Network Video Recorder

User’s Manual

V6.0.0

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.

FCC Information

CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC conditions:

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

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

FCC compliance:

This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. This equipment generate, uses and can radiate radio frequency energy and, if not installed and used in accordance with the guide, may cause harmful interference to radio communication.

- For class A device, these limits are designed to provide reasonable protection against harmful interference in a commercial environment. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
- For class B device, these limits are designed to provide reasonable protection against harmful interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.

Table of Contents

1 Features and Specifications 1
1.1 Overview 1
1.2 Features 1
1.3 Specifications 2
1.3.1 Super 4K S2 2U NVR Series 2
1.3.2 Super 4K S2 3U NVRSeries 5
1.3.3 Super 4U NVR Series 7
2 Product Structure 11
2.1 Checking the Components 11
2.2 Front Panel and Rear Panel 11
2.2.1 Super 4K S2 3U NVR Series 11
2.2.2 Super 4K S2 2U NVR Series 13
2.2.3 Super 4U NVR Series 14
2.3 Rear Panel 16
2.3.1 Super 4K S2 2U NVR Series 16
2.3.2 Super 4K S2 3U NVR Series 17
2.3.3 Super 4U NVR Series 18
2.4 Alarm Connection 19
2.4.1 Alarm Port 20
2.4.1.1 Super 4K S2 3U Series 20
2.4.1.2 Super 4K S2 2U Series 20
2.4.1.3 Super 4U NVR Series 21
2.4.2 Alarm Input Port 22
2.4.3 Alarm Output Port 22
2.4.4 Alarm Relay Specifications 22
2.5 Remote Control 23
2.6 Mouse Operation 25
2.7 Mouse Control 26
3 Local Basic Operation 28
3.1 Boot up and Shutdown 28
3.1.1 Boot up 28
3.1.2 Shutdown 28
3.2 Device Initialization 28
3.3 Resetting Password 31
3.4 Quick Settings 35
3.4.1 General 36
3.4.1.1 General 36
3.4.1.2 Date and Time 38
3.4.1.3 Holiday 39
3.4.2 Basic Network Settings 41
3.4.3 P2P 44
3.4.4 Registration 46
3.4.5 Configuring RAID 50

3.4.6 Schedule 52
3.4.6.1 Schedule Record 52
3.4.6.2 Schedule Snapshot 56
3.4.6.3 Record Control 58
3.4.6.4 Record Info 59
3.5 Remote Device 60
3.5.1 Remote Device Connection 60
3.5.1.1 Change IP address 60
3.5.1.2 IP Export 61
3.5.1.3 IP Import 62
3.5.2 Remote Device Initialization 63
3.5.3 Image 68
3.5.4 Encoding 70
3.5.4.1 Encode 70
3.5.4.2 Overlay 72
3.5.4.3 Snapshot 73
3.5.5 Channel Name 74
3.5.6 Upgrade 75
3.5.7 Remote Device Info 76
3.5.7.1 Device Status 76
3.5.7.2 Firmware 77
3.6 Preview 78
3.6.1 Preview 78
3.6.2 Navigation bar 79
3.6.2.1 Main Menu 79
3.6.2.2 Dual-screen operation 79
3.6.2.3 Output Screen 80
3.6.2.4 Previous screen/next screen 80
3.6.2.5 Tour 80
3.6.2.6 PTZ 80
3.6.2.7 Color 80
3.6.2.8 Image 80
3.6.2.9 Search 80
3.6.2.10 Broadcast 80
3.6.2.11 Alarm Status 80
3.6.2.12 Channel Info 80
3.6.2.13 Registration 81
3.6.2.14 Network 81
3.6.2.15 HDD Manager 81
3.6.2.16 USB Manager 81
3.6.3 Preview Control Interface 81
3.6.4 Right Click Menu 83
3.6.5 Edit View (Sequence) 84
3.6.6 Preview Display Effect Setup 86
3.6.6.1 Display 86
3.6.6.2 Preview Tour Parameters 88

3.6.6.3 Custom Split 89
3.6.7 Fisheye 91
3.6.7.1 Fisheye de-warp during preview interface 91
3.6.7.2 Fish eye de-warp during playback 93
3.6.8 Split Track 93
3.6.9 Smart Track 94
3.6.10 Real-Time Spot Temperature Measurement 95
3.6.11 Panoramic+PTZ Camera Preview 96
3.7 PTZ 97
3.7.1 PTZ Settings 97
3.7.2 PTZ Control 98
3.7.3 PTZ Function Setup 101
3.7.3.1 Preset Setup 101
3.7.3.2 Tour Setup 101
3.7.3.3 Pattern Setup 102
3.7.3.4 Scan Setup 102
3.7.4 Call PTZ Function 103
3.7.4.1 Call Preset 103
3.7.4.2 Call Pattern 103
3.7.4.3 Call Tour 103
3.7.4.4 Call Scan 103
3.7.4.5 Call Rotation 103
3.7.4.6 Aux 103
3.8 Record Settings 104
3.9 Search and Playback 104
3.9.1 Real-time Playback 104
3.9.2 Search Interface 104
3.9.2.1 Playback Control 109
3.9.2.2 Clip 111
3.9.2.3 Record Backup 111
3.9.3 Smart Search Playback 112
3.9.4 Mark Playback 113
3.9.5 Playback Image 114
3.9.6 Splice Playback 114
3.9.7 Smart Playback 115
3.9.7.1 IVS 115
3.9.7.2 Face Detection 118
3.9.7.3 ANPR 120
3.9.8 File List 123
3.9.9 Other Aux Functions 125
3.9.9.1 Digital Zoom 125
3.9.9.2 Switch Channel 125
3.10 Event Manager 125
3.10.1 Video Detect 125
3.10.1.1 Motion Detect 125
3.10.1.2 Video Loss 129

3.10.1.3 Tampering....130
3.10.1.4 Scene Changing....131
3.10.1.5 Video Quality Analytics....132
3.10.2 Smart Plan....134
3.10.3 IVS....136
3.10.3.1 Tripwire....137
3.10.3.2 Intrusion....142
3.10.3.3 Abandoned Object Detect....144
3.10.3.4 Missing Object Detection....145
3.10.3.5 Loitering Detection....147
3.10.3.6 People Gathering Detection....148
3.10.3.7 Fast moving....150
3.10.3.8 Global Setup....152
3.10.4 Face Detection....154
3.10.5 People Counting....155
3.10.6 Heat Map....156
3.10.7 ANPR....158
3.10.7.1 Plate recognition settings....158
3.10.7.2 B/W List....159
3.10.8 Audio Detect....160
3.10.9 Smart Track....161
3.10.10 Alarm Settings....166
3.10.11 Abnormality....171
3.10.12 Alarm output....174
3.10.13 Temperature Alarm....174
3.10.14 POS....176
3.10.14.1 Privacy Setup....178
3.10.14.2 Connection type....179
3.11 Network....180
3.11.1 Network Settings....180
3.11.1.1 TCP/IP....180
3.11.1.2 Port....183
3.11.1.3 PPPoE....184
3.11.1.4 DDNS....185
3.11.1.5 UPnP....186
3.11.1.6 IP Filter....188
3.11.1.6.1 IP Filter....188
3.11.1.6.2 Sync Time Right....189
3.11.1.7 Email....191
3.11.1.8 SNMP....192
3.11.1.9 Multicast....194
3.11.1.10 Alarm Centre....195
3.11.1.11 Auto register....195
3.11.1.12 Cluster IP....196
3.11.1.13 P2P....197
3.11.2 Network Test....197

3.11.2.1 Network Test....197
3.11.2.2 Network Load....198
3.12 Storage....199
3.12.1 Basic....199
3.12.2 Schedule....200
3.12.3 HDD....200
3.12.4 FTP....201
3.12.5 Record Control....203
3.12.6 HDD Information....203
3.12.7 HDD Group....205
3.12.8 HDD Detect....205
3.12.8.1 Manual Detect....206
3.12.8.2 Detect Report....206
3.12.9 ISCSI....209
3.12.10 RAID....211
3.12.10.1 RAID Config....211
3.12.10.2 RAID Info....212
3.12.10.3 Hotspare Disks....213
3.13 Device Maintenance and Manager....214
3.13.1 Account....214
3.13.1.1 User....214
3.13.1.1.1 Add User....214
3.13.1.1.2 Modify user....216
3.13.1.1.3 Change Password....217
3.13.1.2 Modify Group....217
3.13.1.3 Security Question....219
3.13.1.4 ONVIF User....220
3.13.1.5 Online User....222
3.13.2 System Info....222
3.13.2.1 Version....222
3.13.2.2 BPS....223
3.13.3 Voice....223
3.13.3.1 File Manage....224
3.13.3.2 Schedule....225
3.13.4 Event Information....225
3.13.4.1 Alarm Status....226
3.13.4.2 Video Quality Analytics....226
3.13.4.3 People Counting....227
3.13.4.4 Heat Map....228
3.13.5 Log....229
3.13.6 Broadcast....230
3.13.7 Security....232
3.13.7.1 IP Filter....232
3.13.7.2 System Service....234
3.13.8 Auto Maintain....235
3.13.9 Backup....235

3.13.9.1 File Backup....235
3.13.9.2 Import/Export....237
3.13.9.3 Backup Log....238
3.13.9.4 USB Device Auto Pop-up....238
3.13.10 Default....239
3.13.11 Upgrade....240
3.13.11.1 File Update....240
3.13.11.2 Online Upgrade....241
3.13.11.3 Uboot....242
3.14 Logout /Shutdown/Restart....242
4 Web Operation....244
4.1 Network Connection....244
4.2 Initializing the Device....244
4.3 Log in....246
4.4 Reset Password....252
4.5 Preview....253
4.5.1 Real-time Monitor channel....253
4.5.1.1 Smart Track....255
4.5.1.2 Fisheye De-Warp....255
4.5.1.3 Split Track....256
4.5.2 Voice Talk....257
4.5.3 PTZ....258
4.5.4 Image / Alarm Output....259
4.5.5 Panoramic+PTZ Camera Preview....260
4.5.6 Zero-Channel Preview....260
4.5.7 Real-Time Spot Temperature Measurement....261
4.6 Setup....262
4.6.1 Camera....262
4.6.1.1 Registration....262
4.6.1.1.1 Registration....262
4.6.1.1.2 IPC Upgrade....268
4.6.1.2 Image....268
4.6.1.3 Encode....271
4.6.1.3.1 Encode....271
4.6.1.3.2 Snapshot....272
4.6.1.3.3 Video Overlay....273
4.6.1.3.4 Path....273
4.6.1.4 Camera Name....274
4.6.2 Network....274
4.6.2.1 TCP/IP....275
4.6.2.2 Port....278
4.6.2.3 PPPoE....279
4.6.2.4 DDNS....279
4.6.2.5 Sync Time Right....281
4.6.2.6 Email....282
4.6.2.7 UPnP....283

4.6.2.8 SNMP 284
4.6.2.9 Multicast 286
4.6.2.10 Auto Register 286
4.6.2.11 Alarm Centre 287
4.6.2.12 P2P 287
4.6.3 Temperature Measurement 288
4.6.3.1 Temp Alarm 288
4.6.3.2 Rule Settings 290
4.6.3.2.1 Temp Rule 290
4.6.3.2.2 Temp Comprison 292
4.6.3.3 Global 293
4.6.3.4 Fire Alarm 296
4.6.3.5 Hot Trace 298
4.6.4 Event 300
4.6.4.1 Video detect 300
4.6.4.1.1 Motion Detect 300
4.6.4.1.2 Video Loss 304
4.6.4.1.3 Tampering 305
4.6.4.1.4 Scene Change 306
4.6.4.1.5 Video analytics 307
4.6.4.1.6 Video Quality Analytics 307
4.6.4.2 IVS Plan 309
4.6.4.3 IVS 310
4.6.4.3.1 IVS 310
4.6.4.3.2 Global Config 319
4.6.4.4 Face Detect 320
4.6.4.5 People Counting 320
4.6.4.6 Heat Map 321
4.6.4.7 Audio Detect 322
4.6.4.8 Smart Track 323
4.6.4.9 Alarm 326
4.6.4.9.1 Local Alarm 326
4.6.4.9.2 Net Alarm 329
4.6.4.9.3 IPC external alarm 330
4.6.4.9.4 IPC Offline Alarm 330
4.6.4.10 Abnormality 331
4.6.4.11 Alarm Output 333
4.6.4.12 POS 333
4.6.5 Storage 335
4.6.5.1 Basic 335
4.6.5.2 Schedule 335
4.6.5.2.1 Record 335
4.6.5.2.2 Snapshot 338
4.6.5.3 HDD Manager 338
4.6.5.4 FTP 339
4.6.5.5 Record Control 340

4.6.5.6 Advanced 340
4.6.5.6.1 HDD 341
4.6.5.6.2 Main Stream 341
4.6.5.6.3 Sub Stream 341
4.6.5.6.4 Snapshot 342
4.6.5.7 RAID Manager 342
4.6.5.7.1 RAID Config 342
4.6.5.7.2 RAID Info 343
4.6.5.7.3 Hotspare disks 343
4.6.5.8 iSCSI 344
4.6.6 System 346
4.6.6.1 General 346
4.6.6.1.1 General 346
4.6.6.1.2 Date and time 347
4.6.6.1.3 Holiday Setup 348
4.6.6.2 Display 348
4.6.6.2.1 Display 348
4.6.6.2.2 Tour 349
4.6.6.2.3 Custom Split 350
4.6.6.3 PTZ 351
4.6.6.4 Voice 352
4.6.6.4.1 File List 352
4.6.6.4.2 Schedule 353
4.6.6.5 Account 354
4.6.6.5.1 User name 354
4.6.6.5.2 Group 358
4.6.6.5.3 ONVIF User 360
4.6.6.6 Security 360
4.6.6.7 Auto maintain 362
4.6.6.8 Import/Export 362
4.6.6.9 Default 363
4.6.6.10 Upgrade 363
4.6.6.10.1 File Upgrade 363
4.6.6.10.2 Cloud Upgrade 363
4.6.7 Cluster Service 364
4.6.7.1 Cluster IP 364
4.6.7.2 Master Device 365
4.6.7.3 Slave Device 366
4.6.7.4 Record Transfer 367
4.6.7.5 Cluster control 368
4.6.7.5.1 Cluster control 368
4.6.7.5.2 Arbitration IP 369
4.6.7.6 DCS Log 369
4.7 Playback 369
4.7.1 Search record 370
4.7.2 File List 371

4.7.3 Playback 371
4.7.4 Download 372
4.7.5 Download more 373
4.7.5.1 Download By File 373
4.7.5.2 Download by Time 374
4.7.5.3 Watermark 375
4.7.6 Lock file 375
4.7.7 Unlock file 375
4.8 Smart Search 376
4.8.1 IVS 376
4.8.2 ANPR 377
4.8.3 Face Detection 378
4.9 Alarm 380
4.10 Information 381
4.10.1 Version 381
4.10.2 Log 381
4.10.3 Online User 382
4.10.4 Video Quality Analytics 383
4.10.5 People Counting 384
4.10.6 Heat Map 384
4.10.7 HDD 384
4.11 Log Out 385
5 Appendix A HDD Capacity Calculation 386

General

This user’s manual (hereinafter referred to be "the Manual") introduces the functions and operations of the Network Video Recorder (NVR) devices (hereinafter referred to be "the Device").

Safety Instructions

The following categorized signal words with defined meaning might appear in the Manual.

Signal Words	Meaning
DANGER	Indicates a high potential hazard which, if not avoided, will result in death or serious injury.
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.
ELECTRICITY	Indicates dangerous high voltage. Take care to avoid coming into contact with electricity.
LASER BEAM	Indicates a laser radiation hazard. Take care to avoid exposure to a laser beam.
ESD	Electrostatic Sensitive Devices. Indicates a device that is sensitive to electrostatic discharge.
TIPS	Provides methods to help you solve a problem or save you time.
NOTE	Provides additional information as the emphasis and supplement to the text.

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 including 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 manual, CD-ROM, QR code or our official website. If there is inconsistency between paper 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.

Important Safeguards and Warnings

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

Operating Requirement

- Install the PoE front-end device indoors.
- The device does not support wall mount.
- Don’t place and install the device in an area exposed to direct sunlight or near heat generating device.
- Don’t install the device in a humid, dusty or fuliginous area.
- Keep its horizontal installation, or install it at stable places, and prevent it from falling.
- Don’t drip or splash liquids onto the device; don’t put on the device anything filled with liquids, in order to prevent liquids from flowing into the device.
- Install the device at well-ventilated places; don’t block its ventilation opening.
- Use the device only within rated input and output range.
- Don’t dismantle the device arbitrarily.
- Transport, use and store the device within allowed humidity and temperature range.

Power Requirement

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

1 Features and Specifications

1.1 Overview

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

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

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

1.2 Features

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

Network Monitor	• Through network, sending audio/video data compressed by IPC or NVS to client-ends, then the data will be decompressed and display. • Support max 128 connections at the same time. • Transmit audio/video data by HTTP, TCP, UDP, MULTICAST, RTP/RTCP and etc. • Transmit some alarm data or alarm info by SNMP. • Support WEB access in WAN/LAN.
Window Split	• Adopt the video compression and digital process to show several windows in one monitor. Support 1/4/8/9/16/ 25/36-window display when preview and 1/4/9/16-window display when playback.
Record	• Support normal/motion detect/alarm record function. Save the recorded files in the HDD, USB device, client-end PC, or network storage server. You can search or playback the saved files at the local-end or via the Web/USB device.
Backup	• Support network backup, USB2.0 record backup function, the recorded files can be saved in network storage server, peripheral USB2.0 device, burner and etc.
Network Management	• Supervise NVR configuration and control power via Ethernet. • Support management via WEB.
Peripheral Equipment Management	• Support peripheral equipment management such as protocol setup and port connection. • Support transparent data transmission such as RS232 (RS-422), RS485 (RS-485).
Auxiliary	• Support switch between NTSC and PAL. • Support real-time system resources information and running statistics display. • Support log file. • Local GUI output. Shortcut menu operation via mouse. • IR control function (For some series product only.). Shortcut menu operation via remote control. • Support IPC or NVS remote video preview and control.

1.3 Specifications

1.3.1 Super 4K S2 2U NVR Series

Model		**32-ch**	**64-ch**	**128-ch**	**64-ch with redundant power supplying**	**128-ch with redundant power supplying**
System	**Main Processor**	Industrial X86 multiple-core processor				
	Operation System	Embedded LINUX system				
	System Resources	Max 32-channel× 1080P connection	Max 64-channel× 1080P connection	Max 128-channel ×1080P connection	Max 64-channel× 1080P connection	Max 128-channel×1080P connection
	User	WEB, local GUI				

Model		32-ch	64-ch	128-ch	64-ch with redundant power supplying	128-ch with redundant power supplying
	Interface					
Audio Parameters	**Audio Input**	1-ch MIC bidirectional talk audio input				
	Audio Output	1-ch MIC bidirectional talk audio output				
	Audio Compression Standard	G.711a				
Video Parameters	**Video Input**	32-ch network compression video input	64-ch network compression video input	128-ch network compression video input	64-ch network compression video input	128-ch network compression video input
	Video Output	1-ch VGA output, 2-ch HDMI output				
	Video Compression Standard	H.264/ H.265				
	Window Split Mode	The 1st screen: 1/4/8/9/16/25/36-screen. The 2nd screen: 1/4/8/9/16-screen.				
Alarm Parameters	**Alarm Input**	16-channel				
	Alarm Output	8-channel relay output				
Decode Parameters	**Decode Type**	H.264;MPEG4;H.265				
	Decode Capability	16-channel×1080P				
Network Function	**Record Mode**	Manual recording, motion detection recording, schedule recording and alarm recording. Priority: Manual recording>card number recording-> alarm recording>motion detection recording>schedule recording.				
	Multi-Channel Playback	Max support 128M playback at the same time.				
	Motion Detect	Each screen supports 396/330((PAL 22×18, NTSC 22×15) detection zones. Various sensitivity levels.				
	Privacy	Each channel supports 4 privacy mask zones.				

Model		32-ch	64-ch	128-ch	64-ch with redundant power supplying	128-ch with redundant power supplying
	Mask					
	Record Mode	Overwrite				
	Backup Mode	Flash disk, eSATA, DVD burner.				
	Network Protocol	SNMP/FTP/ISCSI/UPNP				
	SATA Port	8				
	eSATA Port	1				
	RS232 Port	1 RS232 port. To debug and transmit COM data.				
	RS485 Port	1 RS485 port. To control peripheral PTZ and etc. Support various protocols.				
	USB Port	2 USB 2.0 ports and 2 USB3.0 ports.				
	HDMI Port	2 HDMI ports				
	Network Port	2 RJ45 10/100/1000Mbps self-adaptive Ethernet ports				
	Power On-off Button	One at the front panel.			N/A	
	Power Button	One at the front panel.				
	IR Remote Control Receiver	N/A				
	Indicator Light	● 1 HDD alarm indicator light ● 1 system running status indicator light ● 1 network alarm indicator light ● 1 power light	● 1 HDD alarm indicator light ● 1 alarm indicator light ● 1 network alarm indicator light ● 1 power light			
Gener	**Power**	AC110~240V，50~60Hz			AC100~240V，50~60Hz	

Model		32-ch	64-ch	128-ch	64-ch with redundant power supplying	128-ch with redundant power supplying
al Parameters	Power Consumption	＜20W（No HDD）, <90w（4T*8）				
	Working Temperature	-10℃～+55℃				
	Working Humidity	10%～90%				
	Dimensions(L×W×H)	450.8mm×482mm(with ear) ×91mm（ with foot pad） 450.8mm×440mm(without ear) ×90.4mm（without foot pad）	454.9mm×486mm(with ear) ×91mm（with foot pad） 454.9mm×444mm(without ear) ×90.4mm（without foot pad）		471.8mm×486mm(with ear) ×91mm（with foot pad） 471.8mm×444mm(without ear) ×90.4mm（without foot pad）	
	Dimensions(L×W×H) (With Package)	571*571*225mm			632*585*242mm	
	Weight	8kg（No HDD）			8.7kg（No HDD）	
	Installation Mode	Rack/desktop				

1.3.2 Super 4K S2 3U NVRSeries

Specifications		Super 4K S2 3U NVR Series
System	Main Processor	Industrial embedded micro processor
	Operation System	Embedded LINUX system
	System Resources	Max 64/128-channel×1080P connection, Total bandwidth (main stream 256M, sub stream 128M.)
	User Interface	WEB, local GUI
Audio Parameters	Audio Input	1-ch MIC bidirectional talk audio input
	Audio Output	1-ch MIC bidirectional talk audio output
	Audio Compression Standard	G.711a

Video Parameters	**Video Input**	64/128-ch network compression video input
	Video Output	HDMI (support 3840*2160)
	Video Compression Standard	H.264
	Window Split Mode	The 1st screen: 1/4/8/9/16/25/36-screen. The 2nd screen: 1/4/8/9/16-screen.
Alarm Parameters	**Alarm Input**	16-channel
	Alarm Output	8-channel relay output
Decode Parameters	**Decode Type**	H.264;MPEG4
	Decode Capability	48-channel×D1;8-channel×1080P;2-channel 800w
Functions	**Record Mode**	Manual recording, motion detection recording, schedule recording and alarm recording. Priority: Manual recording>card number recording-> alarm recording>motion detection recording>schedule recording.
	Multi-Channel Playback	Max support 128M playback at the same time.
	Motion Detect	Each screen supports 396/330((PAL 22×18, NTSC 22×15) detection zones. Various sensitivity levels.
	Privacy Mask	Each channel supports 4 privacy mask zones.
	Record Mode	Overwrite
	Backup Mode	Flash disk, eSATA, DVD burner.
Network Function	**Network Protocol**	SNMP,FTP,ISCSI,UPNP
	SATA Port	16 SATA Ports
	eSATA Port	1 eSATA port
	RS232 Port	1 RS232 port. To debug and transmit COM data.
	RS485 Port	1 RS232 port. To control peripheral PTZ and etc. Support various protocols.
	USB Port	3 USB 2.0 ports and 1 USB3.0 port.
	HDMI Port	2 HDMI ports
	Network Port	4 RJ45 10/100/1000Mbps self-adaptive Ethernetet ports 2 1000Mbps self-adaptive fiber ports
	SAS Port	1
	Power On-off Button	N/A
	Power Button	One at the front panel.
	IR Remote Control Receiver	One at the front panel.

	Indicator Light	35 indicator lights. ● 1 system HDD indicator light ● 1 alarm indicator light ● 1 network info indicator light ● 16 HDD power indicator lights ● 16 HDD read/write indicator lights
General Parameters	**Power**	AC100~240V,50~60Hz
	Power Consumption	＜170W（With 3T HDD）
	Working Temperature	-10℃～55℃
	Working Humidity	10%～90%（No condensation）
	Dimensions (L×W×H)	531.9(with the LCD length)mm×485mm(with ear)×133.2mm(H) 518(without the LCD length)×482mm(without ear)×133.2mm(H)
	Weight	17.45Kg（No HDD）
	Installation Mode	Rack/desktop

1.3.3 Super 4U NVR Series

Specifications		**Super 4U NVR**
System	**Main Processor**	Industrial X86 multiple-core processor
	Operation System	Embedded LINUX system
	Power	Support hot swap
	Fan	Redundant dual ball bearing fan MTBF>100 thousand hours Support online replacement.
	Memory	8GB Server-level
	Case	1.2mm extra-thickness hot-dip galvanized steel. High accuracy aluminum alloy slider. Self-developed patent removable HDD bracket.
	User Interface	WEB, local GUI
	Network Protocol	RTP/RTCP, RTSP, UDP, HTTP, NTP, SNMP
Compression Standard	**Image Compression Standard**	H.264, MotionJpeg,Mpeg4
	Audio Compression Standard	G711A, MpegLayerII
Video Monitor	**Image Display**	1/4/8/9/16/25/36/64-window
	Video Output	1-channel VGA output 2-channel HDMI output LCD output at the front panel（For special series only.）

		Support VGA/HDMI/LCD（For special series only）video output at the same time.
	Monitor Tour	Support monitor tour functions such as motion detection, and schedule auto control.
	Resolution	Real-time monitor VGA: 1280*1024, 1920*1080, 1024*768； HDMI : 1280*1024、1920*1080
	Image Information	Channel information, time information.
	Color Configuration	Hue, brightness, contrast, saturation and gain setup for each channel.
Audio	**Audio Input**	1-chanel audio input
	Audio Output	1-channel audio output
	Bidirectional Talk	1-channel bidirectional talk input
HDD	**HDD Amount**	24 HDDs
	HDD Installation	Independent HDD bracket, support HDD hot swap.
	Disk Array Enclosure/Backup Port	eSATA port
	HDD Backup	Support global hotspare HDD
	HDD Mode	One HDD/RAID0/RAID1/RAID5
	HDD Manager	Non-working HDD adopts hibernation function. It is suitable to guarantee sound ventilation, lower power consumption and enhance HDD life span.
Record and Playback	**Record Mode**	Manual recording, motion detection recording, schedule recording and alarm recording. Priority: Manual recording>card number recording-> alarm recording>motion detection recording>schedule recording.
	Record Repeat Mode	When hard disk is full, system can overwrite previous video file.
	Record Search	Various search engines such as time, type and channel.
	Playback Mode	Various fast play, slow play speeds, manual frame by frame playback and reverse play mode.
	Various File Switch Ways	Can switch to previous or next file or any file in current play list. Can switch to file on other channel of the same time. (If there is a file) Support file continuous play, when a file is end system auto plays the next file in the current channel
	Multi-Channel Playback	Support 64-channel D1 playback at the same time.
Backup function	**Backup Mode**	HDD backup. Redundancy HDD backup.
		Support peripheral USB backup device. (Flash disk, portable disk and etc.)
		Support peripheral eSATA device.
		Support network download and save.

Network Function	**Network control**	View monitor channel remotely.
		NVR configuration through client-end and web browser
		Upgrade via client or browser to realize remote maintenance.
		View alarm information such as motion detection and video loss via client.
		Support network PTZ lens control
		File remote download and backup and playback
		Multiple devices share information via corresponding software such as professional surveillance software (PSS)
		Network alarm input and output
		Bidirectional audio.
	Video Loss	Alarm can activate record, external alarm, screen message prompt, or audio.
	External Alarm	Support record activation function or activate external alarm or screen message in specified period.
	Manual Alarm Control	Enable or disable alarm input channel Simulate alarm signal to specific alarm output channel.
	Alarm Input	4-channel alarm input (NO/NC)
	Alarm Output	4-channel relay output
	Alarm Relay	30VDC 2A，125VAC 1A（activation output）
Port	**USB port**	2 USB 2.0 ports, 2 USB 3.0 ports
	Network Amount	4 100/1000Mbps Ethetnet ports
	Network Features	4 Ethernet port load balance or 4 independent 1000Mbps Ethernet ports.
	RS485 RS232	Serial port protocol communication
User Management	**User Management**	Multi-lever user management; various management modes Integrated management for local user, serial port user and network user. Configurable user power.
		Support user /group and its corresponding rights modification. No limit to the user or group amount.
	Password Authentication	Password modification Administrator can modify other user’s password.
		Account lock strategy Five times login failure in thirty minutes may result in account lock.
Upgrade		Client-end/update tool.
		USB device
Login, Logout and Shutdown		Password login protection to guarantee safety
		User-friendly interface when login. Provide the following options: Logout /shutdown/ restart.
		Right authentication when shut down to make sure only those proper people can turn off NVR.
General	**Power**	100V～240V，47～63Hz

Parameters	**Power Consumption**	200～400W（With HDD）
	Working Temperature	0℃～40℃
	Working Humidity	10%～80%（No condensation）
	Storage Environment Temperature	-20℃～70℃
	Storage environment Humidity	5%～90%（No condensation）
	Working Altitude	-60m～5000m
	Dimensions（L×W×H）	545mm（with the LCD length）×482.6mm（With ear）×175mm（4U case） 514mm（without the LCD length）×482.6mm（With ear）×175mm（4U case） 493.5mm（without the LCD length）×480mm（Without ear）×175mm 4U case）
	Weight	27Kg（No package materials, no HDD）
	Installation Mode	Standard 19-inch rack installation Rack/desktop
	HDD Amount	24 SATA　HDD (Max 4T/HDD）

2 Product Structure

2.1 Checking the Components

When you receive the Device, please check against the following checking list. If any of the items are missing or damaged, contact the local retailer or after-sales engineer immediately.

Sequence	Checking items		Requirement
1	Package	Appearance	No obvious damage.
		Packing materials	No broken or distorted positions that could be caused by hit.
2	Labels	Labels on the device	Not torn up. NOTE Do not tear up or throw away the labels; otherwise the warranty services are not ensured. You need to provide the serial number of the product when you call the after-sales service.
3	Device	Appearance	No obvious damage.
		Data cables, power cables, fan cables, mainboard	No connection loose.

2.2 Front Panel and Rear Panel

NOTE

The following front panel and rear panel figures are for reference only. The actual product shall prevail.

2.2.1 Super 4K S2 3U NVR Series

For the product of LCD, the front panel of super 4K S2 3U NVR is shown as below. See Figure 2-1.

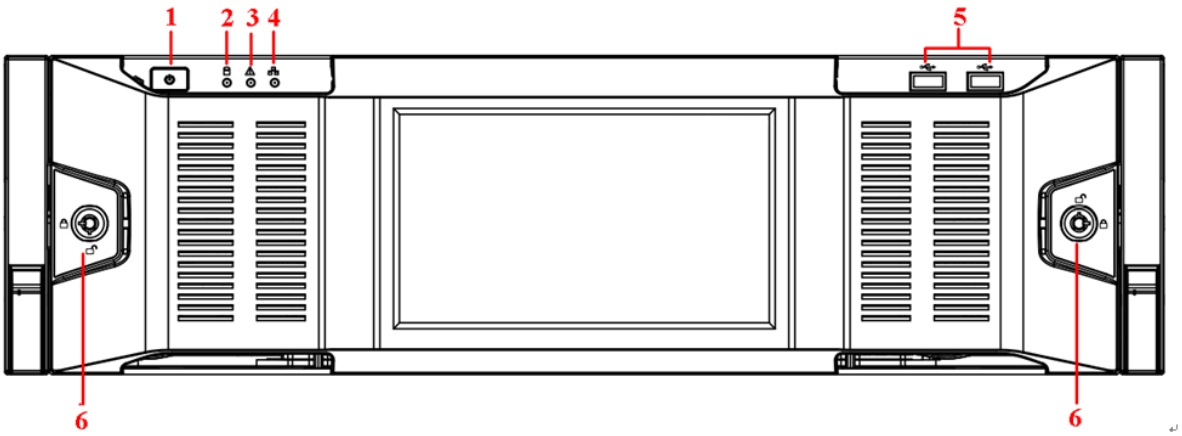


Figure 2-1

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

SN	Name	Function
1	Power button	Press it once to turn on the device. Press it for a long time to turn off the device. (**Usually we do not recommend**). Press power button for a long time or pull out the power cable may result in device auto restart.
2	System HDD Indicator light	The blue light becomes on after system booted up properly. In the system HDD, there are device important configuration file, factory default configuration file, and device initial boot up data.
3	Alarm indicator light	The alarm indicator light becomes on once an alarm occurred. It becomes on via the software detection. The alarm includes local alarm, no disk and etc. The indicator light becomes on when there is a local alarm.
4	Network indicator light	The blue network indicator light is on after you connected the device to the network.
5	USB port	/
6	Front panel lock	/

For general super 4K S2 3U NVR series, the front panel is shown as in Figure 2-2.

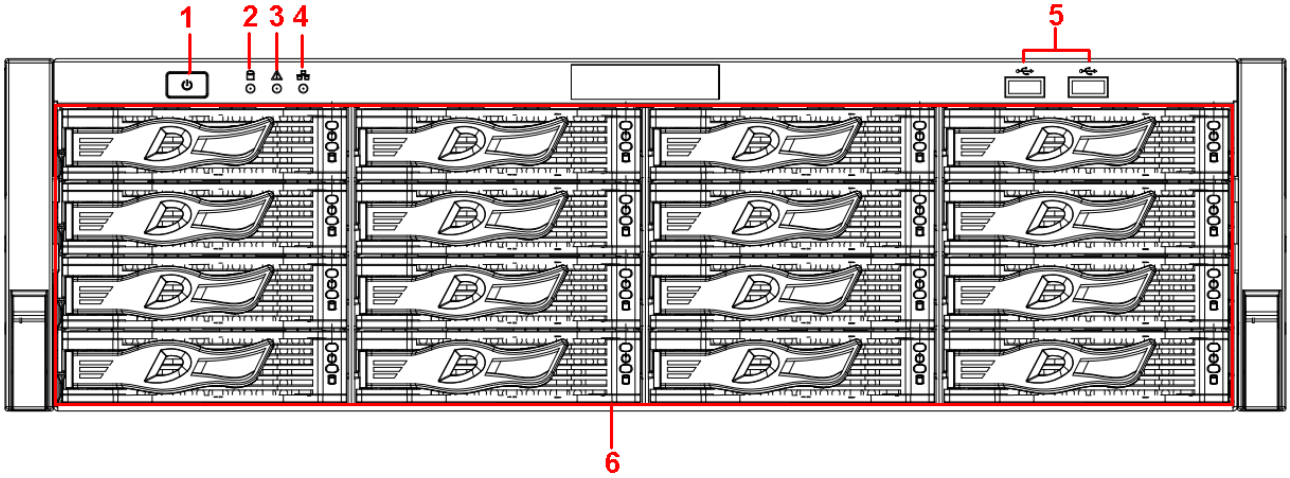


Figure 2-2

Please refer to the following sheet for detailed information.

SN	Name	Function
1	Power button	Press it once to turn on the device. Press it for a long time to turn off the device (**Usually we do not recommend**). Press power button for a long time or pull out the power cable may result in device auto restart.
2	System HDD Indicator light	The blue light becomes on after system booted up properly. In the system HDD, there are device important configuration file, factory default configuration file, device initial boot up data.
3	Alarm indicator light	The alarm indicator light becomes on once an alarm occurred. It becomes on via the software detection. The indicator light becomes on when there is a local alarm.

4	Network indicator light	The blue network indicator light is on after you connected the device to the network.
5	USB port	/
6	16 HDD slot	/

After you remove the front panel, you can see there are 16 HDDs. From the left to the right and from the top to the bottom, it ranges from 1~4, 5~8, 6~12, 13~16. See Figure 2-3.

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

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

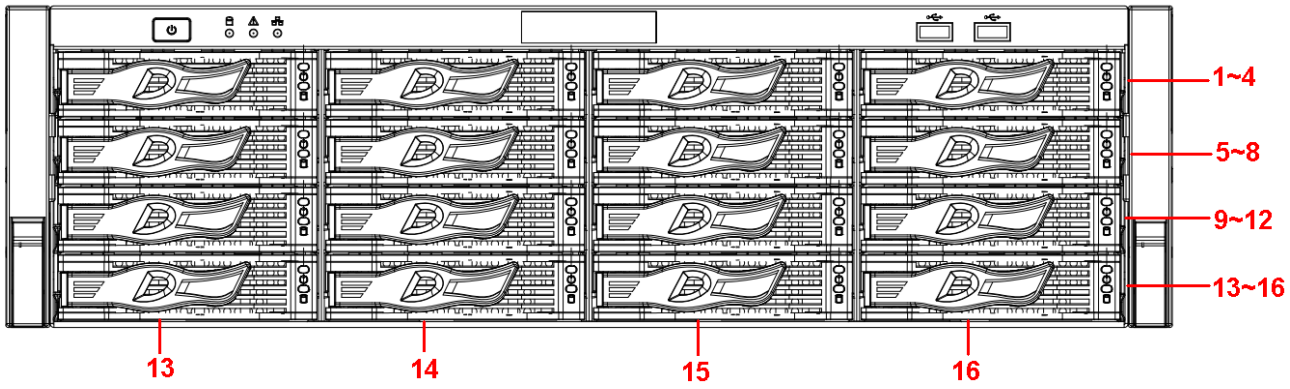


Figure 2-3

2.2.2 Super 4K S2 2U NVR Series

The super 4K S2 2U 32-channel NVR front panel is shown as in Figure 2-4.

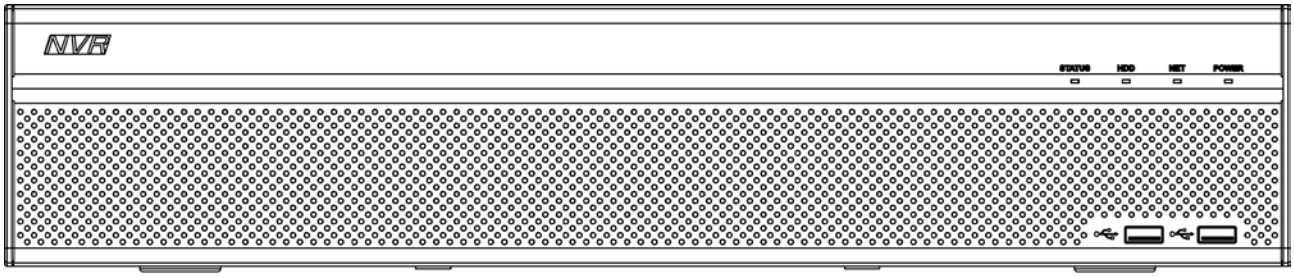


Figure 2-4

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

Icon	Name	Function
STATUS	Status indicator light	The blue light is on when the device is working properly.
HDD	HDD status indicator light	The blue light is on when the HDD is malfunction.
NET	Network status indicator light	The blue light is 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
	USB2.0 port	Connect to peripheral USB 2.0 storage device, mouse, burner and etc.

The super 4K S2 2U 64/128-channel NVR front panel is shown as in Figure 2-5.

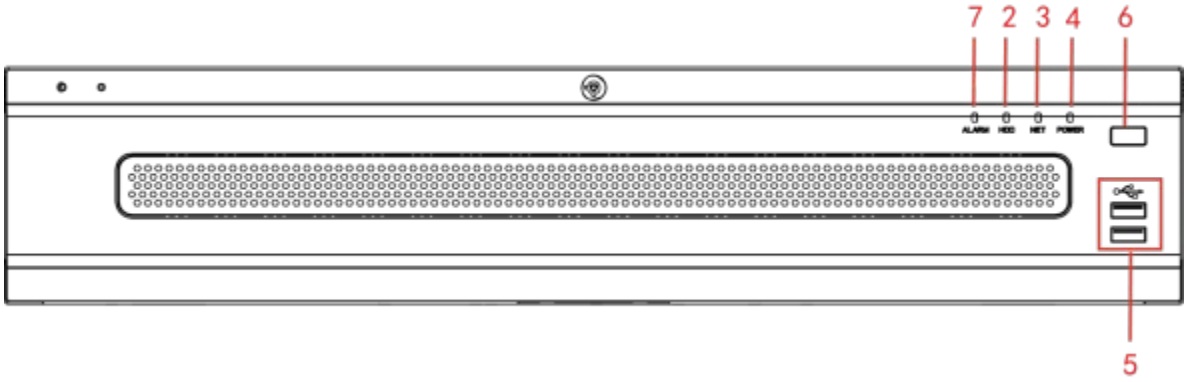


Figure 2-5

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

SN	Icon	Function	SN	Icon	Function
1	Status	Status indicator light	2	HDD	HDD indicator light
3	NET	Network indicator light	4	Power	Power indicator light
5		USB port	6		Power on-off button
7	ALARM	Alarm indicator light	-	-	

2.2.3 Super 4U NVR Series

For the product of the LCD screen, the front panel is shown as in Figure 2-6.

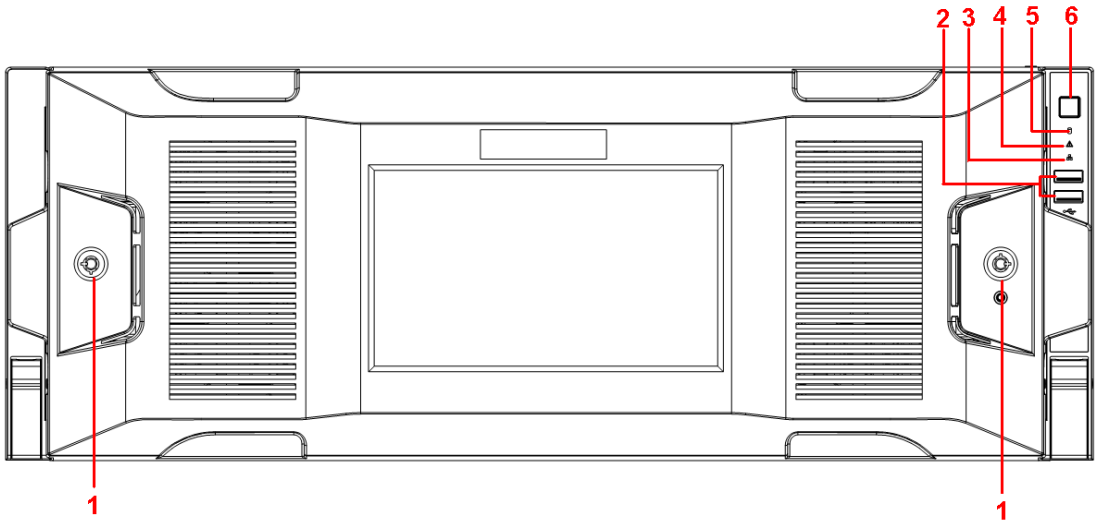


Figure 2-6

SN	Icon	Name	Function

SN	Icon	Name	Function
1		Front panel lock	/
2		USB port	/
3		Network indicator light	The network indicator light is blue and it flashes when you connect the device to the network.
4		Alarm indicator light	The alarm indicator light becomes on once an alarm occurred. It becomes on via the software detection. The indicator light becomes on when there is a local alarm.
5		System HDD Indicator light	The blue light becomes on when system is reading or writing the system HDD. In the system HDD, there are device important configuration file, factory default configuration file, device initial boot up data.
6		Power button	Press it once to turn on the device. Press it for a long time to turn off the device (**Usually we do not recommend**). Press power button for a long time or pull out the power cable may result in device auto restart.

After you remove the front panel, you can see there are 24 HDDs. From the left to the right and from the top to the bottom, it ranges from 1~4, 5~8, 9~12, 13~16, 17～20, 21～24. See Figure 2-7.

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

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

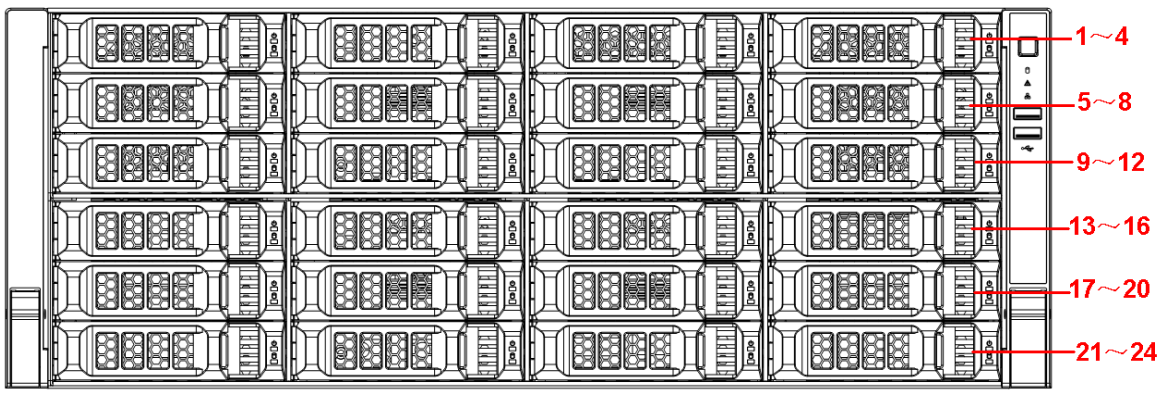


Figure 2-7

2.3 Rear Panel

2.3.1 Super 4K S2 2U NVR Series

The super 4K S2 32-channel 2U series rear panel is shown as in Figure 2-8.

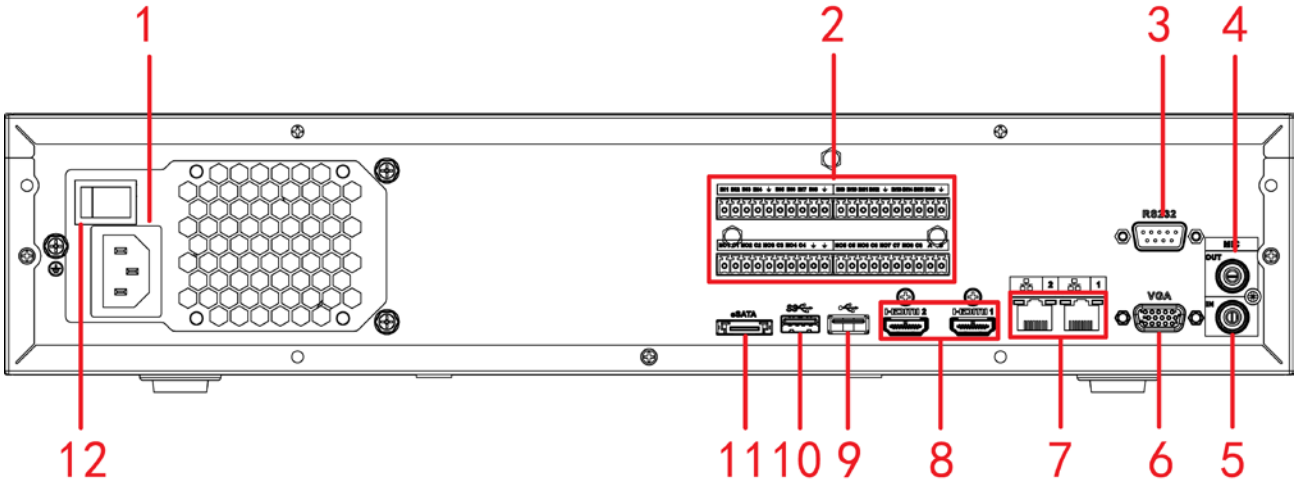


Figure 2-8

The super 4K S2 64-channel 2U/super 4K S2 128-channel 2U general series rear panel is shown as in Figure 2-9.

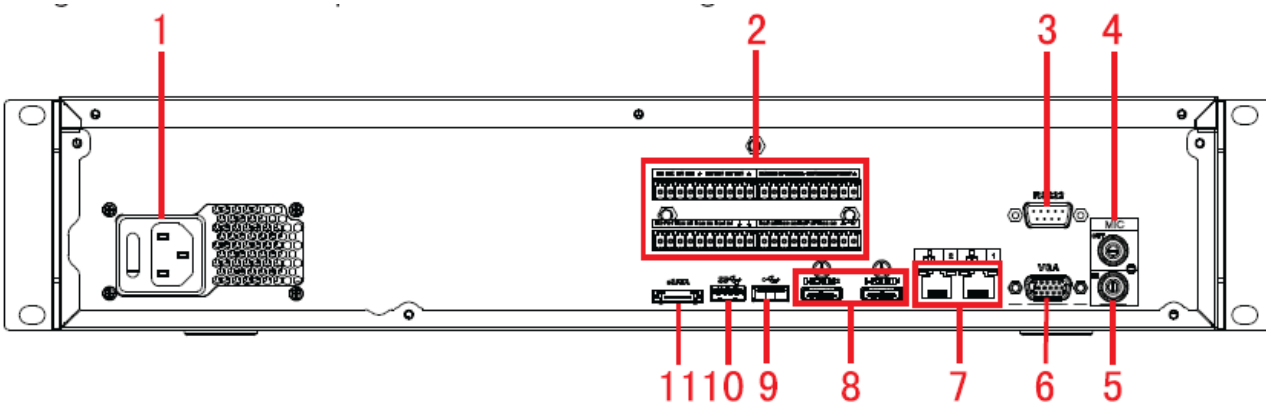


Figure 2-9

The super 4K S2 64-channel 2U/super 4K S2 128-channel 2U redundant power series rear panel is shown as in Figure 2-10.

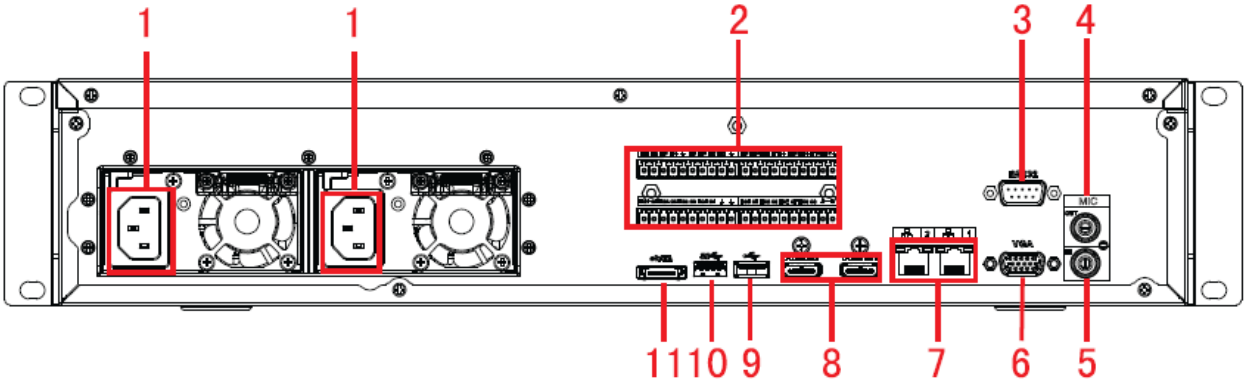


Figure 2-10

Please refer to the following sheet for detailed information.

SN	Function	SN	Function
1	Power socket	2	Alarm input/alarm output/RS485 port.
2	RS232 port	4	Audio output
5	Audio input	6	VGA port
7	Network port	8	HDMI port
9	USB 2.0 port	10	USB 3.0 port
11	eSATA port		

2.3.2 Super 4K S2 3U NVR Series

The general series rear panel of super 4K S2 3U is shown as in Figure 2-11.

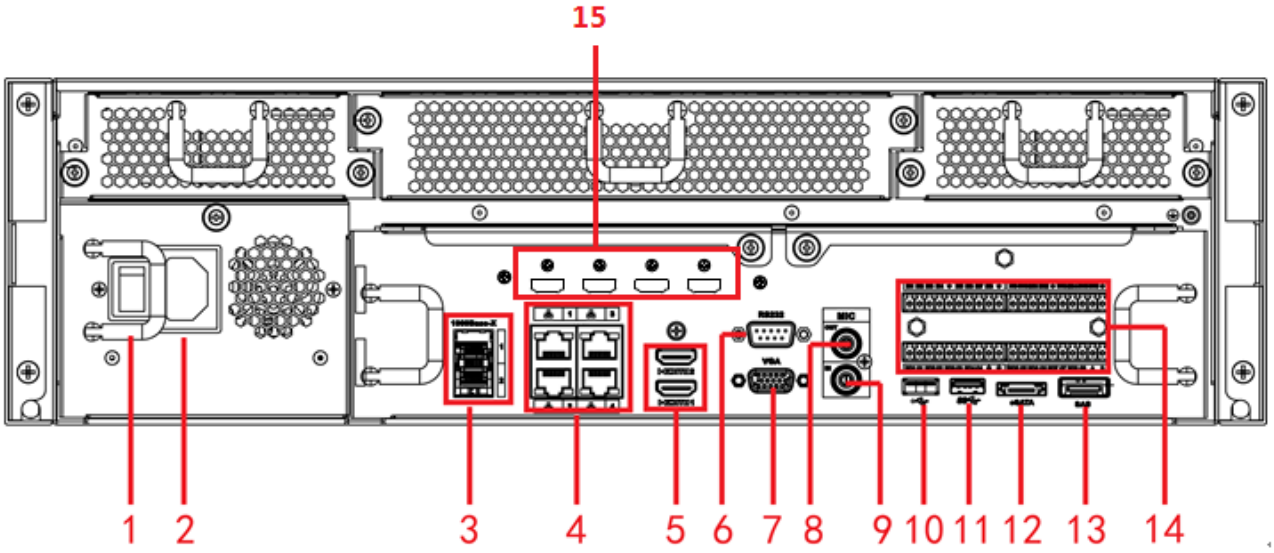


Figure 2-11

The redundant power series rear panel of super 4K S2 3U is shown as in Figure 2-12.

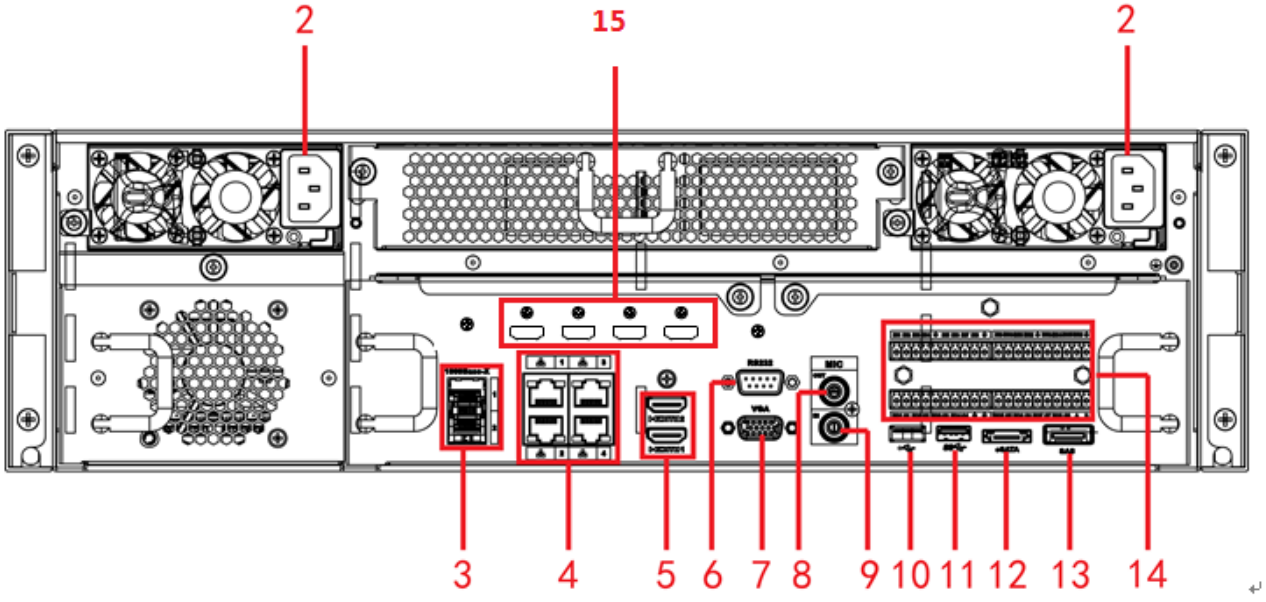


Figure 2-12

Please refer to the following sheet for rear detailed information.

SN	Name	SN	Name
1	Power on-off button	2	Power socket
3	1000M fiber port	4	Network port
5	HDMI port	6	RS232 port
7	Video VGA output	8	Audio output
9	Audio input	10	USB3.0 port
11	USB3.0 port	12	eSATA port
13	SAS extension port	14	Alarm input/output/RS485 port
15	HDMI port (The HD decode card is not the default accessory. Please purchase if you want to use)		

2.3.3 Super 4U NVR Series

The general rear panel is shown as in Figure 2-13.

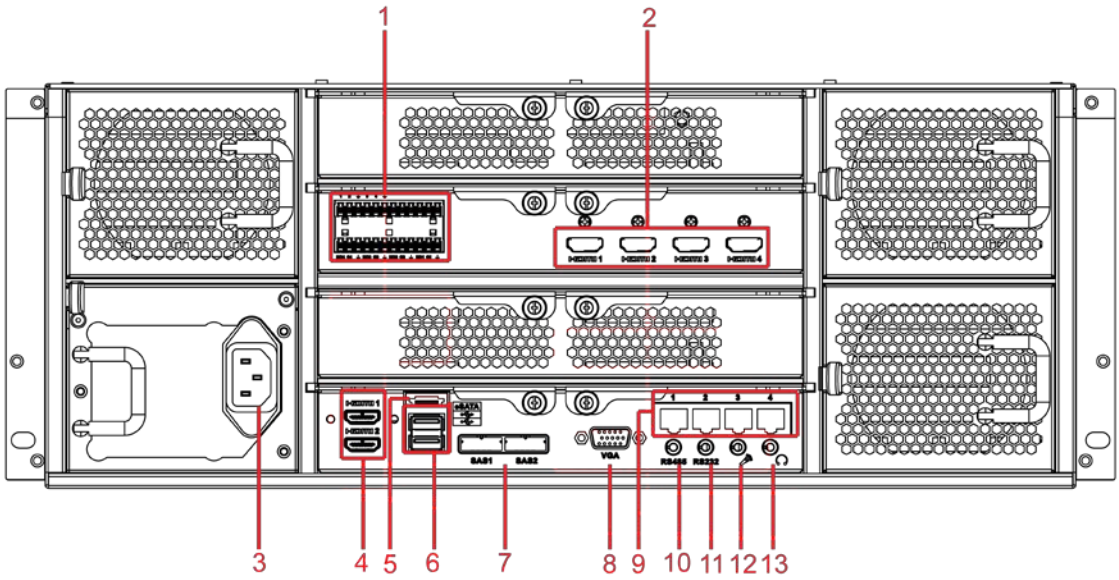


Figure 2-13

The redundant power series rear panel is shown as in Figure 2-14.

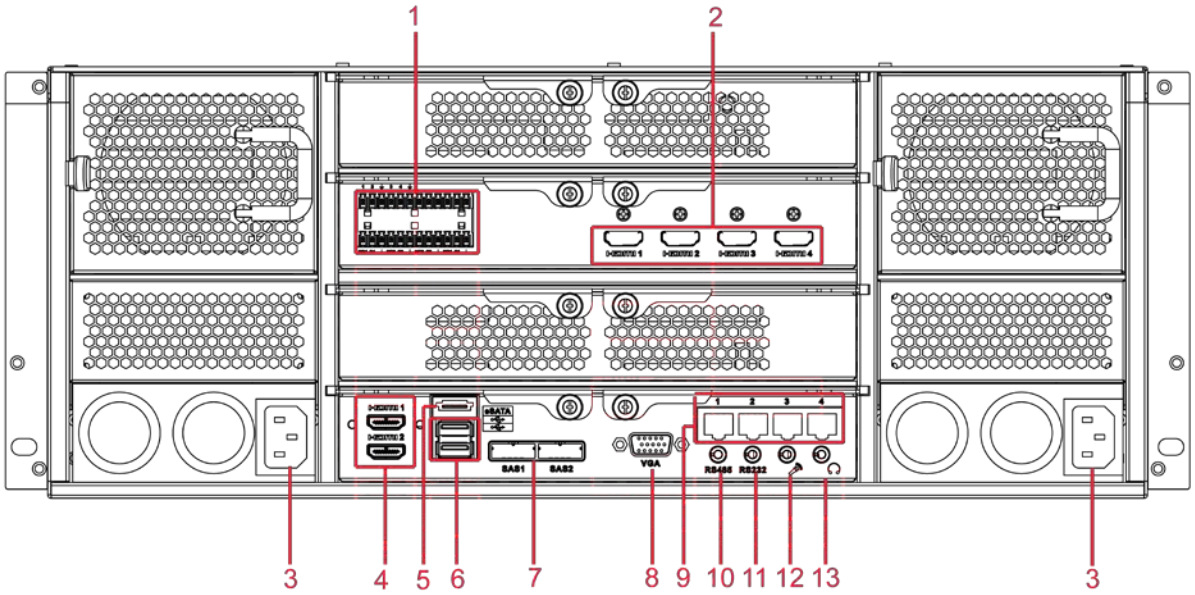


Figure 2-14

Please refer to the following sheet for detailed information.

SN	Name	SN	Name
1	Alarm input/alarm output	2	HDMI port（Reserved port. Right now system does not support HD decode card.）
3	Power port	4	HDMI port
5	eSATA port	6	USB port
7	SAS port	8	Video VGA output
9	Network port	10	RS485 port
11	RS232 port	12	Audio input port
13	Audio output port		

2.4 Alarm Connection

Please refer to the following sheet for alarm input and output connection.

There are two alarm input types for you to select: normal open (NO) and normal close (NC).

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 NVRs or you are connecting one NVR 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. Please make sure the front-end device has soundly earthed.

Improper grounding may result in chip damage.

2.4.1 Alarm Port

2.4.1.1 Super 4K S2 3U Series

You can refer to the following sheet for alarm input and output information. See Figure 2-15.

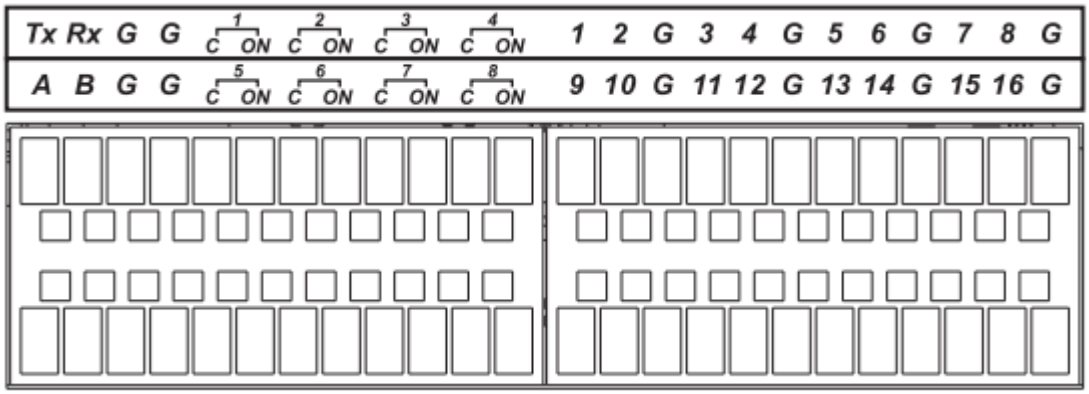


Figure 2-15

Icon	Note
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.
1-ON C，2-ON C，3-ON C，4-ON C，5-ON C，6-ON C，7-ON C，8-ON C	Eight groups of normal open activation output (on/off button)
G	GND cable.
A/B	The A/B cable to control the RS485 devices. It is to connect to control devices such as PTZ dome camera. 120Ω should be parallel connected between A, B lines on the far end to reduce reflection and guarantee the signal quality.
Tx and Rx	RS232 port. Tx is the data output cable and the Rx is the data input cable.

2.4.1.2 Super 4K S2 2U Series

You can refer to the following sheet for alarm input and output information. See Figure 2-16.

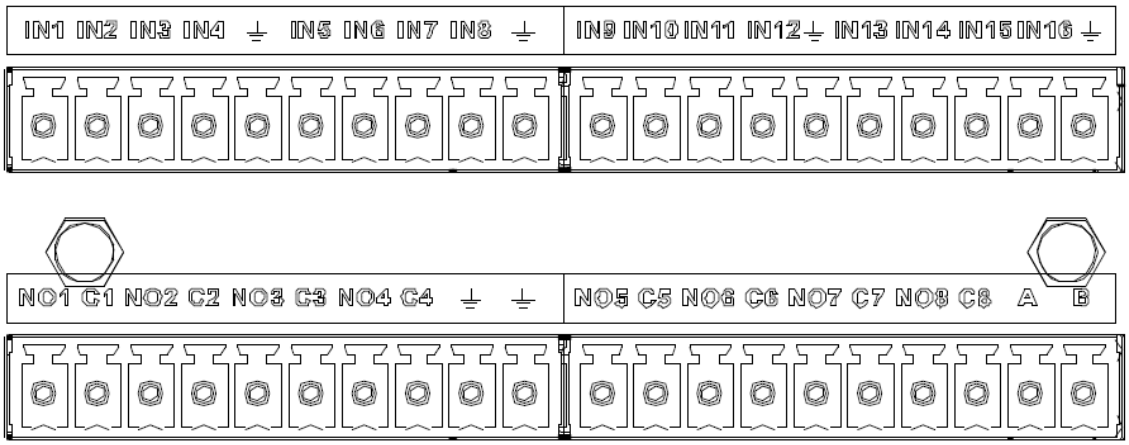


Figure 2-16

Icon	Note
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.
1-ON C，2-ON C，3-ON C，4-ON C，5-ON C，6-ON C，7-ON C，8-ON C	Eight groups of normal open activation output (on/off button)
⏚	GND cable.
A/B	The A/B cable to control the RS485 devices. It is to connect to control devices such as PTZ dome camera. 120Ω should be parallel connected between A, B lines on the far end to reduce reflection and guarantee the signal quality.

2.4.1.3 Super 4U NVR Series

You can refer to the following sheet for alarm input and output information. See Figure 2-17.

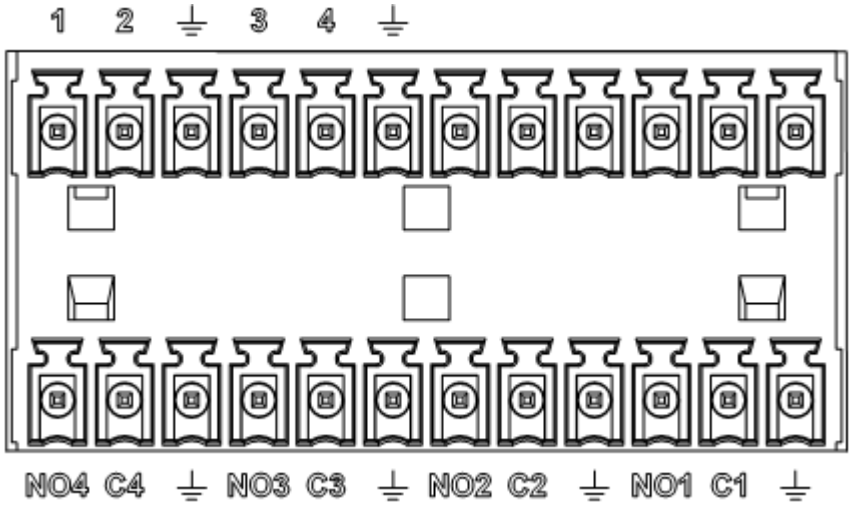


Figure 2-17

Icon	Note
1～4	ALARM 1 to ALARM 4. The alarm becomes active in low voltage.
NO1 C1，NO2 C2，NO3 C3，NO4 C4	Four groups of normal open activation output (on/off button)
⏚	GND

2.4.2 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 NVR and the ground of the alarm detector.
- Please connect the NC port of the alarm sensor to the NVR alarm input(ALARM)
- Use the same ground with that of NVR if you use external power to the alarm device.

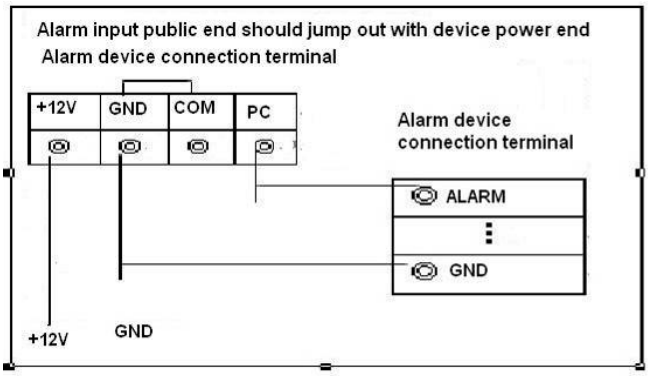


Figure 2-18

2.4.3 Alarm Output Port

- Provide power to peripheral 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.

2.4.4 Alarm Relay Specifications

Model:	**JRC-27F**	
Material of the contact	Silver	
Rating value (Resistance load)	Contact load	30V DC 1A，125V AC 0.5A
	Maximum switch power	62.5VA/30W
	Maximum switch voltage	125V AC，60V DC
	Maximum switch current	2A
Insulation	Between loop and the contact	1000V AC 1 minue
	Between breaking contact	400V AC 1 minue

Insulation voltage	1000MΩ（500V DC）	
Opening time	< 5ms	
Closing time	< 5ms	
Longevity	Mechanical	300/1 minue
	Electrical	30/1 minute
Working Temperature	-30℃ ~+70℃	

2.5 Remote Control

The remote control interface is shown as in Figure 2-19.
Please note remote control is not our standard accessory and it is not included in the accessory bag.

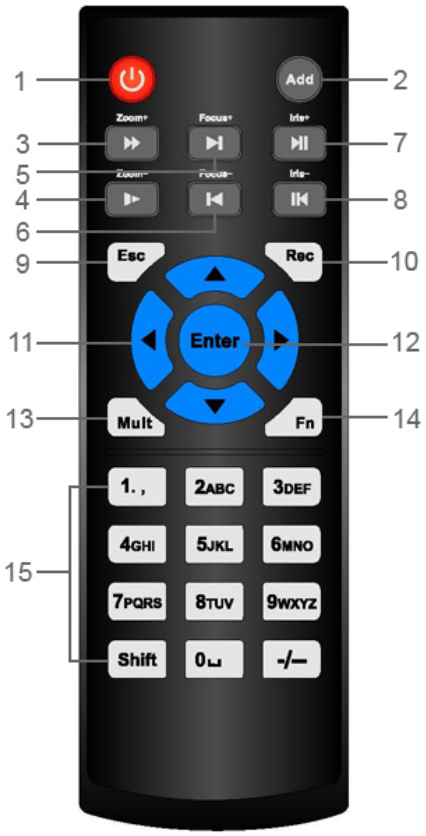


Figure 2-19

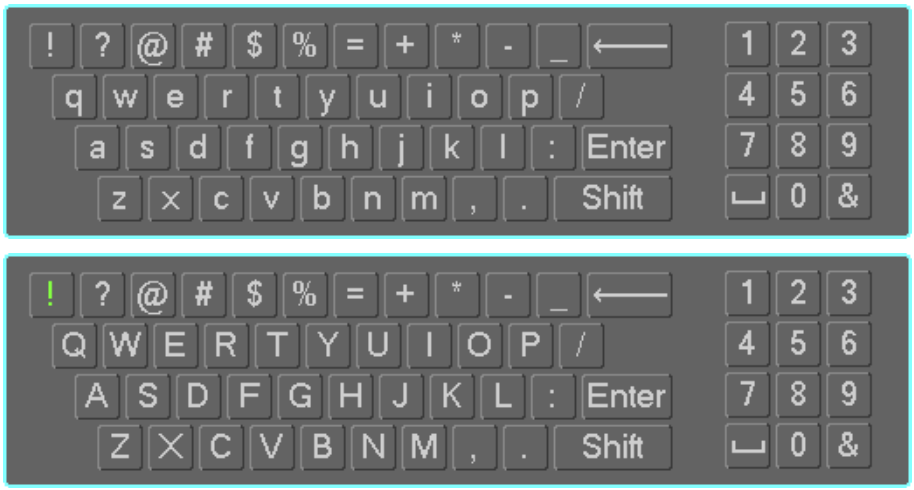
Serial Number	Name	Function
1	Power button	Click it to boot up or shut down the device.
2	Address	Click it to input device number, so that you can control it.
3	Forward	Various forward speeds and

		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.
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 default 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.

2.6 Mouse Operation

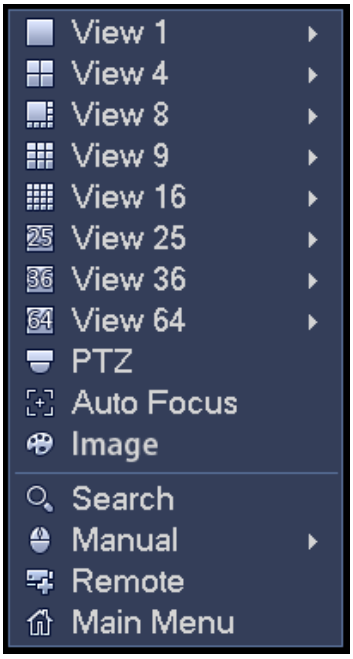
Please refer to the following sheet for mouse operation instruction.

Left click mouse	When you have selected one menu item, left click mouse to view menu content.
	Modify checkbox or motion detection status.
	Click combo box to pop up dropdown list
	In input box, you can select input methods. Left click the corresponding button on the panel you can input numeral/English character (small/capitalized). Here ← stands for backspace button. __ stands for space button. In English input mode: _stands for input a backspace icon and ← stands for deleting the previous character.  In numeral input mode: _ stands for clear and ← stands for deleting the previous numeral.
Double left click mouse	Implement special control operation such as double click one item in the file list to playback the video.
	In multiple-window mode, double left click one channel to view in full-window. Double left click current video again to go back to previous multiple-window mode.
Right click mouse	In real-time monitor mode, pops up shortcut menu.
	Exit current menu without saving the modification.
Press middle button	In numeral input box: Increase or decrease numeral value.
	Switch the items in the check box.

	Page up or page down
Move mouse	Select current control or move control
Drag mouse	Select motion detection zone
	Select privacy mask zone.

2.7 Mouse Control

Left click mouse	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
	In input box, you can select input methods. Left click the corresponding button on the panel you can input numeral/English character (small/capitalized). Here ← stands for backspace button. __ stands for space button. In English input mode: _stands for input a backspace icon and ← stands for deleting the previous character.  In numeral input mode: _ stands for clear and ← stands for deleting the previous numeral. 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. 
Double left click mouse	Implement special control operation such as double click one item in the file list to playback the video.
	In multiple-window mode, double left click one channel to view in full-window. Double left click current video again to go back to previous multiple-window mode.

Right click mouse	In real-time monitor mode, pops up shortcut menu: one-window, four-window, nine-window and sixteen-window, Pan/Tilt/Zoom, color setting, search, record, alarm input, alarm output, main menu. Among which, Pan/Tilt/Zoom and color setting applies for current selected channel. If you are in multiple-window mode, system automatically switches to the corresponding channel. 
	Exit current menu without saving the modification.
Press middle button	In numeral input box: Increase or decrease numeral value.
	Switch the items in the check box.
	Page up or page down
Move mouse	Select current control or move control
Drag mouse	Select motion detection zone
	Select privacy mask zone.

3 Local Basic Operation

3.1 Boot up and Shutdown

3.1.1 Boot up

CAUTION

Before the boot up, please make sure:

- The voltage of power supply matches with the device power on-off button.
- For device security, connect the NVR to the power adapter first, make sure the power connection is ok, and then turn on the power on-off button.
- Always use the stable current with little ripple interference. UPS is recommended.

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

Step 2 Connect power cable.

Step 3 Click the power button on the front or rear panel and then boot up the device. After device boots up, the system is in multiple-channel preview mode by default.

3.1.2 Shutdown

CAUTION

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

There are three ways for you to log out.

- (**RECOMMENDED**) From Main Menu > Shutdown and select shutdown from dropdown list.
- Press the power on-off button on the NVR front panel or remote control for more than 3 seconds to shut down the device.
- Press the power on-off button on the rear panel.

3.2 Device Initialization

If it is your first time to use the device, please set a login password of **admin** (system default user). You can select to use unlock pattern to login or not at your own choosing.

Note

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

Please follow the steps listed below.

Step 1 Boot up NVR.

Device displays device initialization interface. See Figure 3-1.

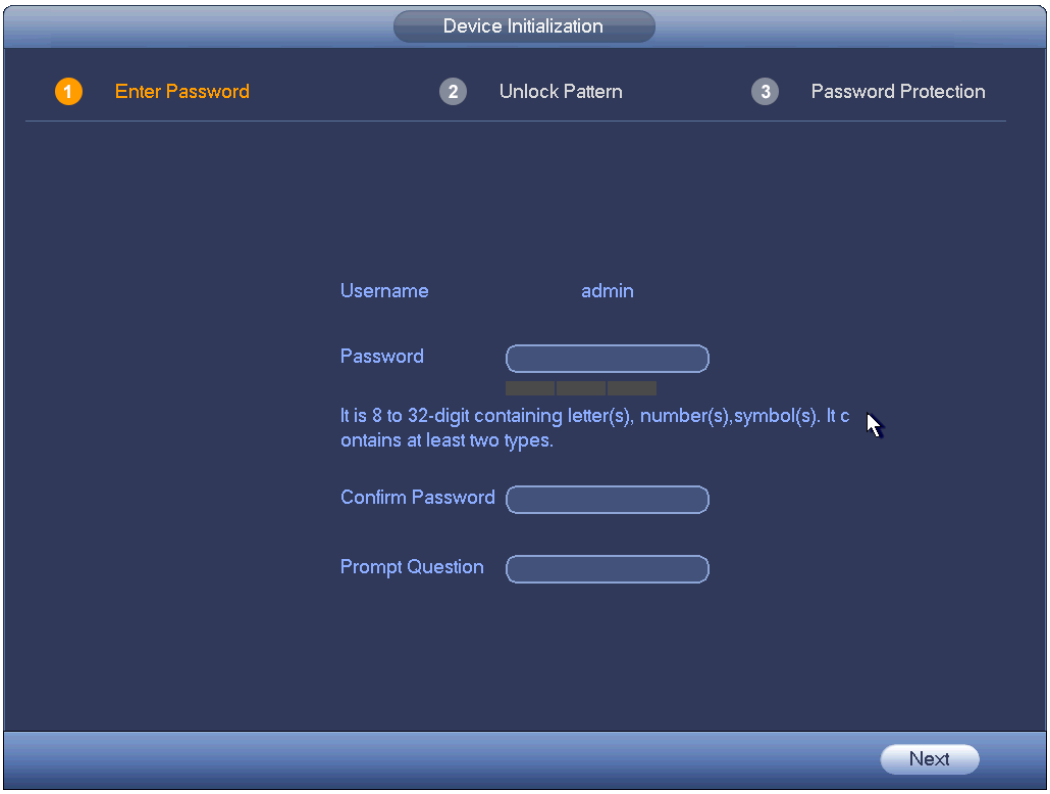


Figure 3-1

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

- User name: The default user name is **admin**.
- Password/confirm password: The password can be set from 8 characters through 32 characters and contain at least two types from number, letter and special character (excluding"'", "'", ";", ":" and "&"). It is recommended to set a password of high security according to the prompt.
- Prompt question: If you set the prompt question here. On the login interface, move your mouse on , device can display the corresponding prompt question for you to remind the password.

Step 3 Click Next and device goes to the following interface. See Figure 3-2.

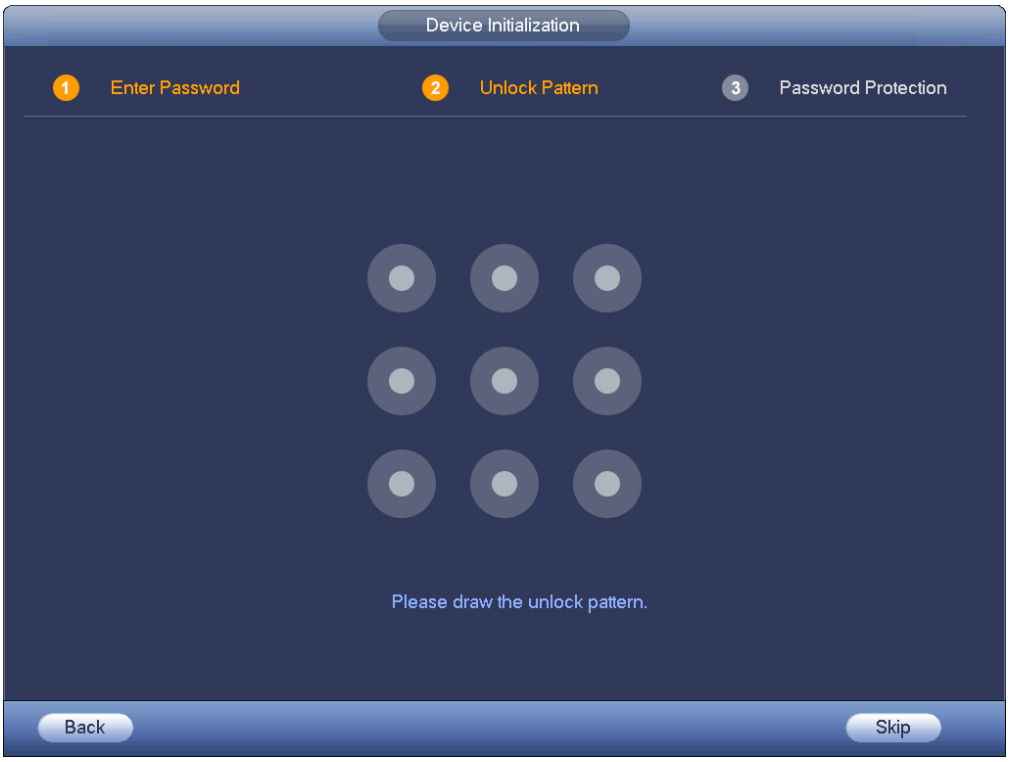


Figure 3-2

Step 4 Set unlock pattern.

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

Note

- 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.

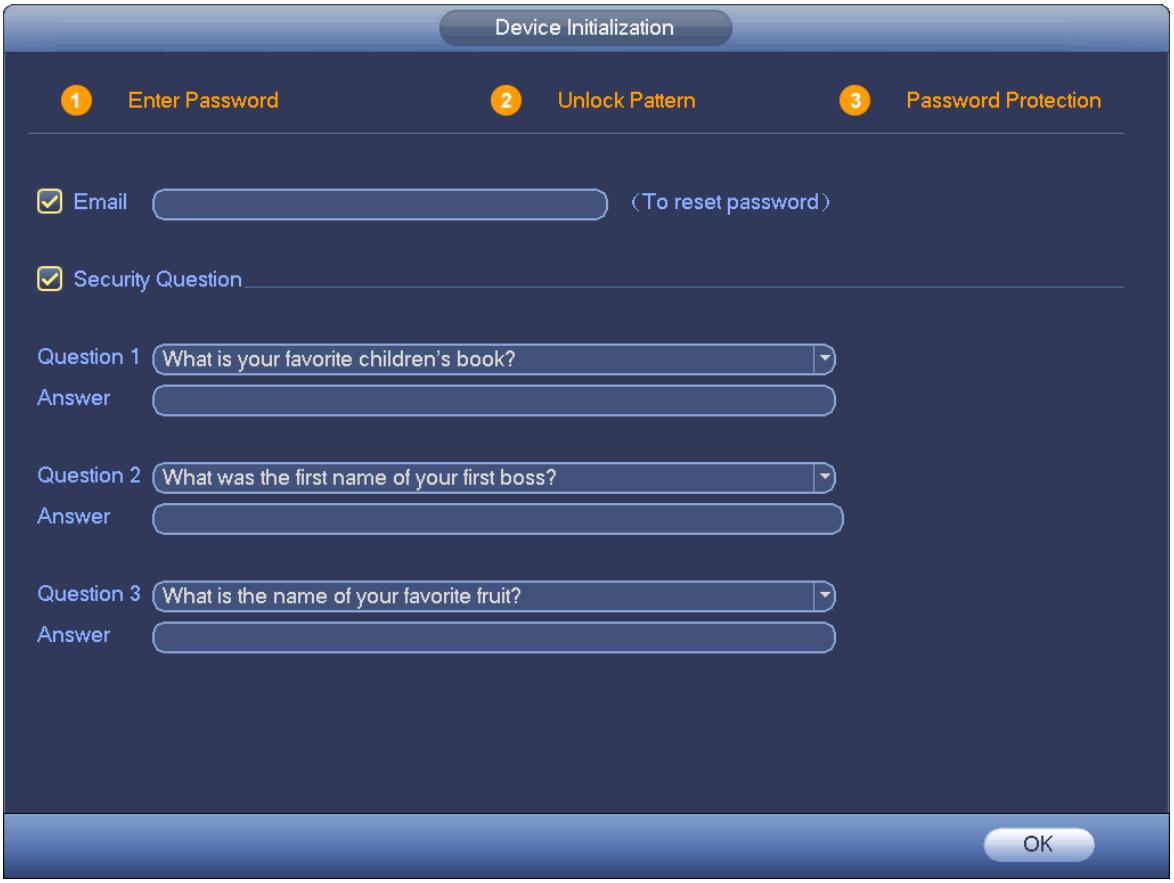


Figure 3-3

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.
- 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 > Security question to set.

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.

Device goes to startup wizard interface.

3.3 Resetting Password

If you forgot the admin password, you can reset the password by the following ways:

- When the password reset function is enabled, you can scan the QR code on the local interface to reset the password.
- When the password reset function is disabled, you can reset password via the security questions configured before. If the secury questions are not configured, system displays that Password reset is closed! You need to contact the customer service for help.

Step 1 Go to the device login interface. See Figure 3-4 or Figure 3-5. .

- If you have set unlock pattern, device displays unlock pattern login interface. See Figure 3-4. Click “Forgot Unlock Pattern” and device goes to Figure 3-5.
- If you have not set unlock pattern, device displays password interface. See Figure 3-5.

Note

Click Switch User button and NVR goes to general user login interface. The default user name is admin. Click the user name drop-down arrow, select a user from the drop-down list, and then you can log in via some other account.

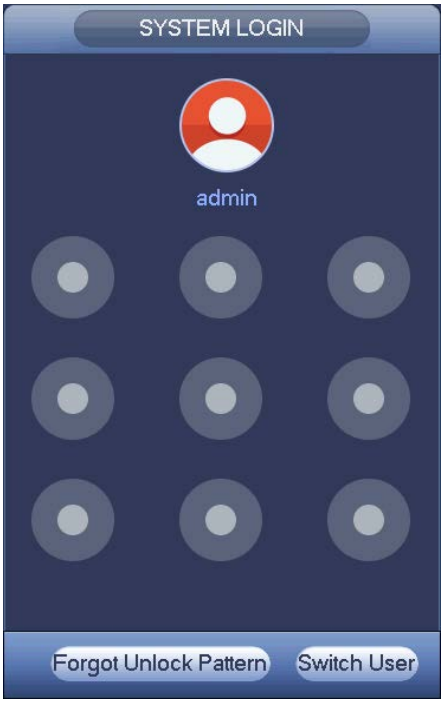


Figure 3-4

Figure 3-5

Step 2 Click .

- If you have not input email address information when you are initializing the device, the interface is shown as in Figure 3-6. Please input an email address, click Next button, and then device goes to Figure 3-7.
- If you have input email when you are initializing the device, device goes to Figure 3-7.

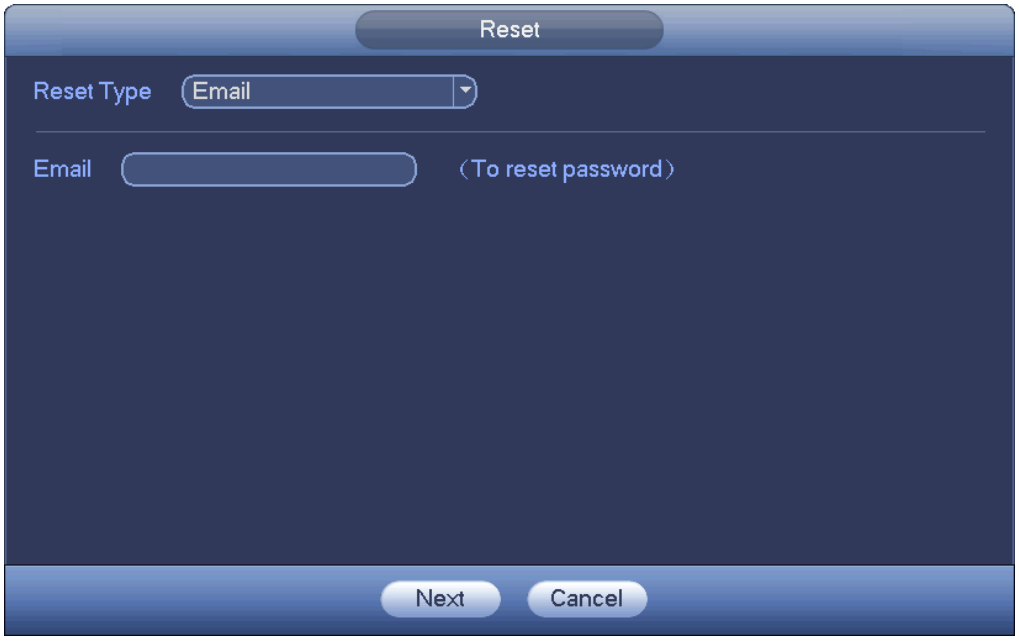


Figure 3-6

Figure 3-7

Step 3 Click OK button and device goes to Figure 3-8

NOTE

After clicking OK, we will collect your personal information such as cell phone number, MAC address and device serial number. The collected information is used for verifying device legality

and sending security code. Please read the notice carefully and confirm if you agree with the collection or not.

Figure 3-8

Step 4 Reset login password.

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

- Email

  In Figure 3-8, follow the prompts on the interface to scan the QR code, and then input the security code you get via the assigned email.

  CAUTION

  ✧ 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 3-6, select security question from the drop down list. Device displays security question interface. See Figure 3-9. Please input the correct answers here.

  NOTE

  You shall configure the security questions before resetting password by answering the questions. If you have not configured the questions, this method will not be available in the drop-down list.

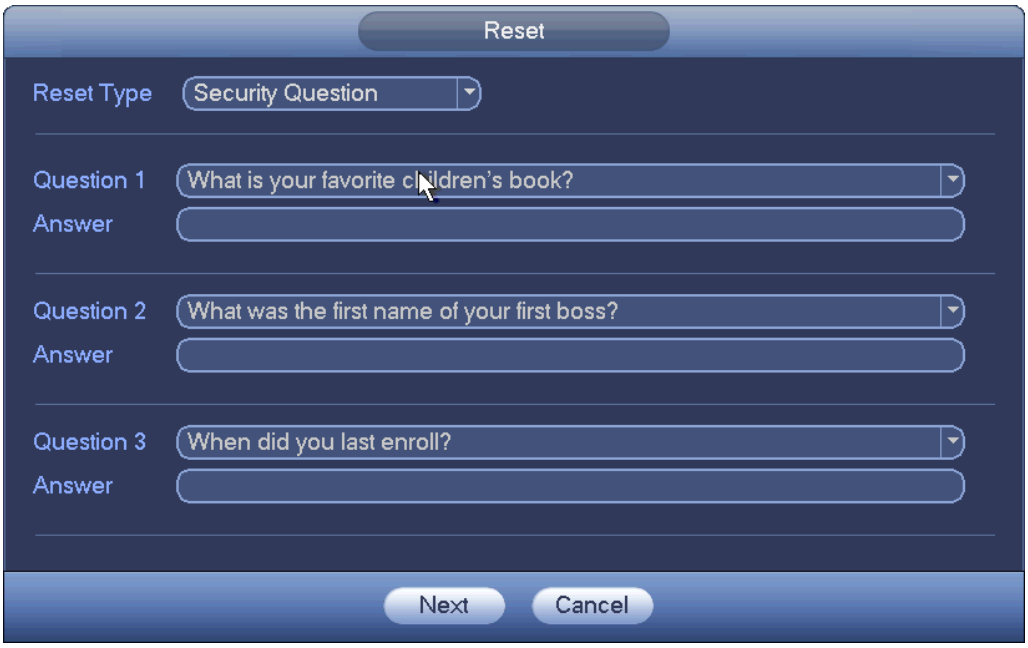


Figure 3-9

Step 5 Click Next button.

Device displays reset password interface. See Figure 3-10.

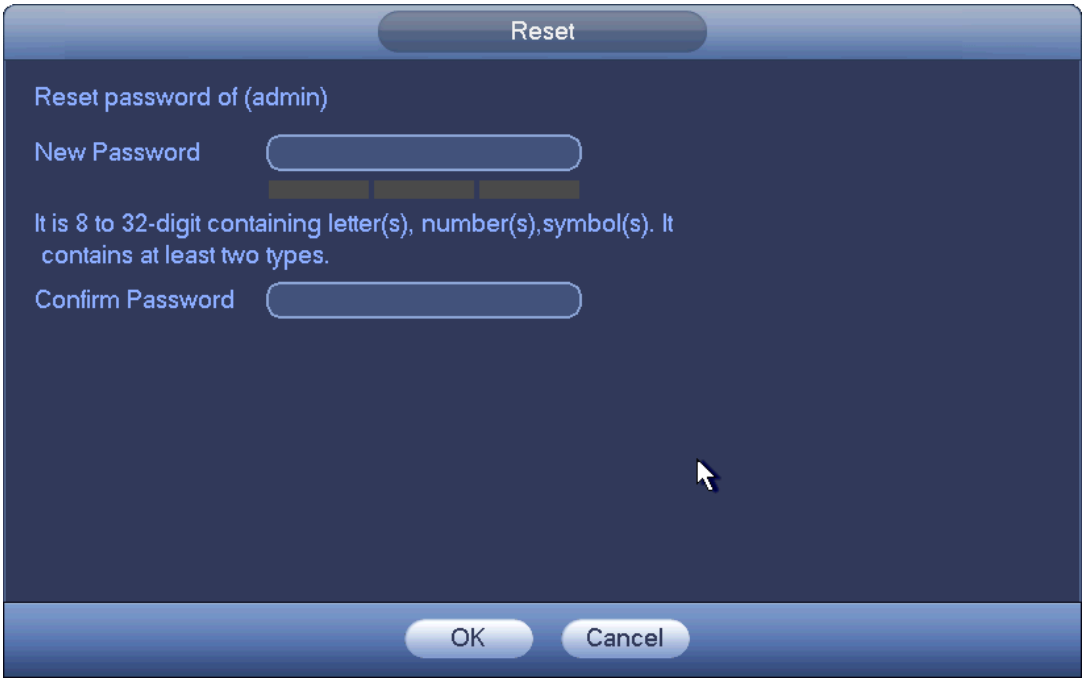


Figure 3-10

Step 6 Input new password and then confirm.

The password can be set from 8 characters through 32 characters and contain at least two types from number, letter and special character (excluding"'", "'", ";", ":" and "&"). It is recommended to set password of high security according to the prompts.

Step 7 Click OK button to complete the setup.

3.4 Quick Settings

After you successfully initialize the device, it goes to startup wizard. Here you can quickly configure your device. It includes general setup, basic network setup, camera registration, P2P, and schedule interface.

Note

- Once the power is off during the quick settings process, you need to go through startup wizard again when the device boot up the next time.
- After completing all items on the startup wizard, the startup wizard automatically hides when the device boot up the next time.

Please follow the steps listed below.

Boot up the device and complete the device initialization. Device goes to startup wizard. See Figure 3-11.

- Select Auto-check for updates, device automatically checks if there is new applications or not every day.

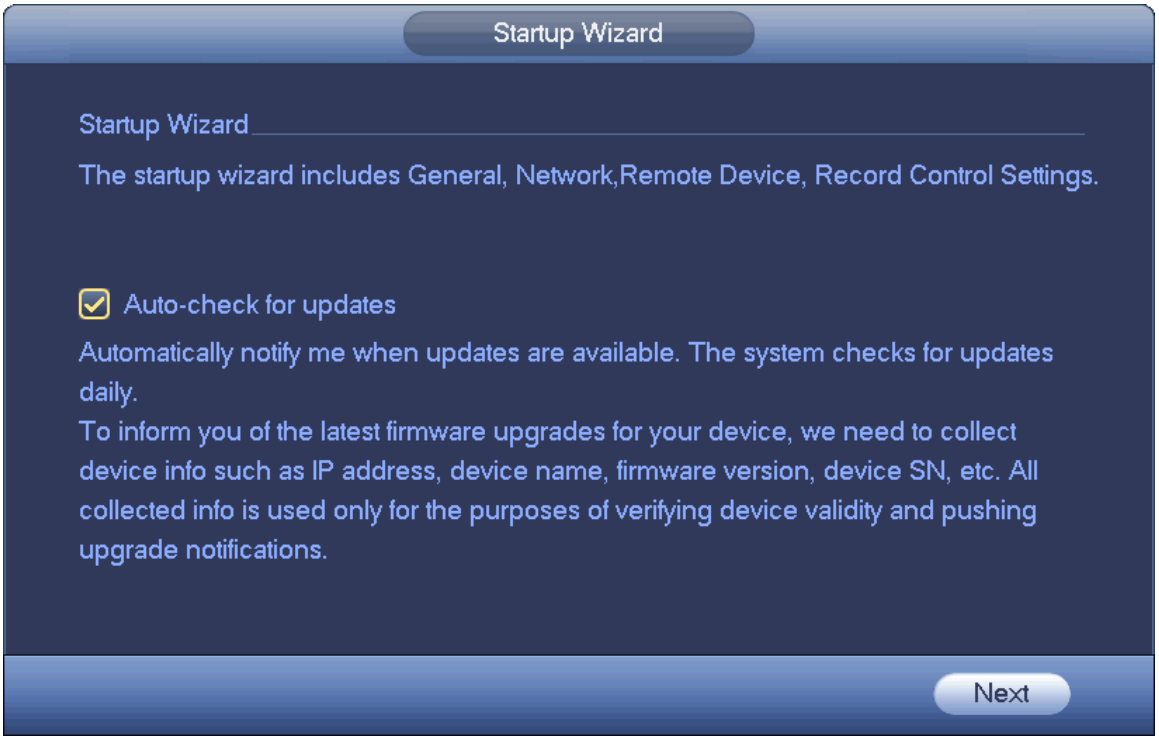


Figure 3-11

Note

After auto-check is enabled, in order to inform you of the latest firmware upgrades, we will collect your personal information such as IP address, device name, firmware version and device SN. The collected information is used for verifying device legality and pushing upgrade notice.

3.4.1 General

It is to set NVR basic information such as system date, holiday and etc.

3.4.1.1 General

It is to set device basic information such as device name, serial number and etc.

Please follow the steps listed below.

Step 1 Click Next button,
Enter General interface.

Step 2 Click General button.

The interface is shown as below. See Figure 3-12.

Note

From Main menu>Setting>System>General>General, you can go to the general interface.

Step 3 Set parameters.

- Device ID: Please input a corresponding device name here.
- Device No: When you are using one remote control (not included in the accessory bag) to control several NVRs, you can give a name to each NVR for your management.
- 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.)
- Instant replay: Enter the time for record playback on the preview interface. You can set it from 5 minutes to 60 minutes. After the setting, click the instant replay icon on the navigation bar and system replays the records in the current channel during the set time period.
- 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.
- Monitor channels when logout: Here you can set channels you want to view when your account has logged out. Click the button and then cancel the channel name box, you need to login to view the corresponding video. The channel window displays in preview interface.
- Navigation bar: Check the box here, system displays the navigation bar on the interface.
- IPC Time Sync: You can input an interval here to synchronize the NVR time and IPC time.
- 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 3-12

Step 4 Click Apply button to save settings.

3.4.1.2 Date and Time

Here you can set device time. You can enable NTP (Network Time Protocol) function so that the device can sync time with the NTP server.

Step 1 Click Date and time button. See Figure 3-13.

Note

From Main menu>Setting>System>General>Date and time, you can go to the date and time interface.

- Date format: There are three types: YYYYY-MM-DD: MM-DD-YYYYY or DD-MM-YYYY.
- Time format: You can select 24-hour or 12-hour time format.
- Date separator: There are three denotations to separate date: dot, beeline and solidus.
- System time: Displays the current system time.
- DST: Here you can set DST time and date by week or by date. Please enable DST function and then select setup mode. Please input start time and end time and click Save button.
- Time format: There are two types: 24-hour mode or 12-hour mode.
- NTP: It is to set NTP server, port and interval.

Warning

✧ System time is very important; do not modify time casually unless there is a must!

✧ Before your time modification, please stop record operation first!

Figure 3-13

Step 5 Click Apply button to save settings.

3.4.1.3 Holiday

Here you can add, edit, delete holiday. After you successfully set holiday information, you can view holiday item on the record and snapshot period.

Step 1 Click Holiday button. See Figure 3-14.

Note

From Main menu>Setting>System>General>Holiday, you can go to the holiday interface.

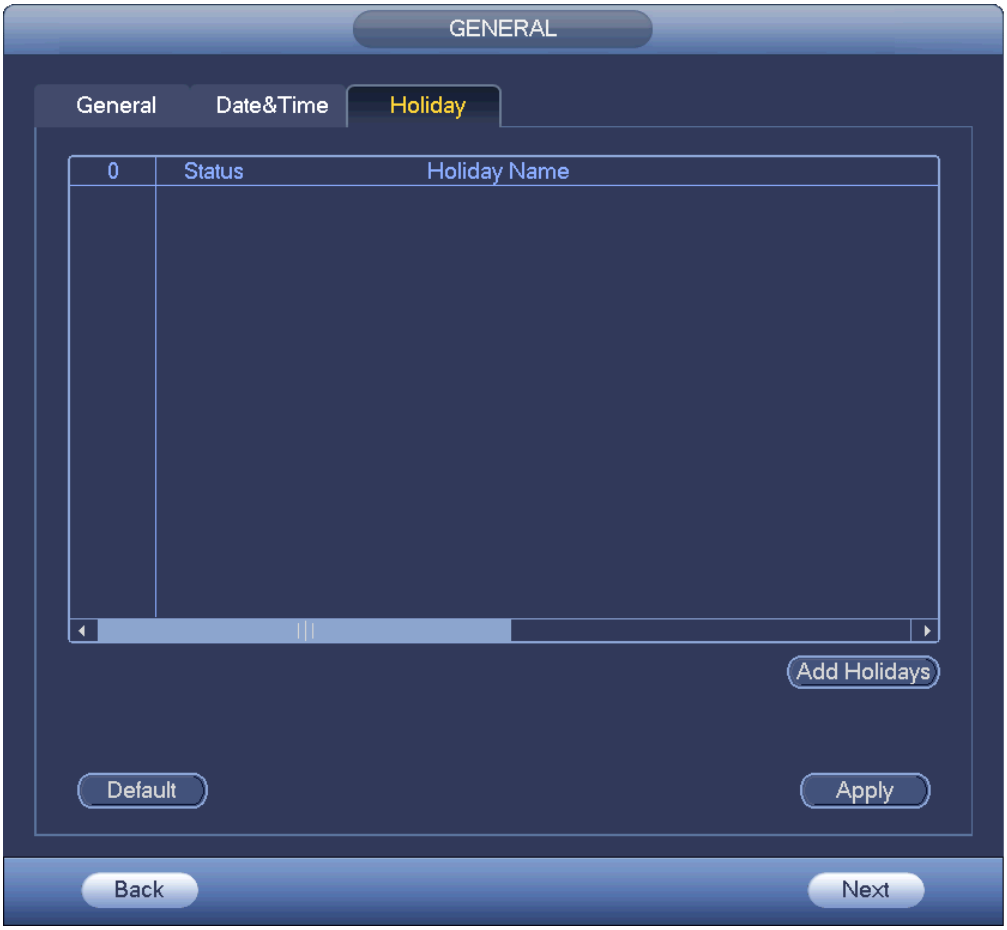


Figure 3-14

Step 2 Click Add new holiday button and device displays the following interface. See Figure 3-15.

Figure 3-15

Step 3 Set holiday name, repeat mode and holiday mode.

Note

Click Add more to add new holiday information.

Step 4 Click Add button and you can add current holiday to the list. See Figure 3-16.

Note

- Click the dropdown list of the state and you can enable/disable holiday date.
- Click to change the holiday information. Click to delete current date.

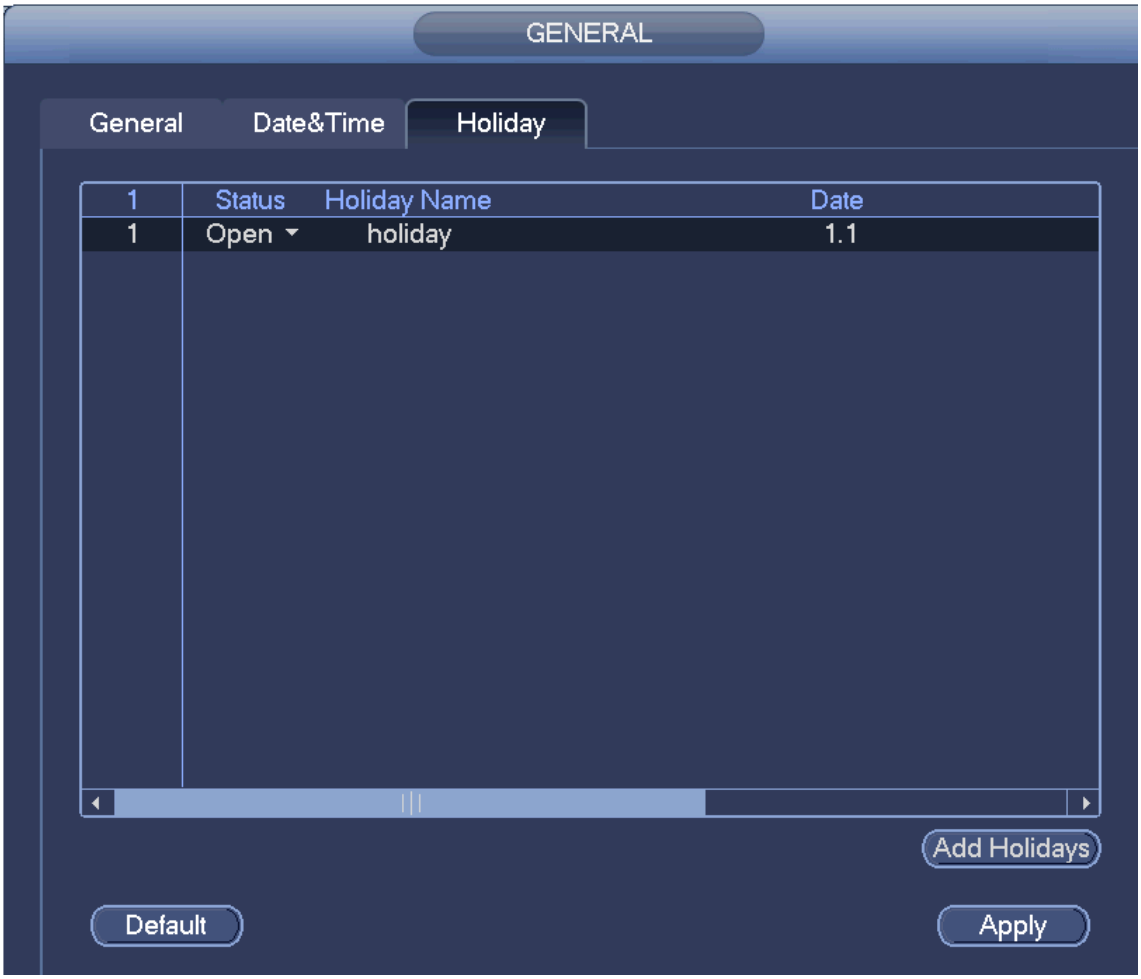


Figure 3-16

Step 5 Click Apply button to save settings.

3.4.2 Basic Network Settings

Set device IP address, DNS (Domain Name System) information.

Preparation

Make sure the device has properly connected to the network.

Step 1 Click Next button, device goes to TCP/IP interface. See Figure 3-17.

Note

- From Main menu>Setting>Network>TCP/IP, you can go to the TCP/IP interface.
- Different series products have different Ethernet adapter amount and type. Please refer to the actual product.

Figure 3-17

Step 2 Click , device display edit interface. See Figure 3-18.

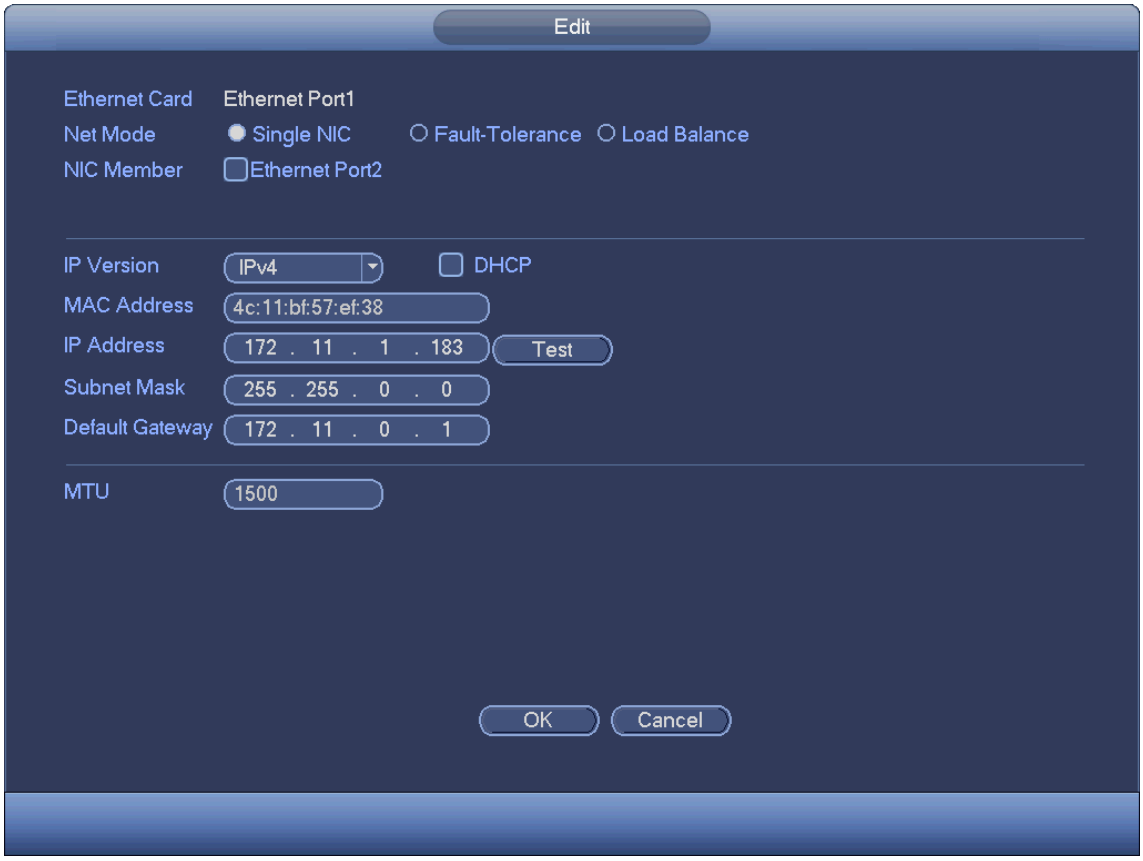


Figure 3-18

Step 3 Set parameters.

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

Note

The dual-Ethernet port series support the above three configurations and supports functions as multiple-access, fault-tolerance and load balancing.

- Network Mode : Includes multiple access, fault tolerance, and load balancing

✧ Multiple-address mode: eth0 and eth1 operate separately. You can use the services such as HTTP, RTP service via etho0 or the eth1. Usually you need to set one default card (default setup is etho) to request the auto network service form the device-end such as DHCP, email, FTP and etc. In multiple-address mode, system network status is shown as offline once one card is offline.

✧ Network 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.

- IP Version: Both IPv4 and IPv6 are available.
- MAC address: The host in the LAN can get a unique MAC address. It is for you to access in the LAN. It is read-only.

- IP address: Here you can use up/down button (▲▼) or input the corresponding number to input IP address. Then you can set the corresponding subnet mask the default gateway.
- Subnet mask: Enter the subnet mask corresponding to the entered IP address.
- 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. Only Web interface supports to modify the MTU value.

Step 4 Click OK to NIC settings.

Device goes back to TCP/IP interface.

Note

Click  to cancel NIC bonding. Please note device needs to reboot to activate new setup.

Step 5 Set network parameters.

- IP Version: There are two options: IPv4 and IPv6. Right now, system supports these two IP address format and you can access via them.
- Preferred DNS server: DNS server IP address.
- Alternate DNS server: DNS server alternate address.
- Default Network Card: Please select eth0/eth1/bond0(optional) after enable multiple-access function.
- LAN download: System can process the downloaded data first if you enable this function. The download speed is 1.5X or 2.0X of the normal speed.

Step 6 Click Next to complete the settings.

3.4.3 P2P

P2P is a kind of convenient private network penetration technology. You do not need to apply for dynamic domain name, doing port mapping or deploying transit server. You can add NVR devices through the below way to achieve the purpose of managing multiple NVR devices at the same time.

- Scan the QR code, download mobile app, and then register an account. For details, see Mobile App Operation.
- Log in www.gotop2p.com, register an account, and then add device via the serial number. For details, see Introduction of P2P Operations which is available in the disk delivered with the device.

CAUTION

Connect the NVR device to the Internet, otherwise P2P can not run properly.

Step 1 Enter from main menu > Setting > Network > P2P.

The P2P interface is displayed. See Figure 3-19.

Figure 3-19

Step 2 Select the check box to enable P2P.

NOTE

- When P2P is enabled and the device is connected to the Internet, it displays Online in the Status box. We need to collect information like IP address, MAC address, device name and device SN. All collected information is used only for the purpose of remote access.

Step 3 Click Next to conplete the setting.

If system displays Online in the Status box, P2P registration is successful.

Mobile APP Operation

The following contents are introduced in the example of mobile App.

Step 1 Scan the QR code to download and install the mobile App.

Step 2 Select Camera and enter the main interface.

Step 3 Register device in the mobile App:

1) Click and select Device Manager. See Figure 3-20.

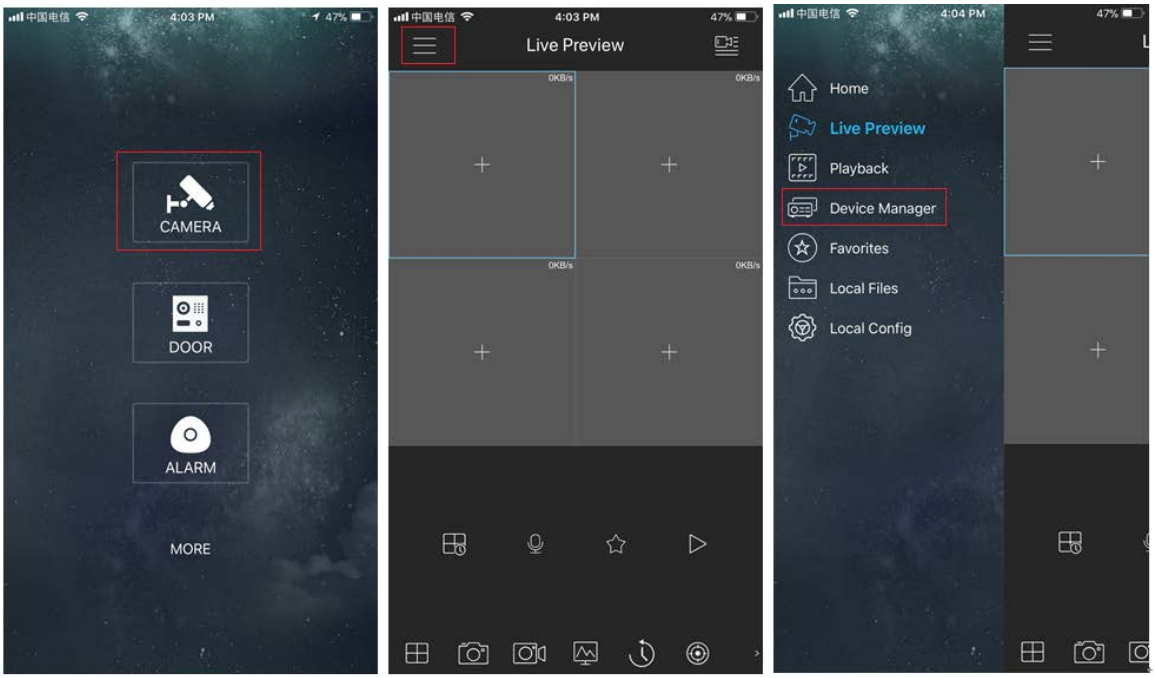


Figure 3-20

2) Click + and enter the Add Device interface.

