Type	Note
Connect camera to the PoE	After connect the camera to the PoE, NVR allocate an IP address in the specified IP segment to the camera. NVR tries to use **arp ping to set.** If the NVR has enabled the DHCP function, it uses DHCP to set. ● After successfully set IP address, NVR can send out broadcast via the switch and get the corresponding response. Now The camera has registered to the NVR. Go to the preview interface, the corresponding channel has been used and there is a small PoE icon at the top left corner. ● Go to the Register interface to view the connected device list, you can see the PoE channel number, PoE port information and etc. Click IP search to display or refresh the information.
Remove camera from the PoE port	After remove the camera network cable from the PoE port, the channel displays "Cannot find the network host". On the registration interface, the IP address is shown as offline.
The mapping policy when connect a camera to the PoE port.	The PoE port and the channel window is one to one correspondence. For example, connect a network camera to PoE port 1, it register to channel 1 by default.

4.8.2 Network Test

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

4.8.2.1 Network Test

From main menu->Info-Network->Test, the network test interface is shown as in Figure 4-189.

● 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, Wi-Fi, and 3G), you can

click the button on the right panel to begin Sniffer. Click the grey stop button to stop. Please note

system cannot Sniffer several network adapters at the same time.

After Sniffer began, you can exit to implement corresponding network operation such as login WEB,

monitor. Please go back to Sniffer interface to click stop Sniffer. System can save the packets to the

specified path. The file is named after "Network adapter name+time". You can use software such as Wireshark to open the packets on the PC for the professional engineer to solve complicated problems.
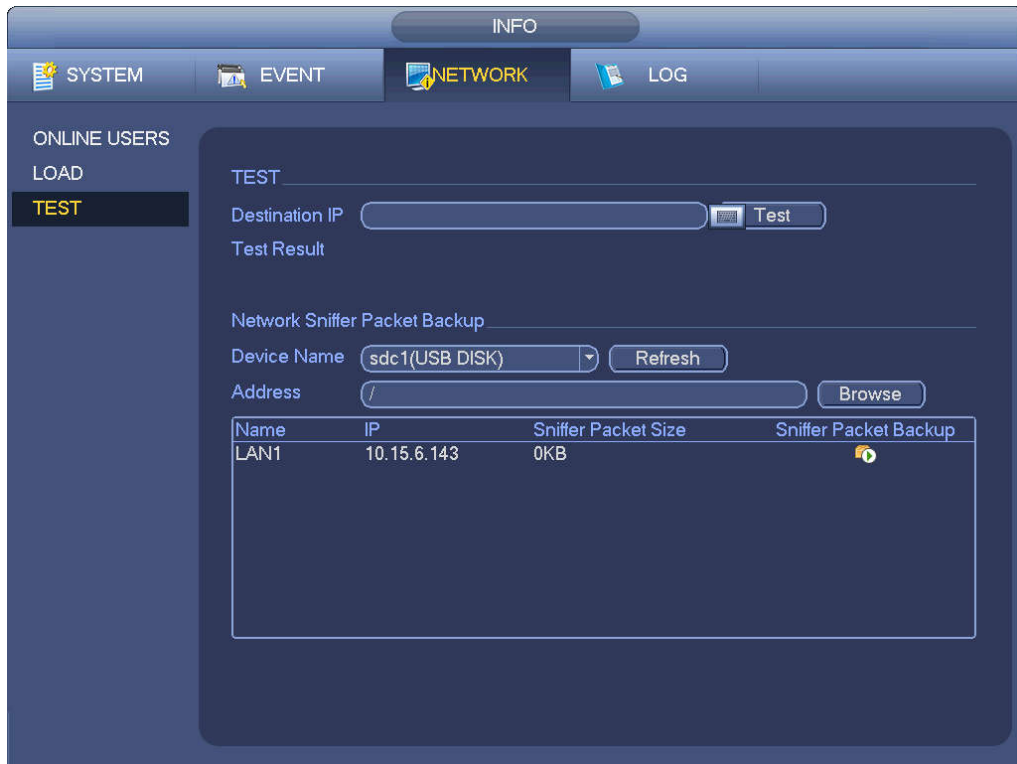
4.8.2.2 Network Load

From main menu->Info-Network->Load, network load is shown as in Figure 4-190. 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.

📖 **Note**

● It is to display LAN1 network load by default.
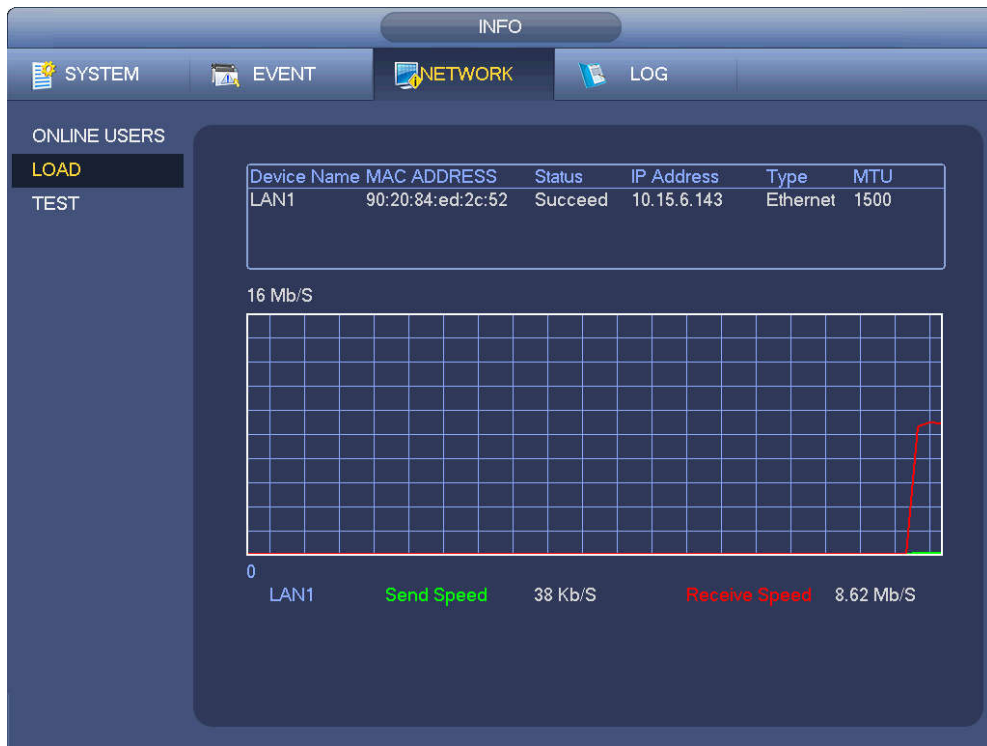● View one LAN network load by one time.

Figure 4-190

4.9 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.

4.9.1 Basic

It is to manage HDD storage space.

Step 1   From main menu->Setup->Storage->Basic.
Enter Basic interface. See Figure 4-191.

Figure 4-191

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.

4.9.2   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 4.1.4.6.1 schedule record and 4.1.4.6.2 schedule snapshot.

4.9.3   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.
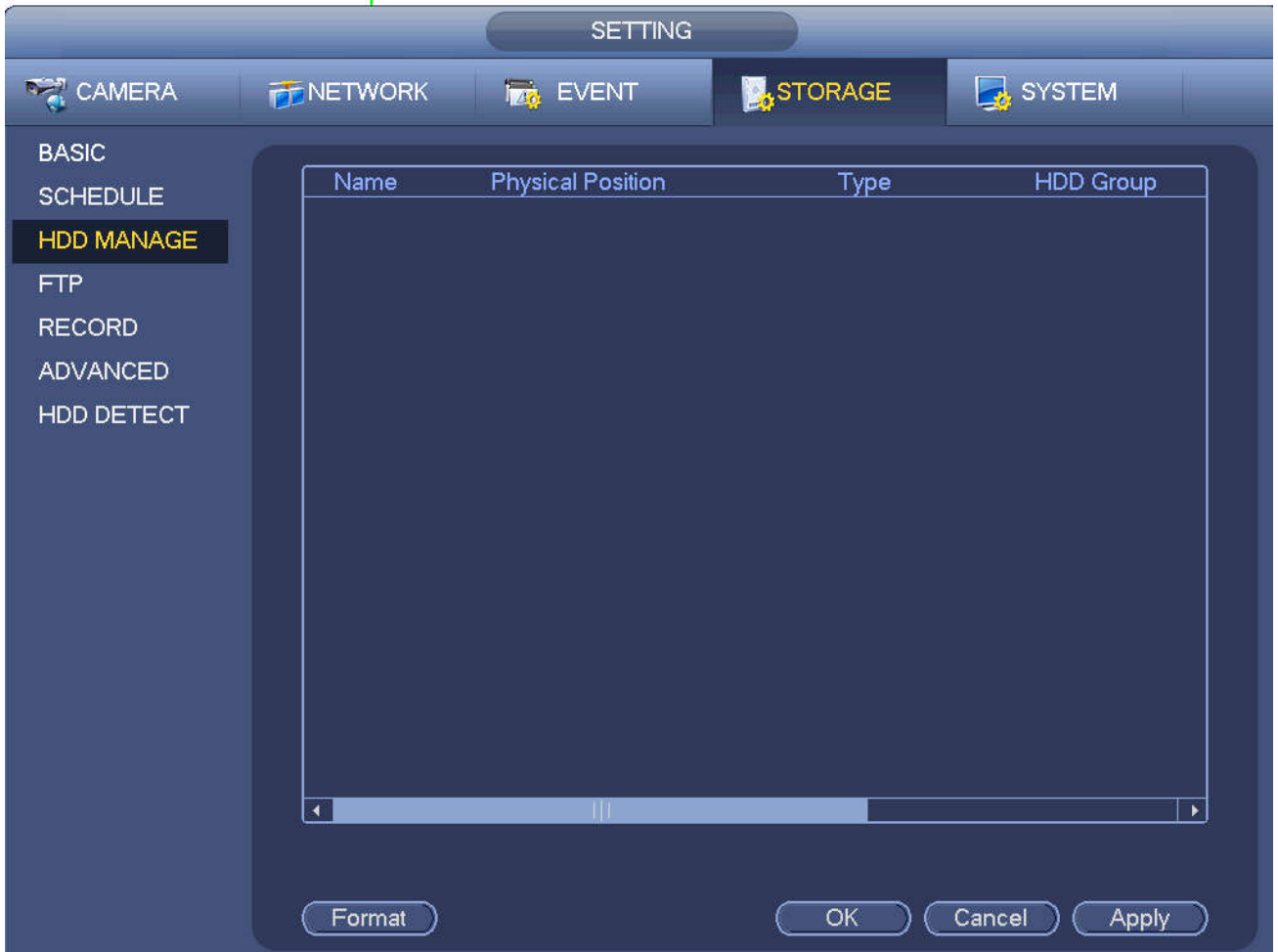
See Figure 4-192.

Figure 4-192

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.

4.9.4   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 4-193.

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.
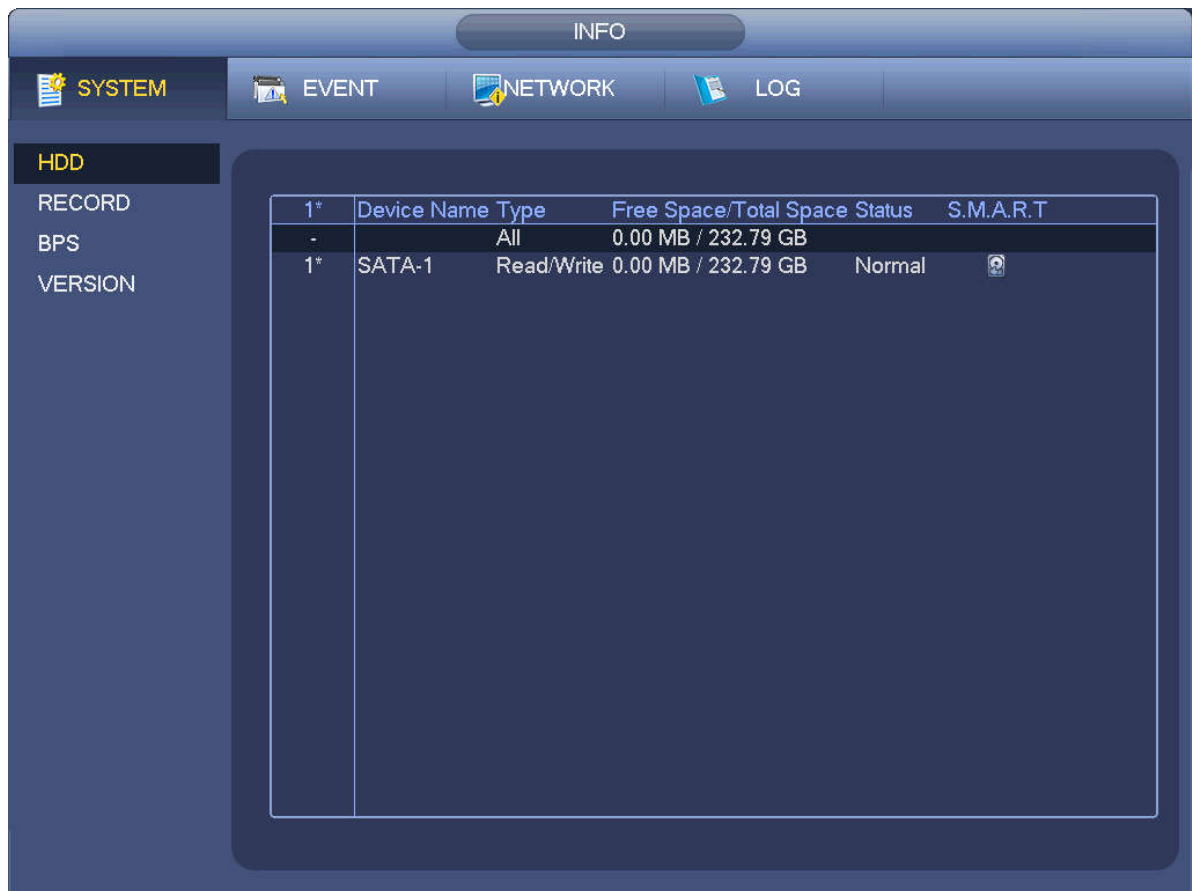
4.9.5 Record Control

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 4.1.4.6.3 record control.

4.9.6 HDD Information

Here is to list hard disk type, total space, free space, and status. See Figure 4-194.

○ 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 4-194

In Figure 4-194, click one HDD item, the S.M.A.R.T interface is shown as in Figure 4-195.
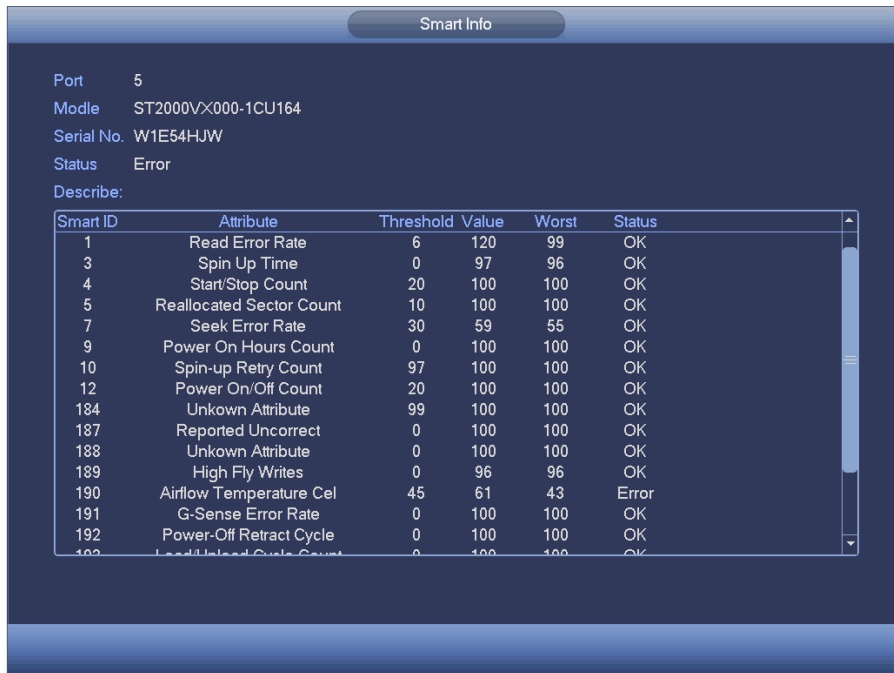
Figure 4-195

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,

4.9.7 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 4-196.

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

Figure 4-196

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.

4.9.8 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.

4.9.8.1 Manual Detect

From main menu->Setting->Storage->HDD Detect->Manual Detect, the interface is shown as below. See Figure 4-197.

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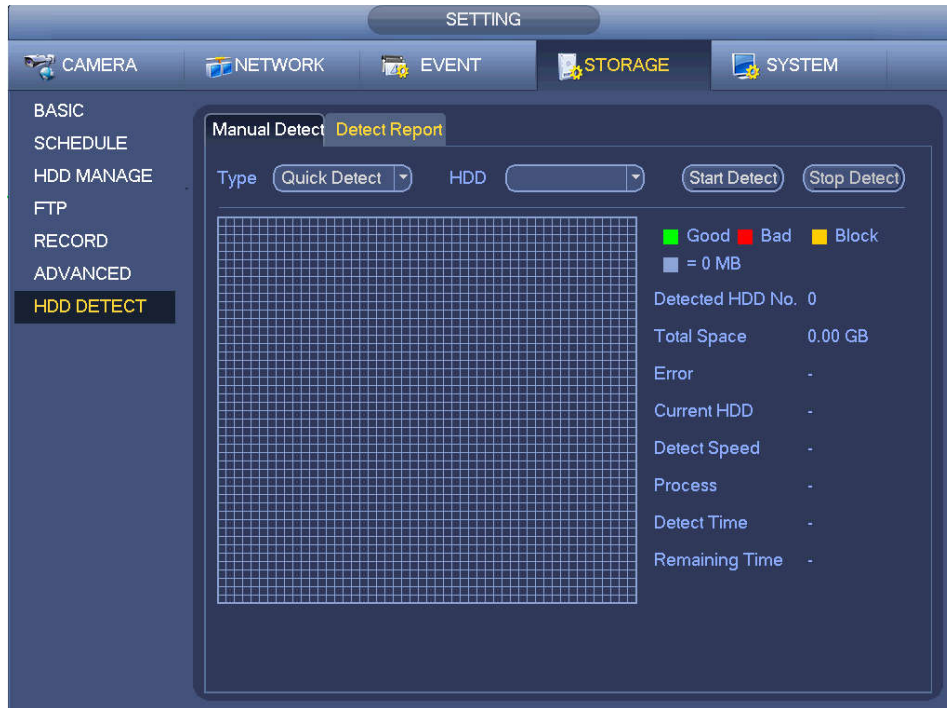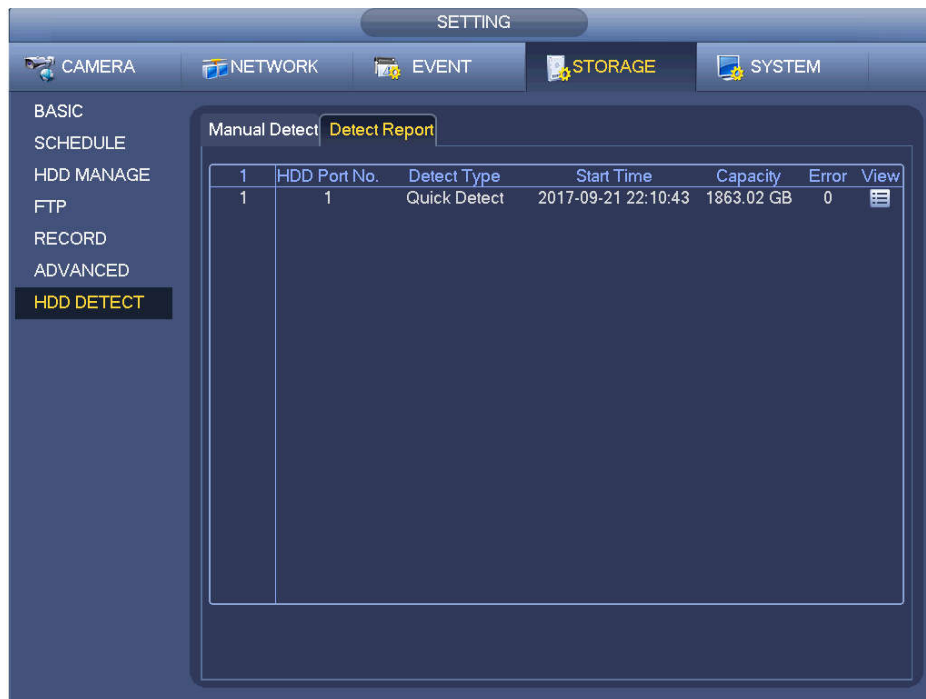

Figure 4-197

4.9.8.2 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 4-198.

Figure 4-198

Click View, you can see the detailed information such as detect result, backup and S.M.A.R.T. See Figure 4-199 and Figure 4-200.

Figure 4-199

Figure 4-200

4.9.9 RAID Manager

RAID (redundant array of independent disks) is a data storage virtualization technology that combines multiple physical HDD components into a single logical unit for the purposes of data redundancy, performance improvement, or both.

📖**Note**

- RAID function is for some series product only. Slight difference may be found on the user interface.
- Right now, NVR supports RAID0, RAID1, RAID5, RAID6, and RAID 10. Local hotspare supports RAID1, RAID5, RAID6, and RAID10.
- Refer to the following table for detailed information.

RAID Type	HDD Amount
RAID0	At least 2 HDDs.
RAID1	Only 2 HDDs.
RAID5	At least 3 HDDs. Usually recommend the RAID5 consists of 4 to 6 HDDs.
RAID6	At least 4 HDDs.
RAID10	At least 4 HDDs.

4.9.9.1 RAID Config

It is for you to manage RAID HDD. It can display RAID name, type, free space, total space, status and etc. Here you can add/delete RAID HDD.

Click Add button to select RAID type and then select HDDs, click OK button to add. See Figure 4-201.

One click to create RAID

● Click it to automatically create RAID5.

● For create RAID function, you can select the physical HDD that does not included in the RAID group or the created disk array to create a RAID5. You can refer to the following situations:

● There is no RAID, no hotspare disk: System directly creates the RAID5 and creates one hotspare disk at the same time.

● There is no RAID, but there is a hotspare disk: System creates the RAID5 only. It uses previous hotspare disk.

● There is RAID: System cancel the previous RAID setup and then create the new RAID5. System creates the hotspare disk if there is no one. System uses previous hotspare disk if there is hotspare disk available.

● The background will format the virtual disk.

Create manually

Step 1   Select RAID type first and then follow the prompts to set HDD amount.

Step 2   Click Create Manually button, system pops up dialogue box to warning you it is going to clear all data.

Step 3   Click OK button to complete the operation.
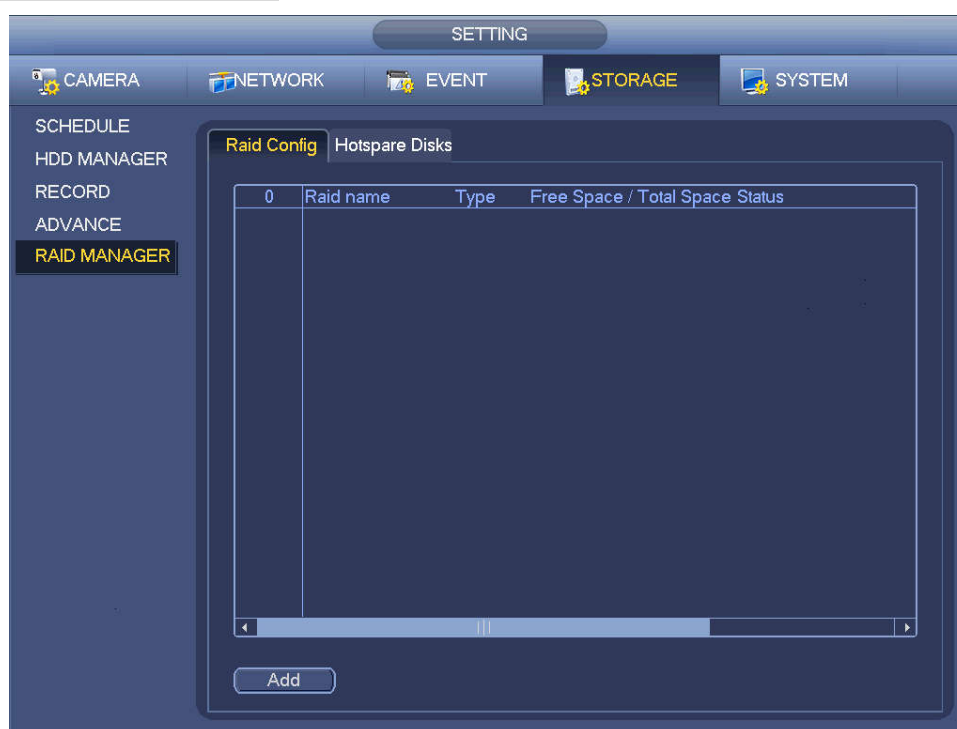
📖**Note**

Click ❌ to delete RAID.

