User Manual

CS-X5 Series

UD.6L0208D0040A01

About this Manual

This manual includes instructions for using and managing the product. Pictures, charts, images, and all other information hereinafter are for description and explanation only. The information contained in this manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version in the EZVIZ™ website (http://www.ezvizlife.com).

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Regulatory Information

FCC Information

FCC compliance: This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Conditions

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

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

EU Conformity Statement

CE

This product and, if applicable, the supplied accessories are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC, and the RoHS Directive 2011/65/EU.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (B)/NMB-3(B) standards requirements.

CALIFORNIA PROP. 65

WARNING

This product may contain one or more chemicals known to the State of California to cause cancer, or birth defects or other reproductive harm.

Preventive and Cautionary Tips

Before connecting and operating your device, please be advised of the following:

- Ensure unit is installed in a well-ventilated, dust-free environment.
- Unit is designed for indoor use only.
- Keep all liquids away from the device.
- Ensure environmental conditions meet factory specifications.
- Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it may cause damage to the sensitive electronics within the unit.
- Use the device in conjunction with an uninterruptible power supply (UPS) if possible.
- Power down the unit before connecting and disconnecting accessories and peripherals.
- Use only a factory recommended HDD for this device.
- Improper use or replacement of the battery may result in explosion hazard. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the manufacturer.

USE A STRONG PASSWORD

For your privacy, we strongly recommend changing the password to something of your own choosing (using 6 to 12 characters, including at least two types of uppercase letters, lowercase letters, numbers, and special characters) in order to increase the security of your product.

Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.

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1 Introduction

Thank you for purchasing the EZVIZ X5 Digital Video Recorder (DVR). If there are any questions or requests, please do not hesitate to contact your dealer.

The figures in the manual are for reference only.

This manual is applicable to the models listed in the following table:

Series	Models
CS-X5	CS-X5-104T
	CS-X5-108T
	CS-X5-116T

1.1 Product Key Features

1.1.1 General

- Connect up to 16 EZVIZ HD analog cameras
- Each channel supports dual streams
- Individually configure each camera's resolution, frame rate, bit rate, image quality, etc.

1.1.2 Local Monitoring

- Simultaneous HDMI™ and VGA outputs at up to 1920 × 1080 resolution
- Live view multiple screen display, with adjustable channels' display sequence.
- Live view screen can be switched in groups, and manual switching and automatic cycling of live views are supported. Also, the automatic cycle interval can be adjusted.
- Quick setting menu is provided for live views.
- Privacy mask

1.1.3 HDD Management

- A built-in HDD.

1.1.4 Recording and Playback

- Holiday recording schedule configuration
- Continuous and motion detection triggered video recording parameters
- Two recording types: continuous and motion
- Eight recording periods, with recording types separated each day
- Search recorded files by motion detection
- New playback interface with easy and flexible operation
- Search and play back recorded files by camera number and date
- Multichannel reverse playback

- Supports pause, play reverse, speed up, speed down, skip forward, and skip backward on playback, and locate by dragging the mouse
- Up to six-channel synchronous playback

1.1.5 Backup

- Export video data by USB device
- Export video clips when using playback
- Management and maintenance of backup devices

1.1.6 Alarms and Exceptions

- Alarm for IP camera disconnected, motion detection, video tampering, HDD full, HDD error, network disconnected, IP confliction, illegal login, abnormal record, etc.

1.1.7 Network Functions

- 1 self-adaptive 10M/100M/1000M network interface
- IPv6 is supported
- Extranet access and remote live view, playback, and control via the EZVIZ platform
- Two-way audio

1.2 Front Panel

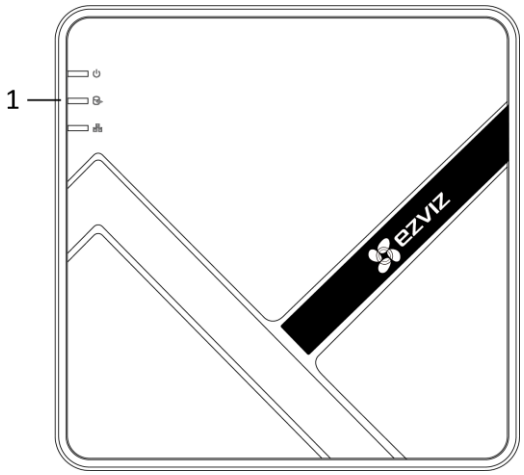

Figure 1 Front Panel of CS-X5-104T

Table 1 Description of Indicators

No.	Name		Description
1	Indicators		Power indicator turns on when system is running.
			Status indicator blinks when data is being read from or written to HDD.
			Network status indictor blinks when network connection is functioning properly.

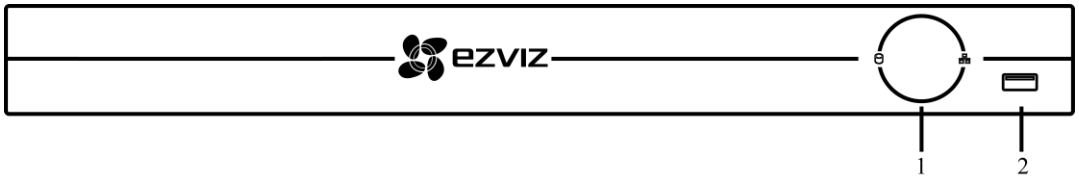

Figure 2 Front Panel of CS-X5-108T and CS-X5-116T

Table 2 Description of Control Panel Buttons

No.	Name		Description
1	Indicators		Power indicator turns on when system is running.
			Status indicator blinks when data is being read from or written to HDD.
			Network status indictor blinks when network connection is functioning properly.
2	USB Interface		Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).

1.3 USB Mouse Operation

A regular 3-button (left/right/scroll-wheel) USB mouse can also be used with this DVR. To use a USB mouse:

1. Plug USB mouse into one of the USB interfaces of the DVR.
2. The mouse should automatically be detected. In the rare case that the mouse is not detected, the possible reason may be that the two devices are not compatible. Refer to the recommended device list from your provider.

Table 3 Description of the Mouse Control

Name	Action	Description
Left-Click	Single-Click	Live View: Select channel and show the quick set menu Menu: Select and enter
	Double-Click	Live View: Switch between single-screen and multi-screen
	Click and Drag	PTZ Control: Pan, tilt, and zoom Video Tampering, Privacy Mask, and Motion Detection: Select target area Digital Zoom-In: Drag and select target area Live View: Drag channel/time bar
Right-Click	Single-Click	Live View: Show menu Menu: Exit current menu to upper level menu
Scroll-Wheel	Scroll Up	Live View: Previous screen Menu: Previous item
	Scroll Down	Live View: Next screen Menu: Next item

1.4 Input Method Description

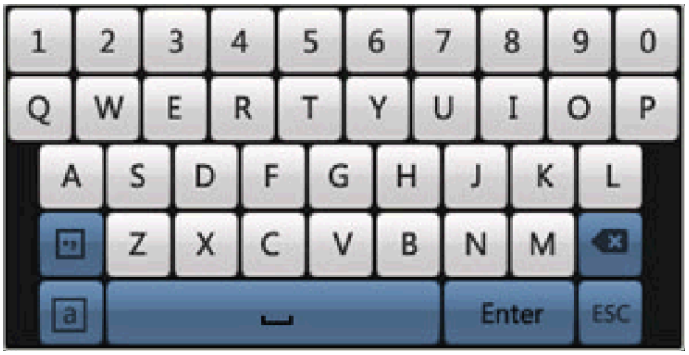

Figure 3 Soft Keyboard

Table 4 Description of the Soft Keyboard Icons

Icons	Description	Icons	Description
a / A	Lowercase/Uppercase English		Show Symbols
␣	Space		Backspace
Enter	Enter		

1.5 Rear Panel

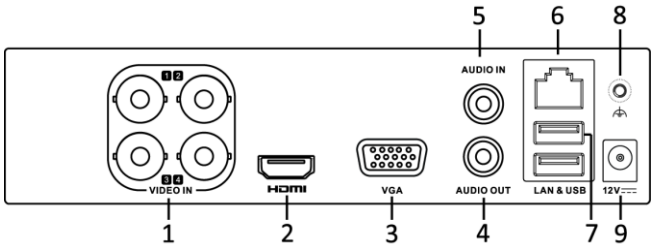

Figure 4 Rear Panel of CS-X5-104T

Table 5 Description of Rear Panel Interfaces

No.	Item	Description
1	Video In	4 BNC connectors for video input
2	HDMI™ Interface	HDMI™ video output connector
3	VGA Interface	DB-9 connector for VGA output to display local video output and menu
4	Audio Out	RCA connector for audio output
5	Audio In	RCA connector for audio input
6	LAN Network Interface	(1) 10/100/1000 Mbps self-adaptive Ethernet interface
7	USB Interface	Universal Serial Bus (USB) port for additional devices such as USB mouse and USB Hard Disk Drive (HDD)
8	Ground	Ground (needs to be connected when DVR starts up)
9	Power Supply	12 VDC power supply

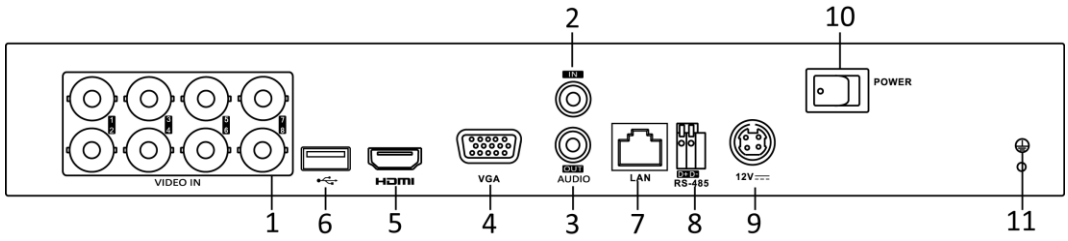

Figure 5 Rear Panel of CS-X5-108T

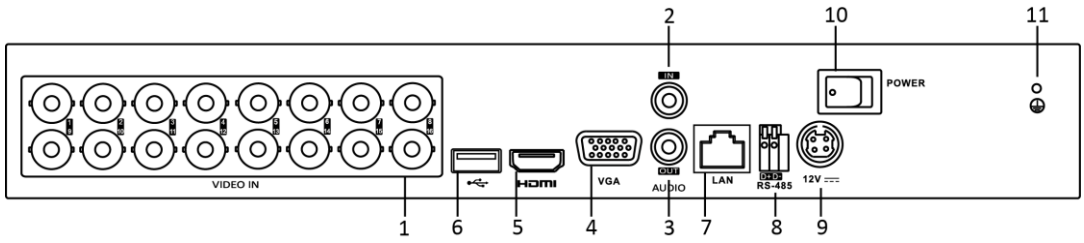

Figure 6 Rear Panel of CS-X5-116T

No.	Item	Description
1	Video In	8 BNC connectors for video input for CS-X5-108T and 16 BNC connectors for video input for CS-X5-116T
2	Audio In	RCA connector for audio input
3	Audio Out	RCA connector for audio output
4	VGA Interface	DB-9 connector for VGA output to display local video output and menu
5	HDMI™ Interface	HDMI™ video output connector
6	USB Interface	Universal Serial Bus (USB) port for additional devices such as USB mouse and USB Hard Disk Drive (HDD)
7	LAN Network Interface	(1) 10/100/1000 Mbps self-adaptive Ethernet interface
8	RS-485 Connector	Reserved
9	Power Supply	12 VDC power supply
10	Power Switch	Switch for turning the device on/off
11	Ground	Ground (needs to be connected when DVR starts up)

2 Getting Started

2.1 Starting Up and Shutting Down the DVR

Proper startup and shutdown procedures are crucial to expanding the life of the DVR.

Before You Start

Check that the voltage of the extra power supply is the same as the DVR's requirement, and that the ground connection is working properly.

2.1.1 Starting Up the DVR

1. Plug the power supply into an electrical outlet. It is HIGHLY recommended that an Uninterruptible Power Supply (UPS) be used in conjunction with the device.
2. Turn on the power switch on the rear panel. The Power indicator LED should turn on indicating that the device has started up.

2.1.2 Shutting Down the DVR

1. Enter the Shutdown menu by clicking on the right-click menu.

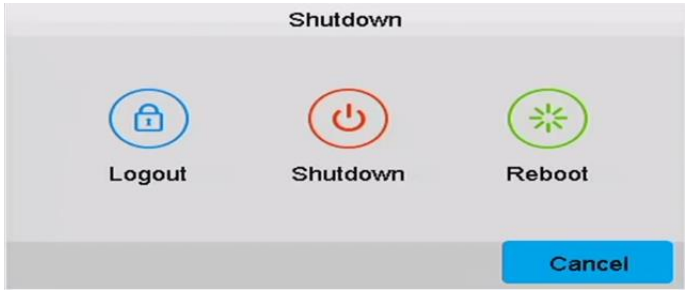

Figure 7 Shutdown Menu

2. Enter the password, if required.
3. Click the Shutdown button.
4. Click the Yes button in the pop-up attention prompt.
5. (Not applicable to CS-X5-104T) Turn off the power switch on the rear panel when the attention prompt pops up.

Figure 8 Shutdown Attention Prompt

2.1.3 Rebooting the DVR

In the Shutdown menu, you can also reboot the DVR.

1. Enter the Shutdown menu by clicking  on the right-click menu.

2. Click the Logout button to lock the DVR or the **Reboot** button to reboot the DVR.

2.2 Using the Wizard for Basic Configuration

By default, a welcome attention dialog pops up once the DVR has started, as shown in the following figure.

Click **OK** button to show the setup wizard.

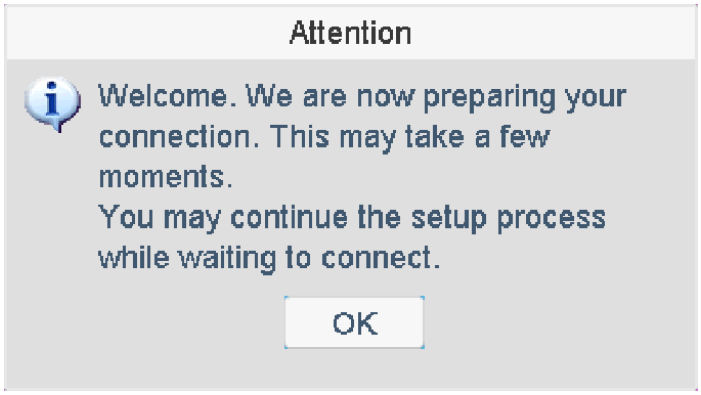

Figure 9 Welcome Attention Dialog

2.2.1 Operating the Setup Wizard:

1. The Setup Wizard walks you through important DVR settings. Select the system language in the dropdown list as desired. Click Apply to the next window.

