speco technologies

NXL NVR
User Manual

V1.0

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Welcome

Thank you for purchasing this NVR.
Please read this manual carefully before installing and operating the unit.
If technical assistance is needed, please contact Speco Technologies Technical Support.

Phone: 1-800-645-5516 option 3
Email: techsupport@specotech.com

Important Safeguards and Warnings

1．Electrical safety

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

2．Transportation security

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

3．Installation

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

4．Qualified personnel

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

5．Environment

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

6. Accessories

Be sure to use the included accessories only.
Before installation, please open the package and check that all components are included.
Contact the supplier immediately if something is broken or missing in the package.

7. Lithium battery

Improper battery use may result in fire, explosion, or personal injury.
When replacing the battery, please make sure to use the same exact model.
CAUTION
RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO LOCAL LAWS.

Before operation, please read the following instructions carefully.

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

1 Features and Specifications

1.1 Overview

The NXL NVR supports live view, recording and playback, and remote management and control of IP cameras.

The NXL supports plug and play for Speco's IP cameras. If a camera is connected to one of the PoE ports that are built into the back of the NVR, it will auto populate on the designated channel without any additional setup. Once the unit is set up, it can be accessed over the network through: 1) a web browser for quick viewing, playback, and setup and 2) SecureGuard® VMS, which provides a robust solution for viewing multiple devices simultaneously and redundancy.

1.2 Features

Live View	• Viewing layout options: 1x1, 2x2, 3x3 • HDMI and VGA outputs for monitors • PTZ control interface • Swappable channel tiles in real time
Playback	• Record up to 6MP on every channel at 30fps max • Instant playback for any channel • Supports various playback modes: slow play, fast play, backward play and frame by frame play. • EZ Search (thumbnail based search) • Export clips on USB flash drives and hard drives
User Management	• Customizable groups with access for individual features • Assign users to different groups • Up to 128 user accounts supported
Record	• Supports video and snapshot storage • Record in continuous, motion, and sensor modes
Alarm	• Trigger recording through motion, sensor, and tampering. • Events can also trigger a relay alarm device and Digital Deterrent® • Alerts can be also sent via email.
Upgrade	• Supports local and remote upgrades via web browser

1.3 Specifications

1.3.1 NXL NVR

Model		N4NXL	N8NXL
System	System Resources	4 connections. Total camera bandwidth of 80Mbps.	8 connections. Total camera bandwidth of 80Mbps.
	OS	Embedded Linux real-time operation system	
	Interface	Local GUI / Web Viewer	
Decode	Compression	H.264	
	Decode Capability (local viewing)	Up to 8 channels, 720p @ 30fps Up to 4 channels, 1080p @ 30fps Up to 4 channels, 4MP @ 15fps	
Video	Input	4 channels, network video	8 channels, network video
	Output	1 HDMI, 1 VGA	
	Split View	1/4/8	
Audio	Input	1 RCA input	
	Output	1 RCA output	
	Compression	G.711a	
Alarm	Input	N/A	
	Output	N/A	
Function	Storage	1 internal HDD slot, up to 6TB supported	
Port and Indicator	RS232 Port	N/A	
	RS485 Port	N/A	
	USB Port	2 USB 2.0 ports	
	Network Connection	1 10/100Base-T Ethernet port	
	PoE Ports	4	8
	Indicator Light	Network / Power / HDD status indicators	
General	Power	48VDC, 1.25A; 50W PoE budget	48VDC, 2A; 80W PoE budget

Model		N4NXL	N8NXL
	Operating Temperature	14℉ ~ 131℉	
	Operating Humidity	10%～90% RH	
	Dimensions (WxHxL)	10.2” x 1.8” x 8.7”	
	Weight	3 lbs	

2 Front Panel and Rear Panel

2.1 Front Panel

2.1.1 NXL Series

The NXL front panel is shown below. See Figure 2-1.

Figure 2-1

Please refer to the following sheet for detailed information.

Icon	Name	Function
LAN	Network status indicator	Blue indicator is on when connected to a network
PWR	Power indicator	Blue indicator is on when power is operating normally
HDD	HDD status indicator	Blue indicator is on when the hard drive is operating normally

2.2 Rear Panel

2.2.1 NXL Series

The 4ch unit's rear panel is shown below in Figure 2-2.

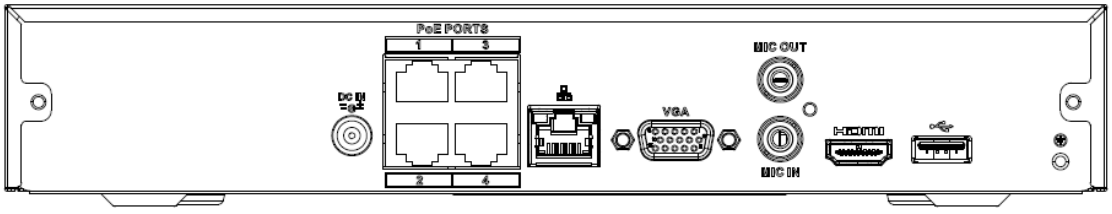


Figure 2-2

The 8ch unit's rear panel is shown below in Figure 2-3.

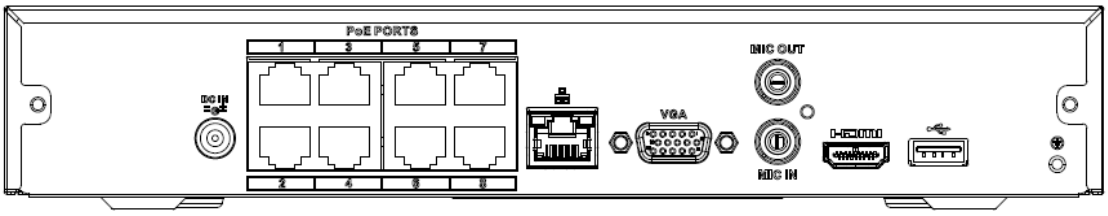


Figure 2-3

Please refer to the following sheet for detailed information.

Port Name	Connection	Function
	USB2.0 port	May be used for a mouse and external storage.
	Network port	10M/100Mbps Ethernet port. Connect to a network cable.
HDMI	HDMI v1.4	Used for video output to a monitor/display with HDMI port
VGA	VGA output	Used for video output to a monitor/display with VGA port
	GND	Ground end
	Power input port	Input DC 12V/2A.
MIC IN	Audio input port	Audio input port for two-way audio. Connect a microphone.
MIC OUT	Audio output port	Audio output port to a speaker ● Two-way audio output. ● Audio output on full screen live view. ● Audio output on full screen playback.

2.3 Two-Way Audio

2.3.1 Device to PC

Device Connection

Connect a microphone to the input port located on the rear panel of the NVR. Then connect a speaker to the audio output port on the PC.

Log into the web viewer to enable two-way audio:

After logging in, look in the left menu panel at the bottom. See Figure 2-4.

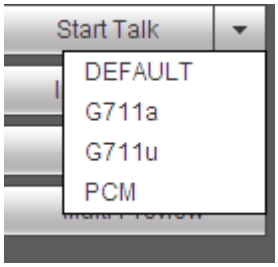


Figure 2-4

Audio

See Figure 2-5.

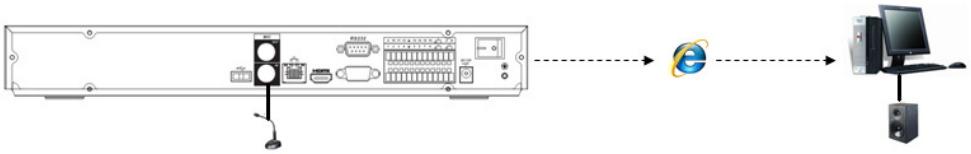


Figure 2-5

2.3.2 PC to Device

Device Connection

Connect a microphone to the audio input port on the PC and then connect a speaker to the output port on the rear panel of the NVR.

Log into the web viewer to enable two-way audio.

Please refer to the diagram above (Figure 2-4) to enable this option.

Audio

See Figure 2-6.

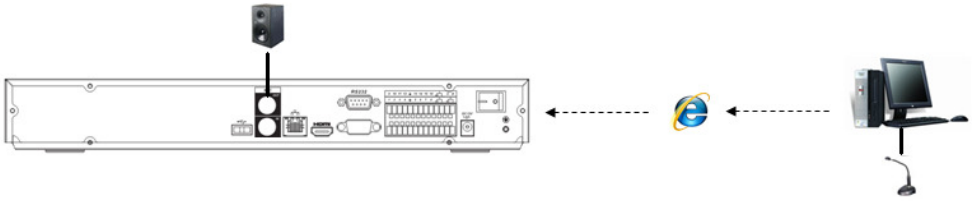


Figure 2-6

2.4 Mouse Operation

Please refer to the following table for mouse operation instructions.

Left Click	Menu item selection
	Use for on-screen keyboard
Double Click	In live view, double click to go from split screen to a full screen and back
Right click	Brings up menu options in live view
	Exit current menu without saving when in setup
Drag mouse	Select motion detection zone
	Select privacy mask zone

3 Device Installation

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

3.1 Check Unit

After unpacking the unit, please check for any visible damage. Then check to make sure that all accessories are included.

3.2 Product Label

Check that the model number and serial number that's listed on the label on the unit are the same as what's listed on the package label.

3.3 Connection

3.3.1 Example

Please refer to Figure 3-1 for a connection example.
The 8-channel unit is shown below.

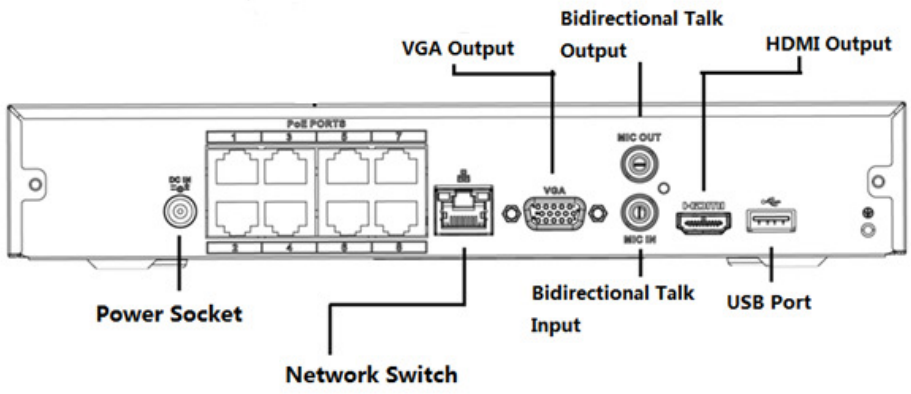


Figure 3-1

4 Unit Local Operation

4.1 Startup and Shutdown

4.1.1 Startup

Caution

Before powering up the unit, please make sure:

- **Connect the NVR to the power adapter first and then connect the power adapter to the power outlet.**

Please follow the steps listed below to start the device.

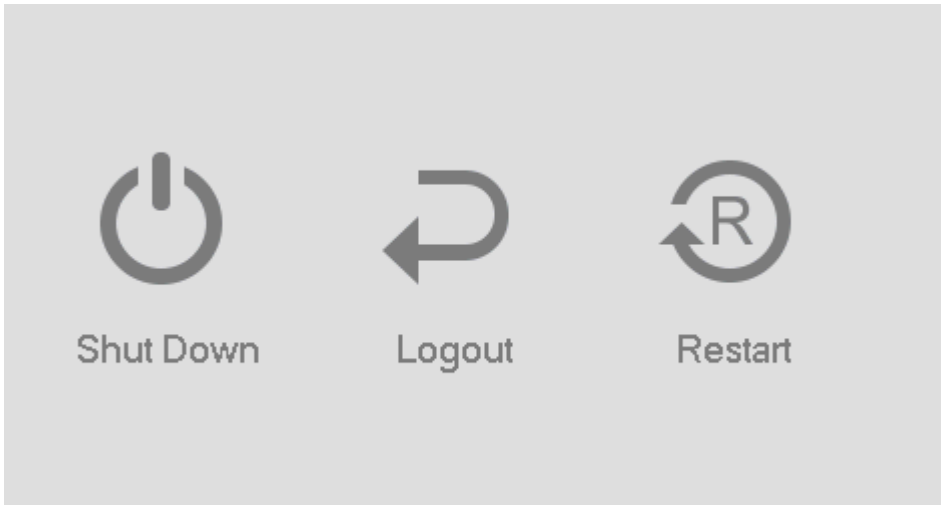
- Connect the device to the monitor and then connect a mouse.
- Connect power.
- The system will be in split screen mode by default upon startup.

4.1.2 Shutdown

Note

- Do not unplug the power adapter when the device is running (especially when it is recording).

The proper way to shut down the unit is:
Main Menu->Shutdown



Click OK.

4.2 Change/Reset Password

4.2.1 Change Password

Listed below is the default login ID:

- **Username:** admin (administrator, local and remote)

Note:

For security purposes, it is required to create the administrator password on the initial login.

5 incorrect login attempts within 30 minutes will result in a lock on the account. Once the unit is locked, please wait for 30 minutes before attempting to log in again.

See Figure 4-1 for the password change screen.

- Security questions can be set here to reset the password in case you forgot. The NVR supports customized setup. Please note two security questions must be set. These questions must be answered correctly when resetting the password.
- For more information, please refer to section 4.2.2.

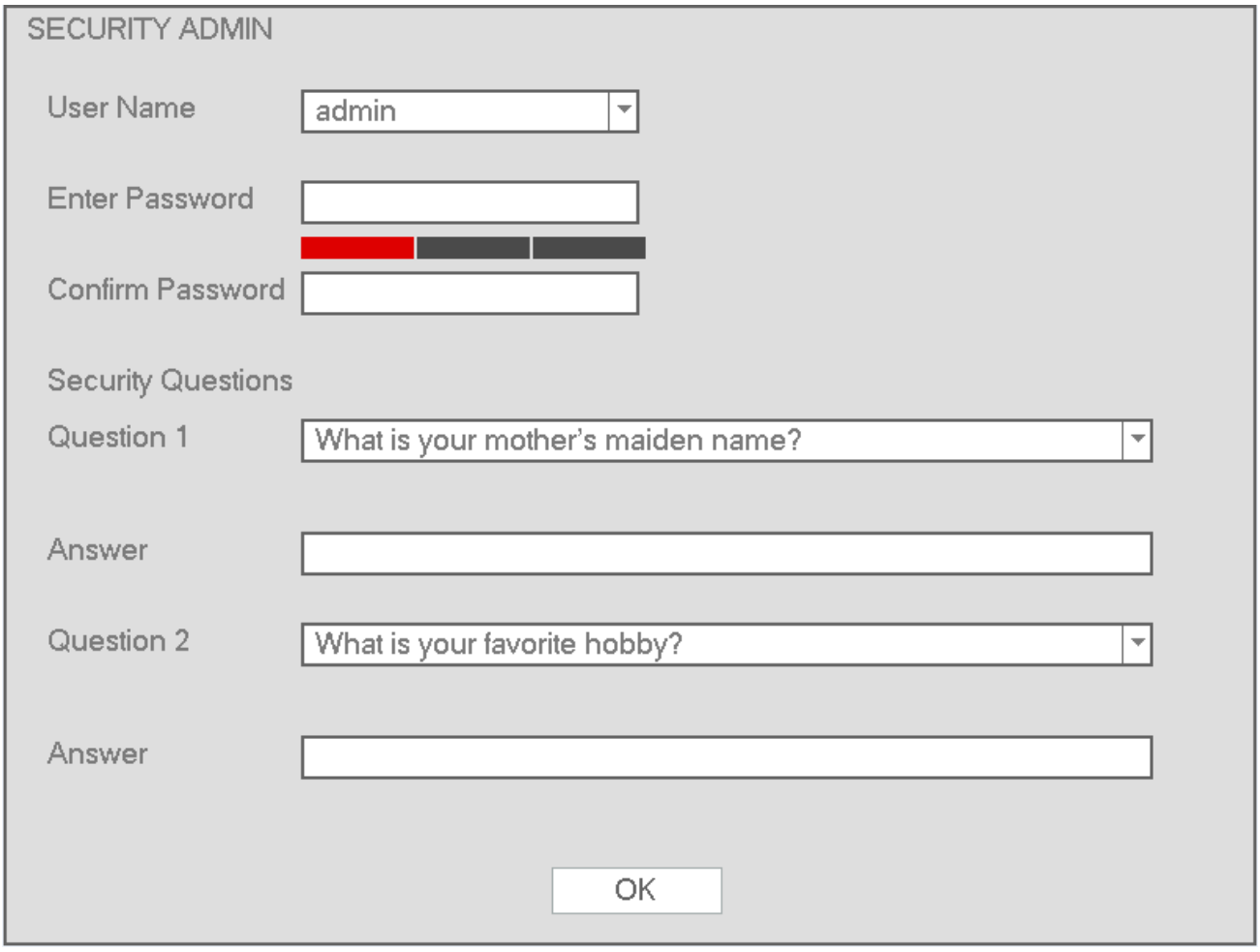


Figure 4-1

4.2.2 Reset Password

If the password has been forgotten, answer the security questions set in section 4.2.1 to reset the password.

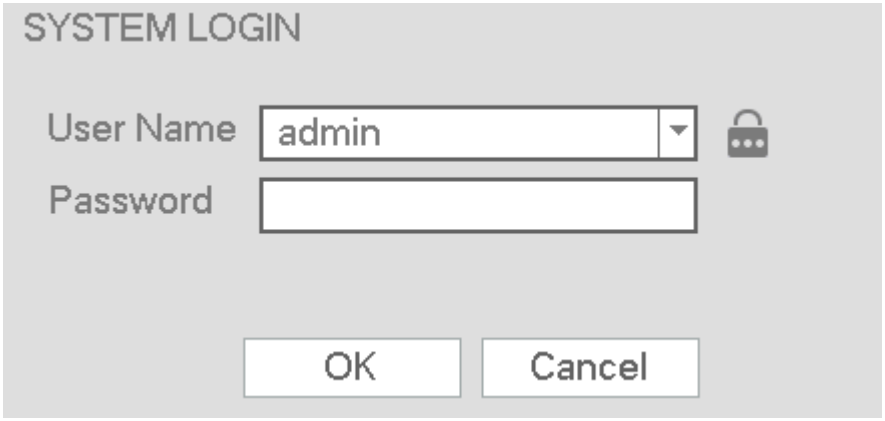


Figure 4-2

The following dialogue box will pop up. Please answer the security questions and then enter the new password twice. See Figure 4-3.

.

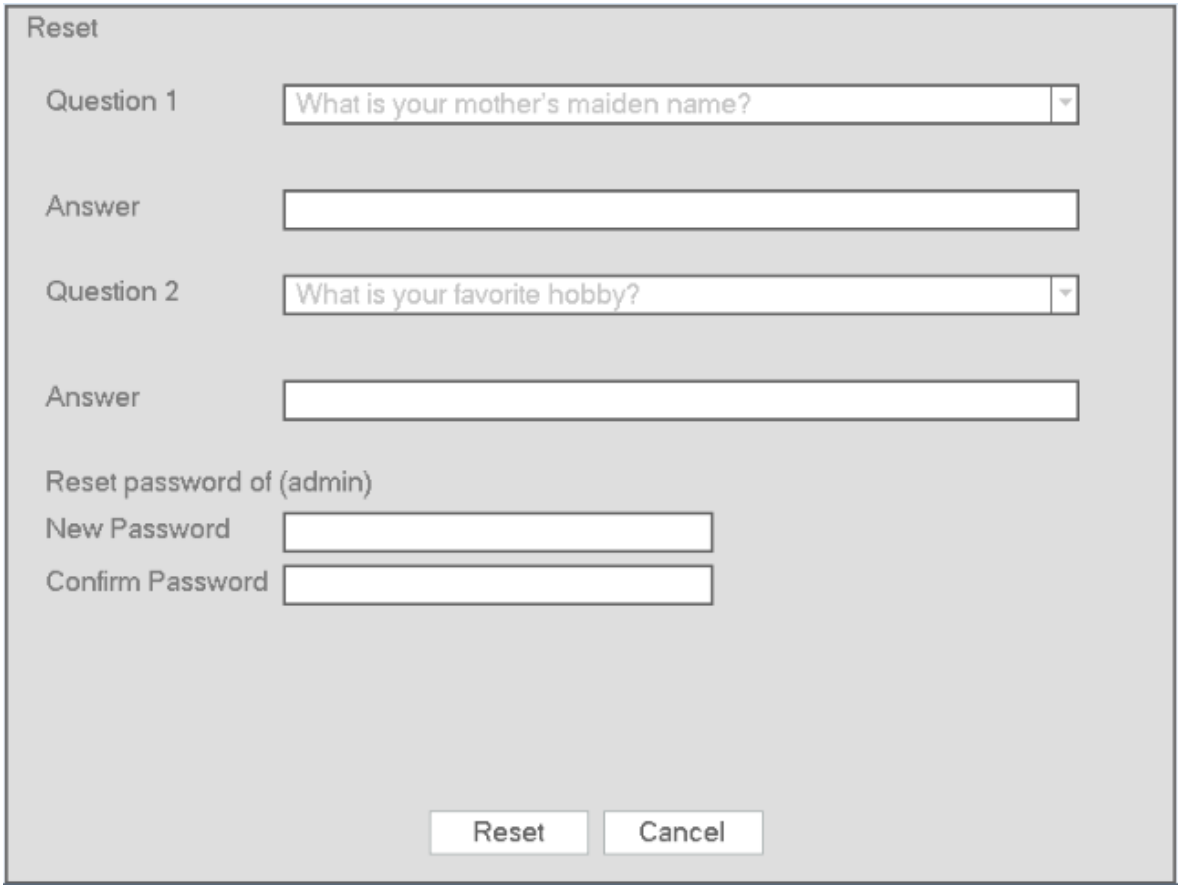


Figure 4-3

4.3 EZ Setup

EZ Setup is a wizard designed to assist with setting up the unit initially. After the NVR successfully boots up, the prompt for EZ Setup will pop up. To prevent EZ Setup from running again on the next reboot, uncheck the Startup box before selecting Next or Cancel.

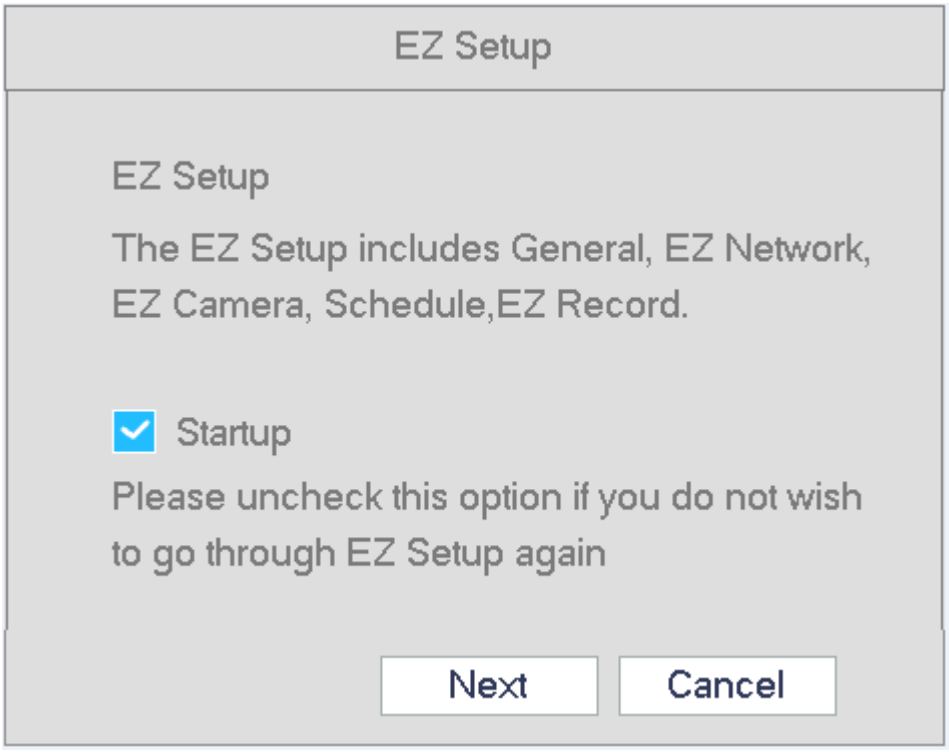


Figure 4-4

Click Next or Cancel button. See Figure 4-4

The system consists of two accounts:

- **Username**: admin (administrator, local and network)
- **Username**: default. **Password**: default (hidden user). Hidden user “default” is for system interior use only and can not be deleted. When there are no users, hidden user “default” will automatically login.

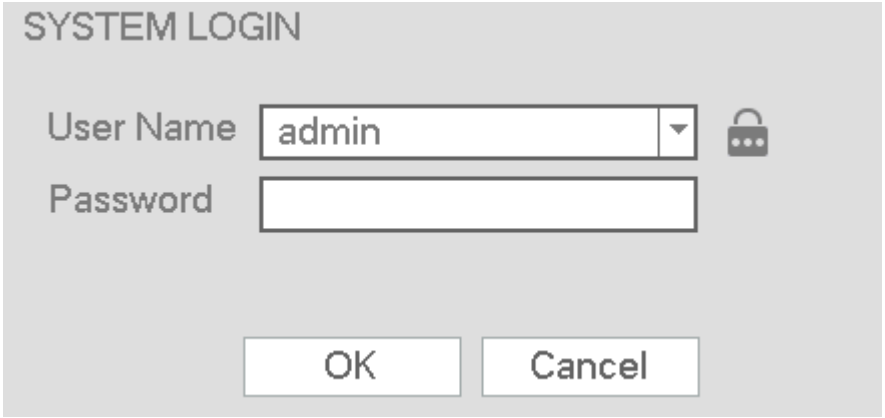


Figure 4-5

Click the OK button to go to the General Setup Interface. See Figure 4-6. For detailed information, refer to section 4.12.

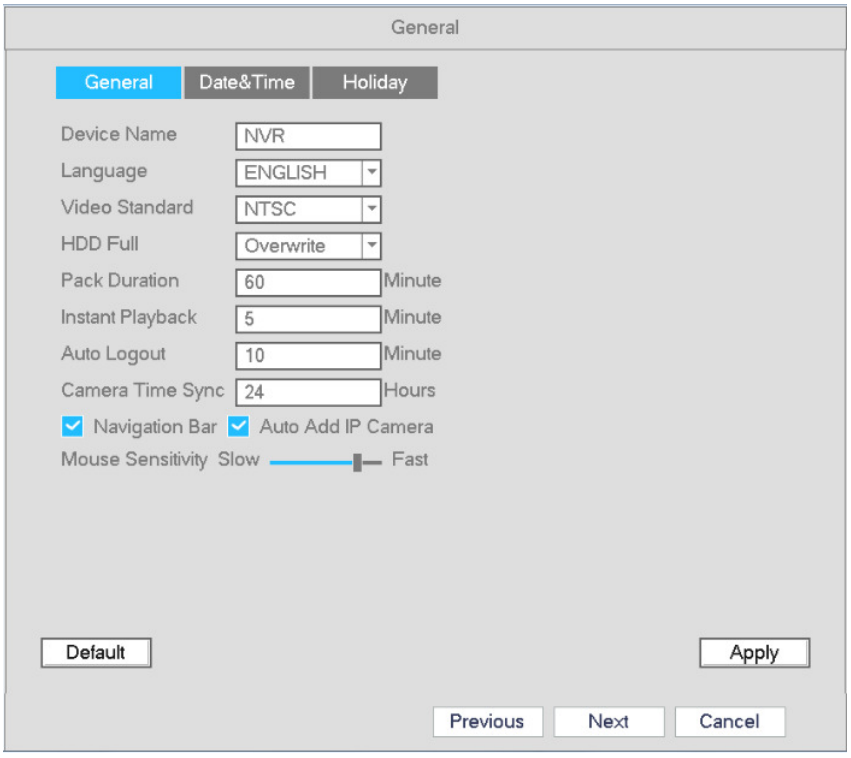


Figure 4-6

Click the Next button to go to the network setup interface. See Figure 4-7.
For detailed information, refer to section 4.10.

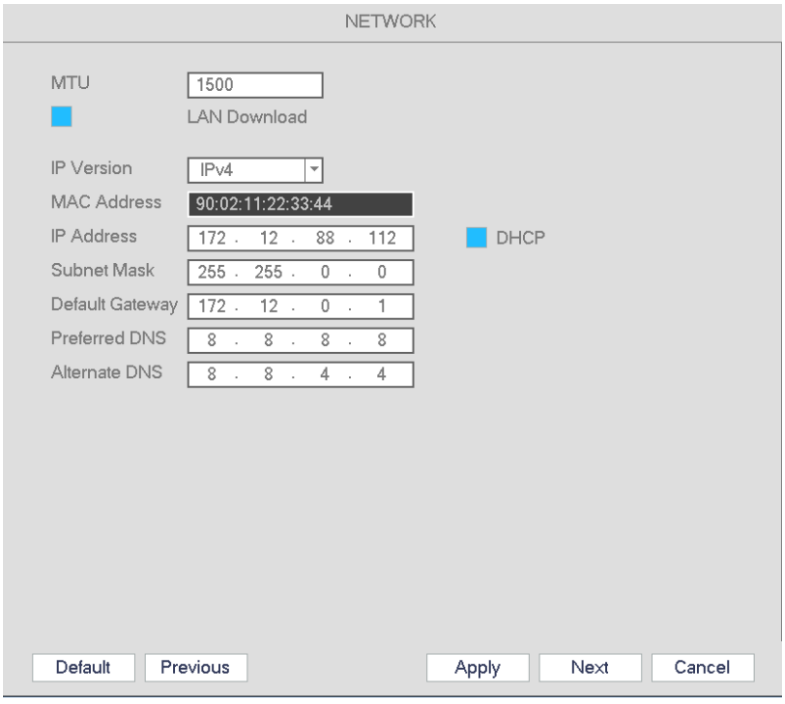


Figure 4-7

Click the Next button to go to the EZ Camera tab. EZ Camera can be used to easily add IP cameras on the LAN to the unit (Speco IP cameras on the PoE ports will be added automatically). See Figure 4-8. Refer to section 4.5.

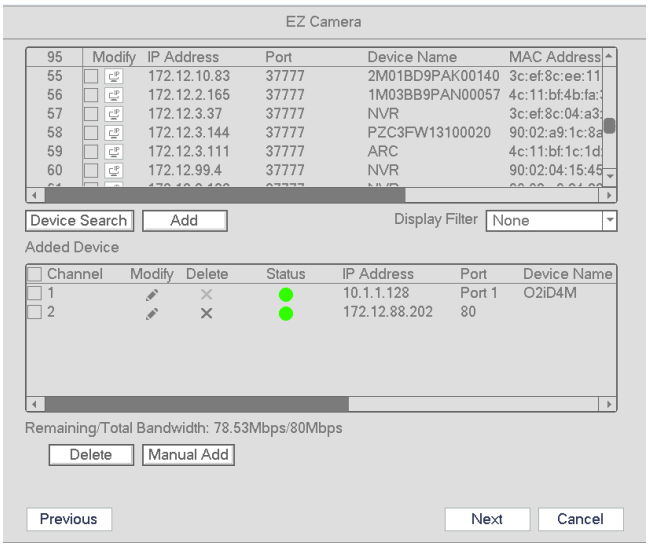


Figure 4-8

Click the Next button to go to the Schedule interface/EZ Record. See Figure 4-9.
For detailed information, please refer to section 4.6.2.

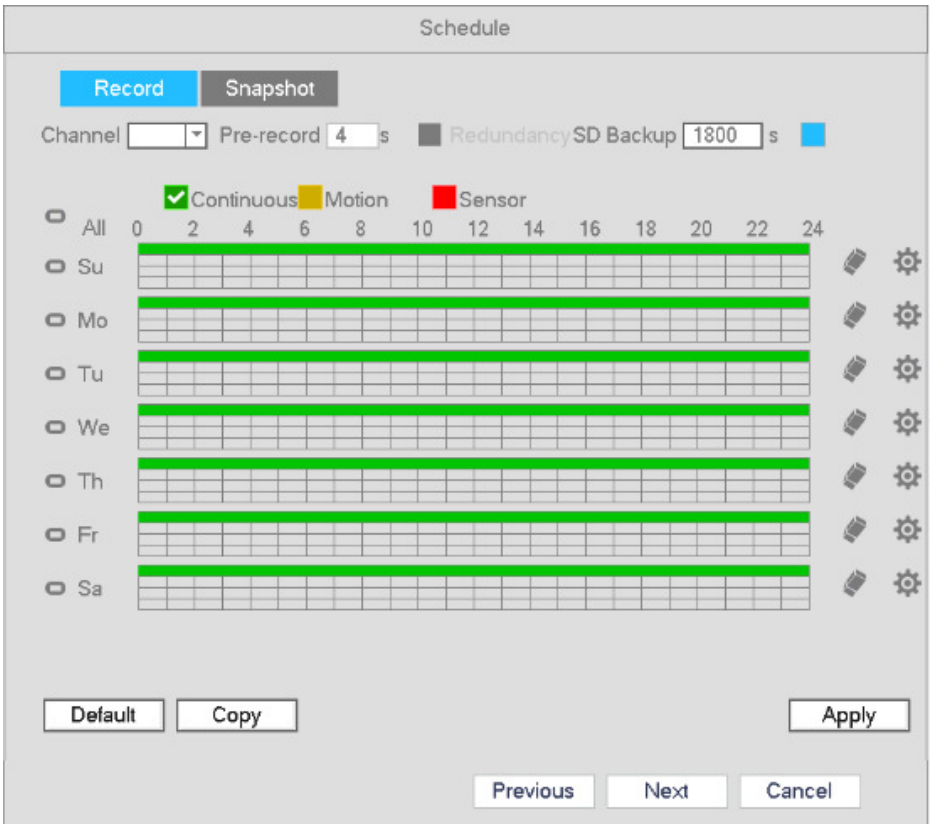


Figure 4-9

EZ Record
Main Stream
All
1
2
Auto
Manual
Off
Snapshot
Enable
Disable
Previous
Apply
Finish
Cancel

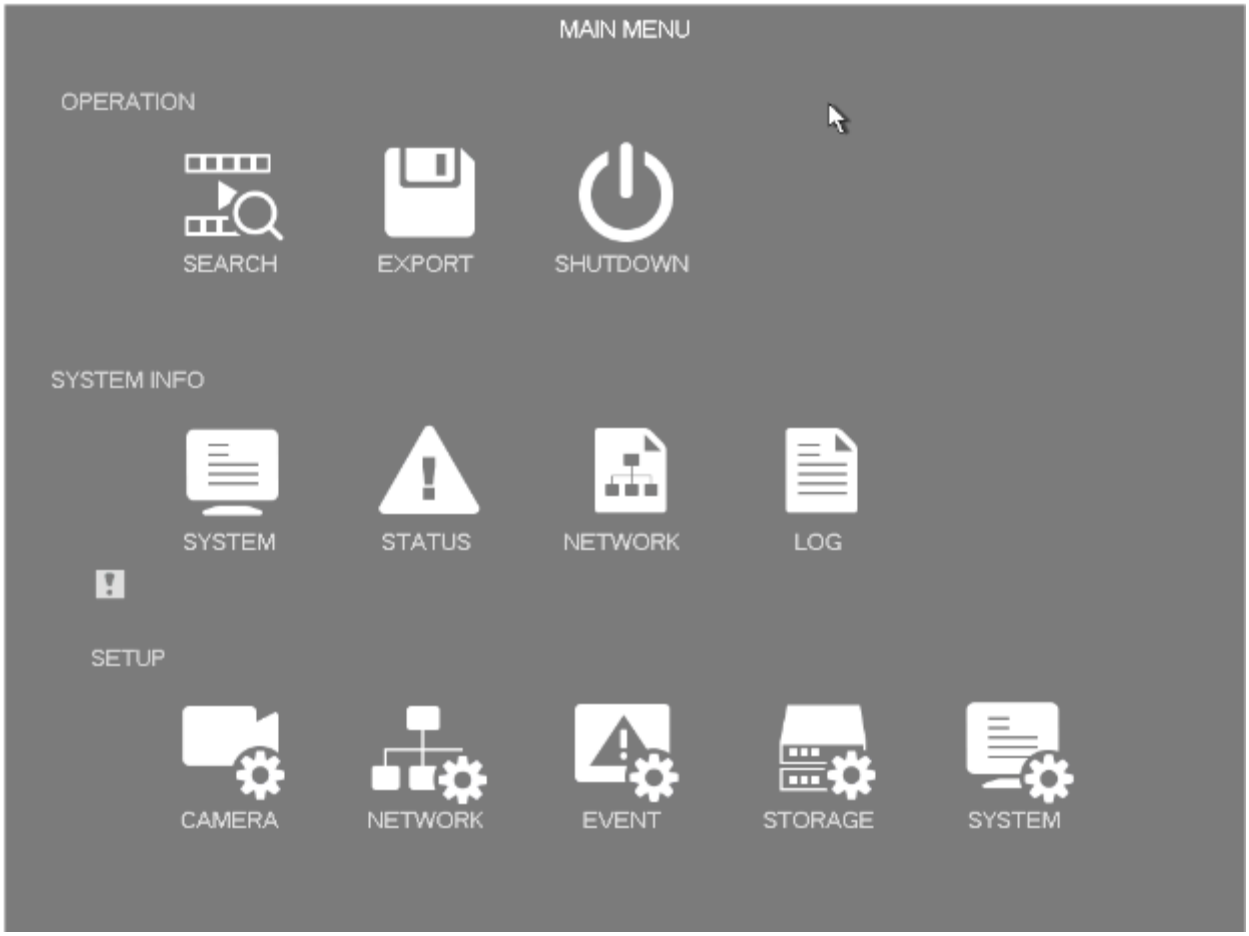
Figure 4-10

4.4 Navigation Bar

Go to Main menu->Setup->System->General to enable the navigation bar.
The navigation bar is shown as below. See Figure 4-11.

Figure 4-11

4.4.1 Main Menu



4.4.2 Tour

Click to enable tour. The icon will change to and tour will be in process.

4.4.3 PTZ

Click to enable the PTZ control interface. Refer to section 4.5.8.

4.4.4 Color

Click to enable the color interface.

Please make sure the system is in 1x1 channel mode.

4.4.5 Search

Click to enable the search interface. Refer to section 4.7.2

4.4.6 Alarm Status

Click to enable the alarm status interface. This is for viewing device status and channel status.

4.4.7 Channel Info

Click to enable the channel information interface. This is for viewing information of the corresponding channel.

4.4.8 Registration

Click to enable the EZ Camera interface.

4.4.9 Network

Click to enable the network setup interface. Please refer to section 4.10.

4.4.10 HDD Manager

Click to enable the HDD manager interface. Please refer to section 4.11.1.

4.4.11 USB Manager

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

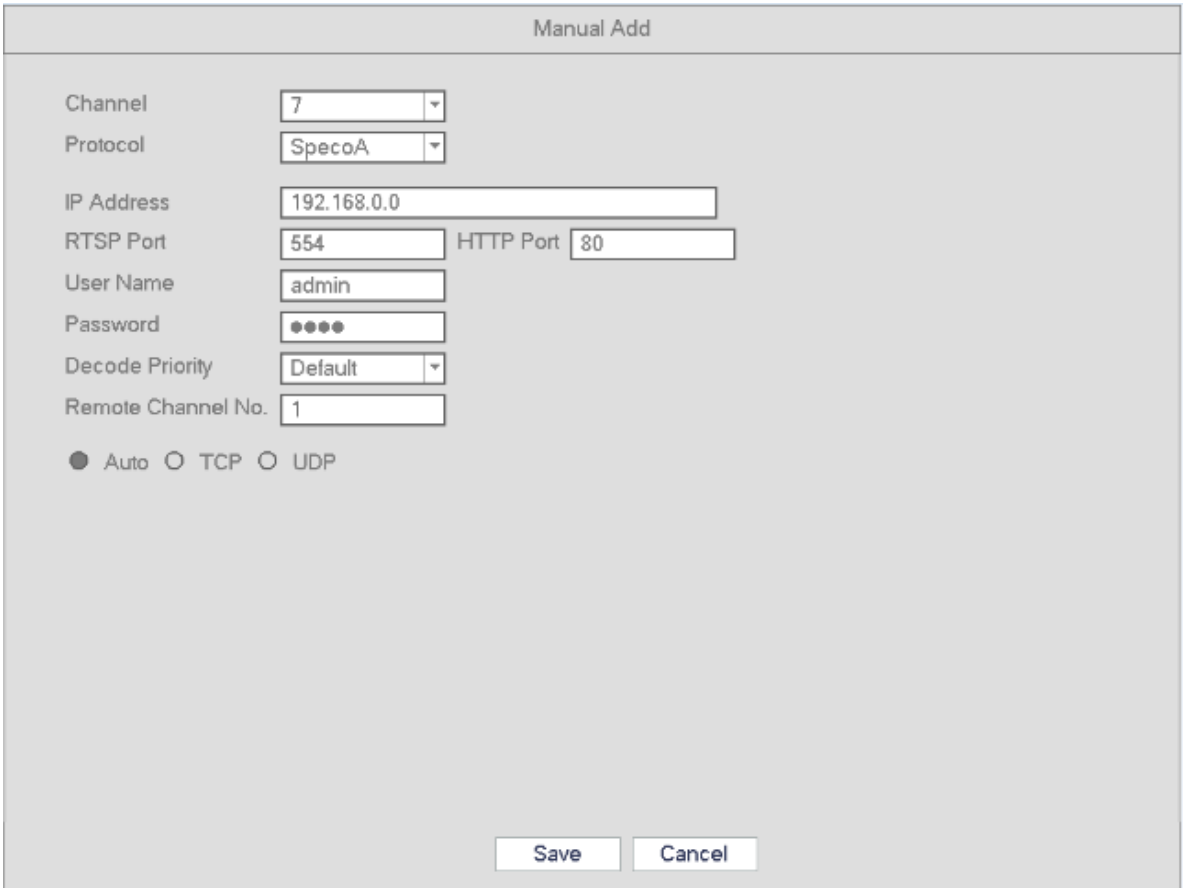
4.5 Camera

4.5.1 Camera Setup

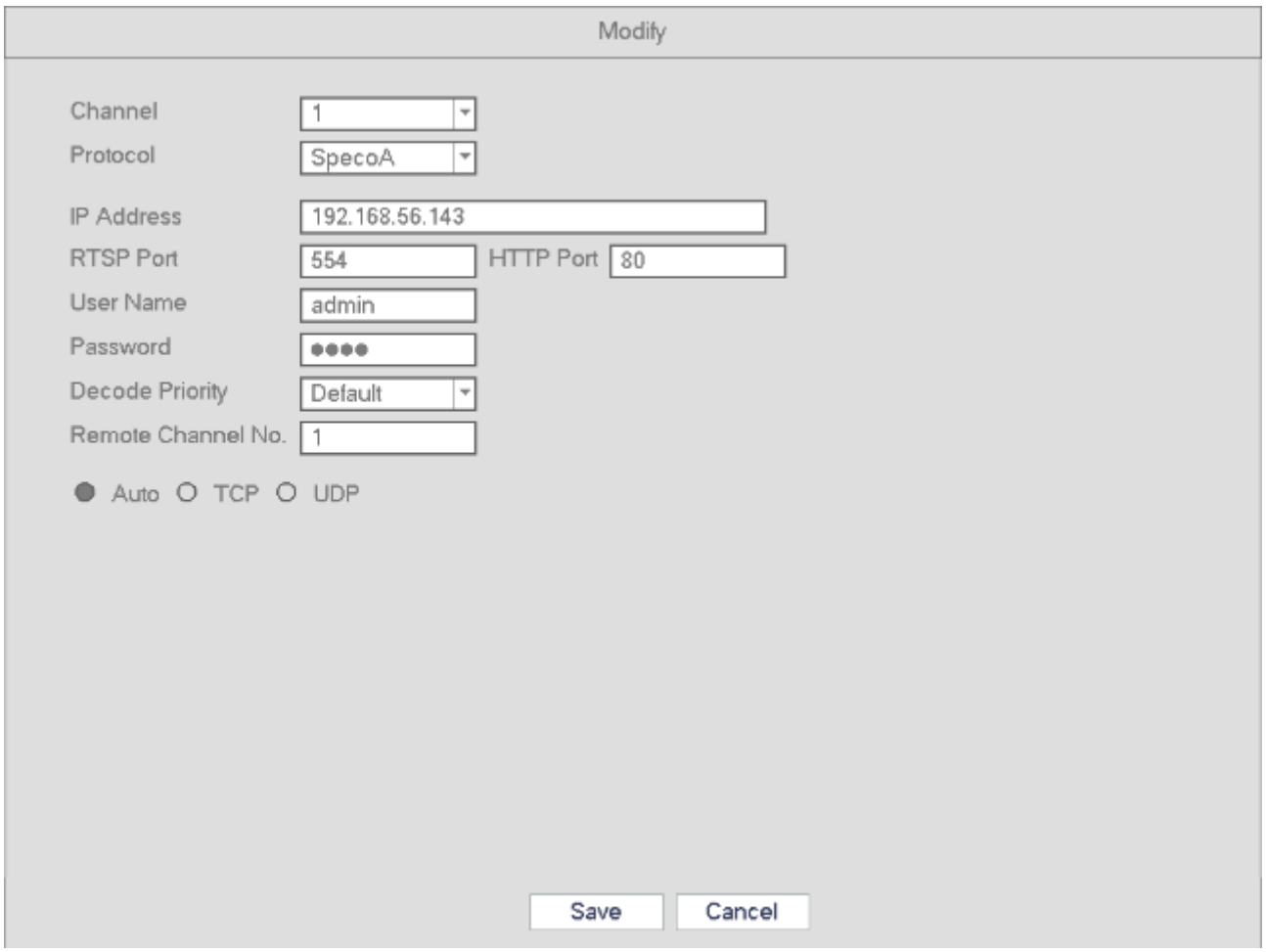
Note: For Speco's IP cameras, the built-in PoE ports support plug and play. In order to this feature to work, the IP camera's user ID and password must be kept at the default values, which are **admin** and **1234**, respectively.

Go to Main menu->Setting->Camera->Camera to open the camera setup interface.

- Device search: Click the button to search for all network cameras in the same network segment.
- Status: Red circle ( ) means current channel has no video, green circle ( ) means current channel has video.
- IP address: Displays the network camera IP address.
- Type: The icon means the camera is connected to the POE port.
- Add/Delete: Click to delete the device, click to add the device to the NVR.
- Manual Add: Click the Manual Add button to manually enter camera information and assign it to a channel. The interface is shown below:



- Modify: Click Modify to edit a camera's information. See below.



- ✧ Channel: Change assigned channel.
- ✧ Protocol: Select protocol from the dropdown list.
- ✧ IP Address: Enter IP address.
- ✧ RTSP/HTTP port: Enter the correct port values for the camera. If you have not changed the ports, the default values are 554 and 80 respectively for almost all camera models.
- ✧ User name/Password: Enter user name and password of the camera. The default user name is **admin** and the default password is **1234**.
- ✧ Decode Priority: There are three options: realtime/fluent/default. Please select from the dropdown list. Realtime puts a priority on keeping the video as close to realtime as possible in case of a network not performing optimally. Fluent puts a priority on video streaming quality.
- ✧ Remote Channel: Channel number for remote access.

4.5.2 Image

Go to Main Menu->Setup->Camera->Image. The interface is shown below in Figure 4-12.

Note: This section is available for configuration only for supported cameras. For non-supported cameras, the options will not be visible.

- Channel: Select the desired channel from the dropdown list.
- Saturation: For changing the saturation value of the camera. The value ranges from 0 to 100. The default value is 50. The colors will become more saturated as the value is increased. Saturation has no effect on the general brightness of the video. The recommended range is from 40 to 60.
- Brightness: For changing the brightness value of the camera. The value ranges from 0 to 100. The default value is 50.
- Contrast: For changing the contrast value of the camera. The default value is 50. The recommended value is from 40 to 60.
- Auto Iris: When you disable this function, the iris is at the max. This option is on by default.
- Mirror: Horizontal flip.
- Flip: To flip the video vertically or 90°.
- BLC: Depending on the camera model, this may include the following options: BLC/WDR/HLC/OFF.
- Profile: To set the white balance mode of the camera. This has an effect on the general hue of the video. This function is on by default.
  - ✧ Auto: Auto white balance is on. System can auto compensate the color temperature to make sure the video color is proper.
  - ✧ Sunny: The threshold of the white balance is in the day 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 ranges from 0 to 100.
- Day/night. To set color or monochrome mode for the camera. The default setup is auto.
  - ✧ Color: Camera video stays in color.
  - ✧ Auto: Camera switches to monochrome in low light.
  - ✧ B/W: Camera video stays in monochrome.

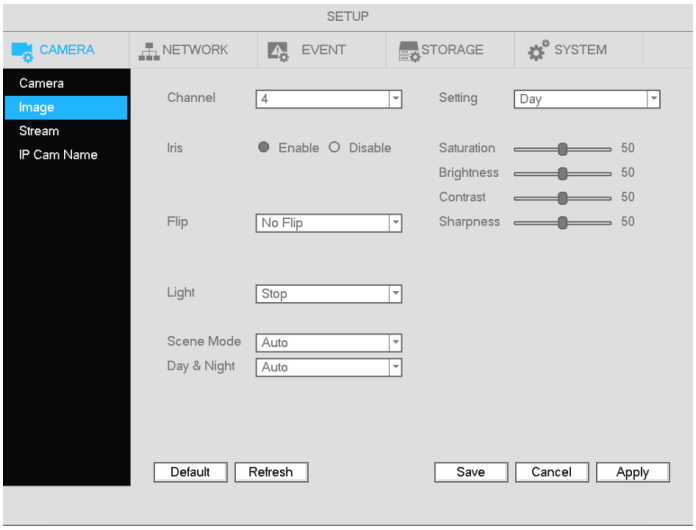


Figure 4-12

4.5.3 Channel Name

Go to Main Menu->Setup->Camera->Channel name. The interface is shown in Figure 4-13.
This is for setting the name of the local channel name on the NVR. This does not affect the nickname of the camera itself. Maximum of 31 letters are supported.

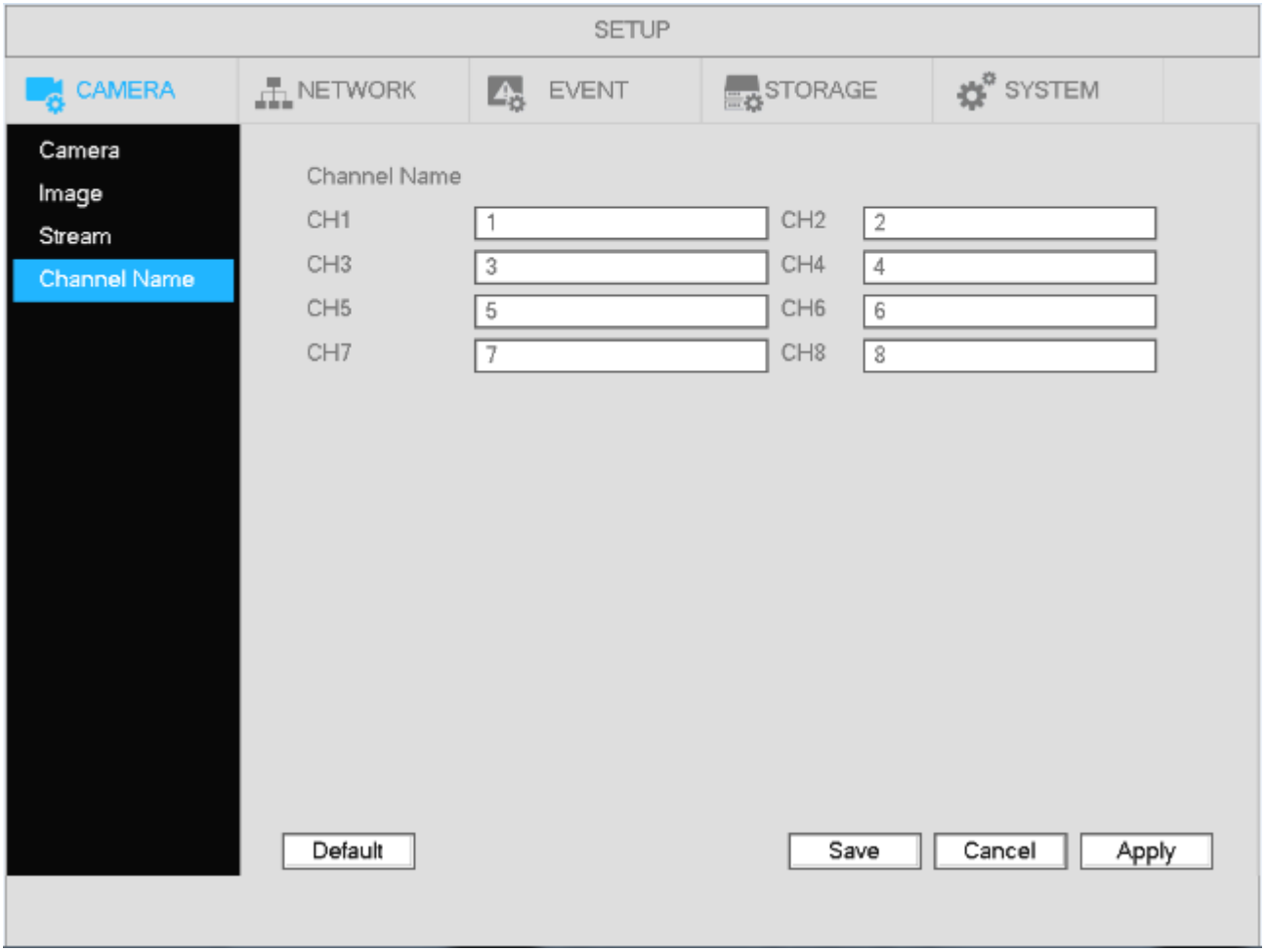


Figure 4-13

4.5.4 Camera Upgrade

Note
Supported IP camera models can have firmware be updated through the NVR, both locally through USB or remotely through a web browser.