Figure 4-201

4.9.9.2 Hotspare disks

When a HDD of the RAID group is malfunction or abnormal, the hotspare HDD can replace the malfunction or abnormal HDD in case there is any data loss. It is to guarantee storage system reliability. Click Hotspare disks tab name, you can add the hot spare HDD. See Figure 4-202. 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 4-202

4.10 Device Maintenance and Manager

4.10.1 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.

4.10.1.1 User

4.10.1.1.1 Add User

Step 1   From main menu->Setting->System->Account->User.
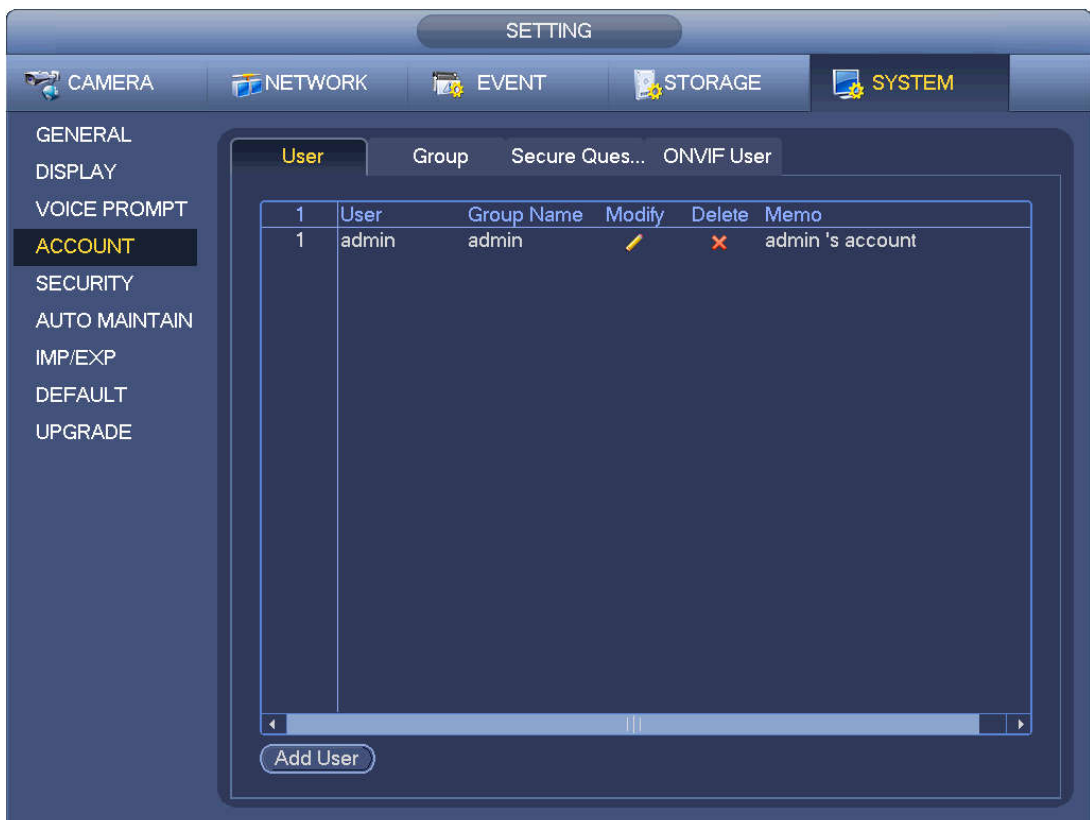　　　Enter user interface. See Figure 4-203.

Figure 4-203

Step 2   Click Add user button in Figure 4-203.
The interface is shown as in Figure 4-204.

Figure 4-204

Step 3   Input the user name, password, select the group it belongs to from the dropdown list. Then you

can check the corresponding rights for current user.

📖Note

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

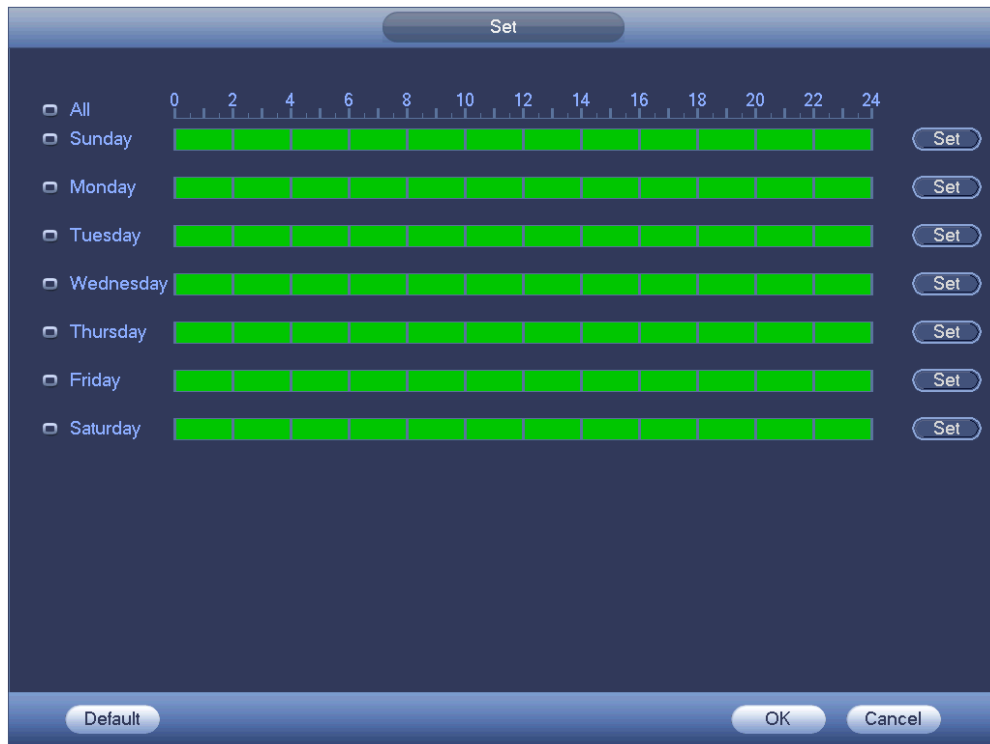Step 4   Click the Set button after the period, you can set valid period to use current account. See Figure 4-205.

Figure 4-205

Step 5   Click Set button, you can set six periods in one day. See Figure 4-206.
Step 6   Check the box after the period, you can enable current setup.

📖Note

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

Figure 4-206

Step 7   Click OK button.

4.10.1.1.2 Modify user

From main menu->Setting->System->Account->User, click![edit icon], you can go to the following interface to change user information. See Figure 4-207.

Figure 4-207

For **admin** user, you can change the email, enable/disable unlock pattern, change password prompt question, set security questions. See Figure 4-208.

Figure 4-208

● Input email information and then click Save, it is to set/change email address.

● Check the box to enable unlock pattern and then click , click Save to change unlock pattern.

● Set security question

Step 1 Click Security question, enter the following interface. See Figure 4-209.
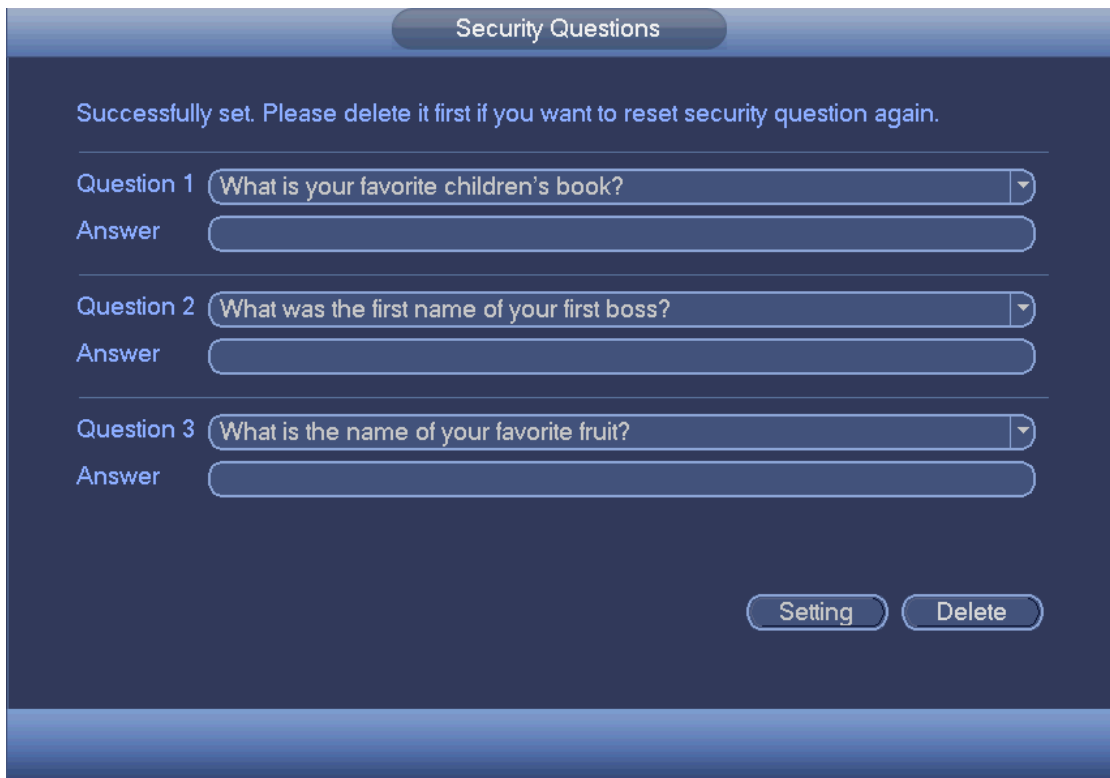
Figure 4-209

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.

4.10.1.1.3 Change Password

In Figure 4-207, check the Modify password box, you can change password. Please input old password, and then input new password twice to confirm.

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

⚠️ WARNING

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

4.10.1.2   Modify Group

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

Enter add group interface. See Figure 4-210.

Figure 4-210

Step 2   Click add group button in Figure 4-210.
            Enter Add group the interface. See Figure 4-211.
Step 3   Input group name and then input some memo information if necessary. Check   the box to
            select authorities.

Figure 4-211

4.10.1.3 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 4-212. Input correct security answers and then click Delete button at the bottom of the interface, you can reset security questions and answers.
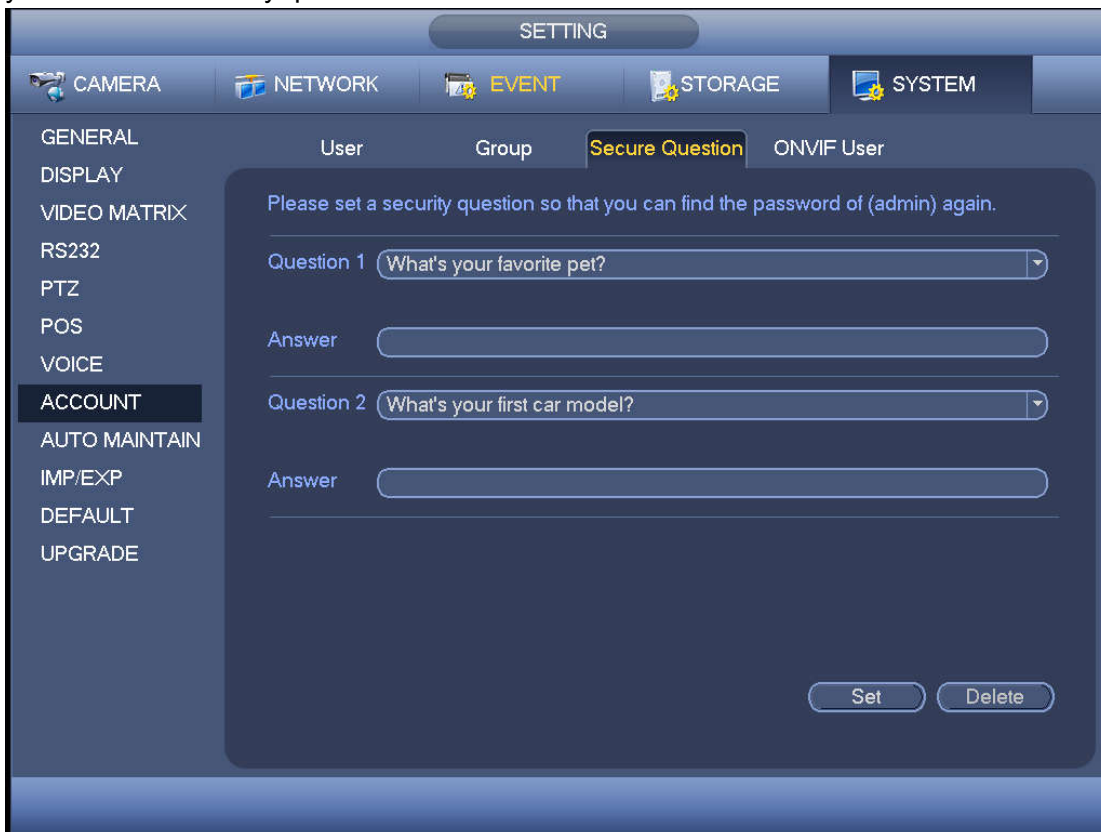

Figure 4-212

4.10.1.4 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.
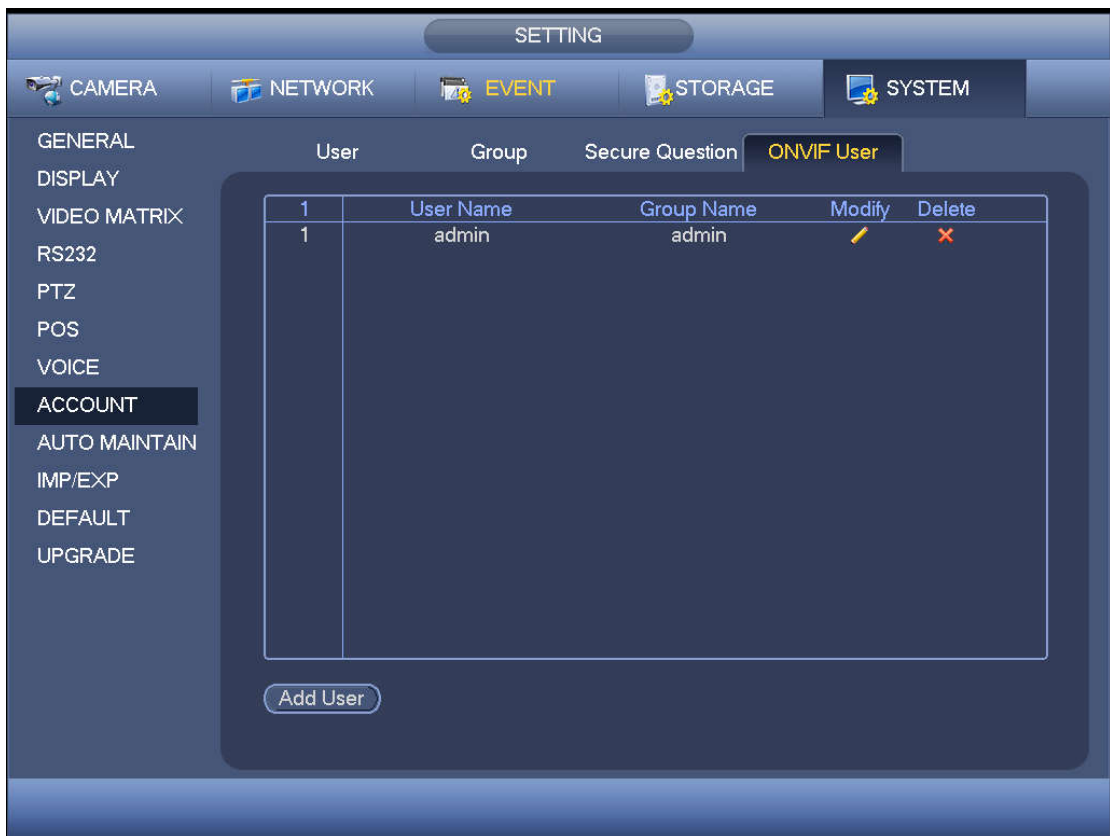   Enter ONVIF interface. See Figure 4-213.

Figure 4-213

Step 2 Click Add User button.
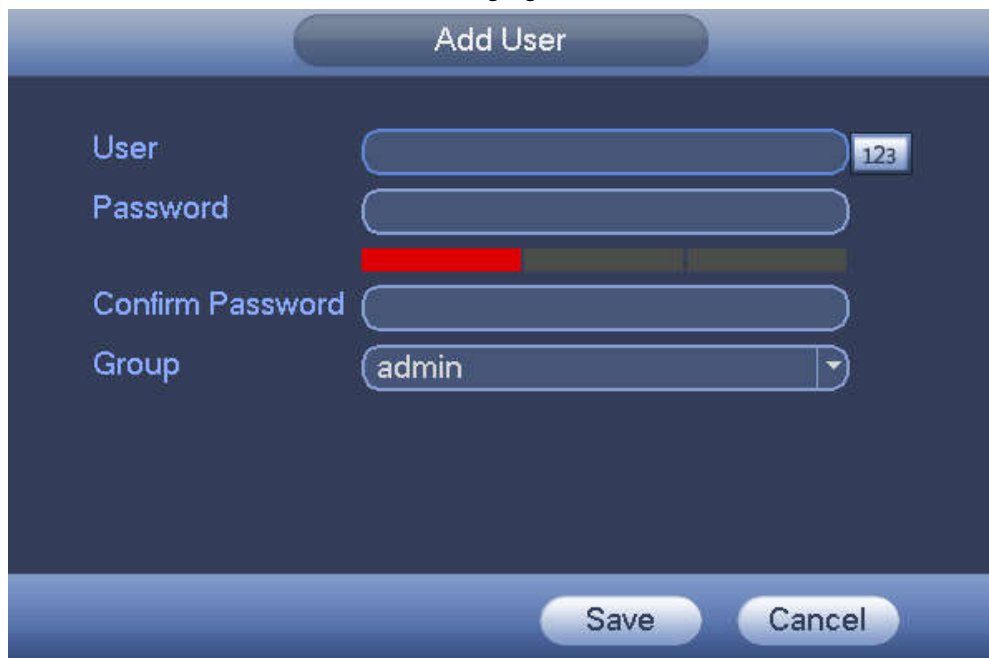
Enter Add User interface. See the following figure.

Figure 4-214

Step 3 Set user name, password and then select group from the dropdown list.

Step 4 Click Save to complete setup.

📖 **Note**

Click ![pencil icon] to change user information, click ![X icon] to delete current user.

4.10.1.5 Online User

Here is for you manage online users connected to your NVR. See Figure 4-215.

You can click button ![block icon] 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 4-215

4.10.2 System Info

4.10.2.1 Version

From main menu->Info->System->version, you can go to version interface.

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

4.10.2.2 BPS

Here is for you to view current video bit rate (kb/s) and resolution. See Figure 4-216.
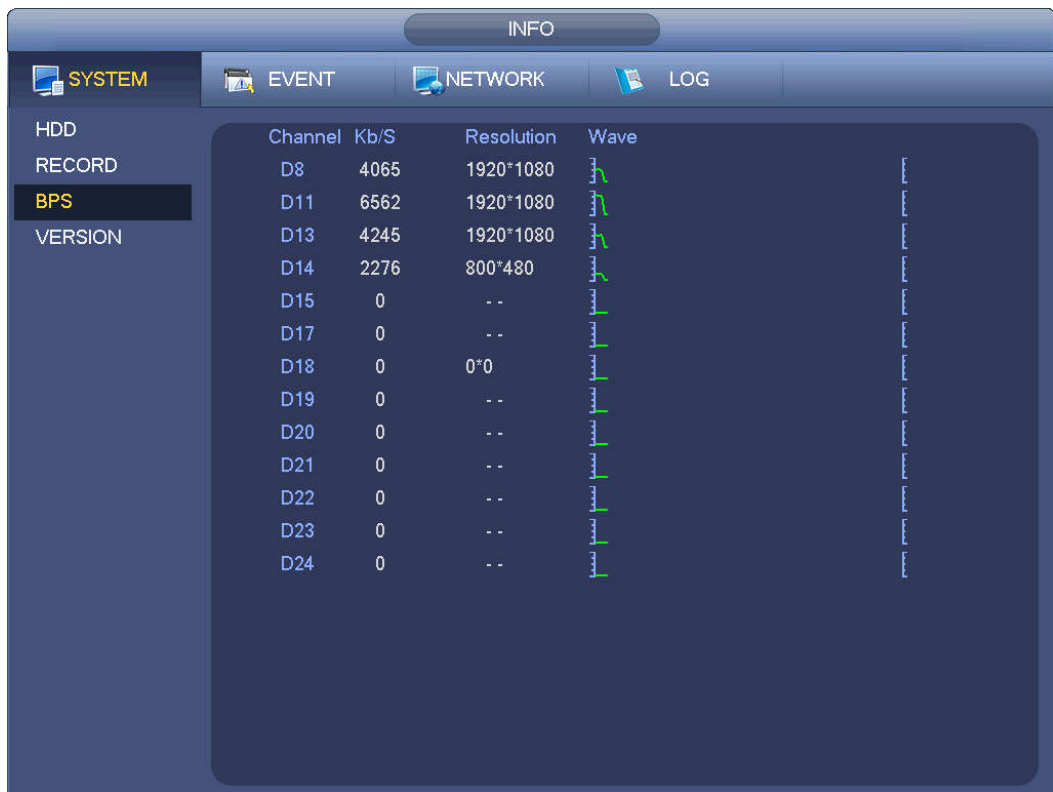
Figure 4-216

4.10.2.3 Event Information

4.10.2.3.1 Alarm Status

From main menu->info-Event, here you can view the channel status of the remote device, connection log and etc. See Figure 4-217.

Figure 4-217

4.10.2.3.2 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 4-218.

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 4-218

4.10.2.3.3 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 4-219.

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 4-219

4.10.3 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.

4.10.3.1 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 4-220.

Figure 4-220

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 4-221.

📖 **Note**

The file size shall be 2K-10MB.

Figure 4-221

4.10.3.2 Schedule

It is to set schedule broadcast function. You can play the different audio files in the specified periods. See Figure 4-222.

Figure 4-222

4.10.4 RS232

After setting RS232 parameters, the NVR can use the COM port to connect to other device to debug and operate.

From Main menu->Setting->System->RS232, RS232 interface is shown as below. There are five items. See Figure 4-223.

- Function: There are various devices for you to select.
  - ✧ Console is for you to use the COM or mini-end software to upgrade or debug the program.
  - ✧ Control keyboard is for you to control the device via the special keyboard.
  - ✧ Transparent COM (adapter) is to connect to the PC to transfer data directly.
  - ✧ Protocol COM is for card overlay function.
  - ✧ Network keyboard is for you to use the special keyboard to control the device.
  - ✧ PTZ matrix is to connect to the peripheral matrix control.

📖**Note**

Different series products support different RS232 functions. Please refer to the actual product for detailed information.