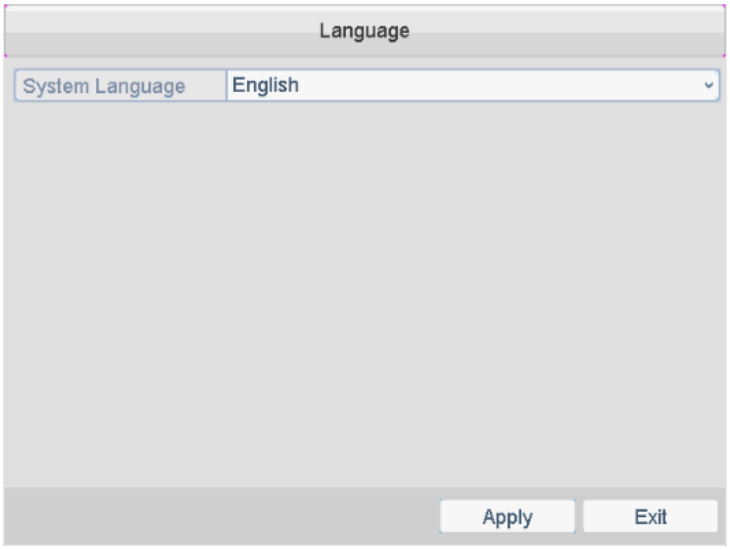

Figure 10 Select Language Window

3. Enter the new password and confirm the password in the given fields.

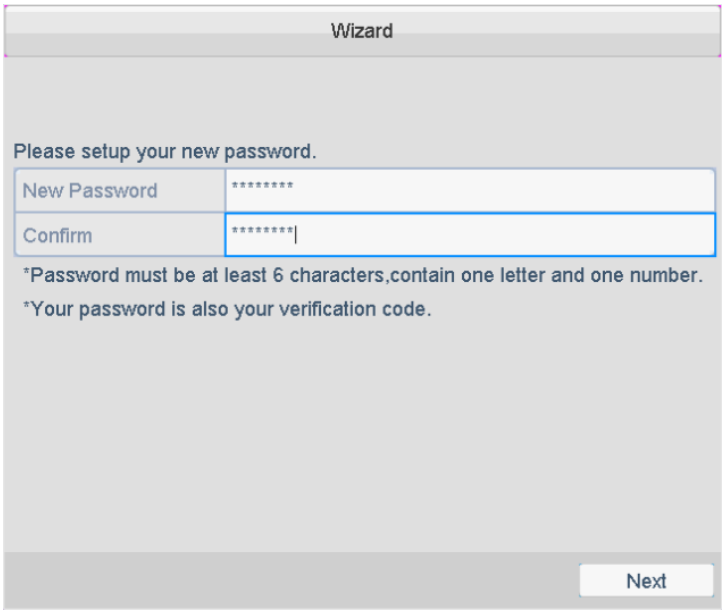

Figure 11 Change Password Window

For your privacy, we strongly recommend changing the password to something of your own choosing (using 8 to 12 characters, including at least two types of uppercase letters, lowercase letters, numbers, and special characters) in order to increase the security of your product.

NOTE: The password is also the verification code when you adding the device to your EZVIZ account. Refer to the ***Quick Start Guide*** *for the device adding procedure.*

4. Click the **Next** button to enter the date and time settings window, as shown in 0.

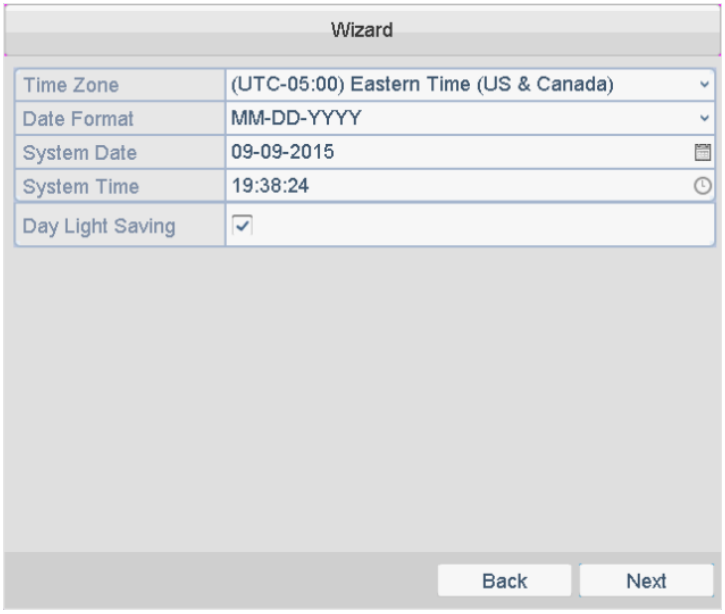

Figure 12 General System Settings

5. Click **Next** to start the EZVIZ service setup.

   You are recommended to use the EZVIZ service to realize remote live view, playback, DVR control, and cloud recording videos. To connect to the EZVIZ service, make sure the Ethernet cable of your DVR is well connected to the router. And then follow the wizard to set the connection.

2.3 Connecting the Analog Cameras

Connect your analog cameras via your DVR's video input interfaces with the supplied Video+Power Cable(s) in the bundle package. Refer to the ***Quick Start Guide*** for the connection guide.

2.4 Resetting the Password

If you forgot the DVR password, you can reset your password in the following two ways:

- Option 1 (For the EZVIZ service user)

1. Click the Forget Password in the Login window to pop up the Reset Password window.
2. Check your registered mailbox or the mobile phone for the 4-digit verification code.
3. Input the received verification code in the given filed and click the **Verify** button.
4. Input the New Password and Confirm in the popup window and click the OK button to finish password resetting.

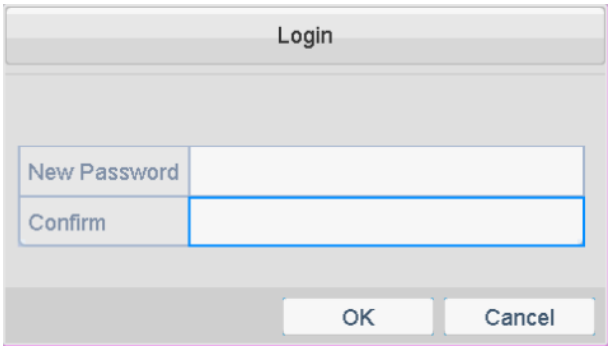

Figure 13 Set New Password

- Option 2 (For other users)

1. Click the Forget Password in the Login window.
2. An attention box pops up showing the contact information: 1-855-MYEZVIZ (693-9849).
3. Click the **OK** button to get the device serial number, call the phone number and provide the device serial number, and then you can get a secure code.
4. Input the secure code in the given field and click **OK** button to enter the resetting password window.
5. Input the new password and confirm it in the given fields and click the **OK** button to reset the password.

2.5 Connecting to the EZVIZ Cloud

You can record the video on the EZVZ cloud storage if you successfully connect the device to the EZVIZ Cloud.

You can set the EZVIZ connection in the wizard. But if you miss it, you can also go to *Menu* → *Maintenance* → *System Info* or *Device Management* → *Configuration*, and click the **Add to EZVIZ** button to set the connection.

3 Live View

3.1 Live View Introduction

Live View mode shows the video image from each camera in real time. The DVR automatically enters Live View mode when powered on. It is also at the very top of the menu hierarchy, thus pressing the ESC key repeatedly (the number of times depends on which menu you're on) brings you to Live View mode.

3.2 Live View Icons

In Live View mode, there are icons at the upper-right of the screen for each channel, showing the status of the channel's recording and alarm, so that you can know whether the channel is recording or be notified of alarms occurring as soon as possible.

Table 6 Descriptions of Live View Icons

Icons	Description
	Alarm (motion detection and exception information)
	Record (continuous record and motion detection triggered record)
	Alarm and Record
	Event/Exception (motion detection or exception information appears at the lower-left corner of the screen)

3.3 Live View Mode Operations

In Live View mode, there are many functions provided. The functions are listed below:

- **Single Screen**: Show only one screen on the monitor
- **Multi-Screen:** Simultaneously show multiple screens on the monitor
- **Auto-Switch:** Screen auto switches to the next one

  NOTE: You must set the dwell time for each screen on the configuration menu before enabling auto-switch, at the following location:

  Device Management→Advanced Setting→Configuration→Live View→Dwell Time

- **Playback:** Play back the recorded videos for the current day

3.4 Using the Mouse in Live View

Right click the mouse or move the mouse to the upper area of the screen to show the right-click menu, as shown below.

Figure 14 Menu Bar

Table 7 Mouse Operation in Live View

Name	Description
	Switch to single full screen by choosing channel number from the dropdown list
	Adjust the screen layout by clicking the specific icon
	Switch to the previous/next screen
	Enable/disable auto-switching of the screens.
	Enter playback interface and immediately play the selected channel's video
	Enter the Device Management interface
	Show the System Information
	Auto hide/lock the Live View toolbar

3.5 Live View Mode Quick Setting Toolbar

On each channel's screen, there is a quick setting toolbar that shows when you click the mouse in the corresponding screen.

Figure 15 Quick Setting Toolbar

Table 8 Description of Quick Setting Toolbar Icons

Icon	Description	Icon	Description
	Instant Playback		Mute/Audio On
	Digital Zoom		Close

 Instant Playback shows only the video in the last five minutes. If no video is found, it means there was no recording during the last five minutes.

 Digital Zoom can zoom into the selected area to full screen. You can click and draw in the small image to select the area to zoom in, as shown in 0.

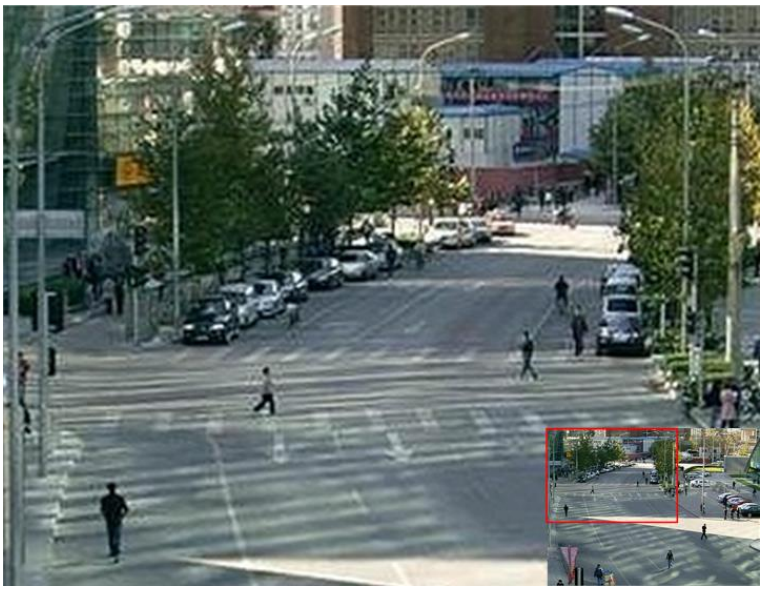

Figure 16 Digital Zoom

3.6 Adjusting Live View Settings

Live View settings can be customized according to different needs. You can configure the output interface, dwell time for screen to be shown, mute or turning on the audio, the screen number for each channel, etc.

1. Enter the Live View Settings interface:

   Device Management → Advanced Settings → Configuration → Live View

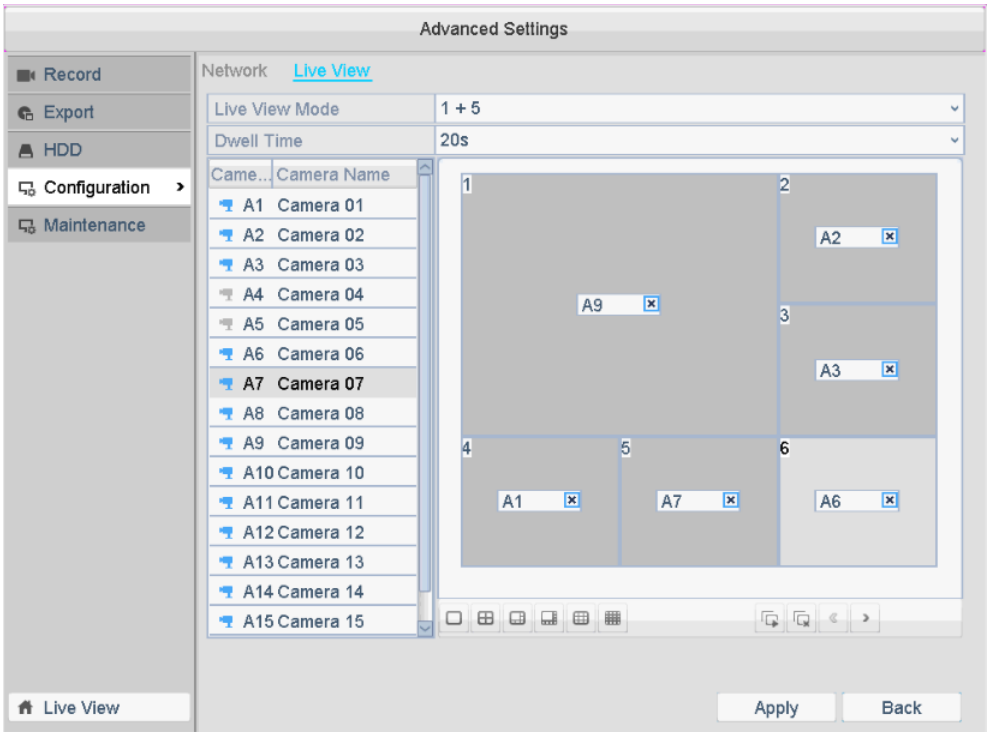

Figure 17 Live View

2. Set the following functions.
   - **Live View Mode:** Designates the display mode to be used for Live View.
   - **Dwell Time:** The time in seconds to wait (dwell) between switching of channels. You can also select "No Switch" if you want to disable the auto switch.
3. Set cameras' order.
   - Click to select a **View** mode in , which should be the same as the Live View Mode you set.
   - Select the small window, and double-click the camera number to display the camera in the window.
4. If you do not want the camera to be displayed on the Live View interface, click the corresponding to stop it.
5. You can also click to start Live View for all the cameras in order. Or click to stop all Live Views.
6. Click the **Apply** button to save the setting.