To update:
Go to Main Menu->Setup->Camera->Upgrade. The interface is shown below in Figure 4-14.
Click Browse button and then select the upgrade file. Then select a channel (or you can select device type filter to select several devices at the same time.)
Click Start Upgrade. You can see the corresponding dialogue once the upgrade is finished.

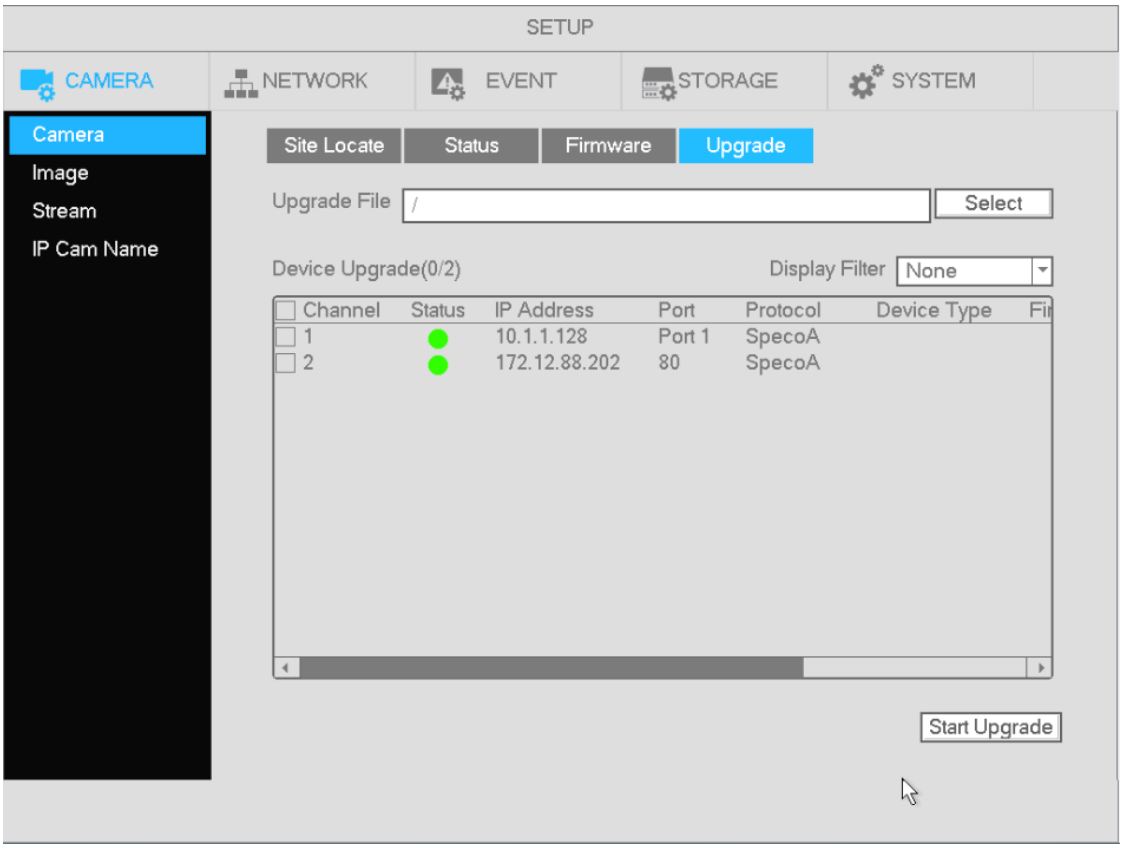


Figure 4-14

4.5.5 Right Click Menu

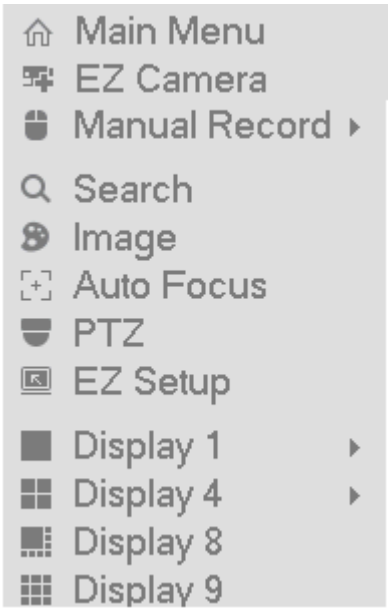


Figure 4-15

4.5.6 Display

Go to Main Menu->Setup->System->Display. See Figure 4-16.
These options do not affect recording and playback.

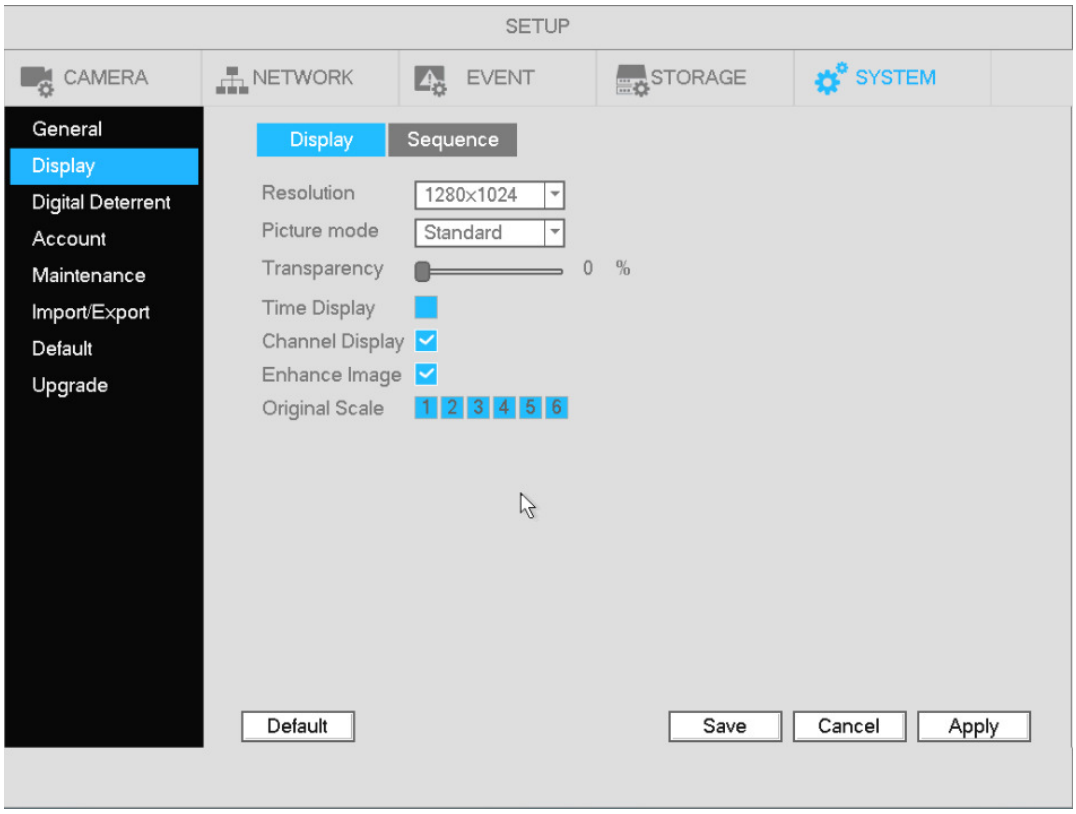


Figure 4-16

Now you can set corresponding information.

- Resolution: Choose the appropriate resolution for the monitor: 1280×1024 (Default), 1280×720, 1920×1080, and 1024×768. Please note the system needs to reboot to apply the new resolution.
- Picture Mode: Please select from the dropdown list
- Transparency: Higher value provides more transparency of the Setup interface.
- Time display: Enable this to display the time and date of the NVR.
- Channel display: Enable this to display the local channel names and the local IP addresses of the cameras.
- Enhance Image: Enable this to sharpen the image on live view. This option does not affect the camera itself.
- Original scale: For selected channels, this displays the camera resolutions in their original aspect ratio. Resolutions in 4:3 format will have black bars on the sides when this option is enabled.

Click Apply to save the setup.

4.5.7 Sequence

- Enable tour: Check the box here to enable the sequence function.
- Interval: Enter the desired time for how long the display will stay on the current screen. The range is from 1-120 seconds.
- Motion tour type: Single channel and 8-channel views are supported. For a channel to be displayed under this function, make sure to enable the Sequence option under Main Menu->Setup->Event->Video->Motion.
- Alarm tour type: Single channel and 8-channel views are supported. For a channel to be displayed under this function, make sure to enable the Sequence option under Main Menu->Setup->Event->Video->Alarm.

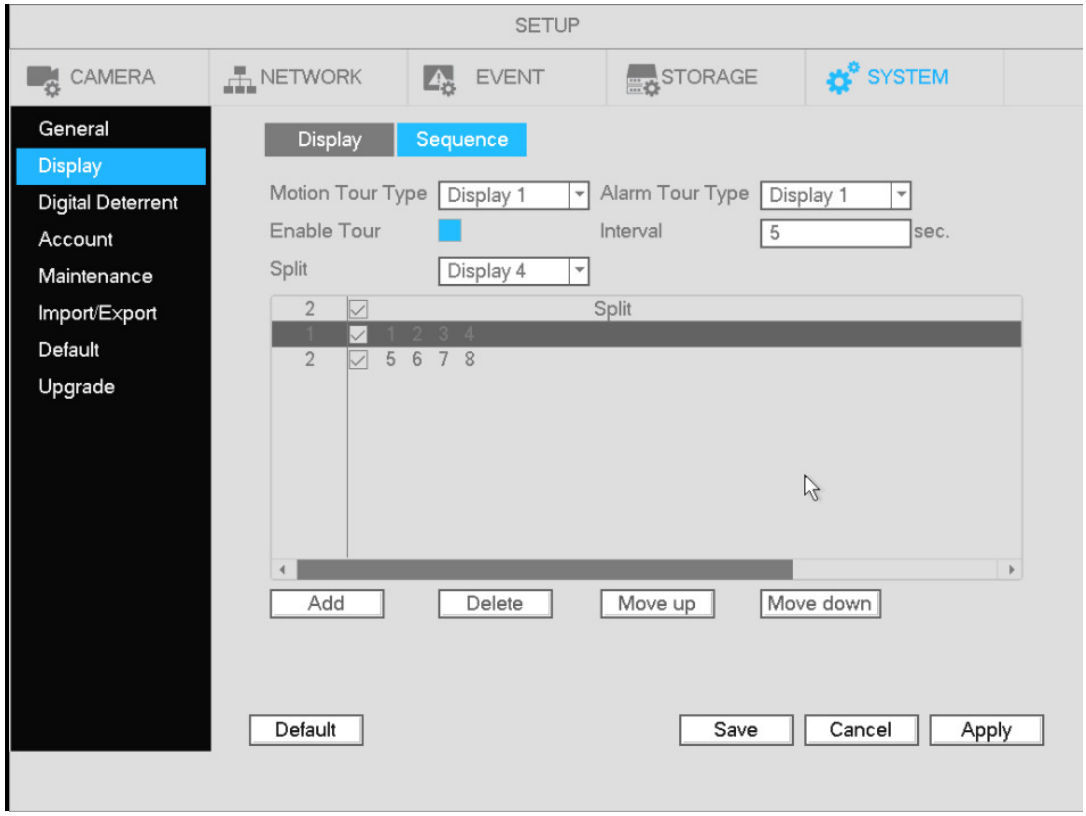


Figure 4-17

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4.5.8 PTZ Control

To bring up the PTZ control interface, right-click when hovering over the desired channel and choose PTZ as shown in Figure 4-18. The display will switch to single-channel mode.

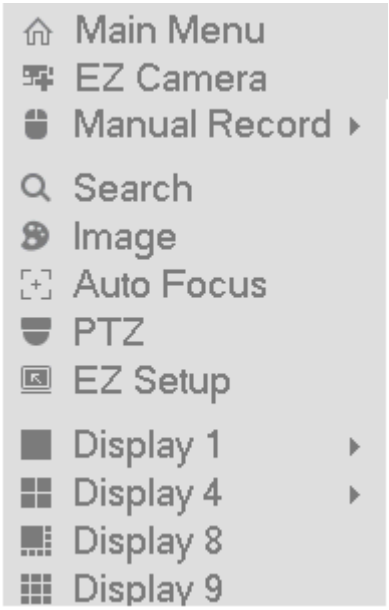


Figure 4-18

The PTZ setup is shown as in See Figure 4-19.

Here you can control PTZ direction, speed, zoom, focus, iris, presets, tours, and other PTZ options.
Speed controls PTZ movement speed. The value ranges from 1 to 8 with 8 being the fastest.

You can click and for zoom, focus and iris.

The PTZ rotation supports 8 directions.

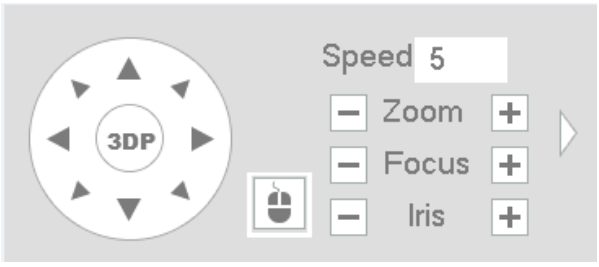


Figure 4-19

For supported camera models, the NVR can control the camera with 3D intelligent positioning (3DP). See Figure 4-20. Click this key, to enter single screen mode. Click and drag the mouse on the screen to identify a region of interest. The PTZ will automatically pan, tilt, and zoom to the area that was identified.

Figure 4-20

In Figure 4-19, click to open the menu, you can set preset, tour, pattern, scan, etc. See Figure 4-21.

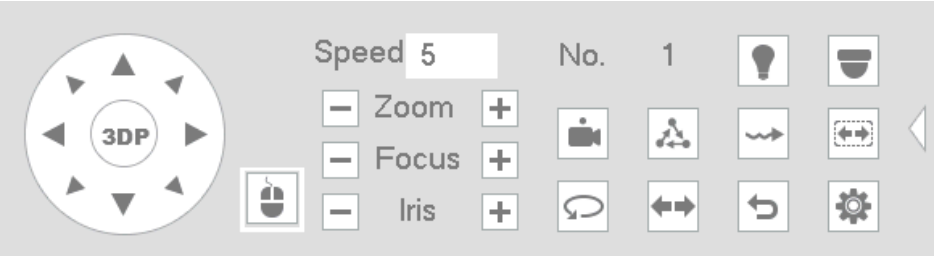


Figure 4-21

Please refer to the following table for detailed information.

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

Right click mouse or click the ESC button at the front panel to go back to the Figure 4-19.

Icon	Function	Icon	Function
	Preset		Flip
	Tour		Reset
	Pattern		Aux Config
	Scan		Aux on/off
	Rotate		

4.5.8.1 PTZ Function Setup

Click to go to the following interface to set preset, tour, pattern, and scan. See Figure 4-22.

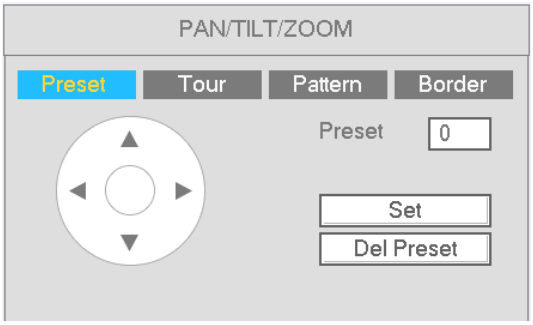


Figure 4-22

Preset

As shown in Figure 4-22, click preset and use the direction arrows to set the camera to the proper position.

Click the Set button and then enter the preset number.

Click the Set button again to save current preset.

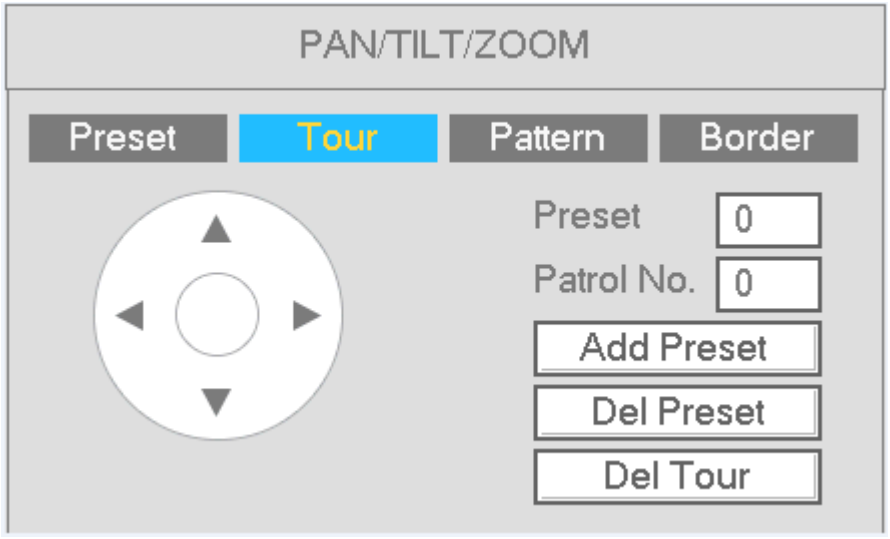
Tour Setup

As shown below, click the tour button.

Enter the tour value and preset number. Click Add Preset to add the preset value to the tour.

Tips

Repeat the above steps to add more presets to the tour. Click Del preset button to remove it from the tour.

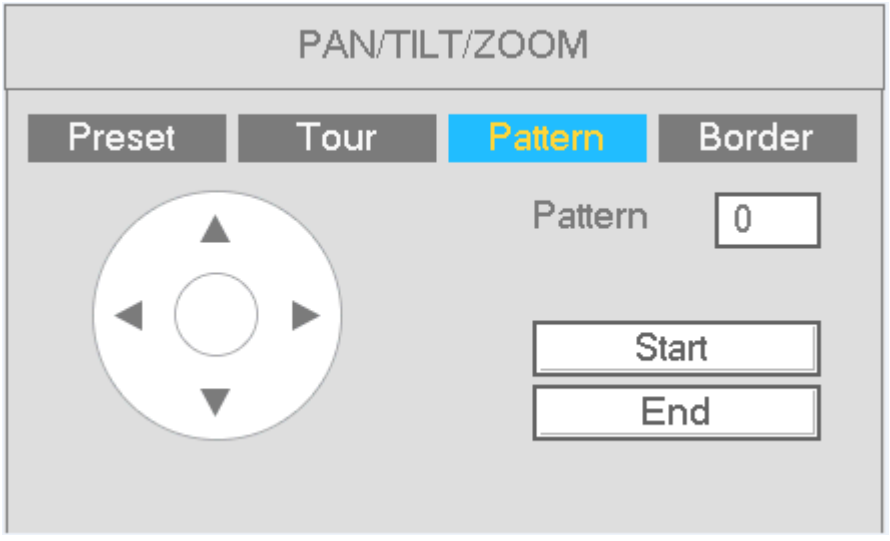


Pattern Setup

As shown below, click Pattern and enter the pattern number.

Click Begin button to start recording the directions for the pattern. You can also use the full PTZ controls shown in Figure 4-19 to operate zoom/focus/iris/direction.

Click the End button to finish recording the pattern.

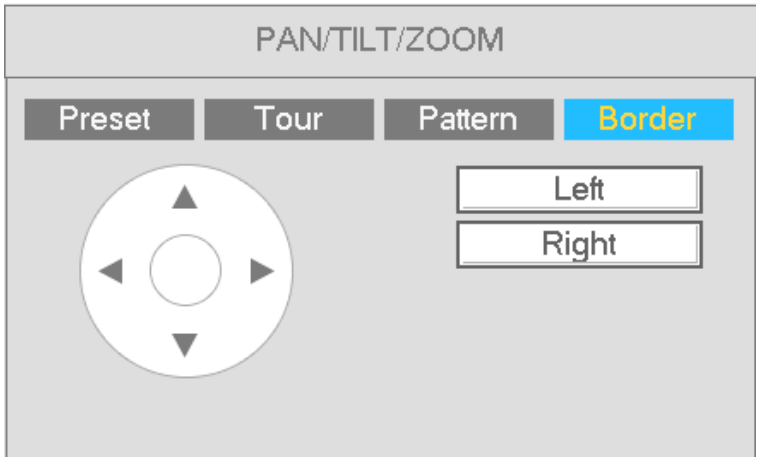


Scan Setup

Click Scan button as shown below.

Use the direction buttons to set the left position of the camera and then click the Left button.

Use the direction buttons to set the right positions of the camera and then click the Right button. The scan setup process is then complete.



4.5.8.2 Call PTZ Function

Call Preset

As shown in Figure 4-21, enter preset value and then click to call the preset. Click again to stop.

Call Pattern

As shown in Figure 4-21, enter pattern value and then click to call the pattern. Click again to stop.

Call Tour

As shown in Figure 4-21, enter tour value and then click to call the tour. Click again to stop.

Call Scan

As shown in Figure 4-21, enter scan value and then click to call the scan. Click again to stop.

Rotate

As shown in Figure 4-21, click to enable the camera to rotate.

Aux

Click to go to the following interface. The options here are defined by the protocol. See Figure 4-23.

Figure 4-23

4.6 Recording

The priority order for recording is: Alarm -> Motion detection -> Schedule.

4.6.1 Stream

4.6.1.1 Stream

The Stream section is used to set the IP camera's stream settings.

The interface is shown in Figure 4-24.

- Channel: Select the desired channel.
- Type: The NVR can process two streams, main and sub.
- Compression: The NVR supports H.264 (HP, MP, BP profiles) and MJPEG.
- Resolution: The current setting of the camera will be displayed. Changes made in the NVR will be reflected in the camera.
- Frame rate: The current setting of the camera will be displayed. Changes made in the NVR will be reflected in the camera.
- Bit rate type: The NVR supports two types: CBR (constant bit rate) and VBR (variable bit rate). In VBR mode, you can set the video quality. The current setting of the camera will be displayed. Changes made in the NVR will be reflected in the camera.
- Quality: Options will be available in VBR mode. There are six levels ranging from 1 to 6. The sixth level has the highest image quality.
- Video/audio: Check the box to enable audio for the channel. Please note, once you enable audio function for one channel, the system may enable audio function of the rest of the channels by default.
- Copy：After you complete the setup, you can click Copy button to copy the current setup to other channel(s). The current channel number will be highlighted gray. Select the desired channels and click the OK button to complete the setup.

Figure 4-24

4.6.1.2 Snapshot

For supported camera models, the snapshot mode, picture size, quality and frequency can be set. See Figure 4-25.

- Channel: Select applicable channel
- Mode: There are two modes: schedule and event. If you select schedule mode, you need to set the snapshot frequency. If you select event mode, you need to set an event trigger (Under Setup -> Event).
- Image size: Set the snapshot picture size.
- Quality: Set the snapshot quality. The value ranges from 1 to 6 with 6 being the highest
- Snapshot Frequency: Used to set snapshot interval for schedule mode.

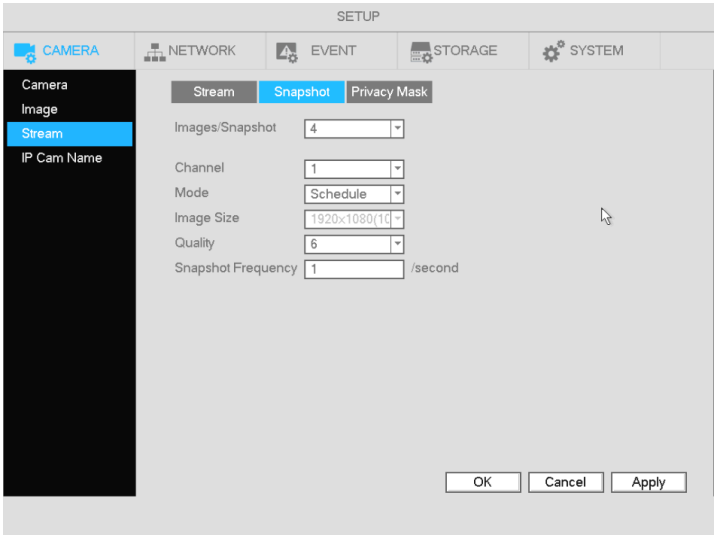


Figure 4-25

4.6.2 Schedule

4.6.2.1 Schedule Recording

To set up schedule recording, go to Main Menu->Setup->Storage->Schedule. See Figure 4-29.

- Channel: Select the desired channel number first. You can select “all” if you want to set the schedule for all of the channels.

✧ : Select icon of multiple days to link them together. This will allow the linked days to be edited simultaneously.

✧ : Click to delete the schedule for the selected recording type from one period.

- Recording Type: Check the box of the desired recording type. There are three modes for recording: Continuous / Motion detection / Sensor.
- Week day: There are eight options: ranges from Saturday to Sunday and all.
- Holiday: Special schedules can be set for holidays if needed. Holidays must be added manually. To add a holiday, go to Main Menu->Setup->System->General->Holiday. This option will not be shown if no holidays have been added.

- Pre-record: This option is to set up the pre-record interval for events. The range is from 1 to 30 seconds.
- Redundancy: Not applicable for the NXL series.
- SD Backup: For supported IP camera models, the video can be recorded to an SD card in case the network connection fails. The time range is from 0 to 43200 seconds. After the network connection resumes, the NVR will retrieve the video from the SD card.
- Period setup: Click to bring up the interface to enter a time period manually.

Follow the steps listed below to visually draw the period.

a) Select the desired channel. See Figure 4-26.

Figure 4-26

b) Set the recording type. See Figure 4-27.

Figure 4-27

c) Click and drag. See Figure 4-28. **Note**: for all schedules, a maximum of 6 separate periods can be specified for a day.

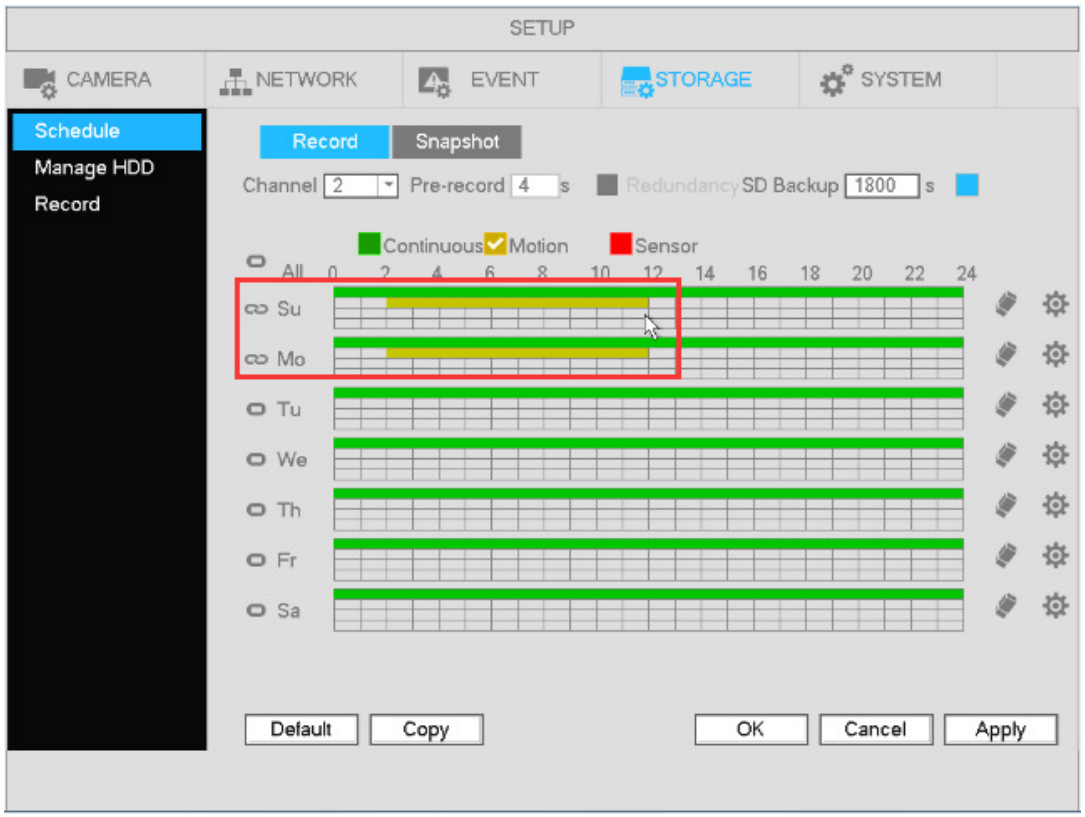


Figure 4-28

After completing setup, click Apply to save the settings.

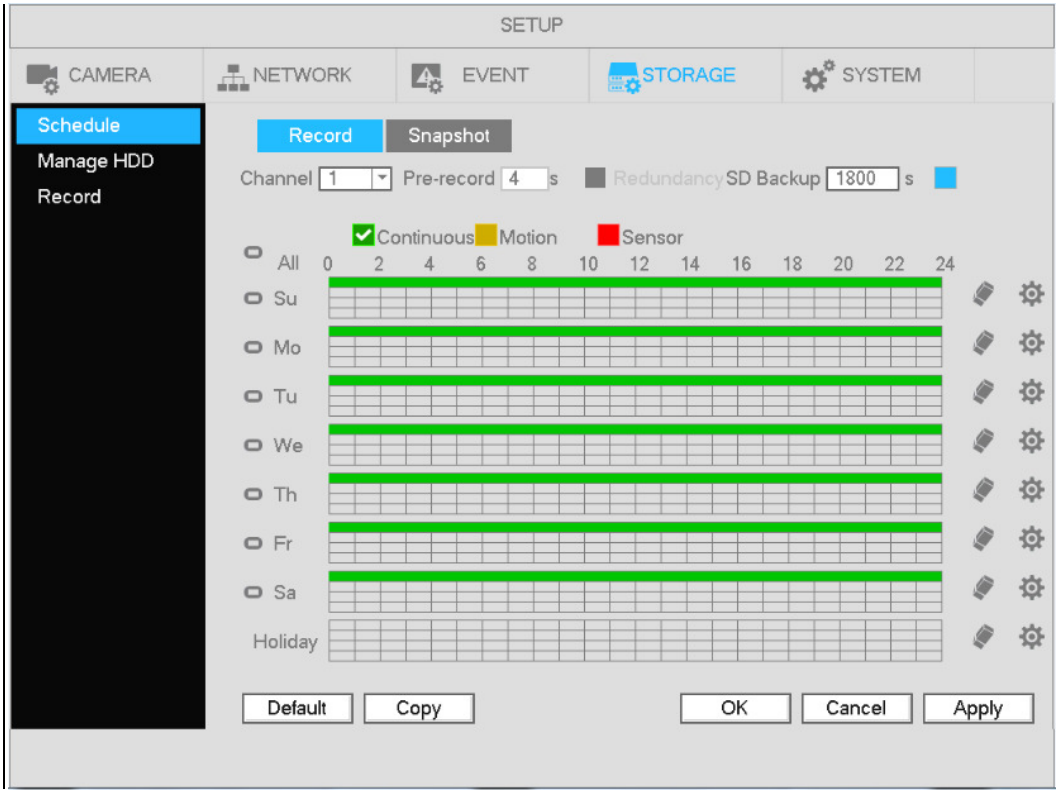


Figure 4-29

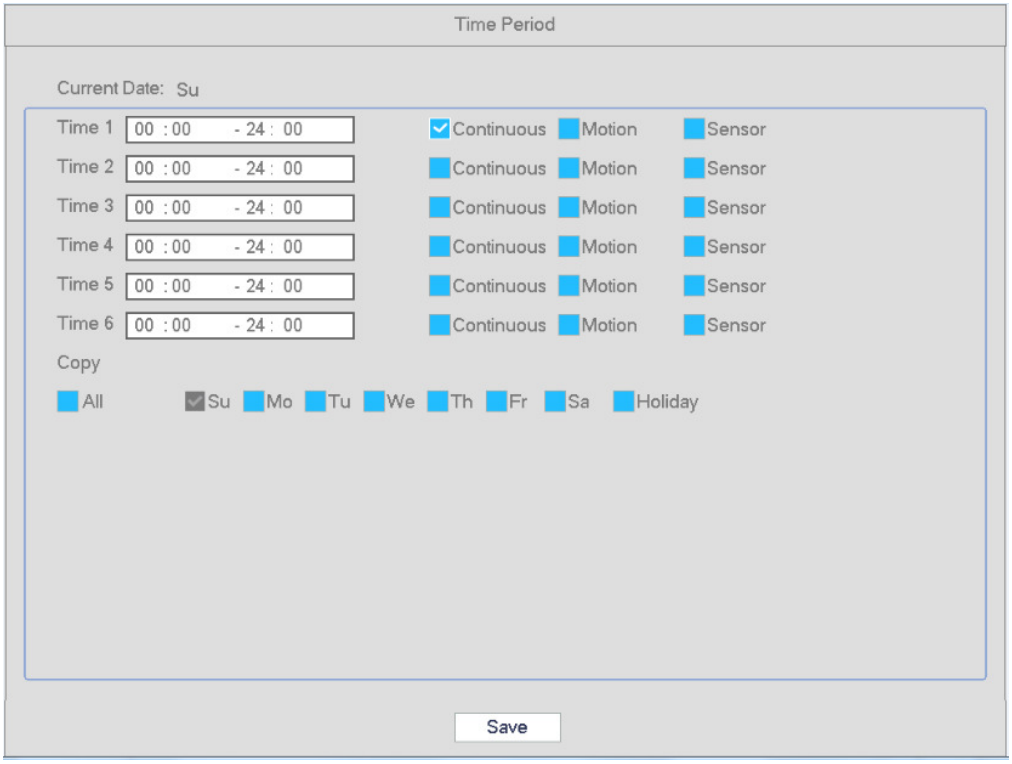


Figure 4-30

Quick Setup

Copy function allows you to copy one channel setup to another. After setting up a channel, click the Copy button to go to the interface shown in Figure 4-31. The current channel will be highlighted gray. Select the other channels to copy the settings into. Click the OK button to save. Then click the Apply button in the schedule interface.

Figure 4-31

4.6.2.2 Schedule Snapshot

Go to Main Menu->Setup->Storage->Record as shown in Figure 4-32.

Select the desired channels for snapshot and press Apply to save the setting.

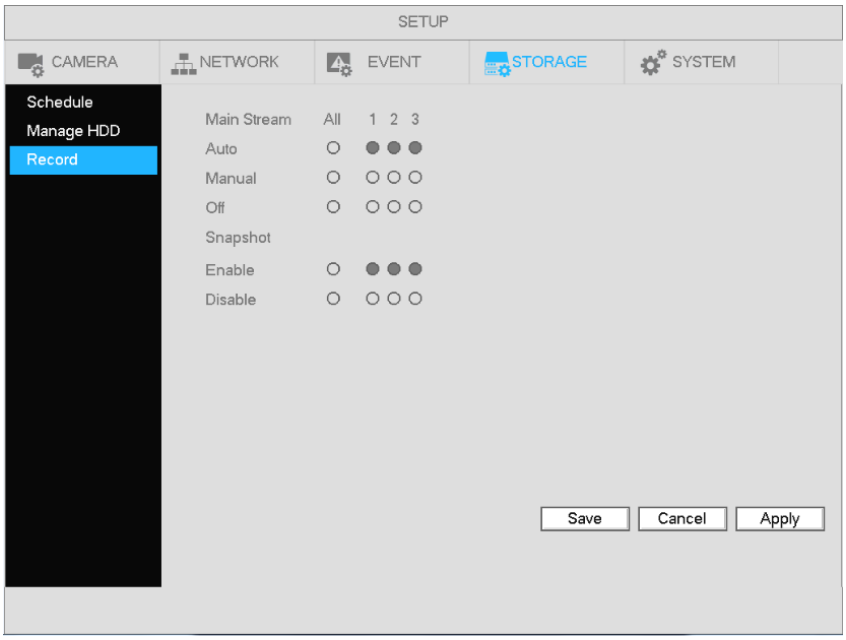


Figure 4-32

After snapshot recording is enabled, go to Main Menu->Setup->Camera->Stream->Snapshot, as shown in Figure 4-33.

Select the snapshot channel from the dropdown list and then select snapshot mode as Schedule. Then set picture size, quality and snapshot frequency.

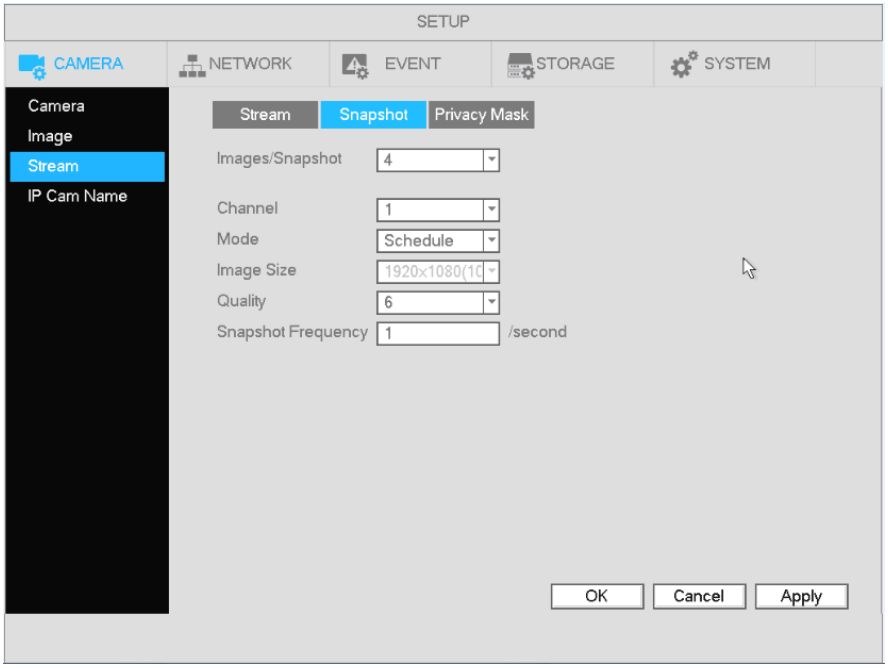


Figure 4-33

To set up the schedule for snapshots, go to Main Menu->Setup->Storage->Schedule. Refer to the screenshot below. Please refer to chapter 4.6.2.1 for detailed setup information.

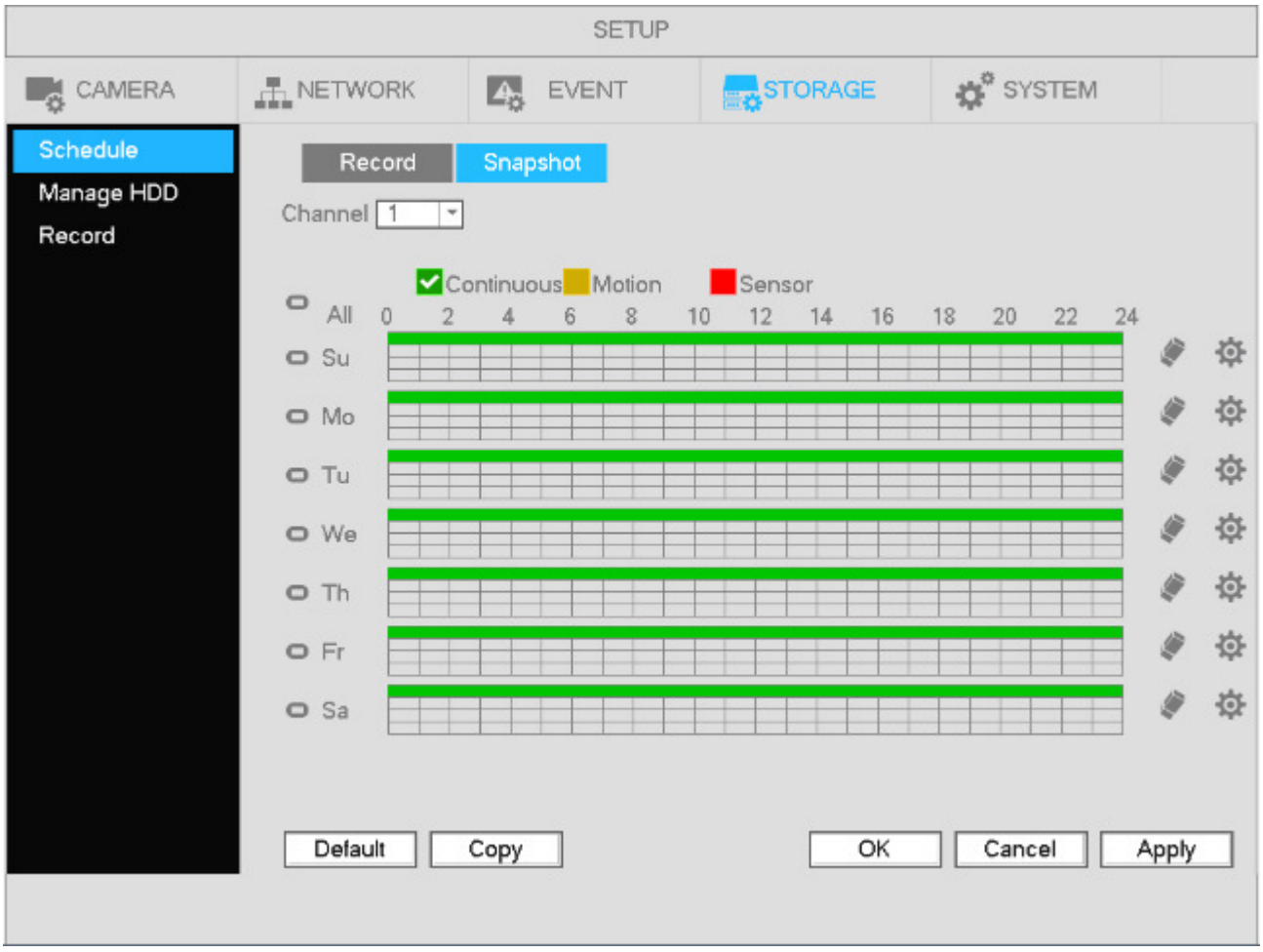


Figure 4-34

Note

- Please note that a snapshot for an event has higher priority than continuous. If both are enabled, the NVR will activate the event snapshot when an alarm occurs, and will just operate the continuous mode otherwise.

4.6.3 Motion detection

4.6.3.1 Motion recording

a) Go to Main Menu->Setup->Event->Video->Motion. See Figure 4-35.

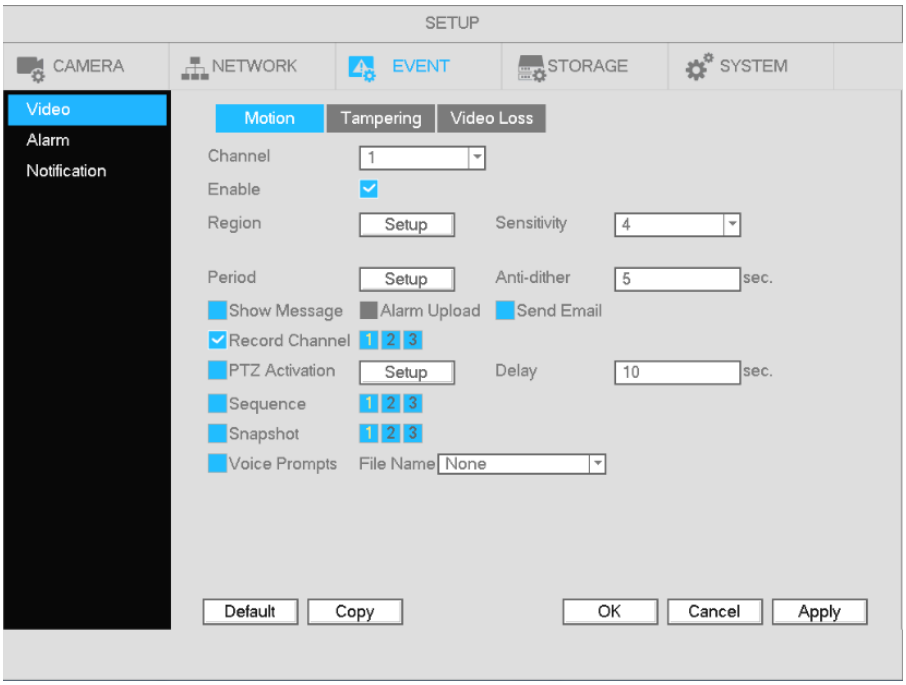


Figure 4-35

b) Select a channel from the dropdown list and then check the Enable box to enable motion detection.

c) Select the Region Setup button to set up the motion detection zone. Click and drag to identify the desired zones. Multiple areas within the window can be highlighted.

d) Period: Select the Period Setup button. The interface is shown below. Follow the same procedure as the general schedule setup. Note that a maximum of 6 separate periods can be specified for one day.

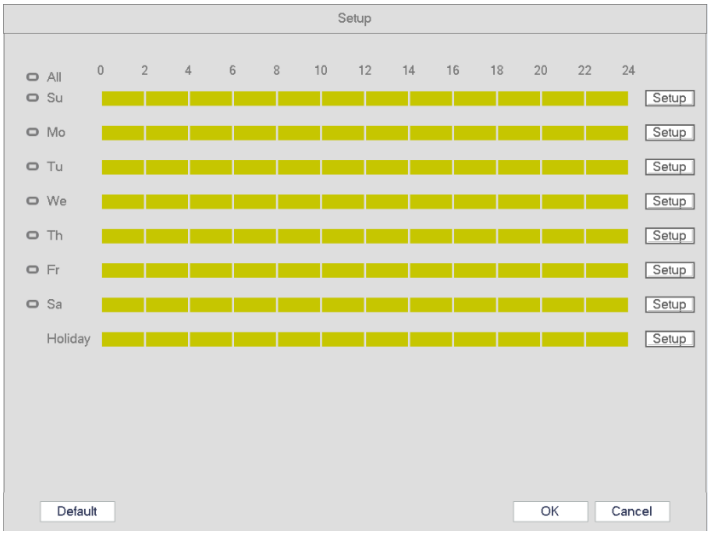


Figure 4-36

Figure 4-37

4.6.3.2 Motion Detection Snapshot

a) Go to Main Menu->Setup->Camera->Stream->Snapshot. See Figure 4-38.

b) Select the mode from the dropdown list and then set picture size, quality and snapshot frequency. Click Apply to save.

c) Set up motion detection type and channel as describe in the previous section 4.6.3.1.

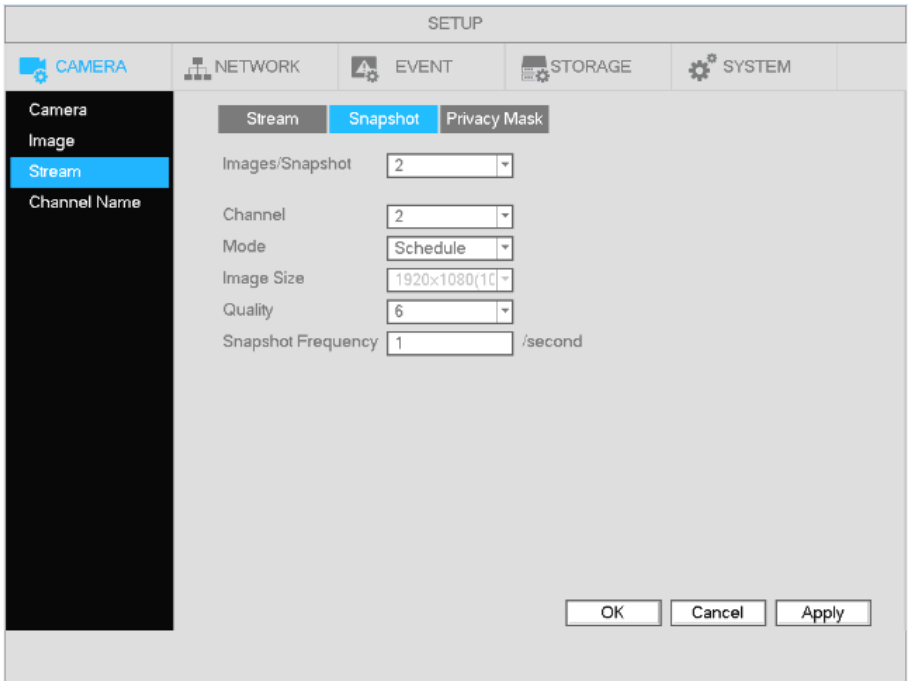


Figure 4-38

4.6.4 Alarm Recording/Snapshot

4.6.4.1 Alarm Recording

Go to Setup->Event-> Alarm for the alarm setup interface. See Figure 4-39.

- Select the desired channel.
- Alarm type: Two types are supported.
  - ✧ A sensor input can be connected to an IP camera to generate the event
  - ✧ If an IP camera loses connection with the NVR, the NVR can generate the event. The alarm can last until the connection resumes.
- Check the enable box to enable the function.
- Type: normally open or normally closed.

a) Click Apply to complete alarm setup.

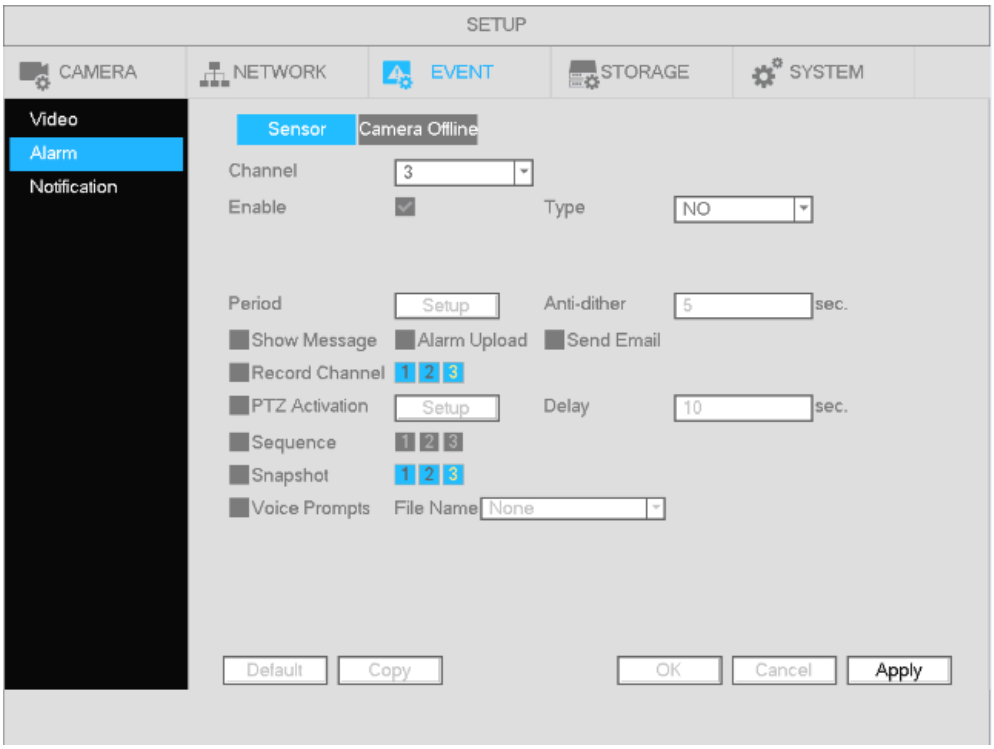


Figure 4-39

b) To setup a schedule for alarm recording, follow the same instructions as motion recording schedule, but choose Sensor instead of Motion.

