User Manual
RN301A Series



User Manual
RN301A Series

Thank you for purchasing this product. Lorex Technology Inc. is committed to providing our customers with a high quality, reliable security solution.

RN301A-81W-AB1

For the latest online manual, downloads and product updates, and to learn about our complete line of accessory products, please visit our website at:

www.lorex.com



WARNING

RISK OF ELECTRIC SHOCK
DO NOT OPEN



WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF THE PLUG TO THE WIDE SLOT AND FULLY INSERT.

Table of contents

1 Important Safeguards 1

2 What's Included 2

3 Recorder Overview 3

3.1 Front Panel Overview 3

3.2 Back Panel Overview 3

4 NVR Setup 4

4.1 Connecting the NVR Using a Monitor 4

4.1.1 Using the Mouse 4

4.2 Running Lorex Setup 5

4.3 Download the Lorex Connect App for Remote Viewing 8

5 Camera Setup 12

5.1 Connecting Cameras to the NVR 12

5.1.1 Direct Connection Using Ethernet Cables (Recommended) 12

5.1.2 Network Connection Using LAN or PoE Switch (Advanced) 12

5.2 Adding Cameras to the NVR 14

5.3 Camera Installation 15

5.3.1 Camera Placement Tips 15

5.3.2 Installing the Cameras 16

5.4 Configuring Image Settings 16

5.5 Taking Snapshots 17

5.6 Setting Privacy Masking 18

5.7 Setting Overlay Masking 19

5.8 Setting Camera Name 20

6 Live View 22

6.1 Camera Live View Overview 22

6.2 Using the Navigation Bar 22

7 Motion Detection Setup 24

7.1 Configuring Motion Detection 24

8 Recording Settings 26

8.1 Configuring Recording Settings 26

8.2 Configuring Schedule Settings 26

9 Playback 28

9.1 Playback 28

9.2 Managing Playback 28

9.3 Playback Lists 30

9.4 Controlling Playback 31

10 User and Group Management 33

10.1 User Management 33

10.2 Group Management 34

11 Security 36

11.1 HTTPS 36

11.2 Trusted Certificate 37

12 Password Reset 38

12.1 NVR Security Question Method 38

12.2 Changing NVR Password 39

13 Date & Time Setup 40

14 Storage Management 42

14.1 Configuring the Recording Schedule 42

14.2 Formatting USB Drive 42

14.3 Overwriting and Formatting Your Hard Drive 44

14.4 Replacing the Hard Drive (HDD) 45

14.4.1 Removing the Hard Drive 45
14.4.2 Installing a New Hard Drive 52
14.5 Configuring File Transfer Protocol 57
14.6 Configuring Backup 58
15 Configuration 60
15.1 Camera PoE Power Statuses 60
15.2 Alerts Settings 60
15.2.1 Setting Up Disconnection Alerts 60
15.2.2 Setting Up Storage Error Alerts 61
15.2.3 Setting Up Network Area Alerts 61
15.2.4 Viewing Event Log 62
15.3 Network Settings 63
15.3.1 Configuring General Network Settings 63
15.3.2 Setting Up Port Configuration 64
15.3.3 DDNS Setup 64
15.3.4 Configuring Email Alerts 72
15.4 System Manager Settings 76
15.4.1 Managing Basic System Settings 76
15.4.2 Configuring Display Settings 76
15.4.3 Configuring Audio Output Settings 77
15.4.4 Performing Recorder Maintenance 77
15.4.5 Managing IP Camera Settings 80
15.5 Viewing System Information 82
15.5.1 Device Information 82
15.5.2 Storage Information 83
15.5.3 Bitrate 84
15.5.4 Recording Information 84
16 Troubleshooting 86
17 Technical Specifications 87
17.1 Inputs & Outputs 87
17.2 Display 87
17.3 Recording 87
17.4 Playback 87
17.5 Storage & Backup 87
17.6 AI Detection & Smart Features 87
17.7 Connectivity 87
17.8 Security 88
17.9 Power 88
17.10 Physical & Environmental 88
18 Notices 89
18.1 FCC 89

1 Important Safeguards

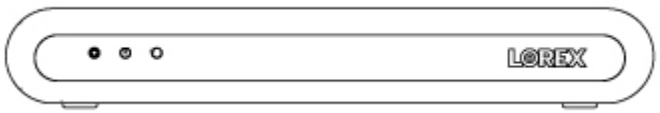
Please read the following safety instructions carefully to avoid injury and prevent damage to the device and connected equipment.