3.7 User Logout

After logging out, the monitor switches to Live View mode. If you want to perform an operation, you will need to enter your user name and password to log in again.

1. Enter the Shutdown menu.

   Menu → Shutdown

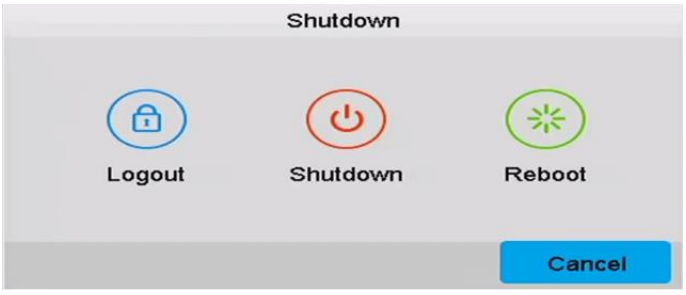

Figure 18 Shutdown

2. Click **Logout**.

NOTE: After you have logged out of the system, the menu operation on the screen is invalid. It is required that you input a user name and password to unlock the system.

4 Recording Settings

4.1 Configuring Parameters

You can configure the parameters that affect image quality such as the transmission stream type, the resolution, and so on.

Make sure that an HDD has been installed. If not, install an HDD and initialize it by going to the following location:

Device Management → Advanced Settings → HDD

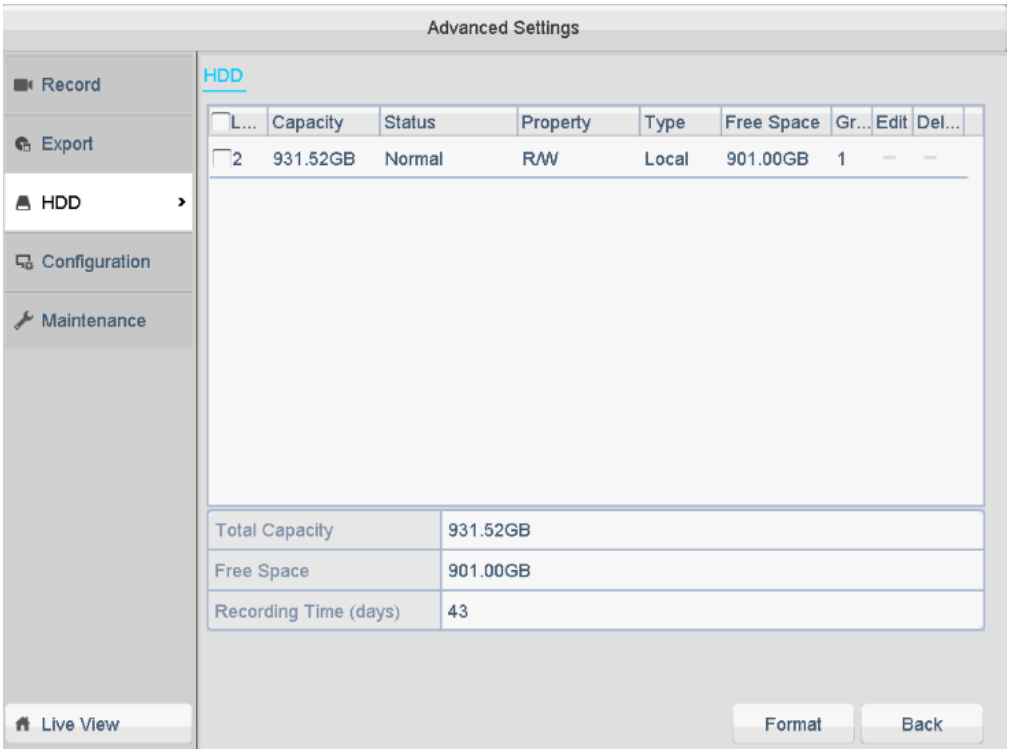

Figure 19 HDD

1. Enter the parameters settings interface to configure the recording:

   Device Management → Advanced Settings → Record → Parameters

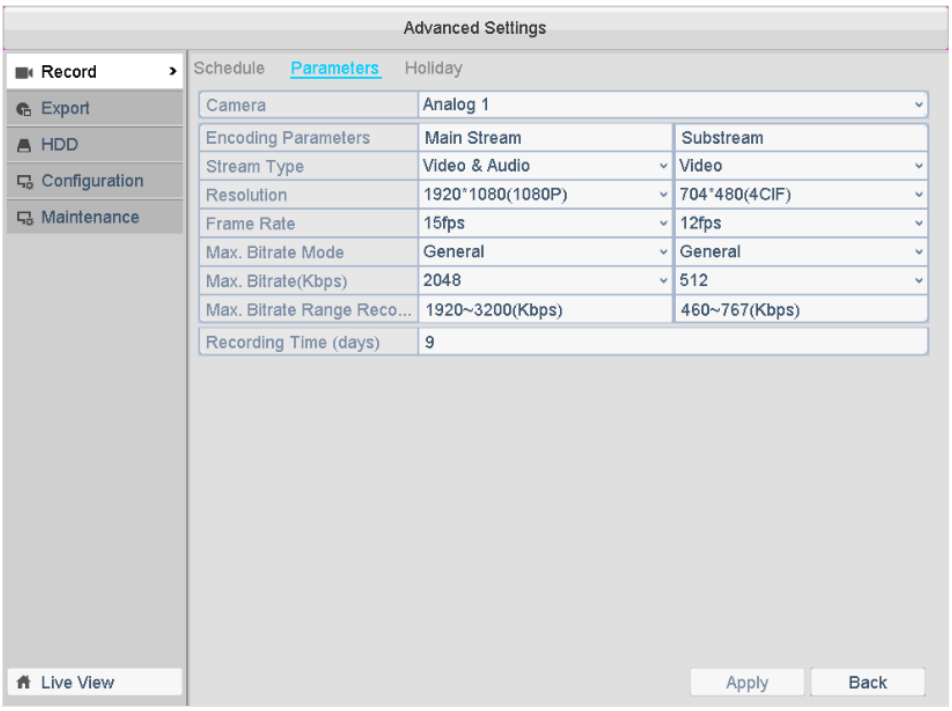

Figure 20 Recording Parameters

2. Select a camera number in the Camera drop-down list and configure the following parameters for the main stream and sub stream respectively.

Table 9 Record Parameter Descriptions

Parameters	Descriptions
Stream Type	Select Video & Audio if you want to record the video and audio at the same time. Or you can select Video.
Resolution	Select the resolution for each stream in the drop-down list.
Frame Rate	Select the frame rate in the drop-down list.
Maximum Bitrate Mode	Select General or Custom in the drop-down list for each stream.
Maximum Bitrate (Kbps)	For General mode, you can select the bitrate value in the dropdown list; For Custom mode, you can input the bitrate value using the soft keyboard as desired.
Recommended Maximum Bitrate Range	The bitrate range recommended by the system according to the selected resolution and frame rate.
Recording Time (Days)	The time left for recording at the current parameters until the HDD is full.

3. Click **Apply** to save the settings.

4.2 Configuring the Recording Schedule

Camera will automatically start/stop recording according to the schedule you configure.

1. Enter the Record Schedule interface.

   Device Management → Advanced Settings → Record → Schedule

2. Configure the record schedule.

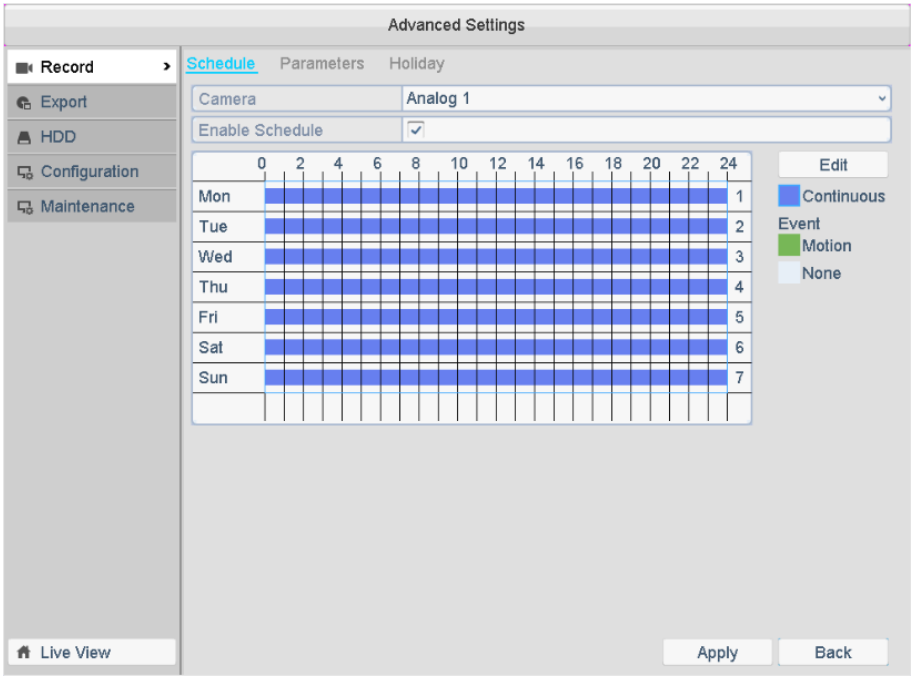

Figure 21 Record Schedule

3. Choose the camera you want to configure.
4. Select the checkbox after the **Enable Schedule** item.
5. Click the **Edit** button or the color icon under the edit button and draw the schedule line on the panel.

6A. Edit the schedule (option 1):

   a. In the message box, choose the day you want to schedule.

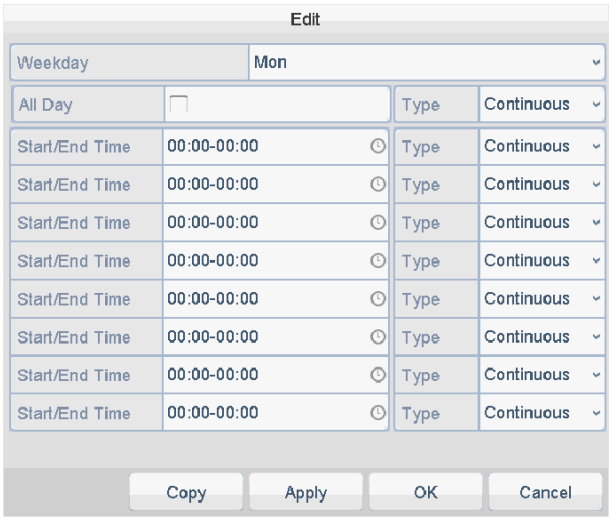

Figure 22 Recording Schedule Interface

b. To schedule an all-day recording, check the **All Day** item checkbox.

c. To arrange other than an all day schedule, leave the **All Day** checkbox blank and click on the schedule to edit the Start Time and End Time.

NOTES: Up to eight periods can be configured for each day (time periods cannot overlap).

To enable motion-triggered recording, you must configure the motion detection settings (refer to Section 4.3, Configuring Motion Detection Recording).

d. Repeat the above edit schedule steps to schedule recording for other days. You can click **Copy** to call up the "Copy to" interface to copy the schedule settings to other days.

e. Click **Apply** in the Record Schedule interface to save the settings.

6B. Draw the schedule (option 2):

a. Click on a color icon to choose the schedule type as "continuous" or "event."

b. You can also select "None" if you want to cancel the set recording schedule.

c. Click and drag the mouse to draw a rectangle on the schedule.

7. Click **Apply** to save the settings.

4.3 Configuring Motion Detection Recording

Follow the steps to set the motion detection parameters. In Live View mode, once a motion detection event takes place, the DVR can analyze it and perform a variety of actions to handle it. Enabling the motion detection function can trigger certain channels to start recording or trigger full screen monitoring, audio warning, notify the surveillance center, and so on. This section explains the steps to schedule a recording triggered by detected motion.

1. Enter the Motion Detection interface.

Device Management → Motion Detection

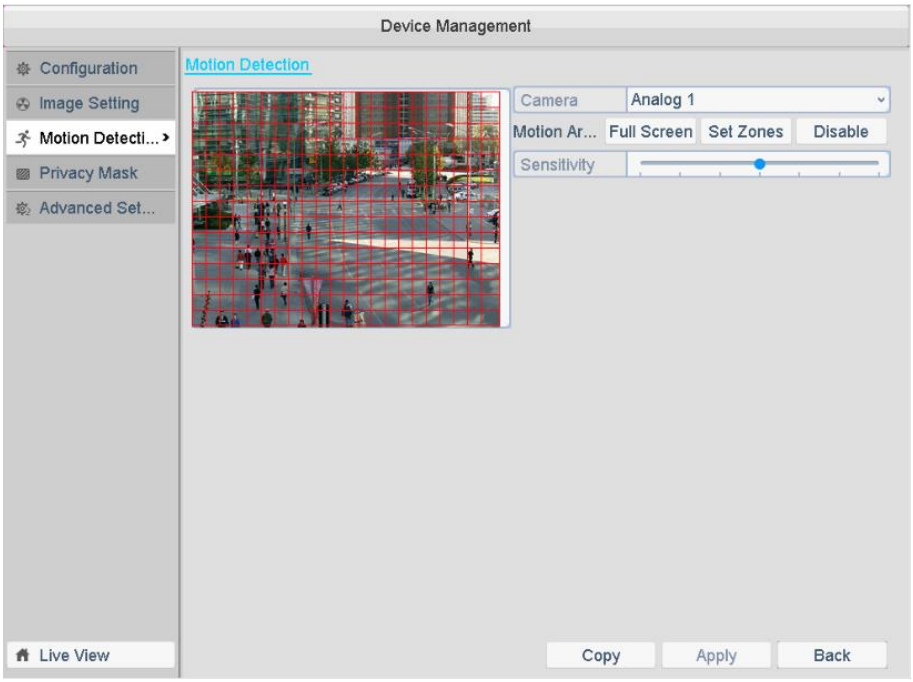

Figure 23 Motion Detection

2. Choose the camera you want to configure in the Camera drop-down list.
3. Motion detection is enabled by default once the camera is connected. If not, click the **Enable** button.