4.6.4.2 Alarm Snapshot

a) Enable snapshot mode as shown in Figure 4-40.

b) Follow the same procedure as motion snapshots to set up the schedule.

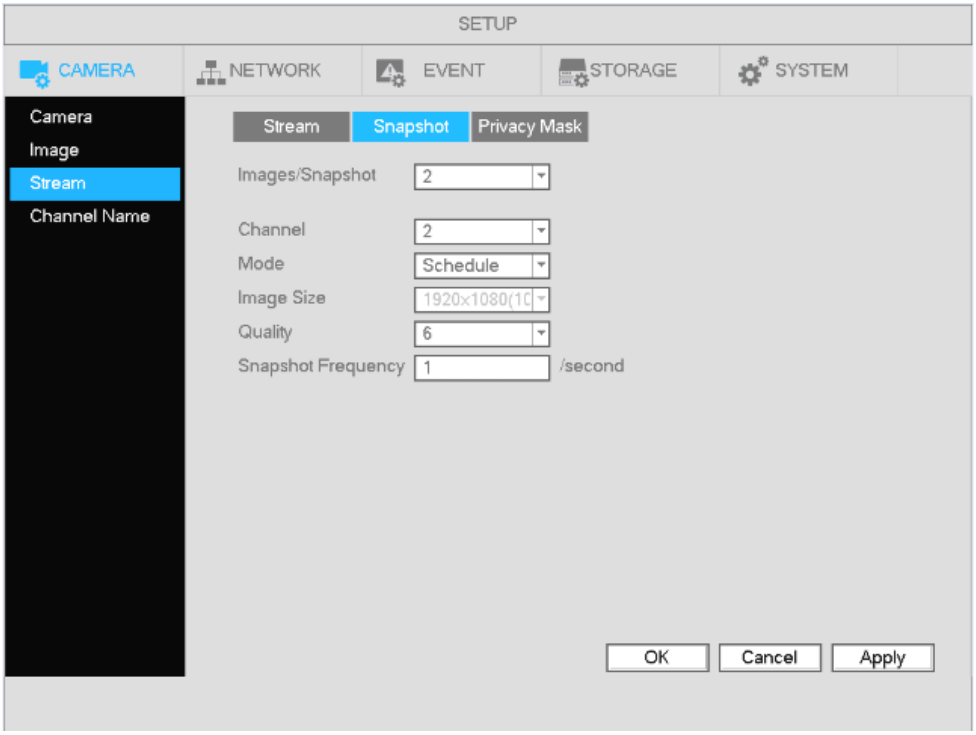


Figure 4-40

4.6.5 Manual Recording/Snapshot

4.6.5.1 Manual Recording

a) To enable manual recording, right click mouse and select manual record or in the main menu, from Setup->Storage->Record. See Figure 4-41.

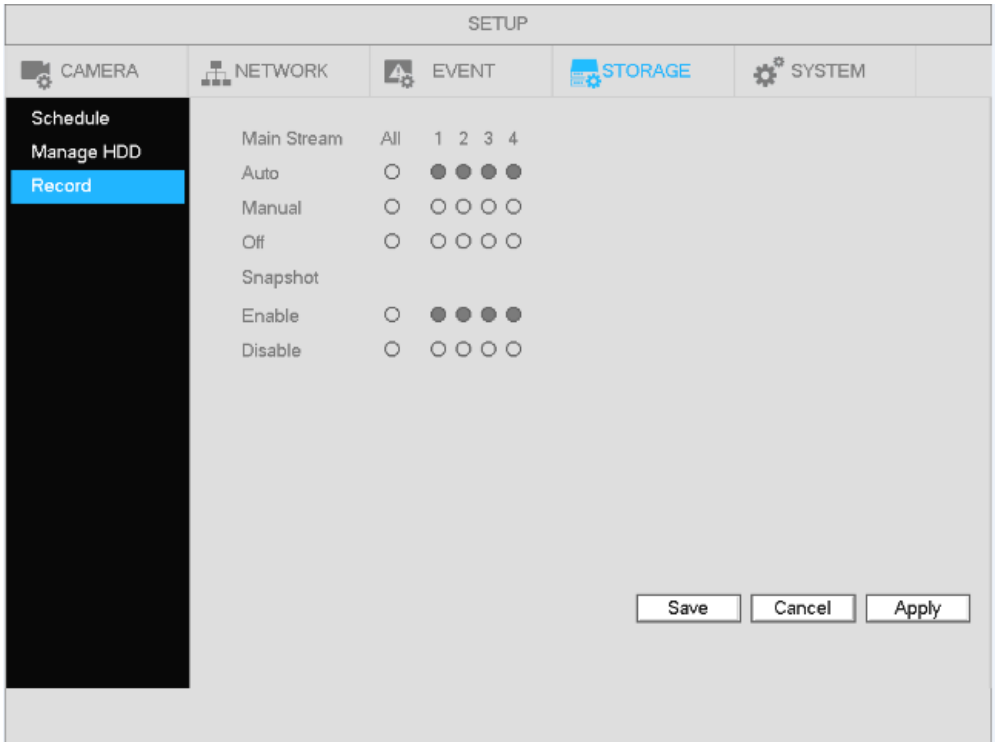


Figure 4-41

b) Check the boxes to select the channels for manual recording.

- Manual: The NVR will record the selected channels, regardless of the schedule.
- Auto: The NVR will record the selected channels based on the schedule setup.
- Stop: The NVR will not record the selected channels, regardless of the schedule.

4.6.5.2 Manual Snapshot

Click on the control bar in live view to manually take snapshots. The number of snapshots that are generated depends on the setting in Main Menu->Setup->Camera->Stream->Snapshot.

4.6.6 Holiday Recording

The NVR can be set up for recording on a holiday. Holidays are manually added. Please set up the holiday schedule as needed. Note that holiday recording/snapshot setup has a higher priority than regular schedule setup.

a) Go to Main Menu->Setup->System->General->Holiday as shown in Figure 4-42.

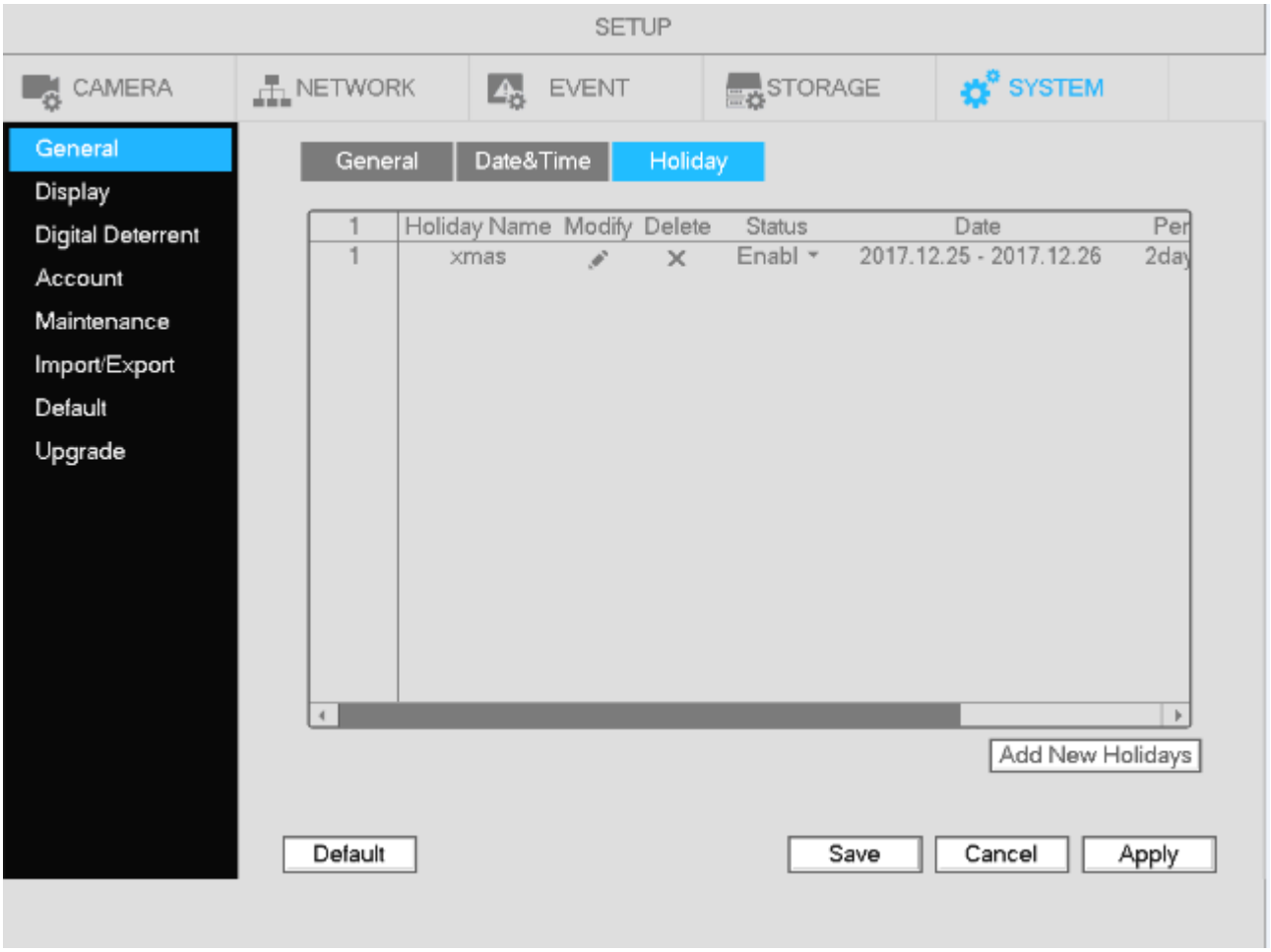


Figure 4-42

b) Click Add New Holidays, to bring up the interface shown in Figure 4-43. Here you can set the holiday name, repeat mode, and the date range.

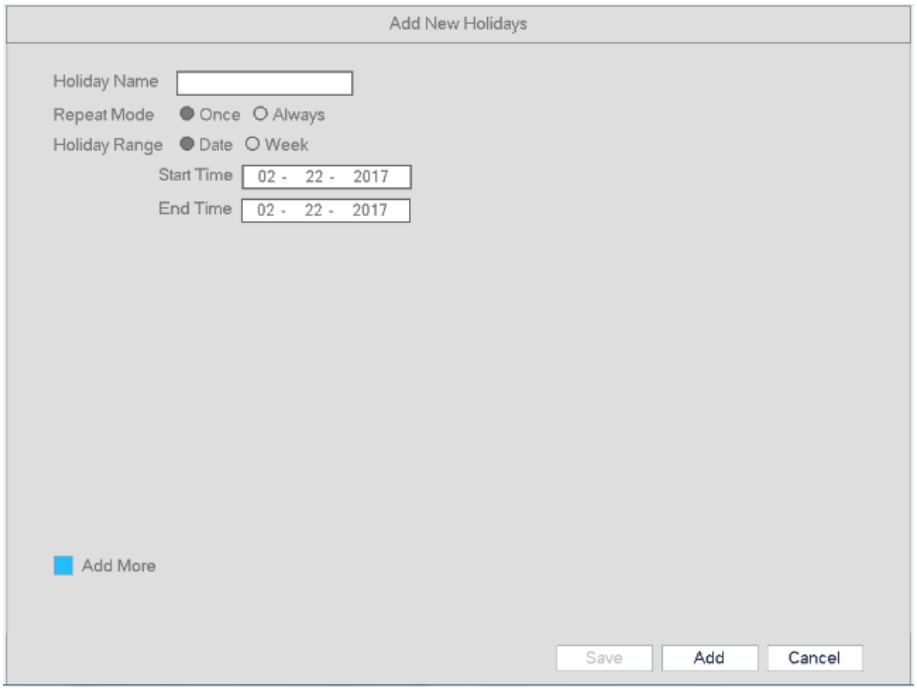


Figure 4-43

c) Click Add to complete the holiday setup.

d) Make sure to set up for holiday recording within the schedule setup as shown below.

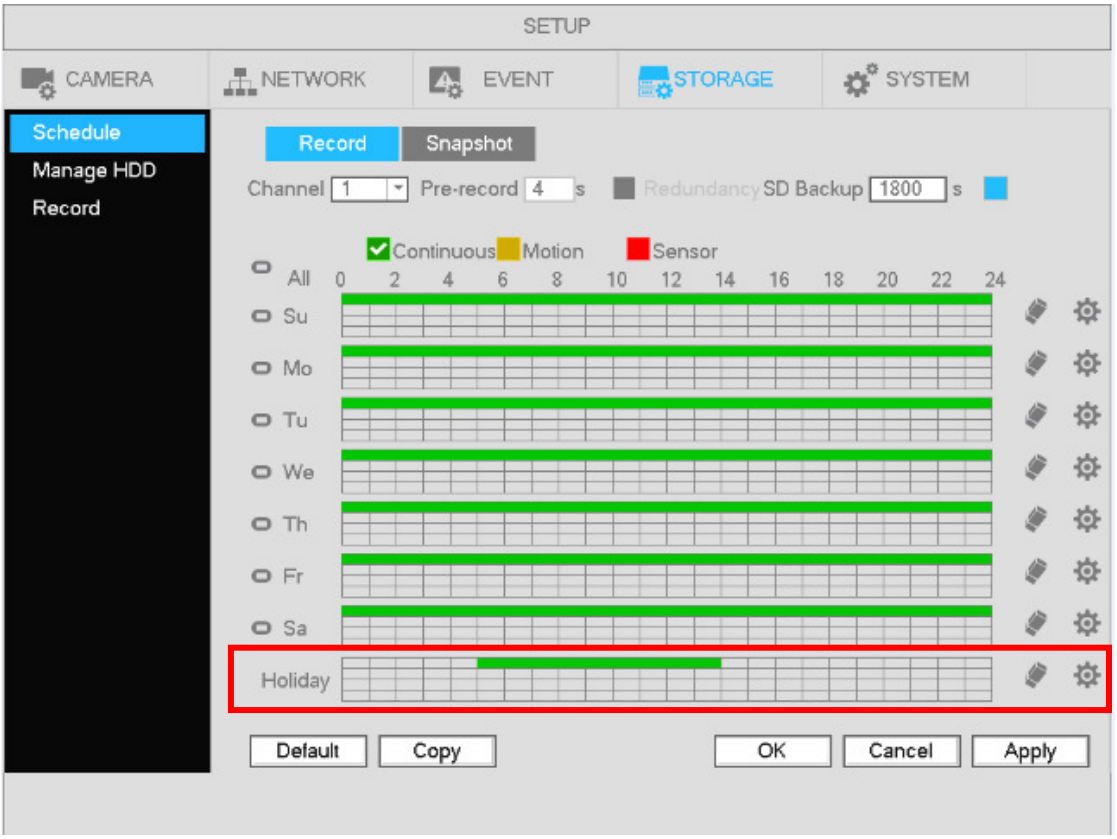


Figure 4-44

4.7 Playback and Search

4.7.1 Instant Playback

The NVR supports instant playback on any channel during live view. On any channel, hover the mouse pointer near the top of the channel display to bring up the pop-up menu. Select the left-most icon to start instant playback.

4.7.2 Search Interface

To start playback, go to Main menu->Search, or right click and then select Search from the live view screen. See Figure 4-45 for the playback interface.

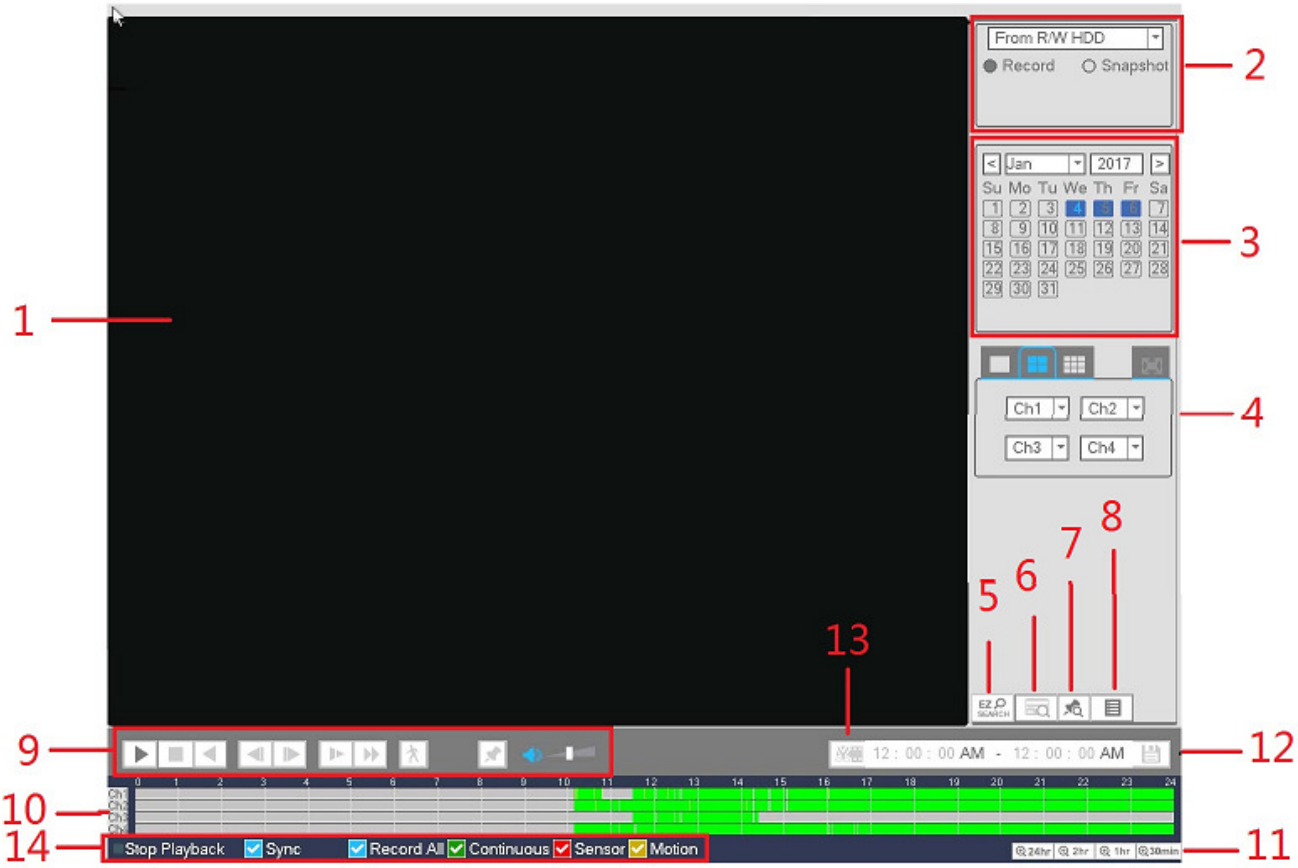


Figure 4-45

Please refer to the following table for more information.

SN	Name	Function
1	Channel Display	● Displays camera channels for playback. ● Supports 1/4/8 channel views.
2	Search type	● Select video recording or snapshot for playback. ● Select the internal HDD or an external storage device to search for recordings.
3	Calendar	● Dates highlighted in blue means that there are recordings for those days.
4	Channel selection	● Playback mode：1/4/8 channel views. ✧ In single window mode: select the desired channel to view. ✧ In 4-channel mode: select the 4 channels to view. ✧ In 8-channel mode: all channels will be displayed.
5	EZ search	Displays thumbnails at time intervals (every hour and then every 2.5 minutes). Select the desired time to start playback for the chosen channel. **Note that EZ Search can operate only in single-channel mode.**
6	Card record	N/A for the NXL series
7	Bookmark pin list	Displays the bookmark pin list of the chosen channel.
8	Recorded file list	● Click to view the file list of the selected date and channel ● The duration of the files correspond to the value of “Pack Duration” that is set in Setup->System->General. ● Maximum of 128 files can be displayed at once. Double click on a file to start playback. ● Enter a time in the following search box to start playback for a specific time. ● File types that can be listed：C—continuous recording； S—sensor recording； M—Motion recording. ● File lock: Check the box the file to lock and then click the file lock button . A locked file cannot be overwritten. ● Search locked file: Click the button to view locked files. ● Return: Click , to return to the calendar and channel setup interface. **Note**: ● A file that is currently being written and has not finished the pack duration period cannot be locked.

9	Playback control	►/ ⏸	Play/Pause There are three ways begin playback. ● Play button ● Click on the applicable channel and time in the time bar. ● Click on a file in the file list. When in slow play mode, click the play/pause button to resume playback at normal speed
		■	Stop
		◄	Rewind Press once to start rewind. Press again to pause. Click play/pause to restore normal playback.
		⏮/ ⏭	When paused, press to play the next or the previous frame.. Press ►/⏸ to restore normal playback.
		▶·	Slow play In playback mode, press to start slow play. Supported speeds are 1/2x, 1/4x, 1/8x, and 1/16x.
		⏩	Fast forward Supported speeds are 2x, 4x, 8x, and 16x.
			Audio volume for recorded audio
			Pin button.
10	Time bar	● Displays the record type and the time period for the selected date. ● In 2x2 mode, there are four separate time bars for each channel that's selected. In other playback modes, there is only one time bar. ● Color schemes for the different recording modes are: green for continous, yellow for motion, and red for sensor.	
11	Time bar unit	• The options are: , , , . Press an option to divide the entire time bar over the selected time period. Use this option to quickly choose a time slot for playback more accurately.	
12	Backup	● Select the file(s) to backup from the file list. Then click the backup button, which will then bring up the backup menu. Make sure that a USB flash drive or HDD is inserted in the USB port. Select or create new folder and then click the Backup button to begin the backup operation.	
13	Clip	This function is for editing a file with a specified time period and backing it up. ● Press to start the file to edit. ● Select the clip start time on the time bar and then press .	

		• Select the clip stop time on the time bar and then press again. • Press to bring up the backup menu. Please note: • **A maximum of 1024 files can be backed up at the same time.** • **The clip operation will not work if any files have been checked in the file list.**
14	Record type and Sync	Select which recording modes are shown on the time bar (continuous, motion, sensor). Sync enables all channels to play back at the same exact time period. If Sync is unchecked, each channel can play back recordings at different times.
Other Functions		
	Digital zoom	When full-screen playback mode, click and drag to select a section and then left click to digitally zoom in. Right click to exit digital zoom.

4.7.2.1 File list

To see the list of recorded files go to the file list interface. Enter a time at the top right corner to search the records by time. See image on the left side of Figure 4-46. For example, enter 11:00.00 and then click the search button to view all recorded files after 11:00.00. See image on the right side of Figure 4-46. Double click a file to start playback.

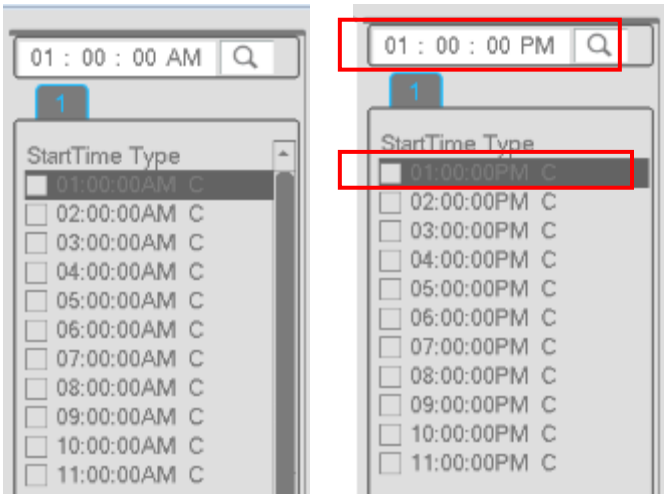


Figure 4-46

4.7.2.2 Bookmark Pins

During playback, a bookmark pin can be added to mark an important clip. The pin list can be retrieved from the playback screen

- Add Pin

During playback, click the button to go to the following interface. See Figure 4-47. Add a name for the event and press OK.

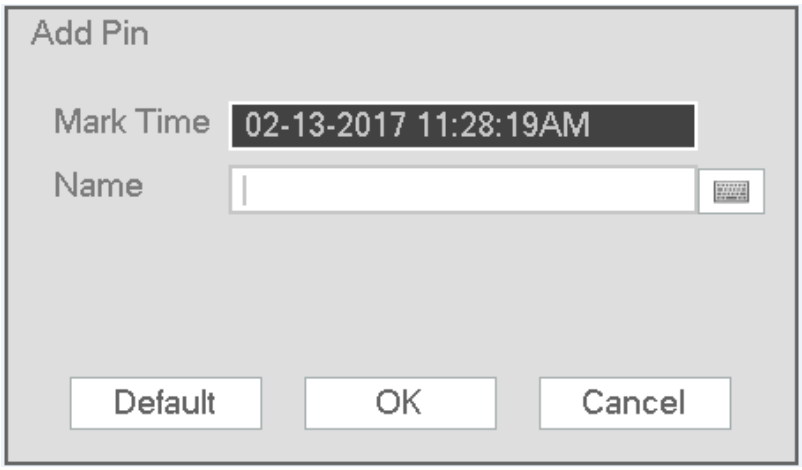


Figure 4-47

- Playback Mark

In single-channel mode, click the Pin Event List button to go to the list interface. Double click on a file to begin playback.

- Bookmark Pin Manager

Click the button on the Search interface to go to the Manager interface. See Figure 4-48.

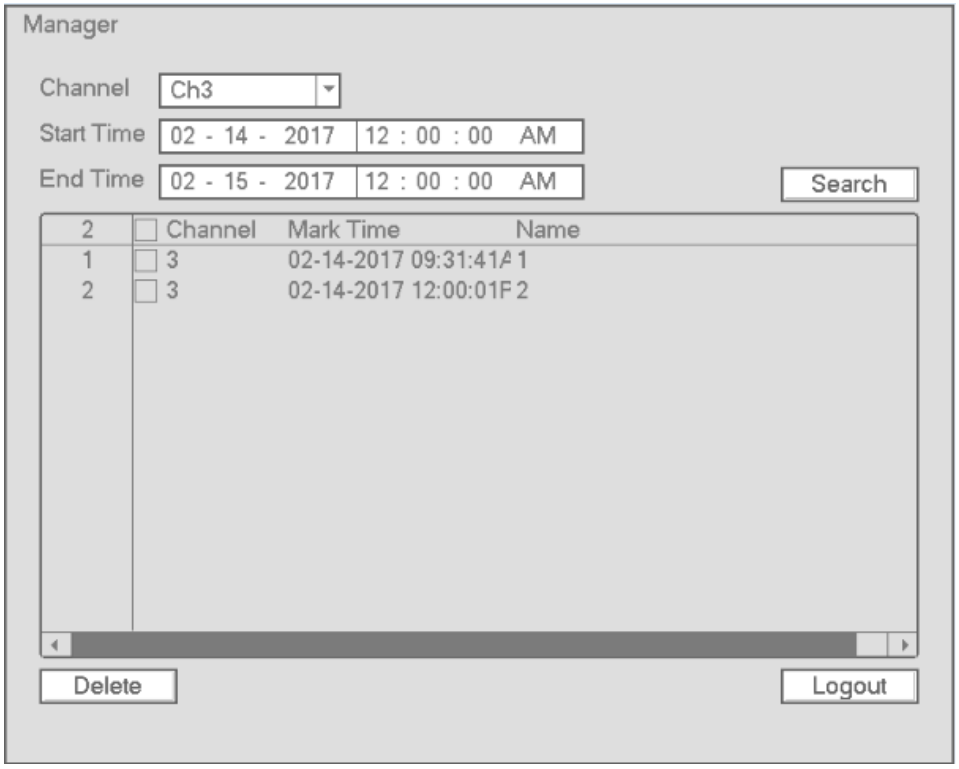


Figure 4-48

- Modify

Double click on an item, which will bring up a dialogue box to modify the pin name.

- Delete

To remove a pin, check the box of a pin and then press Delete.

4.7.3 Snapshot Playback

a) To view recorded snapshots, in the search interface, select Snapshot in the top right section and the interval

4.8 Export

4.8.1 File Backup

In this interface, you can backup to a USB device.

a) Connect a USB flash drive or an external HDD to a USB port on the unit.

b) Go to Main menu->Export as shown in Figure 4-49

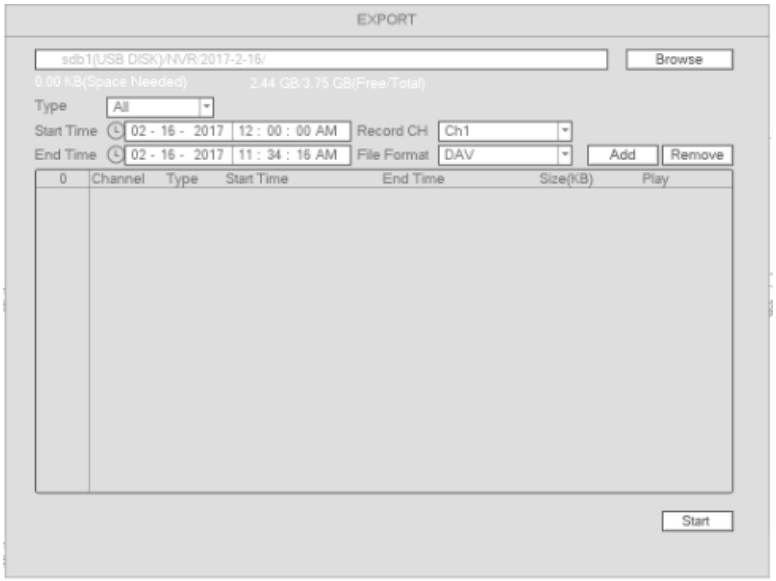


Figure 4-49

c) Select the backup device and then select the channel along with the file start time and end time.

d) Click Add and the system will begin the search. All matched files will be listed. System automatically calculates the required and remaining capacity. See Figure 4-50.

e) System will only backup files with the checkbox enabled before the channel name.

f) When the system completes backup, there will be a prompt indicating successful operation.

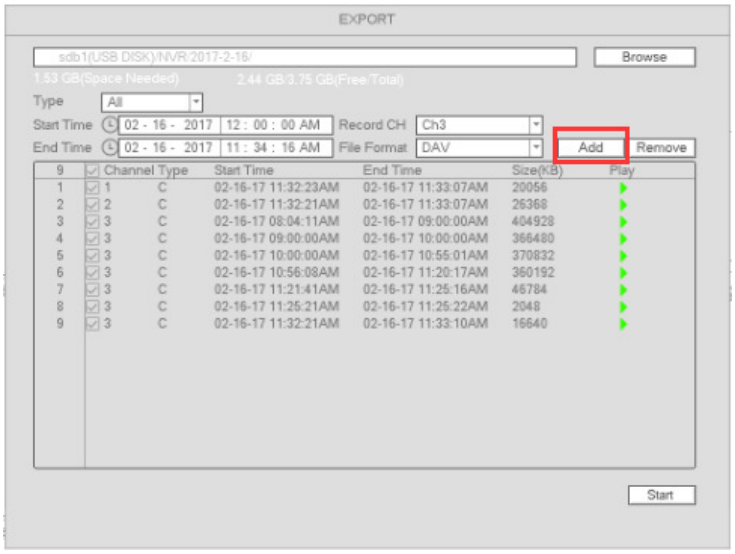


Figure 4-50

Note

- During the backup process, click on ESC to exit the current interface. However, the system will not terminate the backup process.
- The file name format is: Channel number+Record type+Time. In the file name, the date format is Y+M+D+H+M+S. File extension is .dav.

4.8.2 Import/Export

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

In Main menu->Setting->System->Import/Export, the configuration file backup interface is shown as below. See Figure 4-51.

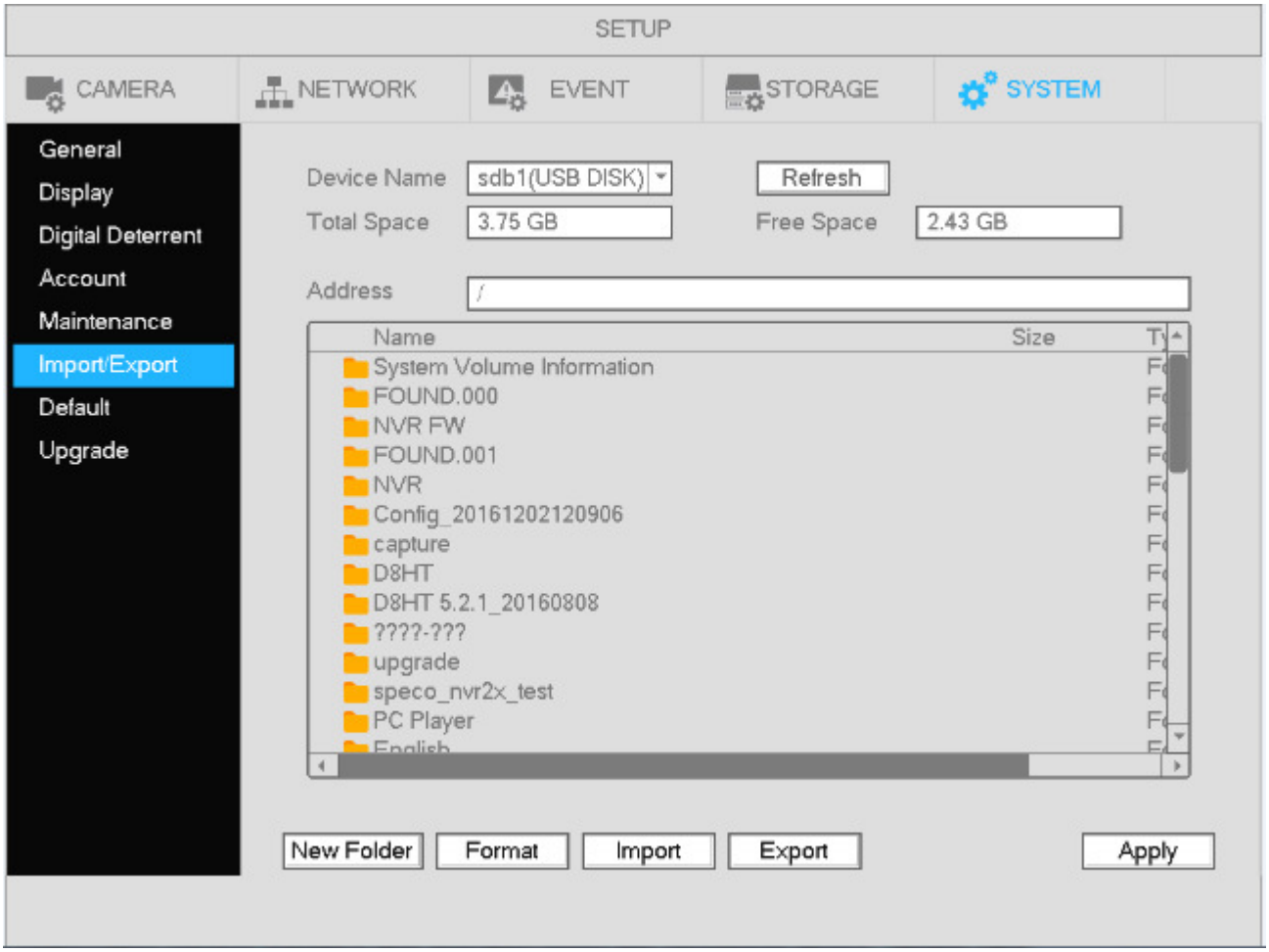


Figure 4-51

- Export: Please connect the USB backup device first and then go to the interface. Click Export and then there will be a corresponding “Config_Time” folder. Double click the folder to view the backup configuration files.
- Import: Use this function to import the configuration files from a USB device to the unit. You need to select a folder first. The system will pop up a prompt if there is no configuration file under the selected folder. After a successful import, the system will reboot to activate the new setup.

Note:

- System will not open the config backup interface again if there is a backup operation already in process.
- System refreshes the device every time when you go to the config backup and sets 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 the Refresh button to see the newly added device.

4.8.3 Backup Log

a) Go to Main menu->Info->Log as shown in Figure 4-52.

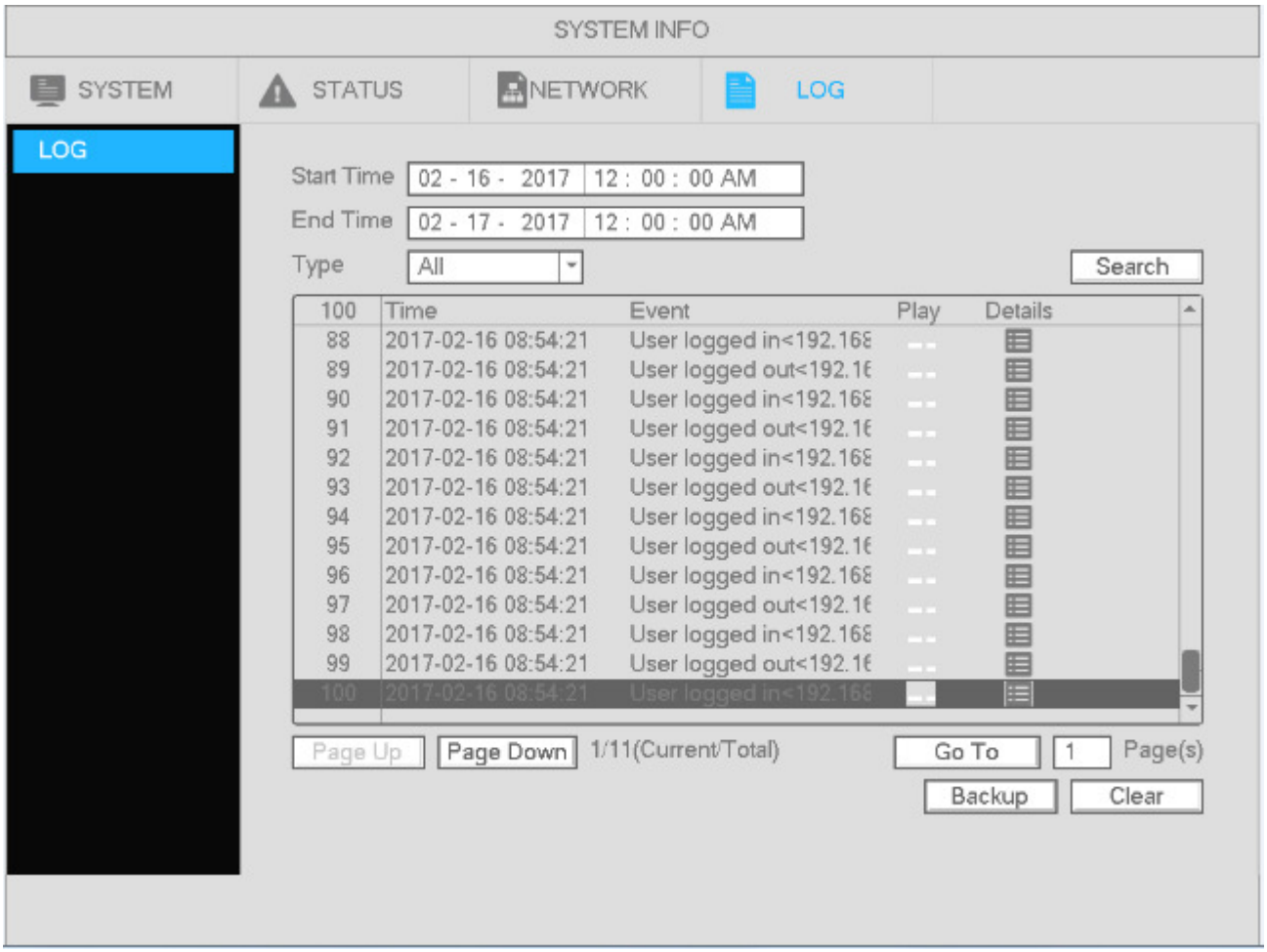


Figure 4-52

b) Select the log type under the drop-down menu and then set the start time/end time. Click Search to see log time and event information. Click to view detailed log information.

c) Select log items you want to save and then click the backup button. Select a folder to save the items to. Click Start to backup.

4.8.4 USB Device Auto Pop-up

When a USB device is inserted, the system can auto detect it and pop up the following interface. It allows you to conveniently backup files, log, and configuration or update the system firmware.

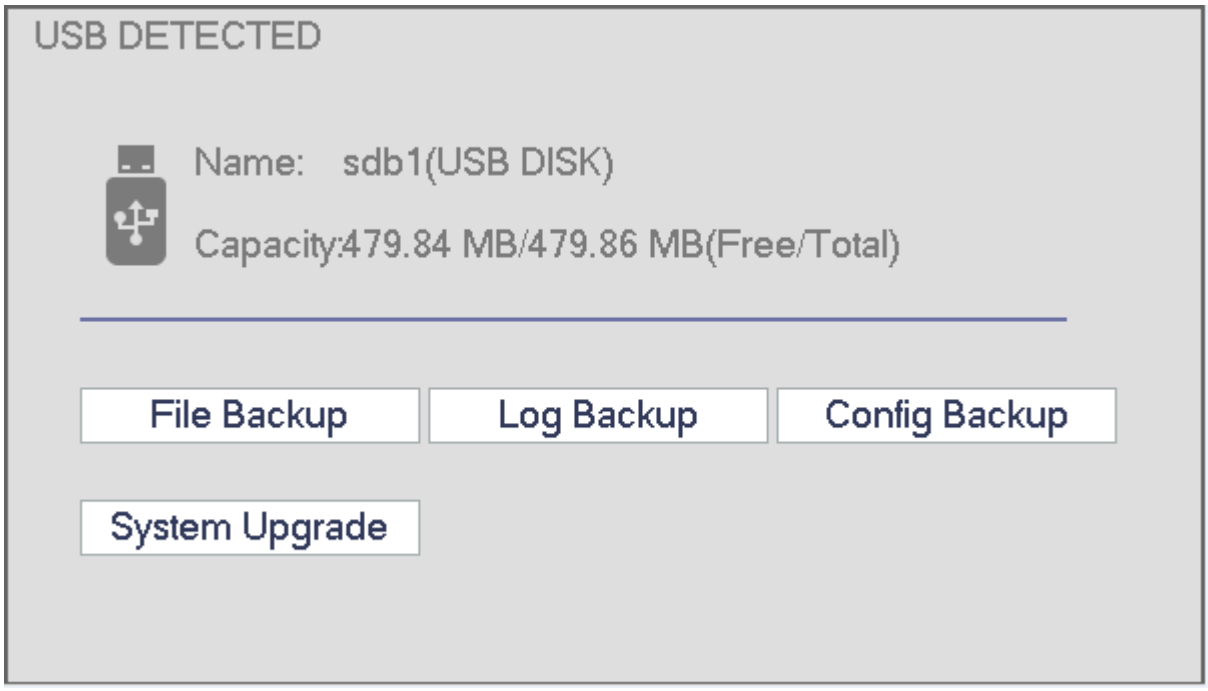


Figure 4-53

4.9 Alarm

4.9.1 Alarm Detection

See Figure 4-54 4-55. There are three detection types: motion detection, tampering, and video loss.

4.9.1.1 Motion Detection

Motion setup interface is shown in Figure 4-54

- Event type: Choose the Motion tab at the top
- Channel: Select a channel from the dropdown list to configure for motion
- Enable: Check the box here to enable motion detection for the selected channel.
- Region: Click the Setup button to set up the motion detection zone. Click and drag the mouse to define the zone and right click to exit.
- Sensitivity: The highest value is the most sensitive. This determines how easily motion alarm will be triggered.
- Anti-dither: This determines how long the motion alarm lasts. The maximum value is 600 seconds. For example, if the value is set to 10 seconds, the motion alarm will last for 10 seconds even if the actual motion event only lasts for a couple of seconds.
- Period: This is to set the motion detection schedule.
- Show message: System can pop up a local notification window when a motion event occurs.
- Alarm upload: System can upload the alarm signal to the network.

- Send email: System can send out a notification email when a motion event occurs.
- Record channel: Select the channel to record to once a motion event occurs.
- PTZ activation: PTZ cameras that are on the unit can be set to go to a specific preset when a motion event occurs.
- Delay: This is the post record time. The system can continue to record for the duration of the time that's specified after the motion alarm has ended. The value ranges from 10s to 300s.
- Sequence: Choose which channels that the unit will sequence through when a motion event occurs.
- Snapshot: Take a snapshot of the chosen channels when a motion event occurs.
- Voice Prompts: Select an audio file to play when a motion event occurs. Files must be added first through System->Digital Deterrent.

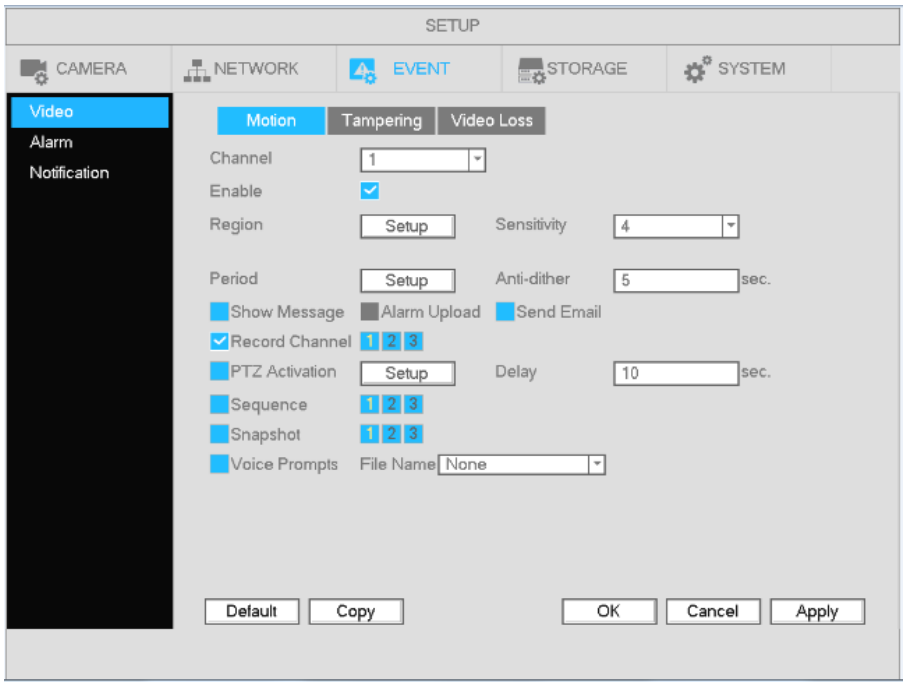


Figure 4-54

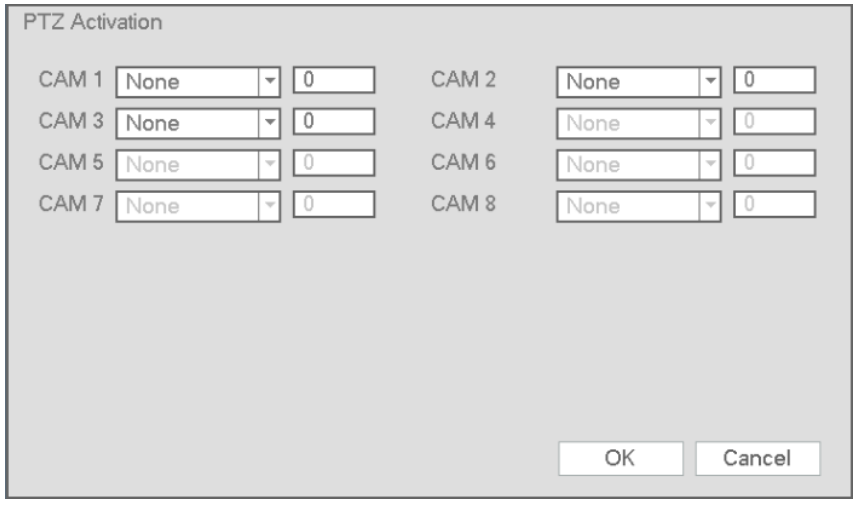


Figure 4-55

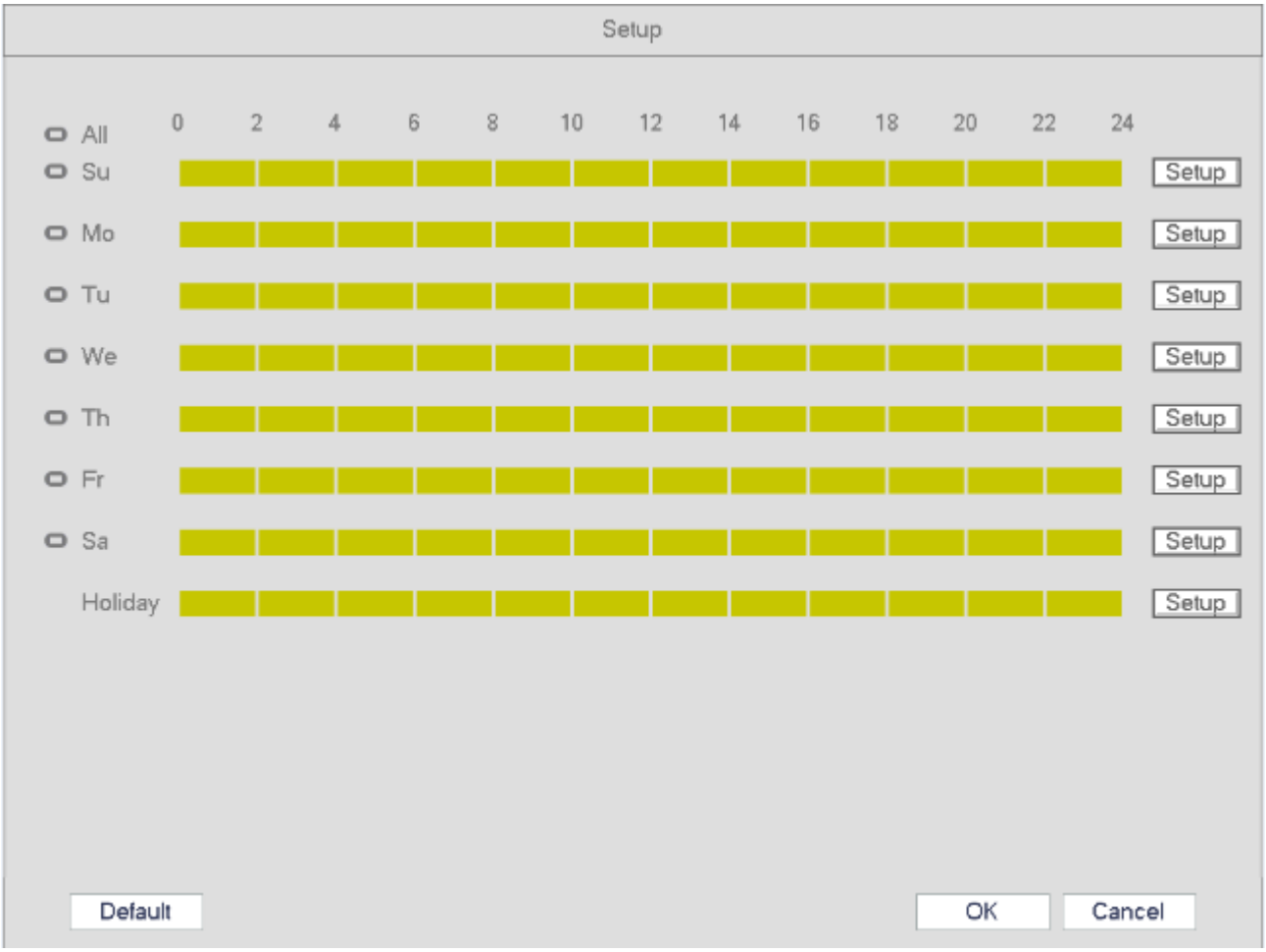


Figure 4-56

Figure 4-57

4.9.1.2 Tampering

Note: This function is supported only for cameras that include a tampering detection function.

When a camera is tampered with (lens masking, color change, etc), the system can alert you to guarantee video continuity. Tampering setup interface is shown in See Figure 4-58.