⚠ **WARNING**
If you notice smoke, unusual odors, or strange noises, turn off the device, unplug it, and contact your retailer immediately.

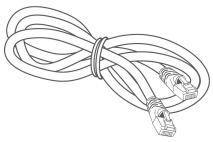
- Only use the power supply provided or specified by the manufacturer. Do not use an unspecified power source.
- Ensure the plug is securely connected to the power outlet. Do not overload power adapters by connecting multiple devices.
- Disconnect power before attaching or detaching accessories and peripherals.
- Place the NVR on a stable surface. An unstable placement can cause the device to fall, leading to serious injury or death.
- The NVR contains a hard disk drive (HDD) that generates heat during operation. Ensure vents on all sides are unobstructed to allow for proper cooling.
- Avoid placing the NVR in dusty or dirty environments. Ensure the NVR is stored in a well-ventilated area, away from direct sunlight, moisture, or extreme weather conditions. If the device comes into contact with water, disconnect the power immediately.
- Keep the NVR clean and dry. Use a soft cloth for cleaning and avoid using liquid or aerosol cleaners.
- Do not dispose of the battery in fire, expose it to high temperatures, or subject it to mechanical damage, as this may cause explosion or leakage of hazardous materials.
- Avoid exposing the battery to extremely high temperatures or low air pressure, as this may lead to explosion or leakage of flammable liquids or gases.
- Use this device in accordance with local laws, electrical safety standards, and fire prevention regulations.

2 What’s Included

Your NVR package includes the following accessories:



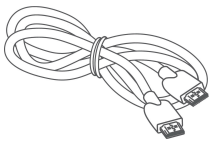
4K Wired NVR



Ethernet Cable



USB Mouse



HDMI Cable



Power Adapter

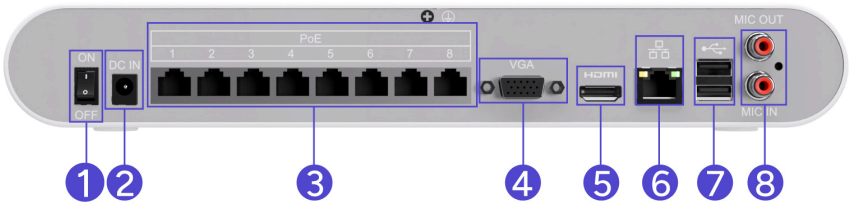
3 Recorder Overview

3.1 Front Panel Overview



1. **HDD (Hard Disk Drive) & Power Status Indicators:** On indicates normal operation; Off signals a hard disk drive error or that the power is off. The lights (from left to right) indicate HDD Status (On/OFF), Power (ON/OFF), and Internet (ON/OFF).