NOTE
Mobile App supports device initialization.

3) Select Wired Device > P2P to enter the P2P interface.
4) Click the QR code icon behind the SN to enter the QR code scan interface.
5) Scan the device label or scan the SN QR code got by entering from main menu > Setup > Network > P2P. When the scan is successful, the device SN will be displayed in the SN item.
6) Enter name and password.

Step 4 After device registraion on mobile App, click Start Preview and you can see the monitor screen.

3.4.4 Registration

After add remote device, the device can receive, storage, and manage the video streams of the remote device. You can view, browse, playback, manage several remote devices at the same time.

Step 1 On the P2P interface, click Next button.
Enter Registration interface. See Figure 3-21

Note

There are two ways to go to Registration interface.

- From main menu>Setting>Camera>Registration, you can go to the registration interface.
- On the preview interface, right click mouse and then select Camera Registration.

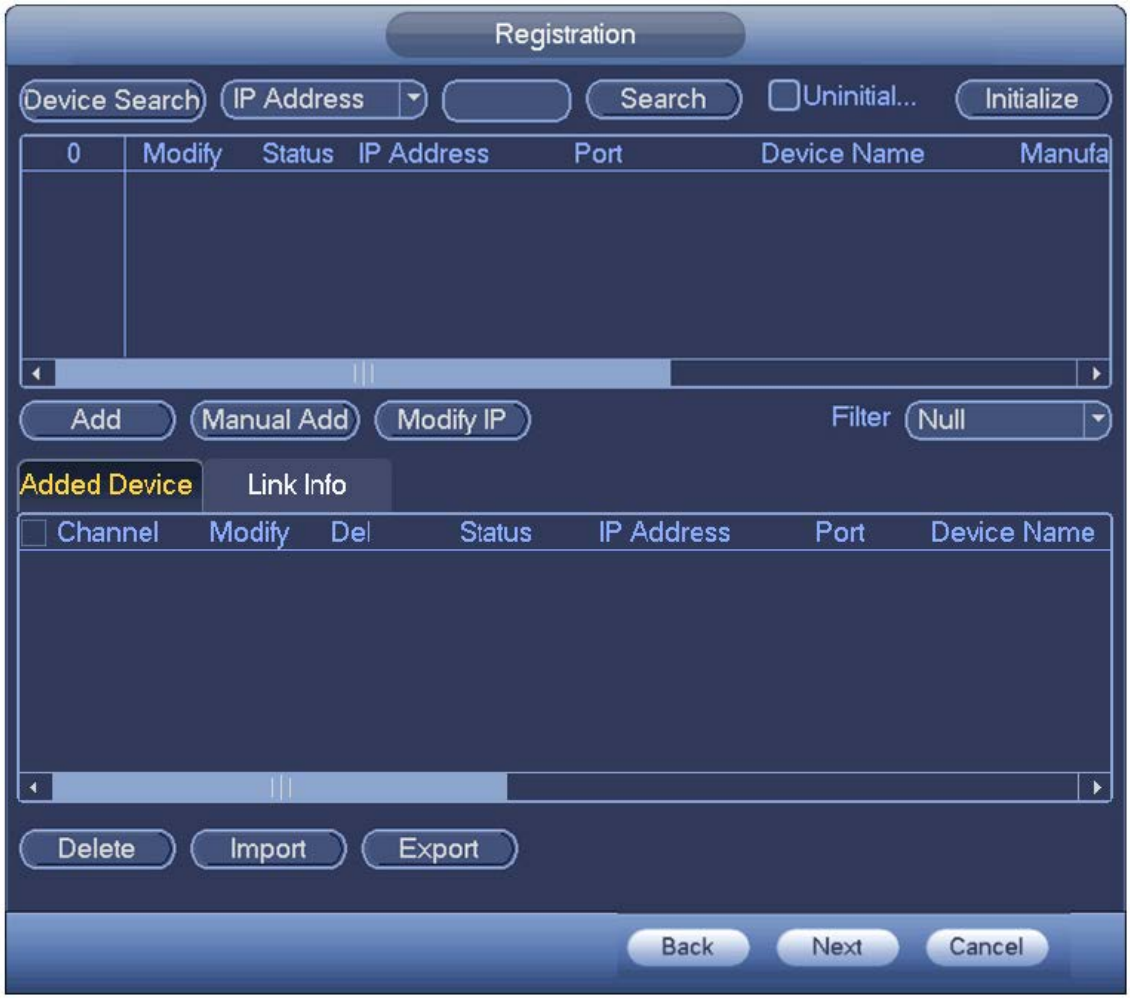


Figure 3-21

Step 2 Set parameters

- Link Info: Display the access list of the Panoramic+PTZ camera.
- Channel: It is the device channel number. If you have not added the network camera, the channel number is shown as .
- Status: Red circle ( ) means current channel has no video, green circle ( ) means current channel has video.
- IP address: It is to display network camera IP address.
- Port: It is to display network camera port number.
- Device name: It is to display network camera name.
- Add/Delete: Click to delete the device, click to add the device to the NVR.

Step 3 Add network camera.

- Device search: Click the button; you can search all network cameras in the same network segment. See Figure 3-22. Double click a camera or check the camera box and then click Add button, you can add a device to the list.

Note

The device in the added device list is not shown in the search result column.

Figure 3-22

- Manual Add: Click Manual Add button, you can set the corresponding network camera information and then select the channel you want to add. See Figure 3-23.
  - ✧ Manufacturer: Please select from the dropdown list.

Note

Different series products may support different manufactures, please refer to the actual product.

  - ✧ IP address: Input remote device IP address.
  - ✧ RTSP port: Input RTSP port of the remote device. The default setup is 554.

Note

Skip this item if the manufacture is private or customize.

  - ✧ HTTP port: Input HTTP port of the remote device. The default setup is 80.

Note

Skip this item if the manufacture is private or customize.

  - ✧ 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.: Input channel amount or click the Connect button to get the channel amount of the remote device.

Note

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.

- ✧ Remote channel No.: After getting the remote device channel amount, click Setup to select a channel.

Note

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 items: realtime,local,fluent.
- ✧ Service type: There are four types: auto/TCP/UDP/MULTICAST(ONVIF device only)

Note

The default connection mode is TCP if the connection protocol is private.

There are four types including Auto, TCP, UDP and MULTICAST if the connection protocol is ONVIF.

There are two types including TCP and UDP if the connection protocol is from the third-party.

- ✧ Encrypt: When the connection protocol is ONVIF, enable the encryption function and system transmits data in the encrypted mode.

Note

HTTPS shall be enabled in IPC to support encryption.

Figure 3-23

Step 4 Click OK to add the camera to the device.

Note

Click to change the remote device information. Click to delete remote device.

3.4.5 Configuring RAID

RAID has different levels (such as RAID 5 and RAID 6). Each level has different data protection, data availability and performance. You can create RAID according to the actual needs.

Step 1 Click Next.

The RAID configuration interface is displayed. See Figure 3-24.

Note

You can also enter from main menu > Setting > Storage > RAID > RAID to enter the RAID configuration interface.

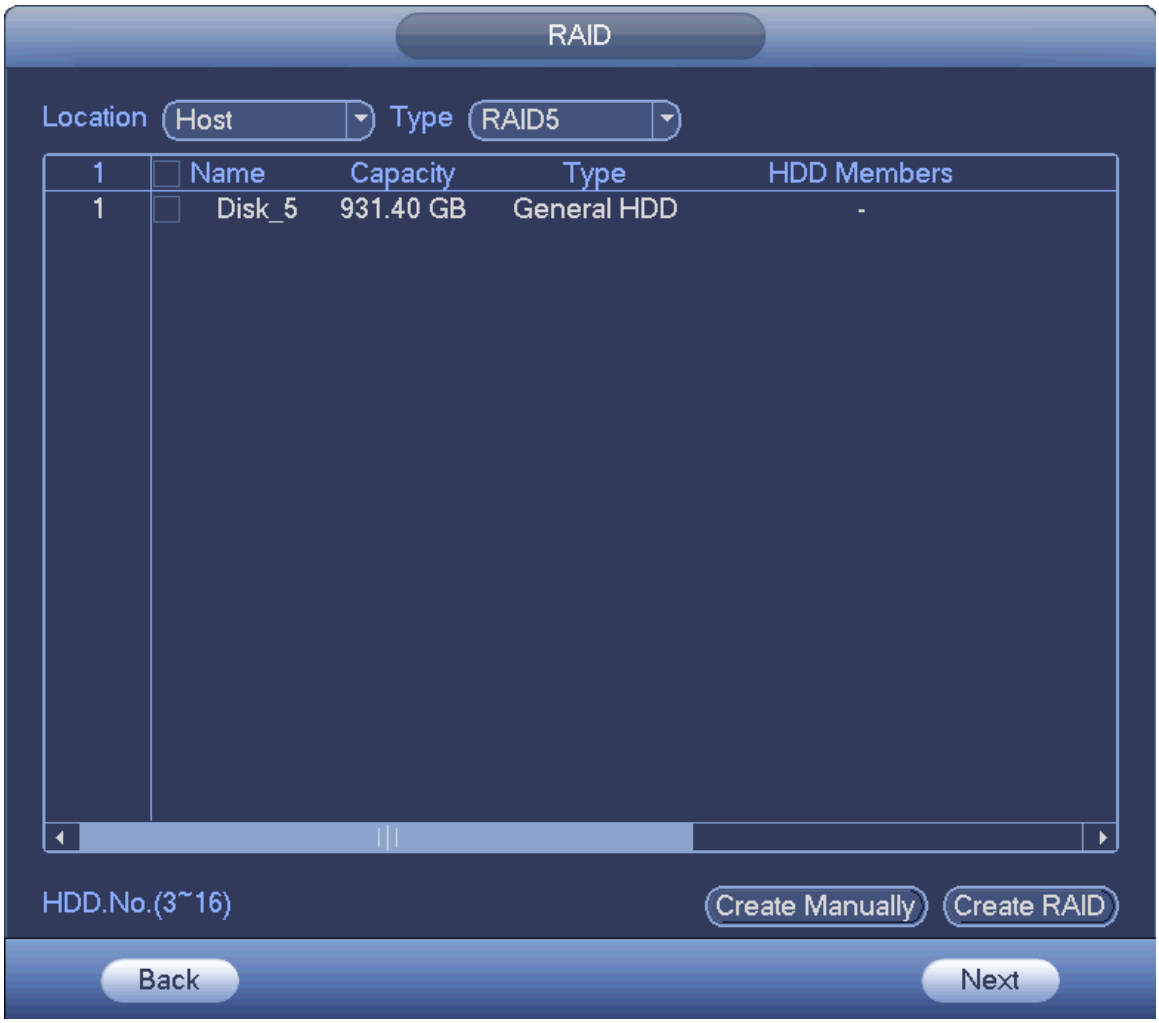


Figure 3-24

Step 2 Select Create RAID or Create Manually to create RAID type.

- Create RAID

  Click Create RAID. You do not need to select the disks and the system automatically creates a RAID 5. Details are shown as follows:

  - ✧ Before the creation, there is no RAID and hotspare disk in the system. The system creates RAID 5 and a hotspare disk at the same time.
  - ✧ Before the creation, there is no RAID in the system, but a hotspare disk is already available. The system creates RAID 5 only and uses the existing hotspare disk.
  - ✧ Before the creation, there is RAID available in the system. The system breaks up the original RAID and creates a new RAID 5 with other physical disks. The system uses the existing hospare disk and does not create a new one again.

- Create Manually

  1. Select RAID type and select disks according to the system prompt.
  2. Click Create Manually and the system prompts that all data will be cleared.
  3. Click OK and the system performs the creation.

Note

When creating RAID 5 and RAID 6, you can adjust the RAID sync speed by selecting the working mode of RAID 5 and RAID 6.

- Self-adaptive: Adjust RAID sync speed according to the current business load. If there is no external business, the sync speed is high. If there is external business, the sync speed is low.
- Syc priority: The system gives prioriy to RAID sync in resources allocation.
- Business priority: The system gives prioriy to business running in resources allocation.
- Balance: The system allocates resources to business running and RAID sync in balance.

3.4.6 Schedule

After set record schedule and snapshot schedule, the device can automatically record video and snapshot image at the specified time.

3.4.6.1 Schedule Record

After set schedule record, device can record video file according to the period you set here. For example, the alarm record period is from 6:00～18:00 Monday, device can record alarm video files during the 6:00～18:00.

All channels are record continuously by default. You can set customized record period and record type.

Step 1 Click Next button.

Enter schedule interface. See Figure 3-25.

Note

From main menu>Setting>Storage>Schedule>Record, you can go to the record interface.

Figure 3-25

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 or 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 six types: Regular/MD (motion detect)/Alarm/MD&Alarm/IVS/POS.
- 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. It allows you backup recorded file in two disks. You can highlight Redundancy button to activate this function. Please note, before enable this function, please set at least one HDD as redundant. (Main

menu>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 network camera in case the network connection fails. The value ranges from 0s～43200s. After the network connection resumed, the system can get the video from the SD card and there is no risk of record loss.
- Period setup: Click button  after one date or a holiday, you can see an interface shown as in Figure 3-26.There are five record types: regular, motion detection (MD), Alarm, MD & alarm and IVS.

Figure 3-26

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

Step 1 Select a channel you want to set. See Figure 3-27.

Figure 3-27

Step 2 Set record type. See Figure 3-28.

Figure 3-28

Note

- When the record type is MD (motion detect), alarm, MD&Alarm, IVS and POS, please enable the channel record function when corresponding alarm occurs. For example, when the alarm type is MD, from main menu>Setting>Event>Video Detect>Motion Detect, please select the record channel and enable record function. See Figure 3-29.

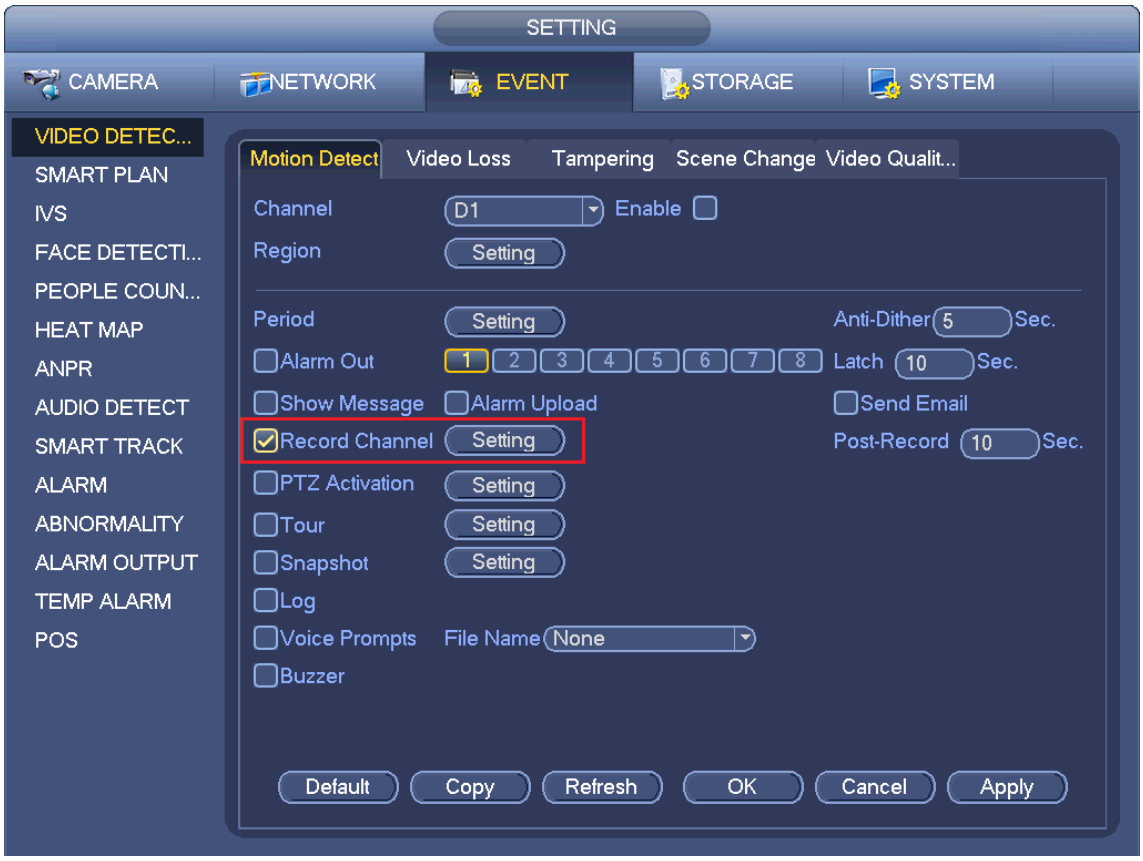


Figure 3-29

Step 3 Please draw manually to set record period. There are six periods in one day. See Figure 3-30.

Note

If you have added a holiday, you can set the record period for the holiday.

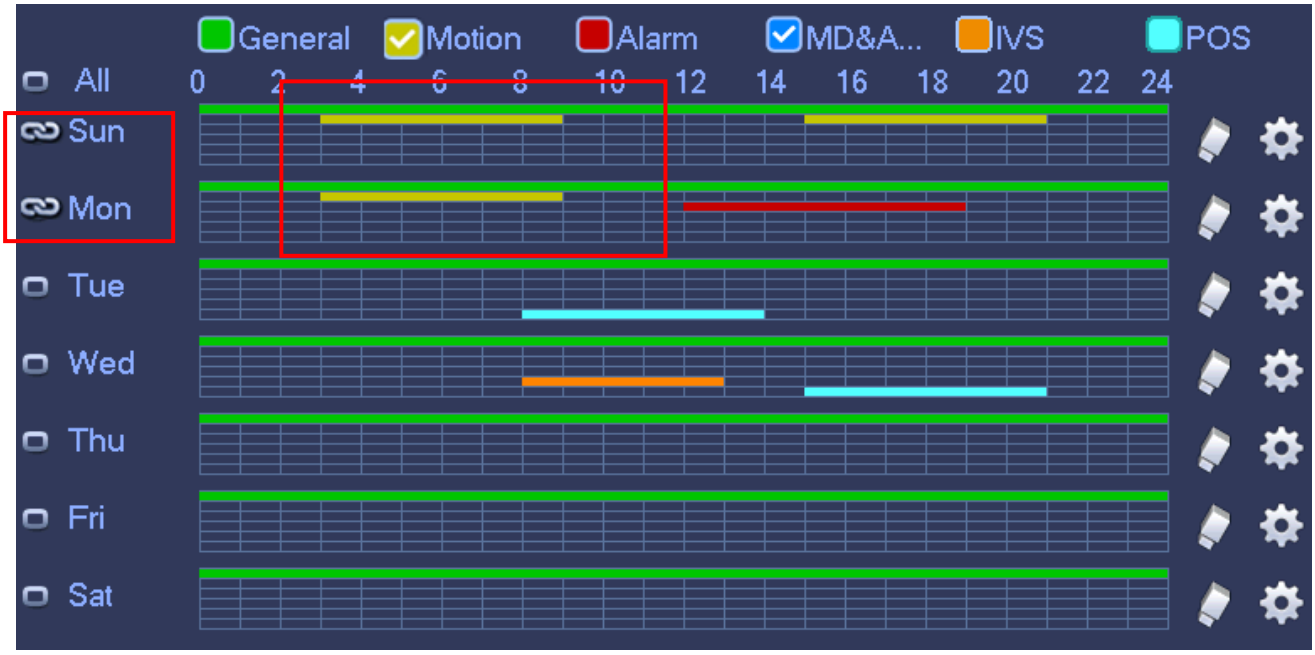


Figure 3-30

Step 4 Click Apply button to save schedule record settings.

Note

Please enable auto record function so that the record plan can become activated.

3.4.6.2 Schedule Snapshot

It is to set schedule snapshot period.

After set schedule snapshot, device can snapshot image according to the period you set here. For example, the alarm snapshot period is from 6:00～18:00 Monday, device can snapshot during the 6:00～18:00 when an alarm occurs.

Step 1 Click Snapshot button, device goes to following interface. See Figure 3-31.

Note

From main menu > Setting > Storage > Schedule > Snapshot, you can go to the snapshot interface.

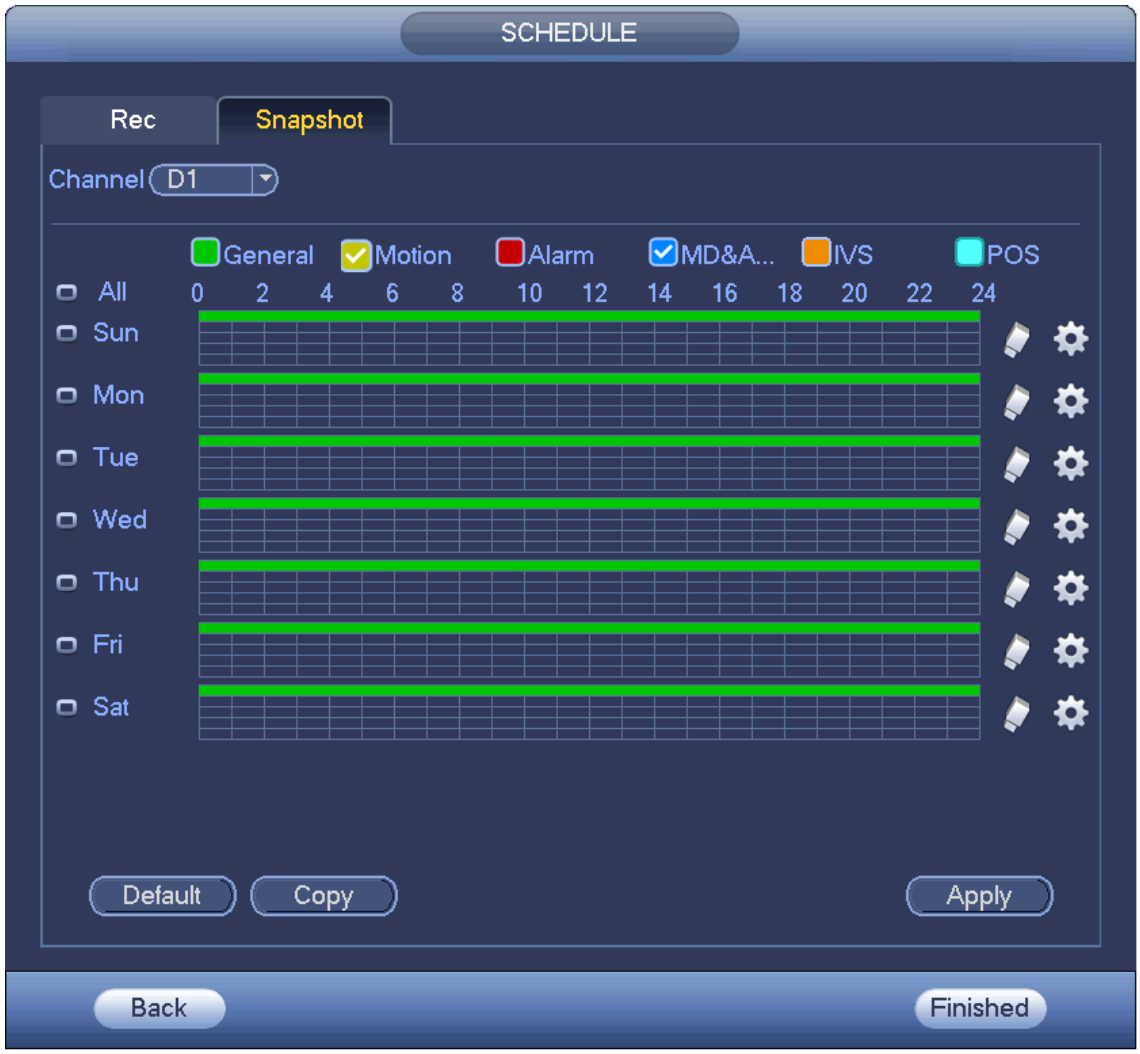


Figure 3-31

Step 2 Select a channel to set schedule snapshot.

Step 3 Set snapshot type as schedule.

Step 4 Check the box to set alarm type. See Figure 3-32.

Figure 3-32

Note

- When the record type is MD (motion detect), alarm, MD&Alarm, IVS and POS, please enable the channel snapshot function when corresponding alarm occurs. For example, when the alarm type is MD, from main menu>Setting>Event>Video Detect>Motion Detect, please select the snapshot channel and enable snapshot function. See Figure 3-33.

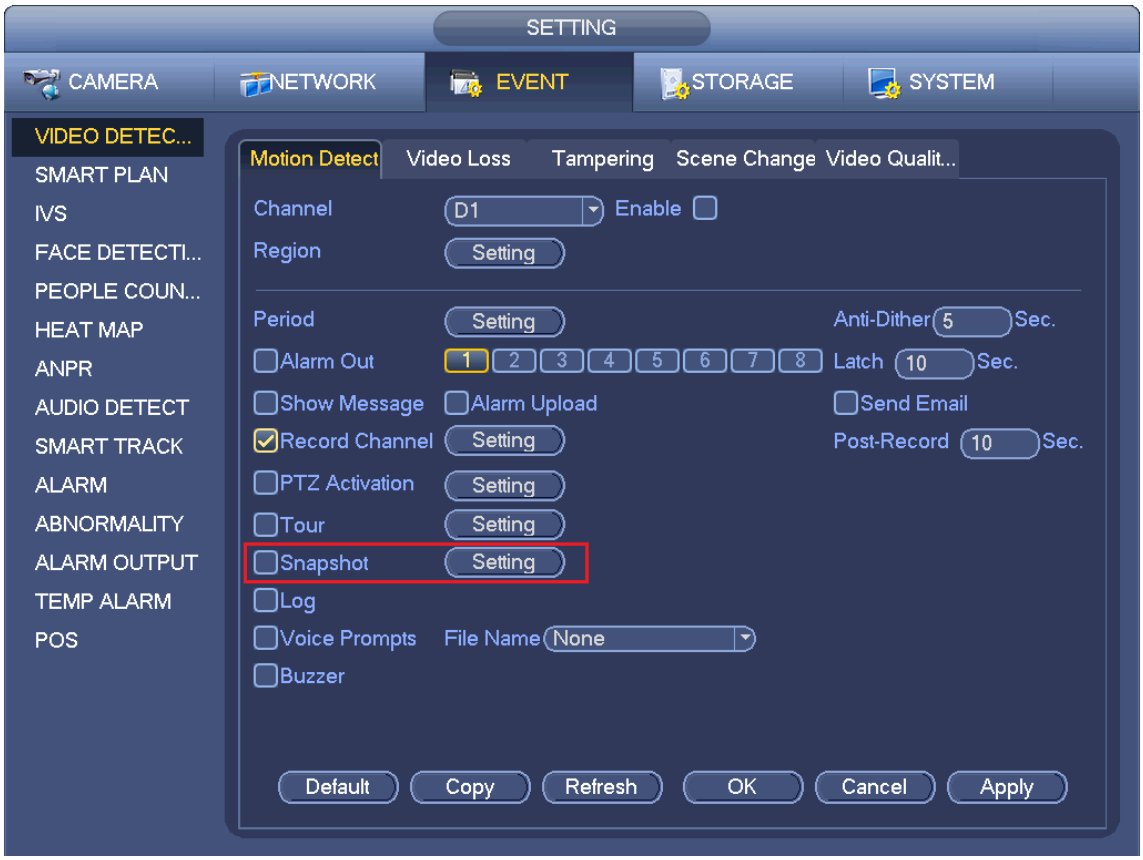


Figure 3-33

Step 5 Refer to chapter 3.4.6.2 to set snapshot period.

Step 6 Click Apply button to save snapshot plan.

Note

Please enable auto snapshot function so that the snapshot plan can become activated.

Step 7 Click Finish button, system pops up a dialogue box. Click the OK button, the startup wizard is complete. See Figure 3-34.

Figure 3-34

3.4.6.3 Record Control

Note

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

There are three ways for you to go to record menu.

- Right click mouse and then select Manual>Record.
- In the main menu, from Setting>Storage>Record.
- In live viewing mode, click record button in the front panel or record button in the remote control.

After set schedule record and schedule snapshot function, please enable auto record and auto snapshot function so that the device can automatically record and snapshot. System supports main stream and sub stream. There are three statuses: schedule/manual/stop. See Figure 3-35. Please highlight icon“○” to select corresponding channel.

- Manual: The highest priority. After manual setup, all selected channels will begin general recording.
- Schedule: Channel records as you have set in recording setup (Main Menu>Setting>Storage>>Schedule)
- Stop: Current channel stops recording.
- All: Check All button after the corresponding status to enable/disable all-channel schedule/manual record or enable/disable all channels to stop record.
- Snapshot: Select one or more channel(s) first and then enable/disable schedule snapshot function.

Figure 3-35

3.4.6.4 Record Info

After system recorded video files, go to the record info interface to view device name, start time, end time and etc.

From main menu>Info-System>Record, the interface is shown as below. See Figure 3-36.

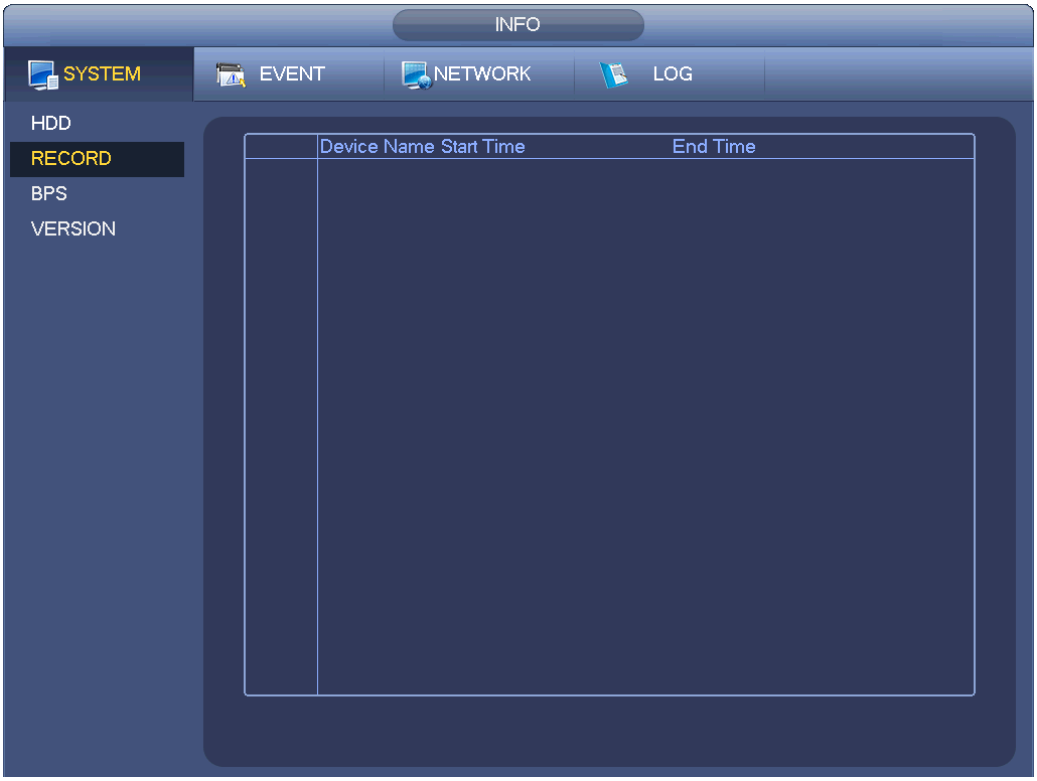


Figure 3-36

3.5 Remote Device

3.5.1 Remote Device Connection

After registering a remote device to the NVR, you can perform operations such as modifying IP, importing IP and exporting IP.

3.5.1.1 Change IP address

Step 1 From Main menu->Setting->Camera->Registration, check the box before the camera name and then click Change IP or click the  before the camera name.

Enter change IP interface. See Figure 3-37.

Note

Check the box before several cameras, change the IP addresses of several cameras at the same time.

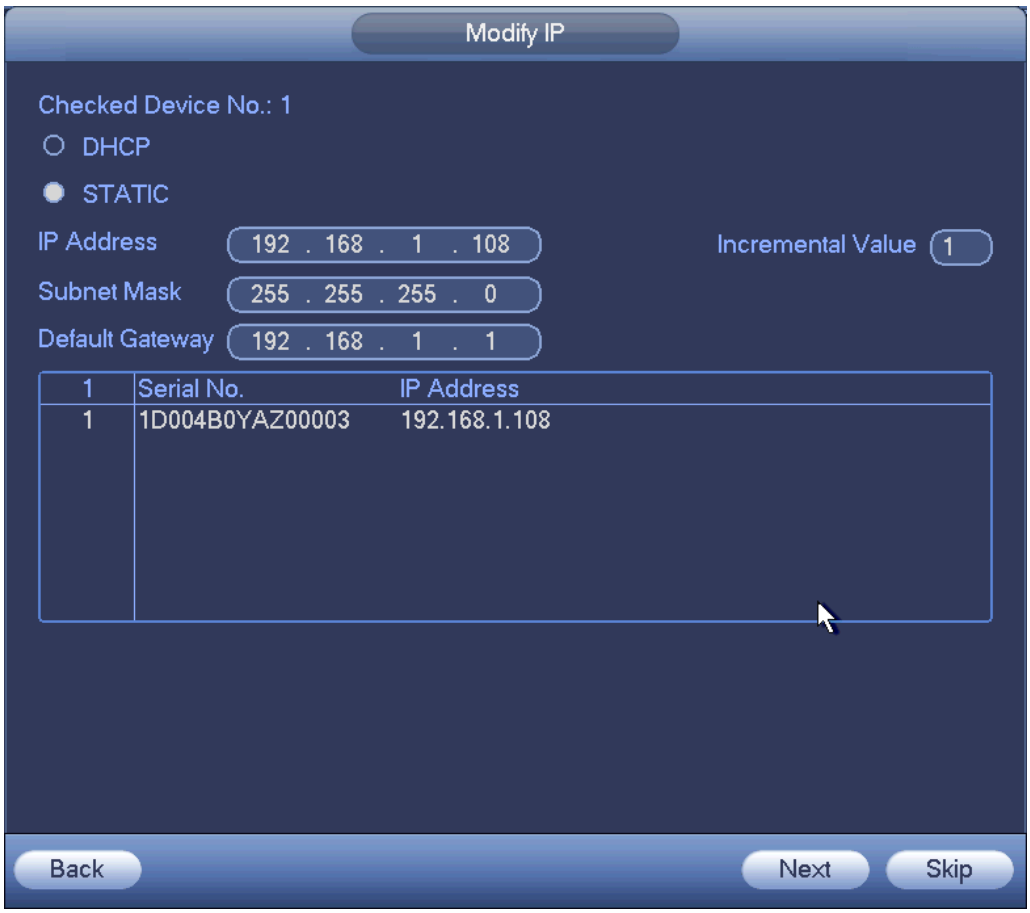


Figure 3-37

Step 2 Select IP mode.

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 3 Input remote device user name and password.

Step 4 Click OK button to save settings.

After the changing operation, search again, device displays new IP address.

Note

When change IP addresses of several devices at the same time, make sure the cameras user name and passwords are the same.

3.5.1.2 IP Export

Device 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 3-38.

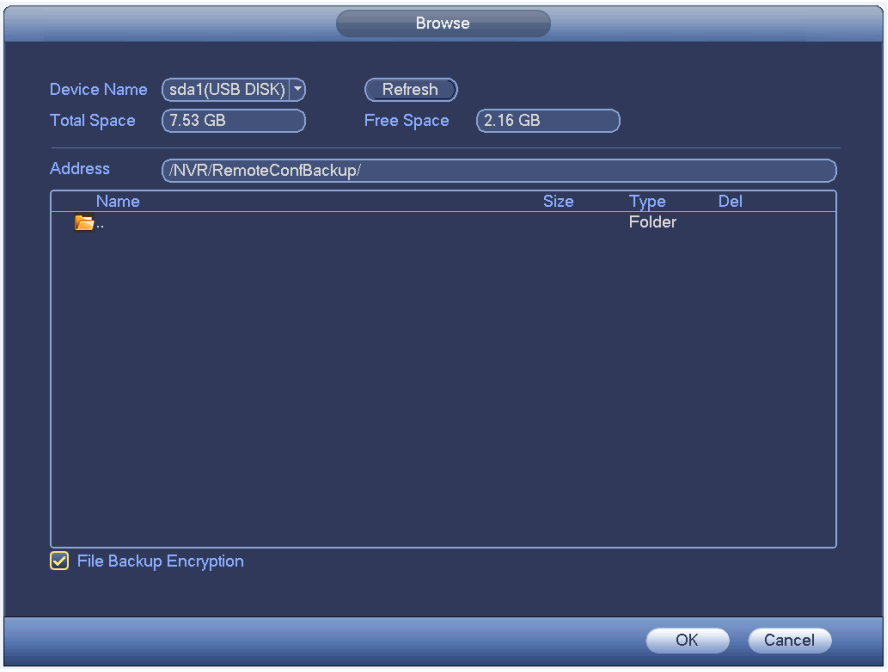


Figure 3-38

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

Step 3 Device pops up a dialogue box to show the export is successful. Click OK button to exit.

Note

Backup encryption is enabled by default when exporting files. The file information includes IP address, port, remote channel number, manufacturer, user name and password.

- When you enable backup encryption, the extension name of the exported file is .backup. All the other softwares cannot open the file to edit except the NVR device.
- When you disable backup encryption, the password of remote device in the exported file is blank. The extension name of the exported file is .csv. It might lead to data leakage.

3.5.1.3 IP Import

Step 1 Click Import button.

Enter the following interface. See Figure 3-39.

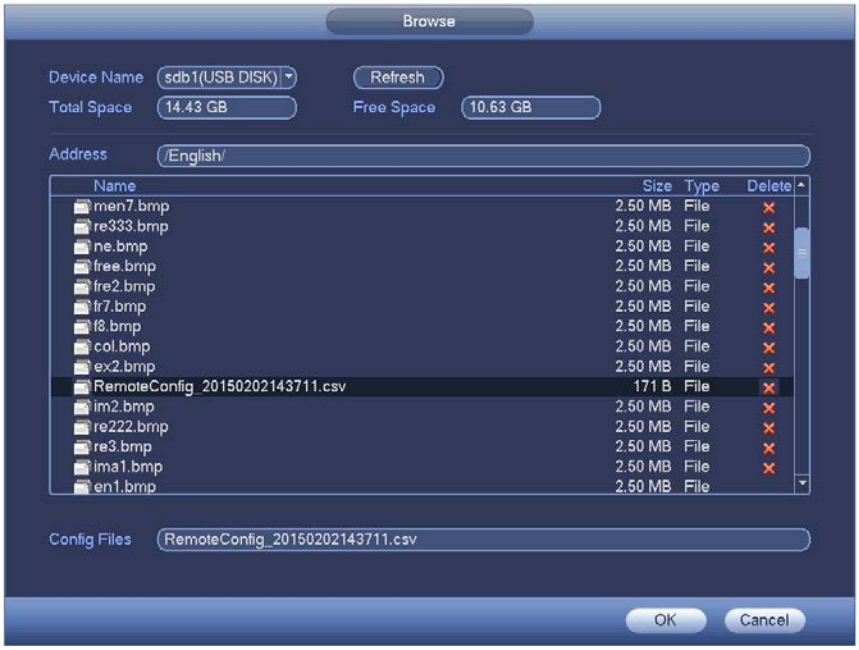


Figure 3-39

Step 2 Select the import file and then click the OK button. System pops up a dialogue box to remind you successfully imported.

Step 3 Click OK button to exit.

Note

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

Step 4 Click OK button, system uses the imported setup to overlay current one.

Important

- 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.

3.5.2 Remote Device Initialization

Remote device initialization can change remote device login password and IP address.

Note

- When connect a camera to the NVR via PoE port, NVR automatically initialize the camera. The camera adopts NVR current password and email information by default.
- When connect a camera to the NVR via PoE port after NVR upgraded to the new version, the NVR may fail to initialize the camera. Please go to the Registration interface to initialize the camera.

Step 1 From main menu > Setting > Camera > Registration.
Enter Registration interface.

Step 2 Click Device Search and then click Uninitialized.
Device displays camera(s) to be initialized.

Step 3 Select a camera to be initialized and then click Initialize.
Device displays password setup interface. See Figure 3-40.

Note

If you want to use current device password and email information, the remote device automatically uses NVR admin account information (login password and email). There is no need to set password and email. Please go to step 4.

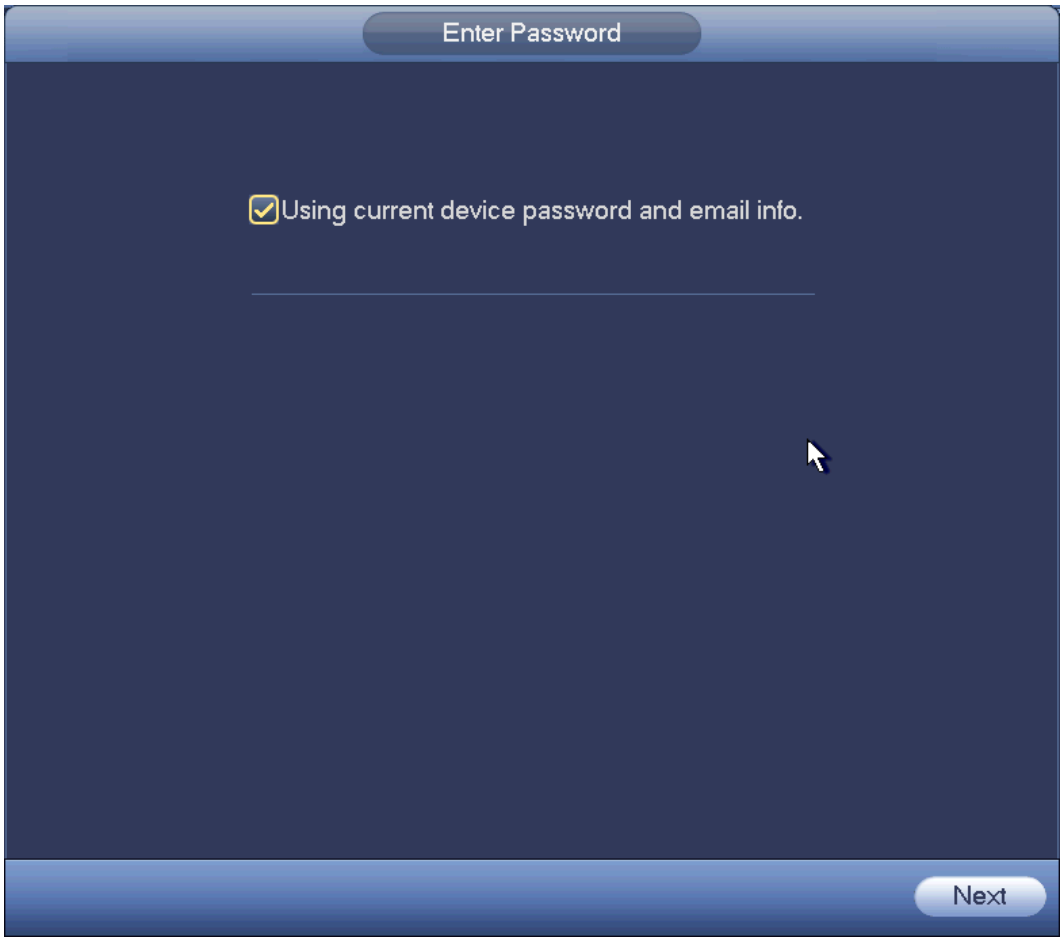


Figure 3-40

1. Cancel using current device password and email information,
   Enter password setting interface. See Figure 3-41.

Figure 3-41

2. Set camera 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.

3. Click Next button.

Enter input email interface. See Figure 3-42.

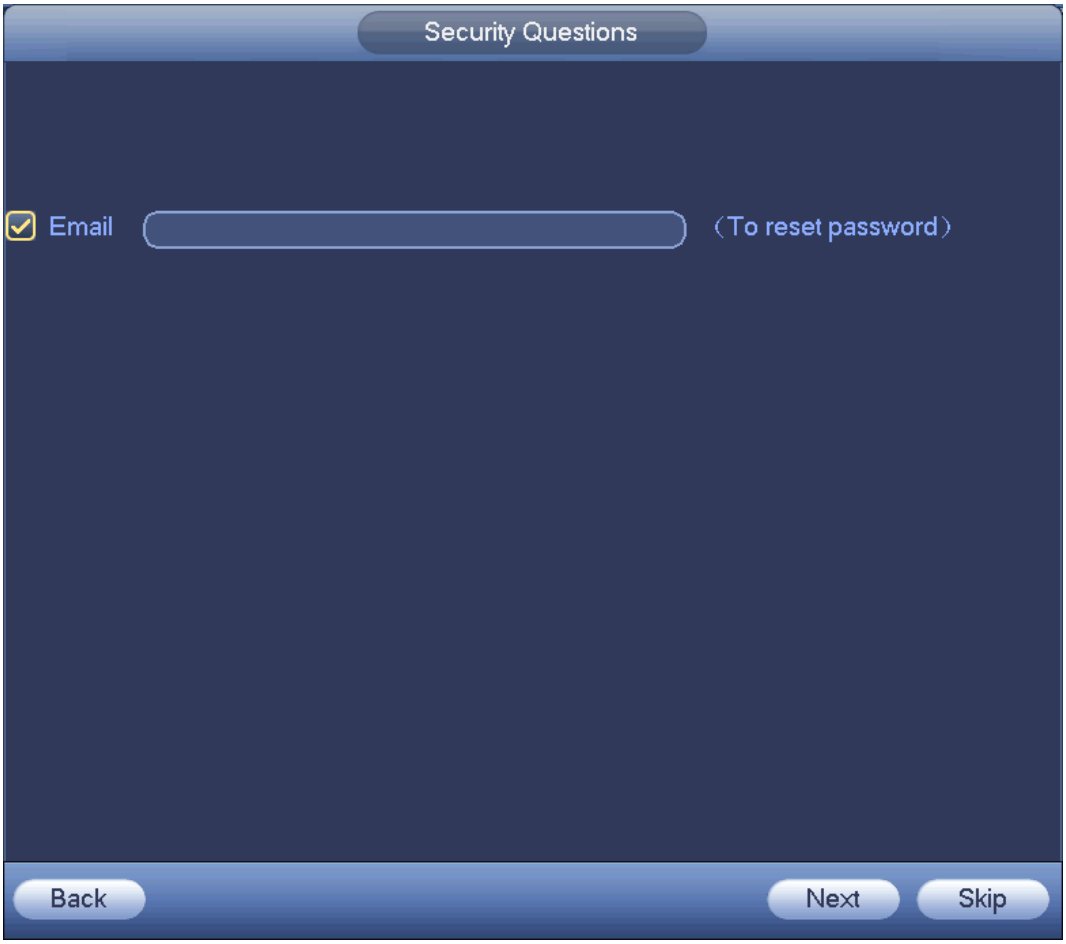


Figure 3-42

4. 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 4 Click Next button.

Enter Change IP address interface. See Figure 3-43.

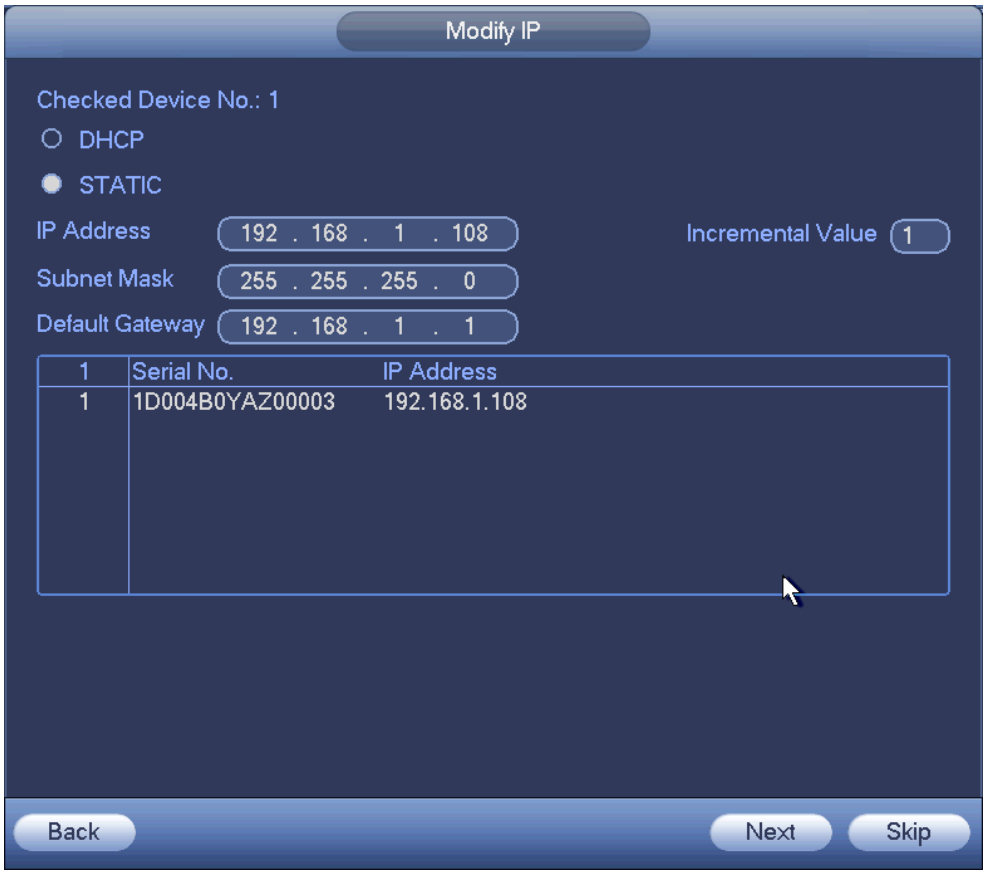


Figure 3-43

Step 5 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 6 Click Next button.

Device begins initializing camera. See Figure 3-44.

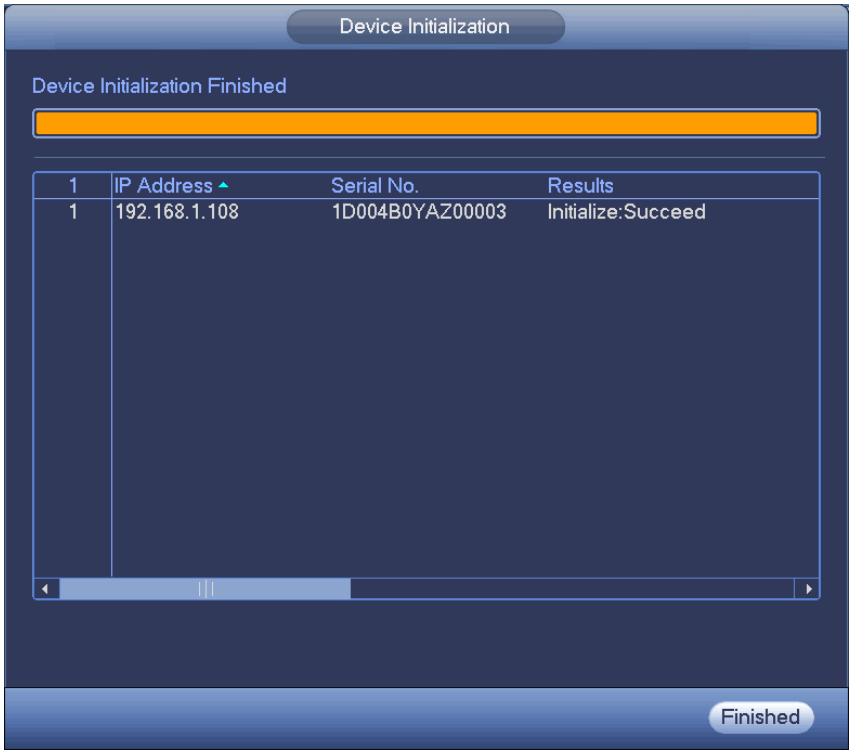


Figure 3-44

Step 7 Click Finish to complete the setup.

3.5.3 Image

From main menu>Setting>Camera>Image, you can see the image interface is shown as below. See Figure 3-45.

- Channel: Select a channel from the dropdown list.
- Config file: There are three configuration files. System sets proper parameters (such as brightness, contrastness and etc) for each configuration file. You can select according to your actual situation.
- 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.
- Auto Iris: It is for the device of the auto lens. You can check the box before ON to enable this function. The auto iris may change if the light becomes different. When you disable this function, the

iris is at the max. System does not add the auto iris function in the exposure control. This function is on by default.

- Gamma: It is to set each pixel brightness. The higher the value is, the brighter the image is. The value ranges from 0 to 100. The recommended value ranges from 40 to 60.
- Mirror: It is to switch video left and right limit. This function is disabled by default.
- Flip: Please select from the dropdown list. It includes normal/180°/90°/270° and etc. Some camera sports flip mode.
- 3D NR: It is to process multiple-frame (At least two frames). System uses the information between these two frames to realize noise reduction function.
- BLC: It includes several options: BLC/WDR/HLC/OFF.
  - ✧ BLC: There are two modes: default/customize. For the default mode, the device auto exposures according to the environments situation so that the darkest area of the video is clearer. For the customized mode, you can select a rectangle zone to enhance its brightness to the proper level.
  - ✧ 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.
- W/B Mode: It is to set white balance mode. It can affect the video total hue. The default setup is auto. Please note different cameras support different modes. Please select from the dropdown list. The options include sunny/night/customized and etc.
- 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. **Please note some non-IR series product support sensor input function.**

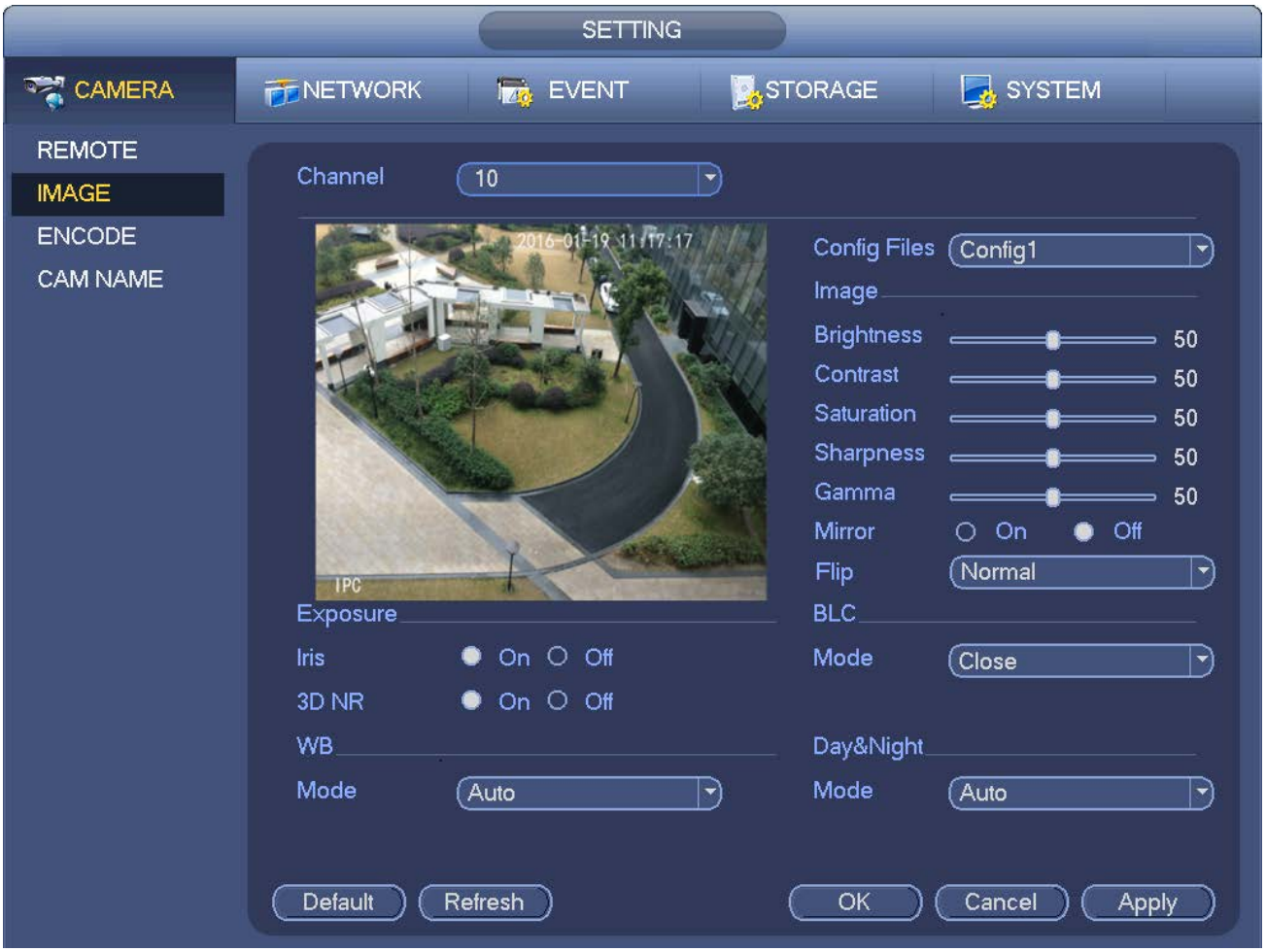


Figure 3-45

3.5.4 Encoding

It is to set video encode parameters such as video bit rates, video overlay, snapshot settings.

3.5.4.1 Encode

It is to set IPC encode mode, resolution, bit stream type and etc.

Note

Some series products support three streams: main stream, sub stream 1, sub stream 2. The sub stream maximally supports 1080P.

From Main menu->Setting->System->Encode, you can see the following interface. See Figure 3-46.

- Channel: Select the channel you want.
- Type: It is to set device bit stream type.
  - ✧ For main stream, there are three options: regular/motion detect/alarm. The sub stream supports regular bit streams only.
  - ✧ The active control frame function (ACF) can record in different frame rates. For example, you can use high frame rate to record important events, record scheduled event in lower frame rate.
  - ✧ Set different frame rates for different record events.

Note

Some series products do not support motion detect bit streams and alarm streams.

- Compression: Video encode mode.
  - ✧ H.264: Main Profile encode mode.
  - ✧ H.264H: High Profile encode mode.
  - ✧ H.264B: Baseline Profile encode mode.
  - ✧ H.265: Main Profile encode mode.
  - ✧ MJPEG: System needs high bit streams to guarantee video definition. Use the recommended max bit stream value to get the better video effect.
- Smart Codec: This function is to reduce bit streams.

Note

- ✧ Some series products support smart codec function.
- ✧ After changing smart code, please reboot network camera and some network camera functions (such as IVS, ROI, SVC, lobby mode and etc.) becomes null. Please think twice before the operation.

- Resolution: The resolution here refers to the capability of the network camera.

Note

Different series products support different resolutions. Please refer to the actual interface for detailed information.

- Frame rate (FPS): The video frame amount displayed in each second. The higher the frame rate is, the clearer and more fluent the video is. The frame rate may vary depending on the resolution.
- Bit rate type: System supports two types: CBR and VBR.
  - ✧ Main stream: It is to set frame rate to change video quality. The higher the frame rate is, the better the video quality is. The referenced bit rate is the recommended value.
  - ✧ Sub stream: In CBR mode, the bit stream is near the specified value. In VBR mode, the video quality changes according to the bit stream value. But its max value is near the specified value. Reference bit rate: The reference bit rate depends on the resolution and frame rate you set.
- Video/audio: You can enable or disable the video/audio. The main stream is enabled by default. After enable the audio function, the record file is composite file consisting of the video and audio. For the sub stream 1, please enable video first and then enable audio function.
- Audio format: Set audio encode format.

Note

Different series products support different audio encode mode. Please refer to the actual interface for detailed information.

- Sampling rate: Audio sampling rate refers to the sampling amount within 1 second. The higher the value is, the better the audio is. The default setup is 8K.
- Copy: After you complete the setup, you can click Copy button to copy current setup to other channel(s).

Please highlight icon  to select the corresponding function.

Figure 3-46

3.5.4.2 Overlay

Click overlay button, you can see an interface is shown in Figure 3-47.

- Cover area: Here is for you to cover area section. You can drag you mouse to set proper section size. In one channel video, system max supports 4 zones in one channel. You can set with Fn button or direction buttons.
- Preview/monitor: The cover area 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.

Figure 3-47

3.5.4.3 Snapshot

Here you can set snapshot mode, picture size, quality and frequency. See Figure 3-48.

- Snapshot mode: There are two modes: regular and trigger. If you set regular 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 3-48

3.5.5 Channel Name

From main menu>Setting>Camera>Channel name, you can see an interface shown as in Figure 3-49. It is to modify channel name. It max supports 31-character.

Please note you can only modify the channel name of the connected network camera.

Figure 3-49

3.5.6 Upgrade

Note

System max supports to upgrade 8 network cameras at the same time.

It is to update the network camera.

Step 1 From main menu > Setting > Camera > Remote > Upgrade, the interface is shown as below. See Figure 3-50.

Step 2 Click Browse button and then select the upgrade file. Then select a channel (or you can select device type filter to select several devices at the same time.)

Step 3 Click Start upgrade button to upgrade. You can see the corresponding dialogue once the upgrade is finish.

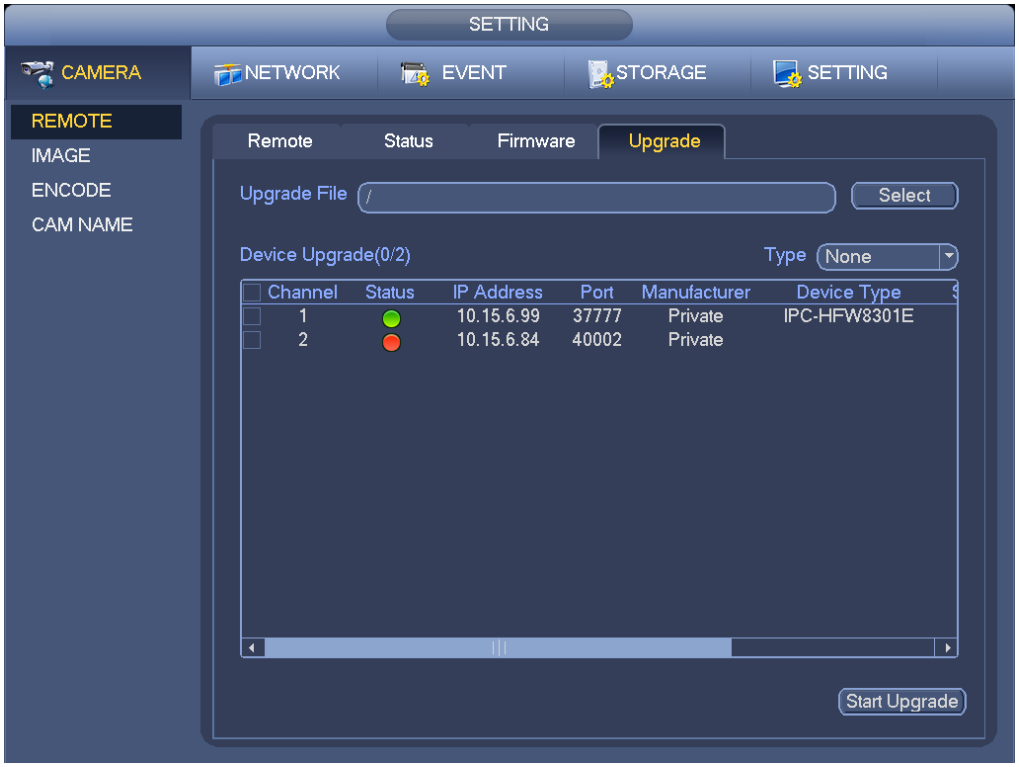


Figure 3-50

3.5.7 Remote Device Info

3.5.7.1 Device Status

Here you can view the IPC status of the corresponding channel such as motion detect, video loss, tampering, alarm and etc. See Figure 3-51.

- 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.

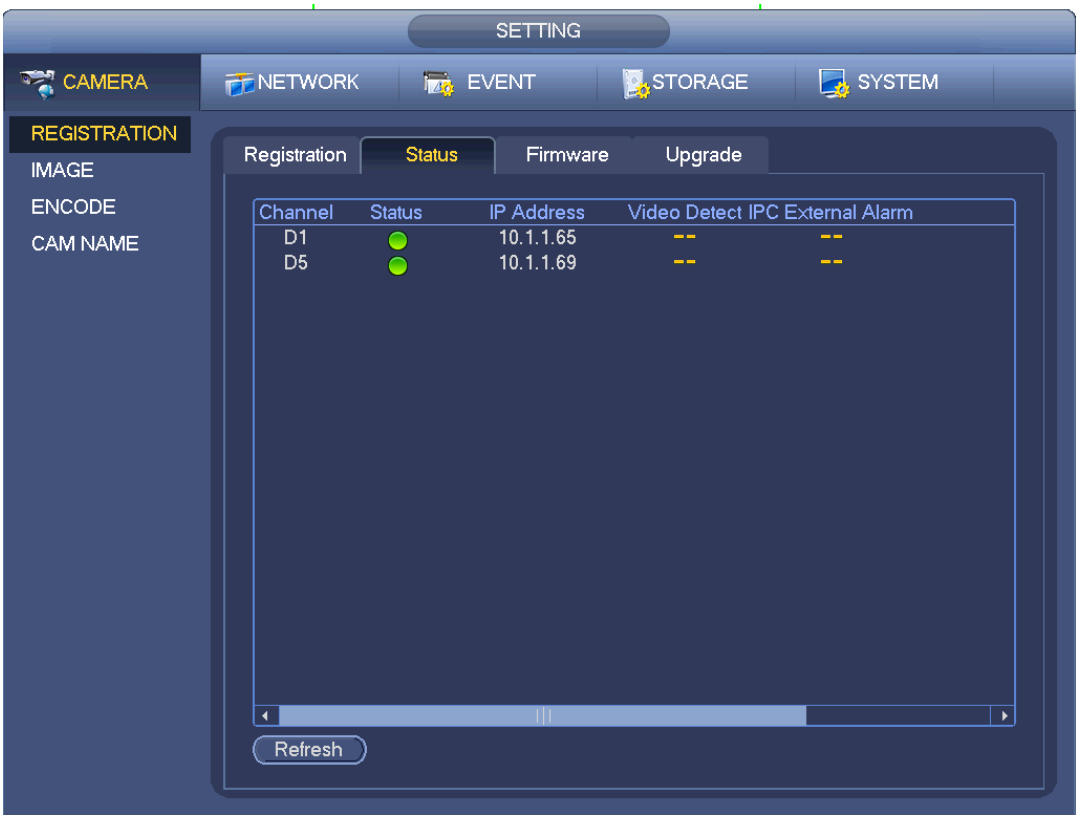


Figure 3-51

3.5.7.2 Firmware

It is to view channel, IP address, manufacturer, type, system version, SN, video input, audio input, external alarm and etc. See Figure 3-52.

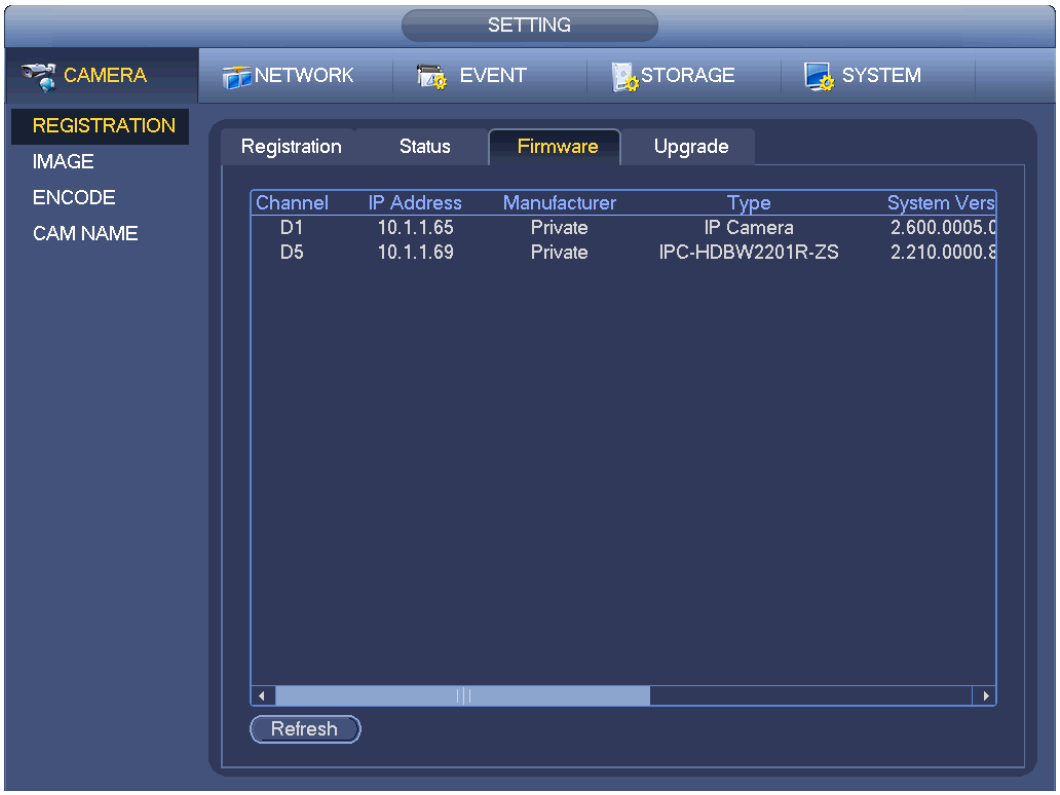


Figure 3-52

3.6 Preview

After device booted up, the system is in multiple-channel display mode. See Figure 3-53.Please note the displayed window amount may vary. The following figure is for reference only.

Figure 3-53

3.6.1 Preview

If you want to change system date and time, you can 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)

Please refer to the following sheet for detailed information.

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.
5		When the device remotely connects Wi-Fi IPC, this icon is displayed on the screen of the corresponding channel. NOTE Only some devices support this function.

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.
- Use mouse middle button to control window split: You can use mouse middle button to switch window split amount.

3.6.2 Navigation bar

On the preview interface, left click mouse, you can view the navigation bar. See Figure 3-54 or Figure 3-55.

Note

- Different series products may display different navigation bar icons. Refer to the actual product for detailed information.
- Go to the Main menu->Setting->System->General to enable navigation bar function; otherwise you cannot see the following interface.

Figure 3-54

Figure 3-55

3.6.2.1 Main Menu

Click button  to go to the main menu interface.

3.6.2.2 Dual-screen operation

Important

This function is for some series only.

Click  to select screen 2, you can view an interface shown as below. See See Figure 3-56. It is a navigation bar for screen 2.

Figure 3-56

Click any screen split mode; HDMI2 screen can display corresponding screens. Now you can control two screens. See Figure 3-57.

Figure 3-57

Note

- Screen 2 function is null if tour is in process. Please disable tour function first,
- Right now, the screen 2 operation can only be realized on the navigation bard. The operations on the

right-click menu are for screen 1 only.

3.6.2.3 Output Screen

Click  to select corresponding window-split mode and output channels.

3.6.2.4 Previous screen/next screen

Click  to go back to the previous screen, click  to go to the next screen.

3.6.2.5 Tour

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

Note

Close the tour or the triggered tour operation has cancelled, device restore the previous preview video.

3.6.2.6 PTZ

Click  , system goes to the PTZ control interface.

3.6.2.7 Color

Click button  , system goes to the color interface. Please make sure system is in one-channel mode.

3.6.2.8 Image

Click  to go to the image interface. Please make sure system is in one-channel mode.

3.6.2.9 Search

Click button  , system goes to search interface.

3.6.2.10 Broadcast

Click  to go to broadcast interface. Select a group name and then click  to begin broadcast.

3.6.2.11 Alarm Status

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

3.6.2.12 Channel Info

Click button  , system goes to the channel information setup interface. It is to view information of the corresponding channel. See Figure 3-58.

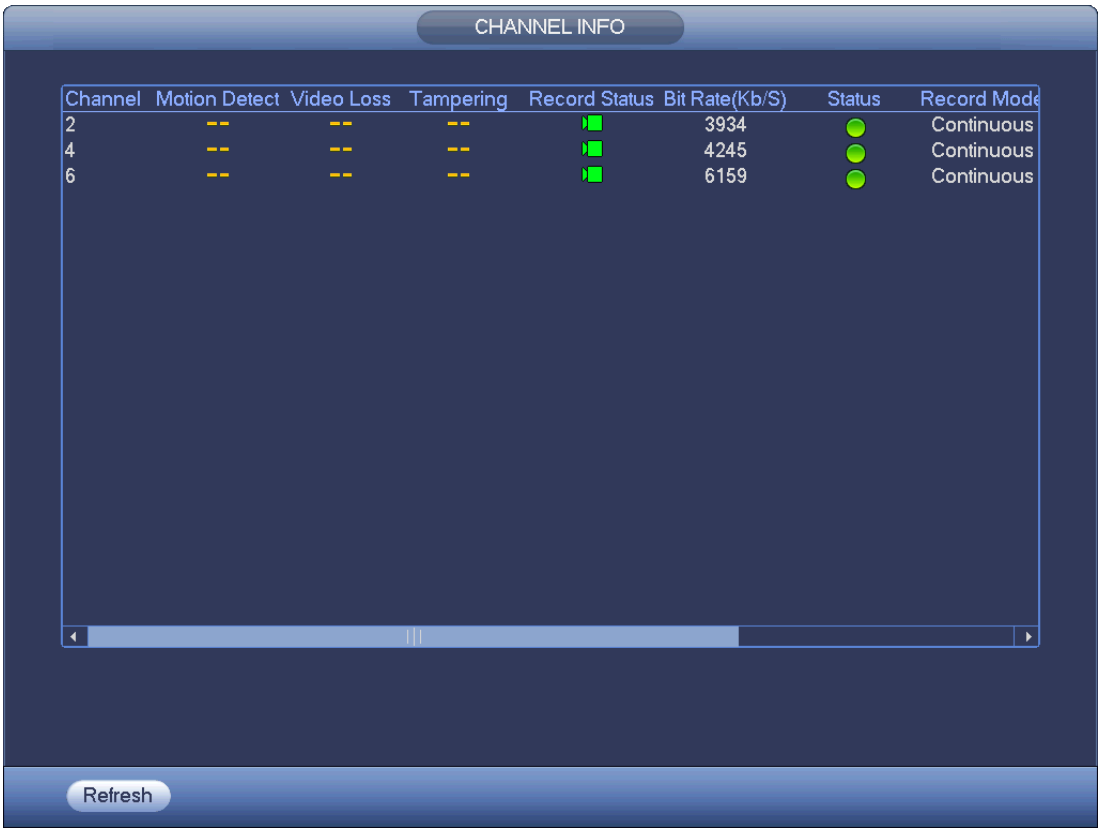


Figure 3-58

3.6.2.13 Registration

Click  , system goes to the registration interface.

3.6.2.14 Network

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

3.6.2.15 HDD Manager

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

3.6.2.16 USB Manager

Click  , system goes to the USB Manager interface. It is to view USB information, backup and update..

3.6.3 Preview Control Interface

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 3-59. If your mouse stays in this area for more than 6 seconds and has no operation, the control bar automatically hides.

Figure 3-59

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 real-time playback time.

System may pop up a dialogue box if there is no such record in current channel.

2) Digital zoom

It is to zoom in specified zone of current channel. It supports zoom in function of multiple-channel.

Click button, the button is shown as.

There are two ways for you to zoom in.

- Drag the mouse to select a zone, you can view an interface show as Figure 3-60.

Figure 3-60

- Put the middle button at the center of the zone you want to zoom in, and move the mouse, you can view an interface shown as in Figure 3-61.

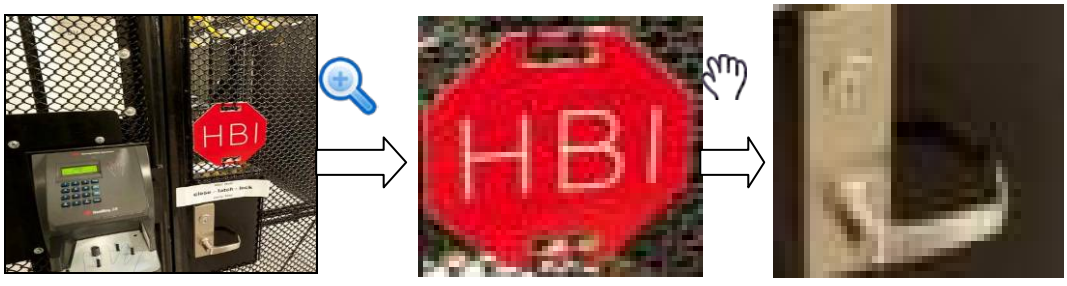


Figure 3-61

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

3) Manual record function

It is to back up 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 recoridng. You can find the record file on the flash disk.

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 to view.

5) Bidirectional talk

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  .

6) Switch bit streams

Click  to switch the bit stream type of the main stream and sub stream.

- M: Main stream. Its bit streams are big and definition is high. It occupies large network bandwidth suitable for video wall surveillance, storage and etc.
- S: Sub stream. Its definition is low but occupies small network bandwidth. It is suitable for general surveillance, remote connection and etc. Some series products support two sub streams (S1, S2).

3.6.4 Right Click Menu

After you logged in the device, right click mouse, you can see the short cut menu. Please see Figure 3-62.

- Window split mode: You can select window amount and then select channels.
- Sequence: Adjuct the window sequence on the preview interface.
- Custom split: It is to set video split mode and displayed channel.
- Preview mode: You can select regular, plate recognition and face detection.
- PTZ: Click it to go to PTZ interface.
- Fish eye: It is to set fish eye installation mode and display mode.
- Split track: It is to set the video to be displayed at the same screen as 4/6-window mode.
- Smart Track: It is to view the trigger video of the fish eye and PTZ camera.

Auto focus: It is to set auto focus function. Please make sure the connected network camera supports this function.

- Image: Set video corresponding information.
- Search: Click it to go to Search interface to search and playback a record file.
- Manual: Enable/disable record channel and alarm control.
- Camera registration: Search and add a remote device.
- Main menu: Go to system main menu interface.

Note

- Right click mouse to go back to the previous interface.
- The right-click menu is different for different models. The actual product shall prevail.

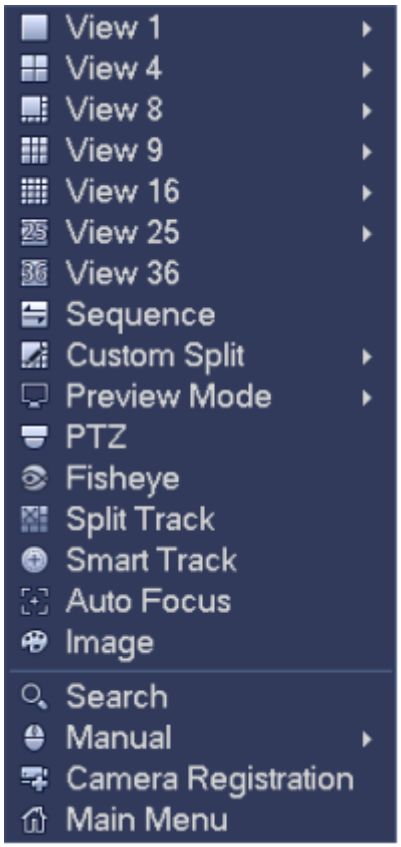


Figure 3-62

3.6.5 Edit View (Sequence)

It is to set customized view layout.

Warning

The preview layout restores default channel layout after Default operation. (Main menu->Setting->General->Default).

Step 1 On the preview interface, right click mouse and then click Edit view.
Enter edit view interface. See Figure 3-63.

Note

- Enter edit view interface, device automatically switches to the max split amount mode.
- The channel list on the edit view interface displays the added camera channel number and

channel name. means camera is online. means camera is offline.

- In case the channel amount has exceeded the device max split amount, the edit view interface can display the max screen number amount and current screen number. In Figure 3-63, click or , switch the video from other channel.

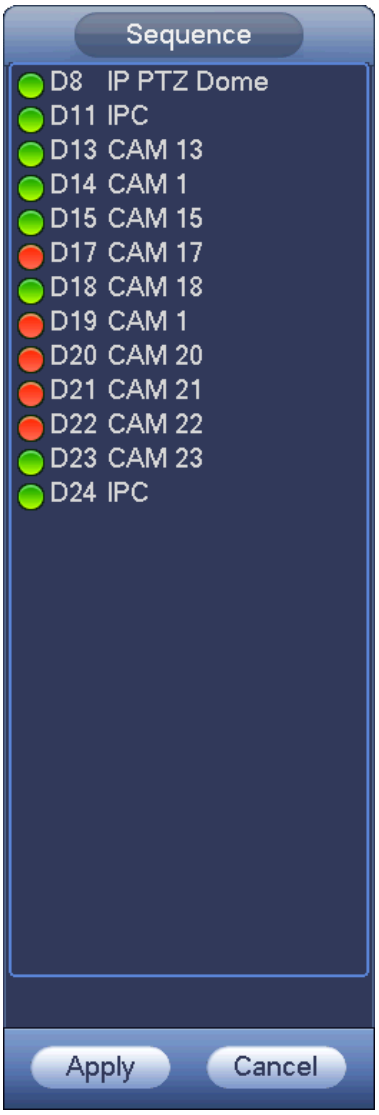


Figure 3-63

Step 2 On the edit view interface, drag the channel to the desired window, or drag on the preview window to switch the position.

Check the channel number at the right bottom corner to view the current channel sequence. See Figure 3-64.

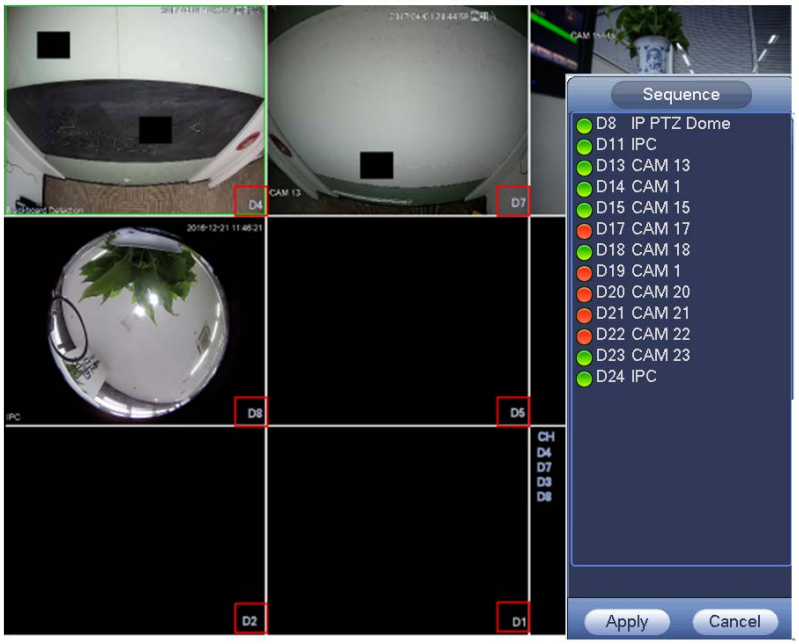


Figure 3-64

Step 3 Click Apply to save current channel sequence.

After you change the channel sequence, click Cancel button or right click mouse, device pops up the dialogue box. See Figure 3-65.

- Click OK to save current settings.
- Click Cancel to exit without saving the settings.

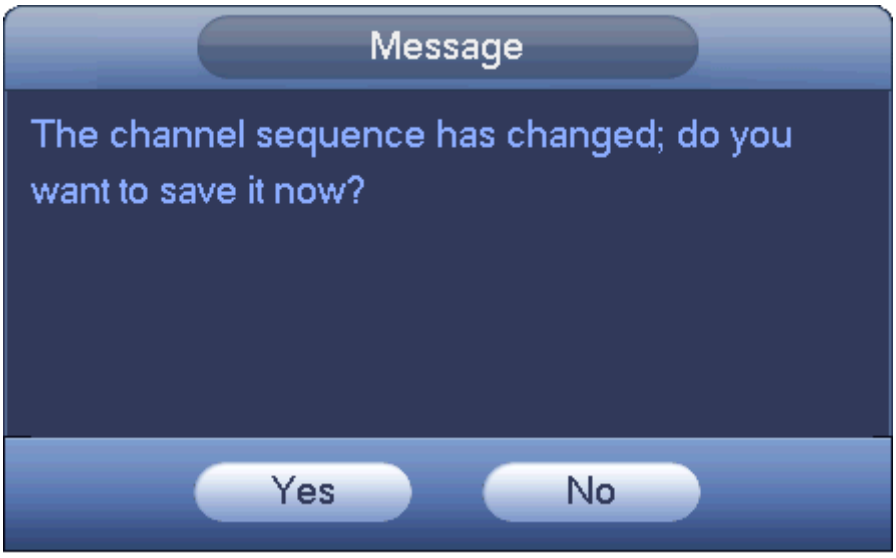


Figure 3-65

3.6.6 Preview Display Effect Setup

3.6.6.1 Display

From Main Menu->Setting->System->Display, you can go to the following interface. See Figure 3-66. Here you can set menu and video preview effect. All you operation here does not affect the record file and playback effect.

Now you can set corresponding information.

- Time display: You can select to display time or not when system is playback.

- Channel display: You can select to channel name or not when system is playback.
- Image enhance: Check the box; you can optimize the margin of the preview video.
- IVS rule: Check the box to enable IVS function. System can display IVS rule on the preview video.
- Original scale: You can set different original rates for different channels. Click Set and then select a channel, you can restore original rate.
- Screen mode: It is for dual-screen operation. Please select from the dropdown list according to your actual situation. Click Apply button, system needs to restart to activate new setup. For example, 32+4 means for VGA, system max supports 32-window split and for HDMI2, system max supports 4-window split. Please note this function is for some series product only.
- Screen enable: Check the box here to enable the screen. In this way, it can display the video.
- Screen No. Select the corresponding screen from the dropdown list and then set resolution.
- Resolution: There are four options: 1920×1080, 1280×1024, 1280×720, and 1024×768. The VGA default resolution is 1280×1024; HDMI default resolution is 1920×1080. Please note the system needs to reboot to activate current setup.
- Test temperature: Select the check box to enable the real-time spot temp test function.

Note

- It might collect the human body temperature information in the monitor screen. Be careful!
- Only products of some series support this function.

Figure 3-66

- Preview mode: It is to set preview display mode. Please select from the dropdown list.

✧ General: There is no displayed information on the preview interface.

✧ Human face: System will display human face information on the right pane of the preview interface. See Figure 3-67.

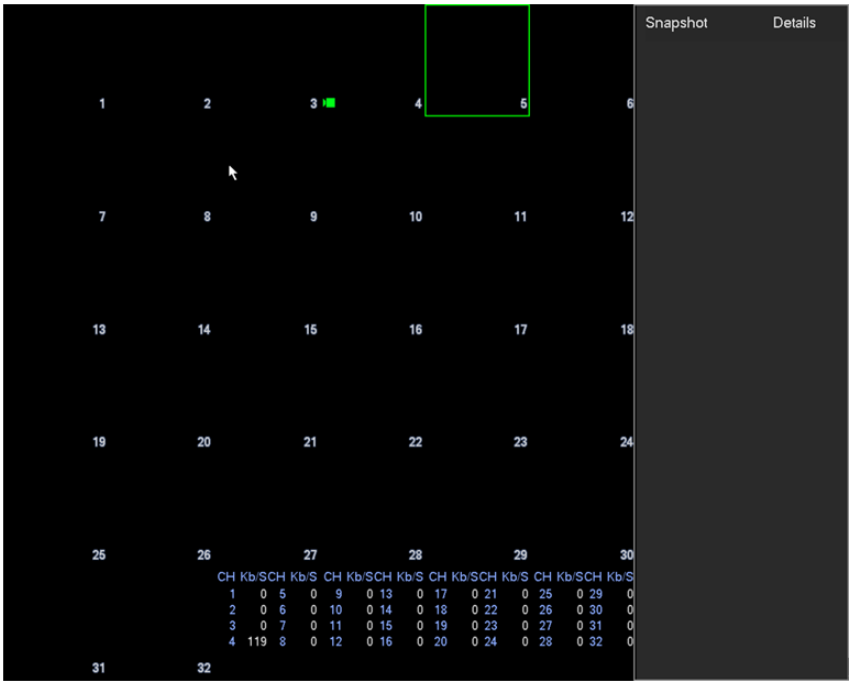


Figure 3-67

- POS info: Check the box, system will display POS information on the preview interface.

Click OK button to save current setup.

3.6.6.2 Preview Tour Parameters

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

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

From Main menu->Setting->System->Display->Tour, you can see an interface shown as in Figure 3-68. Here you can set tour parameter.

- Screen No.: Please select screen from the dropdown list.
- Video detect: It is to set video detect tour. System supports 1/8-window tour.
- Alarm: It is to set alarm tour. System supports 1/8-window tour.
- Enable tour: Check the box here to enable tour function.
- Interval: Input proper interval value here. The value ranges from 1-120 seconds.
- Window split: It is to set window split mode.

Figure 3-68

Tips

On the navigation bar, click / to enable/disable tour.

Click Save button to save current setup.

3.6.6.3 Custom Split

It is to set customized local preview display mode.

From Main menu->Setting->System->Display->Custom split, you can see an interface shown as in Figure 3-69.

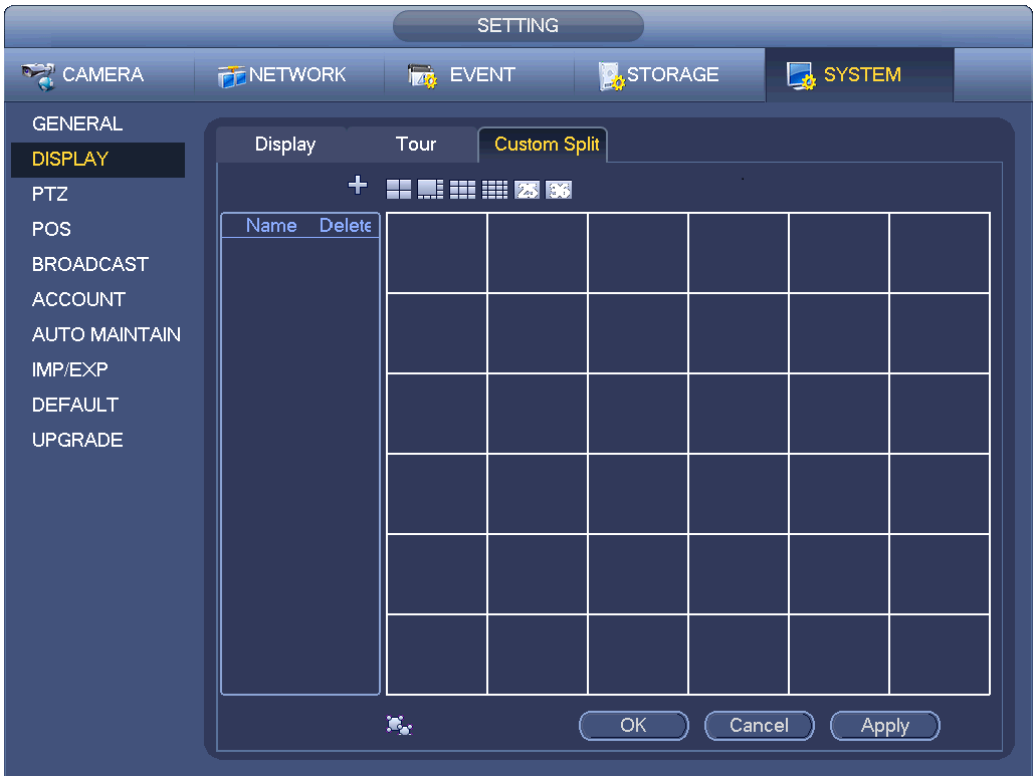


Figure 3-69

Click  and then click  to select basic mode

In regular mode, drag the mouse in the preview frame, you can merge several small windows to one window so that you can get you desired split mode.

After the setup, the selected window has the red frame. See Figure 3-70.

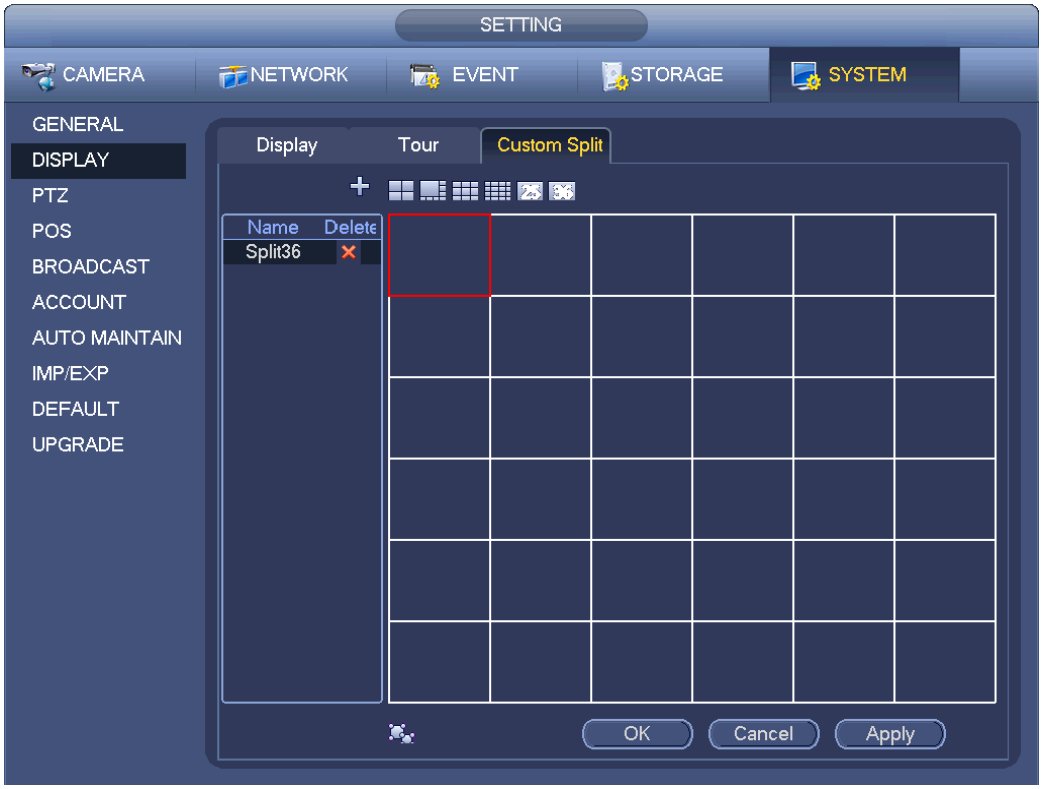


Figure 3-70

Select the merging window, the frame is red; you can click  to cancel the merge to restore regular mode.

Click Save to exit.

After the setup, you can go to the preview window, right click mouse and then select custom split. See Figure 3-71.

Figure 3-71

3.6.7 Fisheye

Please note this function is for some series only.

3.6.7.1 Fisheye de-warp during preview interface

The fisheye camera (panoramic camera) has wide video of angle but its video is serious distorted. The de-warp function can present the proper and vivid video suitable for human eyes.

On the preview interface, select fisheye channel and then right click mouse, you can select fish eye. See Figure 3-72.

Figure 3-72

Now you can see an interface shown as in Figure 3-73. You can set fish eye installation mode and display mode.

Note

- For the non-fish eye channel, system pops up dialogue box to remind you it is not a fish eye channel and does not support de-warp function.
- If system resources are insufficient, system pops up the corresponding dialogue box too.

Figure 3-73

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）  （Ground mount）		360°panorama original view
		1 de-warp window+1 panorama stretching
		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 3-74

In Figure 3-74, 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 fish eye de-warp.

3.6.7.2 Fish eye de-warp during playback

Step 1 On the main menu, click search button.

Step 2 Select 1-window playback mode and corresponding fish eye channel, click to play.

Right click the, you can go to the de-warp playback interface. For detailed information, please refer to chapter 3.6.7.1 fisheye de-warp during preview.

3.6.8 Split Track

It is to display one video channel in several windows.

On the preview interface, right click mouse and then select split track, you can see an interface shown as below. See Figure 3-75.

Figure 3-75

Please select split mode, it includes main screen, one main screen+3 extension screens, one main screen +5 extension screens. See Figure 3-76.

This function can divide the main screen to several windows. Use the mouse to adjust the frames in different colors to set the images to be displayed in the extension screen.

On the main screen or the extension screen, use the middle button of the mouse to zoom in or zoom out.

Figure 3-76

3.6.9 Smart Track

This function allows you to view the trigger video of the fish eye & PTZ camera. The fish eye is the main camera to view the whole surveillance condition and the PTZ camera works as the slave camera to view the details.

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

The Smart Track interface is displayed. See Figure 3-77.

Figure 3-77

Step 2 Click a position in the fisheye window.

The PTZ camera rotates to the specified position and zoom in or out of the corresponding position.

Note

For details to configure the smark track, see chapter 3.10.9 Smart Track.

3.6.10 Real-Time Spot Temperature Measurement

When a device with temperature measurement function is connected on the front end, the system supports real-time temperature measurement.

Note

- It might collect the human body temperature information in the monitor screen. Be careful!
- Only products of some series support this function.

Enble the temperature measurement function. For details, see chapter 3.6.6.1 Display.

On the preview interface, click any position in the heat map and the temperature of the corresponding spot is displayed. See Figure 3-78.

Figure 3-78

3.6.11 Panoramic+PTZ Camera Preview

You can monitor the entire scene from all directions, or you can zoom in and out on the local scene. The Panoramic+PTZ camera shall be connected on the front end.

Step 1 On the preview interface, double-click the panoramic camera channel.

The preview interface of the Panoramic+PTZ camera is displayed. See Figure 3-79. 1 is the panoramic window and 2 is the local scene window.

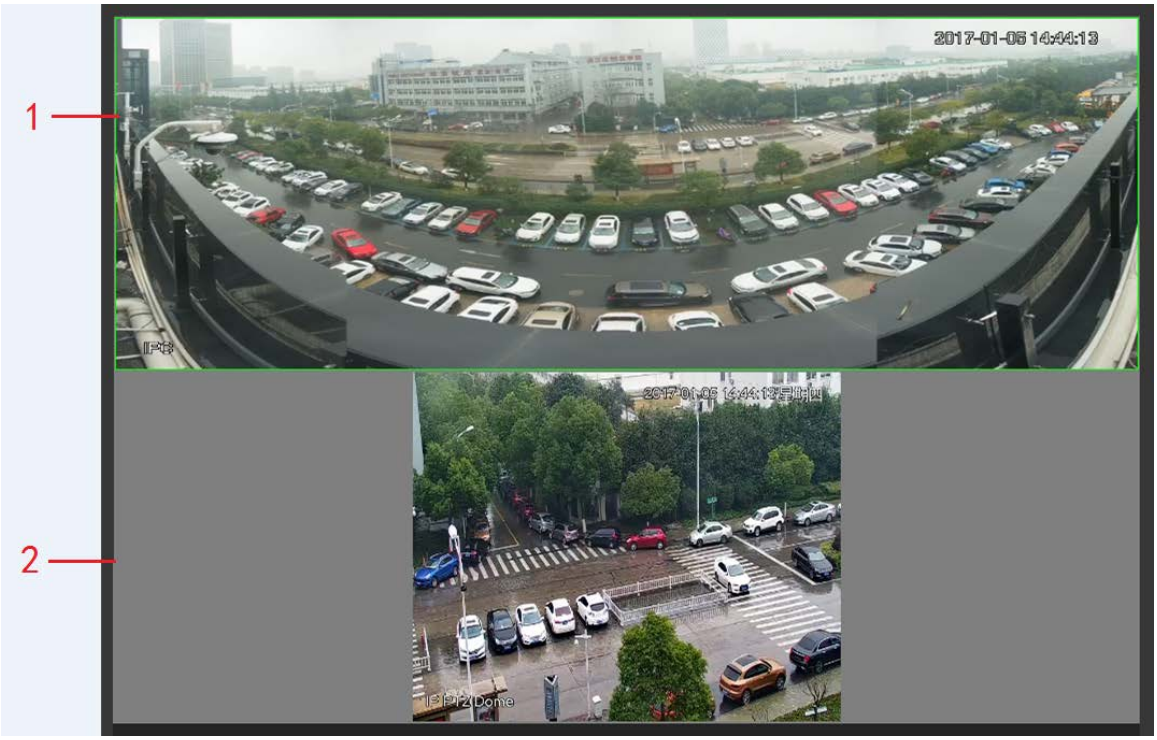


Figure 3-79

Step 2 Select the local scene image (2) and rotate the camera to the specified position through the PTZ control to zoom in or out the scene.

Note

For details to operate the PTZ, see chapter 3.7 PTZ.

3.7 PTZ

Note:

Before you control the PTZ, please make sure the PTZ decoder and the NVR network connection is OK and the corresponding settings are right.

3.7.1 PTZ Settings

Cable Connection

Please follow the procedures below to go on cable connection

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

In the main menu, from Setting>System>PTZ, you can see an interface is shown as in Figure 3-80. Here you can set the following items:

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

Figure 3-80

If you are connecting to network PTZ, the PTZ type shall be remote. See Figure 3-81.

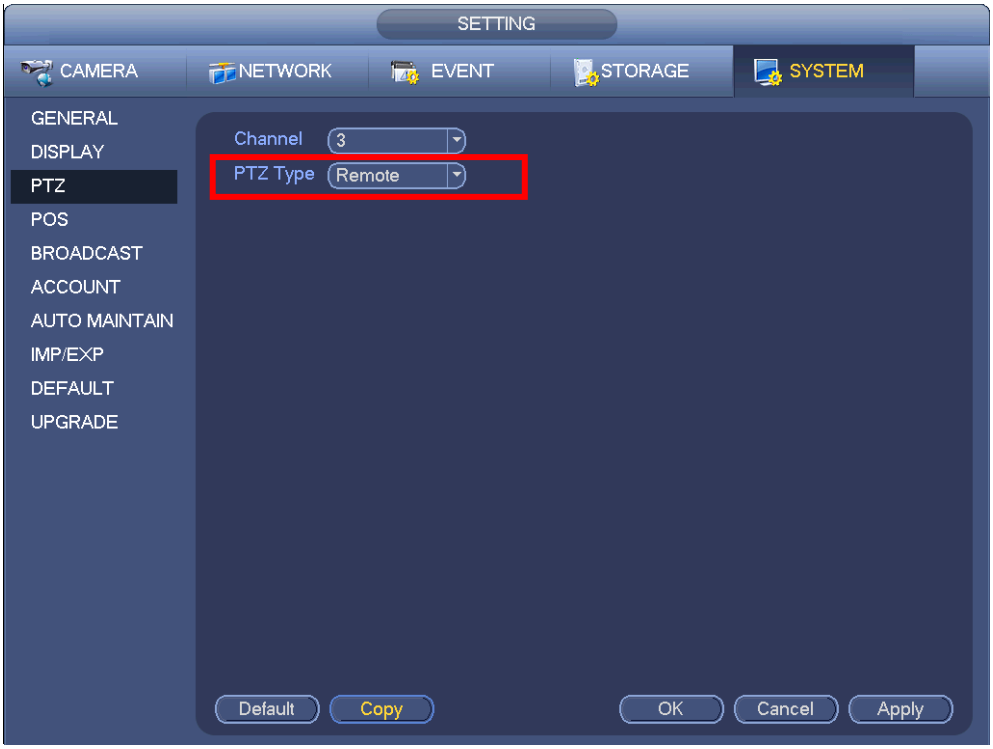


Figure 3-81

3.7.2 PTZ Control

After completing all the setting please click save button. Right click mouse (click “Fn” Button in the front panel or click “Fn” key in the remote control). The interface is shown as in Figure 3-82. Please note you can only go to the PTZ control interface when you are in 1-window display mode.

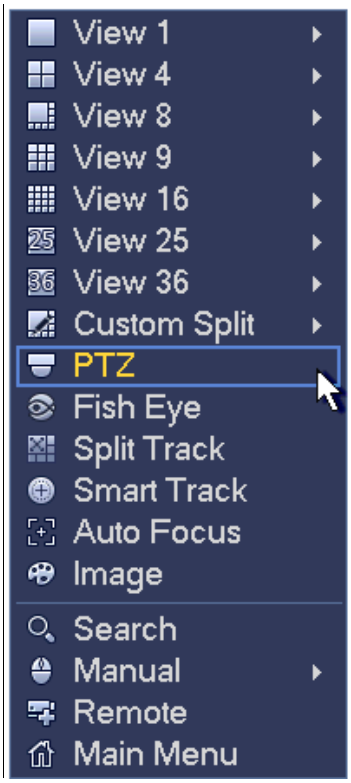


Figure 3-82

The PTZ setup is shown as in See Figure 3-83.
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.

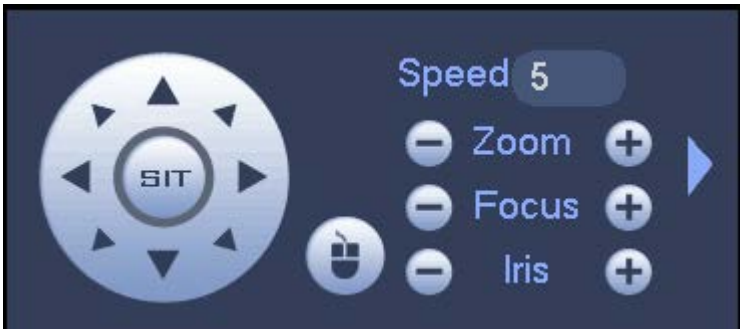


Figure 3-83

In the middle of the eight direction arrows, there is a 3D intelligent positioning key. See Figure 3-84. 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 3-84

Name	Function key	function	Shortcut key	Function key	function	Shortcut key
Zoom		Near			Far	
Focus		Near	| ◄		Far	► |
Iris		close	II ◄		Open	► II

In Figure 3-83, click  to open the menu, you can set preset, tour, pattern, scan and etc. See Figure 3-85.

Figure 3-85

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 can not 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 3-83.

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

3.7.3 PTZ Function Setup

Click , you can go to the following interface to set preset, tour, pattern, and scan. See Figure 3-86.

Figure 3-86

3.7.3.1 Preset Setup

In Figure 3-86, click preset button and use eight direction arrows to adjust camera to the proper position. The interface is shown as in Figure 3-87.

Click Set button and then input preset number.

Click Set button to save current preset.

Figure 3-87

3.7.3.2 Tour Setup

In Figure 3-86, click tour button.

Input tour value and preset No. Click Add preset button to add current preset to the tour. See Figure 3-88.

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 3-88

3.7.3.3 Pattern Setup

In Figure 3-86, click Pattern button and input pattern number.

Click Begin button to start direction operation. Or you can go back to Figure 3-83 to operate zoom/focus/iris/direction operation.

In Figure 3-86, click End button.

Figure 3-89

3.7.3.4 Scan Setup

In Figure 3-86, click Scan button.

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 3-90

3.7.4 Call PTZ Function

3.7.4.1 Call Preset

In Figure 3-85, input preset value and then click  to call a preset. Click  again to stop call.

3.7.4.2 Call Pattern

In Figure 3-85, input pattern value and then click  to call a pattern. Click  again to stop call.

3.7.4.3 Call Tour

In Figure 3-85, input tour value and then click  to call a tour. Click again  to stop call.

3.7.4.4 Call Scan

In Figure 3-85, input Scan value and then click  to call a tour. Click again  to stop call.

3.7.4.5 Call Rotation

In Figure 3-85, 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.

3.7.4.6 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 3-91.

Figure 3-91

3.8 Record Settings

After setting the record and snapshot plan, the system automatically performs record and snapshot according to the preset plan.

The factory default record mode is 24-hour continuous recording. You can set the record time and type according to the actual needs. For details, see chapter 3.4.6 Schedule.

3.9 Search and Playback

3.9.1 Real-time Playback

Please refer to chapter 3.6.3 for real-time playback information.

3.9.2 Search Interface

From Main menu->Search, or on the preview interface right click mouse and then select search item, you can go to the following interface. See Figure 3-92 or Figure 3-93.

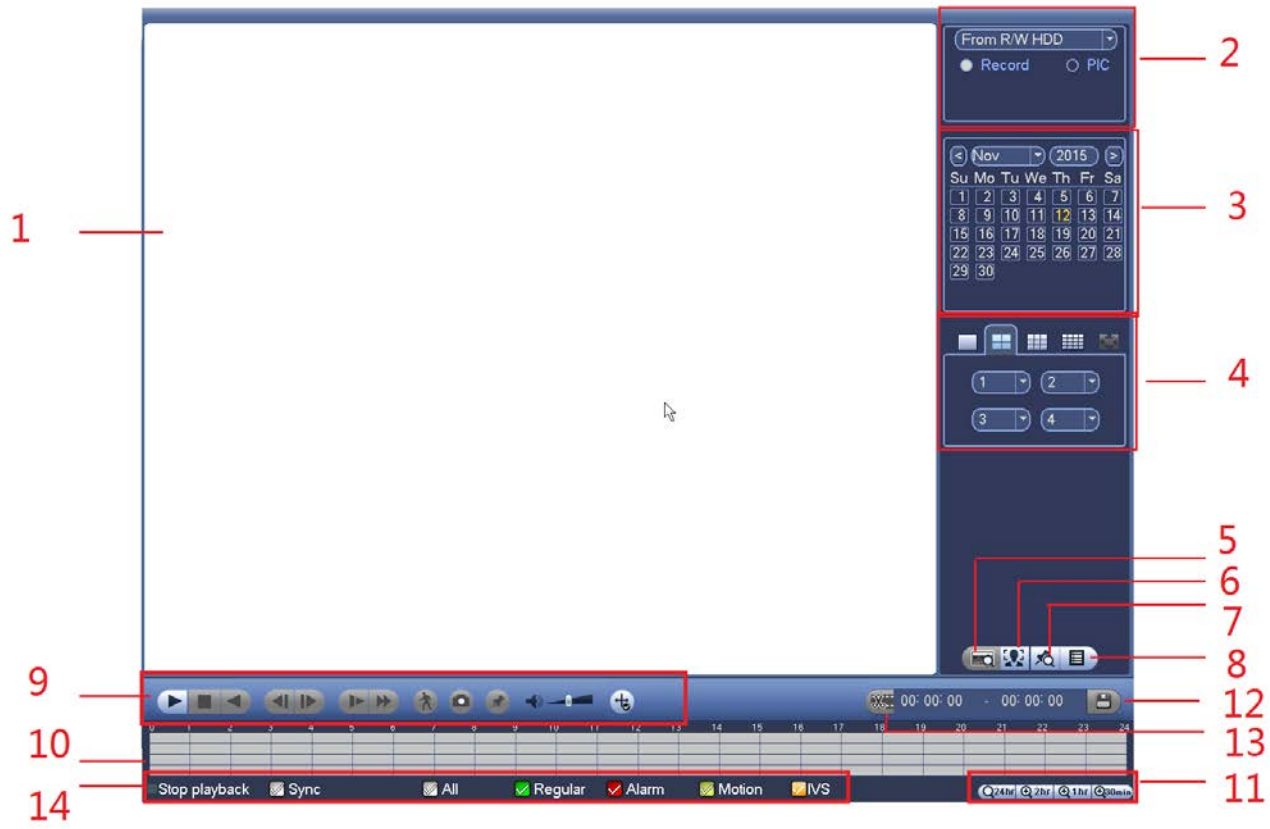


Figure 3-92

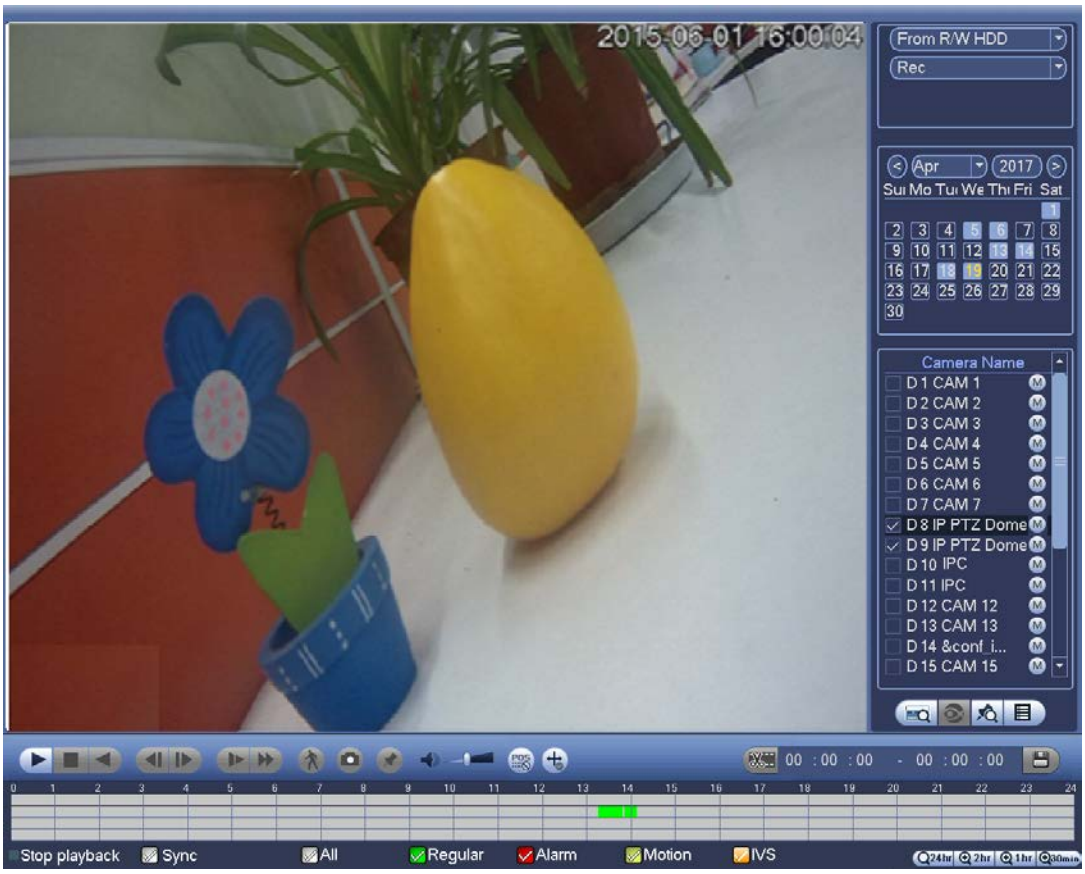


Figure 3-93

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	Search type	● Here you can select to search the picture or the recorded file. ● You can select to play from the read-write HDD, from peripheral device or from redundancy HDD. ● Before you select to play from the peripheral device, please connect the corresponding peripheral device. You can view all record files of the root directory of the peripheral device. Click the Browse button; you can select the file you want to play. **Important** ● **Redundancy HDD does not support picture backup function, but it supports picture playback function. You can select to play from redundancy HDD if there are pictures on the redundancy HDD.**
3	Calendar	● The blue highlighted date means there is picture or file. Otherwise, there is no picture or file. ● In any play mode, click the date you want to see, you can see the corresponding record file trace in the time bar.
4	Playback mode and channel selection pane.	● Playback mode:1/4/9/16. (It may vary due to different series.) ✧ In 1-window playback mode: you can select 1-X channels (X depends on the product channel amount). ✧ In 4-window playback mode: you can select 4 channels according to your requirement. ✧ In 9-window playback mode, you can switch between 1-8, 9-16 and etc channels. ✧ In 16-window playback mode, you can switch between1-16, 17-32 and etc channels. ● The time bar will change once you modify the playback mode or the channel option.
5	Card number search	The card number search interface is shown as below. Here you can view card number/field setup bar. You can implement advanced search. **Current series product supports this function.**
6	Face list	You can search when it is in 1-channel playback mode. Click it, system can filter all human faces and generate human face list. Double click the file; system begins playback the record or image of the corresponding human face.
7	Mark file list button	Click it to go to mark file list interface. You can view all mark information of current channel by time. Please note only the product of this icon supports mark function.