4A. Click **Set Zones** button to set the detection areas. Click and drag the mouse to draw an area for motion detection.

4B. If you want to set the motion detection for the entire area shown by the camera, click **Full Screen**.

5. Edit the Motion Detection Record Schedule. For detailed schedule configuration information, see *Section 4.2 Configuring the Recording Schedule.*

4.4 Configuring Holiday Recording

Follow the steps to configure the recording schedule on holidays for that year. You may want to have different plans for recording on a holiday.

1. Enter the Record setting interface.

   Device Management → Advanced Settings→ Record → Holiday

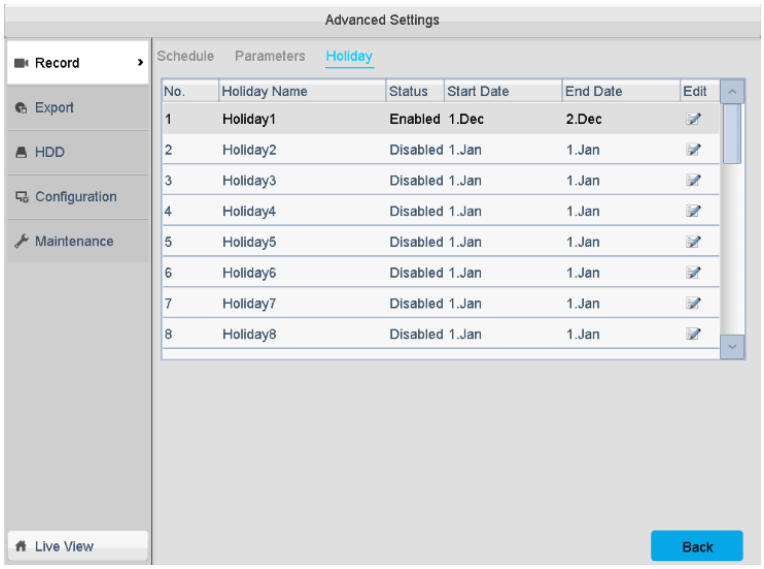

Figure 24 Holiday Settings

2. Enable Edit Holiday schedule.

   A. Click  to enter the Edit interface.

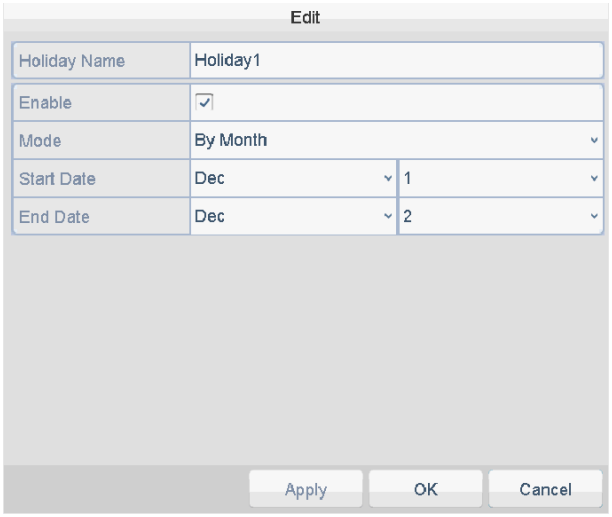

Figure 25 Edit Holiday Settings

   B. Check the **Enable Holiday** checkbox.

   C. Select **Mode** from the drop-down list.

      NOTE: *There are three different modes to configure the date format for the holiday schedule.*

   D. Set the start and end date.

   E. Click **Apply** to save settings.

   F. Click **OK** to exit the Edit interface.

3. Enter the Record Schedule settings interface to edit the holiday recording schedule. See *Section 4.2 Configuring the Recording Schedule.*

5 Playback

5.1 Playing Back by Channel

Play back the recorded video files of a specific channel in the Live View mode. Channel switch is supported.

1. Choose a channel in Live View mode using the mouse, then click the button in the quick setting toolbar.

   NOTE: In instant playback mode, only files recorded during the last five minutes on this channel will be played back.

Figure 26 Instant Playback Interface

2. Enter the Playback interface.
3. Move the mouse to the top of the screen or right-click the mouse when you are in Live View mode to show the right-click menu, as shown in the following figure, and select the button to enter the playback interface.

Figure 27 Right-Click Menu Under Live View

4. Playback management.
   a. The toolbar in the bottom part of the Playback interface can be used to control playing progress, as shown in following figure.

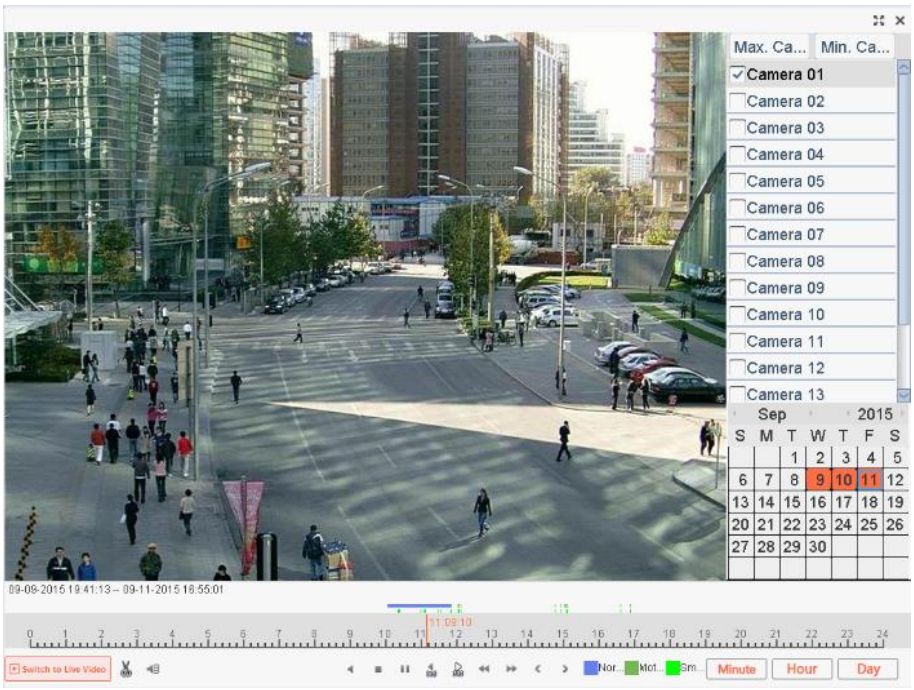

Figure 28 Playback Interface

b. (Optional) Click the channel(s) to execute simultaneous playback of multiple channels.

c. Double-click a date on the calendar to start playback.

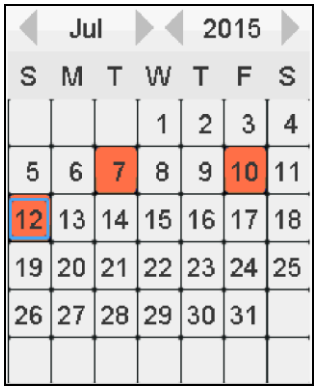

Figure 29 Playback Calendar

NOTE: *If there are recorded files for that camera on that day, the icon for that day is displayed as colored (e.g.,* 10 *) on the calendar. Otherwise it is displayed without color (e.g.,* 10 *).*

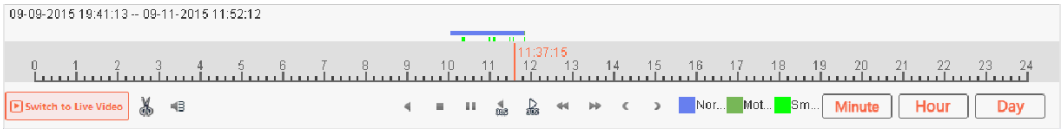

Figure 30 Toolbar of Playback

NOTE: *The* 09-09-2015 19:41:13 -- 09-11-2015 11:52:12 *indicates the start/end time of the recording.*

Table 10 Detailed Explanation of Playback Toolbar

Button	Operation	Button	Operation	Button	Operation
/	Audio On/Mute		Manage Clipping		30 sec. Forward
	30 sec. Reverse		Speed Down	/	Pause Reverse Play/ Reverse Play/ Single-Frame Reverse Play
/	Pause Play/Play/ Single-Frame Play		Speed Up		Stop
	Previous Day		Next Day		Full Screen
	Exit				

NOTES: *Click any point of the progress bar or drag the progress bar to locate special frames.*

Different color in the progress bar stands for different recording type: ■ *stands for normal recording,* ■ *stands for motion detection recording. And If any motion is detected in that video file (no matter what the recording type is),* ■ *will appear below the progress bar.*

You can click the Minute / Hour *button to switch the progress bar display unit, to locate the cursor accurately; click* Day *to resume.*

5.2 Playing Back by System Logs

Play back recorded file(s) associated with channels after searching system logs.

1. Enter Log Information interface.

   Device Management → Advanced Settings → Maintenance → Log Search

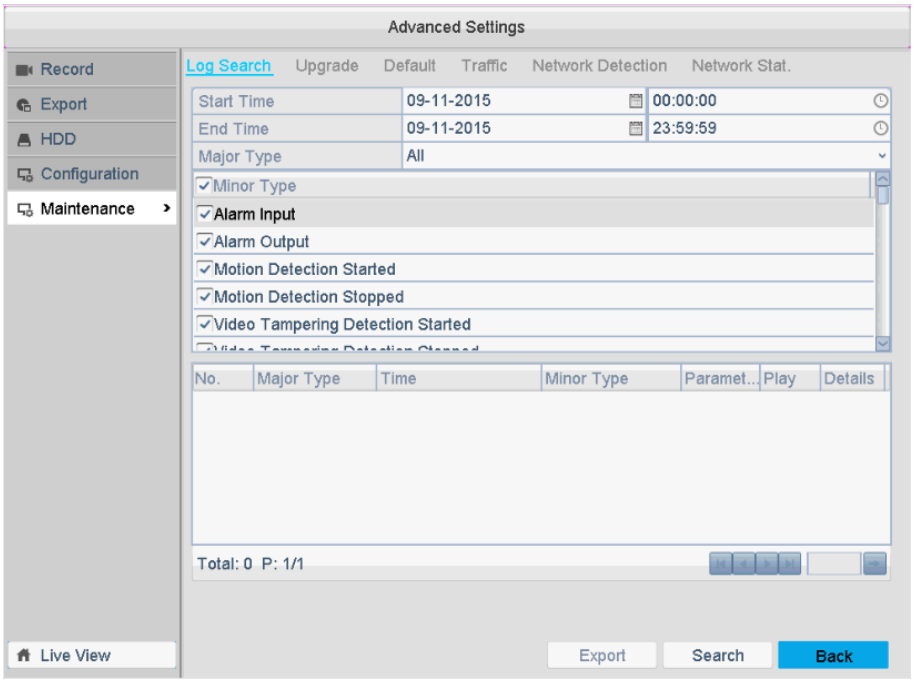

Figure 31 System Log Search Interface

2. Set the search time and log type, and click **Search** button.
3. Choose a log with a recorded file and click button to enter Playback interface.

NOTE: If there is no recorded file at the time point of the log, a "No result found" message will pop up.

The toolbar in the bottom part of Playback interface can be used to control the playback process.

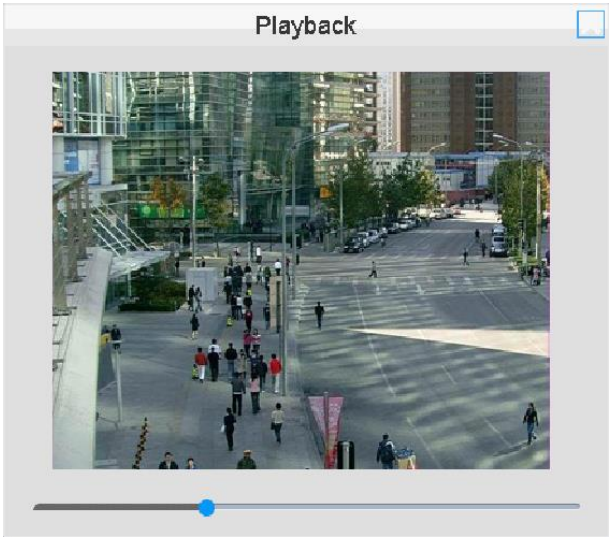

Figure 32 Interface of Playback by Log

5.3 Multi-Channel Reverse Playback

You can play back recorded files of multi-channel in reverse. Up to 6-channel simultaneous reverse

playback is supported.

1. Enter the Playback interface.
2. Check more than one checkbox to select multiple channels, and click to select a date on the calendar.

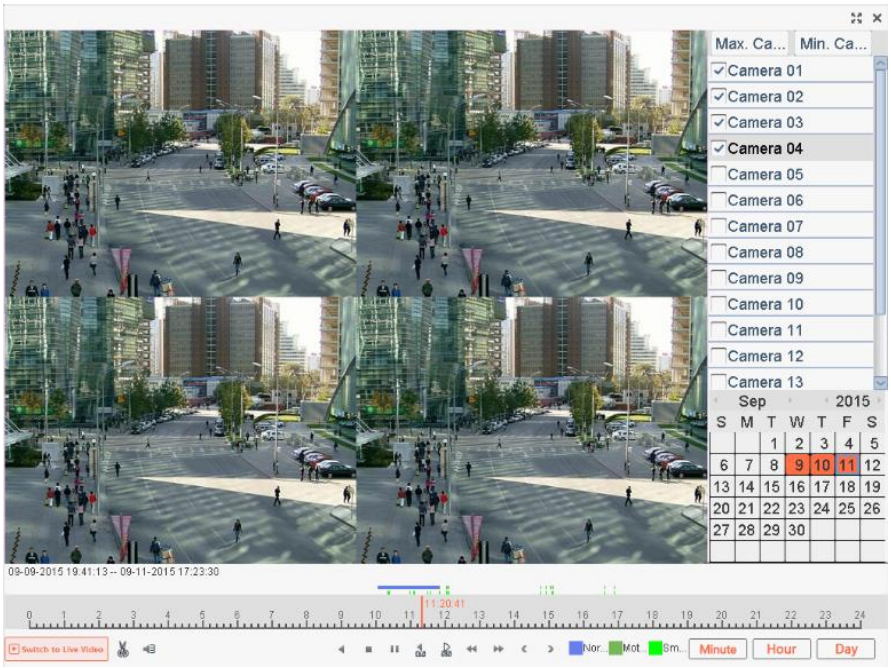

Figure 33 4-ch Synchronous Playback Interface

3. Click to play back the recorded files in reverse.

5.4 Playing Back Frame-by-Frame

Play video files frame-by-frame, to check video image details when abnormal events occur.