- Sensitivity: The value range is from 1 to 6. Sensitivity is mainly related to brightness in the image.

Note:

- During tampering detection, motion detection and video loss functions are not active.

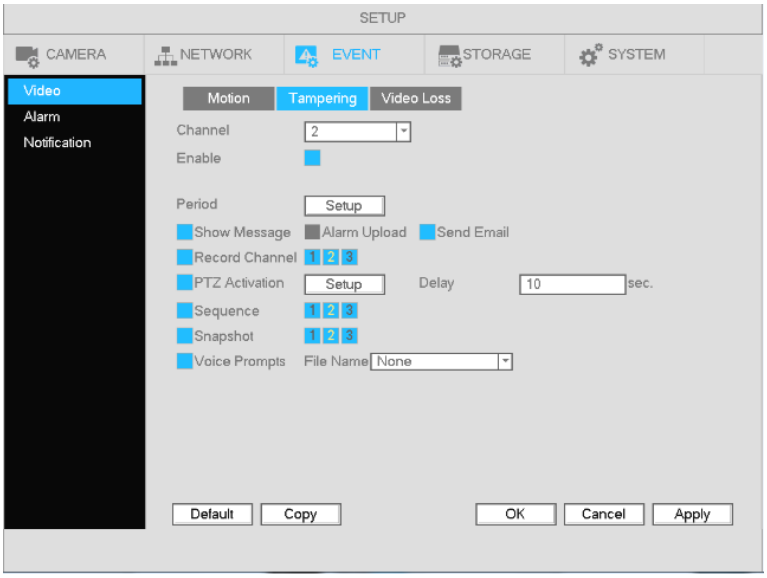


Figure 4-58

4.9.1.3 Video Loss

Note: This function is supported only for cameras that include a video loss detection function.

In Figure 4-54, select the video loss tab. The interface is shown in Figure 4-59. This function allows you to be notified when video loss occurs.

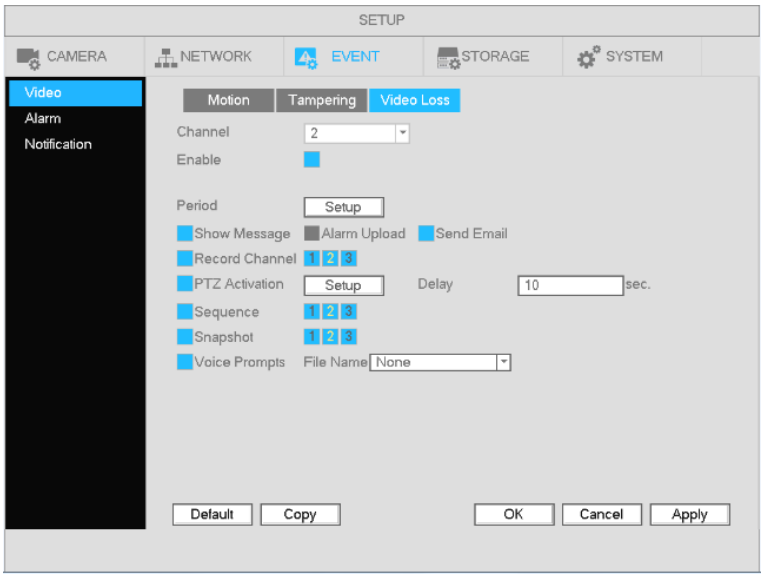


Figure 4-59

4.9.2 Notification

There are two types: Disk/Network.

- ✧ HDD: HDD error, no HDD, no space. See Figure 4-60.
- ✧ Network: Disconnect, IP conflict, MAC conflict. See Figure 4-61.

- Show message: system can pop up the message in the local screen to alert you when an alarm event occurs.
- Send email: System can send out an email notification to alert you when an alarm event occurs.
- Voice Prompts: Select an audio file to play when a motion event occurs. Files must be added first through System->Digital Deterrent.

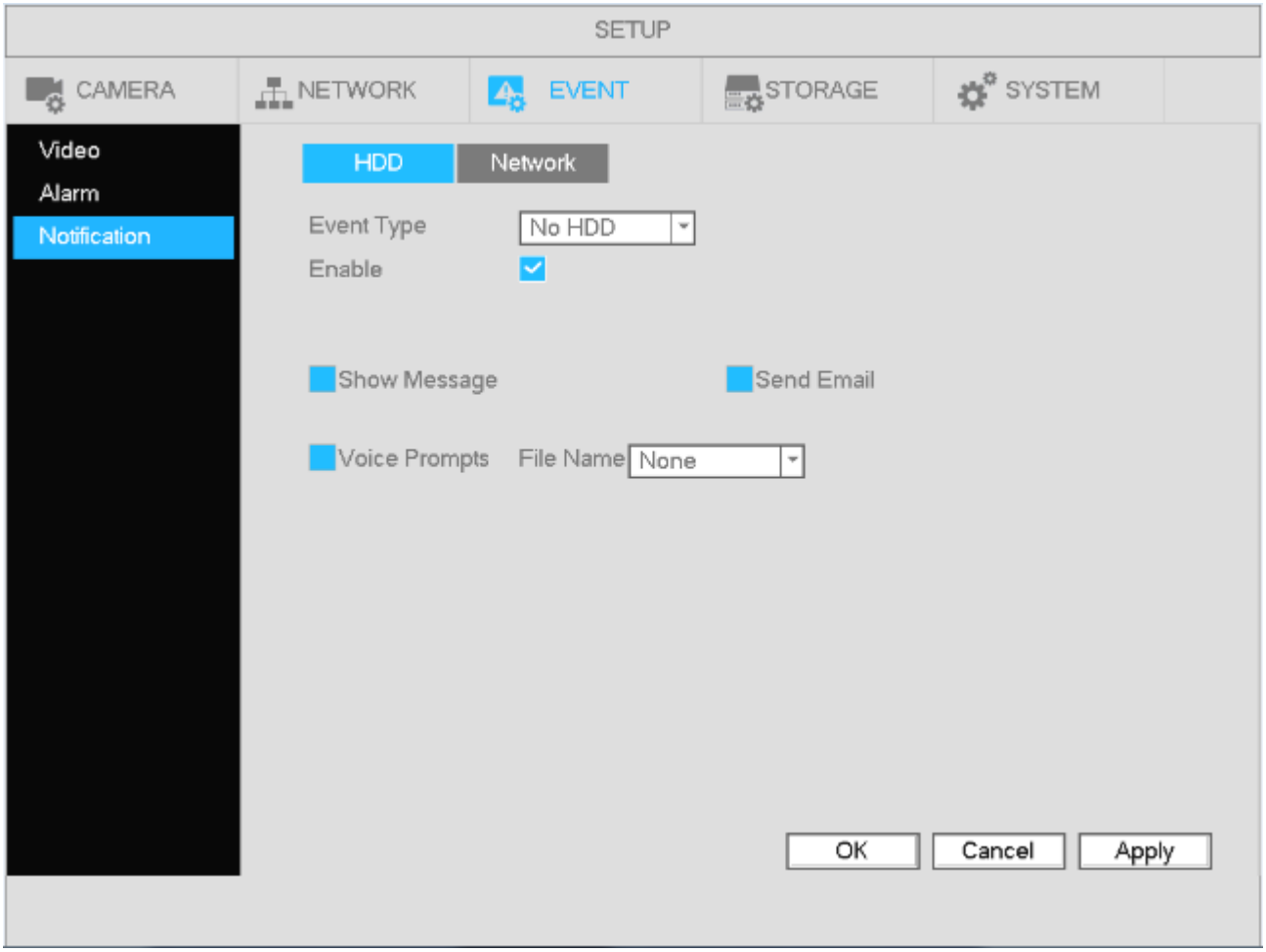


Figure 4-60

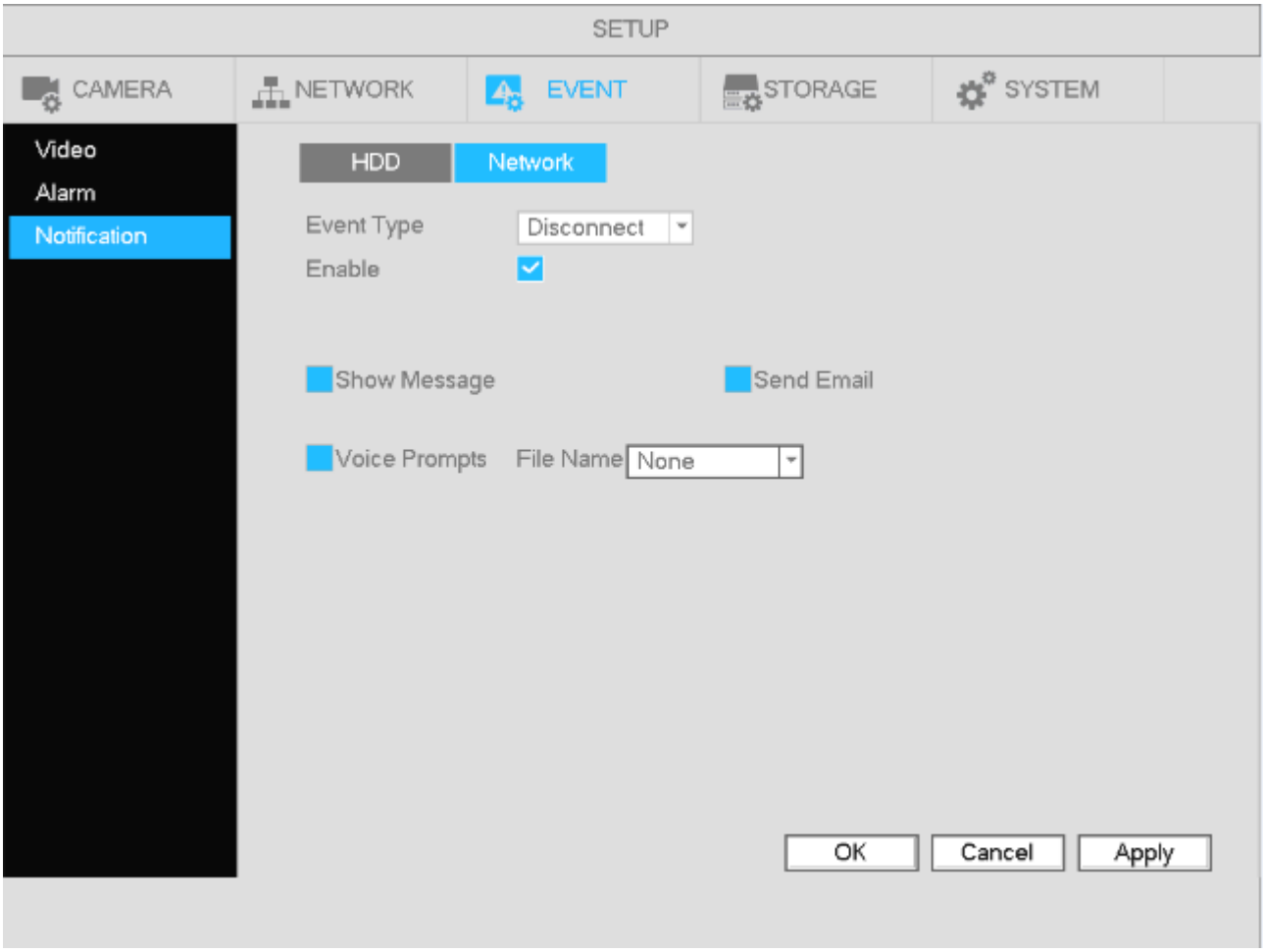

SETUP
CAMERA
NETWORK
EVENT
STORAGE
SYSTEM
Video
Alarm
Notification
HDD
Network
Event Type
Disconnect
Enable
Show Message
Send Email
Voice Prompts
File Name
None
OK
Cancel
Apply

Figure 4-61

4.10 Network

4.10.1.1 TCP/IP

The interface is shown in Figure 4-62.

- IP Version: IPv4 and IPv6 are supported.
- MAC address: Shows the MAC address of the unit.
- IP address: Shows the current IP address. If DHCP is disabled, a static IP address can be entered here.
- Default gateway: Shows the current gateway. If DHCP is disabled, a gateway can be entered manually. Note that the IP address and the default gateway must be in the same subnet.
- DHCP: If this option is enabled and the unit is on network with DHCP capability, the unit will automatically have an IP address assigned.
- MTU: This sets the MTU value of the network adapter. This determines the maximum size of a packet in any transmission. The value can range from 1280-1500 bytes. The default value is 1500. The following MTU values are for reference only.
  - ✧ 1500: Ethernet information packet max value and also the default value. This is the typical setup when there is no PPPoE or VPN. It is the default setup of some routers, switches, and network adapters.
  - ✧ 1492: Recommend value for PPPoE.
  - ✧ 1468: Recommend value for DHCP.
- Preferred DNS server: DNS server IP address.
- Alternate DNS server: DNS server alternate address.
- LAN download: If the PC and the NVR are on the same local network, when downloading recordings to the PC, this option will speed up the download. The download speed is 1.5X or 2.0X of the normal speed.

After completing setup, click the save button and the system will return to the previous menu.

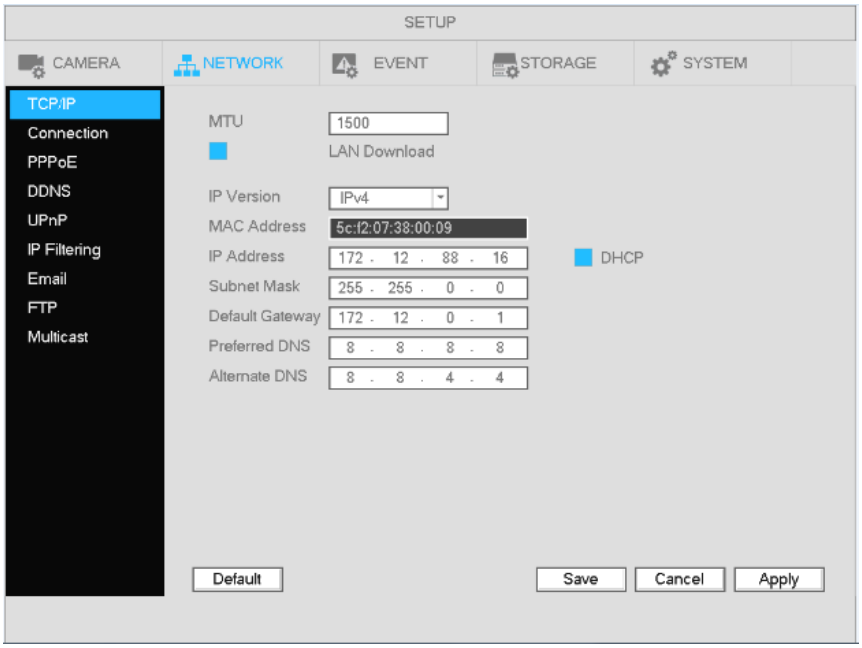


Figure 4-62

4.10.1.2 Connection

The connection setup interface is shown in Figure 4-63.

- Max connection: system supports a maximum of 128 users. Performance varies depending on the network bandwidth.
- TCP port: Default value is 37777.
- UDP port: Default value is 37778.
- HTTP port: Default value is 80.
- HTTPS port: Default value is 443.
- RTSP port: Default value is 554.

Important: System will reboot after any of the above ports are changed. Please make sure the port values do not conflict.

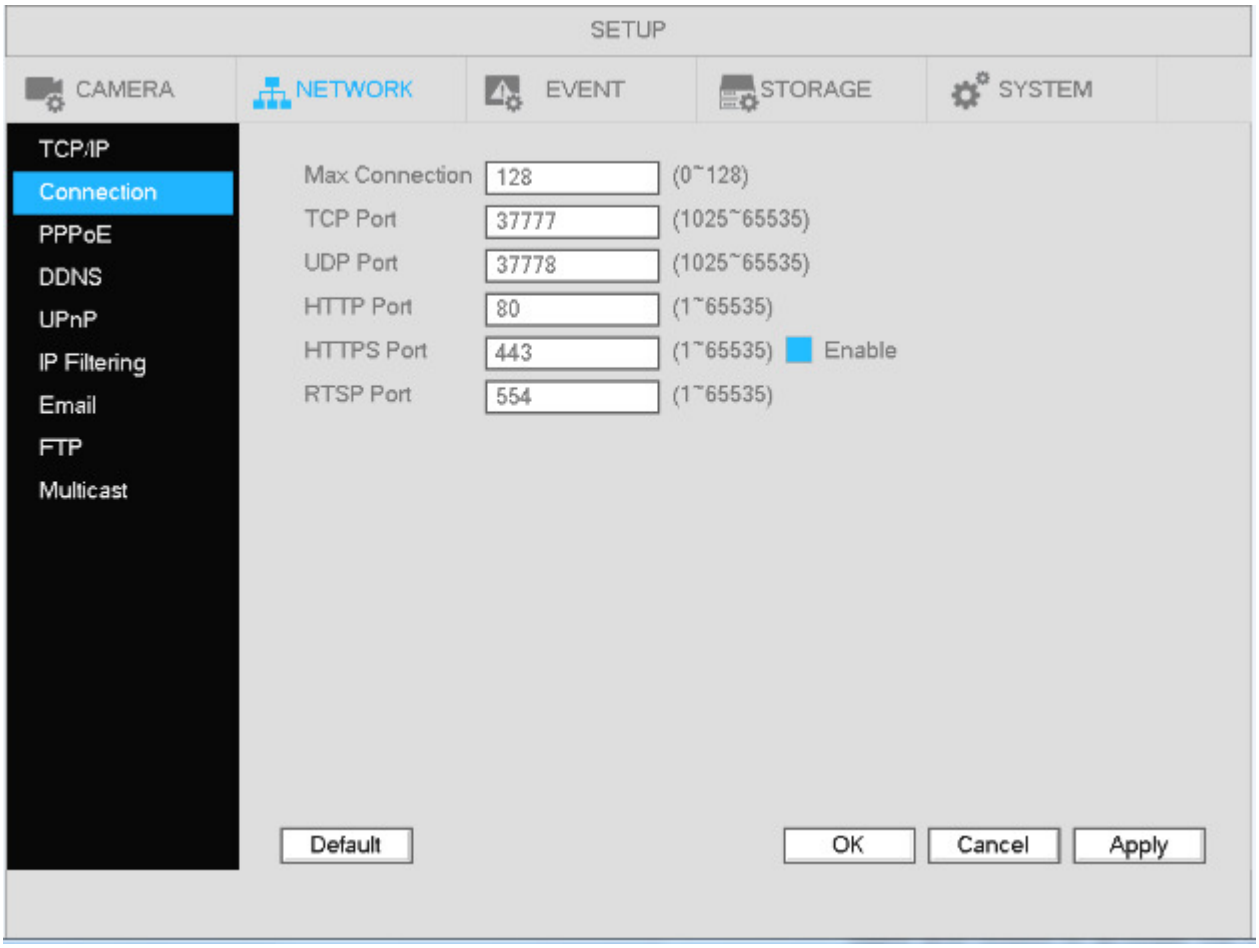


Figure 4-63

4.10.1.3 PPPoE

PPPoE interface is shown in Figure 4-64.

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

Save and reboot to activate the configuration.

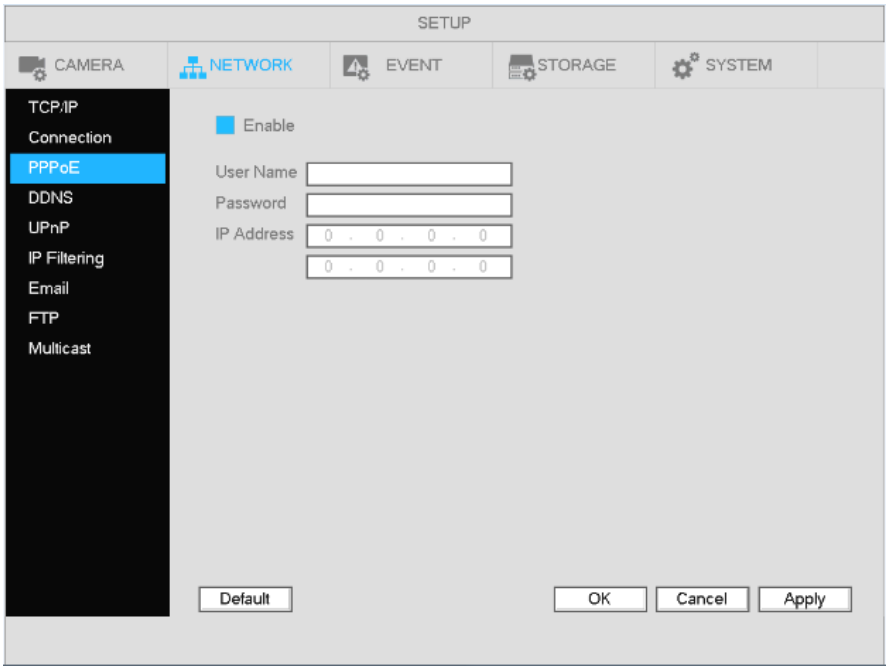


Figure 4-64

4.10.1.4 DDNS

DDNS setup interface is shown in Figure 4-65.

Check the Enable box and click on Apply. The DDNS address will be “specoXXXXXX.specoddns.net” with “XXXXXX” being the last 6 digits of the unit’s MAC address. When connected, the status field will show “connected”.

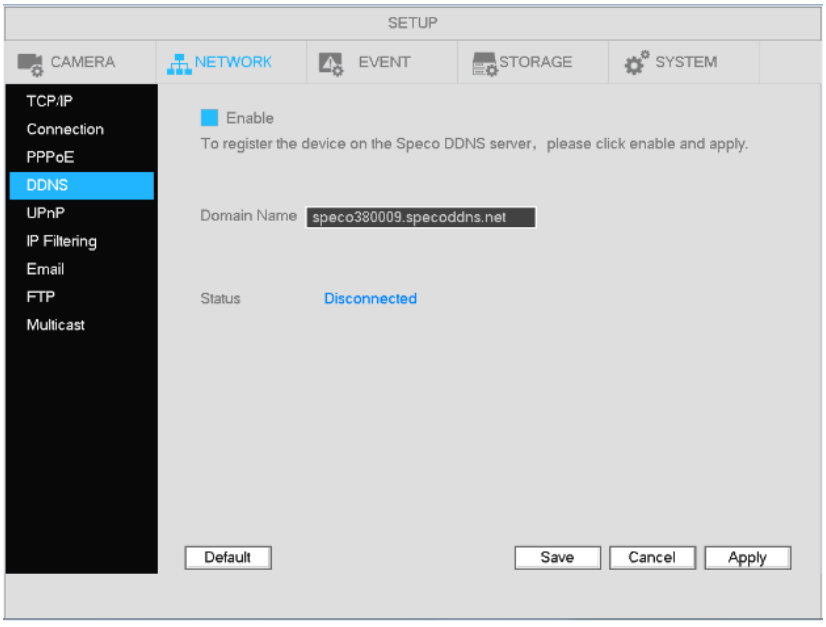


Figure 4-65

4.10.1.5 UPnP (EZ Network)

UPnP is used to establish necessary connections between the device and the router to provide access to the internet. Please make sure that the default gateway is set under the TCP/IP section. See Figure 4-66 for the UPnP interface.

- Enable: Check to enable UPnP.
- Status: Displays the UPnP connection status.
- LAN: Value of the default gateway.
- WAN: Public IP address of the router.
- Port Mapping List
  - ✧ Service name：Default list. More can be defined by the user.
  - ✧ Protocol： Protocol type
  - ✧ Internal port：Port that has been mapped in the router.
  - ✧ External port：Port that has been mapped locally.
- Default: Press Default and then Apply to restore the default list.
- Add: Used to add new items to the list
- Delete: Used to remove items from the list. Make sure the checkbox for the item is selected first.

Double click an item to view or change the mapping information. See Figure 4-67.

Important:

When setting the external port, please use a port in the range 1024~5000. Do not use ports 1~1023 to avoid conflicts.

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

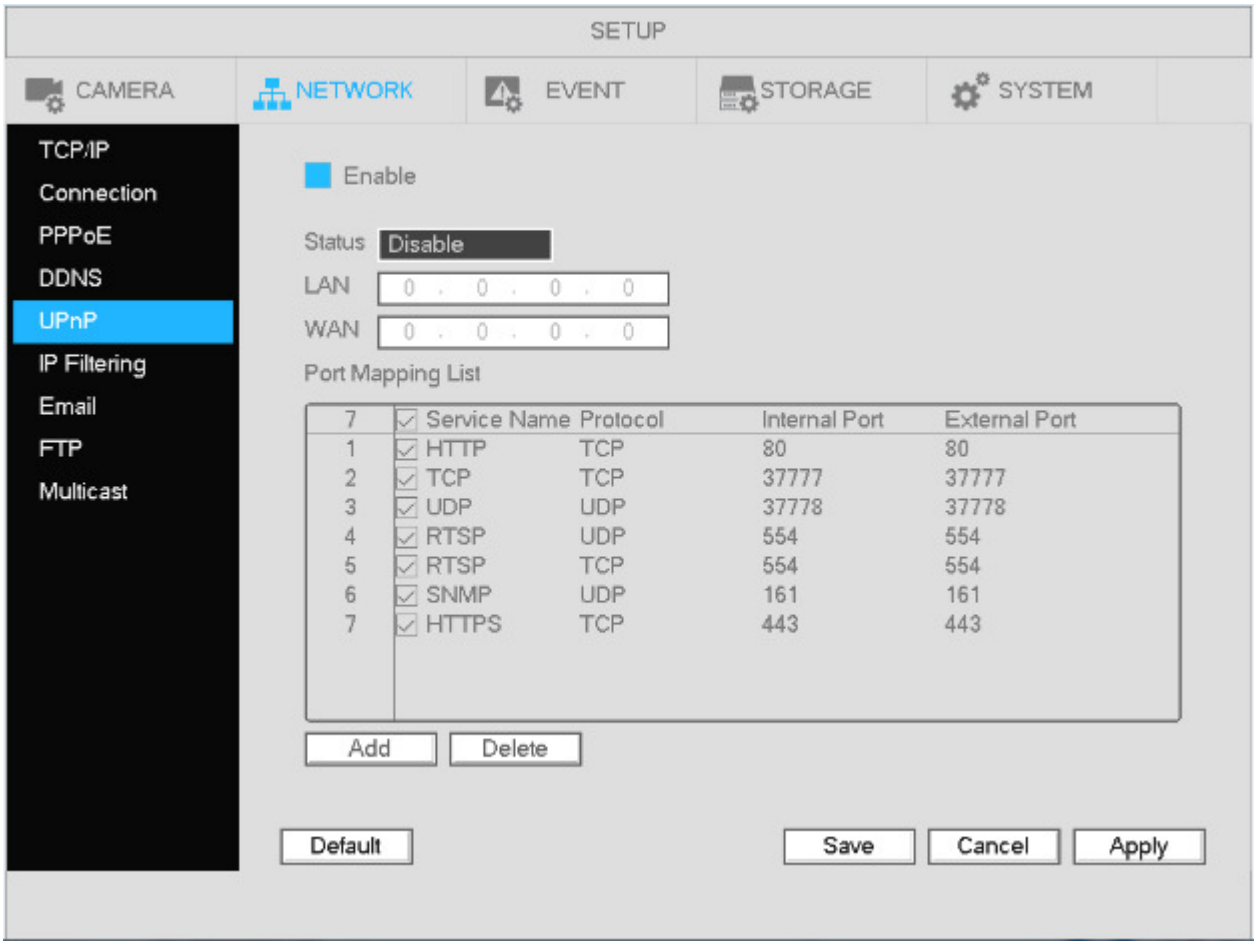


Figure 4-66

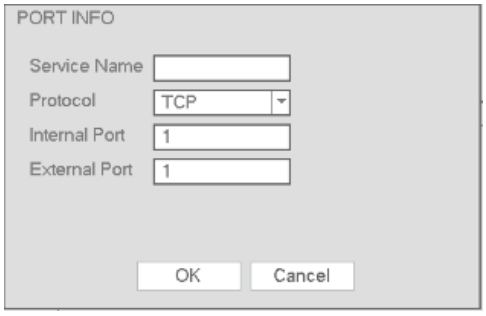


Figure 4-67

4.10.1.6 IP Filtering

IP filtering interface is shown in Figure 4-68. A maximum of 64 IP addresses are supported. Both IPv4 and IPv6 are supported.

Trusted Sites means that only the IP addresses listed can access the unit. Blocked Sites means that the listed IP addresses cannot access the unit.

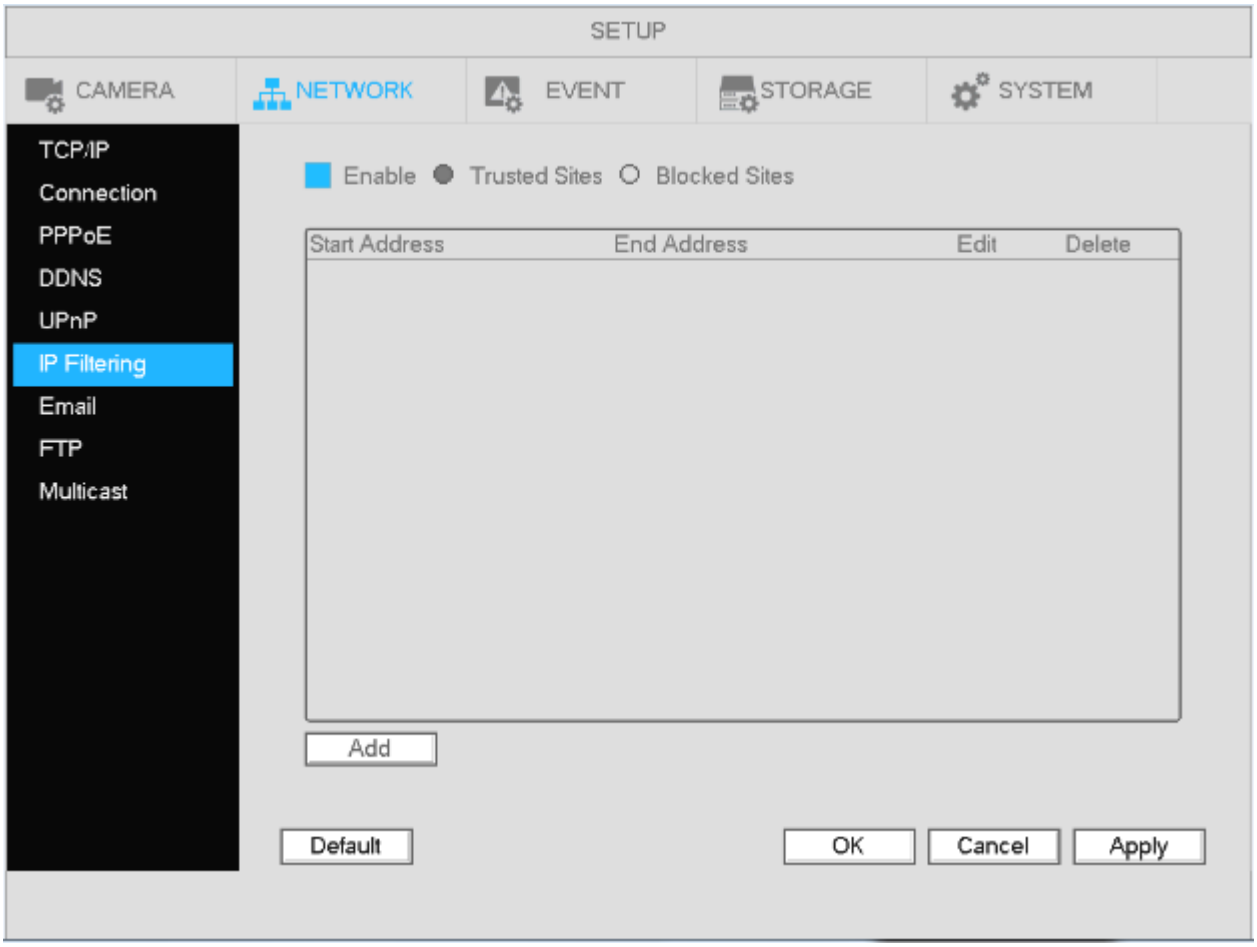


Figure 4-68

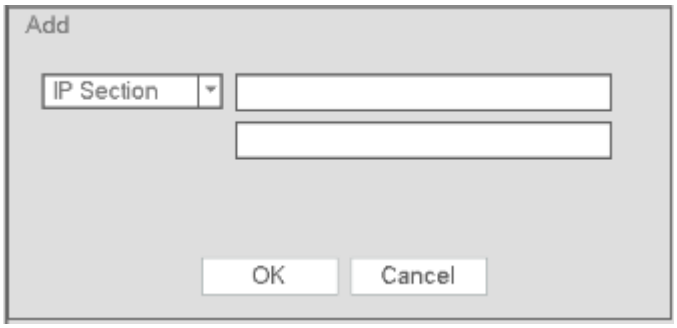


Figure 4-69

4.10.1.7 Email

The email interface is shown below in Figure 4-70.

- SMTP server: Enter the mail server information.
- Port: Enter the corresponding port for the mail server.
- User name: Enter the user name of the email account.
- Password: Enter the password of the email account.
- Sender: Enter sender email address that will be displayed in the emails.
- Subject: A maximum of 32 characters are supported for the subject.
- Receiver: Enter the recipient's emails address. A maximum of 3 email addresses are supported.
- Encryption Type: Choose between SSL and TLS.
- Interval: This is to set how often the email gets sent. The range is from 0 to 3600 seconds. 0 means there is no interval.
- Check Status: This function allows the system to send out a test email to check the connection.
- Interval: This is for the Check Status interval.

Please note that system will not send out the email immediately when an alarm occurs. The system sends out the email according to the interval that's specified. The purposed of this is to reduce heavy loads on the email server if/when there are too many false alarms occurring.

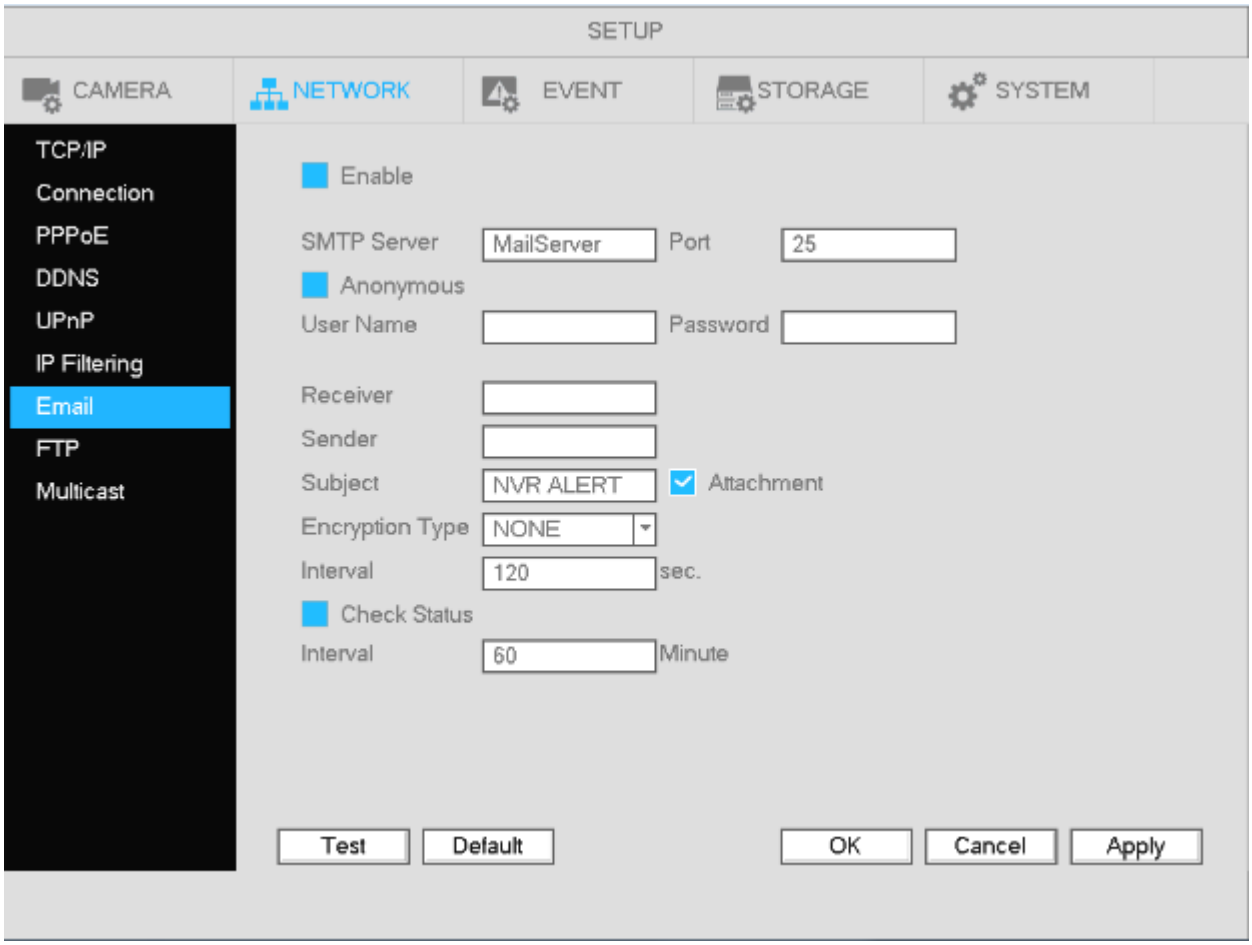


Figure 4-70

4.10.1.8 FTP

The FTP interface is shown in Figure 4-71.

Use this section to enter the FTP server address, port, and remote directory. If a remote directory is not specified, the system will automatically create folders according to the IP, time, and channel.

File length is the upload file size. If the specified value is larger than the actual file size, the system will upload the entire file. When the value is 0, the system will upload all corresponding files.

After specifiying the channel and weekday, two periods can be set for each channel according to the desired event type (sensor, motion, or continuous).

Click the Test button to test the FTP connection.

Figure 4-71

4.10.1.9 Multicast

Multicast setup interface is shown in Figure 4-72.

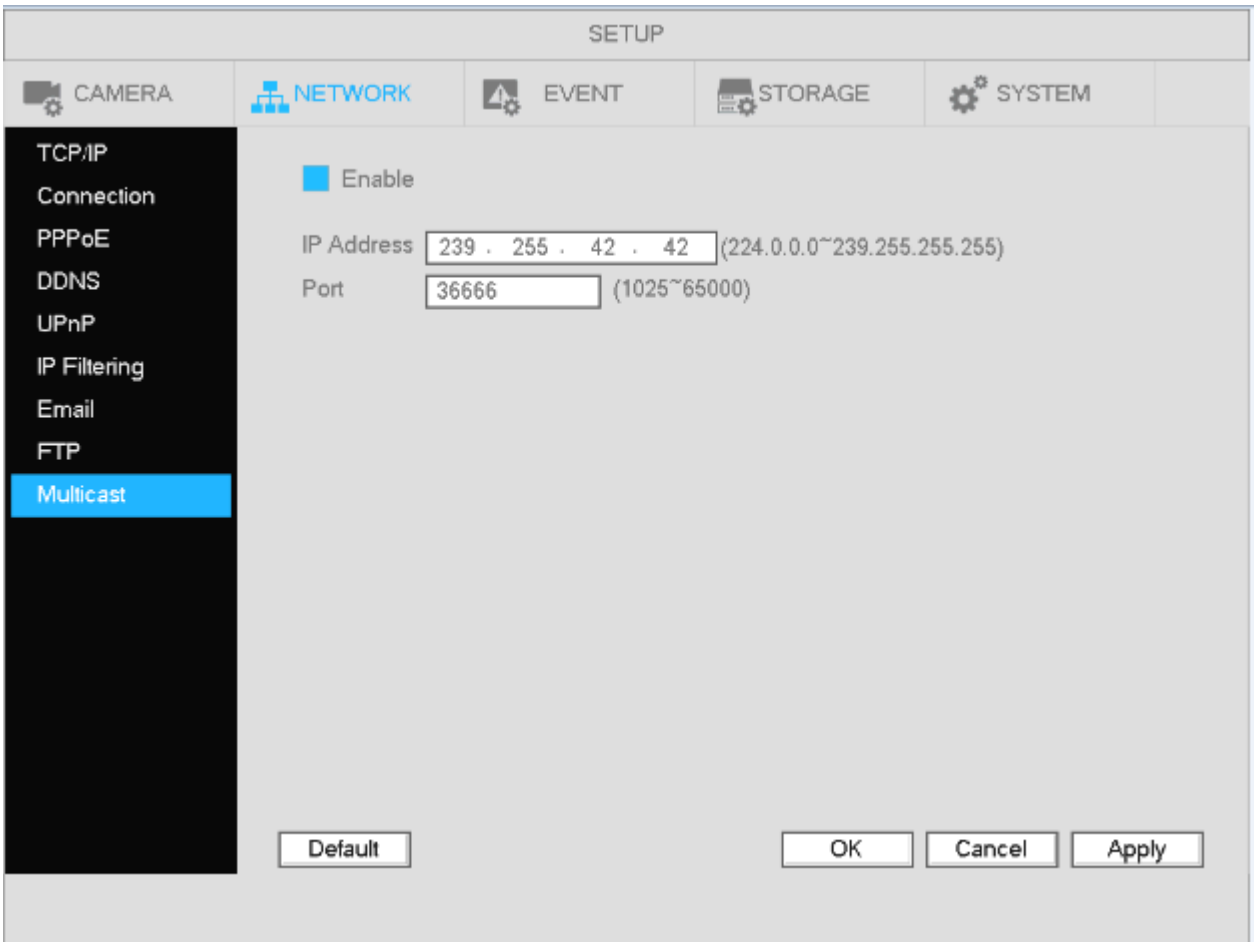


Figure 4-72

Refer to the following for detailed information.

- IP multiple cast group address

-224.0.0.0-239.255.255.255

-“D” address space

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

- Reserved local multiple cast group address

-224.0.0.0-224.0.0.255

-TTL=1 When sending out telegraph

-For example

224.0.0.1 All systems in the sub-net

224.0.0.2 All routers in the sub-net

224.0.0.4 DVMRP router

224.0.0.5 OSPF router

224.0.0.13 PIMv2 router

- Administrative scoped addressees

-239.0.0.0-239.255.255.255

-Private address space

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

Other than the addresses mentioned above, other addresses are permitted. For example:
Multiple cast IP: 235.8.8.36
Multiple cast PORT: 3666.

4.10.2 Network Test

4.10.2.1 Network Test

Go to Main menu->System Info->Network->Test shown in Figure 4-73.

- Destination IP: Enter a valid IPV4 address or domain.
- Test: The test results can display average delay and packet loss rate. View the network status.
- Network Analyzer Backup: Insert a USB drive and click the Refresh button to view the device. Use the dropdown list to select the device. Click the Browse button to select the path.

Click the button on the right panel to begin the network packet analyzer. At this point, all network operations will be backed up. Please go back to the interface and click to stop. System will save the packets to the specified path.

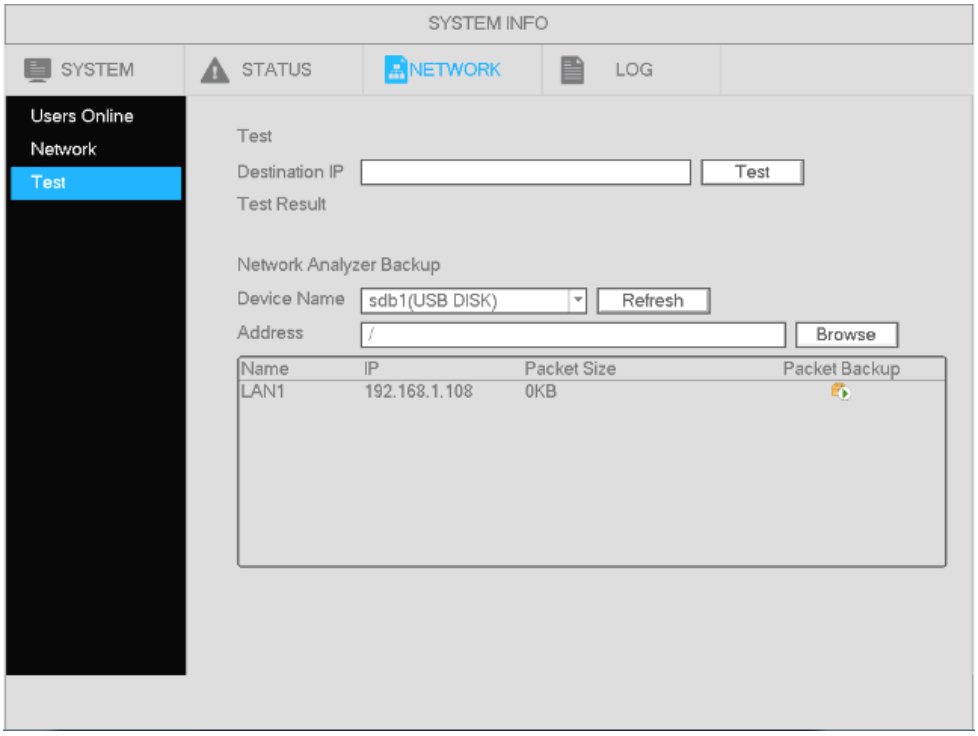


Figure 4-73

4.10.2.2 Network Load

Go to Main menu->Info->Network->Load, shown in Figure 4-74. View statistics of the device network adapter. Connection status is shown as offline if disconnected.

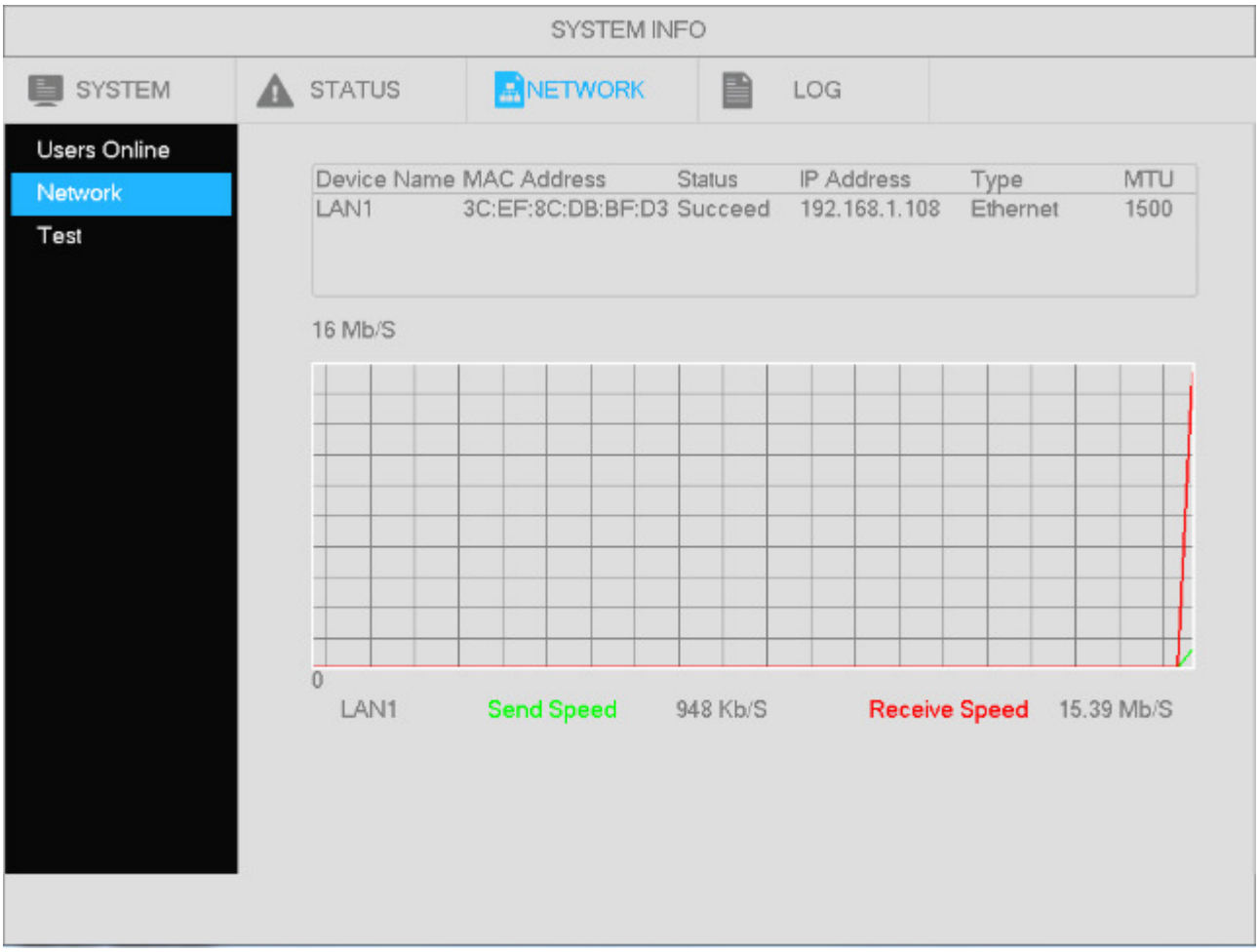


Figure 4-74

4.11 HDD Setup

View HDD information such as type, status, total capacity, record time, etc.

4.11.1 Format

a) Go to Main menu->Setup->Storage->Manage HDD shown in Figure 4-75.

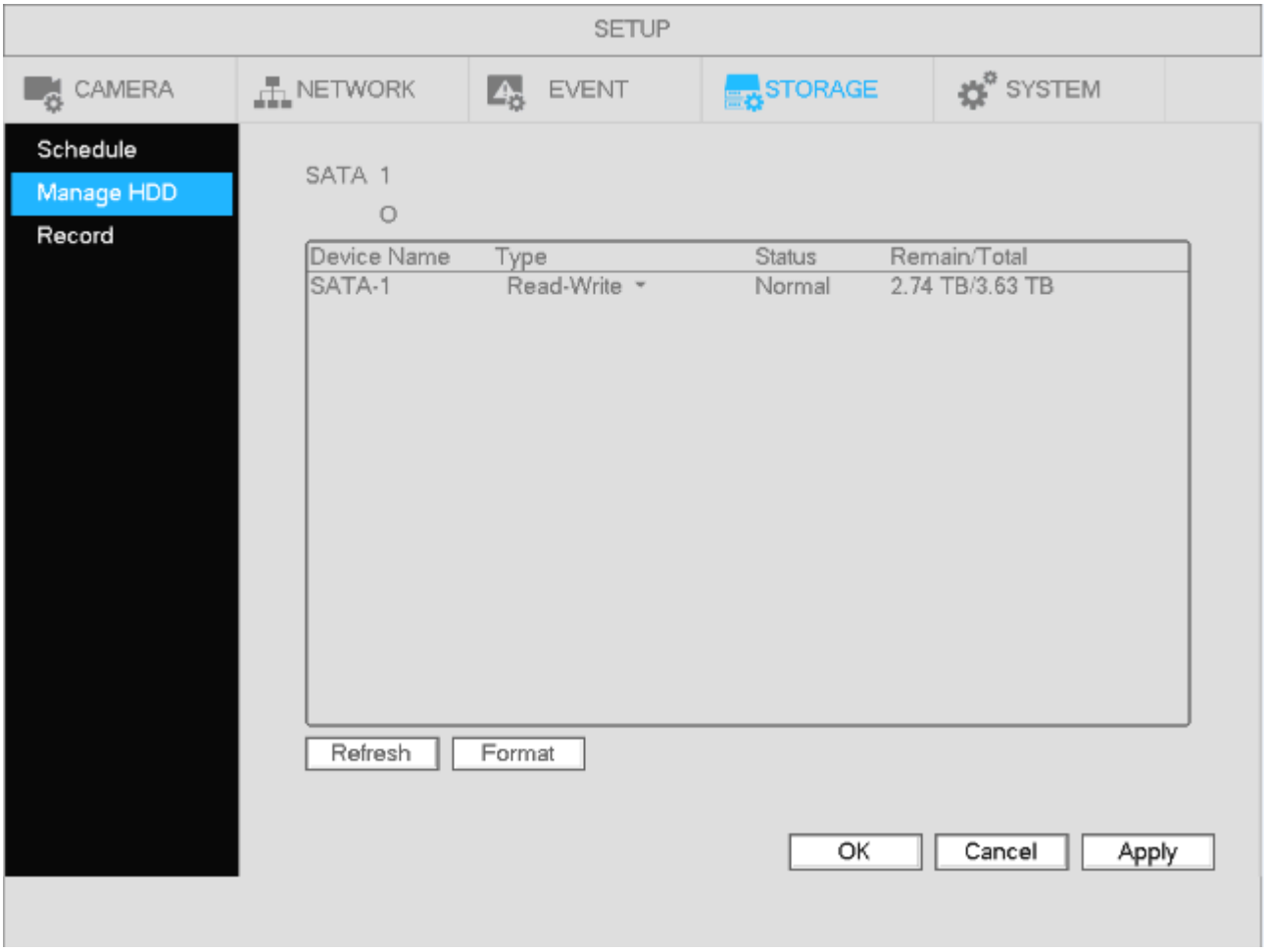


Figure 4-75

b) Select the HDD and then select Format.

c) Click the OK button to complete the format. The system will need to restart.