<table>
<tr><td>8</td><td>File list switch button</td><td colspan="2">● Double click it, you can view the picture/record file list of current day.
● The file list is to display the first channel of the record file.
● The system can display max 128 files in one time. Use the ◄| and |► or the mouse to view the file. Select one item, and then double click the mouse or click the ENTER button to playback.
● You can input the period in the following interface to begin accurate search.
● File type:R—regular record； A—external alarm record；M—Motion detect record.
 
● Lock file. Click the file you want to lock and click the button  to lock. The file you locked will not be overwritten.
● Search locked file: Click the button  to view the locked file.</td></tr>
<tr><td rowspan="9">9</td><td rowspan="9">Playback control pane.</td><td>►/ II</td><td>Play/Pause
There are three ways for you to begin playback.
● The play button
● Double click the valid period of the time bar.
● Double click the item in the file list.
In slow play mode, click it to switch between play/pause.</td></tr>
<tr><td>■</td><td>Stop</td></tr>
<tr><td>◄</td><td>Backward play
In normal play mode, left click the button, the file begins backward play. Click it again to pause current play.
In backward play mode, click ►/ II to restore normal play.</td></tr>
<tr><td>|◄/ ►|</td><td>In playback mode, click it to play the next or the previous section. You can click continuously when you are watching the files from the same channel.
In normal play mode, when you pause current play, you can click ◄| and |► to begin frame by frame playback.
In frame by frame playback mode, click ►/ II to restore normal playback.</td></tr>
<tr><td>▶·</td><td>Slow play
In playback mode, click it to realize various slow play modes such as slow play 1, slow play 2, and etc.</td></tr>
<tr><td>▸▸</td><td>Fast forward
In playback mode, click to realize various fast play modes such as fast play 1,fast play 2 and etc.</td></tr>
<tr><td colspan="2">Note: The actual play speed has relationship with the software version.</td></tr>
<tr><td>  </td><td>Smart search</td></tr>
<tr><td>  </td><td>The volume of the playback</td></tr>
</table>

			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.
			In 1-channel playback mode, click it to enable/disable display IVS rule information on the video.
10	Time bar	● It is to display the record type and its period in current search criteria. ● In 4-window playback mode, there are corresponding four time bars. In other playback mode, there is only one time bar. ● Use the mouse to click one point of the color zone in the time bar, system begins playback. ● The time bar is beginning with 0 o'clock when you are setting the configuration. The time bar zooms in the period of the current playback time when you are playing the file. ● The green color stands for the regular record file. The red color stands for the external alarm record file. The yellow stands for the motion detect record file.	
11	Time bar unit	●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. ● 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.	
12	Backup	● Select the file(s) you want to backup from the file list. You can check from the list. Then click the backup button, now you can see the backup menu. System supports customized path setup. After select or create new folder, click the Start button to begin the backup operation. The record file(s) will be saved in the specified folder. ● Check the file again you can cancel current selection. System max supports to display 32 files from one channel. ● After you clip on record file, click Backup button you can save it. ● For one device, if there is a backup in process, you cannot start a new backup operation.	
13	Clip	It is to edit the file. ● Please click  to play the file you want to edit. ● Select clip start time on the time bar and then Click  to start clip.	

		● Select clip stop time on the time bar and then click  to stop clip. ● Click  , system pops up file backup dialogue box for you to save. Please note: ● **Clip function is for one-channel mode/multiple-channel mode.** ● **System max supports 1024 files backup at the same time.** ● **You cannot operate clip operation if there is any file has been checked in the file list.**
14	Record type	In any play mode, the time bar will change once you modify the search type.
Other Functions		
15	Motion detection search	● When system is playing, you can select a zone in the window to begin motion detection search. Click the motion detect button to begin play. ● Once the motion detect play has begun, click button again will terminate current motion detect file play. ● There is no motion detect zone by default. ● If you select to play other file in the file list, system switches to motion detect play of other file. ● During the motion detect play process, you cannot implement operations such as change time bar, begin backward playback or frame by frame playback.
16	Other channel synchronization switch to play when playback	When playing the file, click the number button, system can switch to the same period of the corresponding channel to play.
17	Digital zoom	When the system is in full-screen playback mode, left click the mouse in the screen. Drag your mouse in the screen to select a section and then left click mouse to realize digital zoom. You can right click mouse to exit.
18	Manually switch channel when playback	During the file playback process, you can switch to other channel via the dropdown list or rolling the mouse. This function is null if there is no record file or system is in smart search process.

Note

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

3.9.2.1 Playback Control

The playback control interface is shown as below. See Figure 3-94.

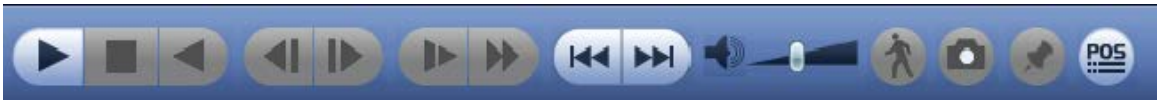


Figure 3-94

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 ● In normal play mode, left click the button, the file begins backward play. Click it again to pause current play. ● In backward play mode, click  or  to restore normal play.
	Display previous frame/next frame. ● When pause the normal playback file, click  or  to playback frame by frame. ● In frame by frame playback mode, click  or  to resume normal playback mode.
	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 .
	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.
	Display/hide POS information. In 1-channel playback mode, you can click it to display/hide POS information on the video.

Icon	Function
	**Note** This function is for some series only. In 1-channel playback mode, click it to enable/disable display IVS rule information on the video.

3.9.2.2 Clip

This function allows you to clip some footages to a new file and then save to the USB device. See Figure 3-95. 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 3-95

Note

- Clip function is for one-channel/multiple-channel.
- Max save 1024 files at the same time.
- This function is not for the file already checked in the file list.

3.9.2.3 Record Backup

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

Click  , enter the following interface. See Figure 3-96.

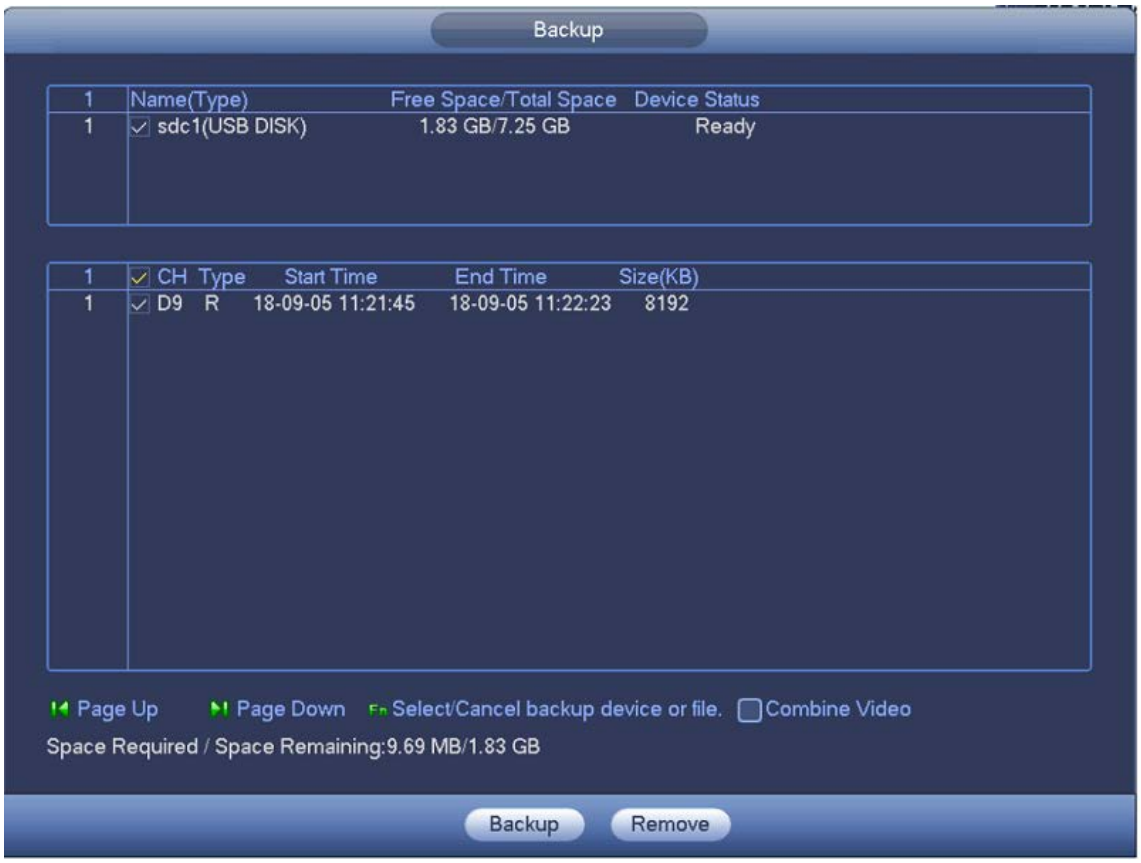


Figure 3-96

Click Backup to begin the process.

3.9.3 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).

Please follow the steps listed below.

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.

3.9.4 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 (Figure 3-92 or Figure 3-93**).**

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

When system is playback, click Mark button  , you can go to the following interface. See Figure 3-97.

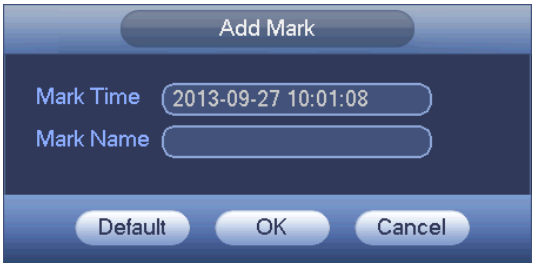


Figure 3-97

- Playback Mark

During 1-window playback mode, click mark file list button  in Figure 3-92 or Figure 3-93, you can go to mark file list interface. Double click one mark file, you can begin playback from the mark time.

- Play before mark time

Here you can set to begin playback from previous N seconds of the mark time.

Note

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  on the Search interface (Figure 3-92 or Figure 3-93); you can go to Mark Manager interface. See Figure 3-98. System can manage all the record mark information of current channel by default. You can view all mark information of current channel by time.

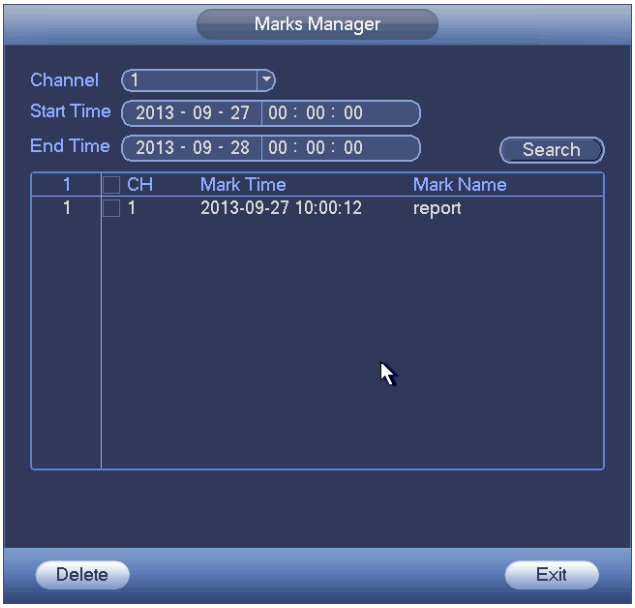


Figure 3-98

- 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.

3.9.5 Playback Image

Here you can search and play the image. Please follow the steps listed below.

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.

3.9.6 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.

On the main menu, click Search button, or right click mouse and then select Search. You can go to Figure 3-92 or Figure 3-93

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 3-99.

Figure 3-99

Note

Select split mode, so that the record can be spliced in several sections.

Select splice file.

- Click Playback, system playbacks from the first of current date by default.
- Click time bar, system playbacks from the time you click.
- Click , you can select on the file list.

Note

- The splice playback is for 1-window playback mode.
- 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.

3.9.7 Smart Playback

It is to smart analyze the records in the device and screen out the records meeting the detection criteria, so that users can play back records conveniently.

3.9.7.1 IVS

IVS extracts the key information in video based on image processing and analysis, and matches it with the preset detection rules. You can screen out and play the videos matching the rules.

Step 1 From main menu > Operation > Smart Search > IVS.

Enter the IVS interface. See Figure 3-100.

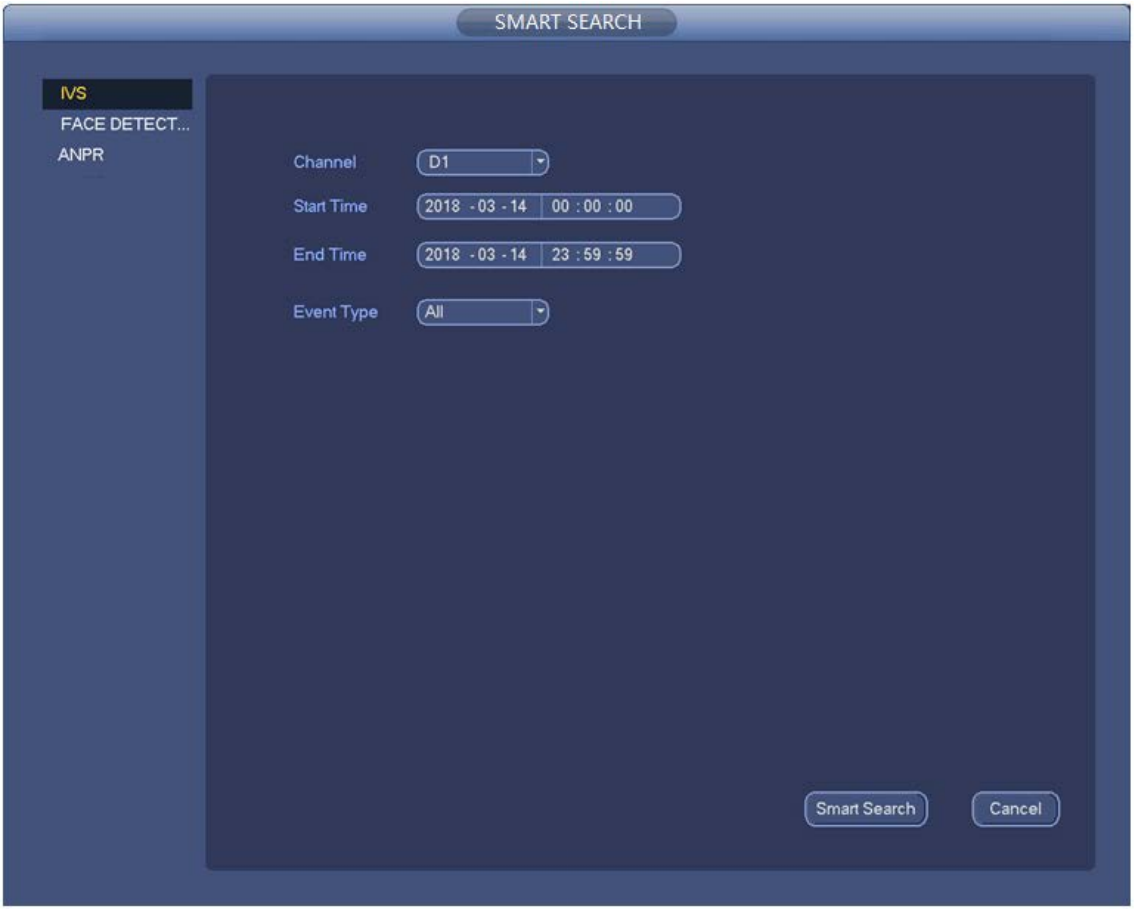


Figure 3-100

Step 2 Select Channel, Start Time, End Time and Event Type. Click Smart Search. The search results are displayed. See Figure 3-101.

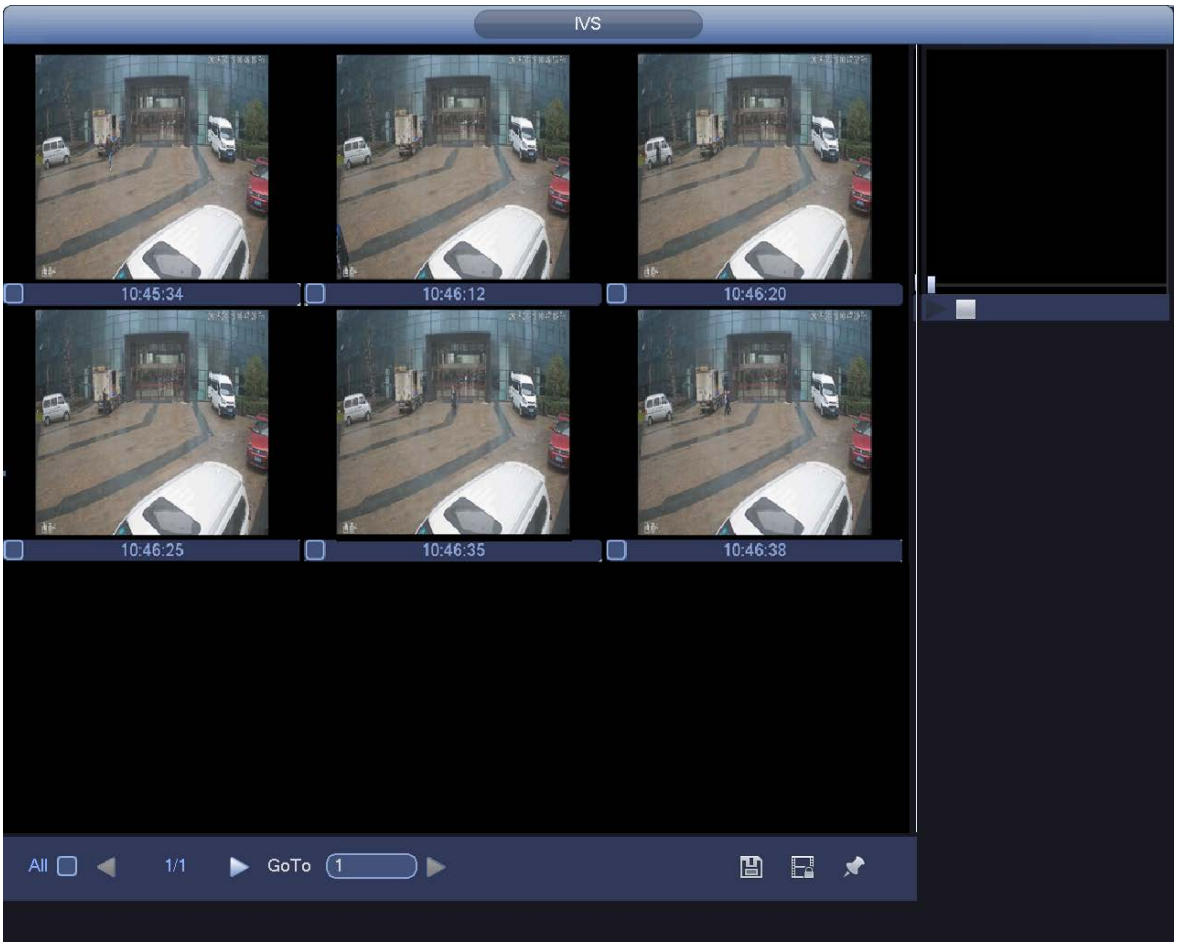


Figure 3-101

Step 3 Click the picture to play the video file.

- Select the file, click and select the backup catalog in the backup interface. Select backup type and file type, choose the file and click Start to save the file to an external storage device. See Figure 3-102.

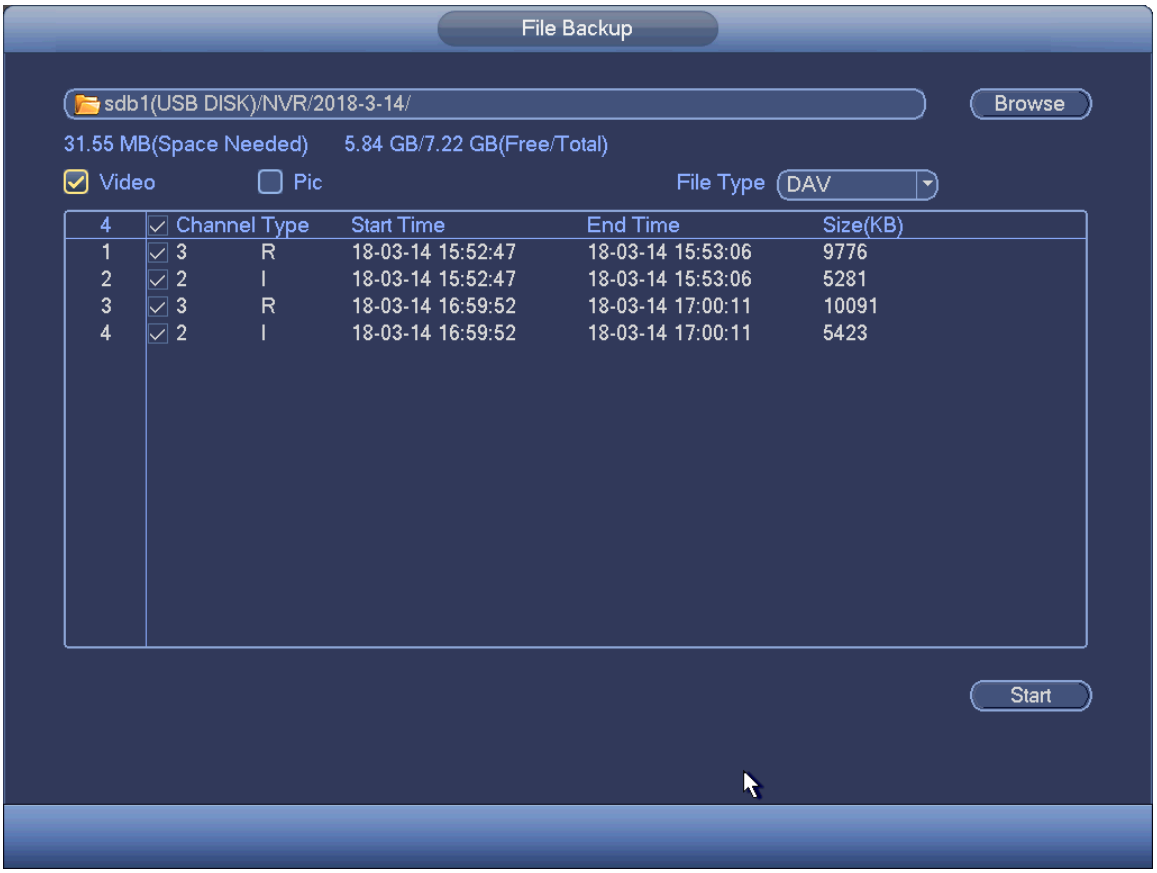


Figure 3-102

- Select the file and click  to lock the file. The locked file will not be overwritten.
- Select the file and click  to mark the time of the detected event.

3.9.7.2 Face Detection

Human face detection is to analyze the video from the camera and check there is any human face or not. It is to search and playback human face record.

Step 1 From main menu > Operation > Smart Search > Face Detection.
Enter the Face Detection interface. See Figure 3-103.

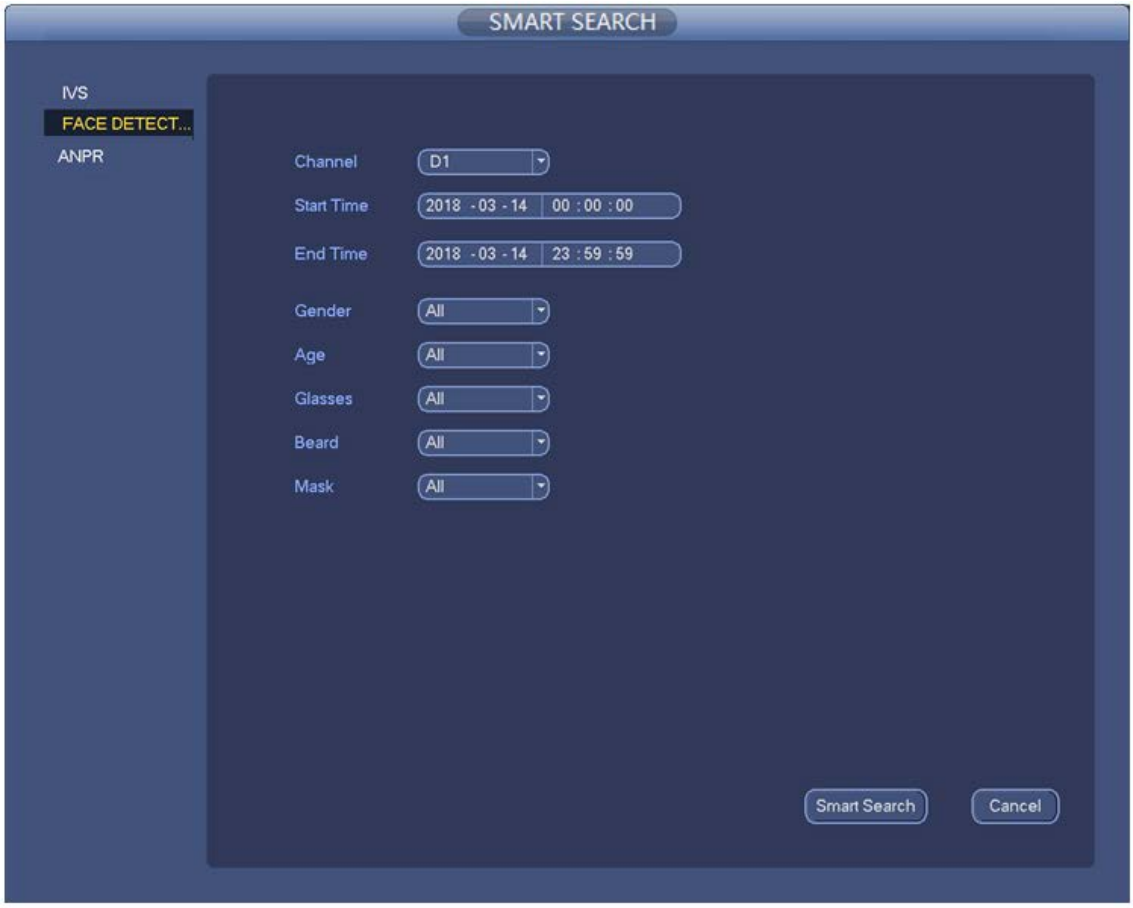


Figure 3-103

Step 2 Select Channel, Start Time and End Time, and choose the details for face detection as needed, such as gender, age, wearing glasses or not, wearing mask or not and with beard or not. Click Smart Search.

The search results are displayed. See Figure 3-104.

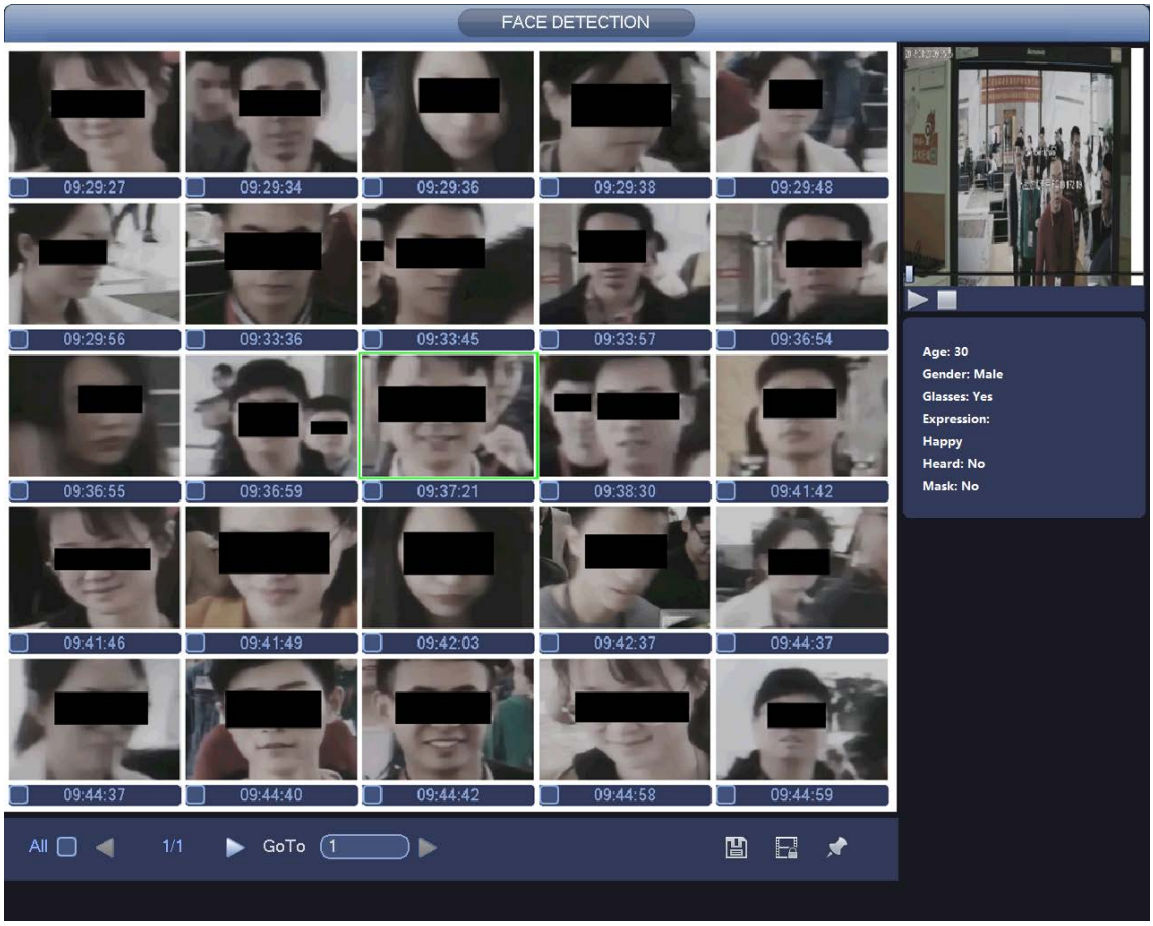


Figure 3-104

NOTE

The black blocks in the above picture is for privacy protection which will not appear in actual snapped images.

Step 3 Click the image; you can view the record file.

- Select the file, click and select the backup catalog in the backup interface. Select backup type and file type, choose the file and click Start to save the file to an external storage device.
- Select a file and then click , you can lock current file in case it will be overwritten in the future
- Select a file and then click , you can mark the time of the detected event.
- For more details, please refer to face properties and human details.

3.9.7.3 ANPR

It is to search and playback the record file containing the plate number.

Step 1 From main menu > Operation > Smart Play > ANPR.

Enter the ANPR interface. See Figure 3-105.

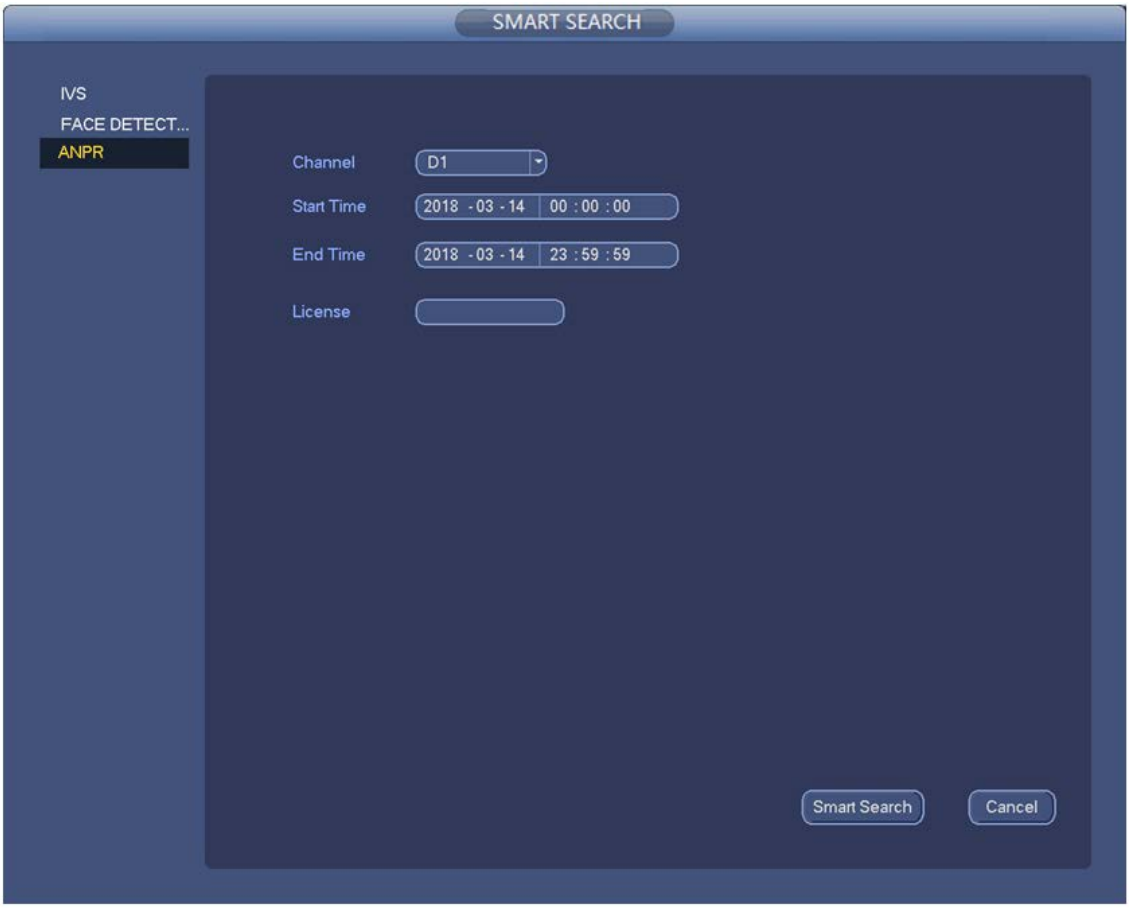


Figure 3-105

Step 2 Set plate number, channel number, start time, end time.

Note

Device supports fuzzy plate number search function.

Device searches all plate numbers by default if you do not input plate number information.

Step 3 Click Smart Search.

Device displays the corresponding image. See Figure 3-106.

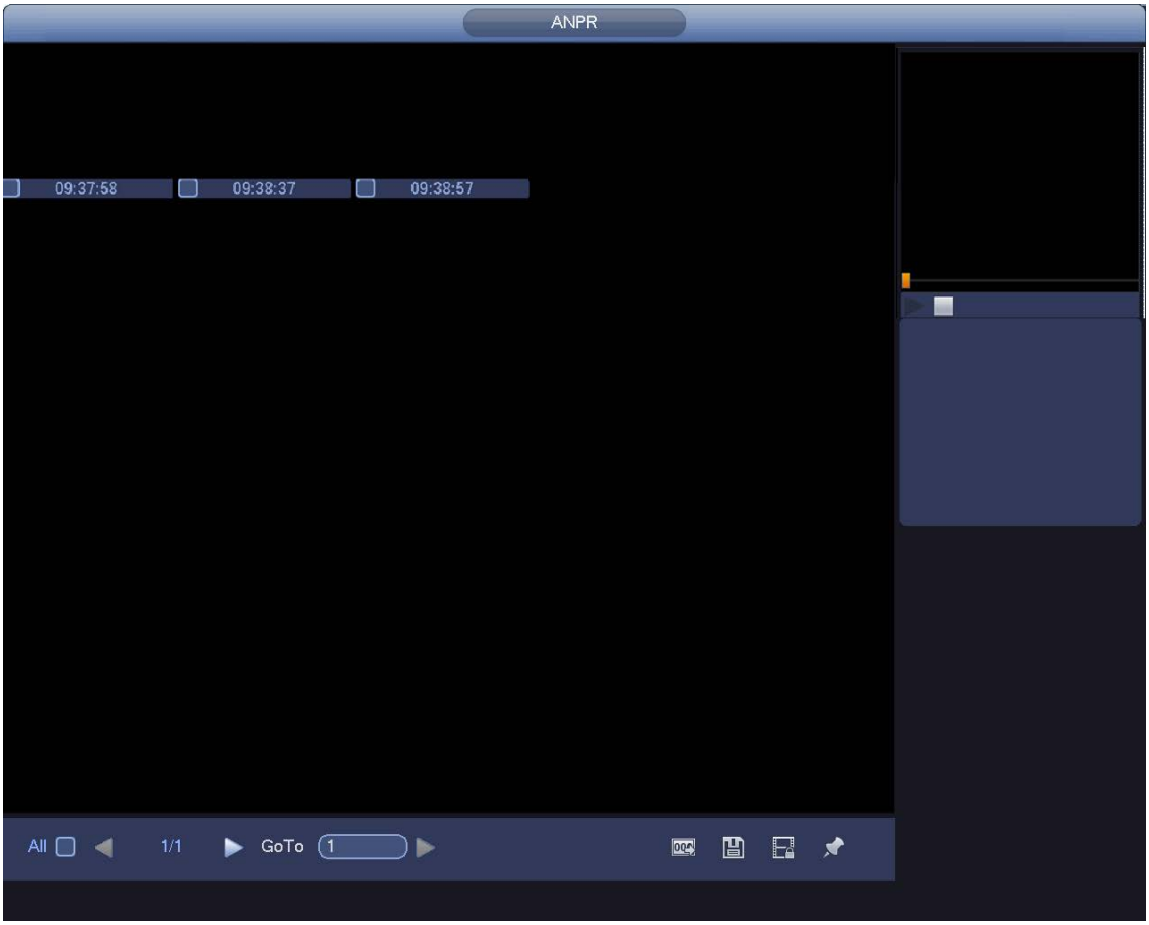


Figure 3-106

Step 4 Click the image; you can view the record file.

- Click  . Select Device Name and Address in the Browse interface and click OK to export plate information. See Figure 3-107.

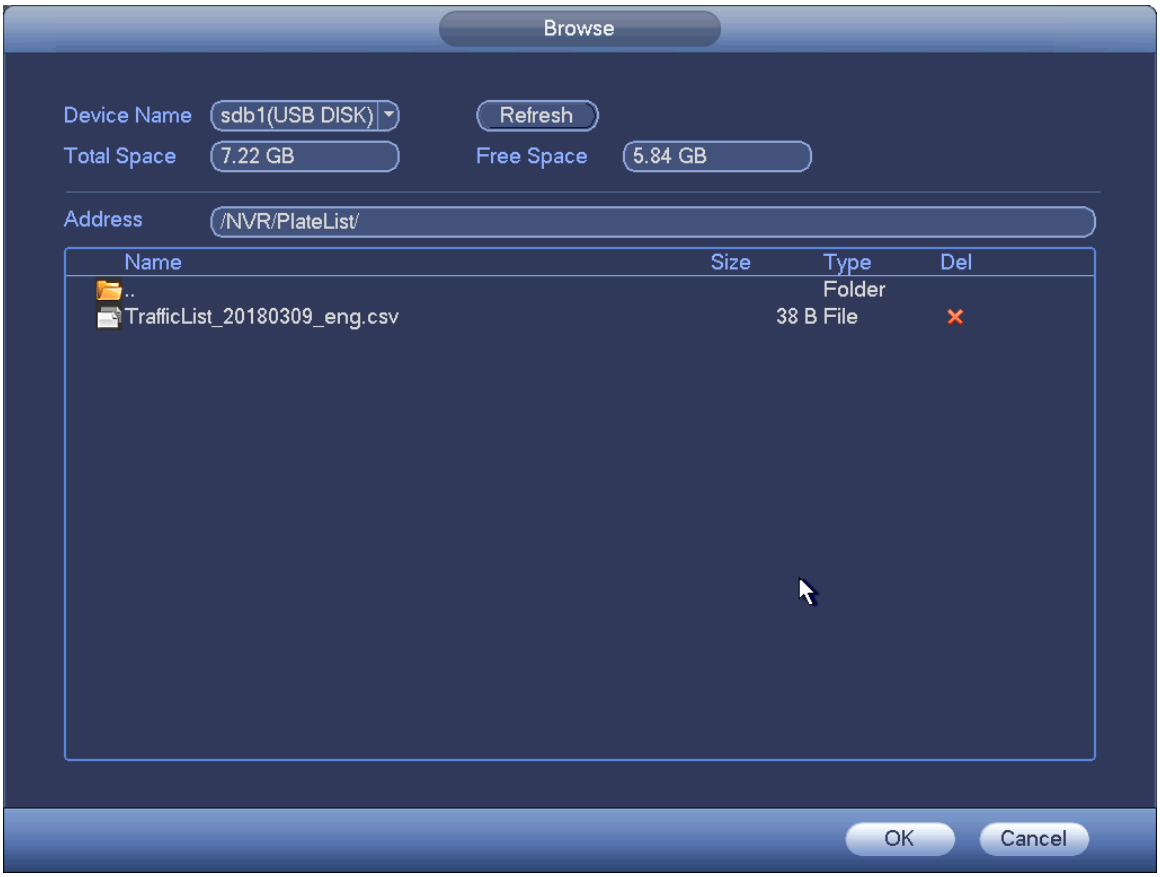


Figure 3-107

- Select a file and then click  , you can save current file to peripheral storage device.
- Select a file and then click  , you can lock current file in case it will be overwritten in the future
- Select a file and then click  , you can mark the time of the detected event.

3.9.8 File List

Click  , system displays file list. It displays the first channel of the record. See Figure 3-108.

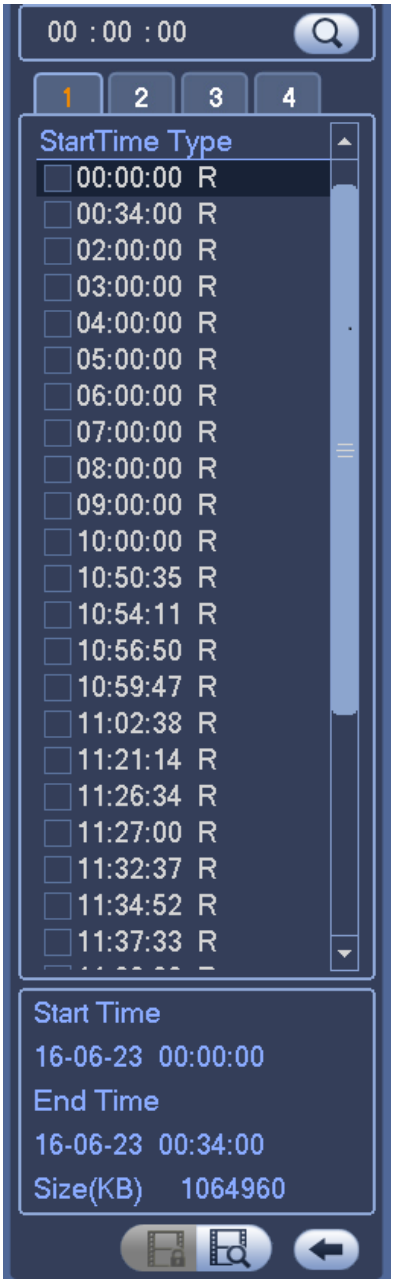


Figure 3-108

- 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 3-108, select a file first and then click  . You can lock it in case it is overwritten in the future.

Note

NVR cannot lock a file when it is writing or overwriting.

Click  you can view the locked file. See Figure 3-109.

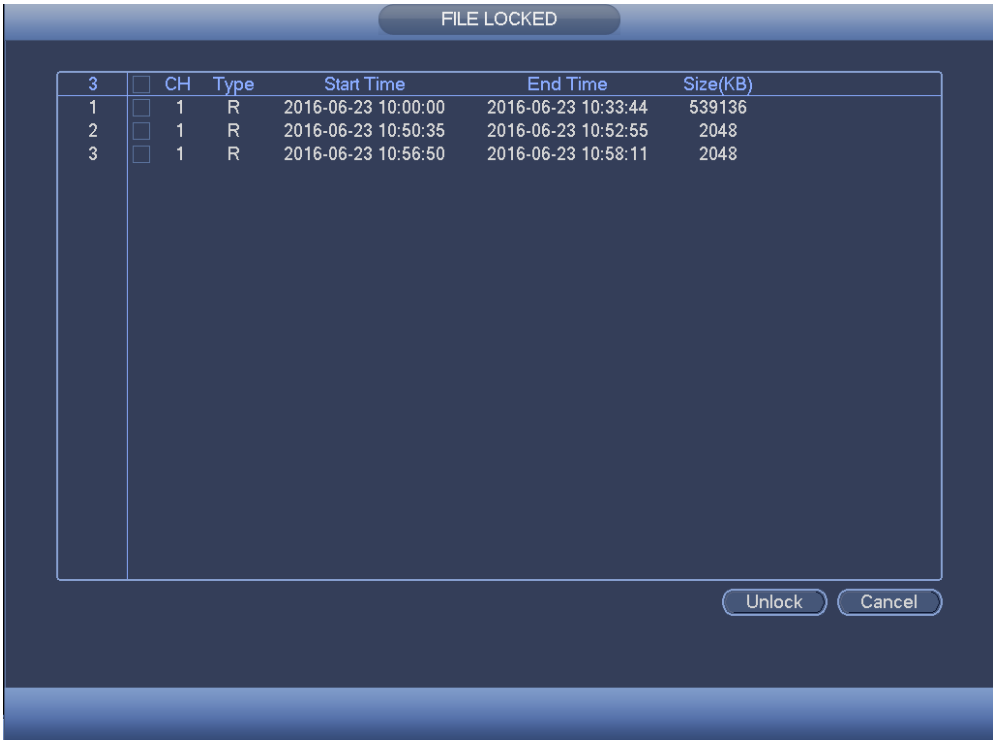


Figure 3-109

Select a file in the above figure and then click Unlock, you can unlock it.

3.9.9 Other Aux Functions

3.9.9.1 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.

3.9.9.2 Switch Channel

During playback mode, select from the dropdown list to switch playback channel. This function is not for the channel of no record. The smart search channel does not support this function either.

3.10 Event Manager

3.10.1 Video Detect

The video detect adopts the computer image and graphics process technology. It can analyze the video and check there is considerable changing degree or not. Once video has changed considerably (such as there is any moving object, video is distorted), system can trigger the corresponding alarm activation operations.

In the main menu, from Setting to Detect, you can see motion detect interface. See Figure 3-110.There are four detection types: motion detection, video loss, tampering and scene changing.

3.10.1.1 Motion Detect

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

Detection menu is shown as below. See Figure 3-110.

- Event type: From the dropdown list you can select motion detection type.

- Channel: Select a channel from the dropdown list to set motion detect function.
- Enable: Check the box here to enable motion detect function.
- Region: Click select button, the interface is shown as in Figure 3-111. 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 3-113. 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 3-113, 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 3-113. Click button  after one date or a holiday, you can see an interface shown as in Figure 3-114. 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 3-112.

- 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, SPOT OUT port displays device video output. It displays video (1-window tour) from alarm activation channel you select at the Record channel item.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when alarm occurs.

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

Note:

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

In Figure 3-111, 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 3-110

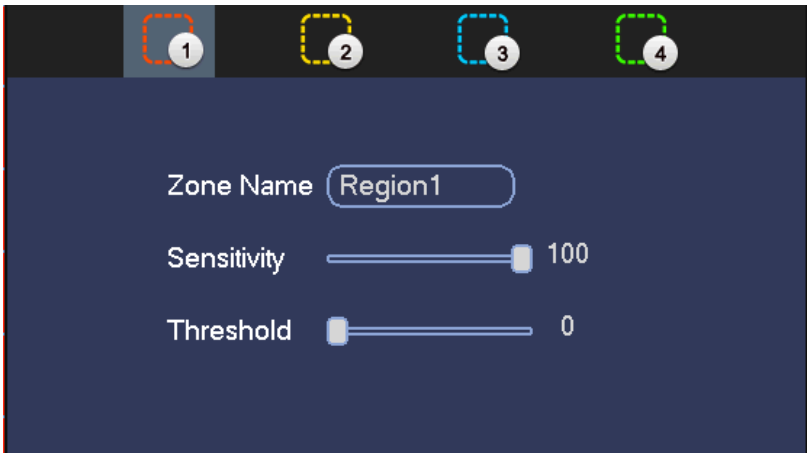


Figure 3-111

Figure 3-112

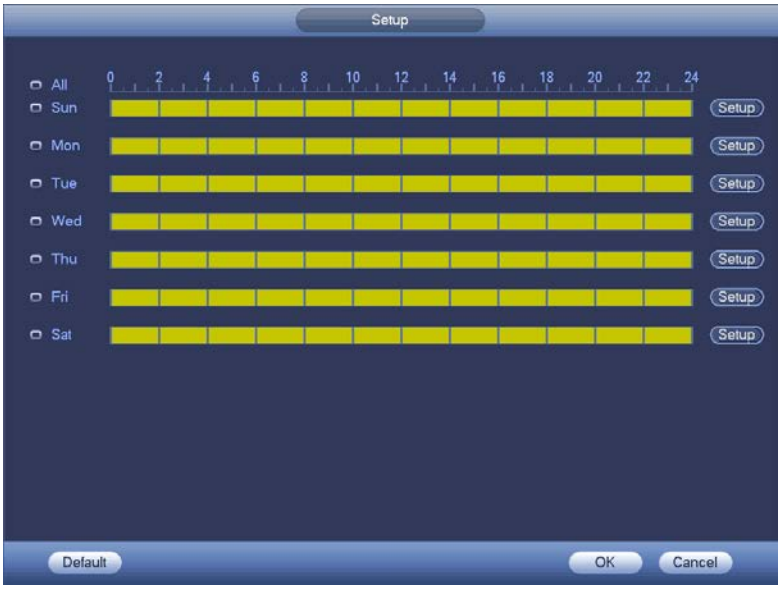


Figure 3-113

Figure 3-114

Motion detect here only has relationship with the sensitivity and region setup. It has no relationship with other setups.

3.10.1.2 Video Loss

After connected the system to the remote device, system can generate an alarm once the remote device has lost the video. System can trigger the corresponding alarm operations.

In Figure 3-110, select video loss from the type list. You can see the interface is shown as in Figure 3-115. This function allows you to be informed when video loss phenomenon occurred. You can enable alarm output channel and then enable show message function.

You can refer to chapter 3.10.1.1Motion detect for detailed information.

Tips:

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

Figure 3-115

3.10.1.3 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. Tampering interface is shown as in Figure 3-116. You can enable “Alarm output “or “Show message” function when tampering alarm occurs.

- Sensitivity: The value ranges from 1 to 6. It mainly concerns the brightness. The level 6 has the higher sensitivity than level 1. The default setup is 3.

Tips:

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

Please refer to chapter 3.10.1.1 motion detection for detailed information.

Note

- In Detect interface, copy/paste function is only valid for the same type, which means you cannot copy a channel setup in video loss mode to tampering mode.
- About Default function. Since detection channel and detection type may not be the same, system can only restore default setup of current detect type. For example, if you click Default button at the tampering interface, you can only restore default tampering setup. It is null for other detect types.
- System only enables tampering function during the period you set here. It is null for motion detect or video loss type.

Figure 3-116

3.10.1.4 Scene Changing

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

From main menu->Setting->Event->Video detect->Scene change, the interface is shown as in Figure 3-117.

Please refer to chapter 3.10.1.1Motion detect for detailed information.

Figure 3-117

3.10.1.5 Video Quality Analytics

When video image appears the phenomenon such as video fuzzy, overexposure and image color cast, the system triggers the alarm linkage actions.

Step 1 Enter from main menu > Setting > Event > Video Detection > Video Quality Analytics
The Video Quality Analytics interface is displayed. See Figure 3-118.

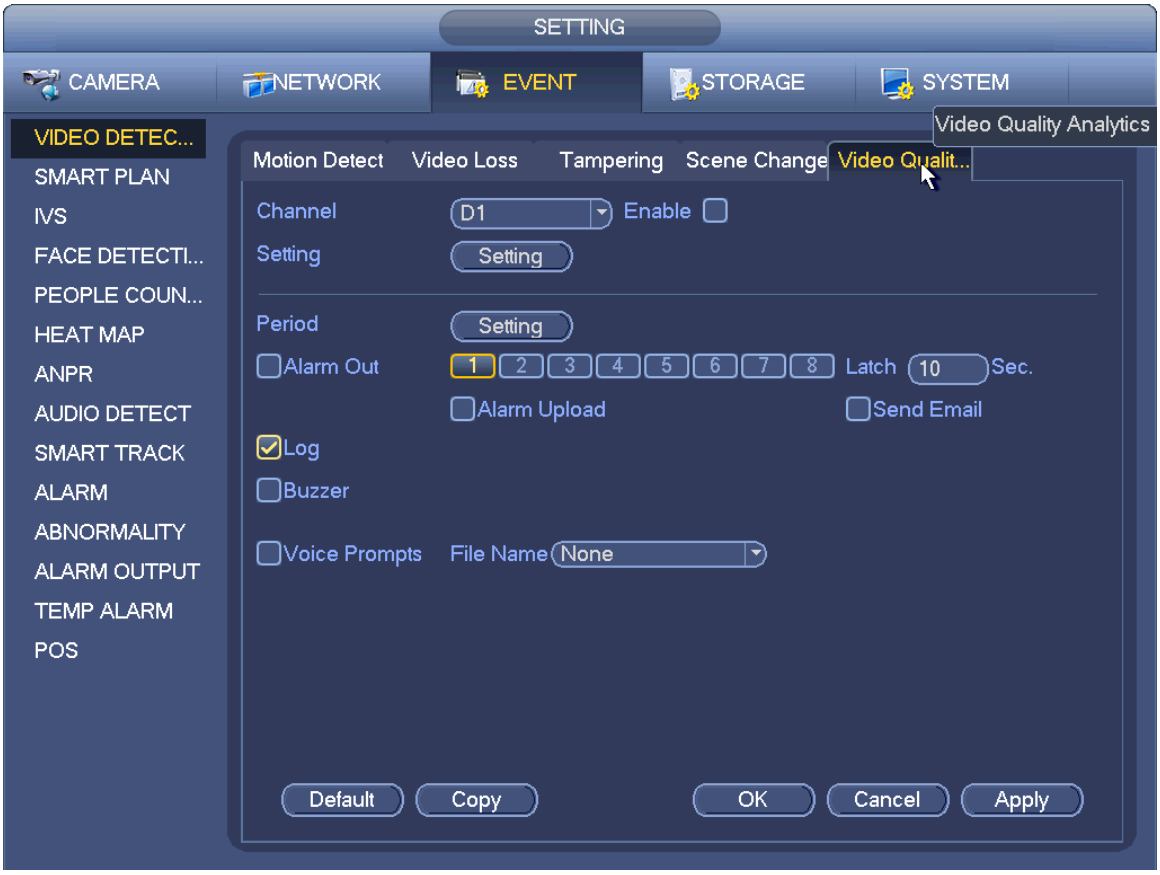


Figure 3-118

Step 2 Select the channel number and select the Enable check box.

Step 3 Click Setting on the right of Setting item.

The Video Quality Analytics interface is displayed. See Figure 3-119.

Figure 3-119

Step 4 Select the items (such as strip and noise) and set the threshold values according to the actual needs. For details, see the following table.

Note

- Select the Select All check box and all the following items will be selected.
- The threshold value range is 1-100 and the default value is 30. When the output value is higher than the set threshold, the system triggers an alarm.

Parameter	Description
Stripe	Stripe refers to the interference in video due to device aging or electronic interference, such as horizontal and vertical stripes or diagonal stripes, which may cause interference to visual sense.
Noise	Video noise can be defined as the image quality degradation caused by optical system distortion or hardware device during transmission.
Color Cast	Generally, video images are color images that contain color information, such as RGB. When these three components in the image appear in some unusual proportion, it means that the image has a color cast.
Out of Focus	The image with good definition contains rich details. The reason for the image definition decline is that the generation of blurring phenomenon. Image blurring is a common image quality reduction problem. In the process of image acquisition, transmission and processing, many factors will cause the image blurring, which is defined as out of focus in video diagnosis
Overexposure	The brightness of the image refers to the intensity of image pixels. Black is the darkest while white is the brightest. Black is represented by 0 and white is represented by 255. It indicates the brightness degree of the image. When the brightness value of the whole image exceeds the threshold value, it is defined as overexposure.

Step 5 Click OK to save the configuration.
System returns to Figure 3-118.
Step 6 Configure the alarm activation parameters.
Step 7 Click OK or Apply to save the configuration.

3.10.2 Smart Plan

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 3.10.3), Face detection (Chapter 3.10.4) and People counting (Chapter 3.10.5) when you are connecting to a smart network camera.
There are two types to realize intelligent analytics function.

Note

- Smart network camera supports intelligent functions: Some smart camera supports the intelligent functions. For NVR, it just displays the intelligent alarm information from the smart network camera and set or playback the record file.
- NVR supports intelligent functions: The connected network camera does not support intelligent video analytics function. The NVR supports the analytics function.

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.

From main menu->Setting->Event->Smart plan, the interface is shown as below. See Figure 3-120.

Figure 3-120

Please select a channel number and a preset. Click Add.

The preset is now on the list. See Figure 3-121.

Note

Some smart camera does not need to add the preset. Please refer to the actual product for detailed information.

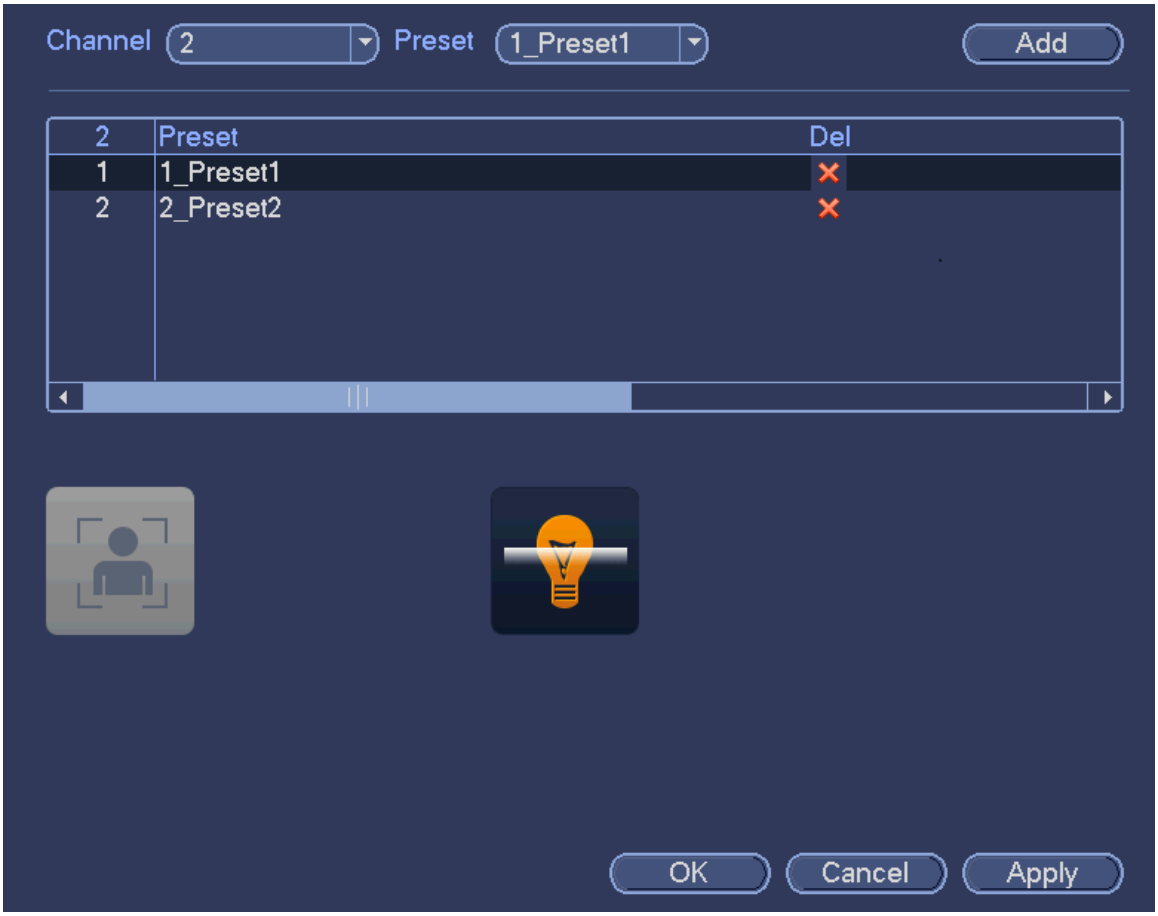


Figure 3-121

Select a smart plant from the dropdown list and then click the corresponding intelligent plan icon. See Figure 3-121.

Note

- The NVR supports general behavior analytics (IVS), human face detection, heat map, and people counting. Different network camera supports different smart plans. Please refer to the actual product for detailed information.
- The general behavior analytics (IVS) and human face detection function cannot be valid at the same time. For example, when add the IVS plan to the preset 1, the human face detection icon becomes grey.

Click OK to complete the setup.

3.10.3 IVS

The general behavior analysis refers to the system to analyze and process the video and extract the key information from the video. Once the video can match the previously set detection rule, system can trigger the corresponding alarm operations.

Note

- This function is for some series product only. Please refer to the actual product for detailed information.
- The IVS function and the human face detection function cannot be valid at the same time.

The IVS function environment shall meet the following requirements:

- The object total size shall not be more than 10% of the whole video.
- The object size on the video shall not be more than 10pixels*10 pixels. The abandoned object size shall be more than 15pixels*15 pixels (CIF resolution). The object width shall not be more than 1/3 of the video height and width. The recommended height is 10% of the video.
- The object and the background brightness different shall be more than 10 grey levels.
- The object shall remain on the video for more than 2 seconds. The moving distance is larger than its own width and shall not be smaller than 15pixels (CIF resolution).
- The surveillance environment shall not be too complicated. The IVS function is not suitable for the environment of too many objects or the changing light.
- The surveillance environment shall not contain glasses, reflection light from the ground, and water. Free of tree branches, shadow, mosquito and bugs. Do not use the IVS function in the backlight environment, avoid direct sunlight.

From main menu->Setting->Event->Behavior Analytics, you can go to the behavior analytics interface. Here you can set general behavior analytics rule. System can generate an alarm as the mode you previously set once there is any object violates the rule. See Figure 3-122.

Figure 3-122

Select a channel from the dropdown list.

Click Add button to add a rule and then select a rule type from the dropdown list.

Set corresponding parameters.

Click Apply button to complete the setup.

3.10.3.1 Tripwire

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.

From main menu->Setting->Event->IVS, the interface is shown as below. See Figure 3-123.

Figure 3-123

Click Draw button  to draw the tripwire. See Figure 3-124.

Figure 3-124

Select direction, and then input customized rule name.

- Preset: Select a preset you want to use IVS.
- Name: Input customized rule name.
- Direction (A→B/B→A/A↔B): 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.

Now you can draw a rule. Left click mouse to draw a tripwire. The tripwire can be a direct line, curve or polygon. Right click mouse to complete.

Tips

Click to delete the corresponding rule.

Click , you can see the following interface. See Figure 3-125.

You can refer to the following information to set other parameters.

- Channel: Select a channel from the dropdown list to set tripwire function.
- Enable: Check the box here to enable tripwire function.
- Rule: input customized rule name here.
- Period: Click set button, you can see an interface is shown as in Figure 3-113. 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 3-113, 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 3-113. Click button after one date or a holiday, you can see an interface shown as in Figure 3-114.

- 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.
- 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 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 “select” button, you can see an interface is shown as in Figure 3-112.
- Record Delay: System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
- Tour: Here you can enable tour function when an alarm occurs. System one-window tour.
- Snapshot: You can enable this function to snapshot image when a motion detect alarm occurs.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when an alarm occurs.

Figure 3-125

Figure 3-126

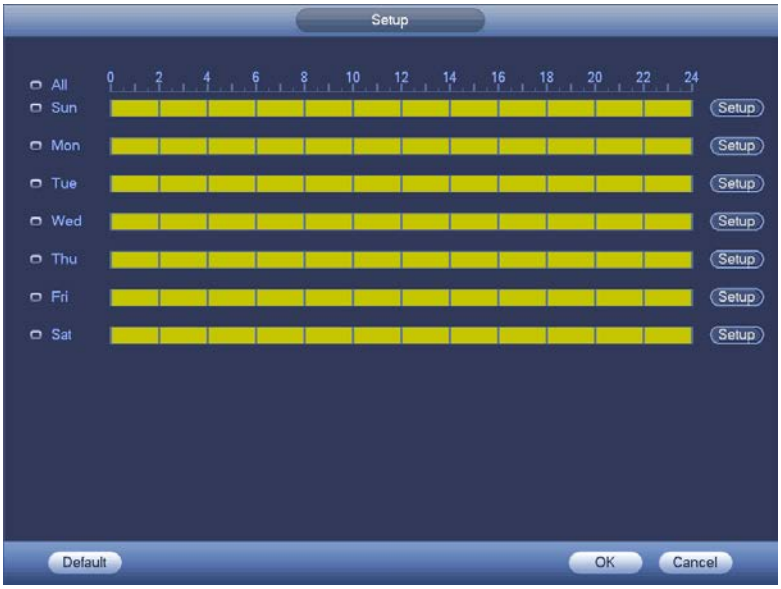


Figure 3-127

Figure 3-128

After you set the corresponding parameters, click OK button in Figure 3-125., and then click the Apply button in Figure 3-123 to complete the setup.

3.10.3.2 Intrusion

System generates an alarm once there is any object entering or exiting the zone in the specified direction. From main menu->Setting->Event->IVS, click Add button and then select type as intrusion, the interface is shown as below. See Figure 3-129.

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

Figure 3-129

Click draw button  to draw the zone. See Figure 3-130.

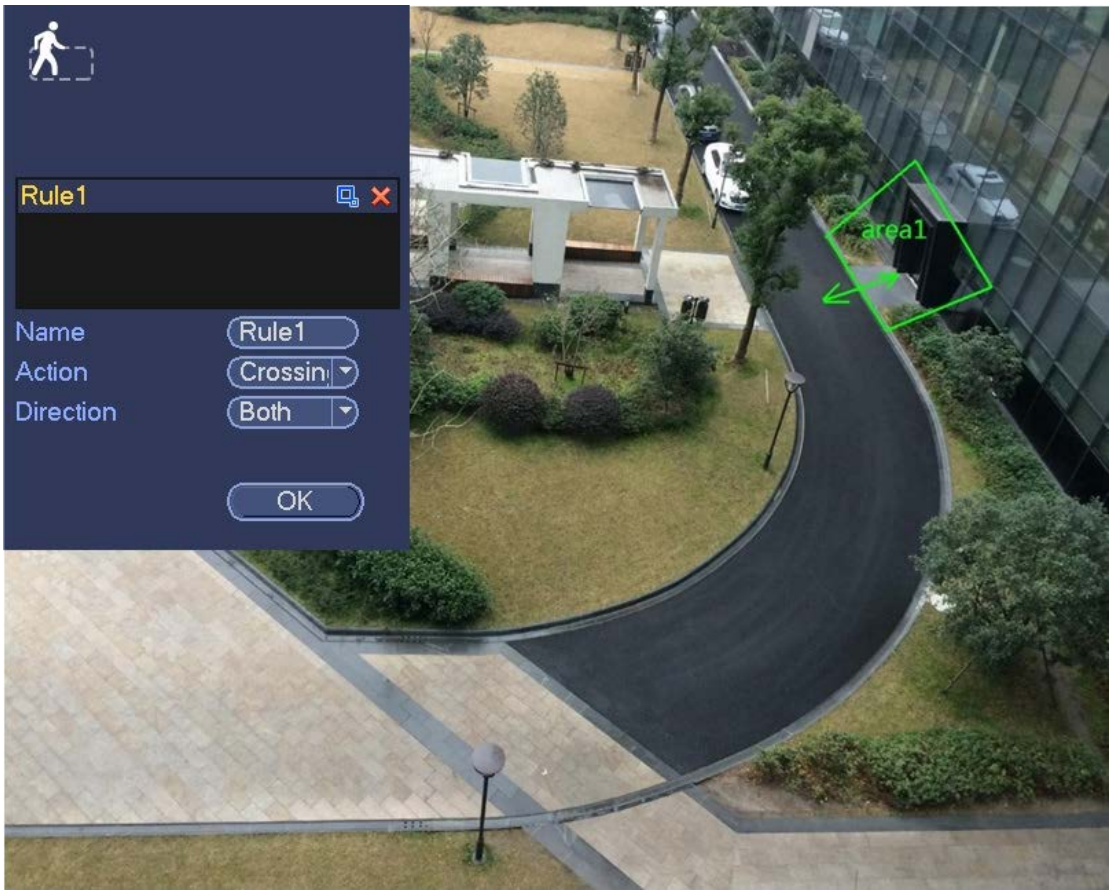


Figure 3-130

Select direction, and then input customized rule name.

- Preset: Select a preset you want to use IVS.
- Name: Input customized rule name.
- Direction (A→B/B→A/A↔B): 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.

Now you can draw a rule. Left click mouse to draw a warning zone. Right click mouse to complete the setup.

Tips

Click to delete the corresponding rule.

Click , you can refer to chapter 3.10.3.1 to set other parameters.

Click Apply to complete the setup.

3.10.3.3 Abandoned Object Detect

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

From main menu->Setting->Event->IVS, select the type as abandoned object, the object interface is shown as below. See Figure 3-131.

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

Figure 3-131

Click draw button  to draw the zone. See Figure 3-132.

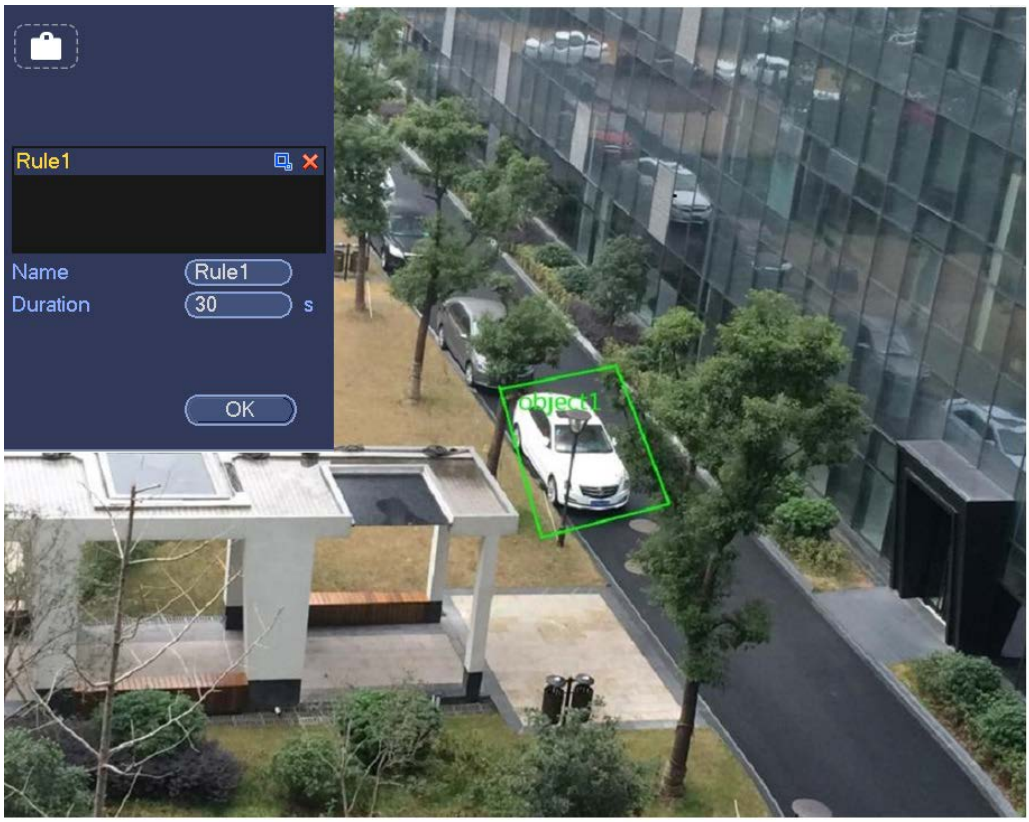


Figure 3-132

- Preset: Select a preset you want to use IVS.
- Name: Input customized rule name.
- Duration: 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.

Now you can draw a rule. Left click mouse to draw a zone, until you draw a rectangle, you can right click mouse.

Tips

Click  to delete the corresponding rule.

Click  , you can refer to the chapter 3.10.3.1 to set other parameters.

Click Apply to complete the setup.

3.10.3.4 Missing Object Detection

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

From main menu->Setting->Event->IVS, select the type as abandoned object, the object interface is shown as below. See Figure 3-133.

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

Figure 3-133

Click Draw button  to draw a zone. See Figure 3-134.

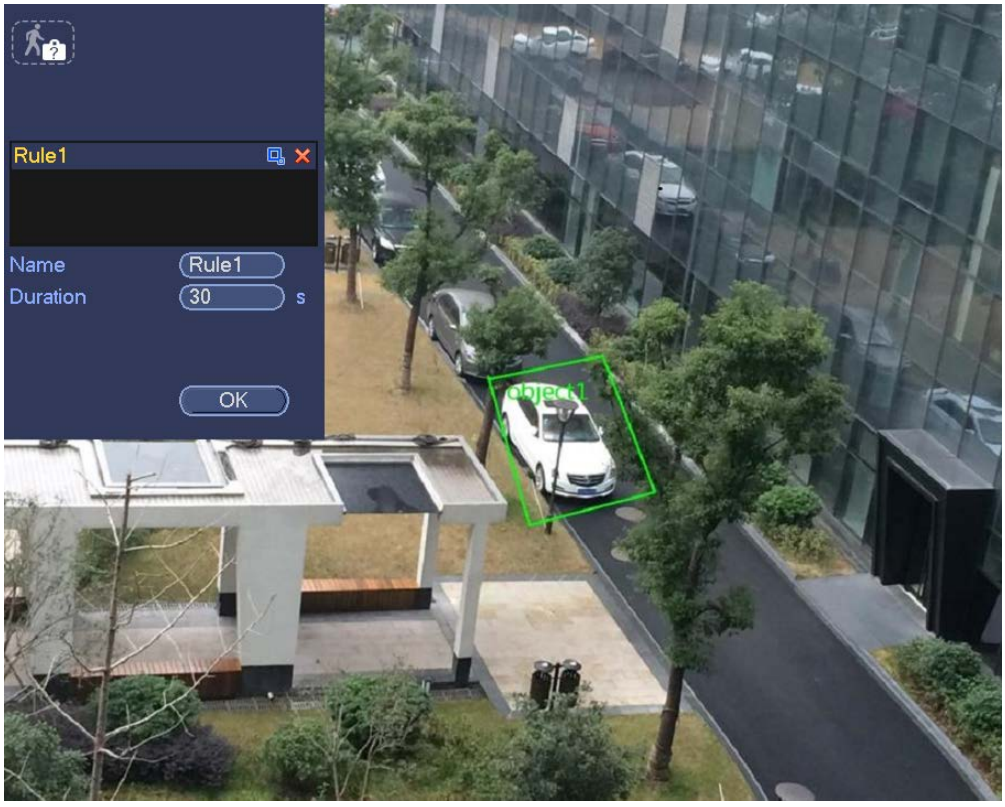


Figure 3-134

- Preset: Select a preset you want to use IVS.
- Name: Input customized rule name.
- Duration: 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.

Now you can draw a rule. Left click mouse to draw a zone, until you draw a rectangle, you can right click mouse.

Tips

Click to delete the corresponding rule.

Click , you can refer to the chapter 3.10.3.1 to set other parameters.

Click Apply to complete the setup.

3.10.3.5 Loitering Detection

System can generate an alarm once the object is staying in the specified zone longer than the threshold. From main menu->Setting->Event->IVS, select the type as loitering, the object interface is shown as below. See Figure 3-135.

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

Figure 3-135

Click draw button  to draw the zone. See Figure 3-136.

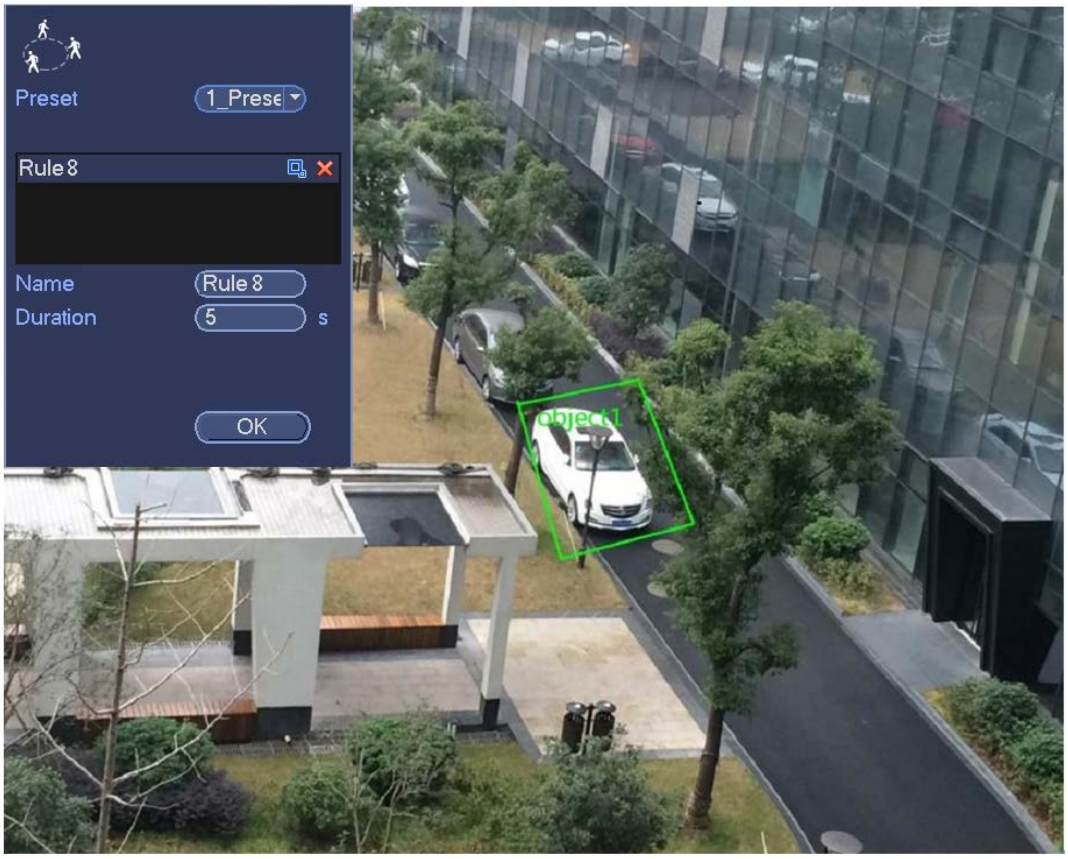


Figure 3-136

- Preset: Select a preset you want to use IVS.
- Name: Input customized rule name.
- Duration: 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.

Now you can draw a rule. Left click mouse to draw a zone, until you draw a rectangle, you can right click mouse.

Tips

Click  to delete the corresponding rule.

Click  , you can refer to the chapter 3.10.3.1 to set other parameters.

Click Apply to complete the setup.

3.10.3.6 People Gathering Detection

System can generate an alarm once the people amount gathering in the specified zone is larger than the threshold.

From main menu->Setting->Event->IVS, select the type as crowd gathering detect, the interface is shown as below. See Figure 3-137.

- Customized zone and amount setup.

- Duration setup.
- Sensitivity setup.
- Min gathering zone setup.

Figure 3-137

Click draw button  to draw the zone. See Figure 3-138.

Figure 3-138

- Preset: Select a preset you want to use IVS.
- Name: Input customized rule name.
- Duration: System can generate an alarm once the object is in the zone for the specified period.
- Sensitivity: It is to set alarm sensitivity. The value ranges from 1 to 10.The default setup is 5.
- 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.

Now you can draw a rule. Left click mouse to draw a zone, until you draw a rectangle, you can right click mouse.

Tips

Click to delete the corresponding rule.

Click , you can refer to the chapter 3.10.3.1 to set other parameters.

Click Apply to complete the setup.

3.10.3.7 Fast moving

It is to detect the fast moving object in the specified zone.

From main menu->Setting->Event->IVS, select the type as fast moving, the interface is shown as below. See Figure 3-139.

Figure 3-139

Click draw button  to draw the zone. See Figure 3-140.

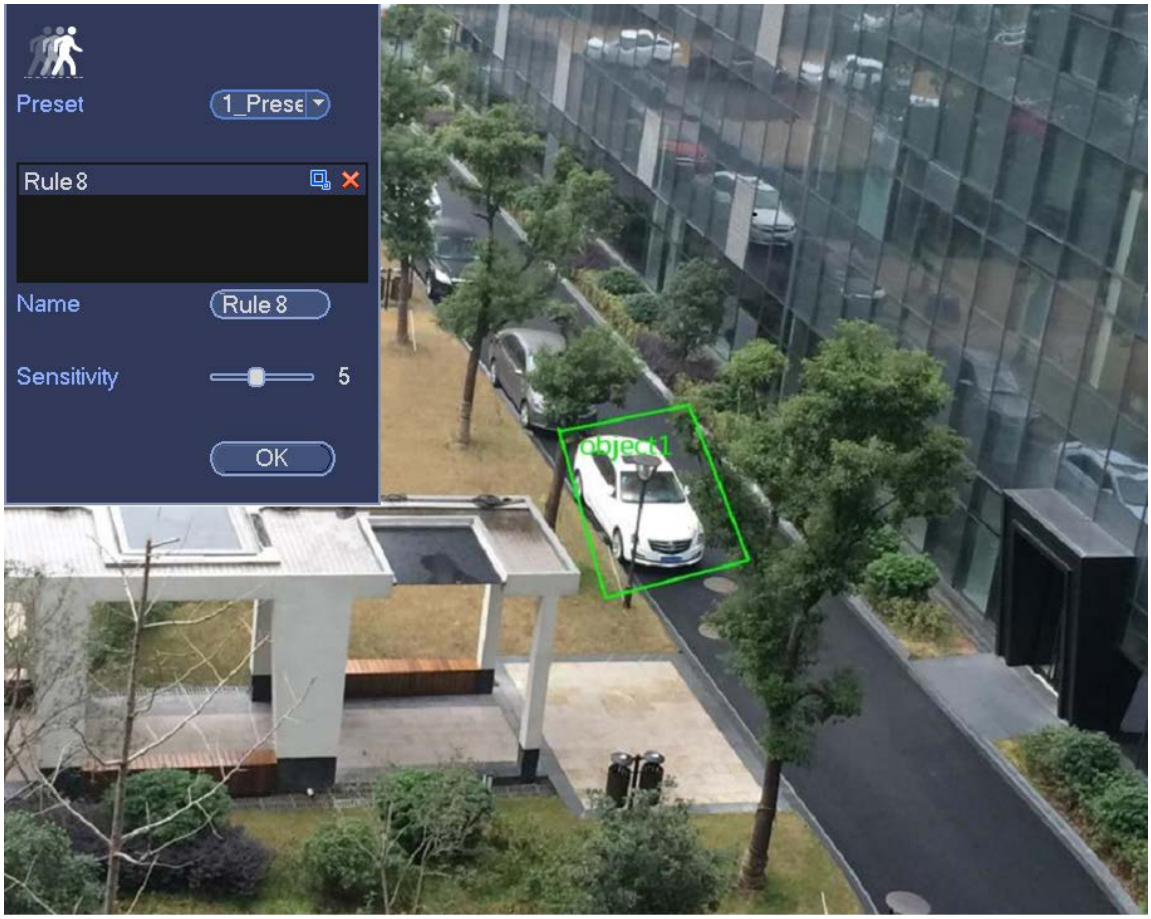


Figure 3-140

- Preset: Select a preset you want to use IVS.
- Name: Input customized rule name.
- Sensitivity: It is to set alarm sensitivity. The value ranges from 1 to 10.The default setup is 5.
- 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.

Now you can draw a rule. Left click mouse to draw a zone, until you draw a rectangle, you can right click mouse.

Tips

Click to delete the corresponding rule.

Click , you can refer to the chapter 3.10.3.1 to set other parameters.

Click Apply to complete the setup.

3.10.3.8 Global Setup

After set one horizontal gauge and three vertical gauge and the actual distances between each gauge, the system can estimate the network camera internal parameters(internal geometrical features and optical properties) and external parameters (the network camera position and direction on the actual environment),it can confirm the actual distance on the current surveillance environment.

From main menu->Setting->Event->IVS (IVS), enter the following interface. See Figure 3-141.

Figure 3-141

Click Global config button, the interface is shown as below. See Figure 3-142.

- Channel: Please select a channel from the dropdown list.
- Preset: Select a preset you want to set the rule. Please note, you need to add a preset first, otherwise, you cannot see the preset dropdown list. If there is no preset, you can draw a rule in current channel.
- Calibration zone:

✧ Click Add zone , you can draw a calibration zone at the left pane of the interface. Select a zone and then click Delete zone button; you can remove the selected zone.

✧ Select gauge type (horizontal/tilt), you can set the corresponding length. You can draw three tilt gauges and one horizontal gauge at the left pane of the interface.

- Select Width/Height and then click Verify, you can draw a line in the calibration zone, and then you can see its actual length.
- Refresh preset: Click it to get the latest preset setup.

Figure 3-142

3.10.4 Face Detection

System processes and analyzes the video from the camera. System can generate an alarm when it detects there is any human face information.

From main menu->Setting->Event->Face detection, the interface is shown as in Figure 3-143.

- Face ROI: Check the box here, system can enhance the human face display pane.

  Note

  Make sure the connected camera supports human face detect function if you want to use face ROI function.

- Log: Check the box here, system can record face detect log.

You can refer to the chapter 3.10.1.1 Motion detect to set other parameters.

Figure 3-143

3.10.5 People Counting

System adopts video image and graphics analysis technology. System can calculate the entry/exit people amount in the specified zone on the video. It can generate an alarm when the amount has exceeded the threshold.

From main menu->Setting->Event->People counting, you can see an interface shown as in Figure 3-144.

- 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.

You can refer to the chapter 3.10.1.1 motion detect to set other parameters.

Click OK to complete the setup.

Figure 3-144

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 3.10.1.1 Motion detect for detailed information.

3.10.6 Heat Map

Heat map technology can monitor the active objects distribution status on the specified zone during a period of time, and use the different colors to display on the heat map.

Step 1 From main menu->Setting->Event->Heat map.
Enter heat map interface. See Figure 3-145.

Figure 3-145

Step 2 Select a channel number and then check the box to enable the function.

Step 3 Click Setup button.

Enter setup interface. See Figure 3-146.

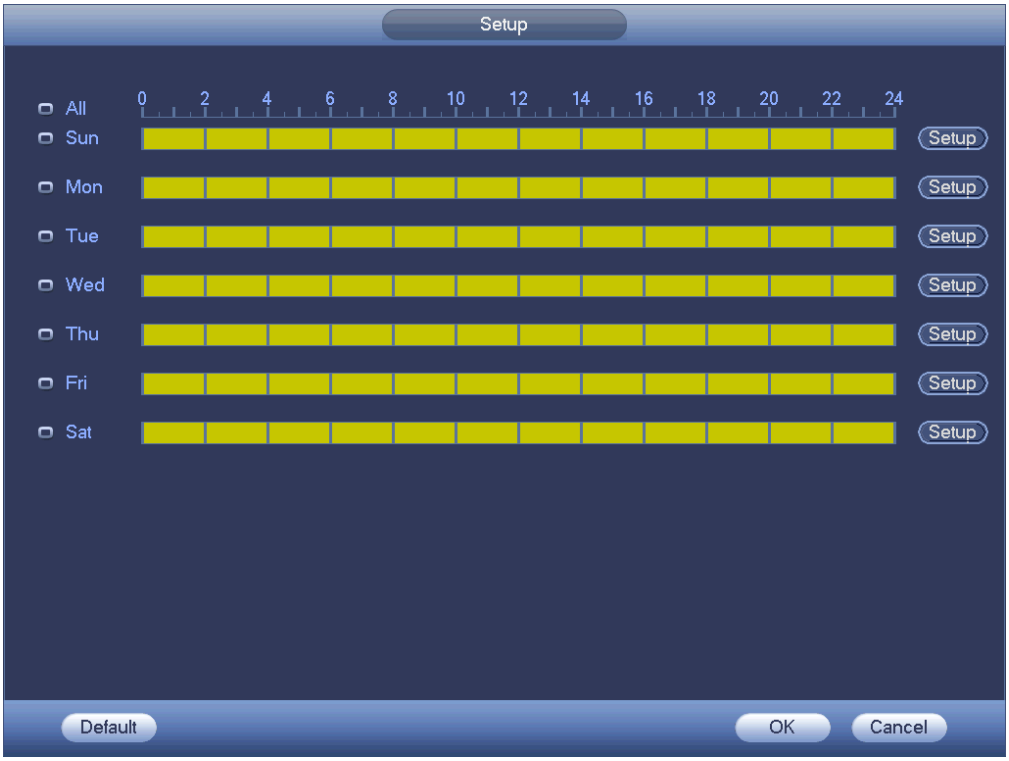


Figure 3-146

Step 4 Set arm/disarm period. Refer to chapter 3.10.1.1 Motion detect for detailed setup information.

Step 5 Click Apply button to complete setup.

Note

After set the heat map parameters, go to main menu->Info->Event->Heat map to view heat map report.

3.10.7 ANPR

3.10.7.1 Plate recognition settings

Device can generate an alarm when it detects the corresponding plate information.

Please follow the steps listed below.

Step 1 From main menu->Setup->Event->ANPR-> Vehicle Recognition.

Enter Vehicle Recognition interface. See Figure 3-147.

Figure 3-147

Step 2 Check Enable to enable plate recognition function.

Step 3 Select a channel number and then click the Rule to set the plate recognition name and detection zone.

Step 4 Click Regular, blacklist, whitelist to set.

Note

Before use blacklist alarm or whitelist alarm function, please add the corresponding plate information. Refer to chapter 3.10.7.2 B/W list for detailed information.

- Regular: In this interface, device triggers an alarm when it detects all plate numbers.

- Blacklist: In this interface, device triggers an alarm when it detects plate number in the blacklist.
- Whitelist: In this interface, device triggers an alarm when it detects plate number in the whitelist.

3.10.7.2 B/W List

It is to set the blacklist and the whitelist. It includes add, delete, import, export blacklist/whitelist.

After setting the blacklist/whitelist, in the plate snapshot list on the preview interface, the blacklist plate number is red, the whitelist plate number is green, the regular plate number is white.

Add blacklist/whitelist

Step 1 From main menu->Setting->Event->ANPR->B/W list.

Enter B/W list interface. See Figure 3-148.

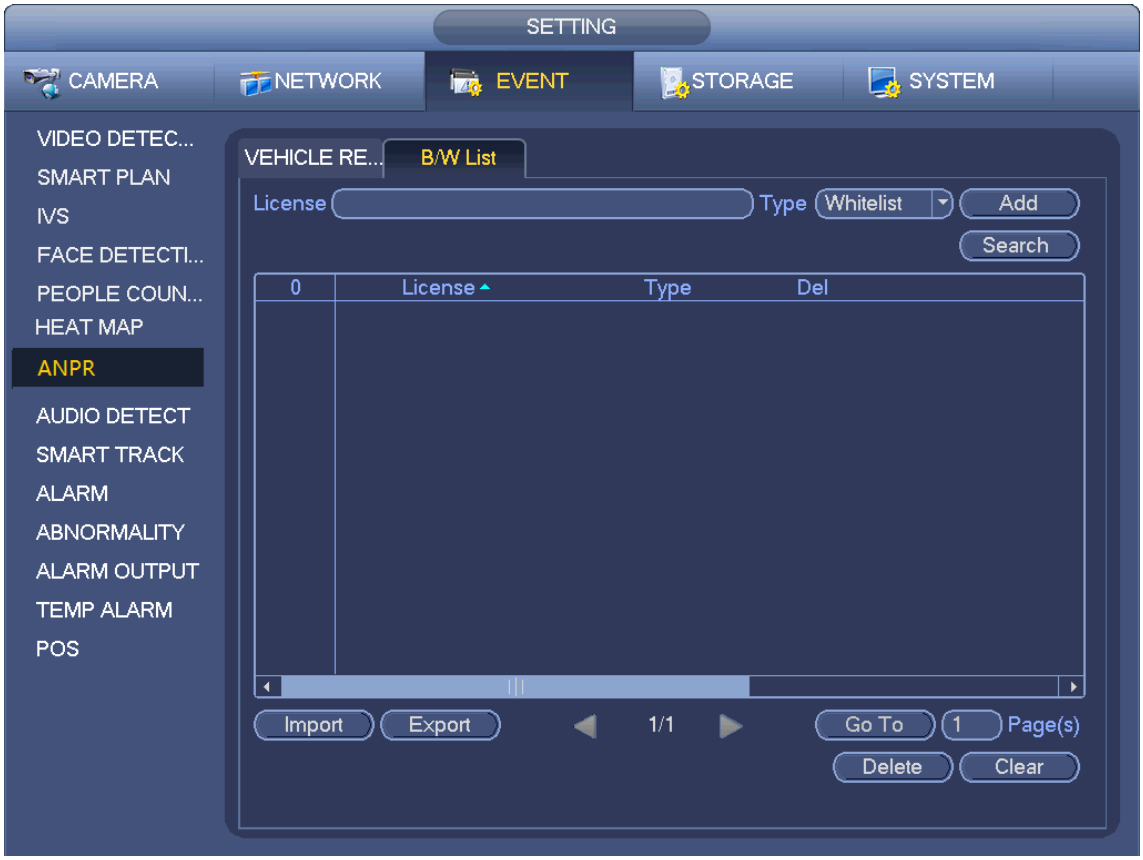


Figure 3-148

Step 2 Set plate number and then select type as blacklist or whitelist.

Step 3 Click Add button.

Delete blacklist/whitelist

Set type as blacklist, whitelist or all, click Search button, device displays the corresponding information.

- Check the box before the plate number and then click Delete or  to delete a plate number.
- Click Clear to delete all plate information in the blacklist/whitelist.

Import/export blacklist/whitelist

Device supports blacklist/whitelist import/export function via the USB device. The import file supports .csv and xlsx. The export file is .csv.

- Import blacklist/whitelist: Set the type as blacklist or whitelist and then click Import button. Select the corresponding file and then click Open button to import.
- Export blacklist/whitelist: Set the type as blacklist or whitelist and then click Export button. The Browse interface is displayed. See Figure 3-149. Select the file save path, enter the encryption password, and then click Save.

Figure 3-149

NOTE

Backup encryption is enabled by default when exporting the black/white list.

- If file backup encryption is enabled, the extension name of the exported file is .backup.
- If the backup encryption is disabled, the extension name of the exported file is .csv. It might lead to data leakage.

3.10.8 Audio Detect

System can generate an alarm once it detect the audio is not clear, the tone color has changed or the is abnormal or audio volume changes.

From main menu->Setting->Event->Audio detect, you can see an interface shown as in Figure 3-150.

- 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 3.10.1.1 Motion Detect to set other parameters.

Figure 3-150

3.10.9 Smart Track

This function allows you to view the trigger video of the fish eye & PTZ camera. The fish eye is the main camera to view the whole surveillance condition and the PTZ camera works as the slave camera to view the details.

- When installing the cameras, the fisheye camera and PTZ camera shall focuse the same zone.
- You shall register the fisheye camera and PTZ camera through private protocol.

Step 1 Enter from main menu > Setting > Event > Smart Track.
The Smart Track interface is displayed. See Figure 3-151.

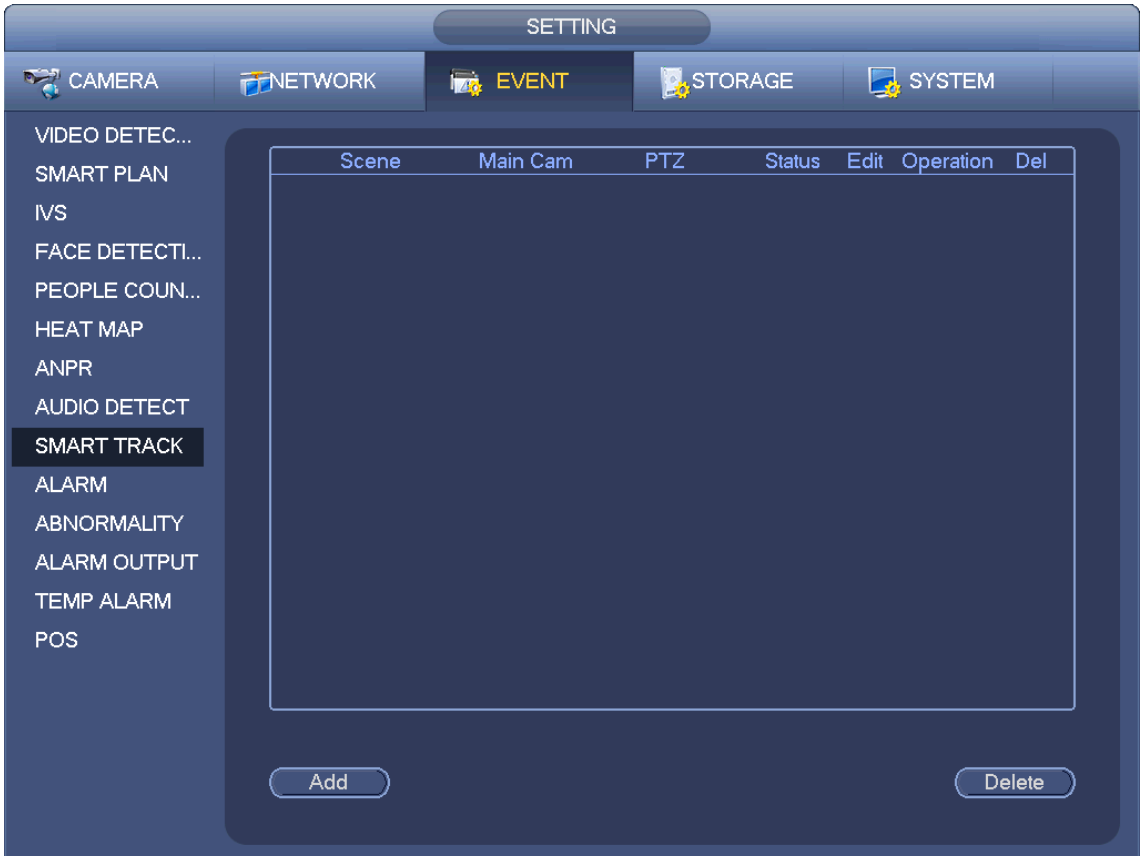


Figure 3-151

Step 2 Add surveillance scene.

1. Click Add.

   The Add interface is displayed. See Figure 3-152.

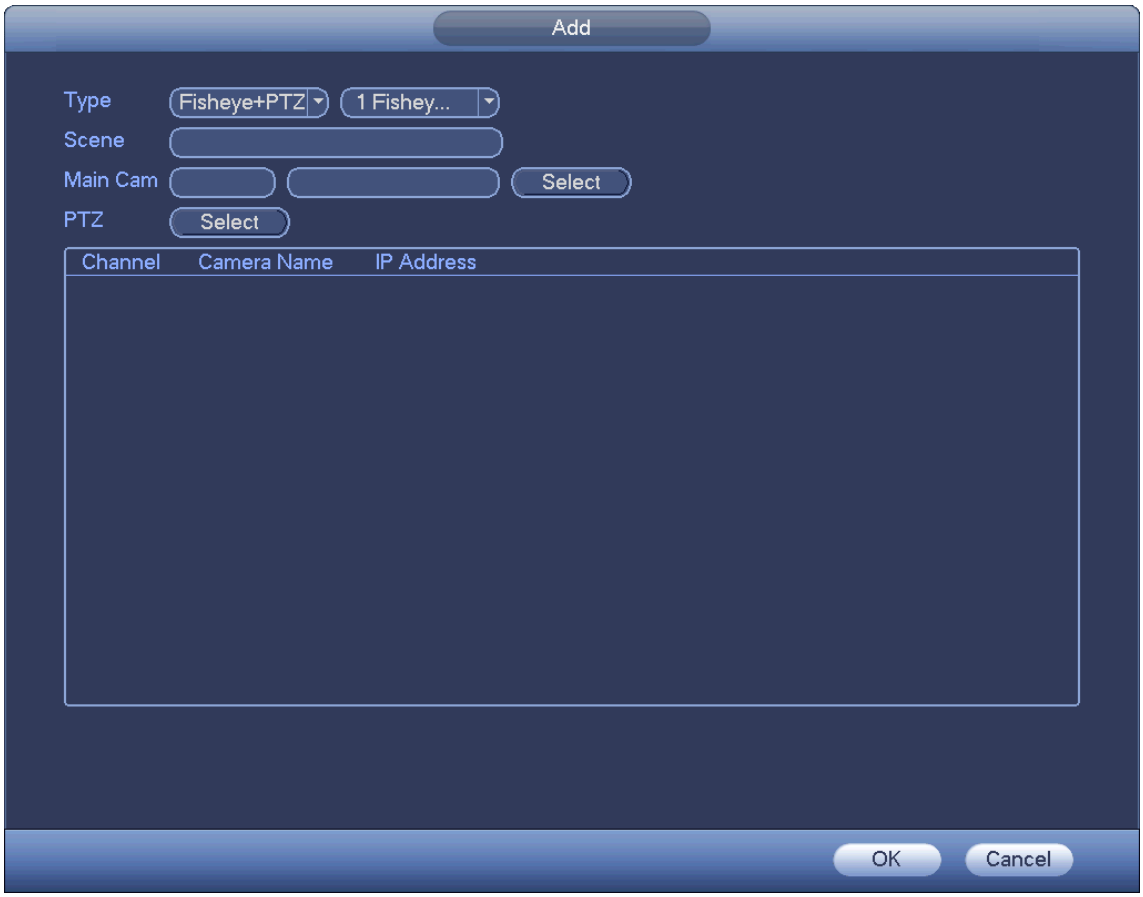


Figure 3-152

2. Configure the parameters. For details, see the following table.

Parameter	Description
Type	Select fisheye + PTZ and select the type according to the PTZ camera number. ● 1 Fisheye + 1 PTZ ● 1 Fisheye + 2 PTZ ● 1 Fisheye + 3 PTZ
Scene	Customize the scene name.
Main Cam	Select the corresponding channel for the fisheye according to the actual situation. Steps are shown as follows: 1. Click Select corresponding to Main Cam item. 2. In the displayed Fisheye dialogue box, select the fisheye camera. 3. Click OK. In the text boxes behind the Main Cam item, the system displays the channel number and device name.
PTZ	Select the corresponding channel for PTZ camera according to the actual situation. Steps are shown as follows: 1. Click Select corresponding to PTZ item. 2. In the displayed PTZ dialogue box, select the PTZ camera(s) according to the selected type. 3. Click OK. The system displays the PTZ channel number, channel name and IP address in the list.

3. Click OK.

   The surveillance scene setting is completed. See Figure 3-153.

Figure 3-153

Step 3 Configure calibration to set the binding relation between fisheye camera and PTZ position.

CAUTION

To enhance trigger accuracy, a distant object is suggested as the first calibration.

1. Click  or double-click the name line of the surveillance scene.

   The Config interface is displayed. See Figure 3-154.

   Note

   In Figure 3-154, the fisheye window is displayed on the left and the PTZ window is displayed on the right.

Figure 3-154

2. In the fisheye window, click any point or move to confirm the position.
3. In the PTZ window, click the ions under the window to adjust the PTZ position to make the center of PTZ window the same as the position locates in the fisheye window. For icon description, see the following table.

Note

indicates the center of the PTZ window.

Icon	Description
	Control the PTZ to zoom in and zoom out.
	Adjust the definition of the PTZ image.
	Adjust the brightness of the PTZ image.
	Electronic mouse. Move the mouse on the interface to control the PTZ direction.
	Quick positioning. Click this icon, select any position on the screen and the image automatically adjust centered on the selected point.

Icon	Description
	Control the PTZ rotation speed. The larger the value, the faster the PTZ rorates. For example, the rotation speed of step 8 is much faster than the speed of step 1.

4. Click Add.

The calibration record is displayed in the list box. See Figure 3-155.

Figure 3-155

5. Click to save the calibration record.
6. Repeat 4-7 to add more calibration records.

Note

You shall set at least 3 sets and at most 8 sets of calibration spots for each PTZ camera. The position of the calibration spot shall be as accurate as possible.

- ✧ Click to delete the calibration record.
- ✧ Click Clear to delete all the records in the list.

Step 4 Click OK to complete the calibration settings.

Return to the Smark Track interface. If the status of surveillance scene is , the setting is successful.

Note

After configuring the smart track, right click the mouse on the Preview interface and select Smart Track, and then you can view the smart track window. For details, see chapter 3.6.9 Smart Track.

3.10.10 Alarm Settings

In the main menu, from Setting->Event->Alarm, you can see alarm setup interface.

- Alarm in: Here is for you to select channel number.

In the main menu, from Setting->Event->Alarm, you can see alarm setup interface. See Figure 3-156. There are four alarm types. See Figure 3-156 to Figure 3-159.

- ✧ Local alarm: After connect the alarm device to the NVR alarm input port, system can trigger the corresponding alarm operations when there is alarm signal from the alarm input port to the NVR.
- ✧ Network alarm: NVR trigger corresponding alarm operations when it receives the alarm signal via the network transmission.
- ✧ IPC external alarm: When the network camera connected peripheral device has triggered an alarm, it can upload the alarm signal to the NVR via the network transmission. The system can trigger the corresponding alarm operations.
- ✧ IPC offline alarm: When the network connection between the NVR and the network camera is off, the system can trigger the corresponding alarm operations.

- Enable: Please you need to highlight this button to enable current function.
- Type: normal open or normal close.
- Period: Click set button, you can see an interface is shown as in Figure 3-161. 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 3-161, 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 3-161. Click button  after one date or a holiday, you can see an interface shown as in Figure 3-162. There are four record types: regular, motion detection (MD), Alarm, MD & alarm.
- PTZ activation: When an alarm occurred, system can activate the PTZ operation. The PTZ activation lasts an anti-dither period. See Figure 3-160.
- Anti-dither: Here you can set anti-dither time. The value ranges from 5 to 600s. The anti-dither time refers to the alarm signal lasts time. It can be seem as the alarm signal activation stays such as the buzzer, tour, PTZ activation, snapshot, channel record. The stay time here does not include the latch time. During the alarm process, the alarm signal can begin an anti-dither time if system detects the local alarm again. The screen prompt, alarm upload, email and etc will not be activated. For example, if you set the anti-dither time as 10 second, you can see the each activation may last 10s if the local alarm is activated. During the process, if system detects another local alarm signal at the fifth second, the buzzer, tour, PTZ activation, snapshot, record channel will begin another 10s while the screen prompt, alarm upload, email will not be activated again. After 10s, if system detects another alarm signal, it can generate an alarm since the anti-dither time is out.
- Alarm output: The number here is the device alarm output port. You can select the corresponding ports(s) so that system can activate the corresponding alarm device(s) when an alarm occurred.
- Latch: When the anti-dither time ended, the channel alarm you select in the alarm output may last the specified period. The value ranges from 1 to 300 seconds. This function is not for other alarm activation operations. The latch is still valid even you disable the alarm event function directly.
- Show message: System can pop up a message to alarm you in the local host screen if you enabled this function.
- Alarm upload: System can upload the alarm signal to the network (including alarm center and the WEB) if you enabled current function. System only uploads the alarm channel status. You can go to the WEB and then go to the Alarm interface to set alarm event and alarm operation. Please go to the Network interface to set alarm center information.
- Send email: System can send out the alarm signal via the email to alert you when alarm occurs. Once you enable the snap function, system can also send out an image as the attachment. Please go to the Main Menu->Setting ->Network->Email interface to set.
- Record channel: you can select proper channel to record alarm video (Multiple choices).
  - ✧ You need to set alarm record mode as Schedule in Record interface (Main Menu->Advanced->Record). Please note the manual record has the highest priority. System record all the time no matter there is an alarm or not if you select Manual mode.
  - ✧ Now you can go to the Schedule interface (Main Menu->Setting->Schedule) to set the record type, corresponding channel number, week and date. You can select the record

type:Regular/MD/Alarm/MD&Alarm. Please note, you cannot select the MD&Alarm and MD(or Alarm) at the same time.

- ✧ Now you can go to the Encode interface to select the alarm record and set the encode parameter (Main Menu->Setting->Encode).
- ✧ Finally, you can set the alarm input as the local alarm and then select the record channel. The select channel begins alarm record when an alarm occurred. Please note system begins the alarm record instead of the MD record if the local alarm and MD event occurred at the same time.

- Tour: Here you can enable tour function when an alarm occurs. System supports 1/8-window tour. Please go to chapter3.6.6.1 Display for tour interval setup. Please note the tour setup here has higher priority than the tour setup you set in the Display interface. Once there two tours are both enabled, system can enable the alarm tour as you set here when an alarm occurred. If there is no alarm, system implements the tour setup in the Display interface.
- Snapshot: You can enable this function to snapshot image when an alarm occurs.
- Buzzer: Highlight the icon to enable this function. The buzzer beeps when an alarm occurs.

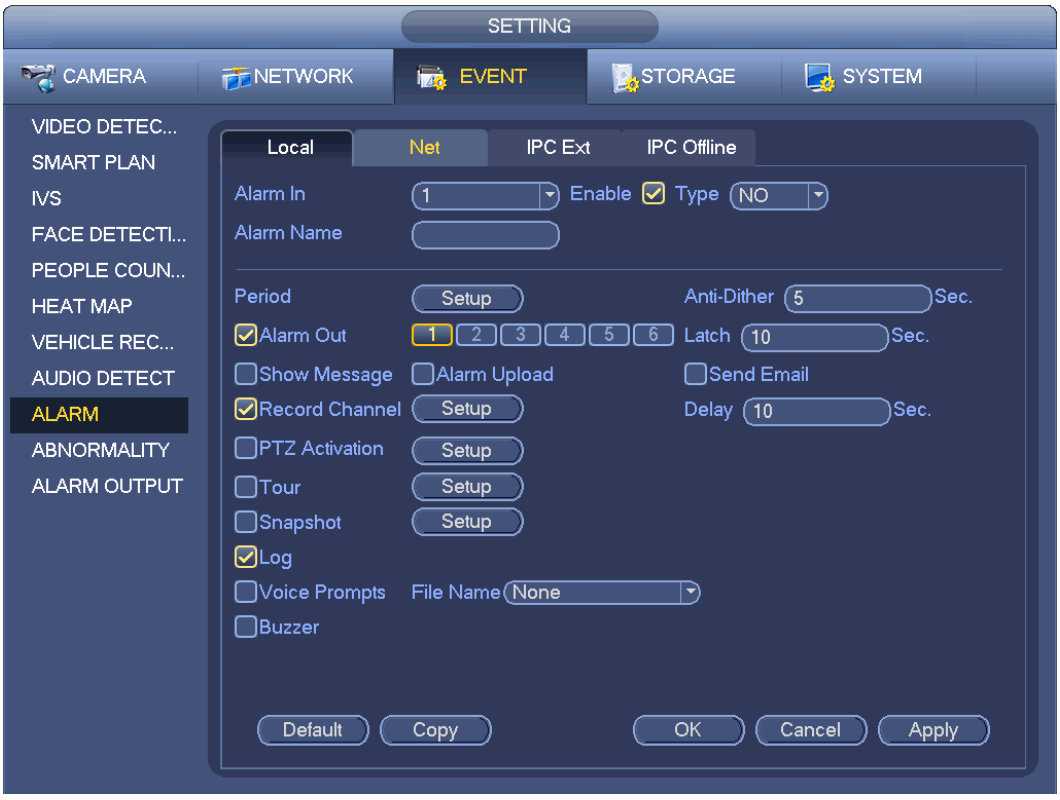


Figure 3-156

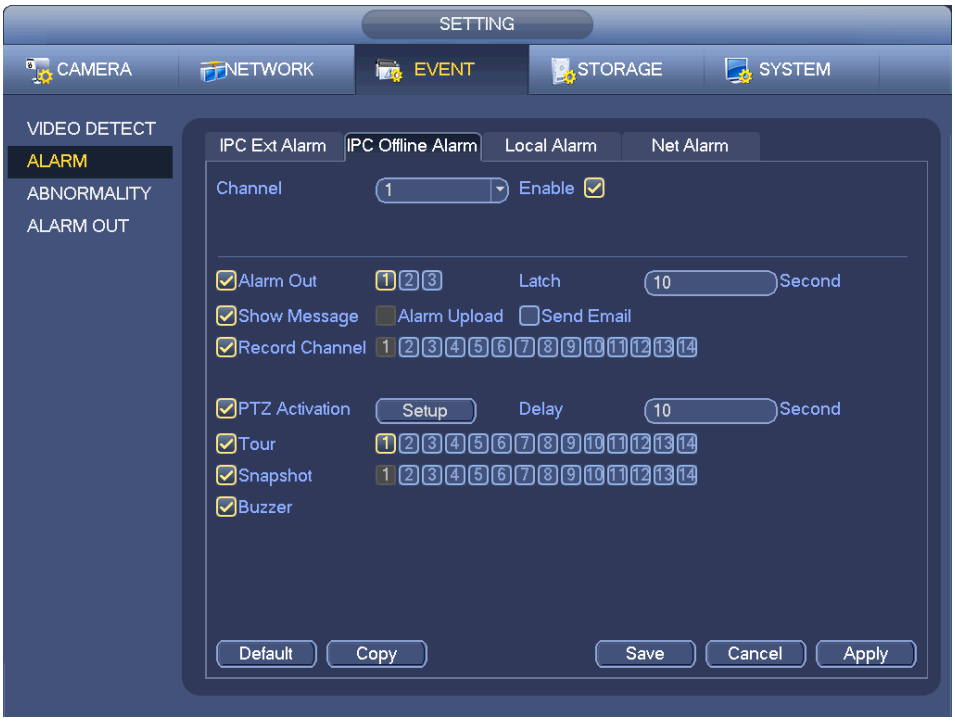


Figure 3-157

Figure 3-158

Figure 3-159

Figure 3-160

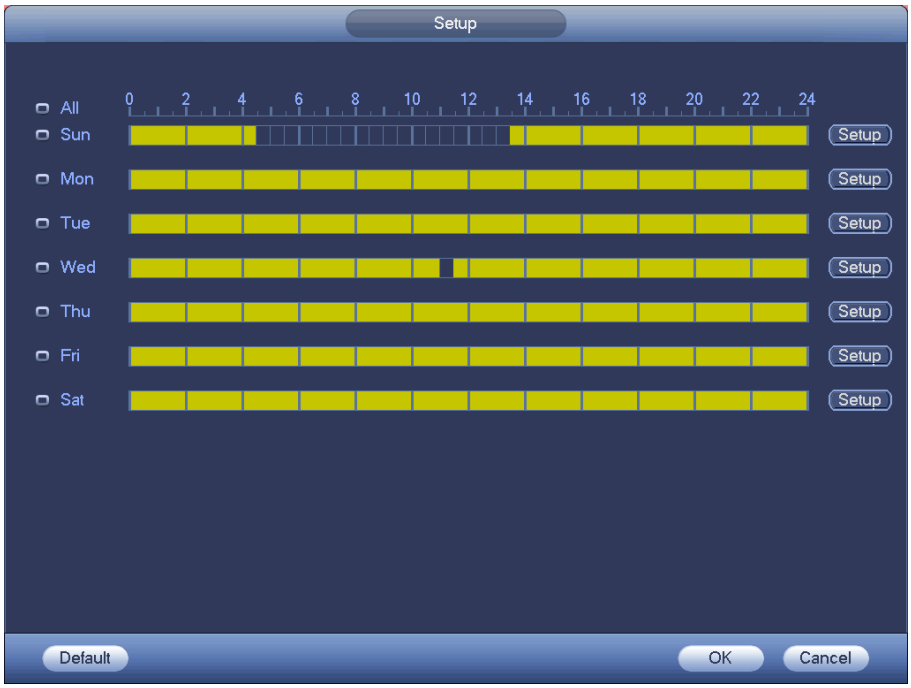


Figure 3-161

Figure 3-162

Please highlight icon to select the corresponding function. After setting all the setups please click save button.

3.10.11 Abnormality

There are three types: Disk/Network/User.

- ✧ Disk: Disk error, no disk, no space. See Figure 3-163.
- ✧ Network: Disconnection, IP conflict, MAC conflict. See Figure 3-164.

✧ User: Illegal login. Figure 3-165.

- 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 (For HDD no space type only).
- Attempts: In user interface, select illegal login from the dropdown list. Here you can set login attempts. The value ranges from 1 to 10.
- Lock time: In user interface, select illegal login from the dropdown list. Here you can set account lock time. The value ranges from 1 to 30 minutes.
- 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 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 an alarm occurs.

