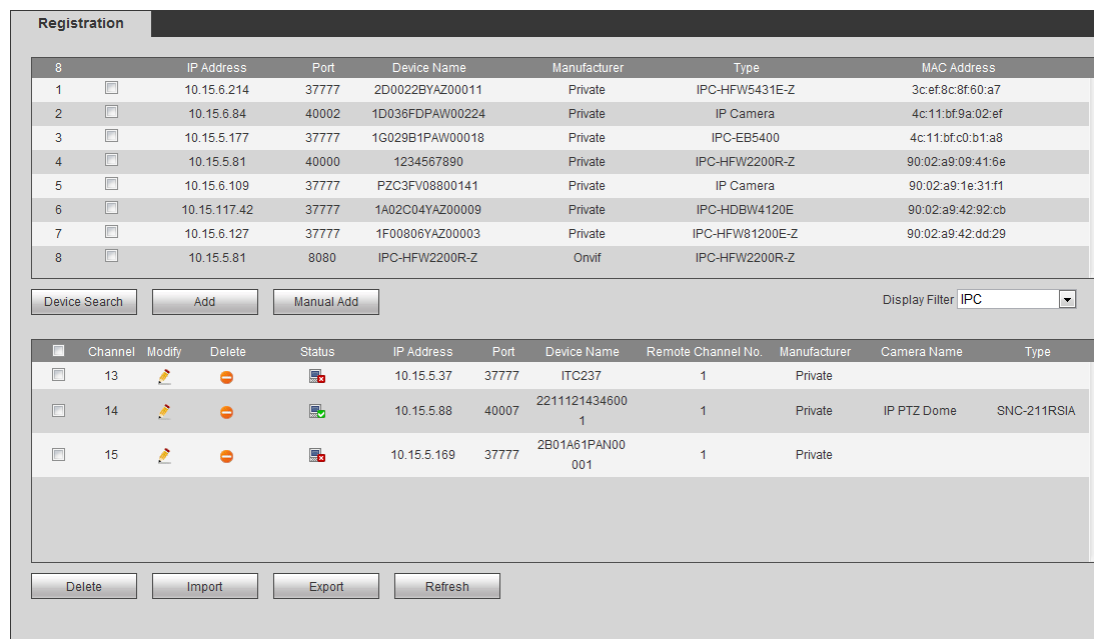


Figure 5-24

#### 5.7.1.1.1 Initialize Camera

It is to initialize connected remote device and change its login password and IP address.

### Steps:

Step 1 From main interface->Setting->Camera->Registration.

Enter Registration interface. See Figure 5-25.

Step 2 Click IP search and check the Uninitialized box.

Device displays uninitialized camera.

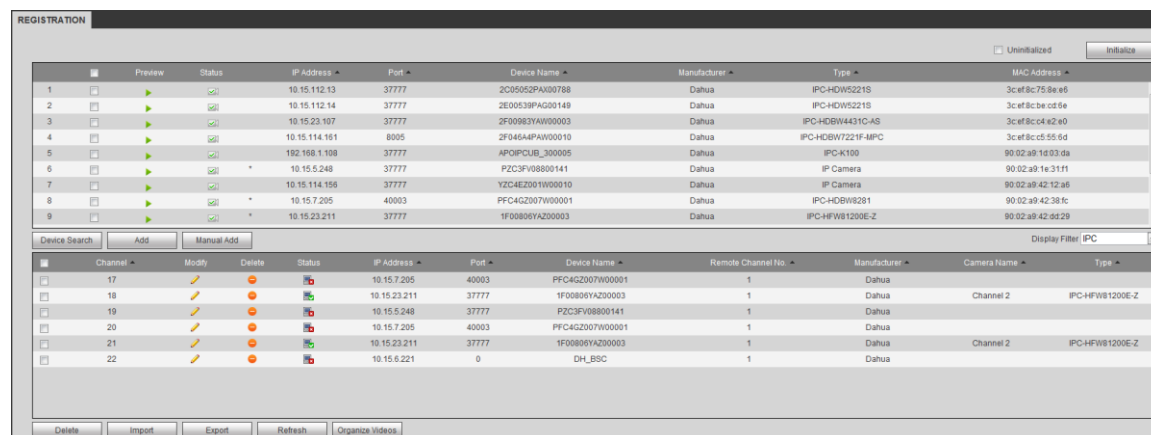


Figure 5-25

Step 3 Select a camera to be initialized and then click Initialize button.



Device displays password setup interface. See Figure 5-26.

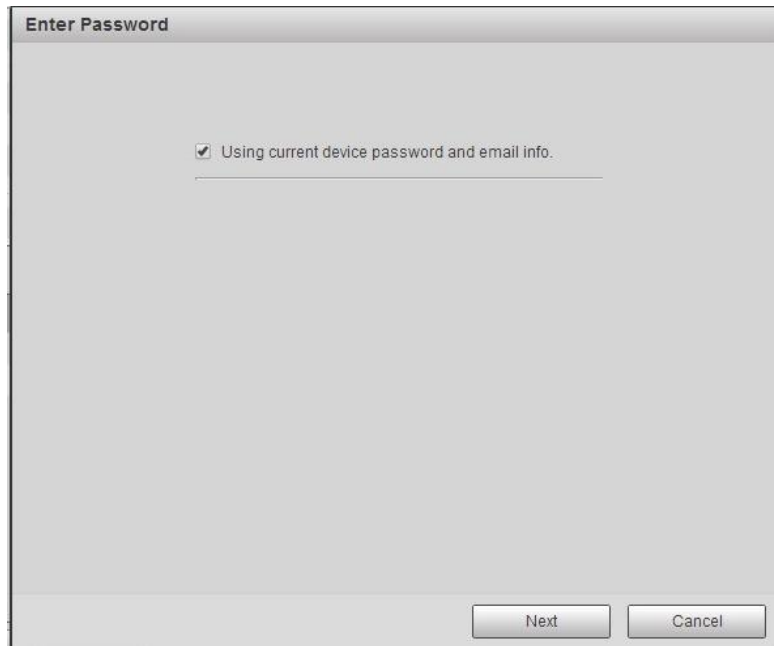


Figure 5-26

Step 4 Set camera password.

- Using current device password and email: Check the box to use DVR current admin account and email information. There is no need to set password and email. Please go to step 7.
- User name/password: The user name is **admin**. The password ranges from 8 to 32 digitals. It can contain letters, numbers and special characters (excluding “”, “()”, “\_”, “.”, “&”). The password shall contain at least two categories. Usually we recommend the strong password.



WARNING

**STRONG PASSWORD RECOMMENDED-For your device own safety, please create a strong password of your own choosing. We also recommend you change your password periodically especially in the high security system.**

Step 5 Click Next button.

Enter input email interface. See Figure 5-27.

Email: Input an email address for reset password purpose.



**Note**

Cancel the box and then click Next or Skip if you do not want to input email information here.



Figure 5-27

Step 6 Click Next button.

Enter Modify IP address interface. See Figure 5-28.

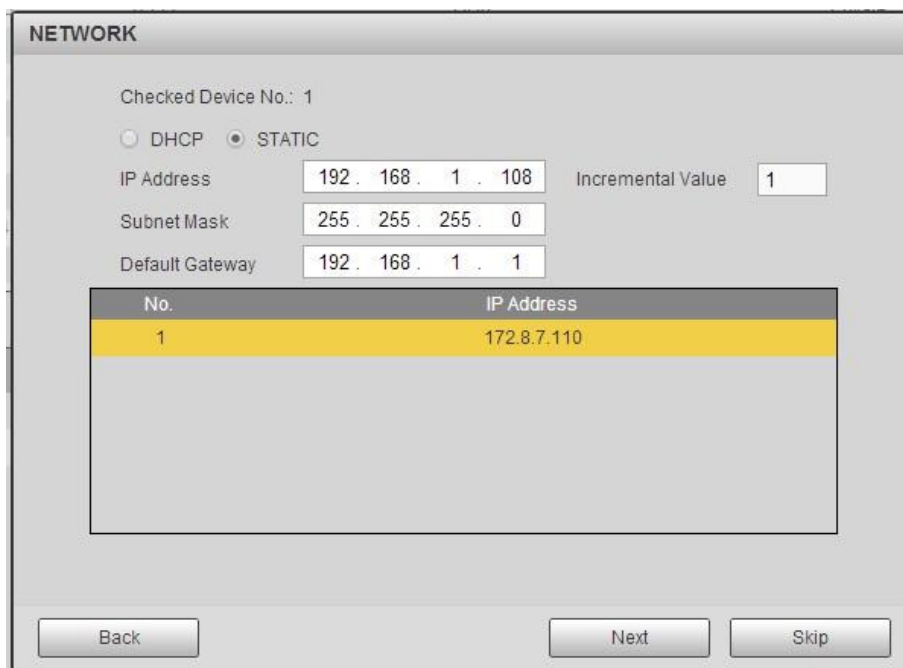


Figure 5-28

Step 7 Set camera IP address.

- Check DHCP, there is no need to input IP address, subnet mask, and default gateway. Device automatically allocates the IP address to the camera.
- Check Static, and then input IP address, subnet mask, default gateway and incremental value.

 **Note**

- If it is to change several devices IP addresses at the same time, please input incremental value. Device can add the fourth address of the IP address one by one to automatically allocate the IP addresses.
- If there is IP conflict when changing static IP address, device pops up IP conflict dialogue box. If batch change IP address, device automatically skips the conflicted IP and begin the allocation according to the incremental value

Step 8 Click Next button.

Device begins initializing camera. See Figure 5-29.

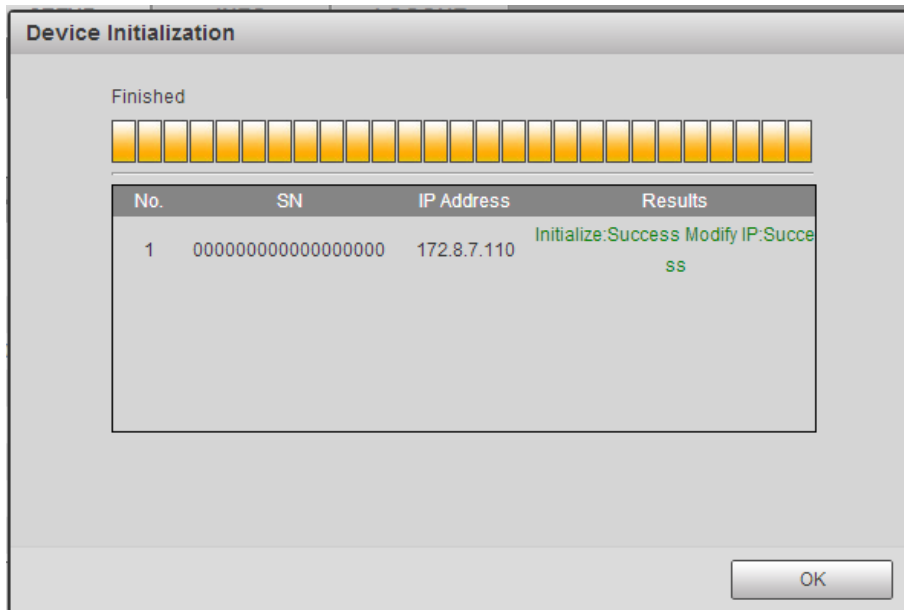


Figure 5-29

Step 9 Click OK to complete the initialization.

5.7.1.1.2 Auto Add

Step 1 From main interface->Setting->Camera->Registration

Step 2 Click IP Search, device displays searched results.

Step 3 Double click an IP address or select an IP address and then click Add button, it is to register the device to the DVR. Device supports batch add.

5.7.1.1.3 Manual Add

Step 1 Click Manual add to register the camera manually. There are three modes: TCP/UDP/Auto. The default setup is TCP. See Figure 5-30.

The image shows a 'Manual Add' dialog box with the following fields and values:



- Channel: 18
- Manufacturer: Private
- IP Address: 192.168.0.0
- TCP Port: 37777 (1~65535)
- User Name: admin
- Password: •••••
- Remote Channel No.: 1
- Decode Buffer: 280 ms (80~480)

Buttons: Save, Cancel

Figure 5-30

Step 2 Set parameters.

Parameter	Function
Manufacturer	<p>Please select from the dropdown list. System supports manufactures such as Panasonic, Sony, Dynacolor, Samsung, AXIS, Arecont, LG, Watchnet, PSIA, AirLive, Dahua and Onvif standard protocol.</p> <p> <b>Note</b> Different series products may support different manufacturers, please refer to the actual product.</p>
IP address	Input remote device IP address.
RTSP port	<p>Input RTSP port of the remote device. The default setup is 554.</p> <p> <b>Note</b> Skip this item if the manufacture is private or customize.</p>
HTTP port	<p>Input HTTP port of the remote device. The default setup is 80.</p> <p> <b>Note</b> Skip this item if the manufacture is private or customize.</p>
TCP port	Input TCP port of the remote device. The default setup is 37777.
User name/password	The user name and password to login the remote device.
Channel No.	<p>Input channel amount or click the Connect button to get the channel amount of the remote device.</p> <p> <b>Note</b> We recommend click Connect button to get remote device channel amount, the manual add operation may result in failure if the input channel amount is not right.</p>

Parameter	Function
Remote channel No.	After getting the remote device channel amount, click Setup to select a channel.  <b>Note</b> Click to select one or more remote channel numbers here.
Channel	The local channel number you want to add. One channel name has corresponding one channel number.
Decode buffer	There are three item: realtime,local, fluent.
Service type	There are four items: auto/TCP/UDP/MULTICAST(ONVIF device only)  <b>Note</b> <ul style="list-style-type: none"> <li>The default connection mode is TCP if the connection protocol is private.</li> <li>There are three items:TCP/UDP/MULTICAST if the connection protocol is ONVIF.</li> <li>There are two items: TCP/UDP if the connection protocol is from the third-party.</li> </ul>

Step 3 Click Save button.

The newly added device is added to the list at the bottom of the interface.

 **Note**

 means connection successful.  means connection failed.

#### 5.7.1.1.4Organize videos

It is to set customized preview channel sequence.

Step 1 Click organize videos button.

Enter Organize videos interface. See Figure 5-31.

 **Note**

Click  to view the camera video.

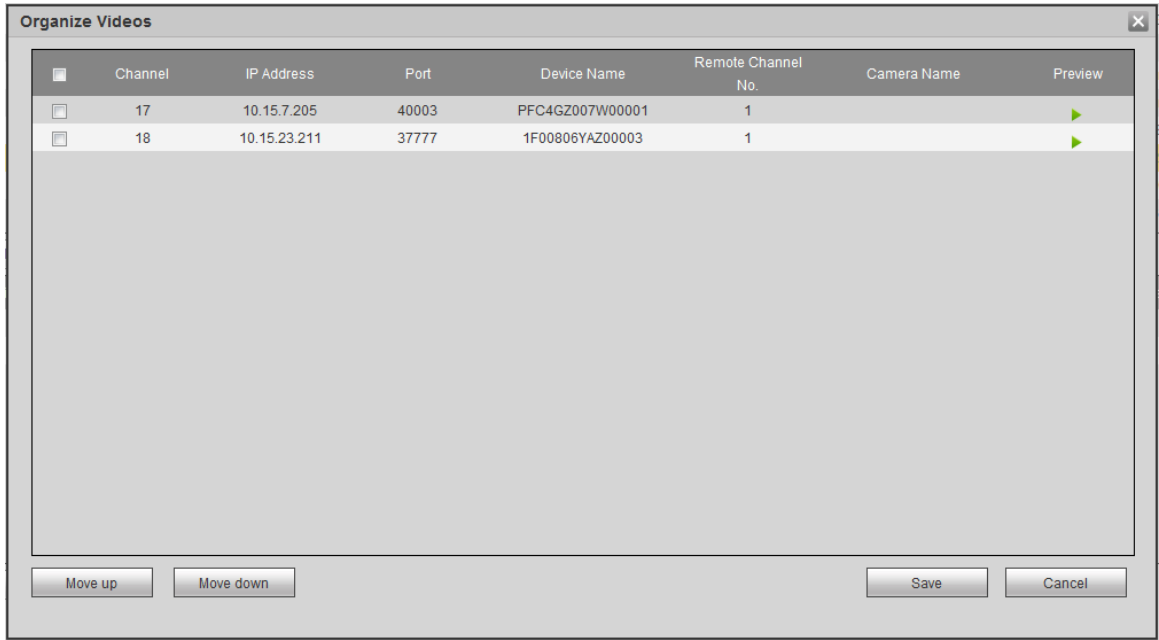


Figure 5-31

Step 2 Select a channel.

Step 3 Click Move up or Move down,

Step 4 Click Save to set remote device channel sequence.

In Figure 5-32, it is to move the original channel 17 to channel 18.

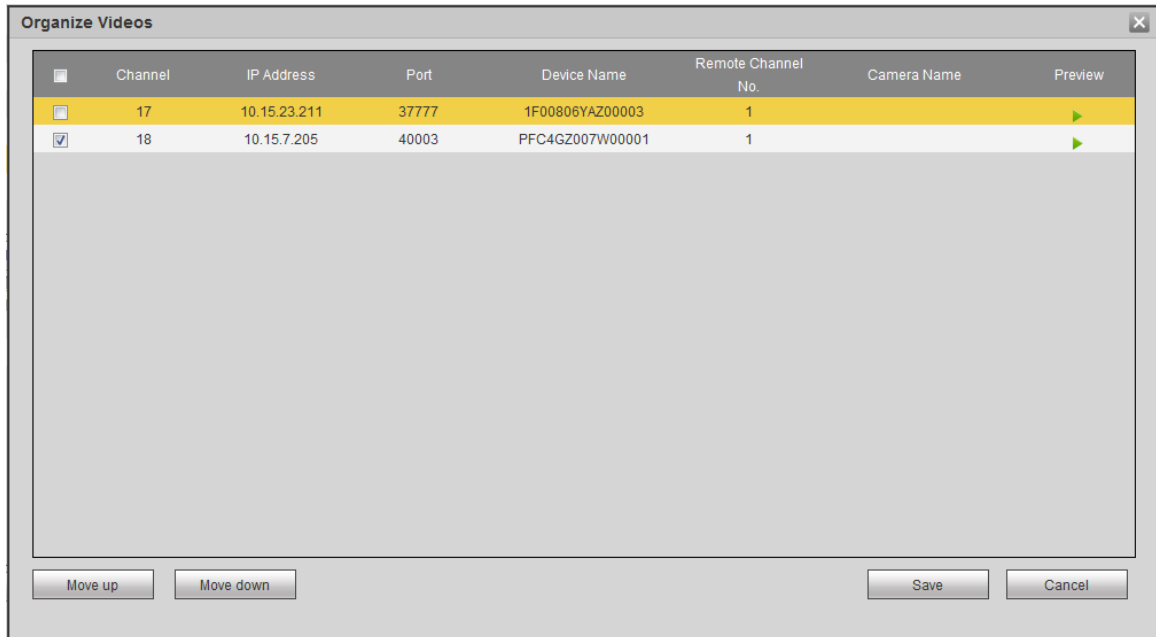

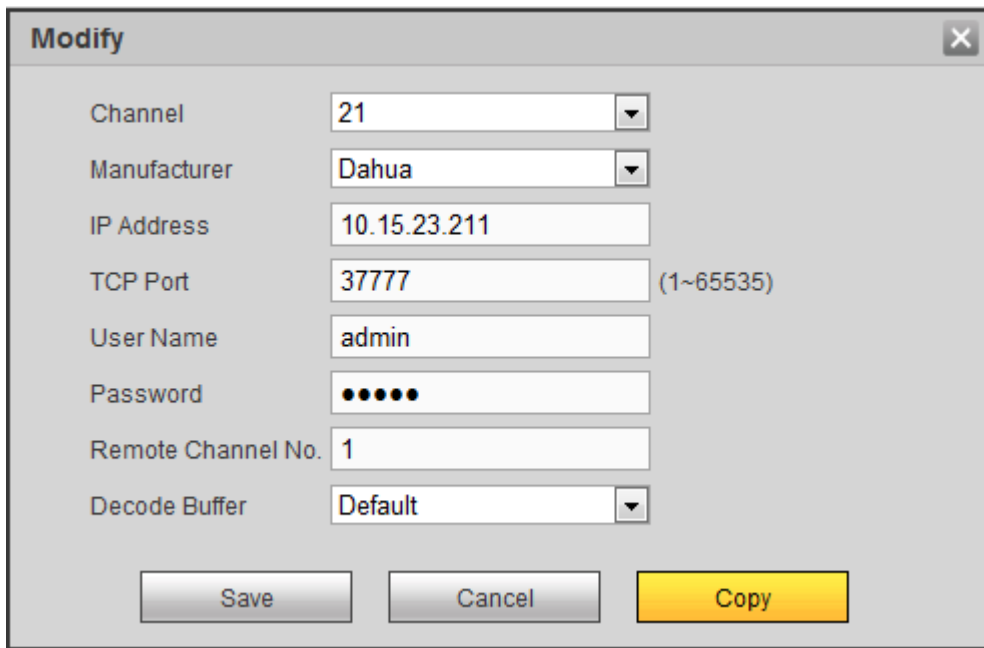


Figure 5-32

#### 5.7.1.1.5 Modify or Delete Device

- Click  or double click a device in the added list. Device pops up the following

dialogue box. See Figure 5-33.

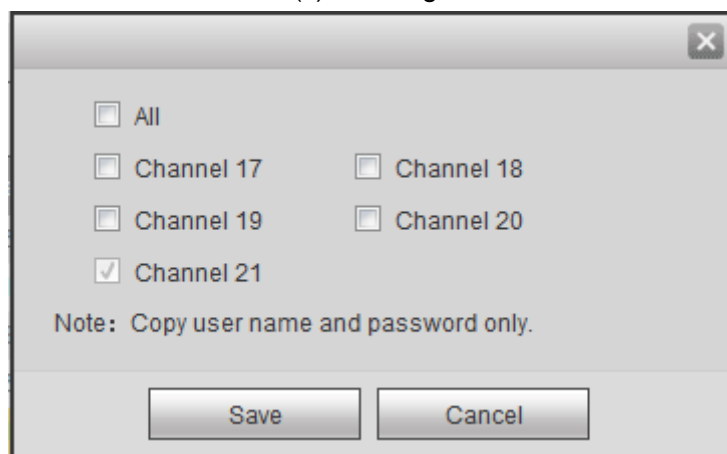


The 'Modify' dialog box contains the following fields and controls:

- Channel: 21 (dropdown)
- Manufacturer: Dahua (dropdown)
- IP Address: 10.15.23.211 (text)
- TCP Port: 37777 (text, range 1~65535)
- User Name: admin (text)
- Password: ••••• (password field)
- Remote Channel No.: 1 (text)
- Decode Buffer: Default (dropdown)
- Buttons: Save, Cancel, Copy

Figure 5-33


- ◇ Select a channel from the dropdown list and change the parameters.
- ◇ Click Copy, device pops up the following dialogue box. It is to copy the user name and password to the selected channel(s). See Figure 4-33.



The 'Copy' dialog box contains the following elements:

- Checkboxes: All, Channel 17, Channel 18, Channel 19, Channel 20, Channel 21 (checked)
- Note: Copy user name and password only.
- Buttons: Save, Cancel

Figure 5-34

- Click  to disconnected the camera and remove it from the added list.
- Select one or several device(s) in the added list, click Delete button to delete. Check the box before the channel number to select all channels at the same time.

#### 5.7.1.1.6 IP Export

System can export the Added device list to your local USB device.

Step 1 Insert the USB device and then click the Export button.

Enter the following interface.

- Step 2 Select the directory and then click the OK button.  
System pops up a dialogue box to remind you successfully exported.
- Step 3 Please click OK button to exit.

 **Note**

The exported file extension name is .CVS. The file information includes IP address, port, remote channel number, manufacturer, user name and password.

#### 5.7.1.1.7 IP Import

Import IP address to add the camera.

- Step 1 Click Import button.  
Enter Browse interface.
- Step 2 Select the import file and then click the OK button.  
System pops up a dialogue box to remind you successfully exported.

 **Note**

If the imported IP has conflicted with current added device, system pops up a dialogue box to remind you. You have two options:

- OK: Click OK button, system uses the imported setup to overlay current one.
- Cancel: Click Cancel button, system adds the new IP setup.

- Step 3 Please click OK button to exit.



**CAUTION**

- You can edit the exported .CVS file. **Do not change the file format; otherwise it may result in import failure.**
- Does not support customized protocol import and export.
- The import and export device shall have the same language format.

#### 5.7.1.2 Conditions

It is to view device property information. The setups become valid immediately after you set.

 **Note**

Slight difference may found on the user interface. The following figure for reference only.

- Step 1 From main window->Setup->Camera->Image.  
Enter condition interface. The analog channel is shown as in Figure 5-35. The digital channel is shown as in Figure 5-36.



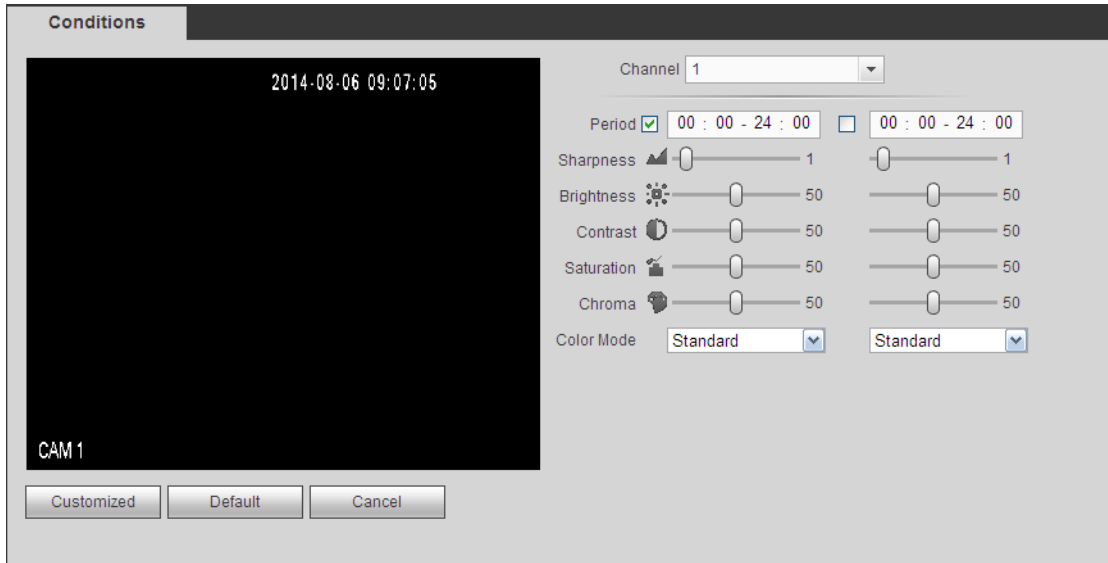


Figure 5-35

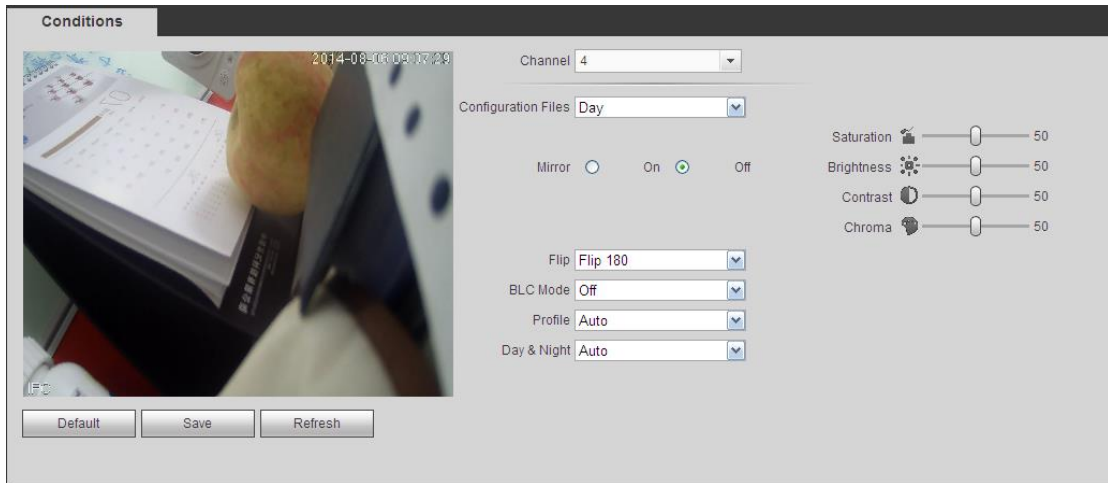


Figure 5-36

Step 2 Set parameters.

Parameter	Function
Channel	Please select a channel from the dropdown list.
Period	It divides one day (24 hours) to two periods. You can set different hue, brightness, and contrast for different periods.
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.

Parameter	Function
Brightness	<p>It is to adjust monitor window brightness. The default value is 50.</p> <p>The larger the number is, the brighter 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.</p>
Contrast	<p>It is to adjust monitor window contrast. The value ranges from 0 to 100. The default value is 50.</p> <p>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.</p>
Saturation	<p>It is to adjust monitor window saturation. The value ranges from 0 to 100. The default value is 50.</p> <p>The larger the number is, the stronger 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.</p>
Color mode	<p>It includes several modes such as standard, color. You can select corresponding color mode here, you can see hue, brightness, and contrast and etc will adjust accordingly.</p>
Mirror	<p>It is to switch video up and bottom limit. This function is disabled by default.</p>
Flip	<p>It is to switch video left and right limit. This function is disabled by default. you want to flip 90°, the resolution shall not be higher than 720P.</p>
BLC	<p>It includes several options: BLC/WDR/HLC/OFF.</p> <ul style="list-style-type: none"> <li>● BLC: The device auto exposures according to the environments situation so that the darkest area of the video is cleared</li> <li>● 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.</li> <li>● HLC: After you enabled HLC function, the device can lower the brightness of the brightest section according to the HLC control level. can reduce the area of the halo and lower the brightness of the whole video.</li> <li>● OFF: It is to disable the BLC function. Please note this function is disabled by default.</li> </ul>

Parameter	Function
Profile	<p>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.</p> <ul style="list-style-type: none"> <li>● Auto: The auto white balance is on. System can auto compensate the color temperature to make sure the vide color is proper.</li> <li>● Sunny: The threshold of the white balance is in the sunny mode.</li> <li>● Night: The threshold of the white balance is in the night mode.</li> <li>● Customized: You can set the gain of the red/blue channel. The value renegees from 0 to 100.</li> </ul>
Day/Night	<p>It is to set device color and the B/W mode switch. The default setup is auto.</p> <ul style="list-style-type: none"> <li>● Color: Device outputs the color video.</li> <li>● 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.)</li> <li>● B/W: The device outputs the black and white video.</li> <li>● Sensor: It is to set when there is peripheral connected IR light.</li> </ul>

Step 3 Click Save to complete the setup.

### 5.7.1.3 Encode

It includes encode setup, snapshot setup, video overlay and storage path setup.

#### 5.7.1.3.1 Encode

Step 1 From main window->Setup->Camera->Encode->Encode.

Enter encode interface. See Figure 5-37.

The screenshot shows the 'Encode' configuration window with the following settings:

- Channel:** 1
- Main Stream:**
  - Code-Stream Type: Regular
  - Compression: H.264H
  - Smart Codec: Stop
  - Resolution: 1920\*1080(1080P)
  - Frame Rate(FPS): 15
  - Bit Rate Type: CBR
  - Bit Rate: 2048 Kb/S
  - Reference Bit Rate: 640-6144Kb/S
  - I Frame Interval: 1sec.
  - Audio Enable:
  - Audio Format: G711a
  - Audio Source: LOCAL
  - Watermark Enable:
- Sub Stream:**
  - Video Enable:
  - Compression: H.264H
  - Resolution: 352\*288(CIF)
  - Frame Rate(FPS): 15
  - Bit Rate Type: CBR
  - Bit Rate: 320 Kb/S
  - Reference Bit Rate: 32-640Kb/S
  - I Frame Interval: 1sec.
  - Audio Enable:
  - Audio Format: G711a
  - Audio Source: LOCAL
  - Watermark String: (empty)

Buttons at the bottom: Copy, Save, Refresh, Default.

Figure 5-37

Step 2 Set parameters.

Parameter	Function
Channel	Please select a channel from the dropdown list.
SVC	SVC is so called scaled video coding. Check the box to enable this function. During the network transmission process, system discards unimportant frames when the bandwidth is not sufficient or the decode capability is low. It is to guarantee video quality and transmission fluency.
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.
Smart Codec	Select Start from the dropdown list to enable smart codec function. The DVR can auto reduce the video bit stream of the non-important surveilland object to save the storage space. Please note this function is for main stream only.

Parameter	Function
Compression	<p>Compression: System supports H.264H, H.264, H.264B, and MJPEG.</p> <ul style="list-style-type: none"> <li>● H.264H: It is the High Profile compression algorithm. It has the high encode compression rate. It can achieve high quality encode at low bit stream. Usually we recommend this type.</li> <li>● H.264 is the general compression algorithm.</li> <li>● H.264B is the Baseline algorithm. Its compression rate is low. For the same video quality, it has high bit stream requirements.</li> </ul>
Resolution	It is to set video resolution. The higher the resolution is, the better the video quality is.
Frame Rate	PAL: 1~25f/s; NTSC: 1~30f/s.
Bit Rate	<ul style="list-style-type: none"> <li>● 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.</li> <li>● 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.</li> </ul>
Reference bit rate	Recommended bit rate value according to the resolution and frame rate you have set.
I Frame	<p>Here you can set the P frame amount between two I frames. The value ranges from 1 to 150. Default value is 50.</p> <p>Recommended value is frame rate *2.</p>
Audio format	It includes G711a/G711u/PCM.
Audio source	Please select from the dropdown list. There are two options: Normal/HDCVI. In the normal mode, the audio signal comes from the Audio In. In the HDCVI mode, the audio signal comes from the coaxial cable of the camera.
Watermark enable	<p>This function allows you to verify the video is tampered or not.</p> <p>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.</p>

Step 3 Click Save to complete the setup.

#### 5.7.1.3.2 Snapshot

Step 1 From main window->Setup->Camera->Encode->Snapshot.  
Enter snapshot interface. See Figure 5-38.

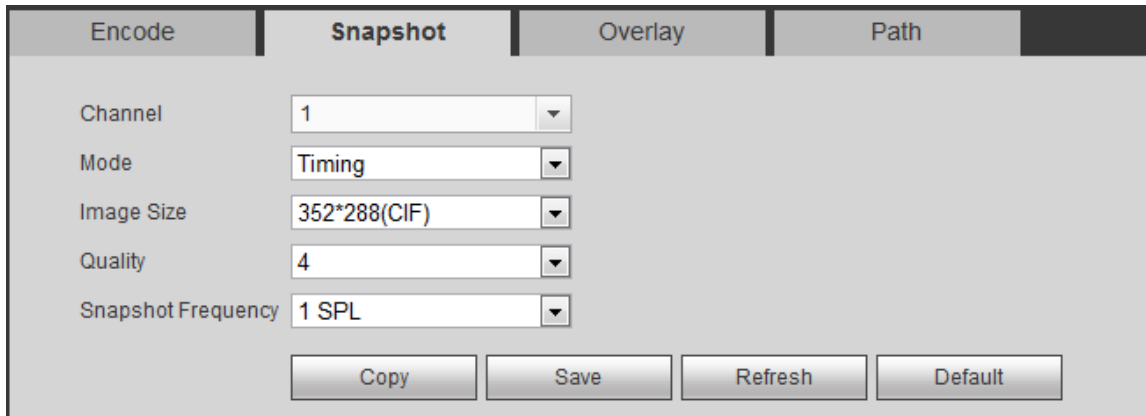


Figure 5-38

Step 2 Set parameters.

Parameter	Function
Snapshot type	There are two modes: Regular (schedule) and Trigger. <ul style="list-style-type: none"> <li>● Regular snapshot is valid during the specified period you set.</li> <li>● Trigger snapshot only is valid when motion detect alarm, tampering alarm or local activation alarm occurs.</li> </ul>
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).

Step 3 Click Save to complete the setup.

### 5.7.1.3.3 Video Overlay

Step 1 From main window->Setup->Camera->Encode->Overlay.

Enter video overlay interface. See Figure 5-39.

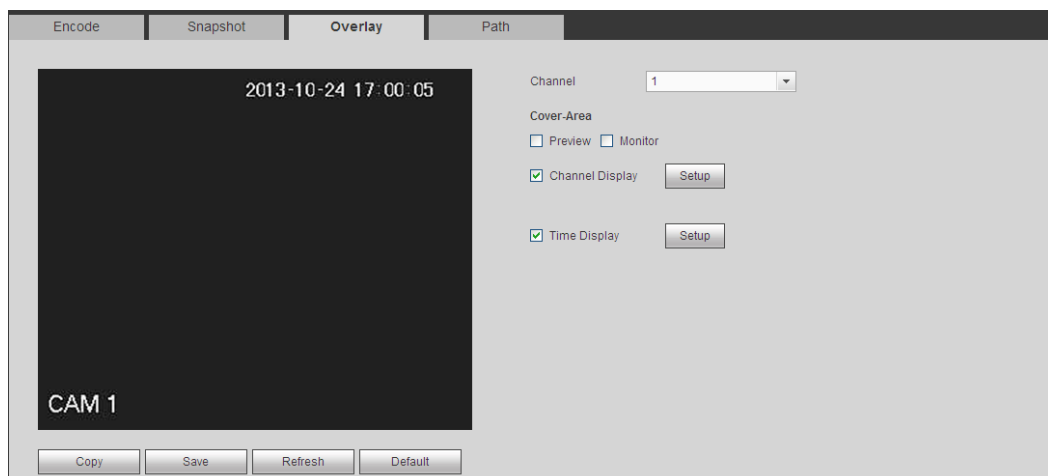


Figure 5-39



Step 2 Set parameters.

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.

Step 3 Click Save to complete the setup.

#### 5.7.1.3.4 Path

From main window->Setup->Camera->Encode->Path, the storage path interface is shown as in Figure 5-40.

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.

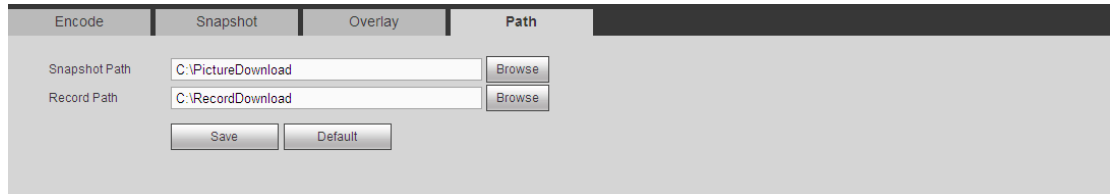


Figure 5-40

#### 5.7.1.4 Channel Name

Please note this function is for analog channel only. The offline digital channel name here is read-only.

Step 1 From main window->Setup->Camera->Camera name.

Enter channel name. See Figure 5-41.

Camera Name	
Channel 1	CAM 1
Channel 3	CAM 3
Channel 5	CAM 5
Channel 7	CAM 7
Channel 9	CAM 9
Channel 11	CAM 11
Channel 13	CAM 13
Channel 15	CAM 15
Channel 2	CAM 2
Channel 4	CAM 4
Channel 6	CAM 6
Channel 8	CAM 8
Channel 10	CAM 10
Channel 12	CAM 12
Channel 14	CAM 14
Channel 16	CAM 1

Figure 5-41

Step 2 Set parameters.

Step 3 Click Save to complete the setup.

### 5.7.1.5 Channel Type

#### Note

Please note this function is for some series product only. Slight different maybe found on the user interface.

From main menu->Setting->Camera->Channel type, the interface is shown as below. See Figure 5-42 (HCVR series product) or Figure 5-43(XVR series product). It is to set channel type.

- Analog channel (CVBS signal or HDCVI signal and etc.): Please select the corresponding cable and then save. There is no need to reboot.
- Device supports IP channel. The network camera connection shall begin with the last channel. Please note DVR needs to restart to activate new setup.

#### Note

- Analog channel (CVBS signal or HDCVI signal and etc.): Please select the corresponding cable and then save. There is no need to reboot.
- Device supports IP channel. The network camera connection shall begin with the last channel. Please note DVR needs to restart to activate new setup.
- Add IP channel function refers to the extra IP channel amount except current channel total amount (analog+IP). Different series products may support different extra IP channel amount. For 16-channel series product (16 analog channel+48 IP channel), check the channel 17 to channel 64, it is to change these channels to IP channels.



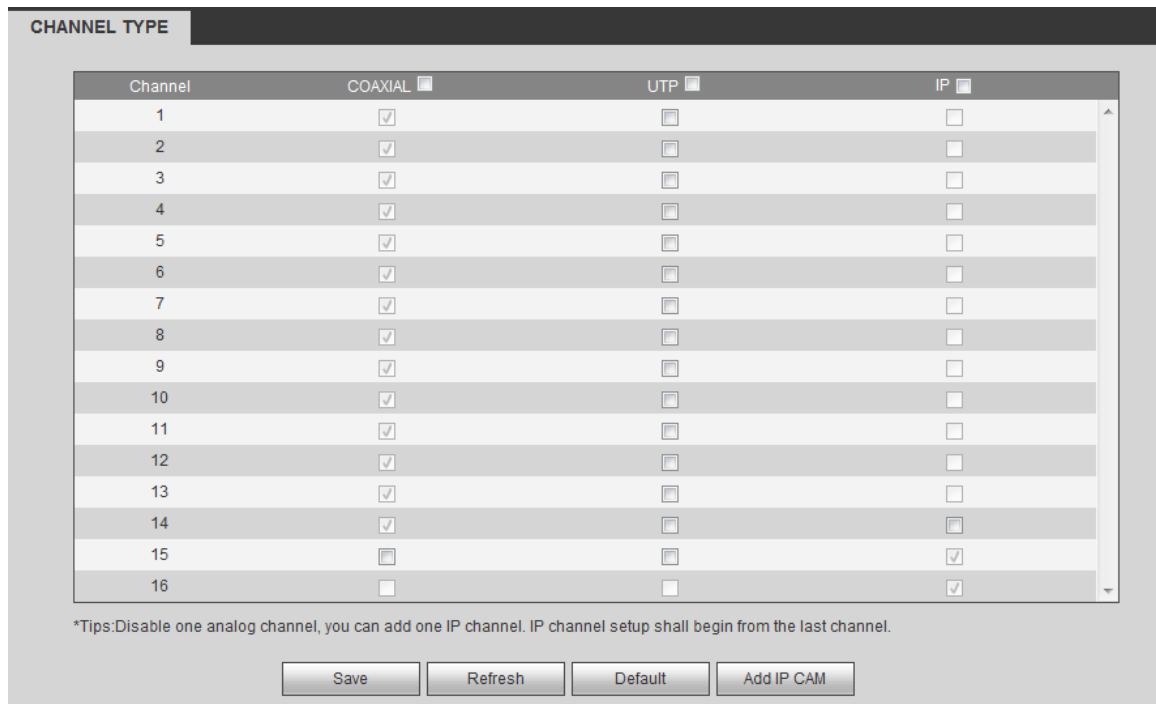


Figure 5-42

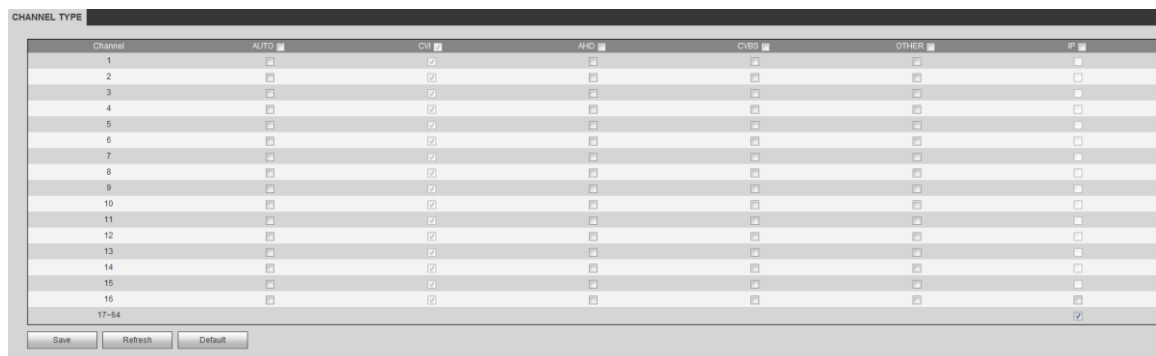


Figure 5-43

**Note**

Different channel types support different signal input modes.