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

System default setup is:

- Function: Console

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

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

Figure 4-223

4.10.5 Broadcast

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

Step 1　　From Mani menu->Setting->System->Broadcast.
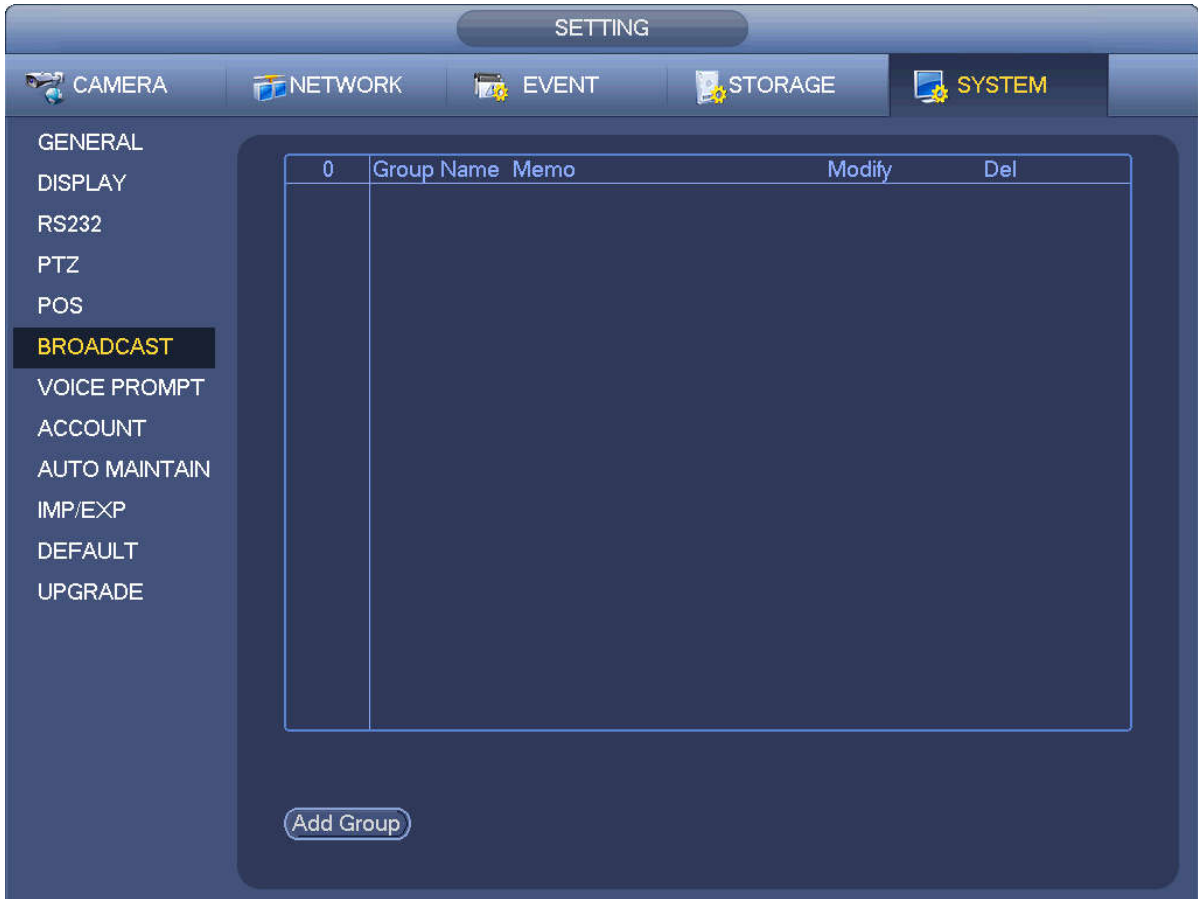　　　　　　Enter the following interface. See Figure 4-224.

Figure 4-224

Step 2   Click Add group.

Enter add group interface. See Figure 4-225.

Figure 4-225

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 4-226.
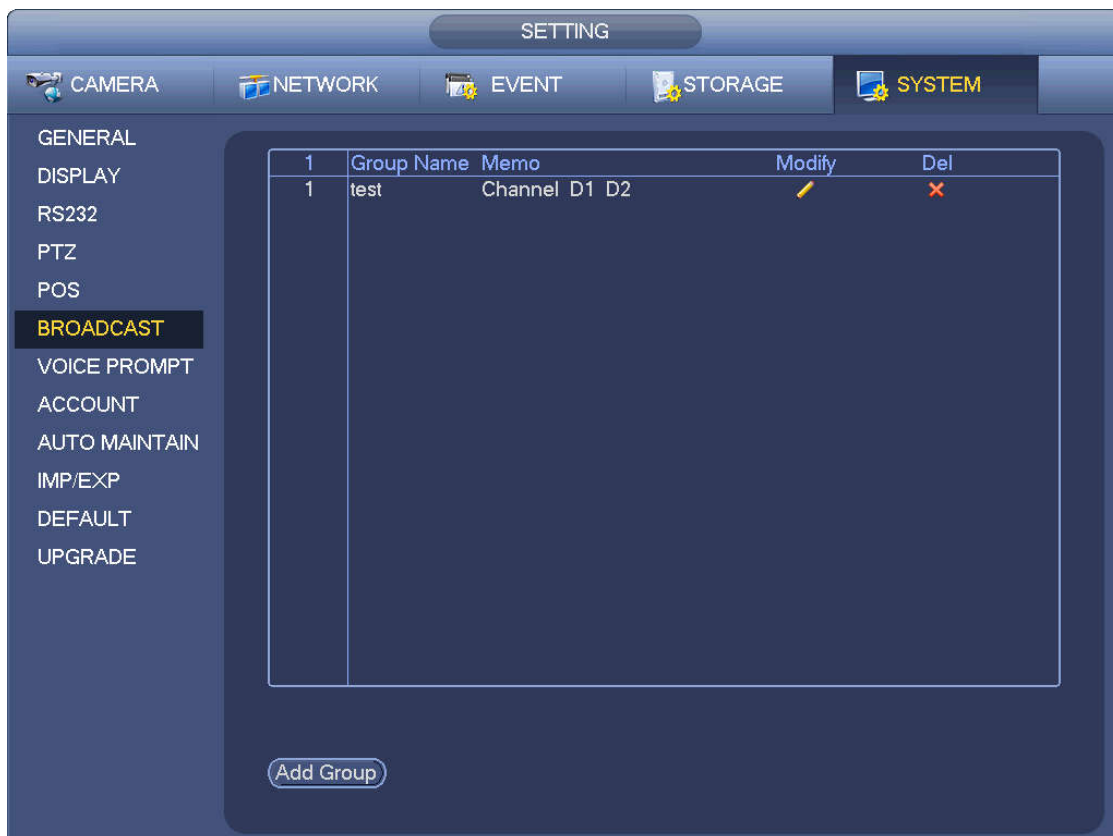

Figure 4-226

4.10.6 Security

4.10.6.1 IP Filter

IP filter interface is shown as in Figure 4-227. 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.
   a)   For the newly added IP address, it is in enable status by default. Remove the √ before the item,

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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 4-228. 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.
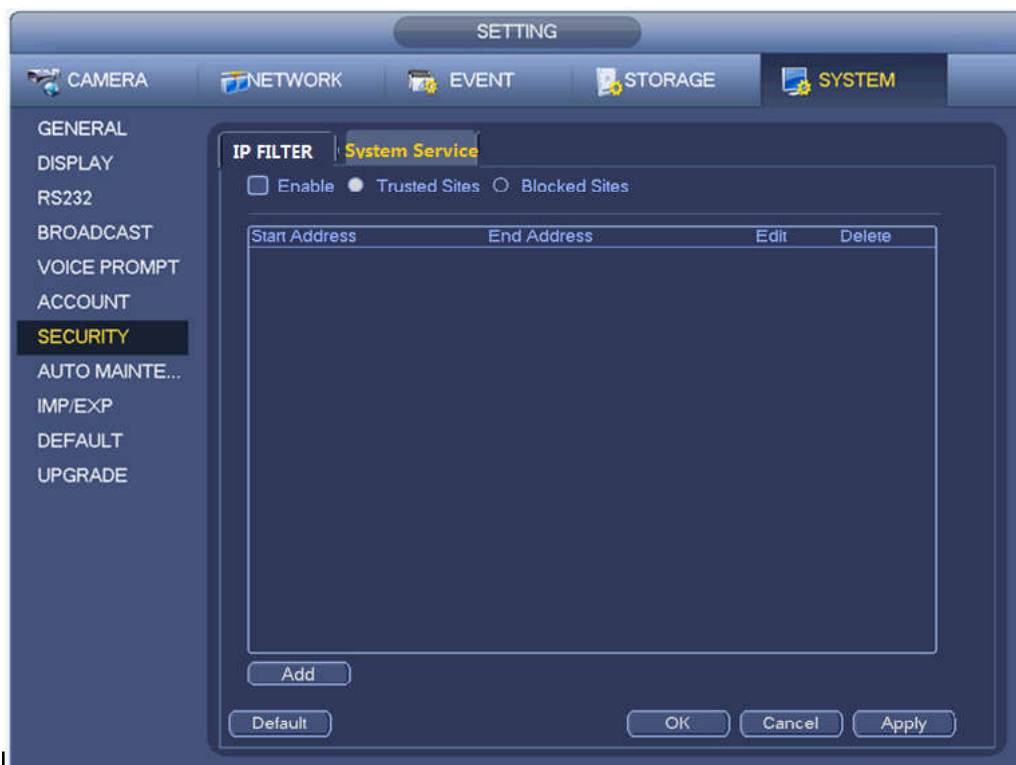
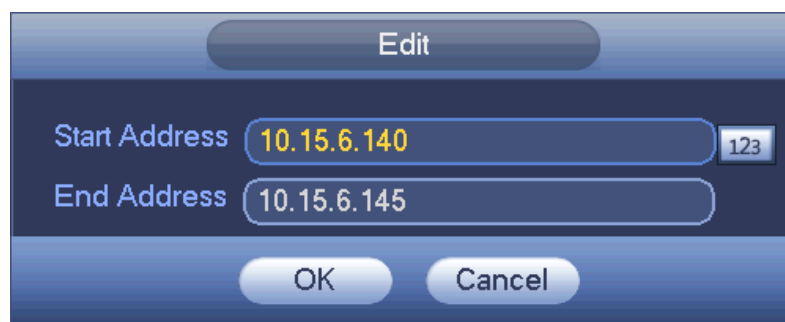● System supports add MAC address.

Figure 4-227

Figure 4-228

4.10.6.2 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 4-229.

Figure 4-229

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.
CGI	Enabled by default. The device can be connected via this protocol when enabled.
ONVIF	Enabled by default.

Parameter	Description
	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.

4.10.7 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 4-230.
You can select proper setup from dropdown list.
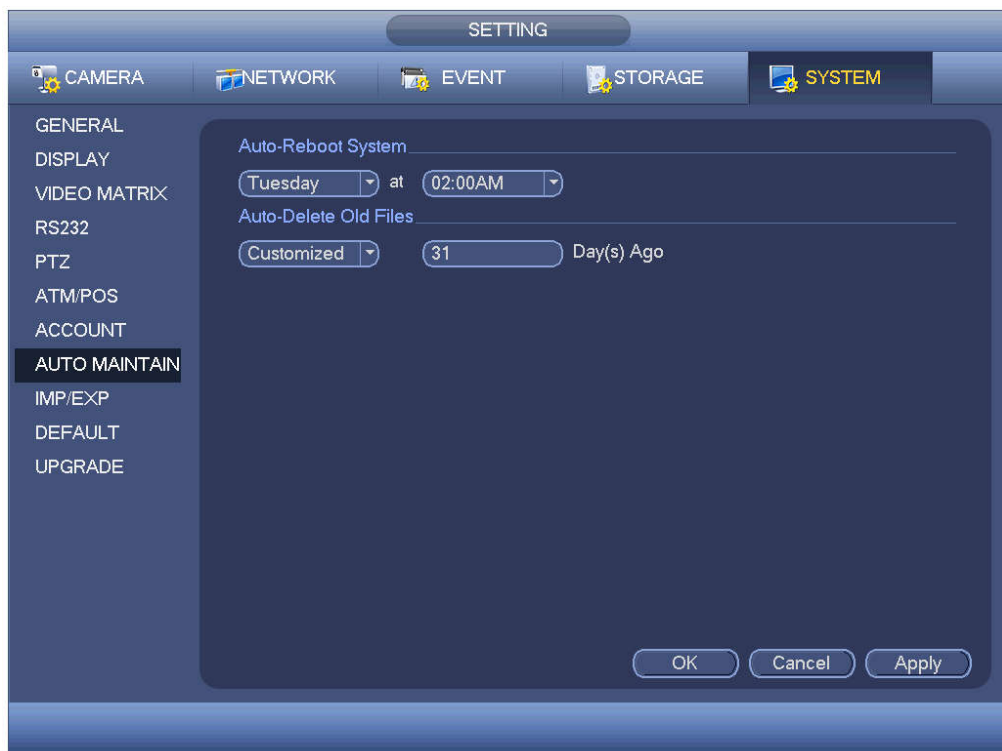After all the setups please click save button, system goes back to the previous menu.

Figure 4-230

4.10.8 Backup

4.10.8.1 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 4-231
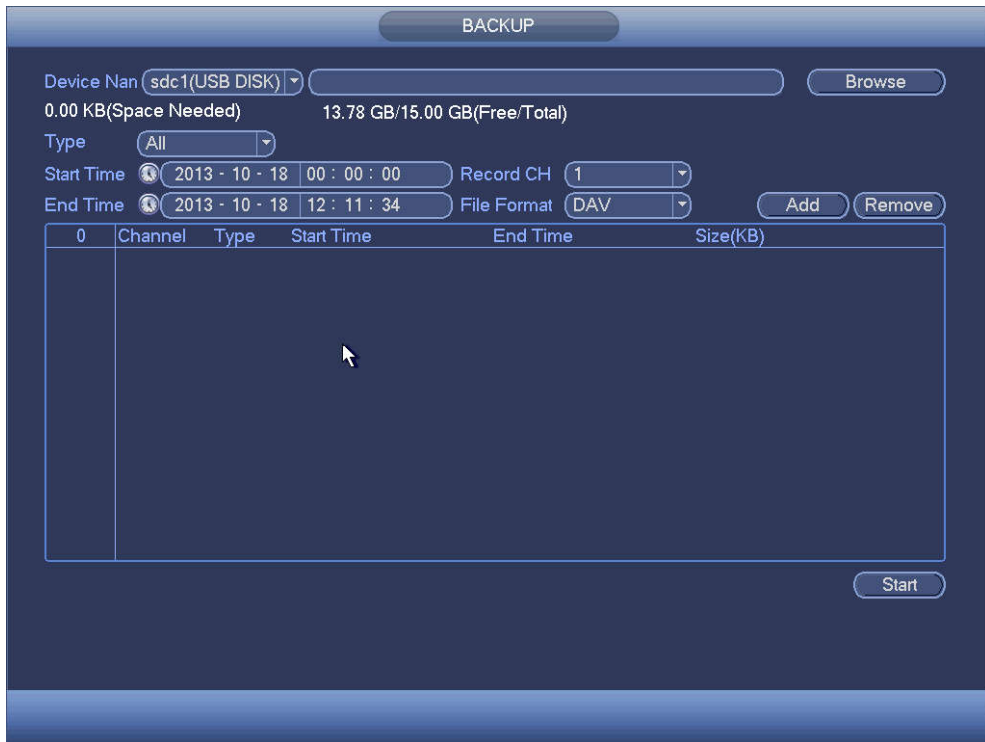
Figure 4-231

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 4-232.
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.
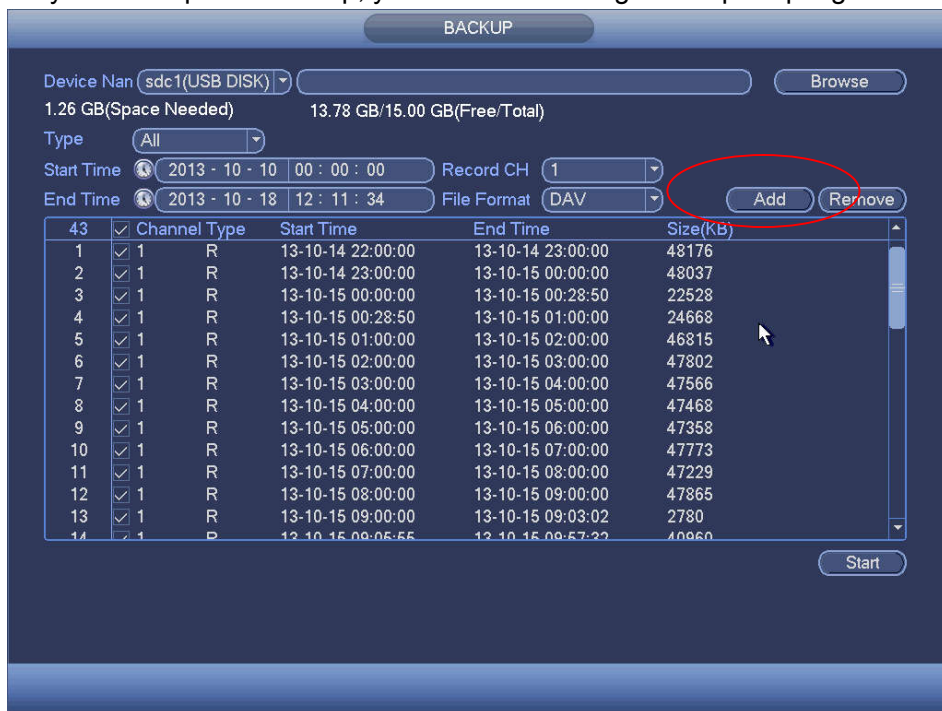g) When the system completes backup, you can see a dialogue box prompting successful backup.

Figure 4-232

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.

4.10.8.2 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 4-233.

Figure 4-233

- 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.

4.10.8.3 Backup Log

a) From Main menu->Info->Log, the interface is shown as below. See Figure 4-234.

Figure 4-234

b) Select log type and then set start time/end time, click Search button, you can see log time and event information. Click [icon] 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.

4.10.8.4 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 4-235. Please refer to chapter 4.10.8.1 file backup, chapter 4.10.8.3 backup log, chapter 4.10.8.2 import/export, and chapter 4.6.2 search for detailed information.

Figure 4-235

4.10.9 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 4-236.

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 4-236

4.10.10 Upgrade

4.10.10.1   File Update

From Mani menu->Setting->Info->Update, you can go to the following interface. See Figure 4-237.

Step 1   Insert USB device that contain the upgrade file.

Step 2   Click Start button and then select the .bin file.

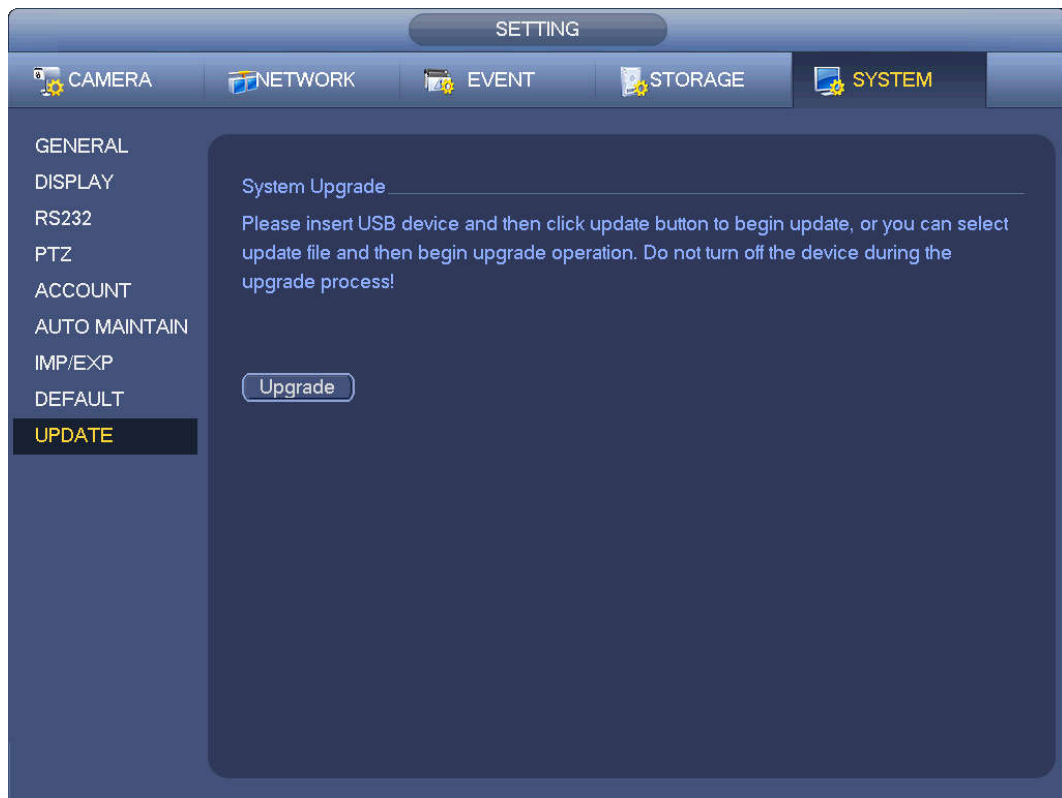Step 3   You can see the corresponding dialogue box after the update process is complete.

Figure 4-237

4.10.10.2   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 4-238.

Figure 4-238

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.

4.10.10.3   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.

4.11 Logout /Shutdown/Restart

From Mani menu->Operation->Shutdown, you can see an interface shown as in Figure 4-239.

● 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 cannot cancel).

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

Figure 4-239

5 Web Operation

5.1 General Introduction

If it is your first time to login the device, please initialize your device first. Refer to chapter 5.2 Device Initialization for detailed information.

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.

5.1.1 Preparation

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.
- Login the device local menu, from setting->Network->Network test and then input PC IP address. Check the connection is OK or not.

Step 4   Login the WEB. Refer to chapter 5.10 Login for detailed information.

5.2 Device Initialization

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

📖 **Note**

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

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 5-1.

Figure 5-1

Step 3   Set login password of **admin**.
- User name: The default user name is **admin**.
- Password/confirm password: The password ranges from 8 to 32 digitals. It can contain letters, numbers and special characters (excluding """,""","'",":","&") . The password shall contain at least two categories. Usually we recommend the strong password.

⚠ **WARNING**

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

Step 4   Click Next, device goes to the following interface. See Figure 5-2.

Figure 5-2

Step 5   Set security questions.

📖 **Note**

- After setting the security questions here, you can use the email you input here or answer the security questions to reset **admin** password Refer to chapter 5.4 Reset password for detailed information.
- Cancel the email or security questions box and then click Next button to skip this step.