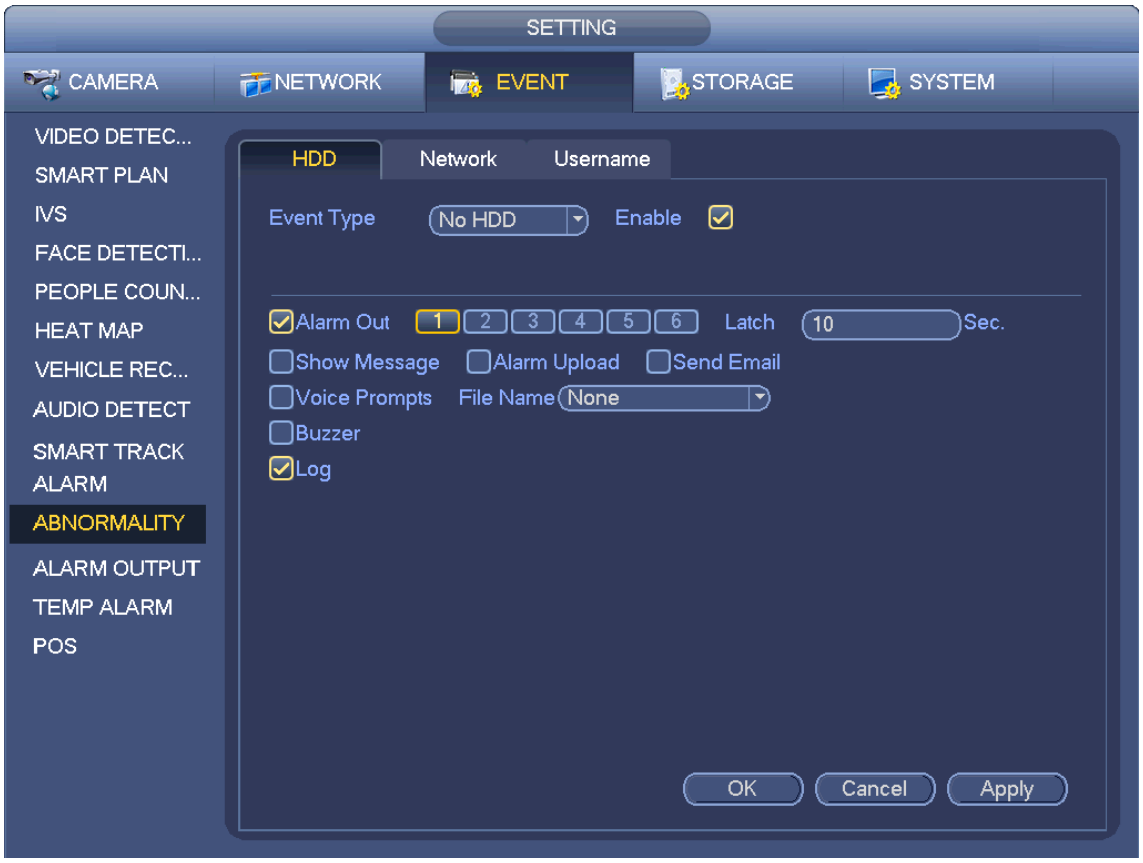


Figure 3-163

Figure 3-164

Figure 3-165

3.10.12 Alarm output

From Main menu->Setting->Event->Alarm output, you can see an interface shown as in Figure 3-166. Here is for you to set proper alarm output (Auto/manual/stop). Connect the alarm device to the system alarm output port, and set the mode as auto, system can trigger the corresponding operations when an alarm occurs.

- Auto: Once an alarm event occurs, system can generate an alarm.
- Manual: Alarm device is always on the alarming mode.
- Stop: Disable alarm output function.

Click OK button of the alarm reset, you can clear all alarm output status.

Figure 3-166

Please highlight icon to select the corresponding alarm output.
After all the setups, please click OK button.

3.10.13 Temperature Alarm

When device with temp measurement function is accessed on the front end, the system supports temp alarm settings.

Note

Some series do not support the temp alarm function. The actual product shall goven.

Step 1 Enter from main menu > Settings > Event > Temp Alarm.

The Temp Alarm interface is displayed. See Figure 3-167.

Figure 3-167

Step 2 Select the channel number and select the Enable check box.

Step 3 Configure the alarm activation parameters. For details, see the following table.

Parameter	Description
Period	Enter the period only in which the system triggers the linked alarms.
Anti-Dither	During the anti-dither period, the system only records one temp alarm event.
Alarm Out	Connect alarm device (such as light, siren) in the alarm out port. When an alarm occurs, NVR transmits the alarm information to the alarm device.
Latch	The alarm lasts for 0-300 seconds after the alarm event ends.
Send Email	Select the check box. When an alarm occurs, NVR semds email to the set mail box. **Note** You shall configure the Email first.
Record Channel	Select the check box, click Setting and then select the channel (support multi-choice). When an alarm occurs, NVR triggers the channel to take records. **Note** You shall enable alarm record and auto record functions first.
Post-record	Recording lasts for 10-300 seconds after the alarm ends.

Parameter	Description
PTZ Activation	Select the check box and click Setting. Select the PTZ channel and PTZ action. When an alarm occurs, NVR triggers the channel to perform the corresponding PTZ action. For example, activate the PTZ to move to preset point X. **Note** You shall set the corresponding PTZ actions first.
Tour	Select the check box and click Setting. Select the tour channel. When an alarm occurs, NVR local interface displays the select channel image. **Note** You shall set tour interval and tour mode first.
Snapshot	Select the check box and click Setting. Select the snapshot channel. When an alarm occurs, NVR triggers snapshot in the selected channel. **Note** You shall enable alarm snapshot and auto snapshot first.
Log	Select the check box. When an alarm occurs, NVR records the alarm information in the log.
Buzzer	Select the check box. When an alarm occurs, NVR triggers the buzzer for alarm.

Step 4 Click Apply or OK to save the configuration.

3.10.14 POS

Connect the device with the POS, the device can receive the POS information and overlay corresponding info on the video.

Note

- For the local-end, this function supports 1/4-window display and 1-window playback.
- This function is for the cashier of the supermarket and etc. The device can get the information from the POS and then overlay the txt information on the video.

Step 1 From main menu->Setting->System->POS, the interface is shown as below. See Figure 3-168.

Figure 3-168

Step 2 Click Add button, the interface is shown as below. See Figure 3-169.

Set parameters.

- Enable: Check the box to enable POS function.
- Name: Set POS name.

1. Click 
2. Input POS name on the pop-up dialogue box.
3. Click OK button.

Note

The POS name shall be unique.

System max supports 64 English letters.

- Event: Set POS arm/disarm period, record channel and etc. Click Setup to go to the interface. For detailed information, please refer to chapter 3.10.1.1 motion detect.
- Privacy：After enable this function, once the overlay information contain the privacy character, it displays as *. For example, the privacy character is 12,56,89, the local preview and WEB surveillance information is shown as **34**7** if the overlay information is 123456789. For detailed information, please refer to chapter 3.10.14.1 privacy setup.
- Protocol type: The default setup is POS.
- Connection type: It is to set and NVR connection mode. It includes UDP,TCP,RS232,RS485. After set the connection type, please click the Setup button to set the corresponding parameters. For detailed information, please refer to chapter 3.10.14.2 connection type.
- Convert: It is to set font type.

- Overlay: It is to set overlay mode. It includes turn and roll.
  - ✧ Turn: Once the overlay information has reached 8 lines, NVR turn to the next page.
  - ✧ Roll: Once the overlay information has reached 8 lines, NVR displays the next new line and delete the oldest line.
- Network overtime: Once there is no POS data for the specified period, NVR automatically deletes POS information after specified period.
- Font size: The overlay font size.
- Color: The overlay font color.
- POS Info: Check the box to overlay information on the local preview window.
- Advanced: Click  to enter advanced settings interface.
- Transaction start/transaction end: It is to set transaction start and end character. The overlay information only displays the character after the start string and before the end string. For example, the start character is 12 and the end character is 90, NVR displays 34567 on local preview and Web preview interface if the sending out information is 123456789.
- Line delimiter: After set the line delimiter, the overlay information after the delimiter is displayed in the new line. For example, the line delimiter is 45 and the overlay information is 123456789, NVR displays 123 in the first line and displays 6789 in the second line.
- Hex: Check the Hex to switch ASCII code.
- Case insensitive: Check the box to enable case insensitive function.
  - ✧ When this function is enabled, set the start character as “aa”, NVR cannot distinguish the upper and lower case when sending out information “11aA23456”. The NVR overlays information is “23456” on local surveillance and Web preview.
  - ✧ When this function is disabled, set the start character as “aa”, NVR can distinguish the upper and lower case when sending out information “11aA23456”. The NVR does not overlay information local surveillance and Web preview.

3.10.14.1 Privacy Setup

Step 1 Click Setup

Enter Setup interface. See Figure 3-169,

Figure 3-169

Step 2 Set privacy information.

Step 3 Click OK button.

3.10.14.2 Connection type

- **Connection type is UDP or TCP.**

Step 1 Click Setup.

Enter Setup interface. See Figure 3-170.

Figure 3-170

Step 2 Source IP and port refers to POS IP address and port.

Note

Destination IP and port refers to NVR IP address and port. System can auto get and display.

Step 3 Click OK to complete setup.

- **Connection mode is RS232 or RS485.**

Step 1 Click Setup.

Enter Setup interface. See Figure 3-171.

Figure 3-171

Step 2 Set address, baud rate, data bit, stop bit and parity.

Note

Make sure the parameters here are the same with the POS setup.

Step 3 Click OK to complete setup.

3.11 Network

3.11.1 Network Settings

3.11.1.1 TCP/IP

From main menu>Setting>Network>TCP/IP, the interface is shown as in Figure 3-172.

- IP Version: There are two options: IPv4 and IPv6. Right now, system supports these two IP address format and you can access via them.
- Preferred DNS server: DNS server IP address.
- Alternate DNS server: DNS server alternate address.
- Default card: It is to set default network card.
- LAN download: System can process the downloaded data first if you enable this function. The download speed is 1.5X or 2.0X of the normal speed.

Important

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

Figure 3-172

Click Edit button, you can go to the following interface. See Figure 3-173.

- Network mode:
  - ✧ Single NIC: eth1/eth2/ eth3/eth4 operate separately. You can use the services such as HTTP, RTP service via eth1/eth2/ eth3/eth4. 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.
  - ✧ 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.
  - ✧ Load balance: In this mode, device uses bond0 to communicate with the external device. The eth1/eth2/ eth3/eth4 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.
  - ✧ **Note:** Different series products have different Ethernet port amount.
- NIC member: You can check the box here to select the bind cards.
  - ✧ This mode is for fault-tolerance or load balance mode only.
  - ✧ The network cards number shall be equal to or more than 2.
  - ✧ The different types of cards such as fiber card or the Ethernet card can not binding together.

- 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 can not modify IP/Subnet mask /Gateway. These values are from DHCP function. If you have not enabled DHCP function, IP/Subnet mask/Gateway display as zero. You need to disable DHCP function to view current IP information. Besides, when PPPoE is operating, you can not modify IP/Subnet mask /Gateway.
- MTU: It is to set MTU value of the network adapter. The value ranges from 1280-7200 bytes. The default setup is 1500 bytes. Please note MTU modification may result in network adapter reboot and network becomes off. That is to say, MTU modification can affect current network service. System may pop up dialog box for you to confirm setup when you want to change MTU setup. Click OK button to confirm current reboot, or you can click Cancel button to terminate current modification. Before the modification, you can check the MTU of the gateway; the MTU of the NVR shall be the same as or is lower than the MTU of the gateway. In this way, you can reduce packets and enhance network transmission efficiency. Right now, the value here is for read-only.

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.

After completing all the setups please click OK button.

Tips

Click button  to cancel card binding.

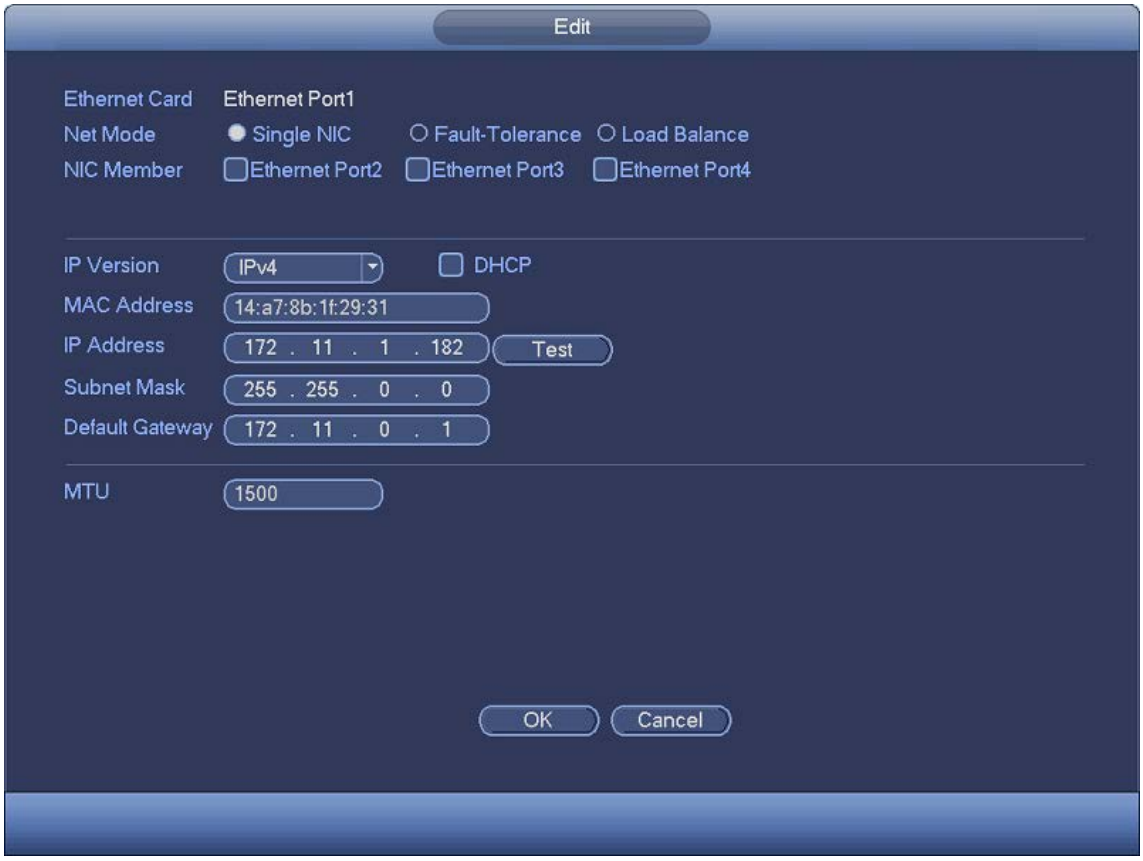


Figure 3-173

3.11.1.2 Port

The port setup interface is shown as in Figure 3-174.

- Max connection: system support maximal 128 users. 0 means there is no connection limit.
- TCP port: Default value is 37777.
- UDP port: Default value is 37778.
- HTTP port: Default value is 80.
- HTTPS port: Default value is 443.
- RTSP port: Default value is 554.

Important: System needs to reboot after you changed and saved any setup of the above four ports. Please make sure the port values here do not conflict.

Figure 3-174

3.11.1.3 PPPoE

PPPoE interface is shown as in Figure 3-175.

Input “PPPoE name” and “PPPoE password” you get from your ISP (Internet service provider).

Click save button, you need to restart to activate your configuration.

After rebooting, NVR will connect to internet automatically. The IP in the PPPoE is the NVR dynamic value. You can access this IP to visit the unit.

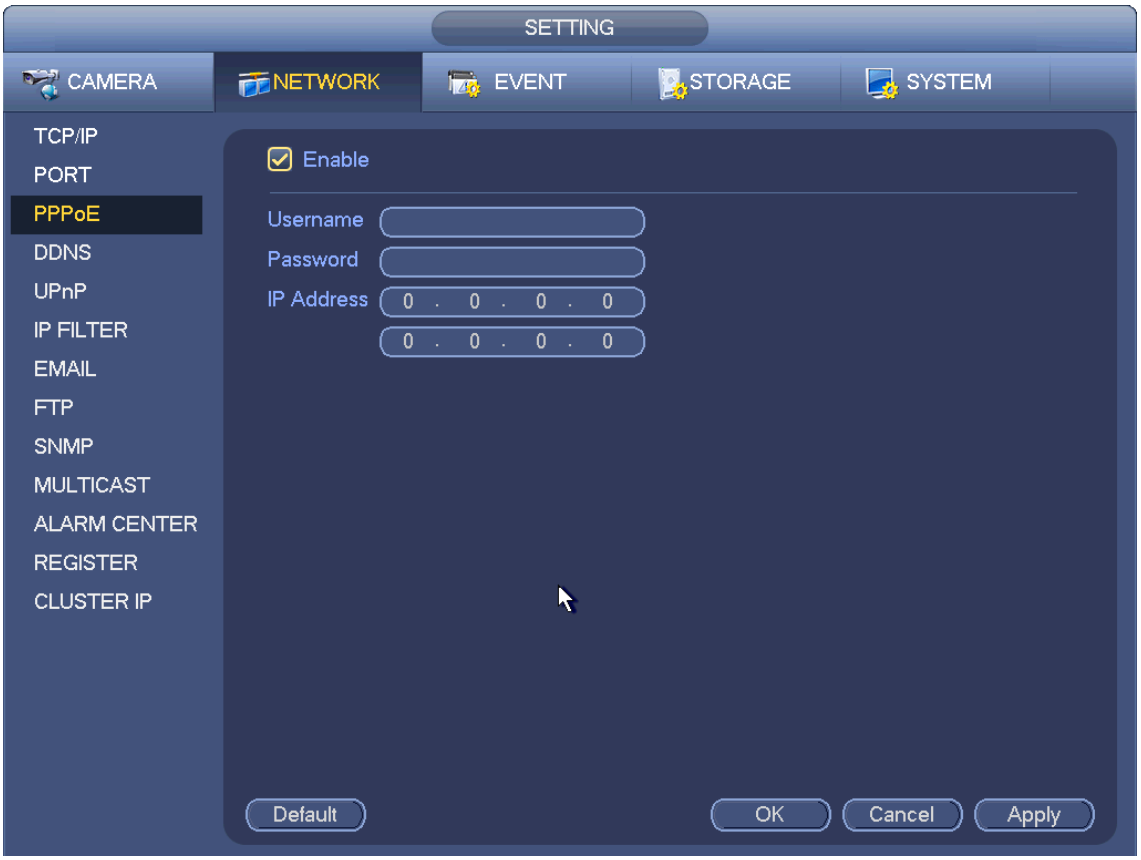


Figure 3-175

3.11.1.4 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.

NOTE

After you register the device and log in the DDNS website, you can view all connected device information of the current user.

Step 1 Enter from main memu > Setup > Network > DDNS.

DDNS setup interface is shown as in Figure 3-176.

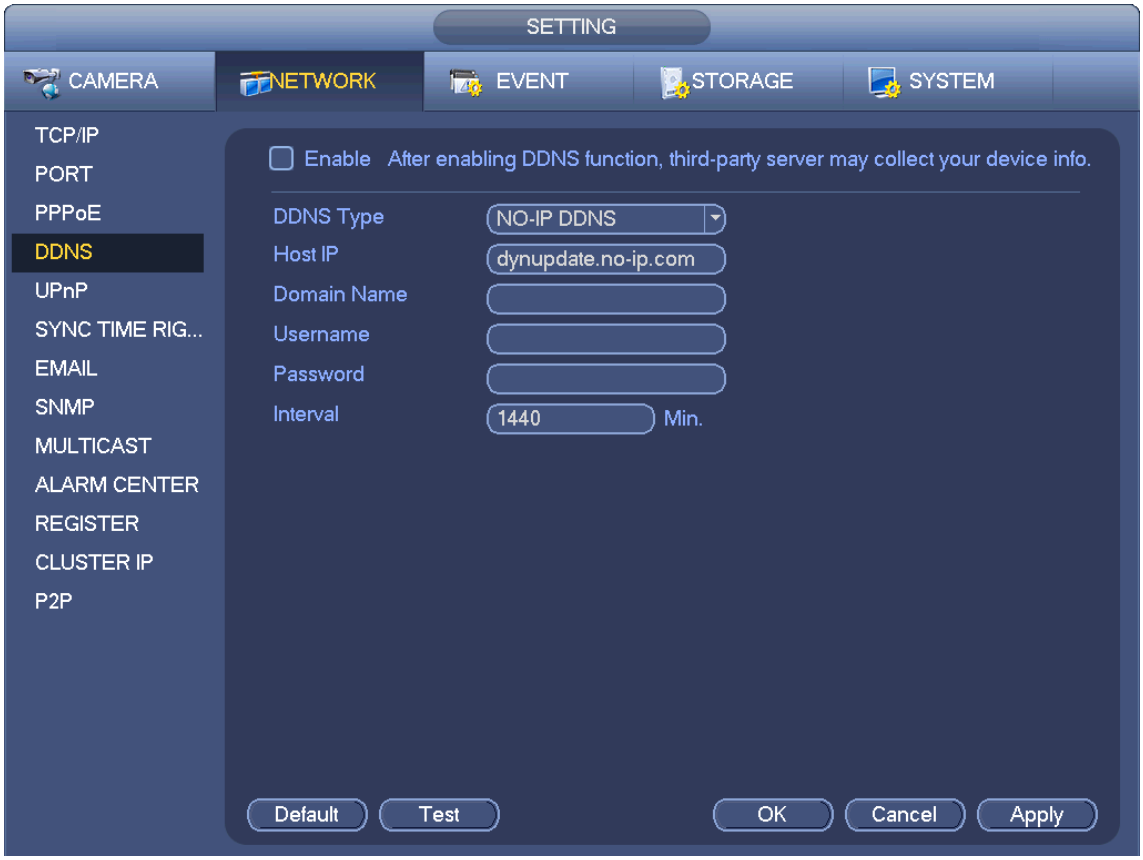


Figure 3-176

Step 2 Select the Enable check box to enable DDNS function.

NOTE

When DDNS is enabled, the third-party server might collect your device information.

Step 3 Configure the DDNS parameters according to practical situation.

- 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 4 Click Apply or Save to complete setup.

Step 5 Open a browser and input domain name, click Enter key.

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

3.11.1.5 UPnP

The UPNP protocol is to establish a mapping relationship between the LAN and the WAN. Please input the router IP address in the LAN in Figure 3-172. See Figure 3-177.

- UPNP on/off :Turn on or off the UPNP function of the device.
- Status: When the UPNP is offline, it shows as “Unknown”. When the UPNP works it shows “Success”

- Router LAN IP: It is the router IP in the LAN.
- WAN IP: It is the router IP in the WAN.
- Port Mapping list：The port mapping list here is the one to one relationship with the router's port mapping setting.
- List：
  - ✧ Service name：Defined by user.
  - ✧ Protocol：Protocol type
  - ✧ Internal port：Port that has been mapped in the router.
  - ✧ External port：Port that has been mapped locally.
- Default: UPNP default port setting is the HTTP, TCP and UDP of the NVR.
- Add to the list: Click it to add the mapping relationship.
- Delete: Click it to remove one mapping item.

Double click one item; you can change the corresponding mapping information. See Figure 3-178.

Important:

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

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

Figure 3-177

Figure 3-178

3.11.1.6 IP Filter

3.11.1.6.1 IP Filter

IP filter interface is shown as in Figure 3-179. You can add IP in the following list. The list supports max 64 IP addresses. System supports valid address of IPv4 and IPv6. **Please note system needs to check the validity of all IPv6 addresses and implement optimization.**

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

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

- Enable: Highlight the box here, you can check the trusted site function and blocked sites function. You can not see these two modes if the Enable button is grey.
- Type: You can select trusted site and blacklist from the dropdown list. You can view the IP address on the following column.
- Start address/end address: Select one type from the dropdown list, you can input IP address in the start address and end address. Now you can click Add IP address or Add IP section to add.
  a) For the newly added IP address, it is in enable status by default. Remove the √ before the item, 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.
  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 3-180. 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.

Note:

- 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 can not access the device.
- System supports add MAC address.

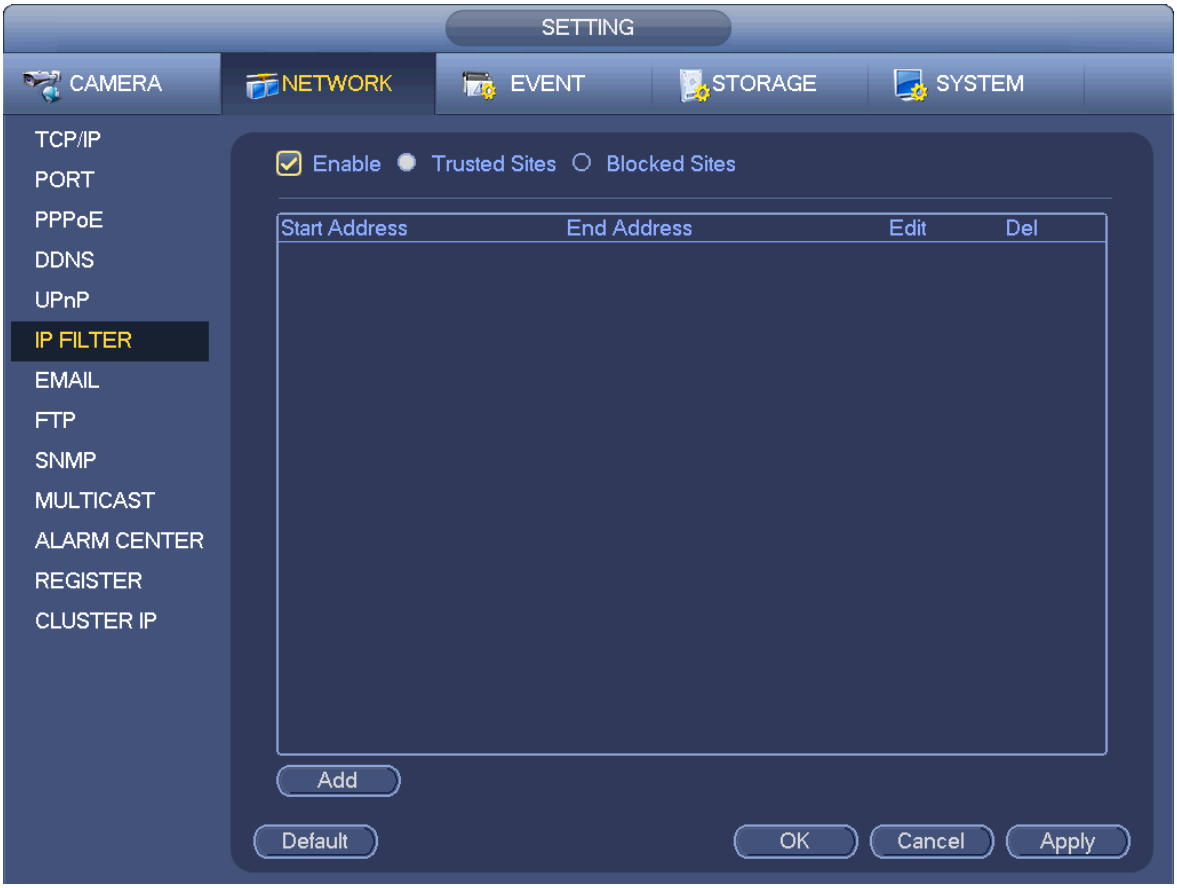


Figure 3-179

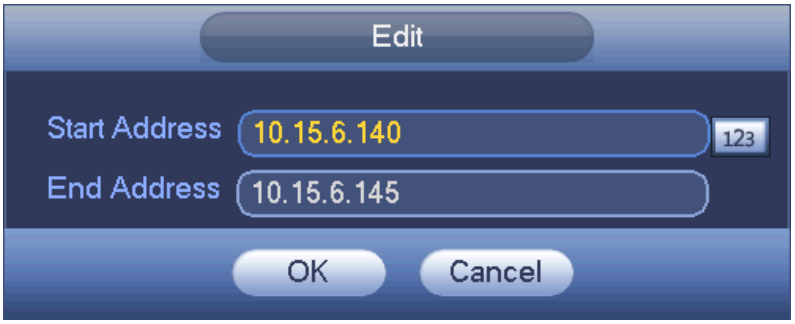


Figure 3-180

3.11.1.6.2 Sync Time Right

By setting the trusted sites, you can specify the IP host to synchronize or modify device time, and prevent several IP hosts from synchronizing time with the same device.

Step 1 Enter from Main Menu > Setting > Network > Sync Time Right.
The Sync Time Right interface is displayed. See Figure 3-181.

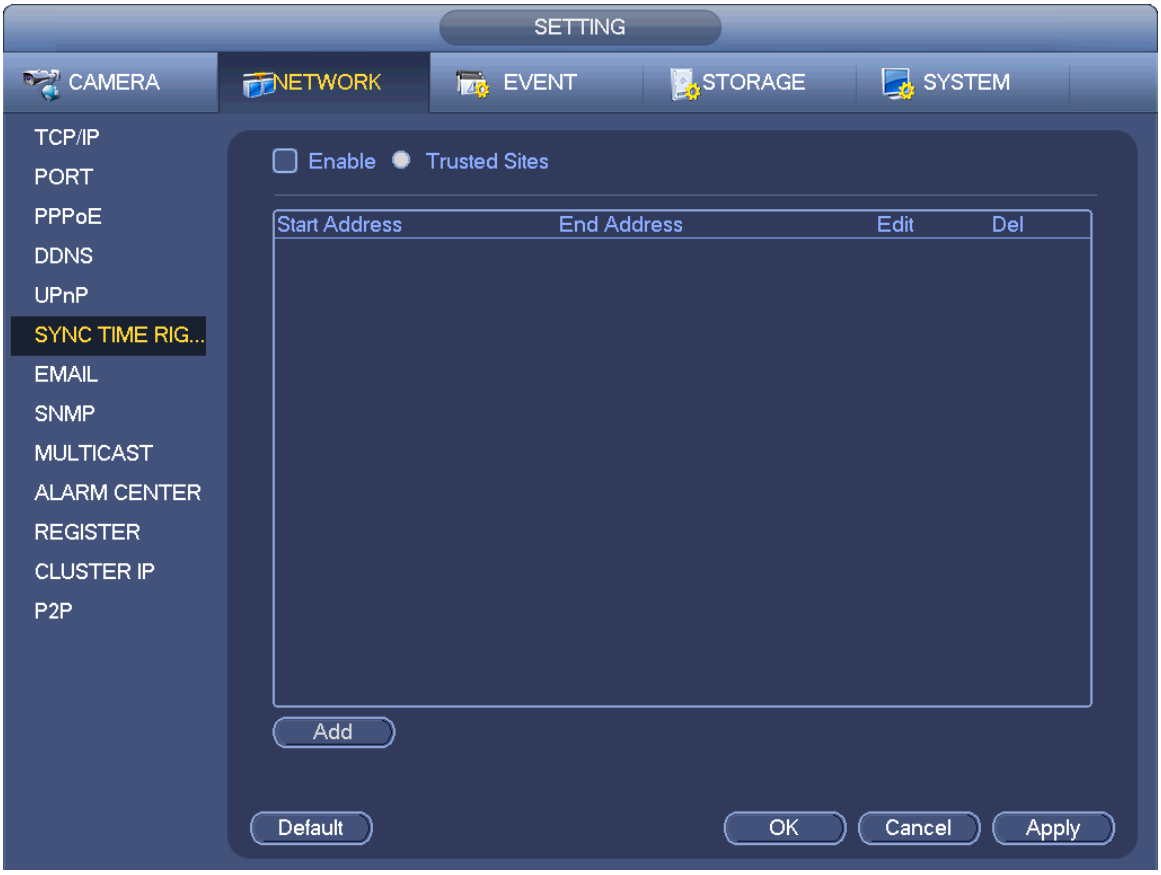


Figure 3-181

Step 2 Select the Enable check box.

Step 3 Add IP host.

1. Click Add.

   The Add interface is displayed. See Figure 3-182.

Figure 3-182

2. Configure the IP address. For details, see the following table.

Note

You can add 64 IP addresses at most.

Parameter	Description

Parameter	Description
IP address	Click the drop-list to select the way to add the trusted sites. ● IP address: Enter the IP address. ● IP segment: Enter the IP segment range to add several hosts at the same time. ● MAC address: Enter the MAC address.
IPv4	Click the drop-down list to select the IP address protocol. ● IPv4: IP adderss in the format such as 192.168.5.10. ● IPv6: IP address in the format such as aa:aa:aa:aa:aa:aa:aa:aa.

3. Click OK.

Step 4 Click OK to save the configuration.

3.11.1.7 Email

The email interface is shown as below. See Figure 3-183.

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

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

Figure 3-183

3.11.1.8 SNMP

SNMP is an abbreviation of Simple Network Management Protocol. It provides the basic network management frame of the network management system. SNMP is widely used in various scenarios, network devices, software and systems.

Preparation:

- Install SNMP monitor and management tool, such as MIB Builder and MG-SOFT MIB Browser.
- Obtain the corresponding MIB file from the technical support.

Step 1 Enter from main menu > Setup > Network > SNMP.

The SNMP interface is displayed. See Figure 3-184.

Figure 3-184

Step 2 Select the SNMP check box.

Step 3 Configure the parameyers. For details, see the following table.

Parameter	Description
Version	Select the check box of the corresponding version. NOTE System selects V3 by default. There might be risks for V1 and V2.
SNMP Port	Enter the SNMP port number.
Read Community/Write Community	The read community/write community string supported by the program.
Trap Address	Enter the IP address of the PC installed with MG-SOFT MIB Browser. It is the destination address to receive trap information from the device.
Trap Port	The destination port to receive trap information from the device.
Read Only User	Enter the read only username to access the NVR device.
Read/Write User	Enter the read/write username to access the NVR device.
Authentication	It includes MD5 and SHA. System automatically recognizes it after it is enabled.
Password	Enter the password for encryption and authentication. The password shall be no less than 8 characters.
Encryption Type	Select the encryption type. The default type is CBC-DES.

Step 4 Click OK to complete the configuration.

Step 5 View device info.

1) Run MIB Builder and MG-SOFT MIB Browser.
2) Compile the two MIB files with MIB Builder.
3) Load the compiled module to the software with MG-SOFT MIB Browser.
4) Enter the PC IP address into MG-SOFT MIB Browser and select the version to search.
5) Expand the tree list in MG-SOFT MIB Browser to view the device configuration information, such as channel number and program version.

3.11.1.9 Multicast

Multicast setup interface is shown as in Figure 3-185.

Figure 3-185

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

- IP multiple cast group address

-224.0.0.0-239.255.255.255

-“D” address space

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

- Reserved local multiple cast group address

-224.0.0.0-224.0.0.255

-TTL=1 When sending out telegraph

-For example

224.0.0.1 All systems in the sub-net

224.0.0.2 All routers in the sub-net

224.0.0.4 DVMRP router

224.0.0.5 OSPF router

224.0.0.13 PIMv2 router

- Administrative scoped addressees

-239.0.0.0-239.255.255.255

-Private address space

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

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

Multiple cast IP: 235.8.8.36

Multiple cast PORT: 3666.

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

Please note multiple cast function applies to special series only.

3.11.1.10 Alarm Centre

This interface is reserved for you to develop. See Figure 3-186.

Figure 3-186

3.11.1.11 Auto register

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

Please follow the steps listed below to use this function.

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

1) The setup interface is shown as in Figure 3-187.

Important

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

Figure 3-187

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

3) Now you can add device. Please do not input default port number such as the TCP port in the mapping port number. The device ID here shall be the same with the ID you input in Figure 3-187. Click Add button to complete the setup.

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

Important

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

3.11.1.12 Cluster IP

About Cluster service: when master device is malfunction, the slave device can use the master device configuration and virtual IP address to replace the work (monitor or record) accordingly. When you use the virtual IP to access the device, he can still view the real-time video and there is no risk of record loss. Once the master device becomes properly, the slave can still work until you use the WEB to fix manually.

During the whole process (the master device is working properly>master device is malfunction>master device becomes work properly again), you can use this virtual IP to access the device all the time.
It is for you to set IP address, subnet mask, gateway and etc of the Switch. See Figure 3-188.
Please check the box to enable this function and then input corresponding IP address, subnet mask, default gateway. Click OK button to complete the setup. The virtual IP here is for the master device.

Note

The IP in the TCP/IP interface is for cluster internal control (It is mainly for the mater device and slave device internal interactive). The virtual IP you set here is for cluster external control (It is for external network connection).

Figure 3-188

3.11.1.13 P2P

P2P is a kind of convenient private network penetration technology. You do not need to apply for dynamic domain name, doing port mapping or deploying transit server. You can add NVR devices through the below way to achieve the purpose of managing multiple NVR devices at the same time. For detailed operation to configure P2P, please refer to chapter 3.4.3 P2P.

3.11.2 Network Test

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

3.11.2.1 Network Test

From main menu>Info-Network>Test, the network test interface is shown as in Figure 3-189.

- Destination IP: Please input valid IPV4 address and domain name.
- Test: Click it to test the connection with the destination IP address. The test results can display

average delay and packet loss rate and you can also view the network status as OK, bad, no connection and etc.

- Network Sniffer backup: Please insert USB2.0 device and click the Refresh button, you can view the device on the following column. You can use the dropdown list to select peripheral device. Click Browse button to select the snap path. The steps here are same as preview backup operation.

You can view all connected network adapter names (including Ethernet, PPPoE, WIFI, and 3G), you can click the button  on the right panel to begin Sniffer. Click the grey stop button to stop. Please note system can not Sniffer several network adapters at the same time.

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

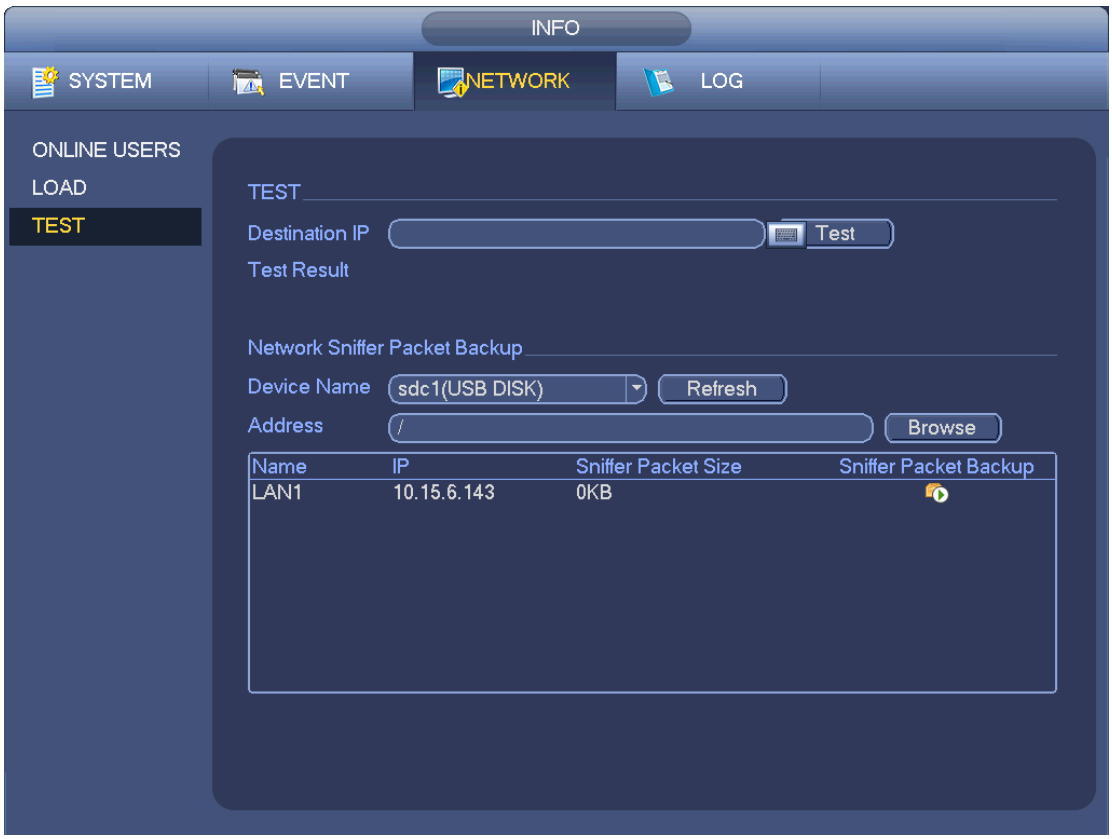


Figure 3-189

3.11.2.2 Network Load

From main menu>Info>Network>Load, network load is shown as in Figure 3-190. Here you can view the follow statistics of the device network adapter.

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

Figure 3-190

3.12 Storage

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

3.12.1 Basic

It is to manage HDD storage space.

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

Enter Basic interface. See Figure 3-191.

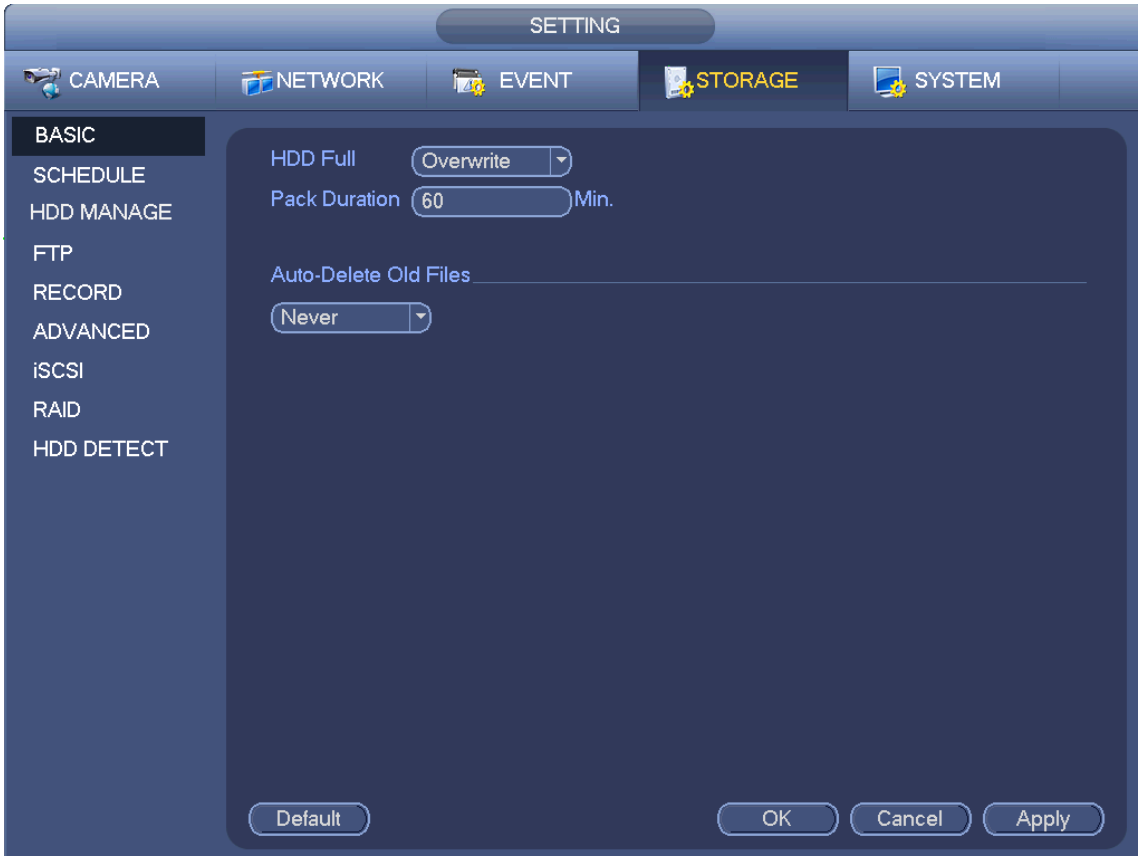


Figure 3-191

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.
- Pack duration: It is to specify record duration. The max length is 120 minutes.
- Auto delete old files:

✧ Never: Do not auto delete old files.

✧ Customized: input customized period here and system can auto delete corresponding old files.

✧ The deleted file cannot be restored.

Step 3 Click Apply or Save to complete setup.

3.12.2 Schedule

It is to set schedule record and schedule snapshot. NVR can record or snapshot as you specified. For detailed information, please refer to chapter 3.4.6.1 schedule record and 3.4.6.2 schedule snapshot.

3.12.3 HDD

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

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.

Step 1 From Mani-menu->Setting->Storage->HDD Manager, you can go to HDD management interface. See Figure 3-192.

Figure 3-192

Step 2 Select a HDD and then select an time from the dropdown list. Click Execute button.

Step 3 Click OK button to complete the setup. You can see system needs to restart to activate current setup if you want to format the HDD.

3.12.4 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 menu->Setting->Storage->FTP, enter FTP interface. See Figure 3-193.

Step 2 Select the Enable check box to enable FTP function. Select FTP type.

NOTE

FTP transmits data with clear text mode and SFTP transmits data with encrypted mode. SFTP is recommended.

Step 3 Set parameters.

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

- IP address: The host IP you have installed the FTP server.
- Port: The default SFTP port number is 22 and the default FTP port number 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 4 Click the Test button, you can see the corresponding dialogue box to see the FTP connection is OK or not.

Step 5 Click Apply or Save to complete setup.

Figure 3-193

3.12.5 Record Control

After you set schedule record or schedule snapshot function, please set auto record/snapshot function so that the NVR can automatically record or snapshot. For detailed information, please refer to chapter 3.4.6.3 record control.

3.12.6 HDD Information

Here is to list hard disk type, total space, free space, and status. See Figure 3-194.
○ means current HDD is normal.. - means there is no HDD.

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

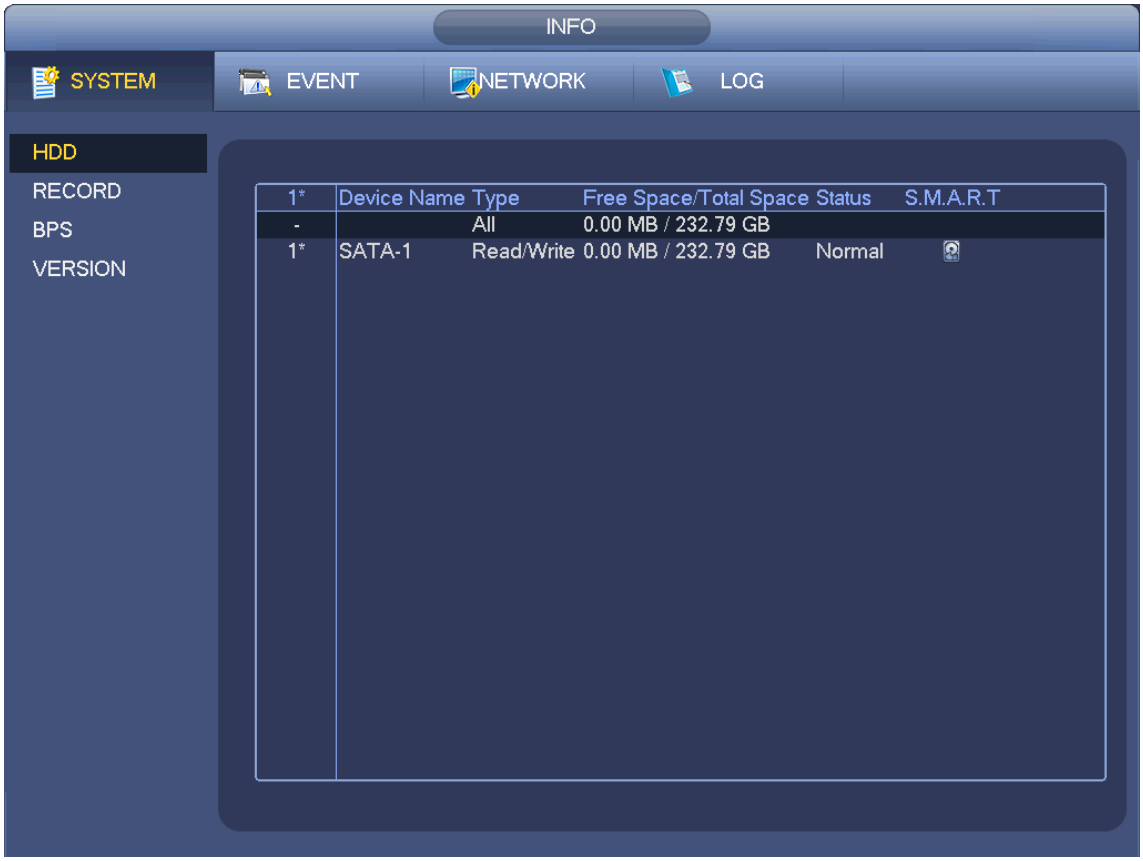


Figure 3-194

In Figure 3-194, click one HDD item, the S.M.A.R.T interface is shown as in Figure 3-195.

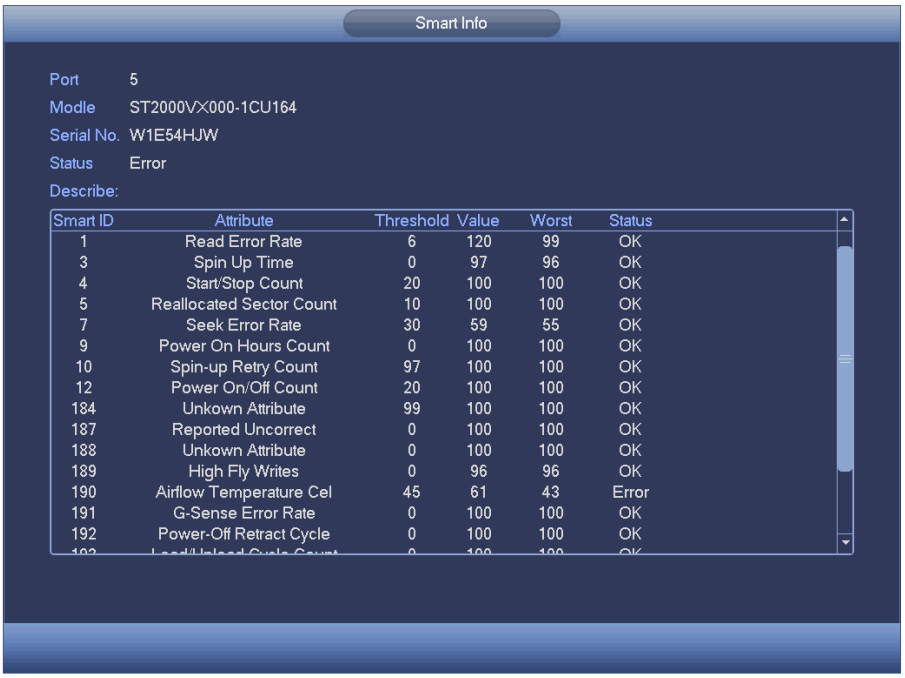


Figure 3-195

Parameter	Function
SATA	1 here means there is 1 HDD. For different series product, the max HDD amount may vary, When HDD is working properly, system is shown as O. . “_” means there is no HDD.
SN	You can view the HDD amount the device connected to; * means the second HDD is current working HDD.
Type	The corresponding HDD property.
Total space	The HDD total capacity.
Free space	The HDD free capacity.
Status	HDD can work properly or not.
Bad track	Display there is bad track or not.
Page up	Click it to view previous page.
Page down	Click it to view the next page.
View recording time	Click it to view HDD record information (file start time and end time).
View HDD type and capability	Click it to view HDD property, status and etc,

3.12.7 HDD Group

It is to set HDD group, and HDD group setup for main stream, sub stream and snapshot operation.

Caution

When you are setting HDD group, please set a HDD for each channel, otherwise NVR cannot save current setup.

The main stream is shown as in Figure 3-196.

- HDD: Here you can view the HDD amount the device can support.
- Group: It lists the HDD Group number of current hard disk.

Figure 3-196

Please select the correspond group from the dropdown list and then click Apply button.

Click sub stream/snapshot button to set corresponding HDD group information.

3.12.8 HDD Detect

Note

This function is for some series product only.

The HDD detect function is to detect HDD current status so that you can clearly understand the HDD performance and replace the malfunction HDD.

There are two detect types:

- Quick detect is to detect via the universal system files. System can quickly complete the HDD

scan. If you want to use this function, please make sure the HDD is in use now. If the HDD is removed from other device, please make sure the write-data once was full after it installed on current device.

- Global detect adopts Windows mode to scan. It may take a long time and may affect the HDD that is recording.

3.12.8.1 Manual Detect

From main menu->Setting->Storage->HDD Detect->Manual Detect, the interface is shown as below. See Figure 3-197.

Please select detect type and HDD. Click start detect to begin. You can view the corresponding detect information.

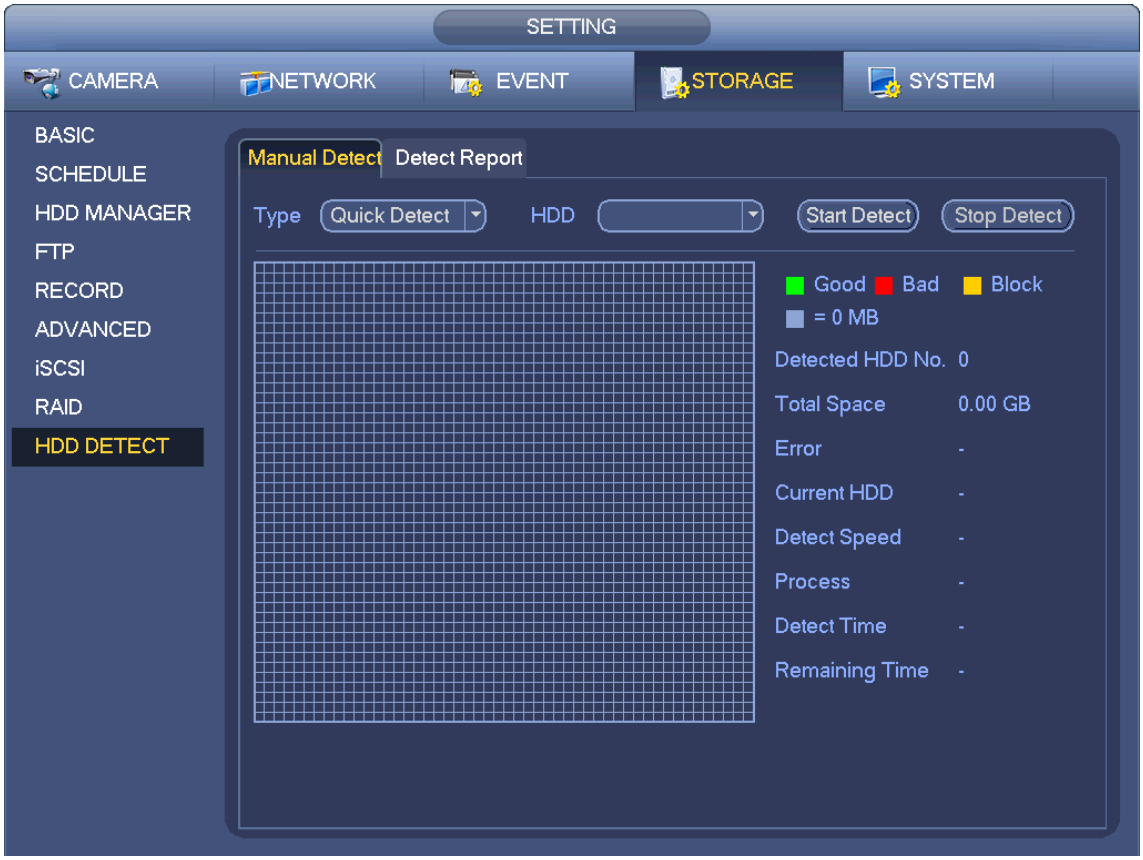


Figure 3-197

3.12.8.2 Detect Report

After the detect operation, you can go to the detect report to view corresponding information.

From main menu->Setting->Storage->HDD Detect->Manual Detect, the interface is shown as below. See Figure 3-198

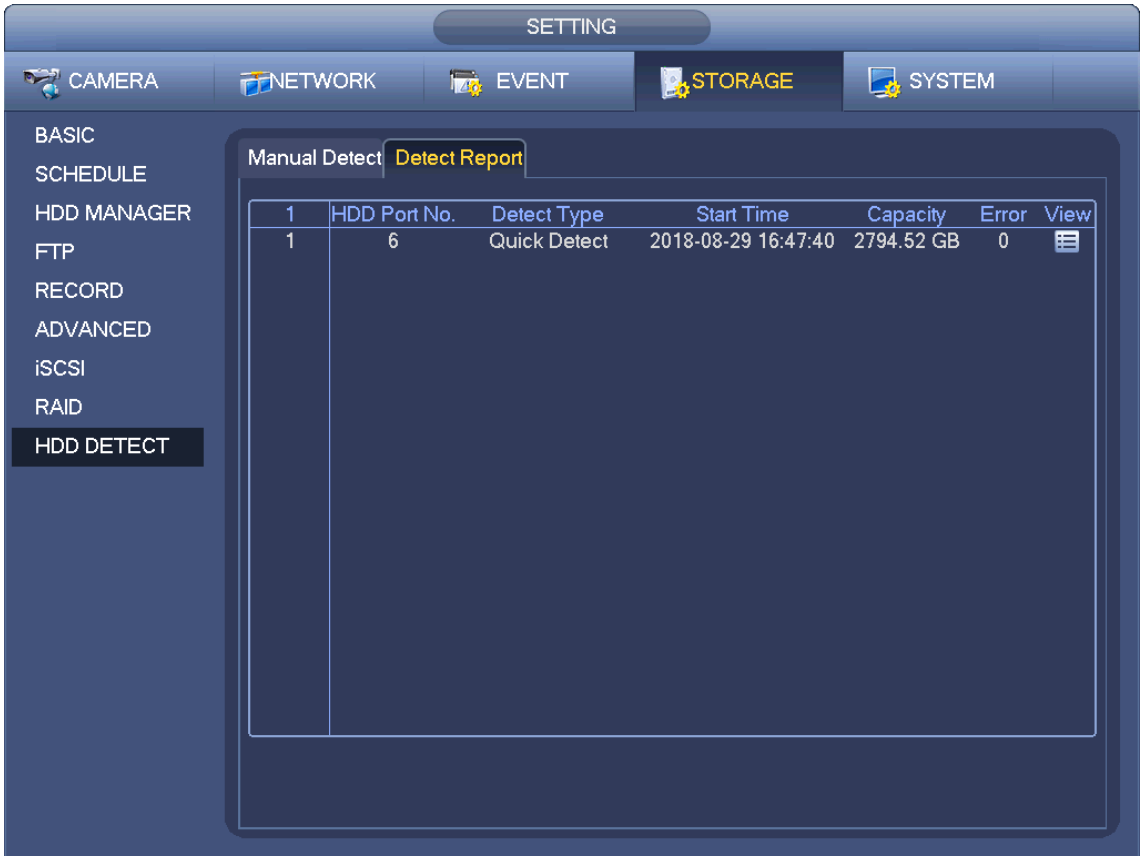


Figure 3-198

Click View, you can see the detailed information such as detect result, backup and S.M.A.R.T. See Figure 3-199 and Figure 3-200.

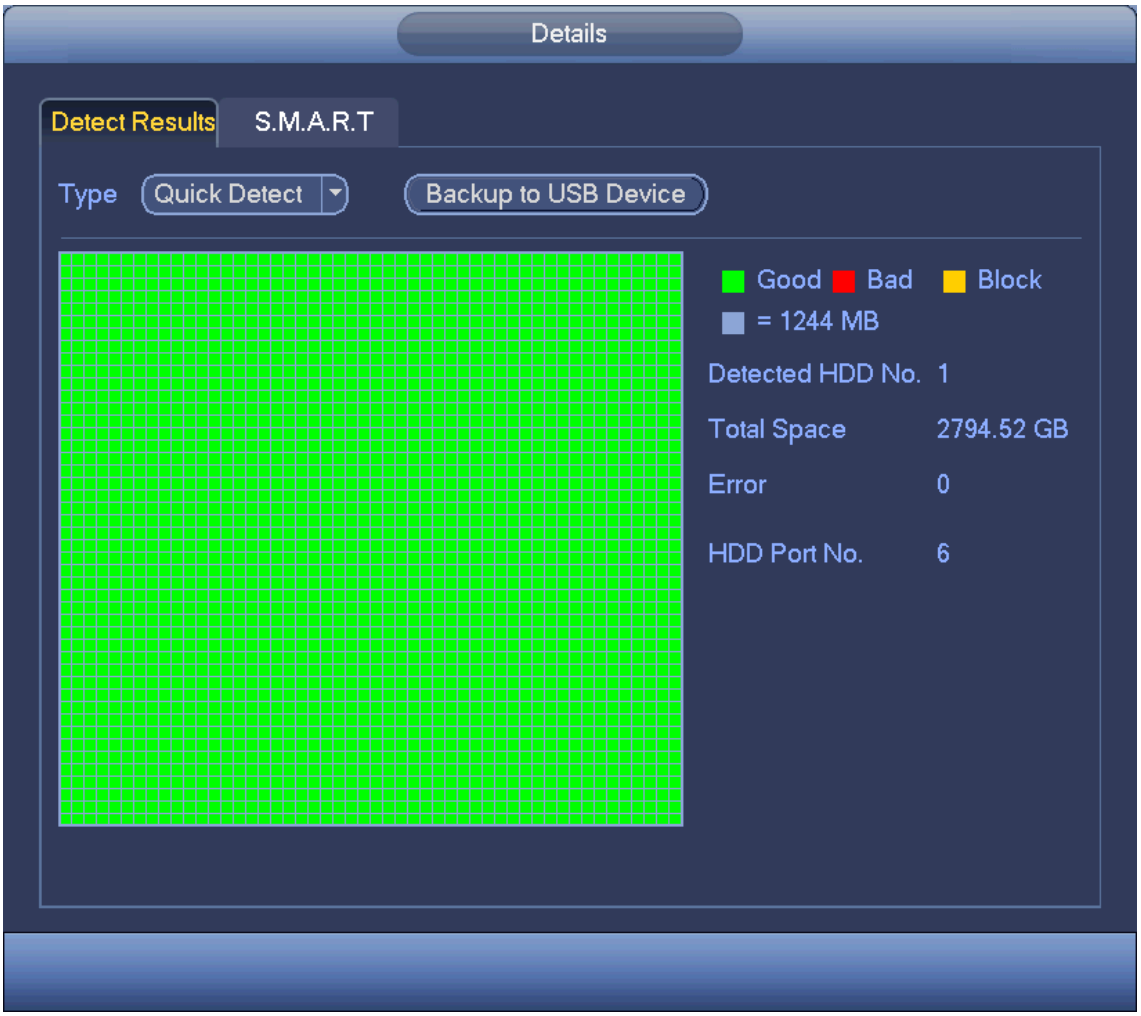

Details
Detect Results
S.M.A.R.T
Type
Quick Detect
Backup to USB Device
Good
Bad
Block
= 1244 MB
Detected HDD No. 1
Total Space 2794.52 GB
Error 0
HDD Port No. 6

Figure 3-199

Figure 3-200

3.12.9 ISCSI

iSCSI function is for some series product only.

You can set the network mapping HDD so that device can storage audio/video on the network HDD. From Main menu>Setting>Storage>ISCSI, you can go to the following interface. See Figure 3-201.

- 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.

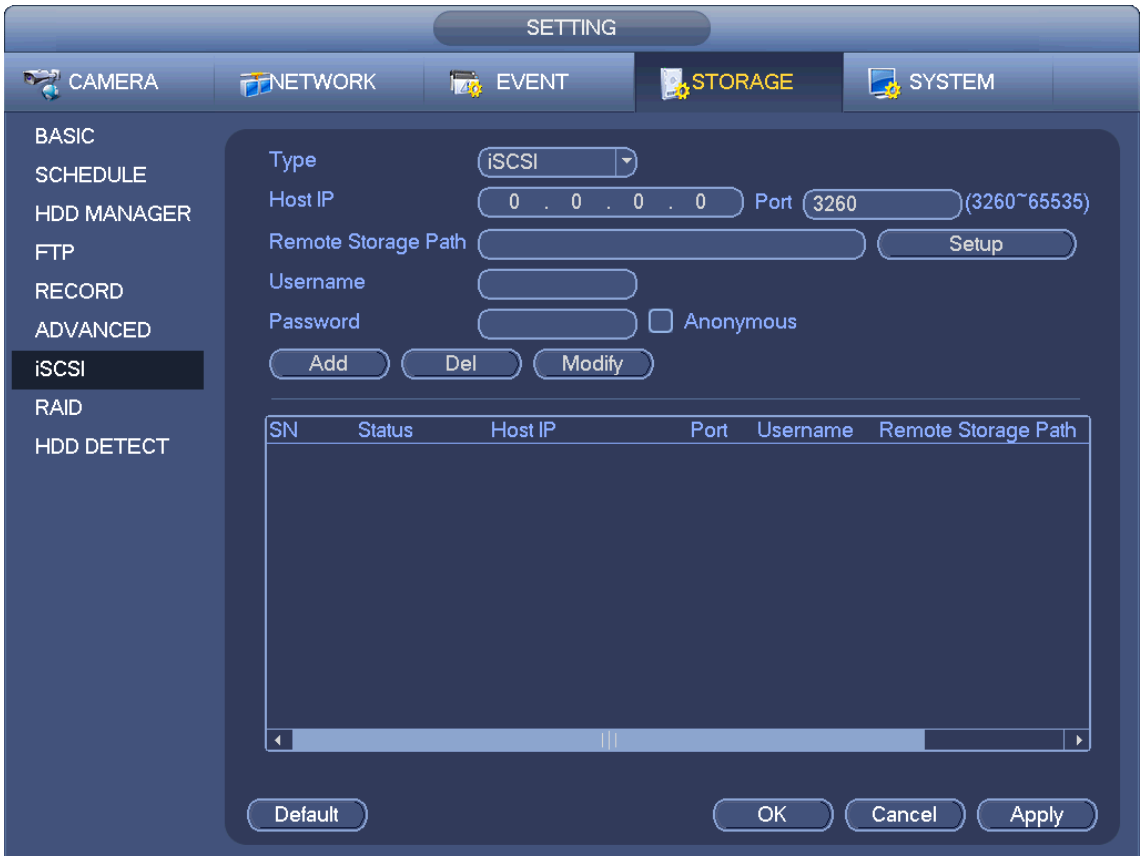


Figure 3-201

Click Ok button to complete the setup.

Tips

Click the modify/delete button to change or remove the ISCSI disk.

Now, from the main menu>setting>Storage> HDD manage, you can see the corresponding interface. See Figure 3-202

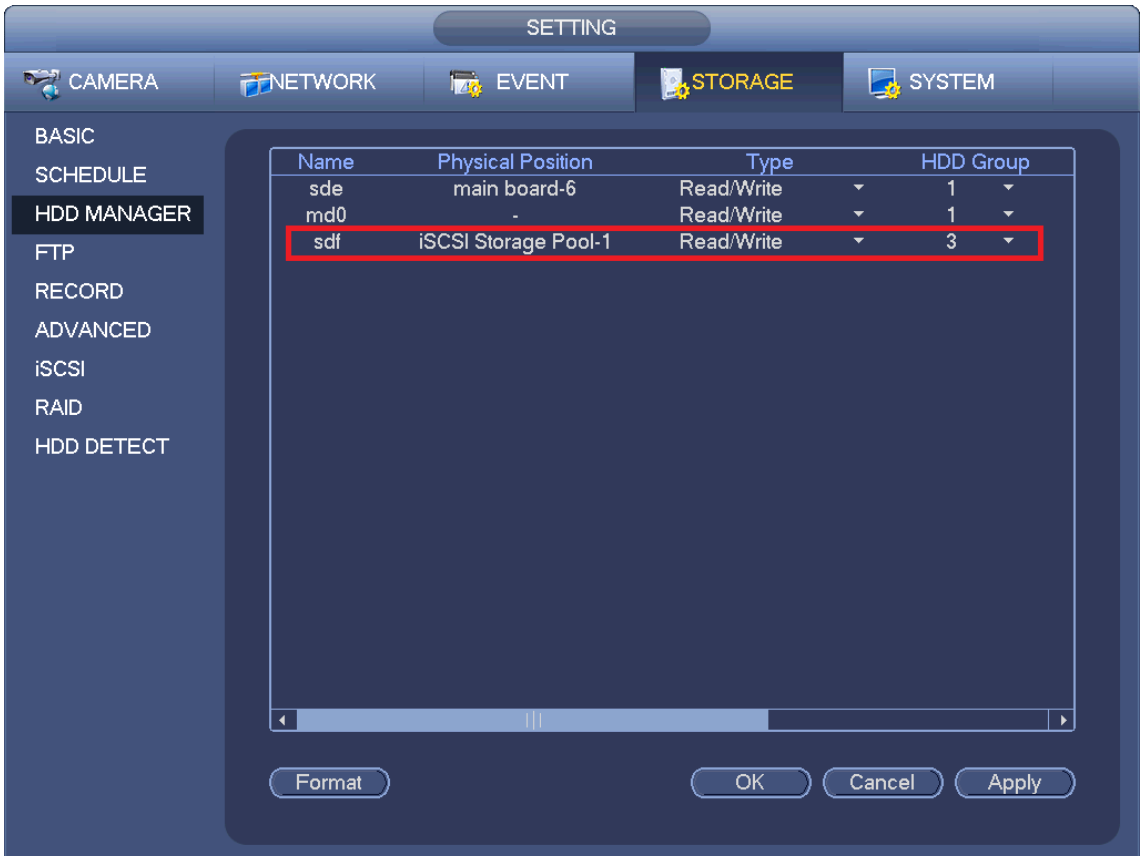


Figure 3-202

3.12.10 RAID

Important

Please make sure your purchased product support the RAID function, otherwise you can not see the following interface.

Right now, RAID supports Raid0, Raid1, Raid5, Raid6, and Raid10. Local hotspare supports Raid1, Raid5, Raid6, and Raid10.

3.12.10.1 RAID Config

From Main menu>Setting>Storage>RAID>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.

Click Add button to select RAID type and then select HDDs, click OK button to add. See Figure 3-203.

Figure 3-203

3.12.10.2 RAID Info

From Main menu>Setting>Storage>RAID>RAID info, it is to display RAID name, space, type, member HDD, hotspare HDD, status and etc. Here you can delete RAID. See Figure 3-204.

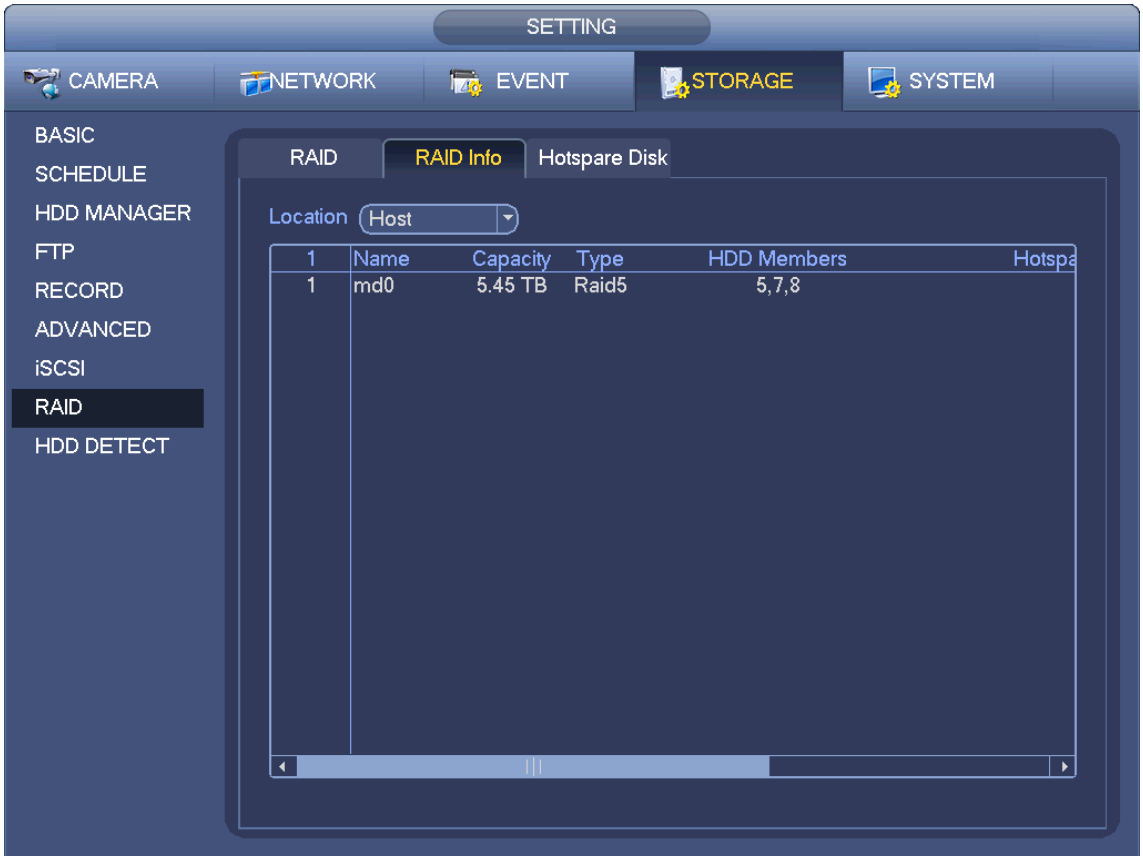


Figure 3-204

3.12.10.3 Hotspare Disks

From Main menu>Setting>Storage>RAID>Hotspare HDD, you can add the hotspare HDD. See Figure 3-205. 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.

Select a hot spare device and then click Delete button. Click Apply button to delete.

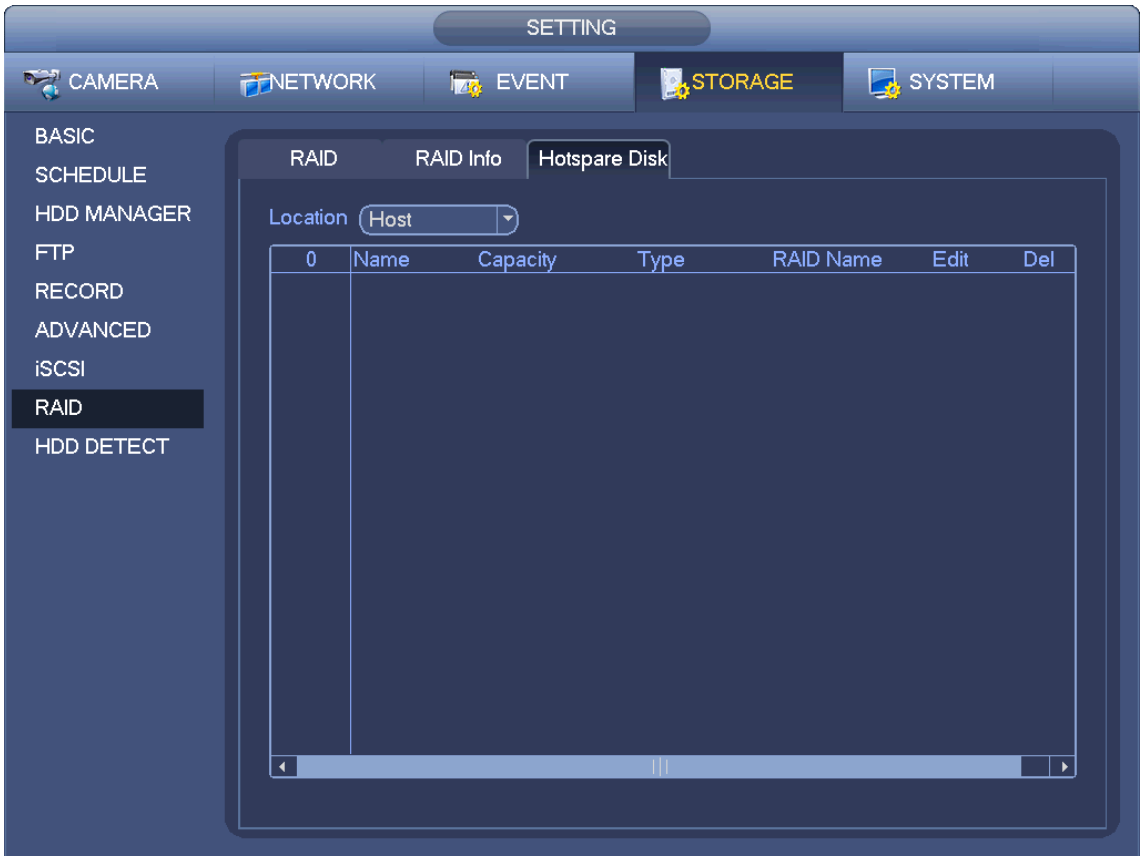


Figure 3-205

3.13 Device Maintenance and Manager

3.13.1 Account

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.

3.13.1.1 User

3.13.1.1.1 Add User

Step 1 From main menu->Setting->System->Account->User.
Enter user interface. See Figure 3-206.

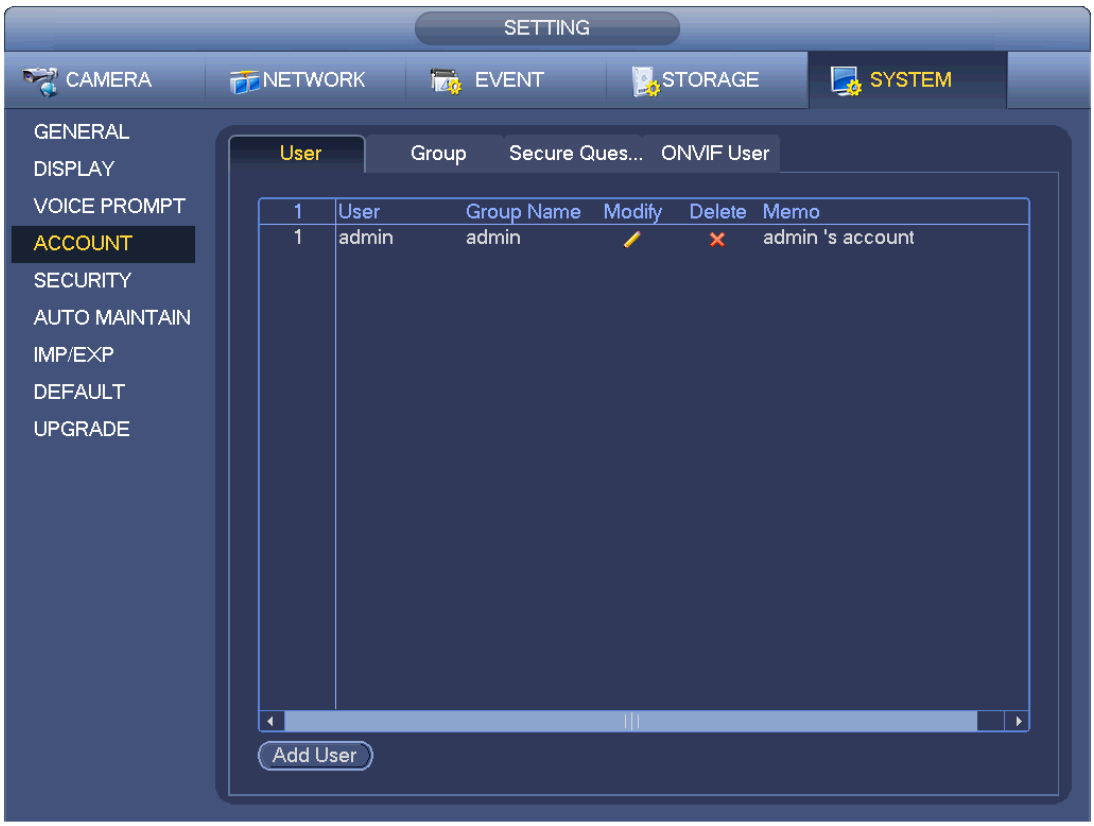


Figure 3-206

Step 2 Click Add user button in Figure 3-206.

The interface is shown as in Figure 3-207.

Figure 3-207

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 OK to complete the user adding.

Note

Click to modify the user information and click to delete the user.

3.13.1.1.2 Modify user

From main menu->Setting->System->Account->User, click, you can go to the following interface to change user information. See Figure 3-208.

Figure 3-208

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

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

Step 1 Click Security question, enter the following interface. See Figure 3-209.

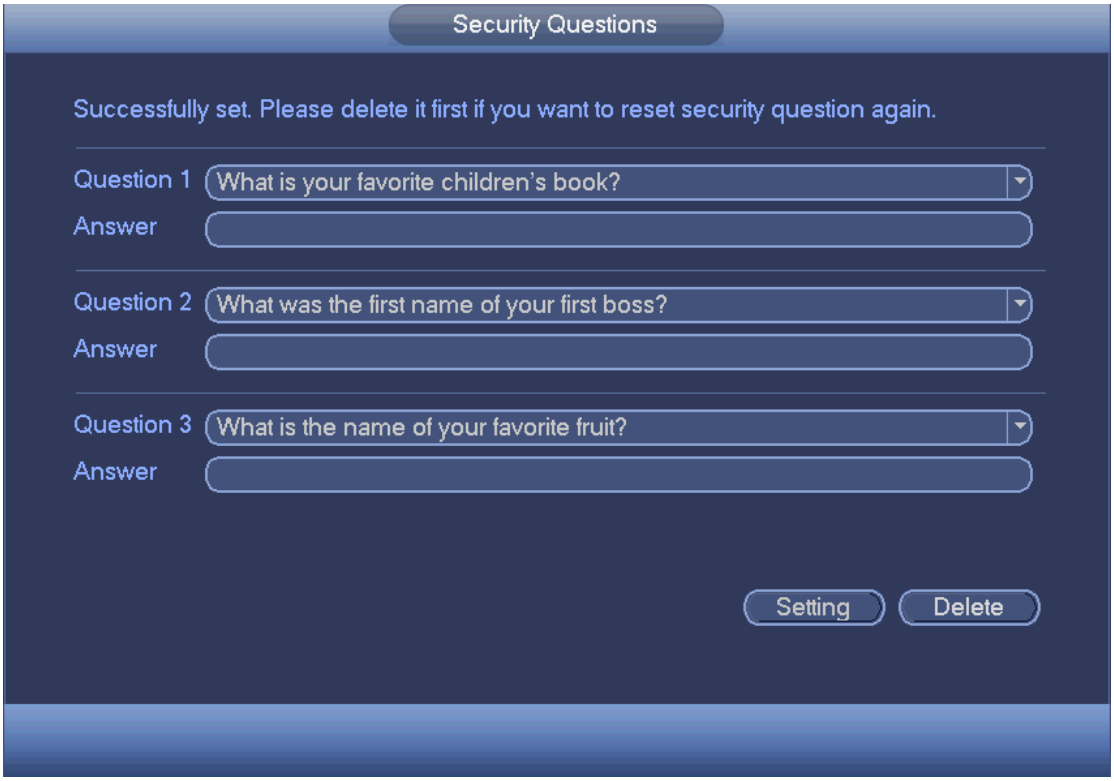


Figure 3-209

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.

3.13.1.1.3 Change Password

In Figure 3-208, 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.

3.13.1.2 Modify Group

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

Enter add group interface. See Figure 3-210.

Figure 3-210

Step 2 Click add group button in Figure 3-210.
Enter Add group the interface. See Figure 3-211.

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

Figure 3-211

3.13.1.3 Security Question

Note

This function is for **admin** user only.

Here you can change security questions. After you successfully answered security questions, you can reset admin account password.

From main menu->Setting->System->Account->Security question, the interface is shown as below. See Figure 3-212. Input correct security answers and then click Delete button at the bottom of the interface, you can reset security questions and answers.

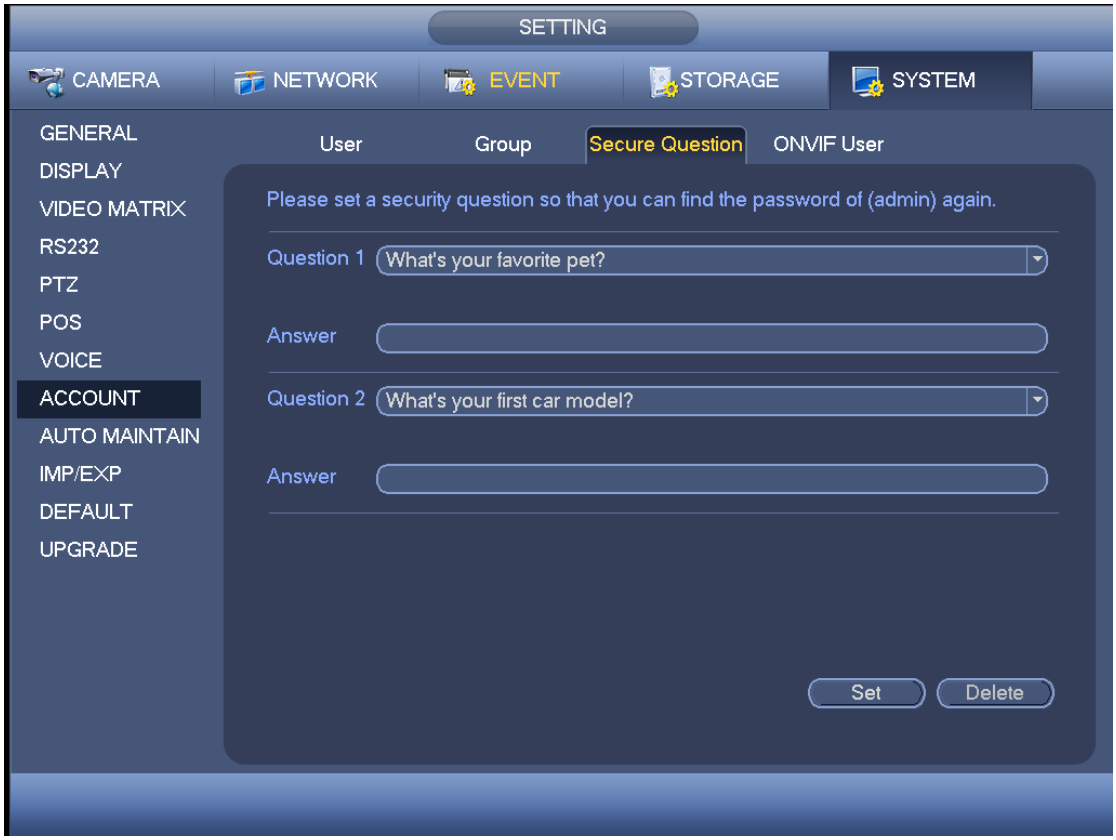


Figure 3-212

3.13.1.4 ONVIF User

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

Note

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

Step 1 From main menu->Setting->System->Account->ONVIF User.
Enter ONVIF interface. See Figure 3-213.

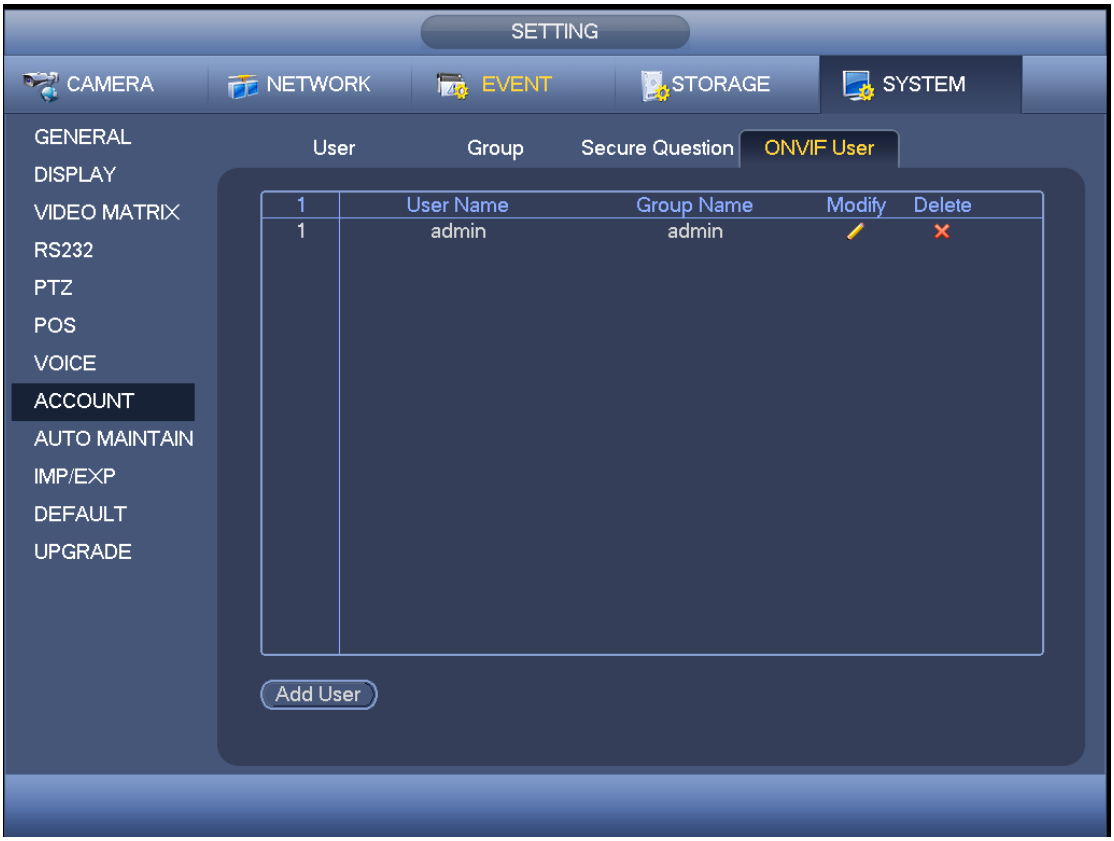


Figure 3-213

Step 2 Click Add User button.

Enter Add User interface. See the following figure.

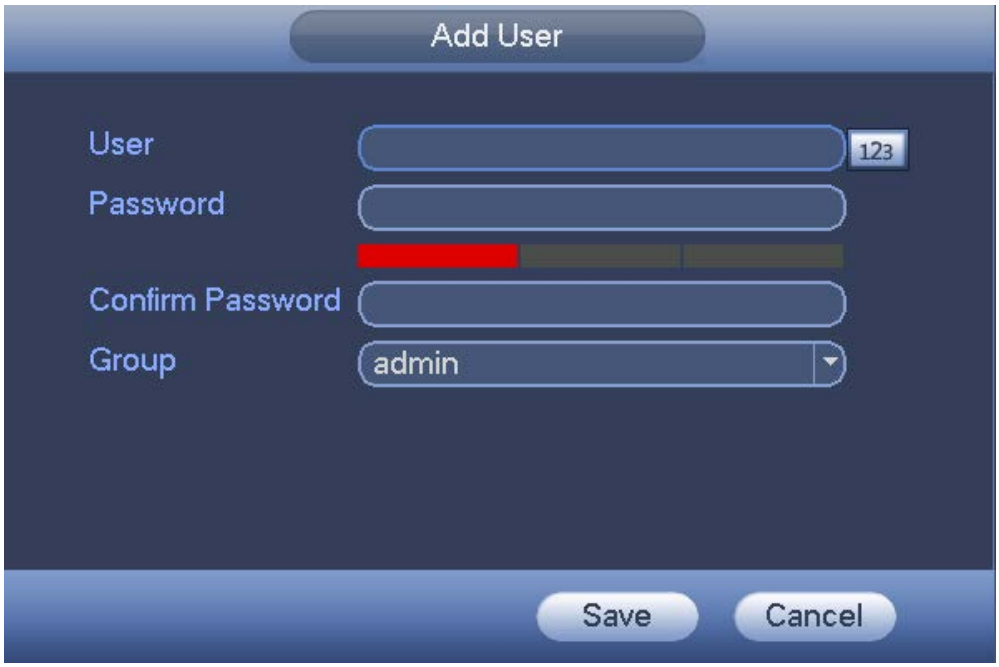


Figure 3-214

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.

3.13.1.5 Online User

Here is for you manage online users connected to your NVR. See Figure 3-215.

You can click button  to disconnect or block one user if you have proper system right.

System detects there is any newly added or deleted user in each five seconds and refresh the list automatically.

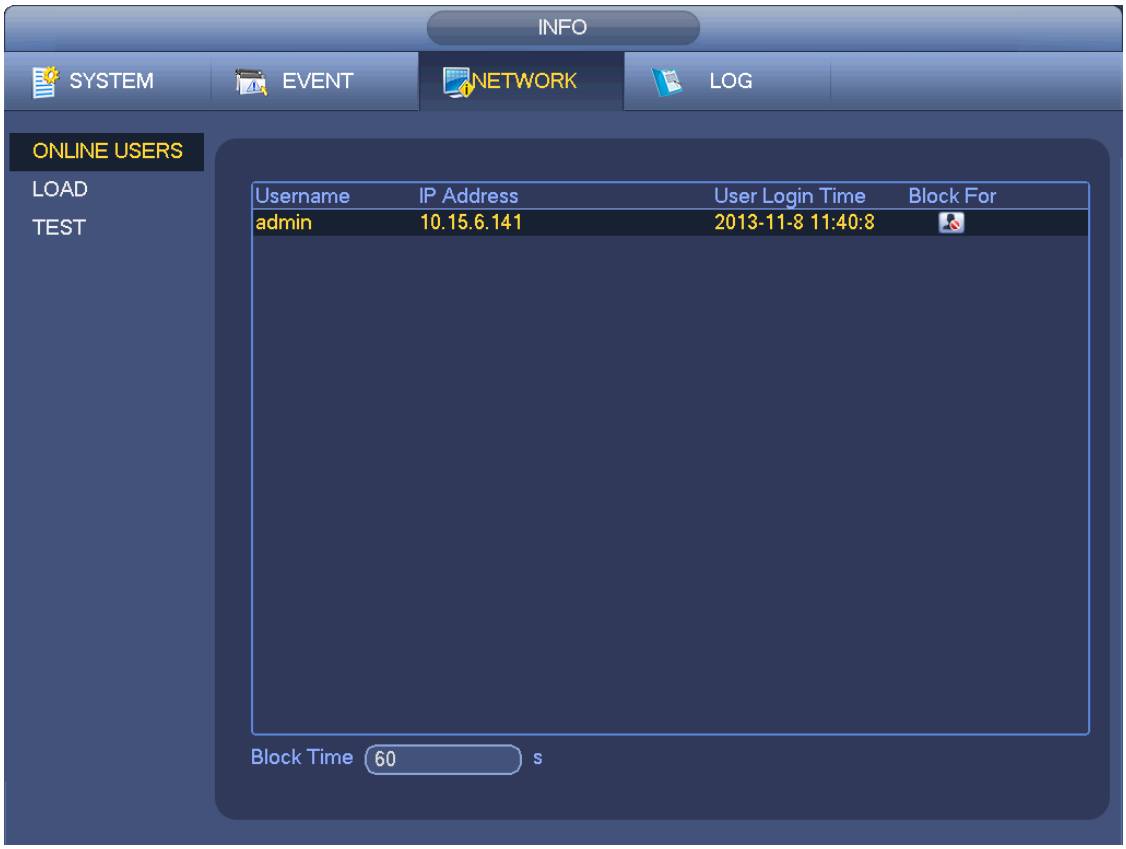


Figure 3-215

3.13.2 System Info

3.13.2.1 Version

From main menu->Info->System->version, you can go to version interface. See Figure 3-216.

It is to view NVR version information. Slight different may be found on the user interface.

Figure 3-216

3.13.2.2 BPS

Here is for you to view current video bit rate (kb/s) and resolution. See Figure 3-217.

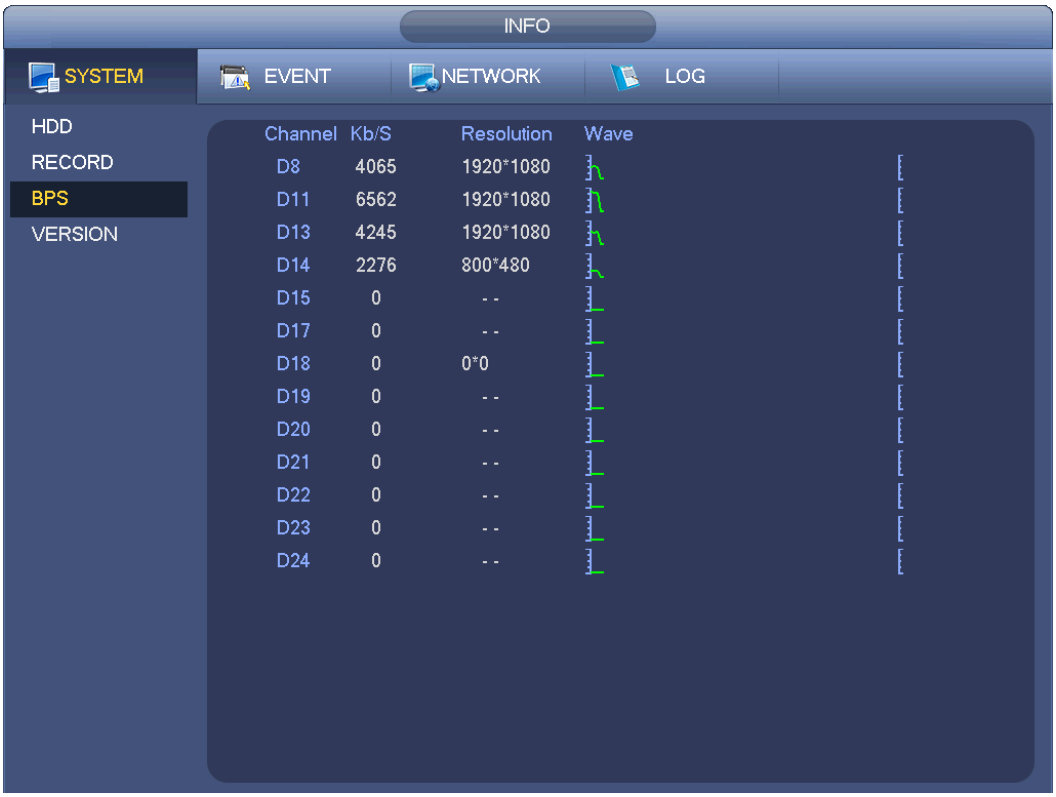


Figure 3-217

3.13.3 Voice

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

Note

This function is for some series product only.

3.13.3.1 File Manage

Here you can add audio file, listen to the audio file, or rename/delete audio file. Here you can also set audio volume. See Figure 3-218

Figure 3-218

Click Add button, you can add audio file and import the audio file via the USB device. The audio file format shall be MP3 or PCM. See Figure 3-219

Note

The file size shall be 2K-10MB.

Figure 3-219

3.13.3.2 Schedule

It is to set schedule broadcast function. You can play the different audio files in the specified periods. See Figure 3-220.

Figure 3-220

3.13.4 Event Information

3.13.4.1 Alarm Status

From main menu->info-Event, here you can view the channel status of the remote device, connection log and etc. See Figure 3-221.

Figure 3-221

3.13.4.2 Video Quality Analytics

You can view the video analysis results of the channel, and the system supports histogram and list to show the occurrence number of video analysis types in the search range

Step 1 Enter from main menu > Info > Event > Video Quality Analytics.

The Video Quality Analytics interface is displayed. See Figure 3-222

Figure 3-222

Step 2 Enter the start time and end time. Select the channel.

Step 3 Click Search.

The results are displayed in the format of histogram and list.

Note

You can filter the display type by clicking the text below the histogram or choosing from the Type drop down list

3.13.4.3 People Counting

This function allows system to detect the people flow amount in the specified zone and display the people amount statistics image.

From main menu->Info->Event->People Counting, you can go to the following interface. See Figure 3-223.

Channel: Please select a channel from the dropdown list.

- Type: Please select report type from the dropdown list. It includes daily report/monthly report/annual report. You can click to select histogram or polygon chart.
- Start time/end time: Input start time and end time of the people counting.
- Enter: Check to search enter amount.
- Exit: Check the box to search exit amount.
- Display No.: Check the box, system can display enter and exit people amount in the report.

Figure 3-223

3.13.4.4 Heat Map

It is to search and view the heat map of each channel.

From main menu->Info->Event->Heat Map, you can go to the following interface. See Figure 3-224.

Select a channel, input start time and end time. Please note the report search period shall be within one month.

Click Search button, you can view the heat map report.

Figure 3-224

3.13.5 Log

From Main menu>Info>Log, you can go to the following interface. See Figure 3-225.

- Start time/end time: Pleased select start time and end time, then click search button. You can view the log files in a list. System max displays 100 logs in one page. It can save 500,000 logs on the HDD, and 16384 logs on the system. System max supports 500,000+16384 logs if there is a HDD. System max supports 16384 logs if there is no HDD. Please use page up/down button on the interface or the front panel to view more.

Tips

Double click a log item to view its detailed information. See Figure 3-226.

Click PgUp/PgDn to view more logs.

Figure 3-225

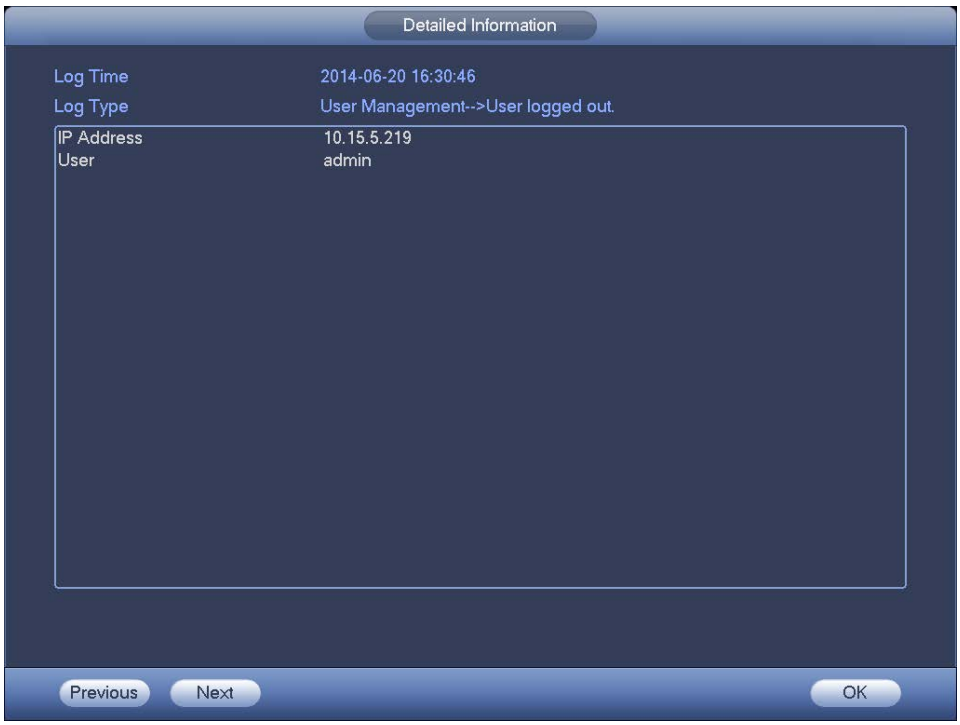


Figure 3-226

3.13.6 Broadcast

It is to broadcast to the camera, or broadcast to a channel group.

Step 1 From Mani menu->Setting->System->Broadcast.

Enter the following interface. See Figure 3-227.

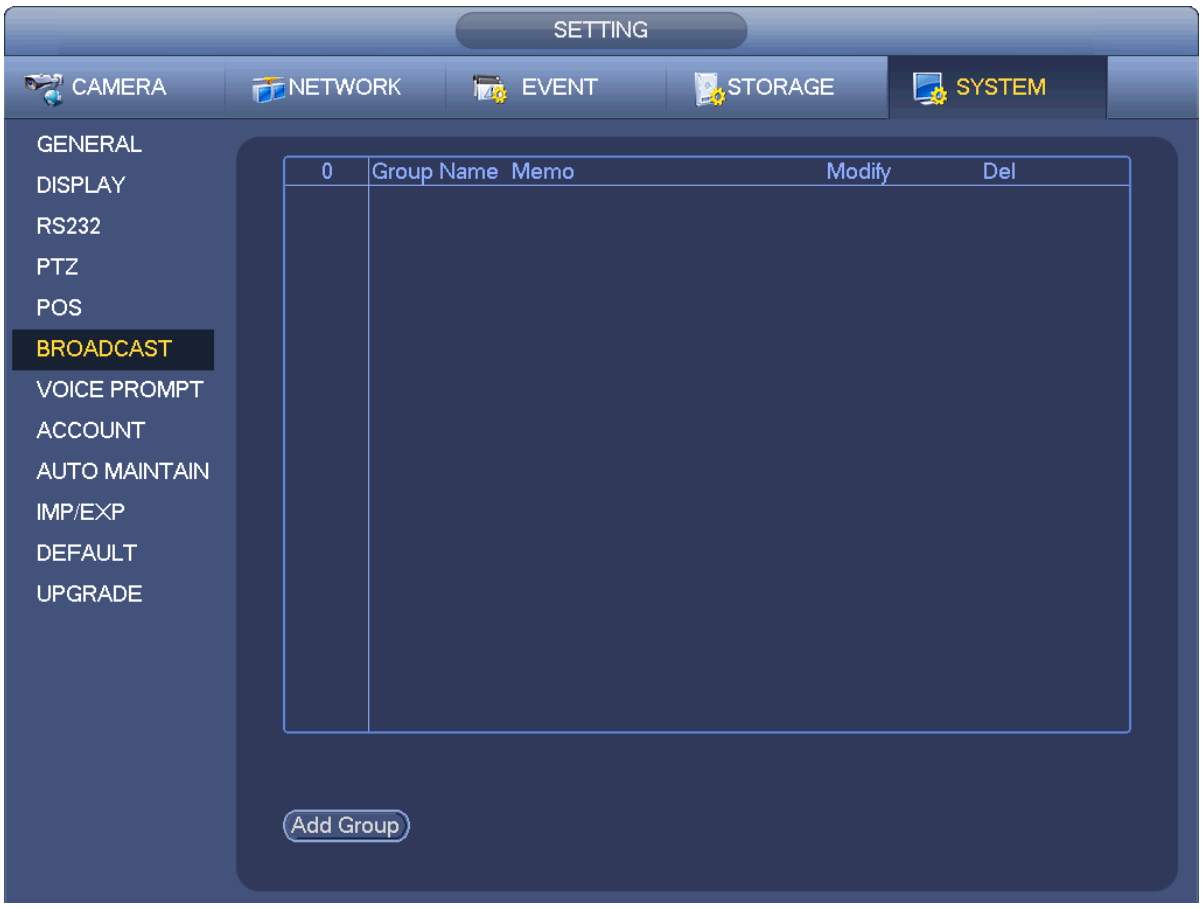


Figure 3-227

Step 2 Click Add group.

Enter add group interface. See Figure 3-228.

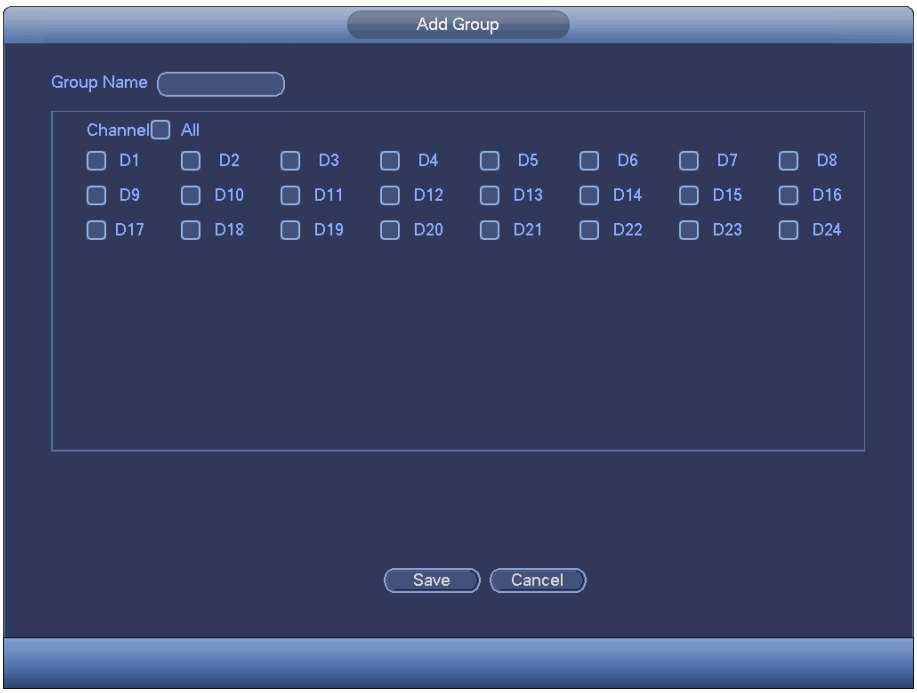


Figure 3-228

Step 3 Input group name and select one or more channels.

Step 4 Click Save button to complete broadcast group setup.

Note

On the broadcast interface, click to change group setup, click to delete group.

After complete broadcast setup, on the preview interface and then click on the navigation bar, device pops up broadcast diaologue box. Select a group name and then click to begin broadcast. See Figure 3-229.

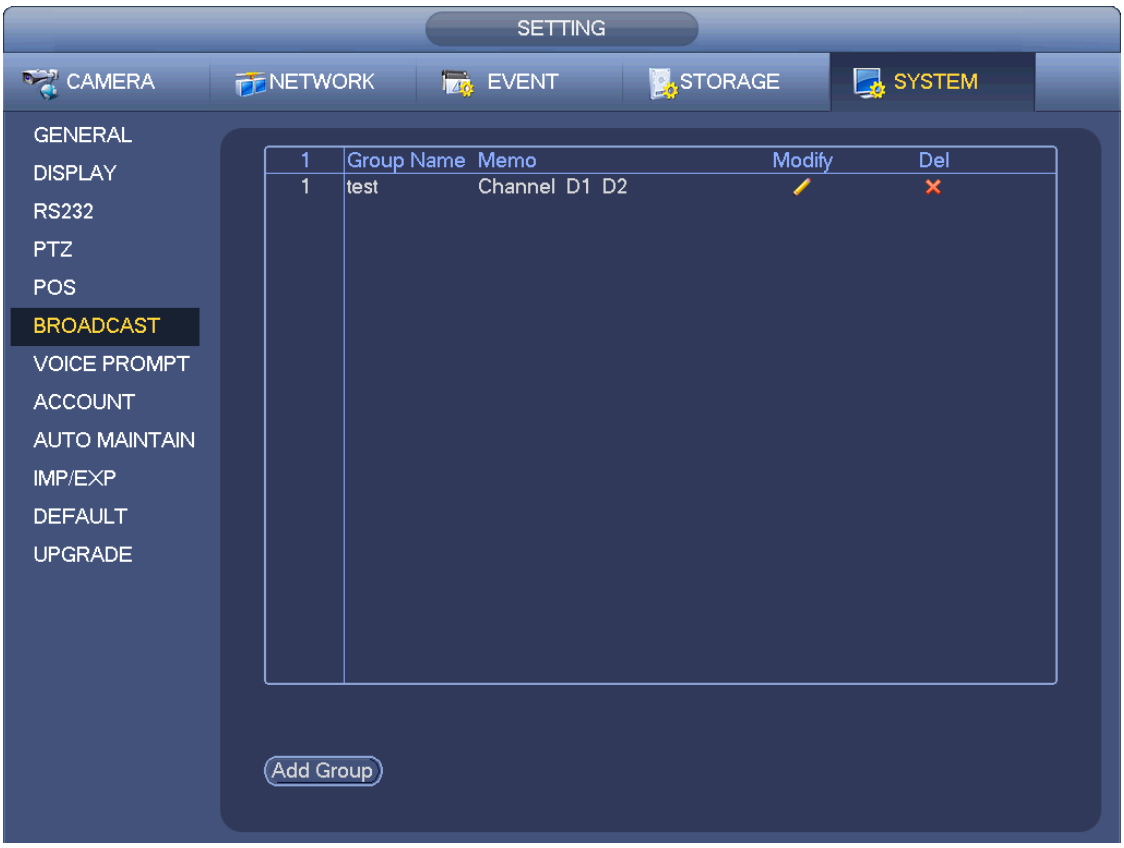


Figure 3-229

3.13.7 Security

3.13.7.1 IP Filter

IP filter interface is shown as in Figure 3-230. You can add IP in the following list. The list supports max 64 IP addresses. System supports valid address of IPv4 and IPv6. **Please note system needs to check the validity of all IPv6 addresses and implement optimization.**

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

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

- Enable: Highlight the box here, you can check the trusted site function and blocked sites function. You cannot see these two modes if the Enable button is grey.
- Type: You can select trusted site and blacklist from the dropdown list. You can view the IP address on the following column.

- Start address/end address: Select one type from the dropdown list, you can input IP address in the start address and end address. Now you can click Add IP address or Add IP section to add.
  g) 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.
  h) System max supports 64 items.
  i) 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.
  j) System automatically removes space if there is any space before or after the newly added IP address.
  k) 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.
  l) System may check newly added IP address exists or not. System does not add if input IP address does not exist.
- Delete: Click it to remove specified item.
- Edit: Click it to edit start address and end address. System can check the IP address validity after the edit operation and implement IPv6 optimization.
- Default: Click it to restore default setup. In this case, the trusted sites and blocked sites are both null.

Note

- 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.
- System supports add MAC address.

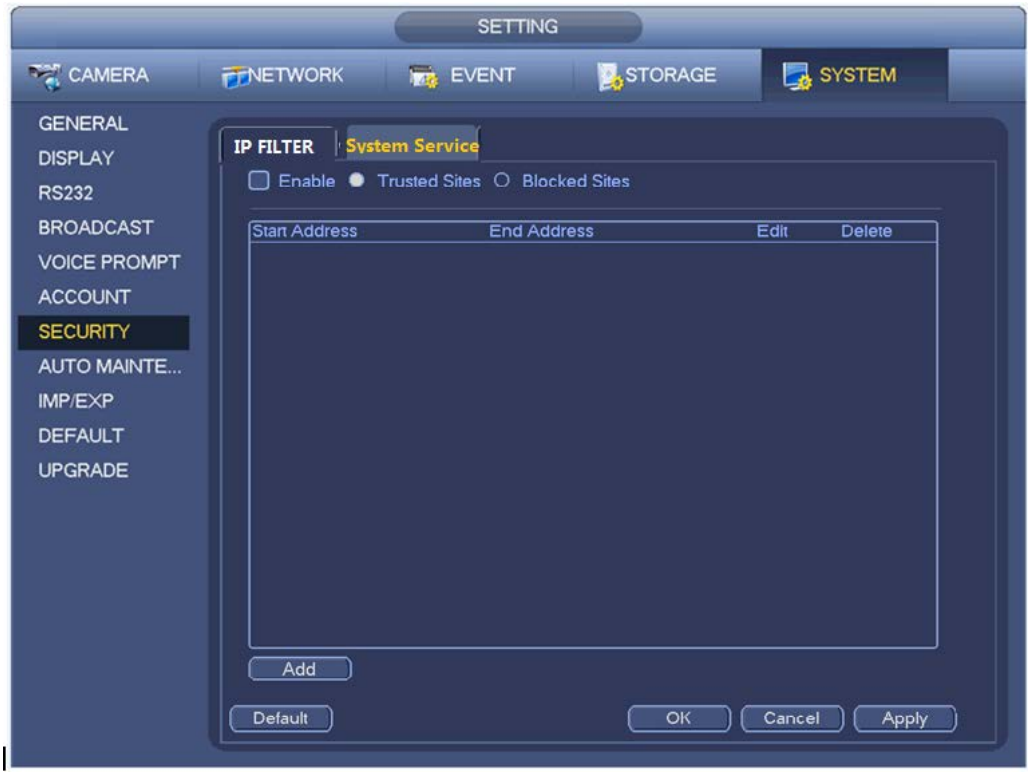


Figure 3-230

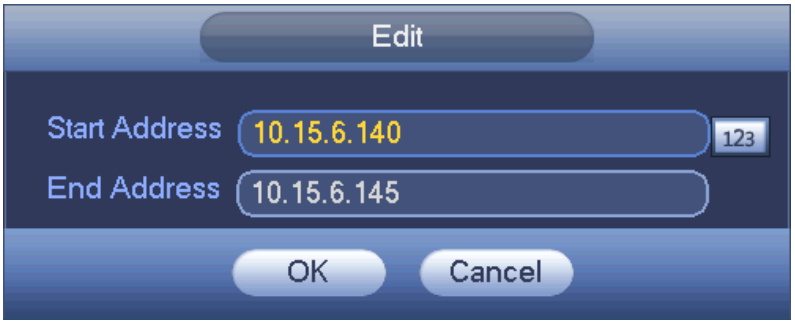


Figure 3-231

3.13.7.2 System Service

The device supports to enable and disable various system internal services.

Step 1 From main menu->System->Security ->System Service.
The System Service interface is displayed. See Figure 3-232.