- Auto: It supports self-adaptive function.
- CVI: It supports HDCVI signal input.
- AHD: It supports AHD signal input.
- CVBS: It support standard definition CVBS signal input.
- Other: It supports HDTV signal input.

**5.7.2 Network**

**5.7.2.1 TCP/IP**

It is to set DVR IP address and DNS server so that it can connect with other devices in the LAN.

Before the operation, please check:

- If there is no router, please set the IP address of the same IP segment.

- If there is a router, please set corresponding gateway and subnet mask.

Step 1 From main window->Setup->Network->TCP/IP.

Enter TCP/IP interface. The single-Ethernet port interface is shown as in Figure 5-44. The dual-Ethernet port interface is shown as in Figure 5-45.

The screenshot shows the 'TCP/IP' configuration window. The 'Ethernet Port' is set to 'Ethernet Port1'. The 'IP Version' is 'IPv4'. The 'MAC Address' is '90 . 02 . a9 . da . 9c . 77'. The 'Mode' is 'STATIC'. The 'IP Address' is '10 . 15 . 6 . 145', 'Subnet Mask' is '255 . 255 . 0 . 0', 'Default Gateway' is '10 . 15 . 0 . 1', 'Preferred DNS' is '10 . 1 . 2 . 80', and 'Alternate DNS' is '10 . 1 . 2 . 81'. The 'MTU' is '1500'. There is an unchecked checkbox for 'LAN Download'. At the bottom are 'Save', 'Refresh', and 'Default' buttons.

Figure 5-44

The screenshot shows the 'TCP/IP' configuration window for a dual Ethernet port interface. The 'Network Mode' is 'Multi-address'. The 'Default Card' is 'Ethernet Card1'. The 'Ethernet Card' is 'Ethernet Card1'. The 'Mode' is 'STATIC'. The 'MAC Address' is '20 : 13 : 10 : 13 : 16 : 33'. The 'MTU' is '1500'. The 'IP Version' is 'IPv4'. The 'IP Address' is '10 . 15 . 6 . 252', 'Subnet Mask' is '255 . 255 . 0 . 0', 'Default Gateway' is '10 . 15 . 0 . 1', 'Preferred DNS' is '8 . 8 . 8 . 8', and 'Alternate DNS' is '8 . 8 . 4 . 4'. There is an unchecked checkbox for 'LAN Download'. At the bottom are 'Save', 'Refresh', and 'Default' buttons.

Figure 5-45

Step 2 Set parameters.

Parameter	Function
Network mode	<p>It includes: single multiple-address, fault tolerance, load balance.</p> <ul style="list-style-type: none"> <li>● Multiple-address: eth1/eth2 operates separately. You can use the services such as HTTP, RTP service via eth1/eth2. Usually you need to set one default card (default setup is eth1) to request the auto network service from 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.</li> <li>● Fault-tolerance: In this mode, device uses bond0 to communicate with the external devices. You can focus on one host IP address. At the 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 all cards are offline. Please note all cards shall be in the same LAN.</li> <li>● Load balance: In this mode, device uses bond0 to communicate with the external device. The all cards are working now and bearing the network load. Their network load are general the same. The system is shown as offline once all cards are offline. Please note all cards shall be in the same LAN.</li> </ul>
Mode	<p>There are two modes: static mode and the DHCP mode.</p> <ul style="list-style-type: none"> <li>● The IP/submask/gateway are null when you select the DHCP mode to auto search the IP.</li> <li>● If you select the static mode, you need to set the IP/submask/gateway manually.</li> <li>● If you select the DHCP mode, you can view the IP/submask/gateway from the DHCP.</li> <li>● If you switch from the DHCP mode to the static mode, you need to reset the IP parameters.</li> <li>● Besides, IP/submask/gateway and DHCP are read-only when the PPPoE dial is OK.</li> </ul>
Mac Address	It is to display host Mac address.
IP Version	<p>It is to select IP version. IPV4 or IPV6.</p> <p>You can access the IP address of these two versions.</p>
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.

Parameter	Function
MTU	<p>It is to set MTU value of the network adapter. The value ranges from 1280-7200 bytes. The default setup is 1500 bytes.</p> <p>The following MTU value is for reference only.</p> <ul style="list-style-type: none"> <li>● 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.</li> <li>● 1492: Recommend value for PPPoE.</li> <li>● 1468: Recommend value for DHCP.</li> <li>● 1450: Recommended value for VPN.</li> </ul>
<p><b>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.</b></p>	
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.

Step 3 Click Save to complete the setup.

## 5.7.2.2 Connection

### 5.7.2.2.1 Connection

It is to set port connection amount and each port value.

Step 1 From main window->Setup->Network->Connection->Connection.

Enter connection interface. See Figure 5-46.

The screenshot shows a web interface for configuring network connections. The 'CONNECTION' tab is active, and the 'HTTPS' sub-tab is selected. The interface contains several input fields for different ports and a text area for the RTSP format. At the bottom, there are three buttons: 'Save', 'Refresh', and 'Default'.

Parameter	Value	Range	Options
Max Connection	128	0~128	
TCP Port	37777	1025~65535	
UDP Port	37778	1025~65535	
HTTP Port	80	1~65535	
HTTPS Port	443	1~65535	<input type="checkbox"/> Enable
RTSP Port	554	1~65535	
POS Port	38800	1~65535	
RTSP Format	rts://<User Name>:<Password>@<IP Address>:<Port>/cam/realmonitor?channel=1&subtype=0 channel: Channel, 1-16; subtype: Code-Stream Type, Main Stream 0, Sub Stream 1.		

Figure 5-46

Step 2 Set parameters.

Parameter	Function
Max connection	It is the max Web connection for the same device. The value ranges from 1 to 128. The default setup is 128.
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.

Parameter	Function
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	<ul style="list-style-type: none"> <li>● The default value is 554. Please leave it in blank if you are using default value. When you are using QuickTime or VLC, you can use the following format. BlackBerry cellphone support this function too.</li> <li>● Real-time monitoring URL format: please require real-time RTSP media server, require channel number, and bit stream type in URL. You may need username and password.</li> <li>● When you are using BlackBerry, please set encode mode as H.264B, resolution to CIF and turn off audio.</li> </ul> <p>URL format is:  rtsp://username:password@ip:port/cam/realmonitor?channel=1&amp;subtype=0  username/password/IP and port.</p> <ul style="list-style-type: none"> <li>● Username: such as admin.</li> <li>● Password: such as admin.</li> <li>● IP: Device IP such as 10.7.8.122.</li> <li>● Port: Port value. The default setup is 554. You can leave in blank if you are using default value.</li> <li>● Channel: channel number. It starts with 1. If it is channel 2, then channel=2.</li> <li>● Subtype: bit stream type. The main stream is 0(subtype=0), subtype is 1(subtype=1).</li> </ul> <p>For example, if you want to get the sub stream of the channel 2, the URL is:  rtsp://admin:admin@10.12.4.84:554/cam/realmonitor?channel=2&amp;subtype=1.  If there is no authentication, there is no need to specify user name and password, you can use the following format:  <b>rtsp://ip:port/cam/realmonitor?channel=1&amp;subtype=0</b></p>
POS port	The value ranges from 1 to 65535. The default setup is 38800.

Step 3 Click Save to complete the setup.

#### 5.7.2.2.2 HTTPS

Before you create certificate or download certificate, From main window->Setup->Network->Connection, set HTTPS port value and then check the box to enable HTTPS function.

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.



#### 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.

Step 1 From main window->Setup->Network->Connection->HTTPS.  
Enter HTTPS interface. See Figure 5-47.

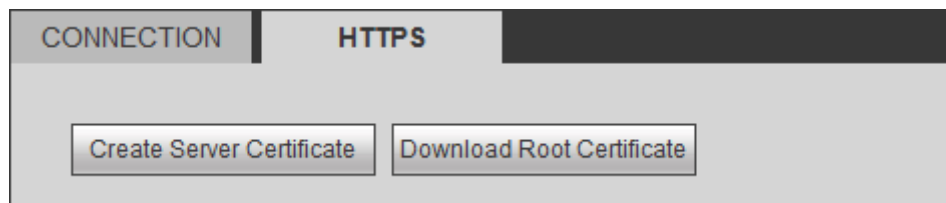
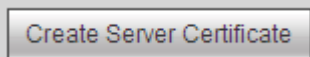


Figure 5-47

#### 5.7.2.2.3 Create Server Certificate

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

Step 1 From main window->Setup->Network->Connection->HTTPS.  
Enter HTTPS interface.

Step 2 In Figure 5-47, click  button, input country name, state name and etc. See Figure 5-48.

#### Note

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

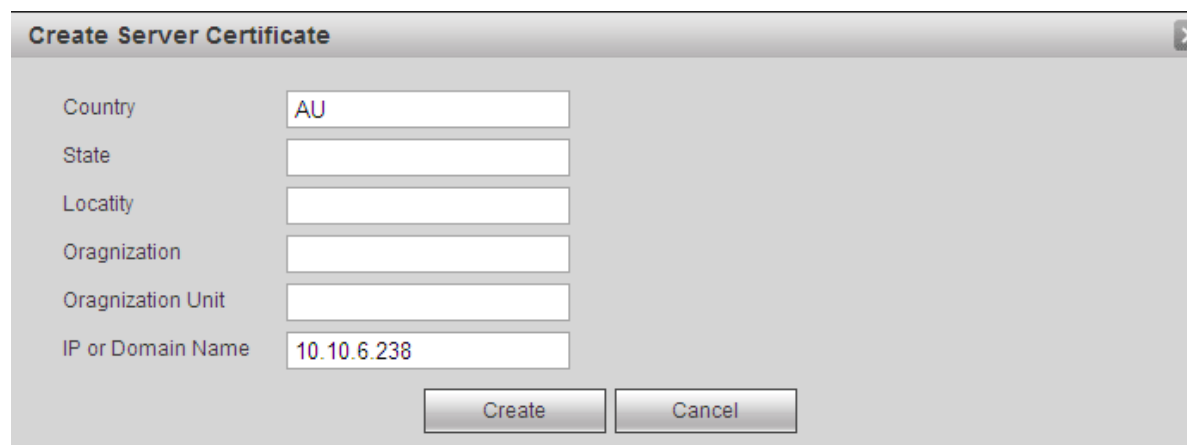


Figure 5-48

Step 3 Click Create button. Now the server certificate is successfully created. See Figure 5-49.



Figure 5-49

#### 5.7.2.2.4 Download root certificate

Step 1 From main window->Setup->Network->Connection->HTTPS.

Enter HTTPS interface.

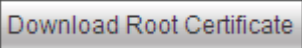
- Step 2 Click  button, system pops up a dialogue box. See Figure 5-50.



Figure 5-50

- Step 3 Click Open button.  
Enter Certificate interface. See Figure 5-51.

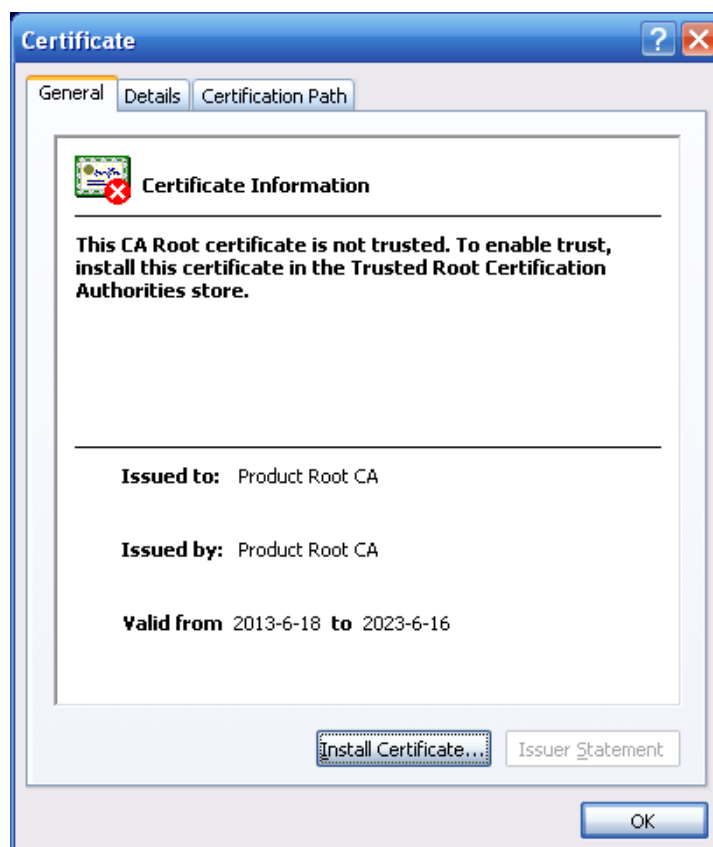


Figure 5-51

- Step 4 Click Install certificate button.  
Enter certificate wizard. See Figure 5-52.



Figure 5-52

Step 5 Click Next button to continue.

Select a location for the certificate. See Figure 5-53.

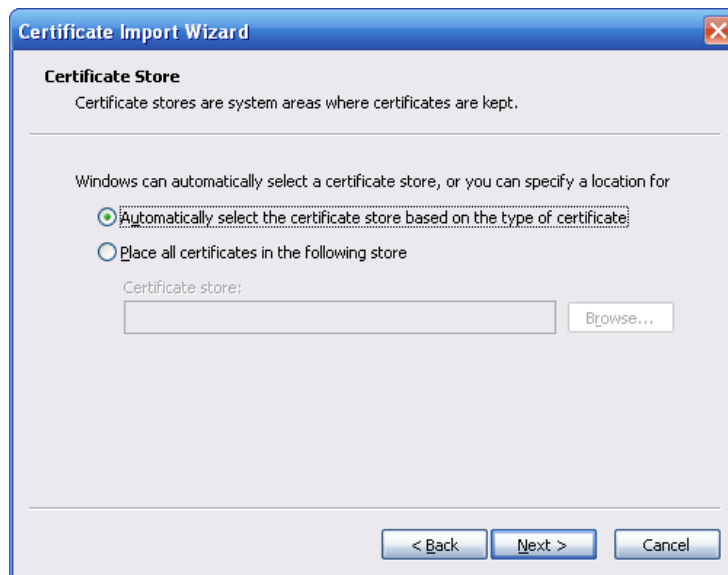


Figure 5-53

Step 6 Click Next button.

Enter certificate import process is complete. See Figure 5-54.



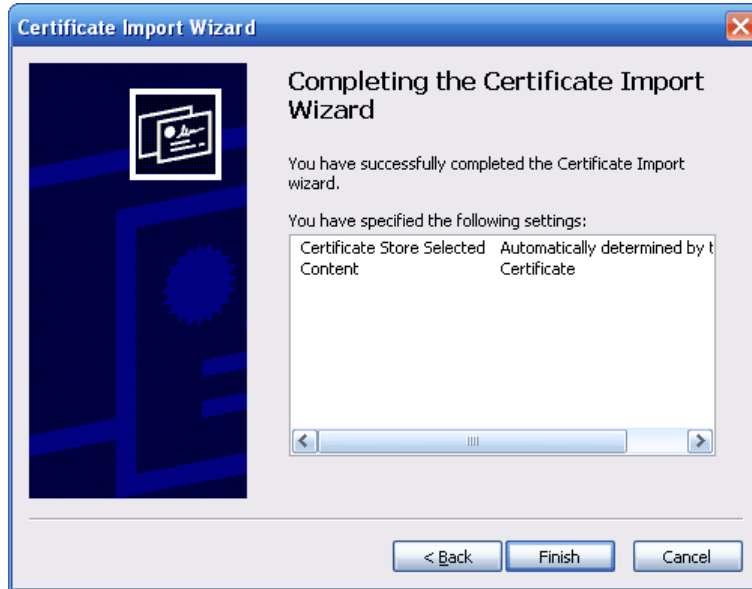


Figure 5-54

Step 7 Click Finish button.

System pops up a security warning dialogue box. See Figure 5-55.

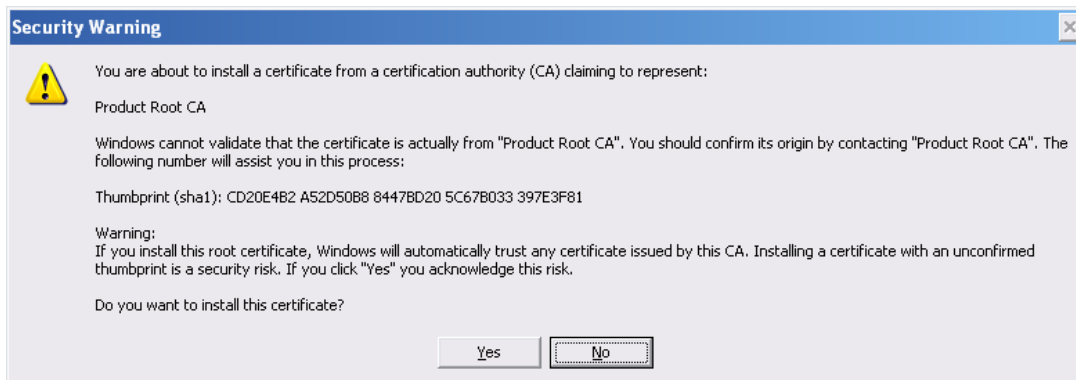


Figure 5-55

Step 8 Click Yes button.

The certificate download is complete. See Figure 5-56.



Figure 5-56

#### 5.7.2.2.5 View and set HTTPS port

From Setup->Network->Connection, you can see the following interface. See Figure 5-57.

You can see HTTPS default value is 443.

The screenshot shows a 'Connection' configuration window with the following fields and values:

Field	Value	Range
Max Connection	128	0-128
TCP Port	37777	200-65535
UDP Port	37778	200-65535
HTTP Port	80	1-65535
HTTPS Port	443	128-65535
RTSP Port	554	128-65535

RTSP Format: `rtsp://<User Name>:<Password>@<IP Address>:<Port>/cam/realmonitor?channel=1&subtype=0`  
channel: Channel, 1-32; subtype: Code-Stream Type, Main Stream 0, Sub Stream 1.

Buttons: Save, Refresh, Default

Figure 5-57

#### 5.7.2.2.6 Login

Open the browser and then input <https://xx.xx.xx.xx:port>.

xx.xx.xx.xx: is your device IP or domain name.

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.

#### 5.7.2.3 WIFI

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

This function allows you to connect the DVR to the network via the WIFI.

Step 1 From main window->Setup->Network->WIFI.

Enter WIFI interface. See Figure 5-58.

The screenshot shows the 'WIFI' configuration window with the following elements:

- WIFI Auto Connect
- Search SSID button
- SSID List table with columns: SSID, Connect mode, Authorize Mode, Signal Intensity
- WIFI Working Info section with fields: Current Hotspot, IP Address, Subnet Mask, Default Gateway
- Save and Refresh buttons

Figure 5-58

Step 2 Check the box to enable WIFI function and then click the Search SSID button. It is to view all the wireless network information in the following list.

Step 3 Double click a name to connect to it.

Click Refresh button, you can view latest connection status.

#### 5.7.2.4 3G/4G

It is to connect to the 3G/4G network to receive alarm information, view device state, audio/video and etc.

#### 5.7.2.4.1 CDMA/GPRS

Step 1 From main window->Setup->Network->3G/4G.

Enter 3G/4G interface is shown as in Figure 5-59.

#### Note

After you connected the 3G/4G module, you can view the module information and wireless signal. If there is no information, click Search button to search.

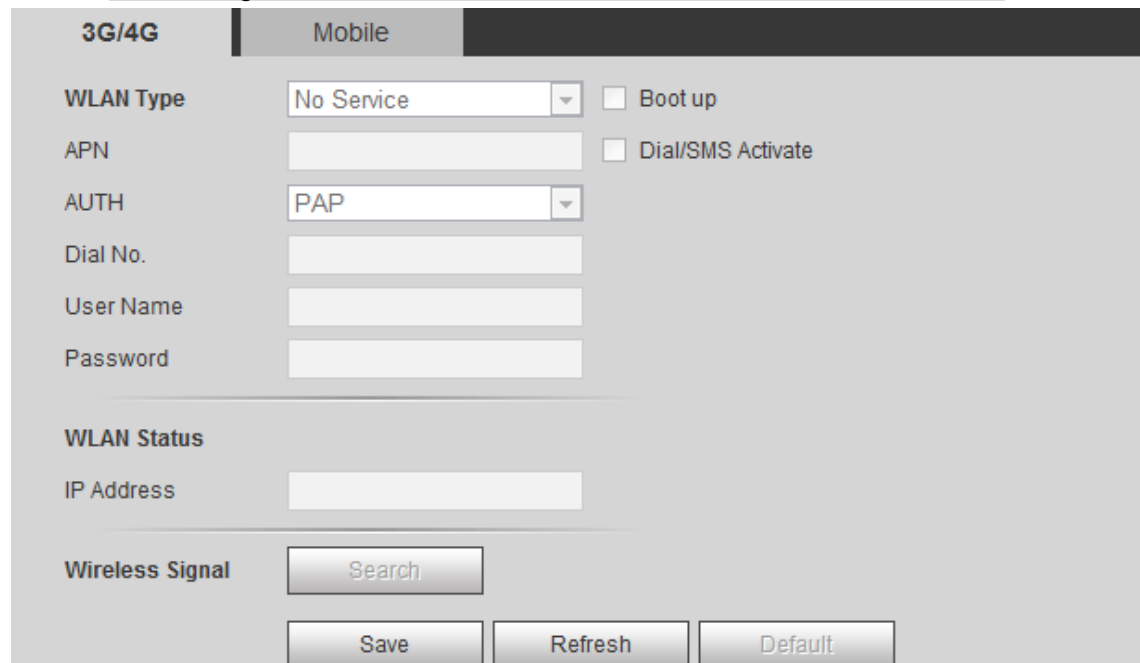


Figure 5-59

Step 2 Check the Boot up box to enable this function and then set parameters.

Parameter	Function
WLAN type	Here you can select 3G/4G network type to distinguish the 3G/4G 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/4G connection after you close extra stream monitor. For example, if you input 60 here, system ends 3G/4G connection after you close extra stream monitor 60 seconds.
<b>Important</b> <ul style="list-style-type: none"> <li>◇ If the pulse interval is 0, then system does not end 3G/4G connection after you close the extra stream monitor.</li> <li>◇ Pulse interval here is for extra stream only. This item is null if you are using main stream to monitor.</li> </ul>	

Step 3 Check Dial/SMS activate

Step 4 Click Save button to connect device to 3G/4G network.  
View the IP address if the connection is OK.

#### 5.7.2.4.2 Mobile

Make sure the SIM card and the 3G/4G module supports SMS function.  
Before you set cellphone, please go to the previous chapter to enable Dial/SMS activate function.

Step 1 From main window->Setup->Network->3G/4G->Mobile.  
Enter mobile setup interface. See Figure 5-60.

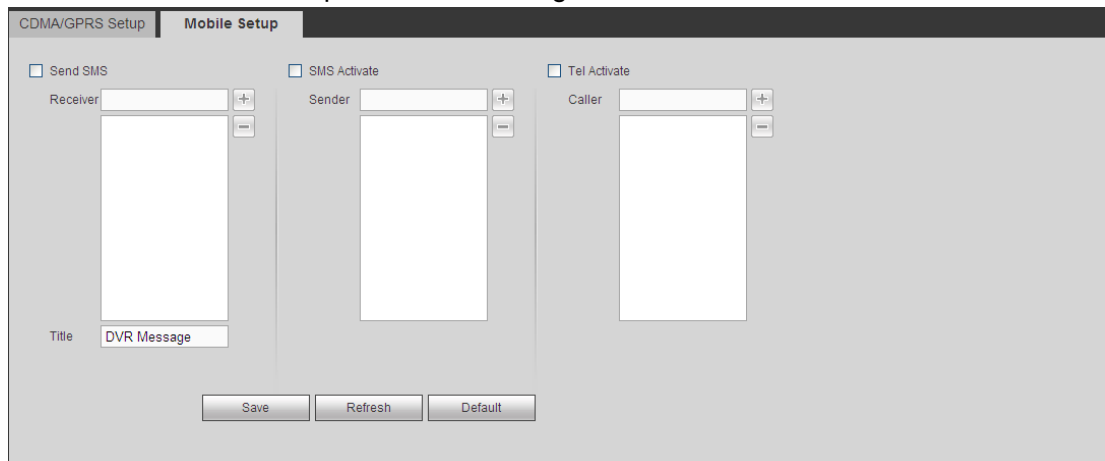




Figure 5-60

Step 2 Activate or turn off the 3G/4G connected phone or mobile phone, or the phone you set to get alarm message.

Step 3 Input sender/caller cellphone number and then click  to add the cellphone user to the list.

#### Note

Select a number in the list and then click  to delete current number.

- Send SMS: Check the box to enable this function. Various kinds of alarm can trigger the DVR to send out alarm message to the receiver.
- SMS activate: Check the box to enable this function. The user can send out the message to the receiver to enable/disable 3G/4G module.
- Telephone activate: Check the box to enable this function. The user can call the 3G/4G user to enable/disable 3G/4G module.

Step 4 Click Save to complete the setup.

#### 5.7.2.5 PPPoE

Use PPPoE(Point-to-Point Protocol over Ethernet) to establish network connection. Device can get a dynamic IP address in the WAN. Before the operation, please contact your ISP (Internet service provider) for PPPoE user name and password.

Step 1 From main window->Setup->Network->PPPoE.  
Enter PPPoE interface. See Figure 5-61.

Figure 5-61

- Step 2 Check the box to enable PPPoE function and input the PPPoE user name and password.
- Step 3 Click Save to complete the setup.
- Step 4 Device connects to the internet via PPPoE. You can get the IP address in the WAN from the IP address column.



**Note**

After enable PPPoE function, the IP address on the TCP/IP (Setup->Network->TCP/IP) interface is read-only.

### 5.7.2.6 DDNS

DDNS(Dynamic Domain Name Server) is to dynamically refresh the DNS domain name and IP address if the device IP address has changed frequently. The user can use the domain to access the device.

#### Preparation

Before the operation, make sure the device supports DNS type and go to the DDNS service provider website to register the domain name via the PC.

- If the DDNS type is Dahua DDNS, there is no need to register DDNS.
- If the DDNS type is not Dahua DDNS, please go to the corresponding DDNS website to register user name, password, domain name and etc.

#### Steps

- Step 1 From main interface->Setup->Network->DDNS. Enter DDNS interface. See Figure 5-62.

Figure 5-62

- Step 2 Check the box to enable DDNS function and set corresponding parameters.
  - If the DDNS type is Dahua DDNS, please refer to the following sheet for

detailed information.

Parameter	Function
DDNS Type	You can select DDNS protocol from the dropdown list and then enable DDNS function.
Server IP	The default address is www.dahuaddns.com. It is read-only.
Domain Name	There are two modes: Default domain name and custom domain name. The default domain name is MAC address dahuaddns.com. The custom domain name is to input customized settings. The default domain name is name.dahuaddns.com.
Email	Input email address when accessing DDNS server provider.

1. After setting, click Test to check the domain registration is OK or not. Check the domain name and clear browser buffer if the test fails.
  2. Click OK if the test successful.
  3. Input full domain name on the browser and click Enter button. The setting is right if you can view device WEB interface. Otherwise, please check the parameters.
- If the DDNS type is not Dahua DDNS, please refer to the following sheet for detailed information.

Parameter	Function
DDNS Type	Server name and address provided by the DDNS service provider.
Server IP	<ul style="list-style-type: none"> <li>● Dyn dns DDNS is members.dyndns.org.</li> <li>● NO-IP DDNS is dynupdate.no-ip.com.</li> <li>● CN99 DDNS is members.3322.org.</li> </ul>
Domain Name	The domain name registered on the DDNS service provider website.
User	Input the user name and password got from the DDNS service provider. Make sure you have logged in the DDNS service provider website to register an account (user name and password).
Password	
Update period	After DDNS boots up, it sends out refresh query regularly. The unit is minute.

1. After setting, click Save button.
2. Input full domain name on the browser and click Enter button. The setting is right if you can view device WEB interface. Otherwise, please check the parameters.

### 5.7.2.7 Sync Time Right

It is to allow the specified IP host to sync time with the device or change device time.

#### Background Information

If the IP host and the device are not the same, it may result in file search failure, data

backup is not the same and cannot record and operate the device. So ,there is need to specify the device and IP host time synchronization mechanism and make sure the device and IP host time is the same.

## Steps

Step 1 From main window->Setup->Network->Sync time right.  
Enter sync time interface. See Figure 5-63.

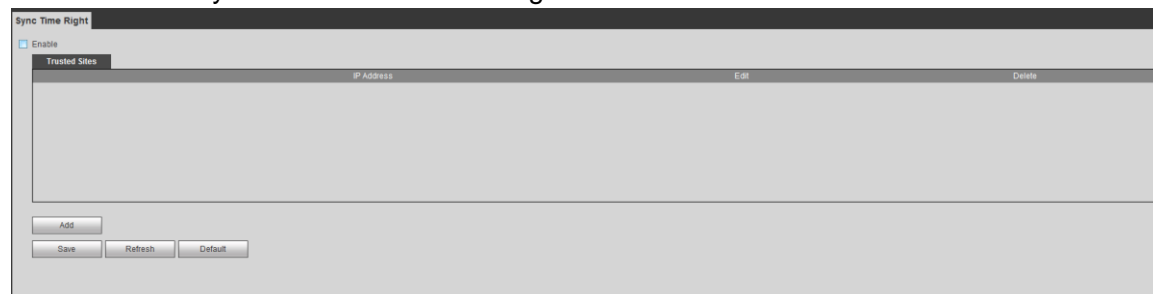


Figure 5-63

Step 2 Check the box to enable this function.

Step 3 Click Add button, and then set IP address in the pop-up interface click Save button.

Refer to the following table to set parameters.

Parameter	Function
IP address	Input the device IP address you want to add.
IP segment	Input the start address and end address of the IP segment you want to add.
IPv4	The IP address adopts IPv4 mode such as 172.16.5.10.
IPv6	The IP address adopts IPv6 mode such as aa:aa:aa:aa:aa:aa:aa:aa.
MAC address	Input the mac address you want to add.

Step 4 Click Save to complete setup.

Step 5 Login the device WEB on the IP host.

From Setup->System->General->Date and time, change device time or click Sync time with PC. Device pops the corresponding dialogue box.

### 5.7.2.8 Email

After you set email function, system can send out an email once there is an alarm, video detection event, abnormality event, intelligent event and etc.

Step 1 From main window->Setup->Network->Email.

Enter the email interface. See Figure 5-64.

Figure 5-64

Step 2 Set parameters.

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.
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 abnormality 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 abnormality events, which may result in heavy load for the email server.



Parameter	Function
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.

Step 3 Click Save to complete the setup.

### 5.7.2.9 UPnP

It is to establish the mapping relationship between the LAN and the public network.

Step 1 From main window->Setup->Network->TCP/IP, change IP address to the router private IP such as 192.168.1.101 or enable DHCP function to automatically get IP address.

Step 2 From main window->Setup->Network->UPnP.  
Enter UPnP interface. See Figure 5-65.

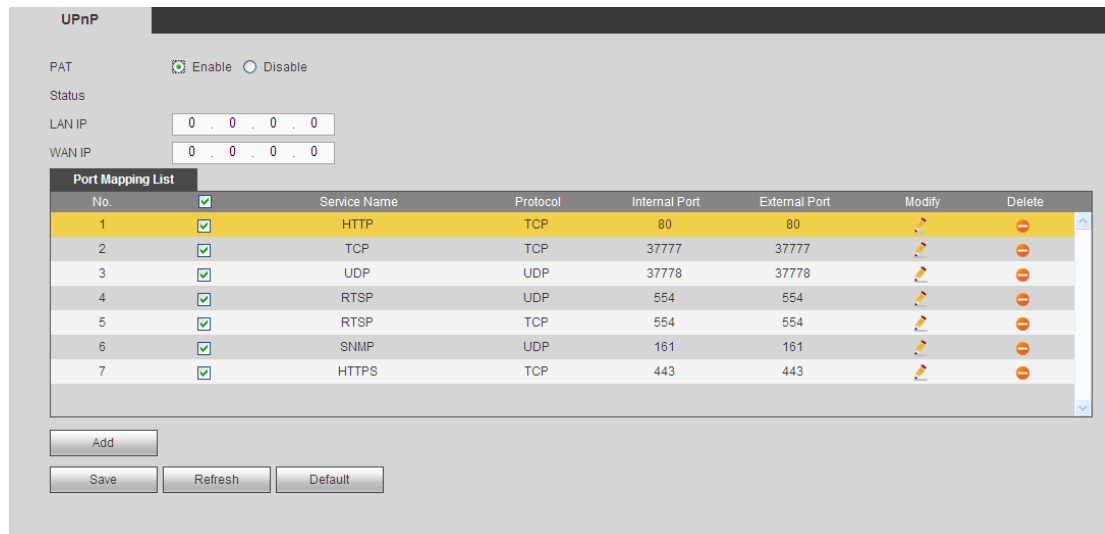




Figure 5-65

Step 3 Enable UPnP and PAT function.

Refer to the following table to set parameters.

Parameter	Function	
Port enable/disable	Check the box to enable/disable this function.	
LAN IP	It is the router IP in the LAN.	Device can auto get the IP address if the UPnP function succeeded. Do not need to set.
WAN IP	It is the router IP in the WAN.	

Parameter	Function
Status	When the UPnP is offline, it shows as “Searching”. When the UPnP works it shows “Success”
Port mapping list	<p>It is the same information on the UPnP list of the router.</p> <ul style="list-style-type: none"> <li>● Service name: Defined by user.</li> <li>● Protocol: Protocol type</li> <li>● Internal port: Port that has been mapped in the router.</li> <li>● External port: Port that has been mapped locally.</li> </ul> <p> <b>Note</b></p> <ul style="list-style-type: none"> <li>● 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.</li> <li>● When there are several devices in the same LAN, please arrange the port mapping properly in case several devices are mapping to the same external port.</li> <li>● Please make sure the mapping port is available.</li> <li>● For the TCP and UDP, please make sure the internal port and external port are the same to guarantee the proper data transmission.</li> </ul>
Modify	Click  , you can change WAN port value.

Step 4 Click Save button.

After setting UPnP, open the browser and then input http://WAN IP: External IP port to access the device.

#### 5.7.2.10 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.

#### Preparation

- Install corresponding software tool such as MIB Builder and MG-SOFT MIB Browser.
- Contact technical engineer to get two MIB files of the current version.

#### Steps

Step 1 From main window->Setup->Network->SNMP.  
Enter SNMP interface is shown as in Figure 5-66.

The image shows a configuration window titled 'SNMP'. It contains the following elements:

- Enable
- SNMP Port:  (0~65535)
- Read Community:
- Write Community:
- Trap Address:
- Trap Port:  (0~65535)
- SNMP Version:  V1  V2
- Buttons: Save, Refresh, Default

Figure 5-66

Step 2 Check the enable box to enable SNMP function. Trap address refers to the PC address that has installed MG-SOFT MIB Browser. The rest settings adopt default setup.

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 read/write community string the applications support.
Write Community	
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	<ul style="list-style-type: none"> <li>● Check V1, system only processes the information of V1.</li> <li>● Check V2, system only processes the information of V2.</li> </ul>

- Step 3 Compile the above mentioned two MIB file via the software MIB Builder.
- Step 4 Run MG-SOFT MIB Browser to load the file from the previous step to the software.
- Step 5 Input the device IP you want to manage in the MG-SOFT MIB Browser. Please set the corresponding version for your future reference.
- Step 6 Open the tree list on the MG-SOFT MIB Browser; you can get the device configuration. It is to view the device has how many video channels, audio channels, application version and etc.

### 5.7.2.11 Multicast

When you are access the device and view the video, the error occurs if the connected device amount has reached the threshold. In this situation, please set multicast IP to use multicast protocol to access.

- Step 1 From main window->Setup->Network->Multicast.  
Enter multicast interface is shown as in Figure 5-67.

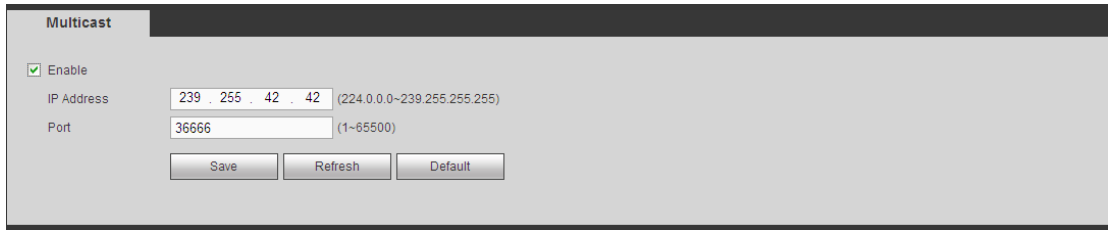


Figure 5-67

Step 2 Check the box to enable this function, input IP address and port. Refer to the following sheet for detailed information.

Parameter	Function
IP address	The multicast IP address (0.0.0.0~255.255.255.255).
Port	The multicast port value(1025~65000).

Step 3 Click Save to complete the setup.

Step 4 Login and monitor.

Use WEB to login, you can see the following interface. See Figure 5-68. Select login type as the Multicast from the dropdown list. After you 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 video.

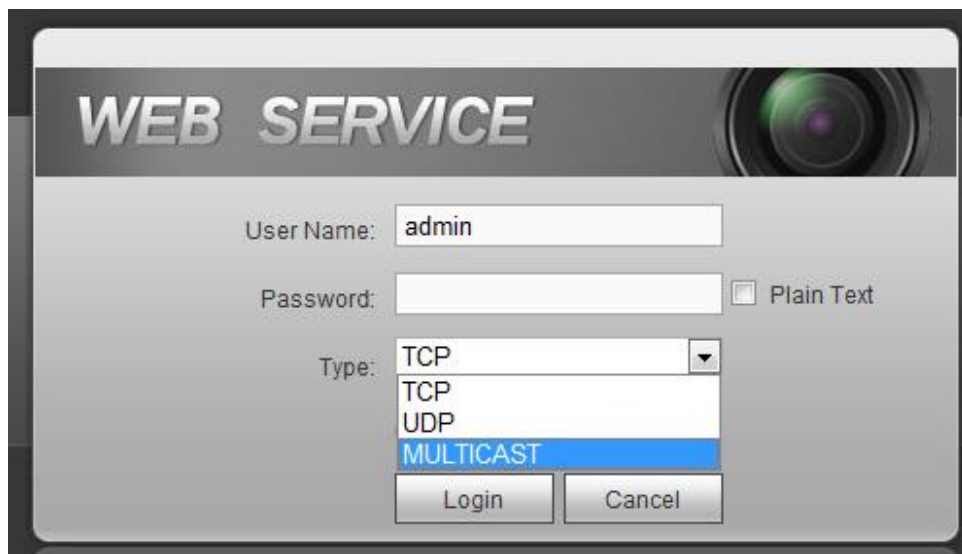


Figure 5-68

### 5.7.2.12 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 DVR 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.

Step 1 From main window->Setup->Network->Register.

Enter register interface is shown as below. See Figure 5-69.

Figure 5-69

Step 2 Check the box to enable register function, 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.

Parameter	Function
Server IP address	The server IP address or server domain name you want to register.
Port	The auto registration port value of the server.
Sub-device ID	The device ID allocated by the server.

Step 3 Click Save to complete the setup.

### 5.7.2.13 Alarm Centre

It is to set alarm center server. Once there is an alarm event, system can send out the alarm to the alarm center. Please refer to chapter 4.14 Alarm events to set upload function.

Step 1 From main window->Setup->Network->Alarm center.  
Enter alarm center interface. See Figure 5-70.

Figure 5-70

Step 2 Refer to the following sheet for detailed information.

Parameter	Function
Enable	Check the box to enable alarm center function.
Server IP	The IP address and the communication port of the PC that has installed the alarm client.
Port	
Self-report time	Select alarm upload time from the dropdown list.

Step 3 Click Save to complete setup.

### 5.7.2.14 P2P

You can use cellphone client or the management platform to access the device.

- You can use your cell phone to scan the QR code and add it to the cell phone client.
- Via the SN from scanning the QR code, you can access the device in the WAN.

Please refer to the P2P operation manual included in the resources CD.

Step 1 From main menu->Setup->Network->P2P.

Enter P2P interface. See Figure 5-71.

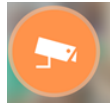


Figure 5-71

Here we use cell phone APP to continue.

Step 2 Use cell phone to scan the QR code and download the APP.


Step 3 After installation, run the APP and Live Preview, enter the main interface. Now you can add device to the APP.



1. Open App; tap  to go to the Live preview.

2. Tap  at the top left corner, you can see the main menu.

3. Tap Device manager button, you can use several modes (P2P/DDNS/IP and

etc) to add the device. Click  to save current setup. Tap Start Live preview to view all-channel video from the connected device. See Figure 5-72.

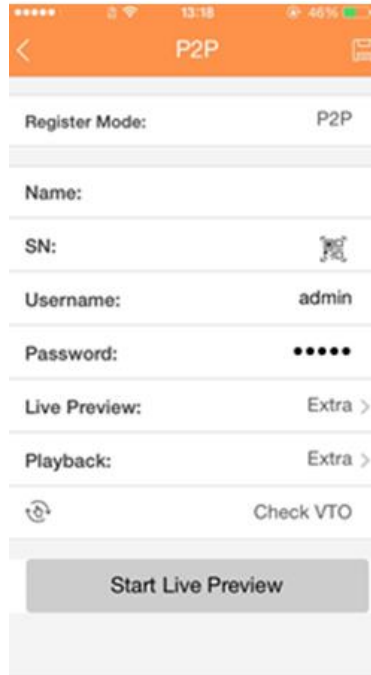


Figure 5-72

### 5.7.3 Event



#### CAUTION

For the channel connected to the analog fisheye, the intelligent function is null. Please refer to the interface of your purchased product for detailed information.

#### 5.7.3.1 Video detect

The video detect includes motion detect, video loss, tampering, scene change and diagnosis.

##### 5.7.3.1.1 Motion Detect

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

Step 1 From main window->Setup->Event->Video detect->Motion detect.

Enter motion detect interface. See Figure 5-73.