1. Go to the Playback interface.
2. If you choose playback of the recorded file: Click the button until the speed changes to single frame. One click on the playback screen causes playback of one frame.
3. If you choose reverse playback of the recorded file: Click the button until the speed changes to single frame. One click on the playback screen causes reverse playback of one frame. It is also feasible to use the button in the toolbar.

6 Backup

6.1 Backing Up Recorded Files

6.1.1 Backing Up by Normal Video Search

Recorded files can be backed up to various devices such as USB flash drives, USB HDDs, USB writer, etc.

1. Enter the Export interface.

   Device Management → Advanced Settings Menu → Export

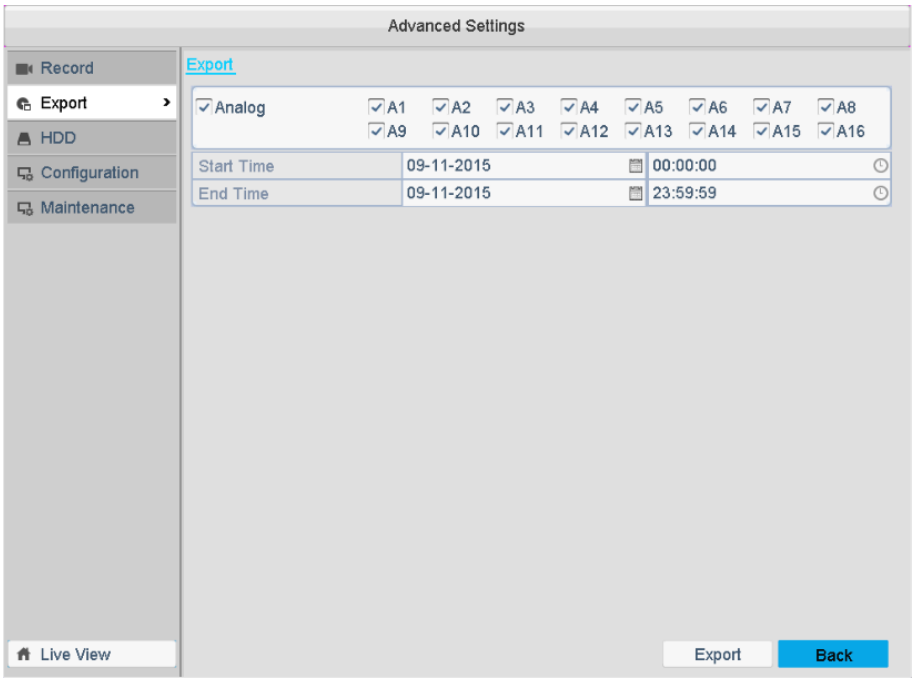

Figure 34 Video Search for Backup

2. Set the search condition and click the **Export** button to view the USB device file list.
3. Click the **Export** button to export all the files matching the search condition. Stay in the Exporting interface until all recorded files are exported, as noted by the pop-up message, "Export finished." A video player will automatically be backed up along with the video files.

   NOTE: If the inserted USB device is not recognized:

   - *Click the **Refresh** button*
   - *Reconnect device*
   - *Check for compatibility from vendor*

4. Check backup result by choosing the recorded file in the Export interface and clicking the button to check it.

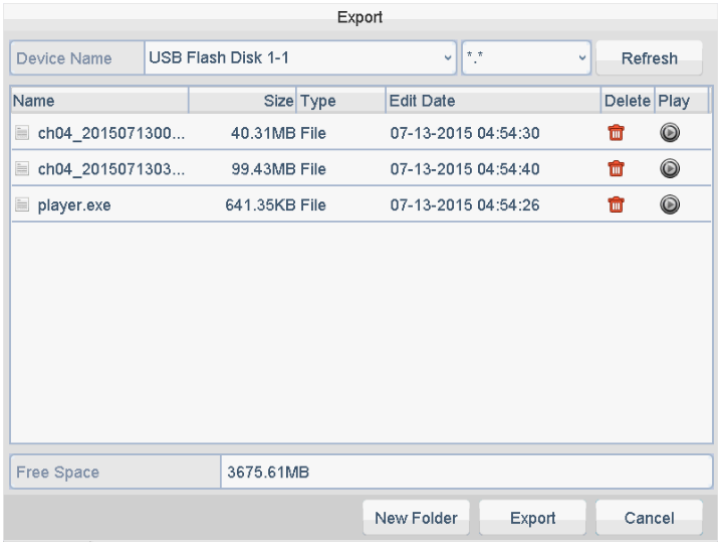

Figure 35 Export Result

6.1.2 Backing Up Video Clips

You may also select video clips to export directly during playback, using USB flash drives, USB HDDs, USB writer, etc.

1. Enter the Playback interface.

   NOTE: Refer to Section 5.1 Playing Back by Channel.

2. During playback, click the video clipping button on the playback toolbar to start clipping the recorded file.
3. Configure the Start Time and End Time for the video clip in the pop-up dialog box.
4. Click Keep Clipping to finish the current clipping.

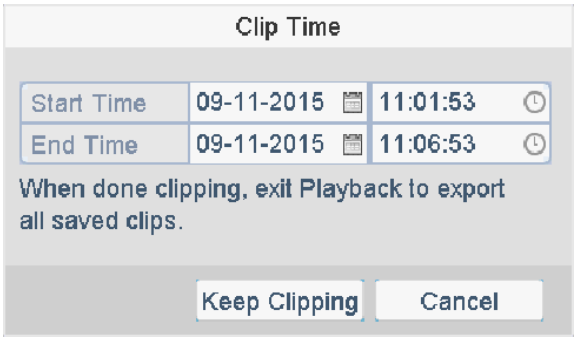

Figure 36 Set Clip Time

4. A saving clip prompt will pop up when you exit the playback interface. Click **Yes** to enter the export clipped video interface.

Figure 37 Saving Attention

NOTE: A maximum of 1,000 clips can be selected for each channel.

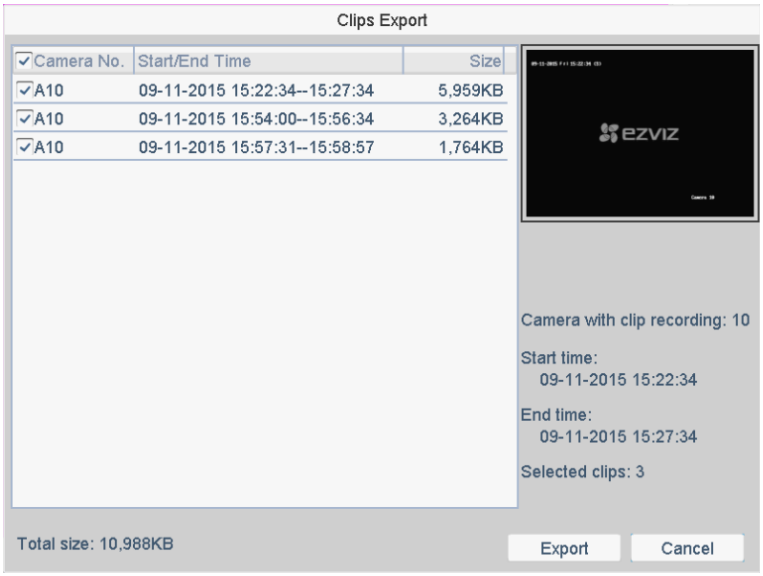

Figure 38 Clips Export Interface

6. Check the checkbox in front of the files to select them, and click the **Export** button to start backing up

   NOTE: If the inserted USB device is not recognized:

   - *Click the Refresh button*
   - *Reconnect device*
   - *Check for compatibility from vendor*

   Stay in the Exporting interface until all record files are exported, noted by the pop-up message, "Export finished."

7. Check backup result.

6.2 Managing Backup Devices

This section explains how to manage USB flash drives and USB HDDs for backing up recorded files.

1. Enter the Export interface.

   Device Management → Advanced Settings Menu → Export

2. Set the search condition and click the Export button to view the USB device file list.

3. Manage the backup device.

   - Click the **New Folder** button if you want to create a new folder on the backup device.
   - Select a file format in the drop-down list to filter the displayed files.
   - Select a recorded file or folder on the backup device and click the button if you want to delete it.
   - Select a recorded file on the backup device and click the button to play it.

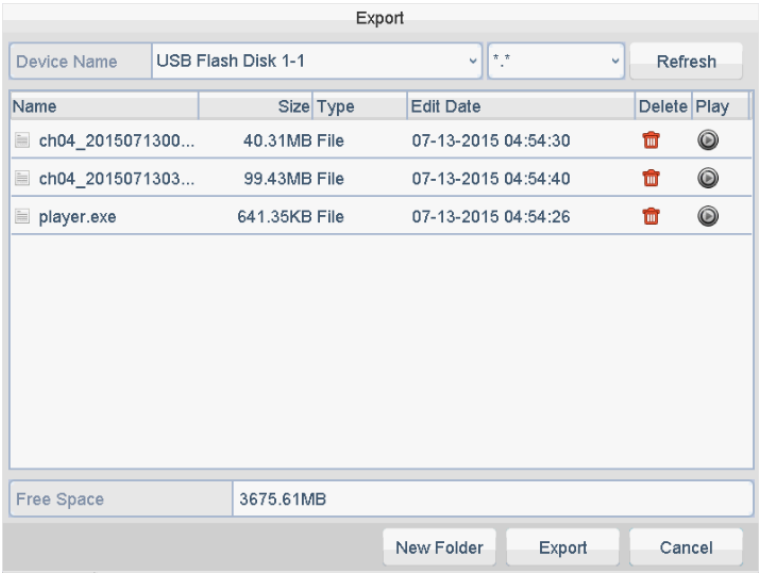

Figure 39 USB Flash Drive Management

7 Network Settings

7.1 Configuring General Settings

Network settings must be properly configured before you can operate the DVR over a network.

1. Enter the Network Settings interface.

   Device Management → Advanced Settings → Configuration → Network

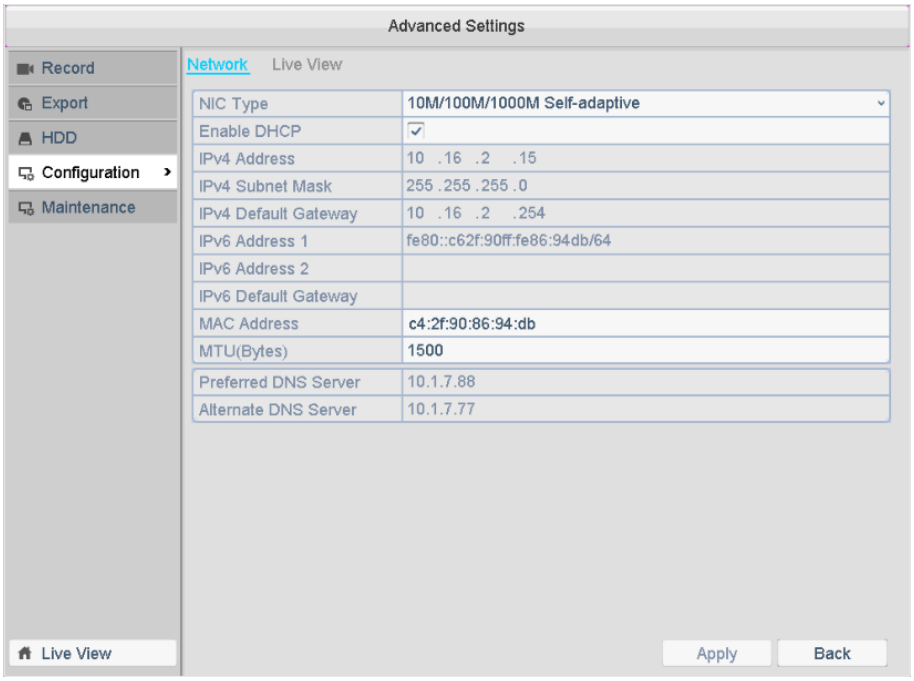

Figure 40 Network Settings Interface

2. In the **General Settings** interface, you can configure the following settings:

Parameter	Description
NIC Type	Do not change the value unless under a debugging circumstance
Enable DHCP	Recommended. Enable DHCP to obtain an IP address automatically and DNS server settings from a DHCP server.
IP Parameters	Configure the IP parameters if DHCP is disabled, including IPv4 Address, IPv4 Subnet Mask, and IPv4 Default Gateway. If IPv6 is supported, you can also configure the IPv6 Address, IPv6 Subnet Mask, and IPv6 Default Gateway.
MAC Address	Read only. Every device has a unique MAC address.
MTU	The valid value range of MTU (Maximum Transfer Unit) is 500 to 9676.
DNS Server	DNS (Domain Name Server) is required for domain name analysis if the device is connected to a service by domain name.

3. After having configured the general settings, click the **Apply** button to save the settings.

7.2 Checking Network Traffic

You can check the network traffic to obtain real-time DVR information such as linking status, MTU, sending/receiving rate, etc.