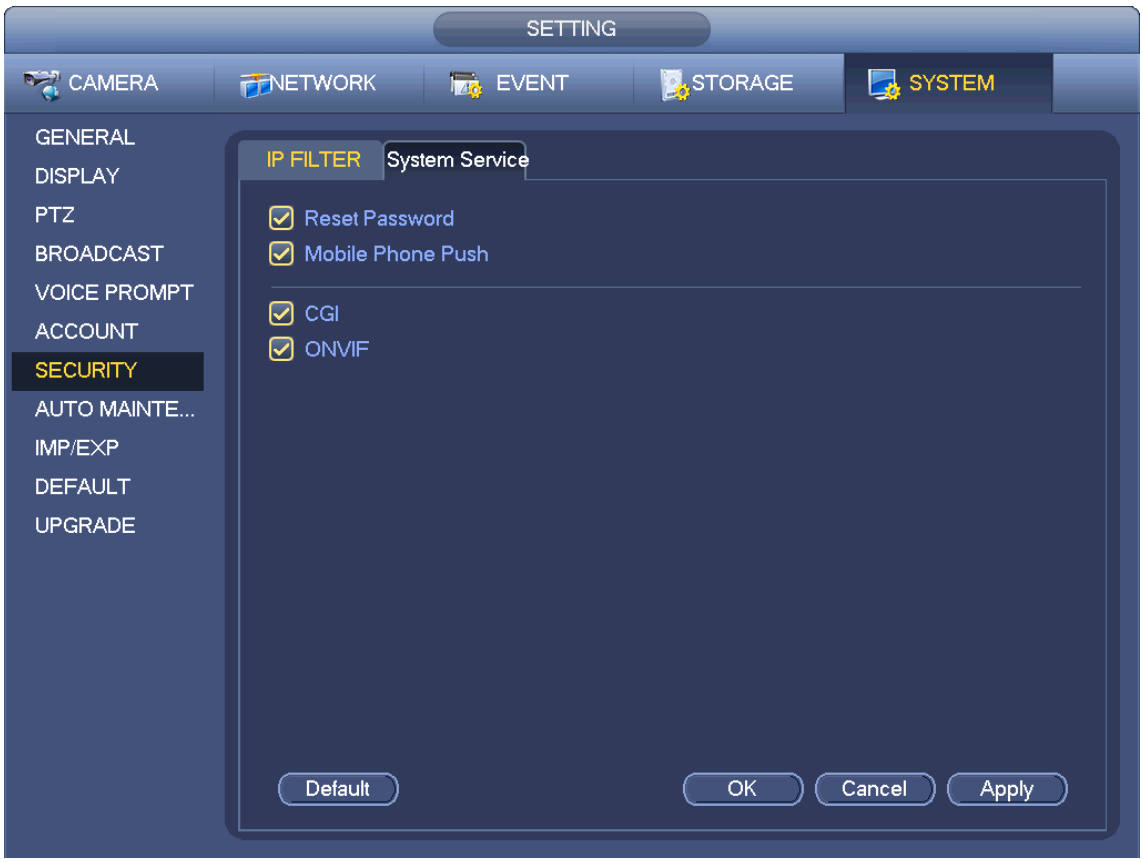


Figure 3-232

Step 2 Configure the parameters. For details, see the below table.

Parameter	Description
Password Reset	Enabled by default. If it is disabled, the user can only use the security questions to reset the password.
Mobile Phone Push	Enabled by default. The snapped pictures triggered at the device can be push to the mobile app.

Parameter	Description
CGI	Enabled by default. The device can be connected via this protocol when enabled.
ONVIF	Enabled by default. The device can be connected via this protocol when enabled.
Audio/VideoEncryption	The stream transmission is encrypted when this function is enabled.The associated device or software shall support decryption.

Step 3 Click OK to complete the configuration.

3.13.8 Auto Maintain

Here you can set auto-reboot time and auto-delete old files setup. You can set to delete the files for the specified days. See Figure 3-233.

You can select proper setup from dropdown list.

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

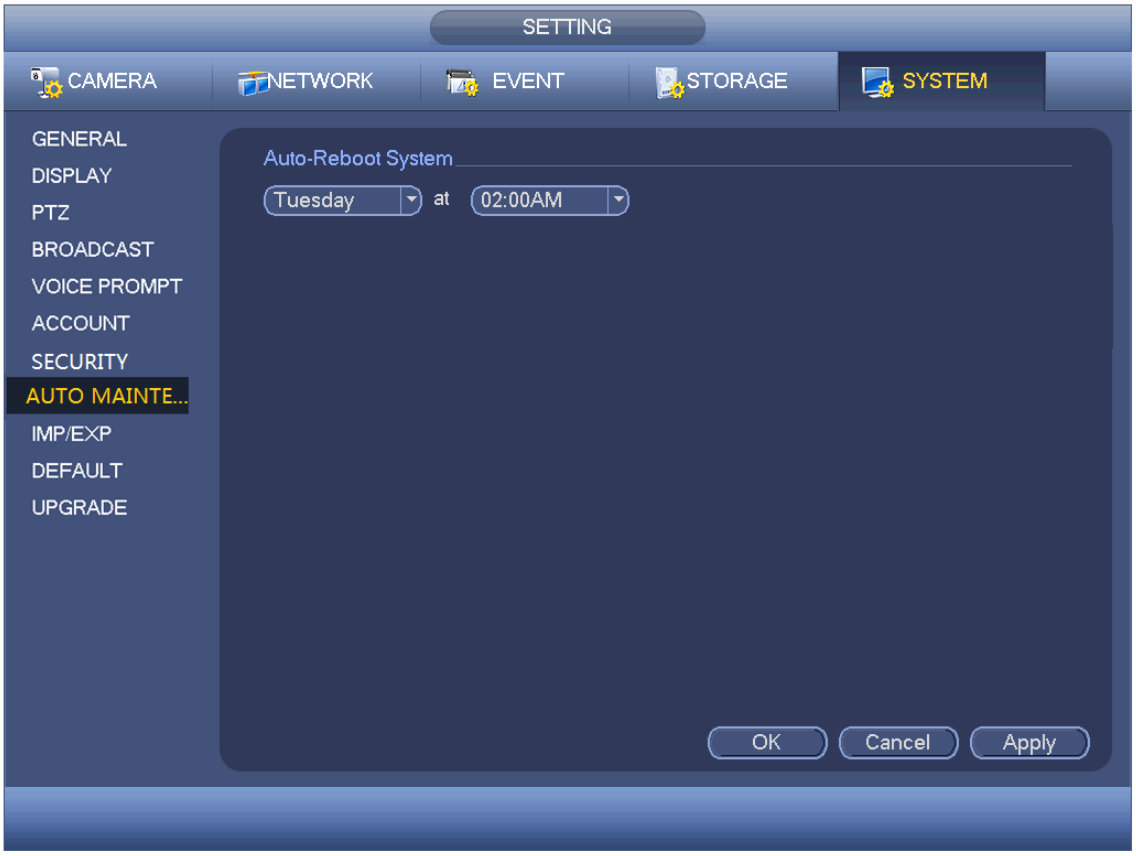


Figure 3-233

3.13.9 Backup

3.13.9.1 File Backup

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

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

b) From Main menu->Backup, you can go to the Backup interface. See Figure 3-234

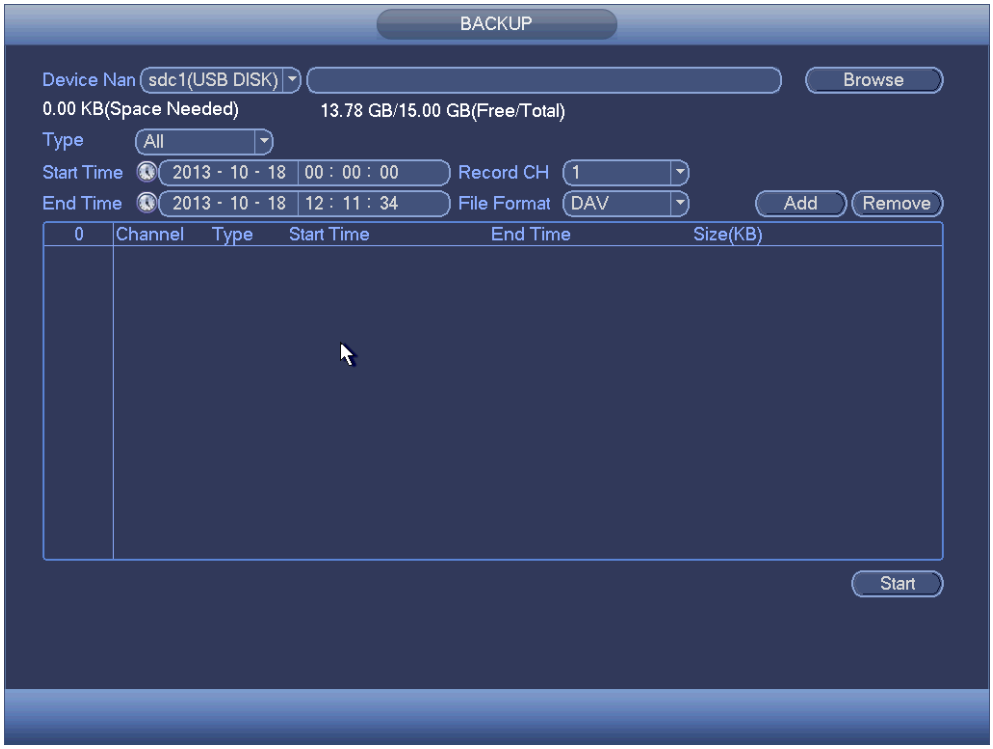


Figure 3-234

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

d) Click add button, system begins search. All matched files are listed below. System automatically calculates the capacity needed and remained. See Figure 3-235.

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

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

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

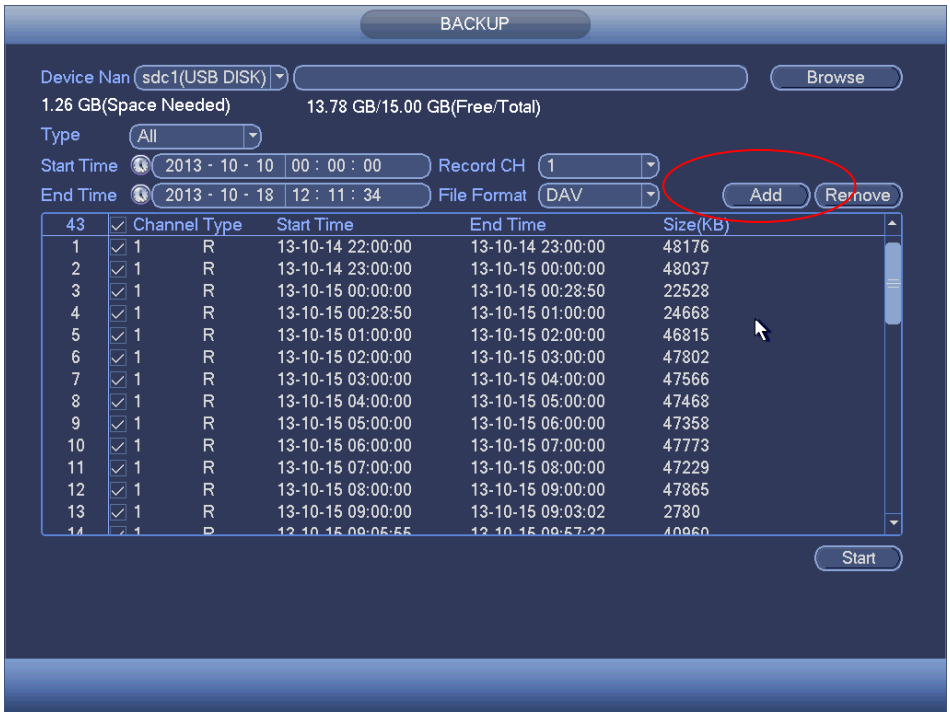


Figure 3-235

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

Note

- During backup process, you can click ESC to exit current interface for other operation (For some series product only). The system will not terminate backup process.
- The file name format usually is: Channel number+Record type+Time. In the file name, the YDM format is Y+M+D+H+M+S. File extension name is .dav.

3.13.9.2 Import/Export

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

From Main menu->Setting->System->Import/Export, you can see the configuration file backup interface is shown as below. See Figure 3-236.

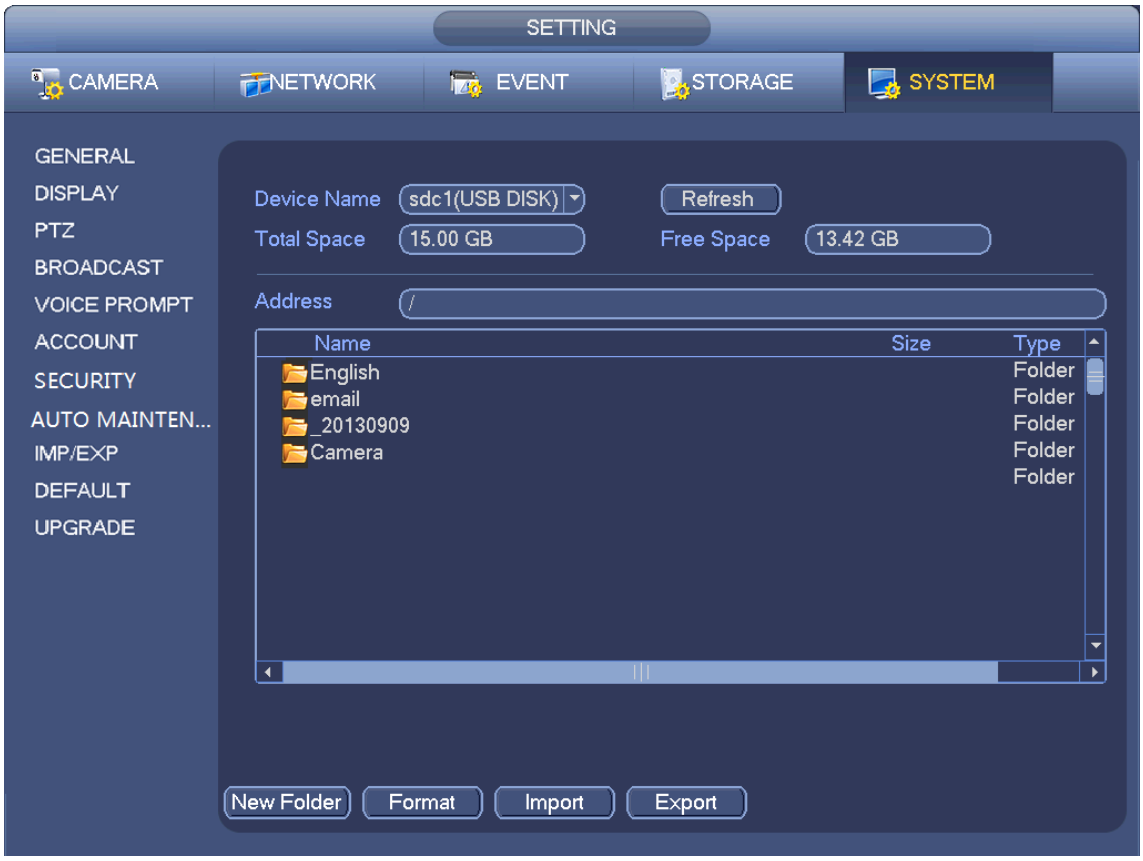


Figure 3-236

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

3.13.9.3 Backup Log

a) From Main menu->Info->Log, the interface is shown as below. See Figure 3-237.

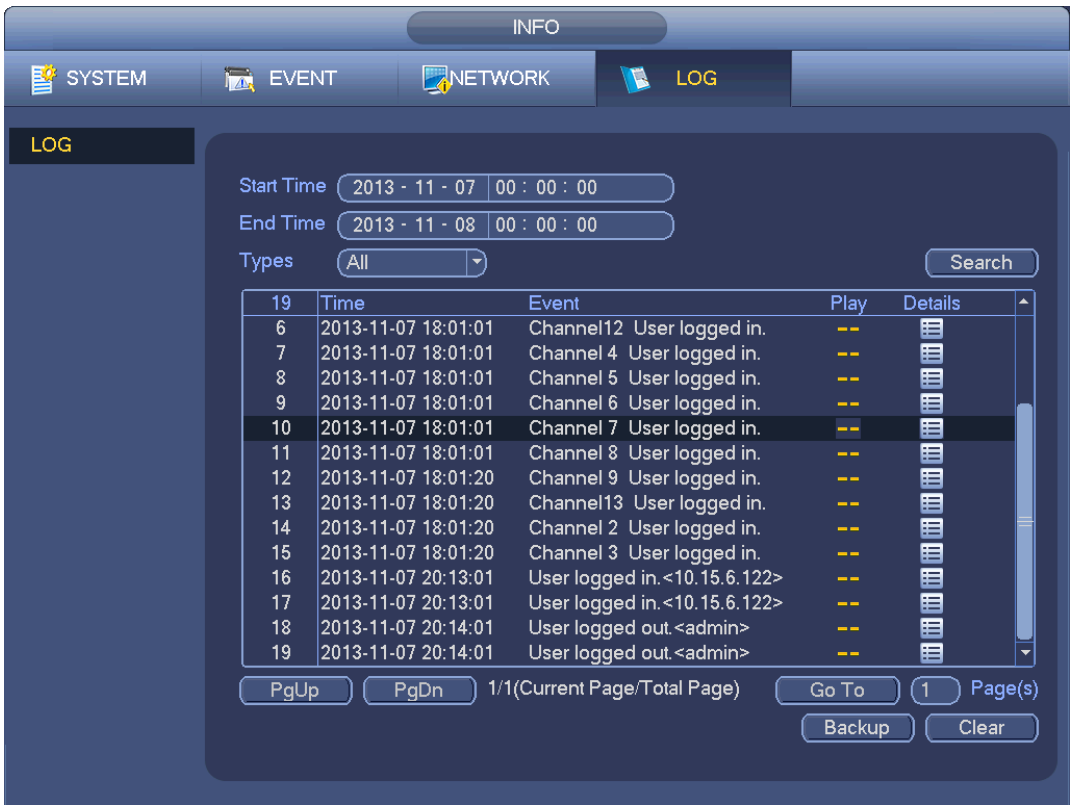


Figure 3-237

b) Select log type and then set start time/end time, click Search button, you can see log time and event information. Click  to view detailed log information.

c) Select log items you want to save and then click backup button, you can select a folder to save them. Click Start to backup and you can see the corresponding dialogue box after the process is finish.

3.13.9.4 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 3-238. Please refer to chapter 3.13.9.1 file backup, chapter 3.13.9.3 backup log, chapter 3.13.9.2 import/export, and chapter 3.9.2 search for detailed information.

Figure 3-238

3.13.10 Default

Warning!

After you use default function, some your customized setup may lose forever! Please think twice before you begin the operation!

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

From Main menu->Setting->System->Default, you can go to the default interface. See Figure 3-239.

Check an item you want to restore default setup, or check the All to select all items.

Click OK or apply button, system pops up a dialogue box. Click OK to restore.

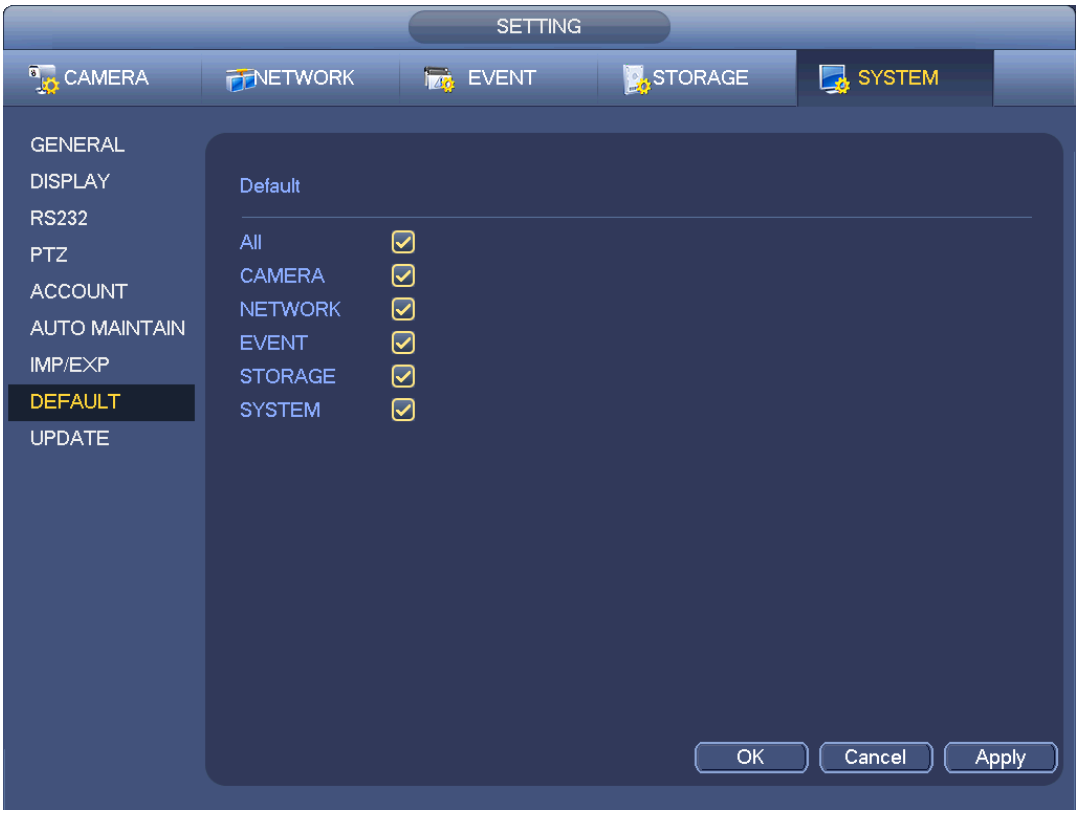


Figure 3-239

3.13.11 Upgrade

3.13.11.1 File Update

From Mani menu->Setting->Info->Update, you can go to the following interface. See Figure 3-240.

Step 1 Insert USB device that contain the upgrade file.

Step 2 Click Start button and then select the .bin file.

Step 3 You can see the corresponding dialogue box after the update process is complete.

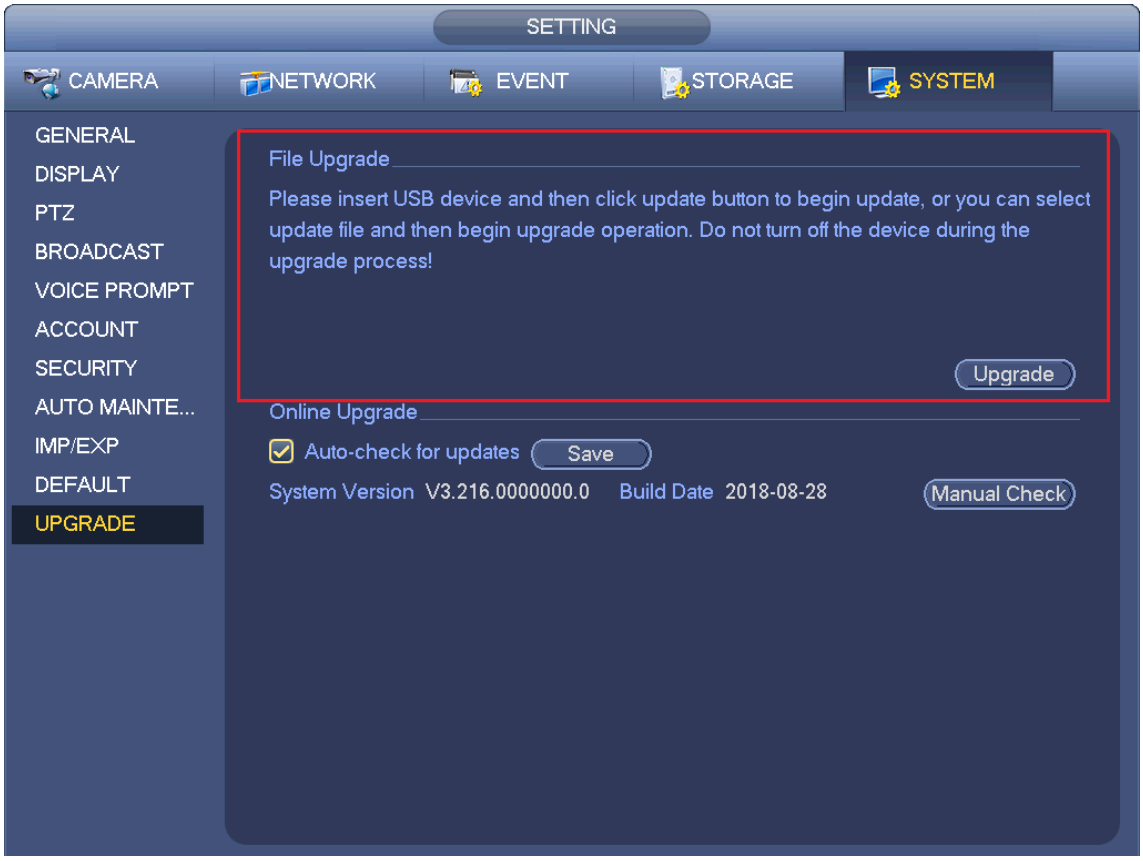


Figure 3-240

3.13.11.2 Online Upgrade

When the NVR is online, you can use the online upgrade to update the firmware.

Before the online upgrade, system needs to detect if any new version is available. It includes auto check and manual check.

- Auto check: System automatically detects if any new version is available once in a while.
- Manual check: Detect new version at real time.

CAUTION

During the upgrade process, make sure that the network connection and power supply are normal.

Step 1 Enter from main menu > Setup > System > Upgrade.

The Upgrade interface is displayed. See Figure 3-241.

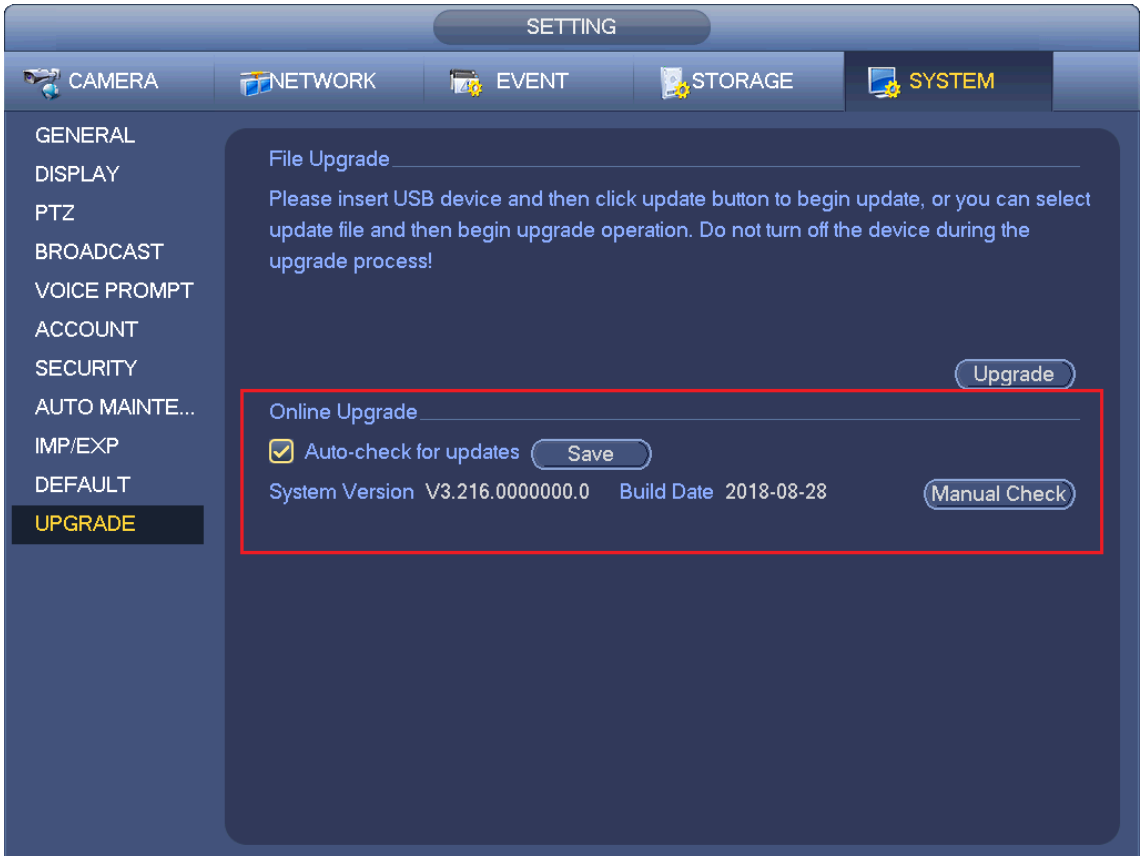


Figure 3-241

Step 2 Version check.

- Auto check: Select the Auto check for updates check box and click Save.

Note

System enables this function by default.

- Manual check: Click Manual Check.
  System starts to search new version and displays the result after the check is completed.
- When system displays that it is the latest version, the current version is the latest one and you do not need to upgrade it.
- When system displays the new version information (including release date and upgrade notes), new version is available and go to Step 3.

Step 3 Click Upgrade to upgrade the system.

3.13.11.3 Uboot

When NVR boots up, during the uboot process, NVR automatically detects there is USB device and there is upgrade file on the USB device or not. If the detection result is OK, NVR automatically begins upgrade.

CAUTION

- The USB device shall contain two files: u-boot.bin.img and update.img.

The USB device shall connected to the USB port at the front panel. Otherwise, NVR cannot properly detect the file or upgrade.

3.14 Logout /Shutdown/Restart

From Main menu>Operation>Shutdown, you can see an interface shown as in Figure 3-242.

- Shutdown: System shuts down and turns off power.
- Logout: Log out menu. You need to input password when you login the next time.
- Restart: Reboot device.

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

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

Figure 3-242

4 Web Operation

4.1 Network Connection

If it is your first time to login the device, please initialize your device first.
The device web provides channel monitor menu tree, search, alarm setup, system setup, PTZ control and monitor window and etc.

Note

- Slight difference may be found on user interface. Please refer to the actual product for detailed information.
- Device supports various browsers such as Safari, Chrome and etc.
- Use ChromeApp to login the WEB if the Chrome version is 45 or higher. Go to the Chrome online store to download the ChromeApp installation package.

Step 1 PC and NVR connection is OK.
Step 2 Set PC IP address, NVR IP address, subnet mask and gateway.
- Set the IP address of the same section for the PC and NVR. Input corresponding gateway and subnet mask if there are routers.)
- The device default IP address is 192.168.1.108.

Step 3 Check the PC and device connection is OK or not. Refer to the following two ways to check the network connection is OK or not. When the PC and device network connection is OK, login the WEB via the PC.
- On PC, use order ping ***.***.***.***(NVR IP address) to check connection is OK or not. Login Usually the TTL value is 255.
- Log in the device local menu, from setting->Network->Network test and then input PC IP address. Check the connection is OK or not.

4.2 Initializing the Device

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.

Please follow the steps listed below.
Step 1 Open the IE and then input the NVR IP address in the address column.
Step 2 Click Enter button.
Device displays device initialization interface. See Figure 4-1.

Figure 4-1

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.

Step 4 Click Next, device goes to the following interface. See Figure 4-2.

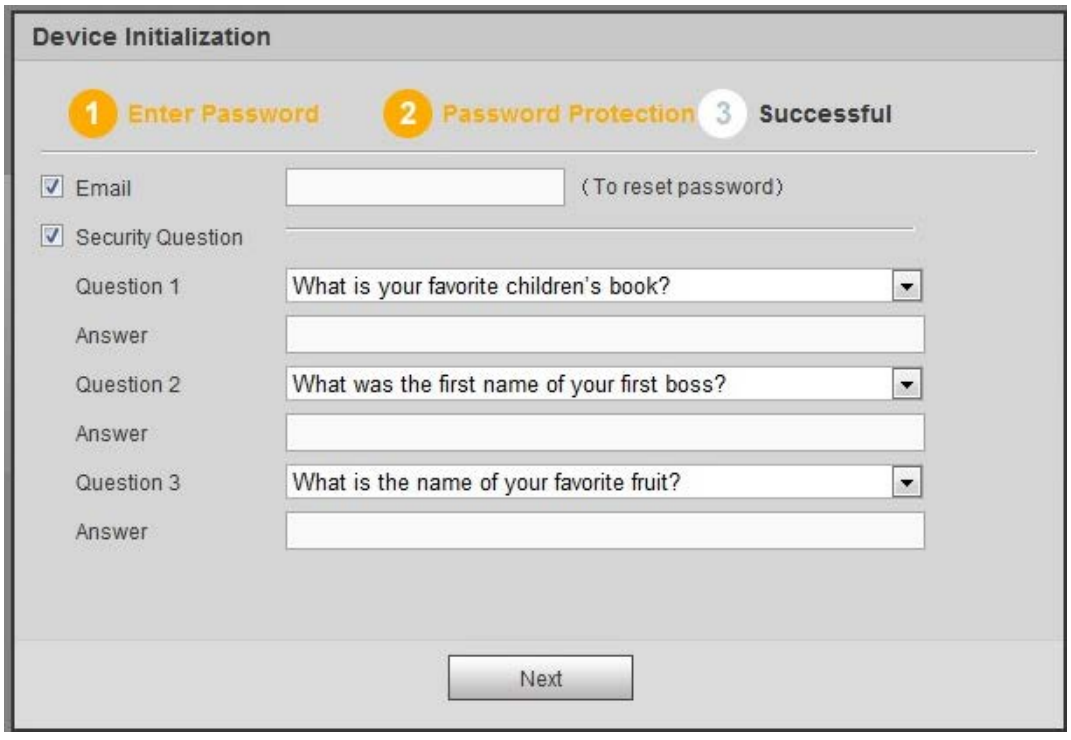


Figure 4-2

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 4.4 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 Setup->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->Security question to set. Refer to chapter 3.13.1.3 Security question 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 4-3.

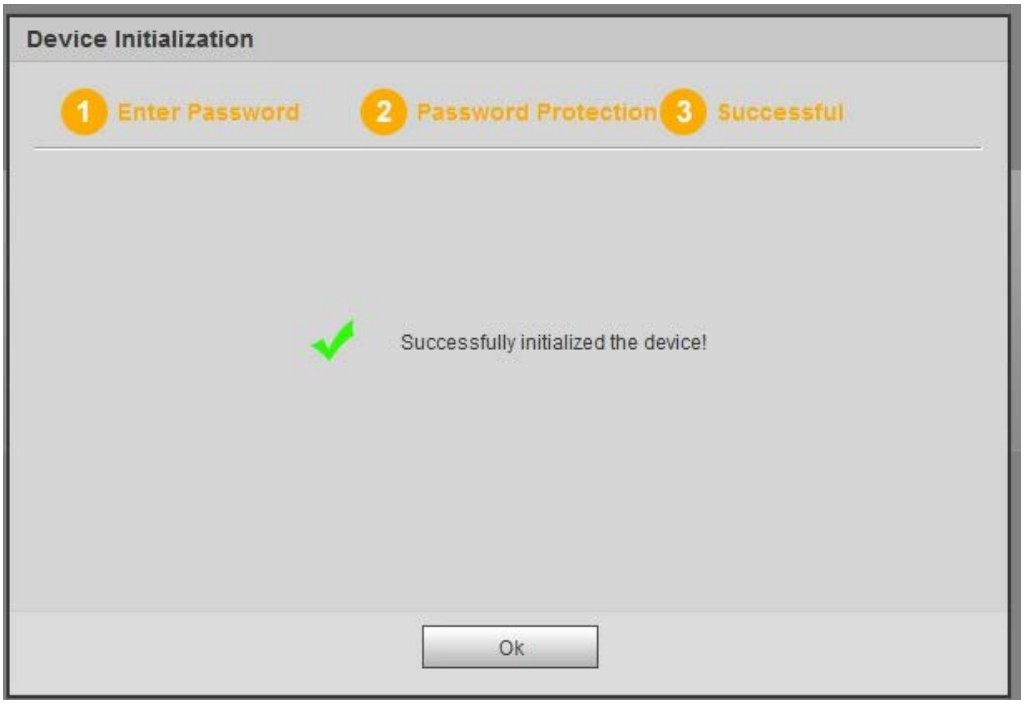


Figure 4-3

4.3 Log in

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

Step 1 The login interface is displayed. See Figure 4-4.

Figure 4-4

Step 2 Input your user name and password.

Factory default user name is **admin** and password is the one you set in device initialization.

CAUTION

- By default, the system will lock the account if you input the wrong password for 5 consecutive times. Each time the wrong password is entered, the system will prompt the remaining number of times that the wrong password is allowed to be entered.
- You can modify the number of times that the wrong password is allowed to be entered. For details, see chapter 4.6.4.10 Abnormality.
- You can select LAN login or WAN login. For their difference, see WAN Login and LAN Login.

Step 3 Click Login.

The Preview interface is displayed. See Figure 4-5

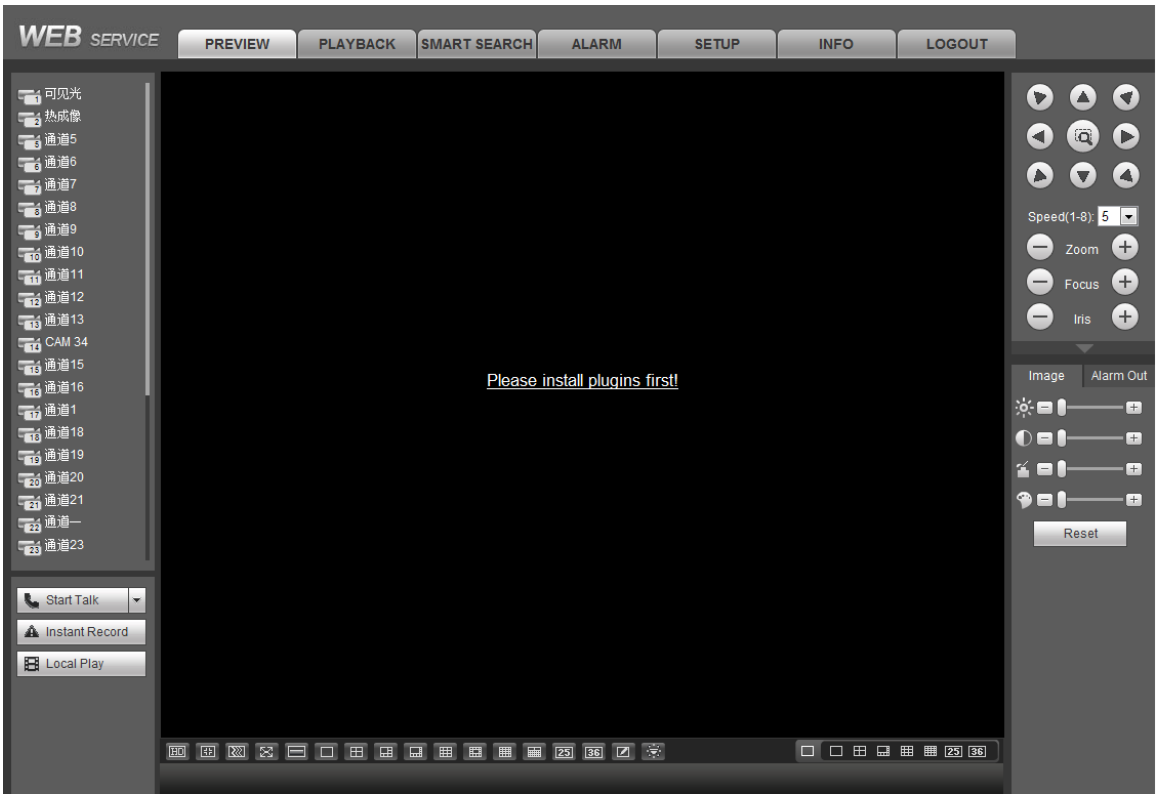


Figure 4-5

Step 4 Click Please install plugins first.

The File Download interface is displayed.

Step 5 Click Run.

The system automatically downloads and installs the control.

NOTE

When you want to upgrade the Web, delete the original control first. See the following two ways to delete the control:

- ◇ Enter C:\Program Files\webrec\WEB30\WebPlugin, and run the uninstall tool **uninst.exe**. The system automatically deletes the control.
- ◇ Enter C:\Program Files\webrec and delete the **Single** folder.

LAN Login

For the LAN mode, after you logged in, you can see the main window. See Figure 4-6.

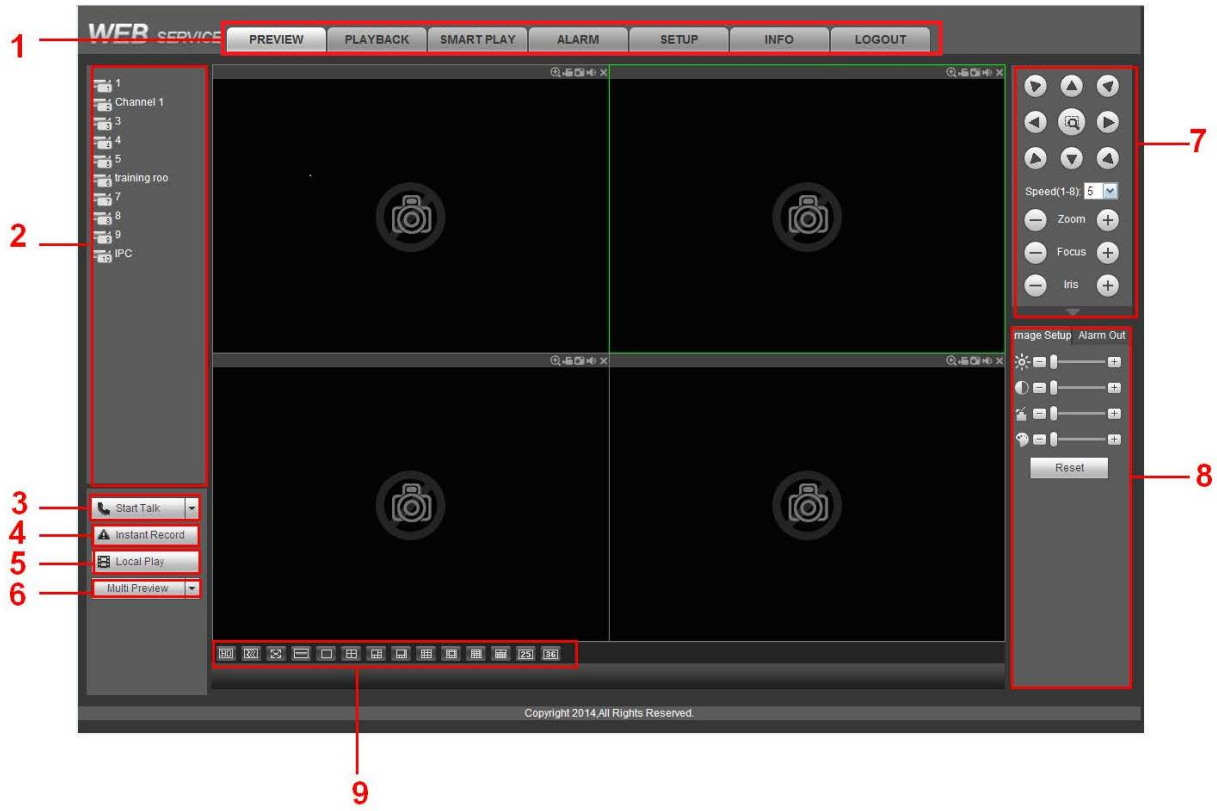


Figure 4-6

This main window can be divided into the following sections.

- Section 1: There are seven function buttons: Preview, setup, info, playback, smart play, alarm, and logout.
- Section 2: There are monitor channels successfully connected to the NVR.

Please refer to Figure 4-7 for main stream and extra stream switch information.

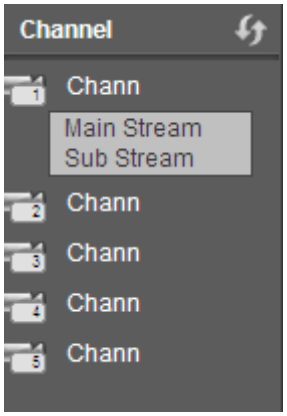


Figure 4-7

- Section 3: Start Talk button.

You can click this button to enable audio talk. Click【▼】to select bidirectional talk mode. There are four options: DEFAULT，G711a，G711u and PCM. See Figure 4-8.

After you enable the bidirectional talk, the Start talk button becomes End Talk button and it becomes yellow. 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.

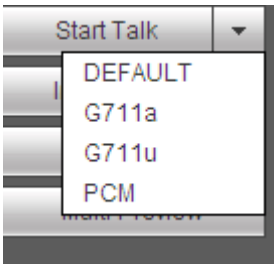


Figure 4-8

- Section 4: Instant record button. Click it, the button becomes yellow and system begins manual record. See Figure 4-9. Click it again, system restores previous record mode.

Figure 4-9

- Section 5: Local play button.

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

Click local play button, system pops up the following interface for you to select local play file. See Figure 4-10.

Figure 4-10

- Section 6：Zero-channel encoding.
- Section 7: PTZ operation panel.
- Section 8:
- Section 9: From the left to the right ,you can see video quality/fluency/ full screen/1-window/4-window/6-window/8-window/9-window/13-window/16-window/20-window/25-window/36-window.. You can set video fluency and real-time feature priority.

WAN Login

In WAN mode, after you logged in, the interface is shown as below. See Figure 4-11.

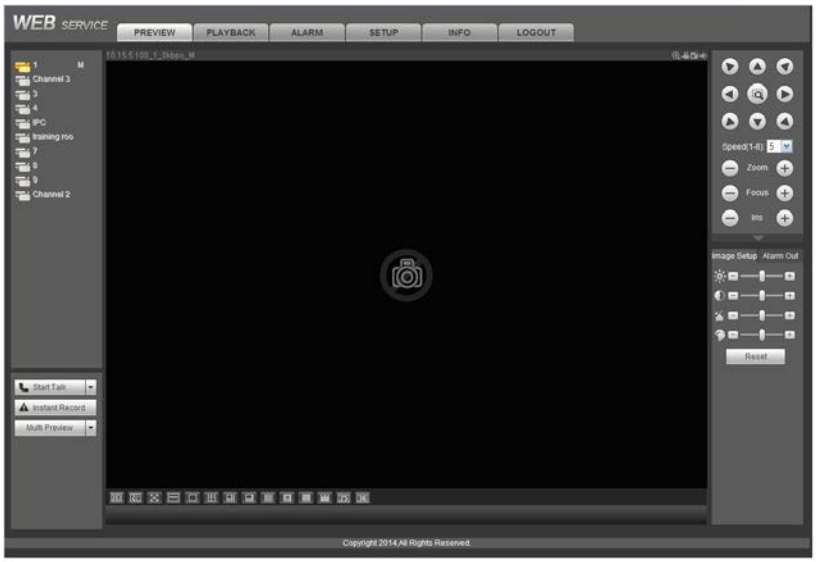


Figure 4-11

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

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

2) You can select different channels and different monitor modes at the bottom of the interface. See Figure 4-12.

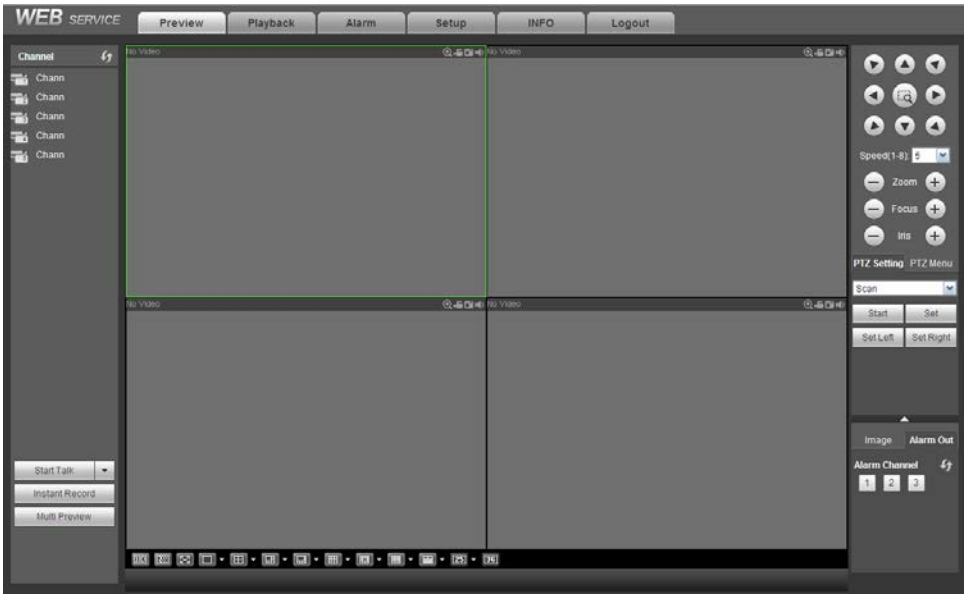


Figure 4-12

Important

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

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

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

the Alarm setup interface.

Important

- For multiple-channel monitor mode, system adopts extra stream to monitor by default. You can not modify manually. All channels are trying to synchronize. Please note the synchronization effect still depends on your network environments.

For bandwidth consideration, system can not support monitor and playback at the same time. System auto closes monitor or playback interface when you are searching setup in the configuration interface. It is to enhance search speed.

4.4 Reset Password

If you forgot **admin** password, you can reset the password by email or by answering the security questions (local menu only).

- When the password reset function is enabled, you can scan the QR code on the Web to reset the password.
- When the password reset function is disabled, you can reset password via the security questions configured before. If the secury questions are not configured, system displays that Password reset is closed! You need to contact the customer service for help.

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

Step 2 Click Forgot password.

- If you have set the reserved email, system displays a notice before the password reset. See Figure 4-13.
- If you have not set the reserved email, a dialogue box pops up that asks you to reset the password by clicking Forgot password on the local interface.

Figure 4-13

Step 3 Click OK.

System enters the following interface. See Figure 4-14.

Note

After clicking OK, we will collect your personal information such as cell phone number, MAC address and device serial number. The collected information is used for verifying device legality and sending security code. Please read the notice carefully and confirm if you agree with the collection or not.

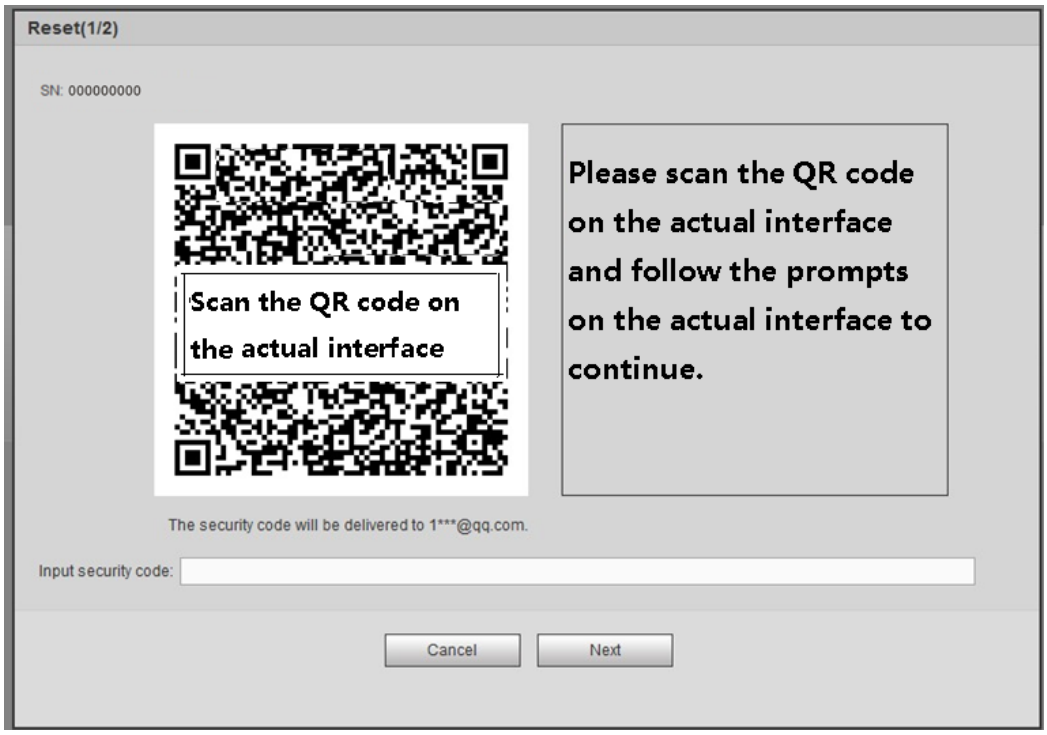


Figure 4-14

Step 4 Follow the prompts on the interface and then scan the QR code to get the security code.

CAUTION

- 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 5 Input the security code in the email and then click Next button.

Step 6 Input new password and then confirm.

Note

The password can be set from 8 characters through 32 characters and contain at least two types from number, letter and special character (excluding"'", """, ";", ":" and "&"). It is recommended to set password of high security according to the prompts.

Step 7 Click OK button to complete the setup.

4.5 Preview

4.5.1 Real-time Monitor channel

Display the monitor channel list. The system only displays the successfully connected channel names.

Click any channel to play the real-time monitor window. See Figure 4-15

Figure 4-15

No.	Function	Description
1	Display device info	The device information is displayed on the top left corner. ● When video is available in the monitor window, it displays the device IP address, channel No., stream, decode type (M for main stream and S for substream). ● If no video is available in the window, it displays no video.
2	Smart track	Click it to view the preset smart track image.
3	Audio talk	Click it to realize the bidirectional communication between the Web and front-end device.
4	Fisheye	Click it to adjust fisheye mounting mode and display mode.
5	Digital zoom	Select any region in the video window and click this icon to enlarge this region. Click this icon again and the image returns to the original state.
6	Local record	Click it to start record. Click it again to stop recording. **Note** The default record storage path is C:\RecordDownload. You can enter Save Path to modify it.
7	snapshot	Click it to snapshot a picture. **Note** The default snapshot storage path is C:\PictureDownload. You can enter Save Path to modify it.
8	Audio	Open or close audio. If audio is closed, there will be no sound in monitor.

No.	Function	Description
9	Split track	Click it to split the channel window.
10	Close	Close the monitor window.

4.5.1.1 Smart Track

This function allows you to view the trigger video of the fish eye & PTZ camera. The fish eye is the main camera to view the whole surveillance condition and the PTZ camera works as the slave camera to view the details.

Step 1 Click on top right corner of the play window.

The Smart Track interface is displayed. See Figure 4-16

Figure 4-16

Step 2 Click the corresponding position in the fisheye channel.

The PTZ camera rotates to the specified position and zooms in or zooms out to display the image.

4.5.1.2 Fisheye De-Warp

On the preview window, click and the fisheye correction interface is displayed.

Note

- If the current channel is not the fisheye channel, the system prompts that Doesn't support de-warping!
- If the performance of the current channel is insufficient, the system prompts that Channel performance is insufficient and does not support fisheye de-warping.

Fisheye mouting mode includes: Ceiling mount, wall mount and ground mount. Different mounting mode supports different de-warping modes.

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 4-17

Take 1 360° panorama + 4 correction windows for example: You can use the color areas in the pamoramic pictures on the right for correction action, or by moving the small pictures on the right with the mouse to do fisheye de-warping.

Operation: Use the mouse to zoom in, zoom out, move and rotate the picture (wall mount does not support it).

4.5.1.3 Split Track

It is to display one video channel in several windows.

On the preview interface, right click mouse and then select split track, you can see an interface shown as below. See Figure 4-18

Figure 4-18

Please select split mode, it includes main screen, one main screen+3 extension screens, one main screen +5 extension screens. See Figure 4-19.

This function can divide the main screen to several windows. Use the mouse to adjust the frames in different colors to set the images to be displayed in the extension screen.

On the main screen or the extension screen, use the middle button of the mouse to zoom in or zoom out.

Figure 4-19

4.5.2 Voice Talk

Voice talk enables voice interaction between NVR and remote devices to improve the efficiency of emergency handling.

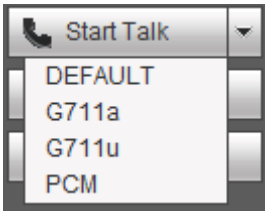


Figure 4-20

- Click Start Talk to start the voice talk with the device end.
- Click the arrow of the drop-down list to select talk mode, including DEFAULT, G711a, G711u and PCM.
- After voice talk is enabled, the icon becomes 

. Click it to stop the voice talk.

Note

The voice input from device end to client end is multiplexing the audio input of channel 1. The voice in channle 1 is not encoded when voice talk is enabled.

4.5.3 PTZ

Before PTZ operation, please make sure you have properly set PTZ protocol.

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

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

Please refer to the following sheet for PTZ setup information.

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

Figure 4-21

4.5.4 Image / Alarm Output

Select one monitor channel video and then click Image button in section 9, the interface is shown as Figure 4-22.

Image

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

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

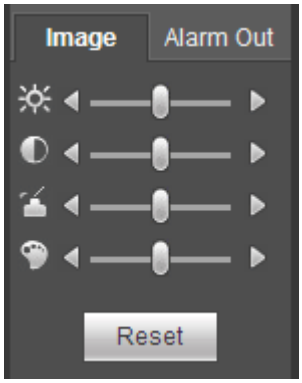


Figure 4-22

Alarm Output

Here you can enable or disable the alarm signal of the corresponding port. See Figure 4-23

Figure 4-23

4.5.5 Panoramic+PTZ Camera Preview

You can monitor the entire scene from all directions, or you can zoom in and out on the local scene. The Panoramic+PTZ camera shall be connected on the front end.

Step 1 On the preview interface, select the panoramic camera channel and then click  .

The preview interface of the Panoramic+PTZ camera is displayed. See Figure 4-24. 1 is the panoramic window and 2 is the local scene window.

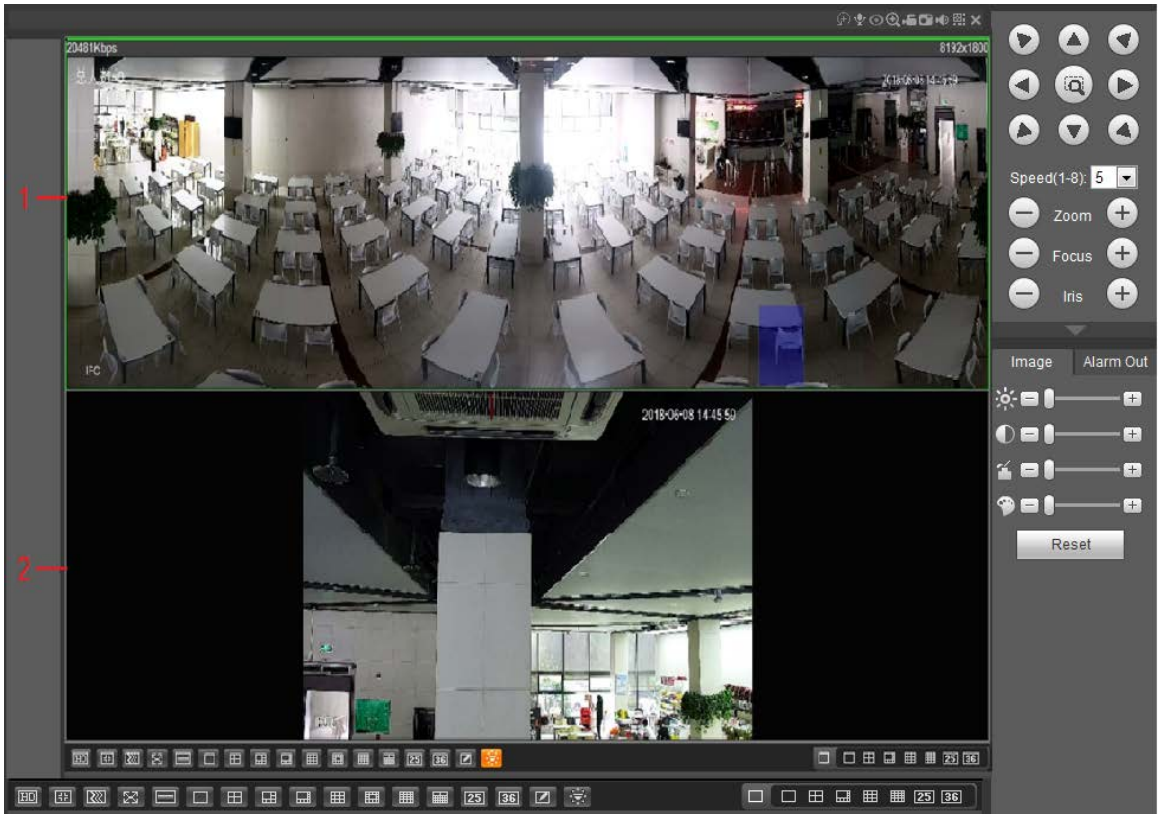


Figure 4-24

Step 2 Select the local scene image (2) and rotate the camera to the specified position by clicking the PTZ control zone on the right to zoom in or zoom out the scene.

4.5.6 Zero-Channel Preview

Zero-channel preview refers to the combination of multiple channels of the local preview interface into one channel transmission by coding and compressing the main CVBS output image of NVR device, so

that the image information of the monitoring channel can be fully obtained and network transmission bandwidth can be effectively saved in remote access.

Select a free monitoring channel and click zero-channel preview to achieve the effect of zero-channel preview. See Figure 4-25.

Figure 4-25

4.5.7 Real-Time Spot Temperature Measurement

When a device with temperature measurement function is connected on the front end, the system supports real-time temperature measurement.

Note

- It might collect the human body temperature information in the monitor screen. Be careful!
- Only products of some series support this function.

Enble the temperature measurement function.

On the preview interface, click any position in the heat map and the temperature of the corresponding spot is displayed. See Figure 4-26

Figure 4-26

4.6 Setup

4.6.1 Camera

4.6.1.1 Registration

4.6.1.1.1 Registration

From Main menu->Setup->Camera->Registration->Registration, you can see the following interface. See Figure 4-97.

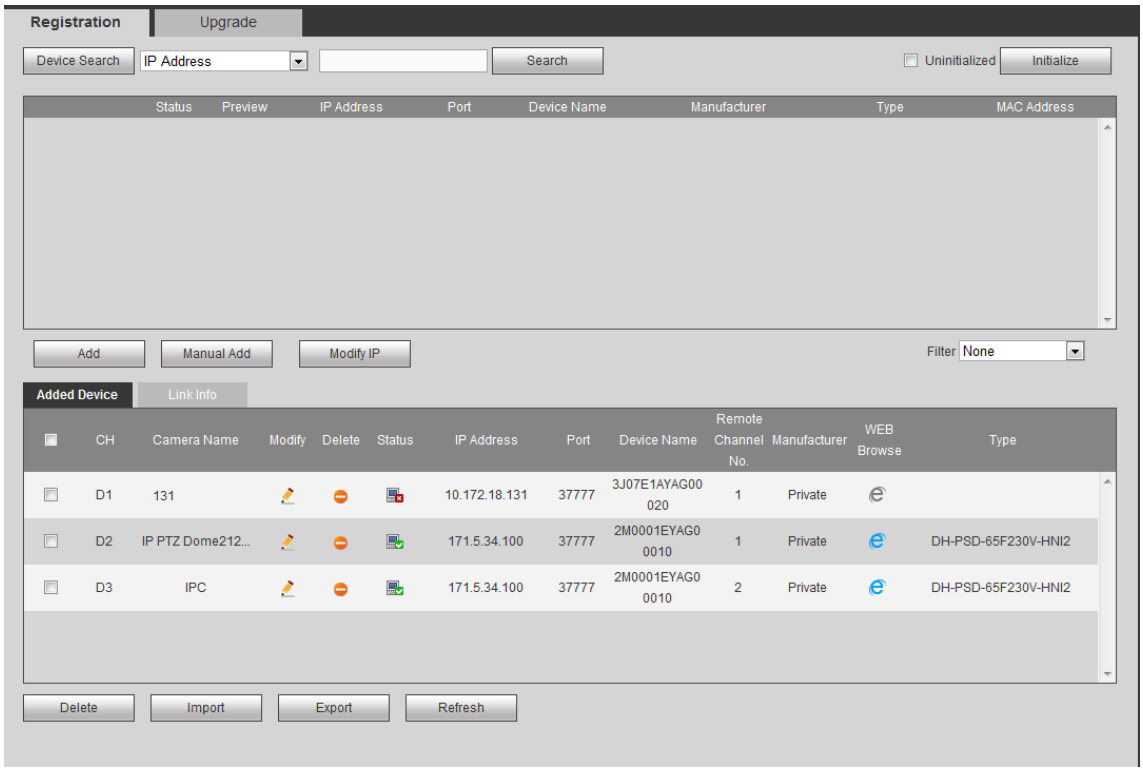


Figure 4-27

Please refer to the following sheet for parameter information.

Parameter	Function
IP Address	Select IP address or the MAC address from the dropdown list and then input the corresponding information, click Search button to view the results.
Search	Click Search button, you can view the searched device information on the list. It includes device IP address, port, device name, manufacturer and type.
Uninitialized	Click to search the initialized devices. Select an uninitialized device and then click the Initialize button to set the account.
Preview	Click to view the preview video of the remote device.
State	It is to display the device has been initialized or not. That is to say, the remote device has set the initial account information or not. means the remote device has initialized, means the remote device has not been intialized.
Add	Select a device in the list and then click Add button, system can connect the device automatically and add it to the Added device list. Or you can double click one item in the list to add a device.
Modify	Click or any device in the Added device list, you can change the corresponding channel setup.

Parameter	Function
Delete	Click , you can delete the remote connection of the corresponding channel.
Type	There are two connection types. You can use the network to connect to the camera or use the Wi-Fi. The means current network camera connection mode is general; the means current network camera mode is hotspot.
Delete	Select a device in the Added device list and then click Delete button, system can disconnect the device and remove it from the Added device list.
Manual Add	Click it, the interface is shown as in Figure 4-28. Here you can add network camera manually. You can select a channel from the dropdown list (Here only shows disconnection channel.)

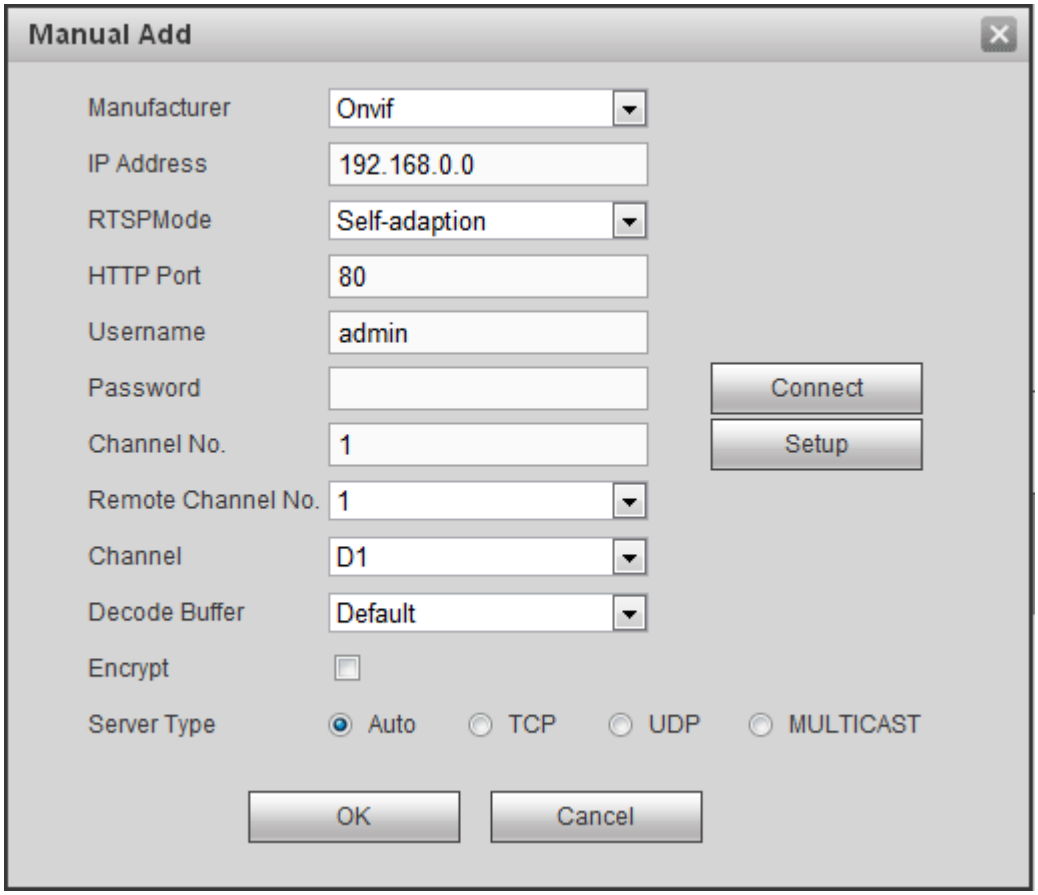


Figure 4-28

Please refer to the following sheet for parameter information.

Parameter	Function
Manufacturer	Please select from the dropdown list. **Note** Different series products may support different manufacturers, please refer to the actual product.
IP address	Input remote device IP address.
RTSP port	Input RTSP port of the remote device. The default setup is 554. **Note** Skip this item if the manufacture is private or customize.
HTTP port	Input HTTP port of the remote device. The default setup is 80. **Note** Skip this item if the manufacture is private or customize.
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.	Input channel amount or click the Connect button to get the channel amount of the remote device. **Note** 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.
Remote channel No.	After getting the remote device channel amount, click Setup to select a channel. **Note** 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) **Note** ● The default connection mode is TCP if the connection protocol is private. ● There are four items including Auto, TCP, UDP and MULTICAST if the connection protocol is ONVIF. ● There are two items including TCP and UDP if the connection protocol is from the third-party.

Parameter	Function
Encrypt	When the connection protocol is ONVIF, enable the encryption function and system transmits data in the encrypted mode. **Note** System supports this function when HTTPS is enabled in IPC.

Change IP

On the searched devices list, check one or more device(s) at the same time. Click Modify IP button, you can see the following interface. See Figure 4-29

Please refer to the following sheet for log parameter information.

Parameter	Function
DHCP	Check the box here, system can auto allocate the IP address. The IP address, subnet mask, default gateway are reference only.
Static	Check the box here, you can set IP address, subnet mask, default gateway manually.
IP address/subnet mask/default gateway	You can input corresponding information here.
User name/password	The account you login the remote device. Please input here to password verification to change the remote device password.
Incremental value	When you want to change several IP addresses, once you input the IP address of the first device, the IP address of the next device will increase accordingly. For example, when the incremental value is 1, if the IP address of the first device is 172.10.3.128, the IP address of the second device will auto be set as 172.10.3.129.

Note

For the static IP address, system will alert you if there is any IP conflict. If you are changing several IP addresses at the same time, system auto skip the conflicted IP and auto allocate again according to the incremental value you set.

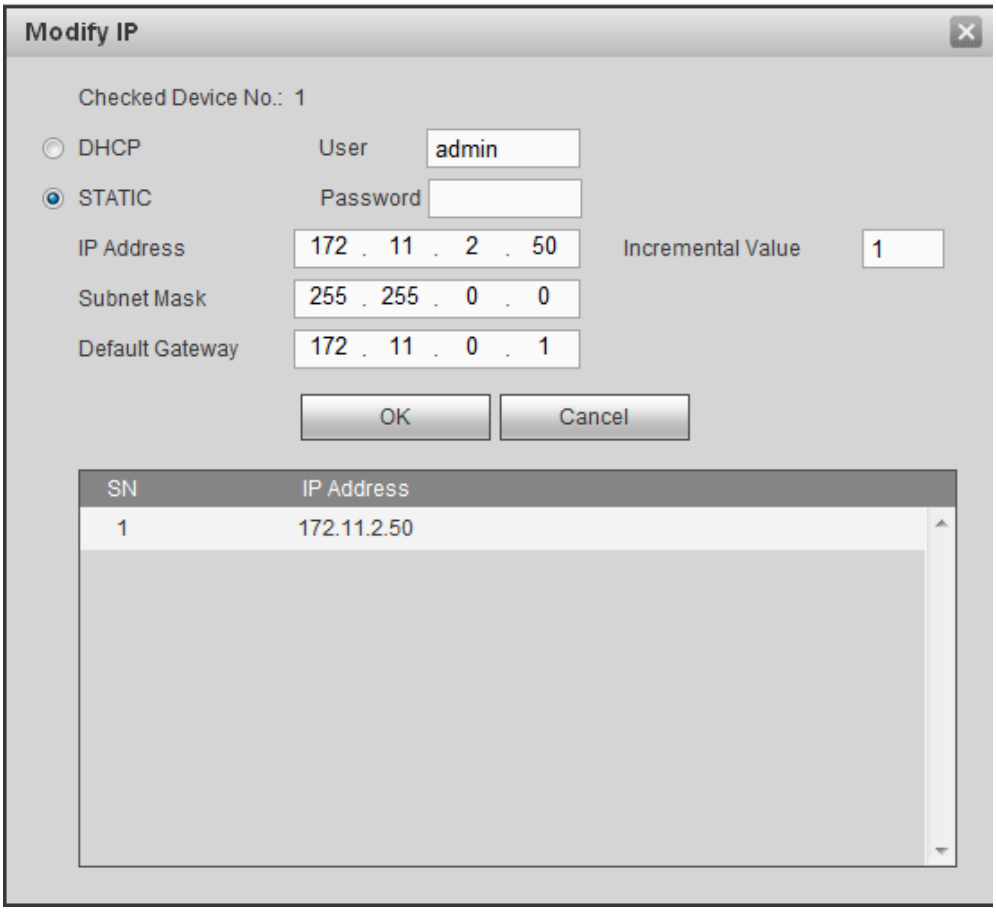


Figure 4-29

Export IP

System supports to export the registered device list and save it in the USB device.

Step 1 Inset the USB device and click Export.

The File Backup Encryption interface is displayed. See Figure 4-30.

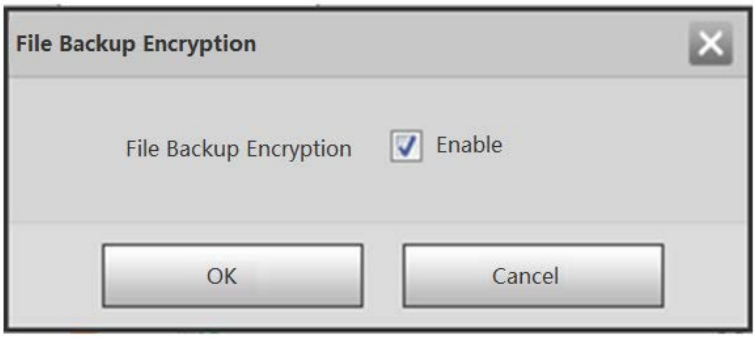


Figure 4-30

Step 2 File backup encryption is enabled by default. Click OK to select the save path.

Step 3 Click Save. After the export is completed, system pops up a dialogue box to show that backup is completed.

Note

Backup encryption is enabled by default when exporting IP. The file contains information such as IP

address, port, remote channel number, manufacturer, username and password.

- If file backup encryption is enabled, the extension name of the exported file is .backup. Except the NVR device, any other software cannot open and edit the file.
- If the backup encryption is disabled, the extension name of the exported file is .csv. It might lead to data leakage.

Import IP

You can import the added device list to add the device conveniently.

Click Import button, and then select the import file.

Note

If the imported IP is already in the added device list, system pops up dialogue box for you to confirm overwrite or not.

- Click OK button, the new IP setup can overwrite the old one.
- Click Cancel button, system adds the new IP setup.

Important

- You can edit the exported file. Please make sure the file format is the same. Otherwise you cannot import the file again!
- System does not support customized protocol import/export.
- The import/export function is for the devices of the same language.

4.6.1.1.2 IPC Upgrade

This interface is to upgrade network camera.

From Main menu->Setting->Camera->Registration->IPC upgrade, enter the following interface. See Figure 4-31.

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

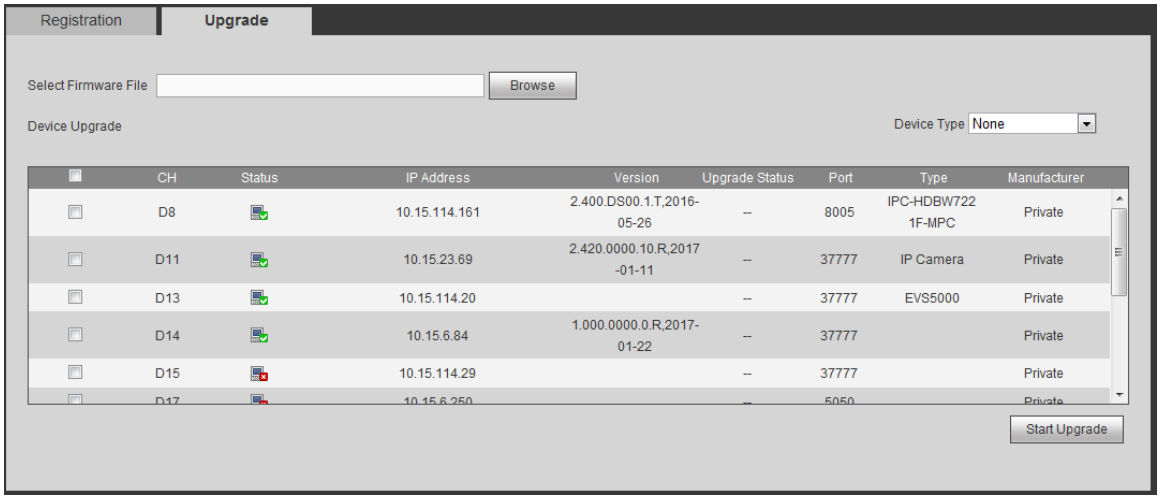


Figure 4-31

4.6.1.2 Image

From main window>Setup>Camera>Image, you can see an interface shown as in Figure 4-32.

Here you can view device property information. The setups become valid immediately after you set.

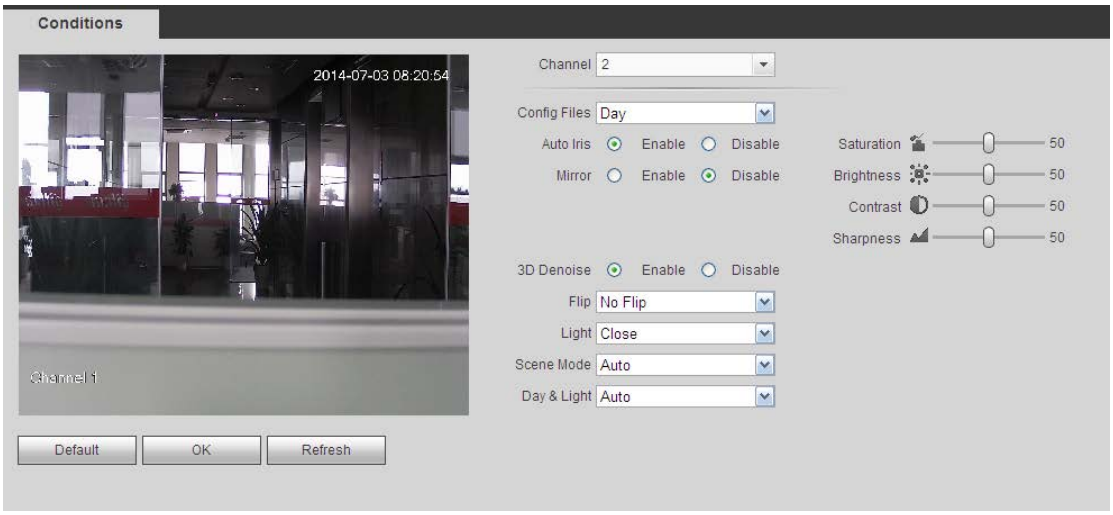


Figure 4-32

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Please select a channel from the dropdown list.
Config file	The options includes: day/night/general/switch by period. Once the mode is switch by period, you can set sunset and sunrise time.
3D NR	It is to process multiple-frame (At least two frames). System uses the information between these two frames to realize noise reduction function.
Hue	It is to adjust monitor video brightness and darkness level. The default value is 50. The bigger the value is, the large the contrast between the bright and dark section is and vice versa.
Brightness	It is to adjust monitor window brightness. The default value is 50. The larger the number is , the bright the video is. When you input the value here, the bright section and the dark section of the video will be adjusted accordingly. You can use this function when the whole video is too dark or too bright. Please note the video may become hazy if the value is too high. The value ranges from 0 to 100.The recommended value ranges from 40 to 60.
Contrast	It is to adjust monitor window contrast. The value ranges from 0 to 100. The default value is 50. The larger the number is, the higher the contrast is. You can use this function when the whole video bright is OK but the contrast is not proper. Please note the video may become hazy if the value is too low. If this value is too high, the dark section may lack brightness while the bright section may over exposure .The recommended value ranges from 40 to 60.
Saturation	It is to adjust monitor window saturation. The value ranges from 0 to 100. The default value is 50.

		The larger the number is, the strong the color is. This value has no effect on the general brightness of the whole video. The video color may become too strong if the value is too high. For the grey part of the video, the distortion may occur if the white balance is not accurate. Please note the video may not be attractive if the value is too low. The recommended value ranges from 40 to 60.
Gain		The gain adjust is to set the gain value. The smaller the value is, the low the noise is. 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.
White level		It is to enhance video effect.
Color mode		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.
Auto Iris		It is to enable/disable auto iris function.
Flip		It is to switch video up and bottom limit. This function is disabled by default.
Mirror		It is to switch video left and right limit. This function is disabled by default.
BLC Mode	BLC	The device auto exposures according to the environments situation so that the darkest area of the video is cleared
	WDR	For the WDR scene, this function can lower the high bright section and enhance the brightness of the low bright section. So that you can view these two sections clearly at the same time. The value ranges from 1 to 100. When you switch the camera from no-WDR mode to the WDR mode, system may lose several seconds record video.
	HLC	After you enabled HLC function, the device can lower the brightness of the brightest section according to the HLC control level. It can reduce the area of the halo and lower the brightness of the whole video.
	Off	It is to disable the BLC function. Please note this function is disabled by default.
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.

4.6.1.3 Encode

4.6.1.3.1 Encode

From main window>Setup>Camera>Encode>Encode, the encode interface is shown as below. See Figure 4-33.

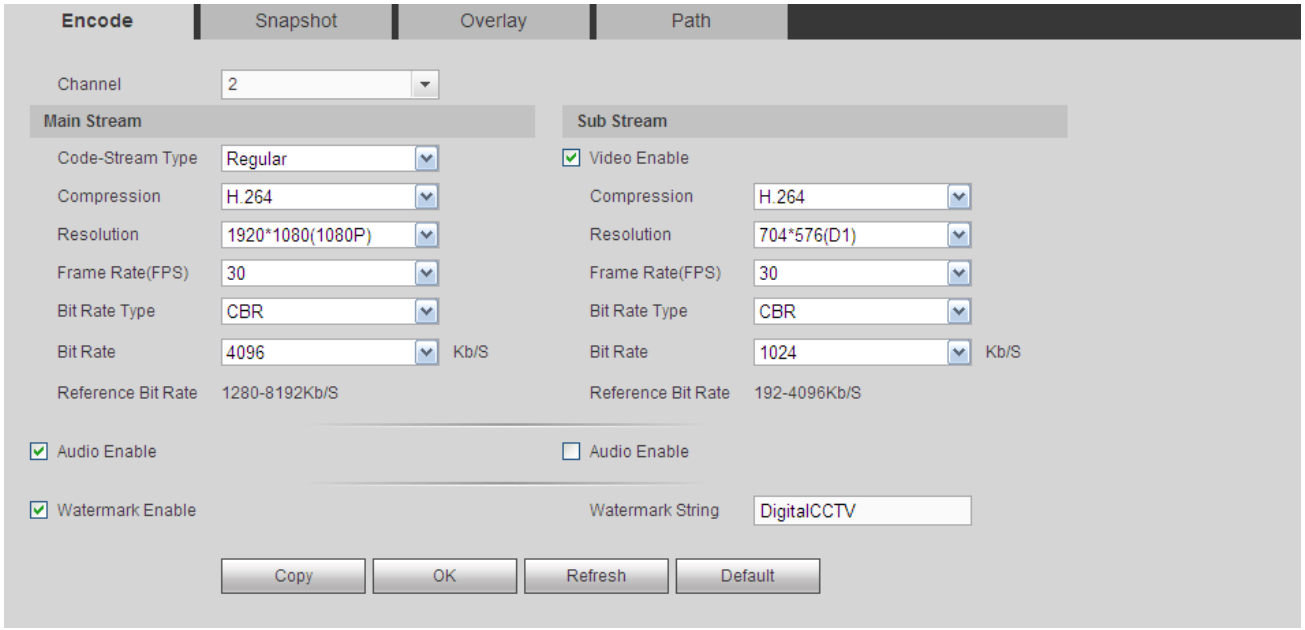


Figure 4-33

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Please select a channel from the dropdown list.
Video enable	Check the box here to enable extra stream video. This item is enabled by default.
Code stream type	It includes main stream, motion stream and alarm stream. You can select different encode frame rates form different recorded events. System supports active control frame function (ACF). It allows you to record in different frame rates. For example, you can use high frame rate to record important events, record scheduled event in lower frame rate and it allows you to set different frame rates for motion detection record and alarm record.
Compression	The main bit stream supports H.264. The extra stream supports H.264, MJPG.

Resolution	The resolution here refers to the capability of the network camera.
Frame Rate	PAL：1～25f/s；NTSC：1～30f/s.
Bit Rate	● Main stream: You can set bit rate here to change video quality. The large the bit rate is, the better the quality is. Please refer to recommend bit rate for the detailed information. ● Extra stream: In CBR, the bit rate here is the max value. In dynamic video, system needs to low frame rate or video quality to guarantee the value. The value is null in VBR mode.
Reference bit rate	Recommended bit rate value according to the resolution and frame rate you have set.
I Frame	Here you can set the P frame amount between two I frames. The value ranges from 1 to 150. Default value is 50. Recommended value is frame rate *2.
Watermark enable	This function allows you to verify the video is tampered or not. Here you can select watermark bit stream, watermark mode and watermark character. Default character is DigitalCCTV. The max length is 85-digit. The character can only include number, character and underline.

4.6.1.3.2 Snapshot

From main window>Setup>Camera>Encode>Snapshot, the snapshot interface is shown as in Figure 4-34.

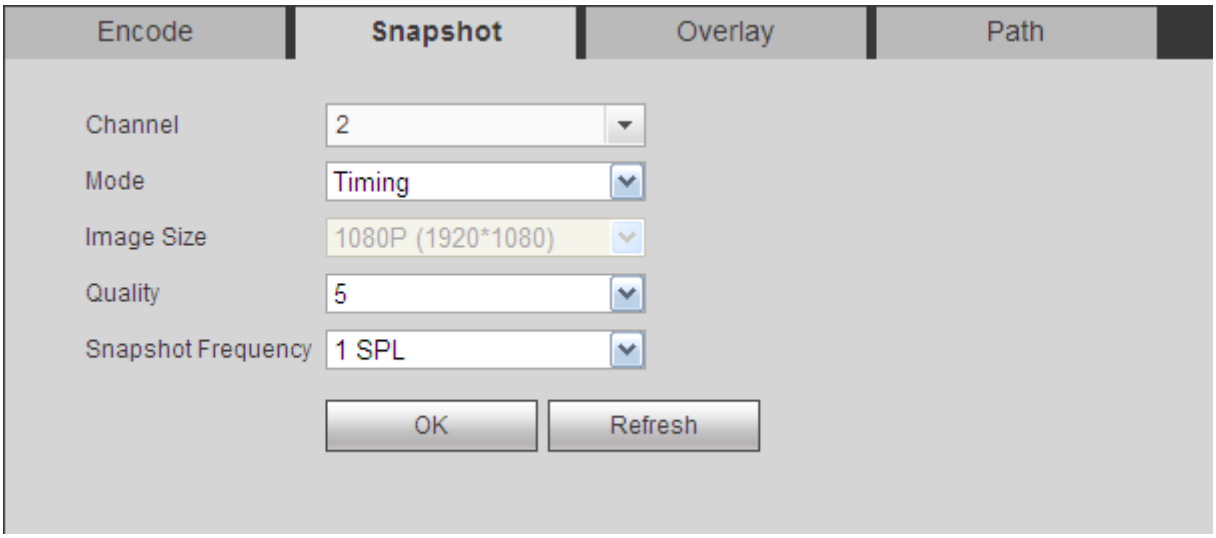


Figure 4-34

Please refer to the following sheet for detailed information.

Parameter	Function
Mode	There are two modes: Regular (schedule) and timing (Trigger). ● Regular snapshot is valid during the specified period you set. ● Trigger snapshot only is valid when motion detect alarm, tampering alarm or local activation alarm occurs.

Image size	It is the same with the resolution of the main stream.
Quality	It is to set the image quality. There are six levels.
Interval	It is to set snapshot frequency. The value ranges from 1s to 7s. Or you can set customized value. The max setup is 3600s/picture.

4.6.1.3.3 Video Overlay

From main window>Setup>Camera>Encode>Overlay, the video overlay interface is shown as in Figure 4-35.

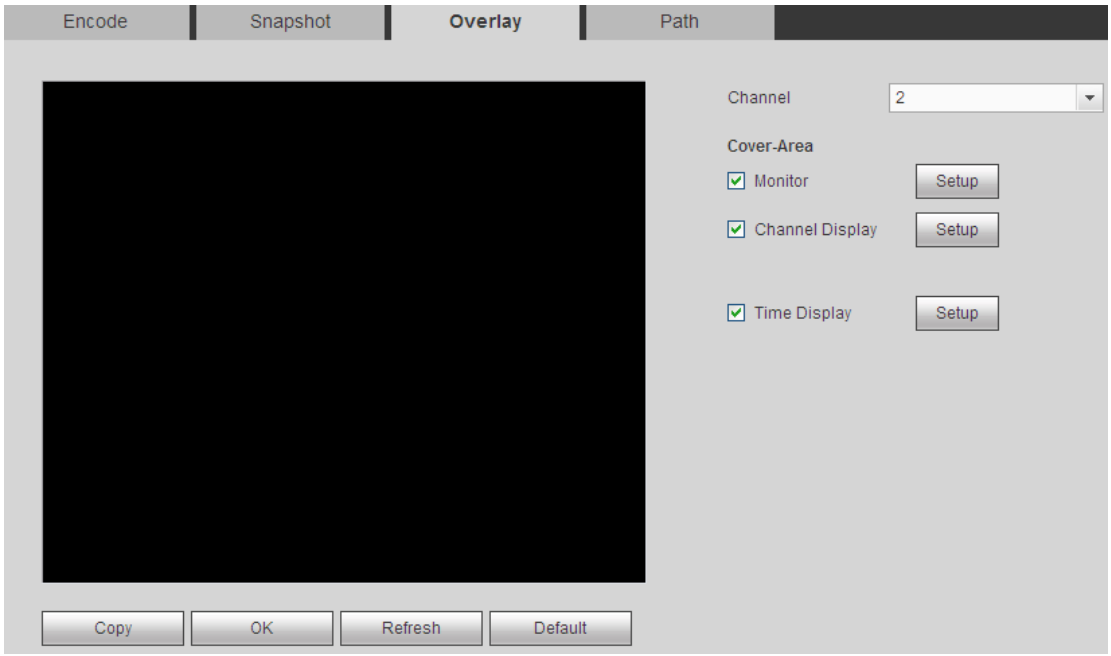


Figure 4-35

Please refer to the following sheet for detailed information.

Parameter	Function
Cover-area	Check Preview or Monitor first. Click Setup 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.

4.6.1.3.4 Path

From main window>Setup>Camera>Encode>Path, the storage path interface is shown as in Figure 4-36.

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.

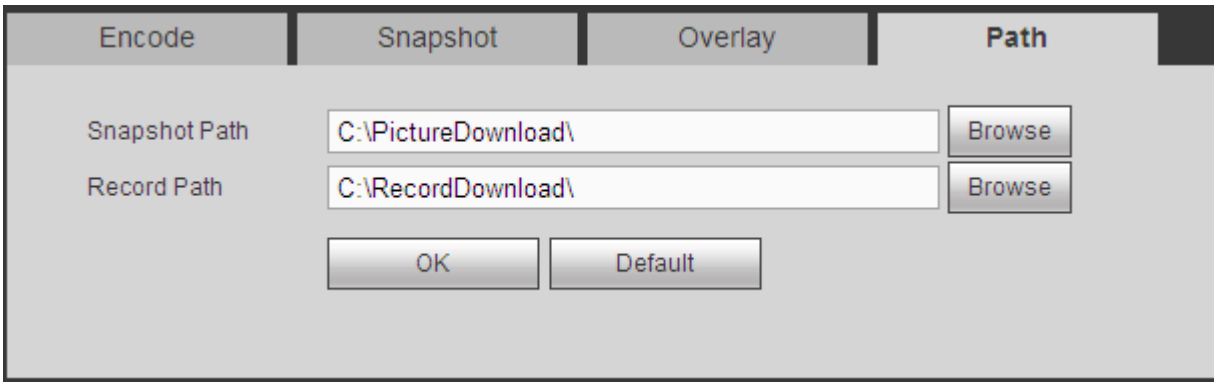


Figure 4-36

4.6.1.4 Camera Name

From main window>Setup>Camera>Camera name, here you can set channel name. See Figure 4-37.

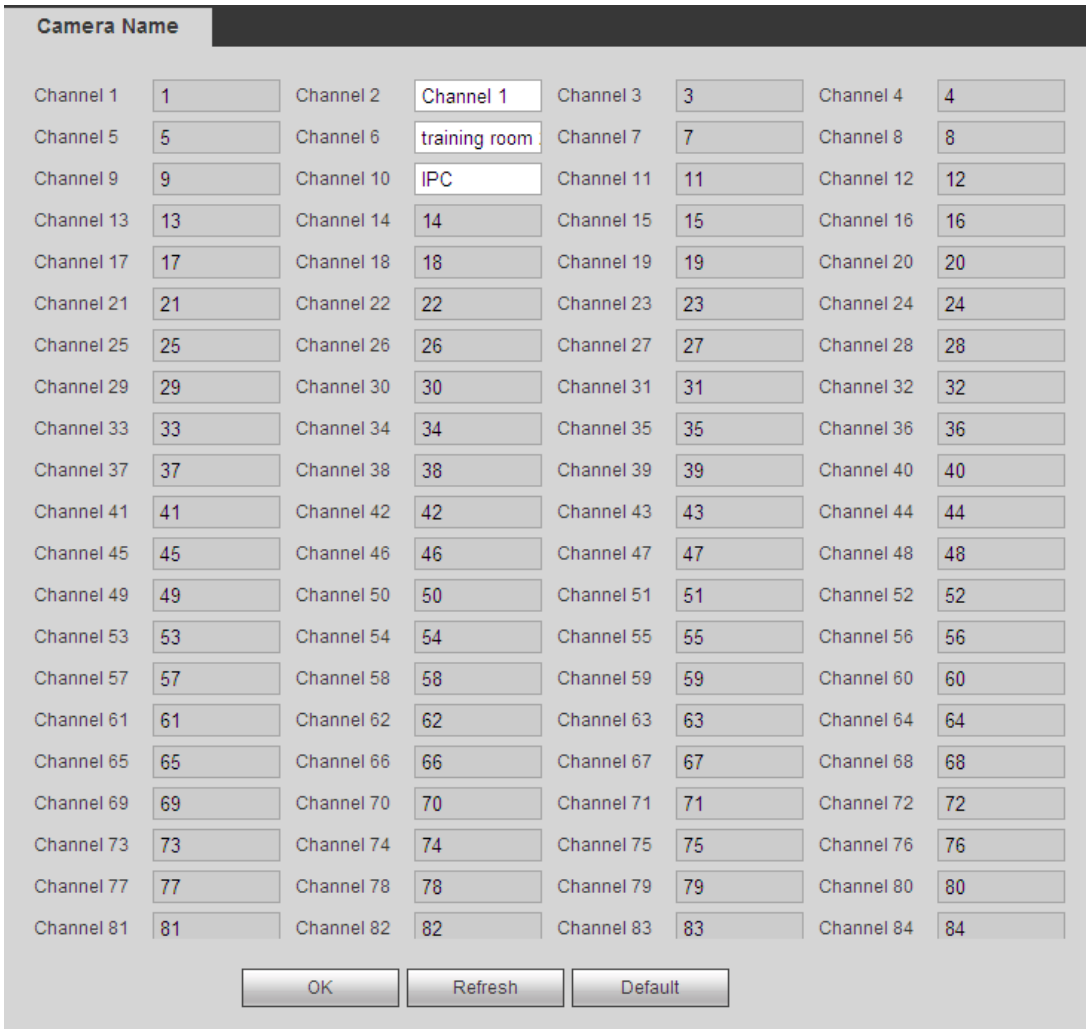


Figure 4-37

4.6.2 Network

Set the network parameters of NVR device to ensure that NVR device interconnects with other devices in

the network.

4.6.2.1 TCP/IP

According to the network plan to set information such as IP address and DNS server.

Before configuring the network parameters, make sure that the NVR is accessing the network properly.

Step 1 Select Setup > Network > TCP/IP.

The TCP/IP interface is shown as in Figure 4-38.

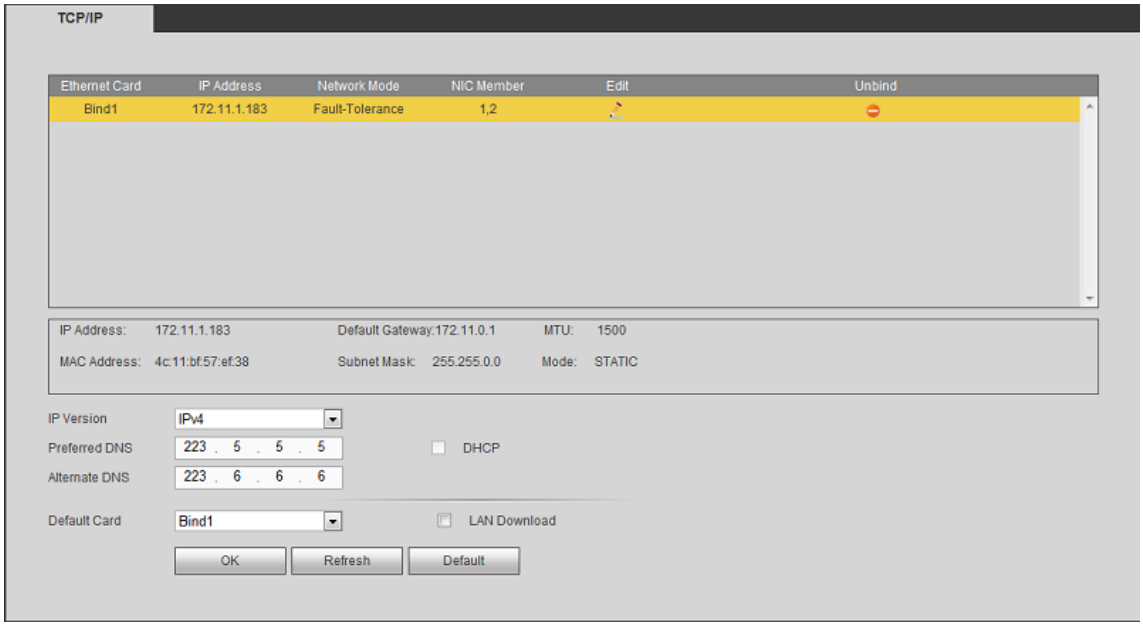


Figure 4-38

Please refer to the following table for detailed information.

Parameter	Description
IP Version	You can select IPv4 or IPv6. Both types are supported currently. **Note** The IP address, default getway, preferred DNS and alternate DNS for IPv6 are 128 digits. It cannot be blank.
Preferred DNS	DNS server IP address.
Alternate DNS	DNS server alternate IP address.
Default Card	Set according to the actual situation. It shall be in the same network segment with the IP address.
DHCP	● When the IP of default card is DHCP, DNS supports maunal setting and DHCP. The Enable check box of DHCP is available to select. ● When the IP of default card is manual, DNS only supports manual setting. The Enable check box of DHCP is unavailable (grey). ● When DHCP is enabled, DNS server address is unavailable (grey).

Parameter	Description
LAN Download	When network bandwidth allows, the speed of LAN download is 1.5 to 2 times of the average download speed. **Note** ● The IP address, default getway, preferred DNS and alternate DNS for IPv6 are 128 digits. It cannot be blank. ● Only some series support this function. See the actual situation.

Step 2 Click .

The Edit interface is displayed. See Figure 4-39.

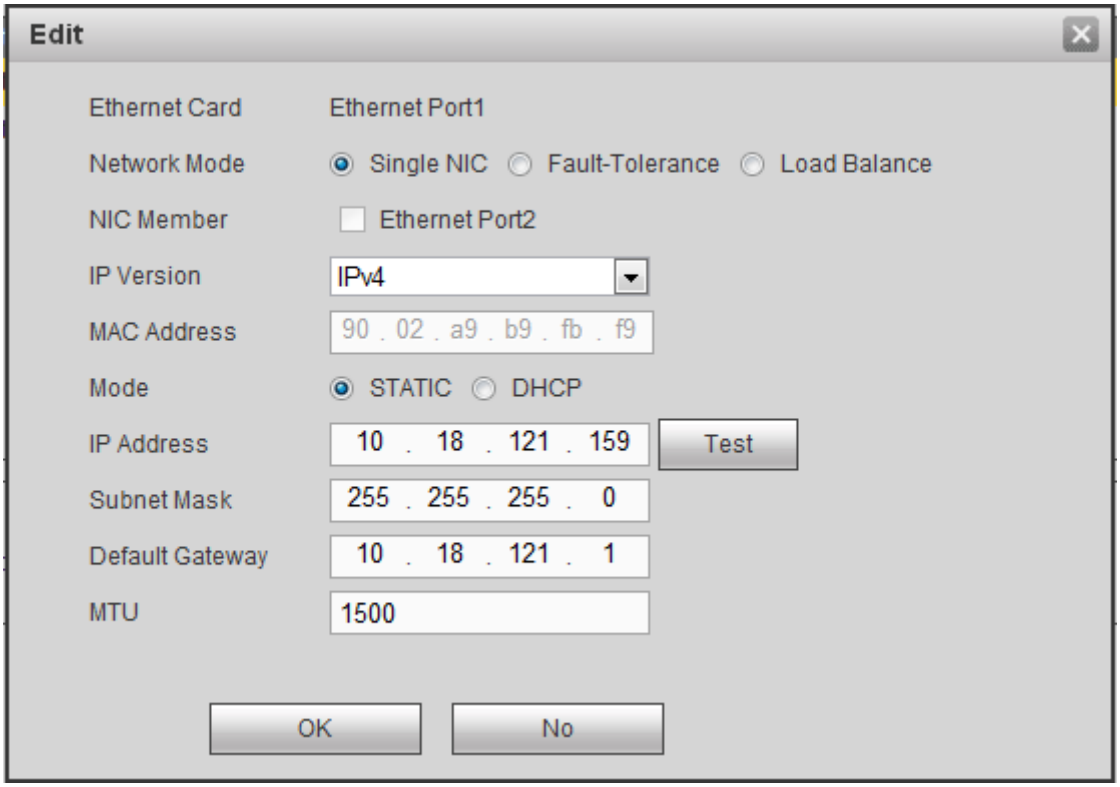


Figure 4-39

Step 3 Configure the parameters. For details, see the following table.

Parameter	Description

Parameter	Description
Network Mode	● Single NIC: Ethernet card operates separately. You can use the services such as HTTP, RTP service via etho0 or the eth1. Usually you need to set one default card (default setup is etho) to request the auto network service form the device-end such as DHCP, email, FTP and etc. In multiple-address mode, system network status is shown as offline once one card is offline. ● Network 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. **Note** Different models have different NIC numbers. See the actual situation.
NIC Member	Select the check box to select the NIC to bind. The binding comes into effect only after device reboot. **Note** In fault-tolerance and load-balancing mode, binding network cards is supported, and the card number shall be no less than 2. Ports of different materials (such as optical port and electrical port) cannot be bound to each other
IP Version	You can select IPv4 or IPv6. Both types are supported currently.
MAC Address	Display the MAC address.
Mode	The way for front-end device to obtain the IP address. ● Static: Manually set the IP address, subnet mask and gateway. ● DHCP: Obtain IP automatically. When DHCP is enabled, IP address, sebnet mask and default gateway cannot be entered. ◇ If the DHCP is effective, the system displays the obtained IP address / subnet mask / gateway. Otherwise, it displays 0. ◇ If you want to view the current IP, when DHCP is not in effect, you can close DHCP and system displays the original IP info. If DHCP is in effect, system cannot display the original IP info even after you close DHCP. You need to reset the IP parameters. ◇ When PPPoE dialing is enabled, IP address, subnet mask, default gateway and DHCP cannot be changed.
IP Address	Enter the IP address, subnet mask and default gateway you want to set. Default

Parameter	Description
Subnet Mask	gateway and IP address shall be in the same network segment.
Default Gateway	
MTU	It is to set MTU value of the network adapter. The value ranges from 1280-72 bytes. The default setup is 1500 bytes. Please note MTU modification may res in network adapter reboot and network becomes off. That is to say, MTU modification can affect current network service. System may pop up dialog bo for you to confirm setup when you want to change MTU setup. Click OK button confirm current reboot, or you can click Cancel button to terminate current modification. Before the modification, you can check the MTU of the gateway; the MTU of the NVR shall be the same as or is lower than the MTU of the gateway. In this way, you can reduce packets and enhance network transmission efficiency. The following MTU value is for reference only. ✧ 1500: Ethernet information packet max value and it is also the default valu It is the typical setup when there is no PPPoE or VPN. It is the default set of some router, switch or the network adapter. ✧ 1492: Recommend value for PPPoE. ✧ 1468: Recommend value for DHCP.

Step 4 Click OK to complete the Ethernet card edit.

System returns to the TCP/IP interface.

Note

Click to unbind the the Ethernet card. The unbinding comes into effect only after device reboot.

Step 5 Click OK to save the configuration.

4.6.2.2 Port

The connection interface is shown as in Figure 4-40.

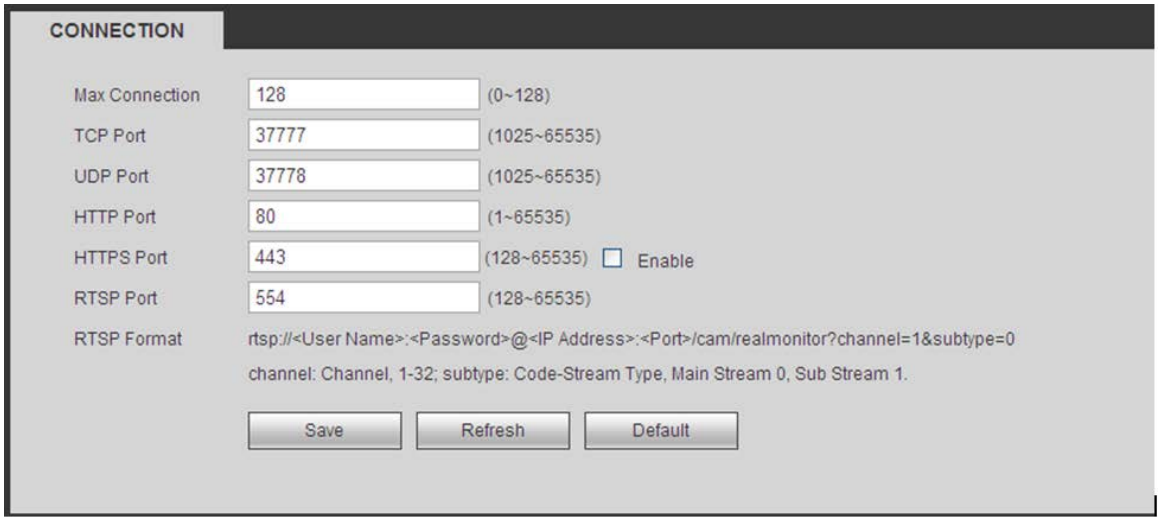


Figure 4-40

Please refer to the following sheet for detailed information.

Parameter	Function
Max connection	The max client login amount (such as WEB, platform, cellphone and etc). The value ranges from 1 to 128(default).
TCP port	The default value is 37777. You can input the actual port number if necessary.
UDP port	The default value is 37778. You can input the actual port number if necessary.
HTTP port	The default value is 80. You can input the actual port number if necessary.
HTTPS	Select the Enable check box and configure the port according your actual needs. The default value is 443. After HTTPS is enabled, HTTP will be switched to HTTPS by force to transmit data in a safer way.
RTSP port	The default value is 554.

4.6.2.3 PPPoE

The PPPoE interface is shown as in Figure 4-41.

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

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

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

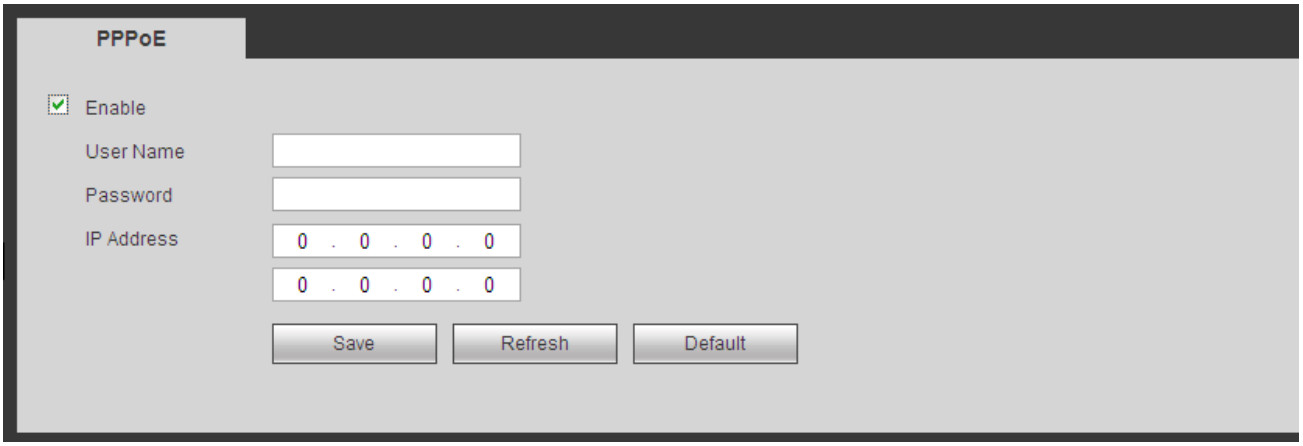


Figure 4-41

4.6.2.4 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, check the DDNS type that the device supports.

- If the DDNS type is Quick DDNS. You do not need to register the domain name.

- If the DDNS is some other type, log in the website of the DDNS provider and register information like domain name.

NOTE

After you register the device and log in the DDNS website, you can view all connected device information of the current user.

Step 1 Enter from main memu > Setup > Network > DDNS.

DDNS setup interface is shown as in Figure 4-42.

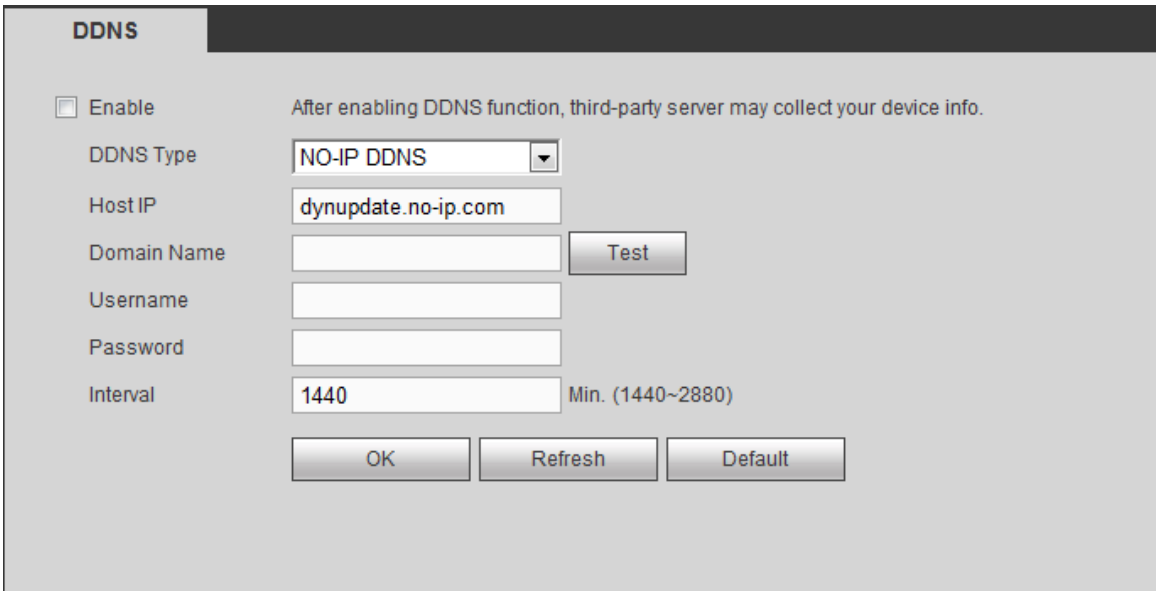


Figure 4-42

Step 2 Select the Enable check box.

NOTE

After enabling DDNS, the third-party server might collect your device information.

Step 3 Select the DDNS type and configure the parameters. For details, see the below table.

Parameter	Description
Server Type	You can select DDNS protocol from the dropdown list and then enable DDNS function.
Address	DDNS server IP address list: ● Dyndns DDNS: members.dyndns.org. ● NO-IP DDNS: dynupdate.no-ip.com. ● CN99 DDNS: members.3322.org. NOTE When the DDNS type is NO-IP DDNS, some series will display the Test button. Click Test and you can detect if the device has registered successfully.
Domain Name	Your self-defined domain name.
User	The user name you input to log in the server.
Password	The password you input to log in the server.
Test	After the configuration, click Test and system saves the configuration and check if the domain name can be registered

Parameter	Description
	successfully. ● If succeeded, go to step4. ● If failed, check if the domain information is correct and clear the browser buffer. NOTE System supports this function when DDNS type is NO-IP DDNS.
Update period	The time interval to send update request. Unit: Minute.

Step 4 Click Save to complete the setting.

Step 5 Input the domain name in the Web browser and click Enter key. The setting is right if you can view the Web interface of the device. Otherwise, check the parameters.

4.6.2.5 Sync Time Right

By setting the trusted sites, you can specify the IP host to synchronize or modify device time, and prevent several IP hosts from synchronizing time with the same device.

Step 5 Enter from Setup > Network > Sync Time Right.

The Sync Time Right interface is displayed. See Figure 4-43.

Figure 4-43

Step 6 Select the Enable check box.

Step 7 Add IP host.

4. Click Add.

The Add interface is displayed. See Figure 4-44

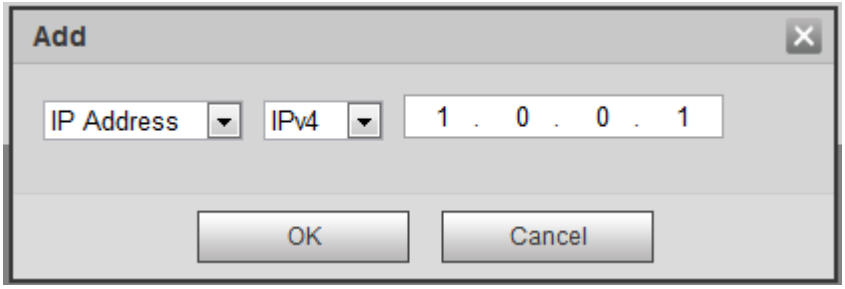


Figure 4-44

5. Configure the IP address. For details, see the following table.

Note

You can add 64 IP addresses at most.

Parameter	Description
IP address	Click the drop-list to select the way to add the trusted sites. ● IP address: Enter the IP address. ● IP segment: Enter the IP segment range to add several hosts at the same time. ● MAC address: Enter the MAC address.
IPv4	Click the drop-down list to select the IP address protocol. ● IPv4: IP adderss in the format such as 192.168.5.10. ● IPv6: IP address in the format such as aa:aa:aa:aa:aa:aa:aa:aa.

6. Click OK.

Step 8 Click OK to save the configuration.

4.6.2.6 Email

The email interface is shown as in Figure 4-45.