3.2 Back Panel Overview



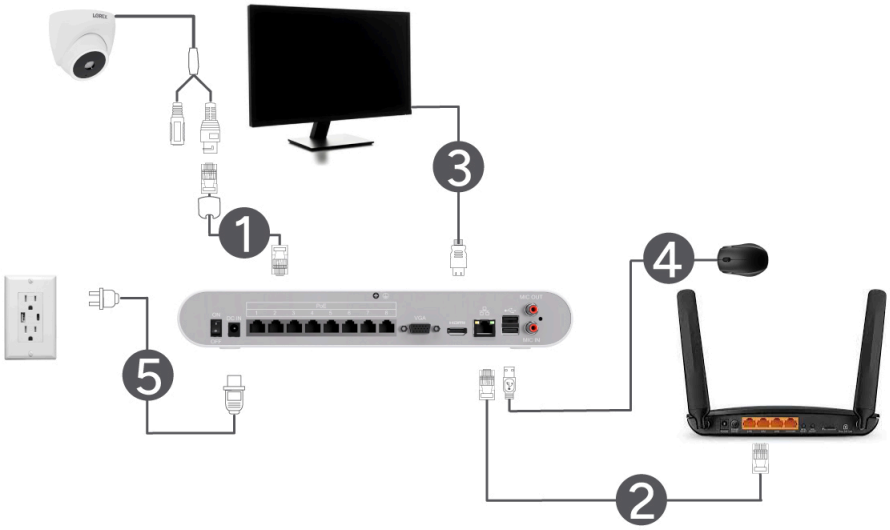
1. **On/Off Switch:** Use this switch to turn the NVR on or off.
2. **Power Input:** Connect the included power adapter to supply power to the NVR.
3. **PoE Camera Input:** Connect Lorex IP cameras directly to the NVR using an Ethernet extension cable. To view a list of compatible cameras, go to lorex.com/compatibility and search for the RN301 recorder.
4. **VGA Monitor:** Connect a monitor using a VGA cable for display output.
5. **HDMI Monitor:** Connect a monitor using the included HDMI cable for high-definition display output.
6. **Network Port (LAN):** Connect to your router using the included Ethernet cable for network access.
7. **USB Port:** Connect the included mouse to control the NVR on a monitor.
8. **Mic In/Out Port:** Connect to audio devices. MIC IN to a microphone or audio recording device, and MIC OUT to speakers or headphones.

4 NVR Setup

Learn how to connect your cameras, power up the NVR, and bring your system online, whether you are using a monitor or the Lorex Connect app. This guide will walk you through both methods, show you how to navigate using the mouse, and help you complete the initial setup with the Lorex Setup Wizard. By the end, you will be able to access and control your NVR remotely through the app for full monitoring.

Set up your NVR system using one of the two methods: **Using a Monitor** (refer to 4.1 *Connecting the NVR Using a Monitor*, page 4) or **Using the App (Without Monitor)** (refer to 4.3 *Download the Lorex Connect App for Remote Viewing*, page 8).

4.1 Connecting the NVR Using a Monitor



NOTE

Connecting to your network and the app are optional for this method.

1. **Connect the Cameras:** Using Ethernet extension cables, connect each camera to the PoE Camera Inputs on the back of the NVR. For detailed instructions, refer to 5.1 *Connecting Cameras to the NVR*, page 12.
2. **Connect to the Router:** Plug one end of the included Ethernet cable into the Network Port (LAN) on the NVR, then connect the other end to your router.
3. **Connect to the Monitor:** Plug one end of the included HDMI cable into the HDMI Monitor Port on the NVR, and the other end into your monitor.
4. **Plug in the Mouse:** Insert the included mouse into one of the USB ports on the NVR.
5. **Connect the Power Adapter:** Attach the power adapter to the Power Input on the back of the NVR, and then plug it into a power outlet.
6. **Turn On the NVR:** Flip the power switch on the back of the NVR to the ON position (**I**).
7. **Complete Setup**: Follow the on-screen steps to complete **Lorex Setup;** see 4.2 *Running Lorex Setup*, page 5 for full details.

4.1.1 Using the Mouse

The mouse allows you to easily navigate and interact with your NVR system. Here is how to use each function:

1. **Left Button**



1.1. **Click** to select options from any menu.
1.2. **Double-click** a channel in split-screen view to switch to full-screen. Double-click again to return to split-screen.
1.3. **Click** and hold to adjust sliders and scales in the menus.

2. **Right Button**



2.1. **Click** to go back or close any open menus.