**Motion Detect** | Video Loss | Tampering | Scene Change | Diagnosis

Enable MD    1     Enable PIR

Period   

Anti-Dither    5    Sec.(0-600)

Region   

---

Record Channel   

Post Record    10    Sec.(10-300)

Alarm Out    1 2 3 4 5 6

Latch    10    Sec.(0-300)

PTZ   

Tour   

Snapshot   

Video Matrix

Voice Prompts    File Name    None

Show Message     Send Email     Alarm Upload     Buzzer

Message     Log

Figure 5-73

**Setup** [X]

Thursday [v]   

<input checked="" type="checkbox"/>	00 : 00	-	24 : 00
<input type="checkbox"/>	00 : 00	-	24 : 00
<input type="checkbox"/>	00 : 00	-	24 : 00
<input type="checkbox"/>	00 : 00	-	24 : 00
<input type="checkbox"/>	00 : 00	-	24 : 00
<input type="checkbox"/>	00 : 00	-	24 : 00

Figure 5-74



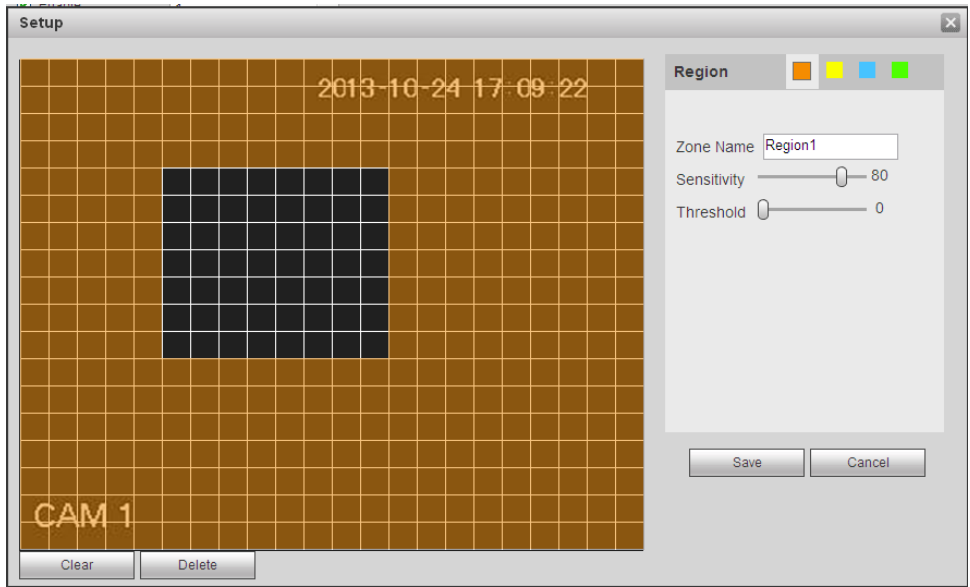


Figure 5-75

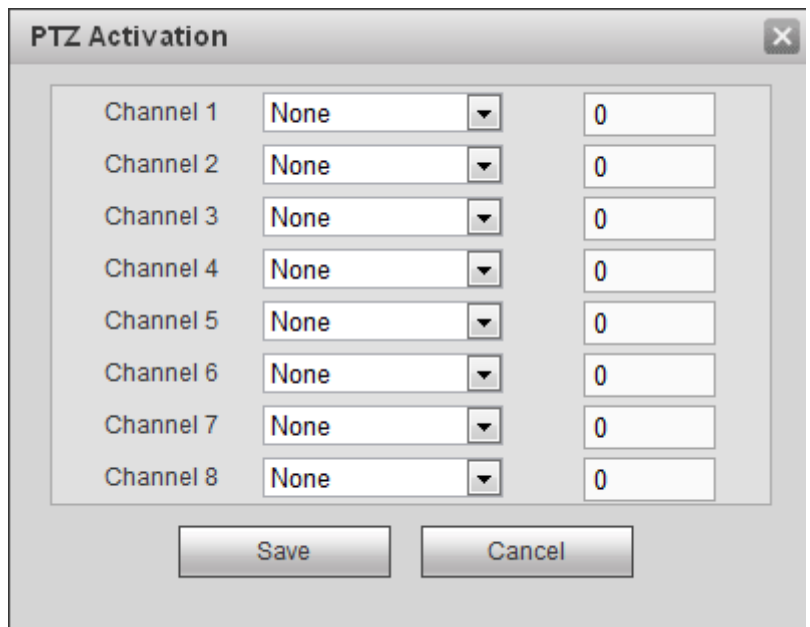


Figure 5-76

Step 2 Set parameters.

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 5-74. 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.

Parameter	Function
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 5-75. 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.
Enable PIR	The PIR function is enabled by default if the connected remote device supports the PIR function. When the PIR function is on, motion detection function is on by default. The motion detect event occurs when these two function are enabled at the same time. If the PIR function is disabled, check the enable box to enable the general motion detect function.
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.
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.
Video Matrix	Check the box here to enable this function. When an alarm occurs, VIDEO OUTPUT port displays device video output. It displays video (1-window tour) from alarm activation channel you select at the Record channel interface. It has high priority than the tour setup in Main menu->Setting->System->Video matrix. Please note this function is for some series product only.
Snapshot	You need to check the box here to enable this function. You can set corresponding channel to snapshot when motion detect alarm occurs.
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 center (Including alarm center).

Parameter	Function
Message	When 3G/4G 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 check the box here to enable this function. System begins 1-window or multiple-window tour display among the channel(s) you set to record when an alarm occurs.
PTZ Activation	Here you can set PTZ movement when alarm occurs. Such as go to preset X. See Figure 5-76.
Log	Check the box here, system can record motion detect event log.

Step 3 Click Save to complete the setup.

#### 5.7.3.1.2 Video Loss

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

Please note video loss does not support anti-dither, sensitivity, region setup.

Step 1 From main window->Setup->Event->Video detect->Video loss.

Enter video loss interface. See Figure 5-77.

Figure 5-77

Step 2 Refer to chapter 5.7.3.1.1 motion detect for detailed parameter information.



Camera anti-dither: Once the video loss alarm disappears in the specified period, system does not trigger an alarm.

Step 3 Click Save to complete the setup.

#### 5.7.3.1.3 Tampering

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

Step 1 From main window->Setup->Event->Video detect->tampering.  
Enter tampering interface is shown as in Figure 5-78.

Motion Detect | Video Loss | **Tampering** | Scene Change | Diagnosis

Enable    1

Period    Setup

Sensitivity    3

Record Channel    Setup

Delay    10    sec.(10~300)

Alarm Out    1 2 3 4 5 6

Latch    10    sec.(0~300)

PTZ Activation    Setup

Tour    Setup

Snapshot    Setup

Voice Prompts    File Name    None

Show Message     Send Email     Alarm Upload     Buzzer

Message     Log

Copy    Save    Refresh    Default

Figure 5-78

Step 2 Refer to chapter 5.7.3.1.1 motion detect for detailed parameter information.

The higher the sensitivity value is, the easier to trigger tampering alarm.

Step 3 Click Save to complete the setup.

#### 5.7.3.1.4 Scene change

When the detected scene has changed, system can generate an alarm.

Step 1 From main window->Setup->Event->Video detect->Scene change.  
Enter scene changing interface is shown as in Figure 5-79.

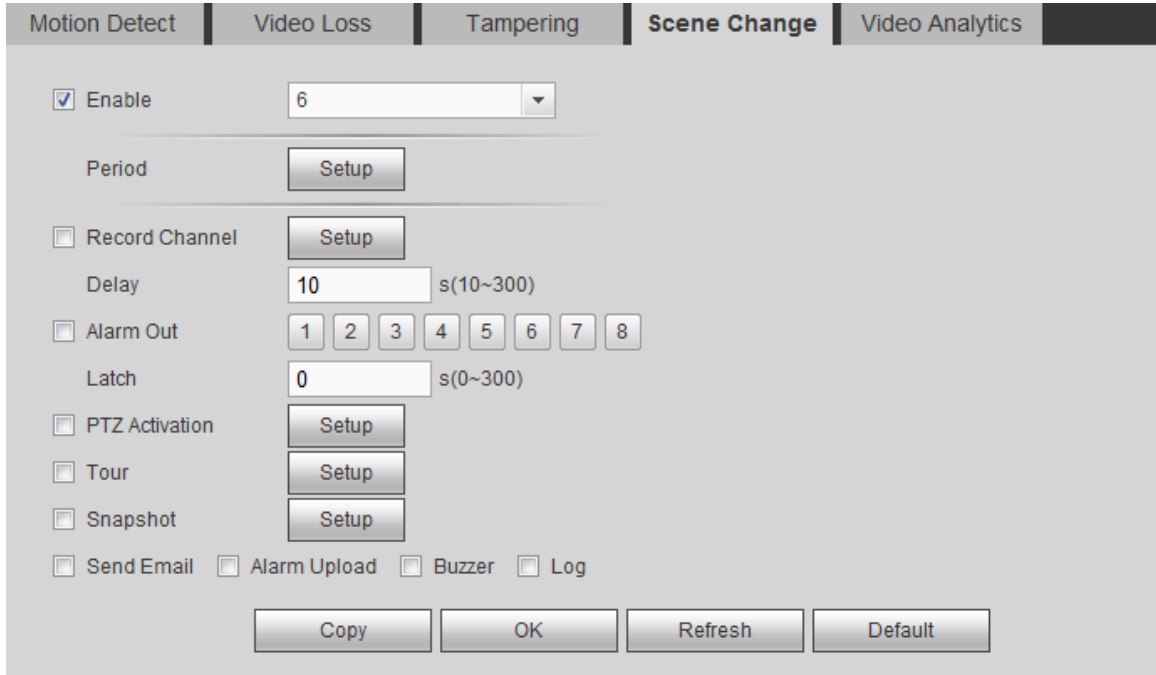


Figure 5-79

Step 2 Refer to chapter 5.7.3.1.1 motion detect for detailed parameter information.

Step 3 Click Save to complete the setup.

#### 5.7.3.1.5 Diagnosis

System can trigger an alarm when the video stripe, noise, color cast, out of focus, over exposure event occurred.

Step 1 From main window->Setup->Event->Video detect->Diagnosis.

Enter diagnosis interface. See Figure 5-80.

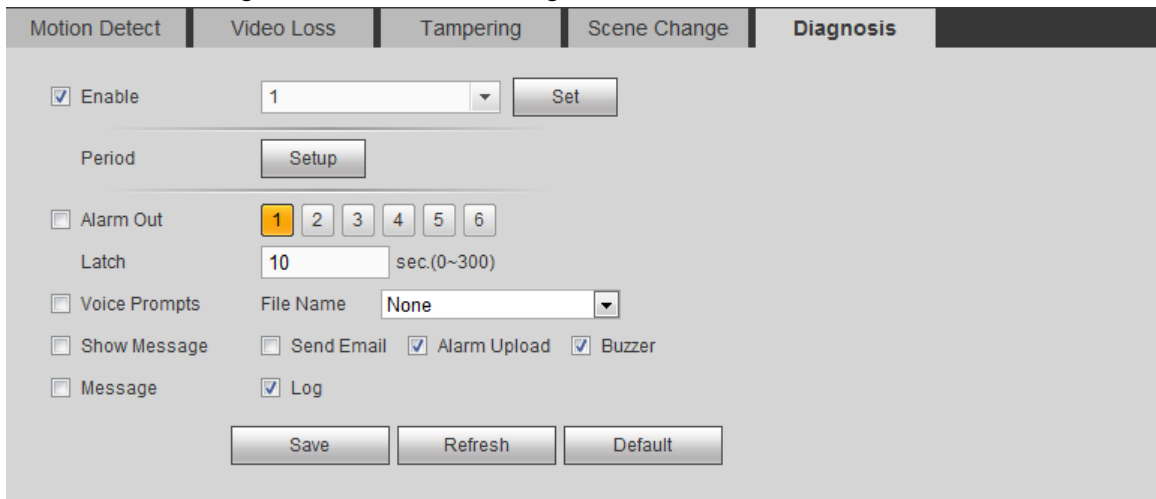


Figure 5-80

Step 2 Click Set button.

Enter diagnosis type interface. See Figure 5-81.

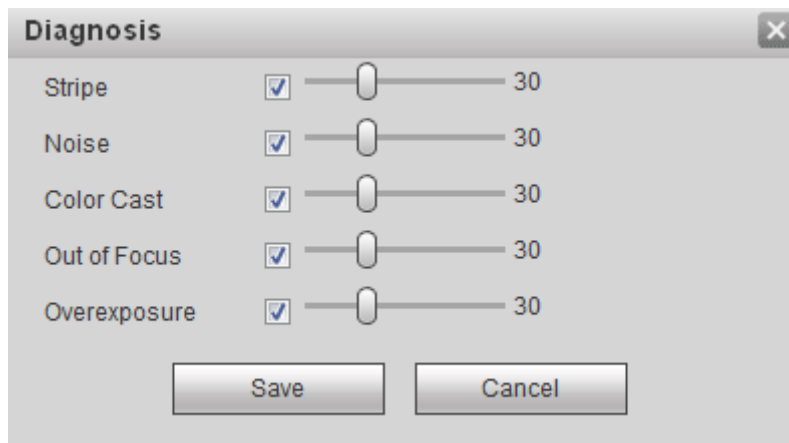


Figure 5-81

Step 3 Select diagnosis item and set alarm threshold (default setup is 30).

Parameter	Function
Stripe	The strip occurs when the device is old or there is electronic interference. There may be cross strip, vertical strip, slanting strip and etc.
Noise	The video noise refers to the blurry video, poor video quality. It may result from the optical system distortion or the hardware problem during the video transmission when recording.
Color cast	Usually the video is color containing RGB. When these three colors displayed in abnormal rate, we can say color cast occurred.
Out of focus	The clear video presents abundant video details. The video definition decreases when the distortion event occurs. The out of focus event may result from many sources such as video transmission, processing and etc.
Overexposure	The color brightness refers to the image pixel intensity. Black is the darkest and the white is the brightest. We use number 0 to stand for black and use number 255 to stand for white. Once the brightness threshold of the whole image has exceeded the threshold value, it means the image is over exposure.
Threshold	The value ranges from 1 to 100. System can generate an alarm once the value is higher than the threshold you set here.

Step 4 Click Save button to save threshold setup. Enter diagnosis interface.

Step 5 Refer to chapter 5.7.3.1.1 motion detect for detailed parameter information.

Step 6 Click Save to complete the setup.

### 5.7.3.2 Smart Plan (Optional)

#### Important

- **The smart plan is for the smart network camera. If you do not set a rule here, you can not use the intelligent functions in IVS (Chapter 5.7.3.3), Face detection (Chapter 5.7.3.4) and People counting (Chapter 5.7.3.5) when you are connecting to a smart network camera.**

- The IVS, human face detection, and people counting channel amount shall not be over 6.

Step 1 From main menu->Setup->Event->Smart plan.  
Enter smart plan interface. See Figure 5-82.

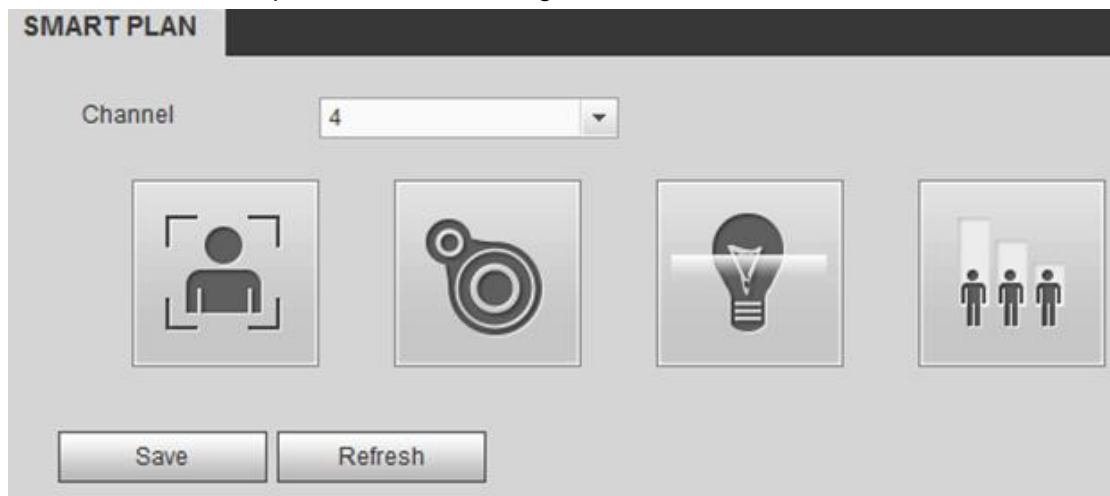


Figure 5-82

Step 2 Select a channel from the dropdown list and then set the smart plan.  
Step 3 Click OK button to complete the setup.

### 5.7.3.3 IVS (Optional)


#### Note

Right now, the IVS function max supports 10 rules.

Once any object violate the rule, the DVR can trigger an alarm and alert you as the specified alarm mode.

From main menu->Setup->Event->IVS, enter IVS interface. See Figure 5-83.

Please follow the steps listed below.

- Step 1 Please select a channel from the dropdown list.
- Step 2 Click  and then select corresponding rule.
- Step 3 Set rule type and set corresponding parameters.
- Step 4 Check the box to enable the rule.
- Step 5 Click OK button to save current setup.

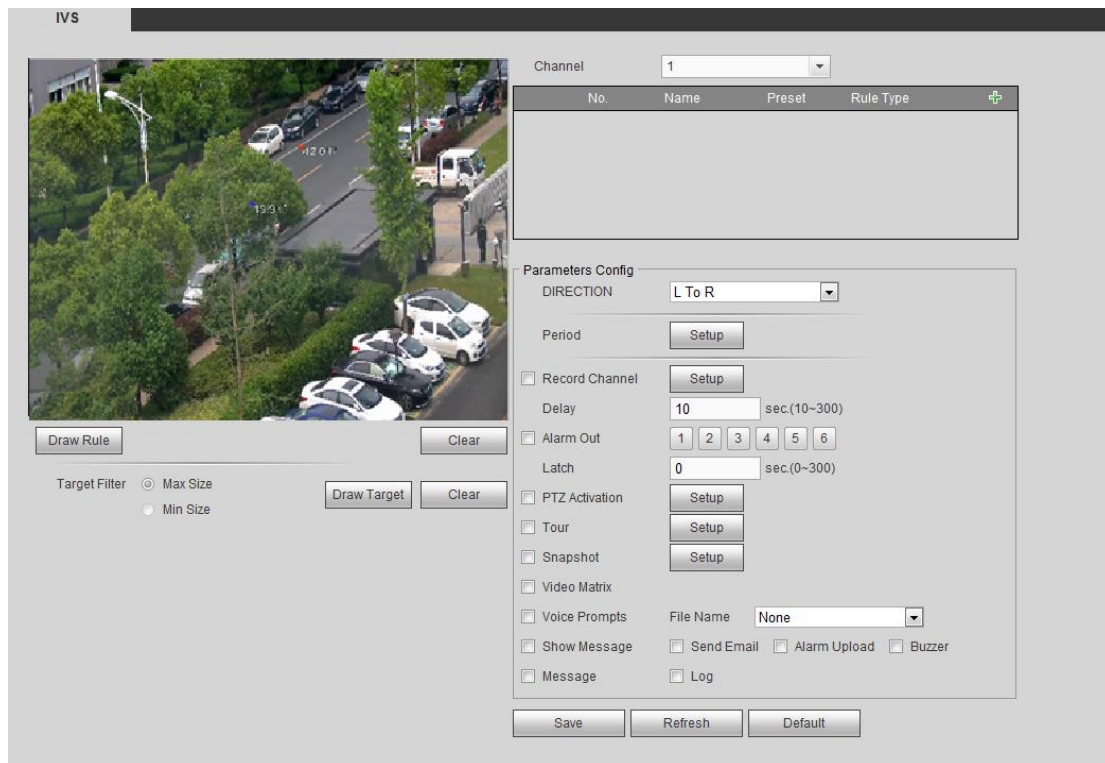



Figure 5-83

#### 5.7.3.3.1 Tripwire

System generates an alarm once there is any object crossing the tripwire in the specified direction. Please use according to your actual situation.

#### Note

- The tripwire function is valid once your connected network camera or your DVR supports this function.
- If you want to use the IVS function of the network camera, please make sure your connected network camera supports this function.

Step 1 From main menu->Setup->Event->IVS->Tripwire, click  to add the rule and select the rule type as Tripwire.

#### Note

Double click to change a rule name.

Step 2 Check the Tripwire box to enable tripwire function. See Figure 5-84.



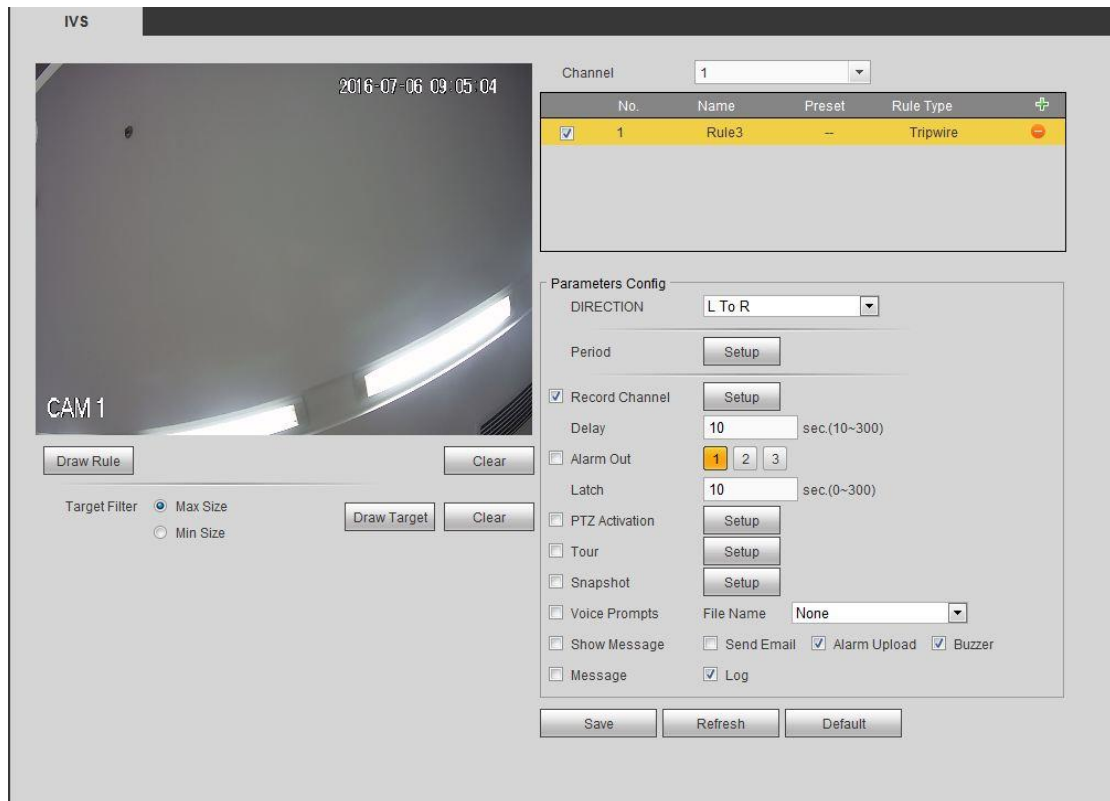


Figure 5-84

Step 3 Click Draw rule button and then left click mouse to draw a tripwire. Right click mouse to complete. See Figure 5-85.

 **Note**

The tripwire can be a direct line, curve or polygon.

Click Clear to delete the tripwire.

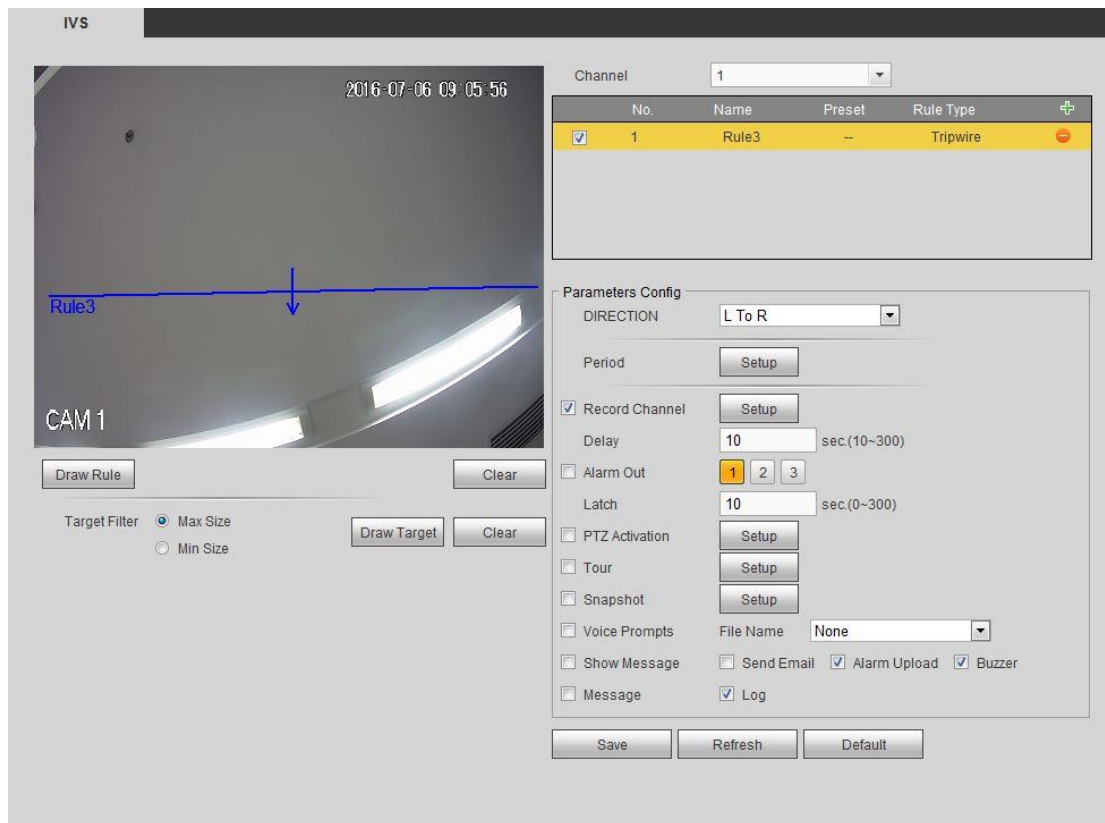


Figure 5-85

Step 4 Set filter object. Once the object is smaller than the min size or larger than the max size, there is no alarm.

1. After draw the rule, set max size and min size.
2. Click Draw target to draw the rectangle zone.

 **Note**

- Each rule can set two sizes (min size/max size). Please make sure the max size is larger than the min size.
- The default max size is the full screen, you can select the blue line and then use mouse to adjust.

Step 5 Set parameters.

Parameter	Function
Direction	Tripwire direction includes: A→B, B→A, A↔B.
Period	Set tripwire valid period. System generates an alarm during the specified period. For detailed setups, please refer to chapter 5.7.3.1.1 motion detect


Step 6 Click Save to complete setup.

5.7.3.3.2 Intrusion (Cross warning zone)

This function is to detect there is any object enter or exit the zone. Please use according to your actual situation.

 **Note:**

- The intrusion function is valid once your network camera or your DVR supports this function.
- If you want to use the IVS function of the network camera, please make sure your connected network camera supports this function.

Step 1 From main menu->Setup->Event->IVS, click  to add the rule. Select rule type as intrusion.

 **Note**

Double click to change a rule name.

Step 2 Check the box to enable Intrusion function. See Figure 5-86.

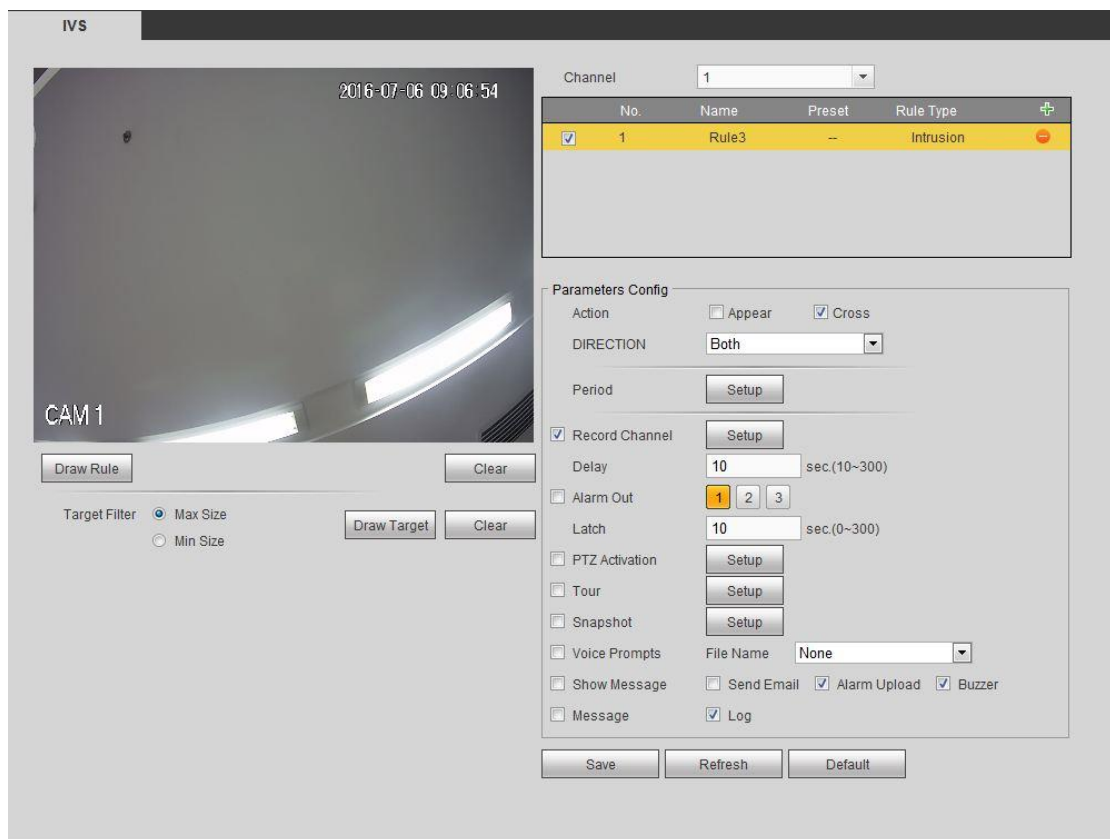


Figure 5-86

Step 3 Click Draw rule button and then left click mouse to draw an intrusion rule. Right click mouse to complete. See Figure 5-87.

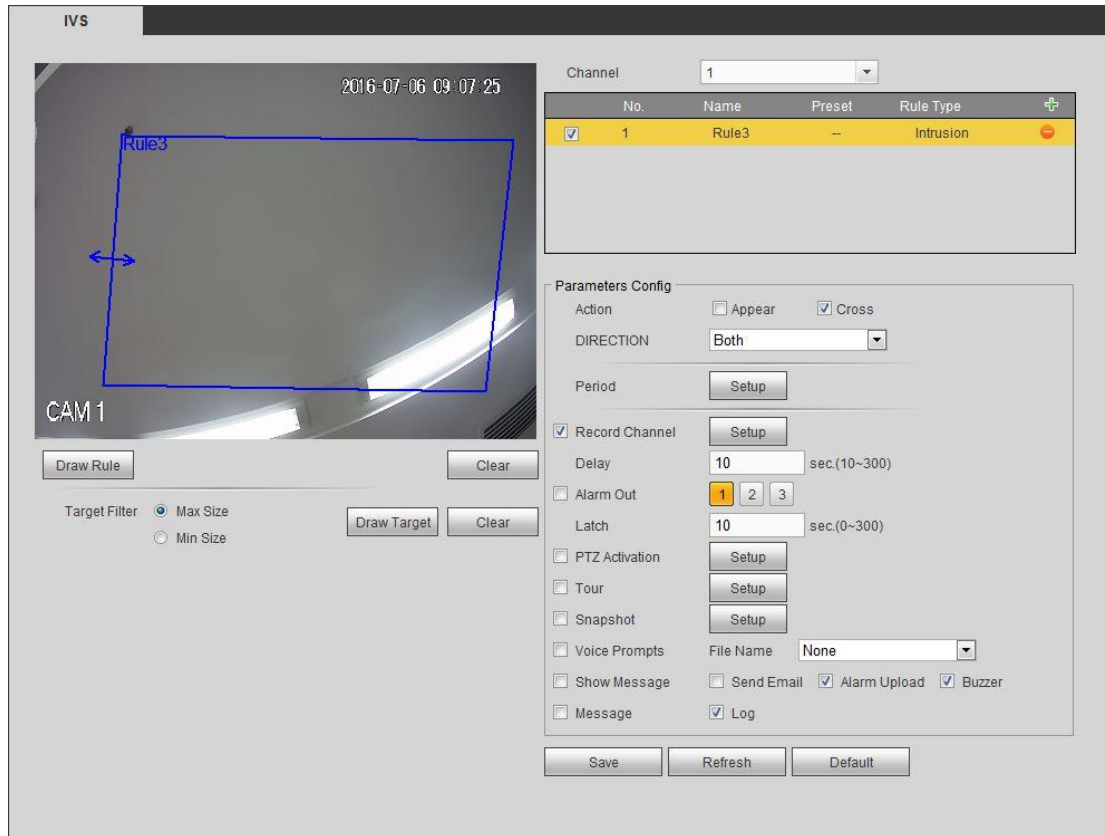


Figure 5-87

Step 4 Set filter object. Once the object is smaller than the min size or larger than the max size, there is no alarm.

1. After draw the rule, set max size and min size.
2. Click Draw target to draw the rectangle zone.

 **Note**

- Each rule can set two sizes (min size/max size). Please make sure the max size is larger than the min size.
- The default max size is the full screen, you can select the blue line and then use mouse to adjust.

Step 5 Set parameters.

Parameter	Function
Action	It is to set intrusion mode. <ul style="list-style-type: none"> <li>● Cross: It includes enter the warning zone, leave the warning zone or cross the warning zone.</li> <li>● Appear: An object falling from nowhere (such as from the sky). It may not fully enter the warning zone.</li> </ul>
Direction	When the action mode is cross, there are three options: A->B, B->A, both. System can generate an alarm once there is any object enter/exit (Or both) the zone.

Parameter	Function
Period	Set tripwire valid period. System generates an alarm during the specified period. For detailed setups, please refer to chapter 5.7.3.1.1 motion detect.


Step 6 Click Save to complete setup.

#### 5.7.3.3 Abandoned Object Detect

It is to detect there is any abandoned object in the surveillance area for the specified time.

#### Note:

- The abandoned object detection function is valid once your network camera or your DVR supports this function.
- If you want to use the IVS function of the network camera, please make sure your connected network camera supports this function.

Step 1 From main menu->Setup->Event->IVS, click  to add the rule. Select rule type as abandoned object detection.

#### Note

Double click to change a rule name.

Step 2 Check the box to enable abandoned object detection function. See Figure 5-88.

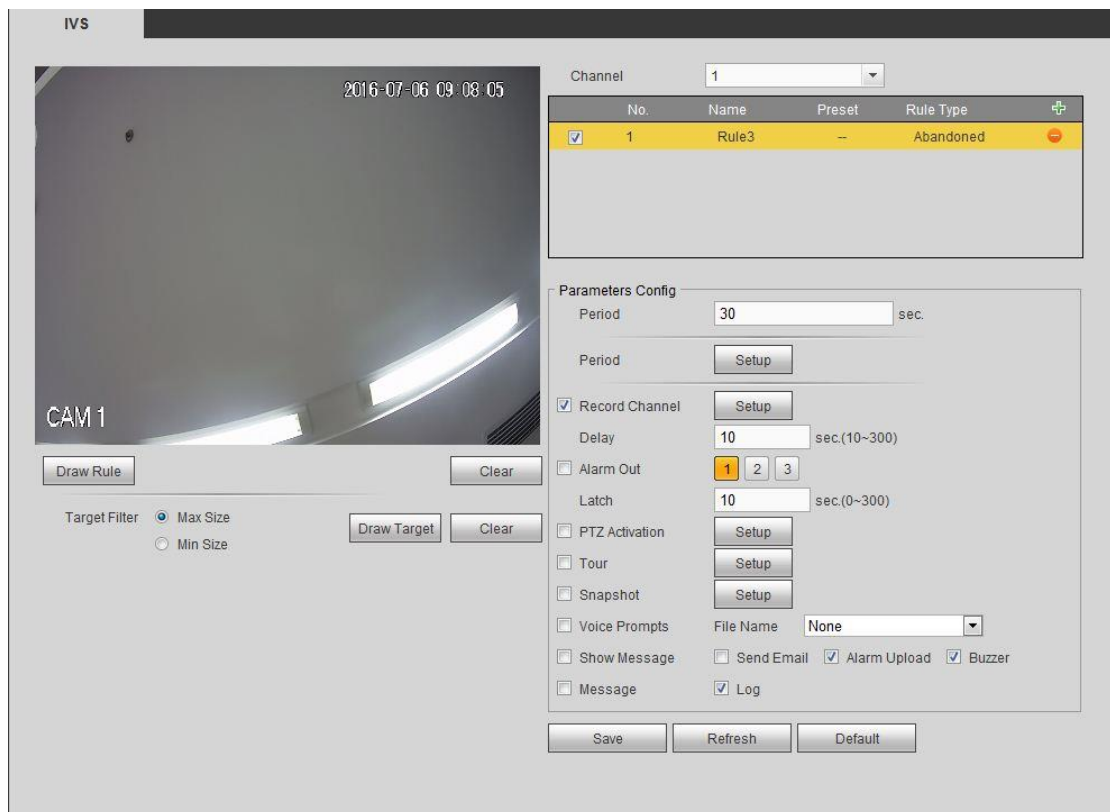


Figure 5-88

Step 3 Click Draw rule to draw the rule. See Figure 5-89. Left click mouse to draw a line, until you draw a rectangle, you can right click mouse.

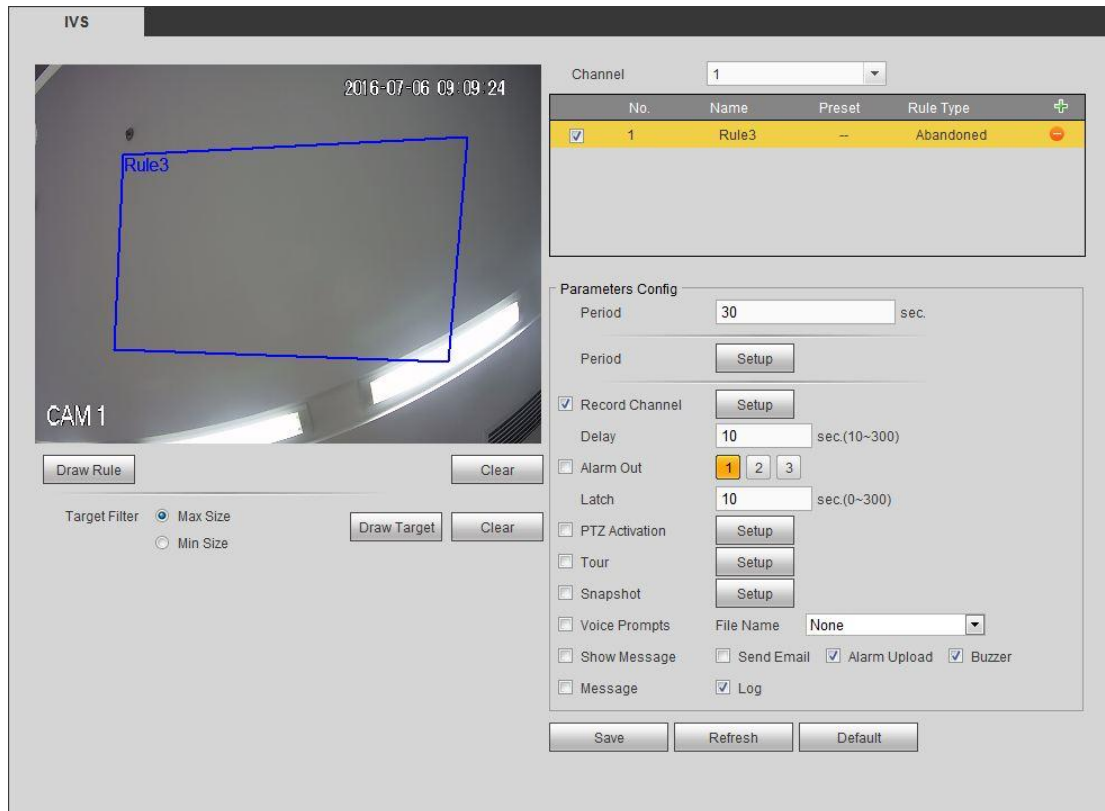


Figure 5-89

Step 4 Set filter object. Once the object is smaller than the min size or larger than the max size, there is no alarm.

1. After draw the rule, set max size and min size.
2. Click Draw target to draw the rectangle zone.

 **Note**

- Each rule can set two sizes (min size/max size). Please make sure the max size is larger than the min size.
- The default max size is the full screen, you can select the blue line and then use mouse to adjust.

Step 5 Set parameters.

Parameter	Function
Lasting Period	It refers to the time that object is staying in the zone time.
Period	Set tripwire valid period. System generates an alarm during the specified period. For detailed setups, please refer to chapter 5.7.3.1.1 motion detect

Step 6 Click Save to complete setup.

#### 5.7.3.3.4 Missing Object Detect


It is to detect there is any abandoned object in the surveillance area for the specified time.

- System supports customized area shape and amount.
- Support period setup.

- Support objects filter function.

 **Note:**

- The missing object detection function is valid once your network camera or your DVR supports this function.
- If you want to use the IVS function of the network camera, please make sure your connected network camera supports this function.

Step 1 From main menu->Setup->Event->IVS, click  to add the rule and select the rule type as missing object detection.

 **Note**

Double click to change a rule name.

Step 2 Check the missing object detection to enable missing object detection function. See Figure 5-90.