- Email: Input an email address for reset password purpose. Scan the QR code to reset the password, you need to receive the security code by the email. Input the security code to reset the password of **admin**. In case you have not input email address here or you need to update the email information, please go to the main Setup->System->Account to set. Refer to chapter 5.11.5.7 for detailed information.
- Security question: Set security questions and corresponding answers. Properly answer the questions to reset **admin** password. In case you have not input security question here or you need to update the security question information, please go to the main menu->Setting->System->Account->Security question to set. Refer to chapter 4.10.1.3 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 5-3.
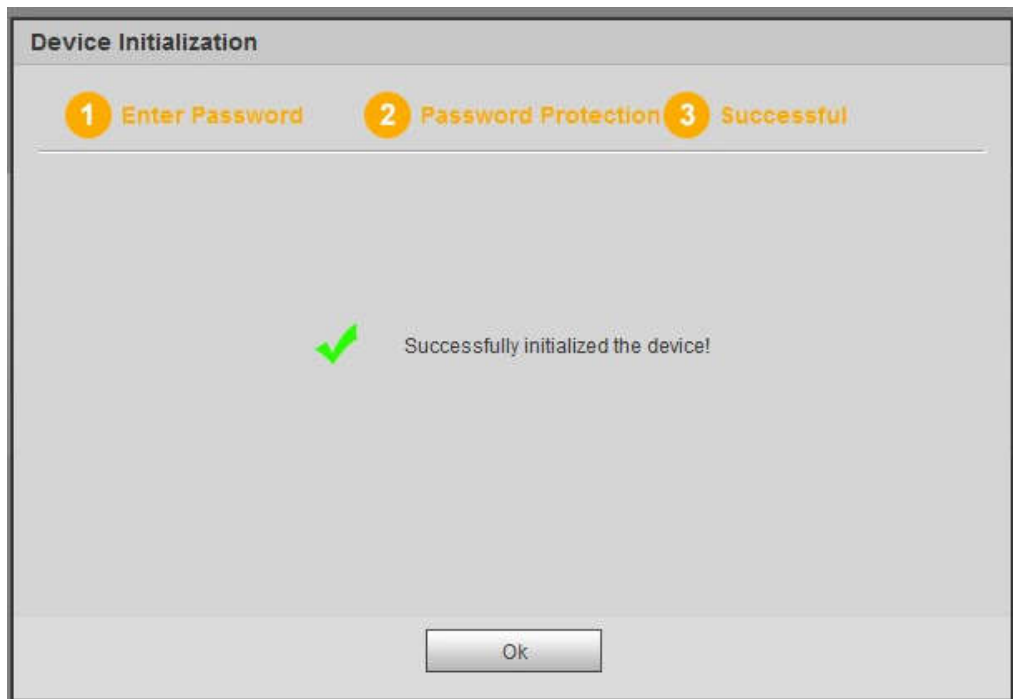
Figure 5-3

5.3 Log in

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

For example, if your NVR IP address is 192.168.1.108, then please input http:// 192.168.1.108 in IE address column. See Figure 5-4.
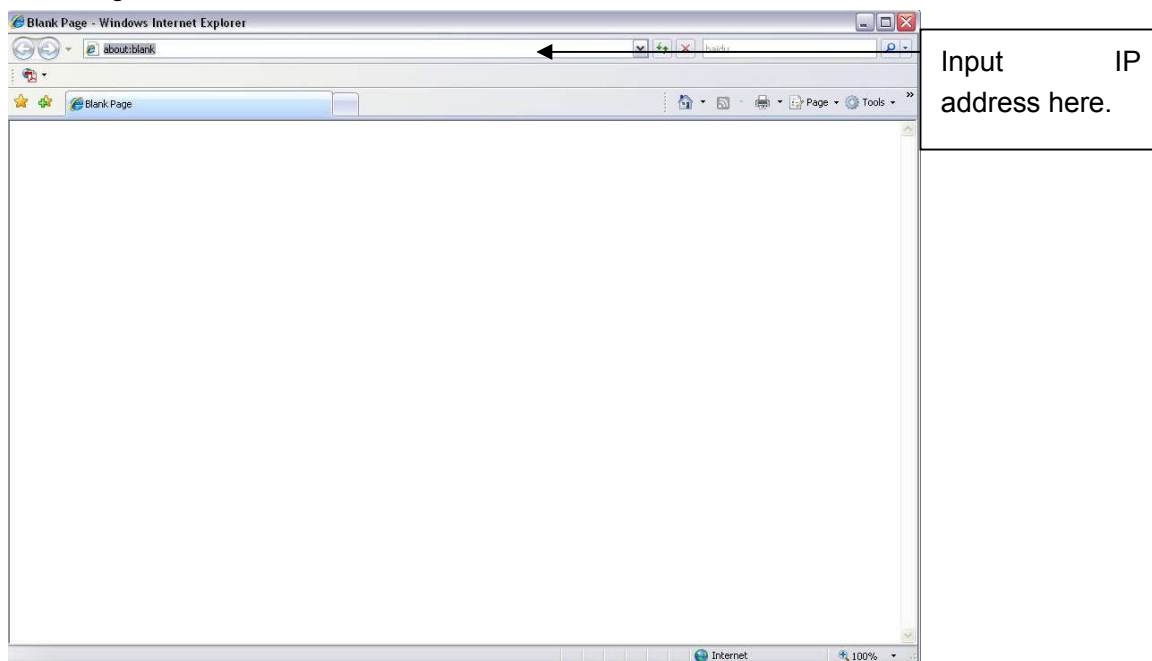

Figure 5-4

System pops up warning information to ask you whether install Web plug-in or not. Please click yes button.

After installation, the interface is shown as below. See Figure 5-5.

Figure 5-5

Please input your user name and password.

Factory default user name is **admin** and password is what you set in chapter 5.2 Device initialization.

5.4 Reset Password

If you forgot **admin** password, you can reset the password by email or by answering the security questions (local menu only).

● 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 5-5.

Step 2   Click Forgot password.

     ● If you have set the reserved email, system displays a notice before the password reset. See Figure 5-6.

     ● 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.

Reset Password(1/3)

⚠ In order to provide a secure password reset
environment, we need to collect your e-mail address,
device MAC address, device SN, etc. All collected info is
used only for the purposes of verifying device validity
and sending a security code to you. Do you agree and
want to continue the operation?

Cancel   OK

Figure 5-6

Step 3   Click OK.

System enters the following interface. See Figure 5-7.

📖 **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.
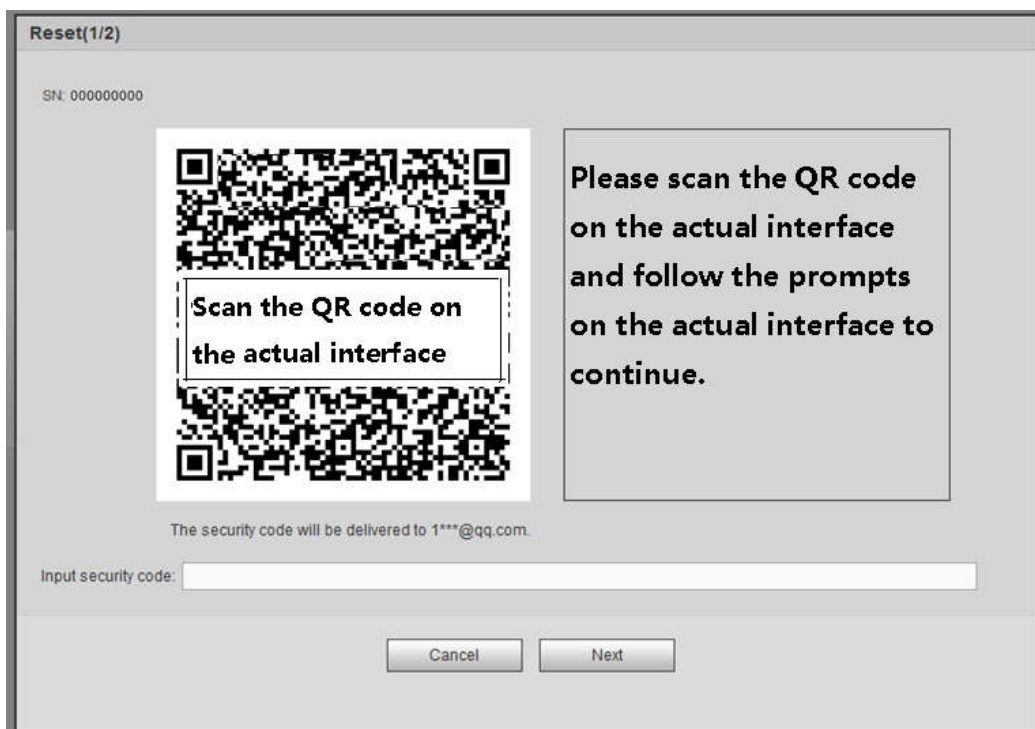
Figure 5-7

Step 4   Follow the prompts on the interface and then scan the QR code to get the security code.

⚠️ **WARNING**

✧ For the same QR code, max scan twice to get two security codes. Refresh the QR code if you want to get security code again.

✧ The security code on you email is only valid for 24 hours.

✧ After five times security code failure, the **admin** account will be locked for 5 minutes.

Step 5   Input the security code on the email and then click Next button.

Step 6   Input new password and then confirm.

⚠️ **WARNING**

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.

5.5 LAN Mode

For the LAN mode, after you logged in, you can see the main window. See Figure 5-13.

This main window can be divided into the following sections.

● Section 1: there are six function buttons: Live (chapter 5.6), setup (chapter 5.11), info (Chapter 5.12), playback (chapter 5.13), alarm (chapter 5.15), and logout (chapter 5.16).

● Section 2: There are monitor channels successfully connected to the NVR.

Please refer to Figure 5-8 for main stream and extra stream switch information.
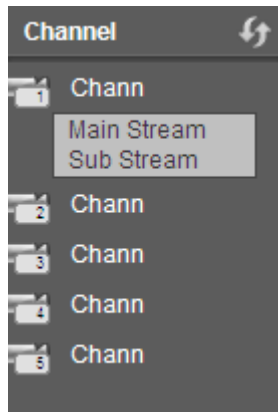
Figure 5-8

● Section 3: Open all. Open all button is to enable/disable all-channel real-time monitor. Here you can select main stream/sub stream too. See Figure 5-9.
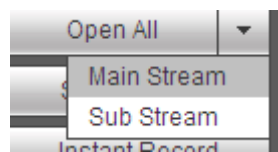
Figure 5-9

● Section 4: 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 5-10.

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.
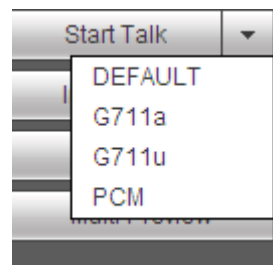
Figure 5-10

● Section 5: Instant record button. Click it, the button becomes yellow and system begins manual record. See Figure 5-11. Click it again, system restores previous record mode.
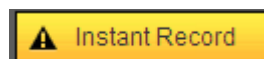
Figure 5-11

● Section 6: 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 5-12.
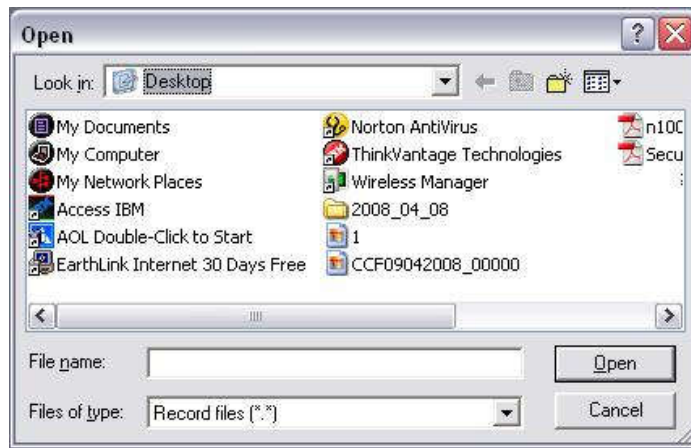
Figure 5-12

- Section 7: Zero-channel encoding. Please refer to chapter 5.9 for detailed information.
- Section 8: PTZ operation panel. Please refer to chapter 5.7 for detailed information.
- Section 9: Image setup and alarm setup. Please refer to chapter 5.8 for detailed information.
- Section 10: 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.
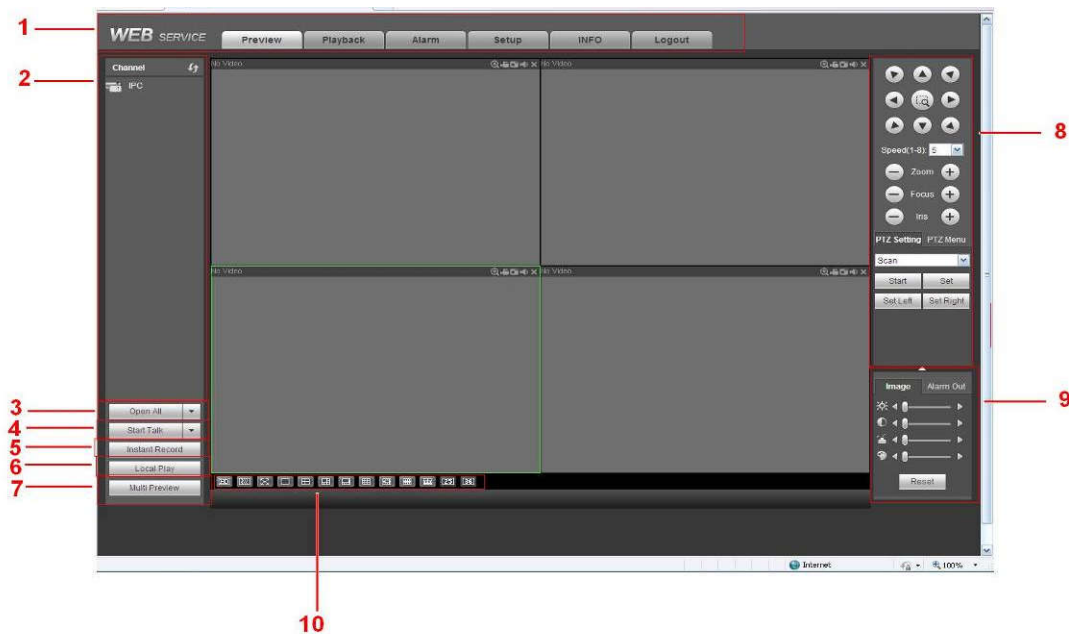
Figure 5-13

5.6 Real-time Monitor

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

On the top left corner, you can view device IP(172.11.10.11), channel number(1), network monitor bit stream(2202Kbps) and stream type(M=main stream, S=sub stream). See Figure 5-14.

| 1 | 2 | 3 | 4 |
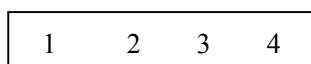
Figure 5-14

On the top right corner, there are six unction buttons. See Figure 5-15.
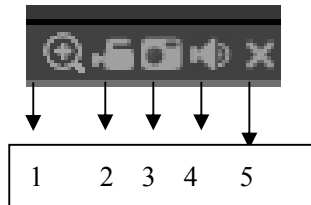
Figure 5-15

- 1: Digital zoom: Click this button and then left drag the mouse in the zone to zoom in. right click mouse system restores original status.
- 2: Local record. When you click local record button, the system begins recording and this button becomes highlighted. You can go to system folder RecordDownload to view the recorded file.
- 3: Snapshot picture. You can snapshot important video. All images are memorized in system client folder PictureDownload (default).
- 4: Audio :Turn on or off audio.(It has no relationship with system audio setup)
- 5: Close video.

5.7 PTZ

Before PTZ operation, please make sure you have properly set PTZ protocol. (Please refer to chapter 5.11.5.4).

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.

Parameter	Function
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.

3D Intelligent Positioning Key

You can click this icon to display or hide the PTZ control platform.

Figure 5-16

5.8 Image/Alarm-out

Select one monitor channel video and then click Image button in section 9, the interface is shown as Figure 5-17.

5.8.1 Image

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

Or you can click Reset button to restore system default setup.
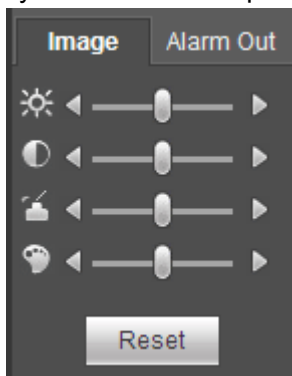
Figure 5-17

5.8.2 Alarm output

Here you can enable or disable the alarm signal of the corresponding port. See Figure 5-18.

Figure 5-18

5.9 Zero-channel Encode

Select a window and then click zero-channel encode button, the interface is shown as below. See Figure 5-19.
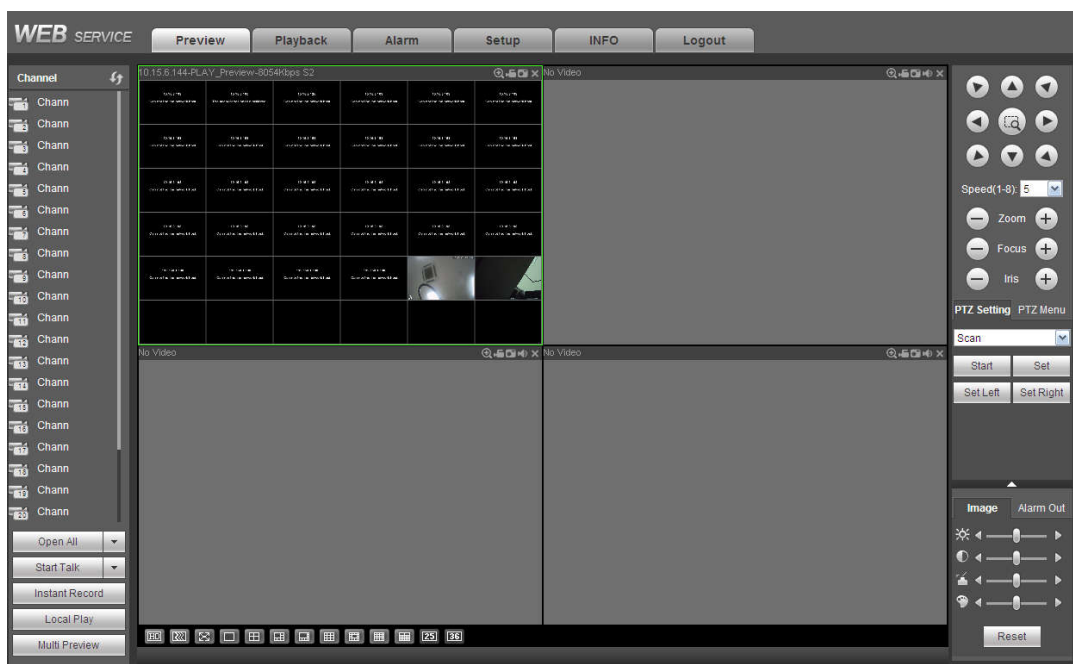
Figure 5-19

5.10 WAN Login

In WAN mode, after you logged in, the interface is shown as below. See Figure 5-20.

Figure 5-20

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 5-21.
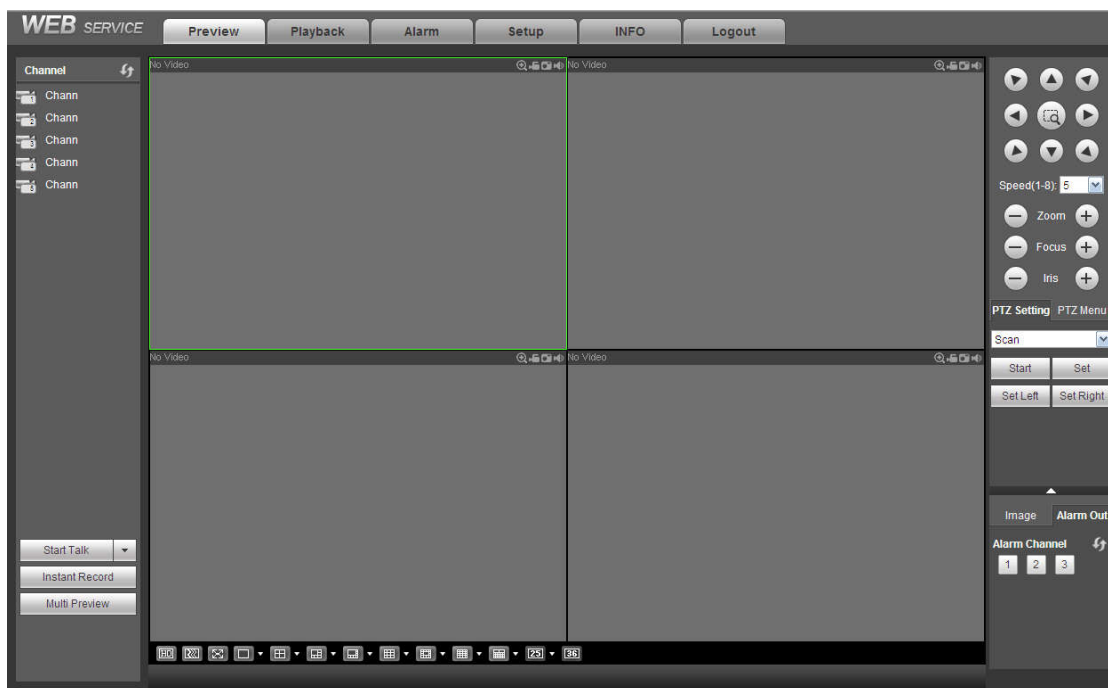
Figure 5-21

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 cannot modify manually. All channels are trying to synchronize. Please note the synchronization effect still depends on your network environments.

● For bandwidth consideration, system cannot support monitor and playback at the same time. System auto closes monitor or playback interface when you are searching setup in the configuration interface. It is to enhance search speed.

5.11 Setup

5.11.1 Camera

5.11.1.1 Registration

5.11.1.1.1 Registration

From Main menu->Setup->Camera->Registration->Registration, you can see the following interface. See Figure 5-22.
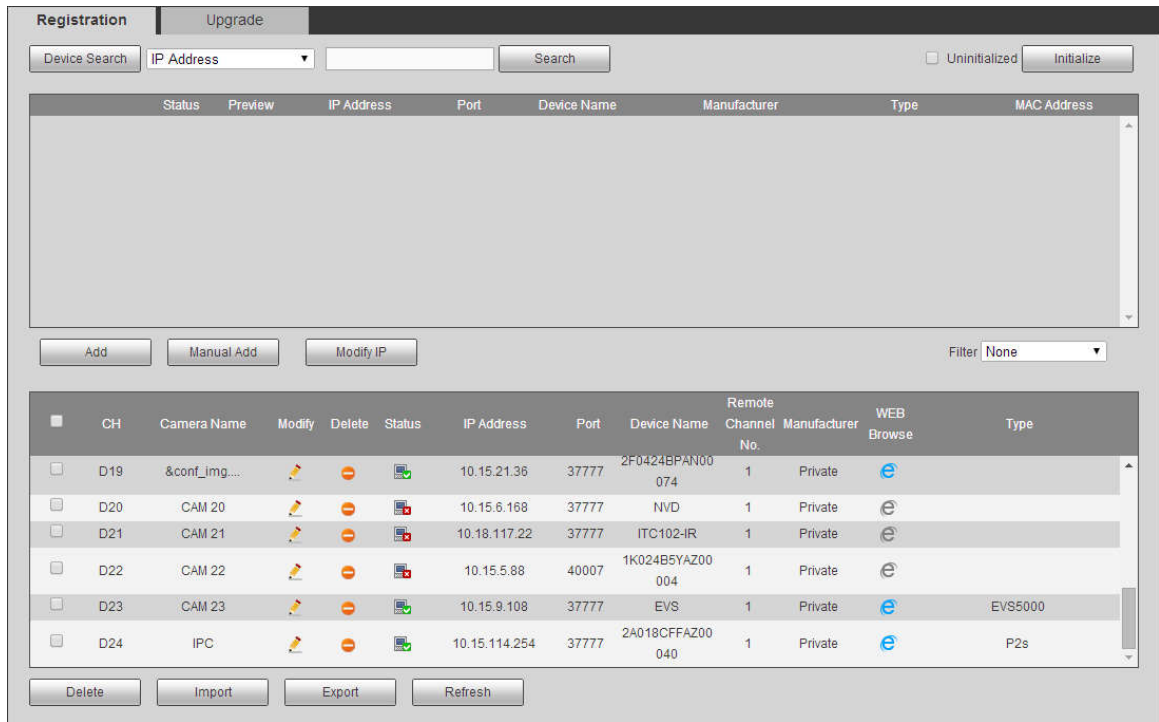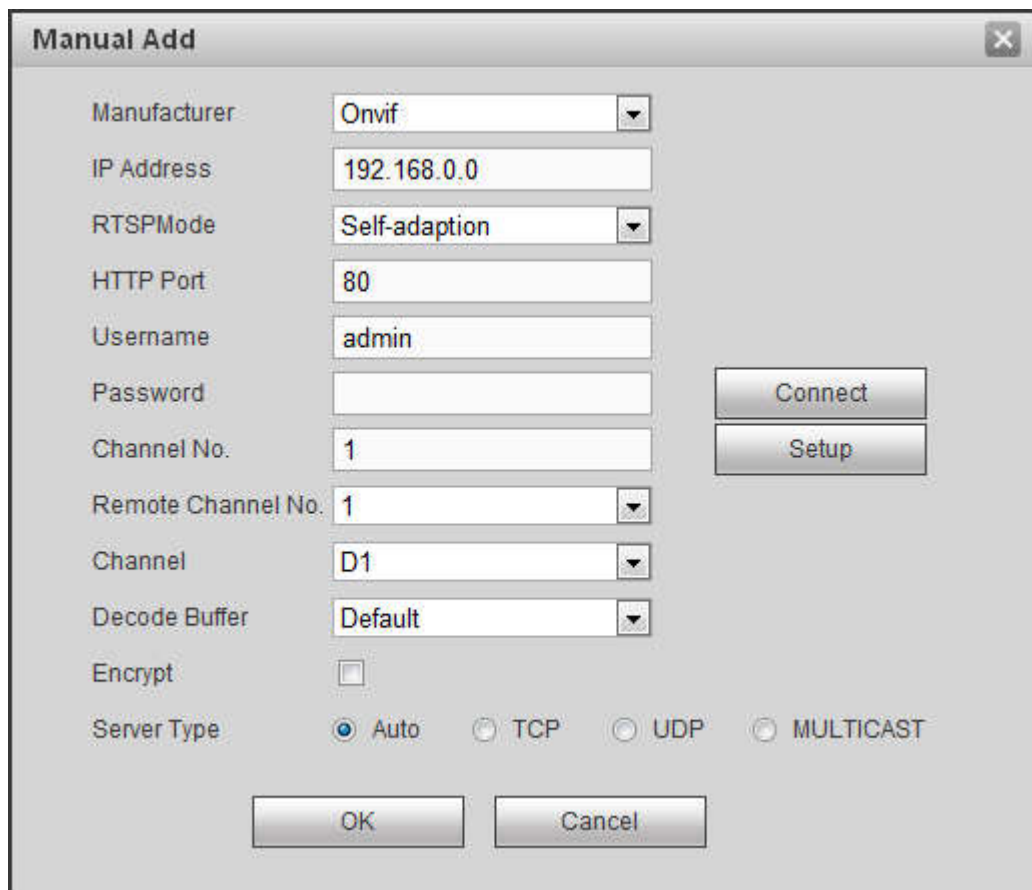
Figure 5-22

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.
Delete	Click ⊗, you can delete the remote connection of the corresponding channel.