Important: This will erase all recorded data on the system. This option will not reset any system settings.

4.11.2 HDD Information

Shows hard drive type, total space, free space, and status. See Figure 4-76.

Go to Main menu->System Info->System->HDD Info

If the drive is damaged, the system will show “?”.

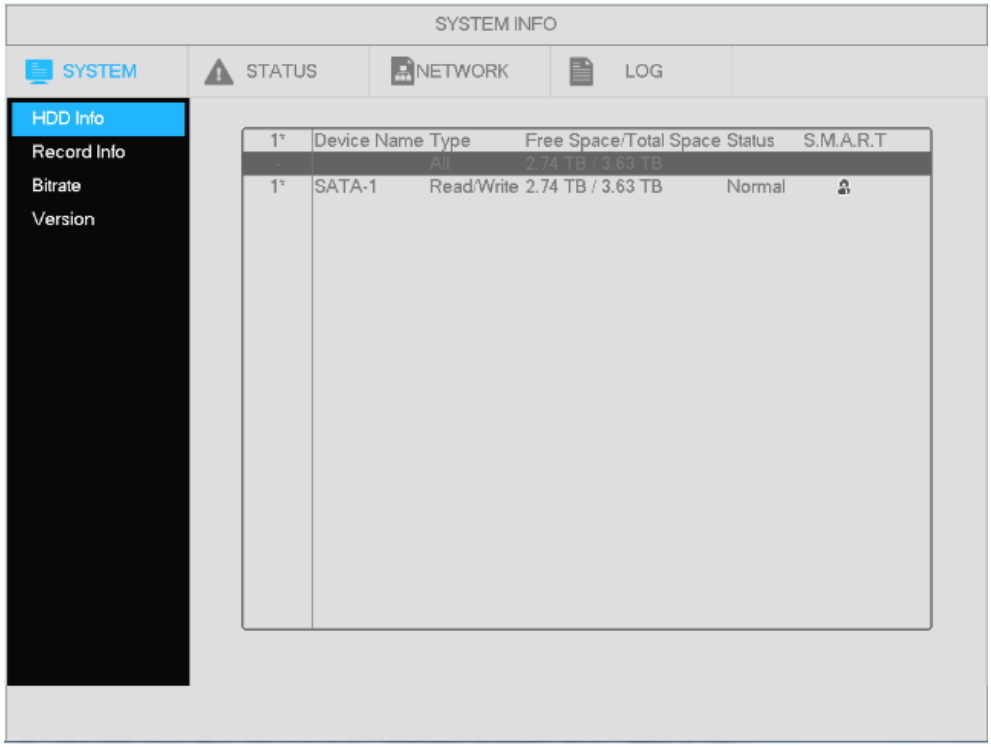


Figure 4-76

Click the icon under the S.M.A.R.T column to bring up the interface is shown in Figure 4-77.

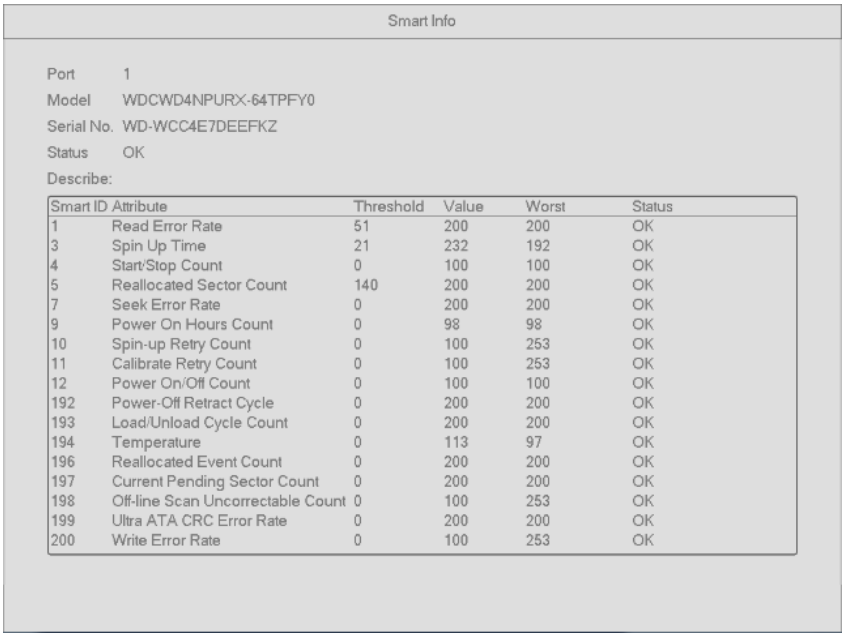


Figure 4-77

4.12 General System Setup

4.12.1 Device Setup

Go to Main menu->Setup->System->General for the general setup interface.

- Pack duration: Recording duration for a single file. The value ranges from 0 to 120 minutes. Default value is 60 minutes.
- Device Name: Specify a name for the unit. This name can be used to differentiate between multiple units.
- Language: Choose between English, Spanish, and French.
- Video standard: NTSC
- HDD Full: Choose between two options - stop recording or overwrite.
- Instant Playback: Within live view, a single channel can be chosen for playback. The value ranges from 5 to 60 minutes.
- Auto logout: If a logged in user remains inactive for the duration of the specified time, the user will be logged out. Value ranges from 0 to 60 minutes.
- Navigation bar: Check to display the navigation bar on the interface.
- Camera Time Sync: The system will synchronize the time between the NVR and the IP cameras at the intervals specified.
- EZ Setup: If enabled, the system will go to the startup wizard directly when the system is rebooted. Otherwise, it will go to the login interface.
- Mouse sensitivity: Sets the double-click speed of the mouse.

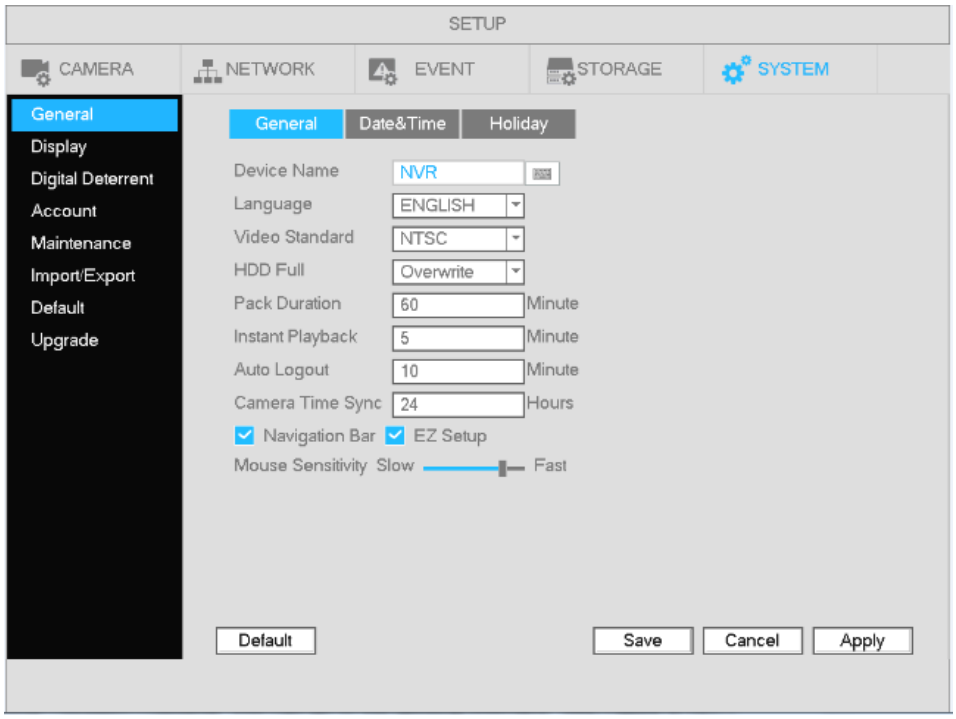


Figure 4-78

4.12.2 Date and Time

Go to Main menu->Setup->System->General, shown in Figure 4-79

- System Time: Set the time of the system
- Date format: There are three types: YYYY-MM-DD, MM-DD-YYYY, or DD-MM-YYYY.
- Date separator: There are three types.
- DST: Set the start and end dates for Daylight Saving Time. DST must be enabled to use this function.
- Time format: Choose between 24-hour mode or 12-hour mode.
- NTP: Specify an NTP server to synchronize the time.

Note:

Do not modify the system time unless it is important.

Before modification, please stop recording.

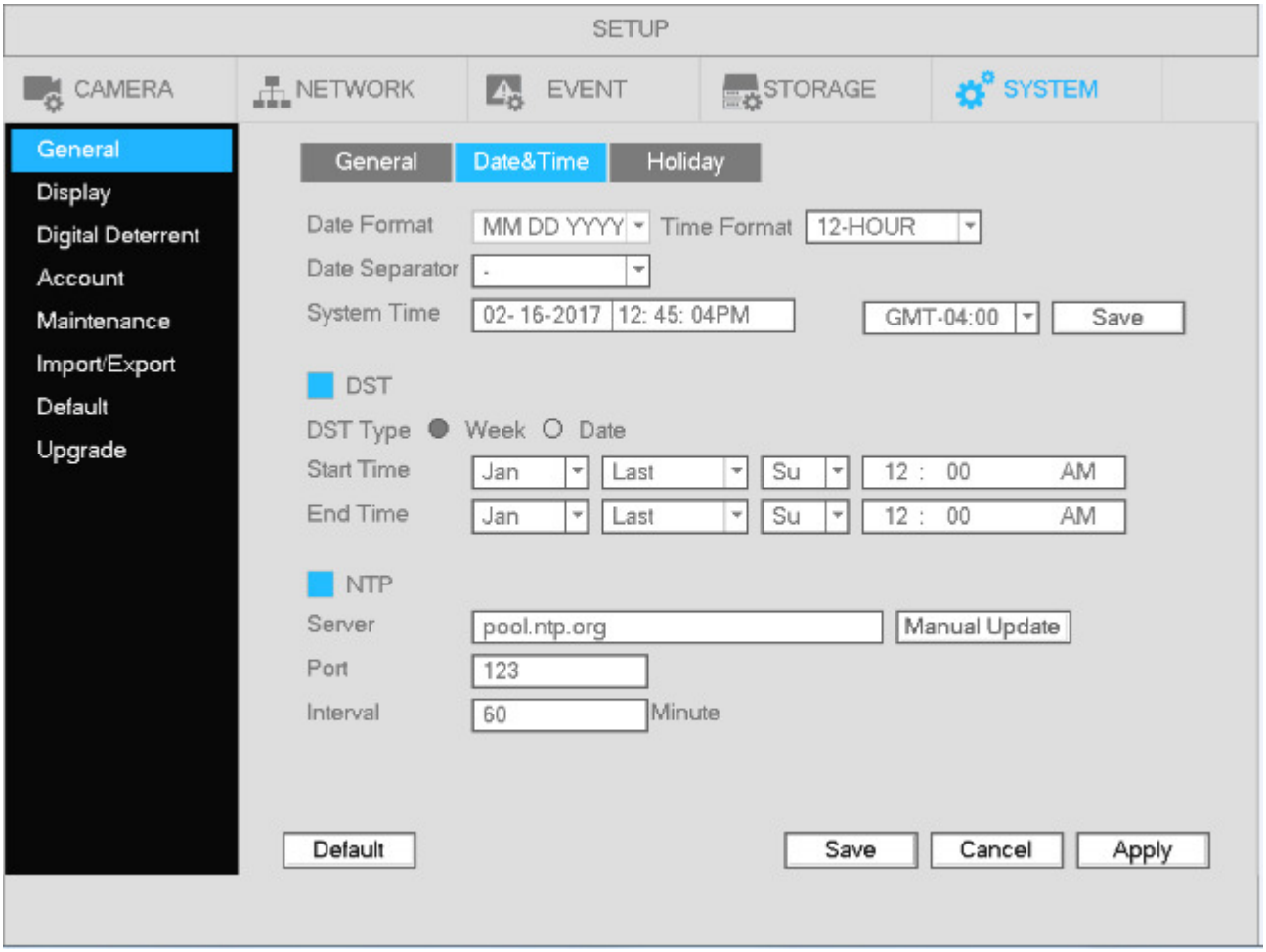


Figure 4-79

4.13 Device Maintenance and Manager

4.13.1 System Info

4.13.1.1 Version

Go to Main menu->System Info->System->Version, shown in Figure 4-80.

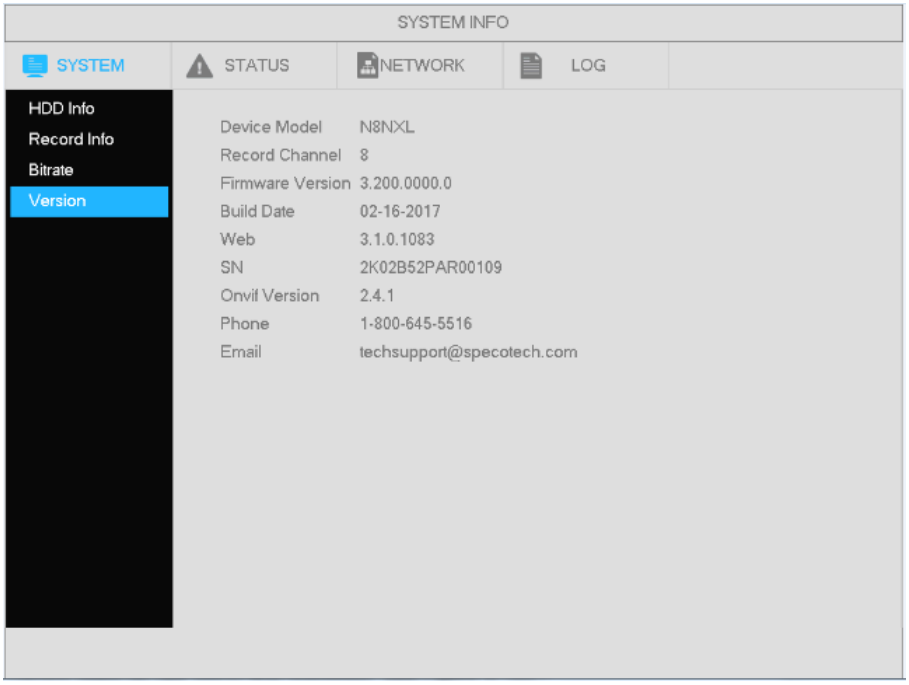


Figure 4-80

4.13.1.2 Bitrate

See Figure 4-81, for information on cameras connected to the unit.

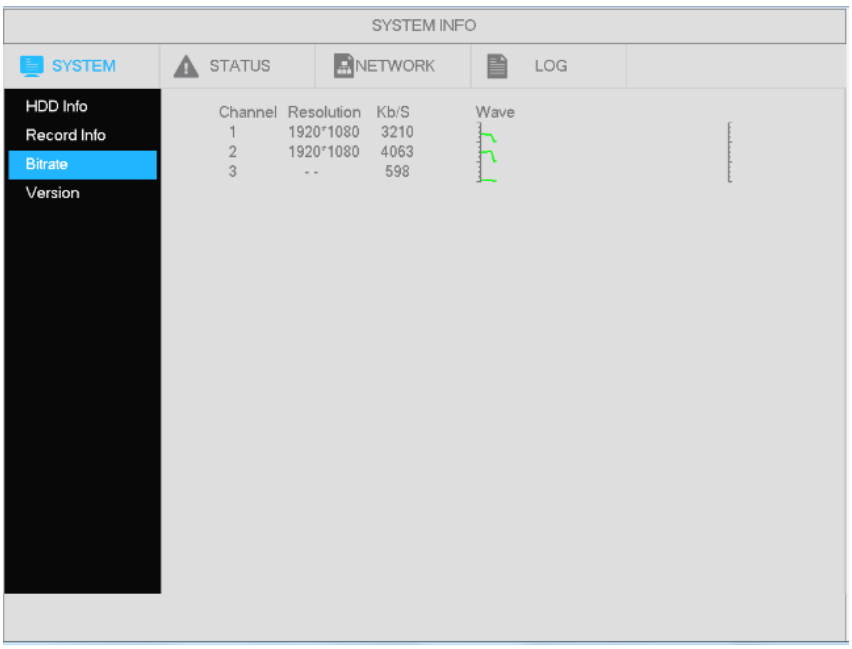


Figure 4-81

4.13.1.3 Online User

Manage online users connected to the NVR. See Figure 4-82.

Click the button to disconnect or block one user. Note that only an administrator can perform this function. The NVR detects when there are any newly added or deleted users every five seconds and then refreshes the list automatically.

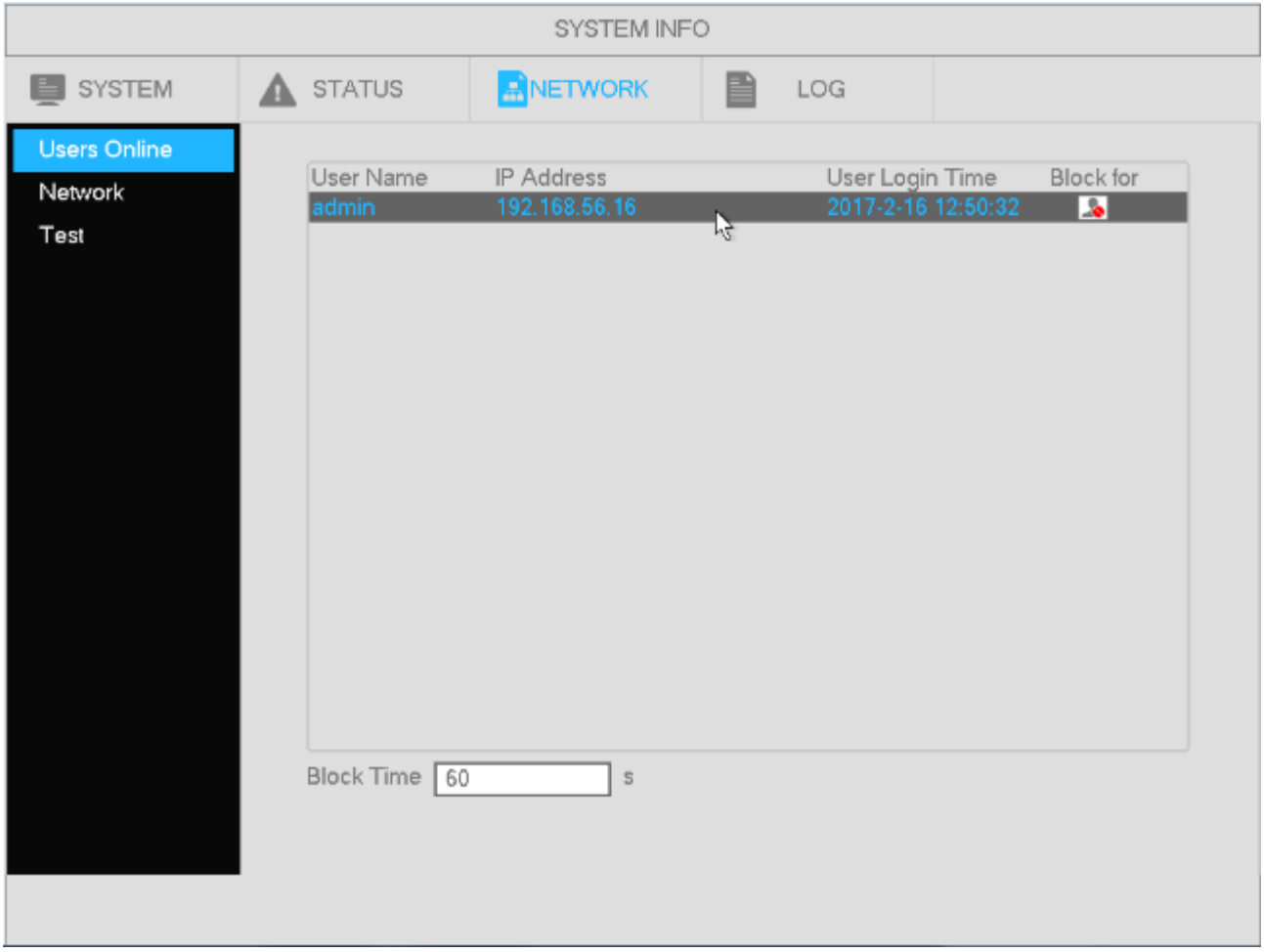


Figure 4-82

4.13.1.4 Remote Device Information

Go to Main Menu->System Info->Status to view the channel status of the remote device, connection log, etc. See Figure 4-83.

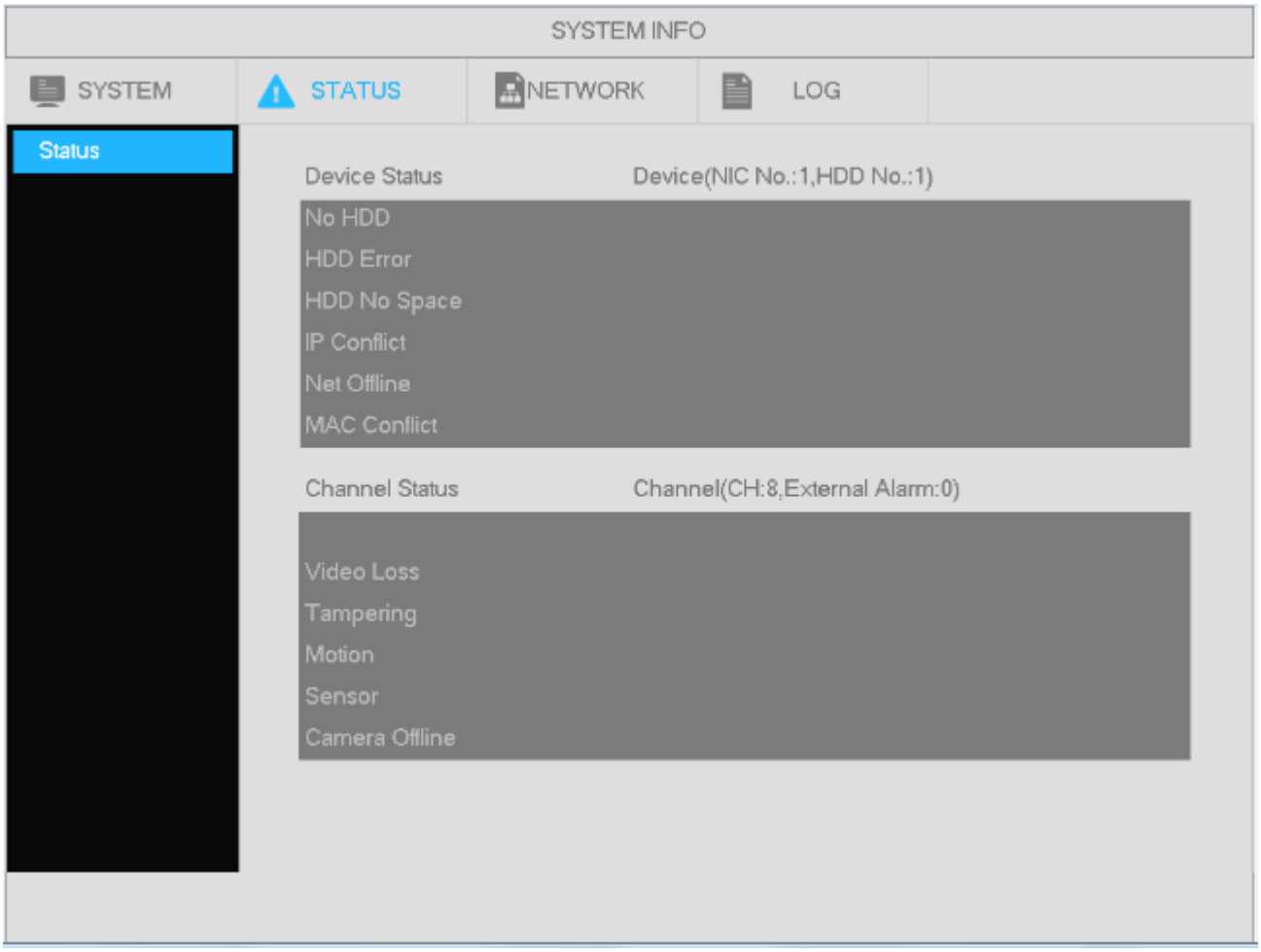


Figure 4-83

4.13.1.5 Camera

4.13.1.5.1 Status

View the IP Camera status of connected channels. See Figure 4-84.

- Connection status: : Connection success. : Connection failed.
- Refresh: Click to refresh the status of the connected channels.

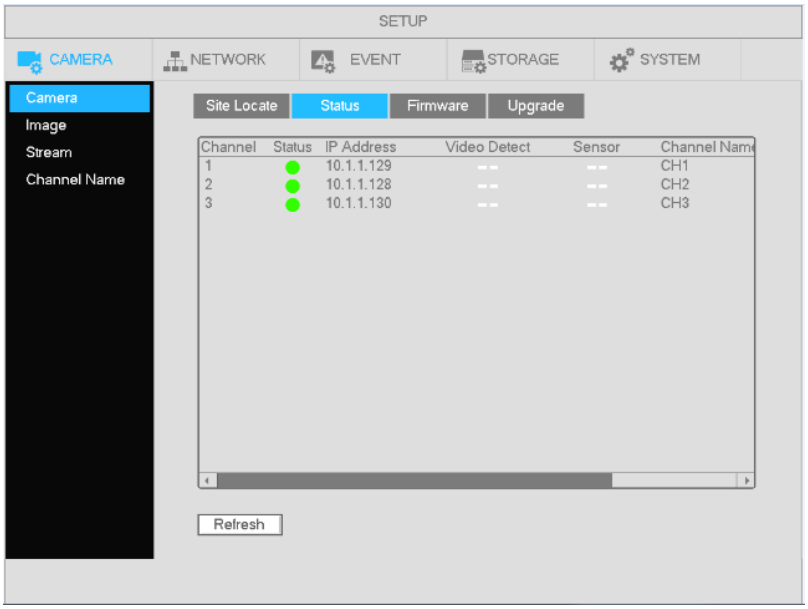


Figure 4-84

4.13.1.5.2 Firmware

View camera information. See Figure 4-85.

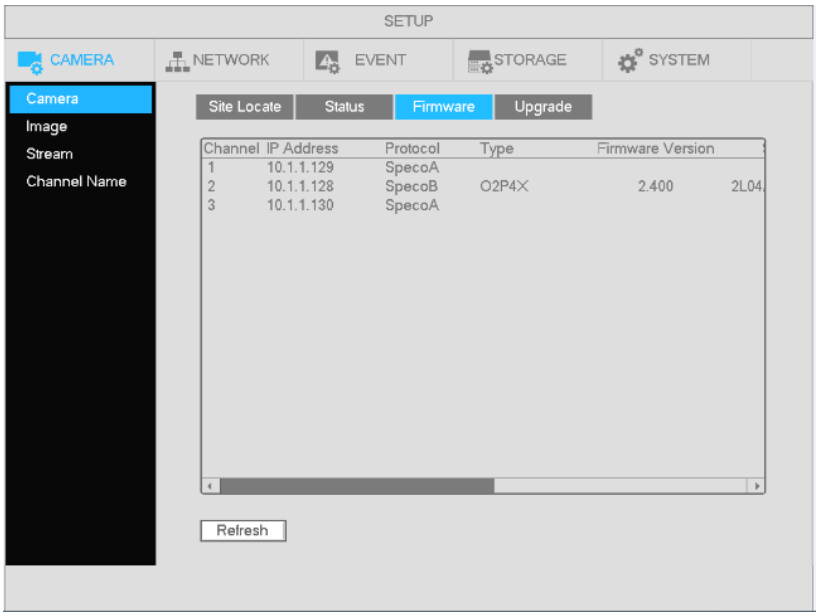


Figure 4-85

4.13.2 Log

Go to Main Menu->System Info->Log, shown in Figure 4-86.

- Start time/End time: Please select the start and end time and then click search. The log files will be displayed in a list. The system can display 100 logs on one page. Up to 1024 log files can be saved. Use page up/down buttons on the interface to view more.

Tips

Double click on a log item to view detailed information. See Figure 4-87.

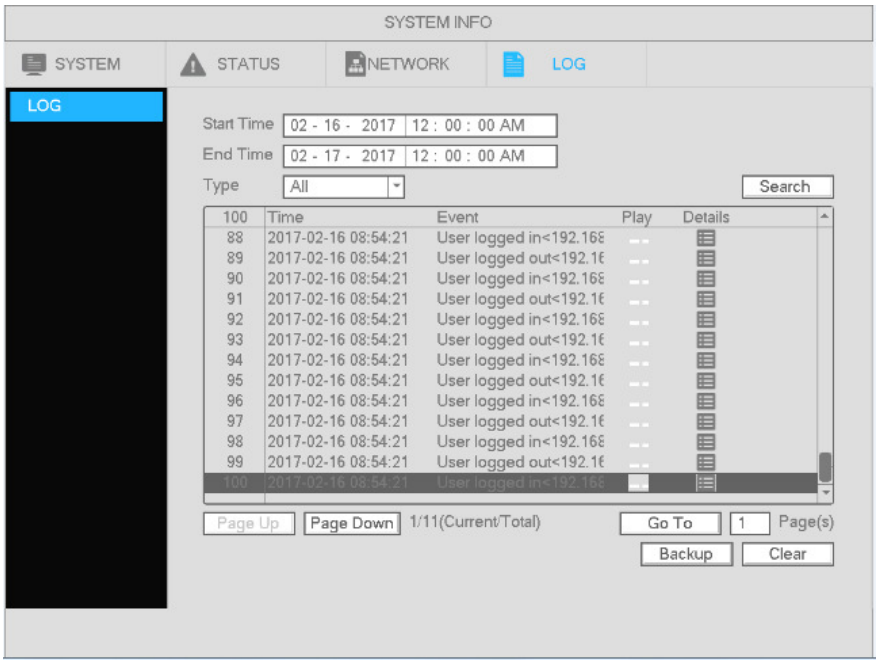


Figure 4-86

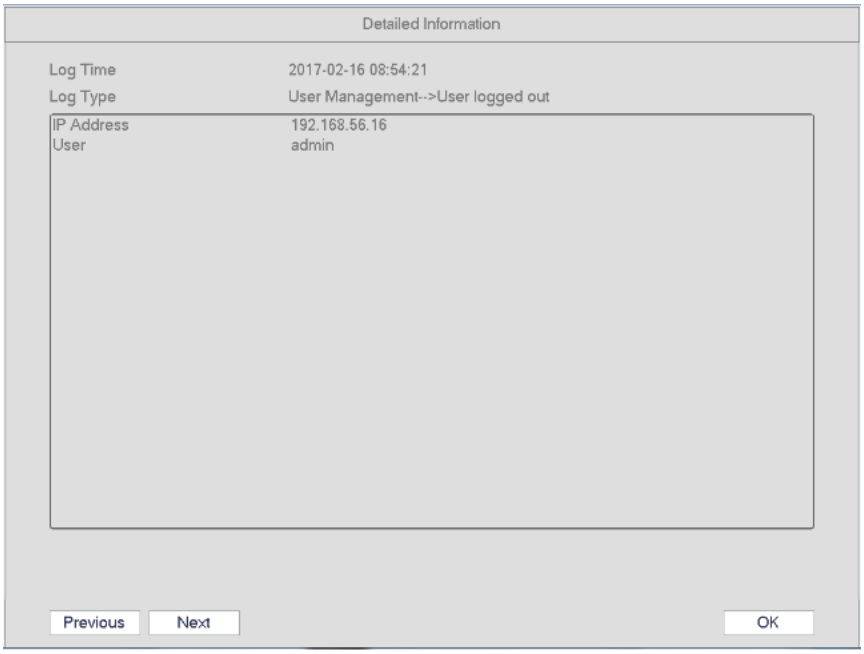


Figure 4-87

4.13.3 Digital Deterrent

Digital Deterrent can be used to play an audio file when an alarm occurs.

4.13.3.1.1 File Manage

Add audio files, listen to an audio file, or rename/delete audio files. See Figure 4-88.

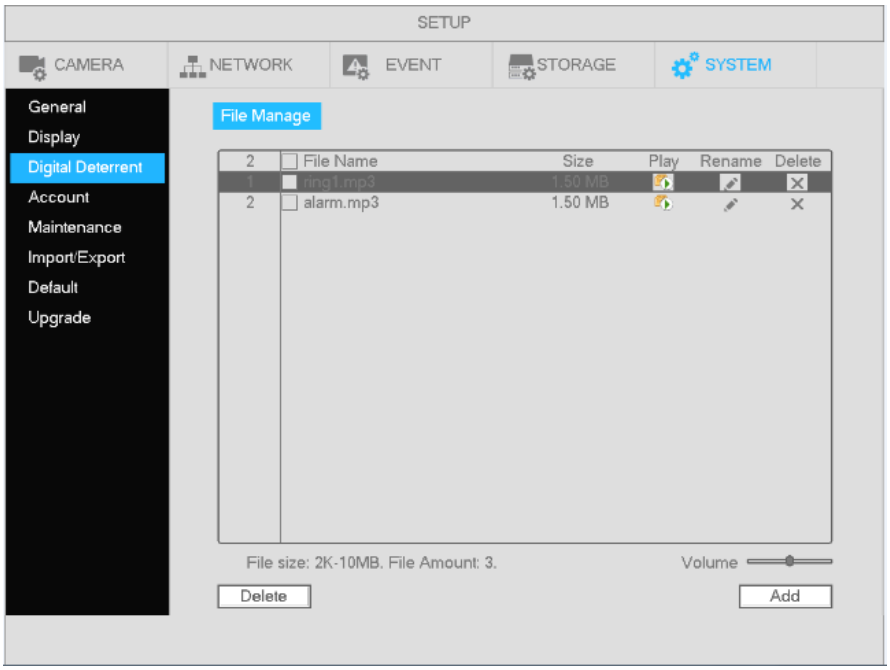


Figure 4-88

Click the Add button, to add an audio file via USB. Supported audio formats are MP3 and PCM. See Figure 4-89.

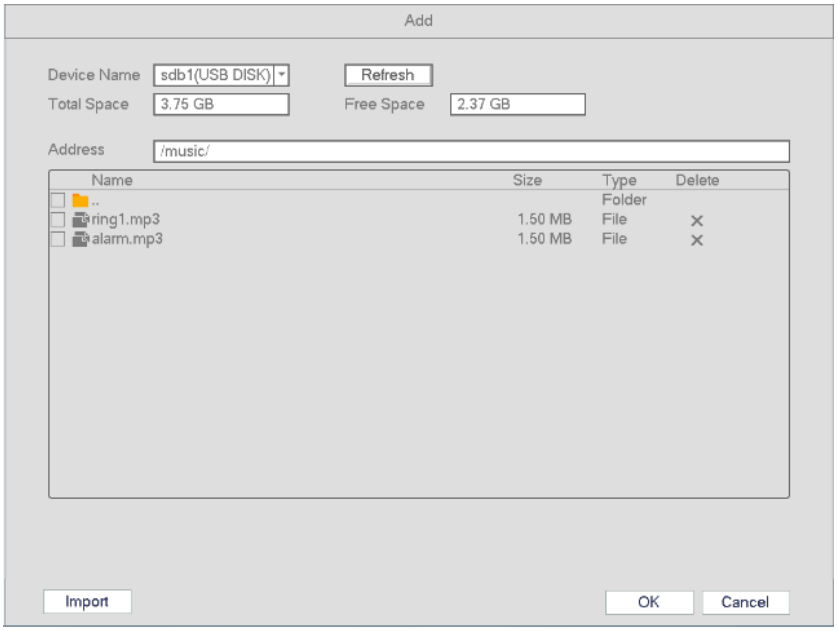


Figure 4-89

4.13.4 Account

See Figure 4-90. This section is used for:

- Add new user
- Modify user
- Add group
- Modify group
- Modify password.

For account management please note:

- For the user account name and the user group, a space in front of or at the back of the string is invalid. There can be a space in the middle. The string can include letters, numbers, underline, dash, and dot.
- The default user amount is 64 and the default group amount is 20. There is no limit to group or user amount.
- For group or user management, there are two levels: admin and user.
- There are two default users: admin and hidden user “default”.
- Hidden user “default” is for system interior use only and can not be deleted. When there is no user logged in, the hidden user “default” automatically logs in. Some rights such as monitor can be set for this user so that cameras can be viewed without login.
- One user should belong to one group. User rights can not exceed group rights.
- Reusable function: this function allows multiple users to use the same account to login.

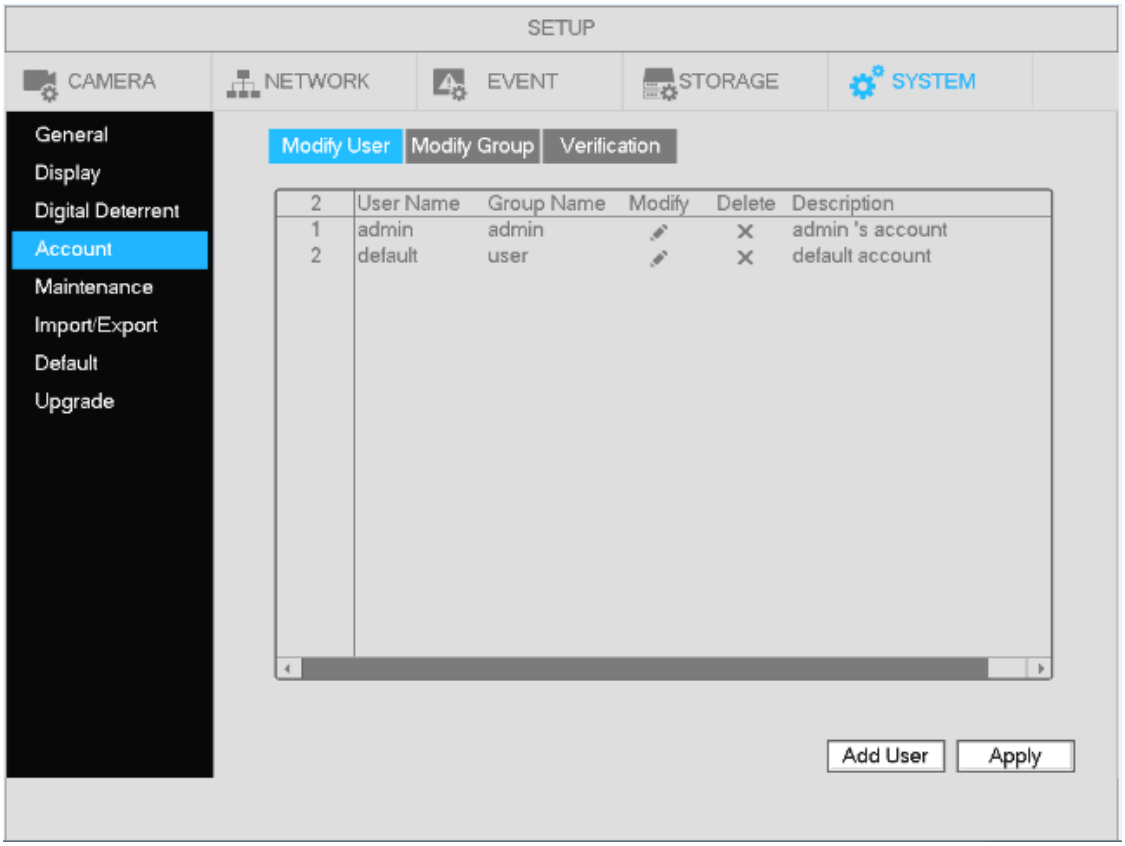


Figure 4-90

4.13.4.1.1 Add User

Click Add User to go to the interface is shown in Figure 4-91.

Enter the user name, password, and select the group it belongs to from the dropdown list.

Then check the corresponding rights for the new user.

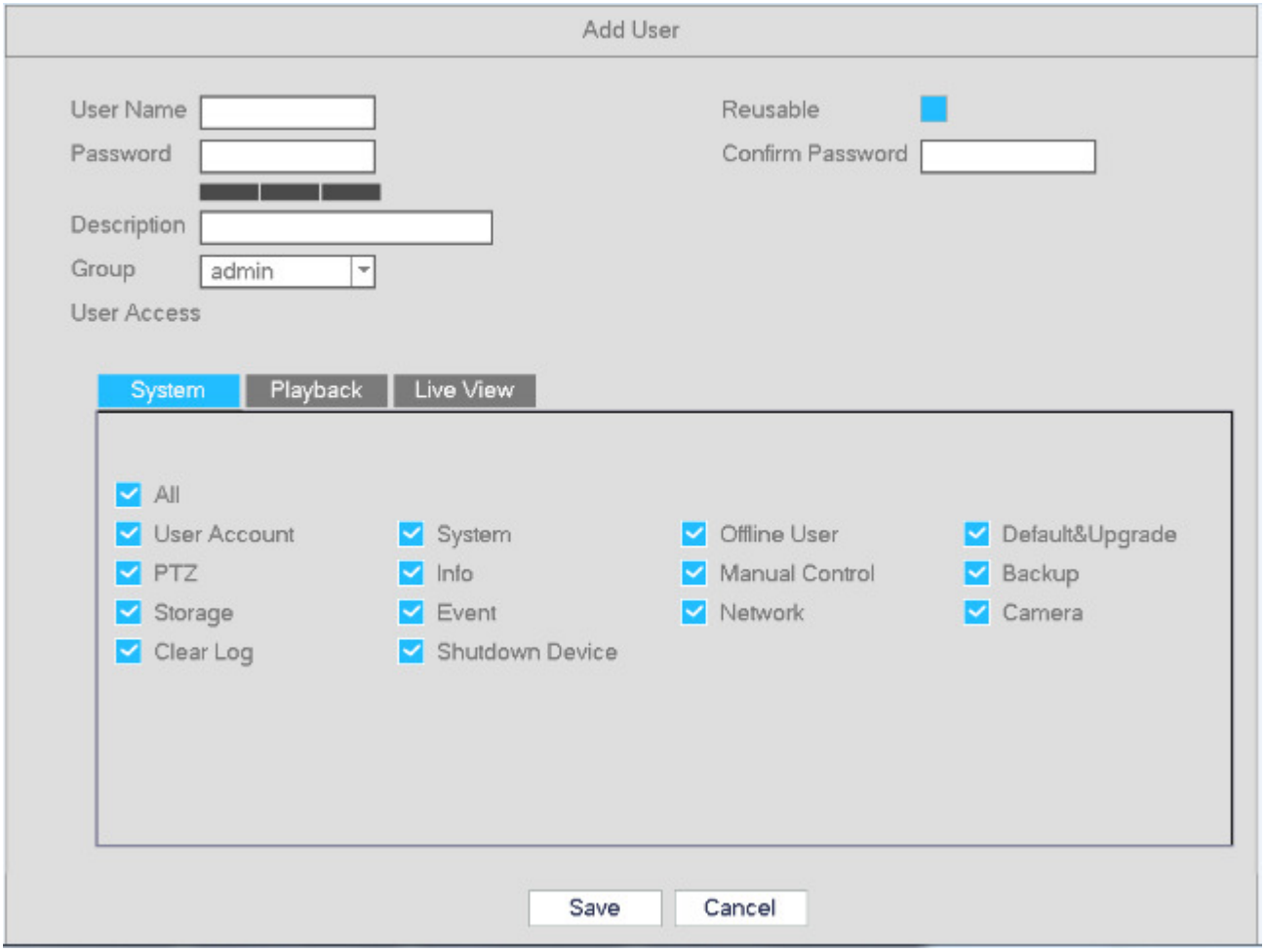


Figure 4-91

4.13.4.1.2 Modify user

Click to go to the following interface to change user information. See Figure 4-92.

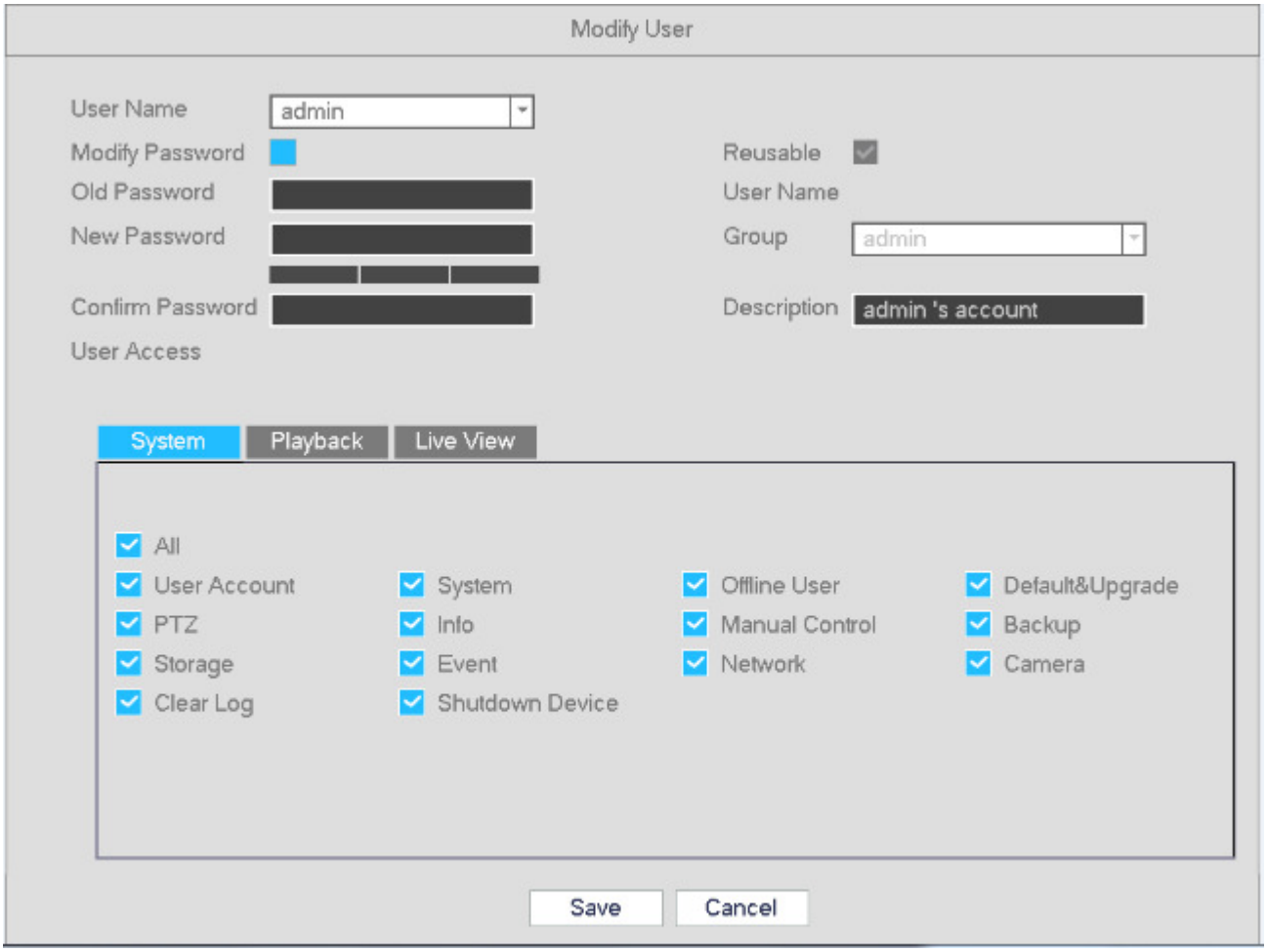


Figure 4-92

4.13.4.1.3 Change Password

In Figure 4-92, check the Modify password box. Enter the old password and then enter the new password twice to confirm.

The password can contain 32-bytes. A space at the beginning or at the end of the password is invalid.

4.13.4.1.4 Add/Modify Group

In Figure 4-90, click the Group button. See Figure 4-93.

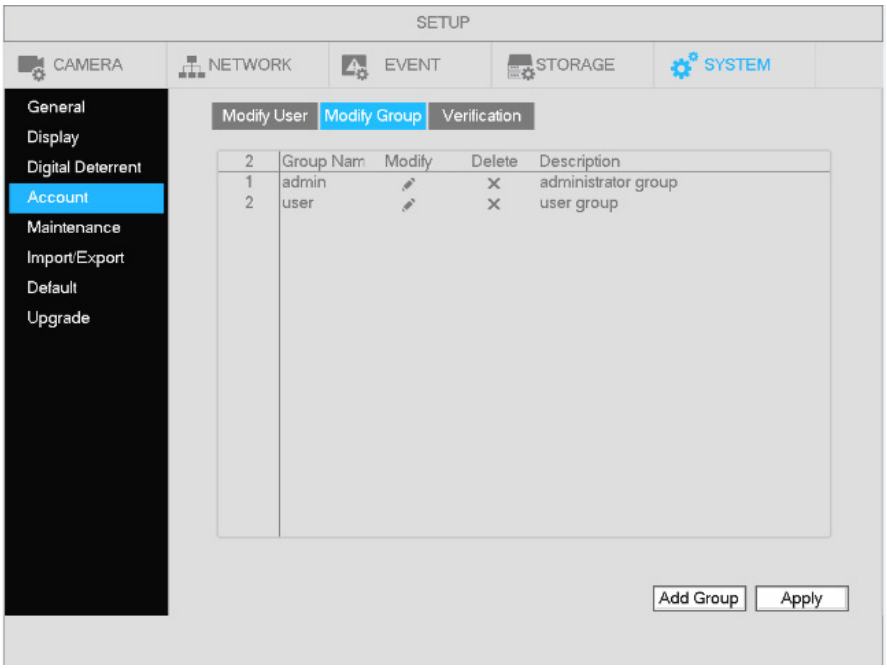


Figure 4-93

Click the Add Group button. See Figure 4-94.

Enter a group name and a description if necessary.

Select the appropriate rights for the group.

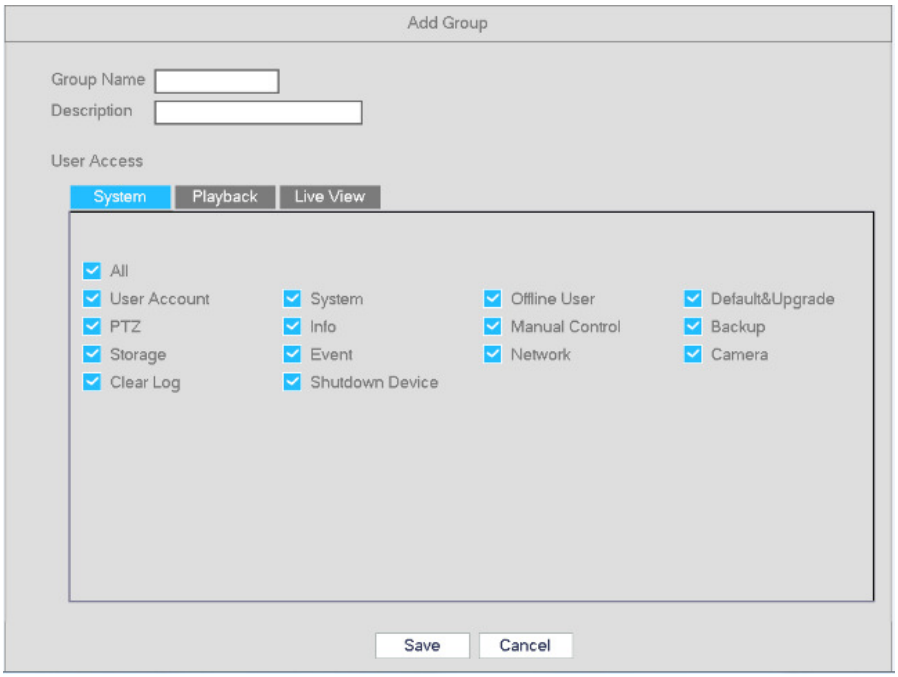


Figure 4-94

4.13.4.1.5 Verification

See Figure 4-95. If a password is lost, the security questions can be used to reset the password.