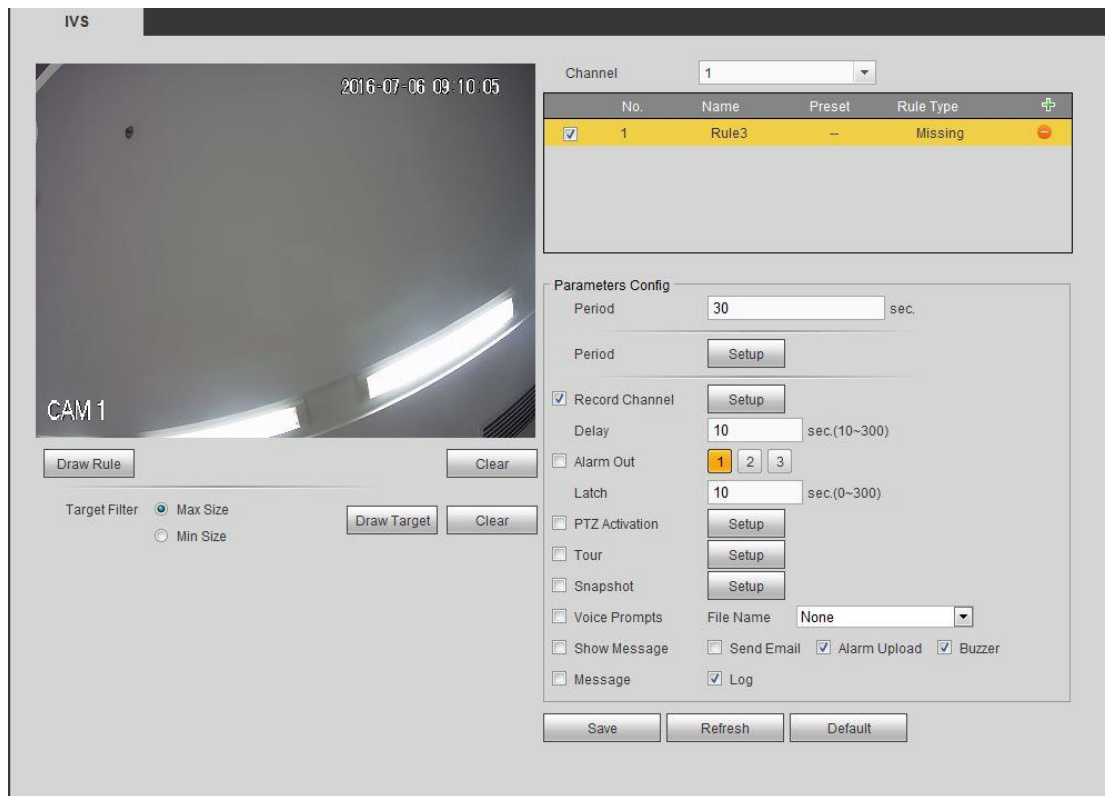


Figure 5-90

Step 3 Click Draw rule button and then left click mouse to draw a zone. Right click mouse to complete. See Figure 5-91.

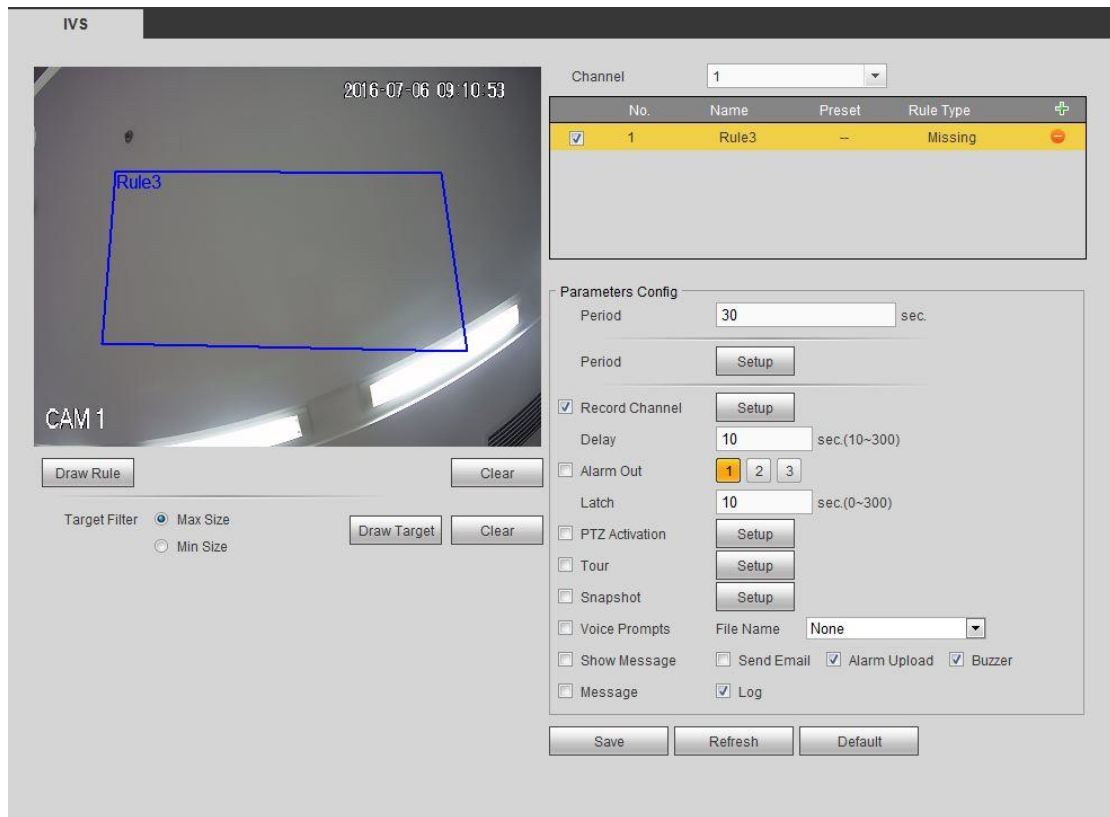


Figure 5-91

Step 4 Set filter object. Once the object is smaller than the min size or larger than the max size, there is no alarm.

1. After draw the rule, set max size and min size.
2. Click Draw target to draw the rectangle zone.

 **Note**

- Each rule can set two sizes (min size/max size). Please make sure the max size is larger than the min size.
- The default max size is the full screen, you can select the blue line and then use mouse to adjust.

Step 5 Set parameters.

Parameter	Function
Lasting Period	It refers to the time that object is staying in the zone time.
Period	Set tripwire valid period. System generates an alarm during the specified period. For detailed setups, please refer to chapter 5.7.3.1.1 motion detect

Step 6 Click Save to complete setup.

#### 5.7.3.4 Face Detect (Optional)

When camera detects human face, system can draw a rectangle around the human face to highlight it. This function is valid if your device or the connected camera supports this function.

Step 1 From main menu->Setup->Event->Face detect.



Enter face detect interface. See Figure 5-92.

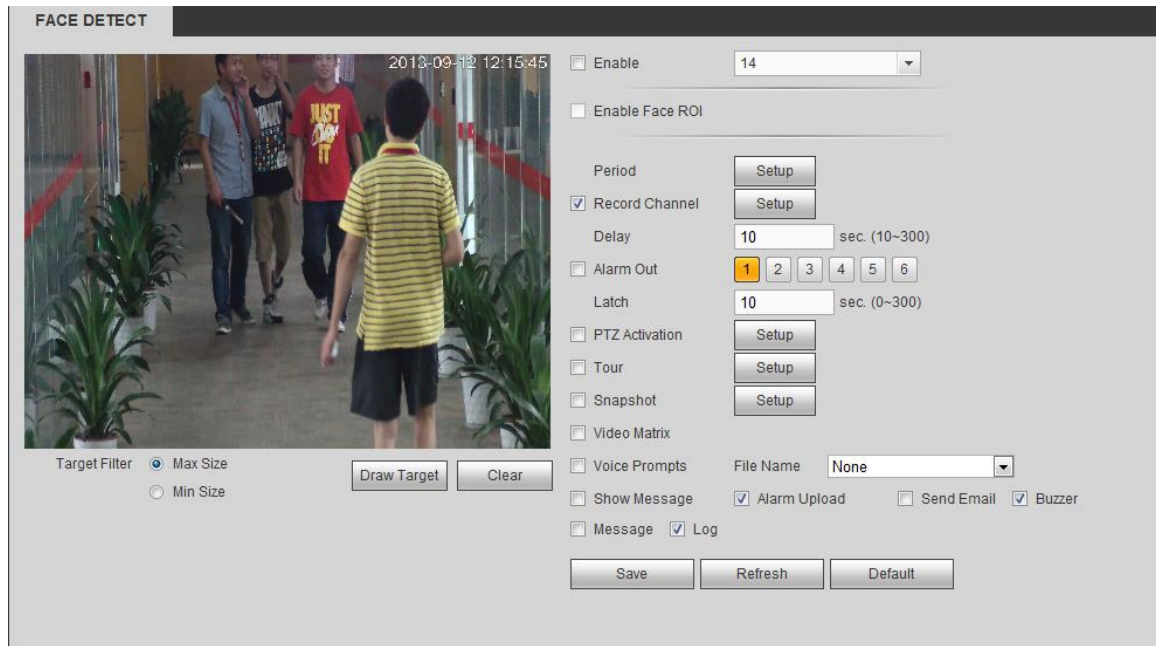


Figure 5-92

Step 2 Set filter object. Once the object is smaller than the min size or larger than the max size, there is no alarm.

1. After draw the rule, set max size and min size.
2. Click Draw target to draw the rectangle zone.

 **Note**

- Each rule can set two sizes (min size/max size). Please make sure the max size is larger than the min size.
- The default max size is the full screen, you can select the blue line and then use mouse to adjust.

Step 3 Set parameters.

Parameter	Function
Enable	Check the box to enable human face detection function, and then select human detection channel.
Enable face ROI	Check the box here, system can enhance the human face display pane. Please make sure you connected camera supports this function. Otherwise the checkbox is grey.
Period	Set tripwire valid period. System generates an alarm during the specified period. For detailed setups, please refer to chapter 5.7.3.1.1 motion detect.

Step 4 Click Save to complete setup.

### 5.7.3.5 People Counting (Optional)

System can calculate the entry/exit people amount in the specified zone. It can generate an alarm when the amount has exceeded the threshold.

It is to set flow statistic mode and alarm activation items.

Step 1 From main menu->Setup->Event->People counting.

Enter people counting interface shown as in Figure 5-93.

Step 2 Select a channel from the dropdown list and then check the box to enable people counting function. Click Save.

Step 3 Click Draw rule to draw the rule. Left click mouse to draw a line, until you draw a rectangle, you can right click mouse.

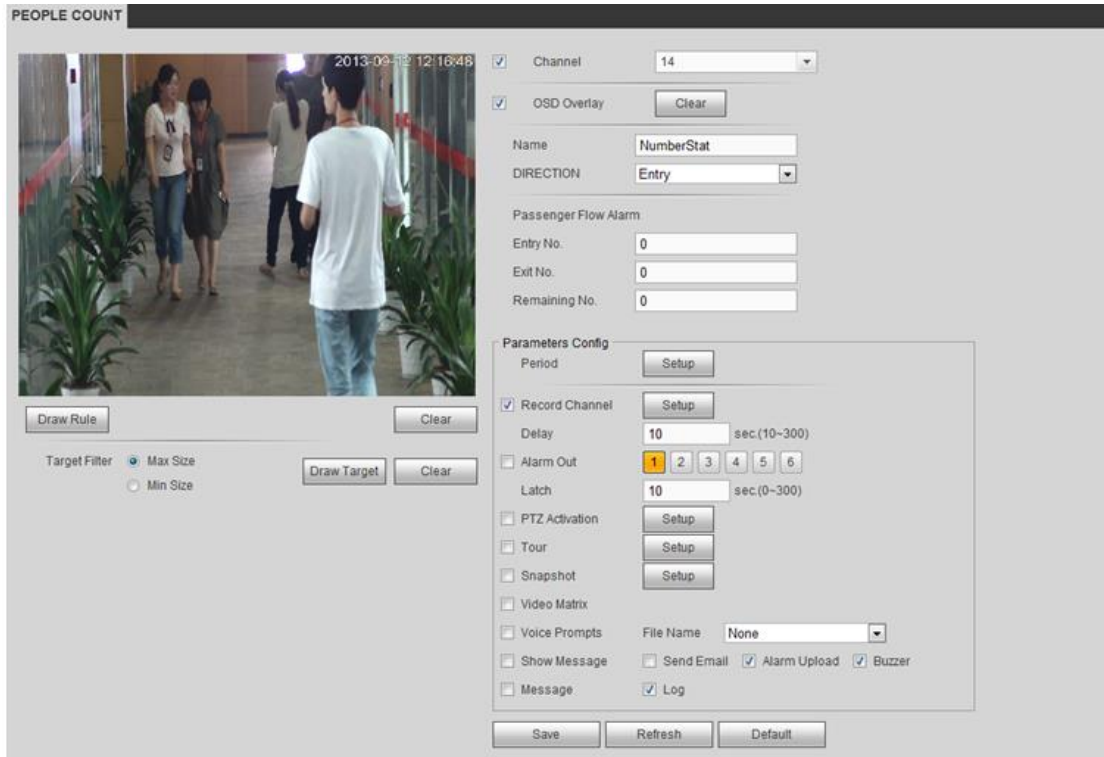


Figure 5-93

Step 4 Set parameters. Refer to chapter 5.7.3.1.1 motion detect for detailed information.

Parameter	Function
Channel	Check the box to enable people counting function, and then select people counting detection channel.
OSD overlay	Check the box here; you can view the people amount on the surveillance video.
Direction	It is to set people flow direction. It includes entry/exit.
Entry No.	It is to set people entry amount. System can generate an alarm once the amount has exceeded the threshold.
Exit No.	It is to set people entry amount. System can generate an alarm once the amount has exceeded the threshold.
Stranded No.	It is to set people staying amount in the zone. System can generate an alarm once the amount has exceeded the threshold.

Parameter	Function
Video matrix	Check the box here to enable this function. Right now system supports 1-window tour function and it follows “first come, first server” rule. DVR processes the new triggered tour when the previous alarm ended. Otherwise it resumes the previous tour status before the people counting.

Step 5 Click Save button to complete setup.

### 5.7.3.6 Audio Detect

System can generate an alarm once it detect the audio input is abnormal or audio volume changes.



#### Note

- Please connect to a smart network camera to the IP channel if you want to use audio detection function.
- Please make sure the connected smart network camera supports audio detection function.

Step 1 From main menu->Setup->Event->Audio detect.

Enter audio detect interface. See Figure 5-94.

Figure 5-94

Step 2 Set parameters. Refer to chapter 5.7.3.1.1 motion detect for detailed information.

- Input abnormal: Check the box here, system can generate an alarm once the audio input is abnormal.

- Intensity change: Check the box here, system can generate an alarm once the audio volume becomes strong.
- Sensitivity: It refers to the audio recognition sensitivity. The higher the value is, the higher the sensitivity is.
- Threshold: It is to set intensity change threshold. The smaller the value is, the higher the sensitivity is.

Step 3 Click Save button to complete setup.

### 5.7.3.7 Smart Track

The smart track function includes fisheye+PTZ camera and fixed camera +PTZ camera. The smart track function refers to a system consisting of the fisheye (fixed camera) and the PTZ camera. The fisheye(fixed camera) is the master camera to view the whole surveillance situation, and the PTZ camera is the slave camera to view the details.



#### Note

180°fisheye camera does not support smart track function.

#### Preparation

- The fisheye and the PTZ camera shall surveillance proper zone.
- The fisheye and the PTZ camera shall use the private protocol to add.

#### Steps

Step 1 From Main menu->Setting->Event->Smart track.  
Enter smart track interface. See Figure 5-95.

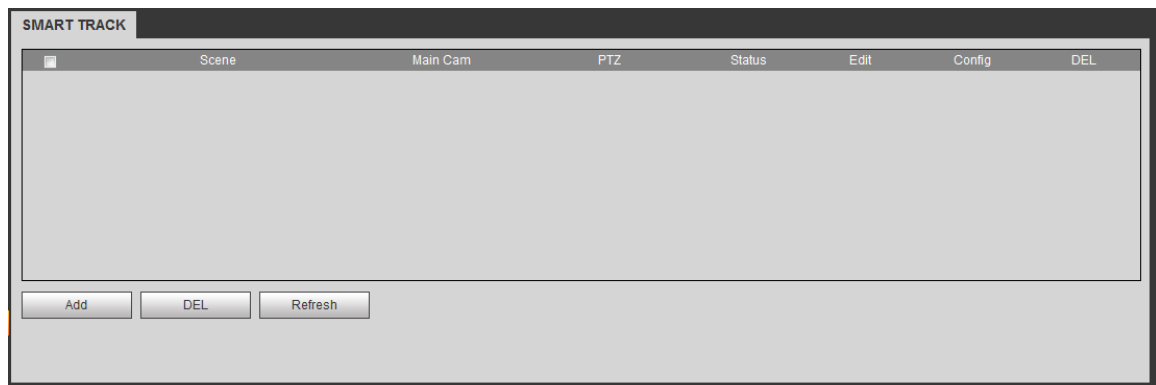


Figure 5-95

Step 2 Add monitor position and set fisheye+PTZ camera relationship.

1. Click Add button.  
Enter add interface. See Figure 5-96.

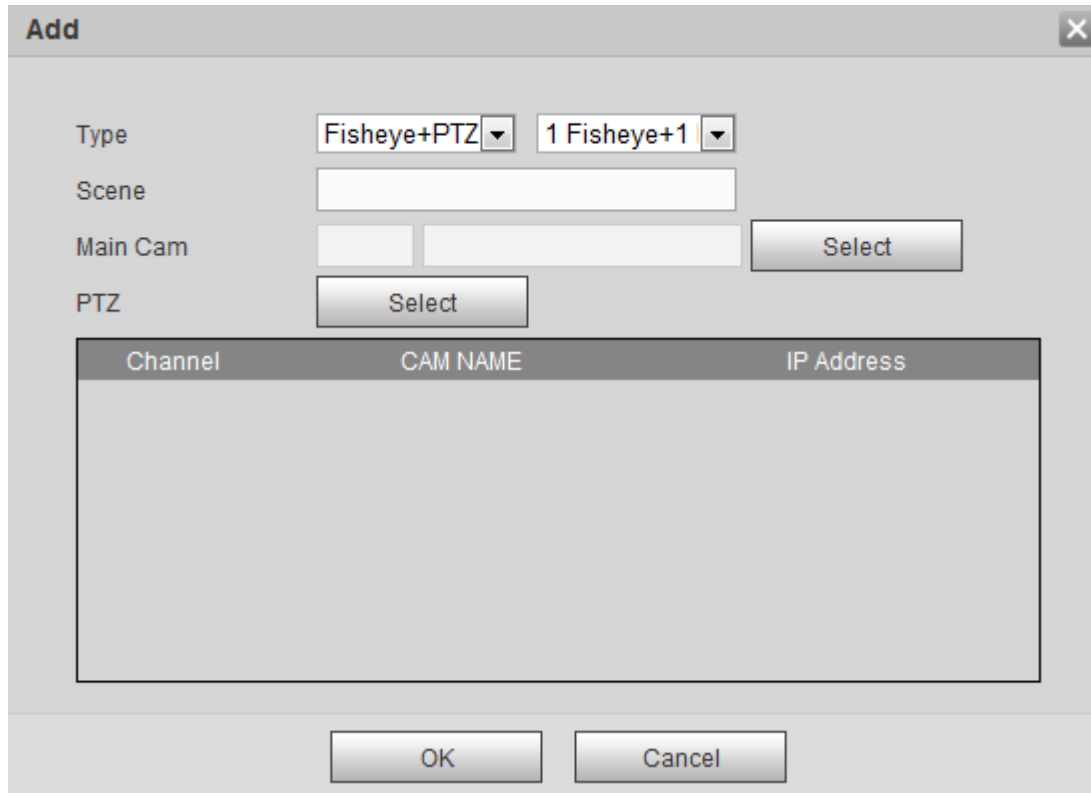


Figure 5-96

2. Select fisheye channel and PTZ camera channel, set monitor position name and set parameters.
  - Type: Here you can select smart track mode. It includes: 1 fisheye+1 PTZ camera/1 fisheye+2 PTZ cameras/1 fisheye+3 PTZ cameras.
  - Monitor name: It is the monitor position. Input customized monitor position name.
  - Main channel: Click Select button and then select fisheye from the dialogue box. Click Ok button, you can view the channel number and channel name.
  - PTZ camera: Click Select button and then select corresponding PTZ camera amount from the dialogue box. Click Ok button, you can view PTZ camera channel number, channel name and IP address.
3. Click OK button.  
Monitor position settings are complete. See Figure 5-97.

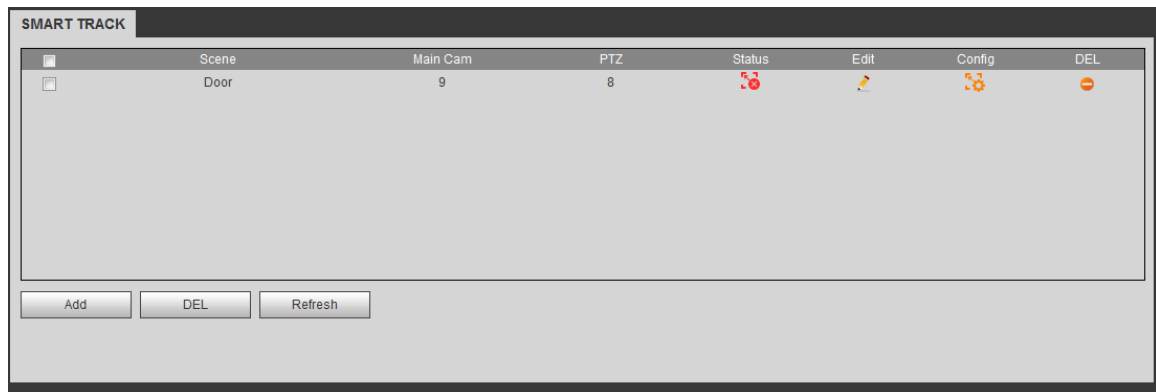


Figure 5-97

Step 3 Set calibration, set fisheye and PTZ camera relationship.

1. In Figure 5-97, click or double click the line.

Enter calibration interface. See Figure 5-98.










Figure 5-98


2. On the fisheye displayed zone, left click mouse or move to confirm the position.
3. On the PTZ camera displayed zone, use the following buttons to adjust the PTZ camera position. It is to move the center position of the PTZ camera is

the same as the  position of the fisheye.

 **Note**

The  of the PTZ camera is the center position of the video.

Button	Function
	Zoom
	Focus
	Iris
	Electronic mouse, move it on the interface to control the PTZ direction.
	Fast positioning button. Click it first and then click any position in the video. Left click mouse, you can view the video from the specified position.
	It is to control PTZ movement speed. The higher the value is, the faster the speed is. For example, the step 8 speed is faster than step 1.

4. Click add button and then click  to save.

Now you complete one group position, you can view at the list. See Figure 5-99.



Main Cam	PTZ	Zoom	OPERATION	DEL
3942,816	1077,-20	128		

Figure 5-99

5. Repeat the above steps to set at least three group positions.


 **Note**

- For one PTZ camera, there must be three calibration groups. System max supports 8 group positions. Please make sure the calibration position is accurate.
- For the first calibration group position, please select the reference objects at

the far distance to enhance the trigger accuracy.

6. Click OK button.

Calibration setup is complete. Go back to the smart track interface, the

status is shown as .

### 5.7.3.8 Alarm

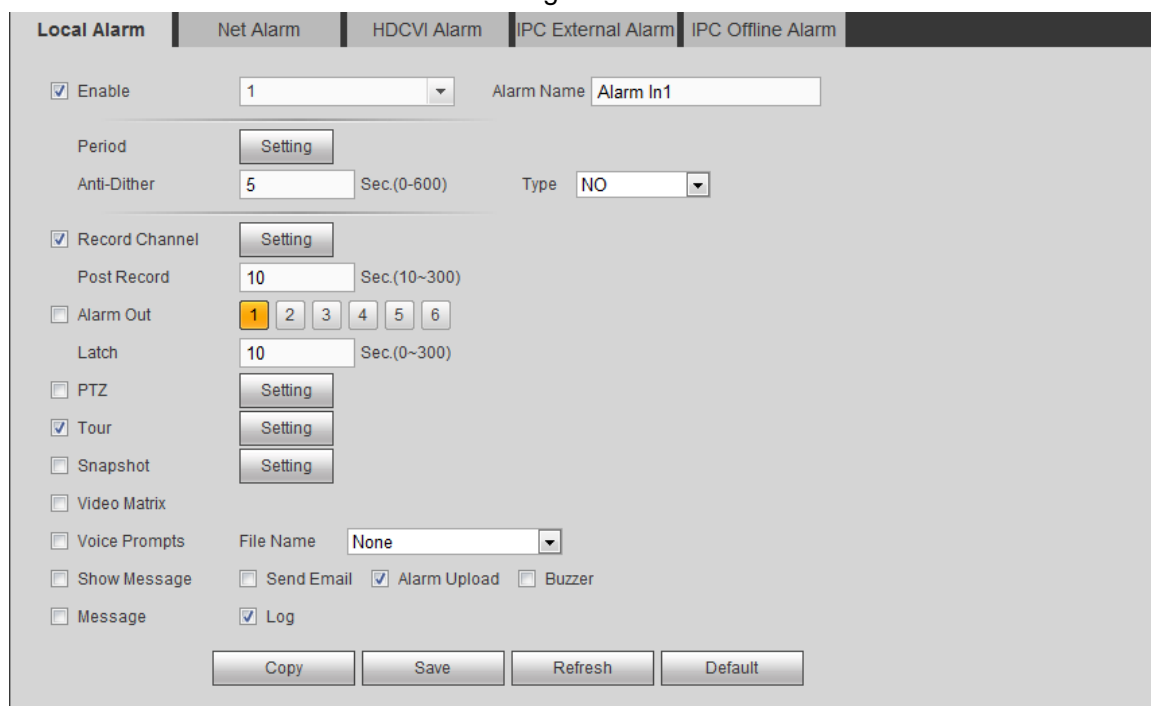
Before operation, please make sure you have properly connected alarm devices such as buzzer. The input mode includes local alarm/network alarm/IPC external alarm/IPC offline alarm.

#### 5.7.3.8.1 Local Alarm

It refers to alarm from the local device.

Step 1 From main menu->Setup->Event->Alarm.

Enter local alarm interface. See Figure 5-100.



**Local Alarm** | Net Alarm | HDCVI Alarm | IPC External Alarm | IPC Offline Alarm

Enable    1    Alarm Name: Alarm In1

Period:

Anti-Dither: 5    Sec.(0-600)    Type: NO

Record Channel   

Post Record: 10    Sec.(10~300)

Alarm Out: 1 2 3 4 5 6

Latch: 10    Sec.(0~300)

PTZ   

Tour   

Snapshot   

Video Matrix

Voice Prompts    File Name: None

Show Message     Send Email     Alarm Upload     Buzzer

Message     Log

Figure 5-100



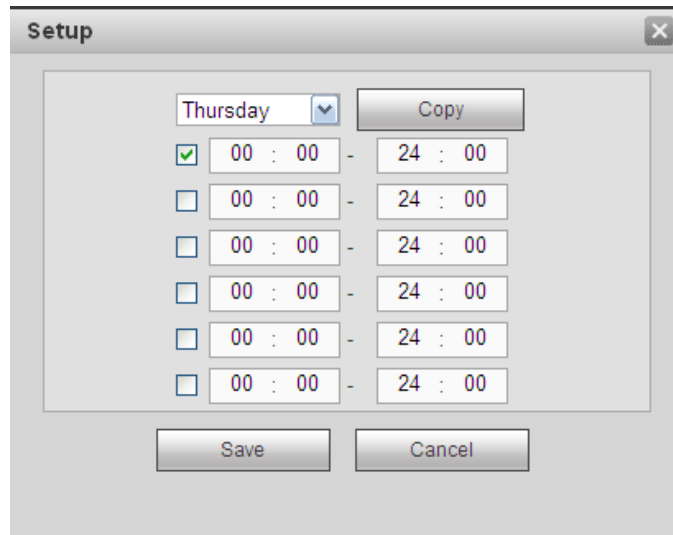


Figure 5-101

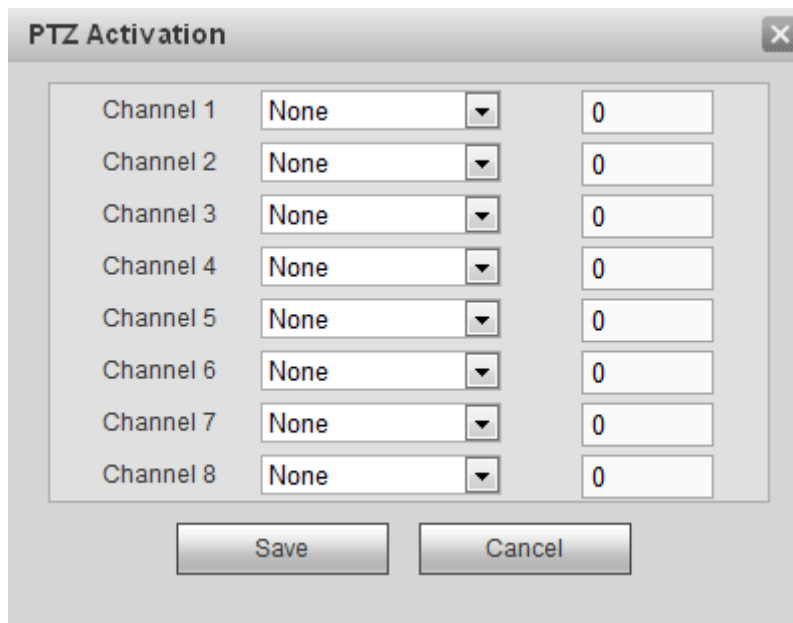


Figure 5-102

Step 2 Set parameters.

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.

Parameter	Function
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.
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 center (Including alarm center).
Send Email	If you enabled this function, System can send out an email to alert you when an alarm occurs.
Tour	You need to check the box here to enable this function. System begins 1-window or multiple-window tour display among the channel(s) you set to record when an alarm occurs.
PTZ Activation	Here you can set PTZ movement when alarm occurs. Such as go to preset X.
Log	Check the box here, system can record local alarm event log.

Step 3 Click Save to complete the setup.

#### 5.7.3.8.2 Net Alarm

Network alarm refers to the alarm signal from the network. System does not anti-dither and sensor type setup.

Step 1 From main menu->Setup->Event->Alarm.

Enter network alarm interface. See Figure 5-103.

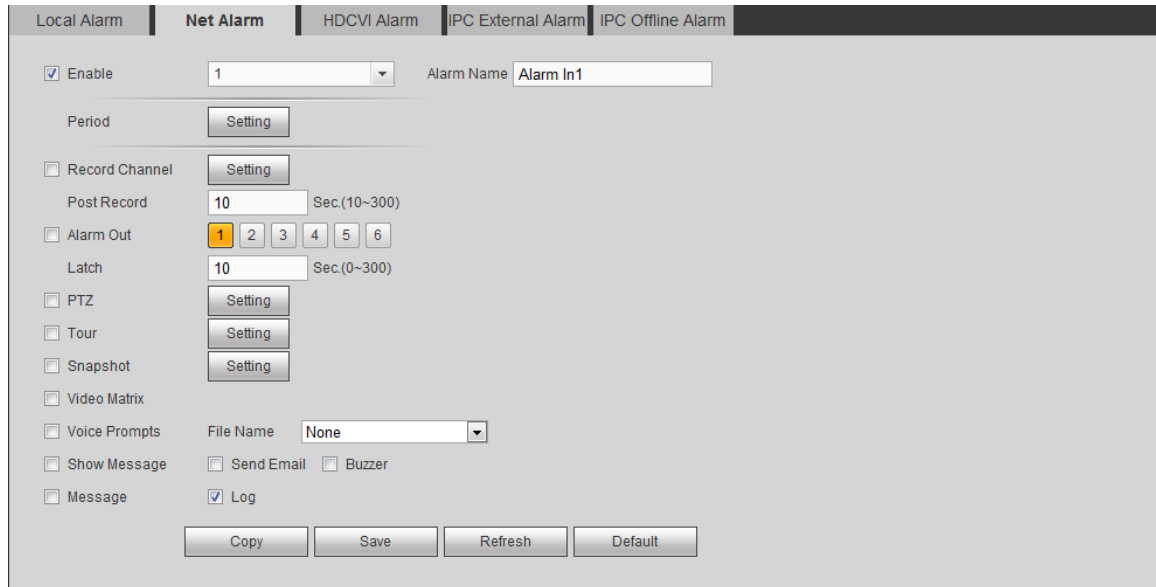


Figure 5-103

Step 2 For setup information, please refer to chapter 5.7.3.8.1 Local alarm.

The network alarm does not support anti-dither and device type.

Step 3 Click Save to complete the setup.

#### 5.7.3.8.3HDCVI Alarm

HDCVI alarm refers to the camera receive the camera voltage, motion detect and external alarm. It can set alarm activation operations. This function is null if the camera does not support alarm function.

Step 1 From main menu->Setup->Event->Alarm->HDCVI alarm.

Enter HDCVI alarm interface. See Figure 5-104.

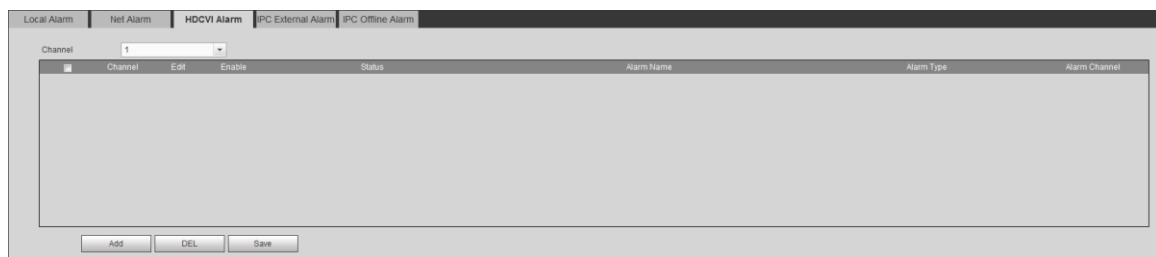


Figure 5-104

Step 2 Click Add button.

Enter HDCVI alarm interface. See Figure 5-105.

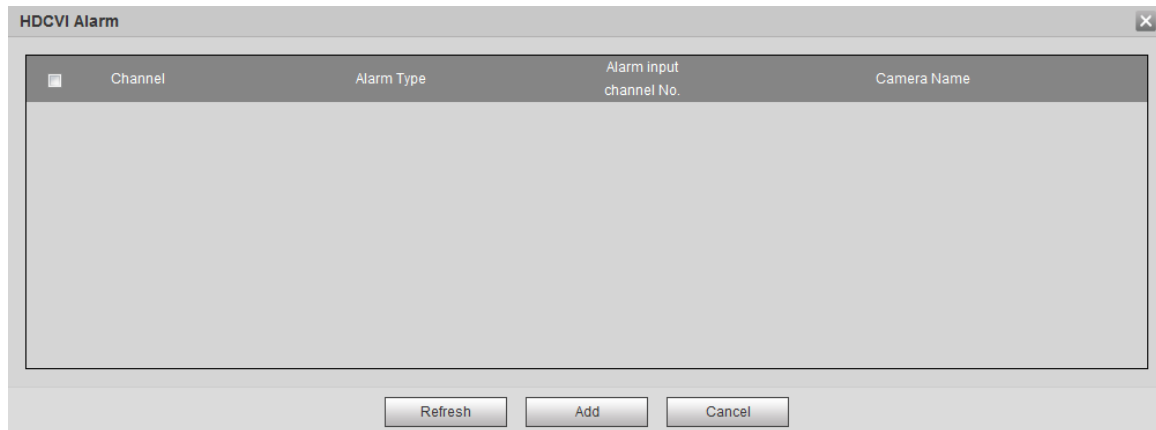



Figure 5-105

- Step 3 Check the box, select the alarm input channel.  
The alarm input channel amount depends on the connected camera amount.
- Step 4 Click Add.  
Return HDCVI alarm interface.
- Step 5 Select a channel number; it is to view the added alarm.
- Step 6 Click  to set alarm activation items. Refer to chapter 5.7.3.8.1 Local alarm for detailed information.
- Step 7 Check the box to enable the alarm. Click Save to complete HDCVI alarm settings.

#### 5.7.3.8.4 IPC External Alarm

IPC external alarm refers to the camera on-off alarm and it can trigger DVR actions.

- Step 1 From main menu->Setup->Event->Alarm->IPC external alarm.  
Enter IPC external alarm interface. See Figure 5-106.

Local Alarm	Net Alarm	IPC External Alarm	IPC Offline Alarm
<input checked="" type="checkbox"/> Channel	16	Alarm Name	Alarm In16
Period	<input type="button" value="Setup"/>		
Anti-dither	5 sec.(0-600)	Type	NC
<input checked="" type="checkbox"/> Record Channel	<input type="button" value="Setup"/>		
Delay	10 sec.(10~300)		
<input checked="" type="checkbox"/> Alarm Out	1 2 3 4 5 6		
Latch	10 sec.(0~300)		
<input type="checkbox"/> PTZ Activation	<input type="button" value="Setup"/>		
<input type="checkbox"/> Tour	<input type="button" value="Setup"/>		
<input type="checkbox"/> Snapshot	<input type="button" value="Setup"/>		
<input type="checkbox"/> Video Matrix			
<input type="checkbox"/> Voice Prompts	File Name	None	
<input type="checkbox"/> Show Message	<input type="checkbox"/> Send Email	<input checked="" type="checkbox"/> Alarm Upload	<input type="checkbox"/> Buzzer
<input type="checkbox"/> Message	<input checked="" type="checkbox"/> Log		
<input type="button" value="Copy"/> <input type="button" value="Save"/> <input type="button" value="Refresh"/> <input type="button" value="Default"/>			

Figure 5-106

Step 2 Set parameters. Refer to chapter 5.7.3.8.1 Local alarm for detailed information.

Step 3 Click Save to complete the setup.

#### 5.7.3.8.5 IPC Offline Alarm

Once the network camera disconnect with the DVR, the device can trigger an alarm.

Step 1 From main menu->Setup->Event->Alarm->IPC offline alarm.

Enter IPC offline alarm interface. See Figure 5-107.

Local Alarm	Net Alarm	IPC External Alarm	IPC Offline Alarm
<input checked="" type="checkbox"/> Channel	16		
<input type="checkbox"/> Record Channel	<input type="button" value="Setup"/>		
Delay	10 sec.(10~300)		
<input checked="" type="checkbox"/> Alarm Out	1 2 3 4 5 6		
Latch	10 sec.(0~300)		
<input checked="" type="checkbox"/> PTZ Activation	<input type="button" value="Setup"/>		
<input type="checkbox"/> Tour	<input type="button" value="Setup"/>		
<input type="checkbox"/> Snapshot	<input type="button" value="Setup"/>		
<input type="checkbox"/> Video Matrix			
<input type="checkbox"/> Voice Prompts	File Name	None	
<input type="checkbox"/> Show Message	<input type="checkbox"/> Send Email	<input checked="" type="checkbox"/> Alarm Upload	<input type="checkbox"/> Buzzer
<input type="checkbox"/> Message	<input checked="" type="checkbox"/> Log		
<input type="button" value="Copy"/> <input type="button" value="Save"/> <input type="button" value="Refresh"/> <input type="button" value="Default"/>			

Figure 5-107

- Step 2 Set parameters. Refer to chapter 5.7.3.8.1 Local alarm for detailed information.
- Step 3 Click Save to complete the setup.

### 5.7.3.9 Abnormality

Step 1 From main menu->Setup->Event->Abnormality.

It includes four types: HDD/Network/User/Device. See Figure 5-108 through Figure 5-111.

The screenshot shows the configuration interface for the 'HDD' abnormality. At the top, there are tabs for 'HDD', 'Network', 'User', and 'Device', with 'HDD' selected. Below the tabs, the 'Event Type' is set to 'No HDD'. The 'Enable' checkbox is checked. The 'Alarm Out' section has a row of buttons numbered 1 through 6, with button 1 highlighted. The 'Latch' field is set to '10' with the unit 'sec.(0~300)'. The 'Voice Prompts' checkbox is unchecked, and the 'File Name' dropdown is set to 'None'. The 'Show Message' checkbox is unchecked, and the 'Send Email' checkbox is also unchecked. The 'Alarm Upload' and 'Buzzer' checkboxes are checked. The 'Message' checkbox is unchecked, and the 'Log' checkbox is checked. At the bottom, there are 'Save' and 'Refresh' buttons.

Figure 5-108

The screenshot shows the configuration interface for the 'Network' abnormality. At the top, there are tabs for 'HDD', 'Network', 'User', and 'Device', with 'Network' selected. Below the tabs, the 'Event Type' is set to 'Disconnect'. The 'Enable' checkbox is checked. The 'Record Channel' section has a row of buttons numbered 1 through 16, with button 1 highlighted. The 'Delay' field is set to '10' with the unit 'sec.(10~300)'. The 'Alarm Out' section has a row of buttons numbered 1 through 6, with button 1 highlighted. The 'Latch' field is set to '10' with the unit 'sec.(0~300)'. The 'Voice Prompts' checkbox is unchecked, and the 'File Name' dropdown is set to 'None'. The 'Show Message' checkbox is unchecked, and the 'Send Email' and 'Buzzer' checkboxes are also unchecked. The 'Message' checkbox is unchecked, and the 'Log' checkbox is checked. At the bottom, there are 'Save' and 'Refresh' buttons.

Figure 5-109

HDD | Network | **User** | Device

Event Type:

Enable

Attempt(s):

Lock Time:  Min.

Alarm Out:

Latch:  sec.(0~300)

Voice Prompts: File Name:

Send Email  Buzzer

Message  Log

Figure 5-110

HDD | Network | User | **Device**

Event Type:

Alarm Name:

Max Temperature:  °C

Enable

Alarm Out:

Latch:  sec.(0~300)

Voice Prompts: File Name:

Show Message  Send Email  Buzzer

Message  Log

Figure 5-111

Step 2 Set parameters.

Parameter	Function
Event Type	<p>The abnormal events include:</p> <ul style="list-style-type: none"> <li>● HDD: No disk, disk error, disk no space;</li> <li>● Network: Net disconnection, IP conflict, MAC conflict.</li> <li>● User: Illegal login.</li> <li>● Device: Temperature is too high, fan speed is abnormal. Please note this function is for some series product only.</li> </ul> <p>You can set one or more items here.</p> <ul style="list-style-type: none"> <li>● Less than: You can set the minimum percentage value here. The device can generate an alarm when capacity is not sufficient. This</li> </ul>

Parameter	Function
	<p>item is for disk no space type only.</p> <ul style="list-style-type: none"> <li>● Max temperature: You can set max temperature value here. The device can generate an alarm once the device temperature is higher than the threshold you set. This item is for high temperature type only.</li> </ul>
Enable	Check the box here to enable selected 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 0s to 300s. The default setup is 10 seconds. The 0 second means there is no delaying time.
Attempt(s)	It is to set login attempt times. Once the login attempt exceeds the threshold you set here, current account will be locked. This function is illegal login only.
Lock time	It is to set account lock time once its login attempt has exceeded the threshold you set. This function is for illegal login only.
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 center (Including alarm center).
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.
Log	Check the box here, system can record the network event alarm log.

Step 3 Click Save to complete the setup.

### 5.7.3.10 Alarm Output

It is to set alarm output mode.

Step 1 From main menu->Setup->Event->Alarm output.

Enter alarm output interface. See Figure 5-112.