Parameter	Function
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 5-23. Here you can add network camera manually. You can select a channel from the dropdown list (Here only shows disconnection channel.)

Figure 5-23

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.

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Parameter	Function
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.
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 5-24

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.
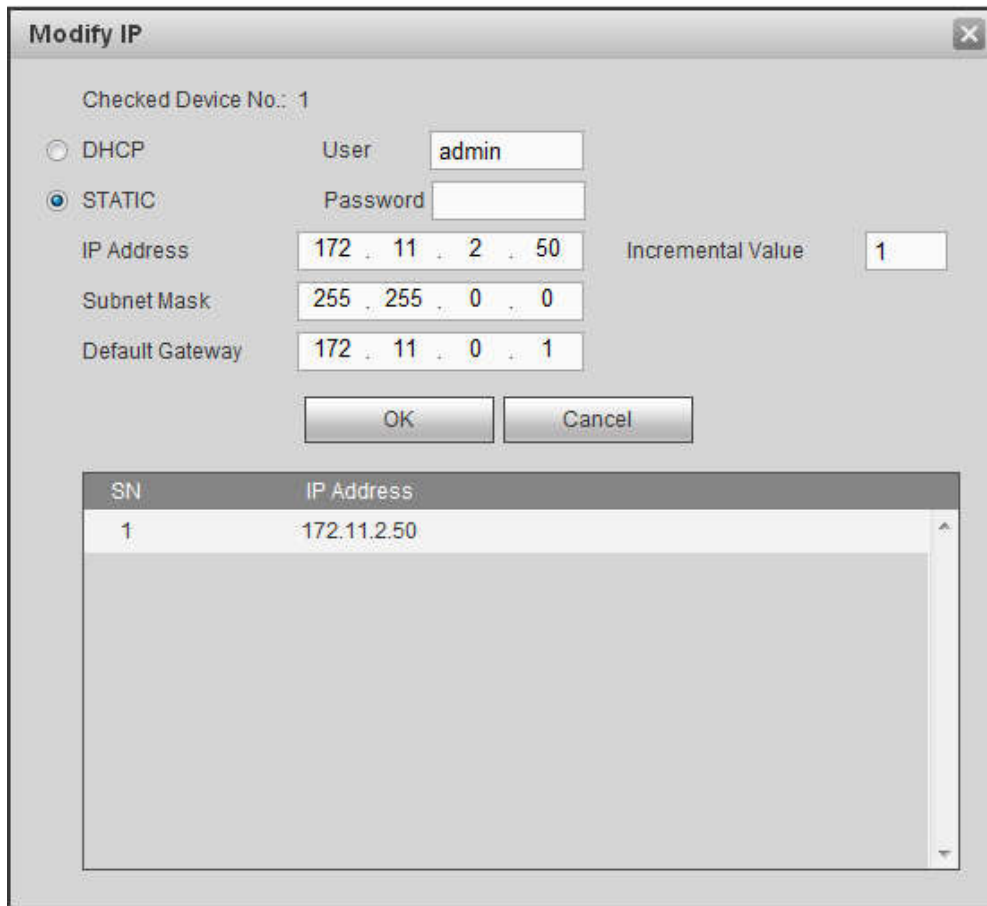
Figure 5-24

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 5-25.
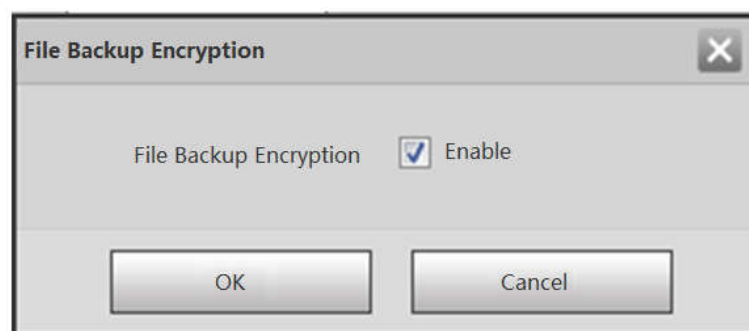

Figure 5-25

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.

5.11.1.1.2 IPC Upgrade

This interface is to upgrade network camera.

From Main menu->Setting->Camera->Registration->IPC upgrade, enter the following interface. See Figure 5-26.

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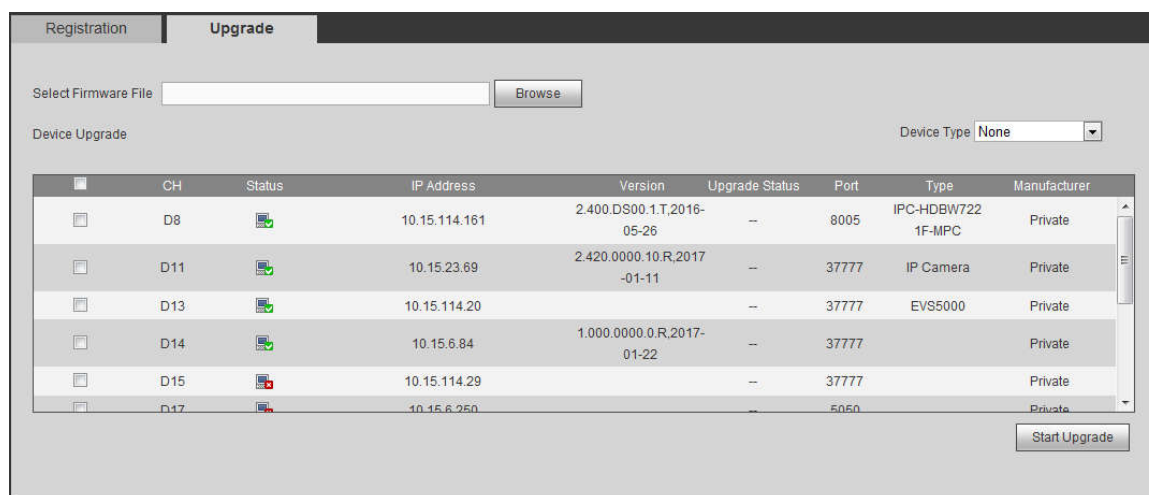

Figure 5-26

5.11.1.2 Image

Slight difference may be found since the connected network camera may not be same model.

Here you can view device property information. The setups become valid immediately after you set. See Figure 5-27.
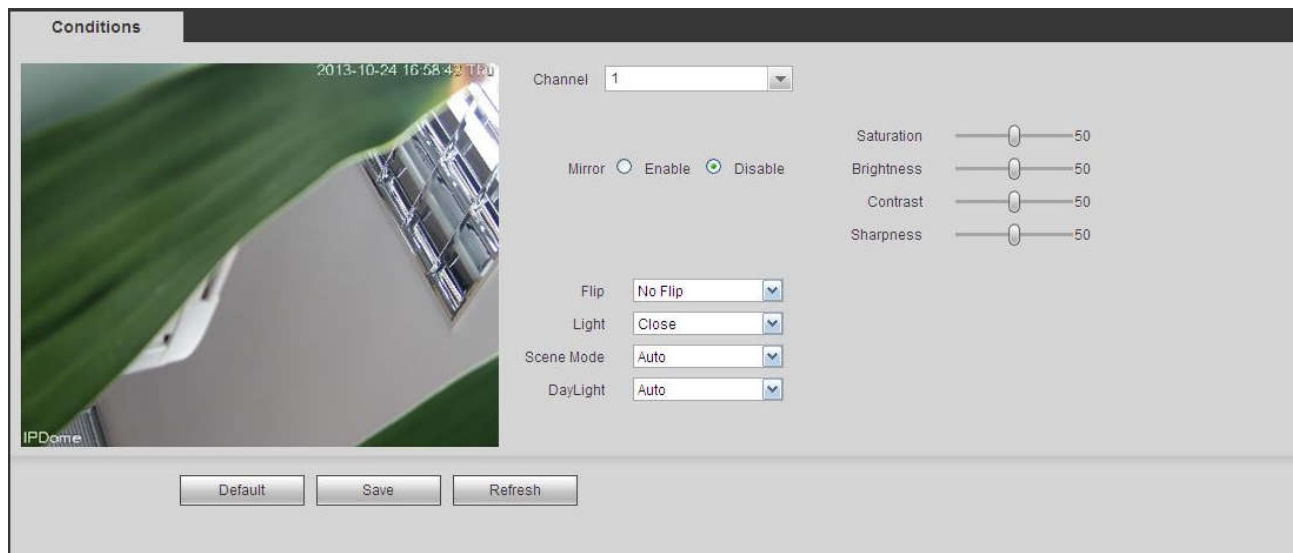

Figure 5-27

Please refer to the following sheet for detailed information.

Parameter	Function
Channel	Please select a channel from the dropdown list.
Period	It divides one day (24 hours) to two periods. You can set different hue, brightness, and contrast for different periods.
Hue	It is to adjust monitor video brightness and darkness level. The default value is 50. The bigger the value is, the large the contrast between the bright and dark section is and vice versa.
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.

5.11.1.3 Encode

5.11.1.3.1 Encode

The encode interface is shown as below. See Figure 5-28.

Figure 5-28

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	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.
Frame Rate	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	● 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.
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.
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.

Video/audio	You can enable or disable the video/audio. The main stream is enabled by default. After enable the audio function, the record 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.
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.

5.11.1.3.2 Snapshot

The snapshot interface is shown as in Figure 5-29.
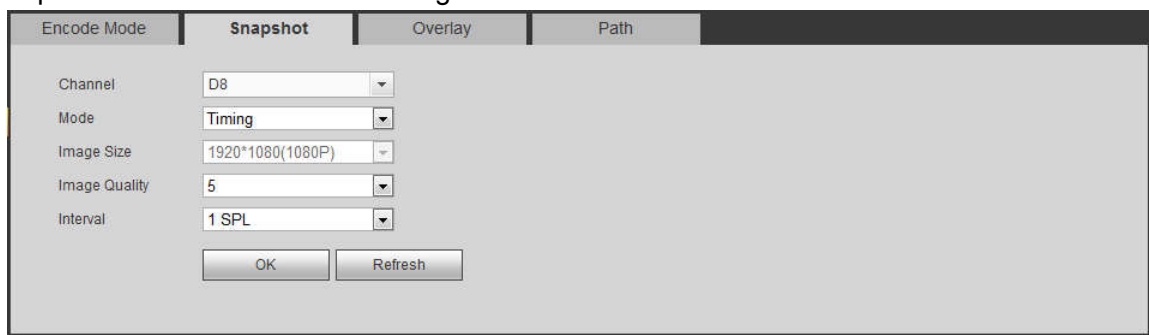
Figure 5-29

Please refer to the following sheet for detailed information.

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

5.11.1.3.3 Video Overlay

The video overlay interface is shown as in Figure 5-30.
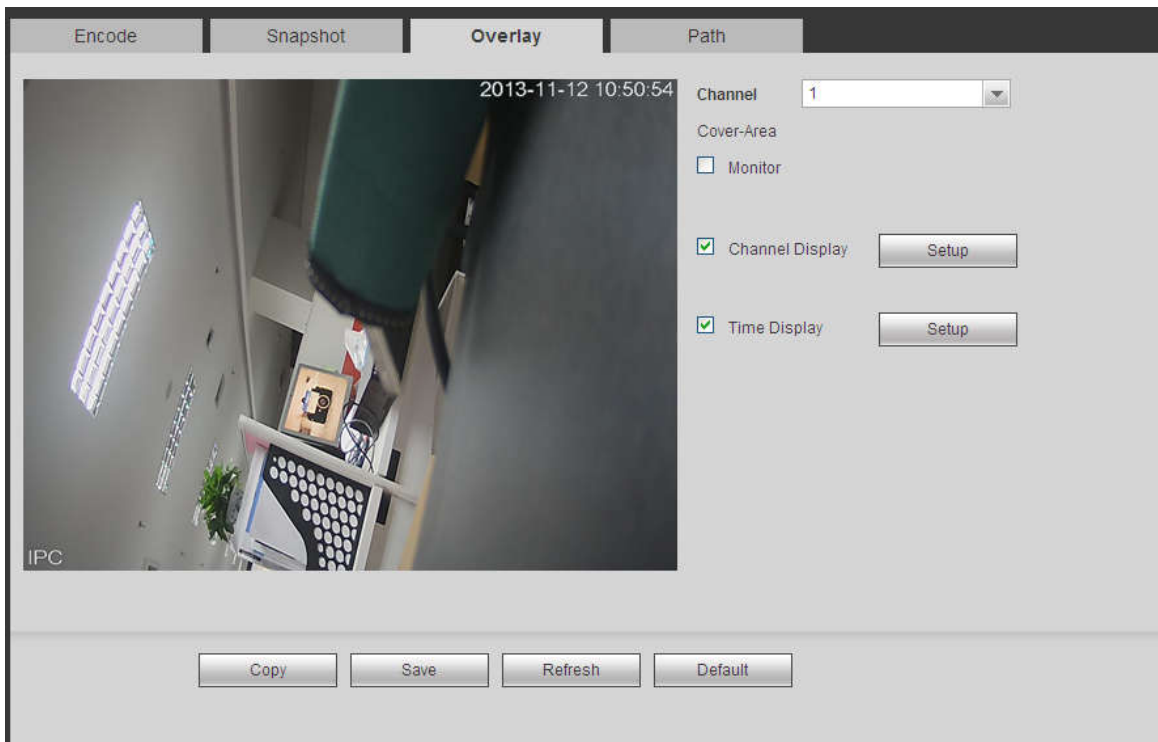
Figure 5-30

Please refer to the following sheet for detailed information.

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

5.11.1.3.4 Path

The storage path interface is shown as in Figure 5-31.

Here you can set snap image saved path (in the preview interface) and the record storage path

(in the preview interface).The default setup is C:\PictureDownload and C:\RecordDownload.

Please click the Save button to save current setup.
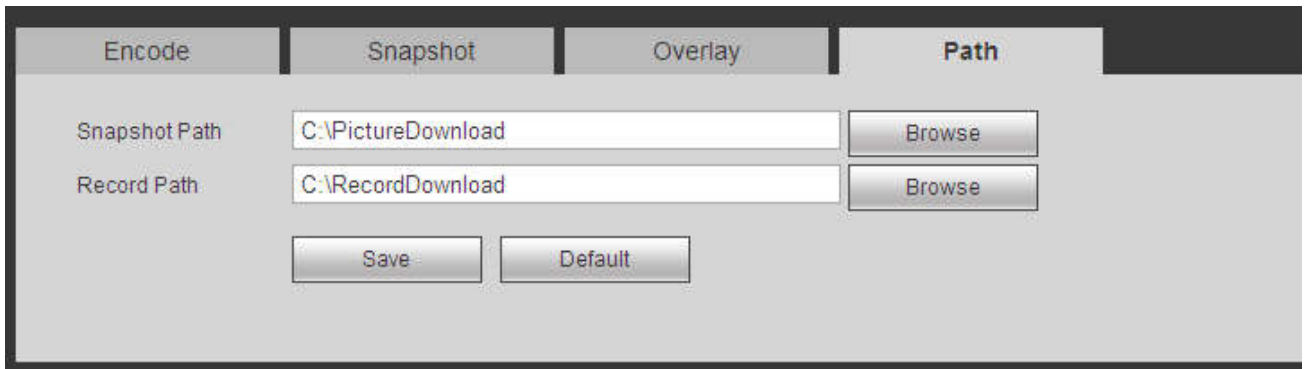
Figure 5-31

5.11.1.4 Channel Name

Here you can set channel name. See Figure 5-32.
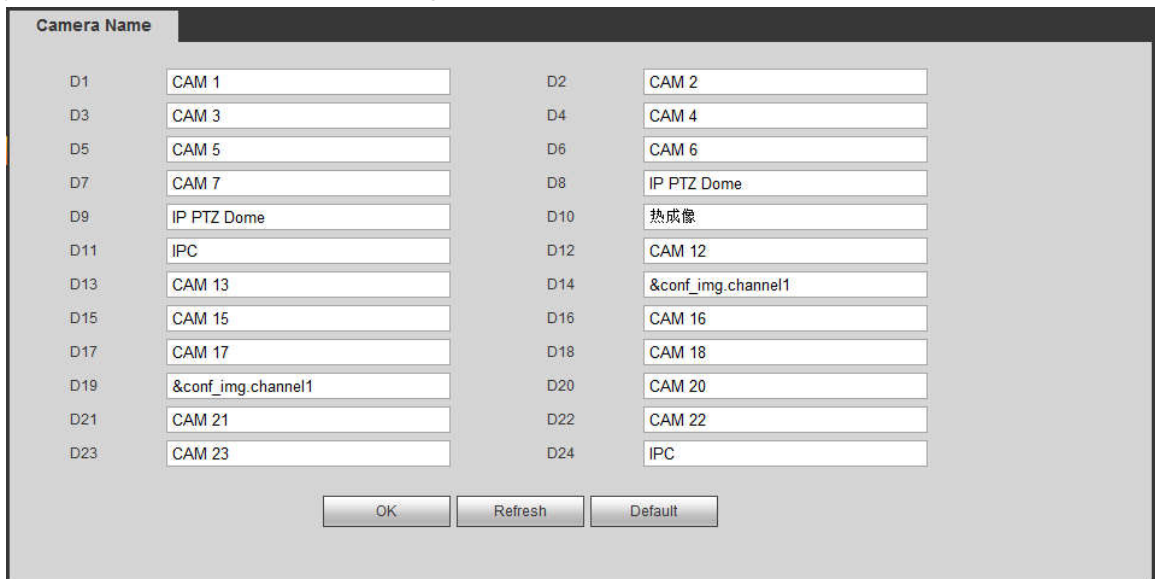
Figure 5-32

5.11.2 Network

5.11.2.1 TCP/IP

The TCP/IP interface is shown as in Figure 5-33.

Figure 5-33

Please refer to the following sheet for detailed information.

Parameter	Function
Mode	There are two modes: static mode and the DHCP mode. ● The IP/submask/gateway are null when you select the DHCP mode to auto search the IP. ● If you select the static mode, you need to set the IP/submask/gateway manually. ● If you select the DHCP mode, you can view the IP/submask/gateway from the DHCP. ● If you switch from the DHCP mode to the static mode, you need to reset the IP parameters. ● Besides, IP/submask/gateway and DHCP are read-only when the PPPoE dial is OK.
Mac Address	It is to display host Mac address.
IP Version	It is to select IP version. IPV4 or IPV6. You can access the IP address of these two versions.
IP Address	Please use the keyboard to input the corresponding number to modify the IP address and then set the corresponding subnet mask and the default gateway.
Preferred DNS	DNS IP address.
Alternate DNS	Alternate DNS IP address.
For the IP address of IPv6 version, default gateway, preferred DNS and alternate DNS, the input value shall be 128-digit. It shall not be left in blank.	
LAN load	System can process the downloaded data first if you enable this function. The download speed is 1.5X or 2.0X of the normal speed.

5.11.2.2 Port

The connection interface is shown as in Figure 5-34.

Figure 5-34

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.

5.11.2.3 Wi-Fi AP

📖 NOTE

This function is available only for NVR devices with built-in Wi-Fi module. See the actual situation.

5.11.2.3.1 General Setup

The Wi-Fi AP interface is shown as in Figure 5-35. Select the Enable check box and you can set Wi-Fi hotspot including SSID, encryption type, password, channel and gain, so that the Wi-Fi IPC can use the hotspot to connect to the network.

Figure 5-35

Please refer to the following sheet for detailed information.

Parameter	Function
2.4GHz	Select the check box to enable Wi-Fi.
SSID	It is to set SSID name. You can use this name to search the device.
Encryption Type	Select the encryption type from the dropdown list, including WPA2 PSK, WPA PSK and OPEN.
Password	It is to set SSID password. You can use this password to connect to the network.
Channel	Select the channel to connect the Wi-Fi IPC.
Gain	Adjust the Wi-Fi signal intensity.

5.11.2.3.2 Advanced

Click Advanced button, the interface is shown as below. See Figure 5-36.
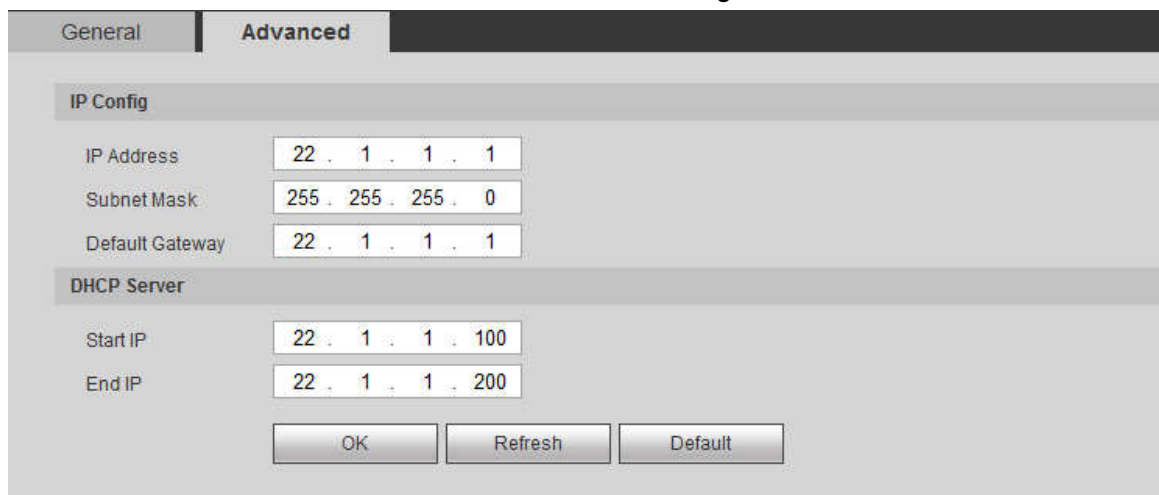
Figure 5-36

Please refer to the following sheet for detailed information.

Parameter	Function
IP Address	Input the IP address, subnet mask and default gateway of the

Subnet Mask	NVR Wi-Fi AP.
Default Gateway	📖 NOTE The IP address and default gateway shall be in the same network segment.
Start IP/End IP	Input start IP and end IP of DHCP server. The NVR device can allocate the IP address in the range you specified here.
Upgrade	Click it to upgrade Wi-Fi AP module.

5.11.2.4 Wi-Fi

Please note this function is for the device of Wi-Fi module.