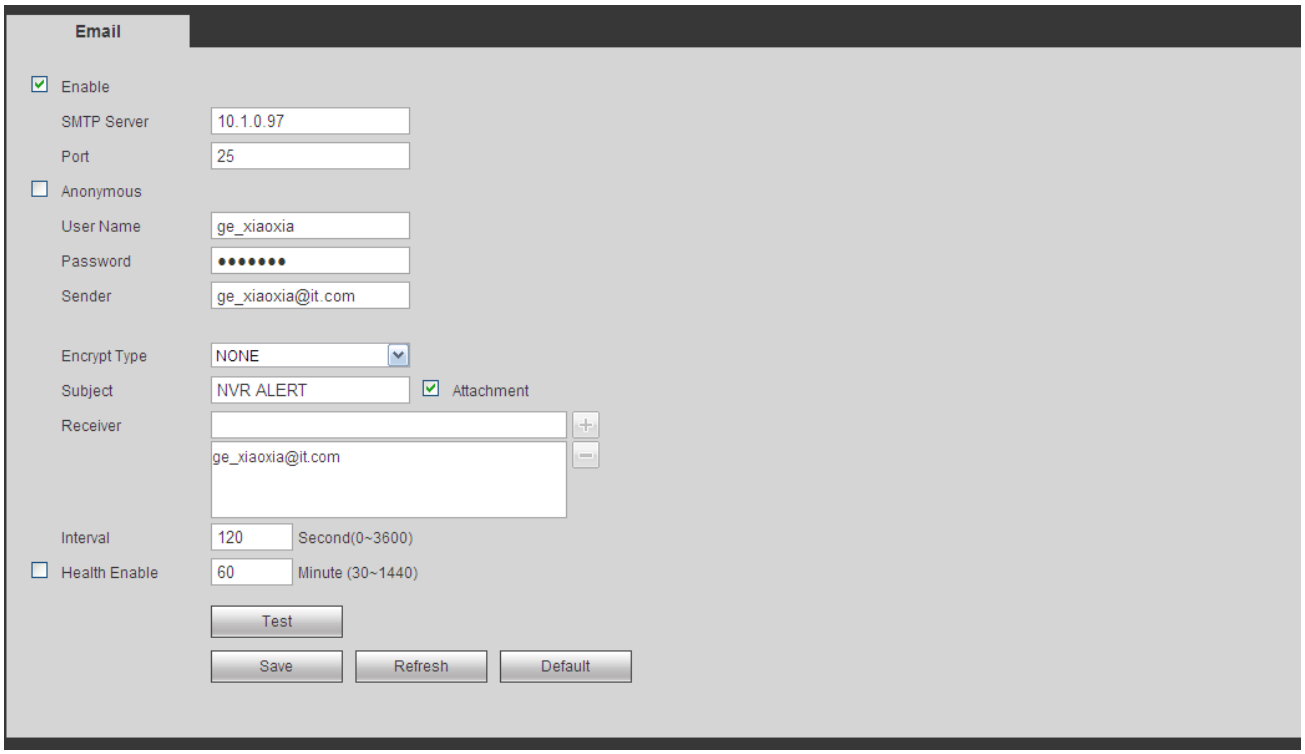


Figure 4-45

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	Please check the box here to enable email function.
SMTP Server	Input server address and then enable this function.
Port	Default value is 25. You can modify it if necessary.
Anonymity	For the server supports the anonymity function. You can auto login anonymously. You do not need to input the user name. password and the sender information.

Parameter	Function
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 abnormity event activates the email, system sends out the email according to the interval you specified here. This function is very useful when there are too many emails activated by the abnormity events, which may result in heavy load for the email server.
Health mail enable	Please check the box here to enable this function.
Update period (interval)	This function allows the system to send out the test email to check the connection is OK or not. Please check the box to enable this function and then set the corresponding interval. The value ranges from 30 minutes to 1440 minutes. 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.

4.6.2.7 UPnP

It allows you to establish the mapping relationship between the LAN and the public network.

Here you can also add, modify or remove UPnP item. See Figure 4-46.

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

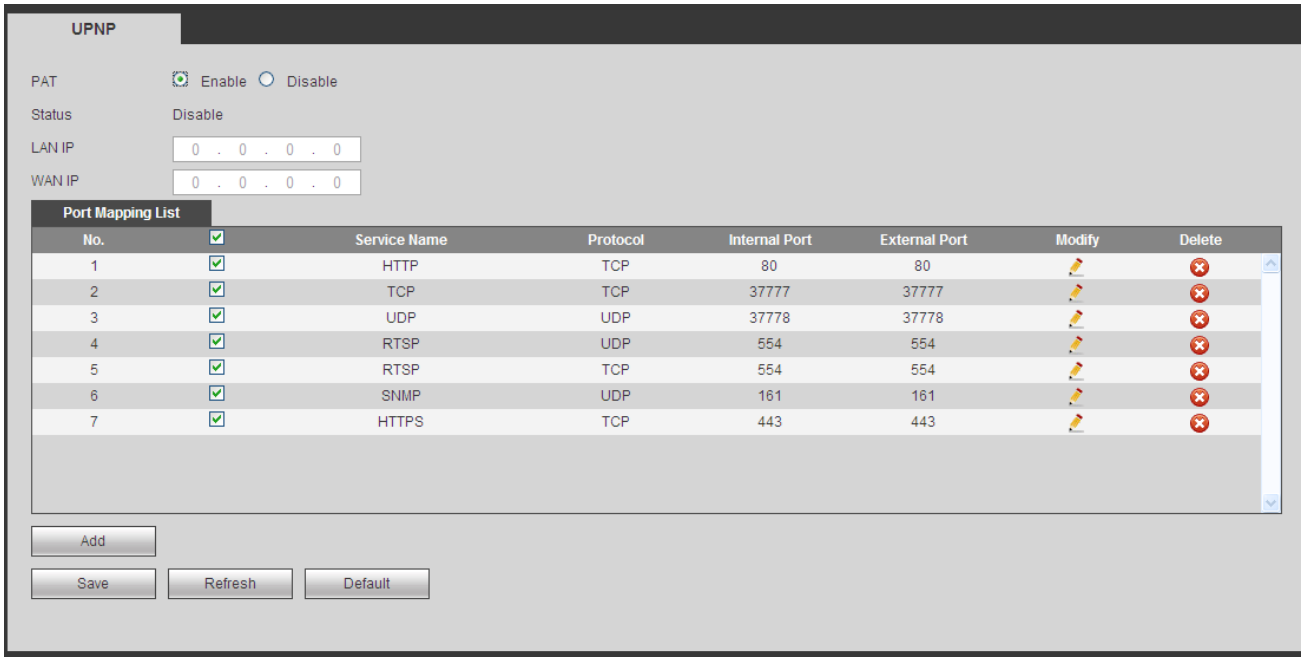


Figure 4-46

Please refer to the following sheet for detailed information.

Parameter	Function
PAT	Check the corresponding box to enable PAT function.
Status	Display UPnP function status.
Port mapping list	It is corresponding to the UPnP mapping information on the router. Check the box before the service name to enable current PAT service. Otherwise, the service is null. ● Service name: Customized name. ● Protocol: Protocol type. ● Internal port: The port mapped to the port. ● External port: The port current device needs to map. ● Device has three mapping items: HTTP/TCP/UDP. **Note** When you set the external port (outport) of the router, the value ranges from 1024 to 5000. Do not use port 1～255 or system port 256～1023, in case there is conflict.
Add	Click Add button to add map relationship. **Note** For the data transmission protocol TCP/UDP, the external port and the internal port shall be the same to guarantee proper data transmission.
Delete	Select one service and then click to delete map relationship.

4.6.2.8 SNMP

The SNMP interface is shown as in Figure 4-47.

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

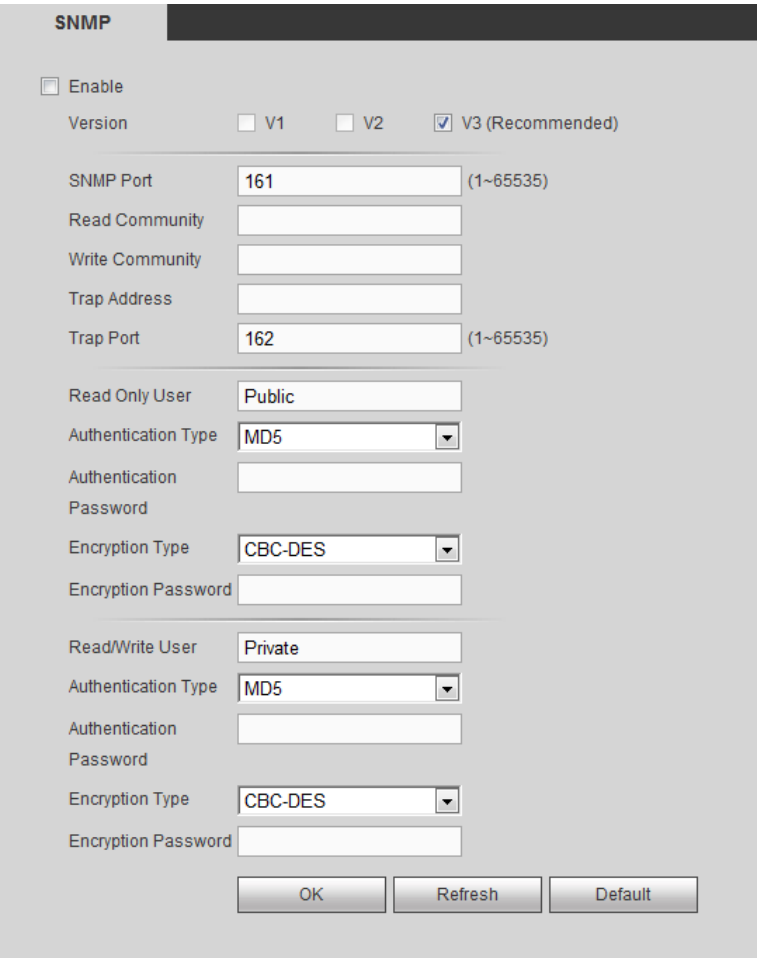


Figure 4-47

Please refer to the following sheet for detailed information.

Parameter	Function
Version	Select by clicking the check box in front of the corresponding version. NOTE System selects V3 by default. There might be some risks for V1 and V2.
SNMP Port	The listening port of the proxy program of the device. It is a UDP port not a TCP port. The value ranges from 1 to 65535. The default value is 161
Read Community	It is a string. It is a command between the manage process and the proxy process. It defined the authentication, access control and the management relationship between one proxy and one group of the managers. Please make sure the device and the proxy are the same. The read community will read all the objects the SNMP supported in the specified name. The default setup is public.
Write Community	It is a string. It is a command between the manage process and the proxy process. It defined the authentication, access control and the management relationship between one proxy and one group of the managers. Please make sure the device and the proxy are the same. The read community will read/write/access all the objects the SNMP supported in the specified name. The default setup is

Parameter	Function
	write.
Trap address	The destination address of the Trap information from the proxy program of the device.
Trap port	The destination port of the Trap information from the proxy program of the device. It is for the gateway device and the client-end PC in the LAN to exchange the information. It is a non-protocol connection port. It has no effect on the network applications. It is a UDP port not TCP port. The value ranges from 1 to 165535. The default value is 162.
Read-only user	It only supports reading function when logging in the device with this user account.
Authentication mode	Including two modes: MD5 and SHA. The system can automatically recognize it after enabled.
Read-write user	It supports reading and writing when logging in the device with this user account.
Password	The password for authentication and encryption. It shall be no less than 8 characters.
Encryption Type	Select the encryption mode. The default mode is CBC-DES.

4.6.2.9 Multicast

The multicast interface is shown as in Figure 4-48.

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

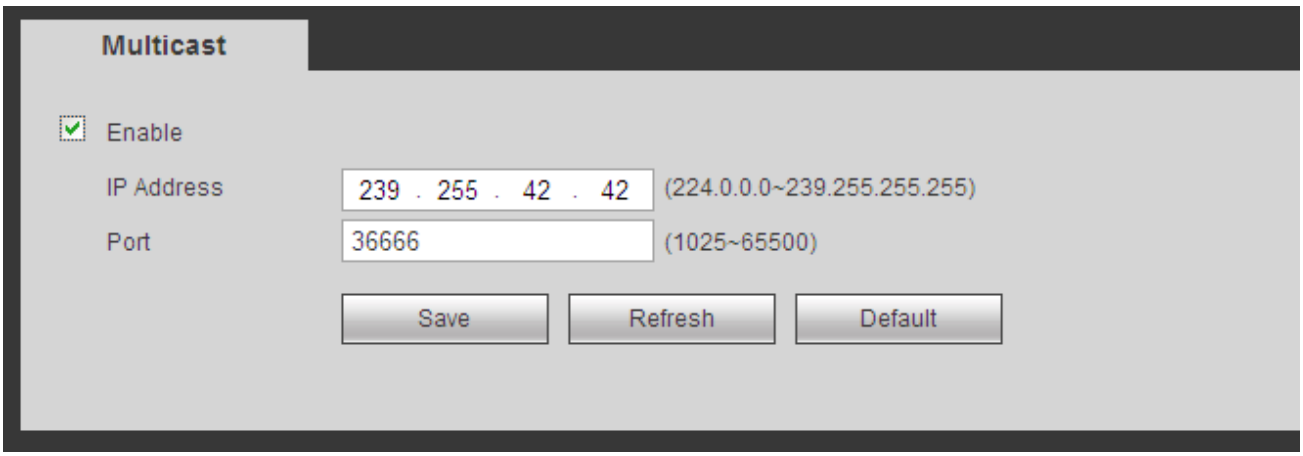


Figure 4-48

4.6.2.10 Auto Register

The auto register interface is shown as below. See Figure 4-49.

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

Please follow the steps listed below to use this function.

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

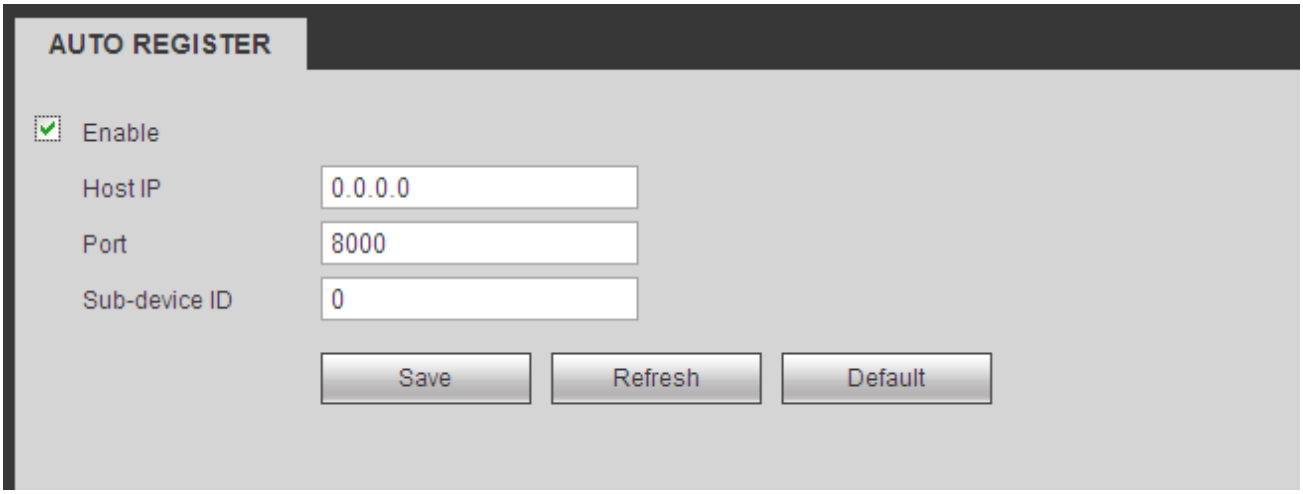


Figure 4-49

4.6.2.11 Alarm Centre

The alarm center interface is shown as below. See Figure 4-50.

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

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

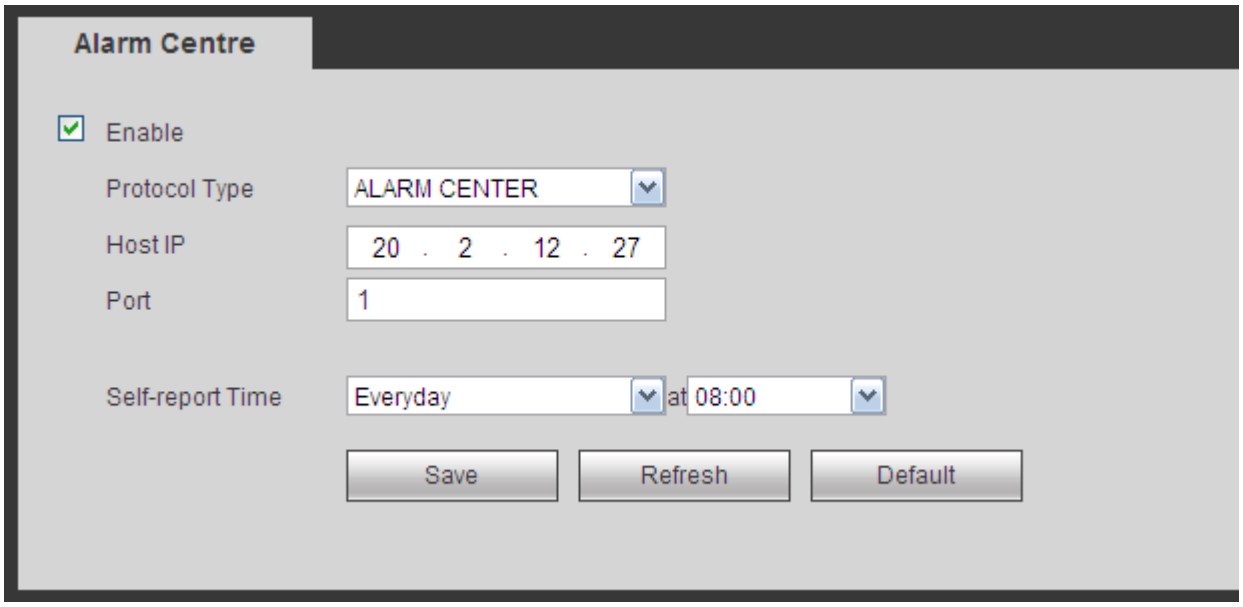


Figure 4-50

4.6.2.12 P2P

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.

The P2P interface is shown as in Figure 4-51.

Figure 4-51

Check the Enable box to enable P2P function and then click the Save button. When the Status shows Online, the P2P registration is successful.

NOTE

- P2P is enabled by default.
- To enable you to manage the device on the mobile APP, we will collect device information like IP address, MAC address, device name and device SN. The collected information is only used for remote device access.

4.6.3 Temperature Measurement

4.6.3.1 Temp Alarm

When a device with temperature measurement function is connected on the front end, the system supports real-time temperature measurement.

Note

- It might collect the human body temperature information in the monitor screen. Be careful!
- Only products of some series support this function.

Step 1 Enter from main menu > Setup > Event > Temp Alarm.

The Temp Alarm interface is displayed. See Figure 4-52

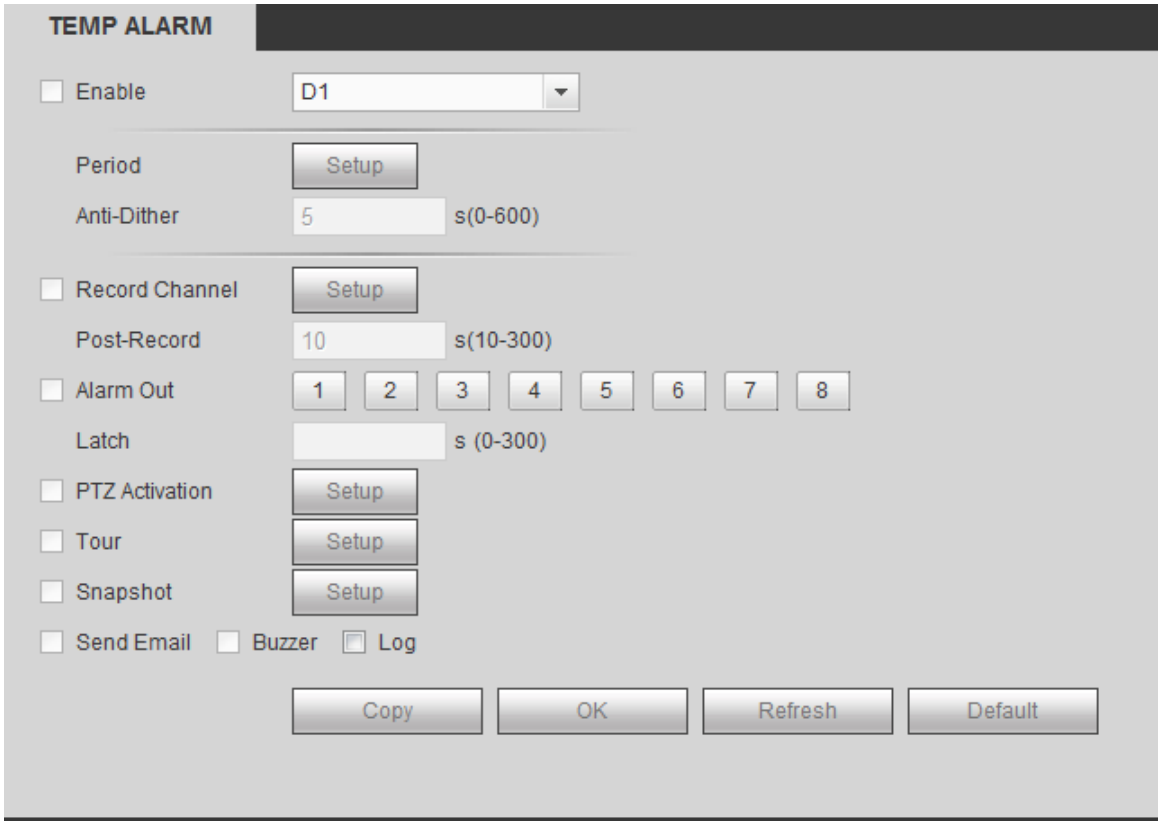


Figure 4-52

Step 2 Select the channel.

Step 3 Configure the alarm activation parameters. For details, see the following table.

Parameter	Description
Period	Enter the period only in which the system triggers the linked alarms.
Anti-Dither	During the anti-dither period, the system only records one temp alarm event.
Alarm Out	Connect alarm device (such as light, siren) in the alarm out port. When an alarm occurs, NVR transmits the alarm information to the alarm device.
Latch	The alarm lasts for 0-300 seconds after the alarm event ends.
Send Email	Select the check box. When an alarm occurs, NVR semds email to the set mail box. **Note** You shall configure the Email first.
Record Channel	Select the check box, click Setting and then select the channel (support multi-choice). When an alarm occurs, NVR triggers the channel to take records. **Note** You shall enable alarm record and auto record functions first.
Post-record	Recording lasts for 10-300 seconds after the alarm ends.

Parameter	Description
PTZ Activation	Select the check box and click Setting. Select the PTZ channel and PTZ action. When an alarm occurs, NVR triggers the channel to perform the corresponding PTZ action. For example, activate the PTZ to move to preset point X. **Note** You shall set the corresponding PTZ actions first.
Tour	Select the check box and click Setting. Select the tour channel. When an alarm occurs, NVR local interface displays the select channel image. **Note** You shall set tour interval and tour mode first.
Snapshot	Select the check box and click Setting. Select the snapshot channel. When an alarm occurs, NVR triggers snapshot in the selected channel. **Note** You shall enable alarm snapshot and auto snapshot first.
Log	Select the check box. When an alarm occurs, NVR records the alarm information in the log.
Buzzer	Select the check box. When an alarm occurs, NVR triggers the buzzer for alarm.

Step 4 Click OK or apply to save the configuration.

4.6.3.2 Rule Settings

It is to set the temp rules and temp comprison and trigger the alarm output when the temp meets the set alarm condition.

4.6.3.2.1 Temp Rule

Step 1 Select Setup > Temperature Measurement > Rule > Setup.

Thr Setup interface is displayed. See Figure 4-53

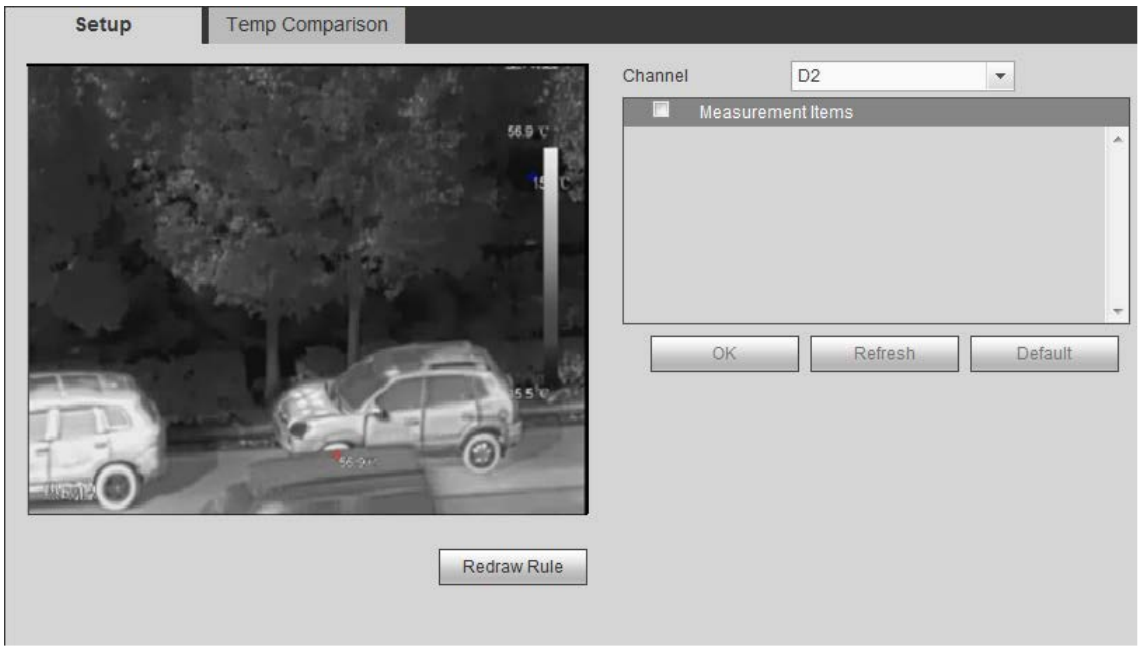


Figure 4-53

Step 2 Configure the tem rules and parameters.

1. Click  to add rule.

   The Add interface is displayed.
2. Click Add Rule and select meature item an modify item name.
3. Draw Rule.
   - When selecting Add Spot, select a target spot in the monitor window and click the left button of the mouse.
   - When selecting Add Line or Add Ellipse, press and hold down the left button of the mouse to draw the rule in the monitor window.
   - When selecting Add Polygon, press and hold down the left button of the mouse to draw the rule in the monitor window, and then right-click to end the drawing.

   Note

   Select the existing rule and click Redraw Rule to delete the original rule and draw a new one.
4. Select the Enable Local Config check box and configure the local configuration parameters. For details, see the following table.

Parameter	Description
Target radiation coefficient	The range is 0.5-1.
Target distance	Yhe distance from the camera to the target. The range is 0-10000m.
Target reflection temperature	The target temperature. The range is -50℃-+327.7℃.

5. Select Alarm Out and set the parameters. For details, see the following table.

Parameter	Description
Alarm result	Approaches to obtain the temp for alarm activation. ● When the measure project is a spot, it includes average temp and temp slope. ● When the measure project is a line, rectangular, polygon or ellipse, it includes highest temp, average temp, temp slope and temp difference. **Note** Temp difference refers to the temp difference between the highest temp and the lowest temp in the current temp measurement rule, and temp slope refers to the rate of temp change in the current temp measurement rule.
Alarm condition	Set the alarm confition, including higher, match and lower.
Alarm temp threshold	When the alarm result is highest temp, lowest temp, average temp or temp difference, you can set this parameter. The range of temp to trigger the alarm is from -40℃ to +550℃.

Parameter	Description
Temp error	The error of alarm threshold. If the alarm threshold or temp slope changes within the error range, system deals it as a value meeting the threshold. The range is from -10℃ to +10℃.
Temp lasting time	The time that the temp or temp change lasts. The range is from 0s to 1000s.

Step 3 Click OK to complete the setting.

Step 4 After the setting, you can view the temp of the rule on the preview interface on the left of the window.

4.6.3.2.2 Temp Comprison

Compare the temp of the selected spot, line and zones and display the results on the preview interface.

You shall set at least two temp measurement rules first. For details, see 4.6.3.2.1 Temp Rule.

Step 1 Select Setup > Temperature Measurement > Rule > Temp Comprison.
The Temp Comprison interface is displayed.

Step 2 Set the temp comparison rule.

1. Click to add comprison rule.
The Add interface is displayed. See Figure 4-54

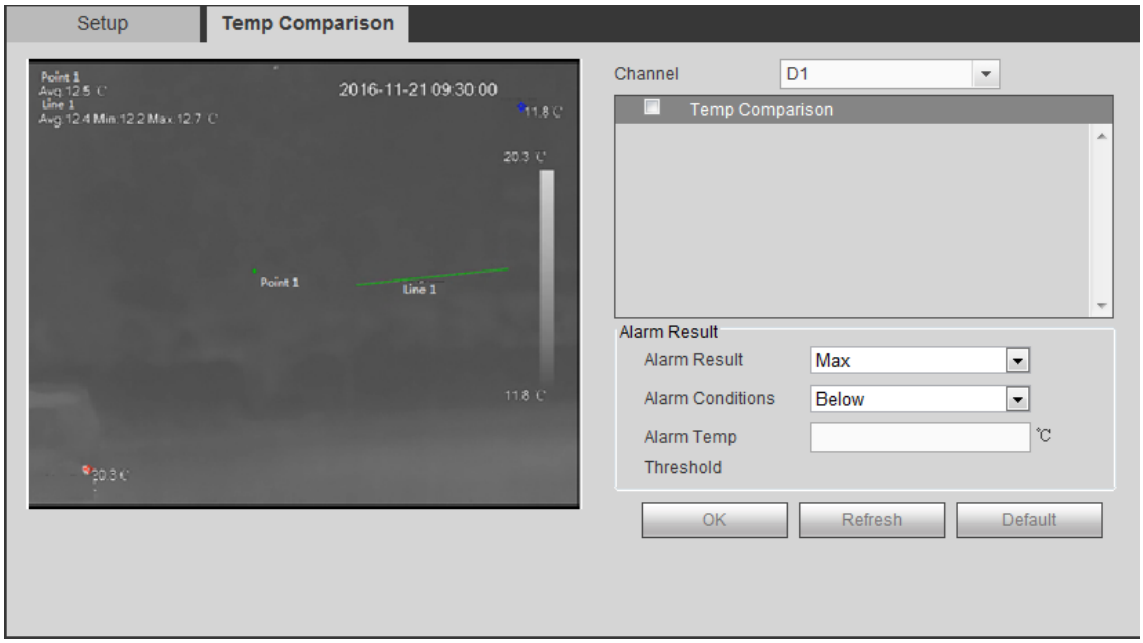


Figure 4-54

2. Select the comparison object.
3. Set the alarm parameters. For details, see the following table.

Parameter	Description
Alarm Result	Approaches to obtain the temp for alarm activation. ● Average temp: Compare the average temp of the two objects. ● Highest temp: Compare the highest temp of the two objects. ● Lowest temp: Compare the lowest temp of the two objects. **Note**

Parameter	Description
	When one of the comparison objects is a spot, both the highest temp and lowest temp is the average temp.
Alarm Condition	The condition to trigger the alarm, including higher, lower and match.
Alarm temp threshold	The temp to trigger the alarm. The range is 0℃-550℃.

Step 3 Click OK to complete the setting.

Step 4 After the settin, you can view the temp comparison results on the preview interface on the left of the window.

4.6.3.3 Global

You can enable temperature switch, isotherm and color code.

- After enabling the temperature switch, temp rule comes into effect and the preset temp rule is displayed on the window.
- The isotherm function is mainly used for the objects that need to be highlighted in the highlight screen. The median temperature is taken as the reference, the upper limit temperature and lower limit temperature as the floating range, and those above the lower limit temperature are represented by bright colors, while those below the lower limit are shown as black and white.
- When the color code is enabled, the corresponding color bar is displayed on the right side of the monitoring interface to indicate the color change between the lowest temperature and the highest temperature.

Step 1 Select Setup > Temperature Measurement > Global.

The Global interface is displayed. See Figure 4-55

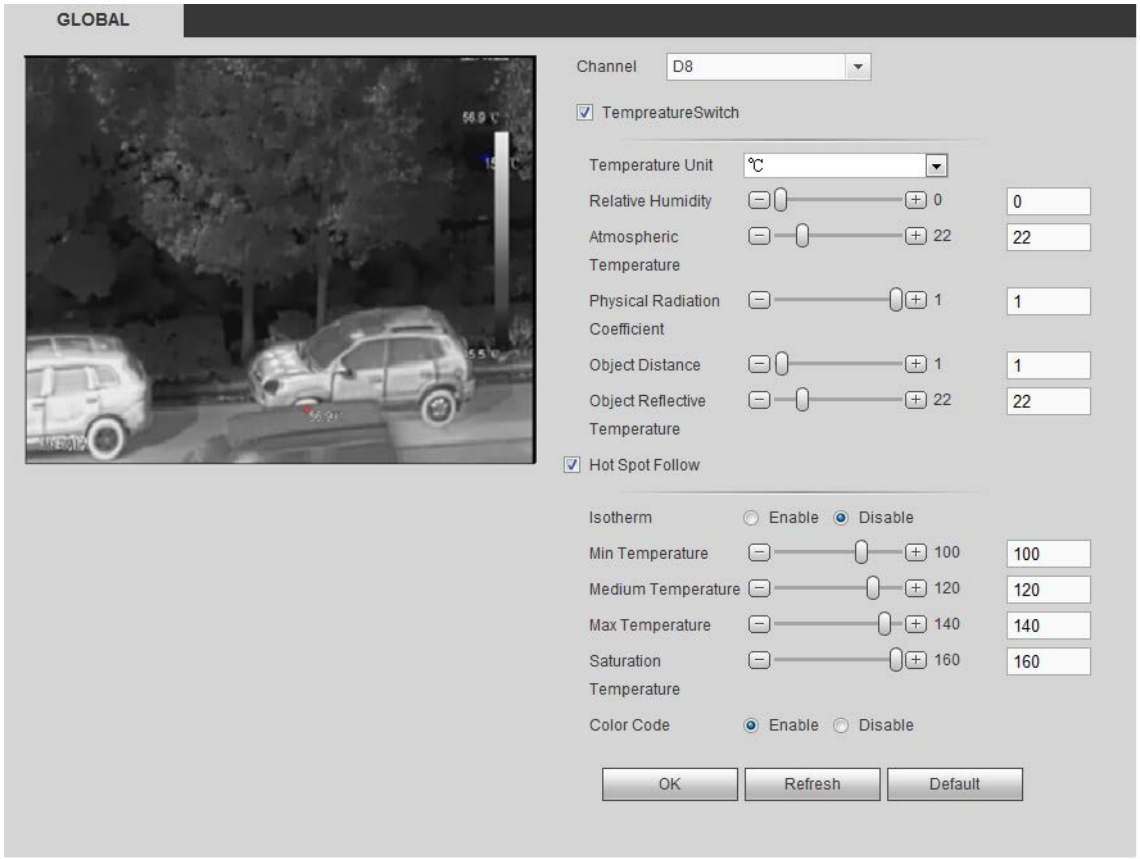


Figure 4-55

Step 2 Select the channel.

Step 3 Set the parameters. For details, see the following table.

Parameter	Description
Temperature Switch	Select the check box to enable it.
Temperature Unit	The temp unit includes ℃ and ℉.
Relative Humidity	The relative humidity of the environment. The range is 0-100%RH.
Atmospheric Temperature	The environment temp. The range is -50℃-+327.7℃.
Physical Radiation Coefficient	The range is 0.5-1.
Object Distance	The distance between the camera and the target. The range is 0m-10000m.
Object Reflective Temp	The target temperature. The range is -50℃-+327.7℃.
Hot Spot Follow	After enabling hot spot follow, the highest temp and lowest temp are marked in different colors in the monitor window.
Isotherm	Select the Enable check box. The temp shall meet the condition: Min temp ≤ medium temp ≤ max temp ≤ Saturation.
Min Temp	The range is from -40℃ to +150℃. The value shall meet the condition: Min temp ≤ medium temp ≤ max temp ≤ Saturation.
Medium Temp	
Max Temp	
Saturation	
Color Code	Select the Enable check box. The color bar is displayed on the right side of the monitor window.

Step 4 Click OK to complete the setting.

After the setting, the effect is displayed as Figure 4-56, Figure 4-57 and Figure 4-58.

Figure 4-56

Figure 4-57

Figure 4-58

4.6.3.4 Fire Alarm

Set the fire alarm rules for the heat map. When the systems defines that the fire occurs, it triggers the alarm and activates the linked action.

Step 1 Select Setup > Temperature Measurement > Fire Alarm.

The Thermal interface is displayed. See Figure 4-59.

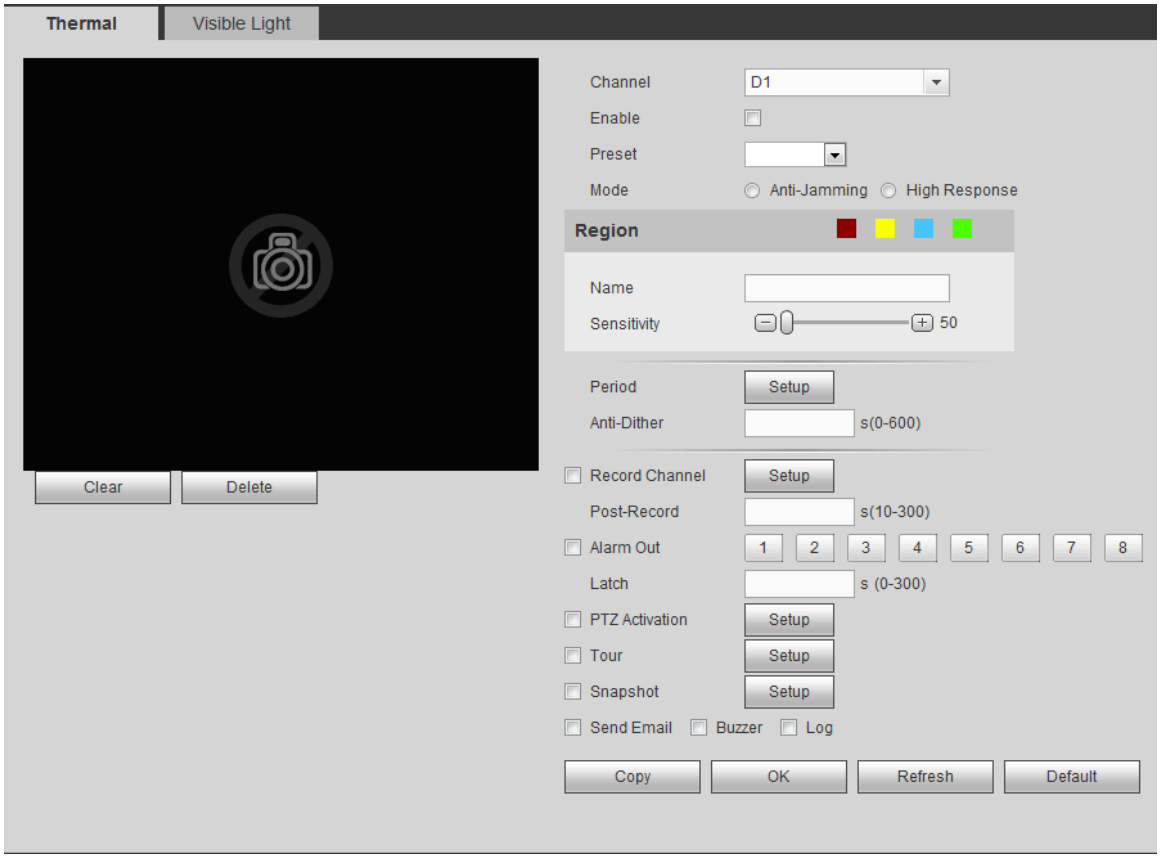


Figure 4-59

Step 2 Select the channel.

Step 3 Configure the parameters. For details, see the following table.

Parameter	Description
Preset	Select the preset point and the camera rotates to the corresponding preset. **Note** Only some front-end devices support this function.
Mode	Select the fire alarm mode. ● Anti-Jamming: Judging the fire situation according to the fluctuation of real-time temperature. It can distinguish the fire from the ordinary static high-temperature objects, and it can filter the fixed high-temperature interference source (such as boiler). ● High Response: Judging the fire situation accoring to the real-time temperature. It is suggested to use this mode when the target is far from the camera. **Note** If you need to monitor the fire during the rotation of the camera, you can use the high response mode only.
Region	1. Click the color in  and set the region name. 2. Press and hold down the left button of the mouse and draw the effective detection region on the left preview interface. 3. Configure the sensitivity of the detection region. The greater the sensitivity, the easier to detect the fire. By default, the whole video screen is the effective area for fire detection **Note** Different colors represent different areas, and different detection regions can be set for each area.
Period	Enter the period only in which the system triggers the linked alarms.
Anti-Dither	During the anti-dither period, the system only records one temp alarm event.
Record Channel	Select the check box, click Setting and then select the channel (support multi-choice). When an alarm occurs, NVR triggers the channel to take records. **Note** You shall enable alarm record and auto record functions first.
Post-Record	Recording lasts for 10-300 seconds after the alarm ends.
Alarm Out	Connect alarm device (such as light, siren) in the alarm out port. When an alarm occurs, NVR transmits the alarm information to the alarm device.
Latch	The alarm lasts for 0-300 seconds after the alarm event ends.

Parameter	Description
PTZ Activation	Select the check box and click Setting. Select the PTZ channel and PTZ action. When an alarm occurs, NVR triggers the channel to perform the corresponding PTZ action. For example, activate the PTZ to move to preset point X. **Note** You shall set the corresponding PTZ actions first.
Tour	Select the check box and click Setting. Select the tour channel. When an alarm occurs, NVR local interface displays the select channel image. **Note** You shall set tour interval and tour mode first.
Snapshot	Select the check box and click Setting. Select the snapshot channel. When an alarm occurs, NVR triggers snapshot in the selected channel. **Note** You shall enable alarm snapshot and auto snapshot first.
Send Email	Select the check box. When an alarm occurs, NVR semds email to the set mail box. **Note** You shall configure the Email first.
Buzzer	Select the check box. When an alarm occurs, NVR triggers the buzzer for alarm.
Log	Select the check box. When an alarm occurs, NVR records the alarm information in the log.

Step 4 Click OK or Apply to save the configuration.

4.6.3.5 Hot Trace

After hot trace function is enable, the system displays the highest temp and lowest temp in different colors on the monitor screen.

Note

Only the devices with temperature measurement function support this function.

Step 1 Select Setup > Temperature Measurement > Hot Trace.
The Hot Trace interface is displayed. See Figure 4-60

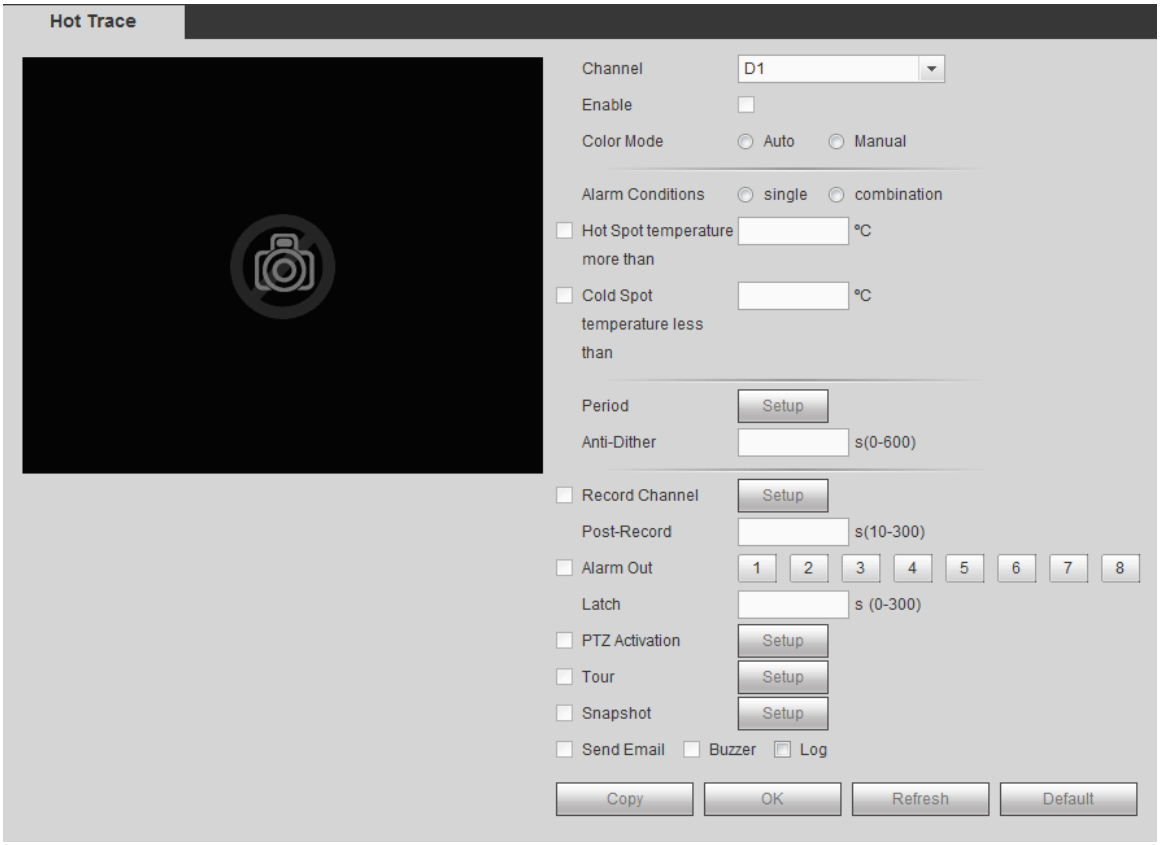


Figure 4-60

Step 2 Select the channel number and select the Enable check box.

Step 3 Set the parameters. For detail, see the following table or see chapter 4.6.3.4 Fire Alarm.

Parameter	Description
Color Mode	The colors for the hot spot and cold spot. ● Auto: Select the color according to the current image. ● Manual: Set the customized color.
Alarm Conditions	The condition that an alarm occurs. ● Single ➢ Hot spot temperature higher than: An alarm occurs when the temp is higher than the hot spot. ➢ Cold spot temperature less than: An alarm occurs when the temp is lower than the cold spot. ➢ Select both: An alarm occurs when the temp meets either of the two conditions. ● Conbination Only when the highest temp is higher than the hot spot and the lowest temp is lower than the cold spot, the system triggers the alarm.

Parameter	Description
Period	Enter the period only in which the system triggers the linked alarms. 1. Click Setup and the Period interface is displayed. 2. Configuer the period. • Method 1: Press and hold down the left button of the mouse and drag it on the screen to set it directly. • Method 2: Click the Setup corresponding to the weekday, select the check box in front of the period, and then enter the time. You can set six periods for each day. 3. Click OK to complete the setting.

Step 4 Click OK to complete the setting.

After the setting, the effect is displayed as follows. See Figure 4-61.

Figure 4-61

4.6.4 Event

4.6.4.1 Video detect

4.6.4.1.1 Motion Detect

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

From main window>Setup>Event>Video detect>Motion detect, the motion detect interface is shown as in Figure 4-62.

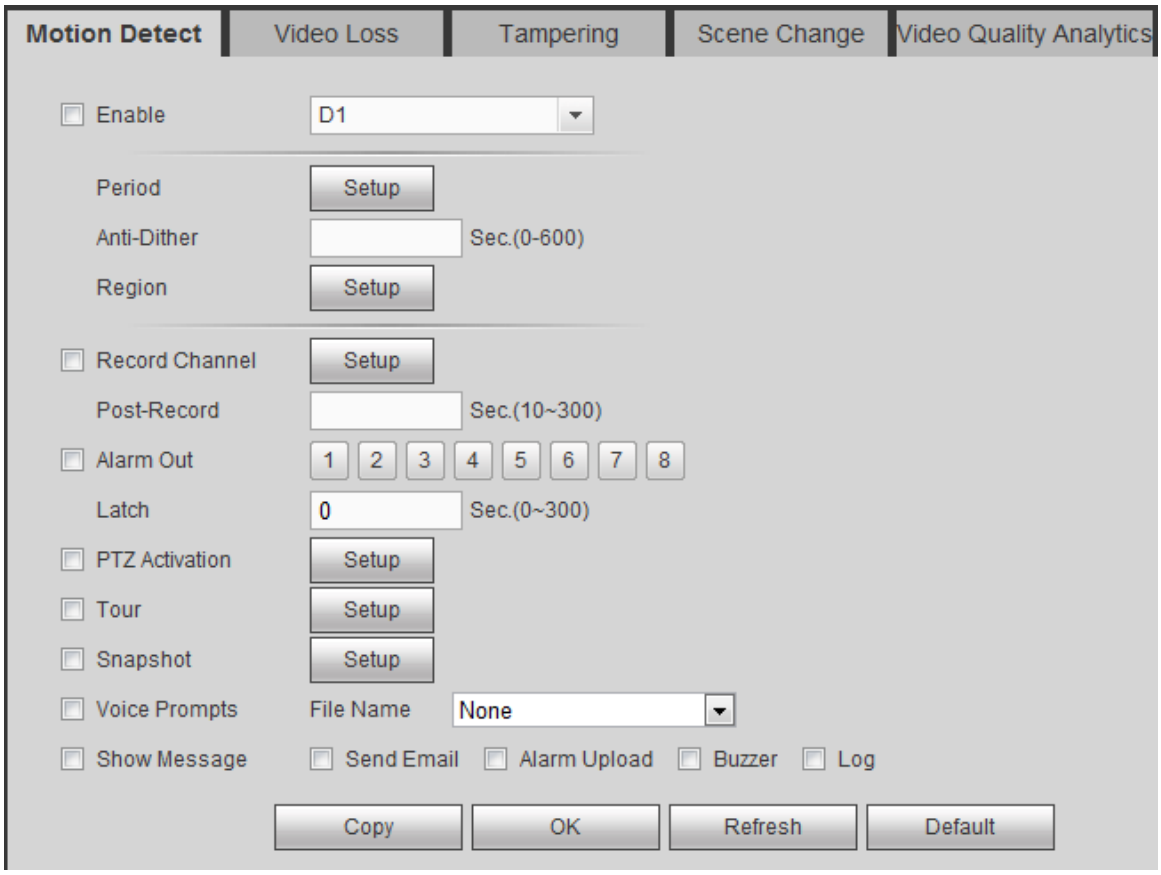


Figure 4-62

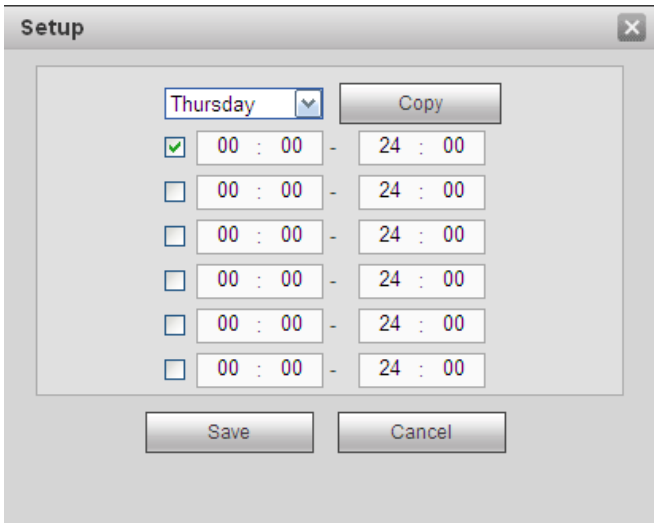


Figure 4-63

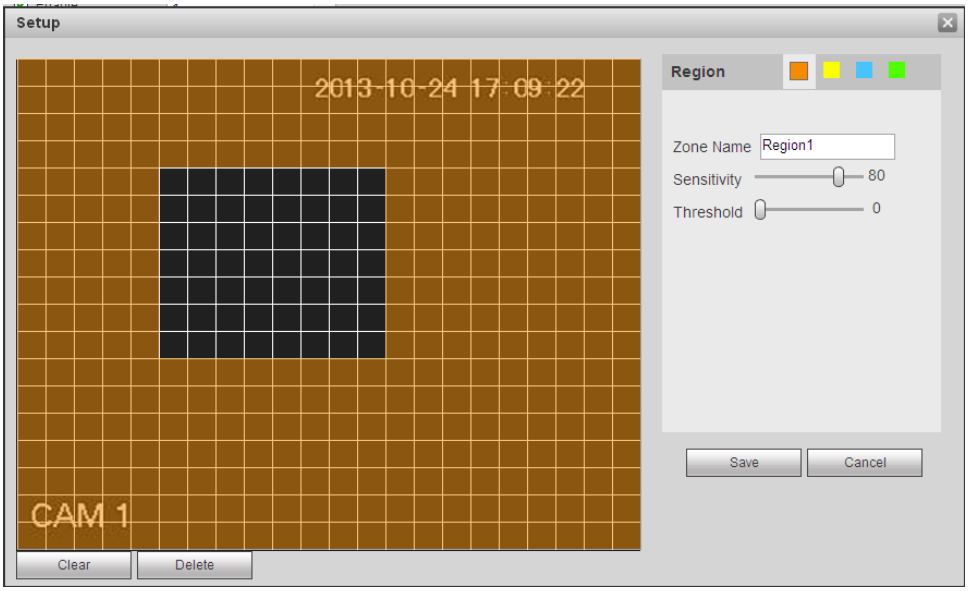


Figure 4-64

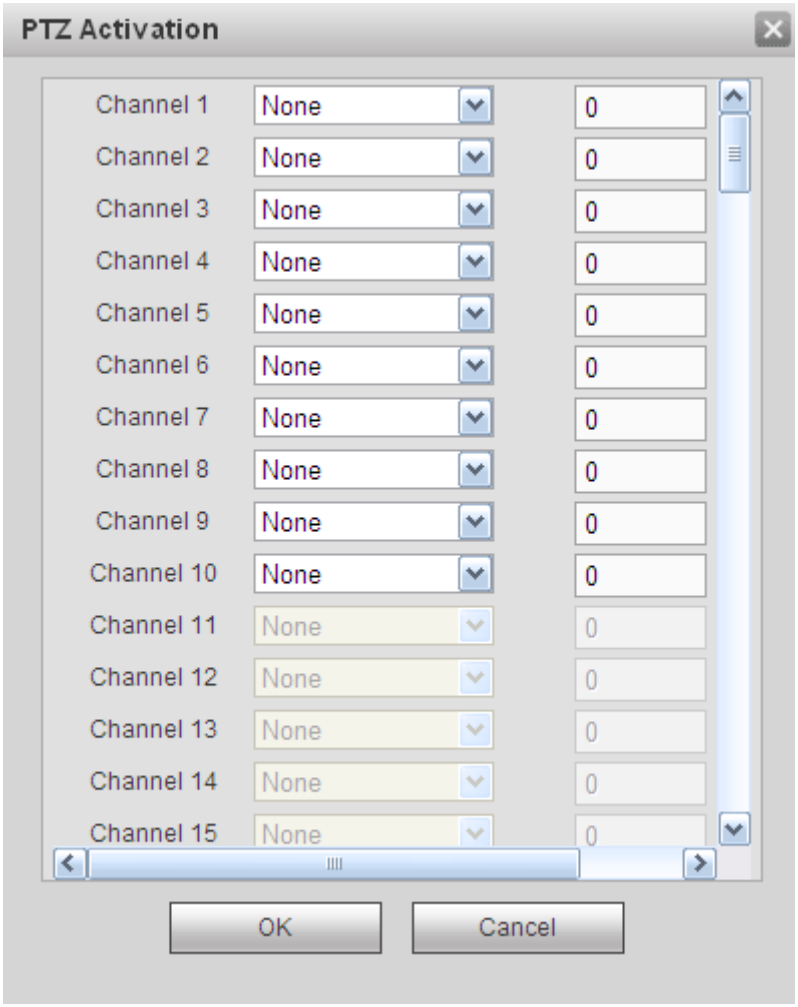


Figure 4-65

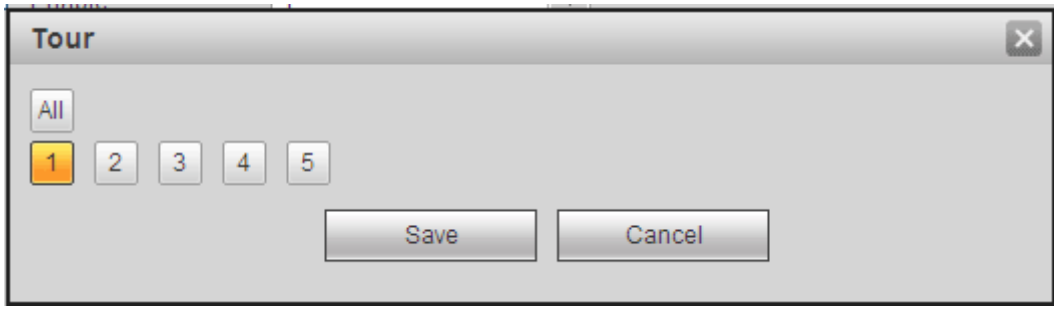


Figure 4-66

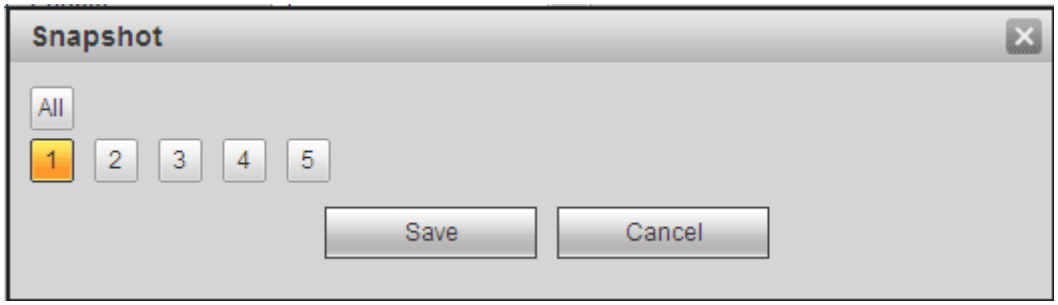


Figure 4-67

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	You need to check the box to enable motion detection function. Please select a channel from the dropdown list.
Period	Motion detection function becomes activated in the specified periods. See Figure 4-63. There are six periods in one day. Please draw a circle to enable corresponding period. Click OK button, system goes back to motion detection interface, please click save button to exit.
Anti-dither	System only memorizes one event during the anti-dither period. The value ranges from 5s to 600s.
Sensitivity	There are six levels. The sixth level has the highest sensitivity.
Region	If you select motion detection type, you can click this button to set motion detection zone. The interface is shown as in Figure 4-64. Here you can set motion detection zone. There are four zones for you to set. Please select a zone first and then left drag the mouse to select a zone. The corresponding color zone displays different detection zone. You can click Fn button to switch between the arm mode and disarm mode. In arm mode, you can click the direction buttons to move the green rectangle to set the motion detection zone. After you completed the setup, please click ENTER button to exit current setup. Do remember click save button to save current setup. If you click ESC button to exit the region setup interface system will not save your zone setup.
Record channel	System auto activates motion detection channel(s) to record once an alarm occurs. Please note you need to set motion detect record

Parameter	Function
	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 centre (Including alarm centre.
Message	When 3G network connection is OK, system can send out a message when motion detect occurs.
Send Email	If you enabled this function, System can send out an email to alert you when an alarm occurs.
Tour	You need to click setup button to select tour channel. System begins 1-wiindow or multiple-window tour display among the channel(s) you set to record when an alarm occurs. See Figure 4-66.
PTZ Activation	Here you can set PTZ movement when an alarm occurs. Such as go to preset X. See Figure 4-65.
Snapshot	Click setup button to select snapshot channel. See Figure 4-67.

4.6.4.1.2 Video Loss

From main window>Setup>Event>Video detect>Video loss, the video loss interface is shown as in Figure 4-68.

Please note video loss does not support anti-dither, sensitivity, region setup. For rest setups, please refer to chapter 4.6.4.1.1 motion detect for detailed information.

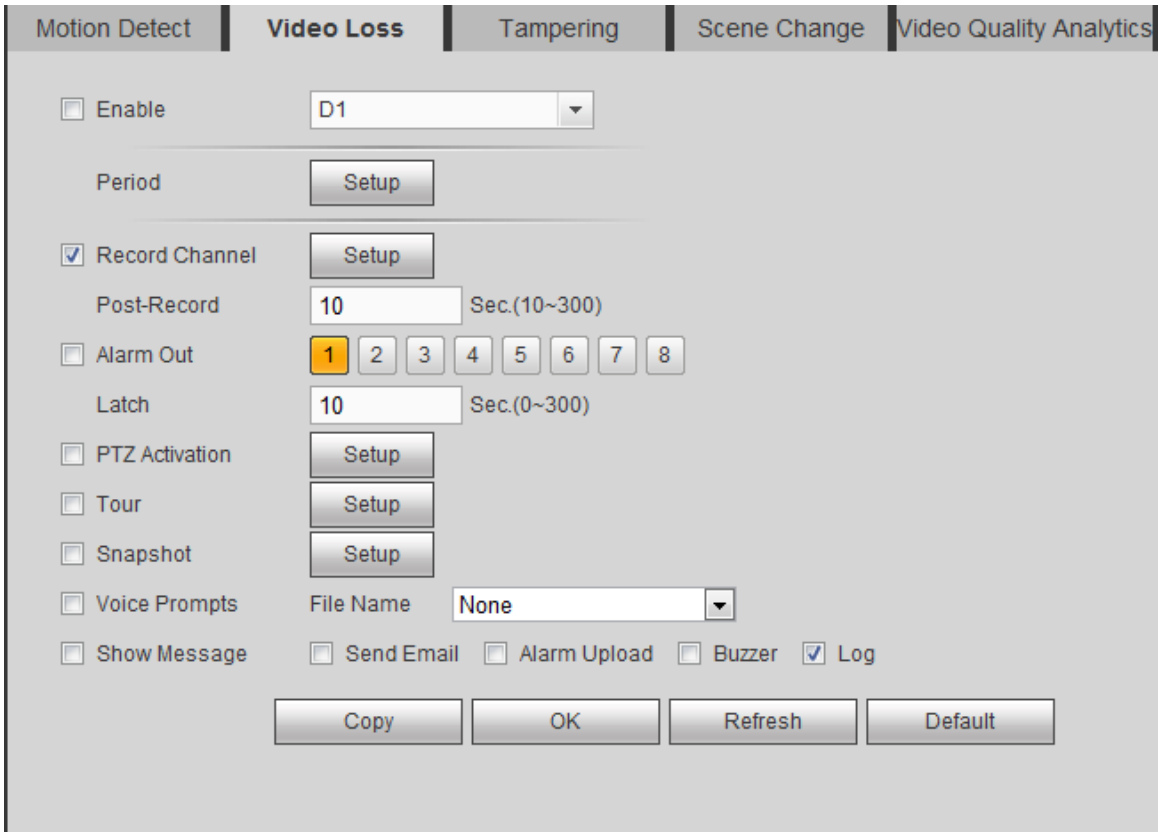


Figure 4-68

4.6.4.1.3 Tampering

From main window>Setup>Event>Video detect>Tampering, the tampering interface is shown as in Figure 4-69.

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

For detailed setups, please refer to chapter 4.6.4.1.1 motion detect for detailed information.

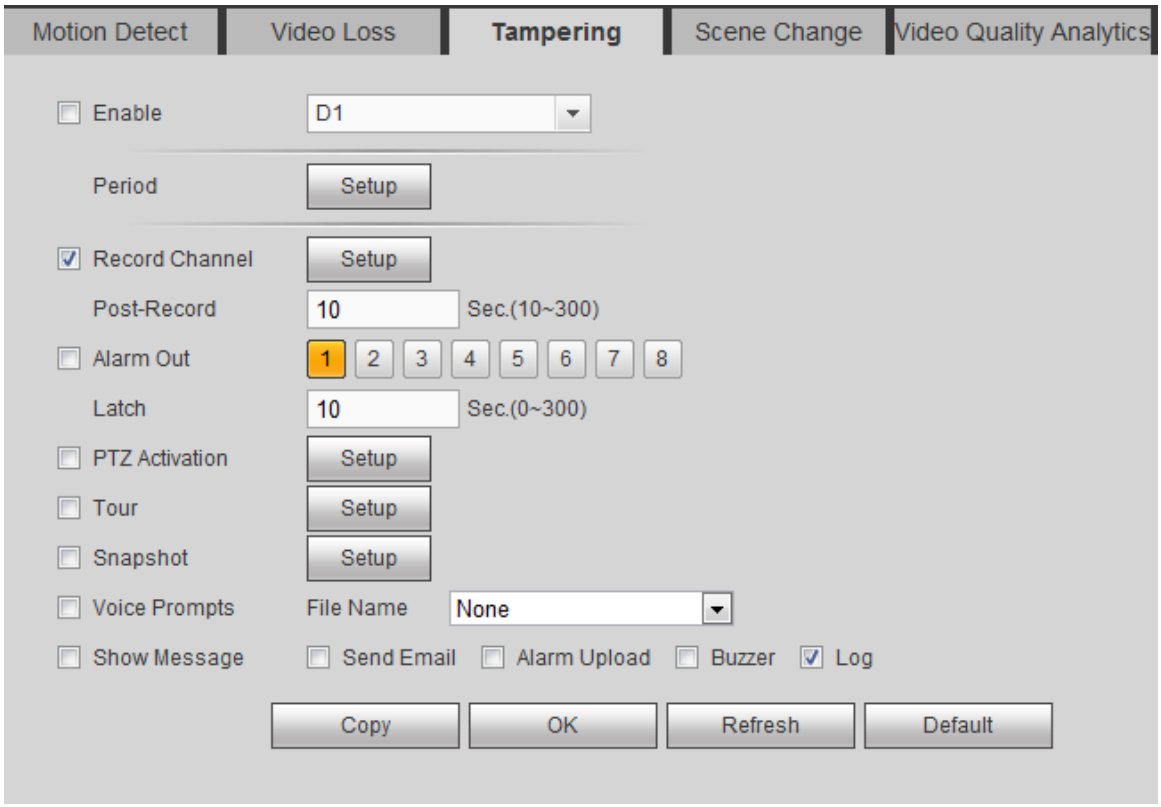


Figure 4-69

4.6.4.1.4 Scene Change

From main window>Setup>Event>Video detect>Scene change, the video diagnosis interface is shown as in Figure 4-70.

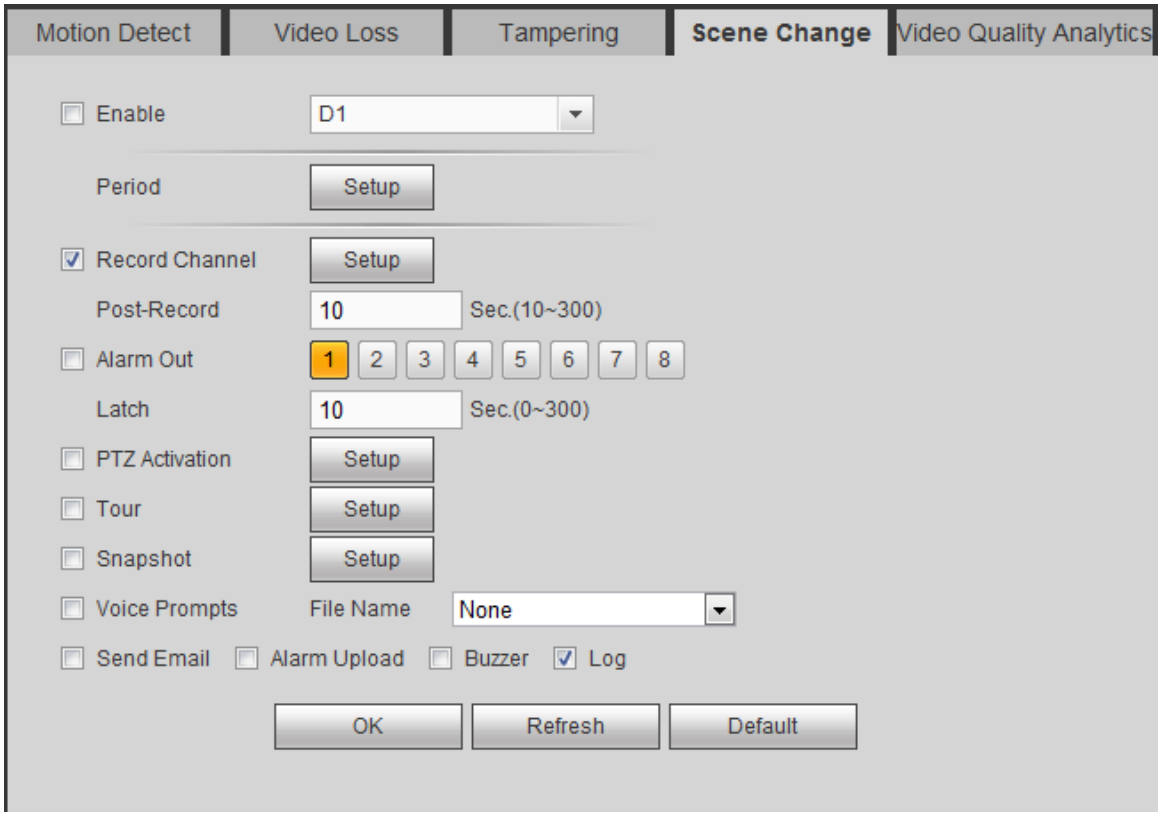


Figure 4-70

For detailed setups, please refer to chapter 4.6.4.1.1 motion detect for detailed information.

4.6.4.1.5 Video analytics

From main window>Setup>Event>Video detect>Video diagnosis, the video diagnosis interface is shown as in Figure 4-71.

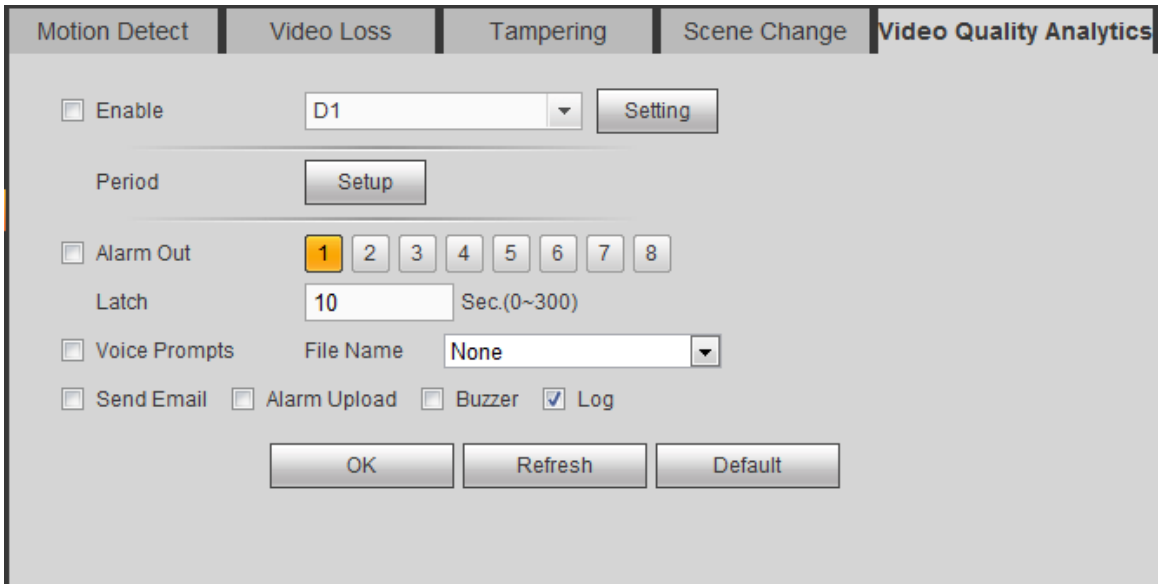


Figure 4-71

Click Set button, the interface is shown as below. See Figure 4-72.

System can generate an alarm once there is stripe, noise, or video is color cast, out of focus or over exposure.

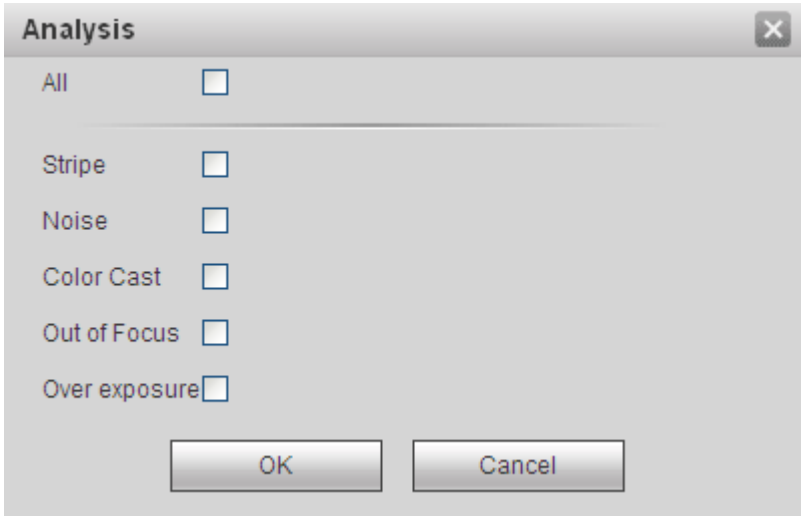


Figure 4-72

For detailed setups, please refer to chapter 4.6.4.1.1 motion detect for detailed information.

4.6.4.1.6 Video Quality Analytics

When video image appears the phenomenon such as video fuzzy, overexposure and image color cast, the system triggers the alarm linkage actions.

Step 1 Select Setup > Event > Video Detection > Video Quality Analytics

The Video Quality Analytics interface is displayed. See Figure 4-73

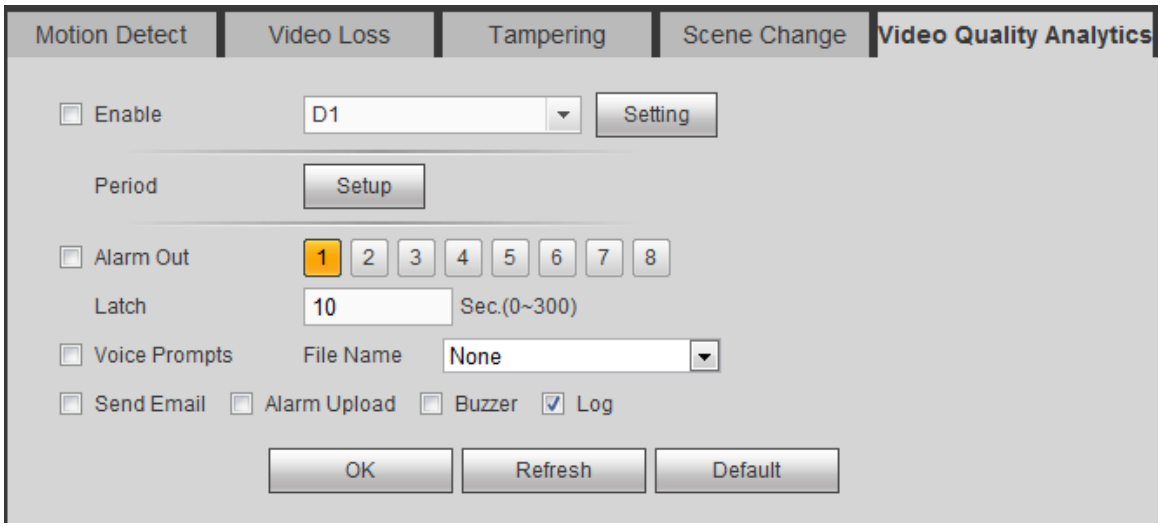


Figure 4-73

Step 2 Select the channel number and select the Enable check box.

Step 3 Click Setup on the right of the channel.

The Video Quality Analytics interface is displayed. See Figure 3-119.

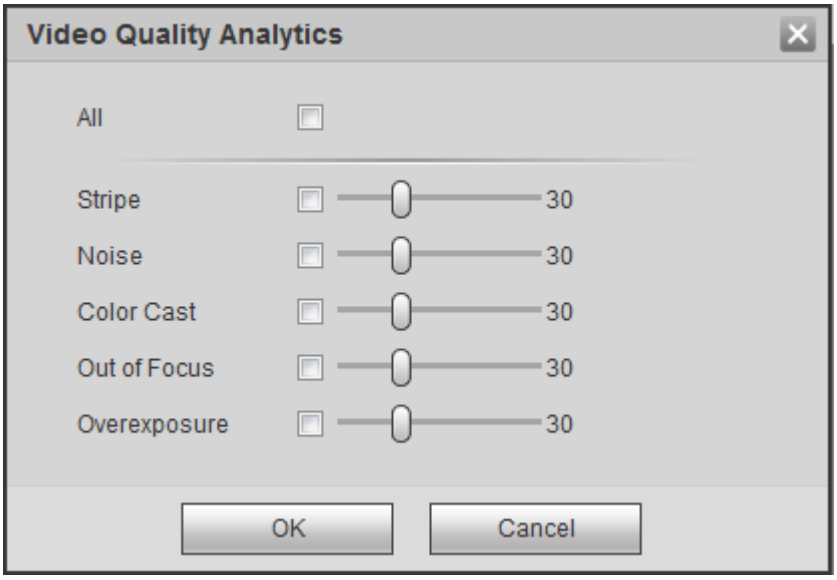


Figure 4-74

Step 4 Select the items (such as strip and noise) and set the threshold values according to the actual needs. For details, see the following table.

Note

- Select the Select All check box and all the following items will be selected.
- The threshold value range is 1-100 and the default value is 30. When the output value is higher than the set threshold, the system triggers an alarm.

Parameter	Description
Stripe	Stripe refers to the interference in video due to device aging or electronic interference, such as horizontal and vertical stripes or diagonal stripes, which may cause interference to visual sense.

Parameter	Description
Noise	Video noise can be defined as the image quality degradation caused by optical system distortion or hardware device during transmission.
Color Cast	Generally, video images are color images that contain color information, such as RGB. When these three components in the image appear in some unusual proportion, it means that the image has a color cast.
Out of Focus	The image with good definition contains rich details. The reason for the image definition decline is that the generation of blurring phenomenon. Image blurring is a common image quality reduction problem. In the process of image acquisition, transmission and processing, many factors will cause the image blurring, which is defined as out of focus in video diagnosis
Overexposure	The brightness of the image refers to the intensity of image pixels. Black is the darkest while white is the brightest. Black is represented by 0 and white is represented by 255. It indicates the brightness degree of the image. When the brightness value of the whole image exceeds the threshold value, it is defined as overexposure.

Step 5 Click OK to save the configuration.
System returns to Figure 4-73.
Step 6 Configure the alarm activation parameters.
Step 7 Click OK or Apply to save the configuration.

4.6.4.2 IVS Plan

From main menu>Setup>Event>IVS plan, you can go to the IVS plan interface. See Figure 4-75.

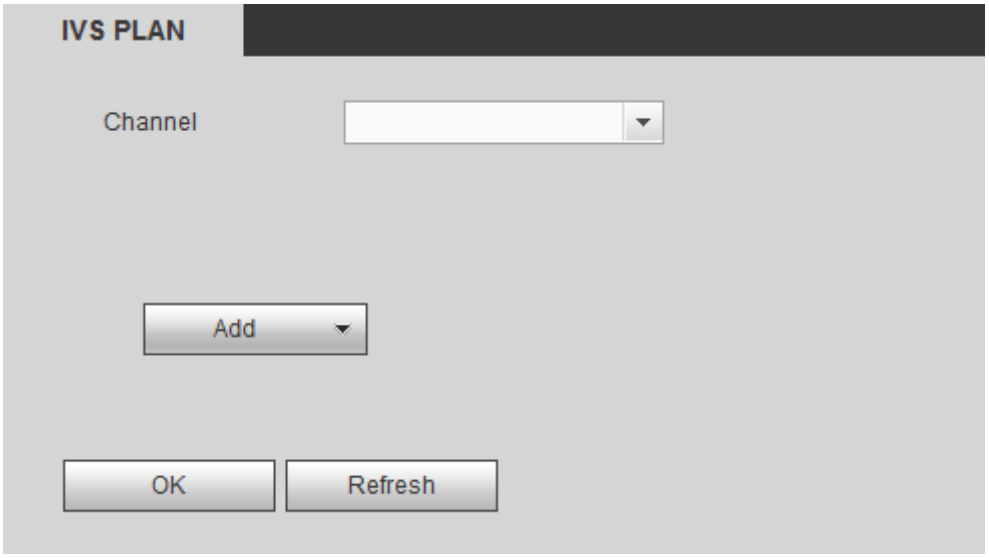


Figure 4-75

Select a channel from the dropdown list. Click Add button, you can see an interface shown as below. See Figure 4-76.

Select a channel from the dropdown list and then set preset. Click Add button and then set the corresponding rule.

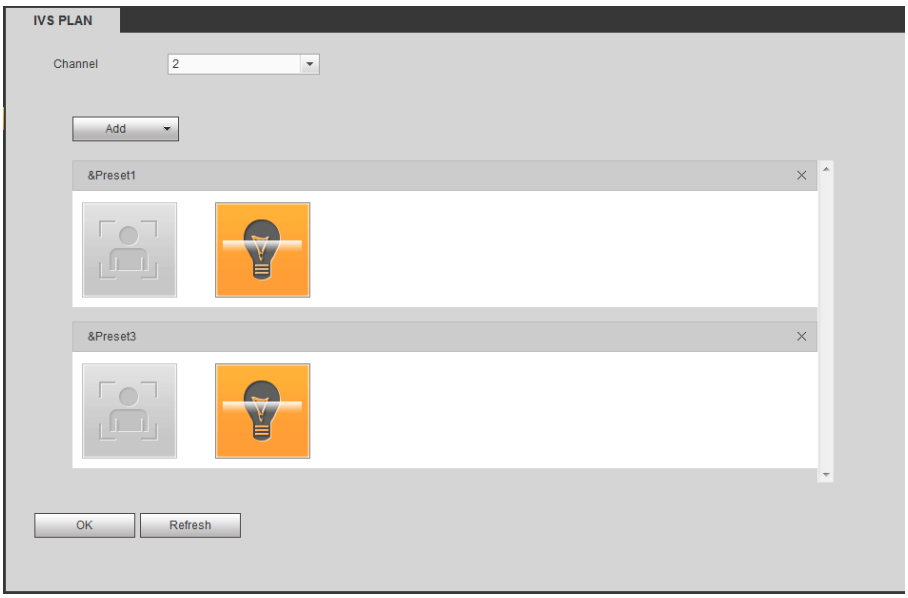


Figure 4-76

Click OK button to complete the setup.

4.6.4.3 IVS

Important

- Please contact your retailer or you service engineer if you can not use the IVS function.
- Right now, the IVS supports 32 rules.

4.6.4.3.1 IVS

From main menu>Setup>Event>IVS>IVS, you can go to the IVS interface. See Figure 4-77.

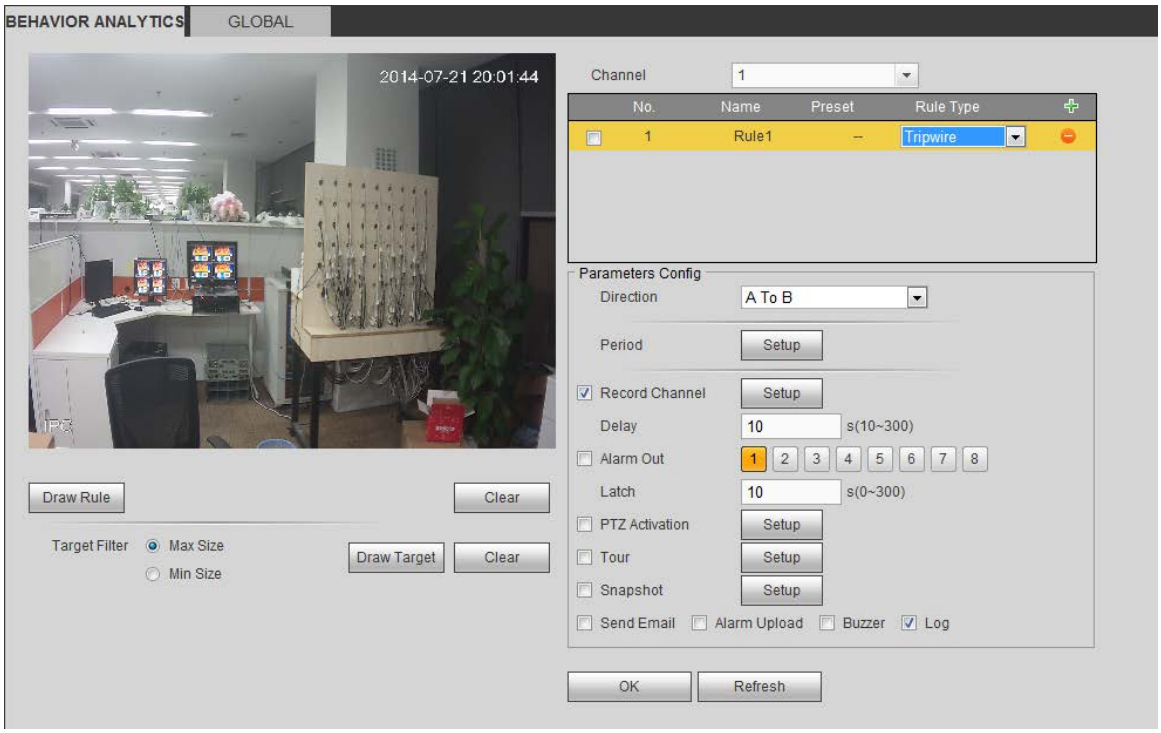


Figure 4-77

Please select a channel from the dropdown list

Click  to add a rule. The default setup is tripwire, you can double click the rule type name to modify. See Figure 4-78.

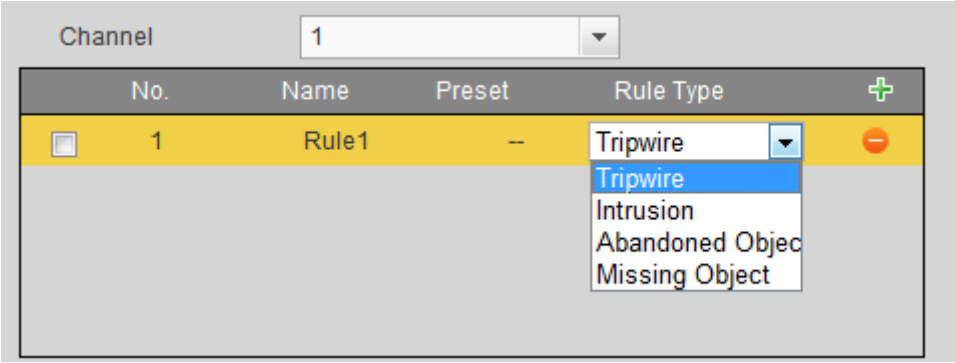


Figure 4-78

Then you can set corresponding parameters.
Click OK button to complete the setup.

4.6.4.3.1.1 Tripwire

From main menu>Setup>Event> IVS>IVS, click  you can see the following interface. See Figure 4-79.
System generates an alarm once there is any object crossing the tripwire in the specified direction.

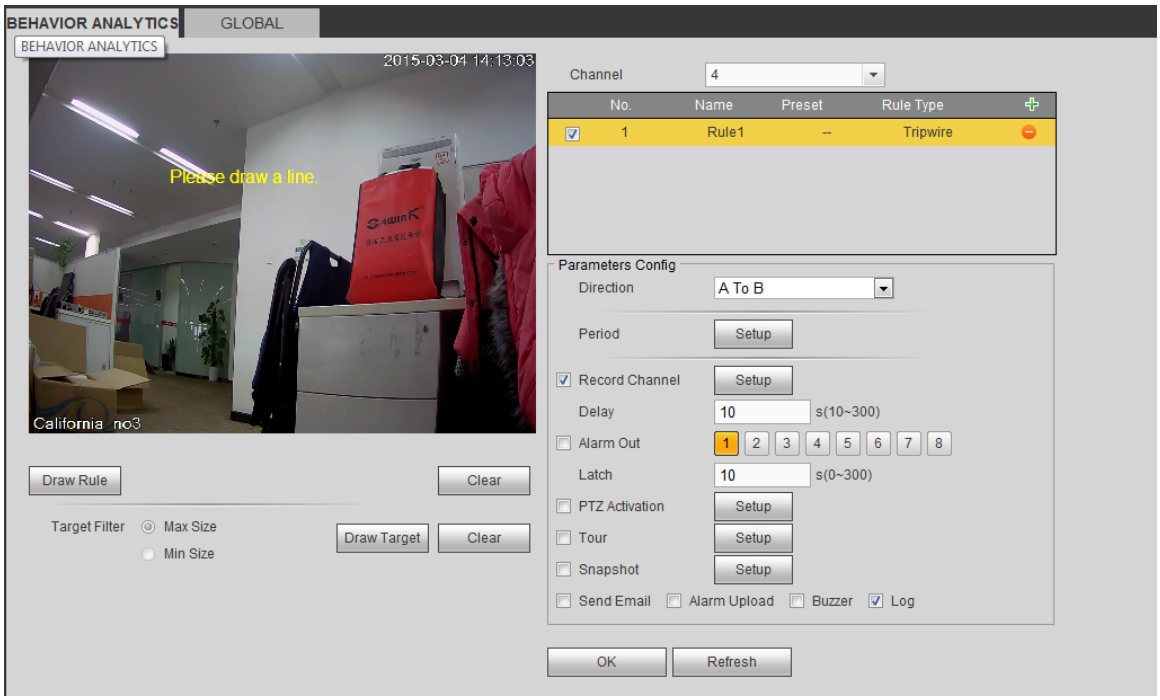


Figure 4-79

Check the Tripwire box to enable tripwire function.
Select SN (Line1/2/3/4) and direction, and then input customized rule name.

- Direction: There are three options: A>B, B>A, both. System can generate an alarm once there is any object crossing in the specified direction.

Now you can draw a rule. Click Draw rule button and then left click mouse to draw a tripwire. The tripwire can be a direct line, curve or polygon. Right click mouse to complete. See Figure 4-80.

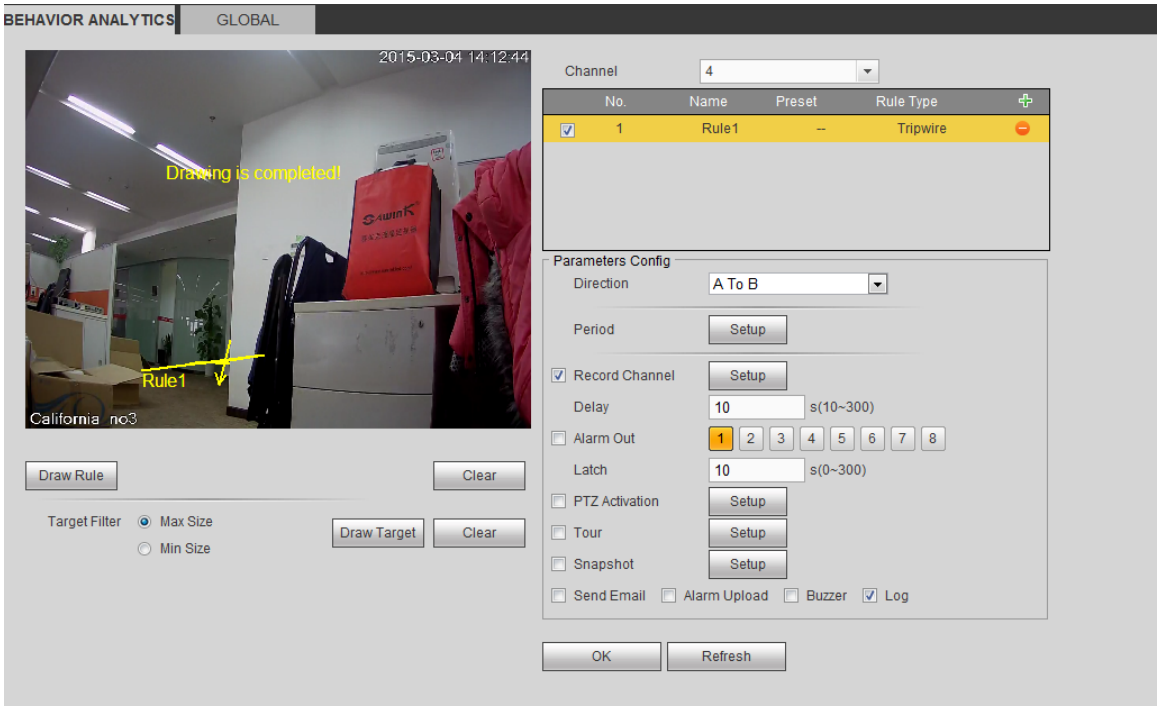


Figure 4-80

Click Draw Target to draw filter object. See Figure 4-81.

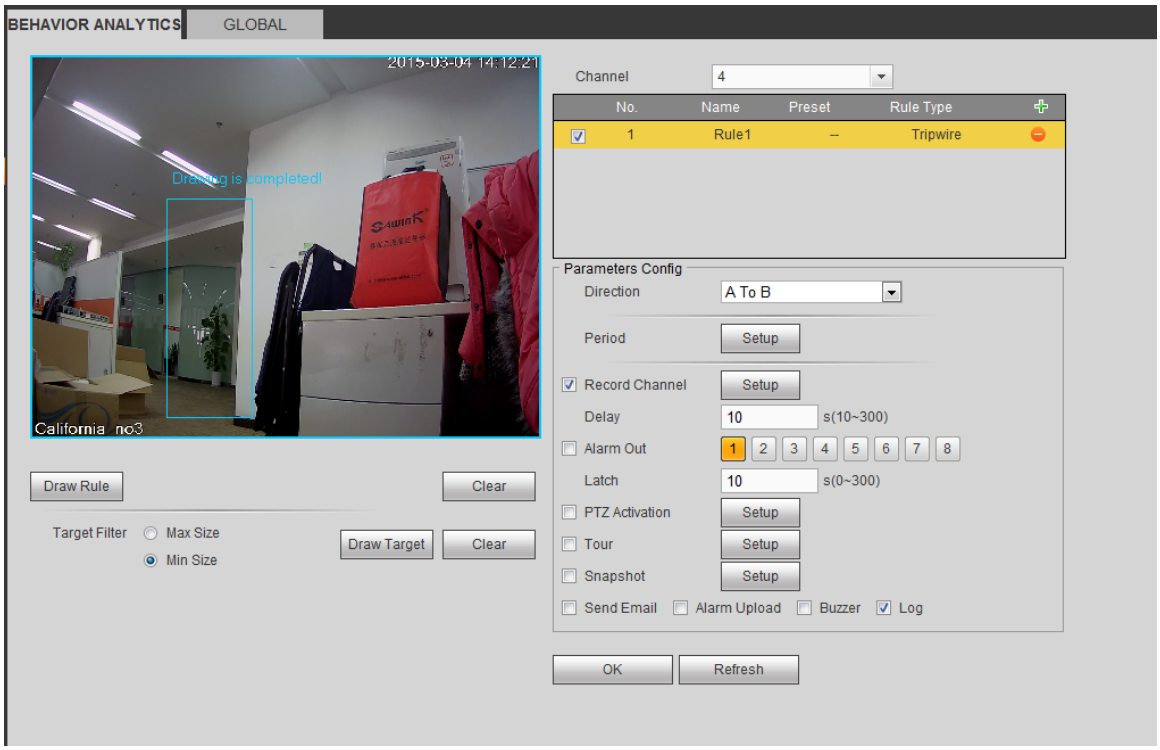


Figure 4-81

Select the blue line and then use mouse to adjust zone size.

Note

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.
Click Ok to complete the rule setup.
For detailed setups, please refer to chapter 4.6.4.1.1 motion detect for detailed information.

4.6.4.3.1.2 Intrusion (Cross warning zone)

From main menu>Setup>Event> IVS>IVS, click , and then select rule type as intrusion, you can see the following interface. See Figure 3-129.

Note:

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

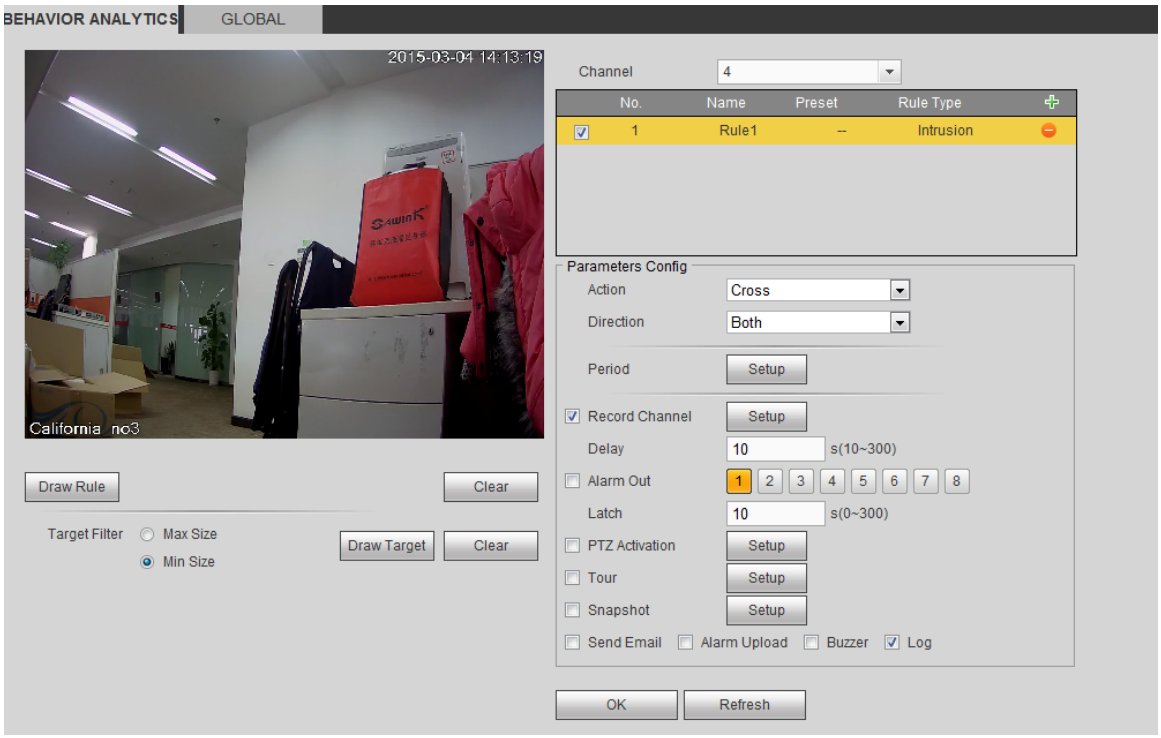


Figure 4-82

Check the Intrusion box to enable intrusion function.
Select SN (Area1/2/3/4) and direction, and then input customized rule name.

- Action: System suppors two types:appear/cross.
- Direction: 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.

Now you can draw a rule. Left click mouse to draw a line first and then right click mouse to draw another line until you draw a rectangle, you can right click mouse to exit.
Click Ok to complete the rule setup.

Click Draw Rule to draw the zone. See Figure 4-83.

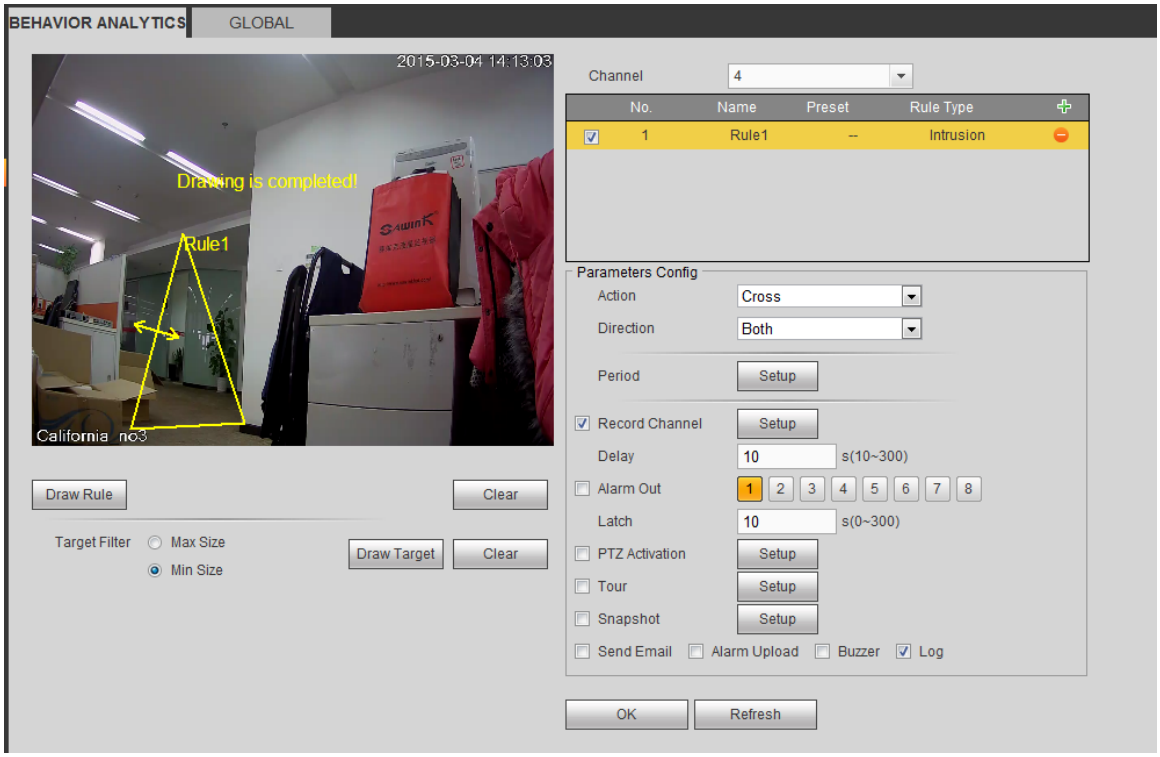


Figure 4-83

For detailed setups, please refer to chapter 4.6.4.1.1 motion detect for detailed information.

4.6.4.3.1.3 Abandoned Object Detect

From main menu>Setup>Event> IVS>IVS, click , and then select rule type as abandoned object detection, you can see the following interface. See Figure 4-84.

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

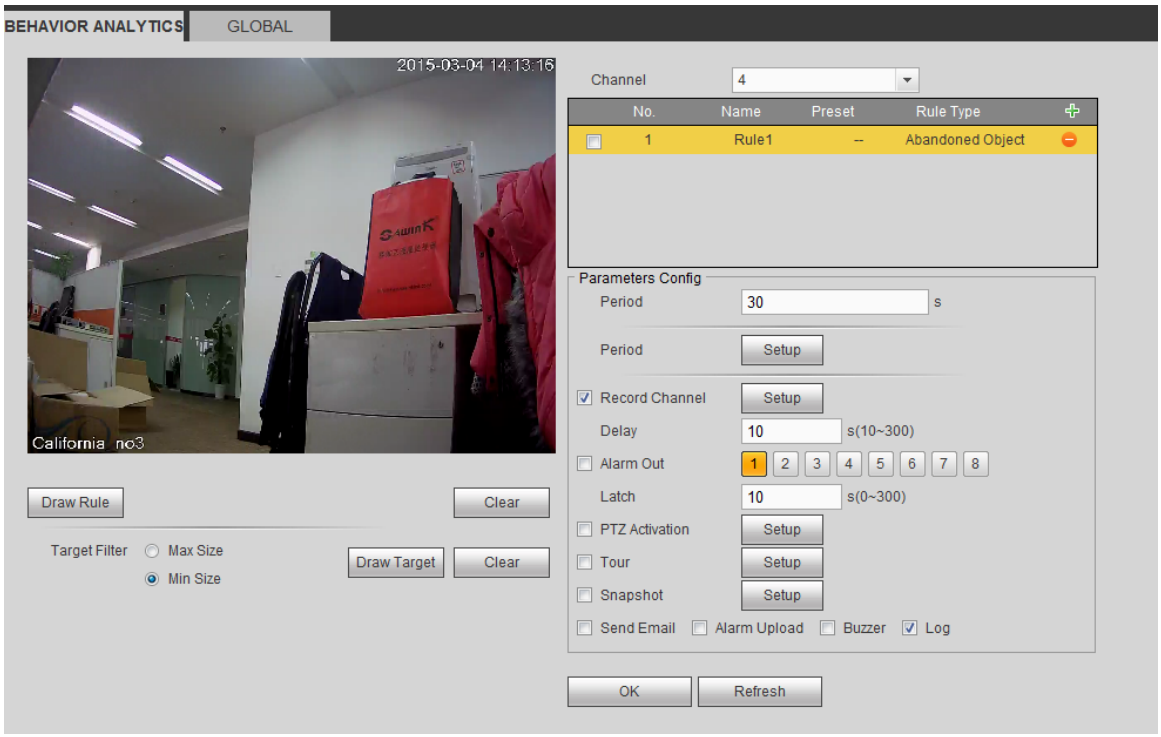


Figure 4-84

Check the Object box to enable object detect function.

- Period: System can generate an alarm once the object is in the zone for the specified period.

Click Draw Rule to draw the rule. See Figure 4-85.

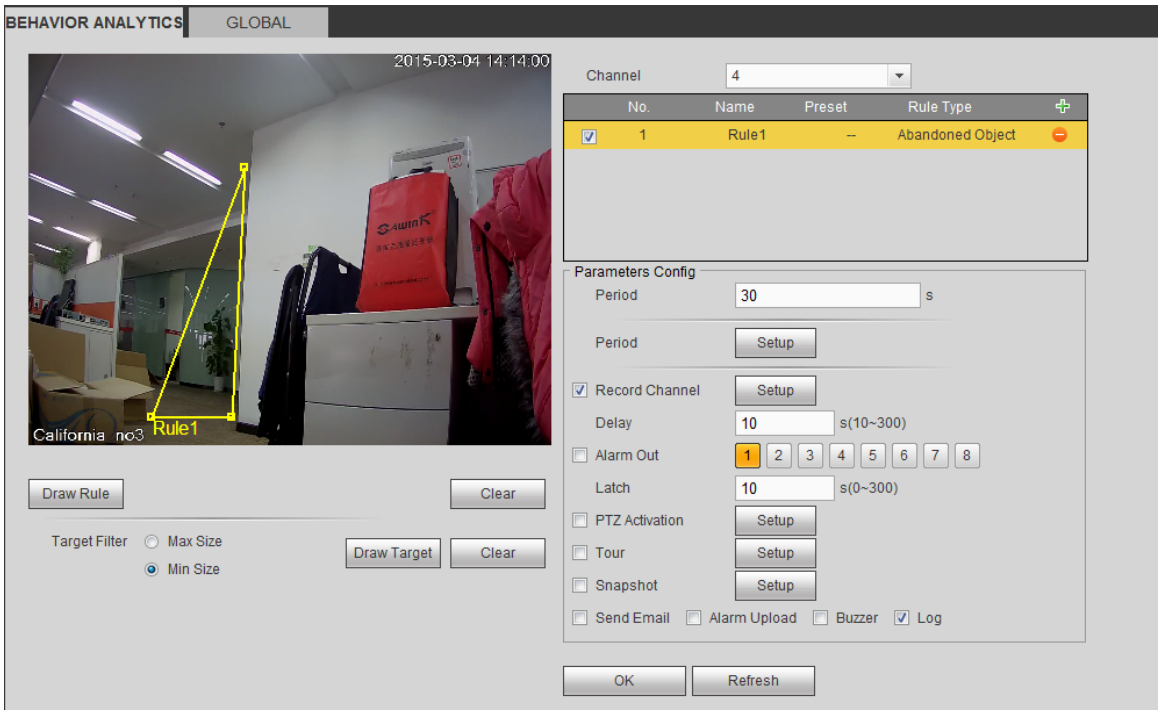


Figure 4-85

Now you can draw a rule. Left click mouse to draw a line, until you draw a rectangle, you can right click mouse.

Click Ok to complete the rule setup.

For detailed setups, please refer to chapter 4.6.4.1.1 motion detect for detailed information.

4.6.4.3.1.4 Missing Object Detect

From main menu>Setup>Event> IVS>IVS, click , and then select rule type as missing object detection, you can see the following interface. See Figure 4-86.

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

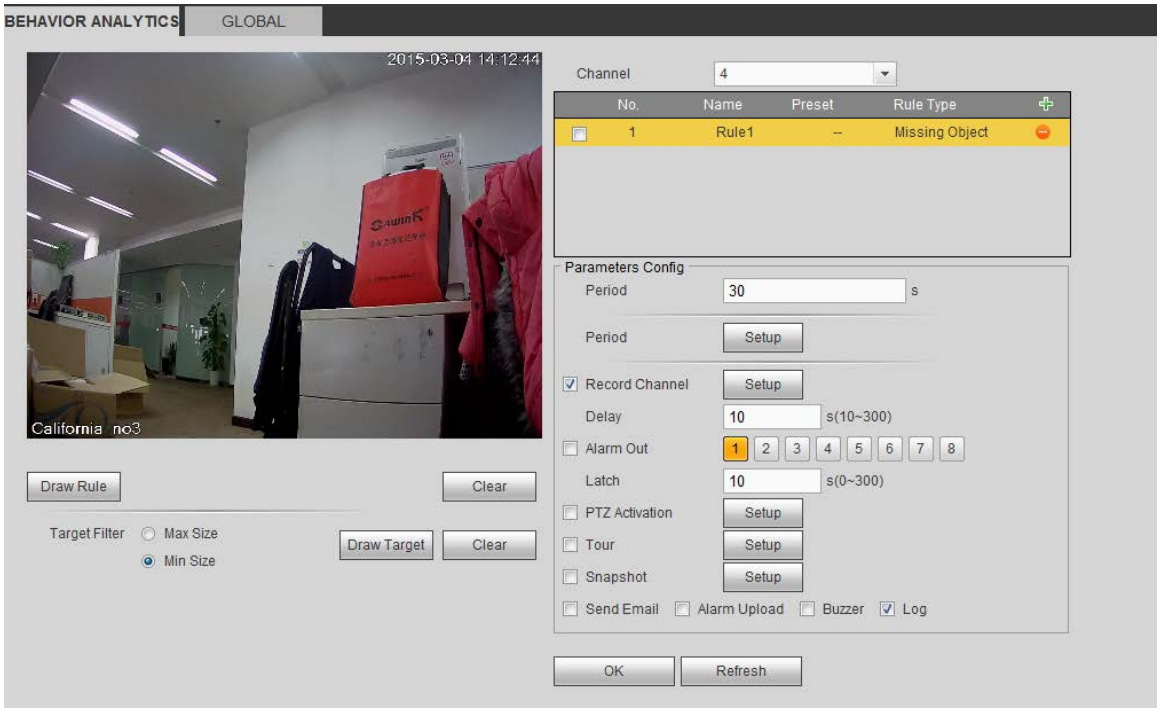


Figure 4-86

Click Draw Rule to draw the rule. See Figure 4-87.

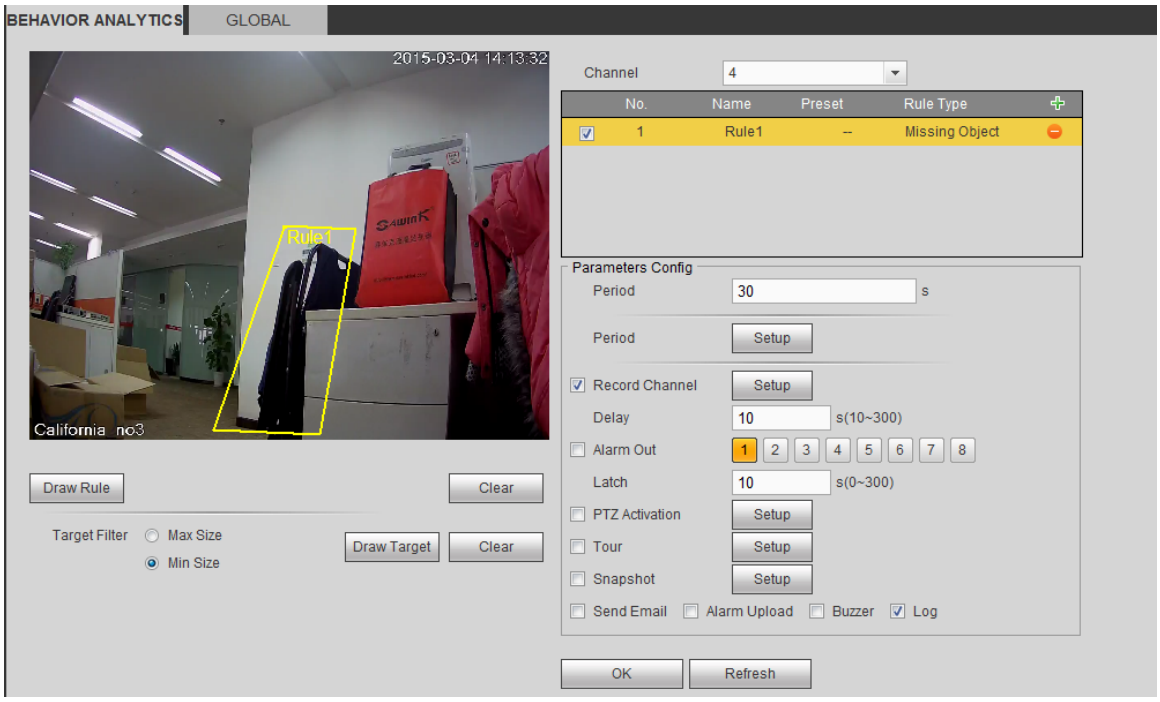


Figure 4-87

Click Ok to complete the rule setup.
For detailed setups, please refer to chapter 4.6.4.1.1 motion detect for detailed information.

4.6.4.3.1.5 Loitering

From main menu>Setup>Event> IVS>IVS, click, and then select rule type as loitering detection, you can see the following interface. See Figure 4-88.

Note

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

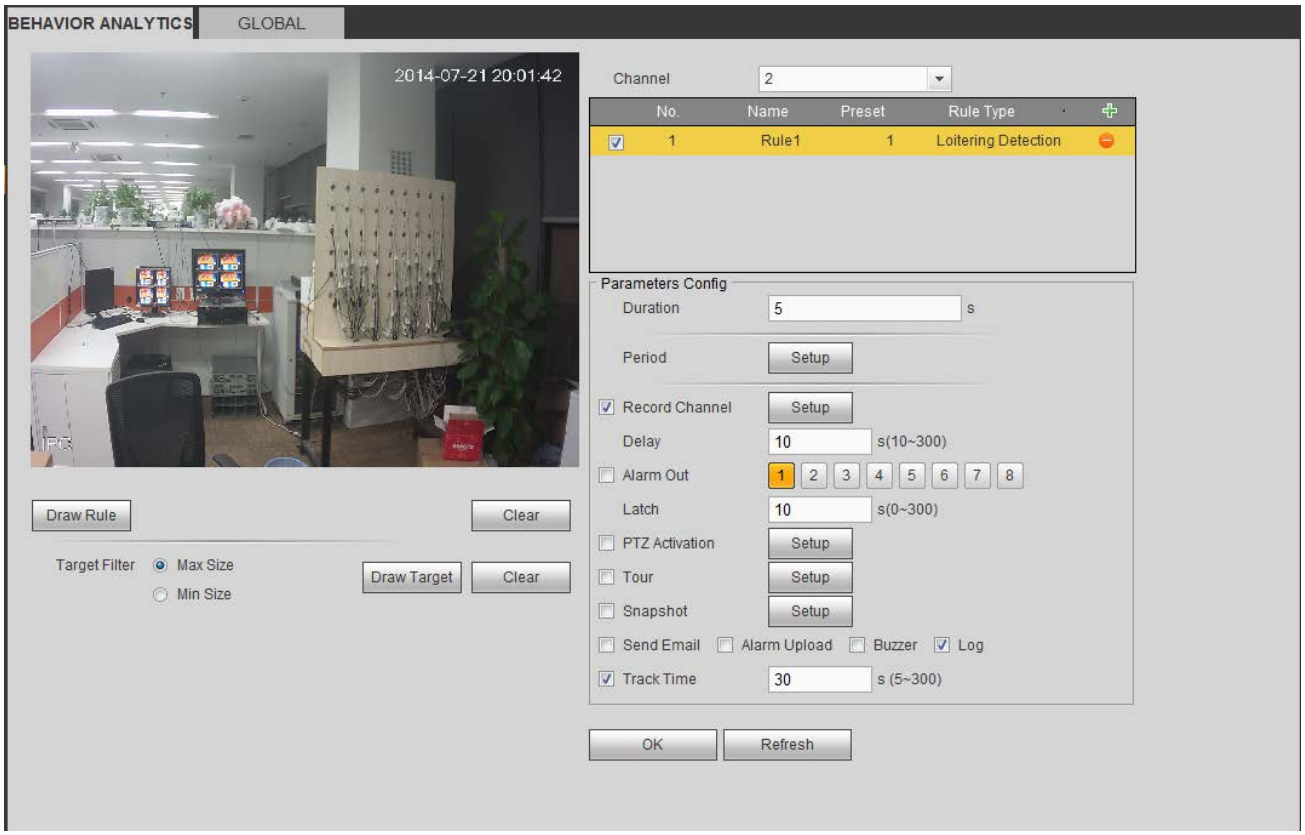


Figure 4-88

- Duration: System can generate an alarm once the object is in the zone for the specified period.