1. Enter the Network Traffic interface.

   Device Management → Advanced Settings → Maintenance → Traffic

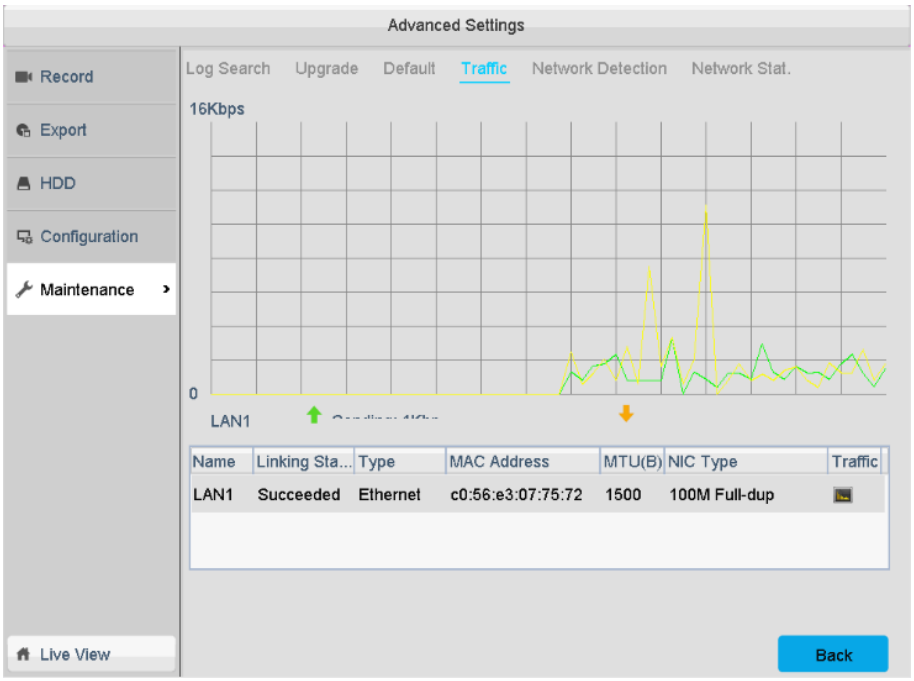

Figure 41 Network Traffic Interface

2. You can view the sending and receiving transfer rates on this screen. Traffic data is refreshed every second.

7.3 Configuring Network Detection

You can obtain the DVR's network connecting status through the network detection function, including network delay, packet loss, etc.

7.3.1 Testing Network Delay and Packet Loss

1. Enter the Network Detection interface.

   Device Management → Advanced Settings → Maintenance → Network Detection

2. Click the **Network Detection** tab to enter the Network Detection menu, as shown in the following figure.

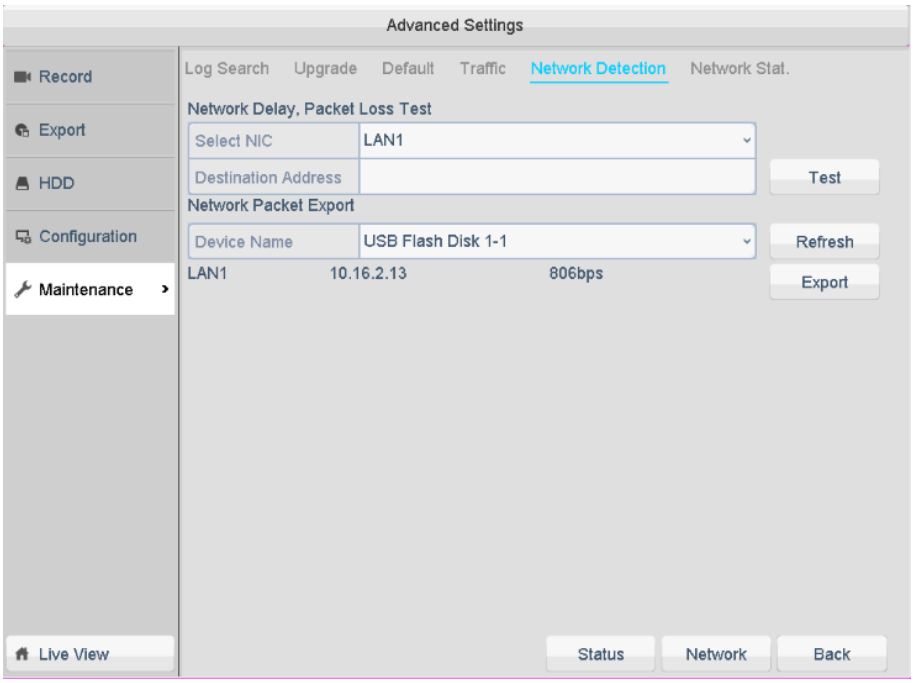

Figure 42 Network Detection Interface

3. Enter the destination address in the **Destination Address** text field.
4. Click the **Test** button to start testing network delay and packet loss. The testing result pops up on the window. If the testing fails, the error message box will pop up as well.

7.3.2 Exporting Network Packets

By connecting the DVR to a network, the captured network data packet can be exported to a USB flash disk, SATA, and other USB backup devices.

1. Enter the Network Detection interface.

   Device Management → Advanced Settings → Maintenance → Network Detection

2. Select the backup device from the drop-down list of Device Names.

   NOTE: *Click the* ***Refresh*** *button if the connected local backup device is not displayed.*

If it fails to detect the backup device, please check whether it is compatible with the DVR. You can format the backup device if the format is incorrect.

3. Click the **Export** button to start exporting.
4. After exporting is complete, click **OK** to finish the packet export.

NOTE: Up to 1 MB of data can be exported each time.

7.3.3 Checking Network Status

You can also check the network status and quick set the network parameters in this interface.

1. Click the **Status** button on the lower right corner of the page.

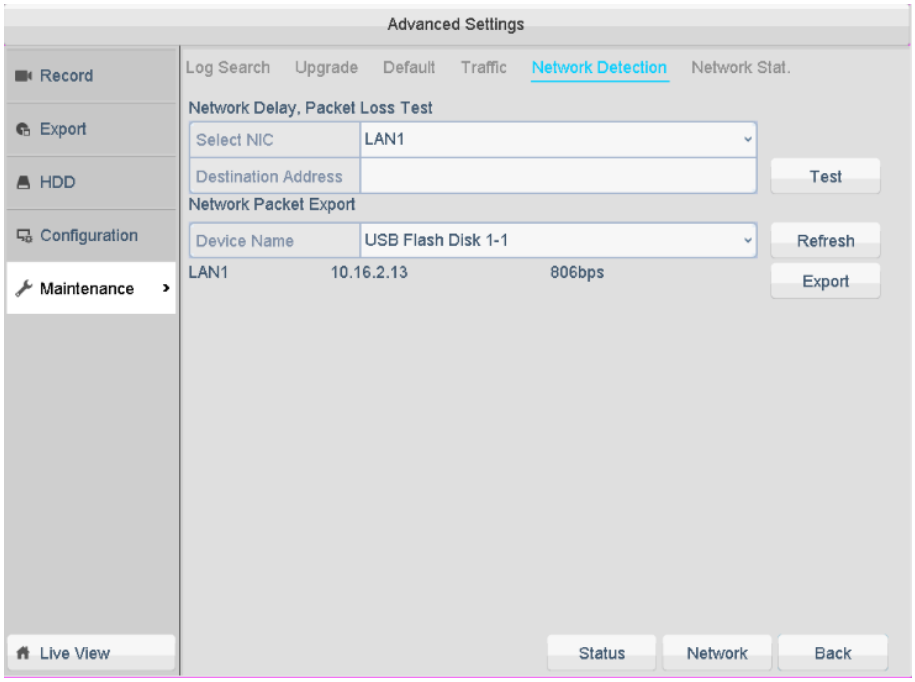

Figure 43 Network Status Checking

2. If the network is normal, the following message box will pop up:

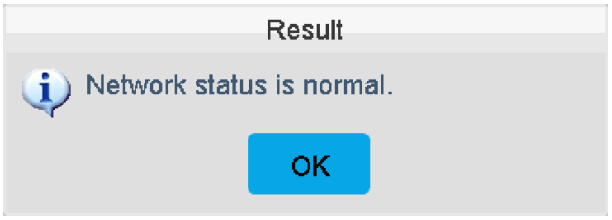

Figure 44 Network Status Checking Result

*NOTE: If a message box pops out with information other than this, click the **Network** button to show the quick setting interface of the network parameters.*

7.3.4 Checking Network Statistics

You can check the network status to obtain real-time information of the DVR.

1. Enter the Network Statistics interface.

   Device Management → Advanced Settings → Maintenance → Network Stat.

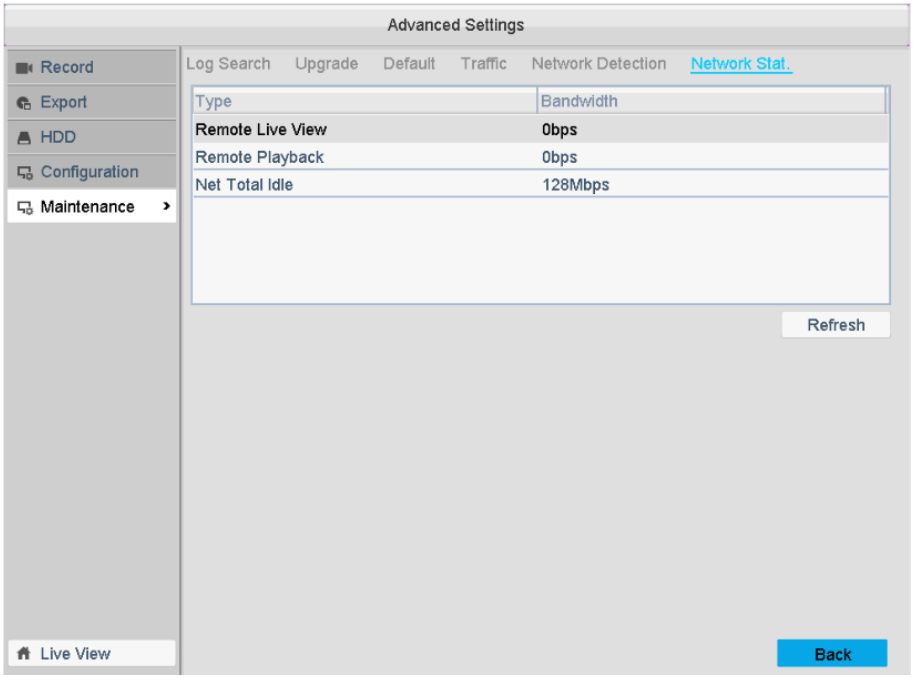

Figure 45 Network Stat. Interface

2. Check the Remote Live View bandwidth, Remote Playback bandwidth, and Net Total Idle.
3. Click Refresh to update the status.

8 Hard Disk Drive (HDD) Management

8.1 Formatting HDDs

This section explains how to format the HDD (erase all data and prepare it for use).

1. Enter the HDD Information interface.

   Device Management → Advanced Settings →HDD

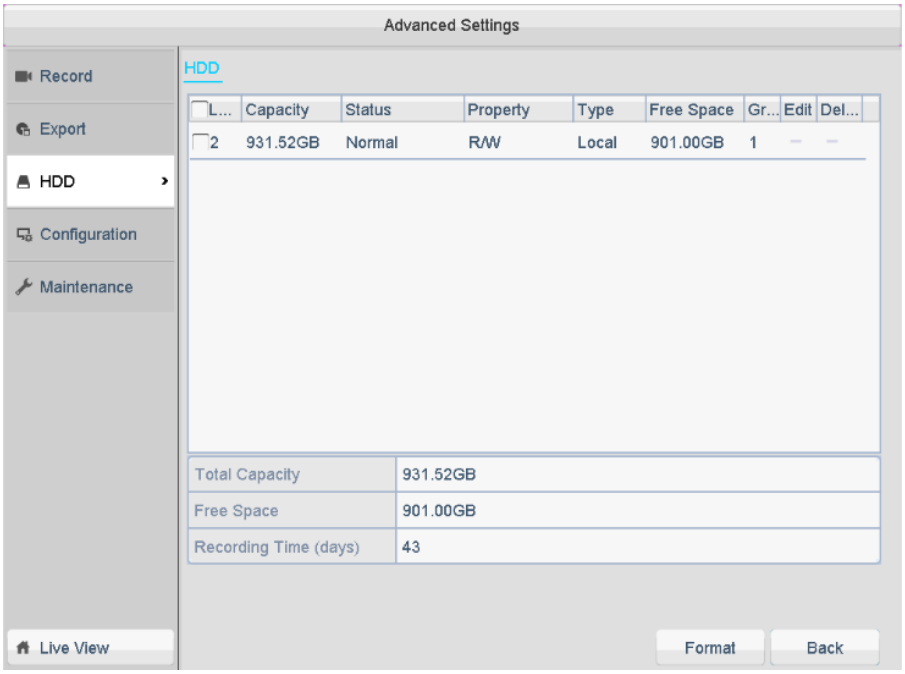

Figure 46 HDD Information Interface

2. Check the HDD checkbox to select an HDD to format.
3. Click the **Format** button.

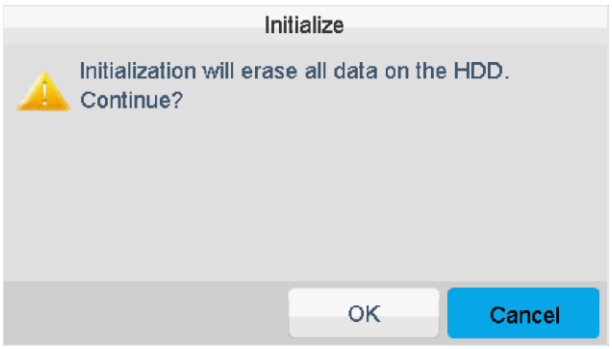

Figure 47 Confirm Initialization

4. Select the **OK** button to start initialization.

8.2 Checking HDD Status

You can check the status of all HDDs installed on an DVR and immediately perform maintenance, as necessary, to prevent HDD failure.