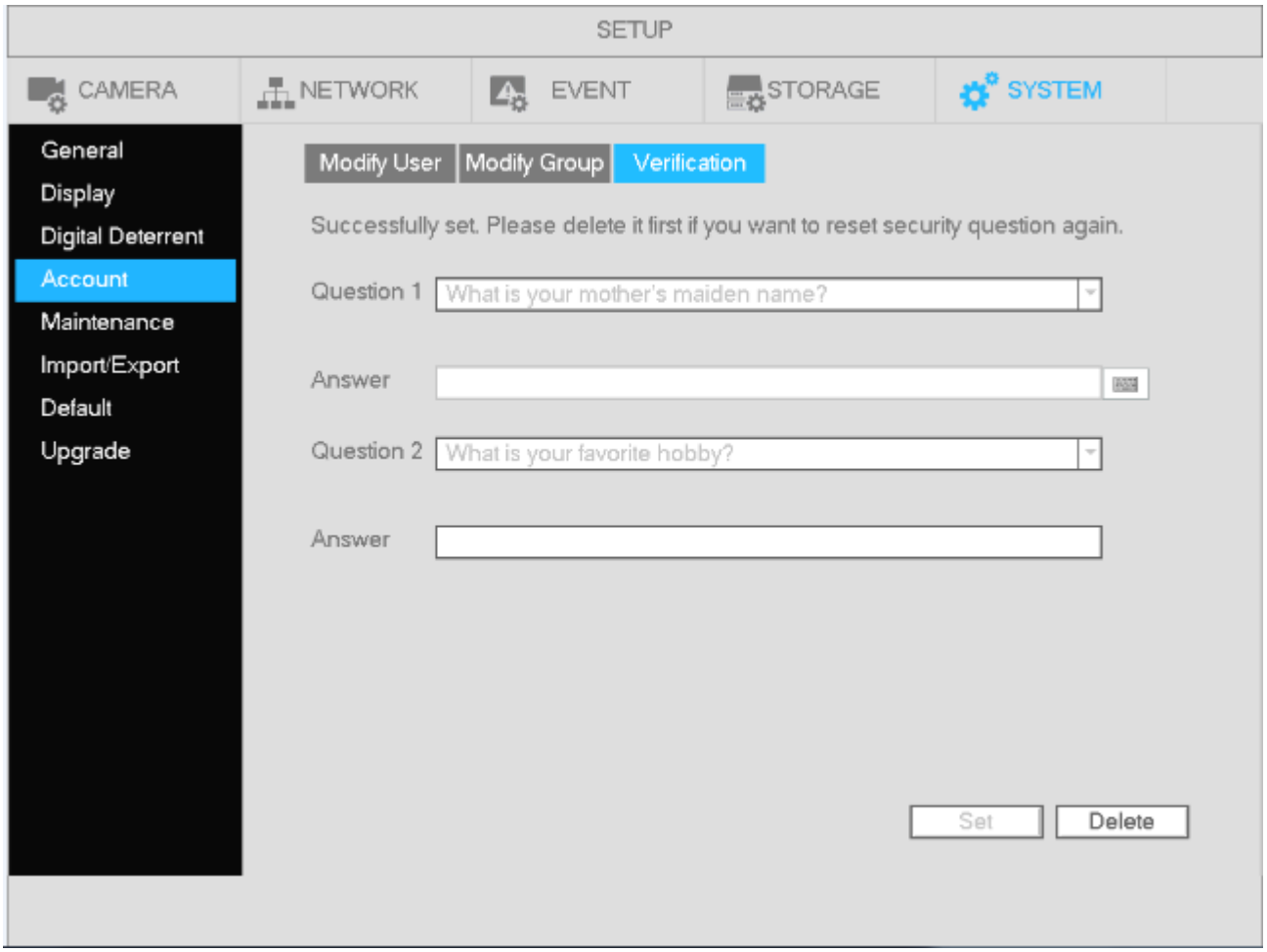


Figure 4-95

4.13.5 System Upgrade

4.13.5.1 Local Upgrade

To upgrade the system firmware, go to Main menu->Setup->System Info->Upgrade. See Figure 4-96.

a) Insert USB drive that contains the upgrade file.

b) Follow the direction on the screen.

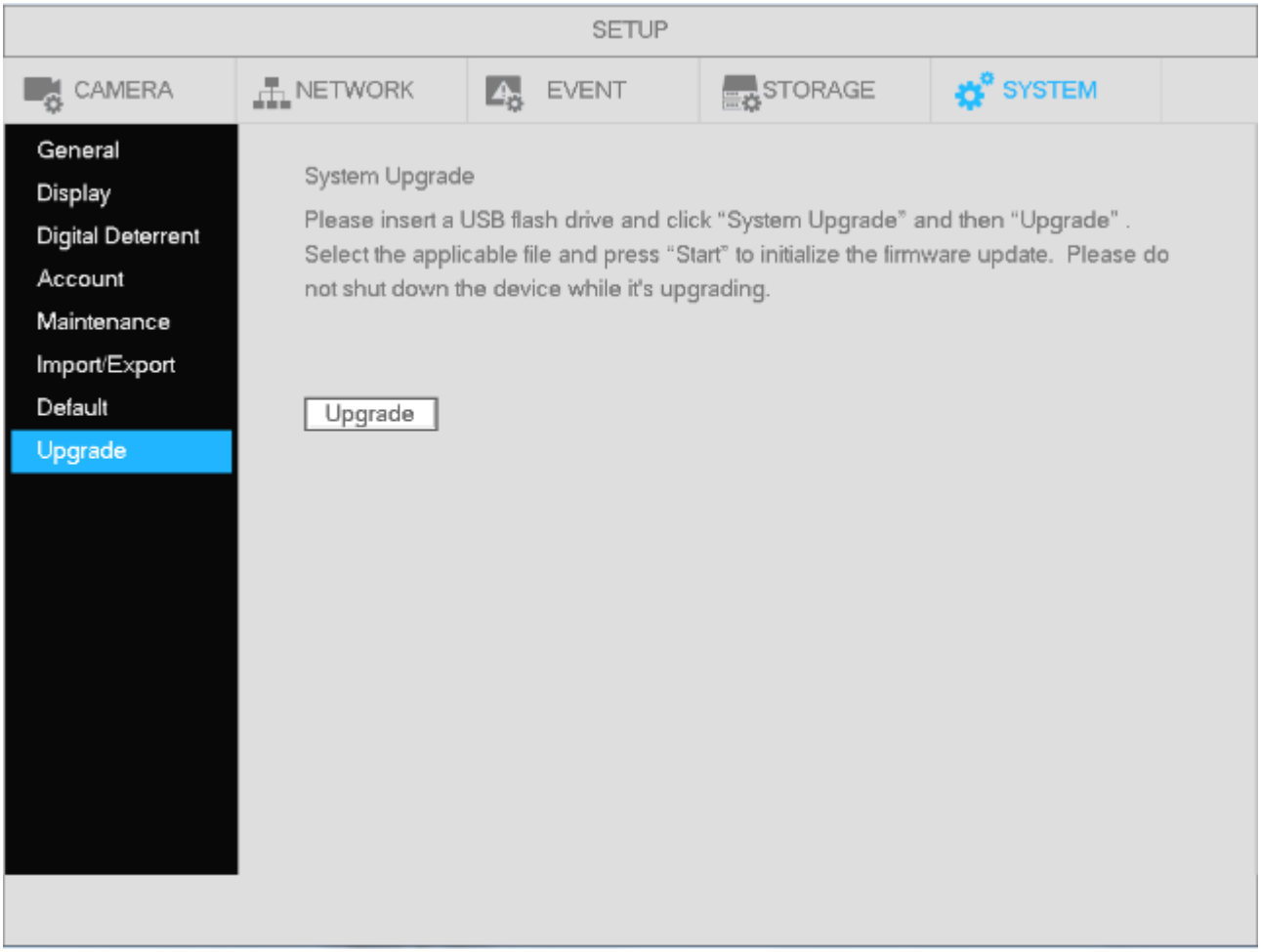


Figure 4-96

4.13.6 Factory Default

To perform a factory default, go to Main menu->Setup->System->Default. See Figure 4-97.

Highlight the applicable boxes to reset the corresponding functions.

- All
- Camera
- Network
- Event
- Storage
- System

Note: this will not erase recorded data. In order to erase recorded data, the HDD must be formatted.

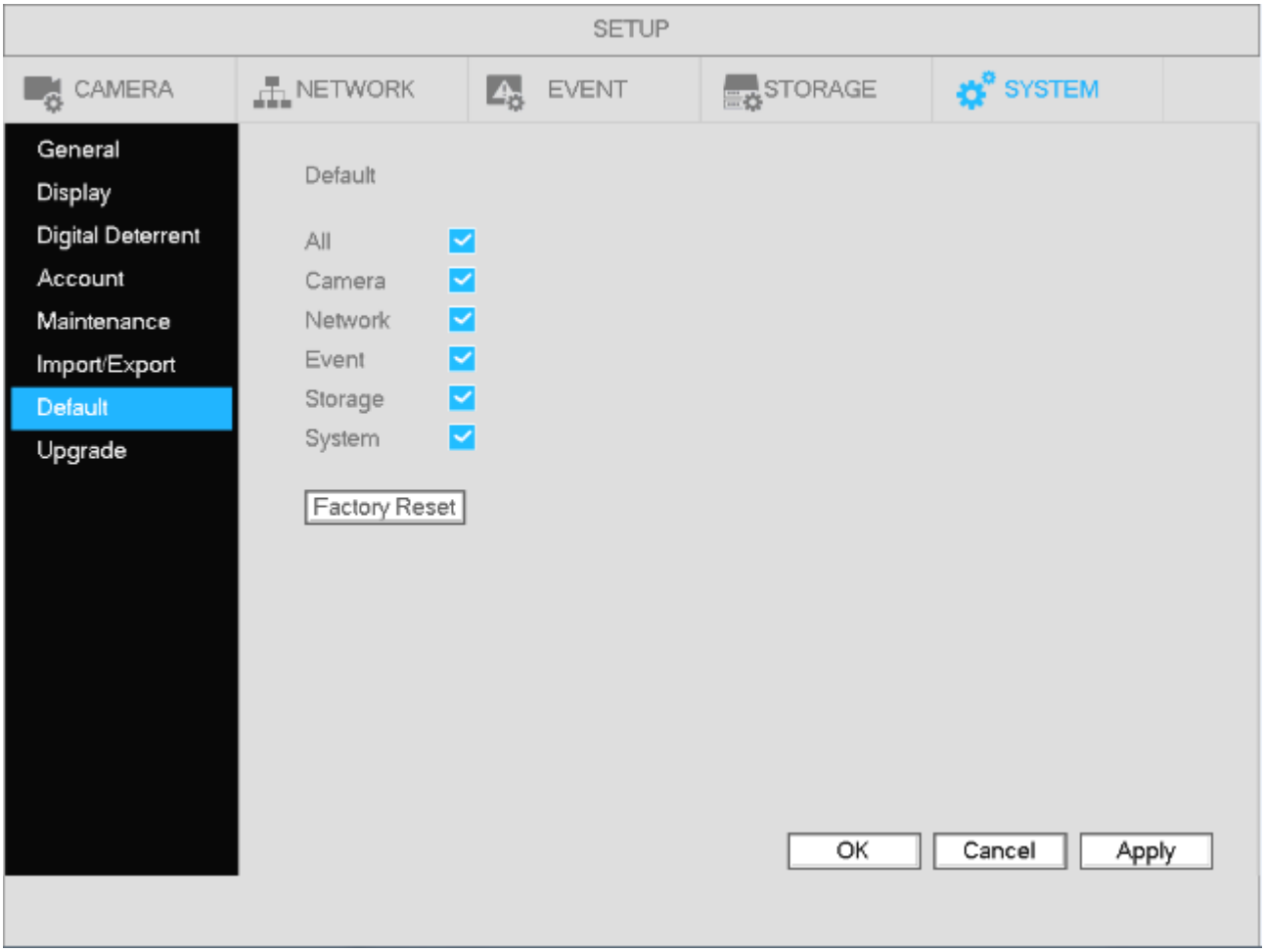


Figure 4-97

4.13.7 Maintenance

Set up auto-reboot time and auto-delete of old files. See Figure 4-98.

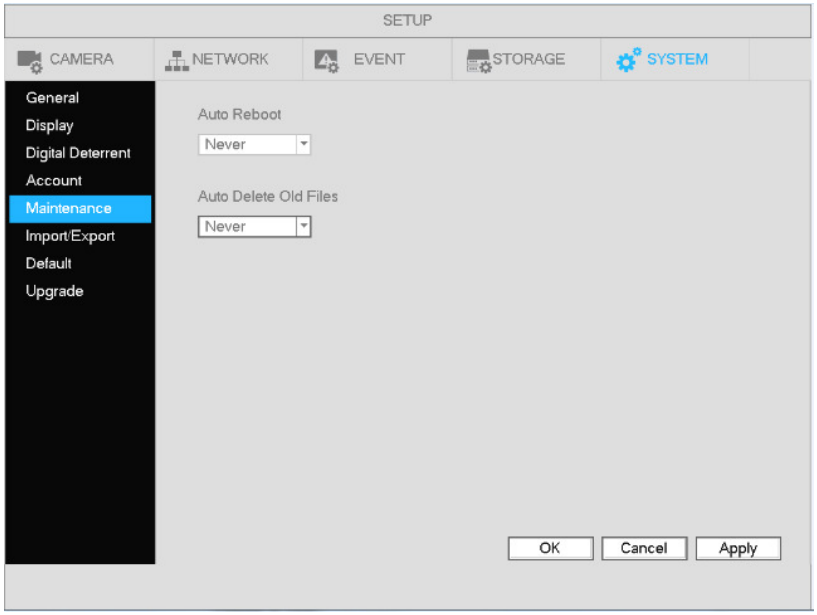


Figure 4-98

4.13.8 Logout /Shutdown/Restart

Go to Main Menu->Operation->Shutdown, as shown in Figure 4-99.

- Shutdown: System shuts down and turns off power.
- Logout: Logs out the current user.
- Restart: Reboot device.

Figure 4-99

5 Web Operation

5.1 General Introduction

The NVR can also be accessed through a web browser, allowing for live view, playback, system setup, and PTZ controls.

5.1.1 Log in

Before accessing the device on a web browser, make sure that the device is connected to the network and that it has a valid IP address.

Open Internet Explorer and enter the NVR IP address in the address column.

See Figure 5-1.

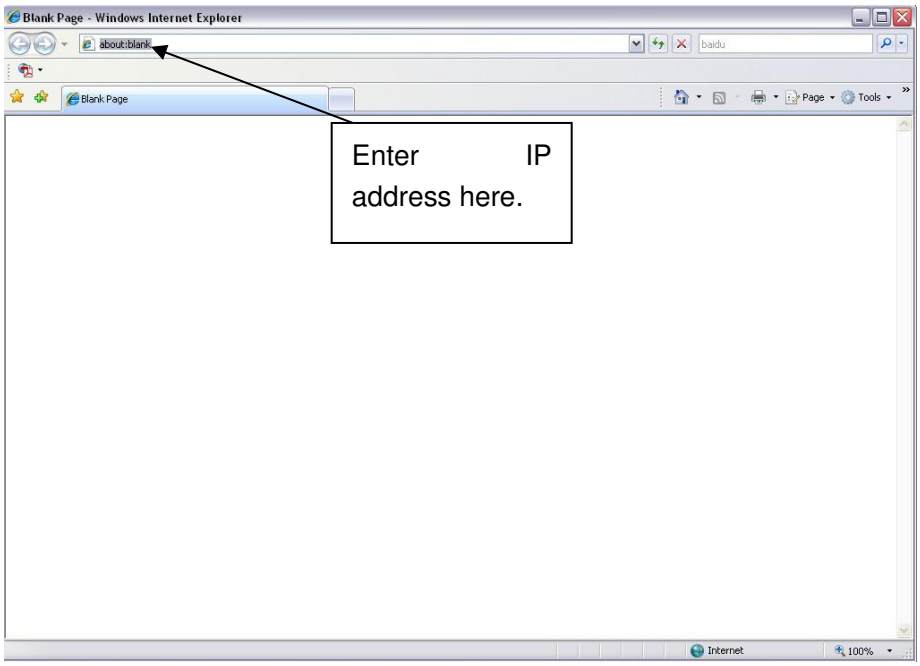


Figure 5-1

There will be a prompt to install the web plug-in. Accept to install the plug-in.

If it fails to install the plug-in, please modify the browser settings as follows. See Figure 5-2. ActiveX controls must be enabled.

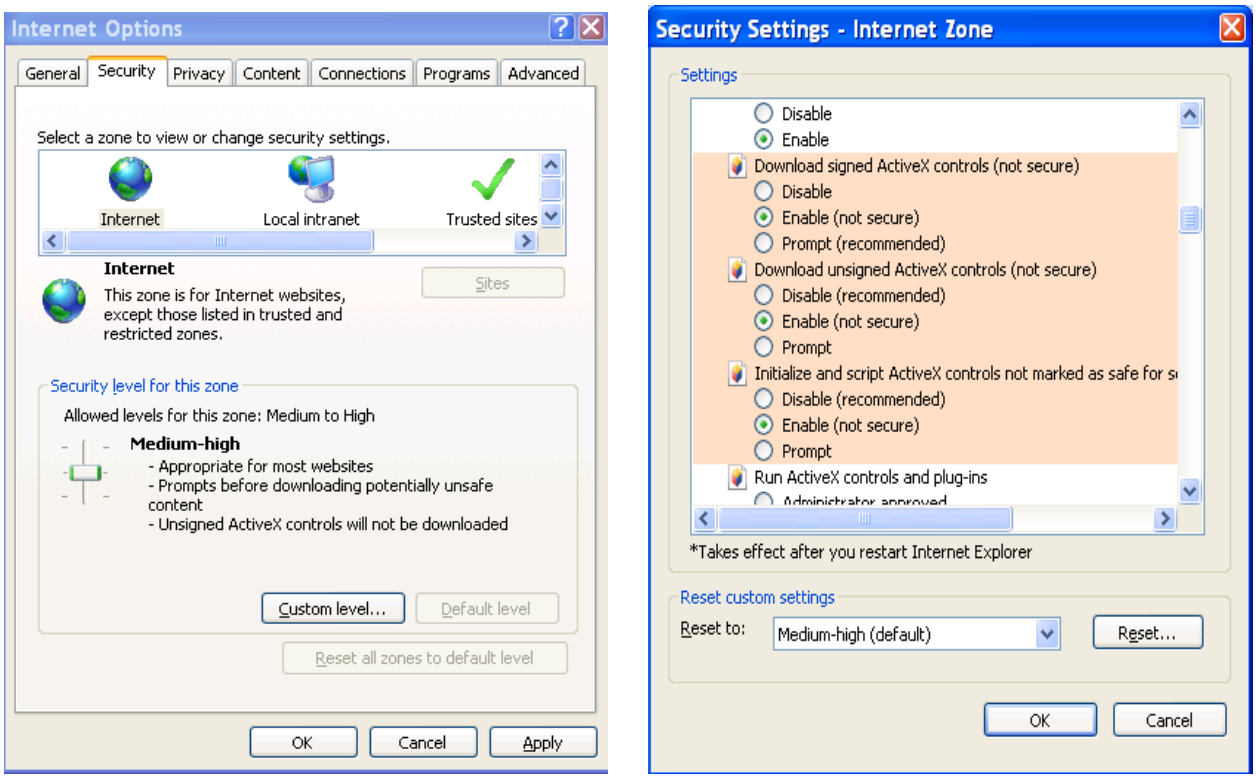


Figure 5-2

After installation, the interface is shown as below. See Figure 5-3.

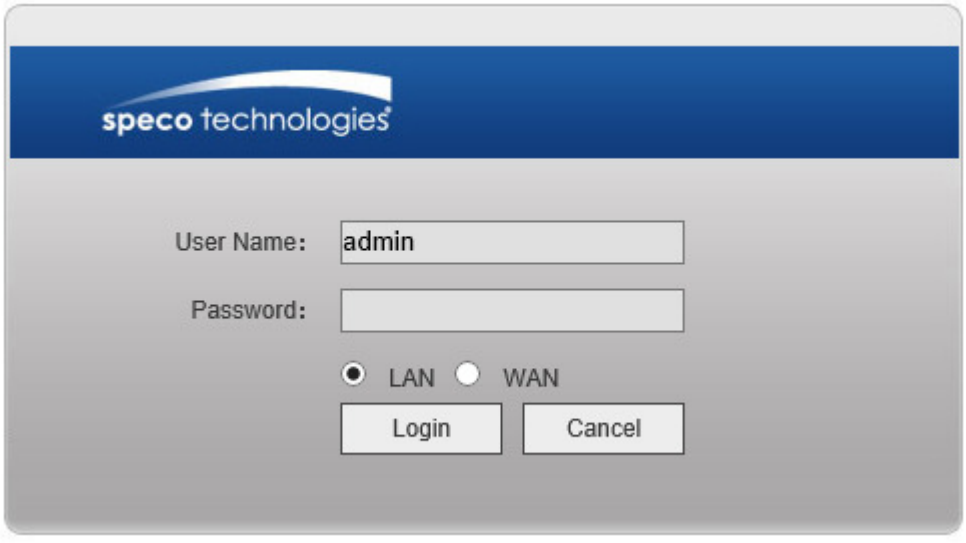


Figure 5-3

Enter the user name and password. Choose between LAN and WAN modes. If accessing from the same local network, choose LAN. If accessing over the internet, choose WAN.

5.2 LAN Mode

For the LAN mode, after logging in, the main window will show. See Figure 5-9.
This main window can be divided into the following sections.

- Section 1: there are six function tabs at the top: Live View, Playback, Setup, Sensor, Setup,System Info, and Logout.
- Section 2: The left menu pane shows all channels that are connected in the NVR currently. For each channel, main stream or sub stream can be chosen for viewing. Refer to Figure 5-4. To select the stream, hover the mouse over the channel and click on the pulldown arrow.

Figure 5-4

- Section 3: The Open All button enables/disables live view for all channels. Selection can be made for main stream or sub stream. See Figure 5-5.

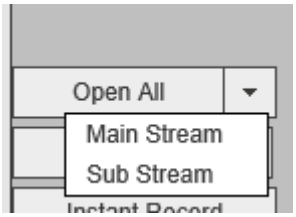


Figure 5-5

- Section 4: Start Talk button.

Enable two-way audio. Click the pulldown arrow to select the mode. There are four options: DEFAULT, G711a, G711u, and PCM. See Figure 5-6.

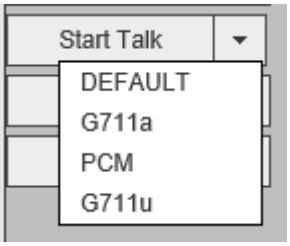


Figure 5-6

- Section 5: Click Instant Record to begin manual recording. See Figure 5-7. Click again to stop.

Figure 5-7

- Section 6: Local Play

Recorded data that's saved on the PC can be played back.

Click the local play button and choose the directory and file where the saved data is located. File format is .dav. See Figure 5-8.

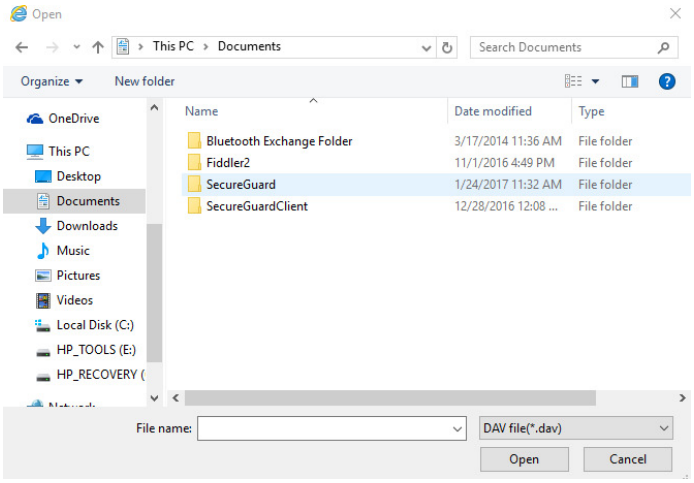


Figure 5-8

- Section 7: PTZ operation panel. Please refer to chapter 5.4 for detailed information.
- Section 8: Image setup and alarm setup.

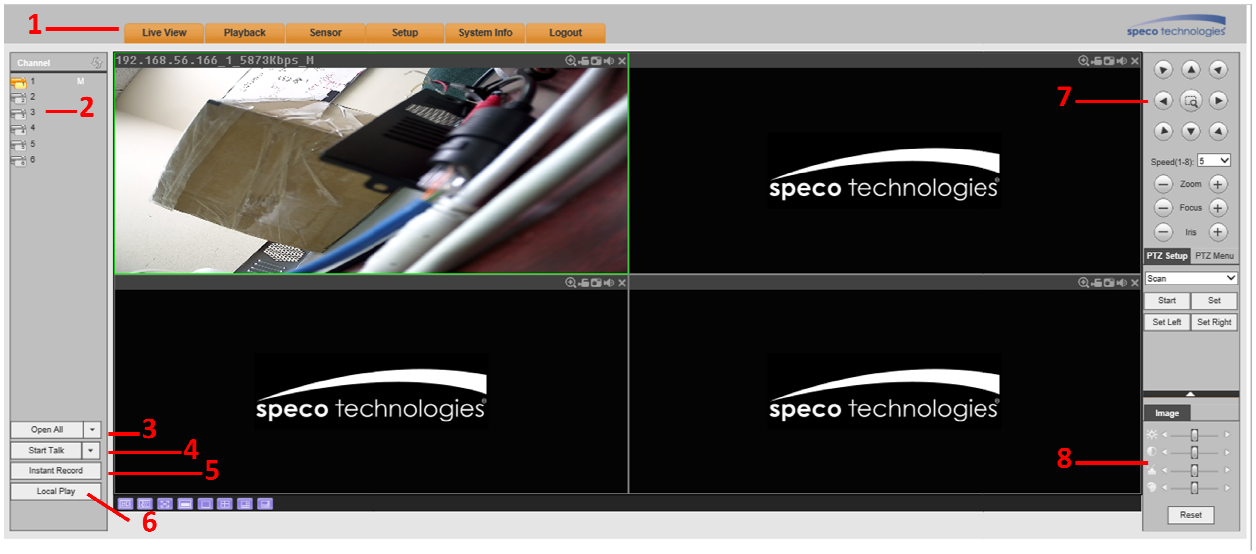


Figure 5-9

5.3 Live View

Click on a channel to view the image.

On the top left corner of the channel, view the following information: device IP(172.11.10.11), channel number(1), camera bitrate(2202Kbps) and stream type(M=main stream, S=sub stream). See Figure 5-10.

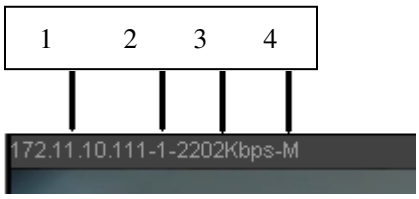


Figure 5-10

On the top right corner, there are five function buttons. See Figure 5-11.

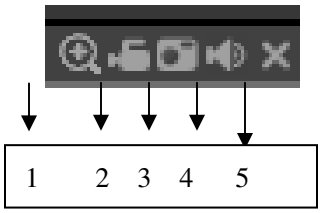


Figure 5-11

- 1: Digital zoom: Click this button and then left drag the mouse in the zone to zoom in. Right click to restore the image.
- 2: Record: Click to begin local recording. This button will be highlighted. Go to the system folder C:\RecordDownload to view the recorded file.
- 3: Snapshot: Take a snapshot. All images are saved in C:\PictureDownload (default).
- 4: Audio :Turn audio on/off
- 5: Close the channel live view

5.4 PTZ

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

Click the 3D intelligent positioning key to go to a single screen mode. Drag the mouse on the screen to automatically pan, tilt, and zoom to the area that was identified.

For PTZ setup, refer to the following table:

Parameter	Function
Scan	● Select Scan from the dropdown list. ● Click Set to set the scan left and right limits. ● Use direction buttons to move the camera to the desired location and then click the left limit button. Move the camera again and then click the right limit button.
Preset	● Select Preset from the dropdown list. ● Move the camera to the desired location and enter the preset value. Click Add to add the preset.
Tour	● Select Tour from the dropdown list. ● Enter a preset value in the column. Click Add to add one preset to the tour. ● Repeat the above procedure to add more presets to the tour. ● Click Start to star the tour.
Pattern	● Select Pattern from the dropdown list. ● Enter a pattern value and then click Start button to begin recording the PTZ movement pattern. Then click Add to set the pattern.

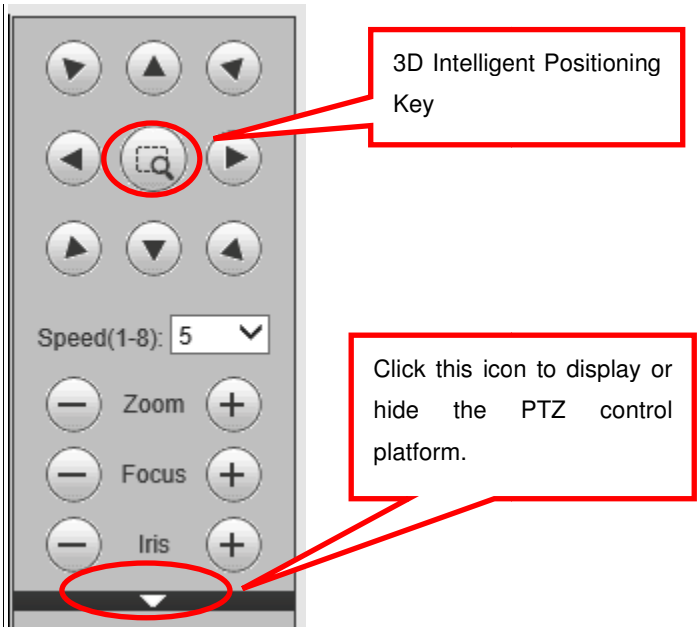


Figure 5-12

5.5 Image/Alarm-out

Select a channel and click on Image as shown in Figure 5-13.

5.5.1 Image

For supported camera, brightness, contrast, hue and saturation can be adjusted.
Click on the Reset button to restore system default setup.

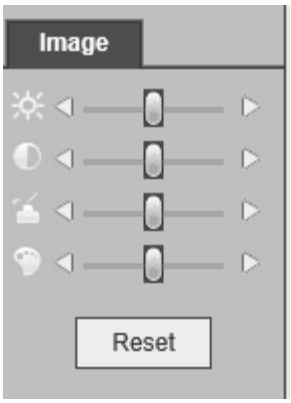


Figure 5-13

5.6 WAN mode

In WAN mode, after you logged in, the interface is shown as below. See Figure 5-14.

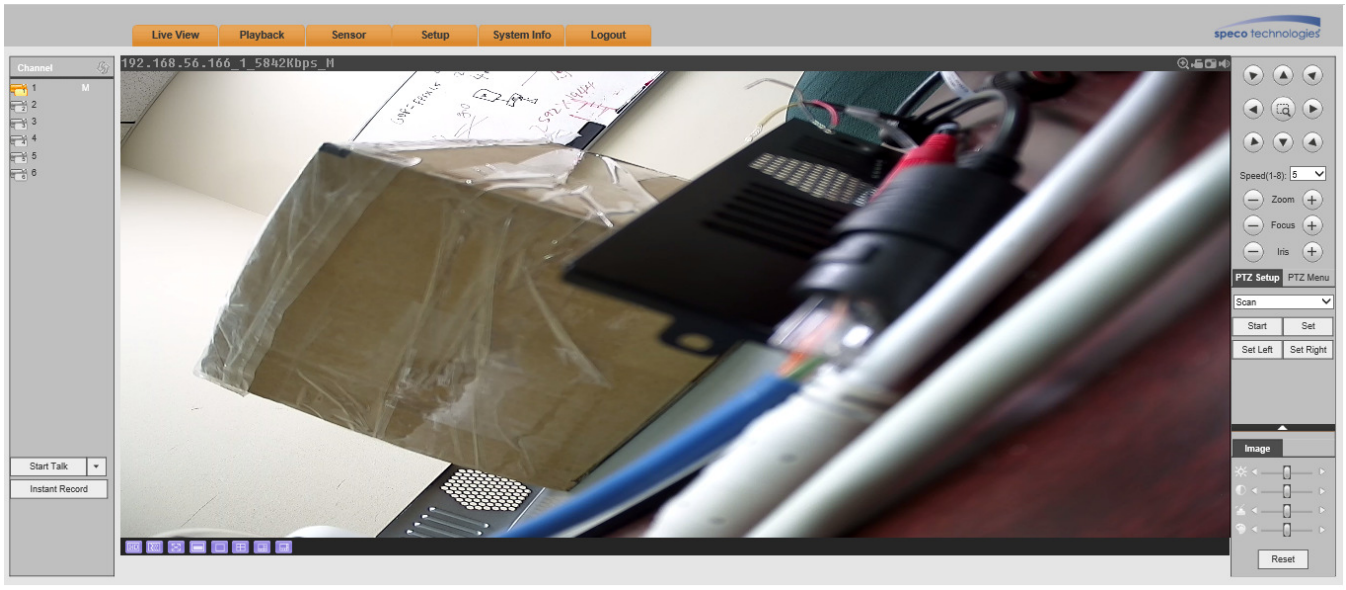


Figure 5-14

Please refer to the following for differences between LAN and WAN login.

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

2) You can select different channels and different viewing modes at the bottom of the interface. See Figure 5-15.

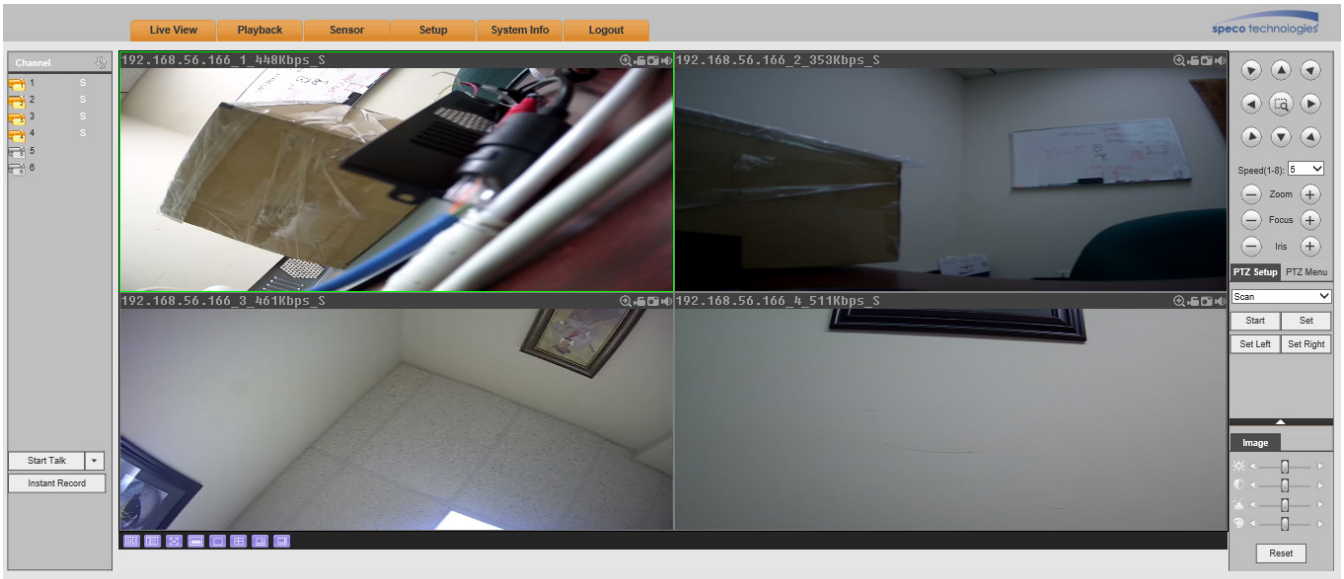


Figure 5-15

3) In a multiple-channel view, the system uses the sub stream by default. Double click on a channel to switch to a single channel view. The system will use the main stream for single channel view. On the left menu pane, M stands for main stream and S stands for sub stream.

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

5.7 Setup

Note

Functions included in the web viewer are available locally in the unit. All changes made are saved locally at the unit. Screenshots are provided below for reference. For more detailed information on specific features, please refer to chapter 4.

5.7.1 Camera

5.7.1.1 Camera Setup

Go to Setup->Camera->Camera to set up cameras on the device. See Figure 5-16. Click on Manual Add to manually add a camera. See Figure 5-17.

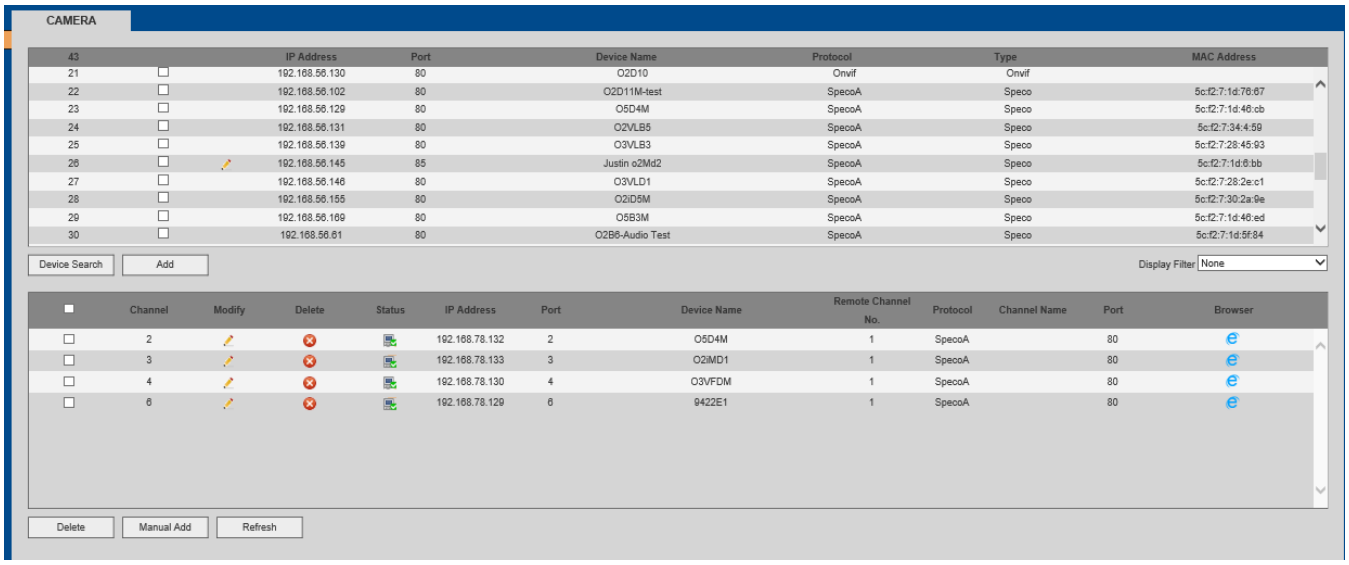


Figure 5-16

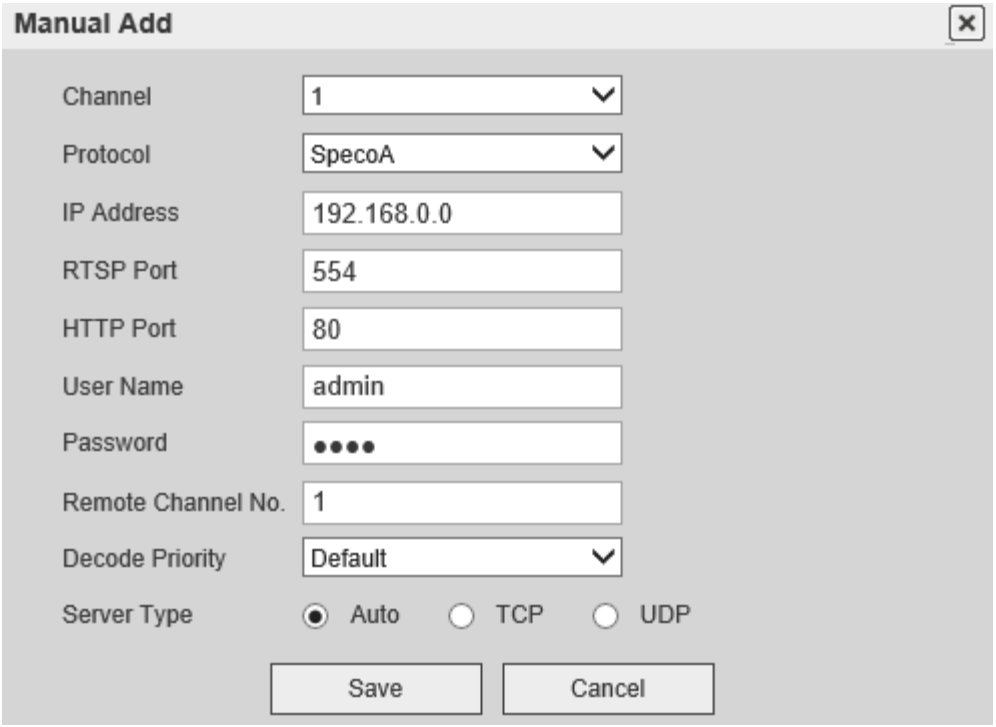


Figure 5-17

Please refer to the following table for parameter information.

Parameter	Function
Device search	Click to search for all IP cameras on the network.
Add	Select a device in the list and then click Add to add the camera to the system.
Modify	Click for any device in the Added device list to can change the corresponding remote channel setup.
Delete	Click to delete the remote connection of the corresponding channel.
Manual Add	Figure 5-17. Add a camera manually. Specify the IP address, RTSP port, HTTP, user name, and password. **Note:** ● Multiple protocols are supported. Speco A is the main protocol for Speco's IP cameras. For certain cameras that have additional capabilities, the Speco B protocol can be used for more control through the NVR. This includes changing image settings, video loss detection, tampering detection, camera offline detection, and camera firmware upgrade

5.7.1.2 Stream

5.7.1.2.1 Stream

Interface is shown in Figure 5-18.

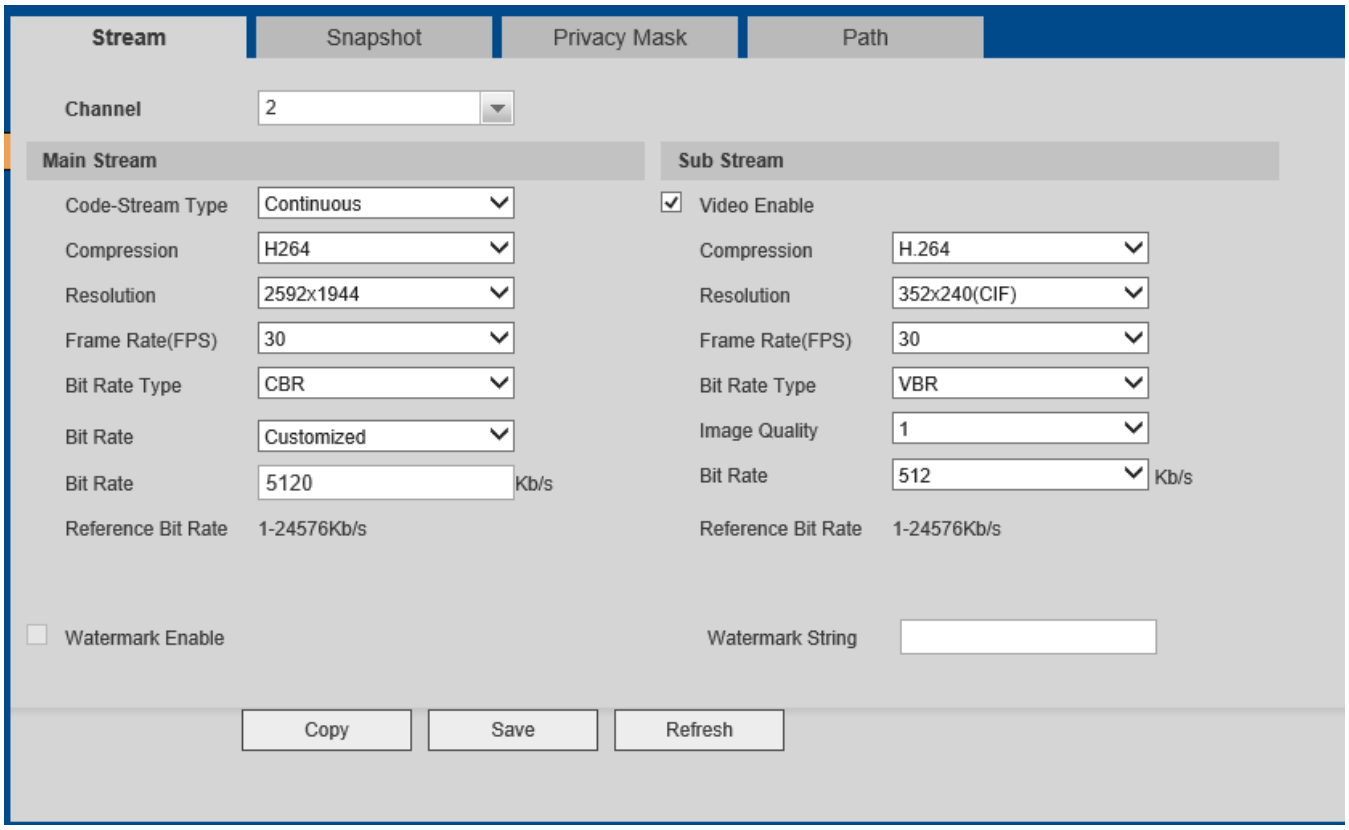


Figure 5-18

5.7.1.2.2 Snapshot

The snapshot interface is shown in Figure 5-19.

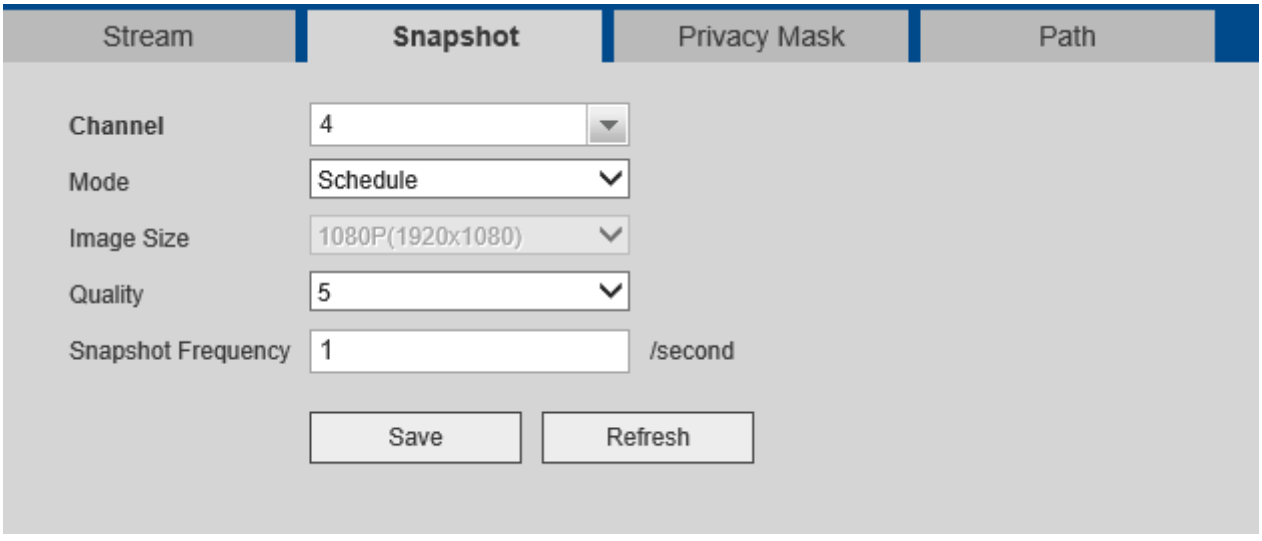


Figure 5-19

5.7.1.2.3 Privacy Mask

The privacy mask interface is shown in Figure 5-20.

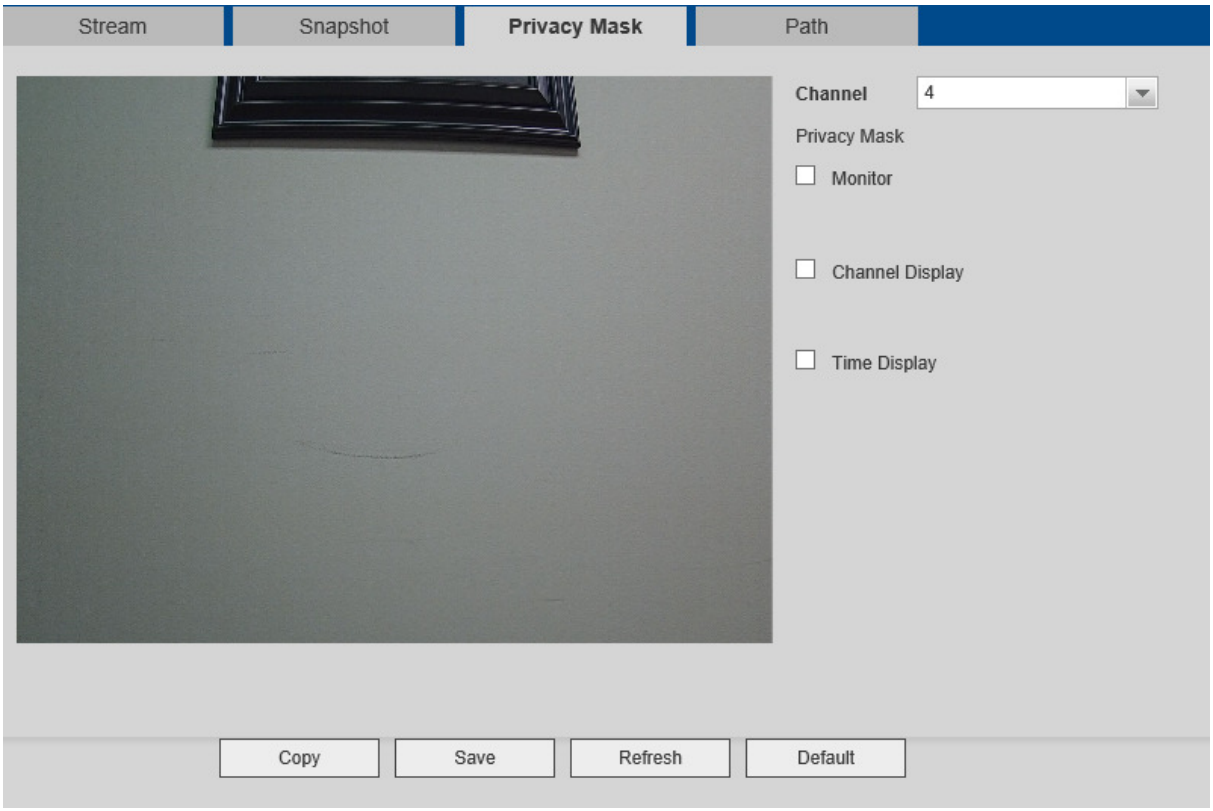


Figure 5-20

Please refer to the following table for detailed information.

Parameter	Function
Monitor	Check the Monitor box first. Click the Set button and click and drag a zone within the image. A maximum of 4 privacy mask zones are supported.
Time Title	Enable this function to overlay the time info in the video window. Use the mouse to change the position.
Channel Title	Enable this function to overlay the channel title info in the video window. Use the mouse to change the position.

5.7.1.2.4 Path

The storage path interface is shown in Figure 5-21.

The default setup is C:\PictureDownload and C:\RecordDownload for saving snapshots and recordings.

Click the Save button to save the setup.