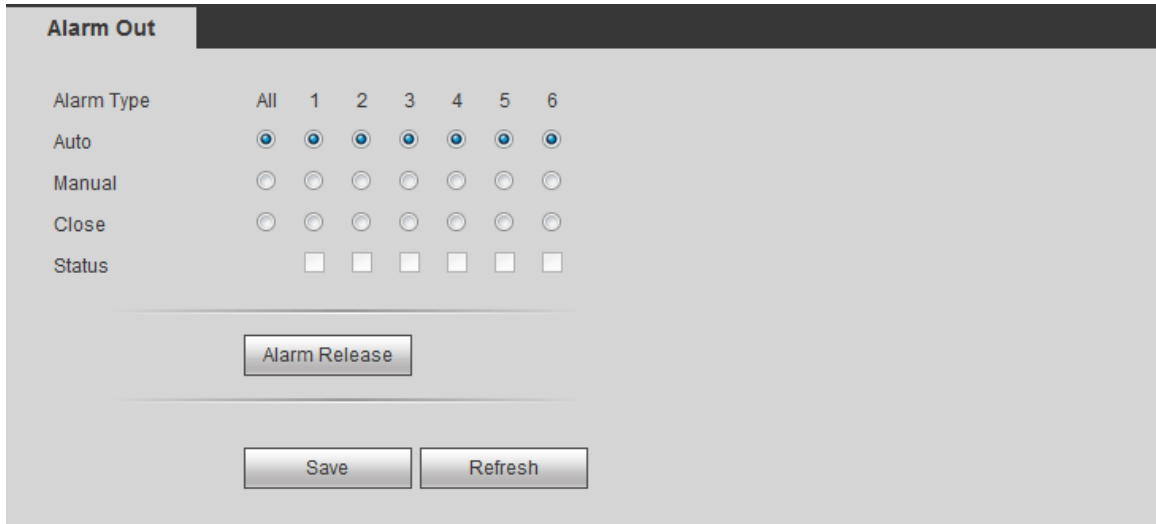


Figure 5-112

Step 2 Set alarm mode of each channel. Set parameters.

Parameter	Function
Auto	The corresponding event triggers the alarm output or cancels alarm.
Manual	Forcedly trigger alarm output.
Close	Forcedly cancel or close alarm output.
Status	Here you can view alarm output port status. The alarm is enabled if the icon is highlighted.
Alarm release	Click the button, you can clear all alarm output status.

Step 3 Click Save to complete the setup.

## 5.7.4 Storage

### 5.7.4.1 Basic

It is to manage HDD storage space.


Step 1 From main menu->Setup->Storage->Basic.

Enter Basic interface. See Figure 5-32.



Figure 5-113

Step 2 Set parameters.

Parameter	Function
HDD full	<p>It is to select working mode when hard disk is full. There are two options: stop recording or rewrite.</p> <ul style="list-style-type: none"> <li>● Stop: If current HDD is full while there is no idle HDD, then system stops recording,</li> <li>● Overwrite: If the current HDD is full while there is no idle HDD, then system overwrites the previous files.</li> </ul> <p> <b>Note</b></p> <p>DVR does not overwrite the locked files. Please refer to chapter 5.8.9 to lock or unlock a file.</p>
Pack duration	<p>It is to specify record duration. There are two ways for you to set.</p> <ul style="list-style-type: none"> <li>● Time length: It is to pack according to time. The value ranges from 1 to 60 minutes. Default value is 60 minutes.</li> <li>● File length: It is to pack according to file length. The default setup is 1024M. The value ranges from 128M to 2048M.</li> </ul>
Auto delete old files	<ul style="list-style-type: none"> <li>● Never: Do not auto delete old files.</li> <li>● Customized: input customized period here, system can auto delete corresponding old files</li> </ul>
Status	<p>Here you can view alarm output port status. The alarm is enabled if the icon is highlighted.</p>
Alarm release	<p>Click the button, you can clear all alarm output status.</p>

#### 5.7.4.2 Schedule

It is to set record and snapshot plan. Different channels and different dates can set different record/snapshot periods. There are six periods in one day.

##### 5.7.4.2.1 Schedule Record

Step 1 From main menu->Setup->Storage->schedule->Record.

Enter record setup. See Figure 5-114.

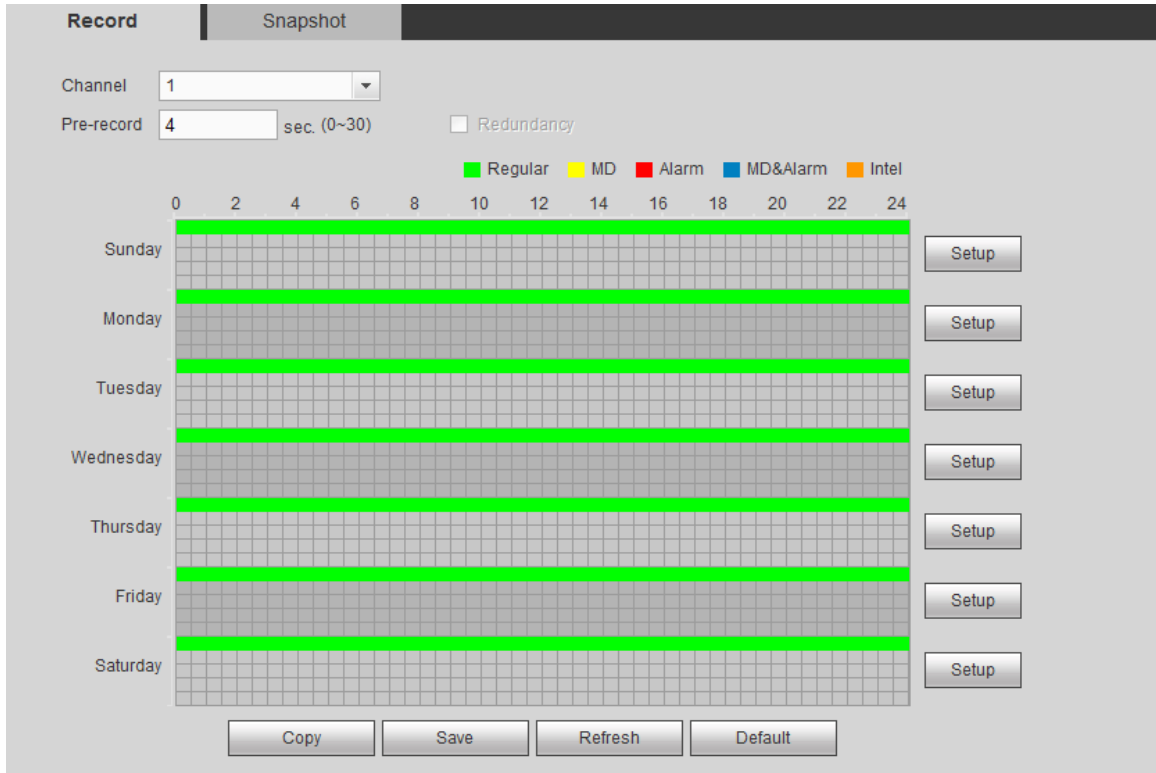



Figure 5-114

Step 2 Set parameters.

Parameter	Function
Channel	Select the channel number first. Select “all” if you want to set for the whole channels.
Pre-record	It is to specify record duration. There are two ways for you to set. Time length: It is to pack according to time. The value ranges from 1 to 60 minutes. Default value is 60 minutes. File length: It is to pack according to file length. The default setup is 1024M. The value ranges from 128M to 2048M.
Redundancy	System supports redundancy backup function. Highlight Redundancy button to activate this function. Please note, before enable this function, please set at least one HDD as redundant. Please note this function is null if there is only one HDD.  <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;"> <p> <b>Note</b></p> <p>Go to the record control to set auto or manual record, device begins recording. The redundant HDD is to backup the video file on the read-write HDD. The redundant HDD does not backup image.</p> </div>
ANR	It is to save video to the SD card of the camera in case the network connection fails. After the network connection resumed, the system can get the video from the SD card and there is no risk of record loss. Device only upload the specified period record if the disconnection time is longer than the value you set here.

Step 3 Click Setup button.  
Enter Figure 5-115.

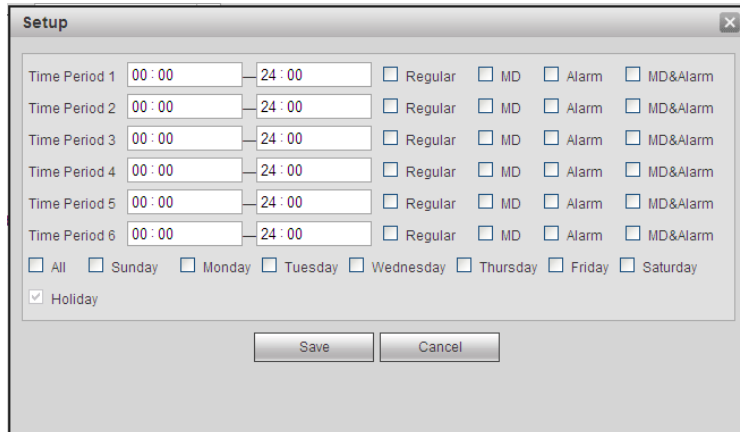


Figure 5-115

Step 4 Set record period and date.

Step 5 Click Save button.

Click the Setup of holiday, it is to set holiday record plan. Please note holiday setting has higher priority than the ordinary date. If current date has set as the holiday, it records as the holiday settings.

**Copy**

It is to copy current channel setup to other channel(s).

Step 1 Select channel 1 and then set record parameters. Click Copy button.  
Enter Figure 5-116.

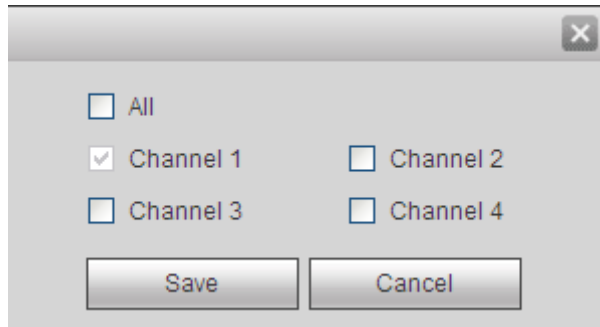


Figure 5-116

Step 2 Current channel name is grey (channel 1). Select the channel you want to paste such as channel 2/3/4. If you want to save current setup of channel 1 to all channels, you can click the first box “ALL”. Click the Save button to save current setup.

Click Save button after you set one channel or click Save button after you set several channels.

5.7.4.2.2 Schedule snapshot

Device snapshot regularly as schedule settings here.

From main menu->Setup->Storage->schedule->Record. Enter snapshot interface. See

Figure 5-117.

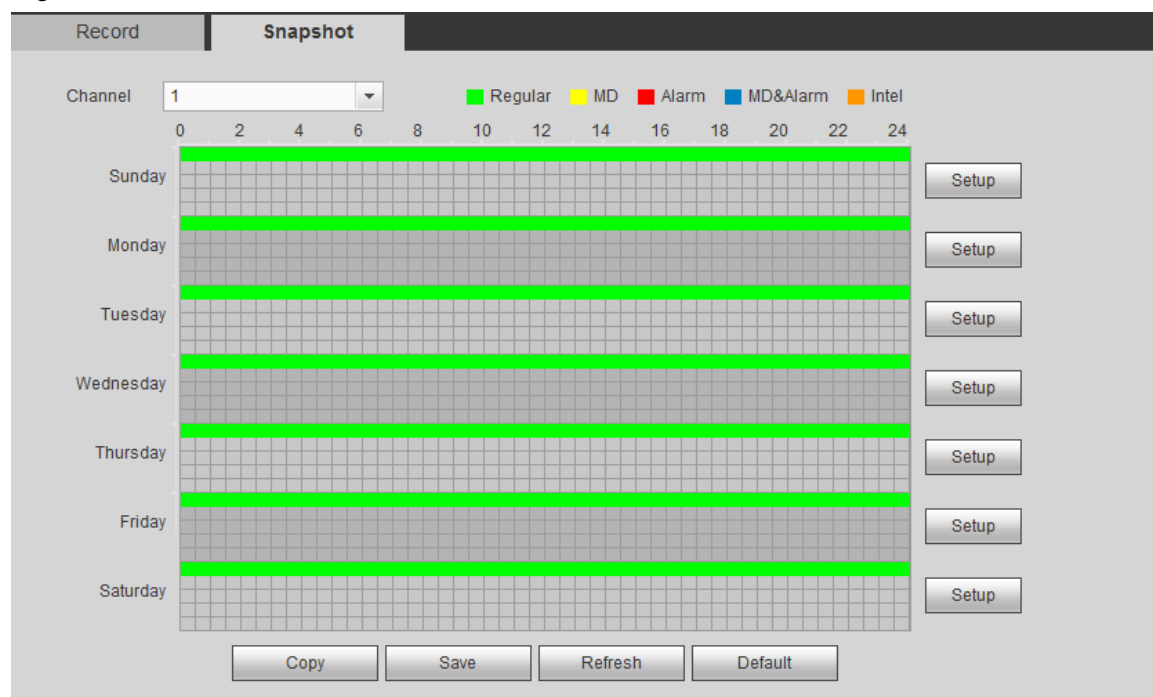


Figure 5-117

Refer to chapter 5.7.4.2.1 Schedule record for detailed information.

### 5.7.4.3 HDD Manage

It is to view HDD information. You can also operate the read-only, read-write, redundancy (if there are more than on HDD) and format operation.

From main menu->Setup->Storage->HDD manager, enter HDD manager interface. See Figure 5-118.

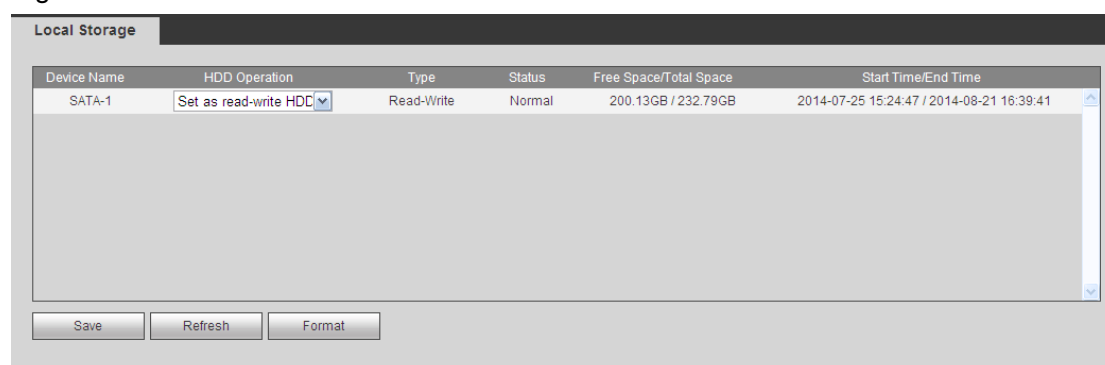


Figure 5-118

- Select a HDD and then click Format, click OK on the pop-up dialogue box, system format current HDD.
- Click HDD operation, it is to select HDD properties such as read-only, read-write, redundant and etc.
  - ✧ To prevent files be overwritten in the future, you can set HDD as read-only.
  - ✧ To backup recorded video file, you can set HDD as redundant HDD.

#### 5.7.4.4 FTP

It is to backup record file or image to the FTP to storage or view.

Before the operation, please download or purchase the FTP service tool and install on the PC.



#### Note

For the FTP user, please set FTP folder write right, otherwise system cannot upload the image.

Step 1 From main window->Setup->Network->FTP.  
Enter FTP interface. See Figure 5-119.

Figure 5-119

Step 2 Check the box to enable FTP function.

Step 3 Set parameters.

Parameter	Function
Host IP	The host IP you have installed the FTP server.
Port	The default setup is 21.
User name/Password	The account for you to access the FTP server.
Remote directory	<p>The folder you created under the root path of the FTP according to the corresponding rule.</p> <ul style="list-style-type: none"> <li>● If there is no remote directory, system can auto create different directories according to the IP, time and channel.</li> <li>● If there is remote directory, system can create corresponding folder under the FTP root path and then create different folders according to IP address, time and channel.</li> </ul>
File length	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.

Parameter	Function
Image upload interval	<p>It is the image upload interval. If the image upload interval is larger than the image snapshot frequency, system just uploads the lasted image.</p> <ul style="list-style-type: none"> <li>● If the image interval is 5 seconds and the snapshot frequency is 2 seconds, system will send out the latest image at the buffer at 5 seconds.</li> <li>● If the image upload interval is smaller than the snapshot frequency, system will upload at the snapshot frequency. For example, if the image interval is 5 seconds and the snapshot frequency is 10 seconds, system will send out the image at 10 seconds.</li> <li>● From main menu-&gt;Setting-&gt;Camera-&gt;Encode-&gt;Snapshot to set snapshot frequency.</li> </ul>
Channel	Select a channel from the dropdown list and then set week, period and record type.
Week day/Period	Please select from the dropdown list and for each day, you can set two periods.
Type	Please select uploaded record type (Alarm/intelligent/motion detect/regular). Please check the box to select upload type.

Step 4 Click Test.

- If the operation successful, device says FTP test successful.
- If the operation failed, device says FTP test failed. Please check network connection and settings.

Step 5 Click Save to complete the setup.

#### 5.7.4.5 Manual Record

Step 1 From main menu->Setup->Storage->Record.

Enter record interface is shown as in Figure 5-120.

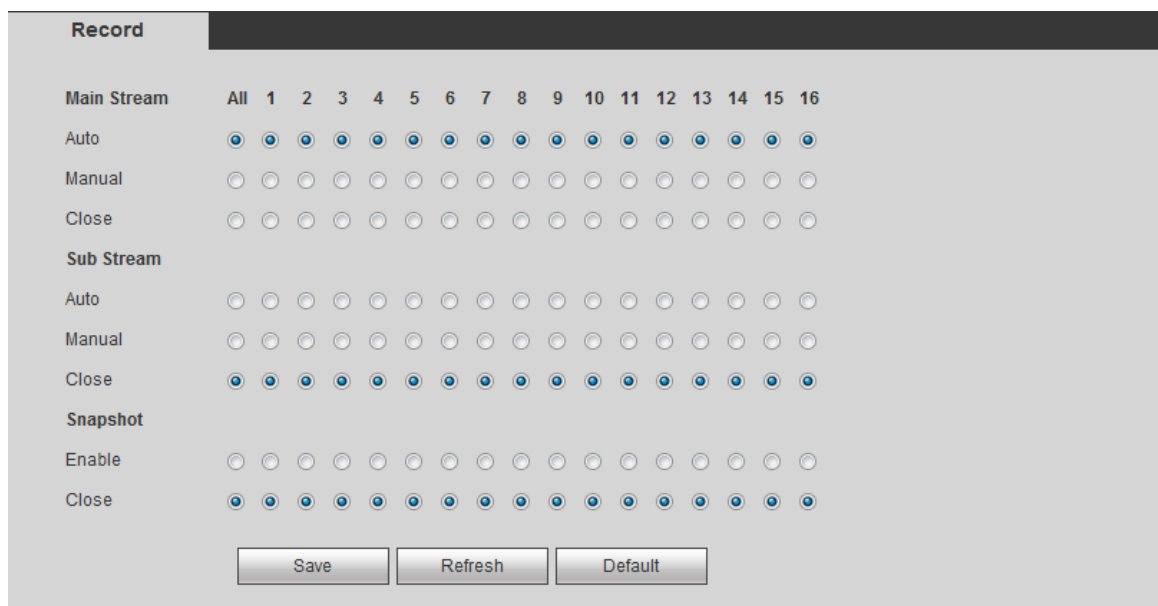


Figure 5-120

Step 2 Set parameters.

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.

Step 3 Click Save to complete the setup.

#### 5.7.4.6 Advanced

##### 5.7.4.6.1 HDD

It is to set HDD group, and HDD group setup for main stream, sub stream and snapshot operation



CAUTION

HDD group and quota mode cannot be valid at the same time. System needs to restart once you change the mode here.

Step 1 From main menu->Setup->Storage->Advanced->HDD.

Enter HDD interface. See Figure 5-121.

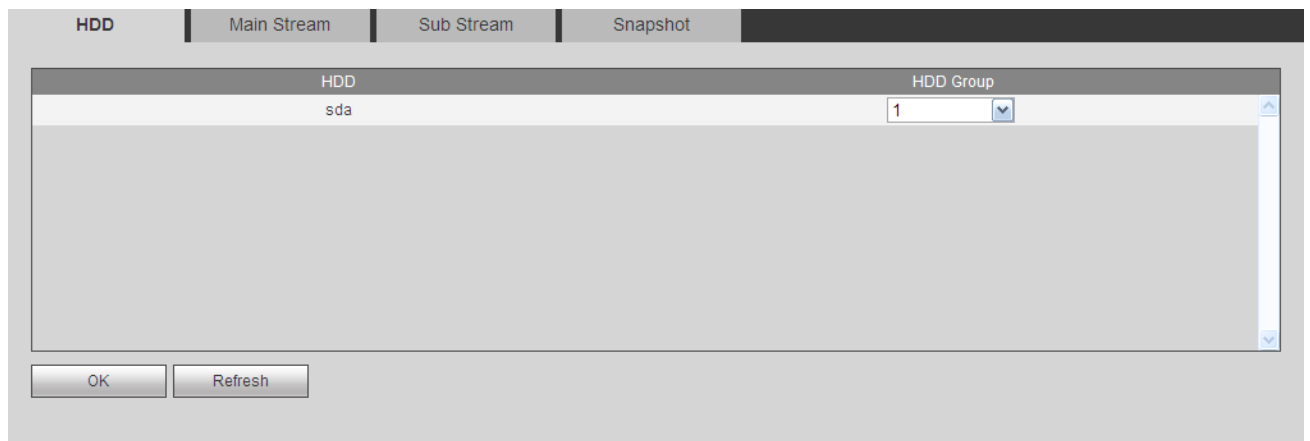


Figure 5-121

Step 2 Set a HDD group for current HDD.

Click OK. Device begins reboot.

Step 3 After set HDD group, click main stream/sub stream/snapshot tab to save main



stream, sub stream, snapshot image to different HDD group. See Figure 5-122, Figure 5-123, Figure 5-124

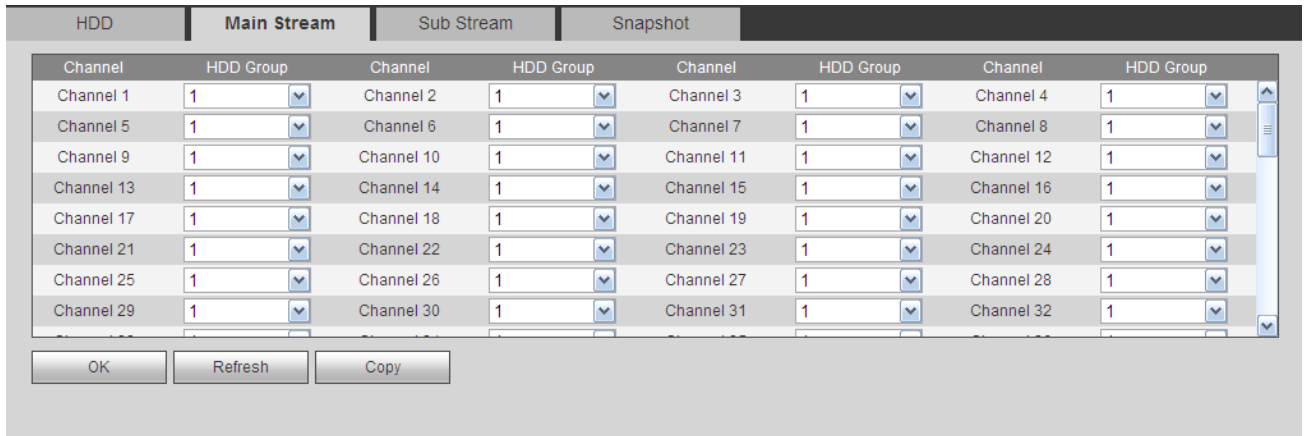


Figure 5-122

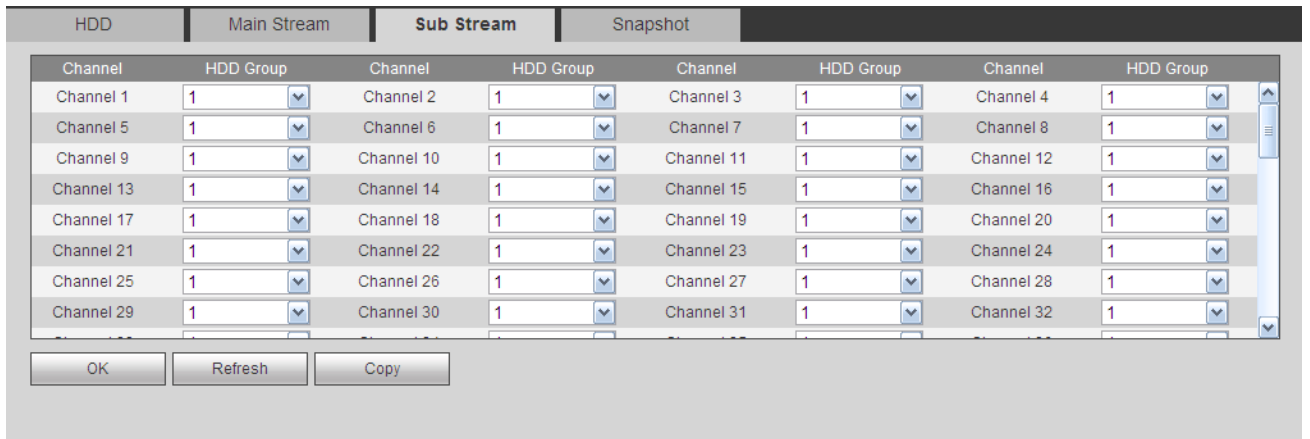


Figure 5-123

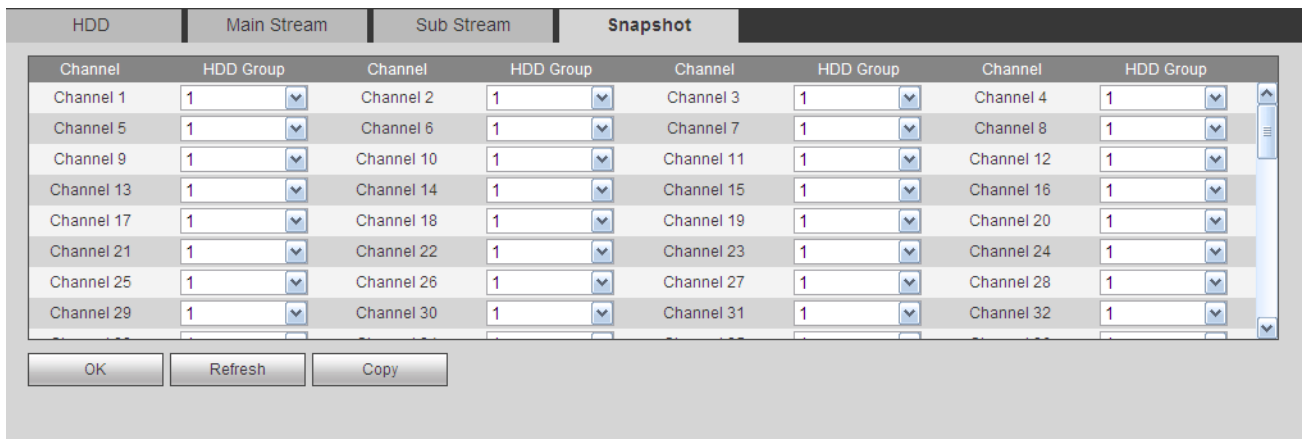


Figure 5-124

Step 4 Click Save to complete the setup.

#### 5.7.4.7 Quota

It is to set channel storage capacity.



**CAUTION**

HDD group and quota mode cannot be valid at the same time. System needs to restart once you change the mode here.

- Step 1 From main menu->Setup->Storage->Quota.  
Enter quota interface. See Figure 5-125.

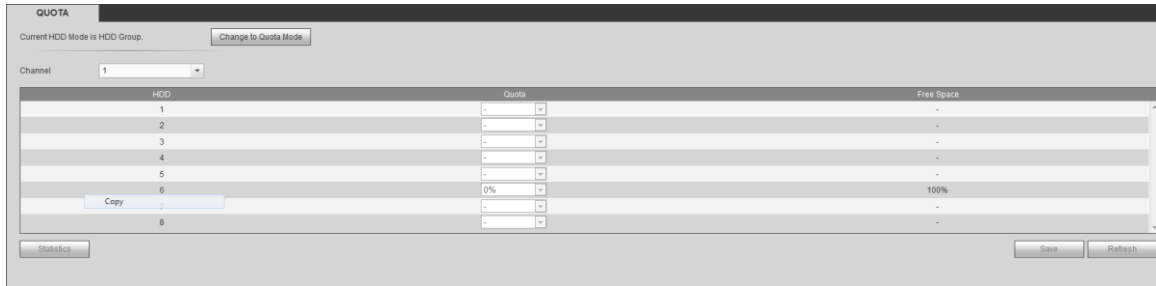


Figure 5-125

- Step 2 Select a channel from the dropdown list and then select corresponding HDD quota.  
Step 3 Click Apply or Save to complete setup.  
Step 4 Click Statistics to view HDD capacity you set for each channel.

### 5.7.4.8 RAID Manager



**Note**

RAID function is for some series product only.

The RAID (redundant array of independent disks) management can compost the independent HDDs together to provide larger space as the logic HDD. It can enhance system I/O performance, data usage and data security.

Right now system supports RAID0/RAID1/RAID5/RAID10.

RAID Type	HDD Amount
RAID0	At least 2 HDDs
RAID1	Only 2 HDDs
RAID5	At least 3 HDDs. Usually we recommend 4 to 6 HDDs.
RAID10	At least 4 HDDs. The amount shall be even number.

#### 5.7.4.8.1 RAID Config

It is for you to manage RAID HDD. It can display RAID name, type, free space, total space, status and etc. Here you can add/delete RAID HDD.

- Create manually: It is to create RAID manually. Please select RAID type first and then follow the prompts to set HDD amount. Click Create Manually button, system pops up dialogue box to warning you it is going to clear all data. Click OK button to complete the operation.
- Create RAID: Click it to automatically create RAID.

For create RAID function, you can select the physical HDD that does not included in the RAID group or the created disk array to create a RAID5. You can refer to the following situations:

- There is no RAID, no hotspare disk: System directly creates the RAID5 and creates one hotspare disk at the same time.
- There is no RAID, but there is a hotspare disk: System creates the RAID5 only. It uses previous hotspare disk.
- There is RAID: System cancel the previous RAID setup and then create the new RAID5. System creates the hotspare disk if there is no one. System uses previous hotspare disk if there is hotspare disk available.

Step 1 From main menu->Setup->Storage->RAID->RAID config.  
Enter RAID interface. See Figure 5-126.

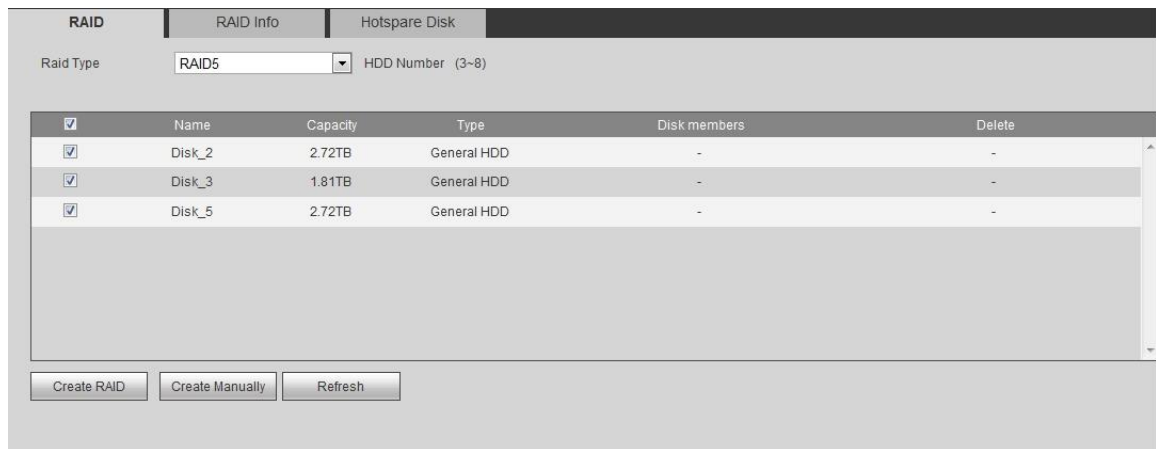


Figure 5-126

Step 2 Select to create RAID manually or use one click to create RAID, and then set RAID type.

- One click to create RAID
  - ◇ Click it to automatically create RAID5.
  - ◇ For create RAID function, you can select the physical HDD that does not included in the RAID group or the created disk array to create a RAID5. You can refer to the following situations:
    - ◇ There is no RAID, no hotspare disk: System directly creates the RAID5 and creates one hotspare disk at the same time.
    - ◇ There is no RAID, but there is a hotspare disk: System creates the RAID5 only. It uses previous hotspare disk.
    - ◇ There is RAID: System cancel the previous RAID setup and then create the new RAID5. System creates the hotspare disk if there is no one. System uses previous hotspare disk if there is hotspare disk available.
    - ◇ The background will format the virtual disk.
      - Create manually
        1. Select RAID type first and then follow the prompts to set HDD amount.
        2. Click Create Manually button, system pops up dialogue box to warning you it is going to clear all data.

3. Click OK button to complete the operation.

#### 5.7.4.8.2 RAID Info

It is to display RAID name, space, type, member HDD, hotspare HDD, status and etc. From main menu->Setup->Storage->RAID->RAID info, you can go to the following interface. See Figure 5-127.



Figure 5-127

#### 5.7.4.8.3 Hotspare disks

In this interface you can add/delete hotspare HDD if you have set RAID.

Step 1 From main menu->Setup->Storage->RAID->Hotspare.

Enter hotspare interface. See Figure 5-128.

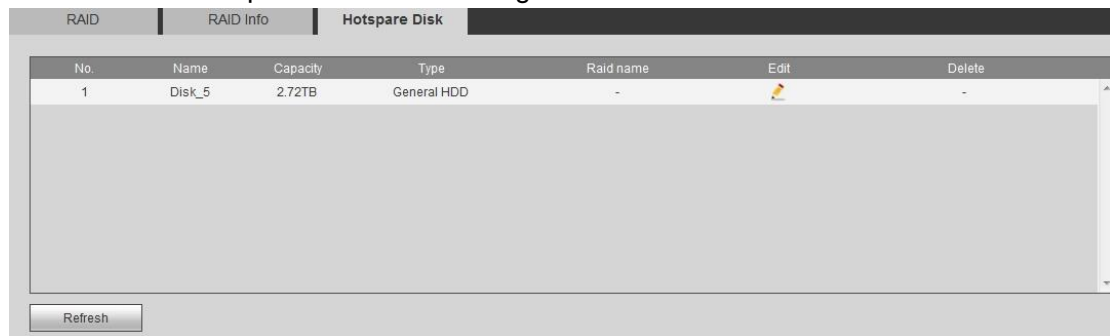


Figure 5-128

Step 2 Click to set corresponding disk to the hotspare disk. See Figure 5-129.

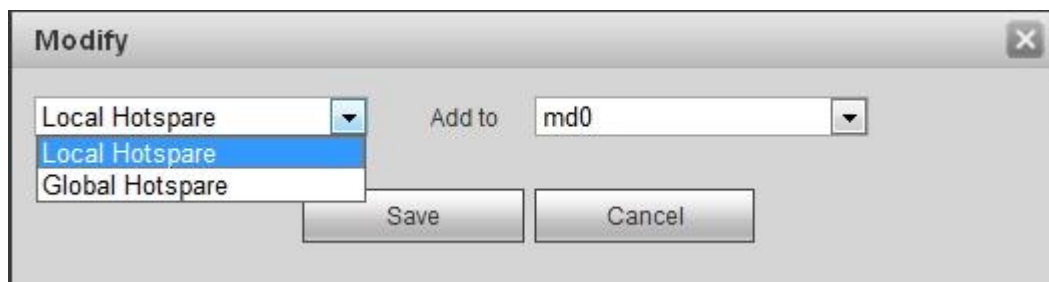


Figure 5-129

The type includes two options:

- Global: It is global hotspare disk. When any RAID becomes degrading, it can replace and build the RAID.
- Local: It is local hotspare disk. When the specified RAID becomes degrading, it can replace and build the RAID.

Step 3 Click OK to complete hotspare disk setting.

 **Note**

Click the  to delete the hotspare disk.

### 5.7.4.9 iSCSI

 **Note**

iSCSI function is for some series product only.

Comparing with traditional HDD storage, iSCSI has large storage space and is easy to manage.

You can set the network mapping HDD so that device can storage audio/video on the network HDD.

Step 1 From main menu->Setup->Storage->iSCSI.

Enter iSCSI interface. See Figure 5-130.

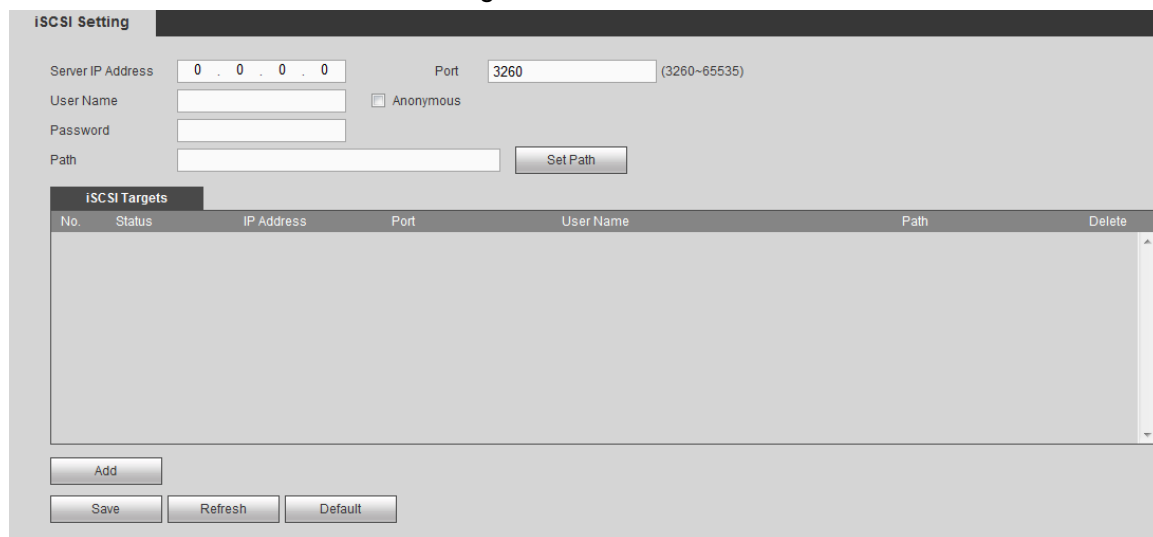


Figure 5-130

Step 2 Set parameters.

Parameter	Function
Server IP	It is to input iSCSI server IP address.
Port	It is to input iSCSI server port value. The default setup is 3260.
User name/Password	It is to input iSCSI server user name and password. Check the Anonymous button if it supports anonymous login.
Path	You can click the Set path button to select the remote storage path. Please note each path here stands for one iSCSI share disk. The path has been generated when it is created at the server.

- Step 3 Click Add and then input the parameters. Click OK button.
- Step 4 Click Refresh to get the state as connected.
- Step 5 From Setup->Storage->HDD manager, go to the HDD manager interface to view iSCSI storage information.

## 5.7.5 Setting

### 5.7.5.1 General

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

#### 5.7.5.1.1 General

- Step 1 From main menu->Setup->System->General->General.

Enter general interface. See Figure 5-131.

Figure 5-131

- Step 2 Set parameters.

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. <b>Please note the device needs to reboot to get the modification activated.</b>
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. There are two ways for you to set. <ul style="list-style-type: none"> <li>● Time length: It is to pack according to time. The value ranges from 1 to 60 minutes. Default value is 60 minutes.</li> <li>● File length: It is to pack according to file length. The default setup is 1024M. The value ranges from 128M to 2048M.</li> </ul>

Parameter	Function
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.
IPC Time Sync	You can input an interval here to synchronize the DVR time and IPC time.
Navigation bar	Check the box here, system displays the navigation bar on the interface.
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.

Step 3 Click Save to complete the setup.

#### 5.7.5.1.2 Date and time

Step 1 From main menu->Setup->System->General->Date and time.

Enter date and time interface. See Figure 5-132.

Figure 5-132

Step 2 Set parameters.

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.

Parameter	Function
NTP	Check the box to enable NTP function.
NTP server	Set the time server address. <ul style="list-style-type: none"> <li>● Check the NTP box to enable this function.</li> <li>● Host IP: Input the server IP that installed the NTP server.</li> <li>● Manual update: Click it, you can sync DVR time with the NTP server manually.</li> <li>● Port: System supports TCP transmission only. The port value is 123.</li> <li>● Interval: It is to set the sync time interval between the DVR and the NTP server. The value ranges from 0 to 65535 minutes.</li> </ul>
Port	It is to set the time server port.
Interval	It is to set the sync periods between the device and the time server.

Step 3 Click Save to complete the setup.

#### 5.7.5.1.3 Holiday Setup

Step 1 From main menu->Setup->System->General->Holiday.  
Enter Holiday interface. See Figure 5-133.

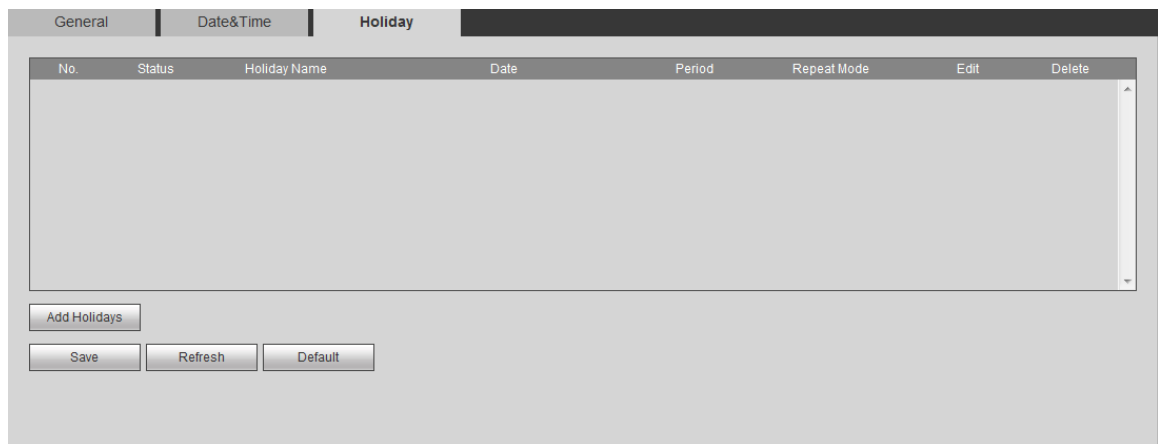


Figure 5-133

Step 2 Click Add holidays.

Enter add holiday interface. It is to set holiday name, repeat mode and start time/end time. See Figure 5-134.



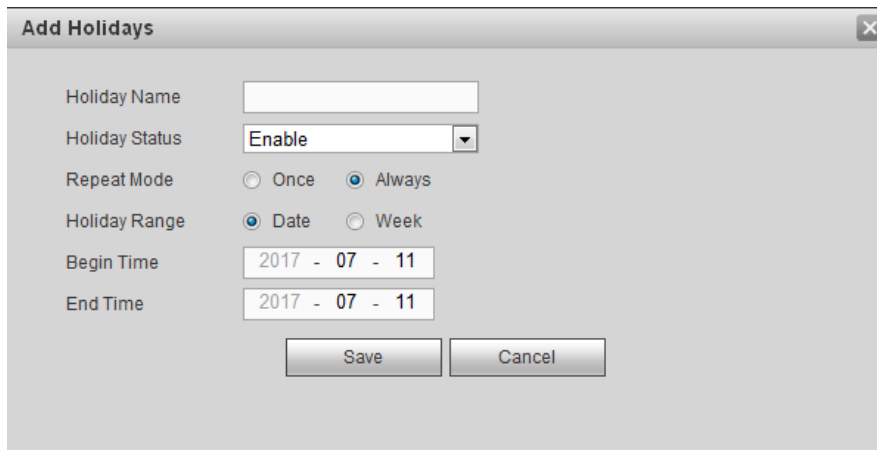


Figure 5-134

Step 3 Click Save.