1. Enter the HDD Information interface.

   Menu → HDD → General

2. Check the status of the HDD(s) that are displayed on the list, as shown in following figure.

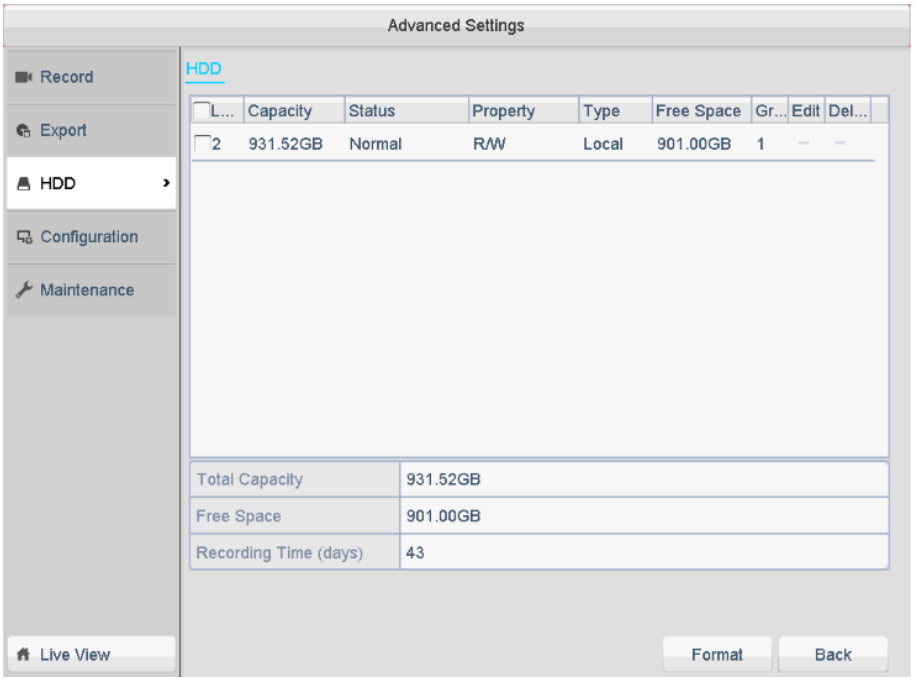

Figure 48 View HDD Status (1)

8.3 Checking Recording Time Left

You can check the Recording Time value for the time left for recording until the HDD is full.

1. Enter the System Information interface.

   Menu →Maintenance → System Info

2. Click the **HDD** tab to view the status of each HDD displayed on the list, as shown in the following figure.

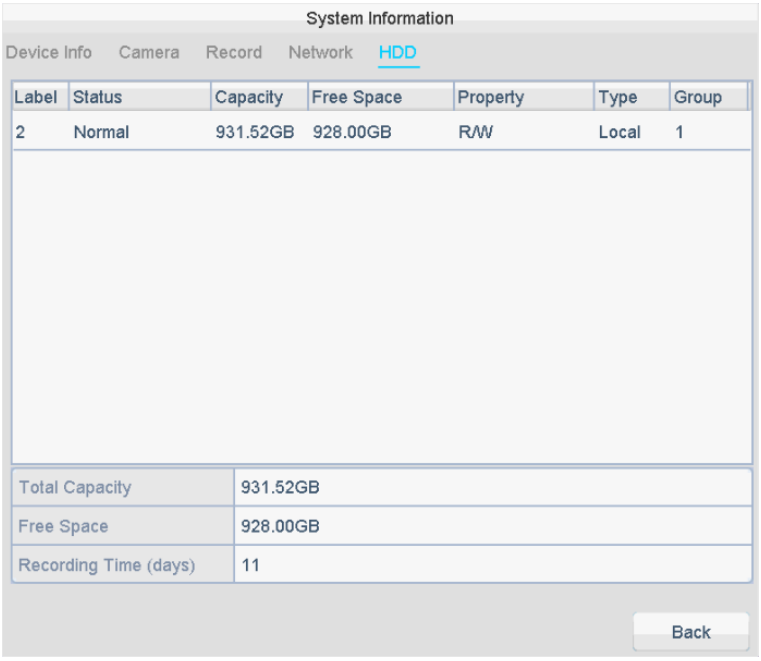

Figure 49 View HDD Status (2)

9 Camera Settings

9.1 Configuring Image Parameters

1. Enter the Image Settings interface.

   Device Management → Image Settings

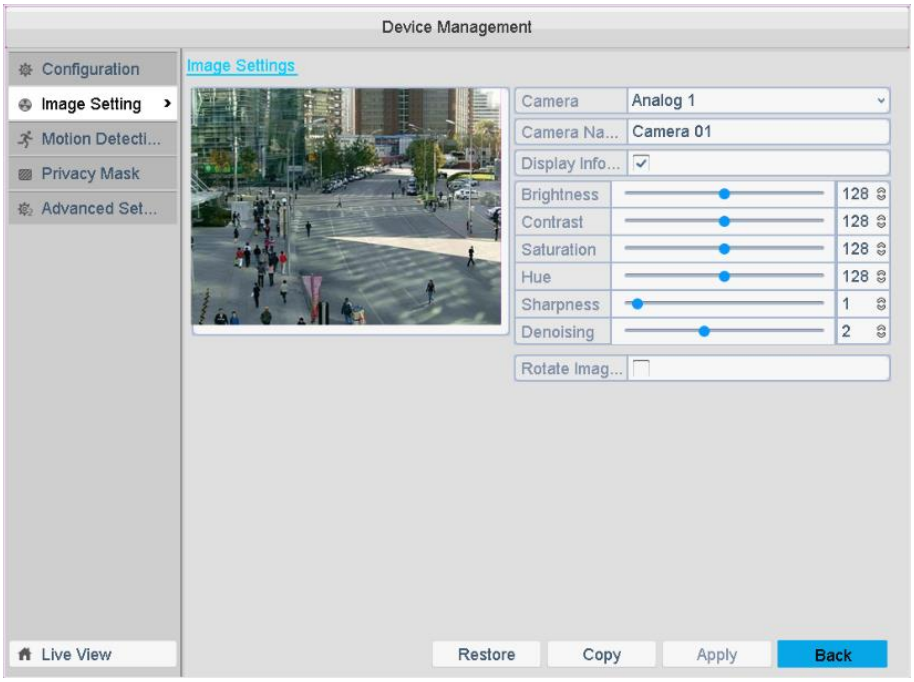

Figure 50 Image Settings Interface

2. Select a camera in the Camera drop-down list to set image parameters.
3. Configure the image parameters as desired.

Parameter	Description
Camera Name	You can specify the Camera Name to be displayed on the image and in the camera list of system information.
Display Information	Enable this function to display the date, time, and camera name on the image.
Brightness	Adjust the image brightness by dragging the slider or clicking the arrows.
Contrast	Adjust the image contrast by dragging the slider or clicking the arrows. The higher the contrast, the more distinguishable the object in the image will be.
Saturation	Adjust the image saturation by dragging the slider or clicking the arrows.
Hue	Adjust the image hue by dragging the slider or clicking the arrows.
Sharpness	Adjust the image sharpness by dragging the slider or clicking the arrows.
Denoising	Reduce the noise in the image. Adjust the denoising level by dragging the slider or clicking the arrows.
Rotate Image 180 Degrees	You can rotate the image 180 degrees if the camera is installed upside down.

4. (Optional) You can click the **Restore** button to reset all the image parameters.

5. Click the **Apply** button to save the settings.

9.2 Configuring Privacy Mask

You can define the four-sided privacy mask zones that cannot be viewed by an operator. The privacy mask can prevent certain surveillance areas to be viewed or recorded.

Steps:

1. Enter the Privacy Mask Settings interface:

   Device Management → Privacy Mask

2. Select the camera on which you wish to set a privacy mask.

3. Click the **Enable Privacy Mask** checkbox to enable this feature.

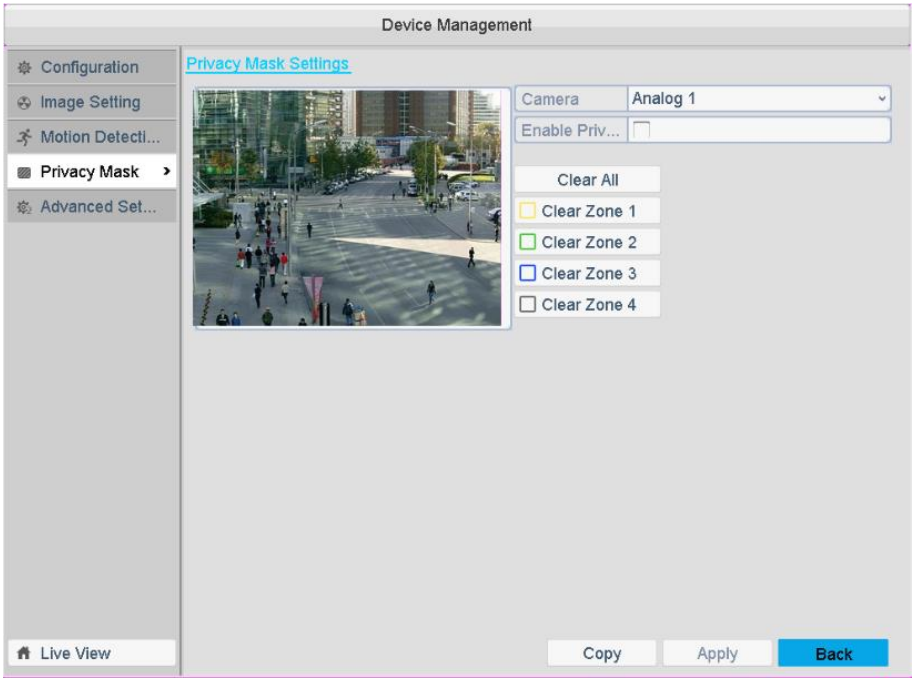

Figure 51 Privacy Mask Settings Interface

4. Use the mouse to draw a zone on the window. Zones will be marked with different frame colors.

5. (Optional) Move the mouse onto a mask and the cursor will become an arrow. You can then adjust the size of the existed area by clicking-and-dragging a side.

   NOTE: Up to four privacy masks zones can be configured.

6. The privacy mask zone(s) on the window can be cleared by clicking the corresponding **Clear Zone1-4** icons on the right side of the window, or click the **Clear All** button to clear all zones.

7. Click the **Apply** button to save the settings.

10 DVR Management and Maintenance

10.1 Configuring General Settings

You can configure the device language, video output resolution, system time, etc.

1. Enter the General Settings interface:

   Device Management → Configuration

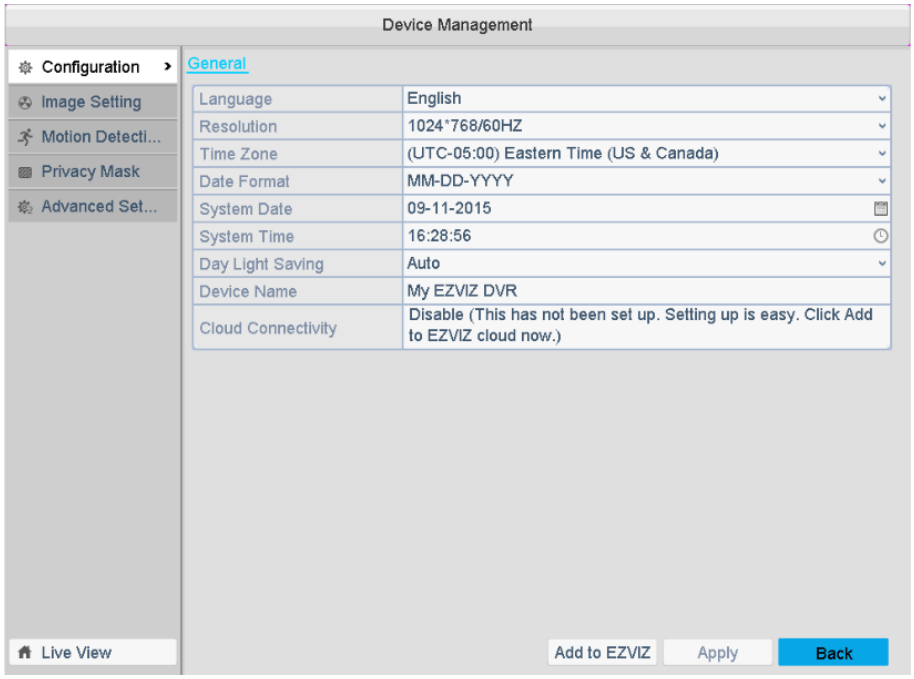

Figure 52 General Settings Interface

2. Configure the following settings:

   - **Language:** The default language is *English*.
   - **VGA/HDMI Resolution:** Select the video output resolution, which must be the same as the monitor screen resolution.
   - **Time Zone:** Select the time zone.
   - **Date Format:** Select the date format.
   - **System Date:** Select the system date.
   - **System Time:** Select the system time.
   - **Day Light Saving:** Select "Auto" if you want to enable the DST function.
   - **Device Name:** Edit the DVR name.
   - **Cloud Connectivity:** The connection status of the EZVIZ Could. If it displays as Disable, you can

click the **Add to EZVIZ** button to set the EZVIZ Cloud connection.

3. Click the **Apply** button to save the settings.

10.2 Viewing System Information

1. Enter the System Information interface.

   Menu → Maintenance → System Info

2. You can click the **Device Info**, **Camera**, **Record**, **Network**, and **HDD** tabs to view system information about the device.

3. You can also scan the device's QR code with a mobile phone to add it to your EZVIZ account.

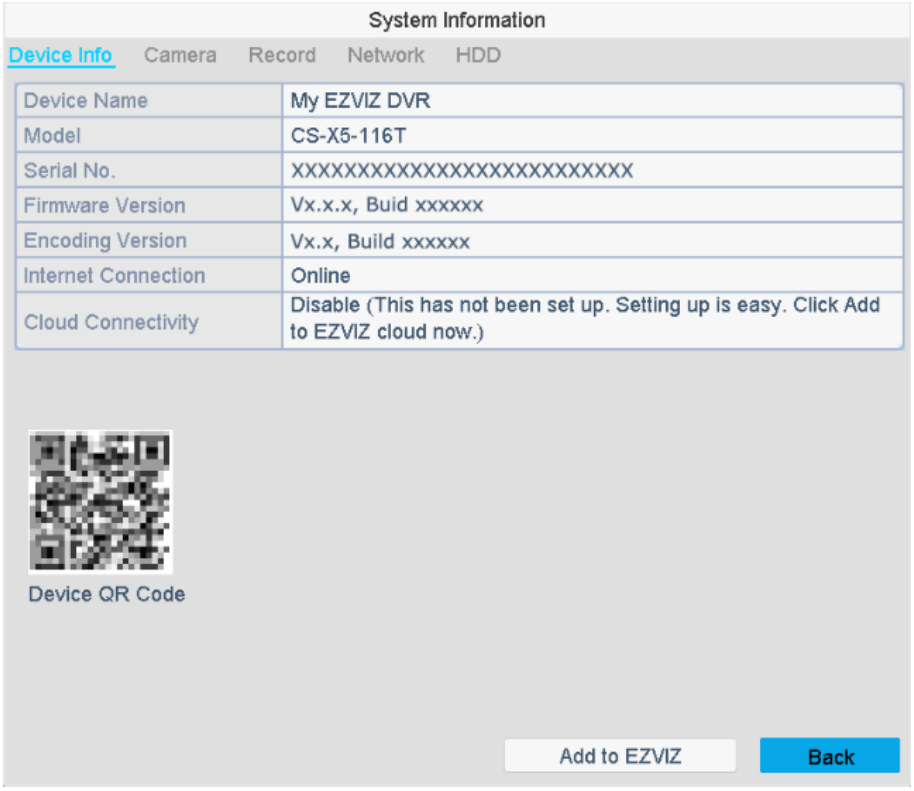

Figure 53 Device Information Interface

10.3 Searching and Export Log Files

The DVR's operation, alarm, exception, and information can be stored in log files, which can be viewed and exported at any time.