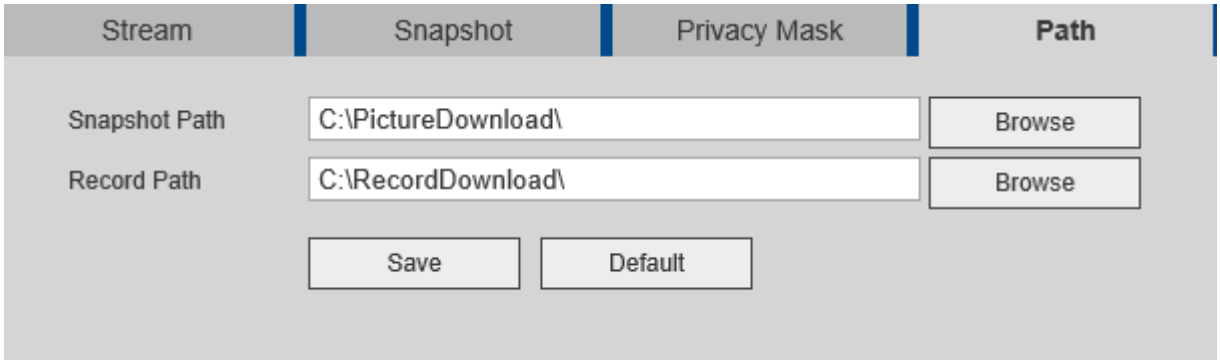


Figure 5-21

5.7.1.3 Channel Name

Sets the local channel name on the unit. See Figure 5-22.

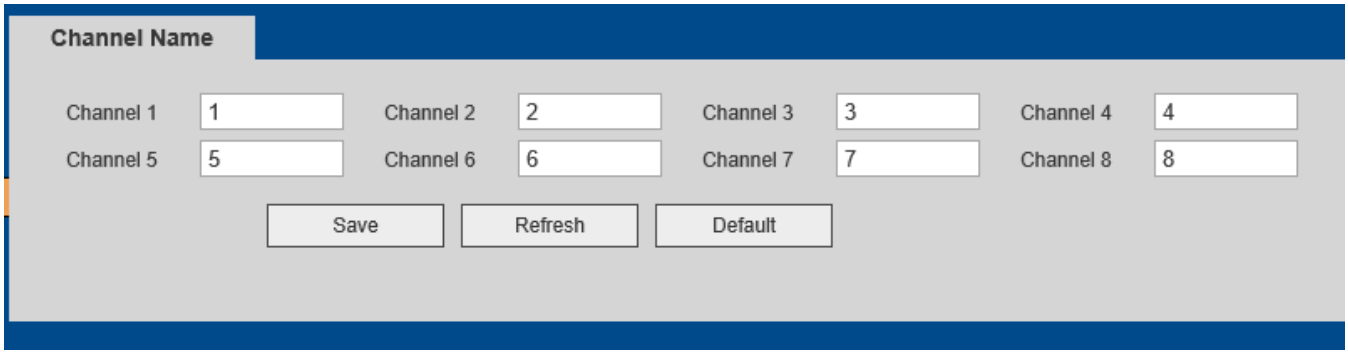


Figure 5-22

5.7.1.4 IP Camera Upgrade

IP cameras using the Speco B protocols can be upgraded through the NVR. See Figure 5-23.

Click Browse to select the firmware file. Select the camera to upgrade and click on Upgrade.

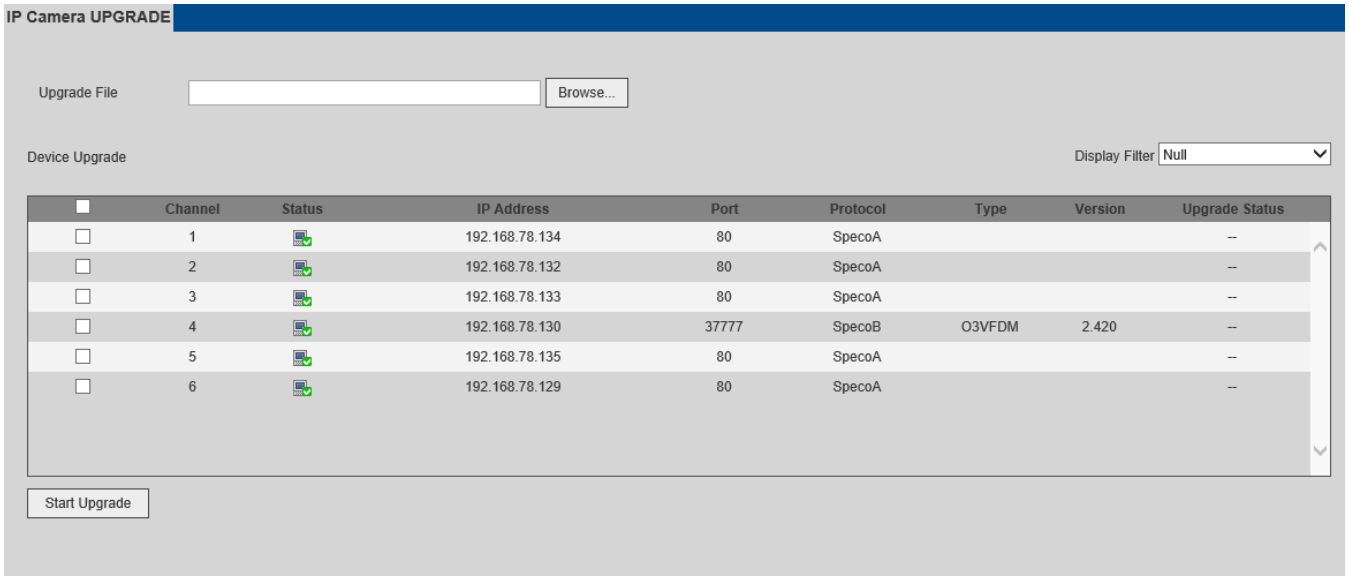


Figure 5-23

5.7.2 Network

5.7.2.1 TCP/IP

The TCP/IP interface is shown as in Figure 5-24. Go to Setup->Network->TCP/IP.

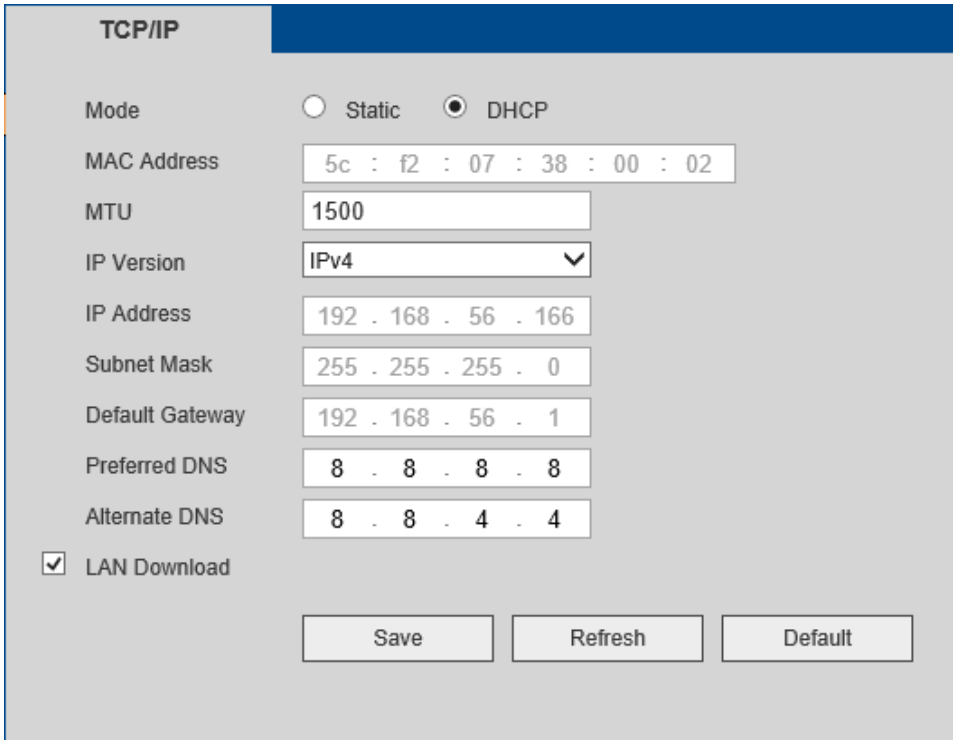


Figure 5-24

5.7.2.2 Connection

The connection interface is shown as in Figure 5-25.

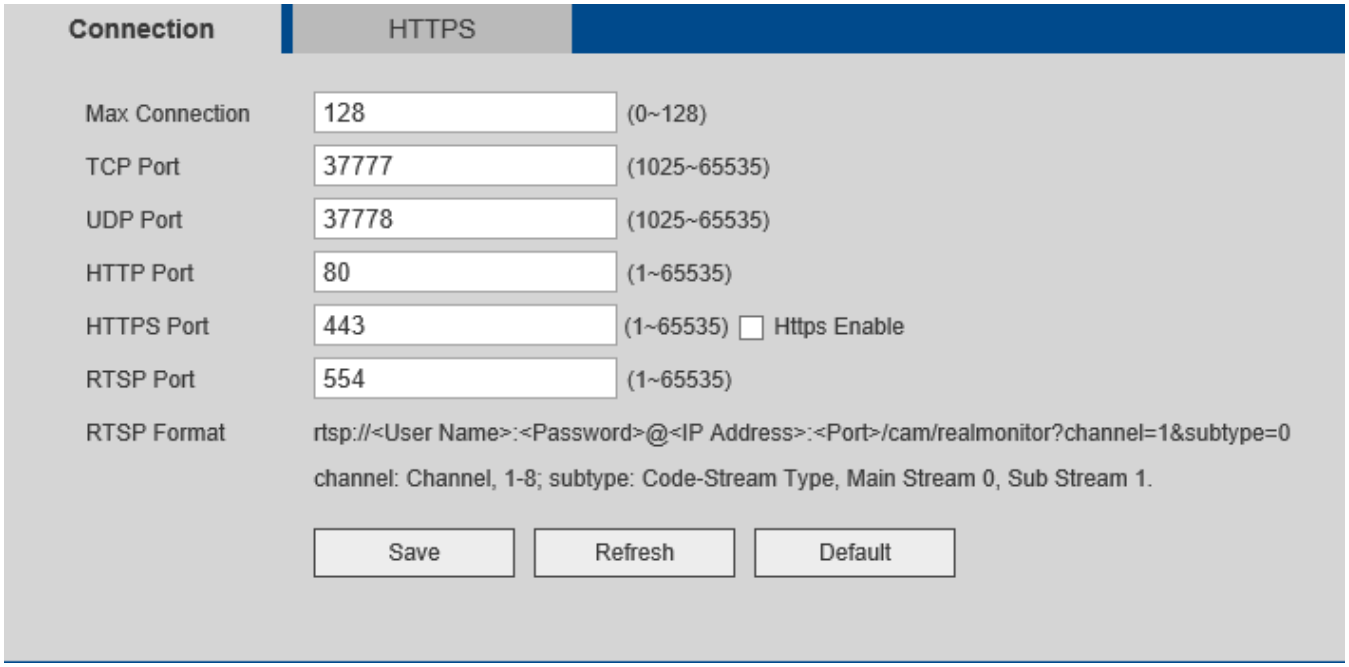


Figure 5-25

5.7.2.3 PPPoE

The PPPoE interface is shown in Figure 5-26.

Fill in the necessary information. Save and reboot the device.

Note: The LAN IP address needs to be used first to log into the device..

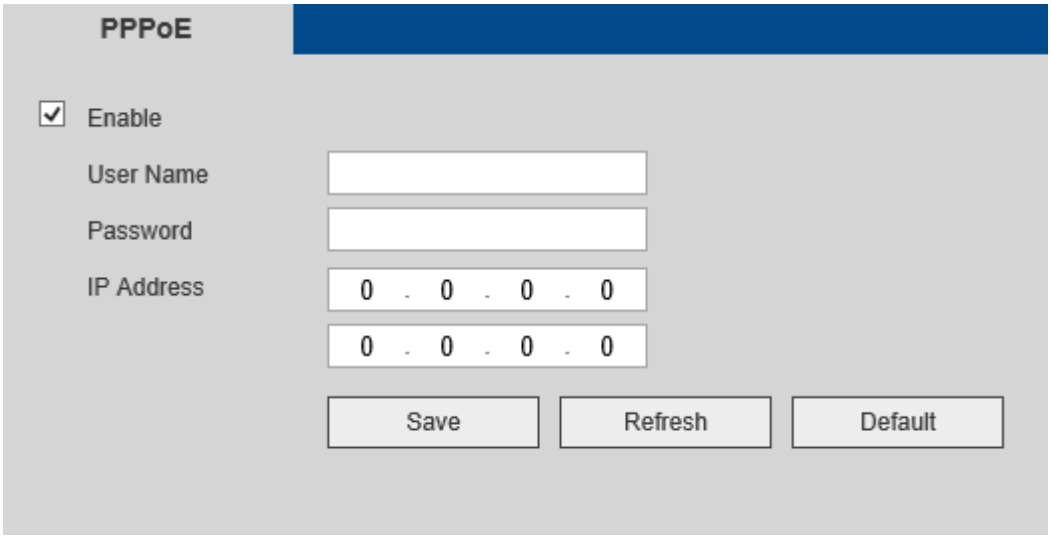


Figure 5-26

5.7.2.4 DDNS

The DDNS interface is shown in Figure 5-27.

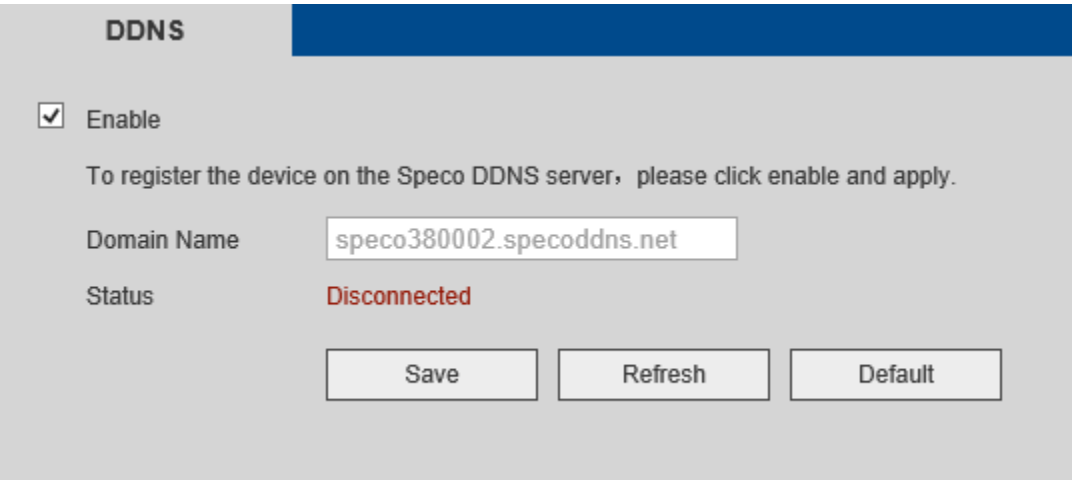


Figure 5-27

5.7.2.5 IP filtering

The IP filtering interface is shown in Figure 5-28.

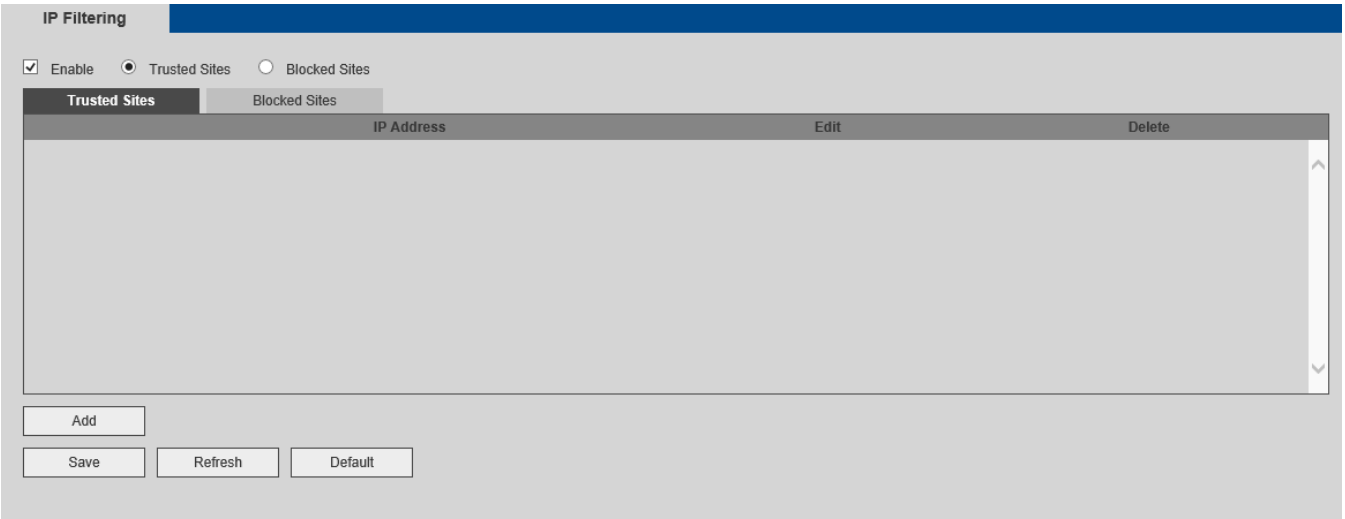


Figure 5-28

5.7.2.6 Email

The email interface is shown in Figure 5-29.

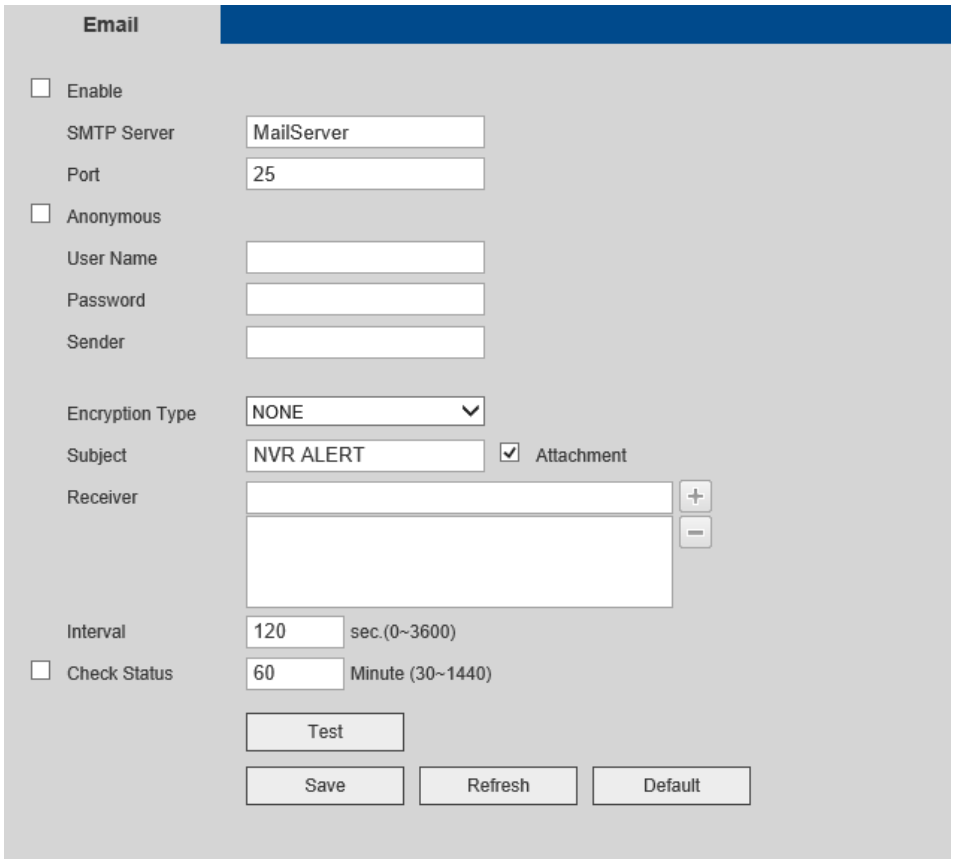


Figure 5-29

5.7.2.7 UPnP (EZ Network)

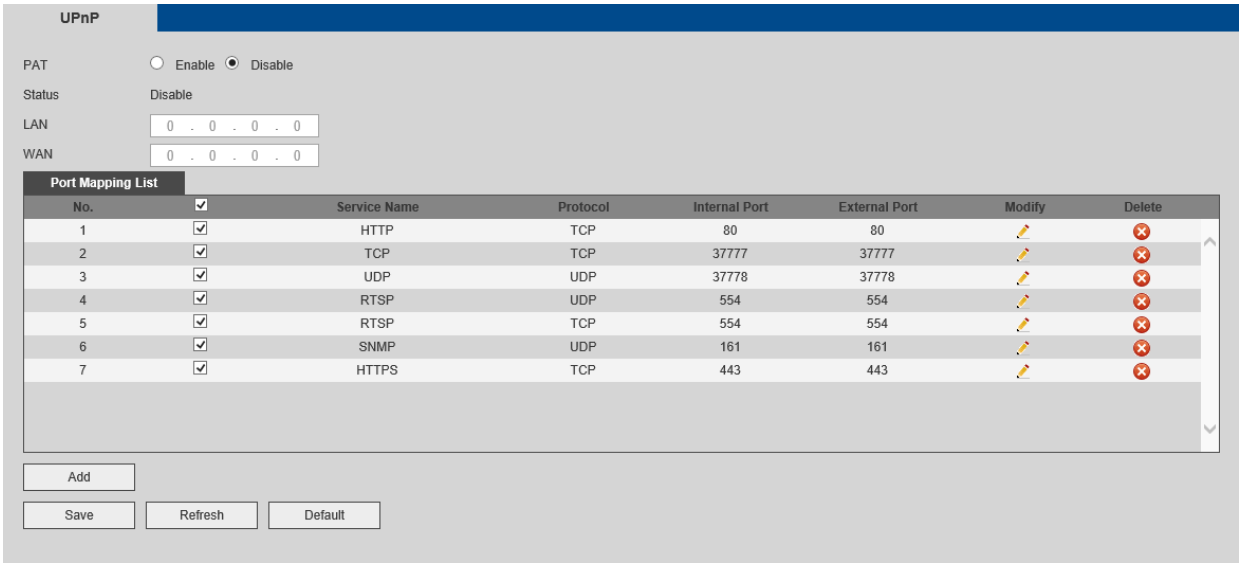


Figure 5-30

5.7.2.8 FTP

The FTP interface is shown in Figure 5-31.

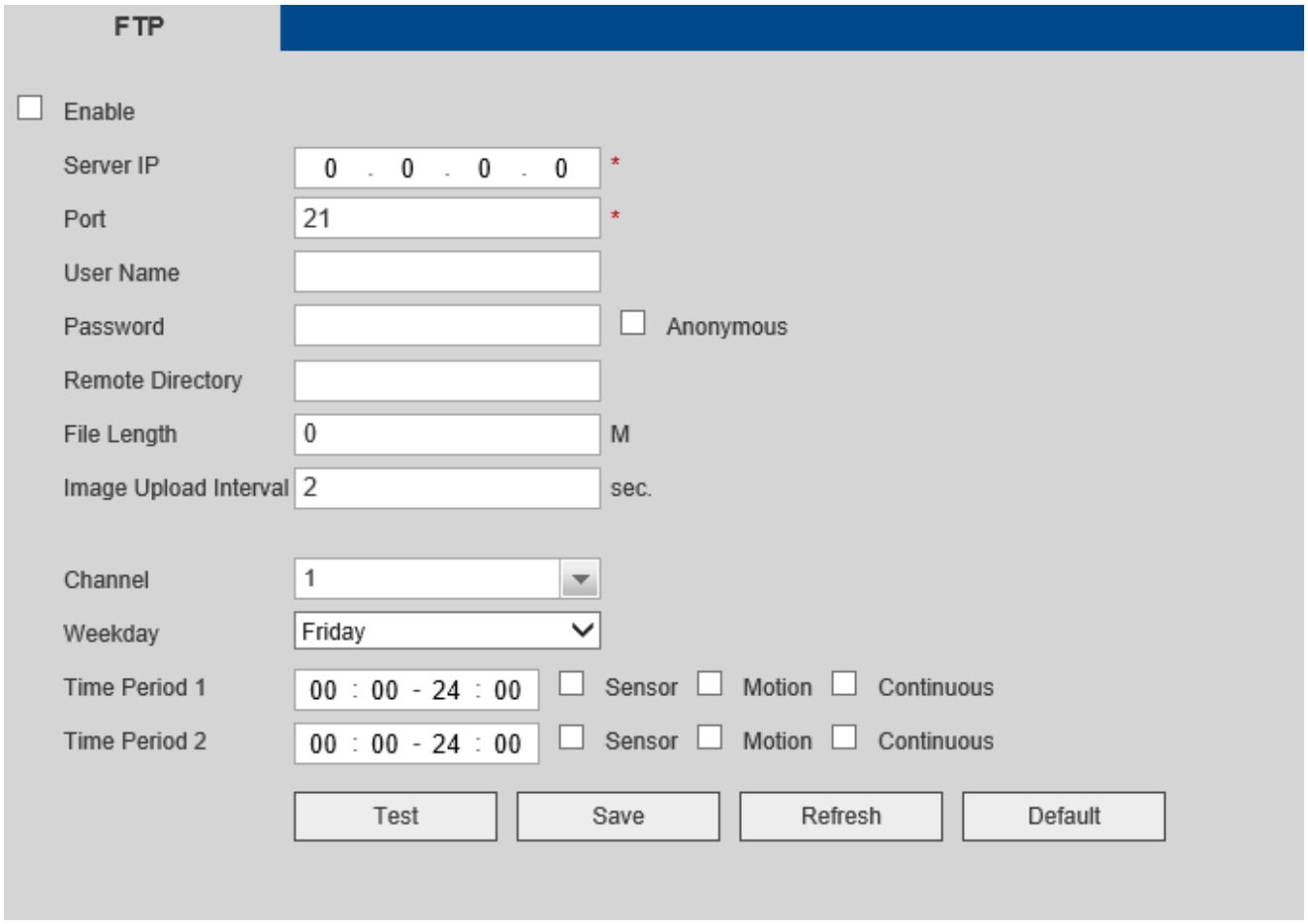


Figure 5-31

5.7.2.9 Multicast

The multicast interface is shown in Figure 5-32.

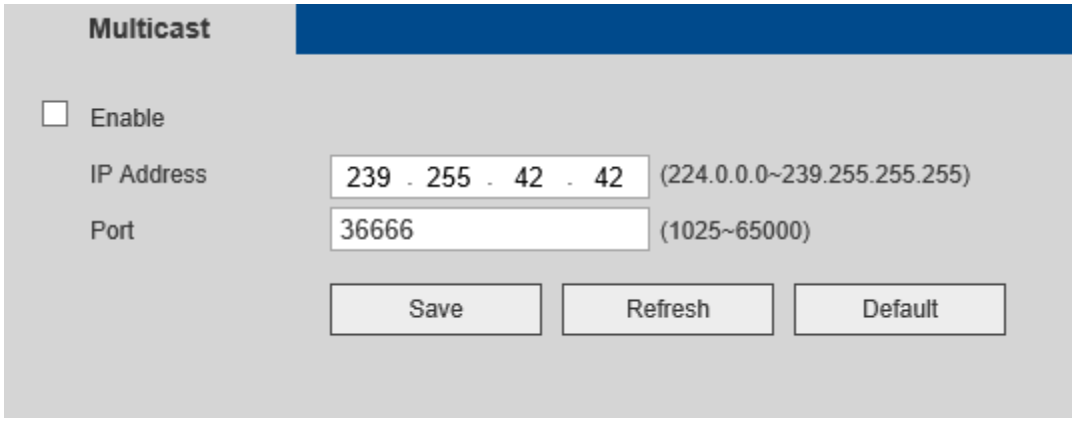


Figure 5-32

5.7.2.10 HTTPS

The HTTPS interface is shown in Figure 5-33.

Note

- **HTTPS must be enabled first. Go to the Connection section to do this. The unit will reboot after enabling HTTPS.**
- **If the device IP address changed, the server certificate must be implemented again.**
- **If HTTPS is being used for the first time on a PC, the root certificate must be downloaded.**

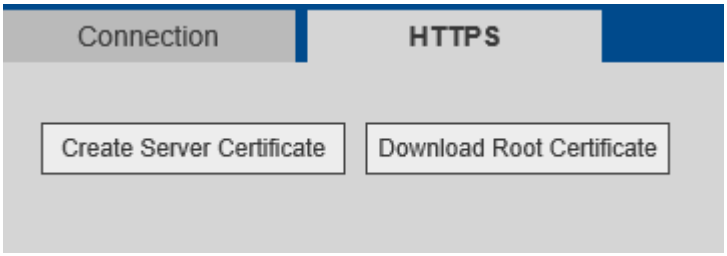


Figure 5-33

5.7.2.10.1 Create Server Certificate

Click and enter the necessary information. Click Create. See Figure 5-34.

Note

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

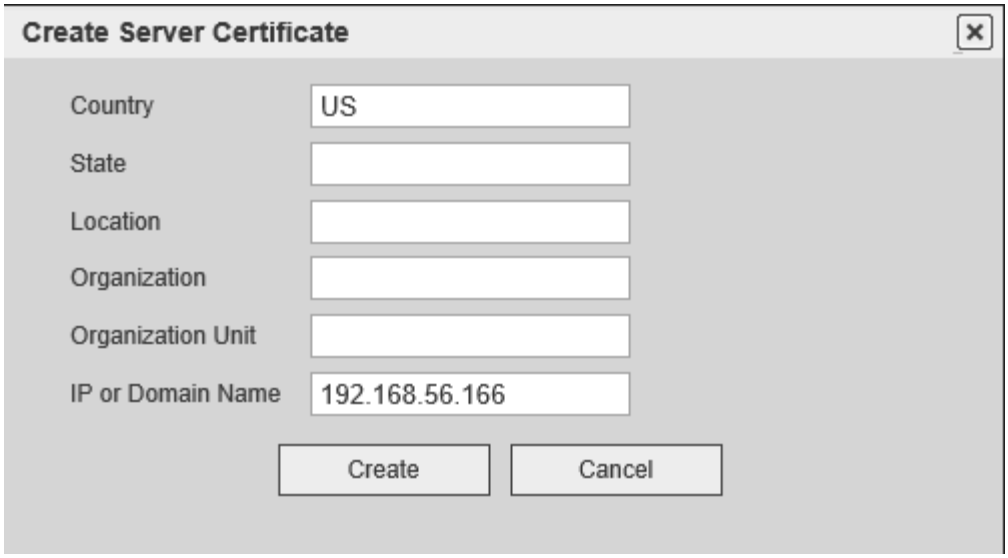
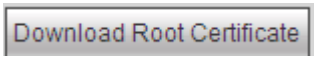


Figure 5-34

5.7.2.10.2 Download root certificate

To download the root certificate, click 

. Press Open when prompted.

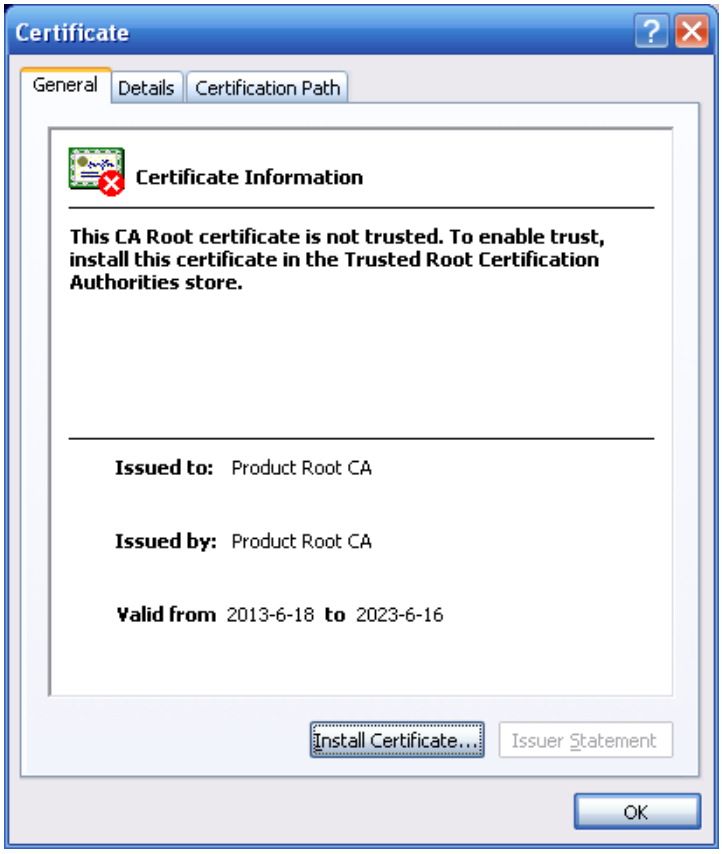


Figure 5-35

Click on Install certificate to go to the certificate wizard. See Figure 5-36.

Figure 5-36

Click Next to continue. Select a location for the certificate. See Figure 5-37.

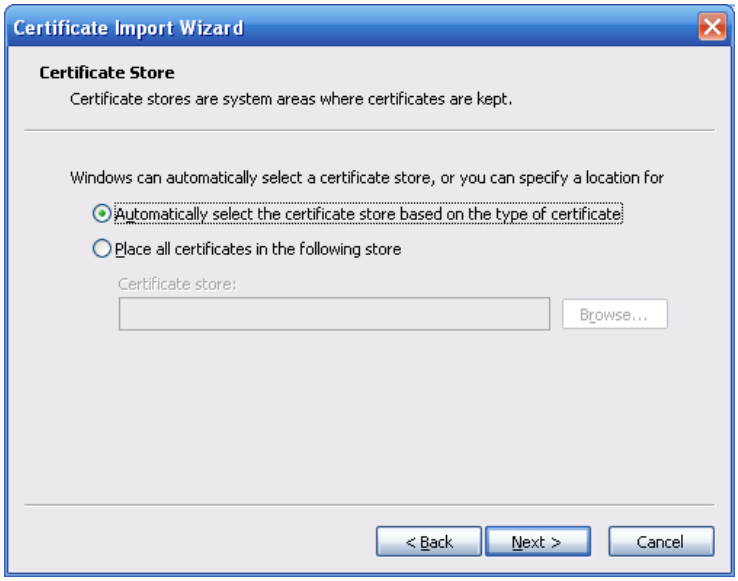


Figure 5-37

Click Next to complete the process. See Figure 5-38.

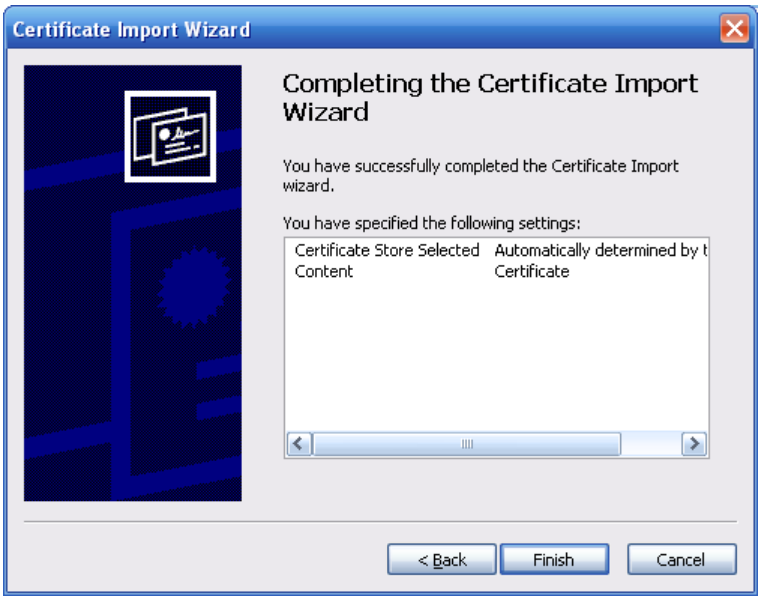


Figure 5-38

Click Finish and the system will pop up a security warning box. See Figure 5-39.

Figure 5-39

Click Yes to finish. See Figure 5-40.

Figure 5-40

5.7.2.10.3 View and set HTTPS port

In Setup->Network->Connection, the HTTPS port can be set.

The default HTTPS port value is 443.

5.7.2.10.4 Login

Open the browser and enter the IP address as: https://xx.xx.xx.xx:port.

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

Port is the HTTPS port. If using the default HTTPS value 443, the port information does not need to be added.

If setup was done correctly, the login page will be loaded.

5.7.3 Event

5.7.3.1 Video

5.7.3.1.1 Motion Detection

The motion detection interface is shown in Figure 5-41.

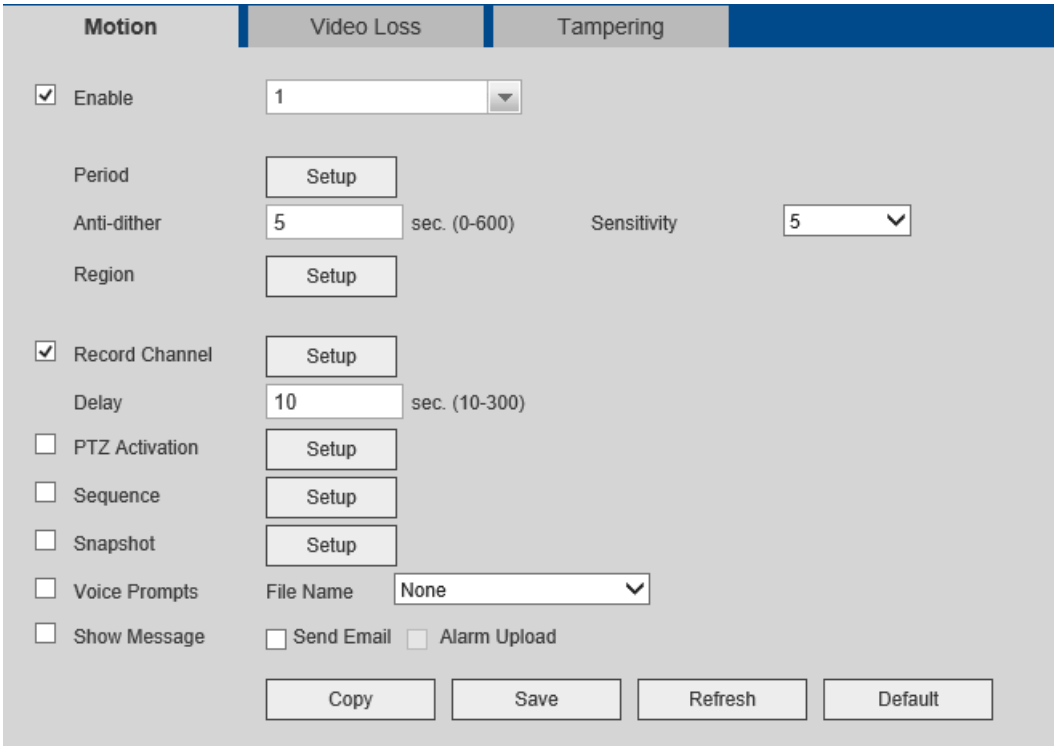


Figure 5-41

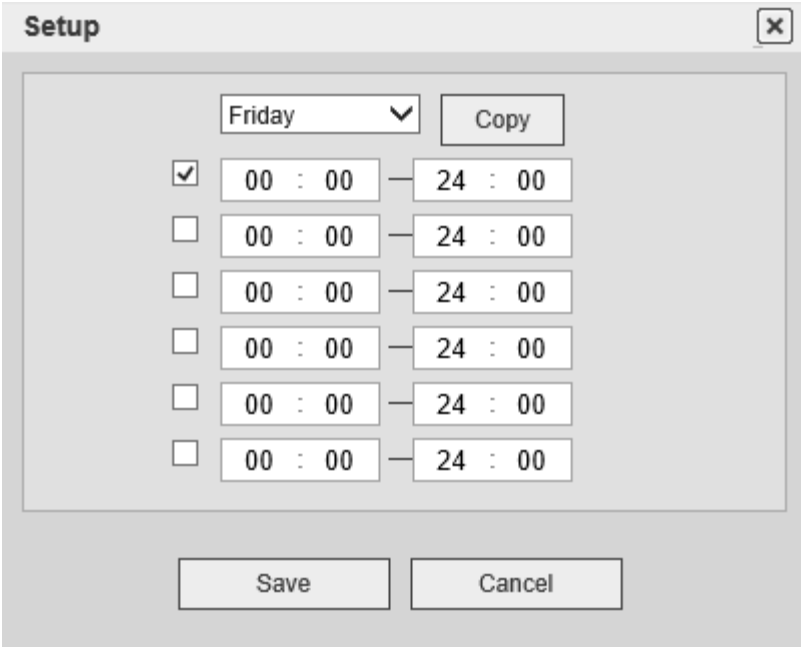


Figure 5-42 - Schedule

Figure 5-43 – motion zone setup

5.7.3.1.2 Video Loss

The video loss detection interface is shown in Figure 5-44.

Note that anti-dither, sensitivity, and region setup are not supported for video loss detection.

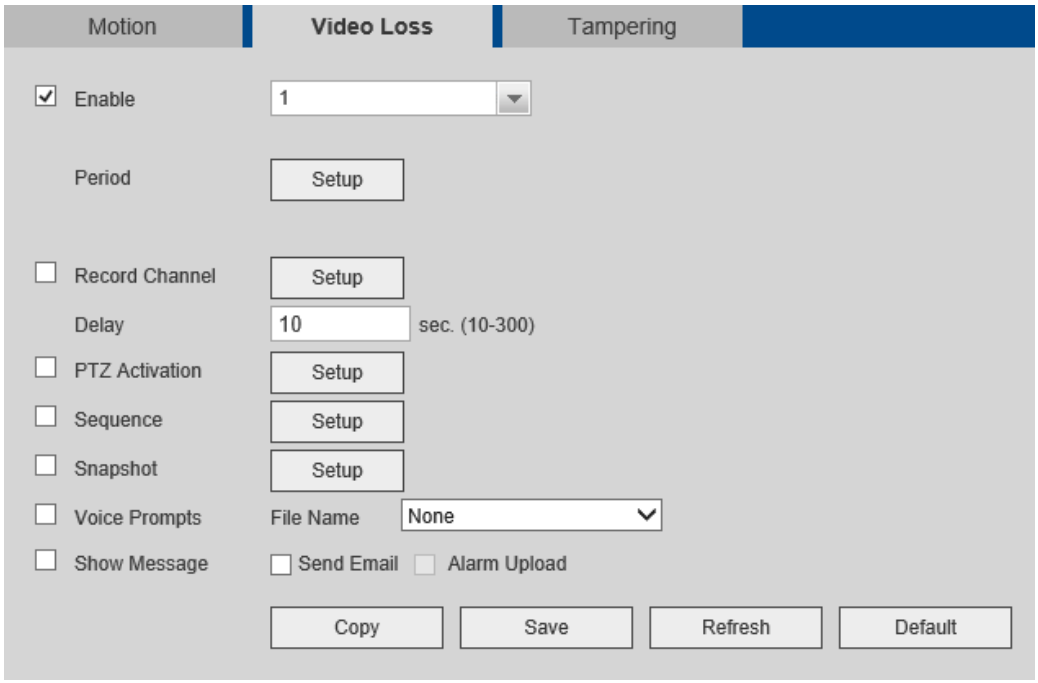


Figure 5-44

5.7.3.1.3 Tampering

The tampering detection interface is shown in Figure 5-45.

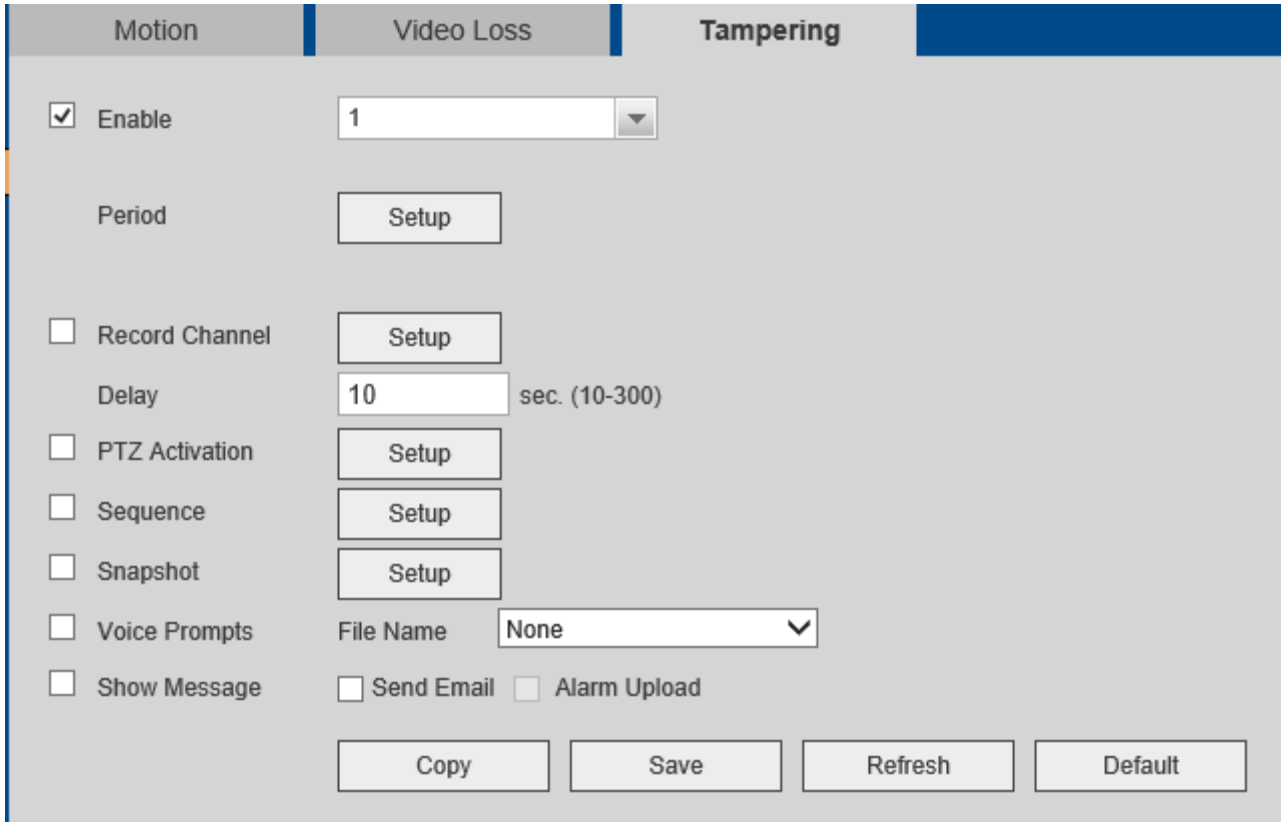


Figure 5-45

5.7.4 Storage

5.7.4.1 Schedule

Schedules for recording can be set in this section. See Figure 5-46.

There are four record modes: continuous (default), motion detection, sensor, and motion+sensor. Up to 6 separate periods can be set for a day.

The current schedule can be seen on the color bar. Note that the web schedule interface does not support dragging the color bar to set the schedule. Schedule must be set by clicking on Setup next to the color bar.

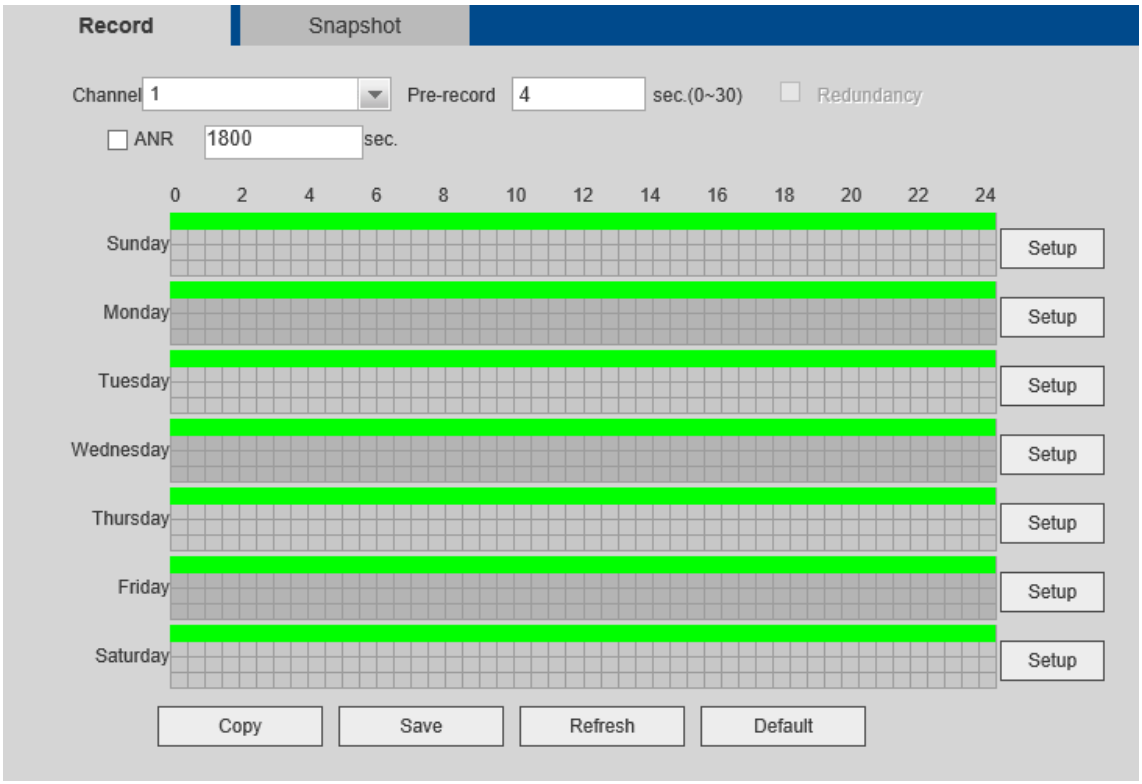


Figure 5-46

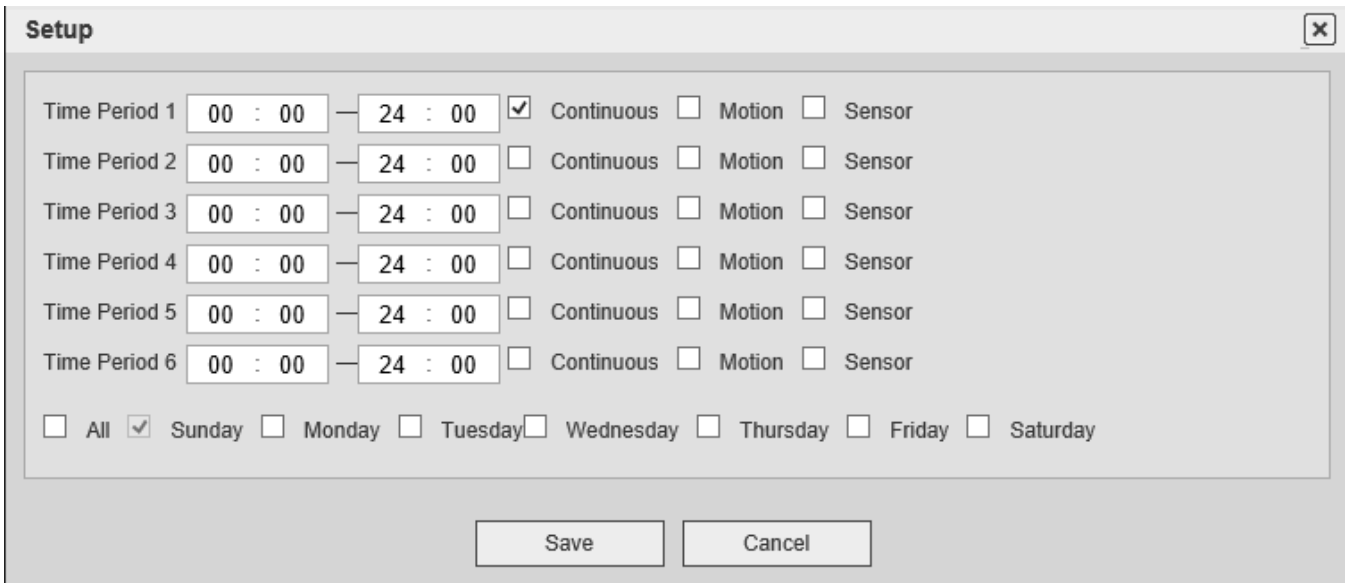


Figure 5-47

5.7.4.2 Recording Control

The interface is shown in Figure 5-48.