The new holiday state is on by default. Select from the dropdown list to disable.

 **Note**

- Once the holiday settings is different the general date, the holiday settings has priority.
- After successfully set holiday here, you can view holiday item in Schedule interface. It is for you to set holiday schedule record/snapshot settings.

### 5.7.5.2 Display

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

#### 5.7.5.2.1 Display

It is to set overlay time title, channel title and etc.

Step 1 From main menu->Setup->System->Display->Display.

Enter display interface, See Figure 5-135.

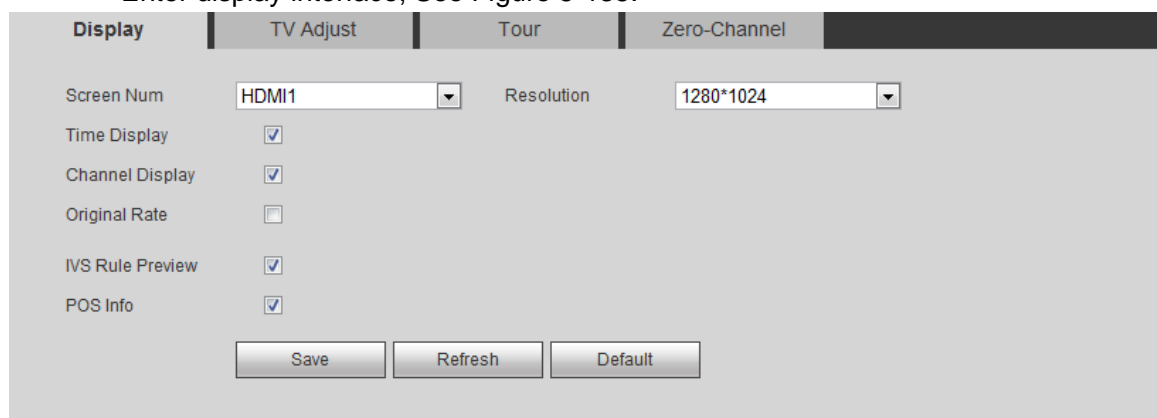



Figure 5-135

Step 2 Set parameters.

Parameter	Function
Screen number	Please select a screen number from the dropdown list.
Resolution	<ul style="list-style-type: none"> <li>● System supports the following resolutions: 1920×1080,1280×1024,1280×720,1024×768,2560×1440,3840×2160@25fps,3840×2160@30fps.</li> <li>● The default VGA/ HDMI1/HDMI2 resolution is 1280×1024.</li> <li>● Please note the system needs to reboot to activate new setup.</li> <li>● Right now, HDMI2 does not support 3840×2160@25fps, 3840×2160@30fps.</li> </ul>
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.
Channel display	You can select to display channel name or not when system is playback.
Original rate	Check the box here, the video can be displayed at its actual size.
IVS rule preview	Check the box here, you can view IVS rule name on the preview window.
POS information	Check the box here; you can view POS information on the preview window.  <b>Note</b> Make sure the POS function is enabled.

Step 3 Click Save to complete the setup.

#### 5.7.5.2.2 TV Adjust

#### Note

This function is for some series product only.

It is to set TV output region.

From main menu->Setup->System->Display->TV adjust. Enter TV adjust interface. See Figure 5-136. Drag the slide bar to set and the settings become valid immediately. Click default to restore default setup.

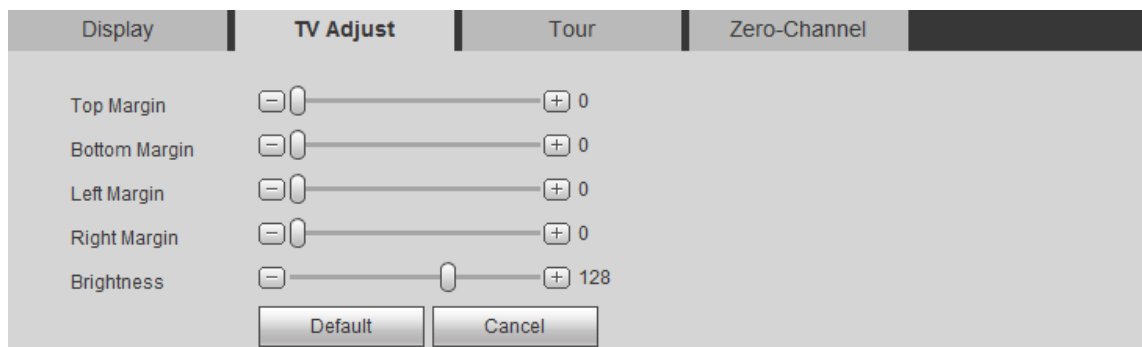


Figure 5-136

#### 5.7.5.2.3 Tour

It is to set tour interval, split mode, motion detect tour and alarm tour mode.

Step 1 From main menu->Setup->System->Display->Tour.

Enter tour interface is shown as in Figure 5-137.

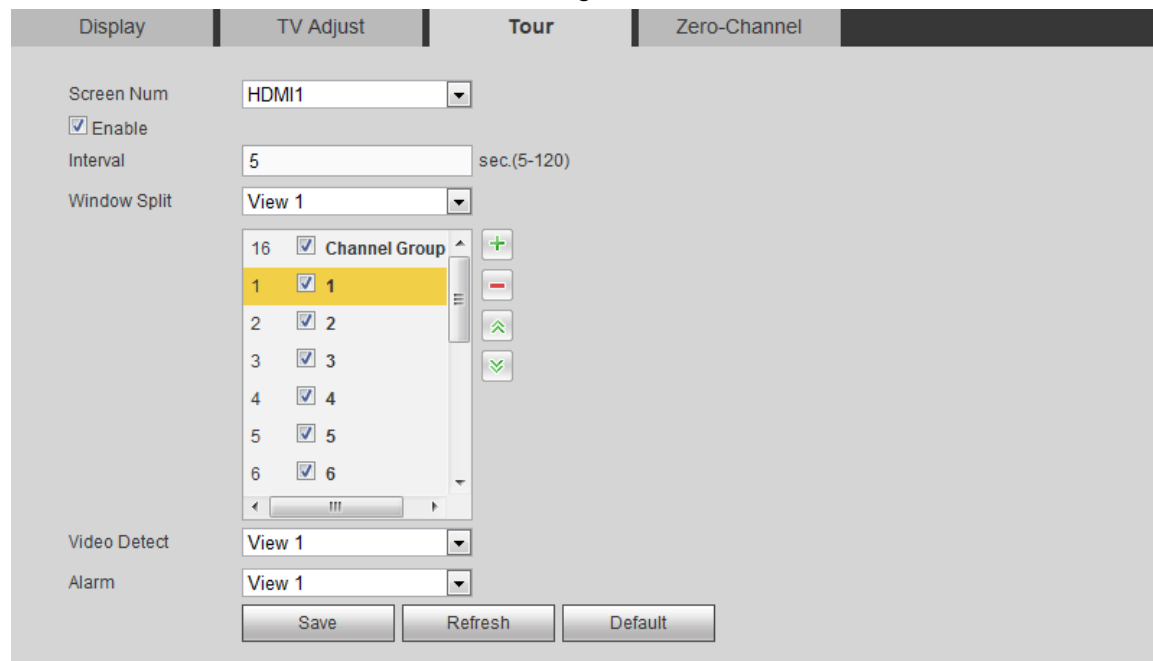


Figure 5-137

Step 2 Set parameters.

Parameter	Function
Screen number	Please select a screen number from the dropdown list.
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.

Step 3 Click Save to complete the setup.

#### 5.7.5.2.4 Zero-channel Encoding

It is to enable and set zero-channel encoding function so that you can view several video sources at one channel from WEB.

Step 1 From main menu->Setup->System->Display->Zero-channel encoding.

Enter zero-channel interface. See Figure 5-138.

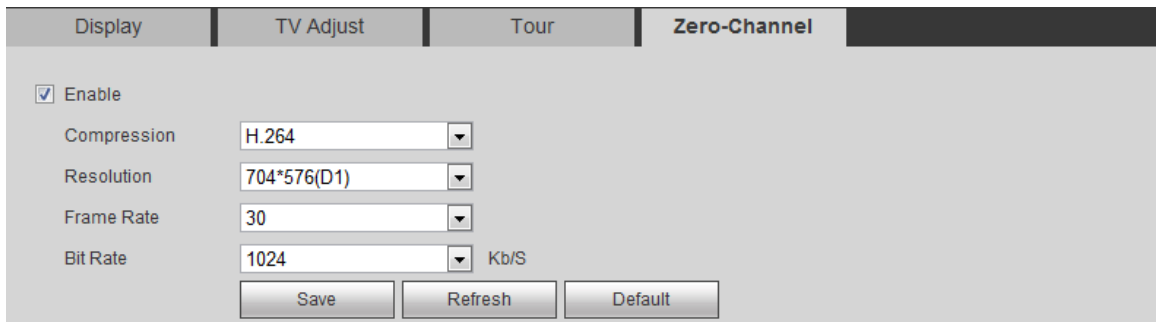


Figure 5-138

Step 2 Set parameters.

Parameter	Function
Enable	This function is disabled by default. Check the box here to enable this function so that you can control the zero-channel encoding function at the WEB.
Compression	System default setup is H.264. You can set according to device capability.
Resolution	The resolution value may vary due to different device capabilities. Please select from the dropdown list.
Frame rate	The frame rate value may vary due to different device capabilities. Please select from the dropdown list.
Bit Rate	The default setup is 1024Kb/S. The bit rate value may vary due to different device capabilities and frame rate setups. Please select from the dropdown list.

Step 3 Click Save to complete the setup.

- If this function is disabled, you cannot operate zero-channel encoding function at the WEB, the video is black or null even you operate when the function is disabled.
- After you enabled this function, you can use WEB to view the corresponding video.

Step 4 Login the Web and you can select zero-channel encoding mode at the right

corner of the interface . Select a mode; you can view the local preview video.

### 5.7.5.3 Video Matrix

It is to set video output channel and interval.

Step 1 From main menu->Setup->System->Video matrix.

Enter Video matrix interface is shown as in Figure 5-139.

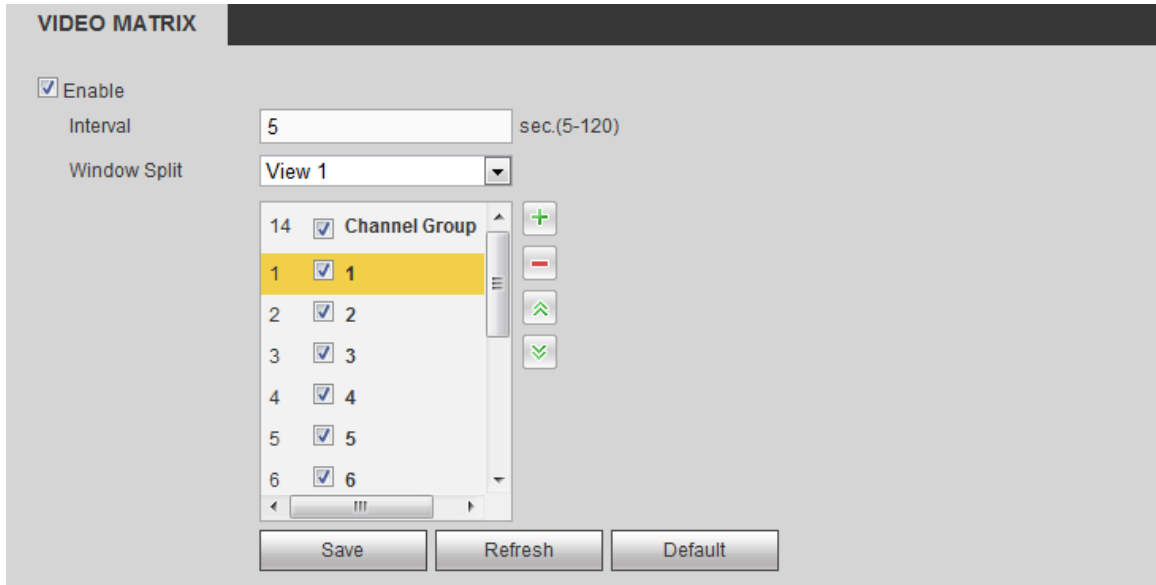





Figure 5-139

Step 2 Set parameters.

Parameter	Function
Enable	Check the box here to enable this function.
Interval	It is to set the interval from current channel group to the next channel group.
Window split	Please select from the dropdown list. Please note the different series products support different window split mode.
Delete	Select a channel group and then click  to delete it.
Up/Down	Click  or  to adjust channel tour sequence.

Step 3 Click Save to complete the setup.

#### Add channel group



Click , you can see system pops up the following dialogue box. See Figure 5-140. Please select the channels and then click OK button.



Figure 5-140

#### Delete channel group

Select a channel group and then click , you can delete it.

#### Modify channel group



Select a channel group and then double click, you can see the following interface. See

Figure 5-141. You can change the setup and then click OK button.



Figure 5-141

**Adjust channel group sequence.**

Click  or  to change channel sequence.

**5.7.5.4 RS232**

Step 1 From main menu->Setup->System->RS232.

Enter RS232 interface. See Figure 5-142.

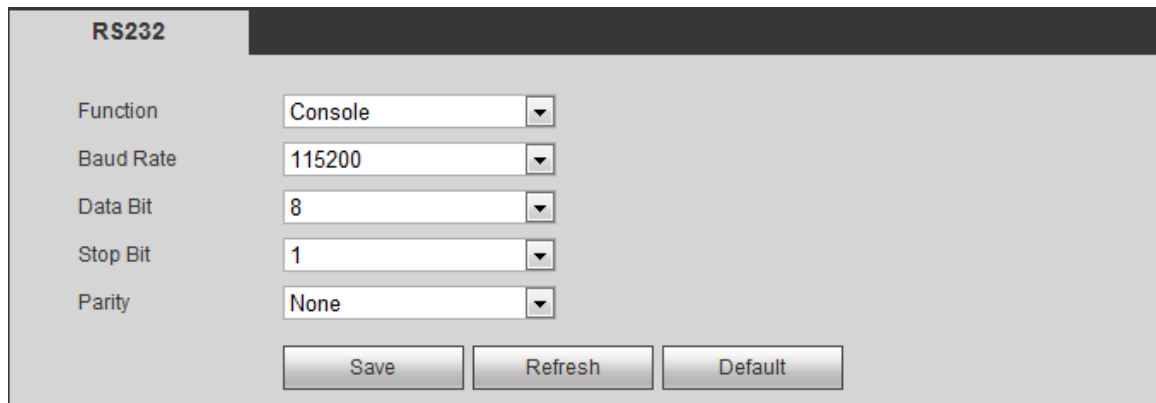


Figure 5-142

Step 2 Set parameters.

Parameter	Function
Protocol	Select the corresponding dome protocol. Default setup is console. <ul style="list-style-type: none"> <li>● Console is for you to use the COM or mini-end software to debug.</li> <li>● The control keyboard is for you to control the device via the special keyboard.</li> <li>● Transparent COM (adapter) is to directly connect to the PC to transfer data. Protocol COM is for card overlay function.</li> <li>● Network keyboard is for you to use the special keyboard to control the device.</li> <li>● PTZ matrix is to connect to the peripheral matrix control.</li> </ul>
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 three options: 1/1.5/2. Default setup is 1.

Parameter	Function
Parity	There are five options: none/odd/even/space/mark. Default setup is none.

Step 3 Click Save to complete the setup.

### 5.7.5.5 PTZ

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 DVR A (B) line.

Step 1 From main menu->Setup->System->PTZ.

Enter PTZ interface. See Figure 5-143 (local channel) and Figure 5-144 (remote channel).

The screenshot shows the PTZ configuration page for a local channel. The settings are as follows:

- Channel: 1
- PTZ Type: Local
- Control Mode: HDCVI
- Protocol: HD-CVI
- Address: 1
- Baud Rate: 9600
- Data Bit: 8
- Stop Bit: 1
- Parity: None

Buttons at the bottom: Copy, Save, Refresh, Default.

Figure 5-143

The screenshot shows the PTZ configuration page for a remote channel. The settings are as follows:

- Channel: 16
- PTZ Type: Remote

Buttons at the bottom: Copy, Save, Refresh, Default.

Figure 5-144

Step 2 Set parameters.

Parameter	Function
Channel	Select speed dome connected 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.

Parameter	Function
Control mode	You can select control mode from the dropdown list. There are two options: Serial/HDCVI. For HDCVI series product, please select HDCVI. The control signal is sent to the PTZ via the coaxial cable. For the serial mode, the control signal is sent to the PTZ via the RS485 port.
Protocol	Please select protocol from the dropdown list.
Address	Set corresponding dome address. Default value is 1. <b>Please note your setup here shall comply with your dome address; otherwise you cannot control the speed dome.</b>
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.
Parity	Default setup is none. Please set according to the speed dome dial switch setup.

Step 3 Click Save button after you complete setup.

Go back to the monitor interface to control PTZ camera .

#### 5.7.5.6 POS

Connect the DVR with the POS, the DVR can receive the POS information and overlay corresponding info on the video.



#### Note

- For the local-end, this function supports one-window display and playback only. For the Web, it supports multiple-window display and playback.
- This function is for the cashier of the supermarket and etc. The DVR can get the information from the POS and then overlay the txt information on the video.

Step 1 From main menu->Setting->System->POS.

Enter POS interface. See Figure 5-145.

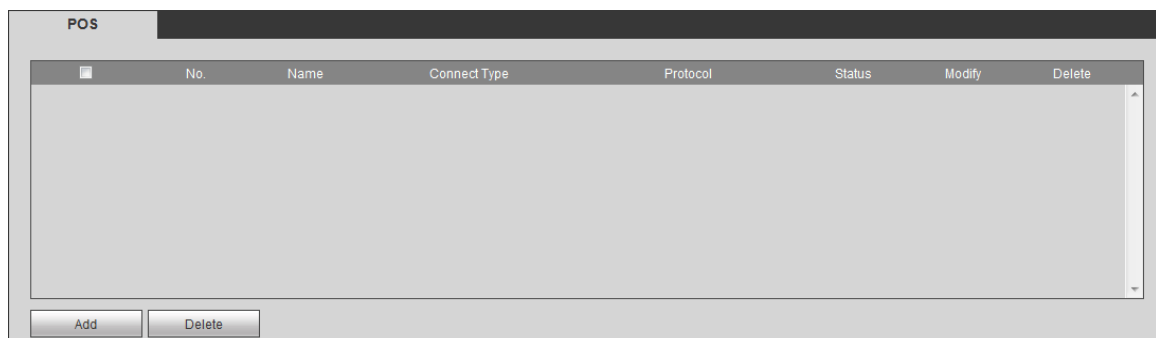


Figure 5-145

Step 2 Click Add.



Enter Add interface. See Figure 5-146.

Figure 5-146

Step 3 In Figure 5-146, click the Enable box to enable POS function and then set parameters.

Parameter	Function
Name	Input POS name. System max supports 63 English letters.
Connection type	This is for net mode only. Click Setup button, you can set source IP (POS IP address), port is the POS port. Destination IP is the DVR default Ethernet card IP, port is the POS port (read-only). See Figure 5-147.
Network time out:	If there is a network problem, DVR can wait for the specified time you set here to send out the POS information. Once the network time is out, DVR only send out current valid POS information when then network resumes normal.
Time display	It is to set the POS information displayed time on the video. If you set 5 seconds, then the POS information appears after 5 seconds display.
Channel Set:	Click it to go to Figure 5-148. Select a channel you want to overlay POS information and then click Save button

Click Setup button after the connection mode, the interface is shown as in Figure 5-147. Here you can set source IP (POS device IP address) and source IP (DVR IP address).

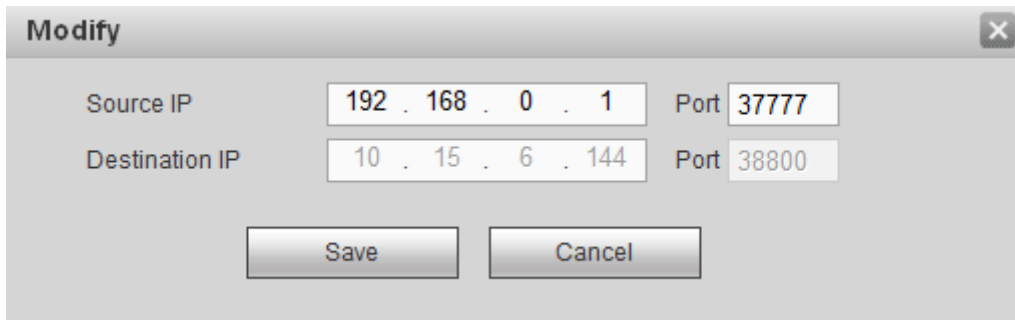


Figure 5-147

In Figure 5-146, click Channel button at the bottom of the interface, select a channel you want to overlay POS information and then click Save button. See Figure 5-148.

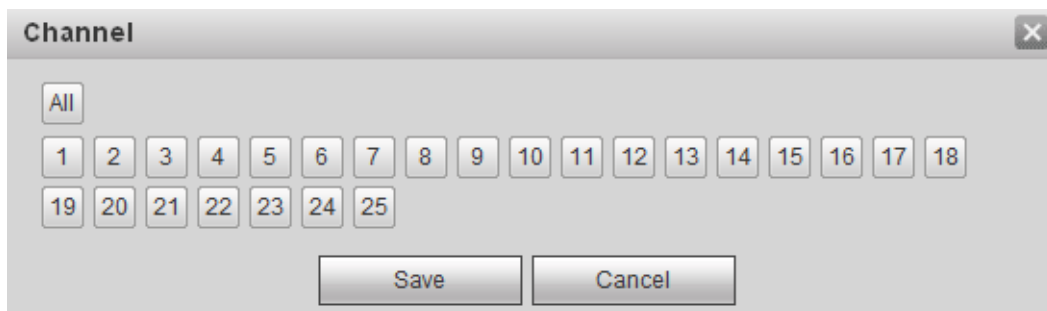




Figure 5-148

Step 4 Click Save to complete the setup.

 **Note**

- Click  to change parameters.
- Click  to delete POS.

### 5.7.5.7 Voice

The audio function is to manage audio files and set schedule play function. It is to realize audio broadcast activation function.

#### 5.7.5.7.1 File List

It is to add audio file, or delete audio file.

Step 1 From main menu->Setup->System->Voice->File list.

Enter File list interface. See Figure 5-149.

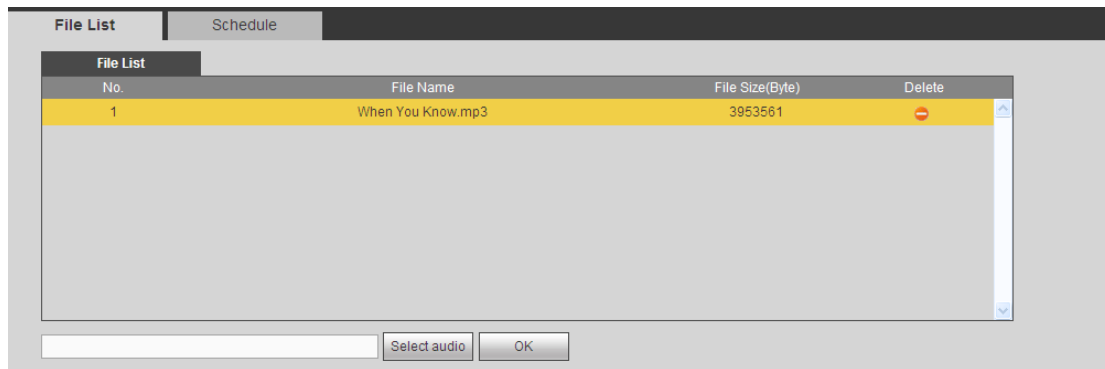


Figure 5-149

Step 2 Click Select audio button, you can add audio file and import the audio file via the local computer. See Figure 5-150.

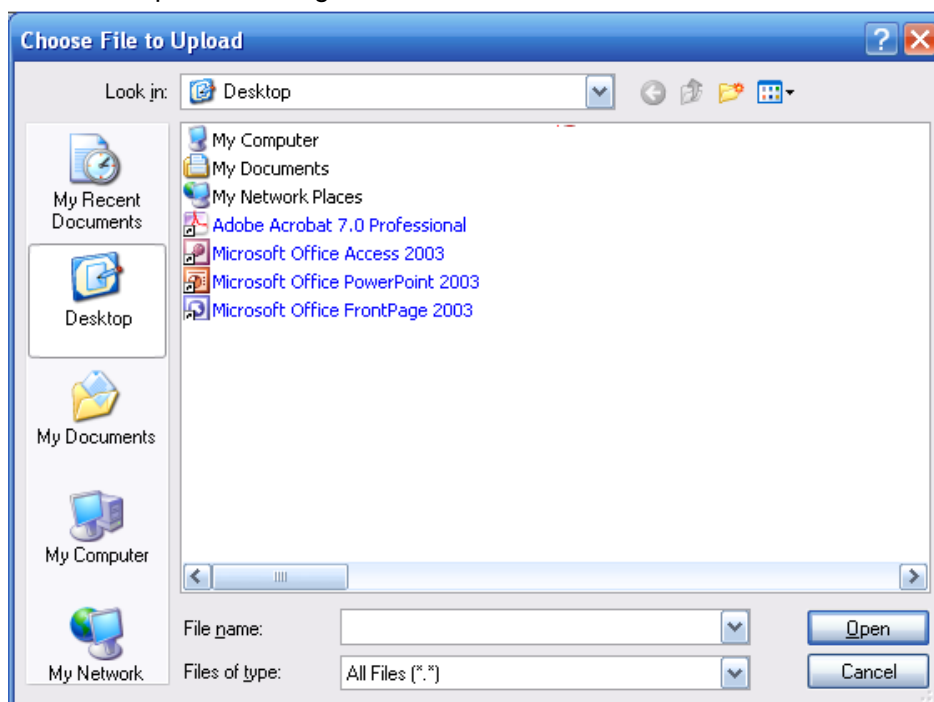


Figure 5-150

Step 3 Click Open button. Device goes back to Figure 5-149. Click Save button.

#### 5.7.5.7.2 Schedule

It is to set schedule broadcast function. You can play the different audio files in the specified periods.

Step 1 From main menu->Setup->System->Voice->.Schedule.  
Enter Schedule interface. See Figure 5-151.

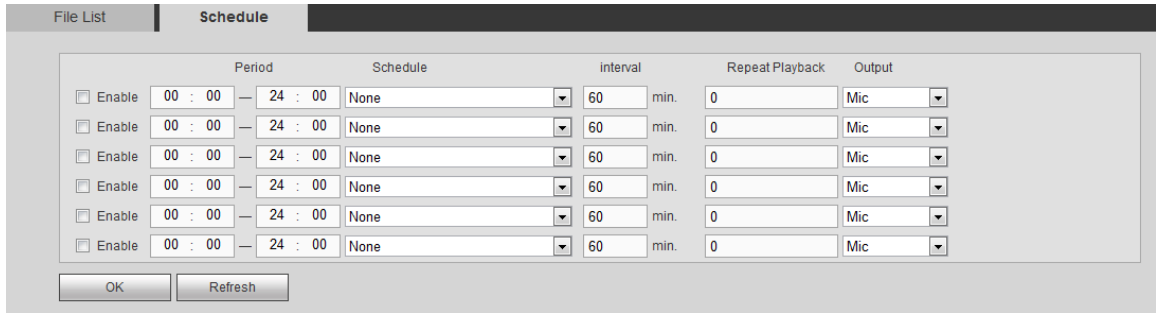


Figure 5-151

Step 2 Set parameters.

Parameter	Function
Period	There are six periods. Check the box to enable current setup.
Repeat	It is to set audio file repeat times in the specified period.
Interval	It is the audio file repeated interval in the specified period.
Output port	There are two options: MIC (default)/audio. When reuse the MIC port and bidirectional talk port, the bidirectional port has the higher priority. Please note some series product does not support audio function.

Step 3 Click Save to complete the setup.



**Note**

- The audio file end time depends on the audio file size and the interval setup.
- Priority: Bidirectional talk>Event trigger alarm>Trial listening>Audio schedule broadcast.

### 5.7.5.8 Account



**Note**

- For the user name, the string max length is 31-byte, and for the user group, the string max length is 15-byte. The user name can only contain English letters, numbers and “\_”、“@”、“.”.
- The default user amount is 64 and the default group amount is 20. System account adopts two-level management: group and user. The user authorities shall be smaller than group authorities (The **admin** user authorities are set by default).
- For group or user management, there are two levels: admin and user. The user name shall be unique and one user shall only belong to one group.

#### 5.7.5.8.1 User name

From main menu->Setup->System->Account->Account, enter account interface. See Figure 5-152.

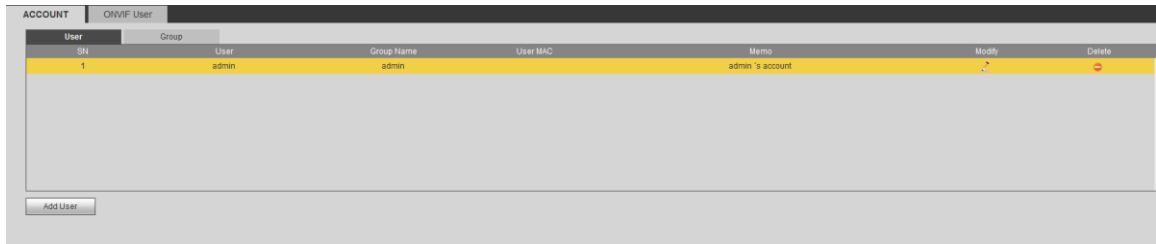


Figure 5-152

### Add user

It is to add a name to group and set the user rights.

Step 1 Click Add user button.

Enter add user interface. See Figure 5-153.

Step 2 Here you can input the user name and password and then select one group for current user.

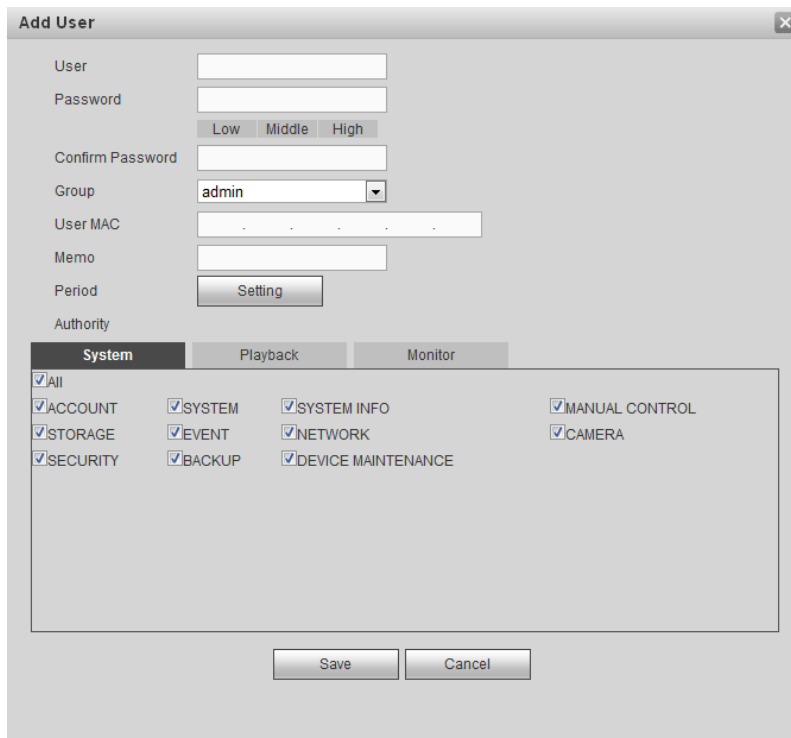


Figure 5-153

Step 3 Click the Set button after the period. It is to set valid period to use current account. See Figure 5-154.

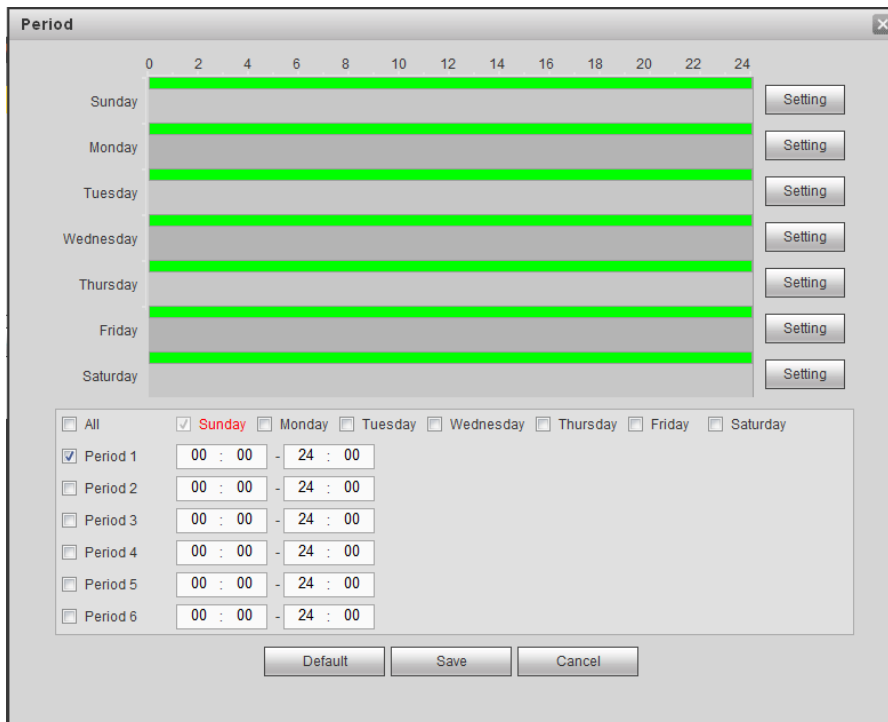


Figure 5-154

- Click Setting to set the periods. Or you can draw on the interface directly. There are six periods in one day. Or you can input start time and end time directly.
- Check the box before the date, the settings are for the selected date(s).
- Check the box before the period1-6, it is to enable the period function.

Step 4 Click Save to complete the setup.



**Note**

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.

**Modify user**

It is to modify the user property, belonging group, password and rights. See Figure 5-155.

**Modify User**

User:

Group:

Memo:

User MAC:

Period:

Modify Password

Authority

System	Playback	Monitor
<input checked="" type="checkbox"/> All		
<input checked="" type="checkbox"/> ACCOUNT	<input checked="" type="checkbox"/> SYSTEM	<input checked="" type="checkbox"/> SYSTEM INFO
<input checked="" type="checkbox"/> STORAGE	<input checked="" type="checkbox"/> EVENT	<input checked="" type="checkbox"/> NETWORK
<input checked="" type="checkbox"/> SECURITY	<input checked="" type="checkbox"/> BACKUP	<input checked="" type="checkbox"/> DEVICE MAINTENANCE
		<input checked="" type="checkbox"/> MANUAL CONTROL
		<input checked="" type="checkbox"/> CAMERA

Figure 5-155

 **Note**

For admin, you can change the email information. See Figure 5-156..

The screenshot shows a 'Modify User' window with the following fields and options:

- User: admin
- Group: admin
- Memo: admin 's account
- User MAC: . . . . .
- Modify Password
- Email Address: z\*\*\*@tech.com
- Authority:
  - System (selected):
    - All
    - ACCOUNT
    - STORAGE
    - SECURITY
  - Playback:
    - SYSTEM
    - EVENT
    - BACKUP
  - Monitor:
    - SYSTEM INFO
    - NETWORK
    - DEVICE MAINTENANCE
  - Other permissions:
    - MANUAL CONTROL
    - CAMERA

Buttons: Save, Cancel

Figure 5-156

**Modify password**

It is to modify the user password.

Step 1 In Modify user interface, click Modify password box. See Figure 5-157.



Figure 5-157

- Step 2 Input old password, and then input new password and confirm.  
 Step 3 Click Save button.



**Note**

The password ranges from 8 to 32 digitals. It can contain letters, numbers and special characters (excluding “'”, “””, “;”, “:”, “&” ). The password shall contain at least two categories. Usually we recommend the strong password.



**WARNING**

**STRONG PASSWORD RECOMMENDED-For your device own safety, please create a strong password of your own choosing. We also recommend you change your password periodically especially in the high security system.**

5.7.5.8.2 Group

It is to add/remove group, modify group password and etc.  
 From main menu->Setup->System->Account->Account.  
 Click Group tab, the interface is shown as in Figure 5-158.

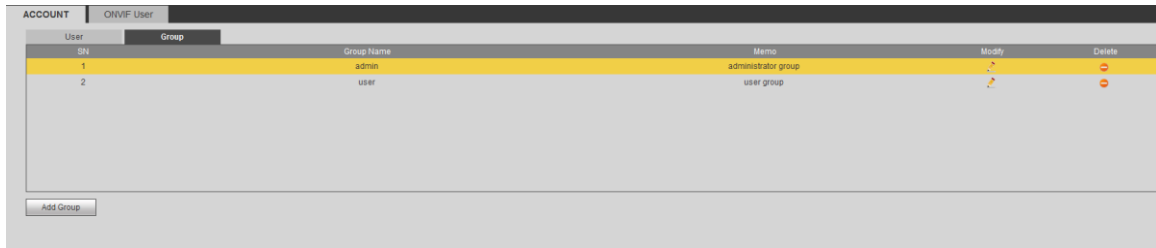


Figure 5-158

### Add group

It is to add group and set its corresponding rights.

Step 1 Click Add group button. Enter add group interface. See Figure 5-159.

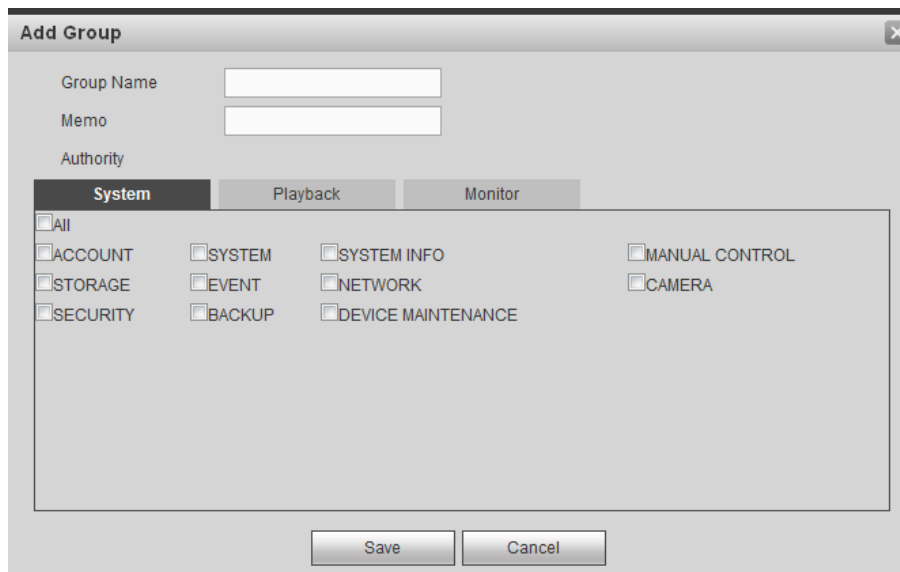



Figure 5-159

Step 2 Input the group name and then check the box to select the corresponding rights. It includes: system, playback, and monitor.

Step 3 Click Save button.

### Modify group

Step 1 Select a group and then click . See Figure 5-160.

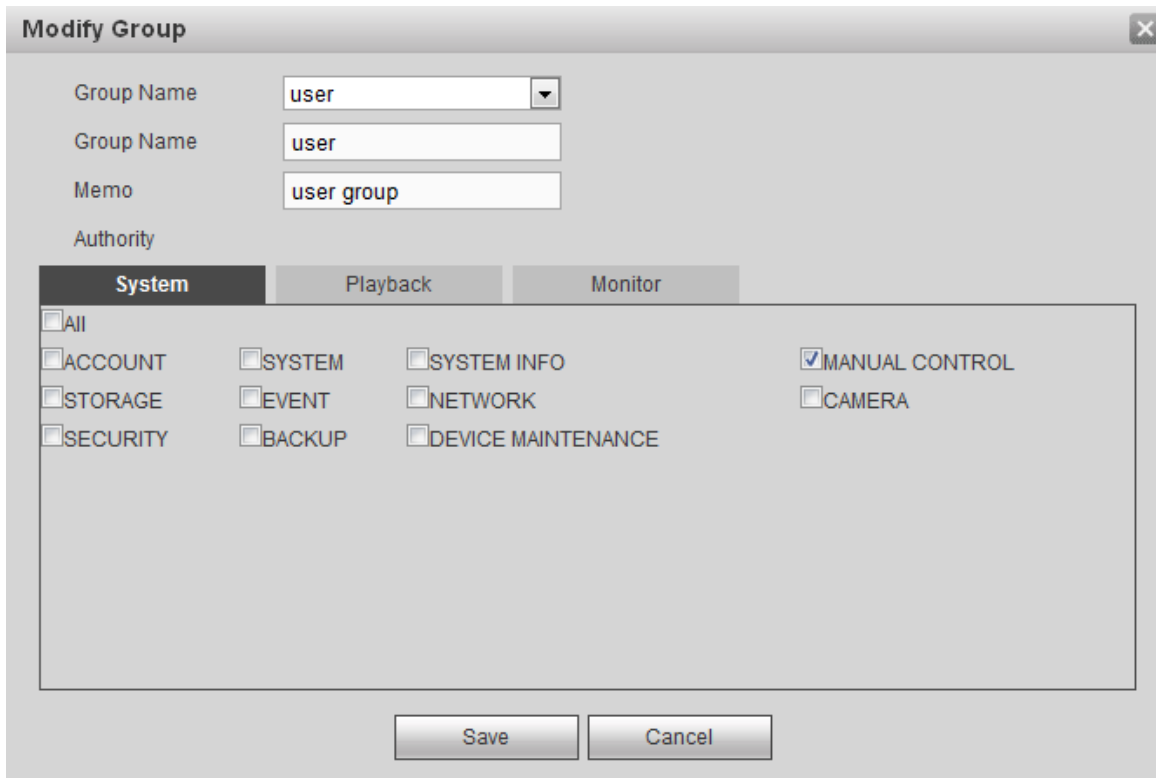


Figure 5-160

Step 2 Change corresponding information and then click Save button.

#### 5.7.5.8.3 ONVIF User

When the camera from the third party is connected with the DVR via the ONVIF user, please use the verified ONVIF account to connect to the DVR.

Step 1 From main menu->Setting->System->Account->ONVIF User.

Enter ONVIF user interface. See Figure 5-161.