1. Enter the Log Search interface.

   Menu → Advanced Settings → Maintenance → Log Search

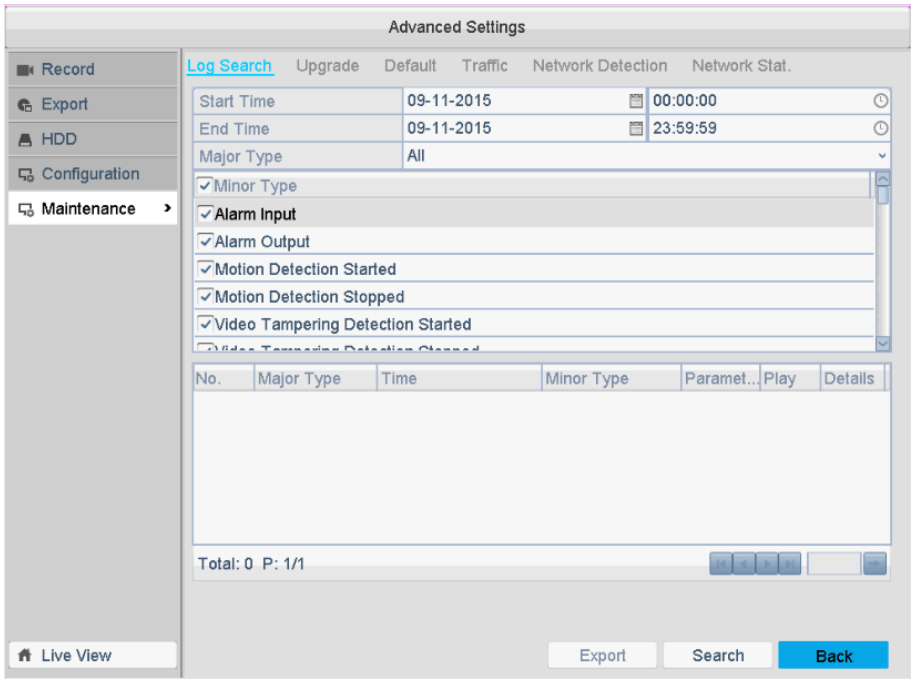

Figure 54 Log Search Interface

2. Set the log search conditions to refine your search, including Start Time, End Time, Major Type, and Minor Type.
3. Click the **Search** button to search the log files.

   NOTE: Up to 2,000 log files can be displayed each time.

5. You can click the button of each log or double click it to view its detailed information, as shown in the following figure. You can also click the button to view the related video files, if available.

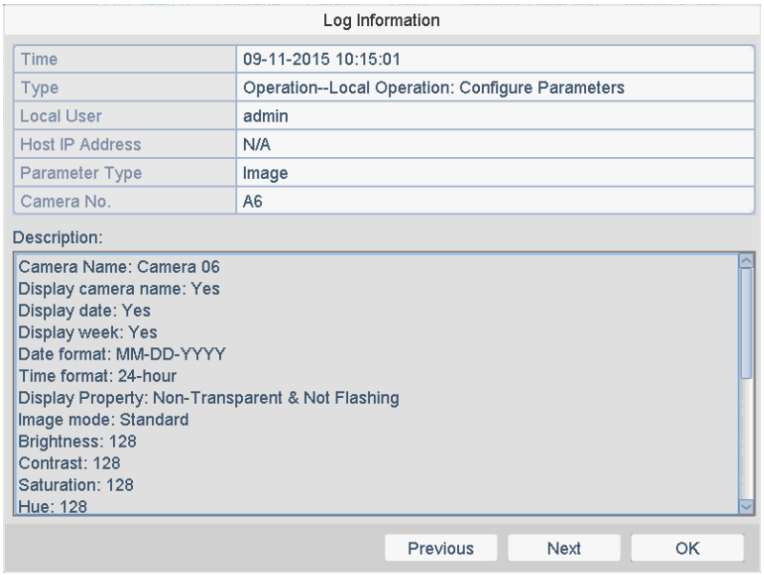

Figure 55 Log Details

6. If you want to export the log files, click **Export** to enter the Export menu.
7. Select the backup device from the drop-down **Device Name** list.
8. Click **Export** to export the log files to the selected backup device.
9. You can click the **New Folder** button to create a new folder on the backup device

NOTE: Connect the backup device to a DVR before operating log export.

The log files exported to the backup device are named after the export time, e.g., 20110514124841logBack.txt.

10.4 Upgrading DVR

The firmware on your DVR can be upgraded by a local backup device or on the EZVIZ website.

10.4.1 Online Upgrading by EZVIZ

Before You Start: Make sure your device is connected to the network.

1. Enter the Upgrade interface:

   Device Management → Advanced Settings → Maintenance → Upgrade

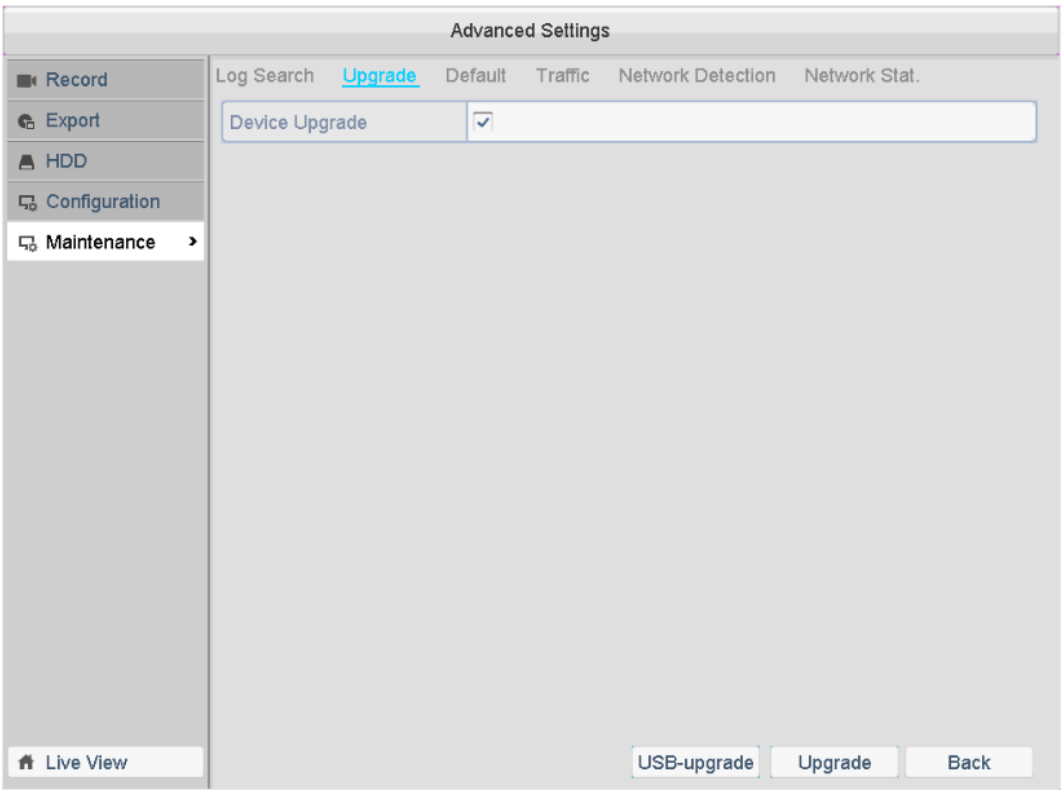

Figure 56 Upgrade

2. Check the checkbox of the Device Upgrade.
3. Click the **Upgrade** button to search for a matching upgrade package online. If an upgrade package is found, the upgrade process will continue and the device will reboot after the upgrade is complete.

10.4.2 Local Upgrading by USB Device

1. Connect a UBS device that contains the update firmware file to the DVR.
2. Enter the Upgrade interface.

   Device Management → Advanced Settings → Maintenance → Upgrade
3. Check the checkbox of the Device Upgrade.
4. Click the **USB-upgrade** button to enter the Upgrade menu, as shown in the following figure.

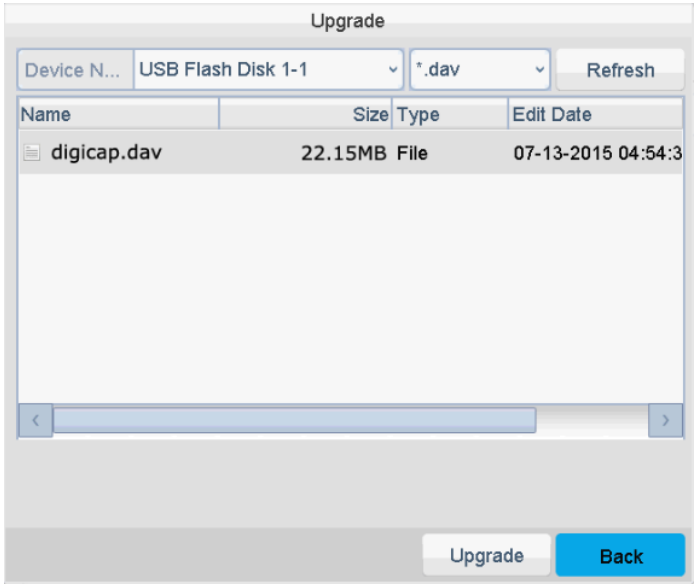

Figure 57 Local Upgrade Interface

5. Select the update file on the backup device.
6. Click the **Upgrade** button to start upgrading.
7. After the upgrade is complete, reboot the DVR to activate the new firmware.

10.5 Restoring Default Settings

1. Enter the Default interface:

   Device Management → Advanced Settings → Maintenance → Default

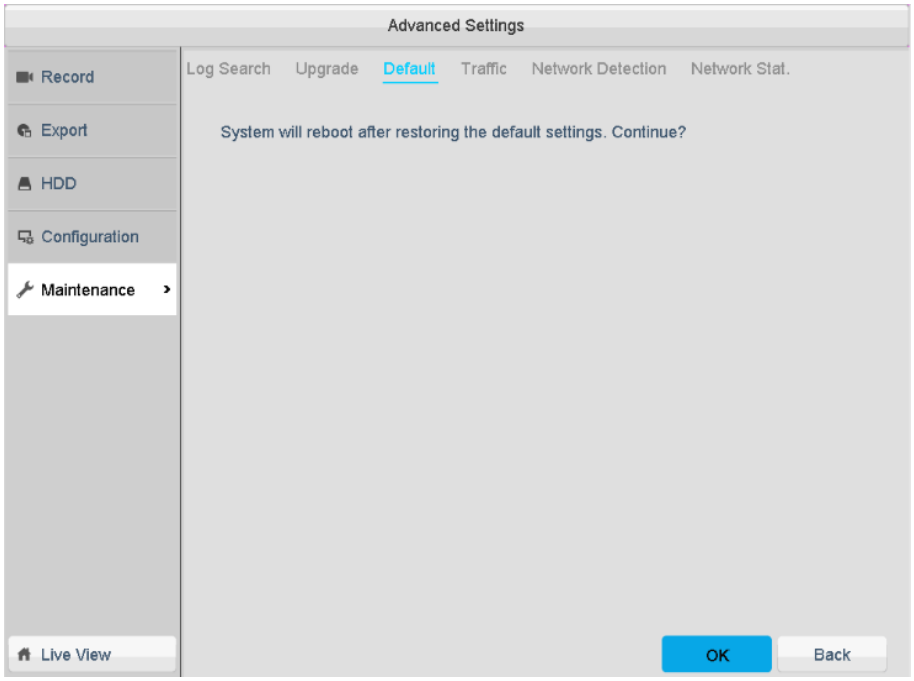

Figure 58 Restore Factory Default

2. Click the **OK** button to restore the factory default settings.

   NOTE: Except for the network parameters (including IP address, subnet mask, gateway, MTU, default route, and server port), all other device parameters will be restored to factory default settings.

Glossary

- **Dual Stream:** Dual stream is a technology used to record high resolution video locally while transmitting a lower resolution stream over the network. The two streams are generated by the DVR, with the main stream having a maximum resolution of 1080p and the sub-stream having a maximum resolution of 4CIF.
- **HDD:** Acronym for Hard Disk Drive. A storage medium that stores digitally encoded data on platters with magnetic surfaces.
- **DHCP:** Dynamic Host Configuration Protocol (DHCP) is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network.
- **HTTP:** Acronym for Hypertext Transfer Protocol. A protocol to transfer hypertext requests and information between servers and browsers over a network
- **NTP:** Acronym for Network Time Protocol. A protocol designed to synchronize computer clocks over a network.
- **NTSC:** Acronym for National Television System Committee. NTSC is an analog television standard used in countries such as the United States and Japan. Each frame of an NTSC signal contains 525 scan lines at 60 Hz.
- **NVR:** Acronym for Network Video Recorder. An NVR can be a PC-based or embedded system used for centralized management and storage for IP cameras, IP domes, and other DVRs.
- **PAL:** Acronym for Phase Alternating Line. PAL is a video standard used in broadcast televisions systems in large parts of the world. The PAL signal contains 625 scan lines at 50 Hz.
- **USB:** Acronym for Universal Serial Bus. USB is a plug-and-play serial bus standard to interface devices to a host computer.