The Wi-Fi interface is shown as in Figure 5-37.
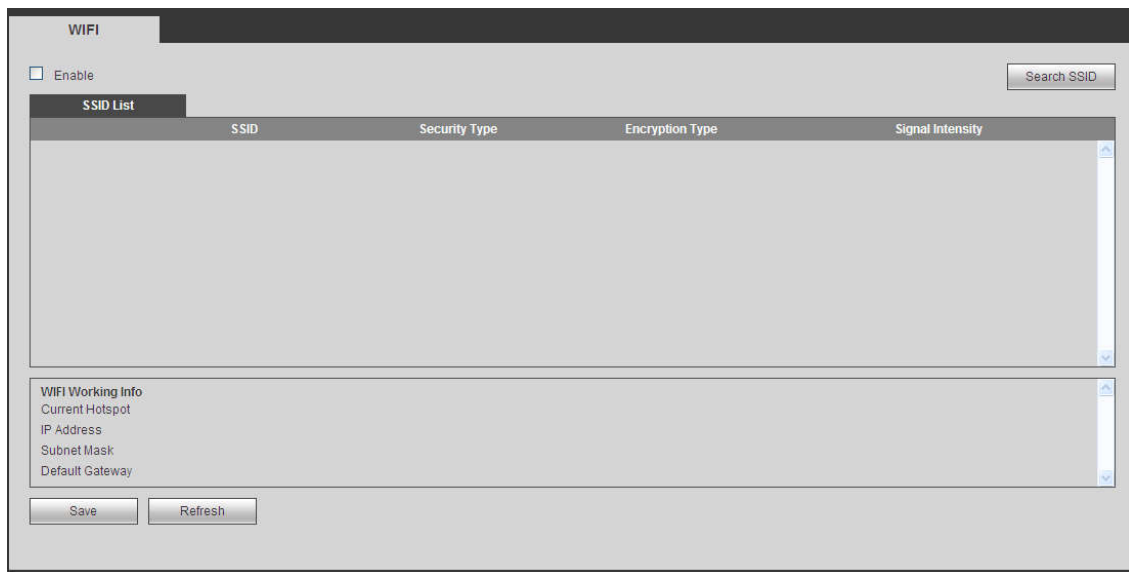
Figure 5-37

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

5.11.2.5 3G

5.11.2.5.1 CDMA/GPRS

The CDMA/GPRS interface is shown as in Figure 5-38.

Figure 5-38

Please refer to the following sheet for detailed information.

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

5.11.2.5.2 Mobile

The mobile setup interface is shown as in Figure 5-39.

Here you can activate (send out "on") or turn off (Send out "off") the 3G connected phone or mobile phone, or the phone you set to get alarm message.

Check send SMS box and then input the phone number in the receiver column. Click [+] to add one receiver. Repeat the above steps you can add more phones. Select a phone number and then click [−], you can delete it. Click OK button to complete the setup.
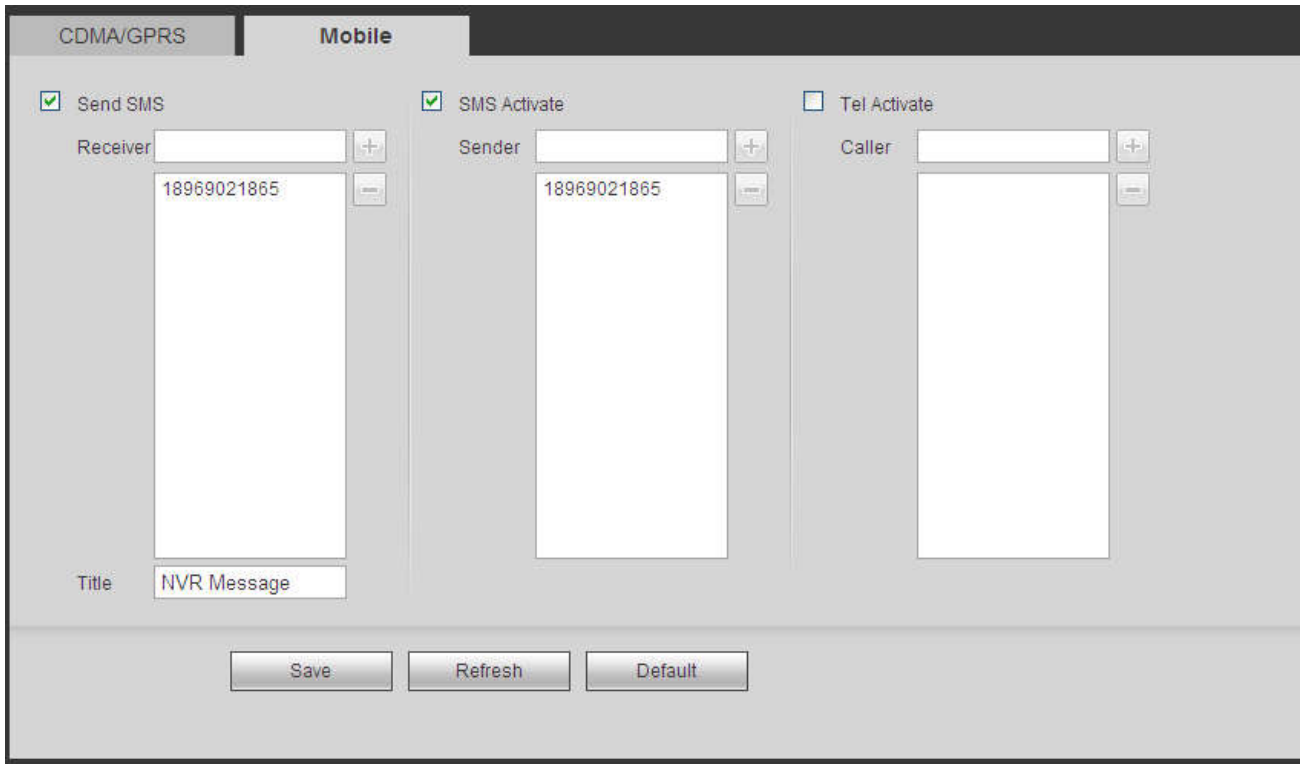
Figure 5-39

5.11.2.6 PPPoE

The PPPoE interface is shown as in Figure 5-40.

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

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

Please note, you need to use previous IP address in the LAN to login the device. Please go to the IP address item to via the device current device information. You can access the client-end via this new address.
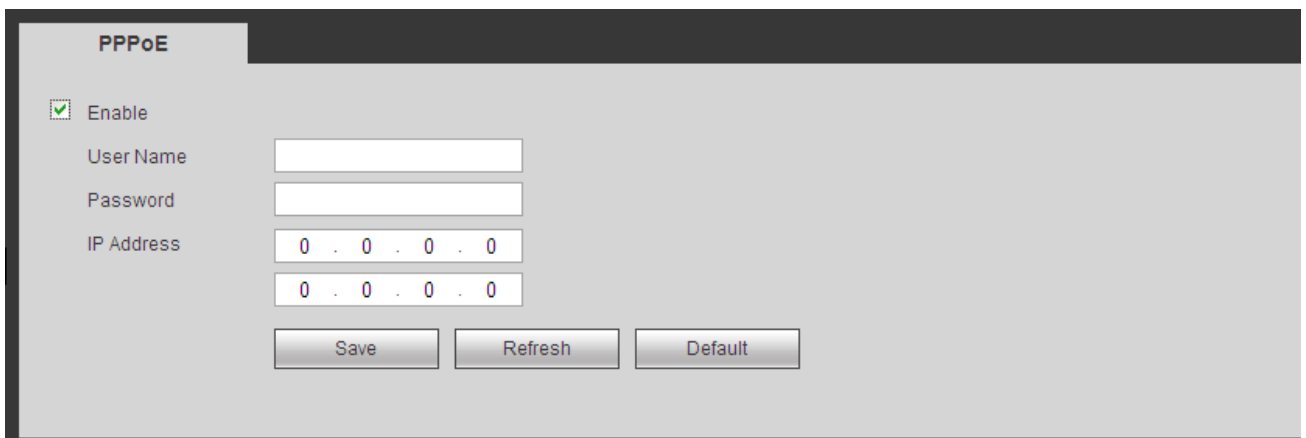
Figure 5-40

5.11.2.7 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 5-41.
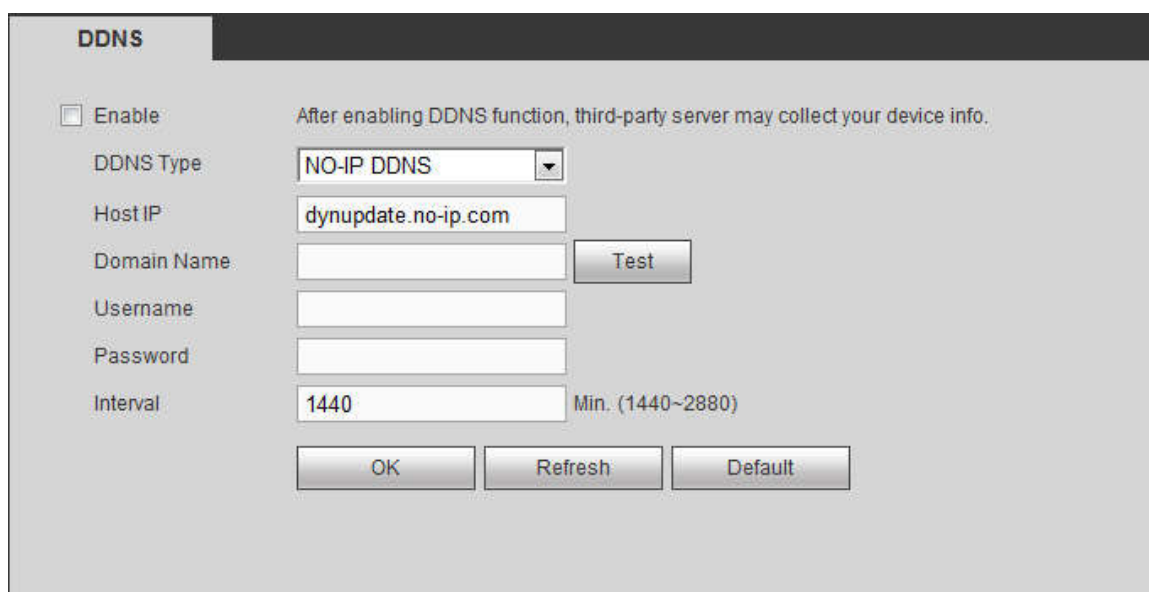
Figure 5-41

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.

Parameter	Description
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 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.

5.11.2.8 Email

The email interface is shown as in Figure 5-42.
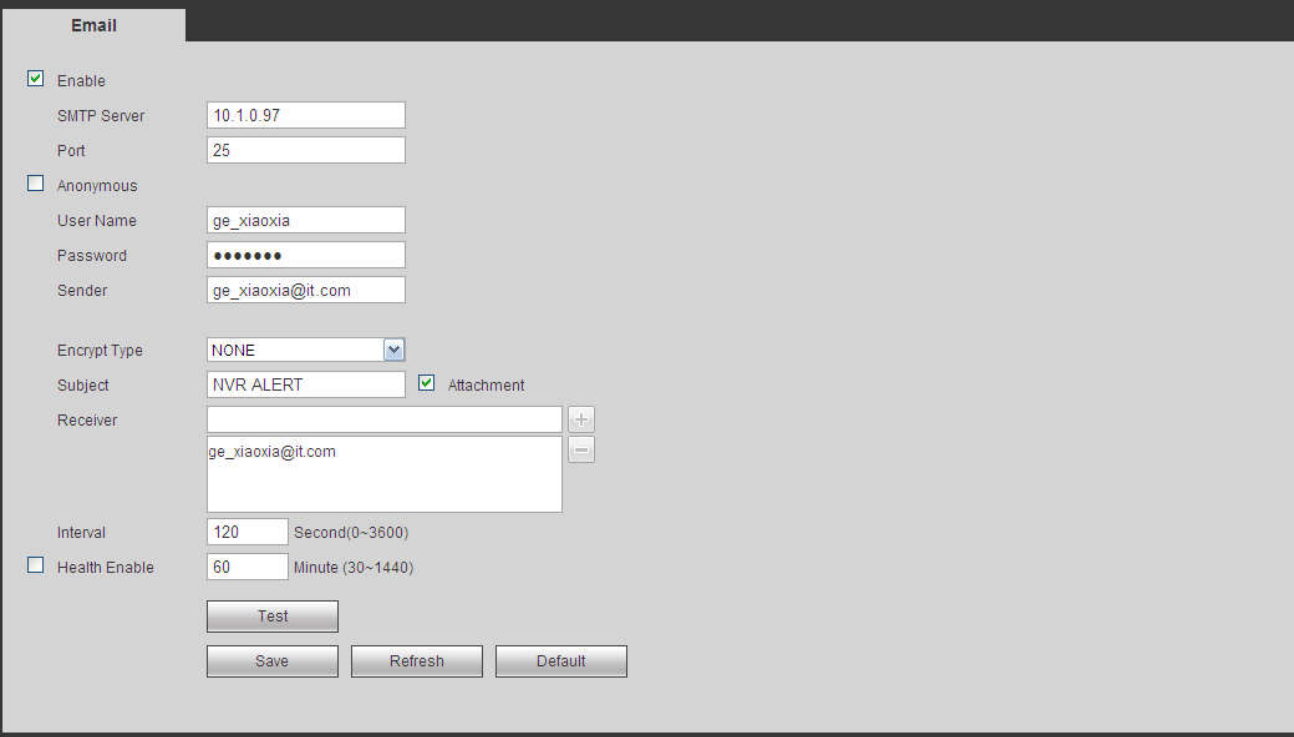
Figure 5-42

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.

Parameter	Function
	password and the sender information.
User Name	The user name of the sender email account.
Password	The password of sender email account.
Sender	Sender email address.
Authentication (Encryption mode)	You can select SSL or none.
Subject	Input email subject here.
Attachment	System can send out the email of the snapshot picture once you check the box here.
Receiver	Input receiver email address here. Max three addresses. It supports SSL, TLS email box.
Interval	The send interval ranges from 0 to 3600 seconds. 0 means there is no interval. Please note system will not send out the email immediately when the alarm occurs. When the alarm, motion detection or the 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.

5.11.2.9 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 5-43.

- 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"
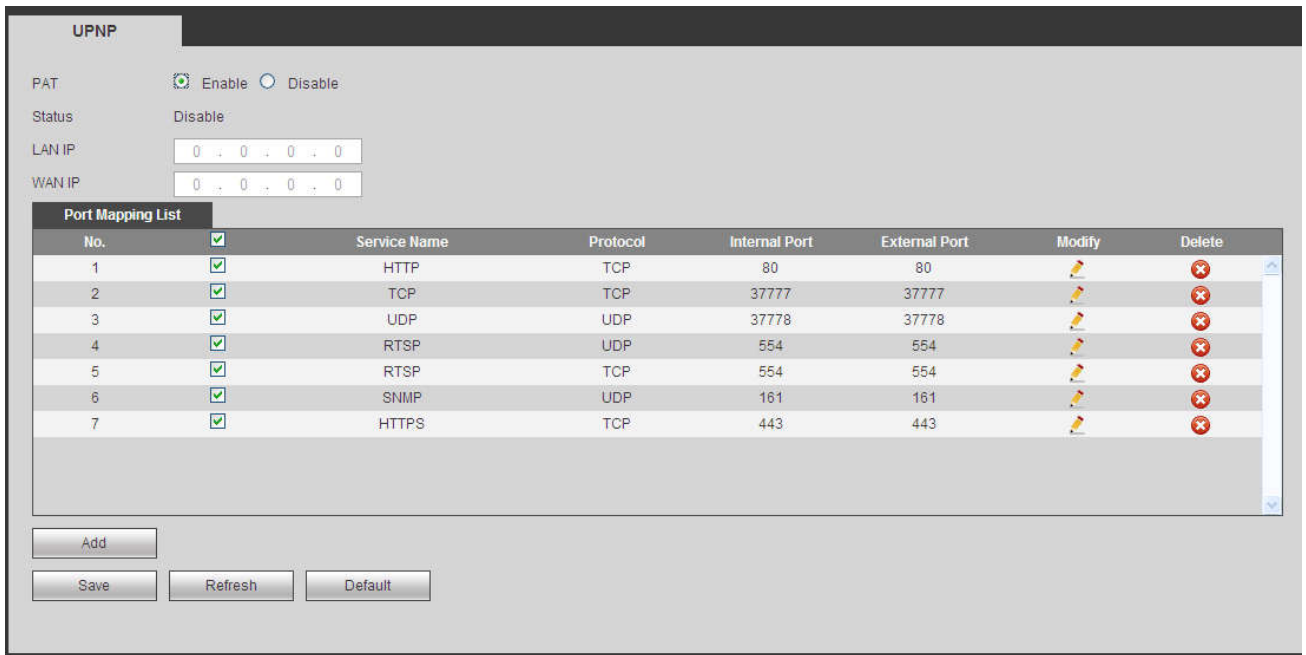
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Figure 5-43

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.

5.11.2.10   SNMP

The SNMP interface is shown as in Figure 5-44.

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 5-44

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.

5.11.2.11   Multicast

The multicast interface is shown as in Figure 5-45.

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 5-45

5.11.2.12   Auto Register

The auto register interface is shown as below. See Figure 5-46.

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 5-46

5.11.2.13 Alarm Centre

The alarm center interface is shown as below. See Figure 5-47.

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 5-47

5.11.2.14 HTTPS

In this interface, you can set to make sure the PC can successfully login via the HTTPS. It is to guarantee data communication security. The reliable and stable technology can secure the user information security and device safety. See Figure 5-48.

Note
- You need to implement server certificate again if you have changed device IP.
- You need to download root certificate if it is your first time to use HTTPS on current PC.
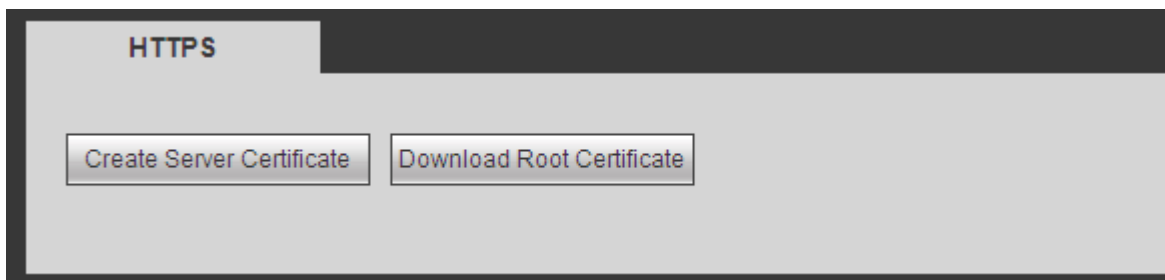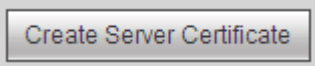
Figure 5-48

5.11.2.14.1 Create Server Certificate

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

In Figure 5-48, click Create Server Certificate button, input country name, state name and etc. Click Create button. See Figure 5-49.

Note

Please make sure the IP or domain information is the same as your device IP or domain name.
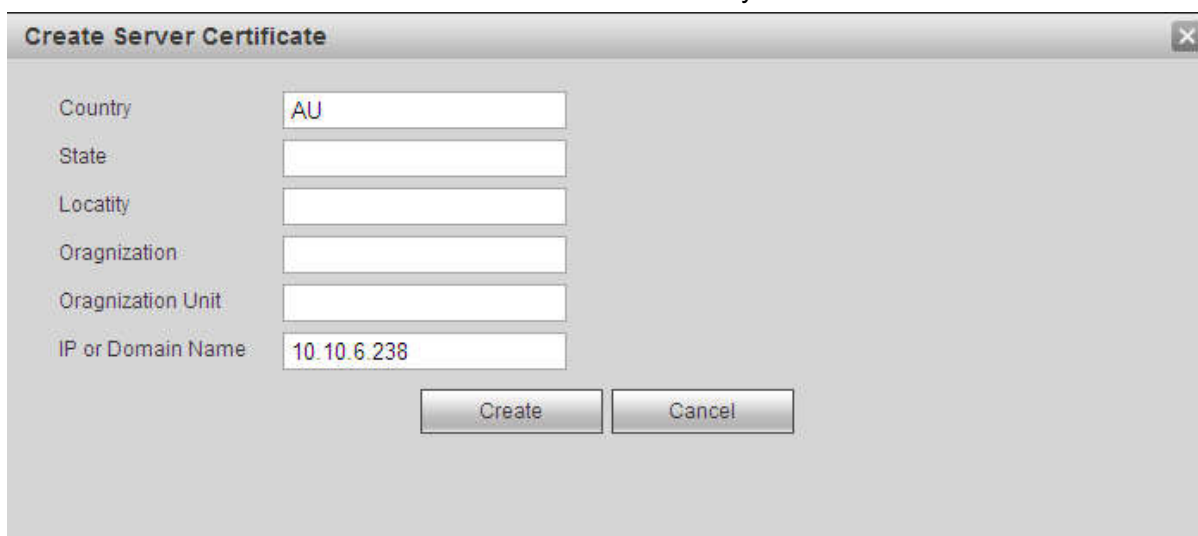
Figure 5-49

You can see the corresponding prompt. See Figure 5-50. Now the server certificate is successfully created.

Figure 5-50

5.11.2.14.2 Download root certificate

In Figure 5-48, click Download Root Certificate button, system pops up a dialogue box. See Figure 5-51.
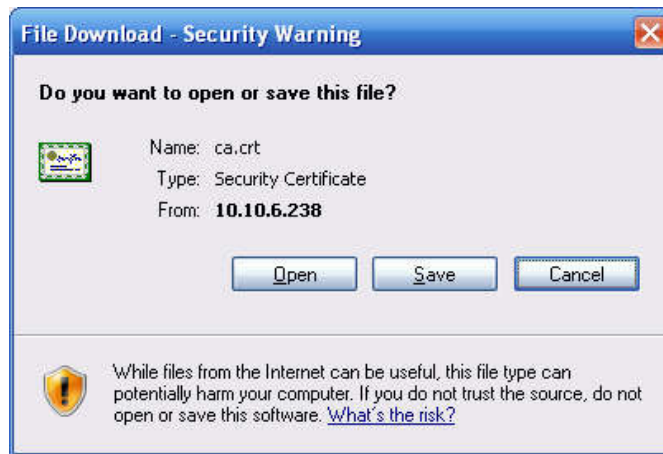
Figure 5-51

Click Open button, you can go to the following interface. See Figure 5-52.

Figure 5-52

Click Install certificate button, you can go to certificate wizard. See Figure 5-53.

Figure 5-53

Click Next button to continue. Now you can select a location for the certificate. See Figure 5-54.
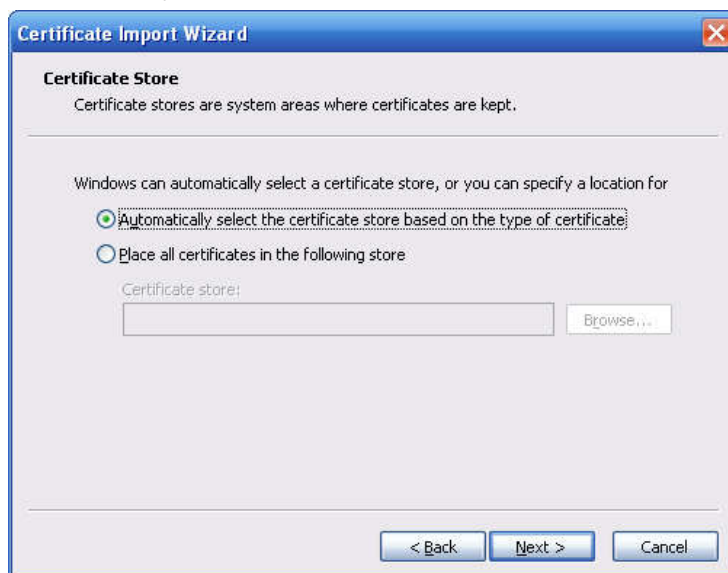
Figure 5-54

Click Next button, you can see the certificate import process is complete. See Figure 5-55.
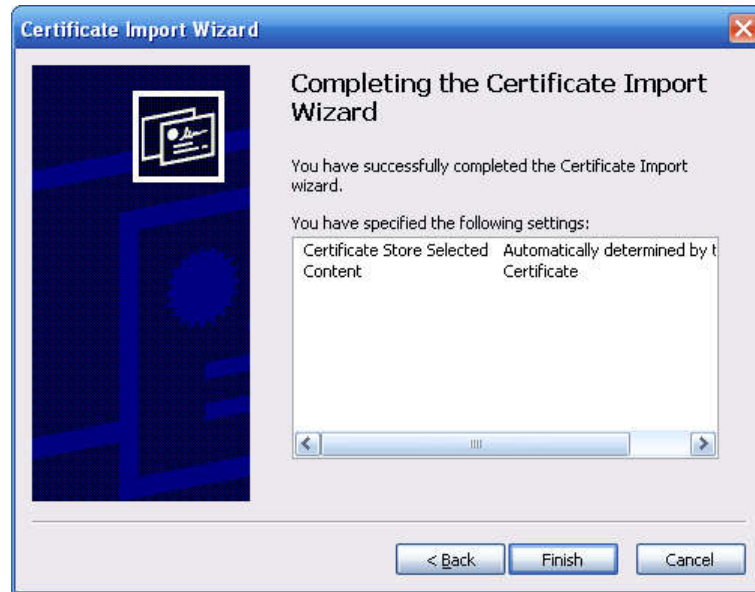
Figure 5-55

Click Finish button, you can see system pops up a security warning dialogue box. See Figure 5-56.