Click Draw Rule to draw the rule.

Click OK to complete the rule setup.
For detailed setups, please refer to chapter 4.6.4.1.1 motion detect for detailed information.

4.6.4.3.1.6 Crowd gathering detection

From main menu>Setup>Event> IVS>IVS, click, and then select rule type as crowd gathering estimation, you can see the following interface. See Figure 4-89.

- Customized zone and amount setup.
- Duration setup.
- Sensitivity setup.
- Min gathering zone setup.

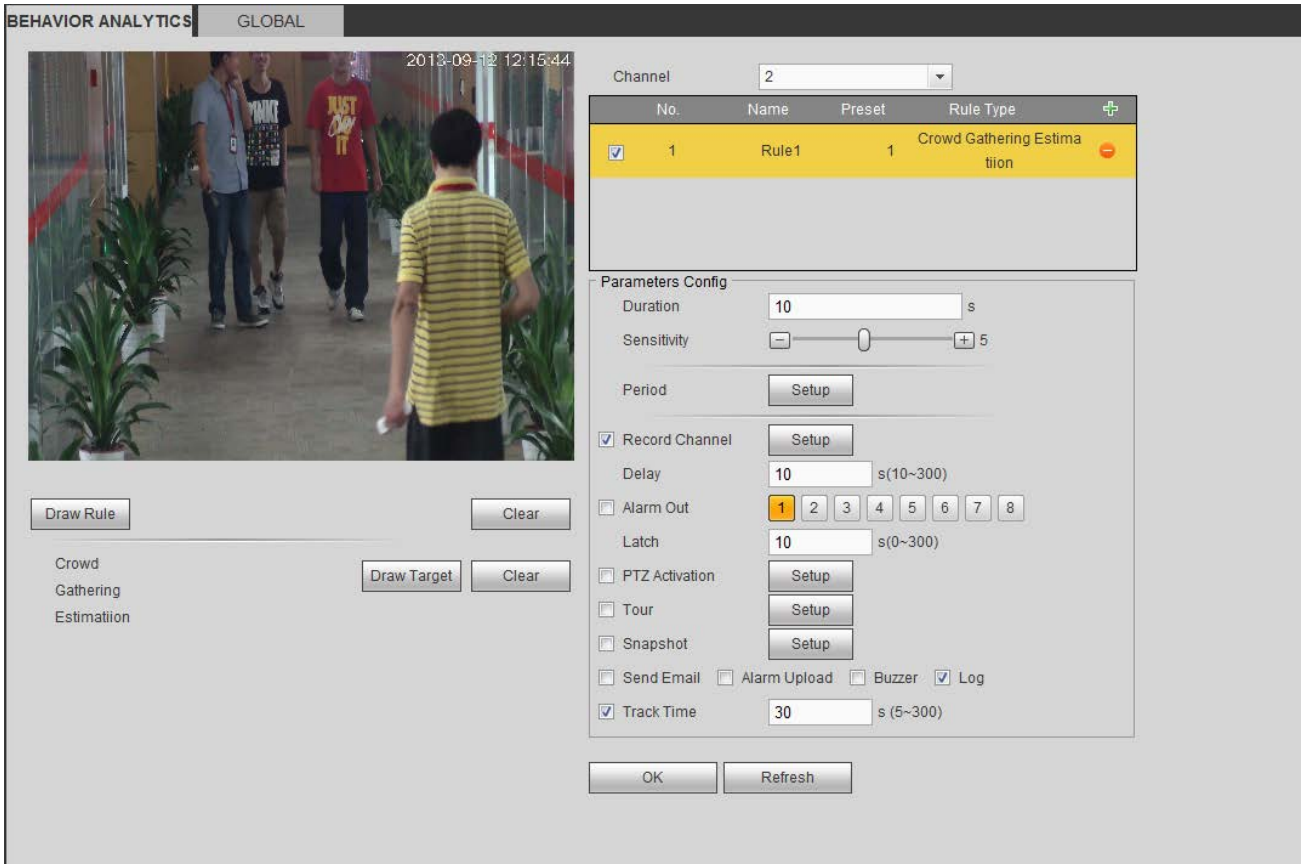


Figure 4-89

- Duration: System can generate an alarm once the object is in the zone for the specified period.
- Sensitivity: It is to set alarm sensitivity. The value ranges from 1 to 10.The default setup is 5.

Click Draw Rule to draw the rule.

Click OK to complete the rule setup.

For detailed setups, please refer to chapter 4.6.4.1.1 motion detect for detailed information.

4.6.4.3.1.7 Fast moving

From main menu>Setup>Event> IVS>IVS, click , and then select rule type as fast moving, you can see the following interface. See Figure 4-90.

- Sensitivity: It is to set alarm sensitivity. The value ranges from 1 to 10.The default setup is 5.

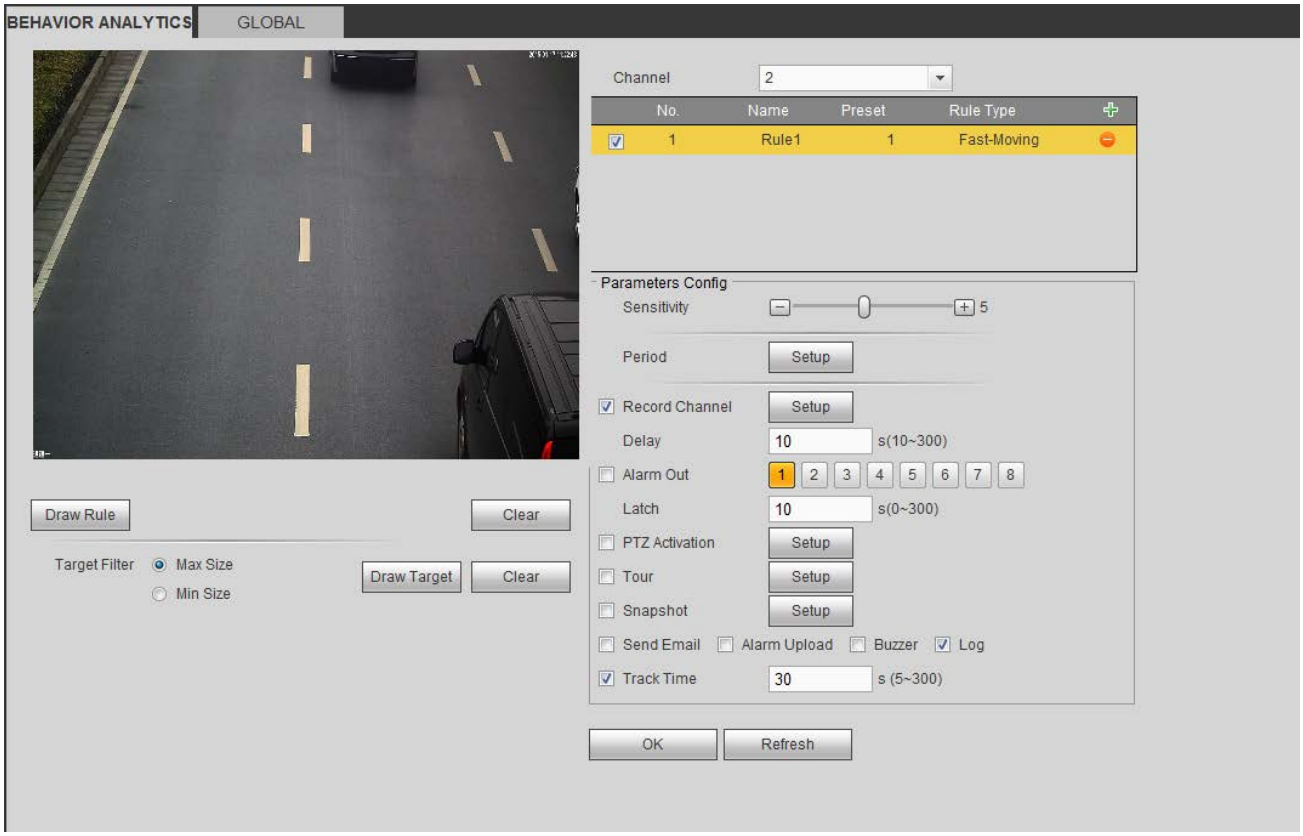


Figure 4-90

Click Draw Rule to draw the rule.

Click OK to complete the rule setup.

For detailed setups, please refer to chapter 4.6.4.1.1 motion detect for detailed information.

4.6.4.3.2 Global Config

From main menu>Setup>Event>IVS>Global, you can go to the global configuration interface. See Figure 4-91.

- Channel: Please select a channel from the dropdown list.
- Preset: Select a preset you want to set the rule. Please note, you need to add a preset first, otherwise, you cannot see the preset dropdown list. If there is no preset, you can draw a rule in current channel.
- Calibration zone:

✧ Click Add area , you can draw a calibration zone at the left pane of the interface. Select a zone and then click Delete zone button; you can remove the selected zone.

✧ Select gauge type (vertical/level), you can set the corresponding length. You can draw three tilt gauges and one horizontal gauge at the left pane of the interface.

- Select Width/Height and then click Verify, you can draw a line in the calibration zone, and then you can see its actual length.
- Update preset: Click it to get the latest preset setup.

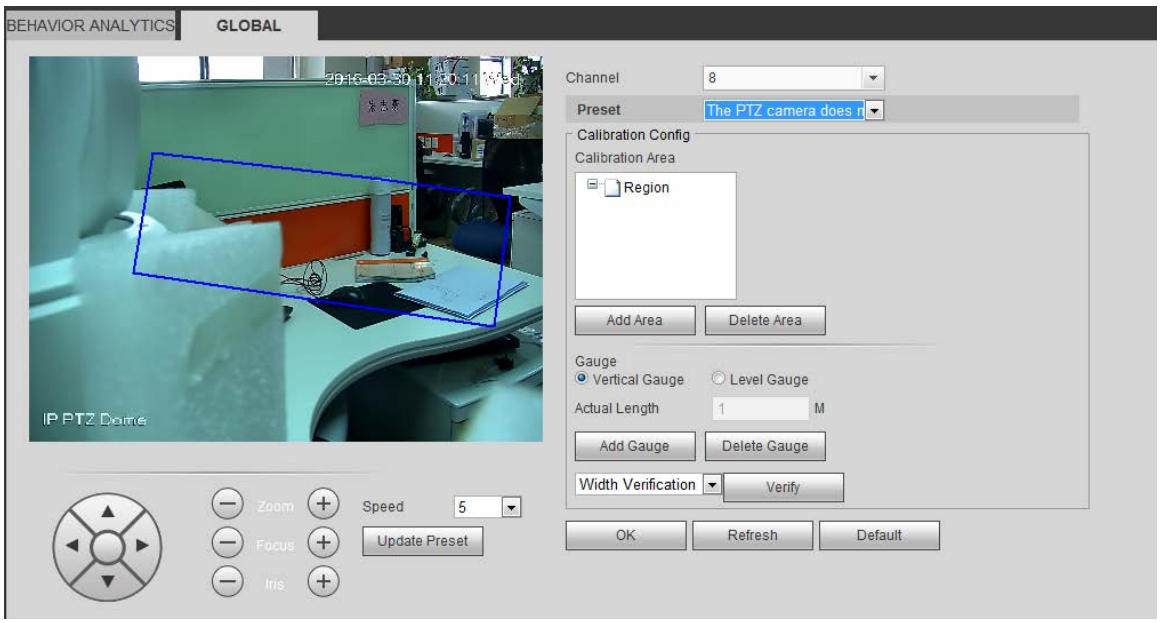


Figure 4-91

4.6.4.4 Face Detect

When camera detects human face, system can generate an alarm.

From main menu>Setup>Event>Face detect, the interface is shown as in Figure 4-92.

- Face ROI(Region of Interest): Check the box here, system can enhance the human face display pane.
- Sensitivity: System supports 6 levels. The sixth level has the highest sensitivity.

For detailed setups, please refer to chapter 4.6.4.1.1.

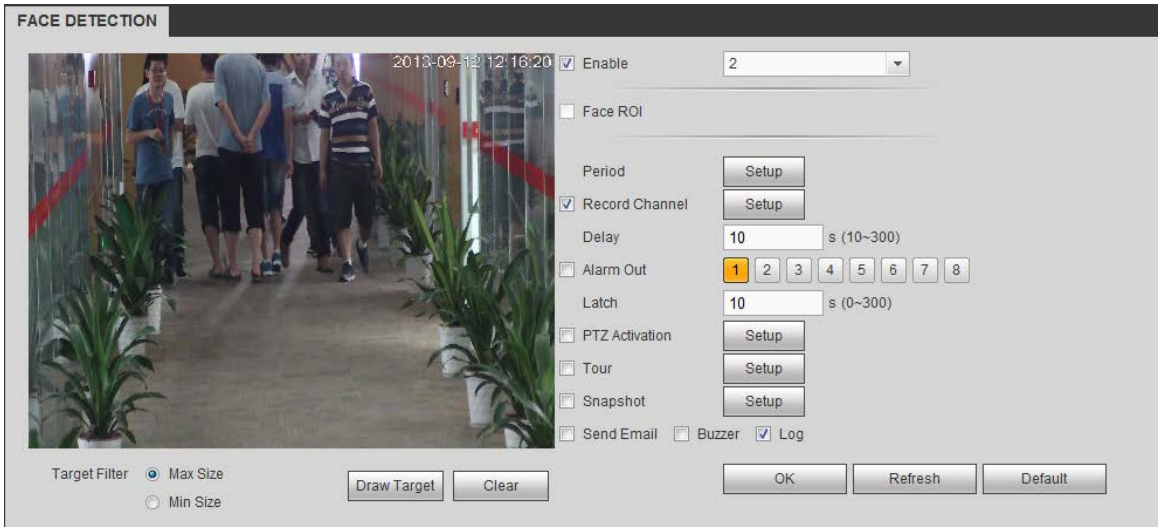


Figure 4-92

4.6.4.5 People Counting

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

From main menu>Setup>Event>People counting, you can see an interface shown as in Figure 4-93.

- Channel: Please select a channel from the dropdown list. Check the box to enable people counting function.

- 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.

For detailed setups, please refer to chapter 4.6.4.1.1 motion detect for detailed information.

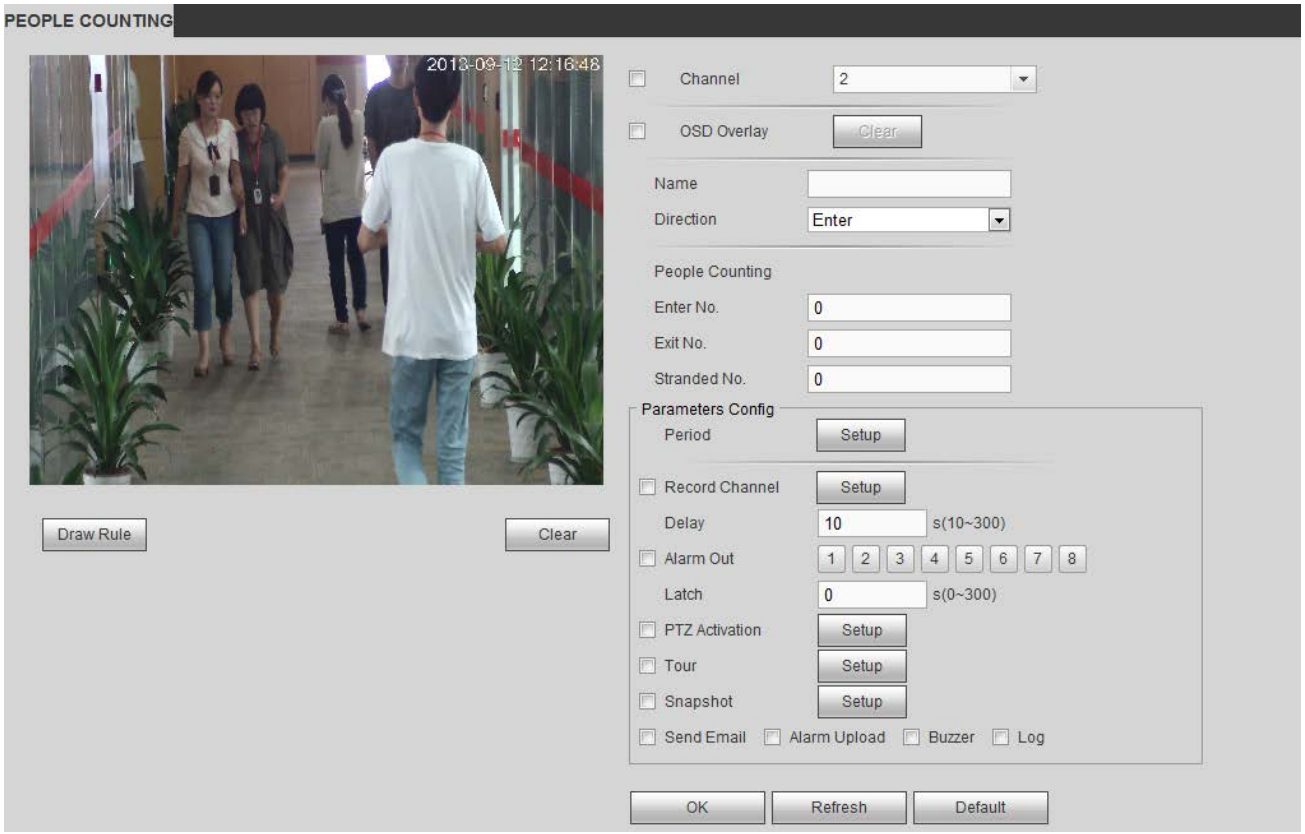


Figure 4-93

4.6.4.6 Heat Map

It is to detect the object activity level in the scene during the specified period.

From main menu>Setup>Event>Heat Map, you can see an interface shown as in Figure 4-94.

For detailed setups, please refer to chapter 4.6.4.1.1 motion detect for detailed information.

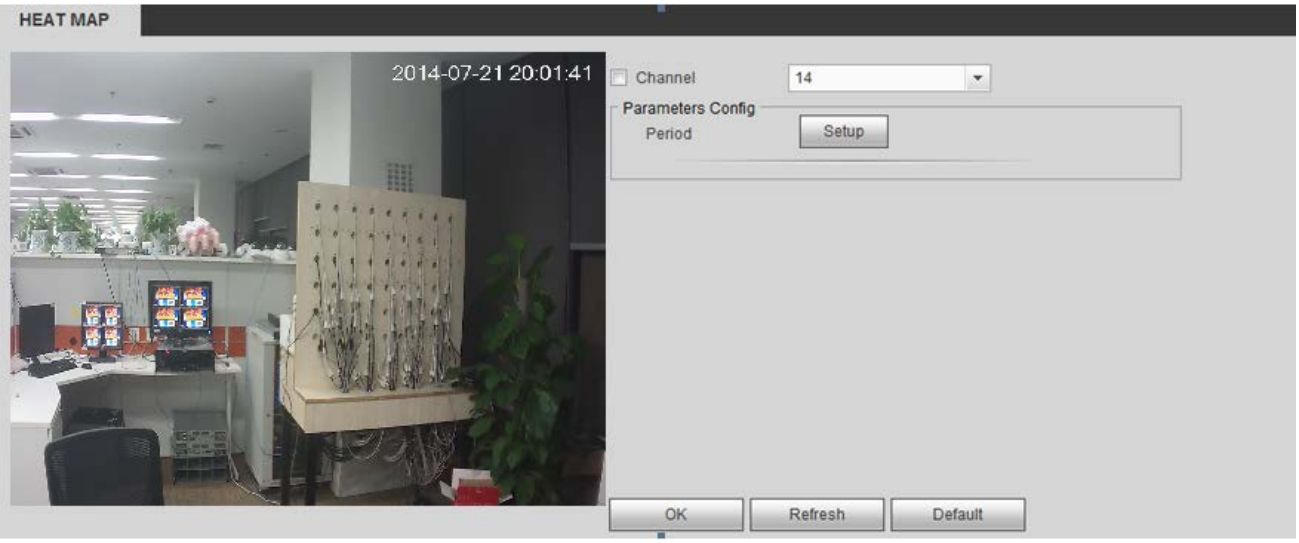


Figure 4-94

4.6.4.7 Audio Detect

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

From main menu>Setup>Event>Audio detect, you can see an interface shown as in Figure 4-95.

- 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.

For detailed setups, please refer to chapter 4.6.4.1.1 motion detect for detailed information.

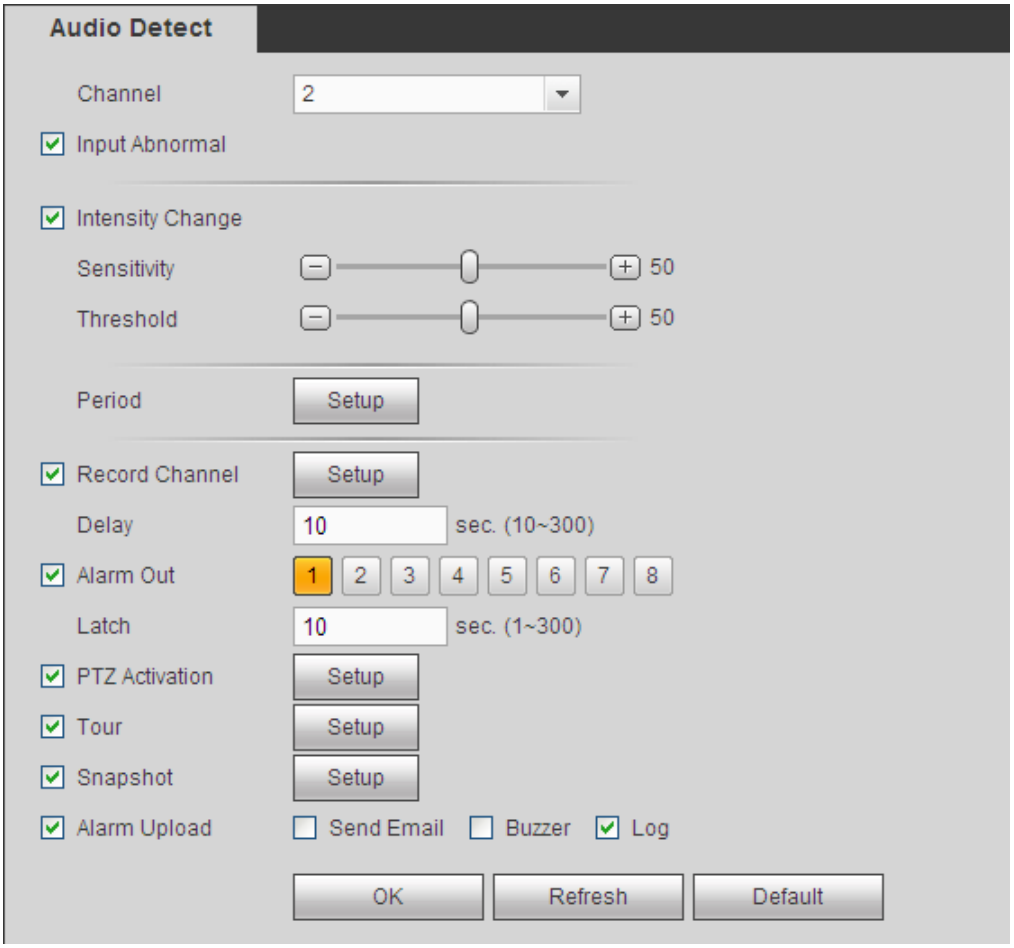


Figure 4-95

4.6.4.8 Smart Track

From main menu>Setup>Event>Smart Track, the interface is shown as in Figure 4-96.

Figure 4-96

Click Add button, the interface is shown as below. See Figure 4-97.

- Type: Here you can select smart track mode. It includes: 1 fish eye+1 PTZ camera/1 fish eye+2 PTZ cameras/1 fish eye+3 PTZ cameras.
- Scene: It is the monitor position. Input customized monitor position name.
- Main channel: Click Select button and then select fish eye from the dialogue box.
- PTZ camera: Click Select button and then select corresponding PTZ camera amount from the

dialogue box.

Click OK to complete the setup.

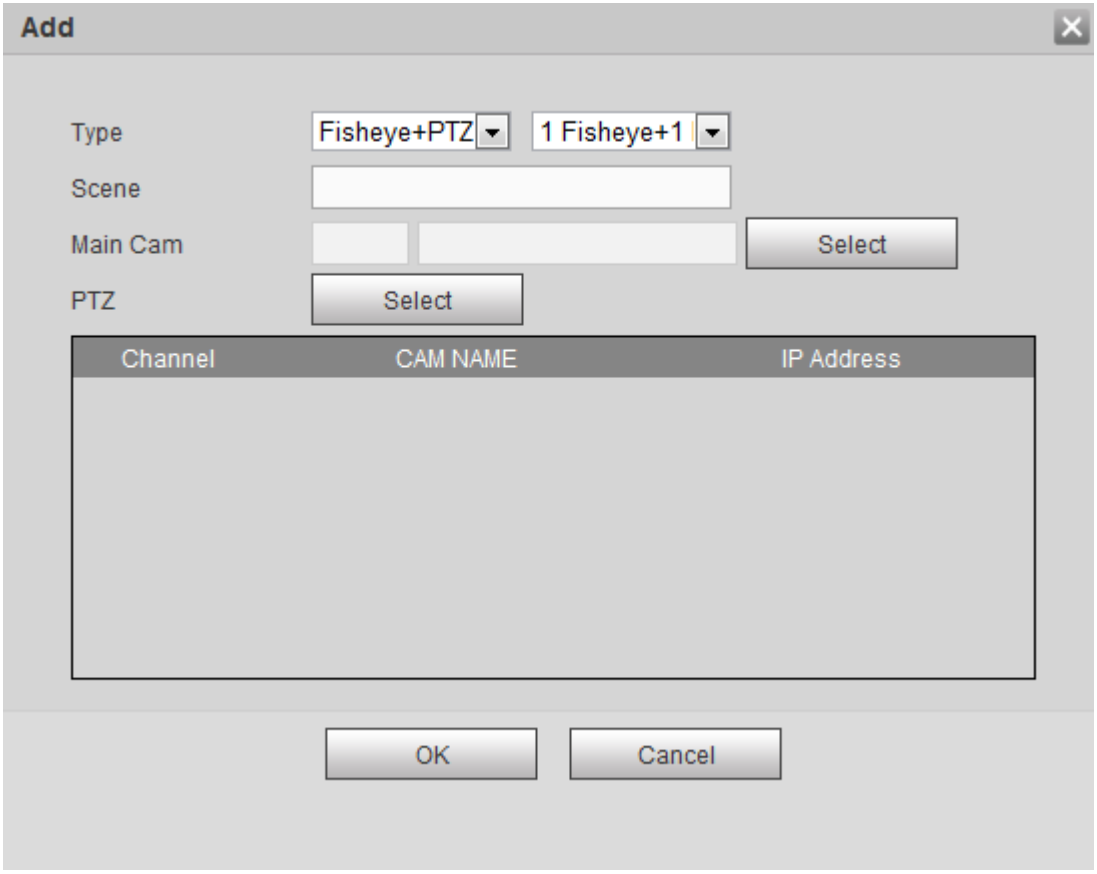


Figure 4-97

After you go back to the smart track interface, it is shown as in Figure 4-98.

Figure 4-98

In Figure 4-98, click  or double click the line, you can go to the following interface.

See Figure 4-99. Here you can set the fish eye and PTZ camera bonding relationship.

Figure 4-99

On the fish eye displayed zone, left click mouse or move to confirm the position.

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 fish eye.

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 position button. Click the button, and the select a position in the video. System auto uses the current clicked position as the center to adjust.

Button	Function
	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.

Click add button and then click  to save.

Now you complete one group position, you can view at the list. See Figure 4-100.

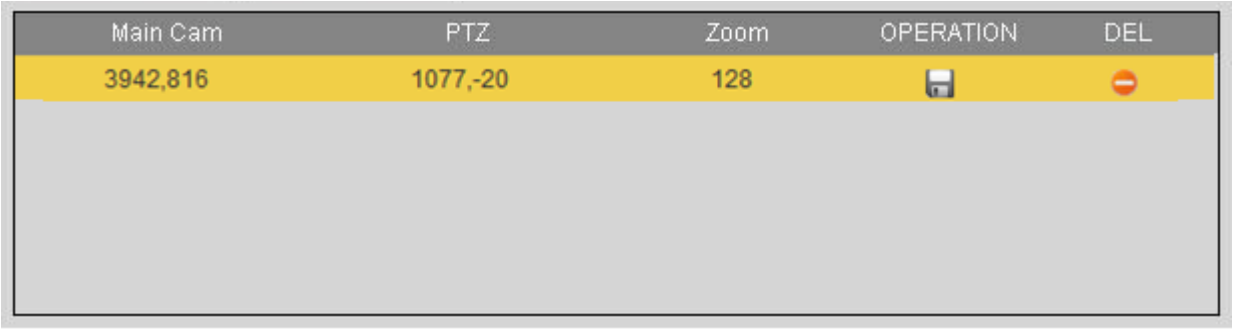


Figure 4-100

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.

Click OK button to complete the calibration setup, you can go back to the smart track interface, the status is shown as  .

4.6.4.9 Alarm

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

4.6.4.9.1 Local Alarm

From main menu>Setup>Event>Alarm>Local alarm, the local alarm interface is shown as in Figure 4-101. It refers to alarm from the local device.

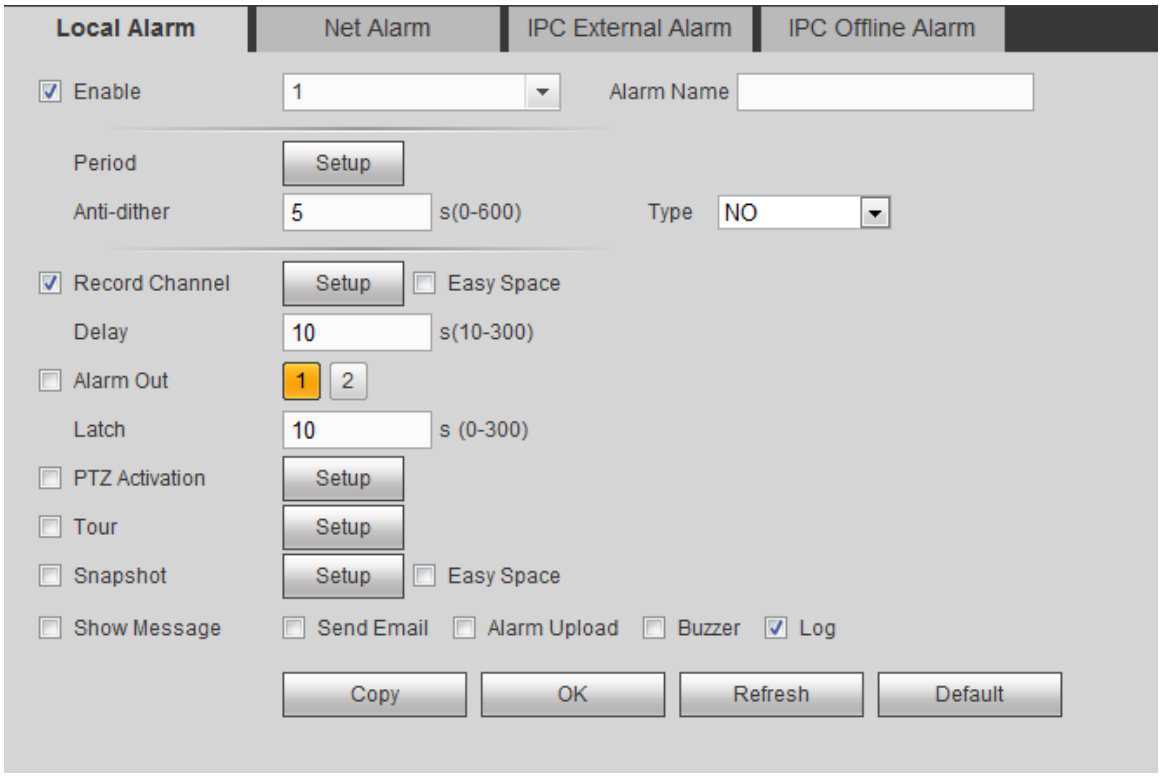


Figure 4-101

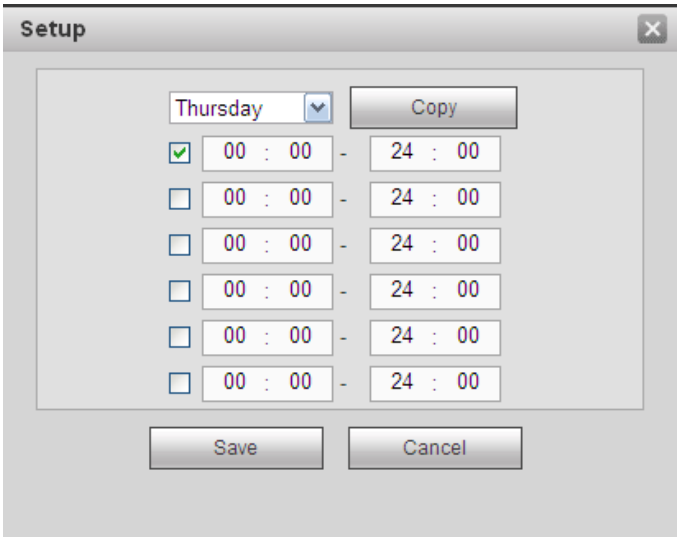


Figure 4-102

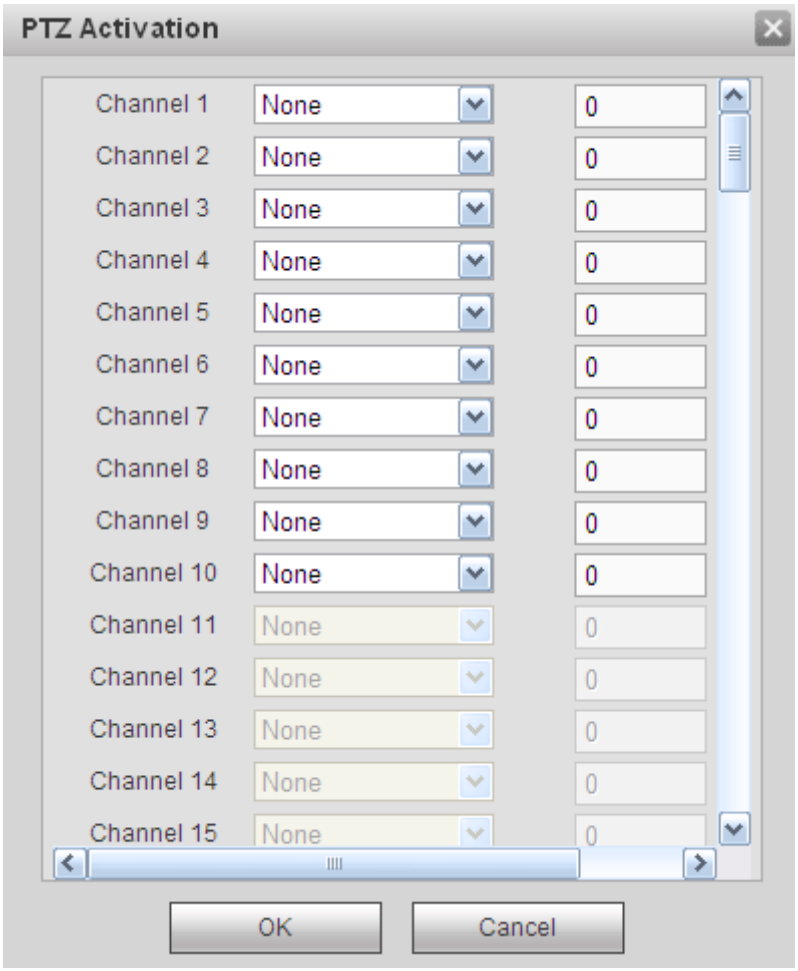


Figure 4-103

Please refer to the following sheet for detailed information.

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

Parameter	Function
Record Delay	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Alarm out	Enable alarm activation function. You need to select alarm output port so that system can activate corresponding alarm device when an alarm occurs.
Latch	System can delay the alarm output for specified time after an alarm ended. The value ranges from 1s to 300s.
Show message	System can pop up a message to alarm you in the local host screen if you enabled this function.
Buzzer	Check the box here to enable this function. The buzzer beeps when an alarm occurs.
Alarm upload	System can upload the alarm signal to the centre (Including alarm centre).
Send Email	If you enabled this function, System can send out an email to alert you when an alarm occurs.
Tour	You need to click setup button to select tour channel. System begins 1-wiindow or multiple-window tour display among the channel(s) you set to record when an alarm occurs. See Figure 4-66.
PTZ Activation	Here you can set PTZ movement when an alarm occurs. Such as go to preset X. See Figure 4-103.
Snapshot	Click setup button to select snapshot channel. See Figure 4-67.

4.6.4.9.2 Net Alarm

From main menu>Setup>Event>Alarm>Net alarm, the network alarm interface is shown as in Figure 4-104.

Network alarm refers to the alarm signal from the network. System does not anti-dither and sensor type setup. For setup information, please refer to chapter 4.6.4.9.1.

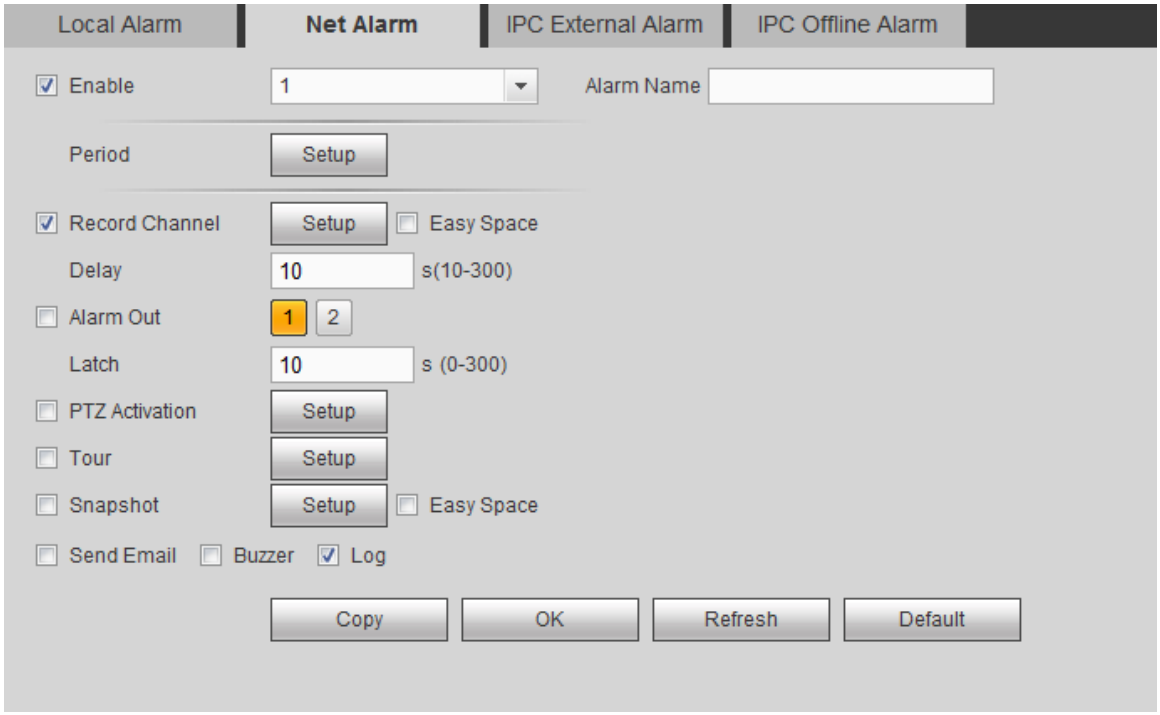


Figure 4-104

4.6.4.9.3 IPC external alarm

From main menu>Setup>Event>Alarm>IPC external alarm, the IPC external alarm interface is shown as in Figure 4-105.

Network alarm refers to the alarm signal from the network. System does not support anti-dither and sensor type setup. For setup information, please refer to chapter 4.6.4.9.1.

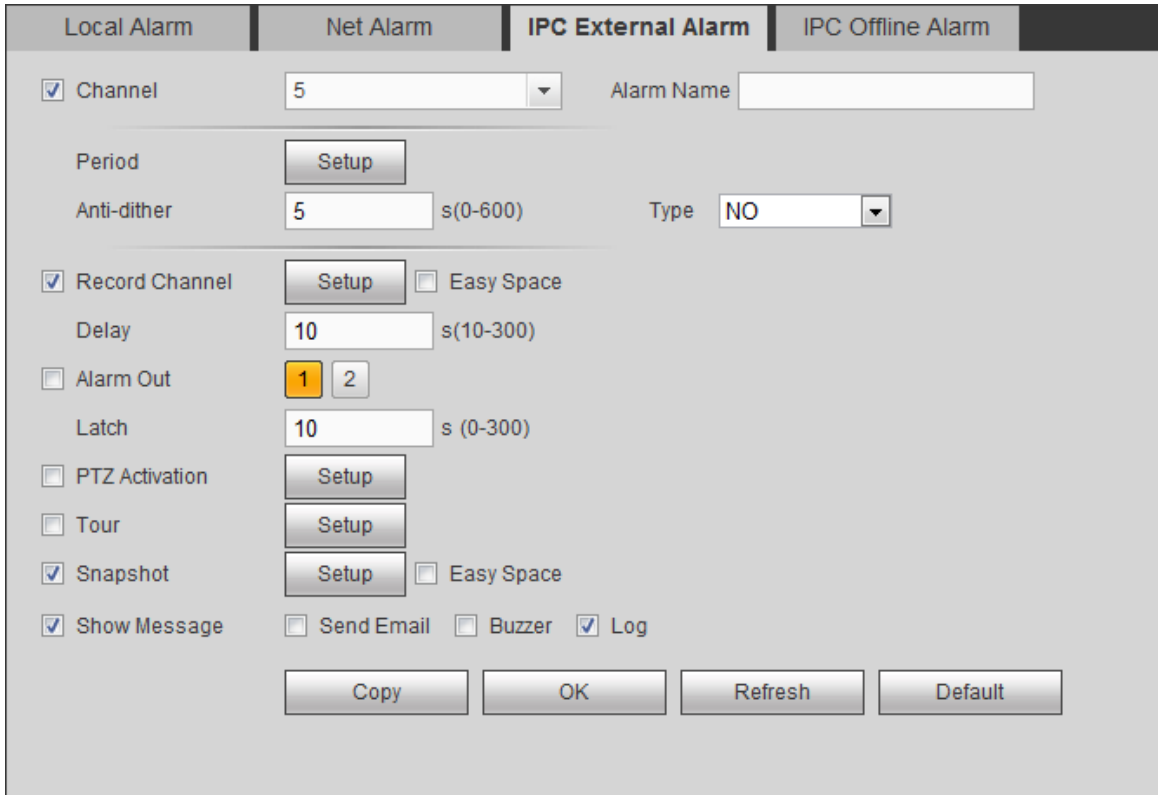


Figure 4-105

4.6.4.9.4 IPC Offline Alarm

From main menu>Setup>Event>Alarm>IPC offline alarm, the IPC offline alarm interface is shown as in Figure 4-106.

System can generate an alarm once the network camera is offline. For setup information, please refer to chapter 4.6.4.9.1.

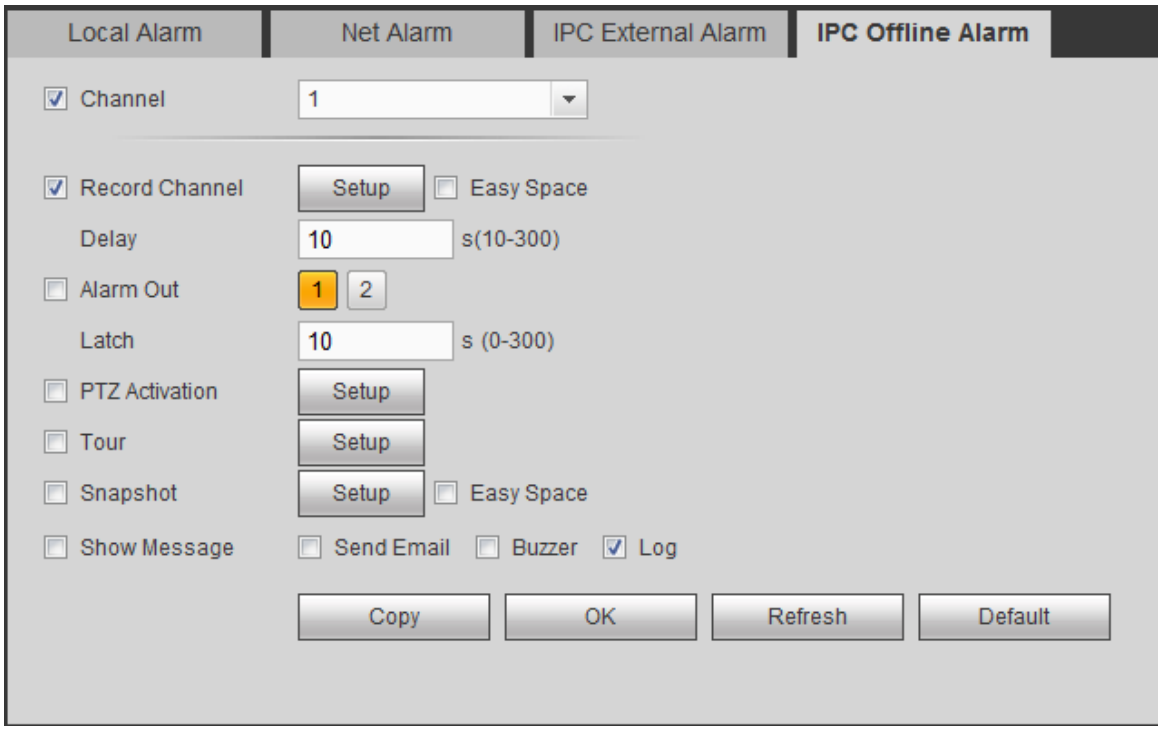


Figure 4-106

4.6.4.10 Abnormality

From main menu>Setup>Event>Abnormality, you can go to the abnormality interface. It includes three types: HDD/Network/Power fault. See Figure 4-107 through Figure 4-109.

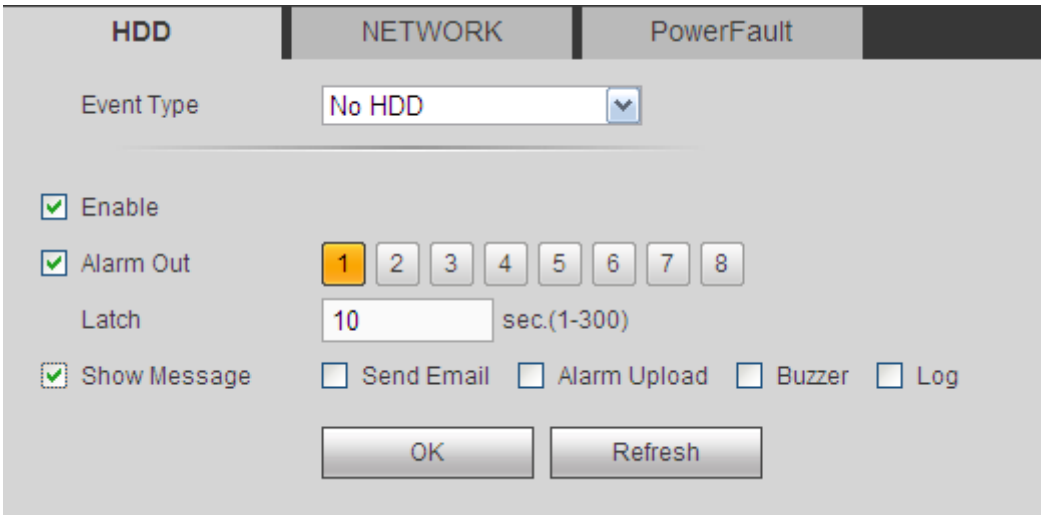


Figure 4-107

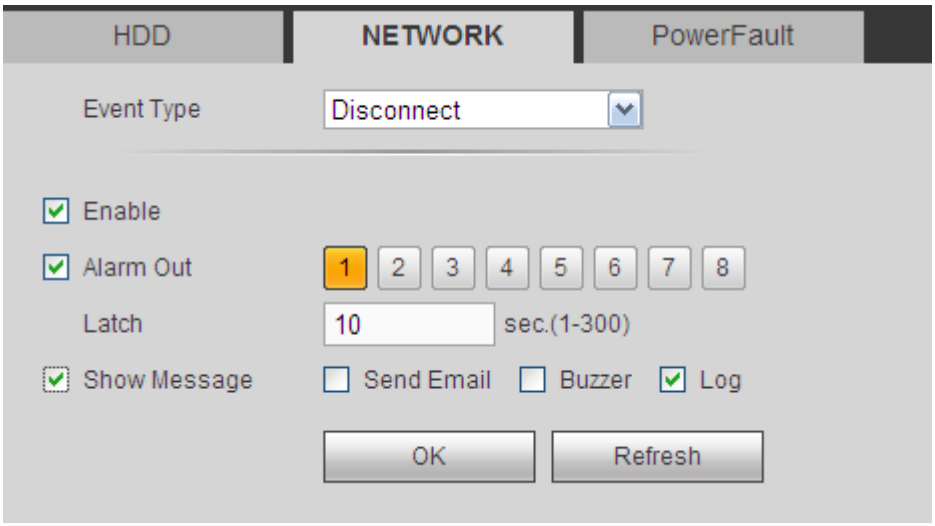


Figure 4-108

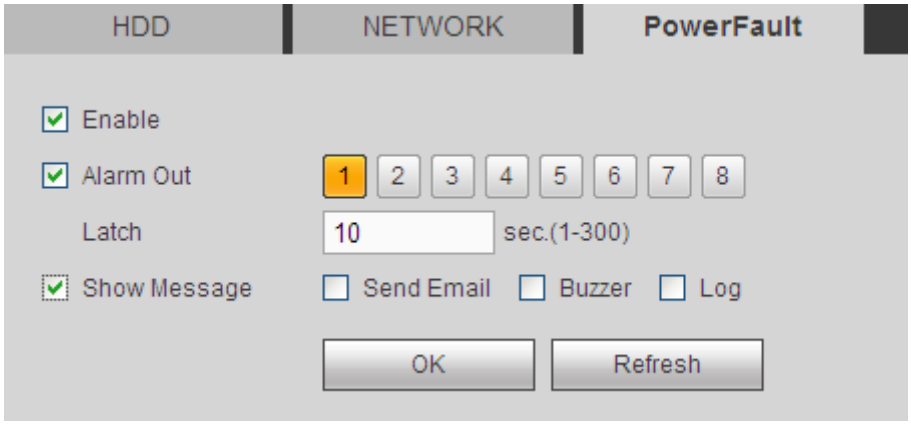


Figure 4-109

Please refer to the following sheet for detailed information.

Parameter	Function
Event Type	● The HDD event type includes: No HDD, HDD error, no space. See Figure 4-107. You can set one or more items here. Less than: You can set the minimum percentage value here (For HDD not space only). The device can alarm when capacity is not sufficient. You need to draw a circle to enable this function. ● Network event type includes: Disconnect/IP conflict/MAC conflict. See Figure 4-108. ● Power fault. The interface is shown as in Figure 4-109. This functi is for power-redundancy series product. When this function is on, you can remove one power sourcing from the system, it does not affect the normal operation of the device, but system will generate alarm to alert you.
Enable	Check the box here to enable selected function.

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

4.6.4.11 Alarm Output

From main menu> Setup>Event>Alarm output, it is to set alarm output mode. See Figure 4-110.

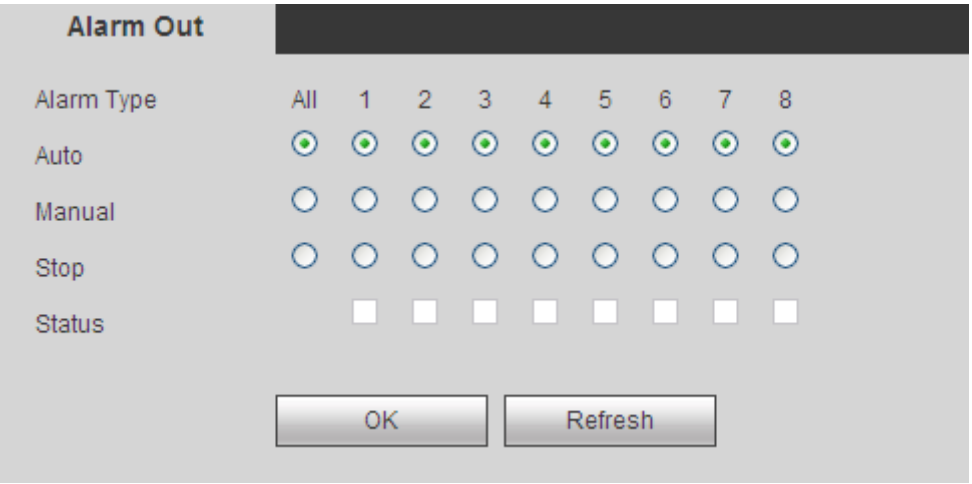


Figure 4-110

4.6.4.12 POS

Connect the NVR to the POS, it can receive the POS information and overlay on the corresponding record.

Note

POS info overlay and playback function is for 1-window only.

From main menu>Setting>System>POS, you can go to the following interface. See Figure 4-111.

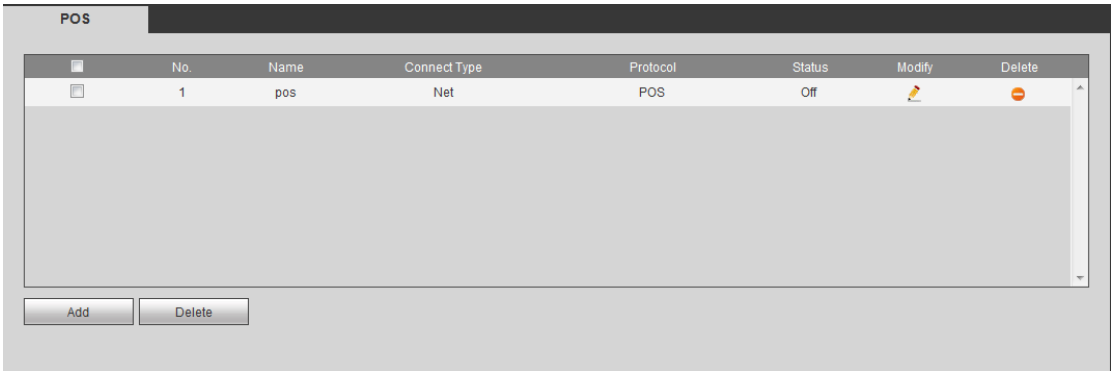


Figure 4-111

Click Add, you can see the following dialogue box. See Figure 4-112.

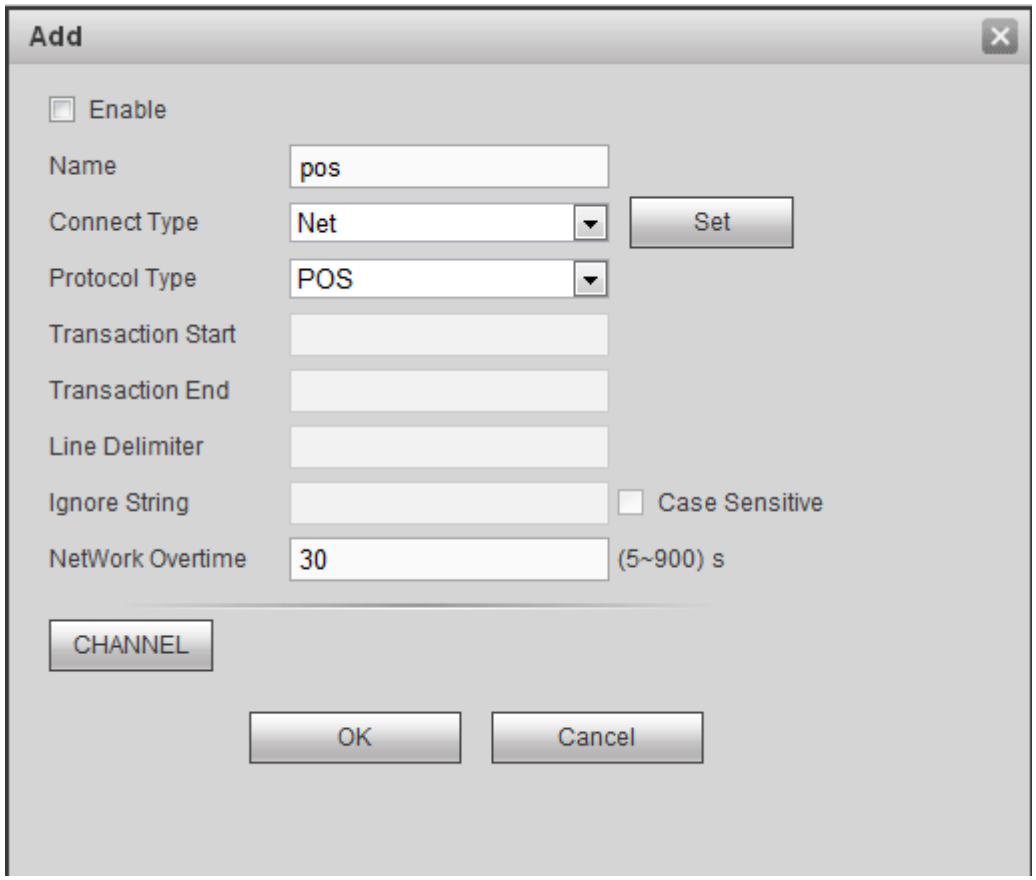


Figure 4-112

Check the box to enable POS function, Click Set button; you can see the following interface. See Figure 4-113

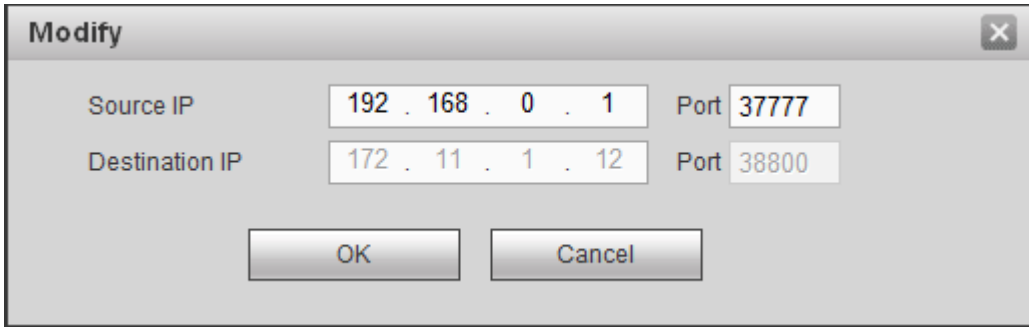


Figure 4-113

Set source IP and destination IP, and then click OK. System goes back to Figure 4-112.

- Source IP: POS device IP address.
- Destination IP: NVR IP address.

In Figure 4-112, click Channel Set button, select the channel you want to overlay POS information. Click OK button to complete the setup.

Tips

: Click it to delete POS setup.

: Click it to change setup information.

4.6.5 Storage

4.6.5.1 Basic

It is to manage HDD storage space.

Step 1 From main menu > Setup > Storage > Basic.

Enter Basic interface. See Figure 4-47.

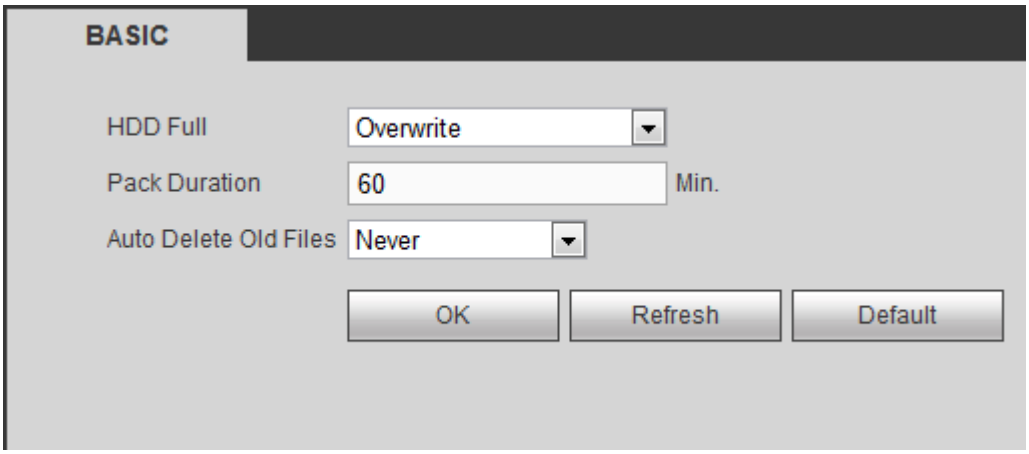


Figure 4-114

Step 2 Set parameters.

Parameter	Function
HDD full	It is to select working mode when hard disk is full. There are two optio 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.
Pack duration	It is to specify record duration. The max value is 120 minutes.
Auto delete old files	● Never: Do not auto delete old files. ● Customized: input customized period here, system can auto delete corresponding old files

4.6.5.2 Schedule

4.6.5.2.1 Record

From main menu> Setup>Storage>Schedule>Record, you can go to the record interface. In this interfaces, you can add or remove the schedule record setup. See Figure 4-115.

There are five record modes: Regular, motion detect, alarm and MD&alarm, and intelligence. There are six periods in one day.

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

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

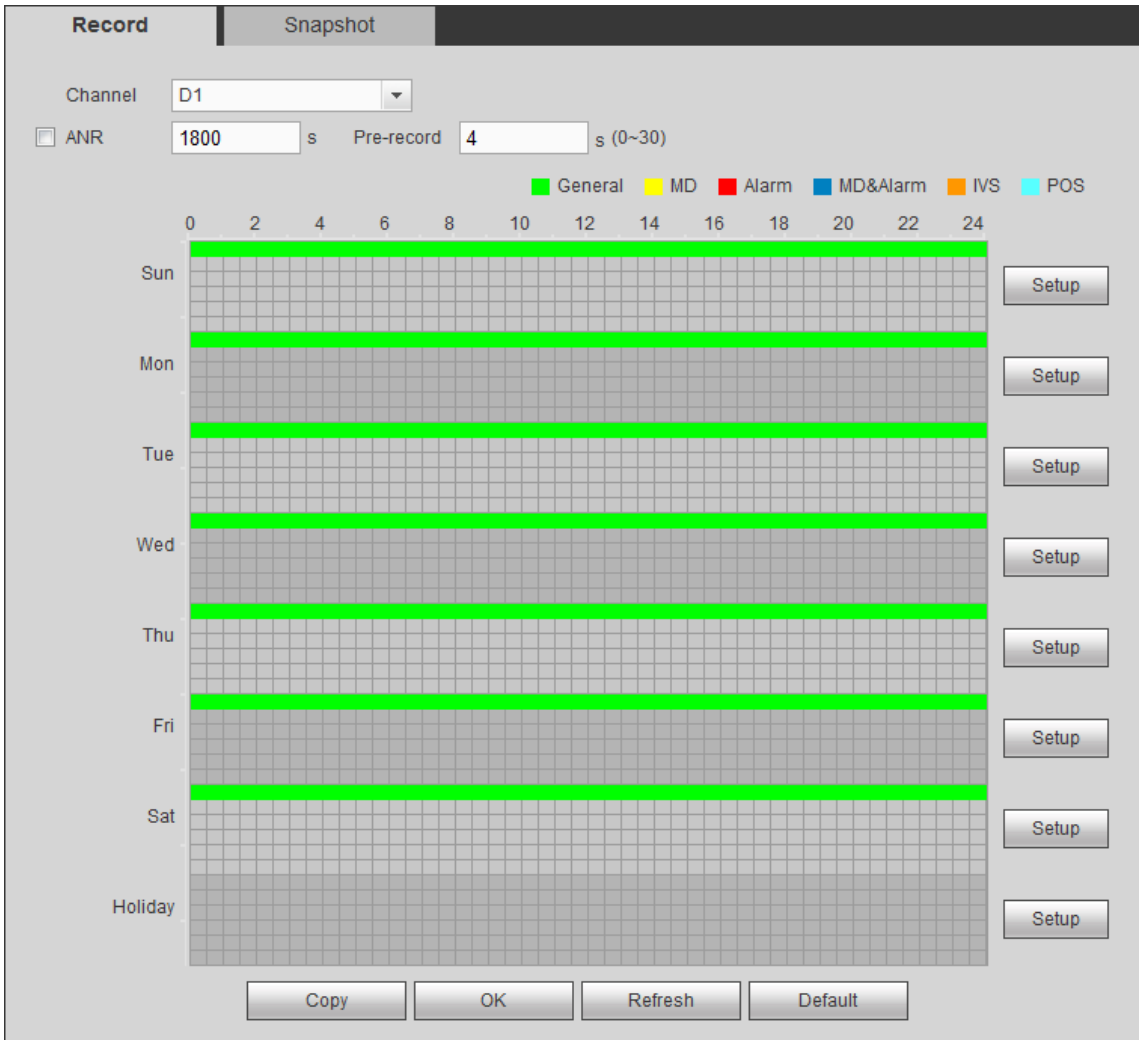


Figure 4-115

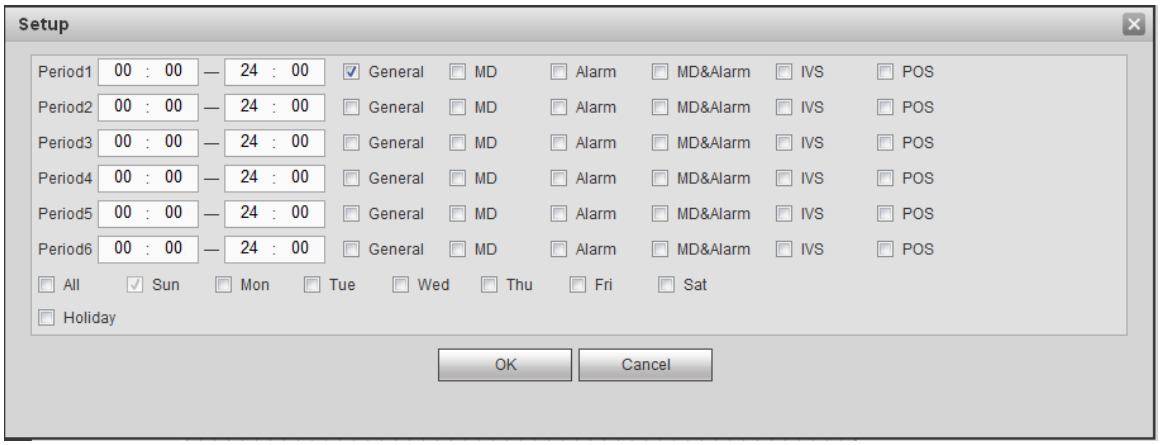


Figure 4-116

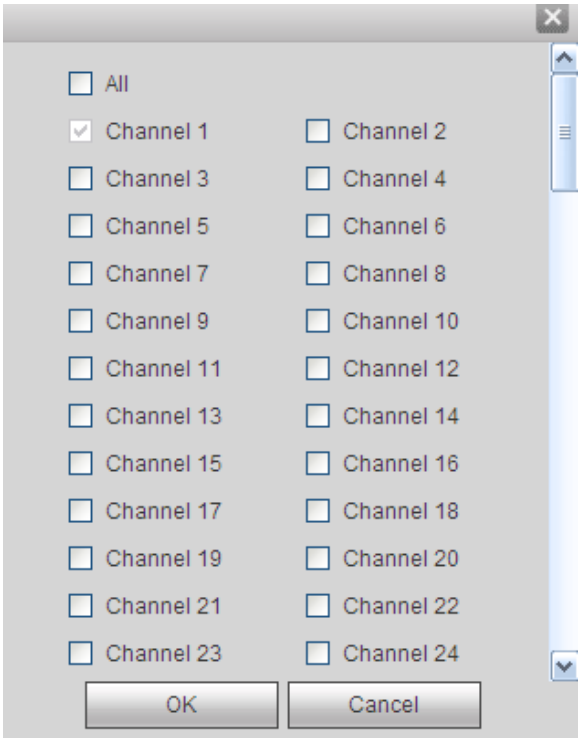


Figure 4-117

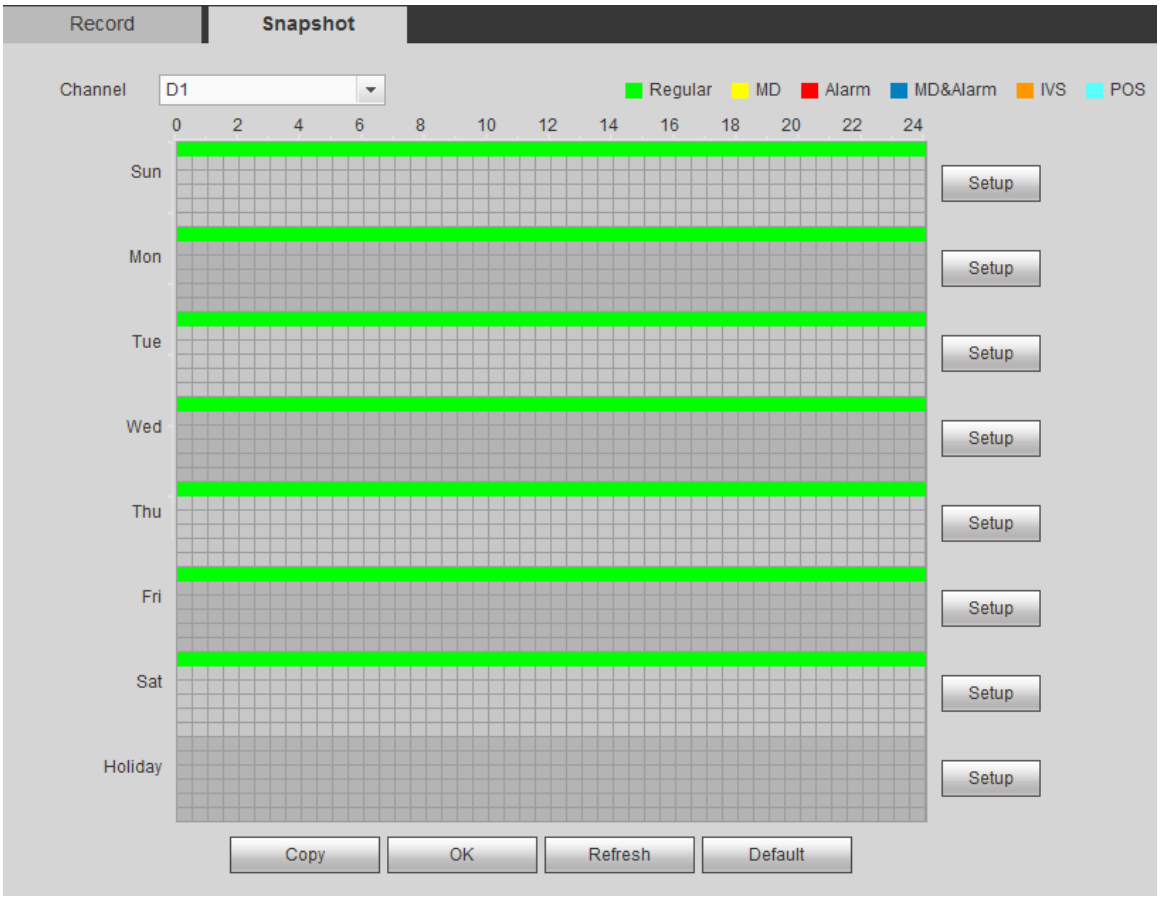
Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Please select a channel from the dropdown list.
ANR	Check the box here, you can enable ANR function. When the NVR and IPC connection is abnormal, the recorded file can be saved on the IPC (Please make sure your IPC has storage media and support this function). The NVR can download record from the IPC once the network connection is OK. You can set the max download record file length. Once the disconnection is more than the threshold you set here, NVR only downloads the specified record period.
Pre-record	Please input pre-record time here. The value ranges from 0 to 30.
Redundancy	Check the box here to enable redundancy function. **Please note this function is null if there is only one HDD.**
Snapshot	Check the box here to enable snapshot function.
Holiday	Check the box here to enable holiday function.
Setup	Click the Setup button, you can set record period. See Figure 4-116. There are six periods in one day. If you do not check the date at the bottom of the interface, current setup is for today only. Please click Save button and then exit.
Copy	Copy function allows you to copy one channel setup to another. After setting in channel, click Copy button, you can go to interface Figure 4-117. 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

Parameter	Function
	copy setup. Click the OK button in the Encode interface, the copy function succeeded.

4.6.5.2.2 Snapshot

From main menu> Setup>Storage>Schedule>Snapshot, you can go to the record interface. Please refer to chapter 4.6.5.2.1 for detailed information.



4.6.5.3 HDD Manager

From main menu> Setup>Storage>HDD manager, the HDD manager interface is shown as in Figure 4-118. Here you can see HDD information. You can also operate the read-only, read-write, redundancy (if there are more than one HDD) and format operation.

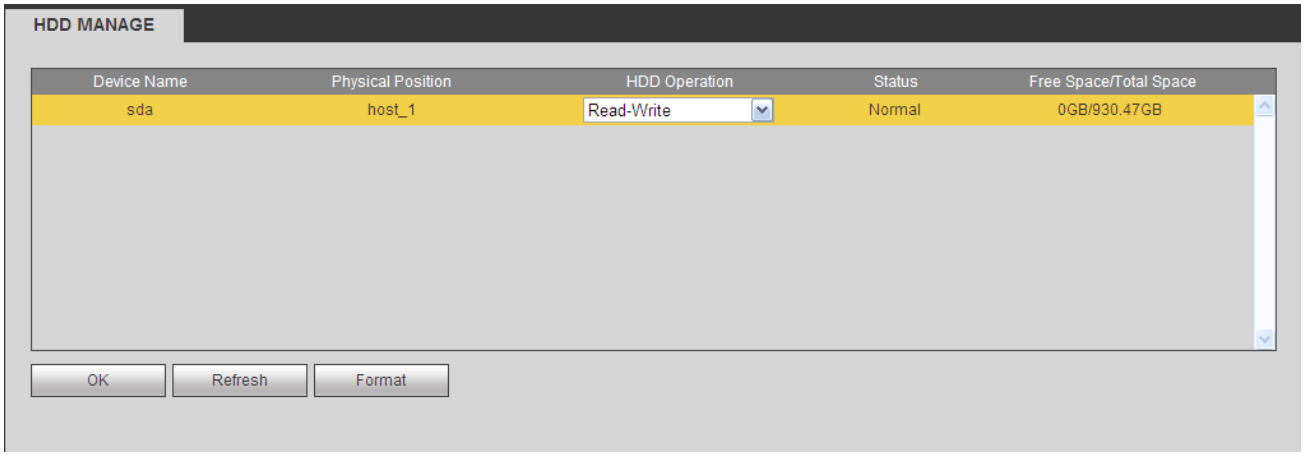


Figure 4-118

4.6.5.4 FTP

Configure FTP information on the FTP interface. See Figure 4-119.

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

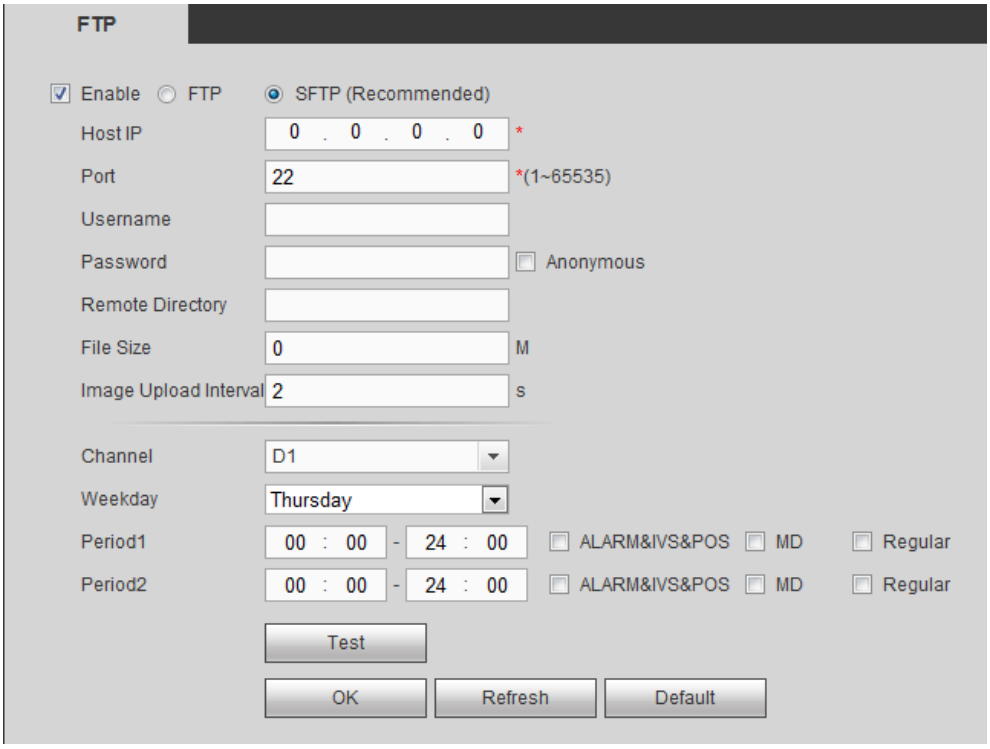


Figure 4-119

NOTE

FTP transmits data with clear text mode and SFTP transmits data with encrypted mode. SFTP is recommended.

- Host IP: The host IP you have installed the FTP server.
- Port: The default SFTP port number is 22 and the default FTP port number 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.

4.6.5.5 Record Control

From main menu>Setup>Storage>Record, the interface is shown as in Figure 4-120.

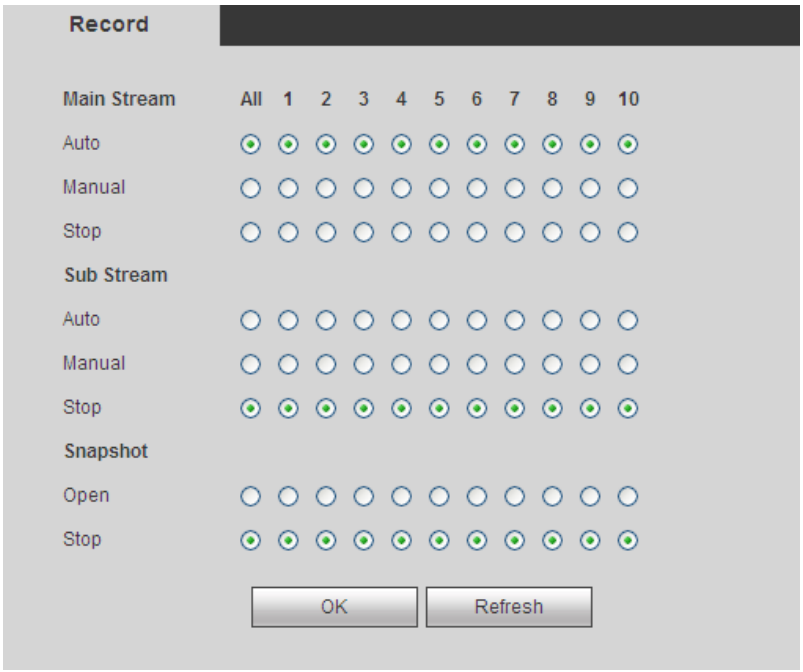


Figure 4-120

Please refer to the following sheet for detailed information.

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

4.6.5.6 Advanced

4.6.5.6.1 HDD

From main menu>Setup>Storage>Advanced>HDD, the HDD interface is shown as below. See Figure 4-121. Here you can set HDD group.

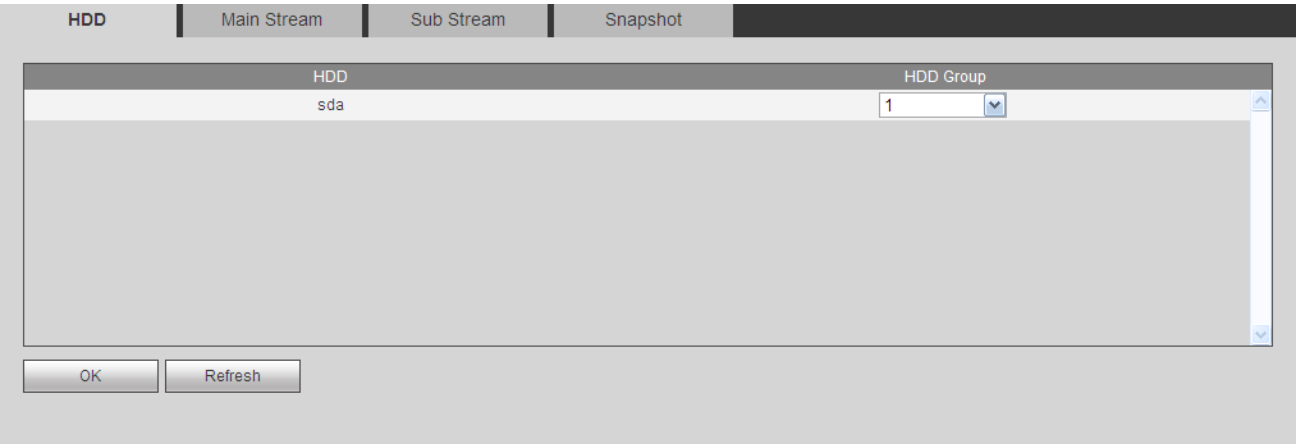


Figure 4-121

4.6.5.6.2 Main Stream

From main menu>Setup>Storage>Advanced>Main stream, the main stream interface is shown as in Figure 4-122. Here you can set corresponding HDD group to save main stream.

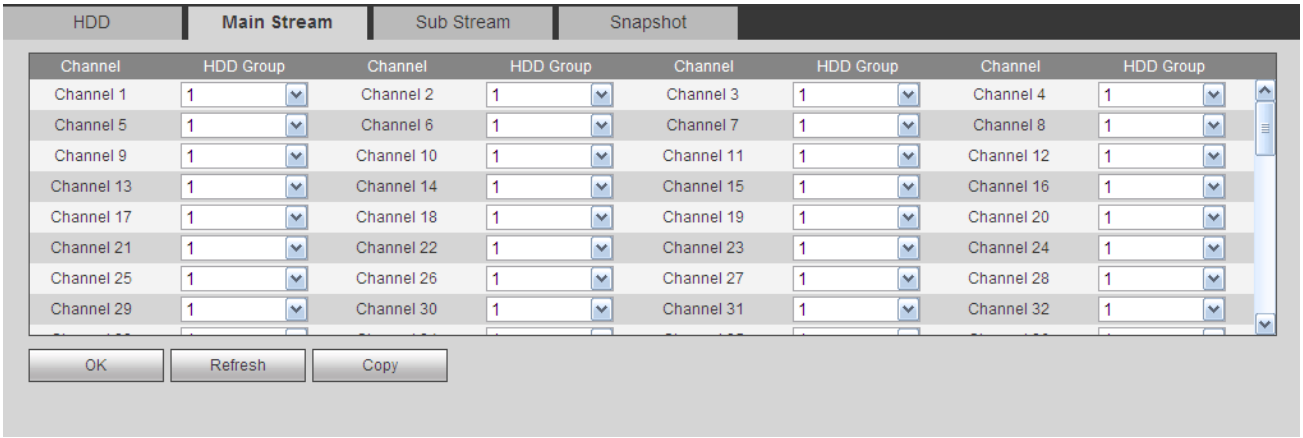


Figure 4-122

4.6.5.6.3 Sub Stream

From main menu>Setup>Storage>Advanced>Sub stream, the sub stream interface is shown as in Figure 4-123.

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

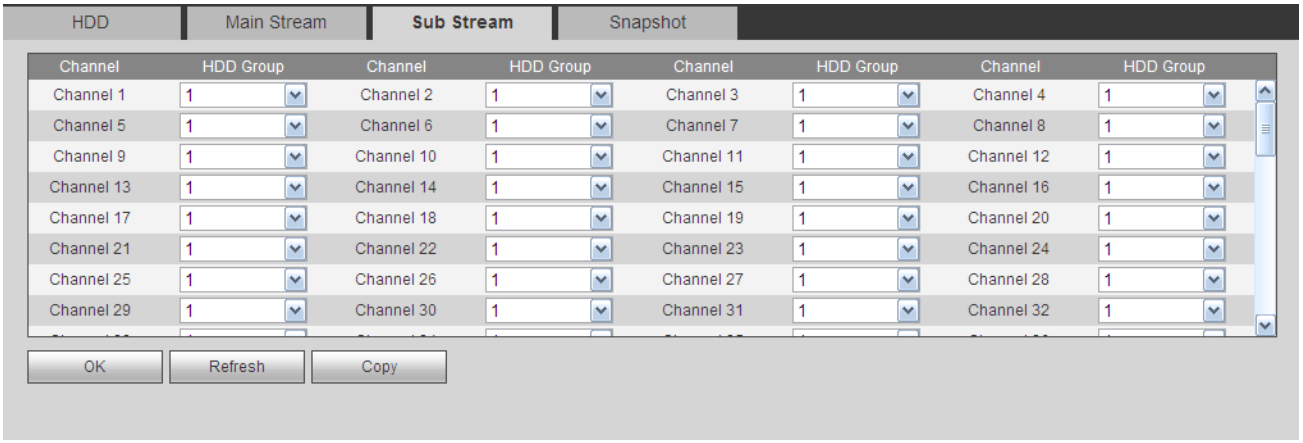


Figure 4-123

4.6.5.6.4 Snapshot

From main menu>Setup>Storage>Advanced>Snapshot, the snapshot interface is shown as in Figure 4-124 . Here you can set corresponding HDD group to save snapshot picture.

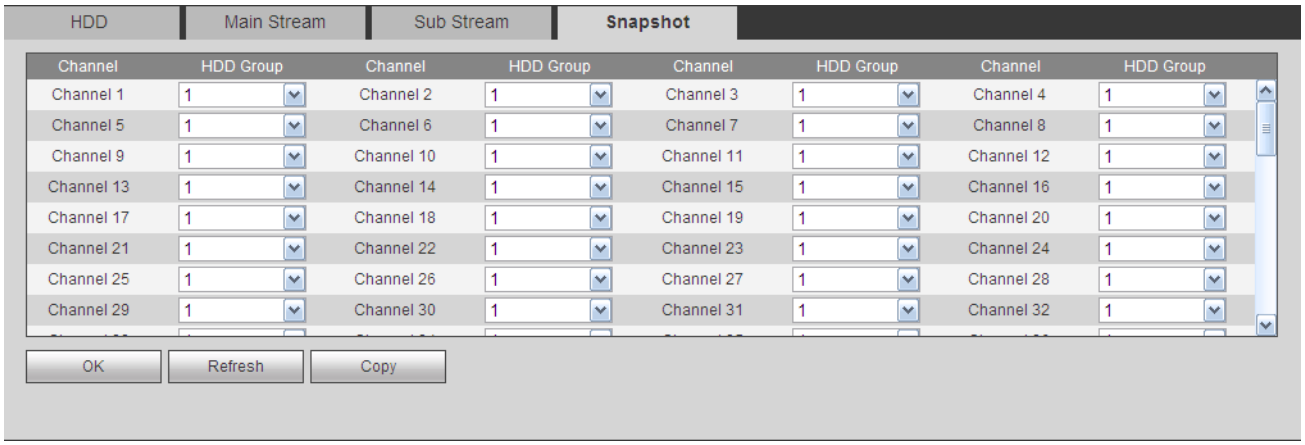


Figure 4-124

4.6.5.7 RAID Manager

Important

Please make sure your purchased product support the RAID function, otherwise you can not see the following interface.

4.6.5.7.1 RAID Config

From main menu>Setup>Storage>RAID>RAID config, you can go to the following interface. See Figure 4-125.

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.

Click Add button to select RAID type and then select HDDs, click OK button to add. See Figure 4-125.

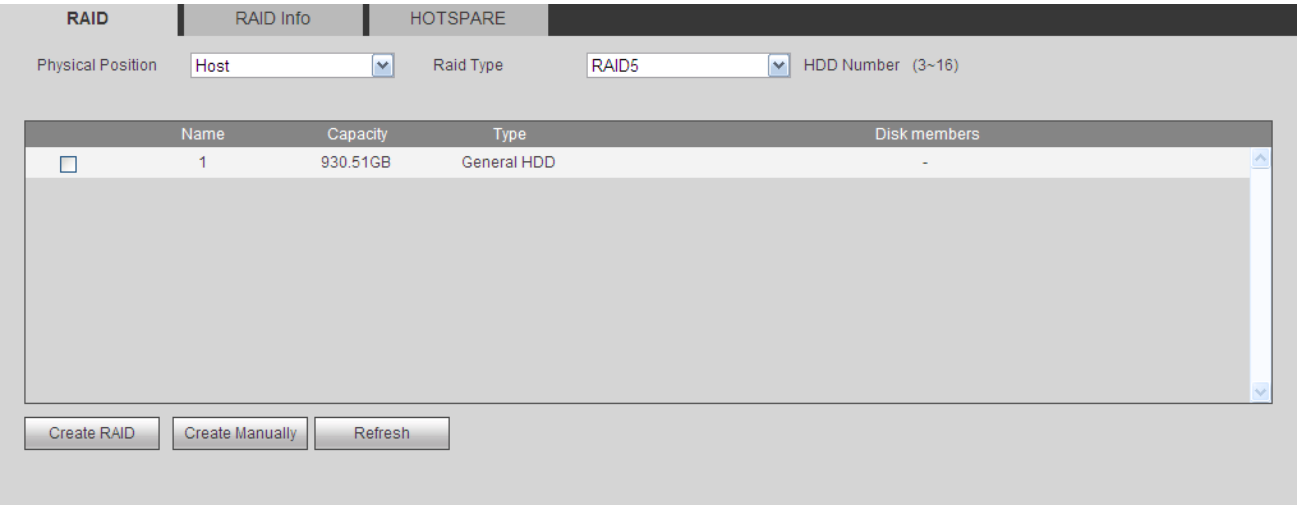


Figure 4-125

4.6.5.7.2 RAID Info

From main menu>Setup>Storage>RAID>RAID info, you can go to the following interface. See Figure 4-125. Here you can vie corresponding RAID information.

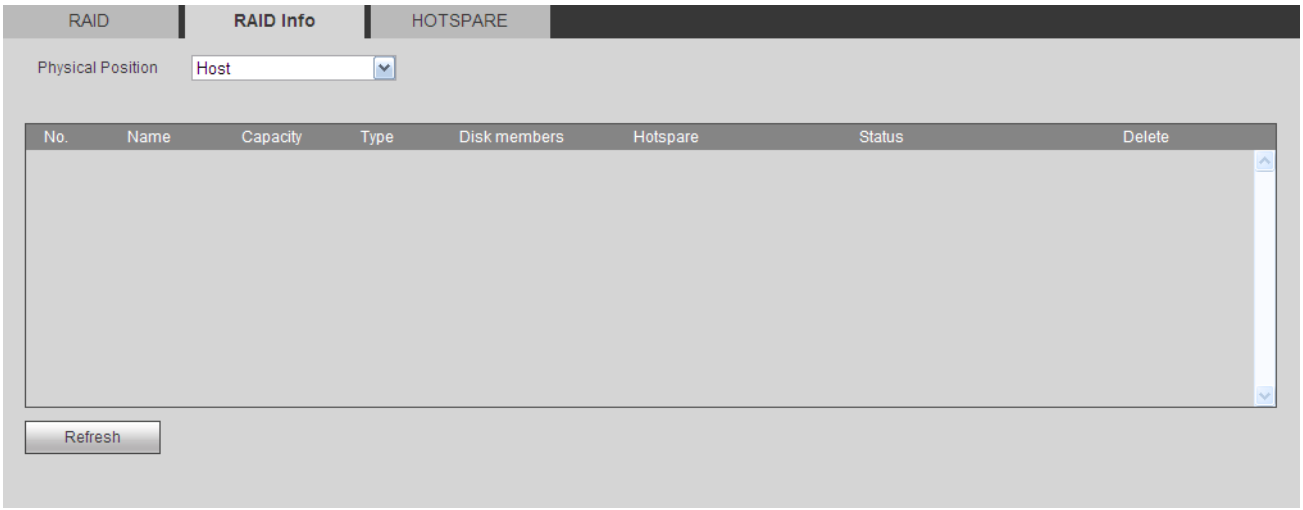


Figure 4-126

4.6.5.7.3 Hotspare disks

From main menu>Setup>Storage>RAID>Hotspare, you can see an interface shown as in Figure 4-127. 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.

Select a hot spare device and then click Delete button . Click Apply button to delete.

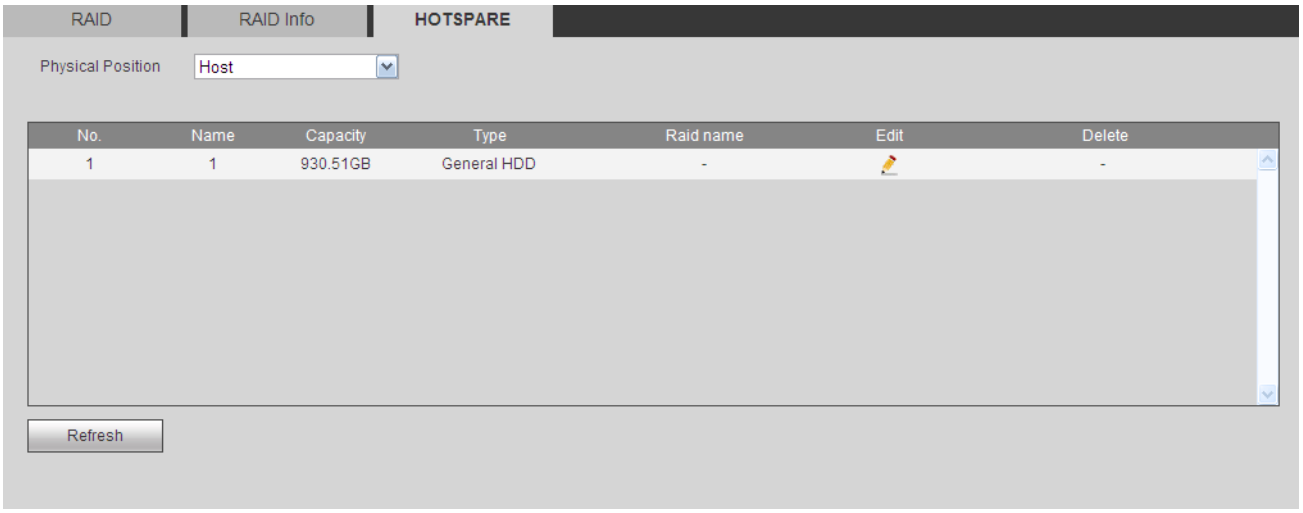


Figure 4-127

4.6.5.8 iSCSI

From main menu>Setup>Storage>iSCSI, you can see an interface shown as in Figure 4-128. Here you can set corresponding HDD group to save main stream.

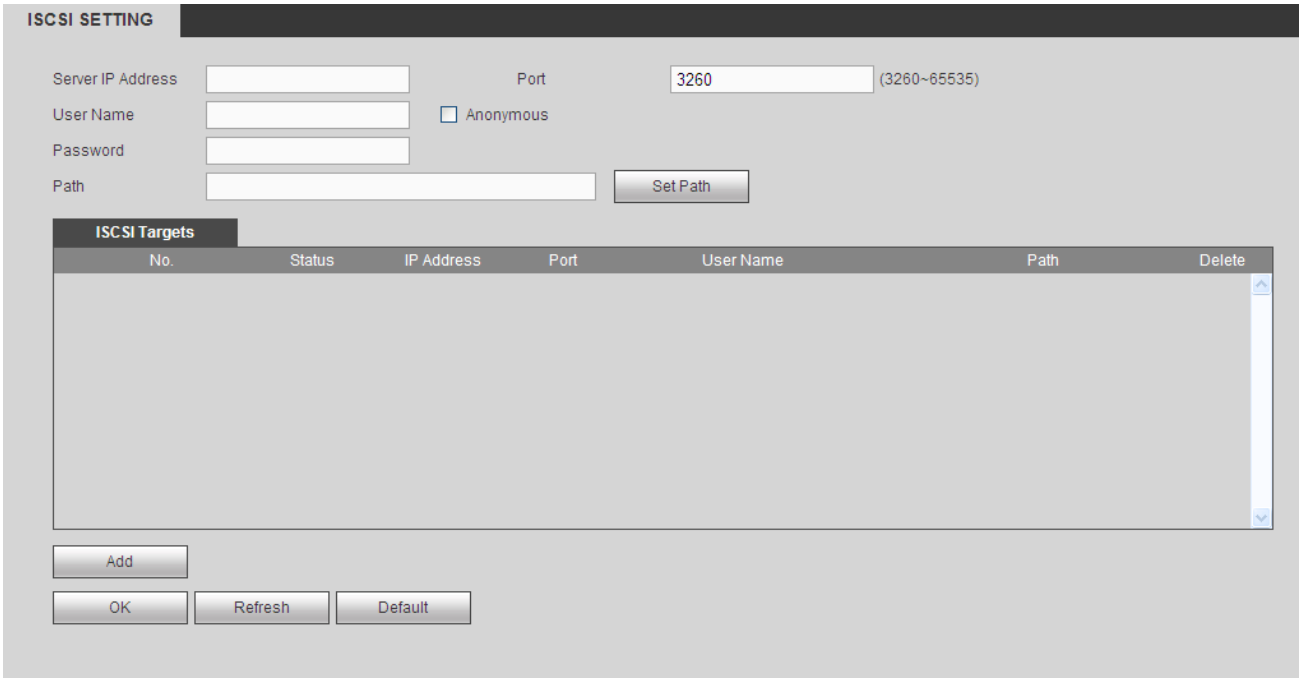


Figure 4-128

Check the box to enable iSCSI function and then input iSCSI server IP address and port. The default port number is 3260.

Click Set path button, system pops up the path setup dialogue box. Please select the connected path and then click OK button. See Figure 4-129.

Each path here stands for an iSCSI share disk. The path is already generated when it was created on the server.

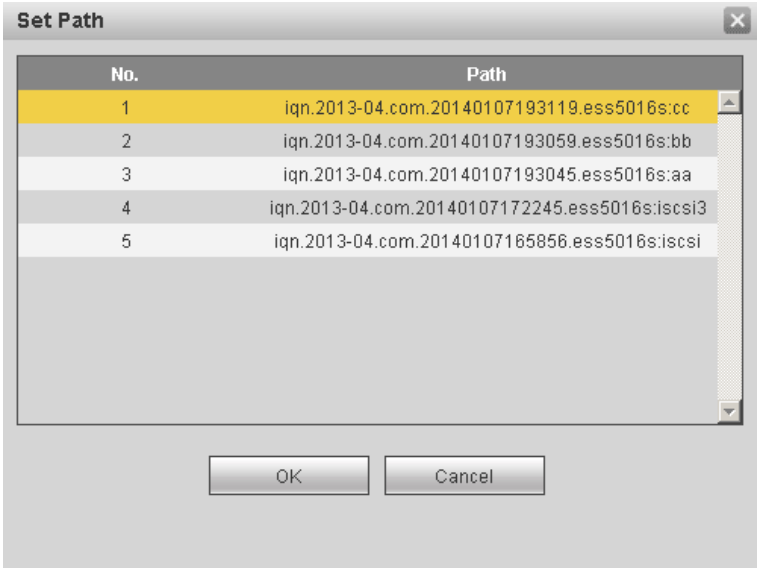


Figure 4-129

Input user name and password to set iSCSI path access right.

There are two situations:

- When you set the iSCSI server, you have set corresponding user name or password for a path. In this situation, you need to input user name or password to login.
- When you set the iSCSI server, you have not set the corresponding access right. In this situation, you can check the anonymous button or input customized user name.

Click add button, now you have added an iSCSI server. Click OK button, the setup is finish. The interface is shown as in Figure 4-130.

Note:

- If you have not input a user name/password, or check the anonymous button, system pops up a dialogue box to prompt you that system is going to add anonymously. In this situation, once the iSCSI path has the access setup, you may not connect to the iSCSI server.
- Since the connection may take a while, please wait a moment and then click refresh button, once the status is shown as offline after you added.

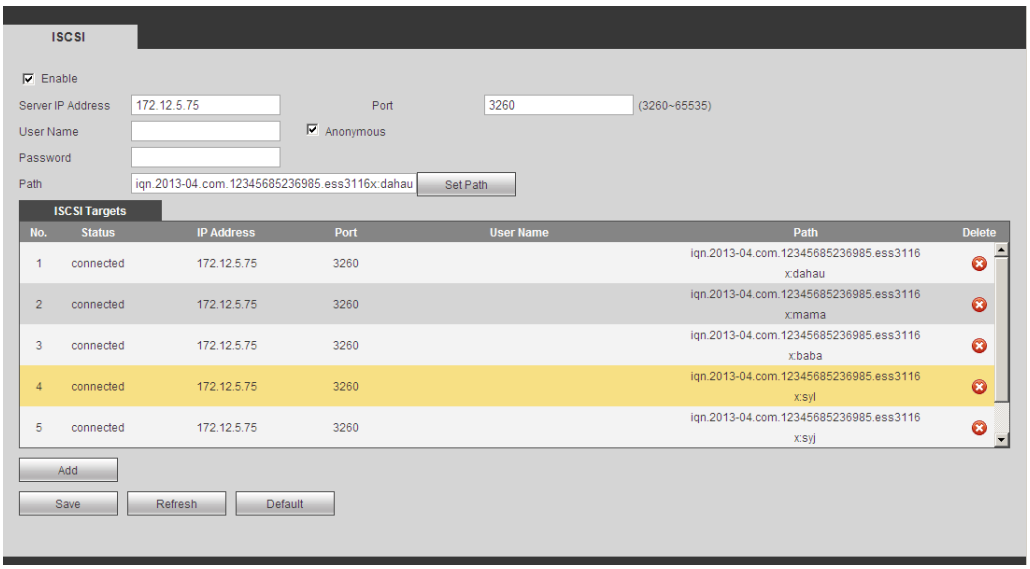


Figure 4-130

4.6.6 System

4.6.6.1 General

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

4.6.6.1.1 General

From main menu>Setup>System>General>General, the general interface is shown as in Figure 4-131.

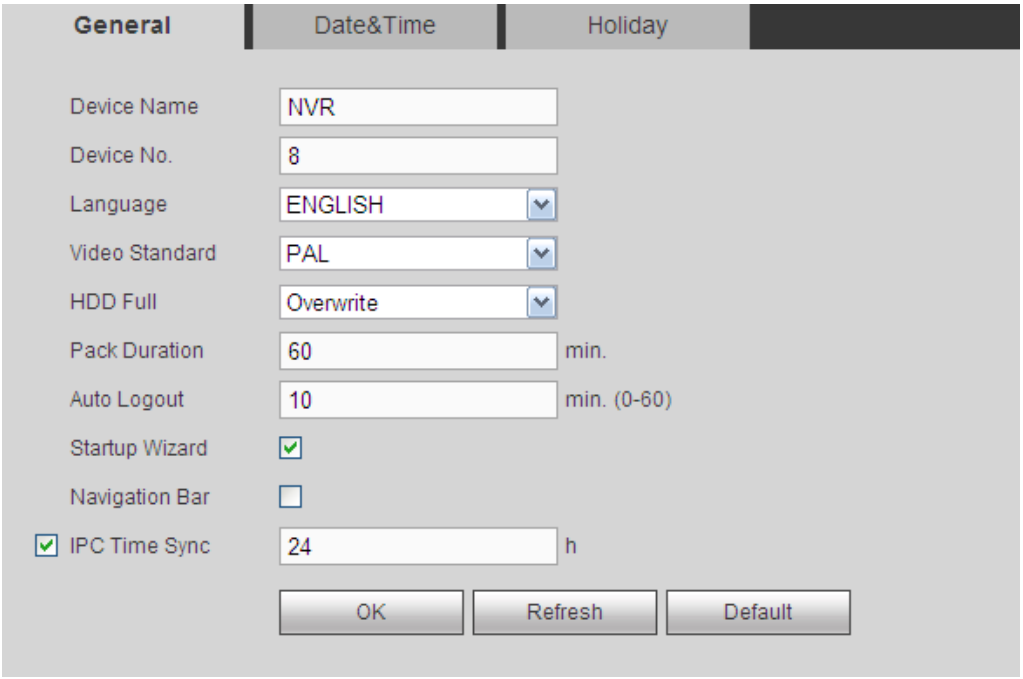


Figure 4-131

Please refer to the following sheet for detailed information.

Parameter	Function
Device ID	It is to set device name.
Device No.	It is device channel number.
Language	You can select the language from the dropdown list. **Please note the device needs to reboot to get the modification activated.**
Video Standard	This is to display video standard such as PAL.
HDD full	Here is for you to select working mode when hard disk is full. There are two options: stop recording or rewrite. If current working HDD is overwritten or the current HDD is full while the next HDD is no empty, then system stops recording, If the current HDD is full and then next HDD is not empty, then system overwrites the previous files.
Pack duration	Here is for you to specify record duration. The value ranges from 1 to 120 minutes. Default value is 60 minutes.
Auto logout	Here is for you to set auto logout interval once login user remains inactive for a specified time. Value ranges from 0 to 60 minutes.
Startup wizard	Once you check the box here, system will go to the startup wizard directly when the system restarts the next time. Otherwise, it will go

	to the login interface.
Navigation bar	Check the box here, system displays the navigation bar on the interface.
IPC Time Sync	You can input an interval here to synchronize the NVR time and IPC time.

4.6.6.1.2 Date and time

From main menu>Setup>System>General>Date and time, the date and time interface is shown as in Figure 4-132

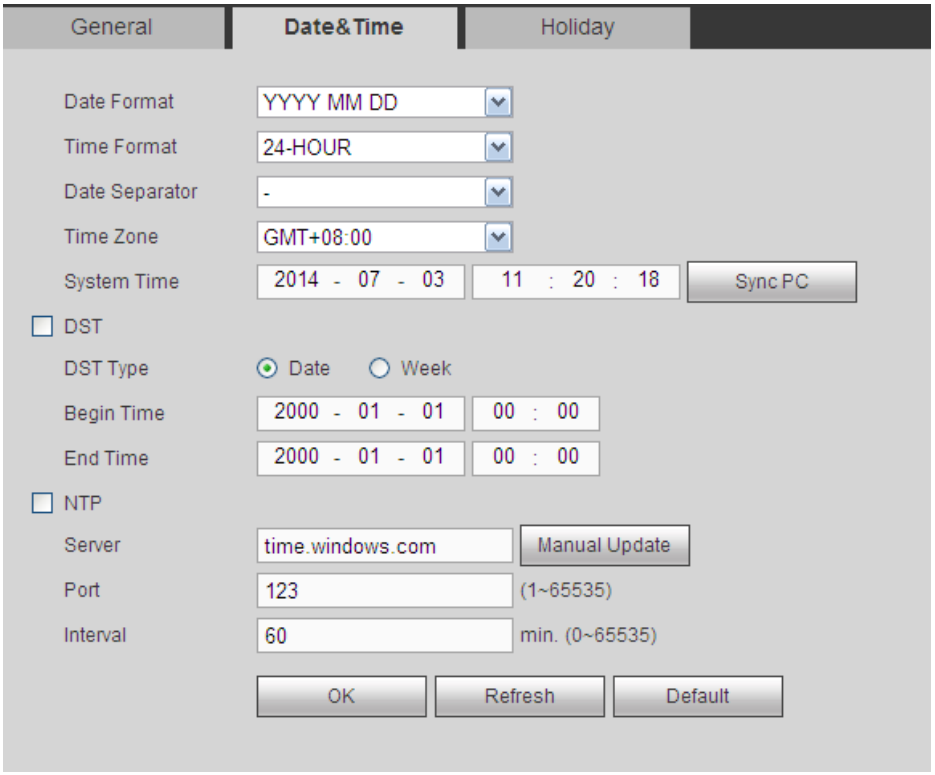


Figure 4-132

Please refer to the following sheet for detailed information.

Parameter	Function
Date format	Here you can select date format from the dropdown list.
Time Format	There are two options: 24-H and 12-H.
Time zone	The time zone of the device.
System time	It is to set system time. It becomes valid after you set. **Caution** System time is very important! Do not change unless there is a must!
Sync PC	You can click this button to save the system time as your PC current time.
DST	Here you can set day night save time begin time and end time. You can set according to the date format or according to the week format.

NTP	You can check the box to enable NTP function.
NTP server	You can set the time server address.
Port	It is to set the time server port.
Interval	It is to set the sync periods between the device and the time server.

4.6.6.1.3 Holiday Setup

From main menu>Setup>System>General>Holiday, holiday setup interface is shown as in Figure 4-133. Here you can click Add holidays box to add a new holiday and then click Save button to save.

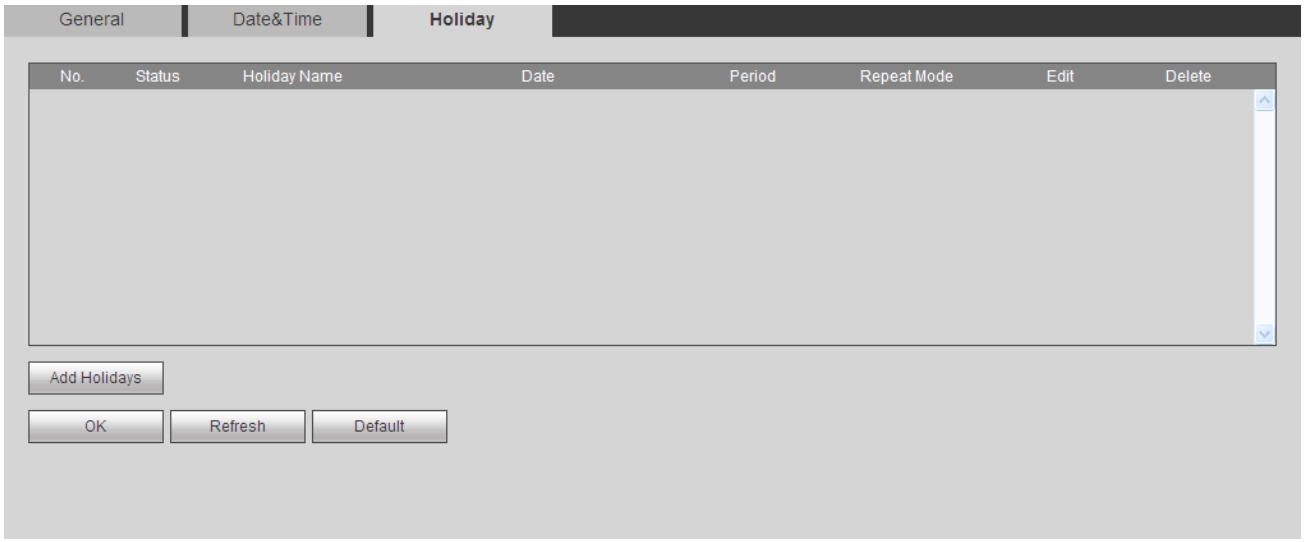


Figure 4-133

Note

- When you enable Holiday settings and schedule setup at the same time, holiday setting has the priority. If the selected day is a holiday, then system records as you set in holiday setting. If it is not a holiday, system records as you set in Schedule interface.
- After you successfully set holiday date, the record and snapshot period will be also shown as holiday item.

4.6.6.2 Display

Display interface includes GUI, Tour.

4.6.6.2.1 Display

From main menu>Setup>System>Display>Display, here you can set background color and transparency level. See Figure 4-134.

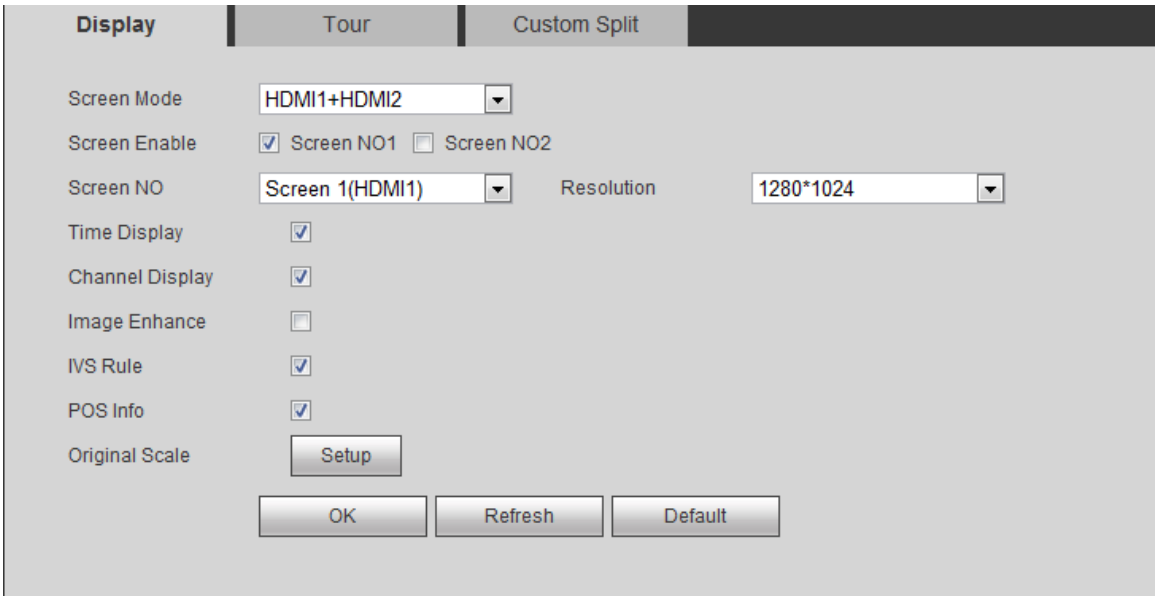


Figure 4-134

Please refer to the following sheet for detailed information.

Parameter	Function
Resolution	There are four options: 1920×1080, 1280×1024(default), 1280×720, 1024×768. Please note the system needs to reboot to activate current setup.
Transparency	Here is for you to adjust transparency. The value ranges from 128 to 255.
Time title/channel title	Check the box here, you can view system time and channel number on the monitor video.
Image enhance	Check the box; you can optimize the margin of the preview video.
POS info	Check the box here to overlay POS info on the preview interface.
Original rate	Click Setup button and then select a channel, you can restore original scale.

4.6.6.2.2 Tour

From main menu>Setup>System>Display>Tour, the tour interface is shown as in Figure 4-135. Here you can set tour interval, split mode, motion detect tour and alarm tour mode.