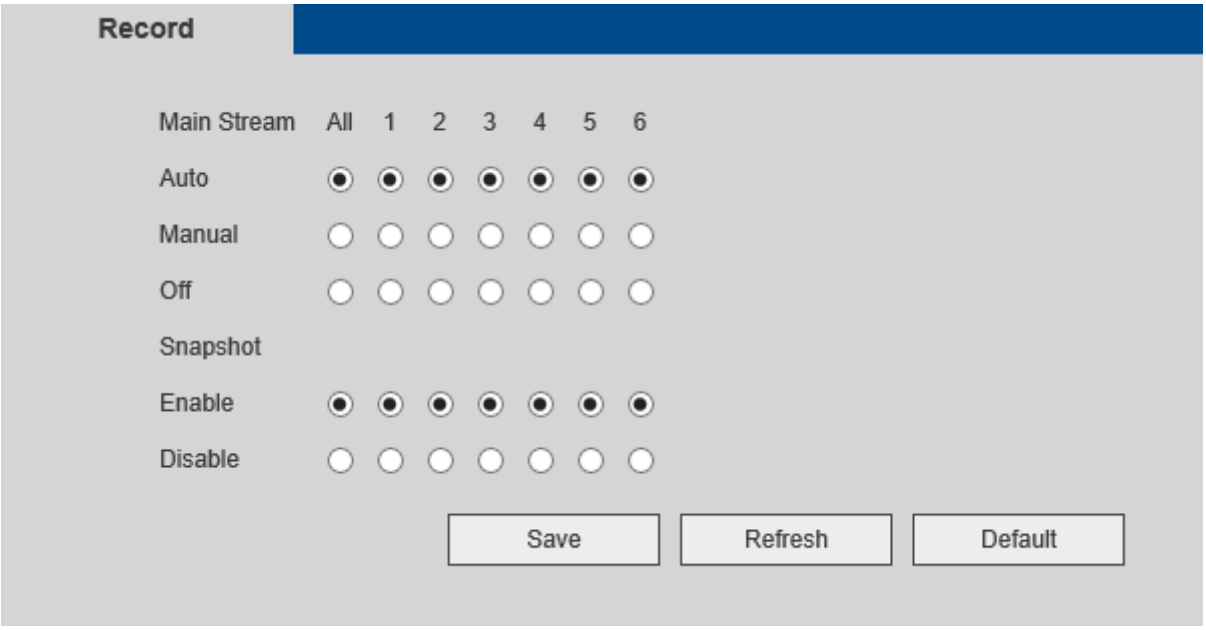


Figure 5-48

Please refer to the following table for detailed information.

Parameter	Function
Auto	Recording based on the schedule set for each channel.
Manual	Highest priority. Records the specified channel regardless of the schedule.
Stop	Stops the current recording.

5.7.5 Setup

5.7.5.1 General

5.7.5.1.1 General

The general interface is shown in Figure 5-49.

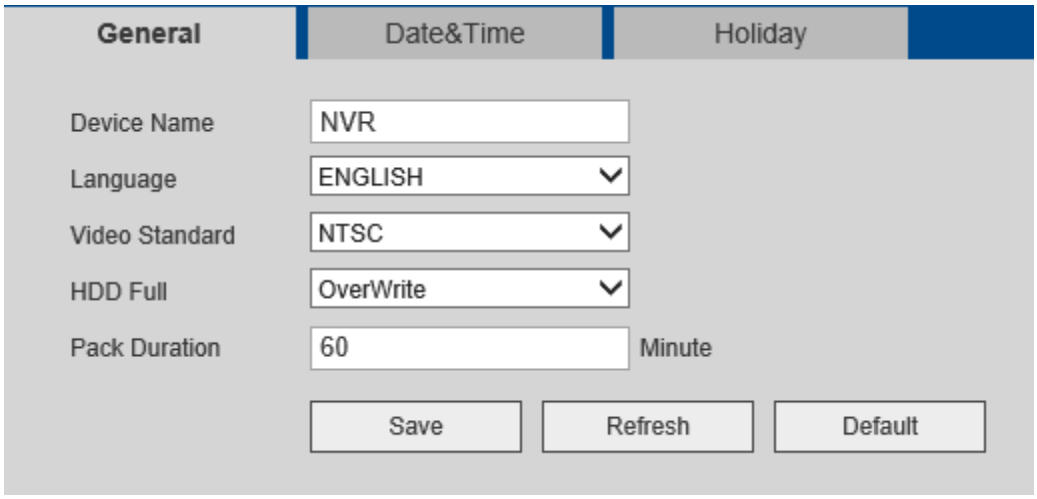


Figure 5-49

5.7.5.1.2 Date and time

The date and time interface is shown in Figure 5-50

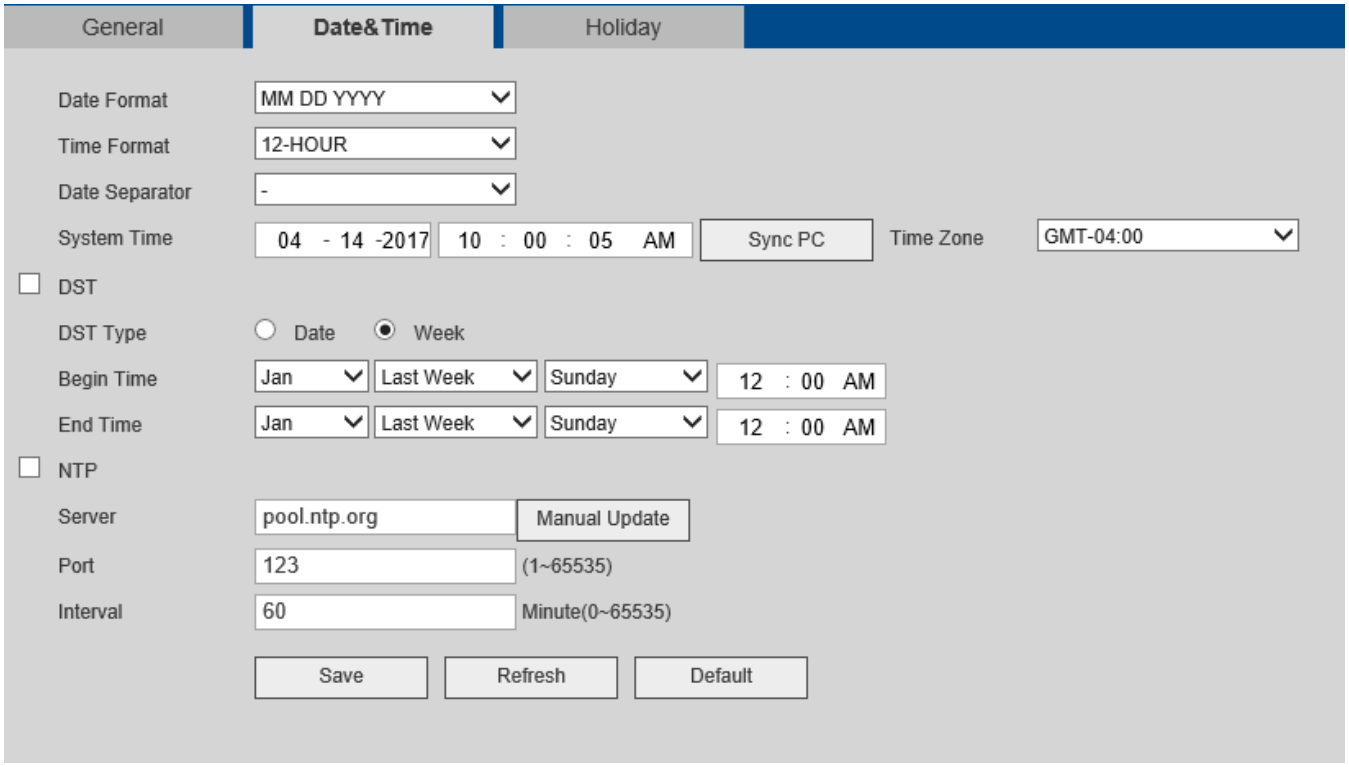


Figure 5-50

5.7.5.1.3 Holiday Setup

The holiday setup interface is shown in Figure 5-51.

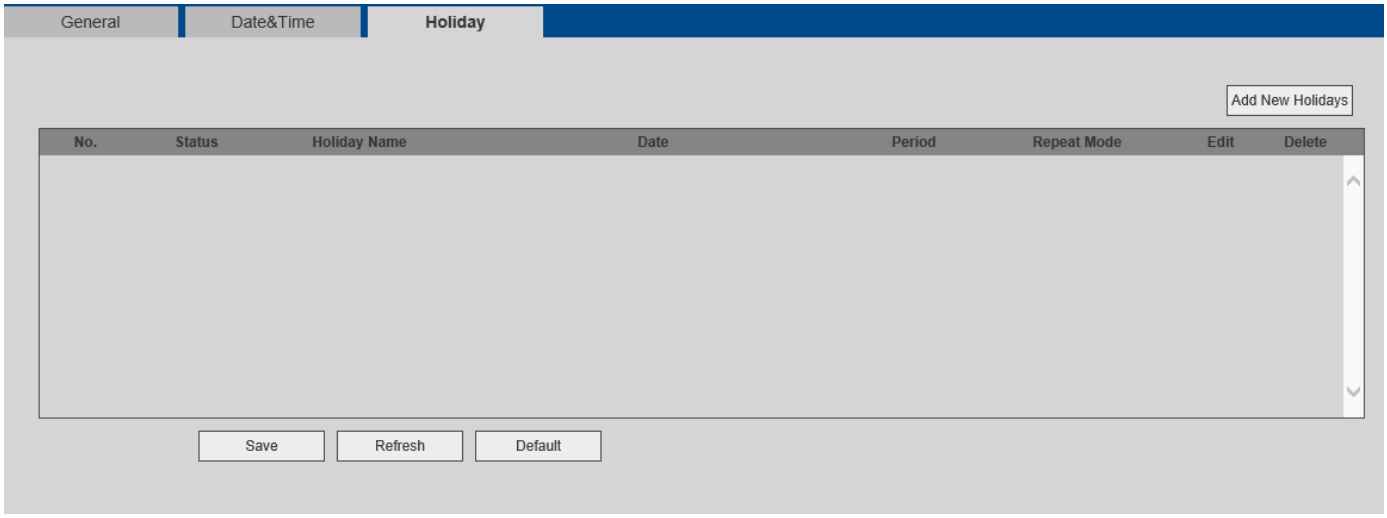


Figure 5-51

5.7.5.2 Account

5.7.5.2.1 User name

Add/remove/modify users in this section. See Figure 5-52.

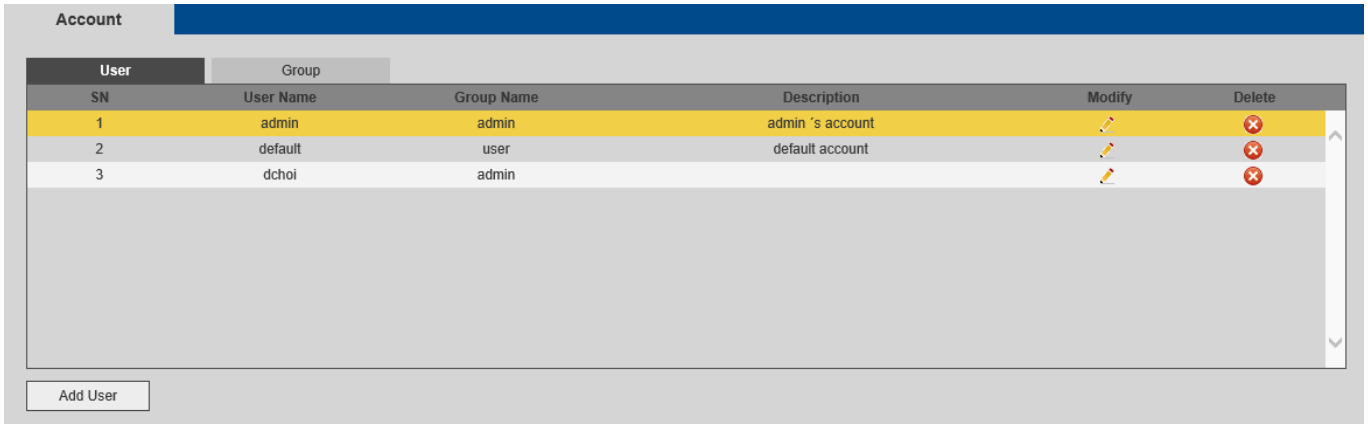


Figure 5-52

Add user: To add a user to a group and set the user rights. See Figure 5-53.

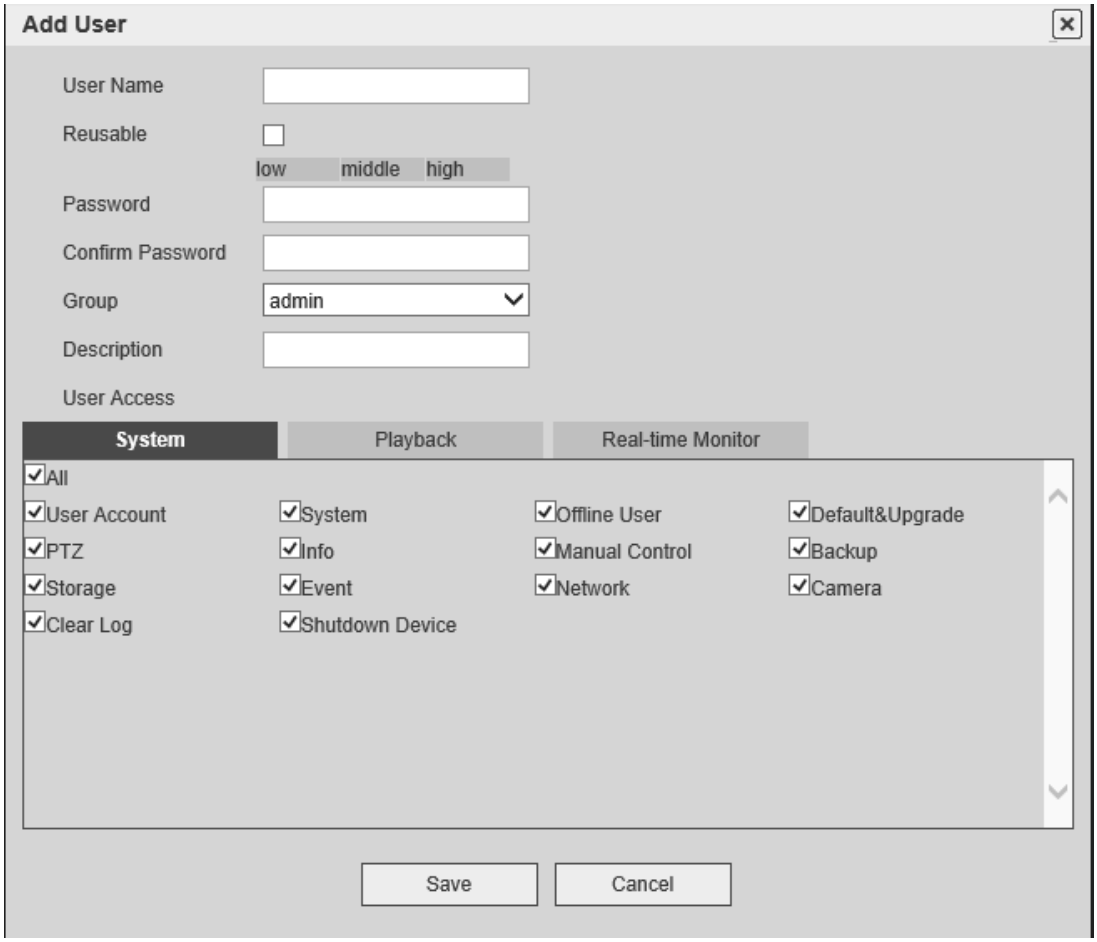


Figure 5-53

Modify user

To modify the user permissions, group, and password. See Figure 5-54.

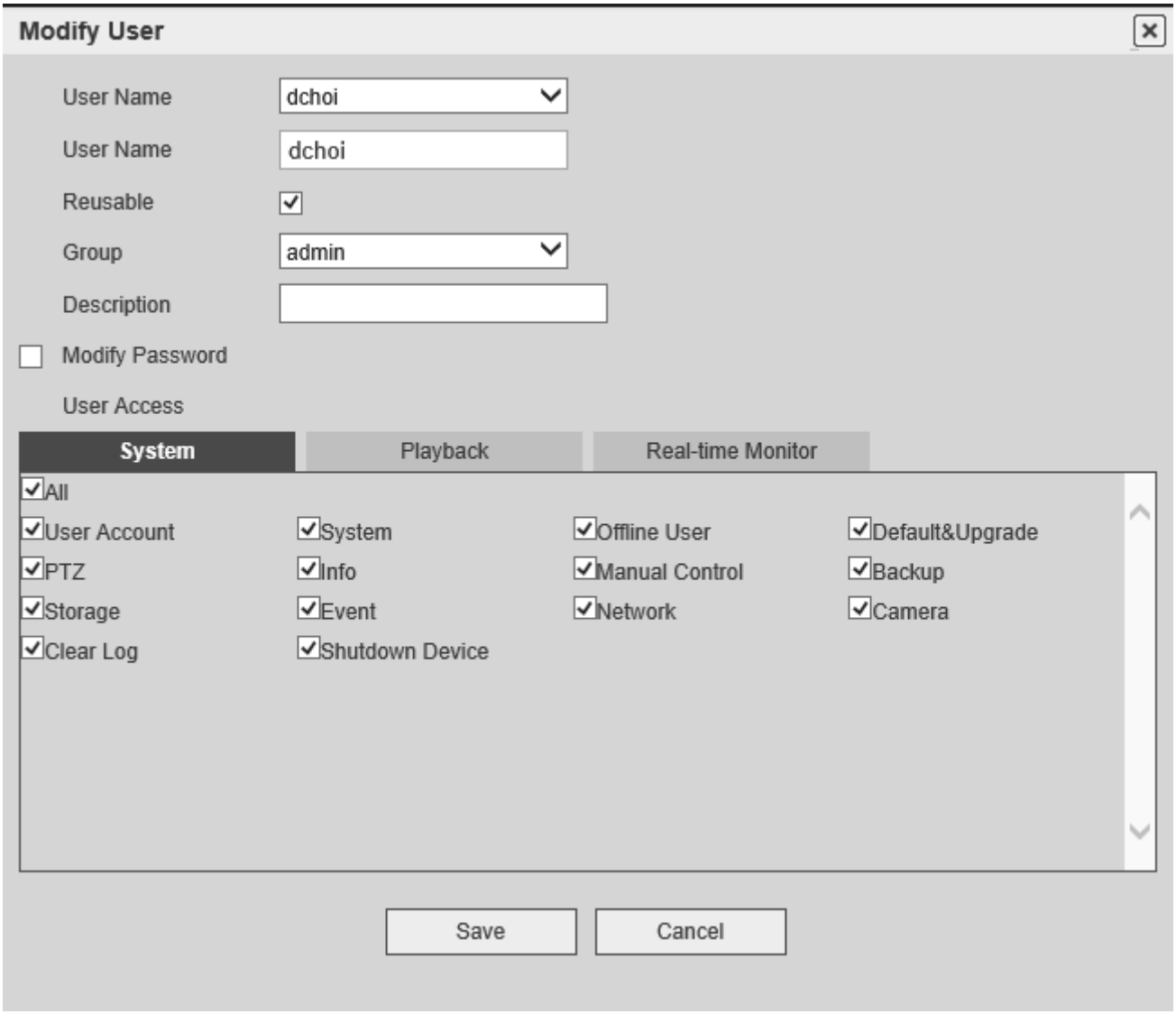


Figure 5-54

5.7.5.3 Display

5.7.5.3.1 Display

Display setup options are shown in Figure 5-55.

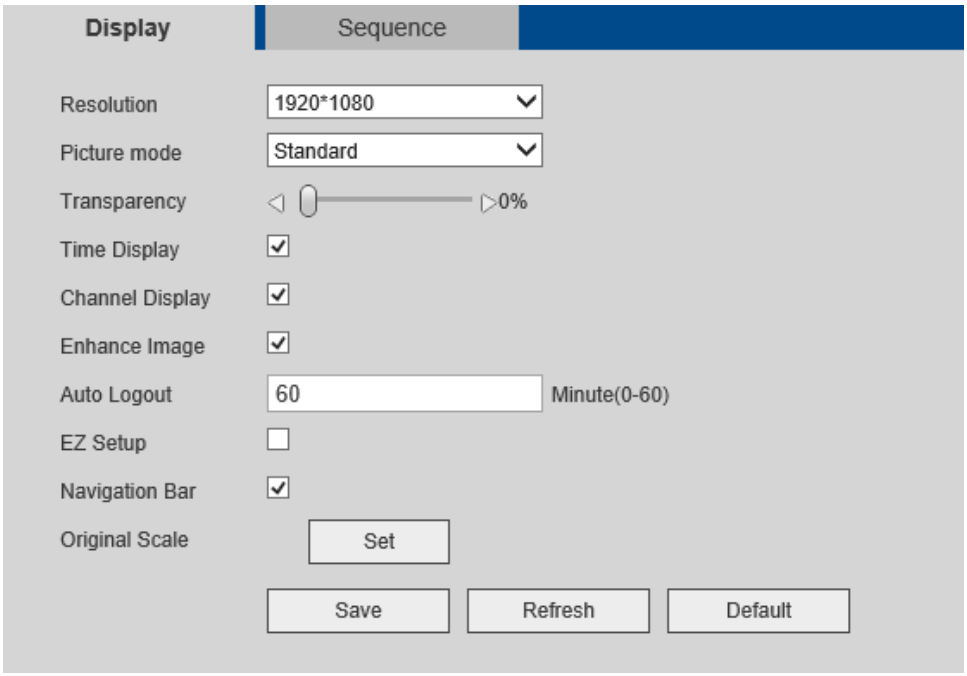


Figure 5-55

5.7.5.3.2 Sequence

The sequence interface is shown as in Figure 5-56.

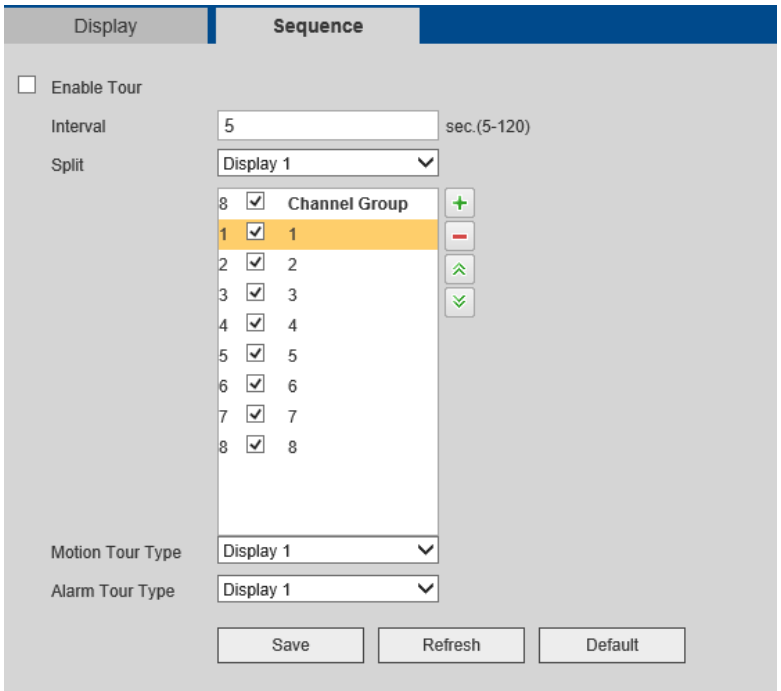


Figure 5-56

5.7.5.4 Default

The factory default setup interface is shown in Figure 5-57.

Individual items can be selected - Network/Event/Storage/System Config/Camera.

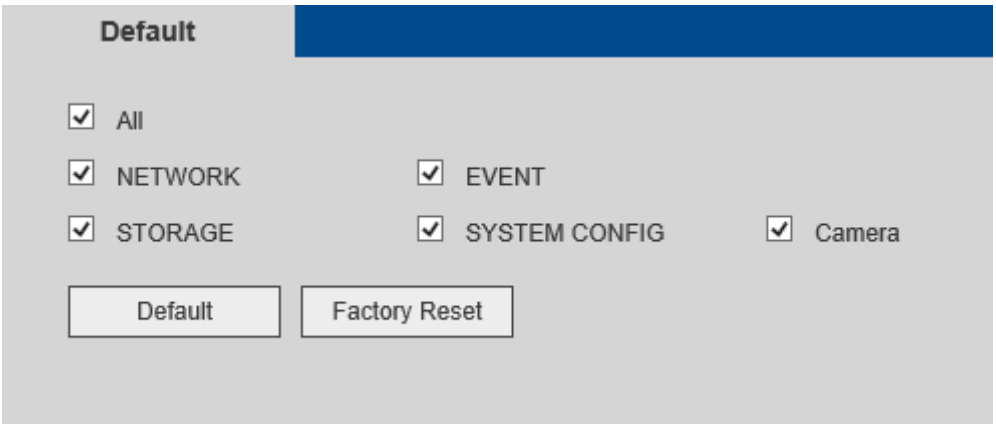


Figure 5-57

5.7.5.5 Import/Export

The interface is shown in Figure 5-58. Export or import the system configuration files.

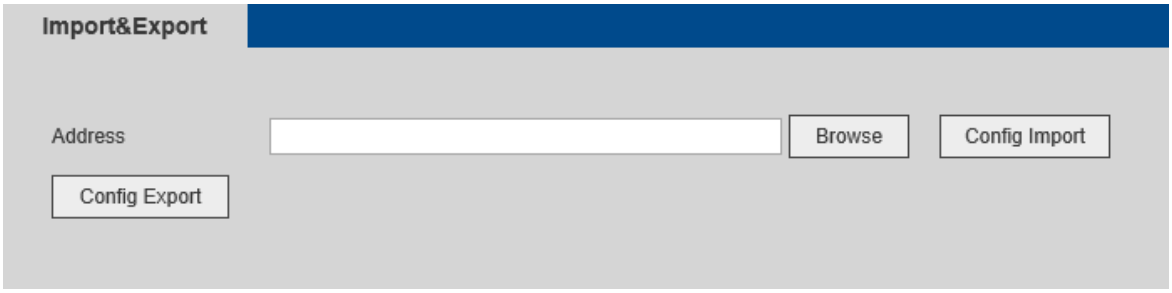


Figure 5-58

5.7.5.6 Maintenance

The maintenance interface is shown in Figure 5-59.

The device can be set to reboot automatically on a schedule.

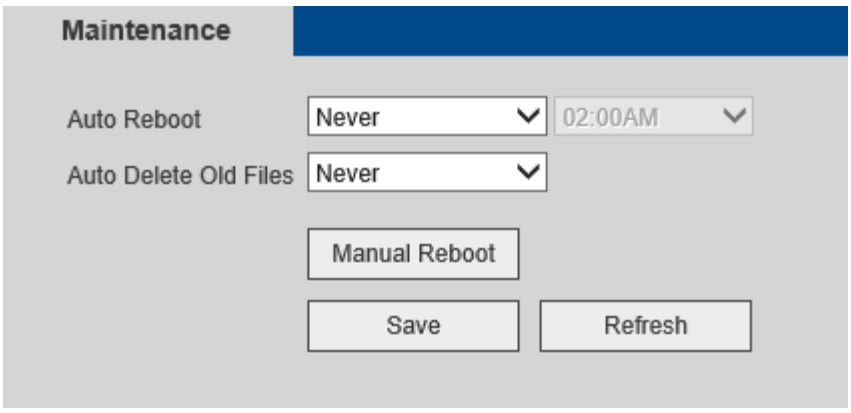


Figure 5-59

5.7.5.7 Upgrade

The firmware upgrade interface is shown in Figure 5-60.

Select the firmware file and then click the upgrade button to begin the update. During the upgrade process, do not unplug the power cable, network cable, or shut down the device.

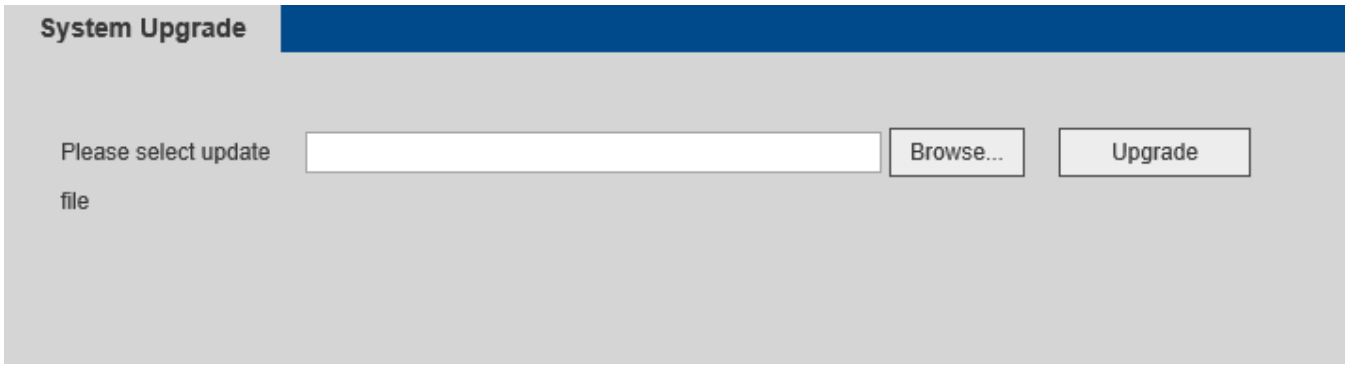


Figure 5-60

5.8 System Information

5.8.1 Version

The version interface is shown in Figure 5-61. Click on the System Info tab at the top of the page and then click on System->Version.

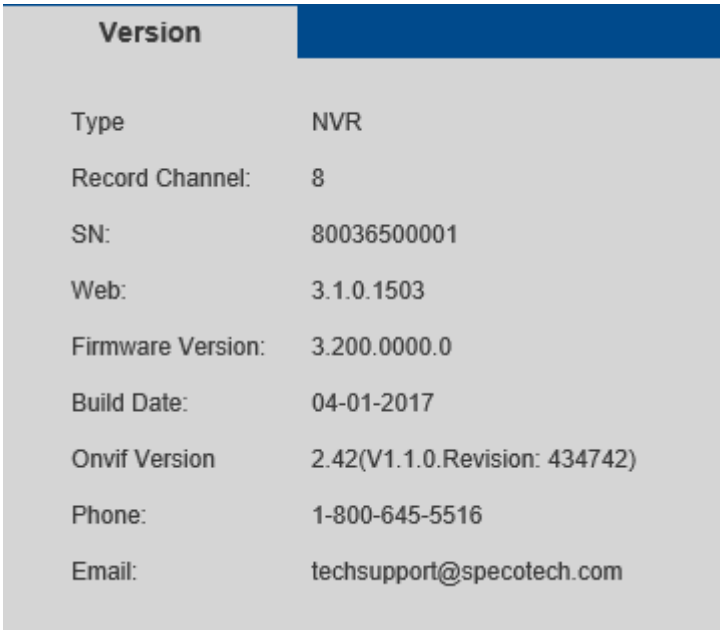


Figure 5-61

5.8.2 Log

View system logs. See Figure 5-62.

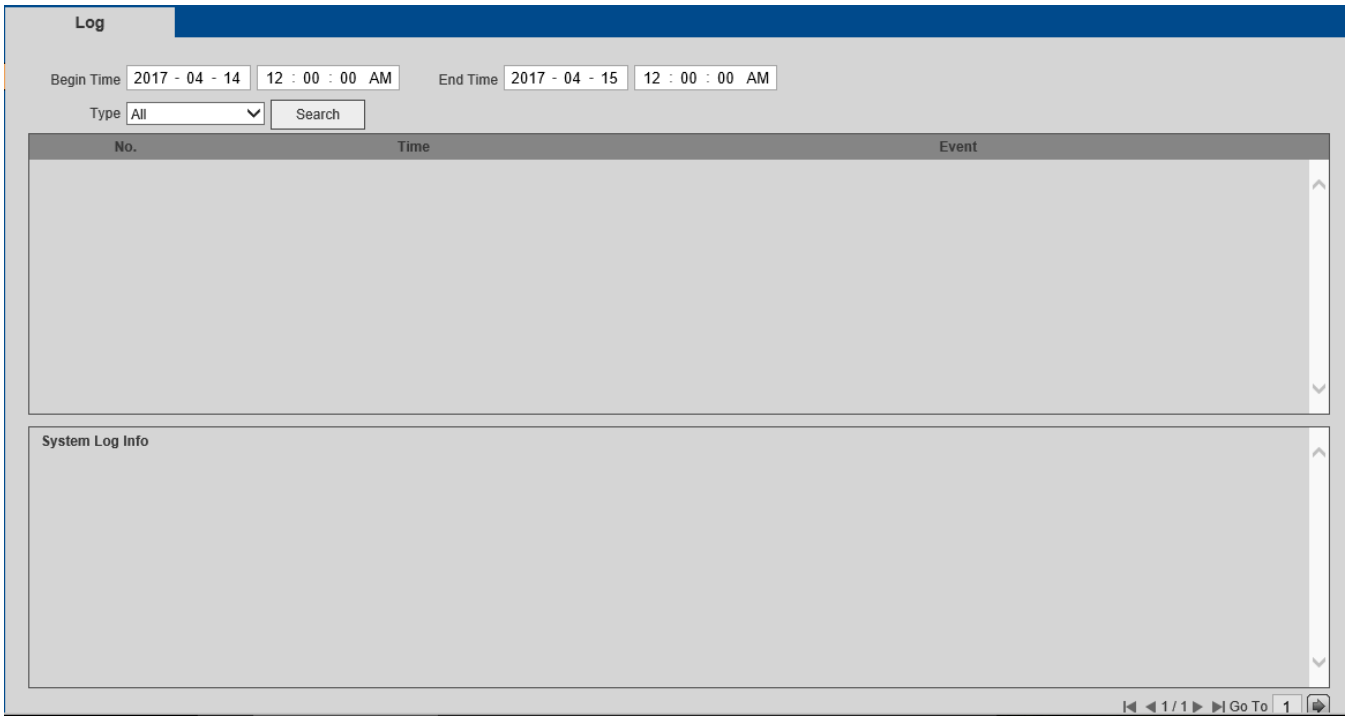


Figure 5-62

5.8.3 Online User

The online user interface is shown as in Figure 5-63.

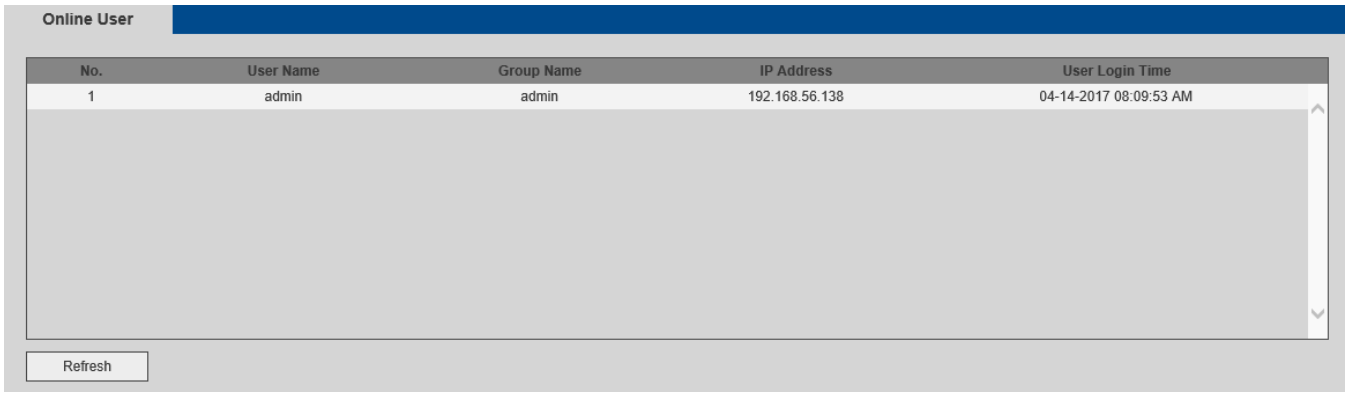


Figure 5-63

5.9 Playback

The playback interface is shown in Figure 5-64. Click on the Playback tab at the top of the page.

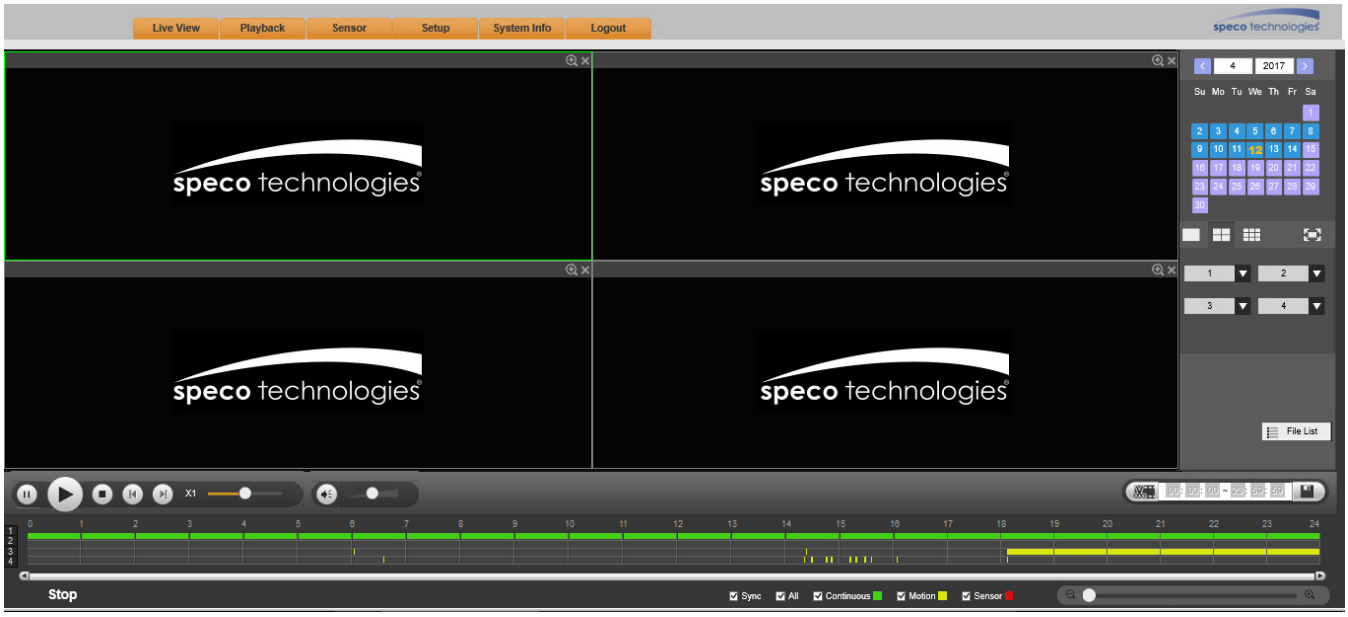


Figure 5-64

5.9.1 Search Record

- Select Date

Click on a date on the right pane to select the date. Date highlighted in yellow font is the selected date. Blue highlighted dates indicate that recorded data exist for those dates.

- Viewing Windows

Select the window split mode. Choices are 1x1, 2x2, or 3x3. Click to display in full screen. Press the ESC button on the keyboard to exit. See Figure 5-65.

Figure 5-65

- Select Channel

For 1x1 and 2x2 modes, select the channels to view from the dropdown menus.

- Select Recording Type

Select the recording type to view at the bottom of the page. See Figure 5-66.

Figure 5-66

5.9.2 File List

Click the File List button on the right side to view the list of recorded data. See Figure 5-67.

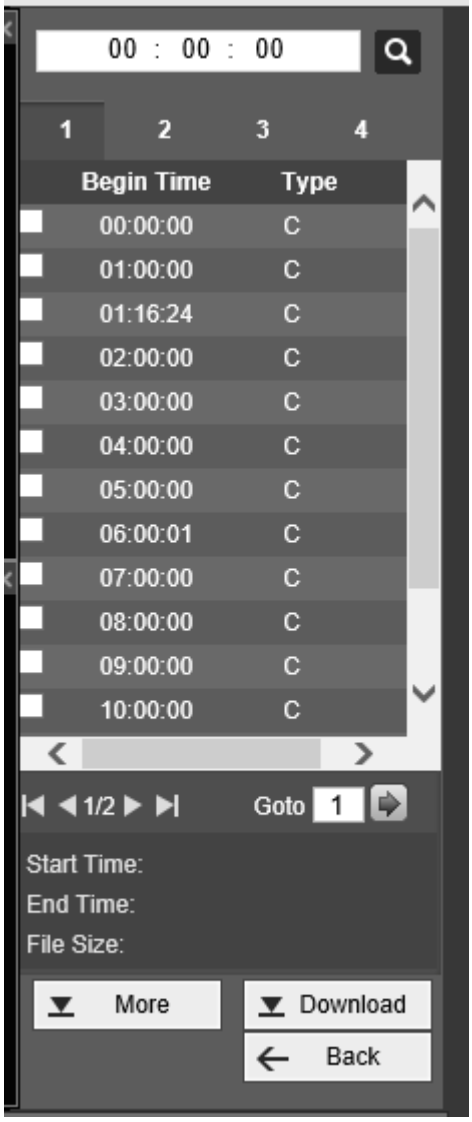


Figure 5-67

5.9.3 Playback

Select a file and click the Play button to begin playback or simply double click on a file. Note that for one channel, the system can not perform playback and download at the same time. See Figure 5-68.

Figure 5-68

5.9.4 Download

Select the file(s) to download and then click the download button on the right side to bring up the interface shown in Figure 5-69. The Download button will change to Stop and will show a progress bar. Go to the saved file path to view the files.

Figure 5-69

5.9.5 Additional Download Options

5.9.5.1 Download By File

Select channel, recording type, and the start time and end time. Click the Search button to show the results. The interface is shown in Figure 5-70.

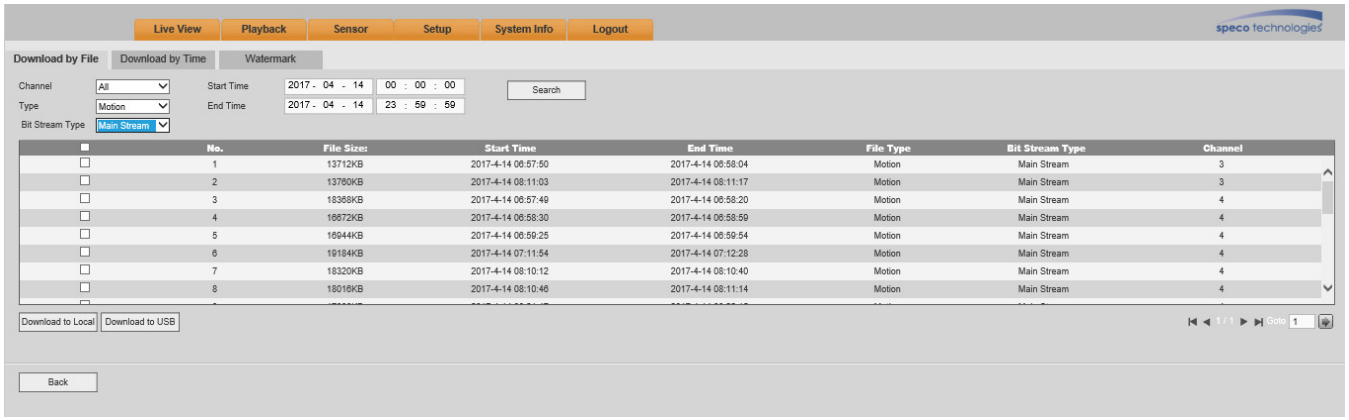


Figure 5-70

5.9.5.2 Download by Time

Select channel, start time, and end time.

Click the Download to Local button to bring up the interface is shown in Figure 5-71.

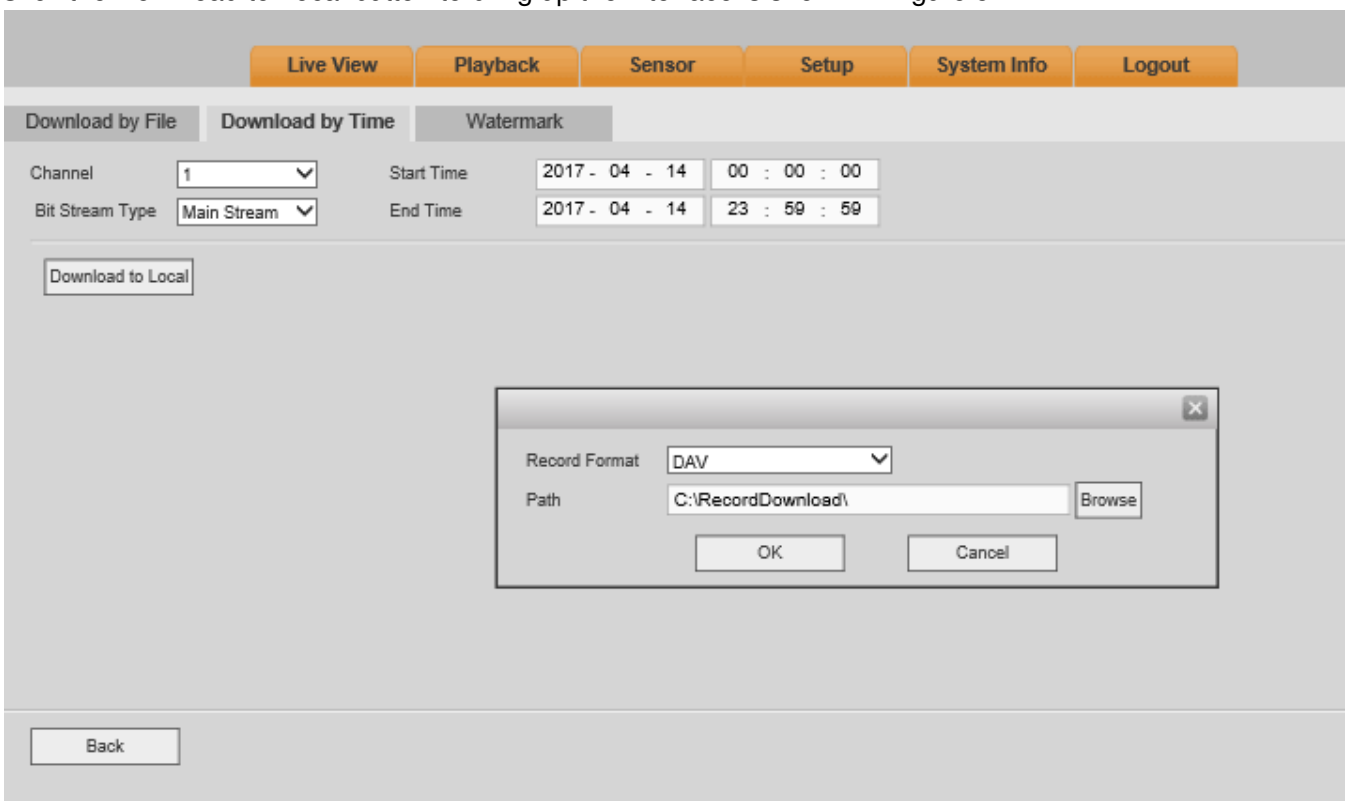


Figure 5-71

5.9.5.3 Watermark

The watermark interface is shown in Figure 5-72. Load a file and then click the Verify button to see if the file has been tampered with or not.

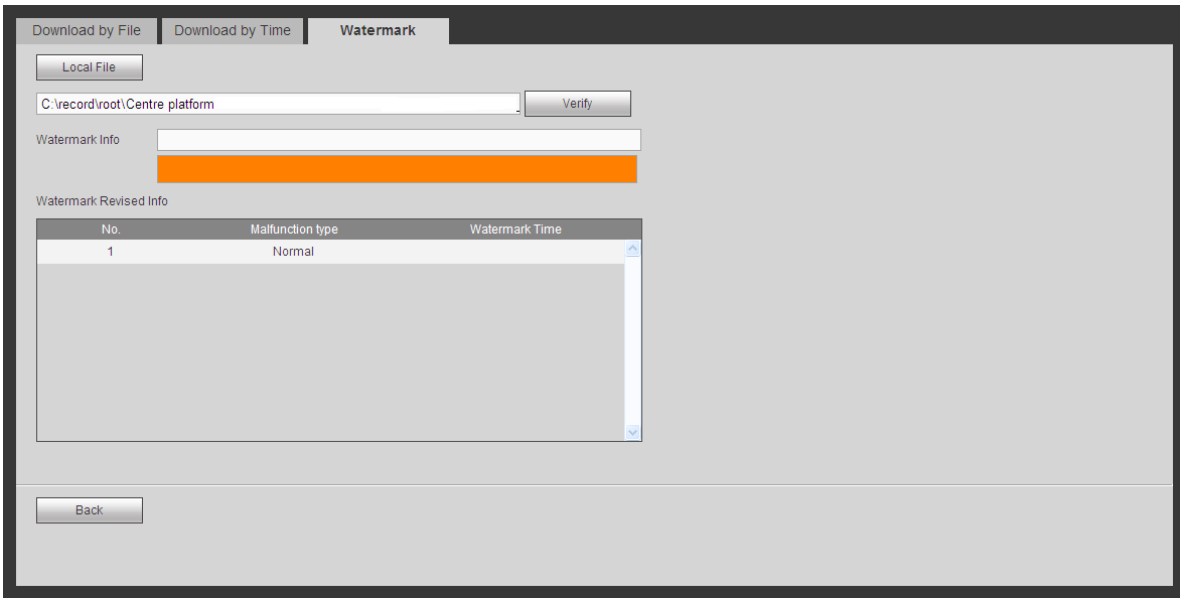


Figure 5-72

5.10 Log out

To log out of the system, click the Logout tab at the top of the page. The log in page will be loaded. Enter the user name and password to log in again.

6 Troubleshooting

Issue	Possible Causes
NVR does not boot up properly	● Input power is not correct. Check the power supply. ● Firmware upgrade did not finish properly. Contact technical support. ● Main board is damaged. Check to see if front panel indicators are lit.
NVR automatically shuts down or stops running	● Input voltage is not stable or it is too low. Check the power supply to see if it's providing steady power. ● HDD malfunction. Listen to check if the HDD is spinning. ● Working environment may be too harsh or has too much dust. ● Hardware malfunction. Contact technical support.
System can not detect HDD	● HDD malfunction. Contact technical support. ● Check if the HDD ribbon cable is damaged or loose. ● Main board SATA port is broken. Contact technical support.
No Video Output	● Check the HDMI/VGA connection to the monitor and make sure that the input on the monitor is set correctly. ● Low brightness. ● NVR hardware has malfunctioned. Check to see if front panel indicators are lit.
No results when searching recordings	● HDD malfunction. Check HDD status in settings. ● The recorded file has been overwritten. ● Record function has been disabled.
Incorrect time display	● Time is not set up correctly in settings. Go to Setup to set the correct time.
Unable to log in remotely	● ActiveX control has been disabled. Enable ActiveX control in Internet Explorer ● Network connection/setup error. Check network settings. ● Password or user name is invalid. Check the credentials locally on the unit and make sure the credentials are correct.
No video when connected remotely	● Poor network bandwidth. Check network settings. ● Remote bandwidth has reached the maximum. Check for all users who are connected. ● Remote user has no viewing authorization. Administrator must provide this authority to the user. Go to Setup.

Issue	Possible Causes
Network connection is not stable.	● IP address conflict. Check if other devices are using the same IP address in the local network. ● Check that all necessary ports have been forwarded. ● Check network settings on the PC.
File backup errors	● The system is using too much CPU resource. Please stop recording first and then begin backup. ● File size is exceeding the total available capacity. ● USB backup device is not compatible. Try a different device. ● USB device is damaged. Try a different device.
Forgot password	● Answer the security questions on the log in prompt to reset the password ● If security answers have also been forgotten, contact technical support.
No video on channels	● IP address for the camera is not right. ● IP camera port number is not right. ● IP camera account (user name/password) is not right. ● IP camera is offline. Check Setup->Camera to make sure all camera settings are correct. Contact technical support for further assistance.
Output display is not optimal on monitor	● Check the display output setting and set it to the correct resolution to match the monitor.
Video stutters when viewing in split screen	● The network bandwidth is not sufficient. Split screen viewing requires a bandwidth of 100Mbps or higher. ● PC resources are not sufficient.