Figure 5-56

Click Yes button, system pops up the following dialogue box, you can see the certificate download is complete. See Figure 5-57.

Figure 5-57

5.11.2.14.3 View and set HTTPS port

From Setup->Network->Port, you can see the following interface. See Figure 5-58.

You can see HTTPS default value is 443.

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Figure 5-58

5.11.2.14.4 Login

Open the browser and then input https://xx.xx.xx.xx:port.

xx.xx.xx.xx: is your device IP or domain mane.

Port is your HTTPS port. If you are using default HTTPS value 443, you do not need to add port information here. You can input https://xx.xx.xx.xx to access.

Now you can see the login interface if your setup is right.

5.11.2.15 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 5-59.

Figure 5-59

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.

5.11.3 Event
5.11.3.1 Video detect
5.11.3.1.1 Motion Detect
After analysis video, system can generate a video loss alarm when the detected moving signal reached the sensitivity you set here.

The motion detect interface is shown as in Figure 5-60.
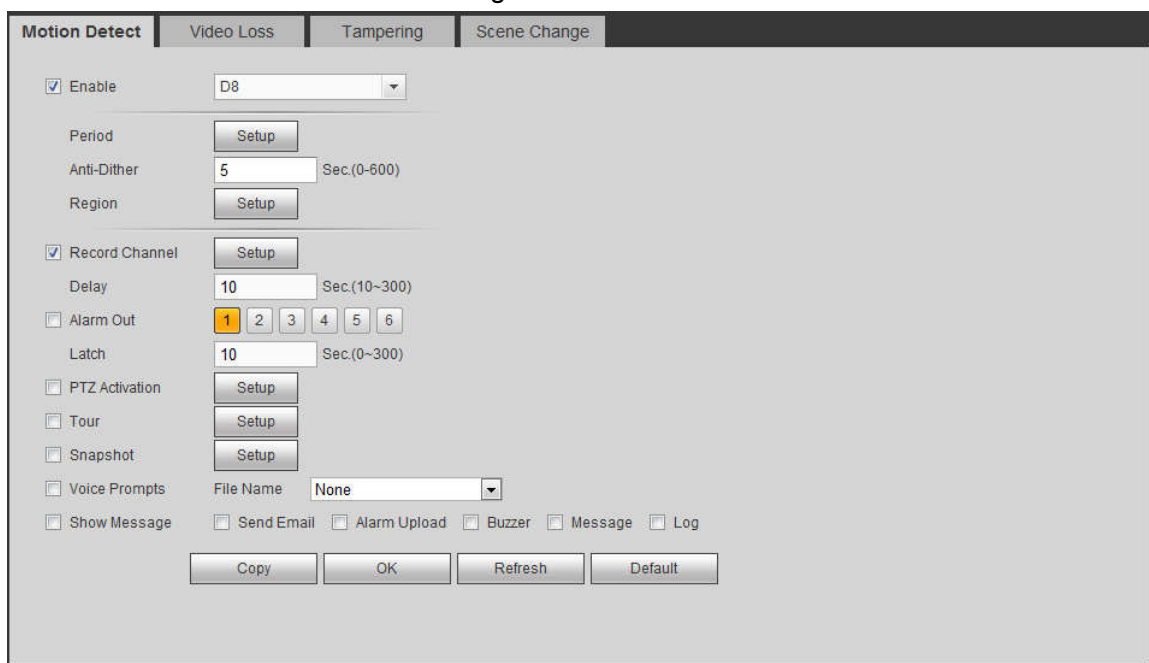
Figure 5-60
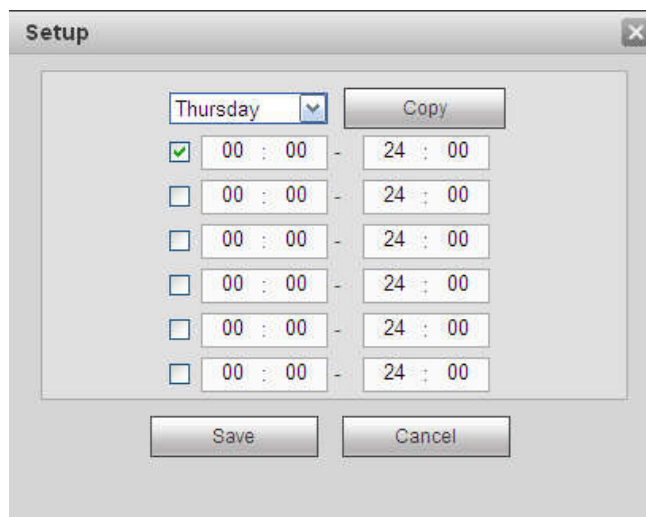
Figure 5-61
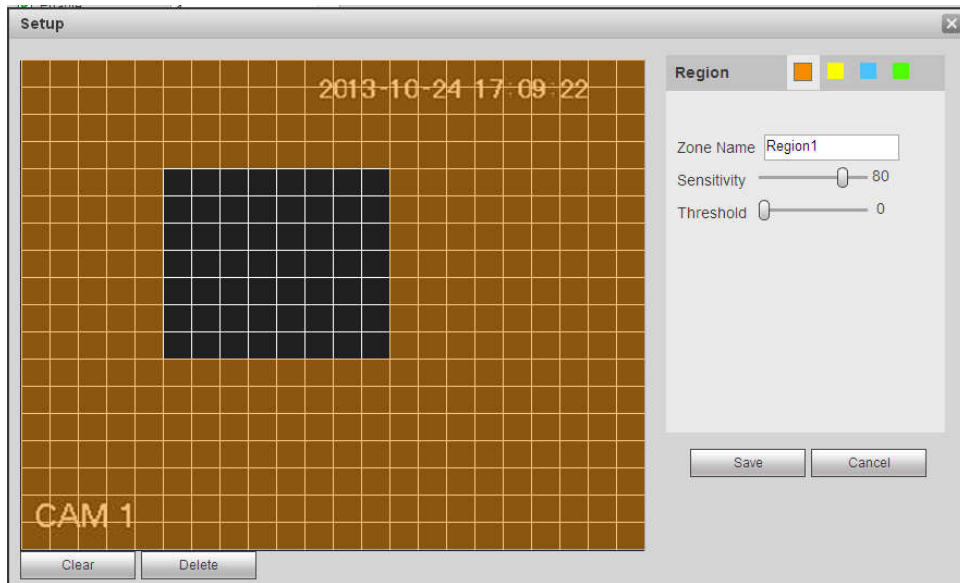
Figure 5-62
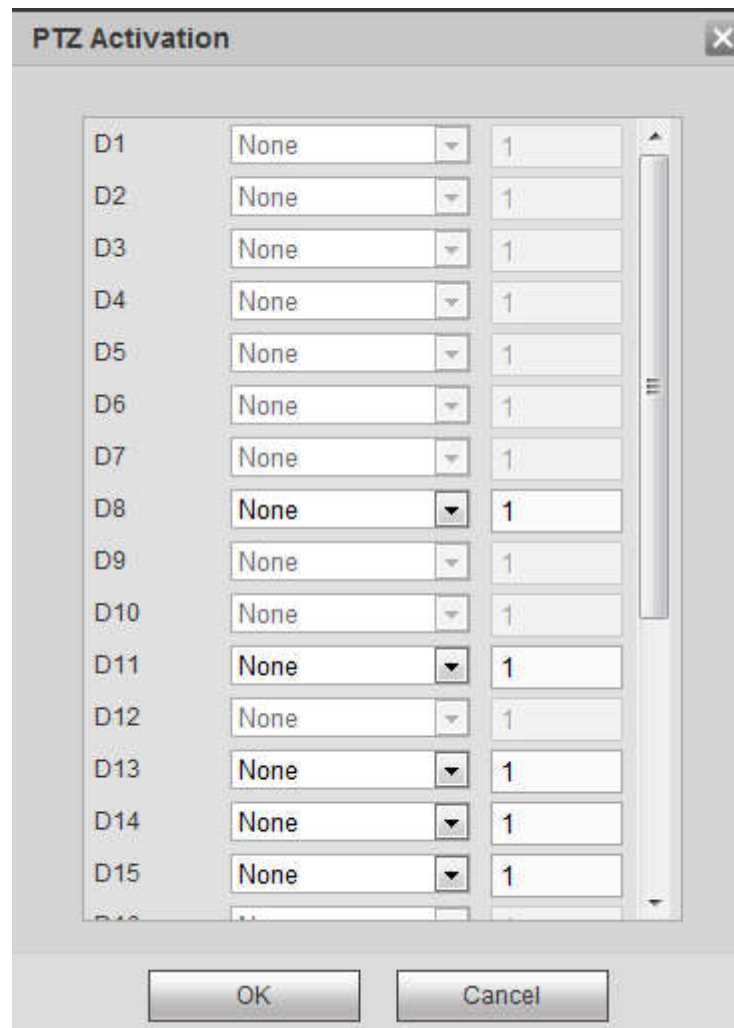
Figure 5-63

Figure 5-64

Figure 5-65

Please refer to the following sheet for detailed information.

Parameter	Function
Enable	You need to check the box to enable motion detection function. Please select a channel from the dropdown list.
Period	Motion detection function becomes activated in the specified periods. See Figure 5-61. There are six periods in one day. Please draw a circle to enable corresponding period. Click OK button, system goes back to motion detection interface, please click save button to exit.
Anti-dither	System only memorizes one event during the anti-dither period. The value ranges from 5s to 600s.
Sensitivity	There are six levels. The sixth level has the highest sensitivity.
Region	If you select motion detection type, you can click this button to set motion detection zone. The interface is shown as in Figure 5-62. Here you can set motion detection zone. There are four zones for you to set. Please select a zone first and then left drag the mouse to select a zone. The corresponding color zone displays different detection zone. You can click Fn button to switch between the arm mode and disarm mode. In arm mode, you can click the direction buttons to move the green rectangle to set the motion detection zone. After you completed the setup, please click ENTER button to exit current setup. Do remember click save button to save current

Parameter	Function
	setup. If you click ESC button to exit the region setup interface system will not save your zone setup.
Record channel	System auto activates motion detection channel(s) to record once an alarm occurs. Please note you need to set motion detect record period and go to Storage-> Schedule to set current channel as schedule record.
Record Delay	System can delay the record for specified time after alarm ended. The value ranges from 10s to 300s.
Alarm out	Enable alarm activation function. You need to select alarm output port so that system can activate corresponding alarm device when an alarm occurs.
Latch	System can delay the alarm output for specified time after an alarm ended. The value ranges from 1s to 300s.
Show message	System can pop up a message to alarm you in the local host screen if you enabled this function.
Buzzer	Check the box here to enable this function. The buzzer beeps when an alarm occurs.
Alarm upload	System can upload the alarm signal to the center (Including alarm center.
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 5-64.
PTZ Activation	Here you can set PTZ movement when alarm occurs. Such as go to preset X. See Figure 5-63.
Snapshot	Click setup button to select snapshot channel. See Figure 5-65.
Video Matrix	This function is for motion detect only. Check the box here to enable video matrix function. Right now system supports one-channel tour function. System takes "first come and first serve" principle to deal with the activated tour. System will process the new tour when a new alarm occurs after previous alarm ended. Otherwise it restores the previous output status before the alarm activation.

5.11.3.1.2 Video Loss

The video loss interface is shown as in Figure 5-66.

Please note video loss does not support anti-dither, sensitivity, region setup. For rest setups, please refer to chapter 5.11.3.1.1 motion detect for detailed information.
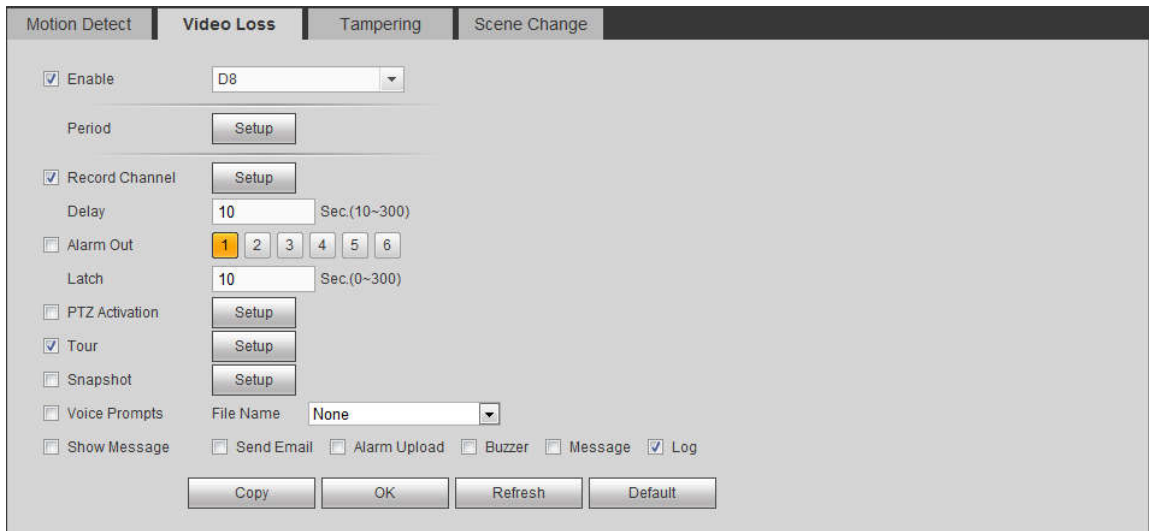
Figure 5-66

5.11.3.1.3 Tampering

The tampering interface is shown as in Figure 5-67.

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

For detailed setups, please refer to chapter 5.11.3.1.1 motion detect for detailed information.
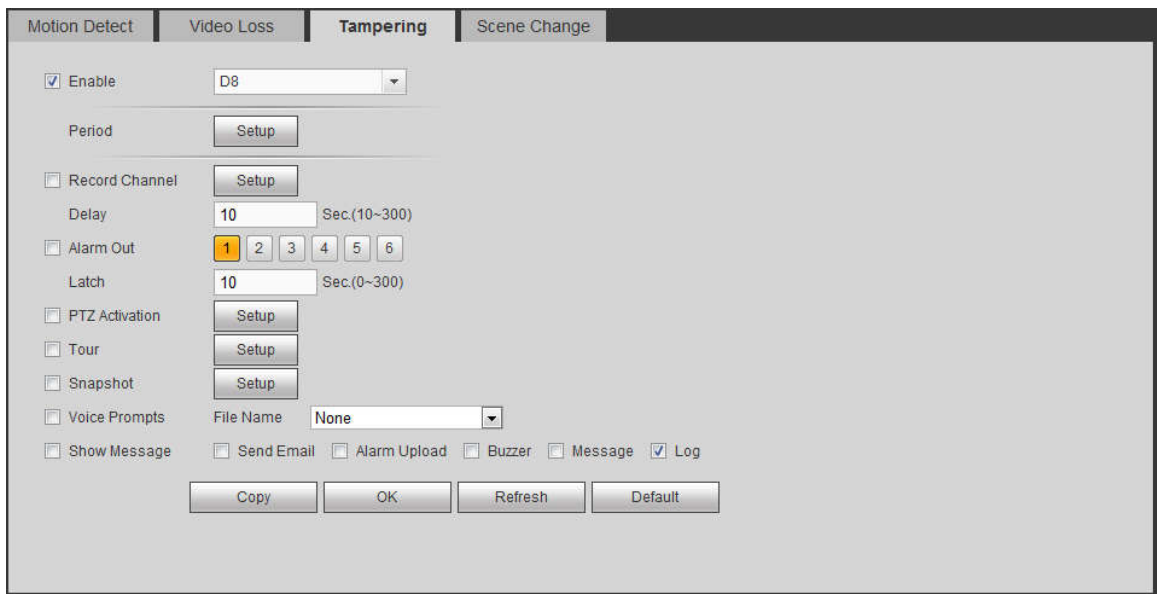

Figure 5-67

5.11.3.1.4 Scene Change

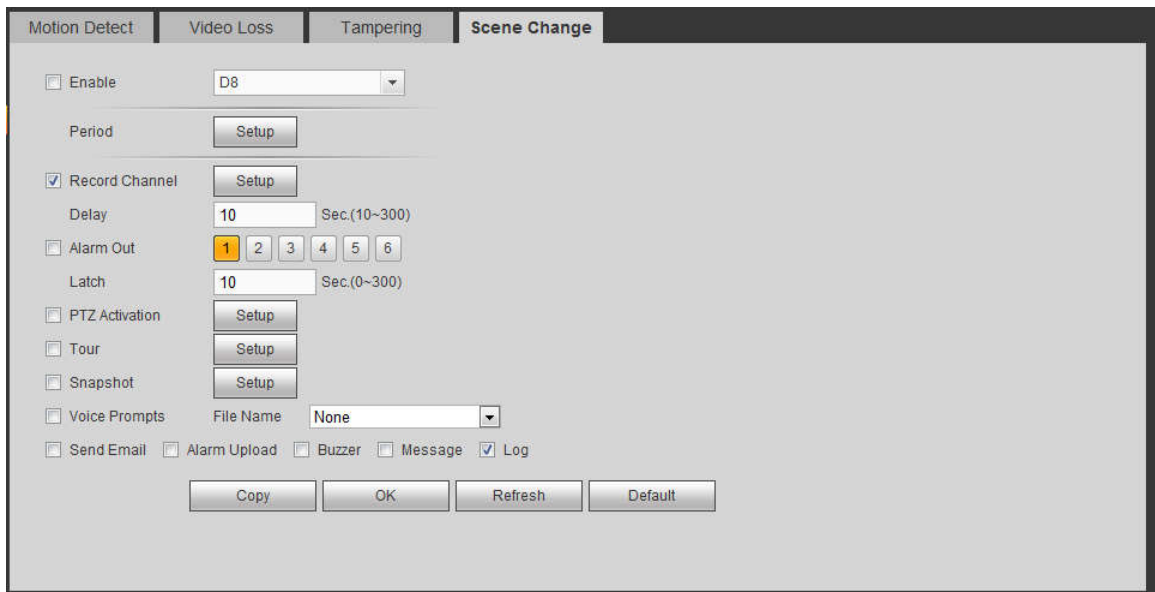From main window->Setup->Event->Video detect->Scene change, the video diagnosis interface is shown as in Figure 5-68.

Figure 5-68

For detailed setups, please refer to chapter 5.11.3.1.1 motion detect for detailed information.

5.11.3.2 IVS 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 5.11.3.3), Face detection (Chapter 5.11.3.4) and People counting (Chapter 5.11.3.5) 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.

From main menu->Setup->Event->IVS plan, you can go to the IVS plan interface. See Figure 5-69.
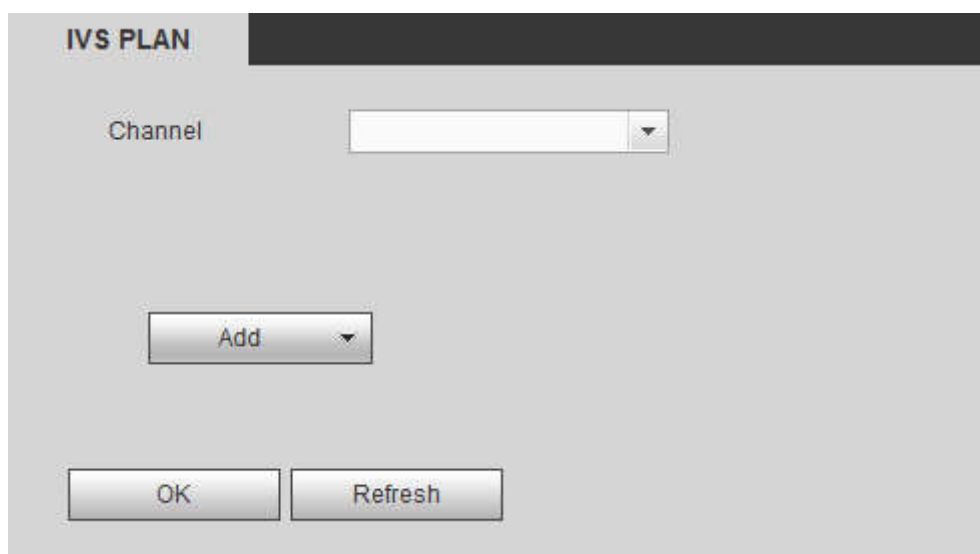
Figure 5-69

Select a channel from the dropdown list. Click Add button, you can see an interface shown as below. See Figure 5-70.

Select a channel from the dropdown list and then set preset. Click Add button and then set the corresponding rule.

📖 **Note**

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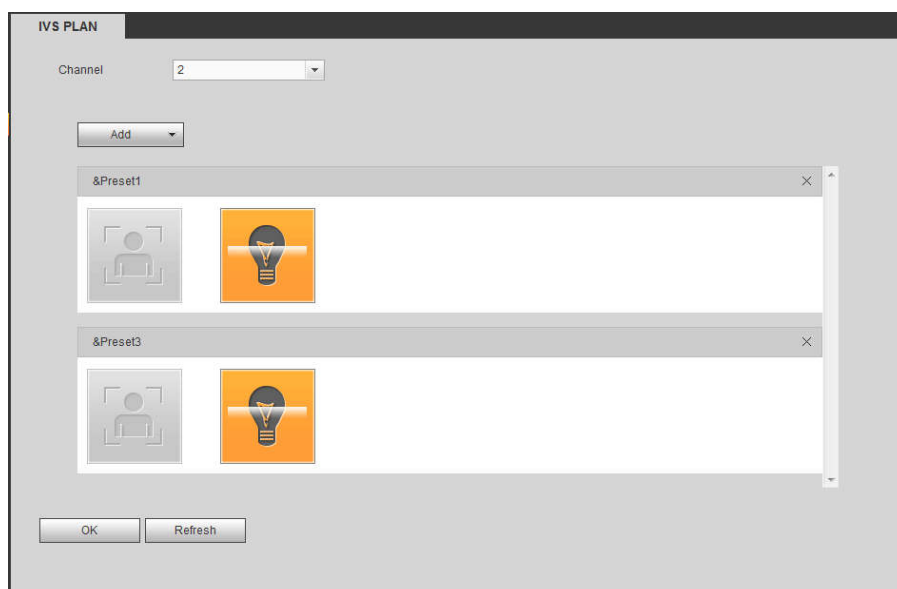

Figure 5-70

Click OK button to complete the setup.

📖 **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.

5.11.3.3 IVS (Behavior Analytics) (Optional)

Once the object state has reached the threshold, NVR can trigger an intelligent alarm.

📖 **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.