3. **Scroll Wheel**



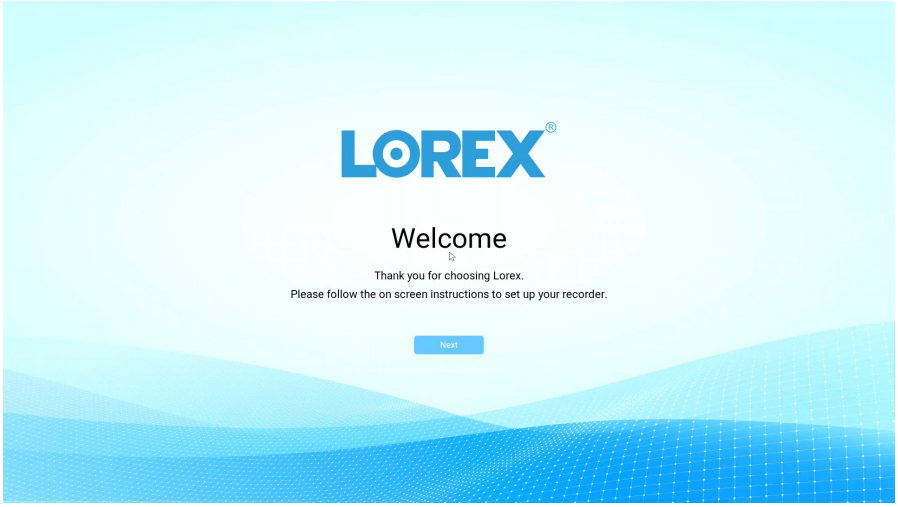
3.1. **Scroll** to navigate up or down through menu options.
3.2. **Scroll** over the volume control to increase or decrease system volume.
3.3. **Scroll** while in zoom mode to zoom in or out.

4.2 Running Lorex Setup

Once your NVR is powered on, follow these preliminary steps to set up your new password and recovery questions:

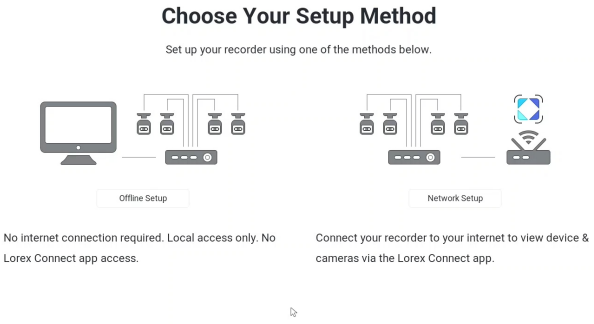
Follow these steps to complete Lorex Setup:

1. **Welcome to Lorex Setup:** Click **Next** to start.



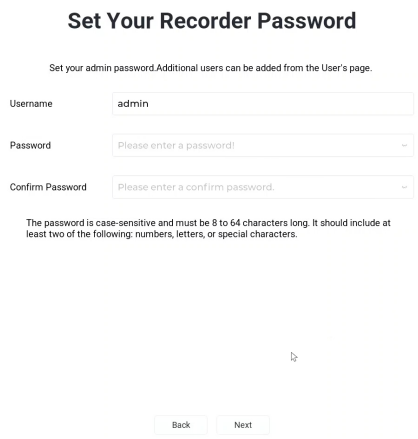
2. **Choose Your Setup Method:**

   2.1. **Offline Setup**: Select this to choose a network-free setup with wired cameras only.
   2.2. **Online Setup**: Select this to connect your NVR to Wi-Fi router via Ethernet cable.

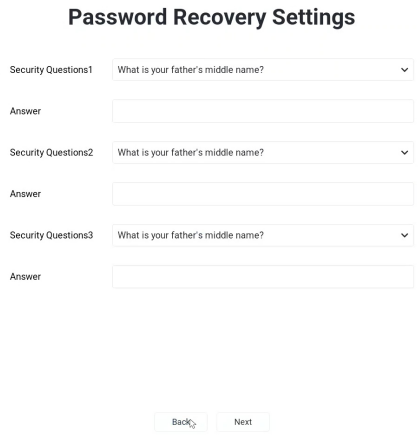


3. **Set Your Recorder Password:** Enter a new password for the NVR system, then confirm it. Click **Next** to save.

NOTE
The password you set for the NVR will be automatically applied to all connected cameras.

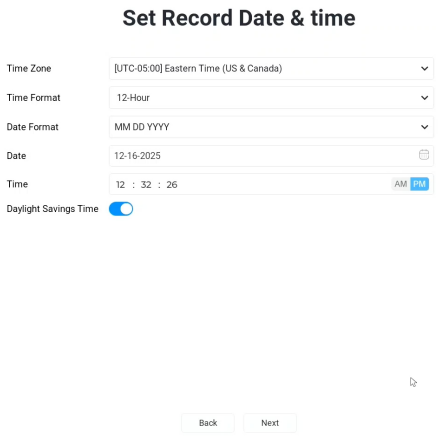


4. **Password Reset Settings:** Set up security questions to recover your password. For each of the three security questions, click the drop-down, select a question, and enter your answer. Click **OK** to save.