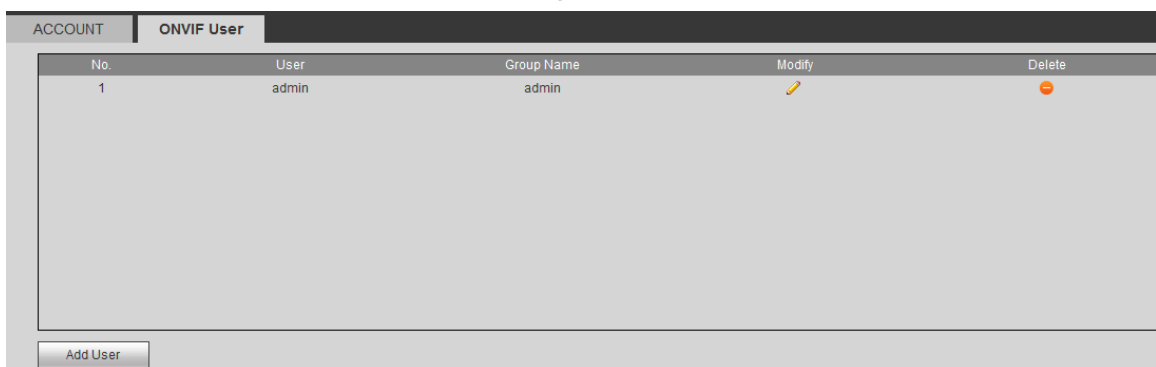


Figure 5-161

Step 2 Click Add user button.

Enter add user interface. See Figure 5-162.

The 'Add User' dialog box includes the following elements:



- User:** A text input field.
- Password:** A text input field with three buttons: 'Low' (highlighted in red), 'Middle', and 'High'.
- Confirm Password:** A text input field.
- Group:** A dropdown menu currently showing 'admin'.
- Buttons:** 'Save' and 'Cancel' buttons at the bottom.

Figure 5-162

Step 3 Set user name, password and then select group from the dropdown list.

Step 4 Click Save to complete setup.

 **Note**

Click  to change user information, click  to delete current user.

### 5.7.5.9 Auto maintain

It is to set auto-reboot time during the spare period if the device is running for a long time. It is to enhance device operation speed.

From main menu->Setting->System->Auto maintain, the interface is shown as in Figure 5-163.

It is to select auto reboot time from the dropdown list.

Click Reboot button to restart device manually.

The 'Auto Maintain' configuration page includes the following elements:

- Auto Reboot:** A dropdown menu set to 'Tuesday' and a time field set to '02:00'.
- Auto Delete Old Files:** A dropdown menu set to 'Customized' and a text input field set to '18' with the label 'Days Ago'.
- Buttons:** 'Reboot', 'Save', and 'Refresh' buttons.

Figure 5-163

### 5.7.5.10 Import/Export

It is to import/export system configuration. You can use this function when there are several devices need the same setup.

From main menu->Setting->System->Import/Export, the interface is shown as in Figure

5-164.



Figure 5-164

Please refer to the following sheet for detailed information.

Parameter	Function
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.

#### 5.7.5.11 Default



This function is for admin user only.

From main menu->Setting->System->Default, the default setup interface is shown as in Figure 5-165.

Here you can select Channel/Network/Event/Storage/System. Or you can check the All box to select all items.

Click factory default to restore all items to default setup.

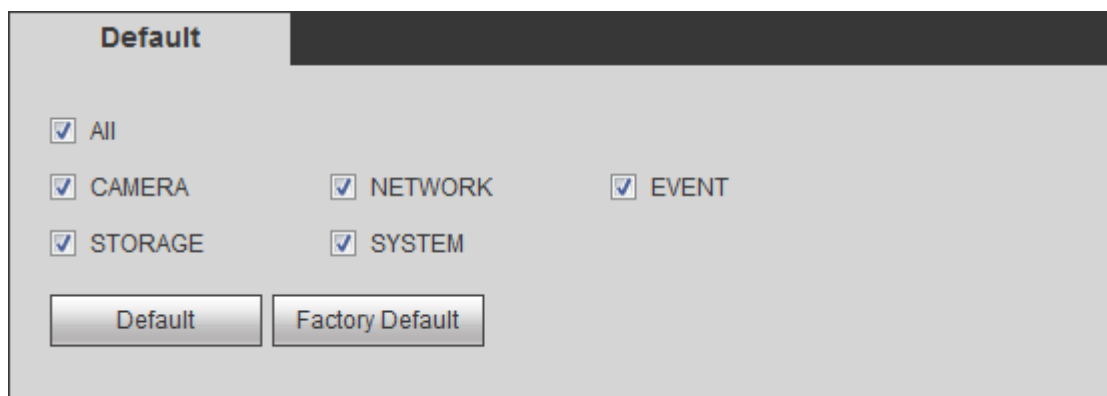


Figure 5-165

#### 5.7.5.12 Upgrade

Please select the upgrade file and then click the update button to begin update. Please note the file name shall be as \*.bin.



**CAUTION**

- During the upgrade process, do not unplug the power cable, network cable, or shutdown the device.

- **Improper upgrade program may result in device malfunction!**

Step 1 From main menu->Setting->System->Upgrade.

Enter upgrade interface. See Figure 5-166.

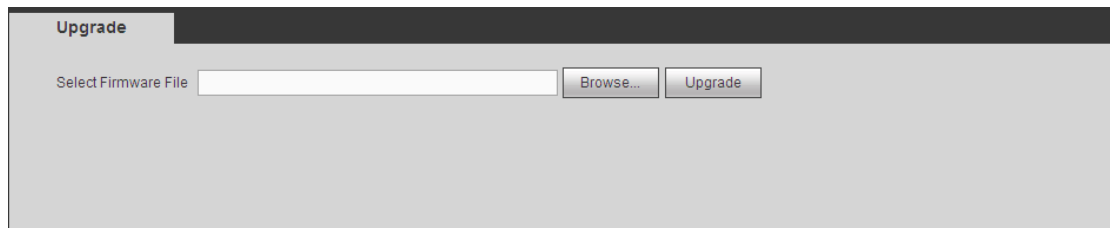


Figure 5-166

Step 2 Click Browser to select upgrade file.

Step 3 Click Upgrade to begin.

Device needs to reboot after upgrade.

### 5.7.6 Security

To enhance device network security and protect device data, please set the access right of the IP host (IP host here refers to the IP PC or the server). After you enabled trusted sites function, only the IP listed below can access current DVR.

If you enable blocked sites function, the following listed IP addresses cannot access current DVR.

Step 1 From main menu->Setting->System->Security.

Enter security interface. See Figure 5-167.

Step 2 Check the Enable box.

Select trusted sites/block sites.

- Enable trusted site function and then add the whitelist.
- Enable blocked site function and then add the blacklist.

Step 3 Set parameters.

- 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. System supports max 64 IP addresses.
  - a) For the newly added IP address, it is in enable status by default. Remove the  before the item, and 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: 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. See Figure 5-168. System can check the IP address validity after the edit operation and implement IPv6 optimization.
- Default: Click it to restore default setup. In this case, the trusted sites and blocked sites are both null.

Step 4 Click Save to complete setup.

- If you enabled trusted sites, only the IP in the trusted sites list can access the device.
- If you enabled blocked sites, the IP in the blocked sites cannot access the device.

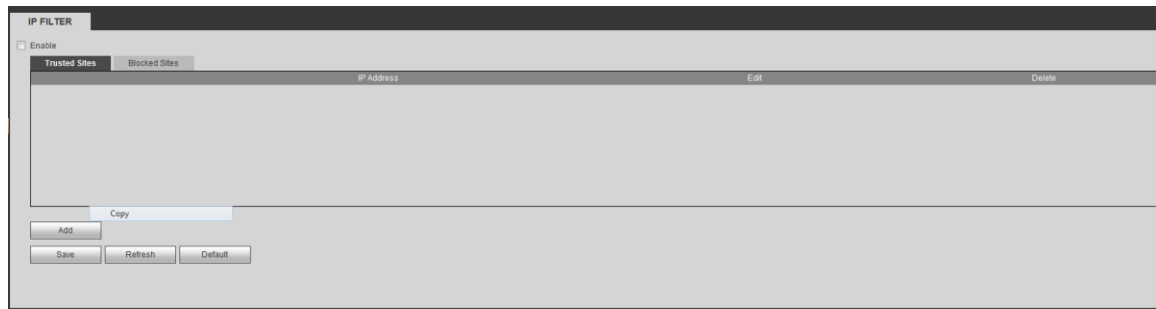


Figure 5-167

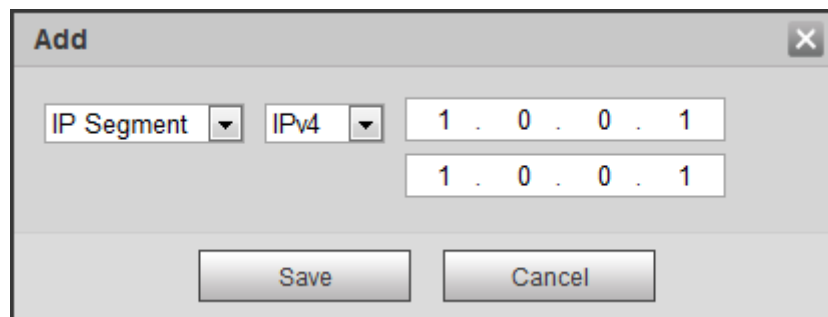


Figure 5-168

## 5.8 Playback

Click Playback button, you can see an interface is shown as in Figure 5-169.

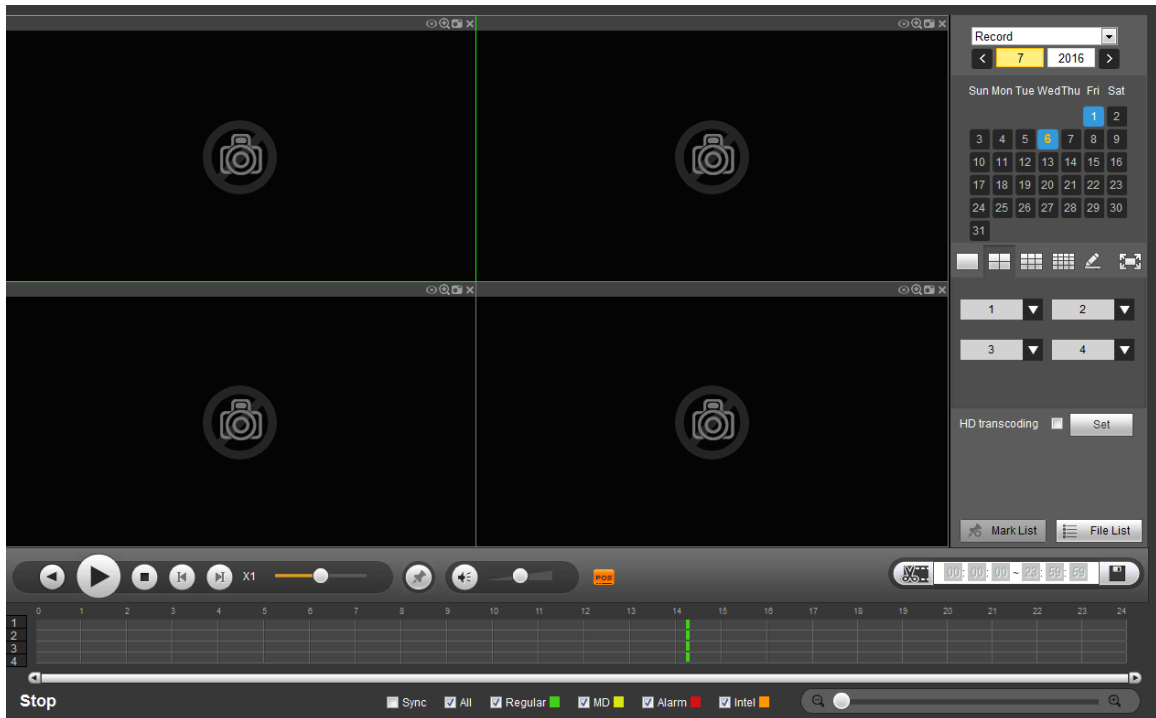


Figure 5-169

### 5.8.1 Search Record

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

- Select Date

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

- Window Split


Select window split mode. Click  to display in full screen. Click ESC button to exit. See Figure 5-170.



Figure 5-170

- Customized playback


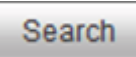


Step 1 Click , you can see the following interface. See Figure 5-171.





Figure 5-171

- Step 2 Select one or more channel(s) and then click  to search record(s).
- System supports one or more channels. The window split mode can auto adjust according to the channel amount. System max supports 16-split.
  - Click  button to select all channels at the same time.

Step 3 Click , system begins playback.

- Select Channel  
1~n(n depends on your product channel amount) means main stream and A1~An ((n depends on your product channel amount)) means sub stream.
- HD Transcoding

 **Note**

This function is for some series product only.

When the bandwidth is limited, you can use this function to transfer the HD bit stream to the specified lower resolution and then playback. It is to reduce network load.

In Figure 5-169, select the playback period and then select playback mode and channel(s). Check the box to enable HD transcoding function and then click the Set button; you can see the following interface. See Figure 5-172. Please select the resolution, frame rate, bit rate and then click the OK button.

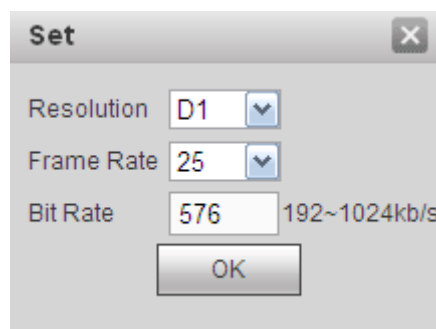


Figure 5-172

- Select Record Type  
Please note some series product supports intelligent record.

Check the corresponding box to select record type. See Figure 5-173.



Figure 5-173

- POS


In one-window playback mode, click  you can hide or display POS information.


- File clip

It is to clip some footages to save in the USB device or peripheral device. The interface is shown as in Figure 5-174.



Figure 5-174

Step 1 Select a file first and then click  to playback.

Step 2 Click  and there are two ways for you to set start time and end time See Figure 5-175.

- Input start time and end time at the text column.
- Drag the two triangles icons at the time bar to set start time and end time.

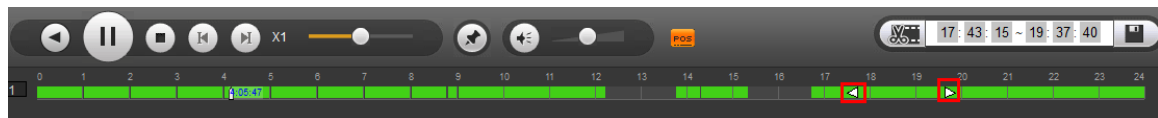


Figure 5-175

Step 3 Click  to save the file.

The file will be saved at the path you set in chapter 5.7.1.3.4 (main menu->Setup->Camera->Encode->Path).

#### Note


Clip function is for one-channel mode.

## 5.8.2 Mark Playback

**Please make sure your purchased device support this function. You can use this function only if you can see the mark playback icon on the Search interface.**

When you are playback record, you can mark the record when there is important information. After playback, you can use time or the mark key words to search corresponding record and then play. It is very easy for you to get the important video information.

- Add Mark

Step 1 When system is playback, click Mark button , you can go to the following interface. See Figure 5-176.

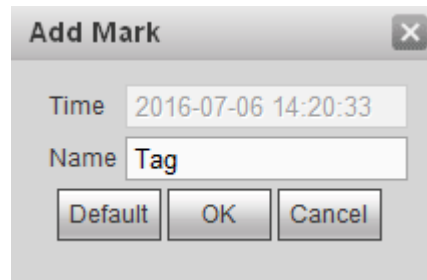


Figure 5-176

Step 2 Input a name and then click OK button. You can view current file in the mark file list.


- Playback Mark

Step 1 During 1-window playback mode, click Mark file list button. Enter mark file list interface. See Figure 5-177.



Figure 5-177

Step 2 Double click one mark file, device begins playback from the mark time.

Input time at the top of the interface and then click  to search mark file(s).

- Play before mark time

Here you can set to begin playback from previous N seconds of the mark time.

Usually, system can playbacks previous N seconds record if there is such kind of record file. Otherwise, system playbacks from the previous X seconds when there is such as kind of record.

- Mark Manager

Click the mark manager button in Figure 5-177; you can go to Mark Manager interface. See Figure 5-178.

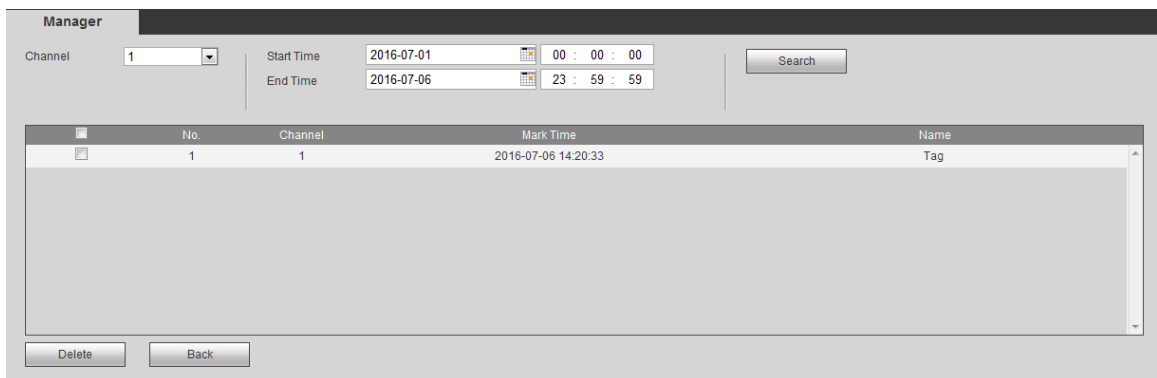


Figure 5-178

- System can manage all the record mark information of current channel by default. You can view all mark information of current channel by time.
- Select channel first and then input start time and end time, click Search to search mark file.
- Modify:  
Double click one mark information item, you can see system pops up a dialogue box for you to change mark information. You can only change mark name here.
- Delete:  
It is to check the mark information item you want to delete and then click Delete button, you can remove one mark item. .

### 5.8.3 Splice Playback

For the large record file, you can use splice playback function to play the same file in several sections at the same time. It is very convenient for you to find the video footages you desire.

Step 1 On the Playback interface, select splice playback from the dropdown list, you can go to the Figure 5-179.

Step 2 On the right pane, set channel, date, split mode. The splice playback interface is shown as below. Each section has a small triangle; you can adjust it to set time.

 **Note**

System supports 1/4/8/16-splice mode. Slight different may be found here. The

4-channel series product supports 4-splice mode. The 8-channel series product support 8-splice mode. The 16-channel or higher series product supports 16-splice mode.

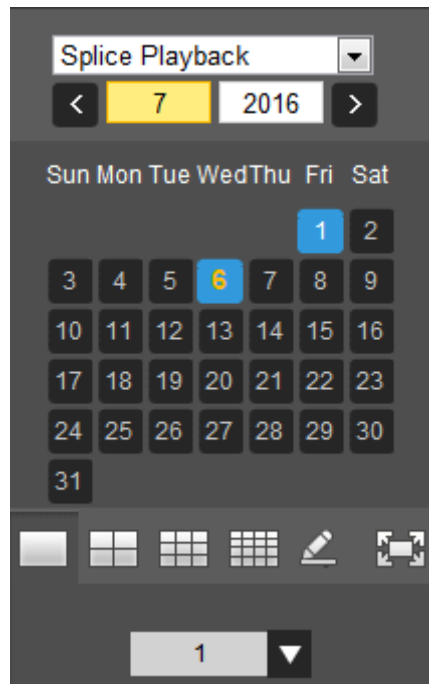


Figure 5-179


#### Note

- The splice playback is for 1-window playback mode.
- Device supports 1/4/8/16-window splice playback.
- The min period of each section is 5 minutes. For the record is less than 20 minutes, if you select 4-split mode (or more than 4-split mode), system can auto adjust so that the each section period is 5 minutes. In this situation, some channel may have no video.

Step 3 Click  to play.

### 5.8.4 Fisheye Playback De-Warp

When playing fisheye channel record file, it can de-warp.

In 1-window playback mode, click the  at the top right corner, system pops up installation mode and display mode interface. Select the corresponding mode, it can display the dewarp video. Please refer to Fisheye de-warp in chapter 5.5.1.2 Real-time monitor for detailed information.

### 5.8.5 File List

Click File list button, you can see the corresponding file(s) in the list. See Figure 5-180.

File type includes: R=regular alarm. A=external alarm, M=Motion detect alarm, Intel-intelligent alarm.

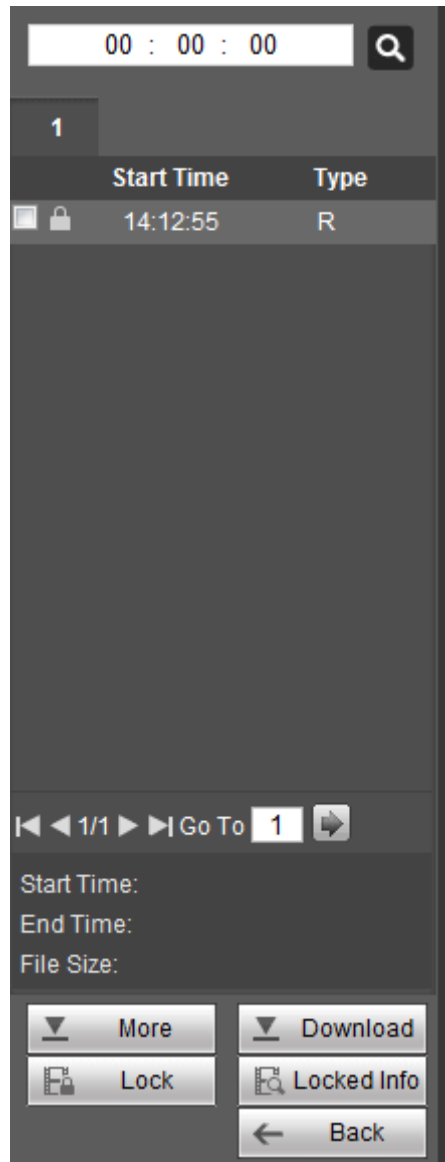


Figure 5-180

### 5.8.6 Playback

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 cannot 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.

### 5.8.7 Download

Select the file(s) you want to download and then click download button, you can see an interface shown as in Figure 5-181. 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 5-181

### 5.8.8 Load more

It is to search record or picture. Select record channel, record type and record time to download. Or you can use watermark function to verify file.

#### 5.8.8.1 Download By File

Step 1 Click Download by file tab.

Enter Download by file interface. See Figure 5-182

Step 2 Select channel, record type, bit stream type and then input start time and end time. Click Search button to view the search results.

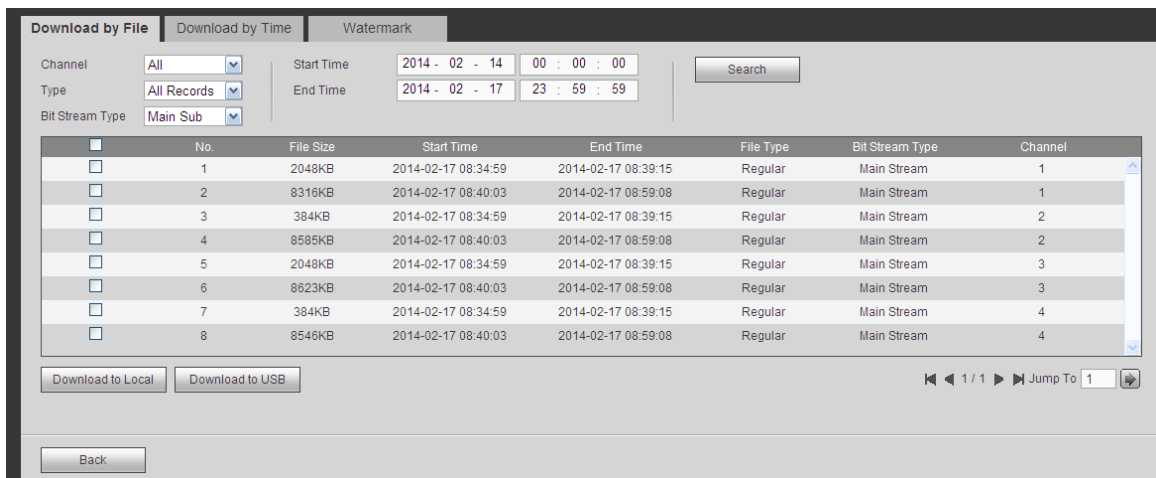


Figure 5-182

Step 3 Check the file(s) you want to download and there are two options for you to save the file(s).

- Download to local
  1. Click Download to local, system pops up the following interface to set record format and saved path. See Figure 5-183.

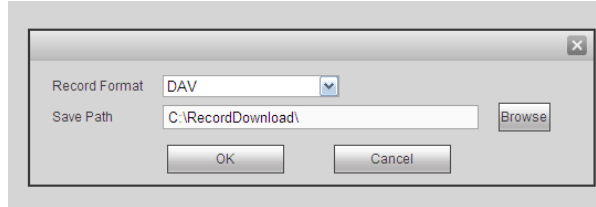


Figure 5-183

2. Click OK to download and view the download process. After the download operation, you can see corresponding dialog box.
- Download to USB
    1. Connect the corresponding peripheral device.
    2. Click Download to USB button, you can see the following interface. See Figure 5-184.

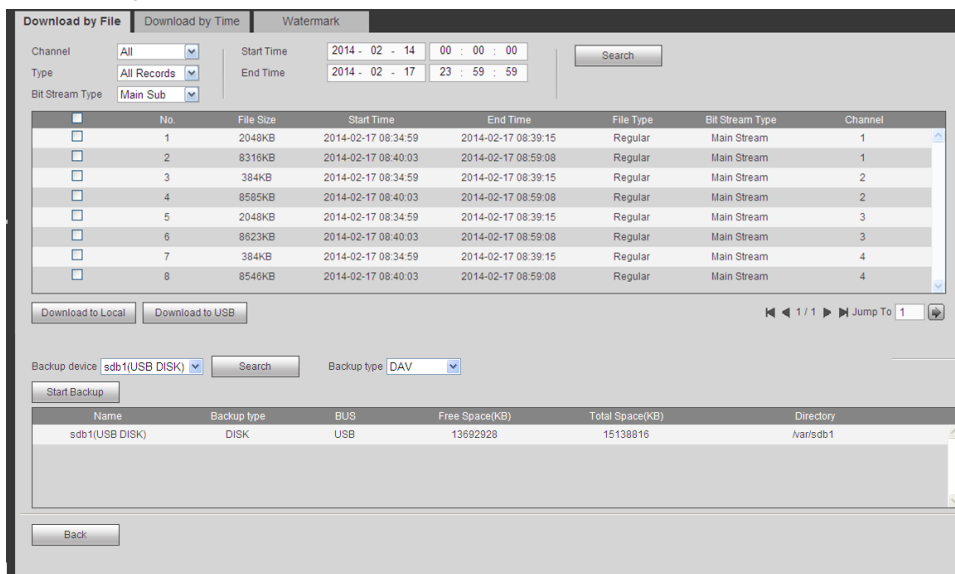


Figure 5-184

3. Select Backup device and backup type first and then click Start backup button. After the download operation, you can see corresponding dialogue box. View the downloaded files on the USB device.

 **Note**

Click Search to view USB device latest storage information.

### 5.8.8.2 Download by Time

Select channel, bit stream type, start time and end time to download the corresponding files to the local PC.



- Step 1 Select channel number, bit stream type, start time, end time.
- Step 2 Click Download by time button.  
Enter download by time interface is shown as in Figure 5-185.
- Step 3 Select record format, and file save path. Click OK button.  
Device displays file download process and begins download. Device pops up corresponding dialogue box.

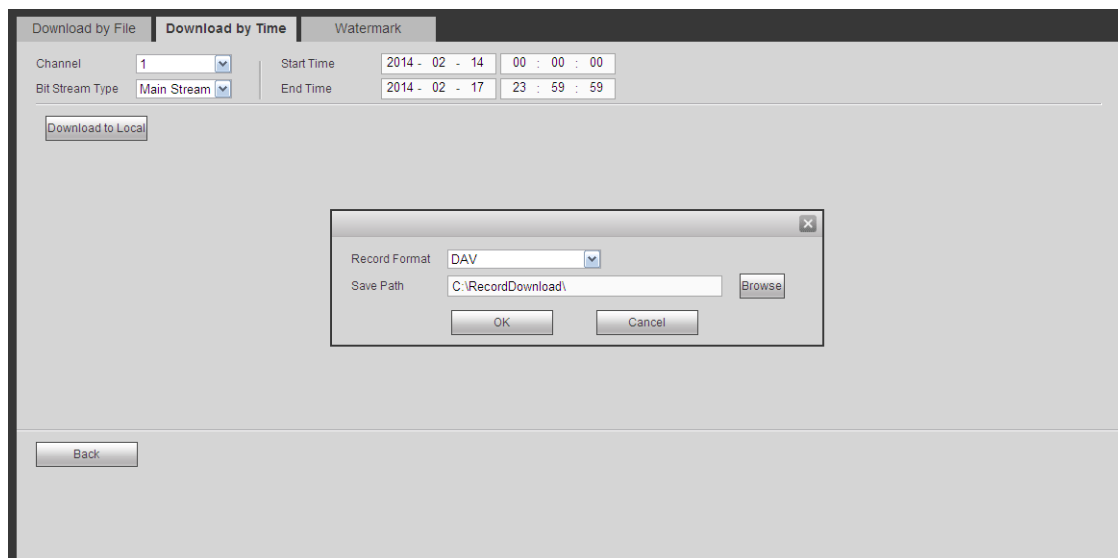


Figure 5-185

### 5.8.8.3 Watermark

It is to check the downloaded file has been tampered with or not.

 **Note**

Before the operation, make sure you have gone to Setup->Camera->Encode->Video to enable watermark function and have set the corresponding watermark string.

Watermark interface is shown as In Figure 5-186. Please select a file and then click Verify button to see the file has been tampered with or not

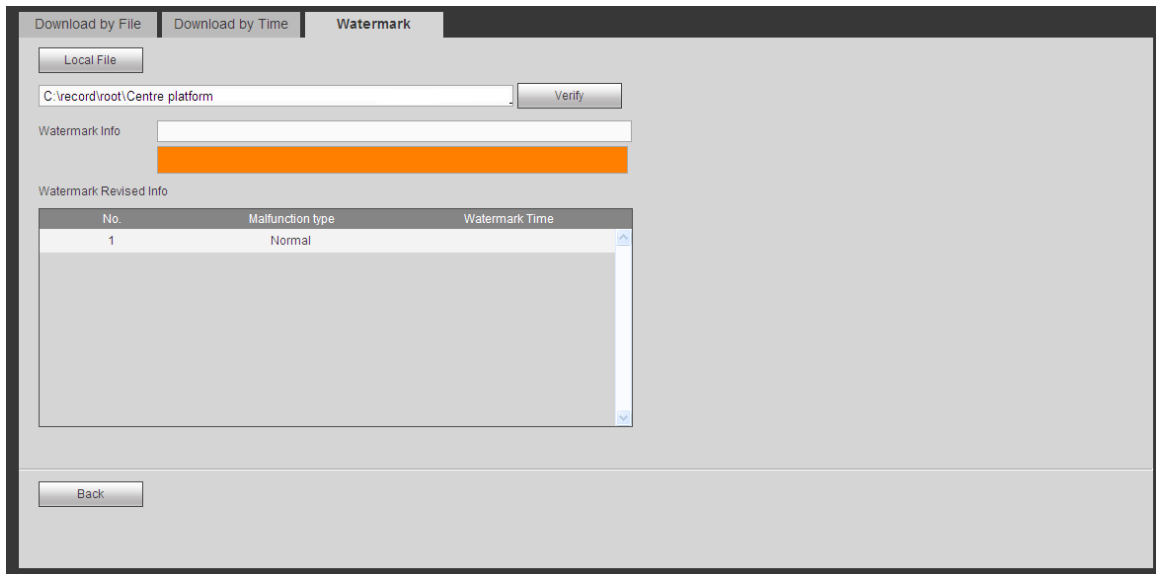
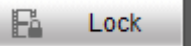


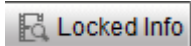
Figure 5-186

### 5.8.9 Lock or Unlock File

On the playback interface, click File list button, you can view file list (Figure 5-180.). Select a file first and then click lock button . You can lock it in case it is overwritten in the future.

#### Note

The file is writing or is overwriting cannot be locked.

Click  you can view the locked file. See Figure 5-187.

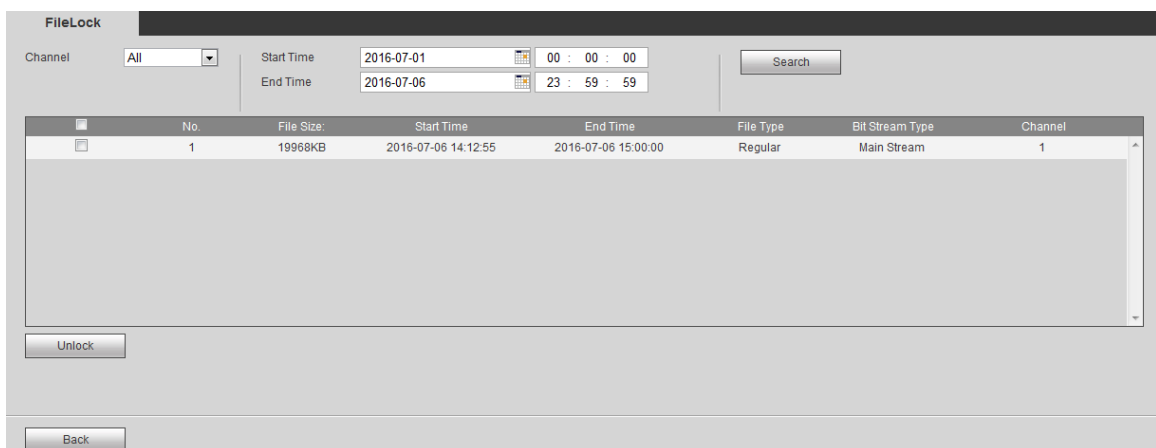


Figure 5-187

Select a file in the above figure and then click Unlock, you can unlock it. The locked file will not be overwritten after you enabled overwrite function.

## 5.9 Alarm

 **Note**

Differen series products may support different alarm types. The following figure for reference only.

Click alarm function, you can see an interface is shown as Figure 5-188.

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

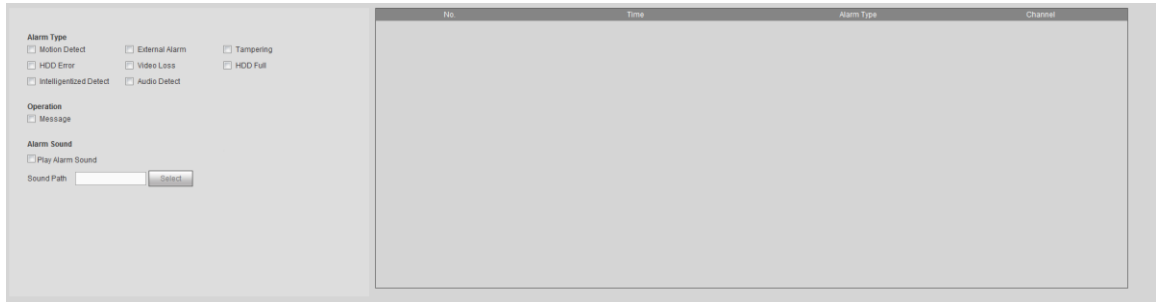


Figure 5-188

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.
	External alarm	Alarm input device sends out alarm.
	Intelligent alarm	The IVS rule you set in smart plan can trigger intelligent alarm.
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.

## 5.10 Information

### 5.10.1 Version

It is to view record channel, alarm input/output information, software version, release date and etc.

 **Note**

The following figure for reference only.

From main menu->Info->Version, the version interface is shown as in Figure 5-189.

VERSION	
Type:	HCVR
Record Channel:	64
Alarm In:	16
Alarm Out:	6
Hardware Version:	V3.0
SN:	000000000000000000
Web:	3.2.7.68952
Onvif Server Version:	2.4.1
Onvif Client Version:	2.4.1
System Version:	3.216.0000.00, Build Date: 2016-07-03

Figure 5-189

## 5.10.2 Log

### 5.10.2.1 System Log

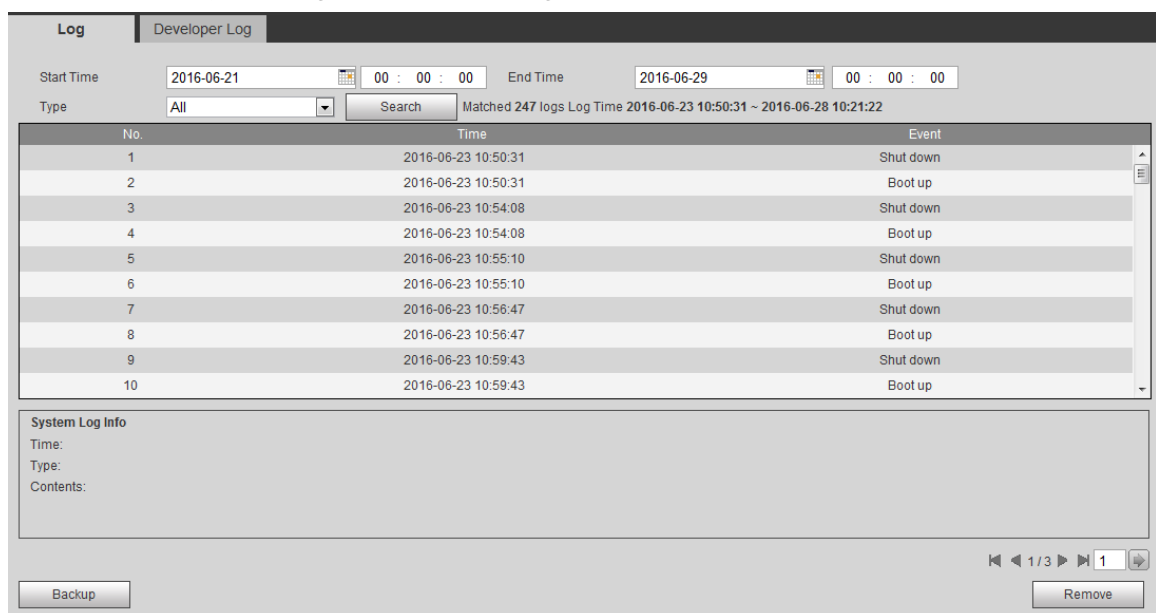
#### Note

- If there is no HDD, system max supports 10,000 logs.
- If you have connected to the formatted HDD, system max supports 500,000 logs.
- System operation logs are saved in system memory. Other types of logs are saved in the HDD. If there is no HDD, other types of logs are saved in the system memory too.
- The logs are safe when you format the HDD. But the logs may become loss once you removed the HDD from the DVR.

It is to display log information.

Step 1 From main menu->Info->Log->Log.

Enter system log interface. See Figure 5-190.



The screenshot shows the 'Log' interface with the following details:

- Log Type:** Developer Log
- Start Time:** 2016-06-21 00:00:00
- End Time:** 2016-06-29 00:00:00
- Type:** All
- Search:** Matched 247 logs Log Time 2016-06-23 10:50:31 ~ 2016-06-28 10:21:22

No.	Time	Event
1	2016-06-23 10:50:31	Shut down
2	2016-06-23 10:50:31	Boot up
3	2016-06-23 10:54:08	Shut down
4	2016-06-23 10:54:08	Boot up
5	2016-06-23 10:55:10	Shut down
6	2016-06-23 10:55:10	Boot up
7	2016-06-23 10:56:47	Shut down
8	2016-06-23 10:56:47	Boot up
9	2016-06-23 10:59:43	Shut down
10	2016-06-23 10:59:43	Boot up

**System Log Info**

Time:  
Type:  
Contents:

Navigation: 1/3, 1

Buttons: Backup, Remove

Figure 5-190

Step 2 Set start time, end time, and type.

Step 3 Click Search.

Device displays log list.



**Note**

Select logs on the list and then click Backup, select save path to backup logs to the local PC.

### 5.10.2.2 Developer Log

It is to save COM information so that the engineer can quickly find the problem.

From main menu->Info->Log->Developer log, enter developer log interface. See Figure 5-191.

File Name	Size(KB)	Download
backtrace.out	1.81	
badDiskInfo	0.14	
exception	269.18	
HddInfo	14.82	
KmsgInfo	74.68	
VersionInfo	0.12	

Figure 5-191

Click to download the view the corresponding log file.

### 5.10.3 Online User

It is to display current online user, user group, IP address and login time.

From main menu->Info->Online user the online user interface is shown as in Figure 5-192.



**Note**

Click Refresh to get the latest online user information.

No.	User Name	Group Name	IP Address	User Login Time
1	admin	admin	10.18.116.76	2016-06-28 08:37:33

Refresh

Figure 5-192

### 5.10.4 HDD

It is to view HDD information such as state, free space, total space, bad track and etc.

From main menu->Info->HDD, the HDD interface is shown as in Figure 5-193.

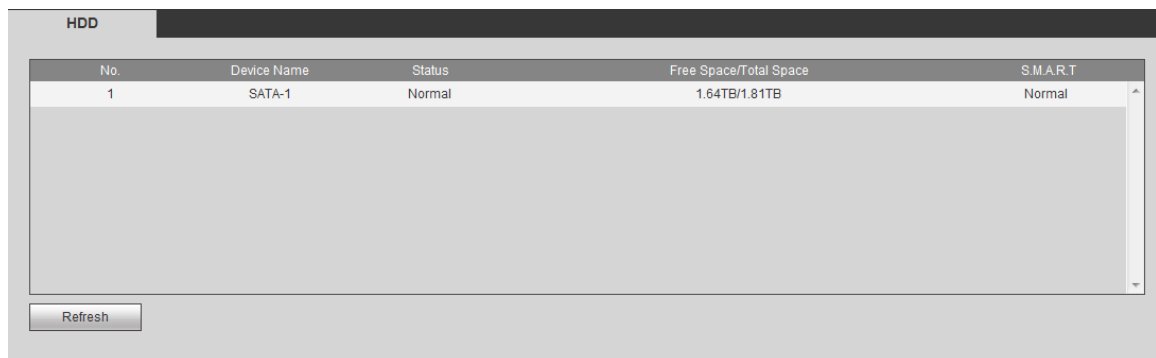



Figure 5-193

#### View S.M.A.R.T Info

In Figure 5-193, double click S.M.A.R.T icon , you can go to the following interface. Here you can view HDD name, model, serial number status and detailed information. See Figure 5-194.