5.11.3.3.1 Behavior Analytics

From main menu->Setup->Event->Behavior analytics->Behavior analytics, you can go to the Behavior analytics interface. See Figure 5-71.
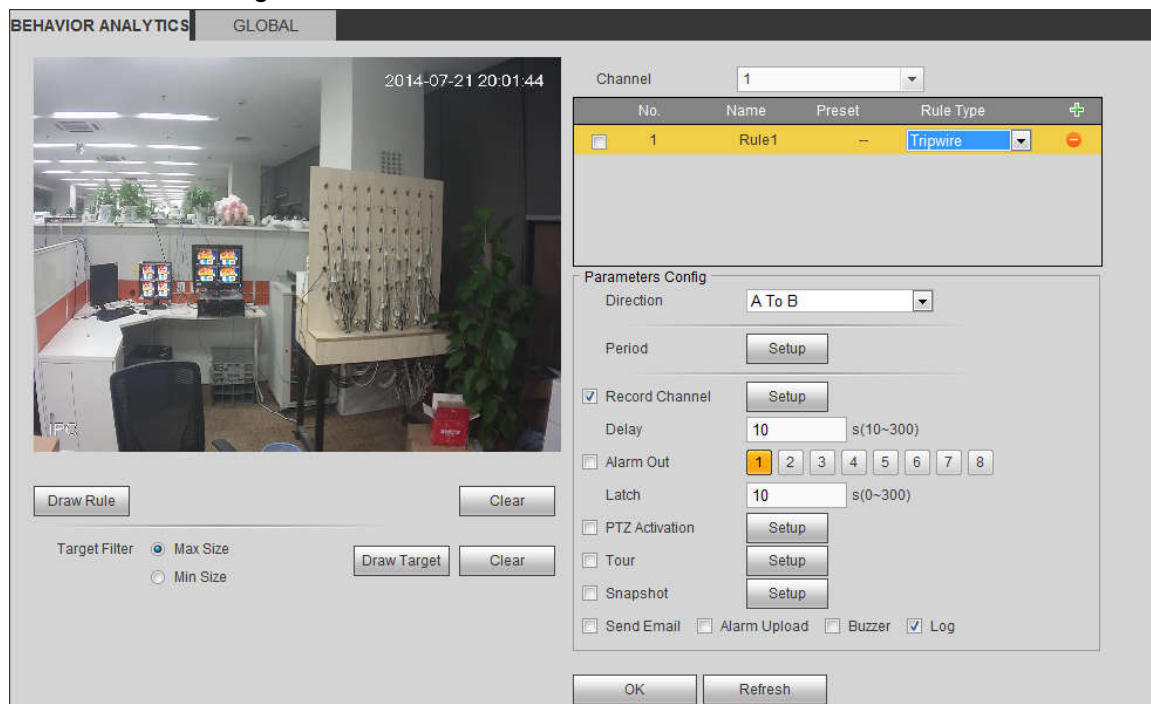
Figure 5-71

Please select a channel from the dropdown list

Click ![plus] to add a rule. The default setup is tripwire, you can double click the rule type name to modify. See Figure 5-72.
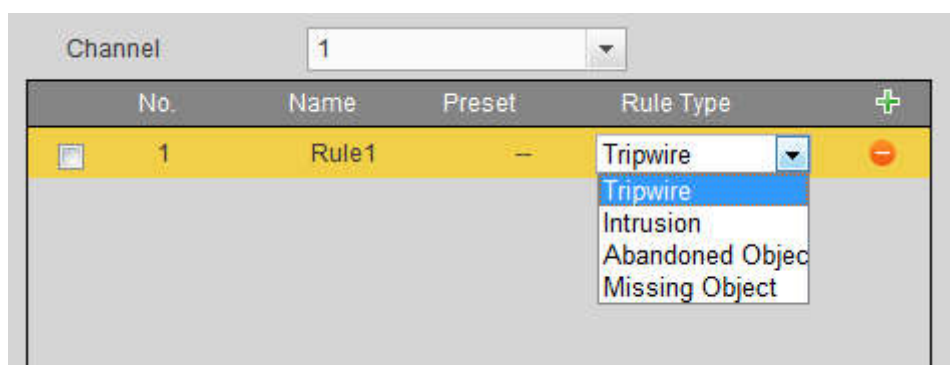
Figure 5-72

Then you can set corresponding parameters.
Click OK button to complete the setup.

5.11.3.3.2 Tripwire

From main menu->Setup->Event-> Behavior analytics->Behavior analytics, click you can see the
following interface. See Figure 5-73.
System generates an alarm once there is any object crossing the tripwire in the specified direction.
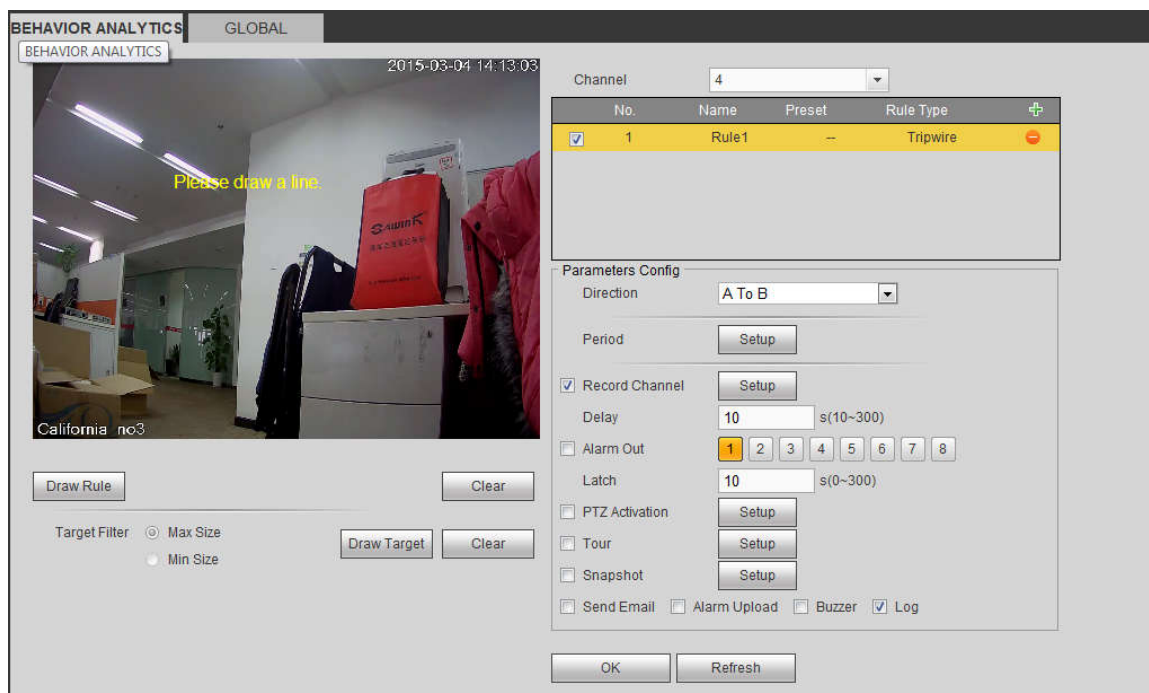

Figure 5-73

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 5-74.
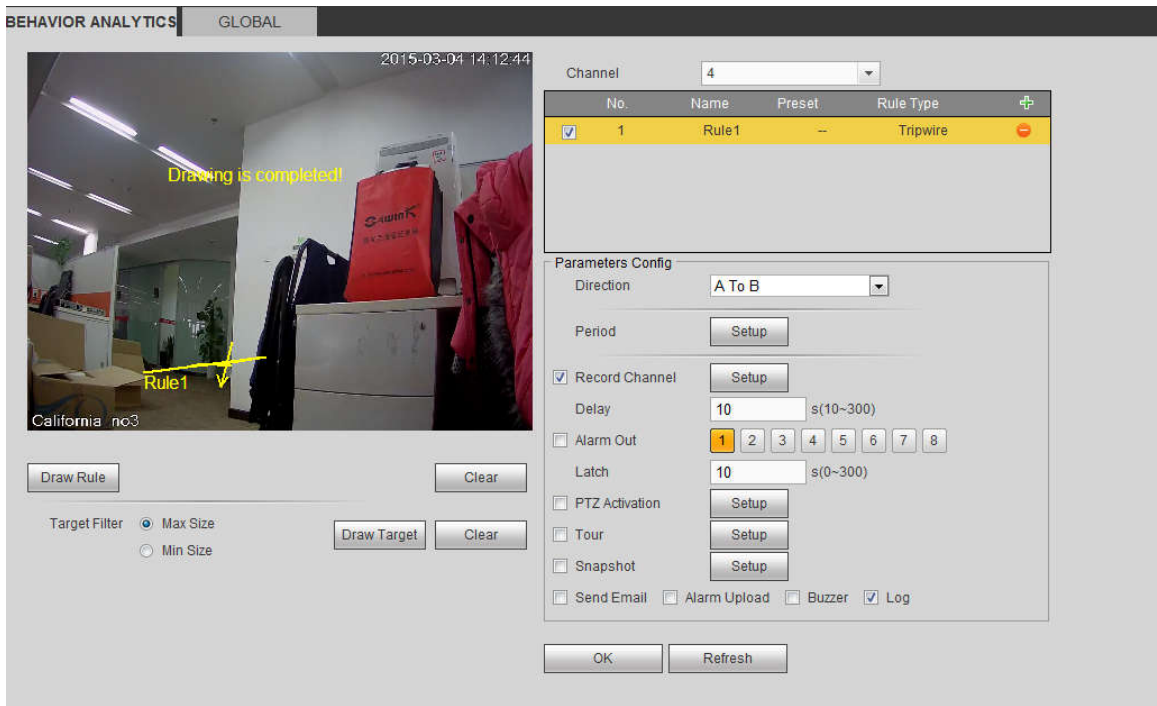
Figure 5-74

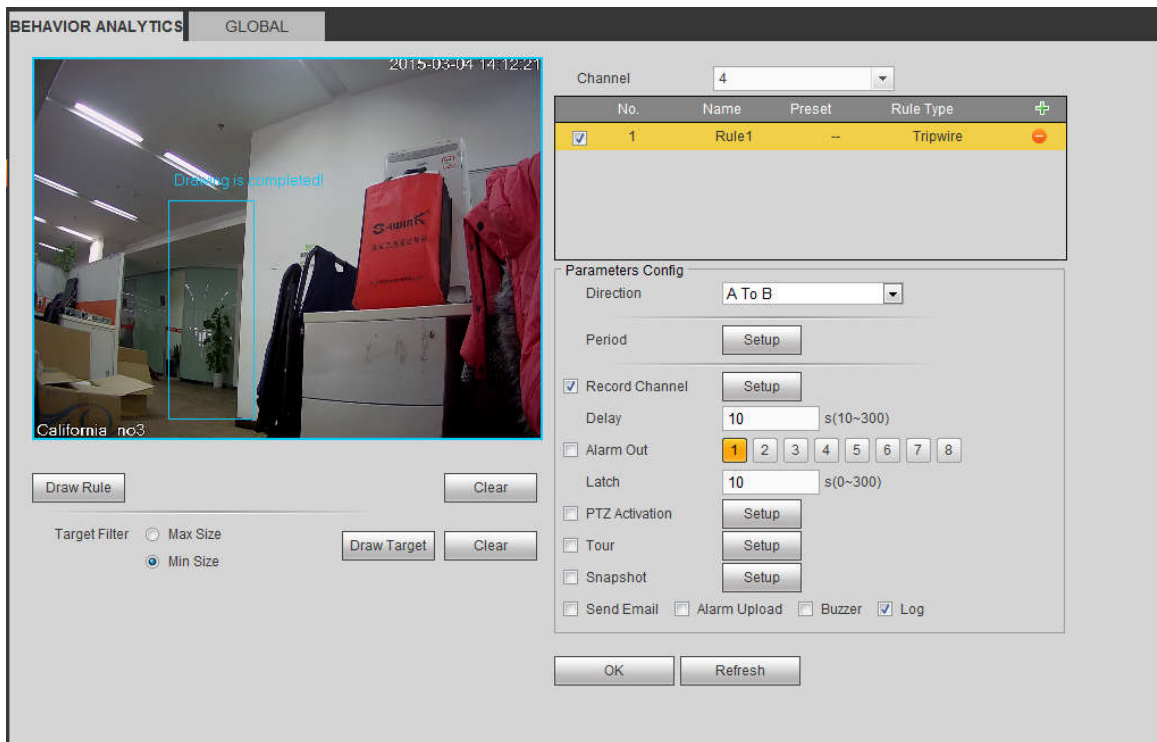Click **Draw Target** to draw filter object. See Figure 5-75.

Figure 5-75

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 5.11.3.1.1 motion detect for detailed information.

5.11.3.3.3 Intrusion (Cross warning zone)

From main menu->Setup->Event-> Behavior analytics->Behavior analytics, click ![plus], and then select rule type as intrusion, you can see the following interface. See Figure 4-126.

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.
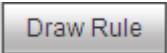
● Support objects filter function.
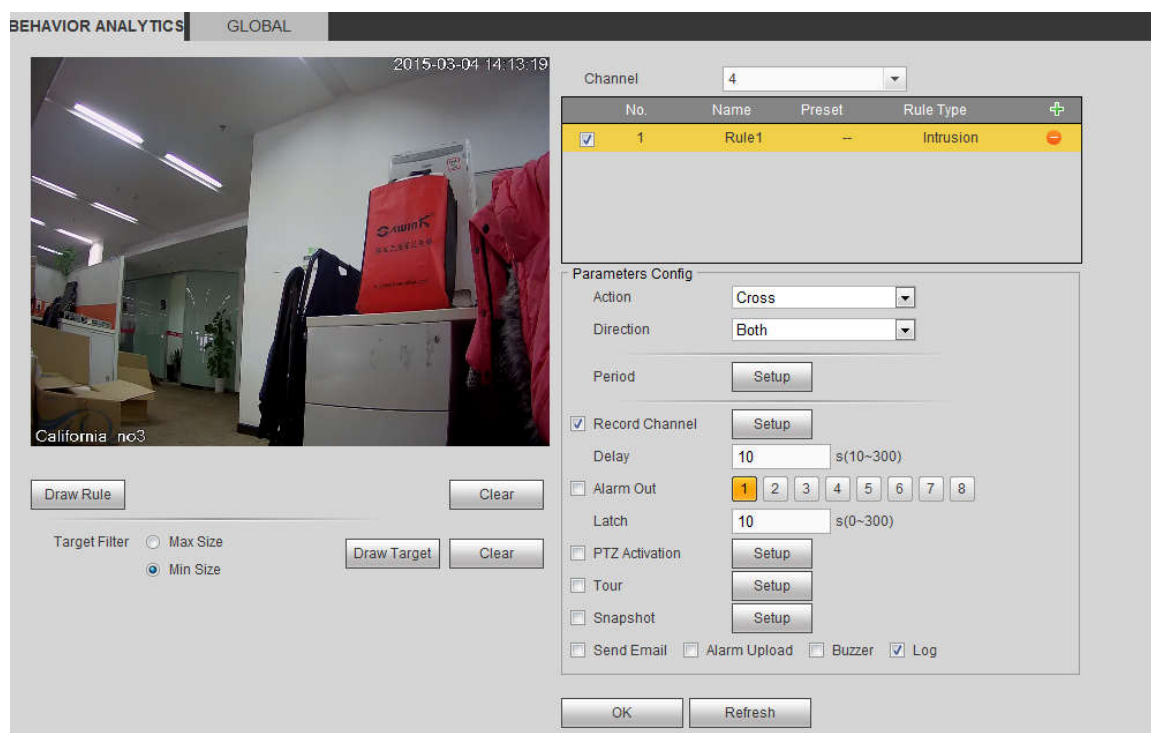
Figure 5-76

Check the Intrusion box to enable intrusion function.

Select SN (Area1/2/3/4) and direction, and then input customized rule name.

● Action: System supports 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.

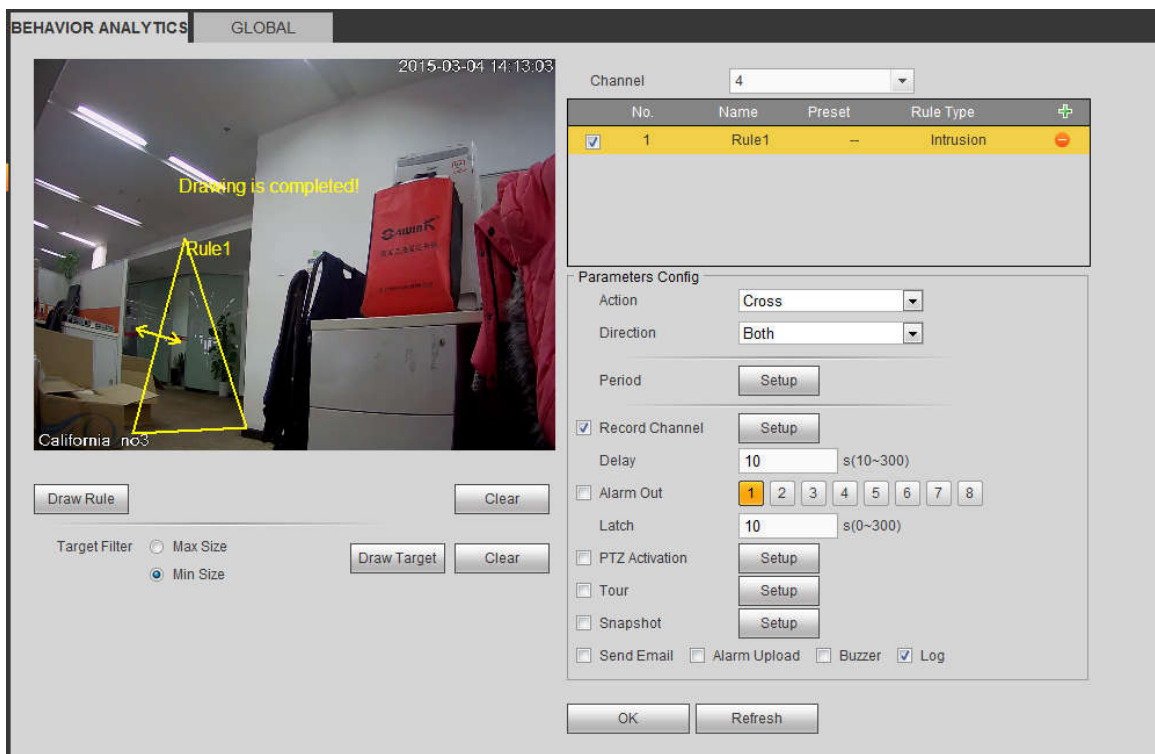Click ![Draw Rule] to draw the zone. See Figure 5-77.

Figure 5-77

For detailed setups, please refer to chapter 5.11.3.1.1 motion detect for detailed information.

5.11.3.3.4 Abandoned Object Detect

From main menu->Setup->Event-> Behavior analytics->Behavior analytics, click , and then select rule type as abandoned object detection, you can see the following interface. See Figure 5-78.

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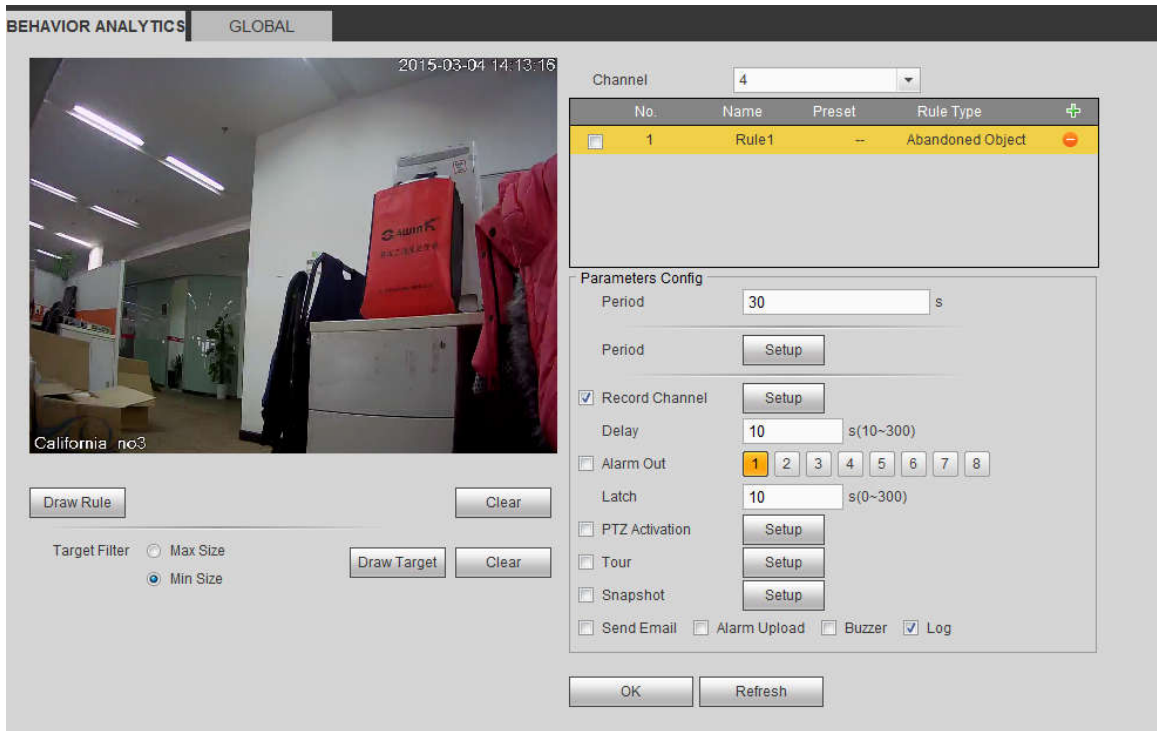- Support objects filter function.

Figure 5-78

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.

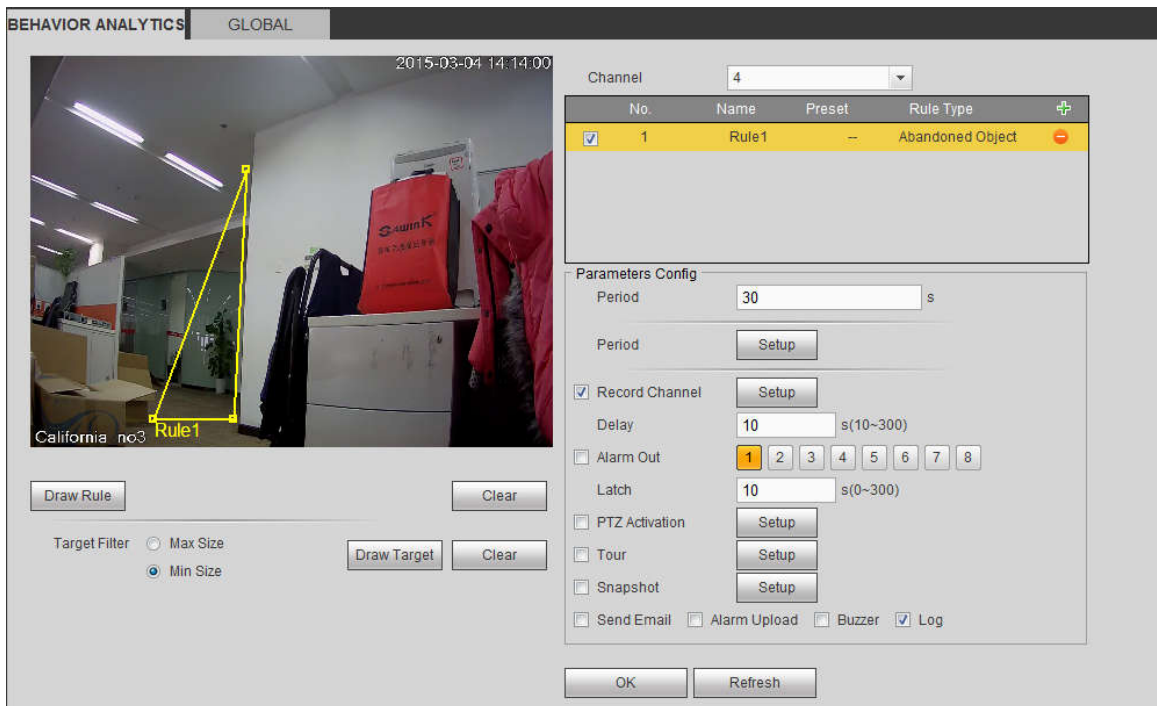Click ![Draw Rule] to draw the rule. See Figure 5-79.

Figure 5-79

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.