5. **Set Record Date and Time:** Choose the correct date and time for your region, then select the preferred date and time formats. Click **Next**.

> **NOTE**
>
> Accurate date and time settings are critical for ensuring correct recording timestamps, especially if the footage is needed for legal purposes.
>
> If you forget your password or security answers and your NVR is not linked to the Lorex Connect app, you will lose access to your system. Store your answers in a safe place. Lorex Support cannot reset or recover your password.

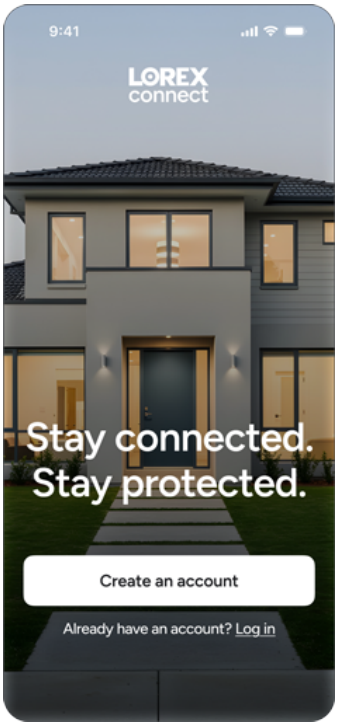


4.3 Download the Lorex Connect App for Remote Viewing

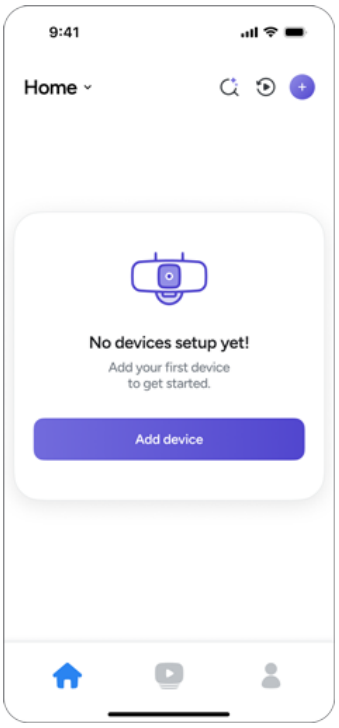
> **NOTE**
>
> Ensure a high-speed Internet connection with at least 6 Mbps upload speed per 4K channel and 24 Mbps for the entire system.

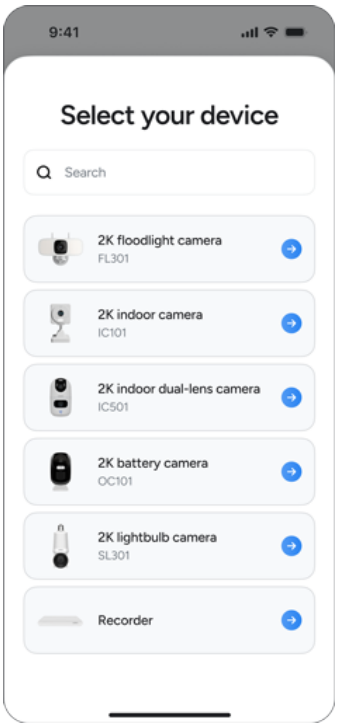
1. Download the **Lorex Connect** app from the App Store or Play Store.