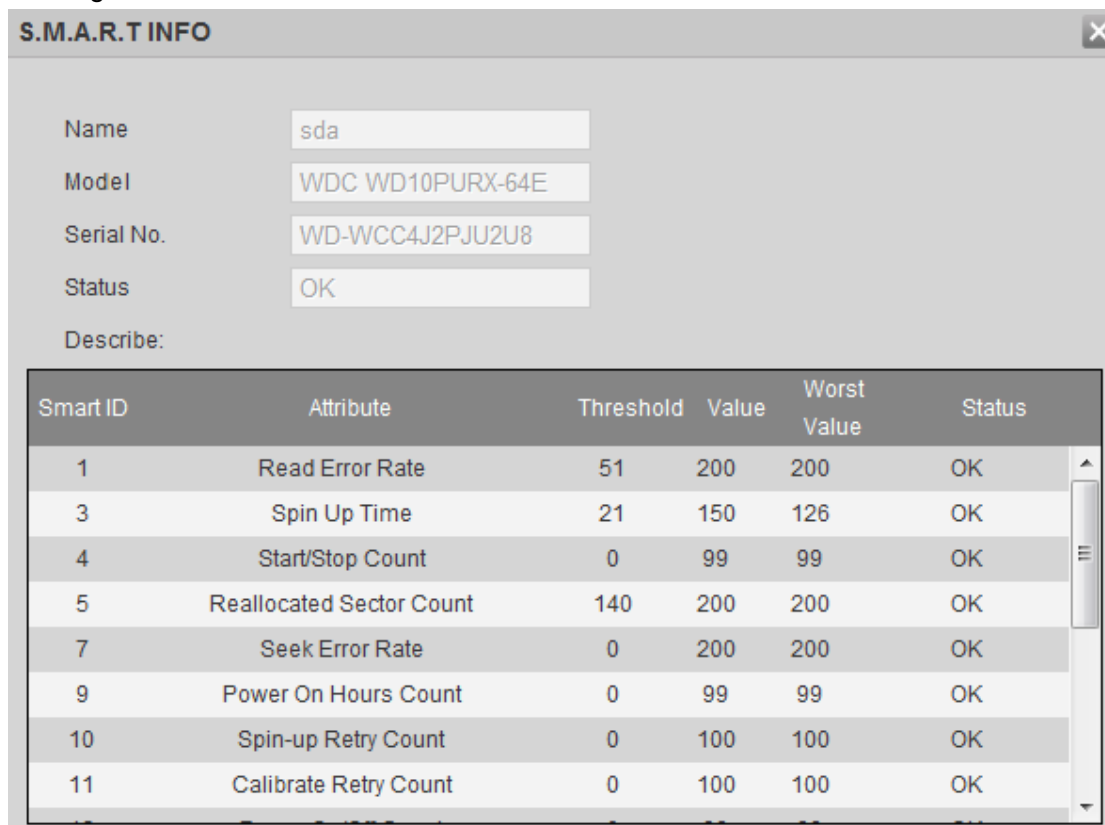


Figure 5-194

#### View HDD record time

In Figure 5-193, click HDD time button, you can go to the following interface. Here you can view record file start time and end time. See Figure 5-195.

Device Name	Start Time	End Time
sda	2016-06-14 20:29:21	2016-06-20 19:00:06
	2016-06-22 10:36:07	2016-06-23 00:34:00
	2016-06-23 13:50:28	2016-07-01 20:03:07
	2016-07-06 14:12:55	2016-07-06 14:13:40
	2016-06-11 23:38:34	2016-06-12 12:23:19
	2016-06-12 12:19:27	2016-06-13 09:05:29
	2016-06-13 09:01:33	2016-06-14 20:29:21
	2016-06-23 11:32:37	2016-06-23 13:49:16

Figure 5-195

**Note**

Click Refresh to view the latest HDD information.

**5.10.5 Network Sniffer**

It is to backup network sniffer files. The backup data can be used for the engineer from the R&D or the installer to analyze the network status.

Step 1 From main menu->Info->Network Sniffer.

Enter network sniffer interface. See Figure 5-196.

NETWORK SNIFFER

Ethernet Port:  IP Address 10.15.6.144

Target Filter:

Figure 5-196

Step 2 Set parameters.

Parameters	Function
Etherner port	Please select a Ethernet port from the dropdown list.
Target filter	Check the box here and then input the corresponding IP address, DVR only sniffer the data from the specified IP address. If you do not check the box here, DVR sniffer data from all related IP addresses.

Step 3 Click Start to sniffer.

Follow the prompts to open or save sniffer files after the sniffer process.

**5.10.6 Report**

It is to search and view people counting result of each channel and export people counting statistics report. The export file format is \*.BMP.

Step 1 From Info->Event->Report.  
Enter Report interface. See Figure 5-197.

The screenshot shows a web interface titled "Report". It contains several input fields and controls:
 

- Channel:** A dropdown menu with "1" selected and a "Search" button.
- Type:** A dropdown menu with "Daily" selected. To its right, there is a note: "\*Daily report max range is 24 hours." and two radio buttons: "Histogram Graph" (selected) and "Polygon Graph".
- Start Time:** A date field with "2017-07-04" and a time field with "00 : 00 : 00".
- End Time:** A date field with "2017-07-04" and a time field with "10 : 00 : 00".
- File Format:** A dropdown menu with "CSV" selected and an "Export" button.
- Flow Direction:** Three checkboxes: "Enters" (checked with a red square), "Exits" (checked with a blue square), and "Display No." (checked).

Figure 5-197

Step 2 Set parameters.

Parameters	Function
Channel	Select a channel from the dropdown list to search people counting result.
Report type	Select report type from the dropdown list. It includes daily report, monthly report, and annual report. And then select histogram graph and polygon graph. Please note the daily report max supports 24 hours.
Start time/end time	Input the people counting start time and end time.
Flow direction	Check the box to set flow direction such as enter/exit.
Display number	Check the box, the DVR can display the entry and exit people amount in the report.

Step 3 Click Search.  
Device display people counting report at the bottom of the interface.

 **Note**

Click Export and then set save path. Click Save to backup report to the local PC.

## 5.11 Log out

Click log out button, system goes back to log in interface. See Figure 5-198.  
You need to input user name and password to login again.



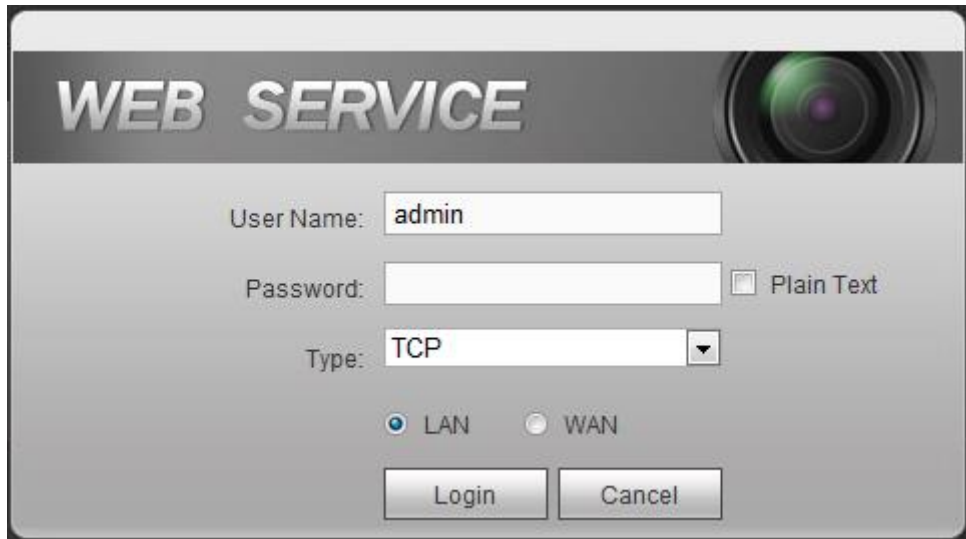


Figure 5-198

## 5.12 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.**

## 6 SmartPSS

Besides Web, you can use our Smart PSS to login the device.

For detailed information, please refer to *Smart PSS user's manual*.

## 7 FAQ

### 1. DVR cannot 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. DVR 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 with 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 cannot 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.
- DVR 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.

- DVR and monitor resistance is not compatible.
- Video transmission is too long or degrading is too huge.
- DVR color or brightness setup is not correct.

#### **6. Cannot 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 DVR to solve this problem.
- HDD data ribbon error.
- HDD malfunction.
- DVR 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.
- DVR 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. DVR cannot 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 DVR protocol is not compatible.
- PTZ decoder and DVR 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. Cannot 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 DVR 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 DVR 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 DVR. 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.
- DVR 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 DVR network card is not good.

#### **16. Burn error /USB back error.**

There are following possibilities:

- Burner and DVR 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 cannot control DVR.**

There are following possibilities:

- DVR 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 cannot be 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 DVR 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. Cannot 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. Forgot local menu operation password or network password**

Please contact your local service engineer or our sales person for help. We can guide you to solve this problem.

**24. When I login via HTTPS, a dialogue says the certificate for this website is for other address.**

Please follow chapter 5.7.2.2.3 to create server certificate.

**25. When I login via HTTPS, a dialogue says the certificate is not trusted.**

Please follow chapter 5.7.2.2.4 to download root certificate.

**26. When I login via HTTPS, a dialogue says the certificate has expired or is not valid yet.**

Please make sure your PC time is the same as the device time.

**27. I connect the general analog camera to the device, there is no video output.**

There are following possibilities:

- Check camera power supplying, data cable connection and etc.
- This series device does not support the analog camera of all brands. Please make sure the device supports general standard definition analog camera.

**28. I connect the standard definition analog camera or the HDCVI camera to the device, there is no video output.**

There are following possibilities:

- Check camera power supplying, or camera data cable connection.
- For the product supports analog standard definition camera/HD camera, you need to go to the main menu->Setting->Camera->Channel type to select corresponding channel type and then restart the DVR.

**29. I can not connect to the IP channel.**

There are following possibilities:

- Check the camera is online or not.
- Check IP channel setup is right or not (such as IP address, user name, password, connection protocol, port number.).
- The camera has set the whitelist (Only the specified devices can connect to the camera).

**30. After I connected to the IP channel, there one-window output is OK, but there is no multiple-window output.**

There are following possibilities:

- Check the sub stream of the camera has been enabled or not.
- Check the sub stream type of the camera is H.264 or not.
- Check the device supports camera sub stream resolution or not (such as 960H, D1, HD1 and etc.).

**31. After I connected to the IP channel, there multiple-window output is OK, but there is no one-window output.**

There are following possibilities:

- Check there is video from the IP channel or not. Please go to the main menu->info->System->BPS to view bit stream real-time information.
- Check the main stream of the camera has been enabled or not.
- Check the main stream type of the camera is H.264 or not.
- Check the device supports camera main stream resolution or not (such as 960H, D1, HD1 and etc.).
- Check camera network transmission has reached the threshold or not. Please check the online user of the camera.

**32. After I connected to the IP channel, there is no video output in the one-window or the multiple-window mode. But I can see there is bit stream.**

There are following possibilities:

- Check the main stream/sub stream type of the camera is H.264 or not.
- Check the device supports camera main stream/sub stream resolution or not (such as 1080P, 720P, 960H, D1, HD1 and etc.).
- Check the camera setup. Please make sure It supports the products of other manufacturers.

**33. DDNS registration failed or can not access the device domain name.**

There are following possibilities:

- Check the device is connected to the WAN. Please check the device has got the IP address if the PPPoE can dial. If there is a router, please check the router to make sure the device IP is online.
- Check the corresponding protocol of the DDNS is enabled. Check the DDNS function is OK or not.



- Check DNS setup is right or not. Default Google DNS server is 8.8.8.8, 8.8.5.5. You can use different DNS provided by your ISP.

#### **34. I can not use the P2P function on my cell phone or the WEB.**

There are following possibilities:

- Check the device P2P function is enabled or not. (Main menu->Setting->Network->P2P)
- Check the device is in the WAN or not.
- Check cell phone P2P login mode is right or not.
- It is the specified device P2P login port or not when you are using P2P client.
- Check user name or password is right or not.
- Check P2P SN is right or not. You can use the cell phone to scan the QR code on the device P2P interface (Main menu->Setting->Network->P2P), or you can use the version information of the WEB to confirm. (For some previous series products, the device SN is the main board SN, it may result in error.)

#### **35. I connect the standard definition camera to the device, there is no video output.**

There are following possibilities:

- Check the DVR supports standard definition signal or not. Only some series product supports analog standard definition signal, HDCVI signal input.
- Check channel type is right or not. For the product supports analog standard definition camera/HD camera, you need to go to the main menu->Setting->Camera->Channel type to select corresponding channel type (such as analog) and then restart the DVR. In this way, the DVR can recognize the analog standard definition.
- Check camera power supplying, or camera data cable connection.

#### **36. I can not connect to the IP camera.**

There are following possibilities:

- Check DVR supports IP channel or not. Only some series products support A/D switch function, it can switch analog channel to the IP channel to connect to the IP camera. From Setting->Camera->Channel Type, select the last channel to switch to the IP channel. Some series product products support IP channel extension, it supports N+N mode.
- Check the IPC and the DVR is connected or not. Please go to the main menu->Setting->Camera->Remote to search to view the IP camera is online or not. Or you can go to the main menu->Info->Network->Test, you can input IP camera IP address and then click the Test button to check you can connect to the IP camera or not.
- Check IP channel setup is right or not (such as IP address, manufacturer, port, user name, password, remote channel number and etc.).

## **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 before you remove the audio/video signal cable, RS232 or RS485 cable.
- Do not connect the TV to the local video output port (VOUT).It may result in video output circuit.
- Always shut down the device properly. Please use the shutdown function in the menu, or you can press the power button in the front panel 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.

## Appendix A HDD Capacity Calculation

Calculate total capacity needed by each DVR 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 DVR 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 DVR

Step 4: According to Formula (4) to calculate total capacity (accumulation)  $q_T$  that is needed for all channels in DVR 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

You can refer to the following sheet for the file size in one hour per channel. (All the data listed below are for reference only.)

Bit stream size (max)	File size	Bit stream size (max)	File size
96K	42M	128K	56M
160K	70M	192K	84M
224K	98M	256K	112M
320K	140M	384K	168M

448K	196M	512K	225M
640K	281M	768K	337M
896K	393M	1024K	450M
1280K	562M	1536K	675M
1792K	787M	2048K	900M

## Appendix B Compatible backup devices

### Appendix B-1 Compatible USB list

Manu factor	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
Kingston	Data Traveler Locker+	32GB
Netac	U228	8GB

## Appendix B-2 Compatible SD Card list

Brand	Standard	Capacity	Card type
Transcend	SDHC6	16GB	Big
Kingston	SDHC4	4GB	Big
Kingston	SD	2GB	Big
Kingston	SD	1GB	Big
Sandisk	SDHC2	8GB	Small
Sandisk	SD	1GB	Small

## Appendix B-3 Compatible Portable HDD list

Brand	Model	Capacity
YDStar	YDstar HDD box	40G
Netac	Netac	80G
lomega	lomega 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

## Appendix B-4 Compatible USB DVD List

Brand	Model
Samsung	SE-S084
BenQ	LD2000-2K4

## Appendix B-5 Compatible SATA DVD List

Brand	Model
LG	GH22NS30
Samsung	TS-H653 Ver.A

Samsung	TS-H653 Ver.F
Samsung	SH-224BB/CHXH
SONY	DRU-V200S
SONY	DRU-845S
SONY	AW-G170S
Pioneer	DVR-217CH

## Appendix B-6 Compatible SATA HDD List

**NOTE:** Please upgrade the DVR firmware to latest version to ensure the accuracy of the table below. Here we recommend HDD of 500G to 4T capacity.

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 HD2	ST3250412CS	250G	SATA
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 Constellation ES	ST500NM0031	500G	SATA
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
Western Digital	Cariar SE	WD3200JD	320G	SATA
Western Digital	Cariar SE	WD3000JD	300G	SATA



Western Digital	Caviar SE	WD2500JS	250G	SATA
Western Digital	Caviar SE16	WD7500KS	750G	SATA
Western Digital	Caviar SE16	WD5000KS	500G	SATA
Western Digital	Caviar SE16	WD4000KD	400G	SATA
Western Digital	Caviar SE16	WD3200KS	320G	SATA
Western Digital	Caviar SE16	WD2500KS	250G	SATA
Western Digital	WD Caviar SE16	WD2500YS-01SHB0	250G	SATA
Western Digital	WD Caviar RE16	WD3200YS-01PGB0	320G	SATA
Western Digital	WD Caviar RE2	WD5000YS-01MPB0	500G	SATA
Western Digital	WD AV—AVJS	WD2500AVJS-63WDA0	500G	SATA
Western Digital	WD AV—AVJS	WD3200AVJS-63WDA0	320G	SATA
Western Digital	WD AV—AVJS	WD5000AVJS-63YJA0	500G	SATA
Western Digital	WDAV-GP—AVCS	WD5000AVCS-63H1B1	500G	SATA
Western Digital	WDAV-GP—AVCS	WD7500AVCS-63ZLB0	750G	SATA
Western Digital	WDAV-GP—AVCS	WD3200AVCS	320G	SATA
Western Digital	WDAV-GP—AVCS	WD2500AVCS	250G	SATA
Western Digital	WDAV-GP—EVCS	WD10EVCS-63ZLB0	1T	SATA
Western Digital	WDAV-GP—EVCS	WD20EVCS-63ZLB0	2T	SATA
Western Digital	WDAV-GP—AVVS	WD3200AVVS-63L2B0	320G	SATA
Western Digital	WDAV-GP—AVVS	WD5000AVVS-63ZWB0	500G	SATA
Western Digital	WDAV-GP—AVVS	WD7500AVVS-63E1B1	750G	SATA
Western Digital	WDAV-GP—AVVS	WD7500AVVS-63E1B1	750G	SATA
Western Digital	WDAV-GP—EVVS	WD10EVVS-63E1B1	1T	SATA
Western Digital	WDAV-GP—EVDS	WD10EVDS-63N5B1	1T	SATA
Western Digital	WDAV-GP—EVDS	WD15EVDS-63V9B0	1.5T	SATA
Western Digital	WDAV-GP—EVDS	WD20EVDS-63T3B0	2T	SATA
Western Digital	WDAV-GP—AVDS	WD5000AVDS-63U7B0	500G	SATA
Western Digital	WD AV-GP	WD30EURS	3T	SATA
Western Digital	WD AV-GP	WD25EURS	2.5T	SATA
Western Digital	WD AV-GP	WD20EURS	2T	SATA
Western Digital	WD AV-GP	WD15EURS	1.5T	SATA
Western Digital	WD AV-GP	WD10EURS	1T	SATA
Western Digital	WD AV-GP	WD10EURX	1T	SATA
Western Digital	WD AV-GP	WD7500AURS	750G	SATA
Western Digital	WD AV-GP	WD7500AVDS	500G	SATA
Western Digital	WD AV-GP	WD500AVDS	500G	SATA
Western 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
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

## Appendix C Compatible CD/DVD Burner List

**NOTE:** Please upgrade the DVR firmware to latest version to ensure the accuracy of the table below. And you can use the USB cable with the model recommended to set USB burner.

<b>Manufacturer</b>	<b>Model</b>	<b>Port Type</b>	<b>Type</b>
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

## Appendix D Compatible Displayer List

Please refer to the following sheet form compatible displayer list.

<b>Brand</b>	<b>Model</b>	<b>Dimension (Unit: inch)</b>
BENQ (LCD)	ET-0007-TA	19-inch (wide screen)
DELL (LCD)	E178FPc	17-inch
BENQ (LCD)	Q7T4	17-inch
BENQ (LCD)	Q7T3	17-inch
HFNOVO (LCD)	LXB-L17C	17-inch
SANGSUNG (LCD)	225BW	22 寸(wide screen)
HFNOVO(CRT)	LXB-FD17069HB	17 -inch
HFNOVO(CRT)	LXB-HF769A	17-inch
HFNOVO(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
Samsung (LCD)	SMT-1922P	19-inch
Samsung (LCD)	T190	19-inch
Samsung (LCD)	T240	24-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

## Appendix E Compatible Switcher

<b>Brand</b>	<b>Model</b>	<b>network working mode</b>
D-LinK	DES-1016D	10/100M self-adaptive
D-LinK	DES-1008D	10/100M self-adaptive
Ruijie	RG-S1926S	Five network modes 1. AUTO 2. HALF-10M 3. FULL-10M 4 .HALF-100M 5. FULL-100M
H3C	H3C-S1024	10/100M self-adaptive
TP-LINK	TL-SF1016	10/100M self-adaptive
TP-LINK	TL-SF1008+	10/100M self-adaptive

## Appendix F Compatible Wireless Mouse List

Please refer to the following sheet for compatible SD card brand.

Brand	Model
<b>SUNT</b> 讯拓™	V80
Rapoo	3500
Logitech	M215
Shuangfeiyan	Tianyao G7-630

## Appendix G Earthing

### 1. What is the surge?

Surge is a short current or voltage change during a very short time. In the circuit, it lasts for microsecond. In a 220V circuit, the 5KV or 10KV voltage change during a very short time (about microseconds) can be called a surge. The surge comes from two ways: external surge and internal surge.

- The external surge: The external surge mainly comes from the thunder lightning. Or it comes from the voltage change during the on/off operation in the electric power cable.
- The internal surge: The research finds 88% of the surge from the low voltage comes from the internal of the building such as the air conditioning, elevator, electric welding, air compressor, water pump, power button, duplicating machine and other device of inductive load.

The lightning surge is far above the load level the PC or the micro devices can support. In most cases, the surge can result in electric device chip damage, PC error code, accelerating the part aging, data loss and etc. Even when a small 20 horsepower inductive engine boots up or stops, the surge can reach 3000V to 50000V, which can adversely affect the electronic devices that use the same distribution box.

To protect the device, you need to evaluate its environment, the lightning affection degree objectively. Because surge has close relationship with the voltage amplitude, frequency, network structure, device voltage-resistance, protection level, ground and etc. The thunder proof work shall be a systematic project, emphasizing the all-round protection (including building, transmission cable, device, ground and etc.). There shall be comprehensive management and the measures shall be scientific, reliable, practical and economic. Considering the high voltage during the inductive thundering, the International Electrotechnical Committee (IEC) standard on the energy absorbing step by step theory and magnitude classification in the protection zone, you need to prepare multiple precaution levels.

You can use the lightning rod, lightning strap or the lightning net to reduce the damage to the building, personal injury or the property,

- The lightning protection device can be divided into three types:  
Power lightning arrester: There are 220V single-phrase lightning arrester and 380V three-phrase lightening arrester (mainly in parallel connection, sometimes use series connection ) You can parallel connect the power lightning arrester in the electric cable to reduce the short-time voltage change and release the surge current. From the BUS to the device, there are usually three levels so that system can reduce the voltage and release the current step by step to remove the thunderstorm energy and guarantee the device safety. You can select the replaceable module type, the terminal connection type and portable socket according to your requirement.

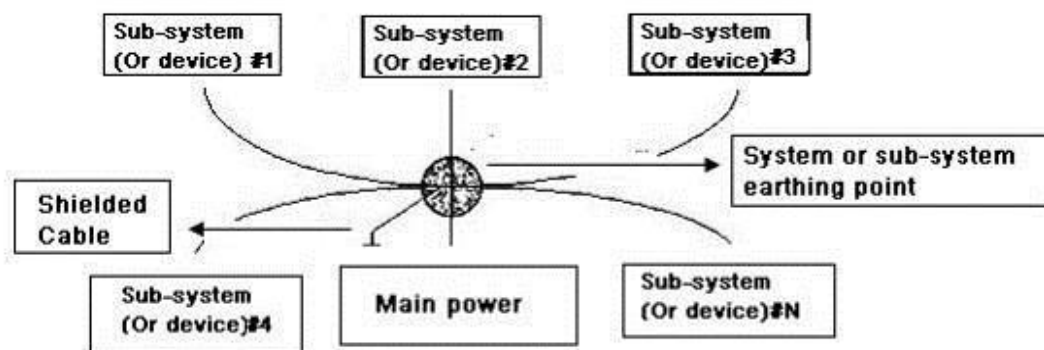
- Signal lightning arrester: This device is mainly used in the PC network, communication system. The connection type is serial connection. Once you connected the signal lightning arrester with the signal port, it can cut the channel of the thunderstorm to the device, and on the other hand, it can discharge the current to the ground to guarantee the device proper work. The signal lightning arrester has many specifications, and widely used in many devices such as telephone, network, analog communication, digital communication, cable TV and satellite antenna. For all the input port, especially those from the outdoor, you need to install the signal lightning arrester.
- Antenna feed cable lightning arrester: It is suitable for antenna system of the transmitter or the device system to receive the wireless signal. It uses the serial connection too.

Please note, when you select the lightning arrester, please pay attention to the port type and the earthing reliability. In some important environment, you need to use special shielded cable. Do not parallel connect the thunder proof ground cable with the ground cable of the lightning rod. Please make sure they are far enough and grounded respectively.

## 2. The earthing modes

We all know the earthing is the most complicated technology in the electromagnetism compatibility design since there is no systematic theory or module. The earthing has many modes, but the selection depends on the system structure and performance. The following are some successfully experience from our past work.

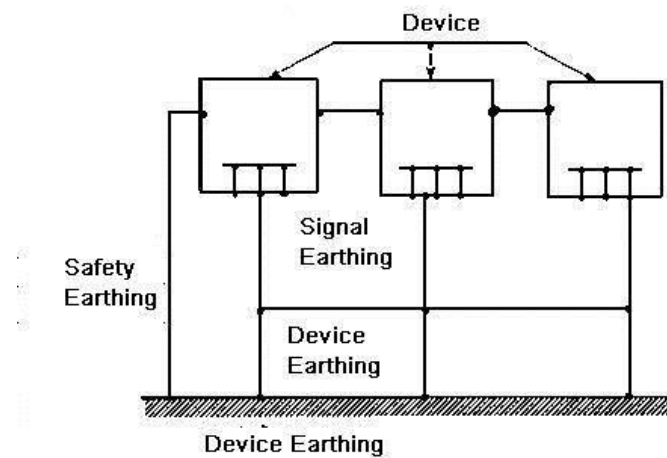
**One-point ground:** In the following figure you can see there is a one-point ground. This connection provides common port to allow signal to be transmitted in many circuits. If there is no common port, the error signal transmission occurred. In the one-point ground mode, each circuit is just grounded only and they are connected at the same port. Since there is only one common port, there is no circuit and so, there is no interference.



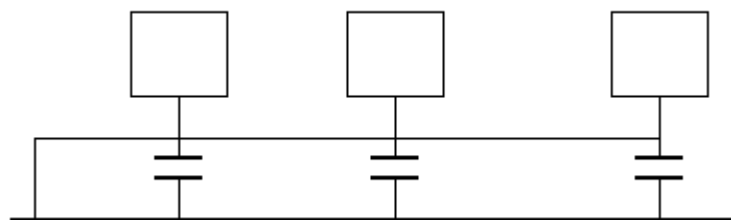
**Multiple-point ground:** In the following figure, you can see the internal circuit uses the chassis as the common point. While at the same time, all devices chassis use the earthing as the common port. In this connection, the ground structure can provide the lower ground resistance because when there are multiple-point grounds; each ground cable is as short as possible. And the parallel cable connection can reduce the total



conductance of the ground conductor. In the high-frequency circuit, you need to use the multiple-point ground mode and each cable needs to connect to the ground. The length shall be less than the 1/20 of the signal wavelength.



**Mixed ground:** The mixed ground consists of the feature of the one-point ground and multiple-point ground. For example, the power in the system needs to use the one-point ground mode while the radio frequency signal requires the multiple-point ground. So, you can use the following figure to earth. For the direct current (DC), the capacitance is open circuit and the circuit is one-point ground. For the radio frequency signal, the capacitance is conductive and the circuit adopts multiple-point ground.



When connecting devices of huge size (the device physical dimension and connection cable is big comparing with the wave path of existed interference), then there are possibility of interference when the current goes through the chassis and cable. In this situation, the interference circuit path usually lies in the system ground circuit.

When considering the earthing, you need to think about two aspects: The first is the system compatibility, and the other is the external interference coupling into the earth circuit, which results in system error. For the external interference is not regular, it is not easy to resolve.

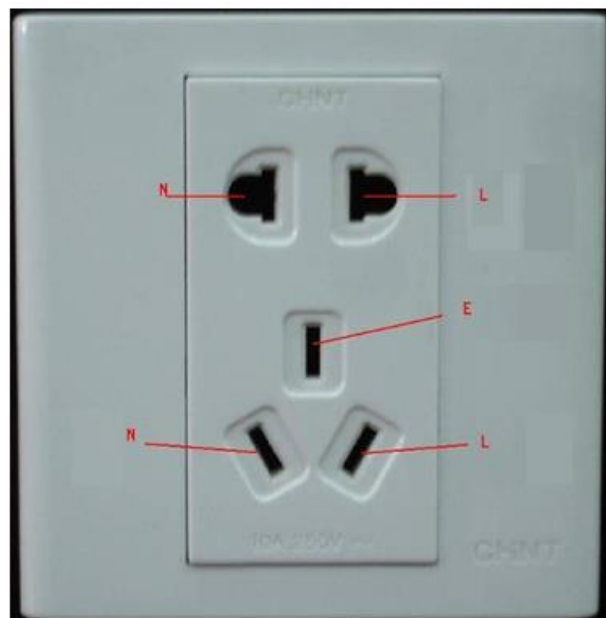
### 3. Thunder proof ground method in the monitor system

- The monitor system shall have sound thunder proof earthing to guarantee personnel safety and device safety.
- The monitor system working ground resistance shall be less than 1Ω.

- The thunder proof ground shall adopt the special ground cable from the monitor control room to the ground object. The ground cable adopts copper insulation cable or wire and its ground section shall be more than 20mm<sup>2</sup>.
- The ground cable of the monitor system can not short circuit or mixed connected with the strong alternative current cable.
- For all the ground cables from the control room to the monitor system or ground cable of other monitor devices, please use the copper resistance soft cable and its section shall be more than 4mm<sup>2</sup>.
- The monitor system usually can adopt the one-point ground.
- Please connect the ground end of 3-pin socket in the monitor system to the ground port of the system (protection ground cable)

#### 4. The shortcut way to check the electric system using the digital multimeter

For 220V AC socket, from the top to the bottom, E (ground cable), N (neutral cable), L(live cable). Please refer to the following figure.



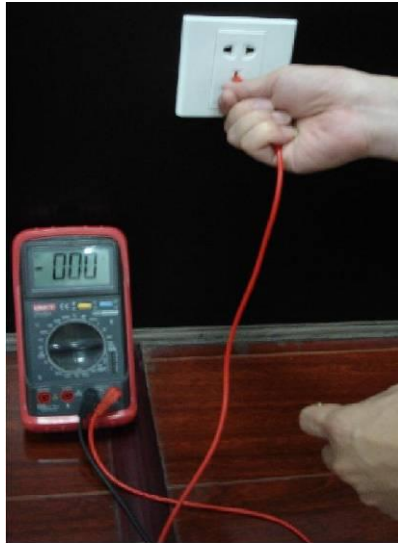
There is a shortcut way to check these three cables connection are standard or not (not the accurate check).

#### Importance

In the following operations, the multimeter range shall be at 750V!

#### For E (earth cable)

Turn the digital multimeter to 750V AC, use your one hand to hold the metal end, and then the other hand insert the pen to the E port of the socket. See the following figure. If the multimeter shows 0, then you can see current earth cable connection is standard. If the value is more than 10, then you can see there is inductive current and the earth cable connection is not proper.



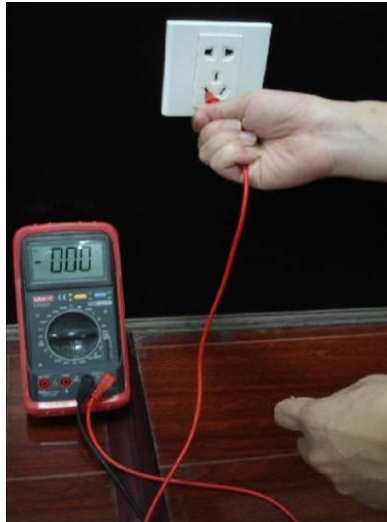
### **For L (live cable)**

Turn the digital multimeter to 750V AC, use your one hand to hold the metal end, and then the other hand insert the pen to the L port of the socket. See the following figure. If the multimeter shows 120, then you can see current live cable connection is standard. If the value is less than 60, then you can see current live cable connection is not proper or it is not the live cable at all.



### **For N (Neutral cable)**

Turn the digital multimeter to 750V AC, use your one hand to hold the metal end, and then the other hand insert the pen to the N port of the socket. See the following figure. If the multimeter shows 0, then you can see current N cable connection is standard. If the value is more than 10, then you can see there is inductive current and the neutral cable connection is not proper. If the value is 120, then you can know misconnected the neutral cable to the live cable.



## Appendix H RAID Introduction

### Appendix H-1 About RAID

RAID is an abbreviation for Redundant Array of Independent Disks.

It is to combine several independent HDDs (physical HDD) to form a HDD group (logic HDD) to provide more storage capacity and data redundancy. **Right now system supports RAID0/RAID1/RAID5/RAID10.** Each level has different data protection, data usage and performance levels. Please refer to the following sheet for detailed information.

### Appendix H-2 RAID Level

RAID Level	Note	Min HDD Needed
RAID0	<ul style="list-style-type: none"><li>● RAID0 has no redundancy and no verification function. RAID0 has at least two HDDs. It uses two HDDs (or more) to one and the data is saved in each HDD. The read-write speed multiples since the bandwidth multiples. Theoretically speaking, the speed of the RAID0 is the N of the each HDD. The security level decrease N since the data is saved in different HDD blocks instead of saving in one HDD. That is to say, once any of the HDD is damaged, system loses all data.</li><li>● RAID0 just purely enhances read-write performance while there is no data security guarantee. So, RAID0 is the most vulnerable RAID type and there is no redundancy function. Any HDD physical malfunction may affect all data. So, RAID 0 is not for the environment of high data security requirements.</li></ul>	2
RAID1	<ul style="list-style-type: none"><li>● RAID1 is a safe RAID mode. It realizes data redundancy function via HDD data mirroring, so there are backup data on these two HDDs respectively. When one HDD is malfunction, system can read data from the other HDD. So RAID 1 presents high redundant function. But the write performance may be low since the data needs to be written twice. RAID1 is an ideal option for the environment of high security concern instead of the speed.</li><li>● RAID1 has the highest unit cost in all the RAID types. But it provides general high data security and operation function. When one physical HDD is malfunction, system can auto switch to the mirroring HDD to read and write instead of rebuilding the invalid data.</li><li>● When one HDD is malfunction, you can just replace the damaged HDD. If the other HDD is damaged too before</li></ul>	2

RAID Level	Note	Min HDD Needed
	<p>you replace the first HDD, then the RAID1 is null. Because the data in the first malfunction HDD is not complete, system can not rebuild the data based on the first damaged HDD. Now you need to use the second malfunction HDD, usually you can get the all data again.</p>	
RAID5	<ul style="list-style-type: none"> <li>● RAID5 is a widely used RAID level. It needs to have at least three HDDs. It has two aspects into consideration: data security and HDD usage level. One malfunction HDD does not terminate service since the data is reading from the odd/even verification block. RAID5 is suitable for archiving and users have high demands of the performance and uninterrupted data access such as video editor.</li> <li>● When data in one of the HDDs is damaged, system can use the rest data and corresponding verification information to restore the lost data on the newly replaced HDD. Once another HDD is malfunction before the data be rebuilt on the newly replaced HDD, all data in the RAID5 will lose permanently.</li> <li>● About read/write performance, it is generally low since each write operation needs to calculate and write verification. But it has high read performance. Besides, each stripe group of the RAID5 has one stripe to write verification, all strips added together will use one physical HDD. That is to say, the space of the RAID5 logical HDD equals to all physical HDD space to minus one physical HDD space.</li> </ul>	3
RAID10	<ul style="list-style-type: none"> <li>● RAID1+0 is so called RAID10 standard. It integrates the features of RAID0 and RAID1, which makes it has the general advantages and disadvantages of RAID0 and RAID1 together. So it is secure and of high speed.</li> <li>● RAID10 shall at least consist of four HDDs. It has the extra high speed of RAID0 and high data security level of RAID1. But the HDD usage level is low. RAID10 is mainly for the database of general small space but has high speed and tolerance control level.</li> <li>● Actually, RAID10 is many groups of RAID1 to create RAID0. For each RAID1 group, it can tolerate one HDD offline. RAID10 is still valid if one HDD of the RAID1 group is malfunction while the data in the rest HDD is good. RAID10 is invalid once two HDDs of the one group of</li> </ul>	4

RAID Level	Note	Min HDD Needed
	RAID1 are damaged at the same time.	

### Appendix H-3 RAID Capacity Calculation

RAID Name	Total Space of the N disks.
RAID0	The total amount of $N \times \text{HDD} = \text{HDD space} \times \text{HDD amount}$ .
RAID1	$\text{Min}(\text{capacity}N)$
RAID5	$(N-1) \times \text{min}(\text{capacity}N)$
RAID10	$(N/2) \times \text{min}(\text{capacity}N)$
<b>Note</b>	
<b>capacityN refers to the disk of mini space among all the member HDDs.</b>	

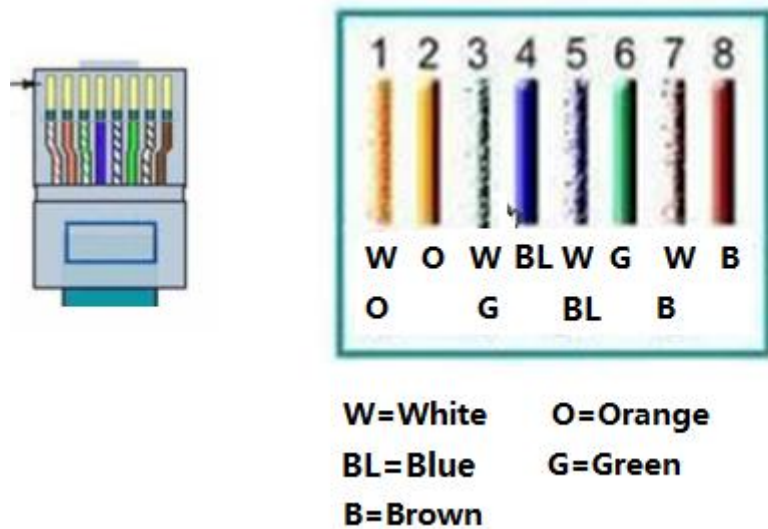
### Appendix H-4 RAID Usage Suggestions

- For the environment of high HDD read-write speed and no security requirements, you can use RAID0. Please note RAID0 is the most vulnerable level and has no redundant function. System loses all data once any HDD becomes malfunction.
- For the environment of high security level and no HDD read-write speed requirements, please use RAID1.
- For the environment of high security level and HDD read-write speed at the same time, please use RAID5.
- Always use the HDD of the same brand in case there is high HDD read-write speed difference. For RAID1/RAID5/RAID10, the HDD shall be of the same space and of the same model. It is to utmost exert the HDD usage rate and performance.

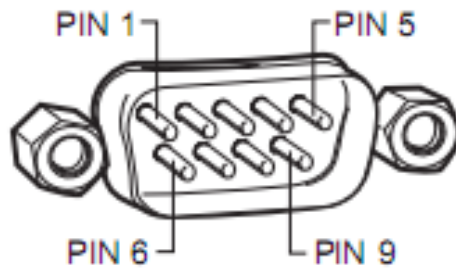
# Appendix I RJ45-RS232 Connection Cable Definition

Here we are going to make standard RS232 port and standard RJ45 (T568B).

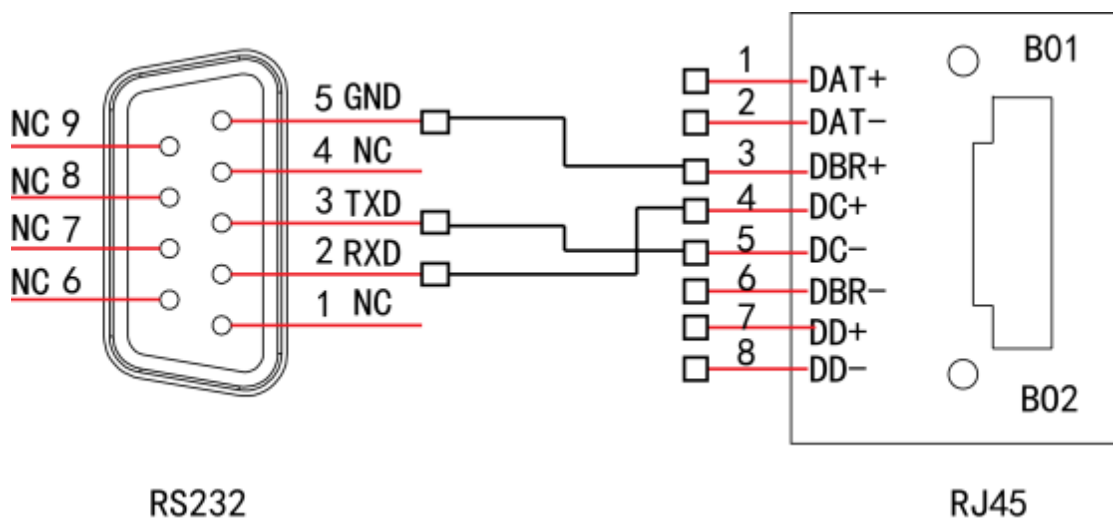
Please refer to the following figure for RJ45 cable definition.



Please refer to the following figure for RS232 pin definition.



Please refer to the following figure for connection information.

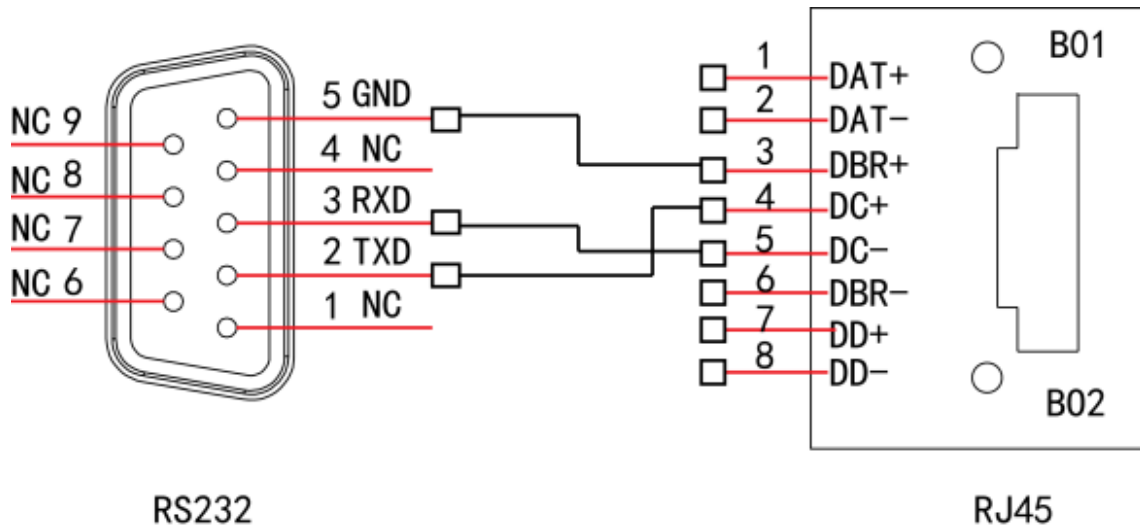


Please refer to the following sheet for detailed crossover cable connection information.



RJ45 (T568B)	RJ45 (Network cable )	RS232	Signal Description
4	Blue	2	RXD
5	White and blue	3	TXD
3	White and green	5	GND

Please refer to the following figure for straight cable connection information.



Please refer to the following sheet for straight connection information.

RJ45 (T568B)	RJ45 (Network cable)	RS232	Signal Description
4	Blue	3	RXD
5	White and blue	2	TXD
3	White and green	5	GND

**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 mentioned 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 retailer for more information.

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