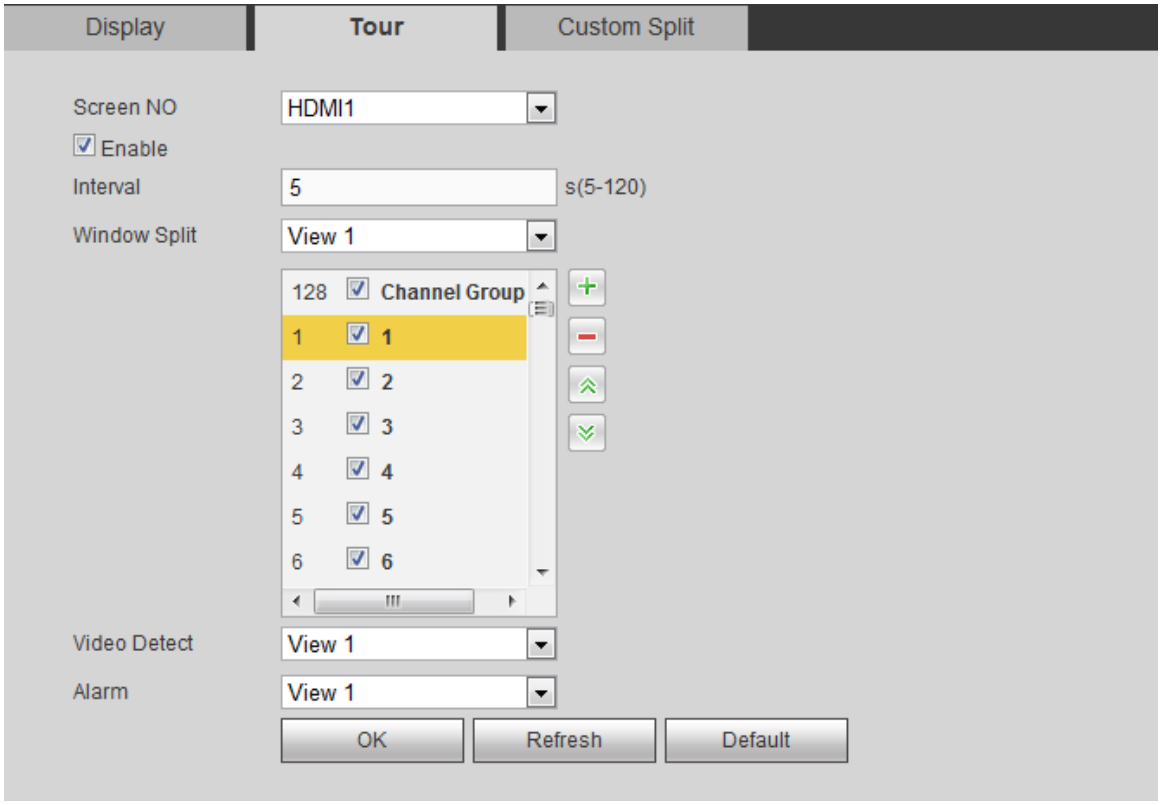


Figure 4-135

Please refer to the following sheet for detailed information.

Parameter	Function
Enable tour	Check the box here to enable tour function.
Interval	Here is for you to adjust transparency. The value ranges from 5 to 120s. The default setup is 5s.
Split	Here you can set window mode and channel group. System can support 1/4/8/9/16/25/36-window according to device channel amount.
Motion tour/Alarm tour	Here you can set motion detect tour/alarm tour window mode. System supports 1/8-window now.

4.6.6.2.3 Custom Split

From main menu>Setup>System>Display>Custom split, the interface is shown as in Figure 4-136. Here you can set customized split mode.

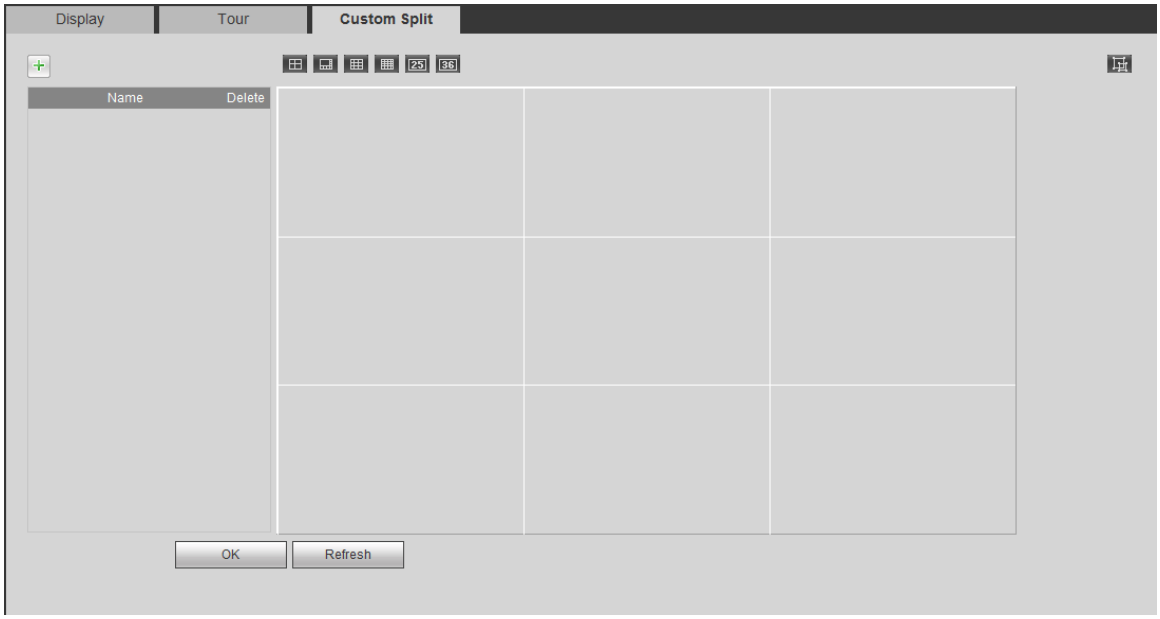


Figure 4-136

Click  and then click  to select basic mode

In regular mode, drag the mouse in the preview frame, you can merge several small windows to one window so that you can get you desired split mode.

After the setup, the selected window has the red frame.

Select the merging window, the frame is red; you can click  to cancel the merge to restore regular mode.

Click OK to exit.

4.6.6.3 PTZ

The PTZ interface is shown as in Figure 4-137 (local type) and Figure 4-138 (remote type).

Before setup, please check the following connections are right:

- PTZ and decoder connection is right. Decoder address setup is right.
- Decoder A (B) line connects with NVR A (B) line.

Click Save button after you complete setup, you can go back to the monitor interface to control speed dome.

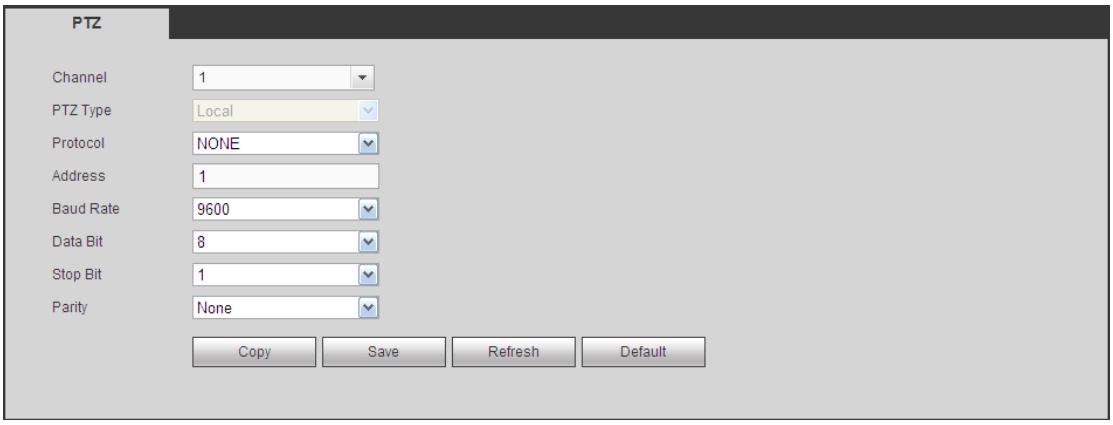


Figure 4-137

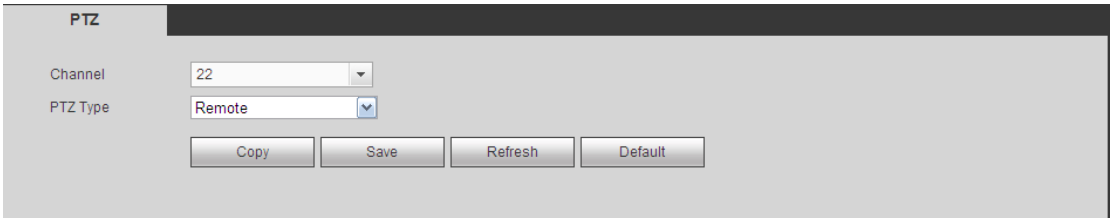


Figure 4-138

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Select speed dome connected channel.
PTZ Type	There are two options: local/remote. Please select remote type if you are connecting to the network PTZ.
Protocol	Select the corresponding dome protocol such as PELCOD.
Address	Set corresponding dome address. Default value is 1. **Please note your setup here shall comply with your dome address; otherwise you can not control the speed dome.**
Baud Rate	Select the dome baud rate. Default setup is 9600.
Data Bit	Default setup is 8. Please set according to the speed dome dial switch setup.
Stop bit	Default setup is 1. Please set according to the speed dome dial switch setup.
Parity	Default setup is none. Please set according to the speed dome dial switch setup.

4.6.6.4 Voice

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

4.6.6.4.1 File List

From main menu->Setup->System->Voice->File list, here you can add audio file, or delete audio file. See Figure 4-139.

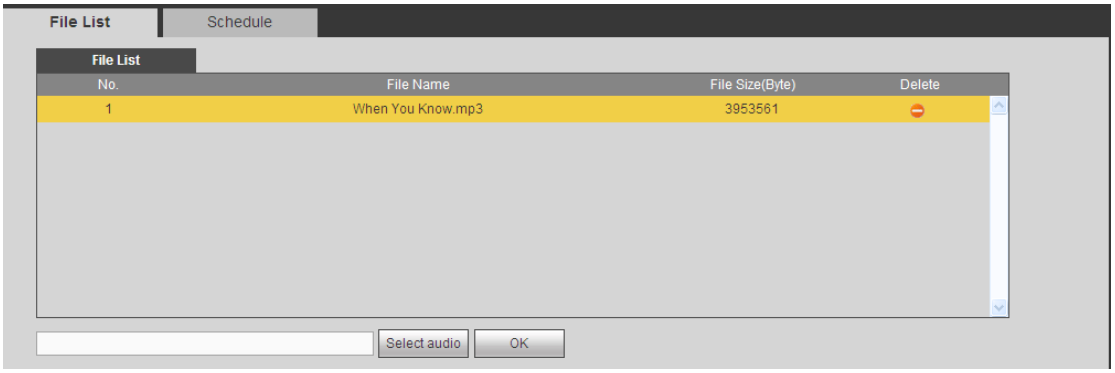


Figure 4-139

Click Add button, you can add audio file and import the audio file via the local computer. See Figure 4-140.

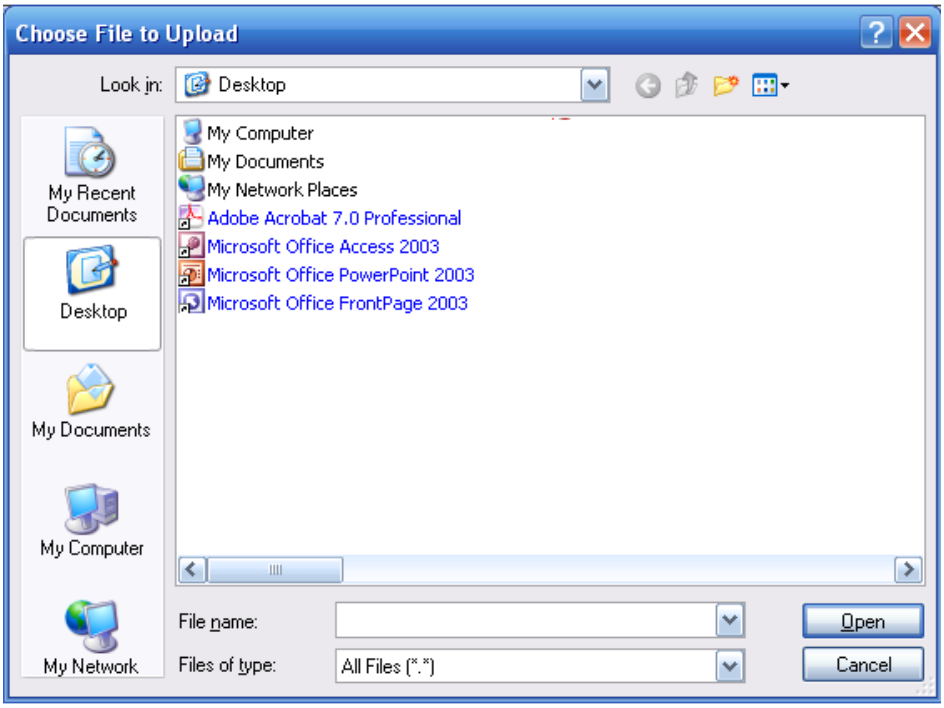


Figure 4-140

4.6.6.4.2 Schedule

It is to set schedule broadcast function. You can play the different audio files in the specified periods. From main menu->Setup->System->Voice->.Schedule, you can see the following interface. See Figure 4-141.

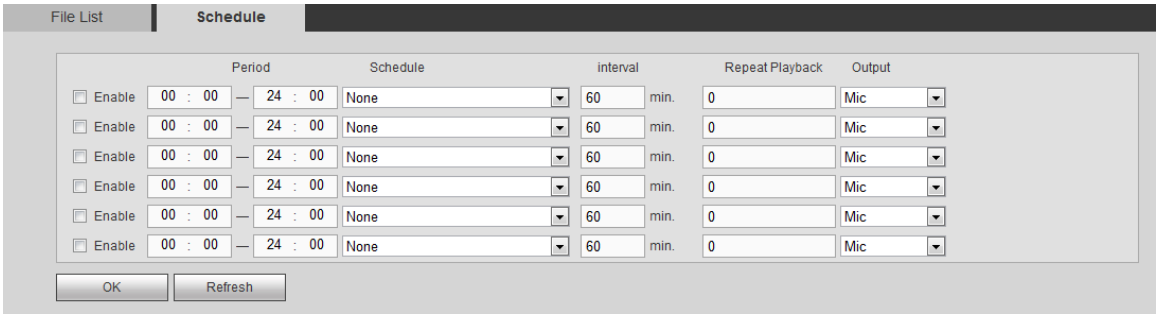


Figure 4-141

Please refer to the following sheet for detailed information.

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.

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.

4.6.6.5 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.

4.6.6.5.1 User name

From main menu->Setup->System->Account->Account, enter account interface. See Figure 4-142.

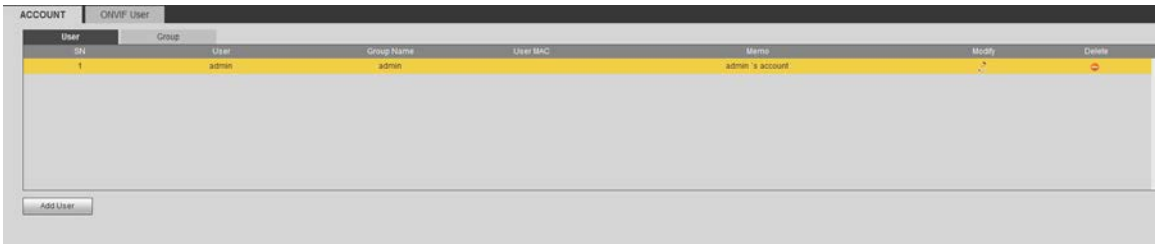


Figure 4-142

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 4-143.

Step 2 Here you can input the user name and password and then select one group for current user.

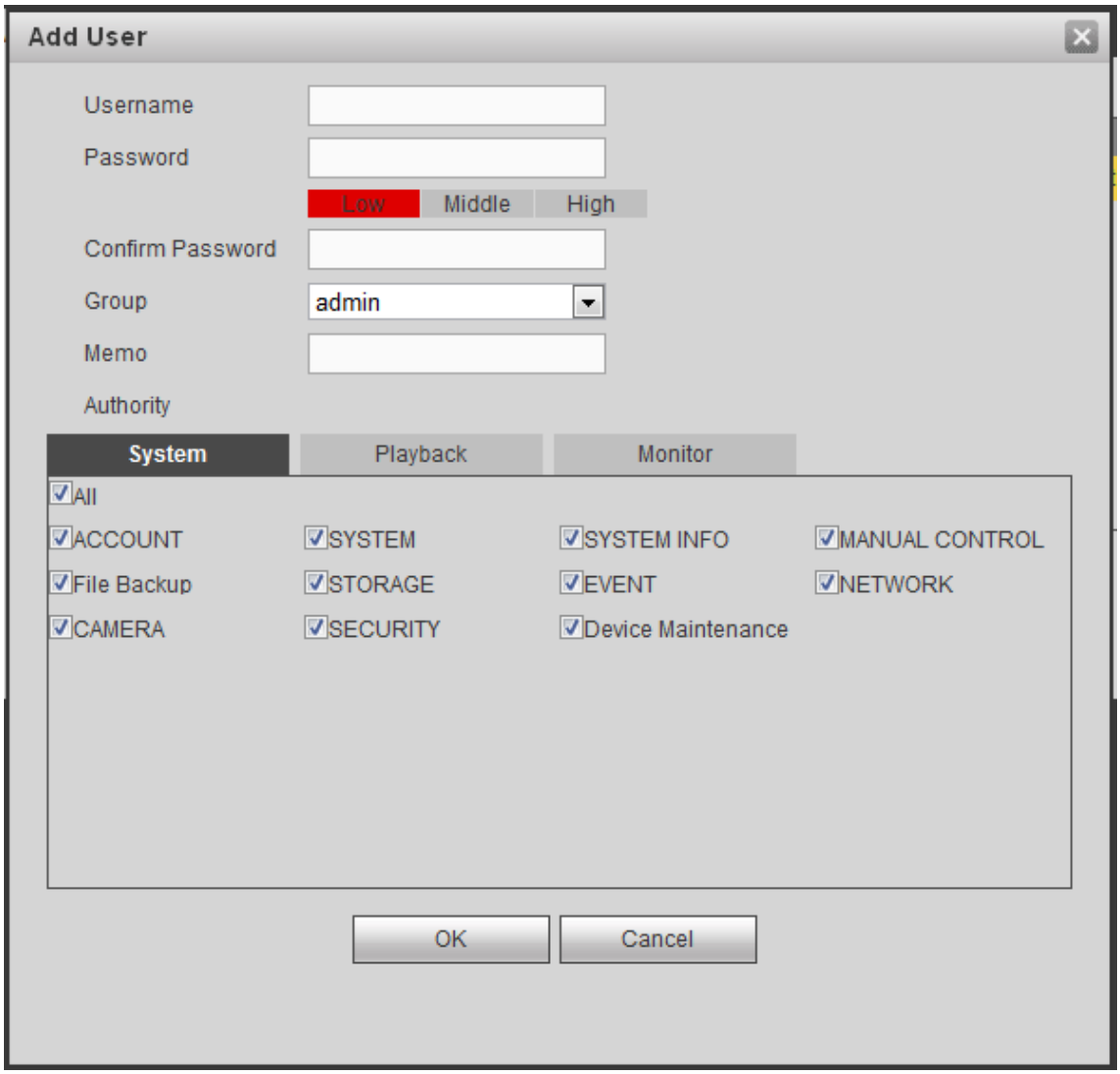


Figure 4-143

Step 3 Configure the parameters.

Step 4 Click OK 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 4-144.

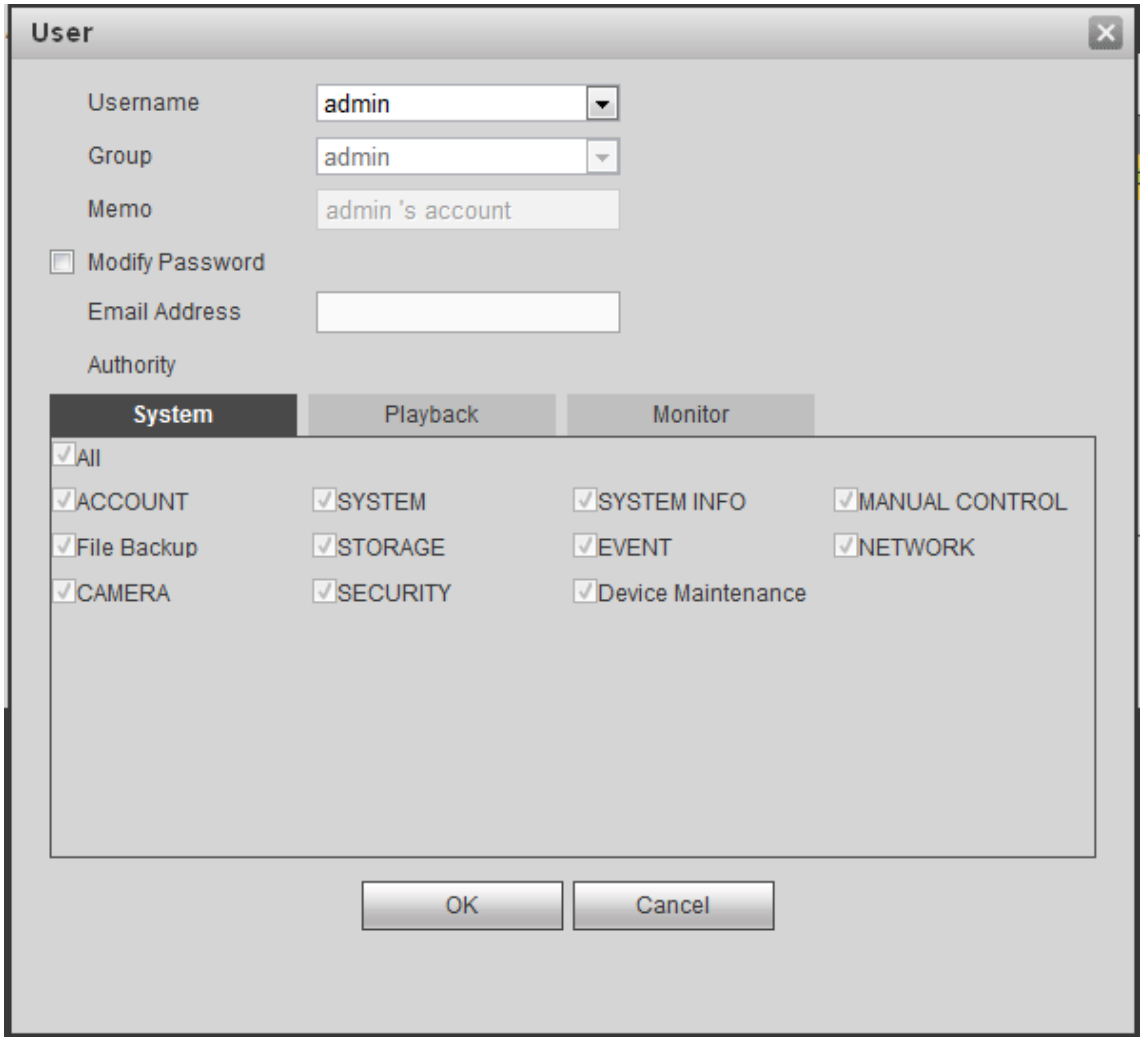


Figure 4-144

Note

For admin, you can change the email information. See Figure 4-145.

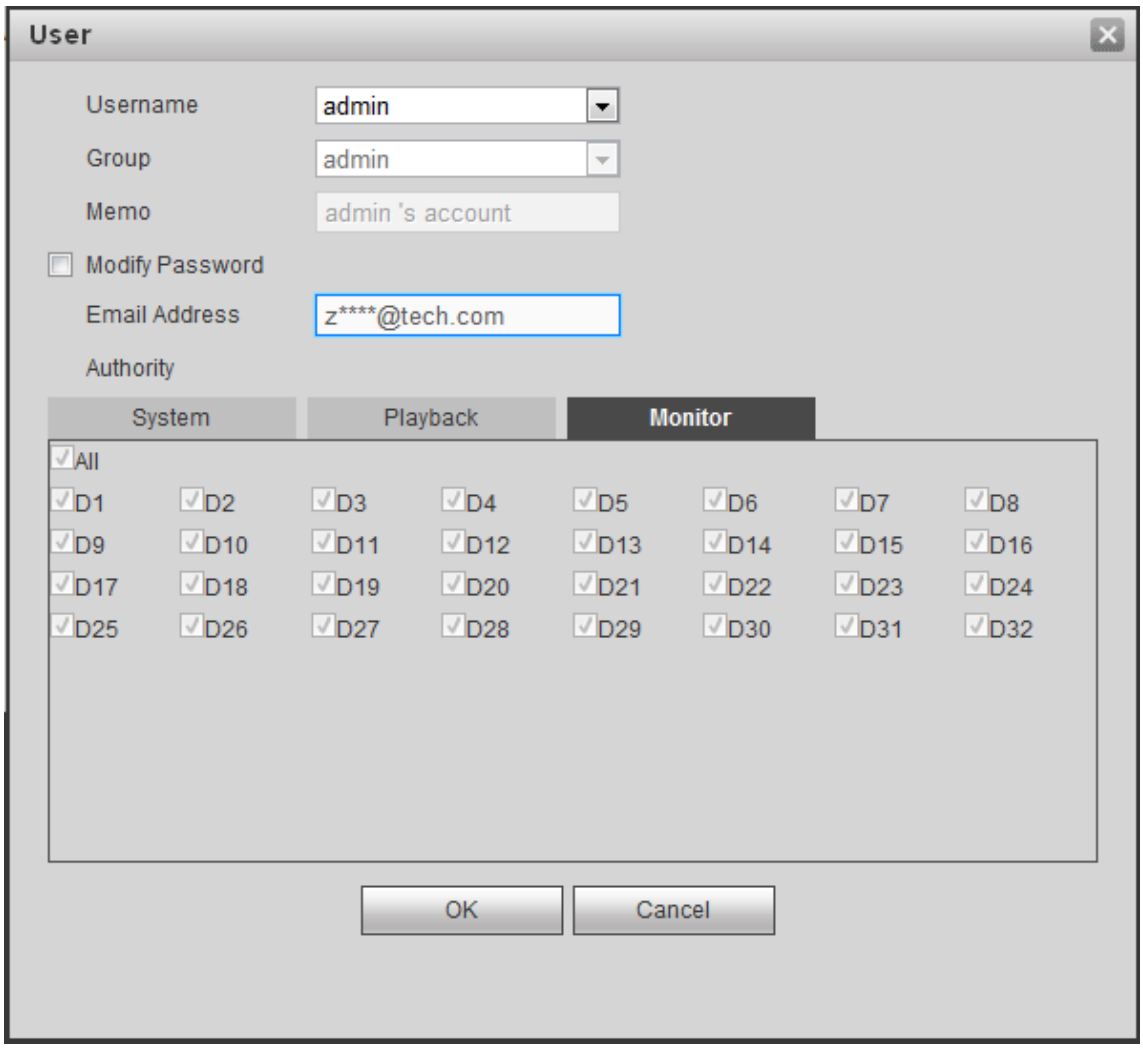


Figure 4-145

Modify password

It is to modify the user password.

Step 1 In Modify user interface, click Modify password box. See Figure 4-146.

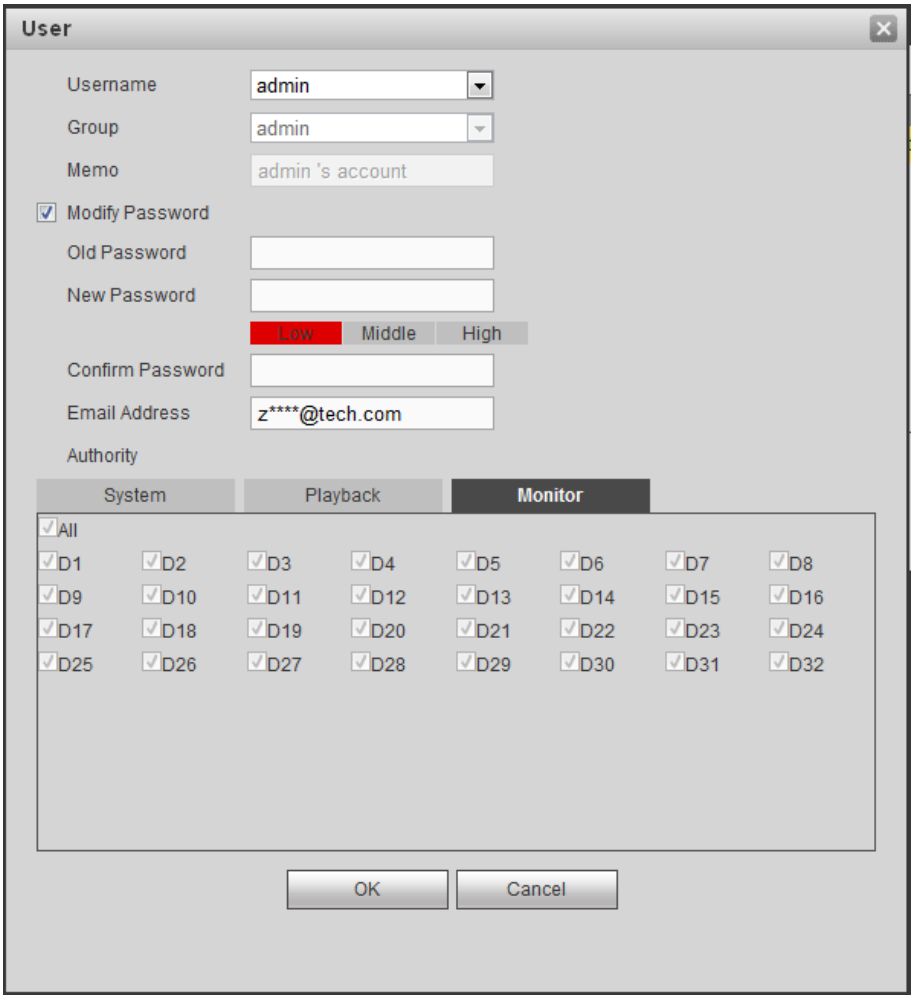


Figure 4-146

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.

4.6.6.5.2 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 4-147.

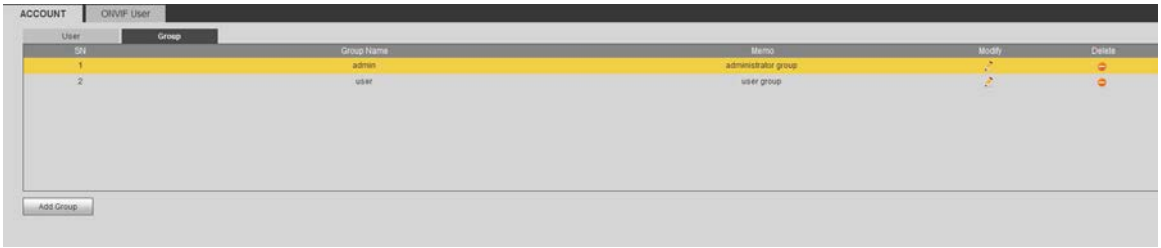


Figure 4-147

Add group

It is to add group and set its corresponding rights.

Step 1 Click Add group button. Enter add group interface. See Figure 4-148.

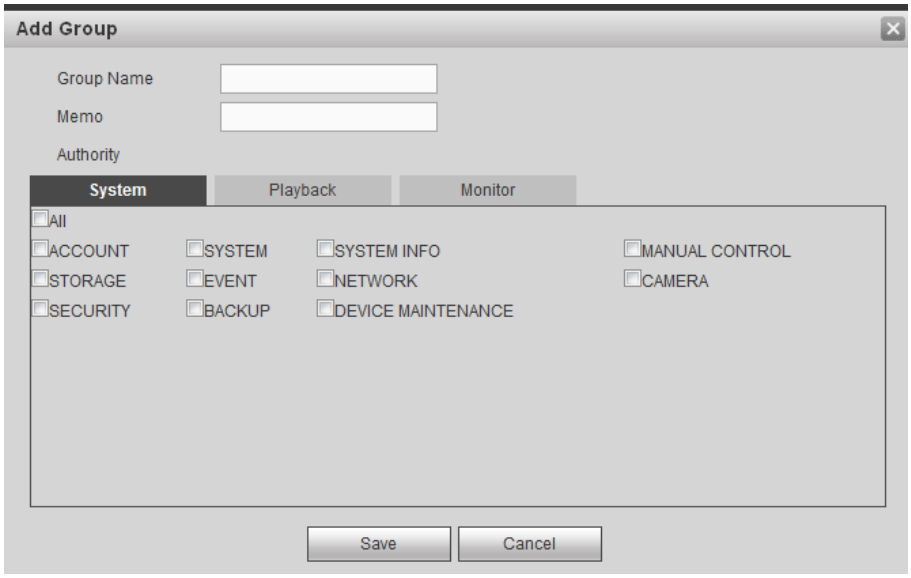


Figure 4-148

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 4-149.

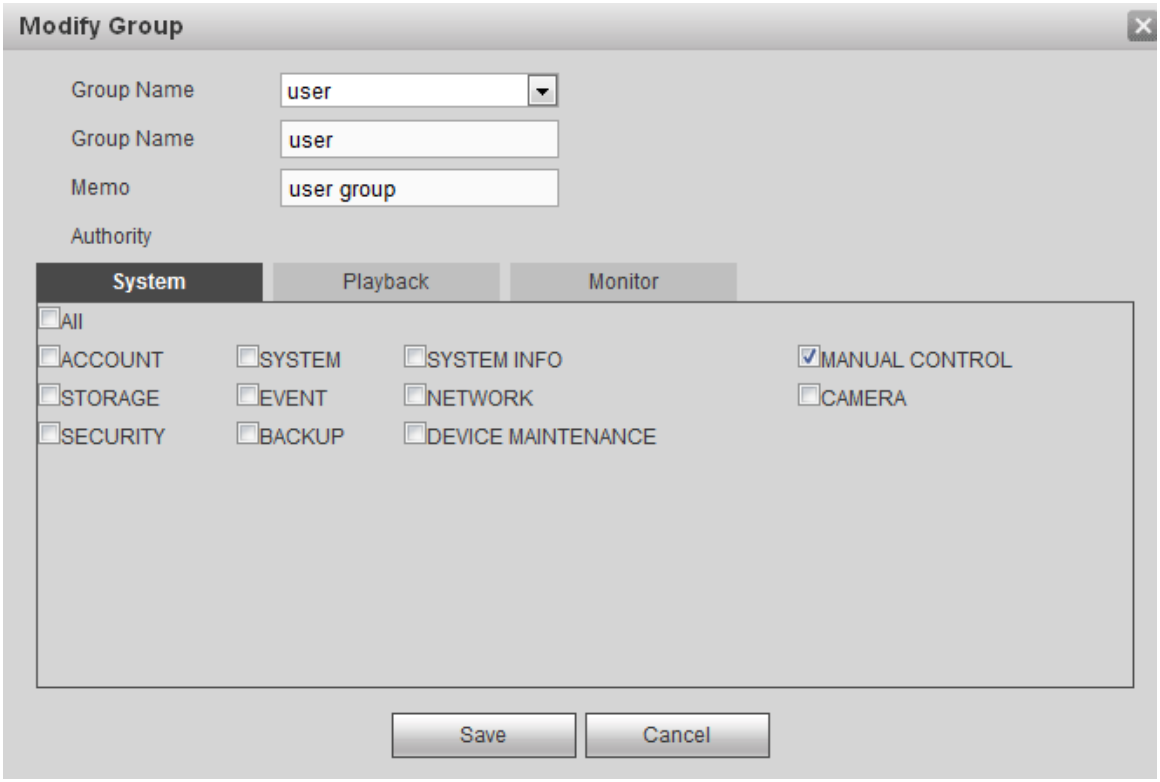


Figure 4-149

Step 2 Change corresponding information and then click Save button.

4.6.6.5.3 ONVIF User

When the camera from the third party is connected with the NVR via the ONVIF user, please use the verified ONVIF account to connect to the NVR.

Step 1 From main menu->Setting->System->Account->ONVIF User.

Enter ONVIF user interface. See the following figure.

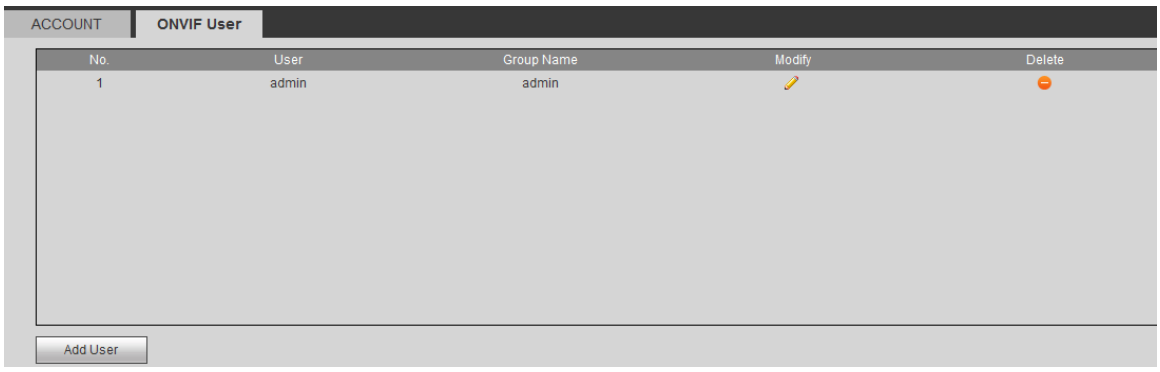


Figure 4-150

Step 2 Click Add user button.

Enter add user interface. See Figure 4-151.

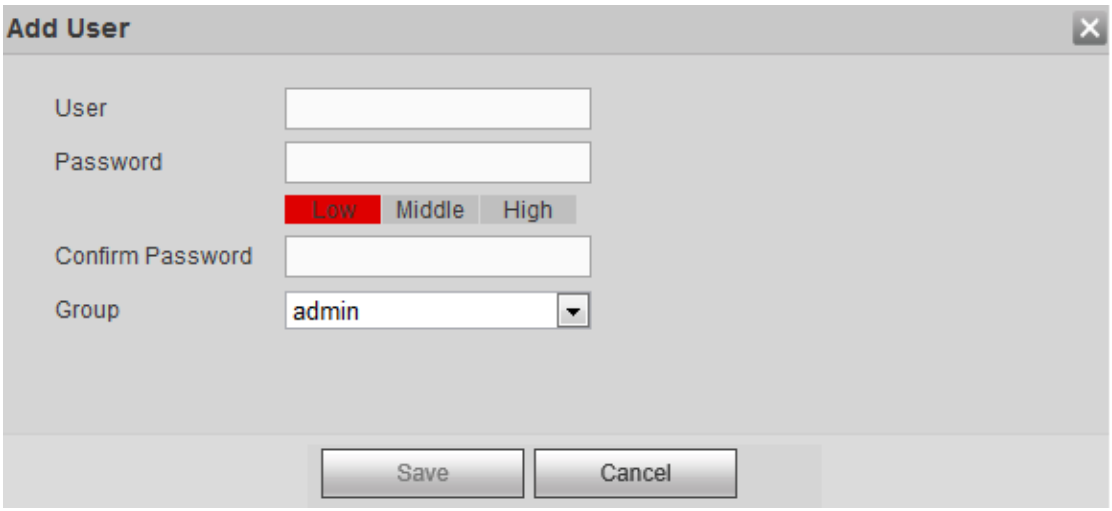


Figure 4-151

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.

4.6.6.6 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 NVR.

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

Step 1 From main menu->Setting->System->Security.
Enter security interface. See Figure 4-152.

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.
  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 4-153. 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 4-152

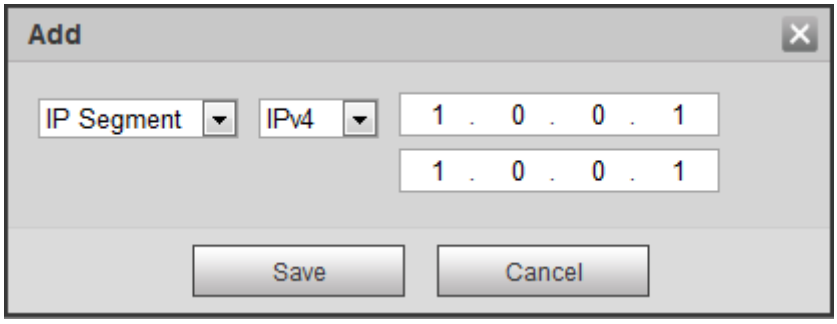


Figure 4-153

4.6.6.7 Auto maintain

The auto maintain interface is shown as in Figure 4-154.

Here you can select auto reboot and auto delete old files interval from the dropdown list.

If you want to use the auto delete old files function, you need to set the file period.

Click Manual reboot button, you can restart device manually.

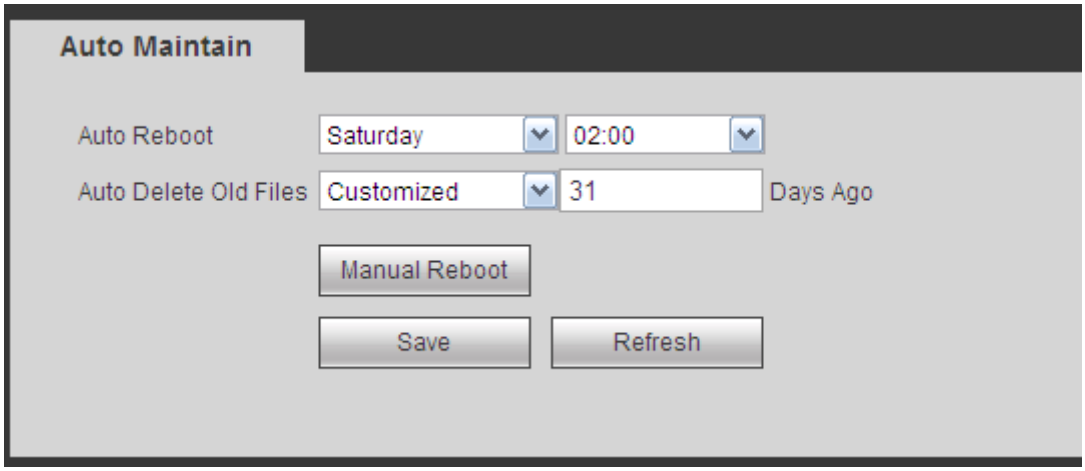


Figure 4-154

4.6.6.8 Import/Export

The interface is shown as in Figure 4-155. This interface is for you to export or import the configuration files.

Figure 4-155

Please refer to the following sheet for detailed information.

Parameter	Function
Browse	Click to select import file.

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.

4.6.6.9 Default

The default setup interface is shown as in Figure 4-156.

Here you can select Network/Event/Storage/Setting/Camera. Or you can check the All box to select all items.

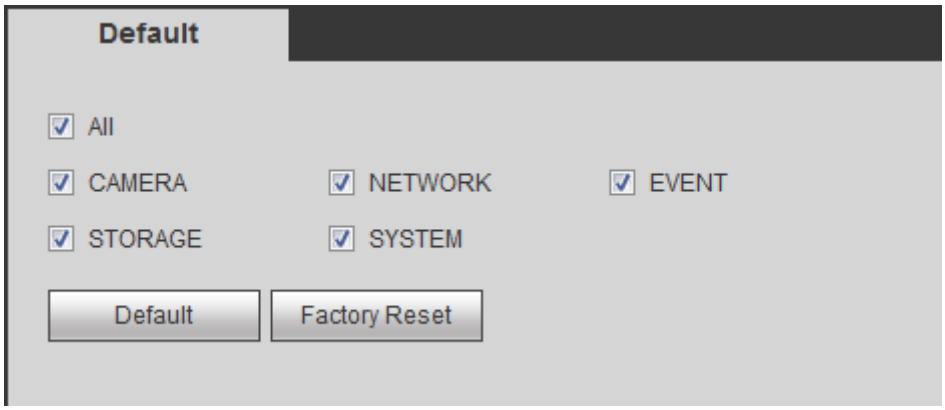


Figure 4-156

4.6.6.10 Upgrade

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!

There are two upgrade modes: file upgrade and online upgrade.

4.6.6.10.1 File Upgrade

The upgrade interface is shown as in Figure 4-157.

Please select the upgrade file and then click the update button to begin update. Please note the file name shall be as *.bin.

Figure 4-157

4.6.6.10.2 Cloud Upgrade

When the NVR is online, you can use the cloud upgrade to update the firmware.

Note

Make sure the NVR has properly connected to the network.

Version Detection

The version detection includes auto detection and manual detection. It displays current system version and application released date.

- Enable auto detection, NVR interacts with the cloud every day to detect if there is a new version available. When there is a new version, system marks a red point on the Upgrade tab.

Note

To inform you upgrading firmware timely, we will collect your device information such as IP address, device name, firmware version and serial number. The collected information is used for verifying device legality and pushing upgrade notice.

- Click manual detection to view the latest new version on the cloud.
  - If current version is the latest one, system prompts that “It is the latest version”.
  - If there is new version available, system displays new version information such as release date and corresponding release note.

Upgrade System

Click Start to upgrade the system.

4.6.7 Cluster Service

The Cluster service is a system component used to control activities on a single node. When one or several device(s) are malfunction, it can switch to the slave device to replace the work accordingly.
There are two standards when the master device is malfunction: 1) Device is offline. 2) Device storage is damaged.

Important

Please go to the **WEB of the slave device** to set the cluster setup of the master device and slave device .

4.6.7.1 Cluster IP

About Cluster service: when master device is malfunction, the slave device can use the master device configuration and virtual IP address to replace the work (monitor or record) accordingly. When you use the virtual IP to access the device, he can still view the real-time video and there is no risk of record loss. Once the master device becomes properly, the slave can still work until you use the WEB to fix manually. During the whole process (the master device is working properly>master device is malfunction>master device becomes work properly again), you can use this virtual IP to access the device all the time.

After you set the right cluster IP, you can use the cluster IP to login the device. See Figure 4-158.

Figure 4-158

Note:

The first IP is for cluster internal control(For interactive communications between the master device and slave device .), the virtual IP address is for cluster external control (For external network connection).

4.6.7.2 Master Device

From main menu>Setup>Cluster service>Master device, you can go to the following interface. See Figure 4-159.

In this interface, you can add several master devices manually. After you enable the cluster function, you can view device IP, work status. Click operation button, you can view the connection log of the main device. See Figure 4-159.

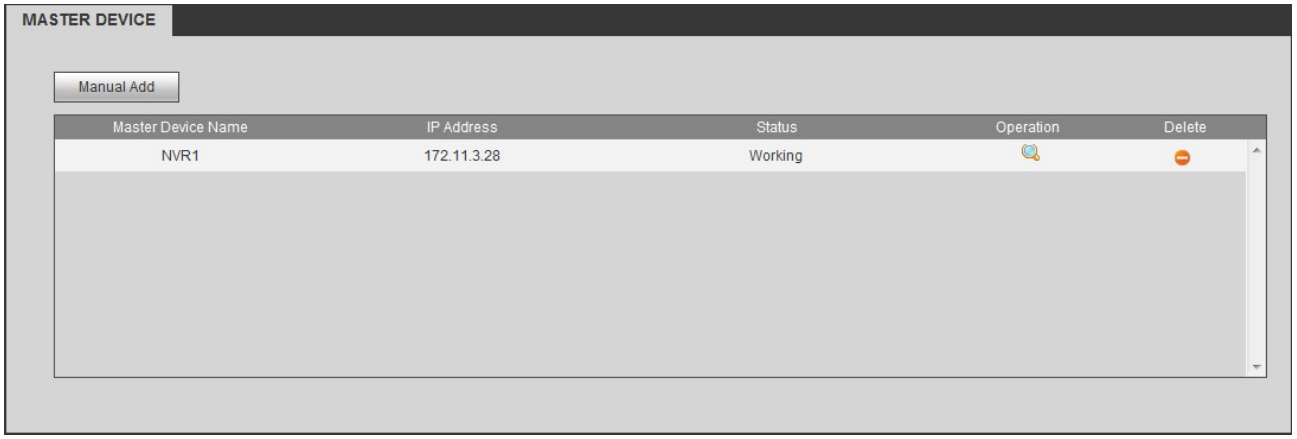


Figure 4-159

Click Manual add, the interface is shown as below. See Figure 4-160.

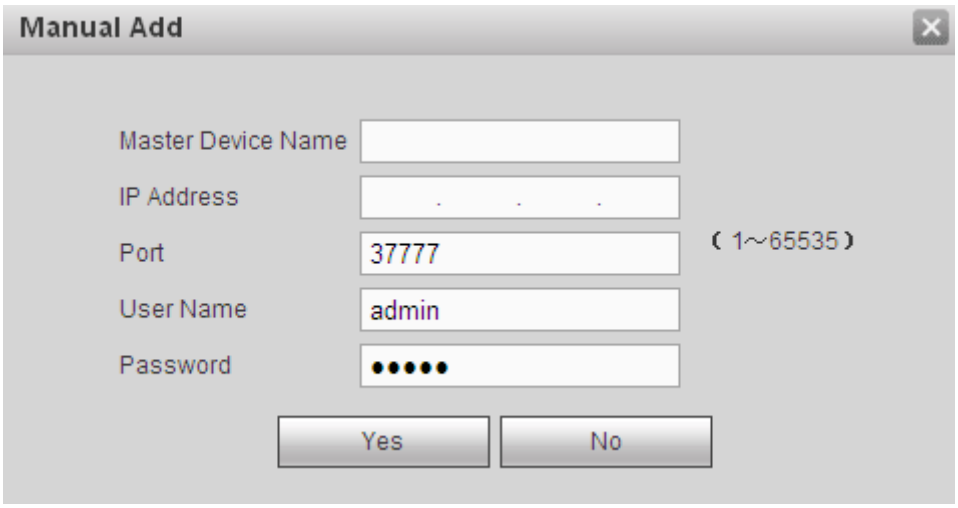


Figure 4-160

Click  to view event occurrence time, name, operation and reason. See Figure 4-161.

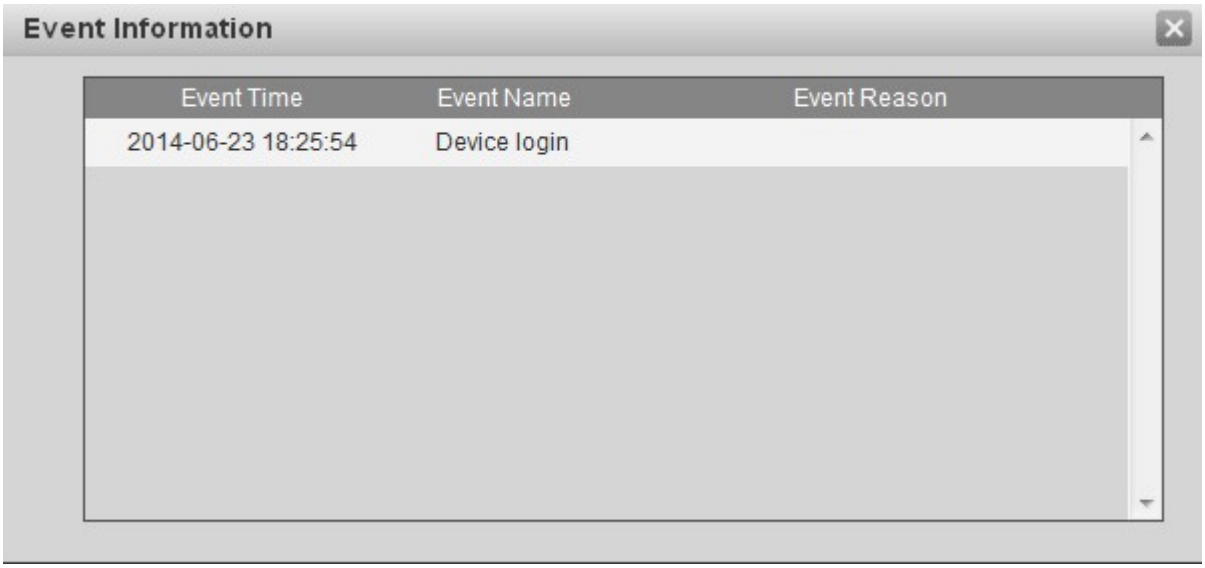


Figure 4-161

4.6.7.3 Slave Device

When you add the first slave device , the default IP is the device IP address that logins in the WEB.

From main menu>Setup>Cluster service>Slave device, you can go to the following interface. See Figure 4-162.

Figure 4-162

After you added master device and slave device , you need to enable cluster function. Otherwise, cluster function is null. Please refer to chapter 4.6.7.5.

4.6.7.4 Record Transfer

From main menu>Setup>Cluster service>Record transfer, you can go to the record transfer interface.

When the master device is malfunction and can not record, system can use slave device to record instead. You can use this function to forward the record files on the slave device to the main device.

After the master device is malfunction, the slave device becomes active and status is used.

After the master device becomes active again, there is a button on the left side of the master device . is the resume button.

Important

If you want to switch the slave device to the main device, please click button manually to resume the main device. You can see the following prompt. See Figure 4-163.

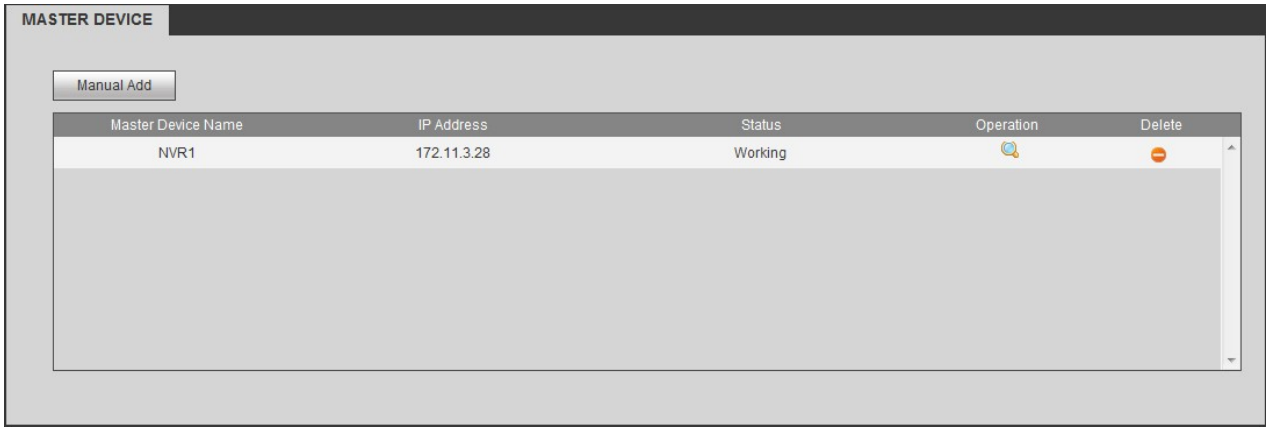


Figure 4-163

After the master device becomes active again, system can forward the record files on the slave device to the master device.

From Setup>Cluster>Record transfer, you can go to the following interface. See Figure 4-164.

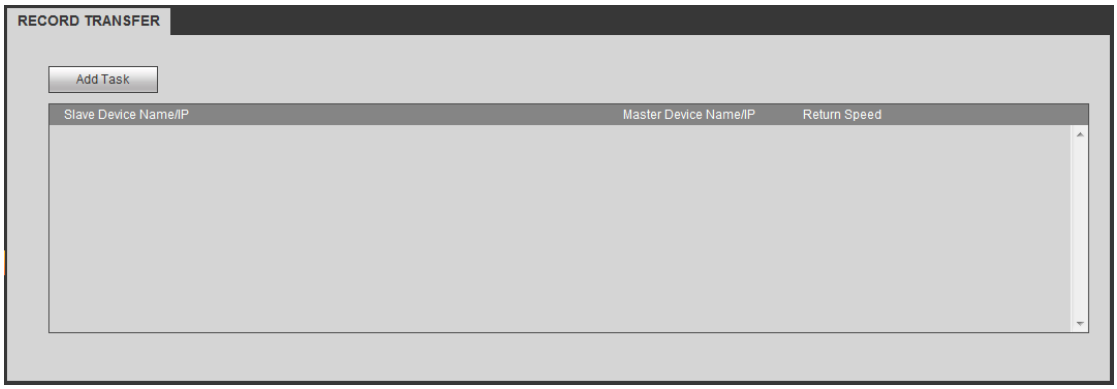


Figure 4-164

Click Add task button, you can go to the following interface to set device IP, channel, start time, end time See Figure 4-165.

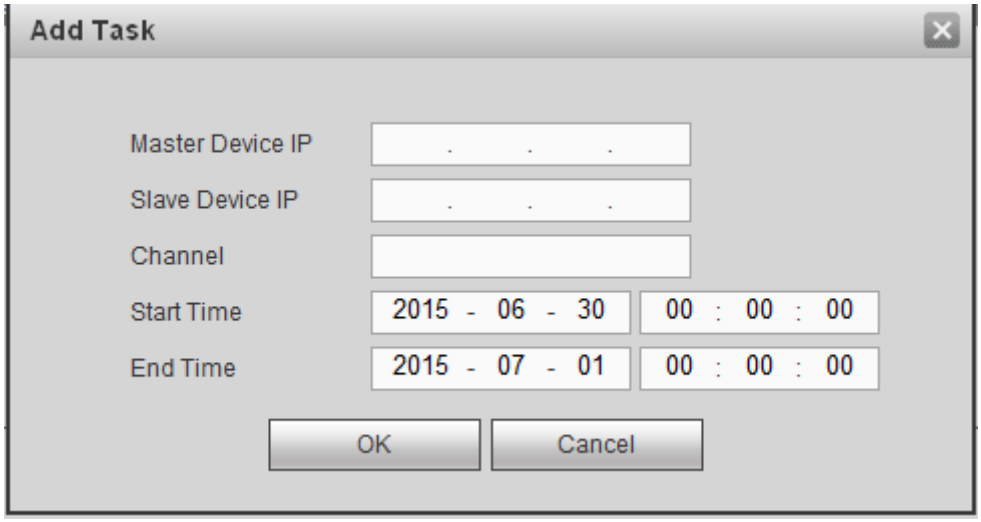


Figure 4-165

4.6.7.5 Cluster control

4.6.7.5.1 Cluster control

From main menu>Setup>Cluster service>Cluster control l> Cluster control, you can go to the cluster control interface. It is to enable/disable cluster. See Figure 4-166.

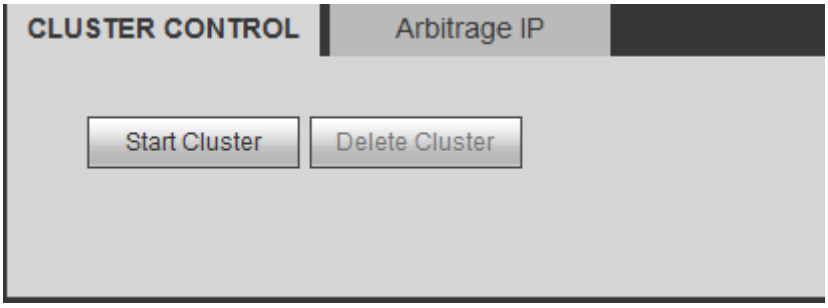


Figure 4-166

You can see the corresponding prompt if you successfully enabled cluster service.

4.6.7.5.2 Arbitration IP

When there is only two NVRs in the cluster, you can set the arbitration IP to change the cluster accordingly. The arbitration IP is the IP address of other device/PC/gateway that can connect to the NVR. From main menu>Setup>Cluster service>Cluster control> Arbitration IP, you can see the following interface. See Figure 4-167.

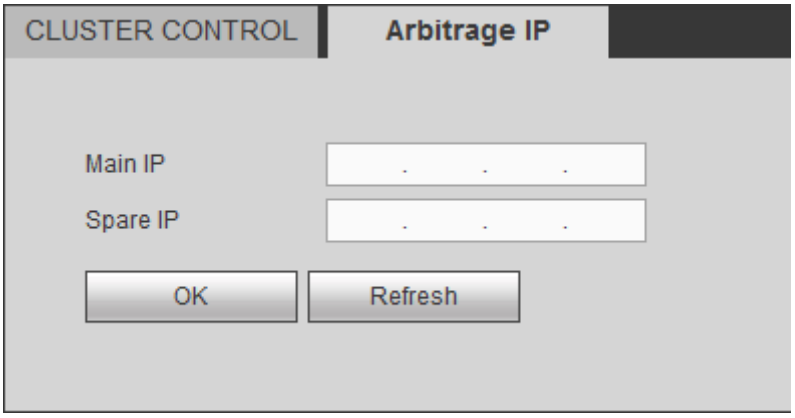


Figure 4-167

4.6.7.6 DCS Log

From main menu>Setup>Cluster service>DCS log, you can go to the DCS log interface.

The DCS log interface is shown as in Figure 4-168. Here you can search and view the DCS log.

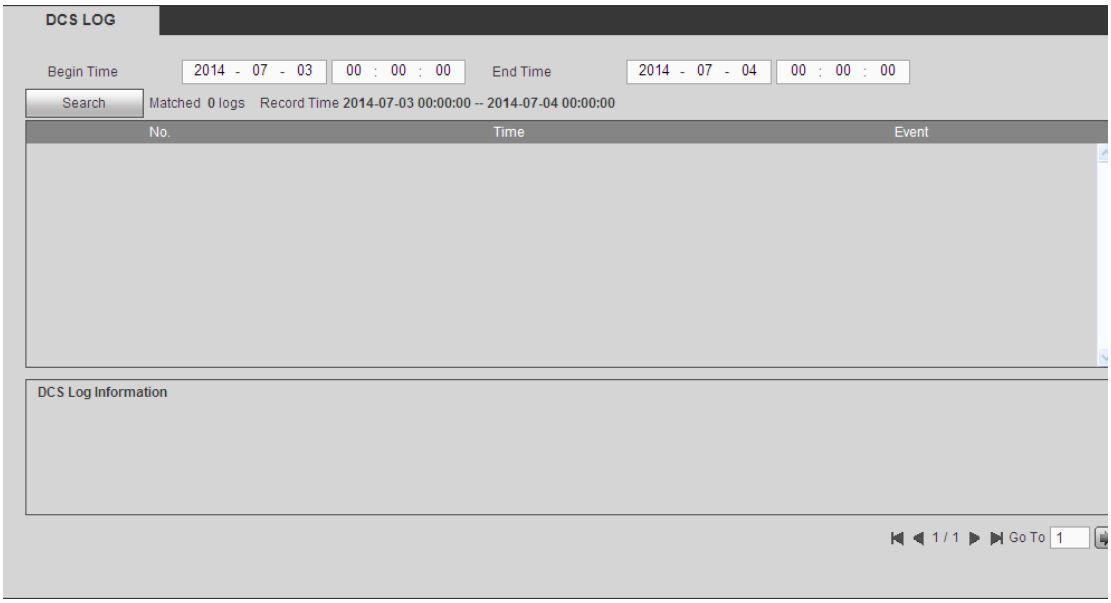


Figure 4-168

4.7 Playback

Click Playback button, you can see an interface is shown as in Figure 4-169.

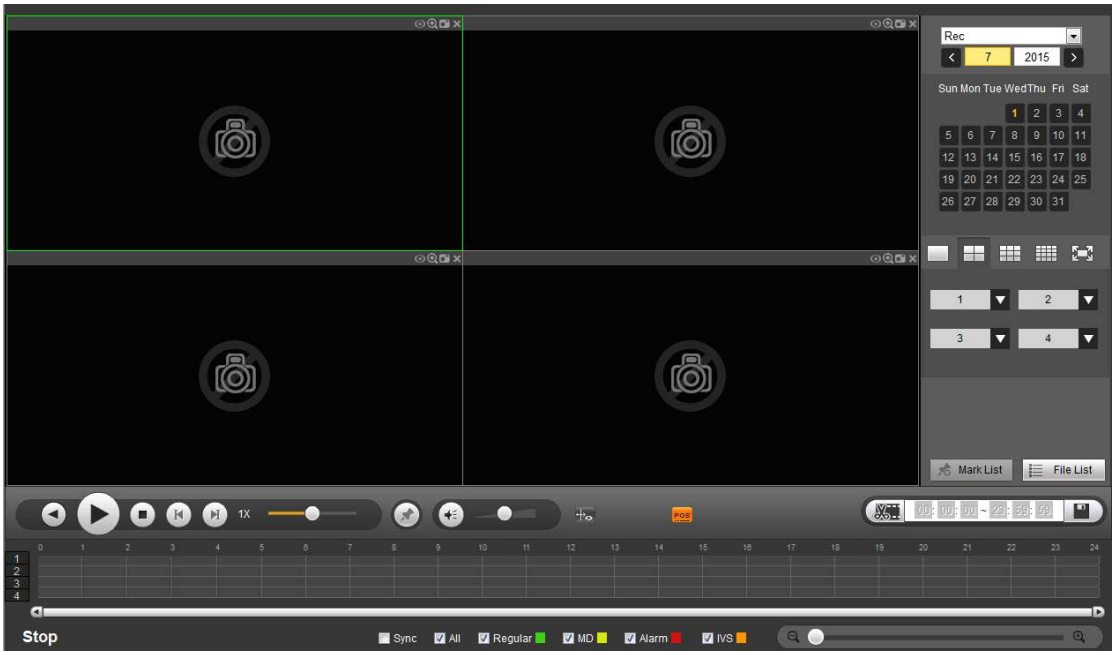


Figure 4-169

4.7.1 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 display mode

Now you can select window display mode. Click  to view the full-screen. Click Esc on the keyboard to exit full-screen.

Channel

You can select channel 1-n (n=device max channel amount). A1-An means sub stream.

Record type

Check the box to select record type. See Figure 4-170.

Figure 4-170

IVS rule

On the 1-window playback mode, click  to hide or display IVS rule.

POS info

On the 1-window playback mode, click  to hide or display POS information.

Slice

In Figure 4-169, select splice from the dropdown list at the top right corner, and then select date, split mode and channel(s).

Note

Select split mode, so that the record can be spliced in several sections.

Select splice file.

- Click Playback, system playbacks from the first of current date by default.
- Click time bar, system playbacks from the time you click.
- Click  , you can select on the file list.

Note

- System can auto slice file of one channel into 4/8/16 sections and then play at the same time.
- You can select channel mode to set splice amount. There is no splice operation if you select 1-window.
- The record min file size is 5 minutes.

4.7.2 File List

Then please click File list button, you can see the corresponding files in the list. See Figure 4-171.

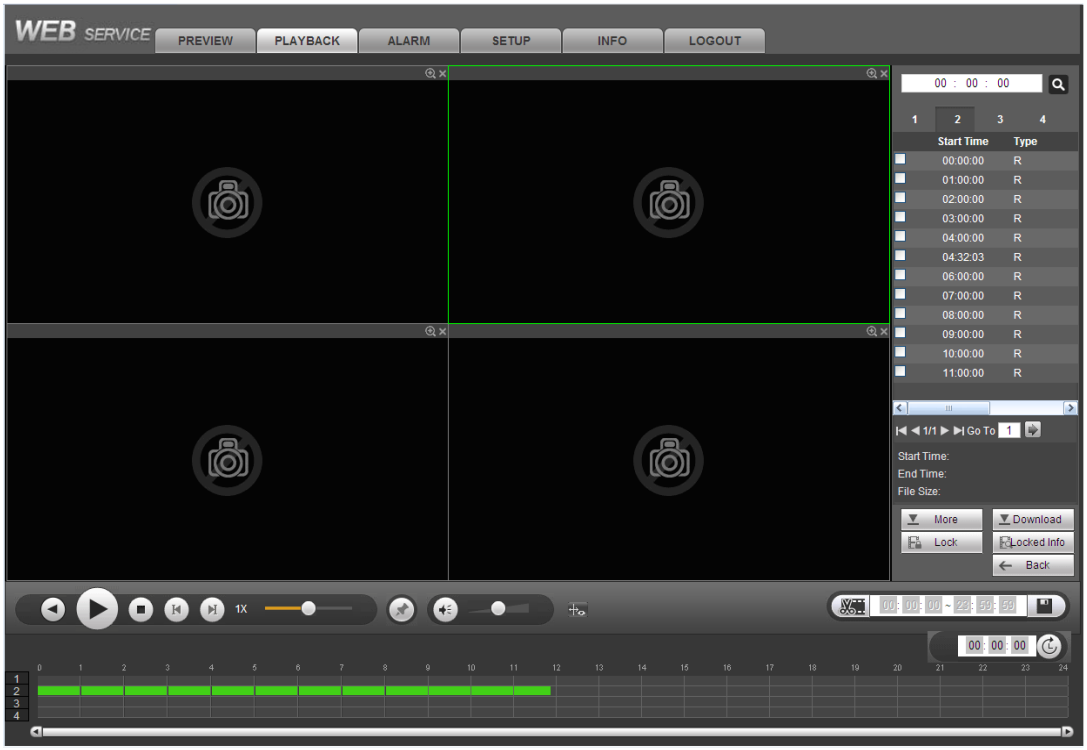


Figure 4-171

4.7.3 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 can not playback and download at the same time. You can use the playback control bar to implement various operations such as play, pause, stop, slow play, fast play and etc. See Figure 4-172.

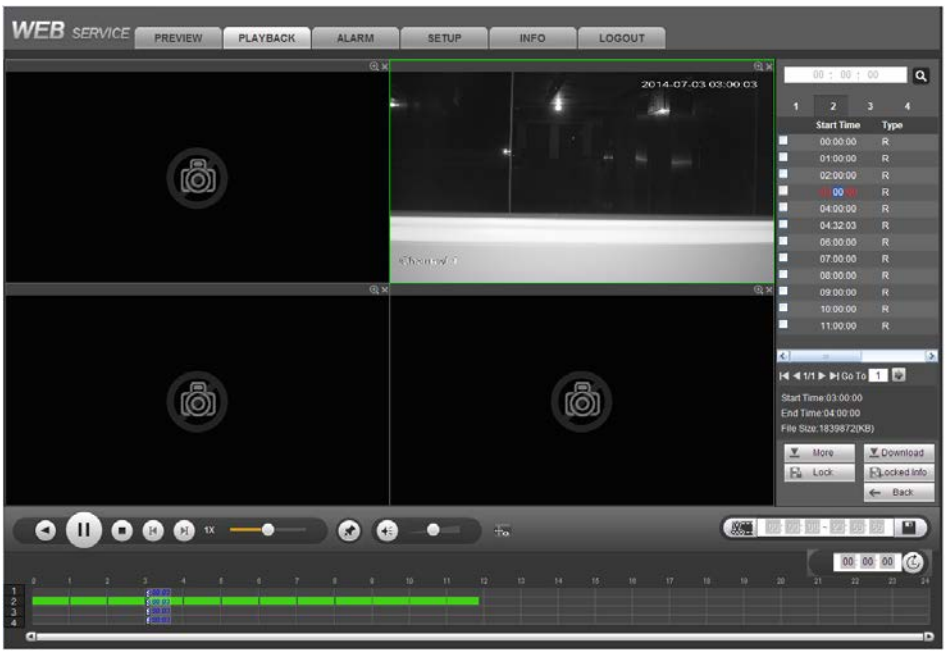


Figure 4-172

4.7.4 Download

Select the file(s) you want to download and then click download button, you can see an interface shown as in Figure 4-173. 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.

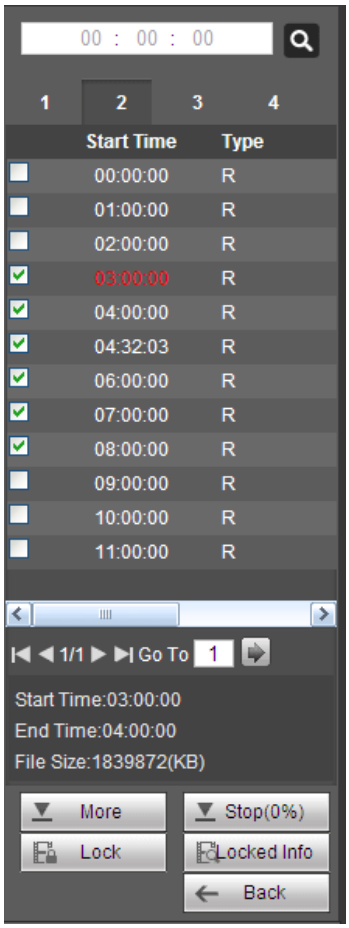


Figure 4-173

4.7.5 Download more

It is for you to search record or picture. You can select record channel, record type and record time to download. Or you can use watermark function to verify file.

4.7.5.1 Download By File

Select channel, record type, bit stream type and then input start time and end time. Click Search button, the download by file interface is shown as in Figure 4-174.

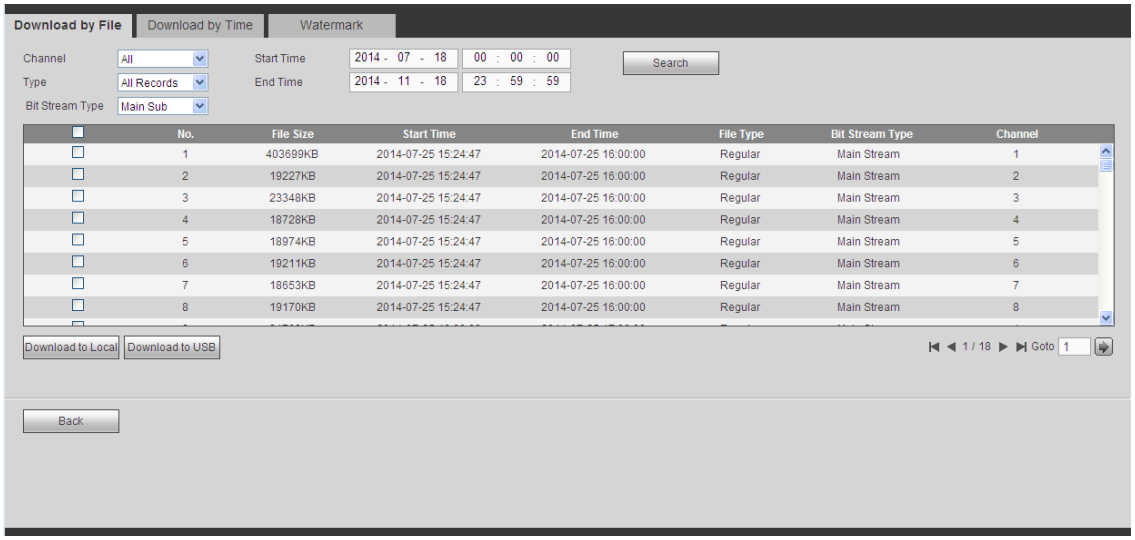


Figure 4-174

Check the file(s) you want to download and there are two options for you to save the file(s).

- Download to local

Click Download to local, system pops up the following interface for you to set record format and saved path. See Figure 4-175.

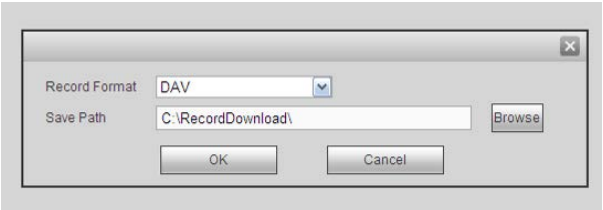


Figure 4-175

You can click OK to download and view the download process. After the download operation, you can see corresponding dialog box.

- Download to USB

Connect the corresponding p peripheral device, and then click Download to USB button, you can see the following interface. See Figure 4-176.

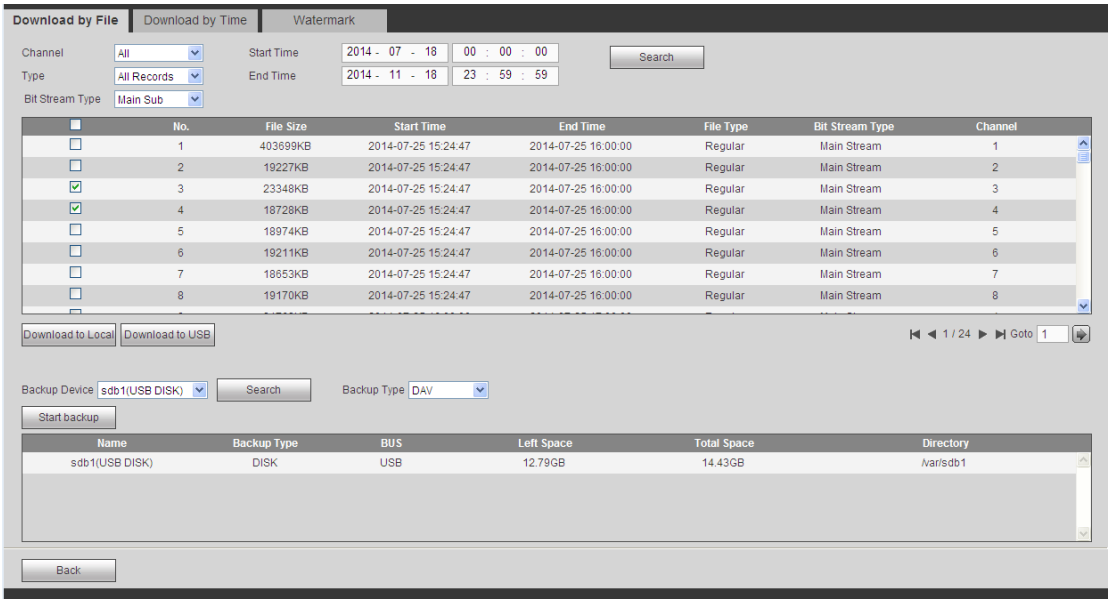


Figure 4-176

Select Backup device and backup type first and then click Start backup button.

After the download operation, you can see corresponding dialogue box.

4.7.5.2 Download by Time

Select channel, bit stream type, start time and end time.

Click Download to Local button, you can see download by time interface is shown as in Figure 4-177.

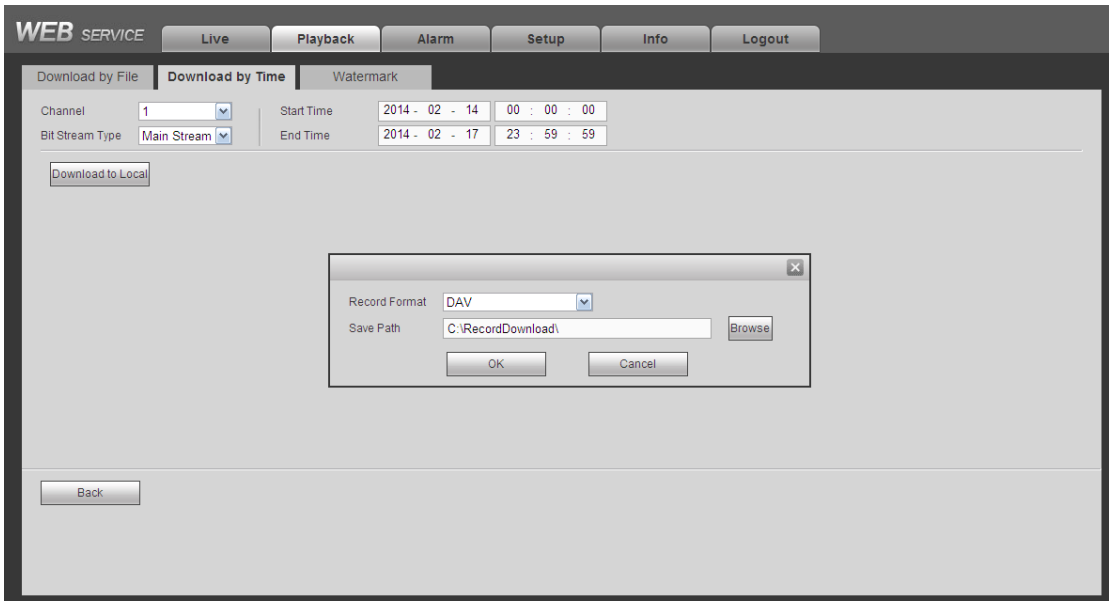


Figure 4-177

Set record format and saved path, you can click OK to download and view the download process. After the download operation, you can see corresponding dialog box.

4.7.5.3 Watermark

Watermark interface is shown as In Figure 4-178. Please select a file and then click Verify button to see the file has been tampered with or not

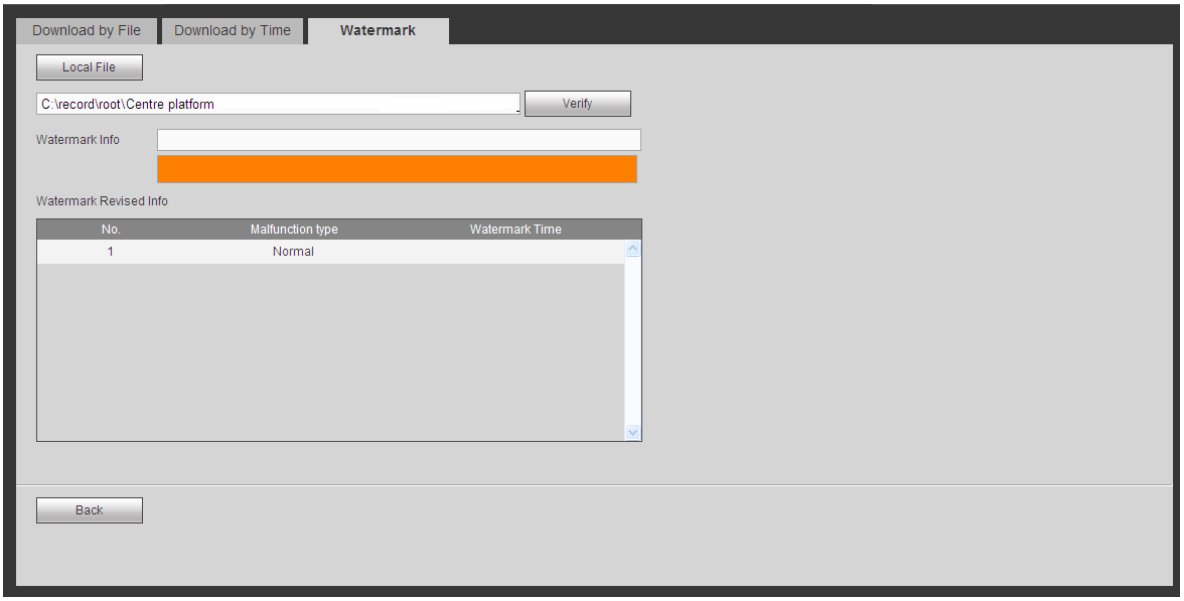


Figure 4-178

4.7.6 Lock file

Check the box to select the record file(s), and then click Lock button, you can lock the file(s).System will not overwrite the locked files. Please note this function is for main stream only.

4.7.7 Unlock file

Click view locks, you can see the following interface. See Figure 4-179.
Select a channel/start time/end time, click search button, you can view the locked files.
Check the box and then click unlock, you can unlock the file.

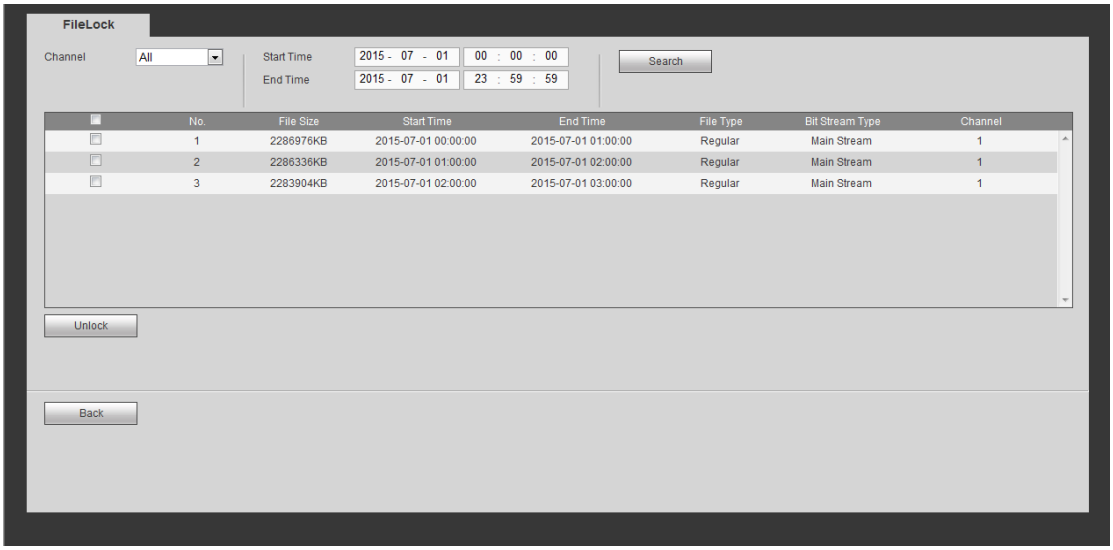


Figure 4-179

4.8 Smart Search

It is to search and playback the IVS file, human face file and plate recognition record.

Note

- There are two types to realize intelligent analytics function.
  - ✧ Smart network camera supports intelligent functions: Some smart camera supports the intelligent functions. For NVR, it just displays the intelligent alarm information from the smart network camera and set or playback the record file.
  - ✧ NVR supports intelligent functions: The connected network camera does not support intelligent video analytics function. The NVR supports the analytics function.
- This function is to playback the intelligent record file of the smart camera.

4.8.1 IVS

It is to search and play back the IVS record files.

Step1 Select Smart Search > IVS.
The IVS interface is displayed. See Figure 4-180.

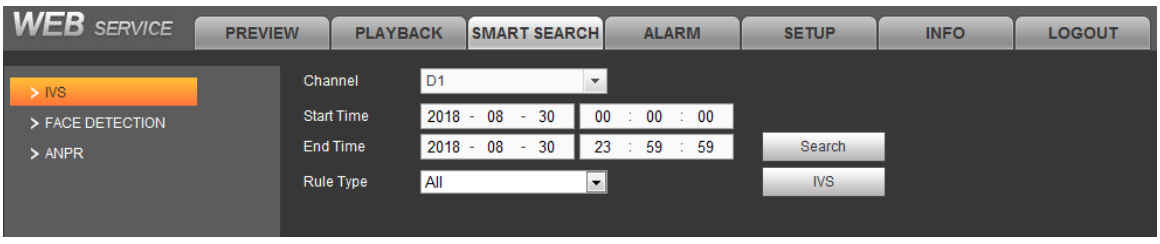


Figure 4-180

Step2 Select the Channel and choose Start Time and End Time.

Step3 Click Search.

The pictures meeting the conditions are displayed. See Figure 4-181.

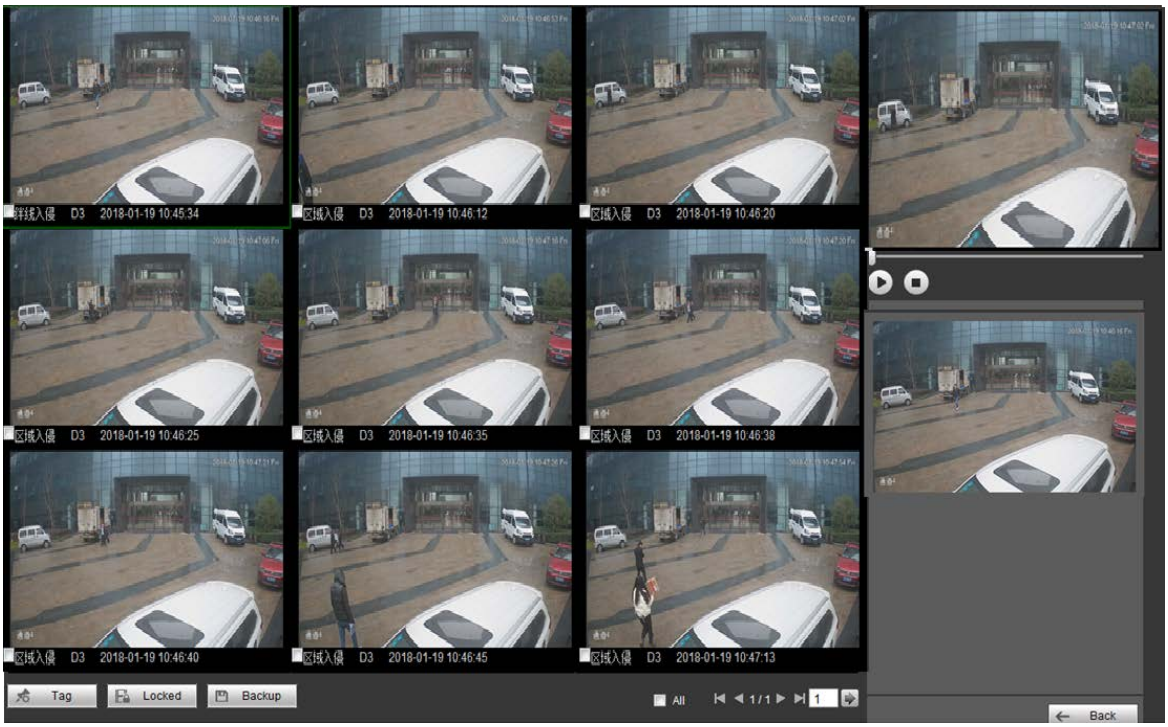


Figure 4-181

NOTE

Click Delete on the main interface of Smart Playback to clear the set detect type, channel number, start time and end time.

Step4 Click the image and you can view the record file.

- Select a file and then click Backup, you can save current file to peripheral storage devices.
- Select a file and then click Locked, you can lock current file in case it will be overwritten in the future
- Select a file and then click Tag, you can mark the time of the detected event.

4.8.2 ANPR

It is to search and playback the record file containing the plate number.

Step1 Select Smart Search > ANPR.

The ANPR interface is displayd. See Figure 4-182.

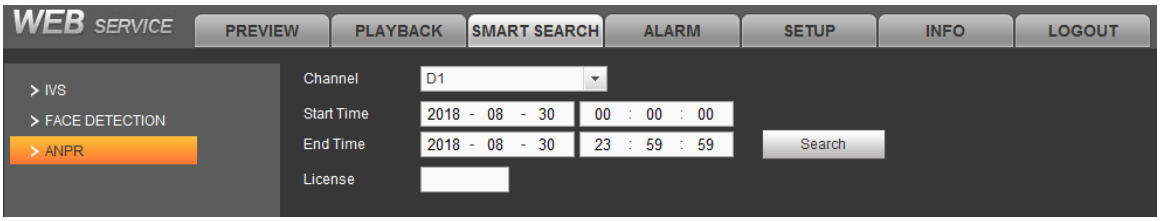


Figure 4-182

Step2 Select Channel, Start Time and End Time and set the license number.

NOTE

- The system supports plate fuzzy search.
- All plates will be searched by default if the license number is not set.

Step3 Click Search.

The images meeting the conditions are displayed. See Figure 4-183.

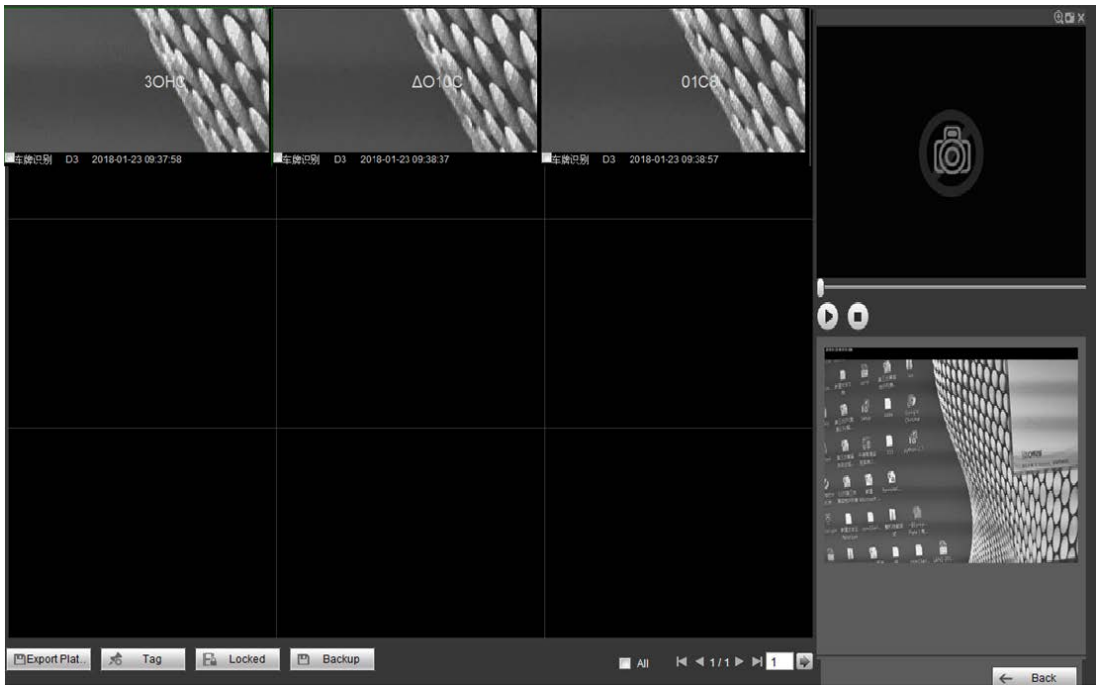


Figure 4-183

Step4 Click the image and you can view the record file.

- Click Export Plate to export the plate information to local.
- Select a file and then click Backup, you can save current file to peripheral storage devices.
- Select a file and then click Locked, you can lock current file in case it will be overwritten in the future
- Select a file and then click Tag, you can mark the time of the detected event.

4.8.3 Face Detection

System can search the record containing human face and then replay it.

Important

Before you use this function, please make sure current channel has enabled human face detection function.

Step1 Select Samrt Search > Face Detection.

The Face Detection interface is displayed. See Figure 4-184.

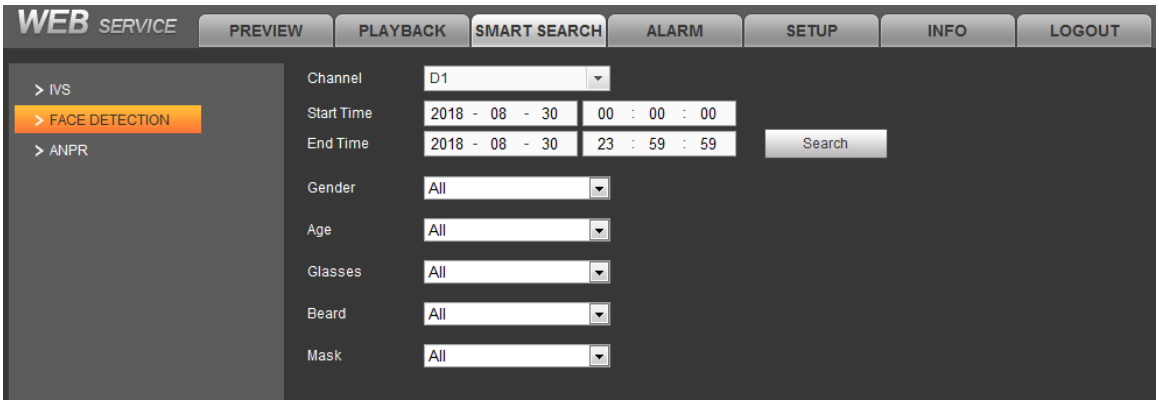


Figure 4-184

Step2 Select Channel, Start Time and End Time and set the filter conditions.

Step3 Click Search.

The images meeting the conditions are displayed. See Figure 4-185.

NOTE

The following human faces have been modified for privacy reason. The actually snapshot images have high definition.

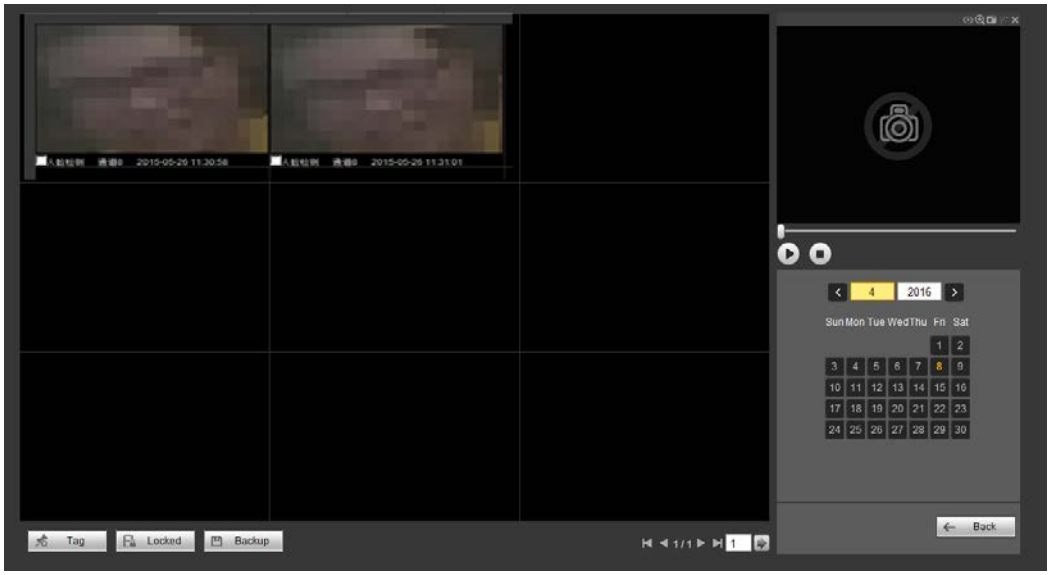


Figure 4-185

Step4 Click the image and you can view the record file.

- Select a file and then click Backup, you can save current file to peripheral storage devices.

- Select a file and then click Locked, you can lock current file in case it will be overwritten in the future

Select a file and then click Tag, you can mark the time of the detected event.

4.9 Alarm

Click alarm function, you can see an interface is shown as Figure 4-186.
Here you can set device alarm type and alarm sound setup (Please make sure you have enabled audio function of corresponding alarm events.).

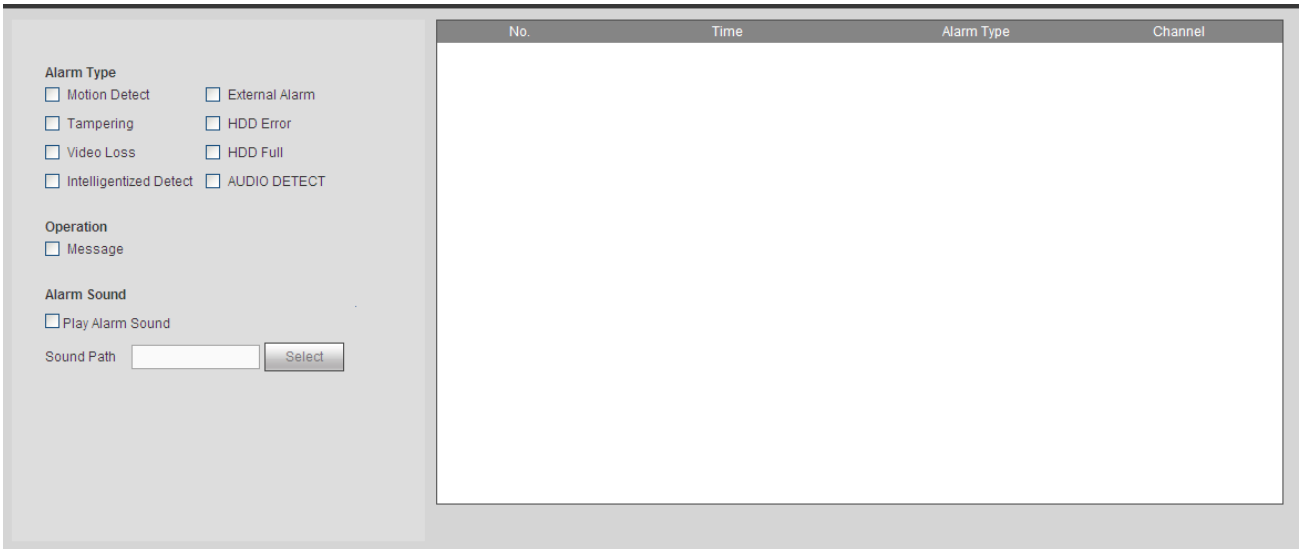


Figure 4-186

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.
	IPC external alarm	It refers to the on-off signal from the network camera. It can activate the NVR local activation operation.
	IPC offline alarm	System can generate an alarm when the network camera and the NVR are disconnected.
Operation	Prompt	Check the box here, system can automatically pops up an alarm icon on the Alarm button in the main interface when there is an alarm.
Alarm Sound	Play alarm sound	System sends out alarm sound when an alarm occurs. You can specify as you wish.

Type	Parameter	Function
	Sound path	Here you can specify alarm sound file.

4.10 Information

4.10.1 Version

The version interface is shown as in Figure 4-187. Please note the following information for reference only.

Here you can view record channel, alarm input/output information, software version, release date and etc. When there is any new version, it prompts found new version. Click it, NVR goes to upgrade interface.

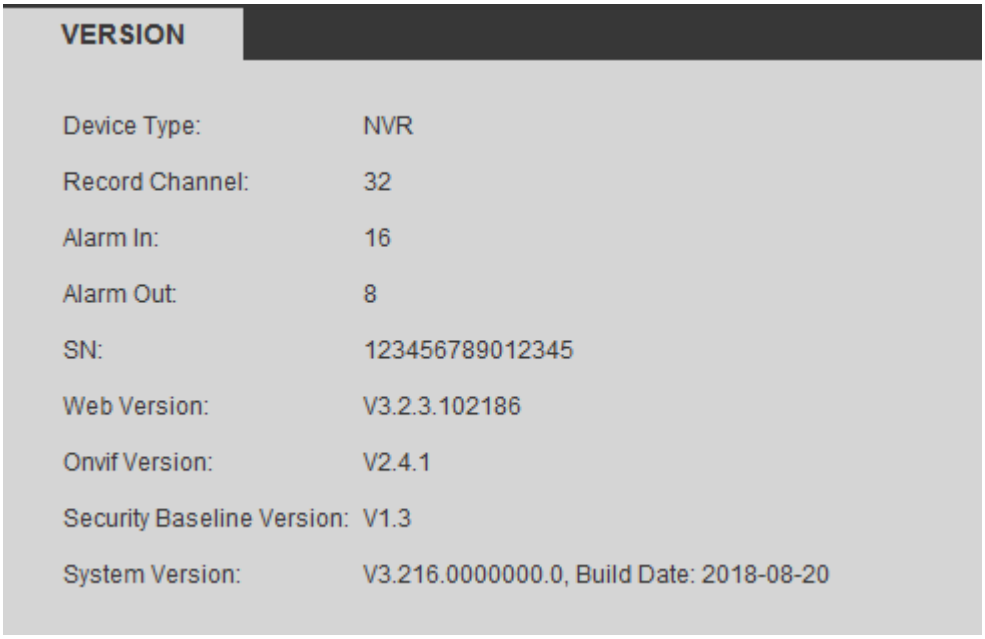


Figure 4-187

4.10.2 Log

Here you can view system log. See Figure 4-188.

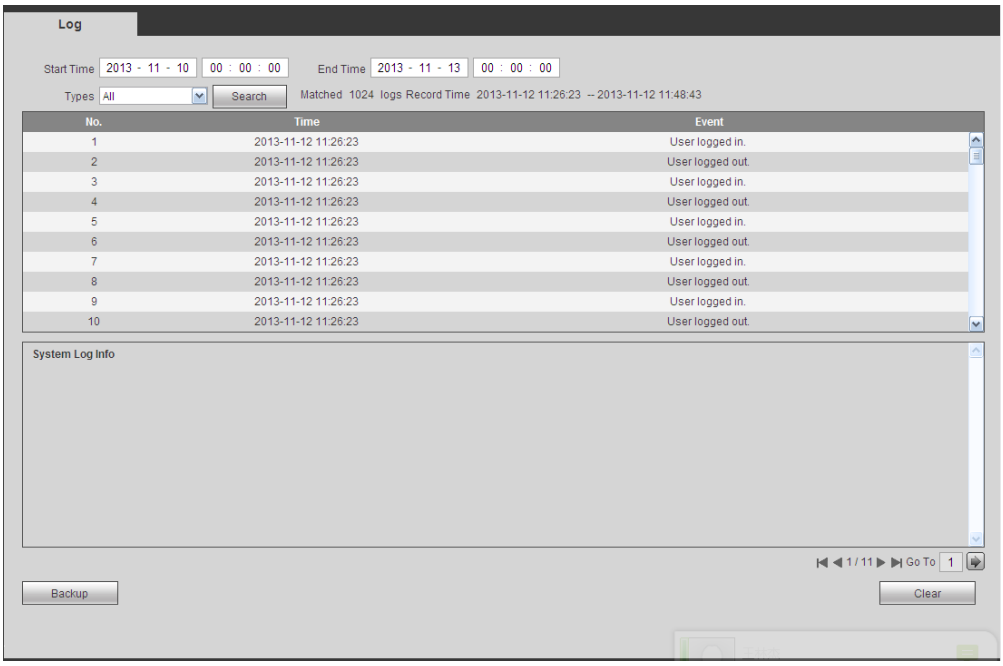


Figure 4-188

Please refer to the following sheet for log parameter information.

Parameter	Function
Type	Log types include: system operation, configuration operation, data operation, event operation, record operation, user management, log clear.
Start time	Set the start time of the requested log.
End time	Set the end time of the requested log.
Search	You can select log type from the drop down list and then click search button to view the list. You can click the stop button to terminate current search operation.
Detailed information	You can select one item to view the detailed information.
Clear	You can click this button to delete all displayed log files. Please note system does not support clear by type.
Backup	You can click this button to backup log files to current PC.

4.10.3 Online User

The online user interface is shown as in Figure 4-189.

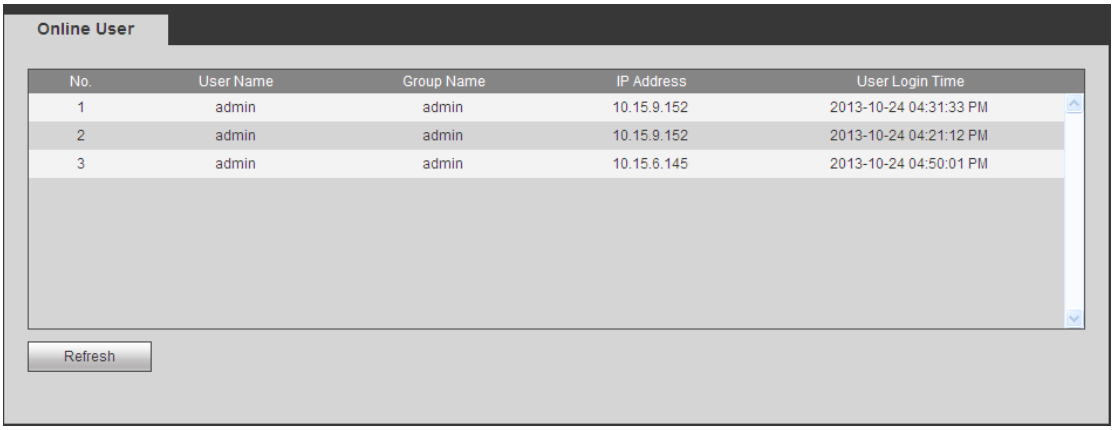


Figure 4-189

4.10.4 Video Quality Analytics

You can search and view the video quality analytics results for each channel.

Step 1 Select Info > Info > Video Quality Analytics.

The Video Quality Analytics interface is displayed. See Figure 4-190.

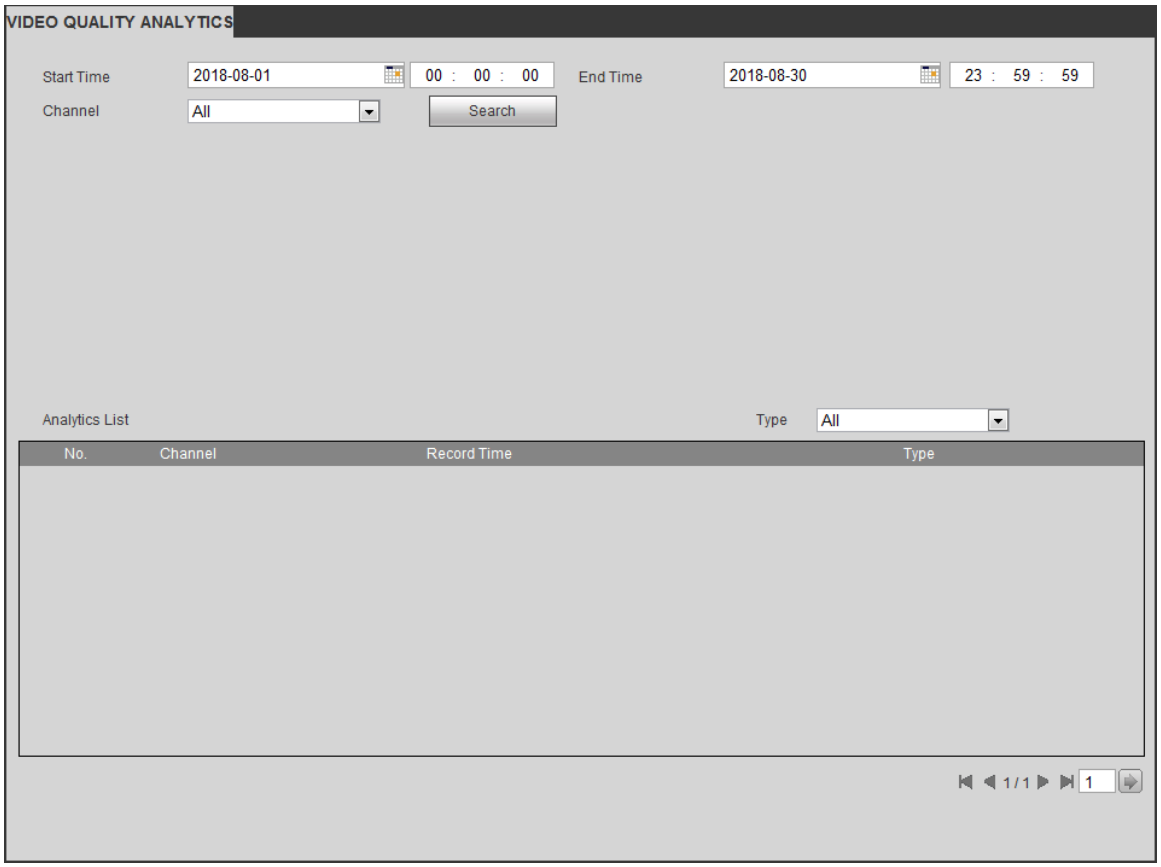


Figure 4-190

Step 2 Enter the start time, end time and select the channel.

Select the type to view the corresponding video analytics results.

Step 3 Click Search.

The analytics information is displayed in the analytics list.

4.10.5 People Counting

From main menu->Info->People counting, the interface is shown as in Figure 4-191.

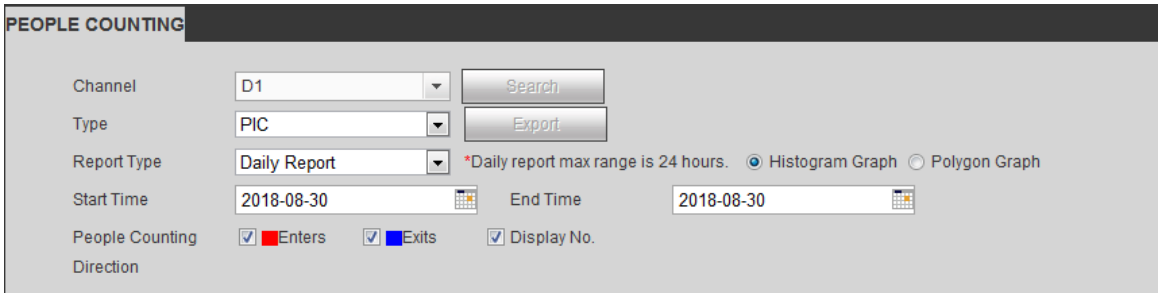


Figure 4-191

4.10.6 Heat Map

From main menu->Info->Heat Map, the interface is shown as in Figure 4-192.

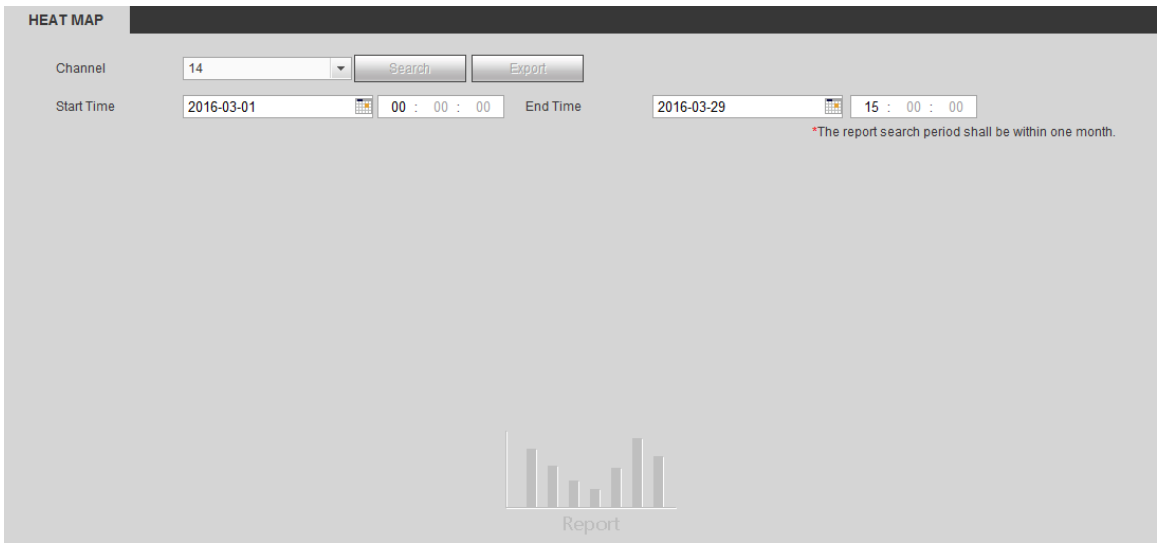


Figure 4-192

4.10.7 HDD

From main menu->Info->HDD, the HDD interface is shown as in Figure 4-193. Here you can view HDD information.

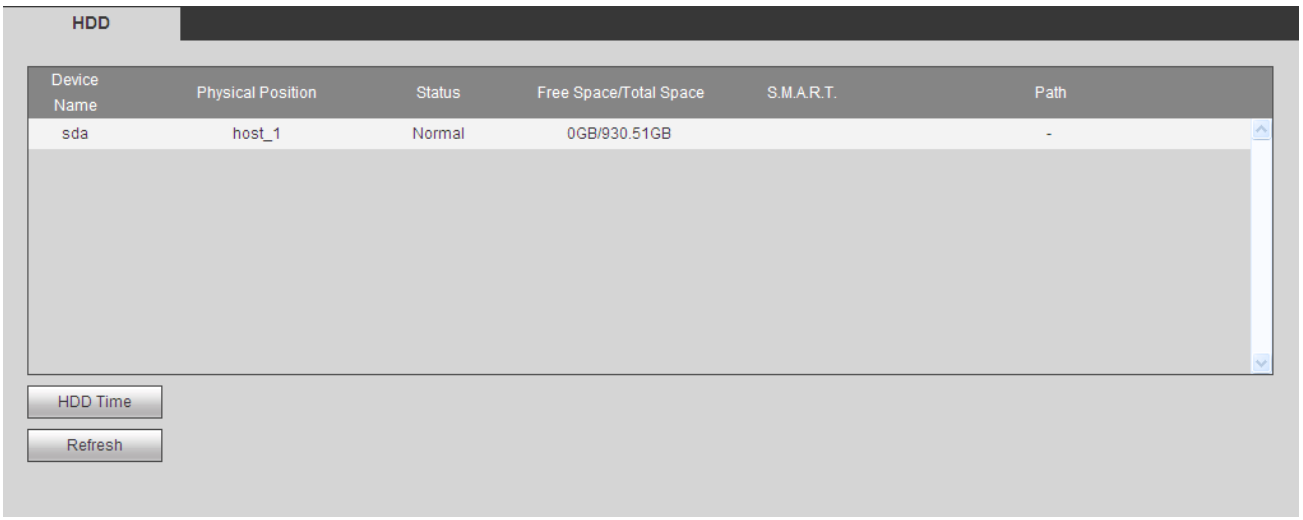


Figure 4-193

4.11 Log Out

Click Logout tab and the system goes back to the login interface. See Figure 4-194.
You need to input user name and password to log in again.

Figure 4-194

5 Appendix A HDD Capacity Calculation

Calculate total capacity needed by each device according to video recording (video recording type and video file storage time).

Step 1: According to Formula (1) to calculate storage capacity q_i that is the capacity of each channel needed for each hour, unit Mbyte.

$$q_i = d_i \div 8 \times 3600 \div 1024 \quad (1)$$

In the formula: d_i means the bit rate, unit Kbit/s

Step 2: After video time requirement is confirmed, according to Formula (2) to calculate the storage capacity m_i, which is storage of each channel needed unit Mbyte.

$$m_i = q_i \times h_i \times D_i \quad (2)$$

In the formula:

h_i means the recording time for each day (hour)

D_i means number of days for which the video shall be kept

Step 3: According to Formula (3) to calculate total capacity (accumulation) q_T that is needed for all channels in the device during **scheduled video recording**.

$$q_T = \sum_{i=1}^{c} m_i \quad (3)$$

In the formula: c means total number of channels in one device

Step 4: According to Formula (4) to calculate total capacity (accumulation) q_T that is needed for all channels in device during **alarm video recording (including motion detection)**.

$$q_T = \sum_{i=1}^{c} m_i \times a\% \quad (4)$$

In the formula: $a\%$ means alarm occurrence rate