2. Open the app, then **Create an account** or **Log in**.

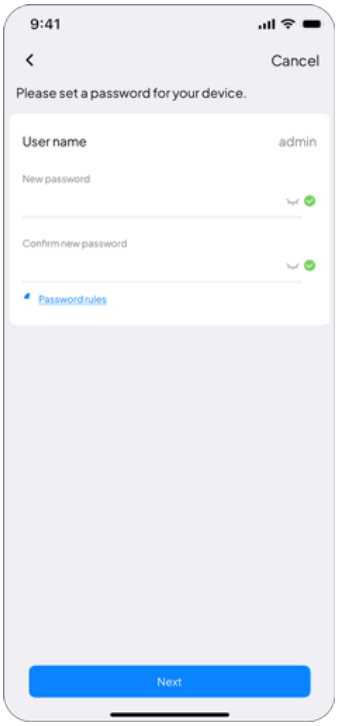


3. Tap + **Add device** and select **Recorder**. Your phone and NVR should be connected to the same network.

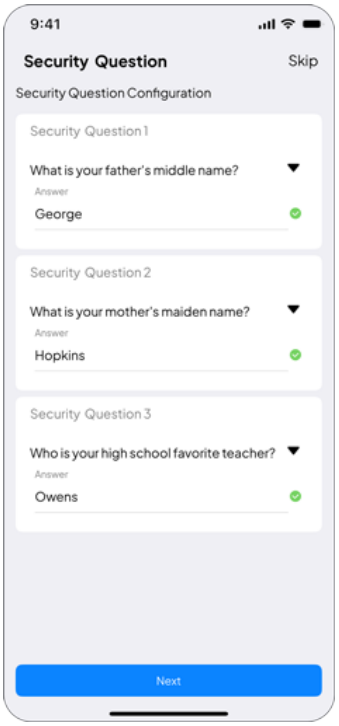




4. Set a password for your NVR.



5. Set up security questions for your device—recommended to help recover your password if forgotten.



6. Give your NVR a name.

For up-to-date guides on using the Lorex Connect app, visit our Support site: www.lorex.com/pages/help.

5 Camera Setup

This chapter covers everything you need to know about connecting and configuring your cameras with the NVR. Whether you are using a direct connection through the NVR's PoE ports or setting up advanced network configurations, these steps will guide you through the process. You will learn how to manually add or modify cameras, optimize camera placement for the best performance, and configure live view and image settings for clear and reliable monitoring. Follow these instructions to ensure your cameras are set up correctly and performing at their best.

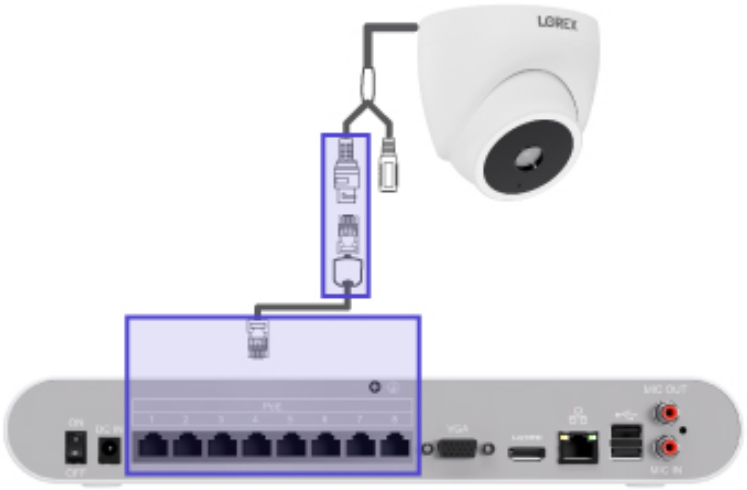
5.1 Connecting Cameras to the NVR

This section covers connecting your cameras directly to the NVR or through a network setup.

NOTE
Cameras are automatically added to the system when connected directly to the NVR's PoE ports.

5.1.1 Direct Connection Using Ethernet Cables (Recommended)

For a simpler setup, connect your cameras directly to the NVR's PoE (Power over Ethernet) ports, which supply both power and data transmission to the cameras.



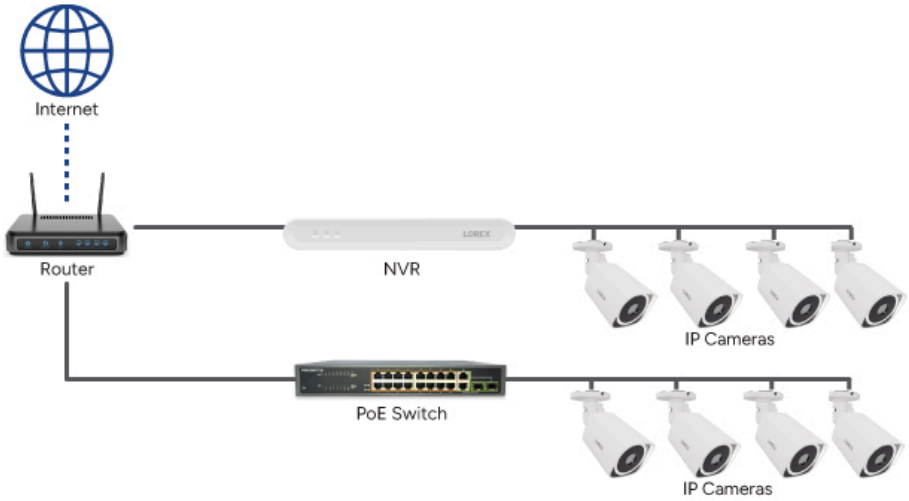
1. Connect one end of the Ethernet cable to the camera.
2. Connect the other end to one of the NVR's PoE Camera Inputs on the back panel.
    - The NVR will automatically detect and add the camera to the system.

5.1.2 Network Connection Using LAN or PoE Switch (Advanced)

For added flexibility, connect IP cameras to the same Local Area Network (LAN) as the NVR by using a PoE switch or connecting them directly to the router. This method allows you to add cameras without directly plugging them into the NVR.

NOTE
This method requires manually adding the cameras to the system after they are connected.

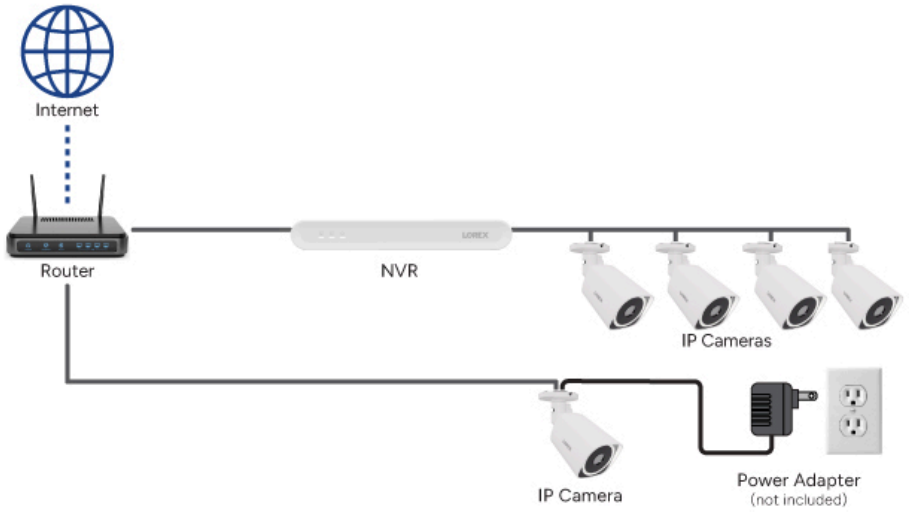
Option 1: Connecting Cameras Using a PoE Switch



1. Connect the PoE switch to your router using a CAT5e or higher Ethernet cable.
2. Plug the PoE switch into a power source.
3. Connect your cameras to the PoE switch with Ethernet cables.
   - The PoE switch will transmit both power and video, similar to the NVR's PoE ports.
4. Add the cameras to the NVR, refer to 5.2 *Adding Cameras to the NVR*, page 14.
5. To configure the internal PoE Switch settings, refer to *Configuring Internal PoE Switch Settings*, page 64.

Option 2: Connecting Cameras Using Power Adapters

If your switch does not support PoE, or if you are connecting cameras to a router, a separate power adapter is required for each camera.



1. Connect each camera to a compatible power adapter (you can purchase these adapters at lorex.com by searching for model numbers ACCPWR12V2A, ACCPWR12V2AH4B, or ACCPWR12V1).
2. Use an Ethernet cable to connect each camera to your router.
3. Add the cameras to the NVR, refer to 5.2 *Adding Cameras to the NVR*, page 14.

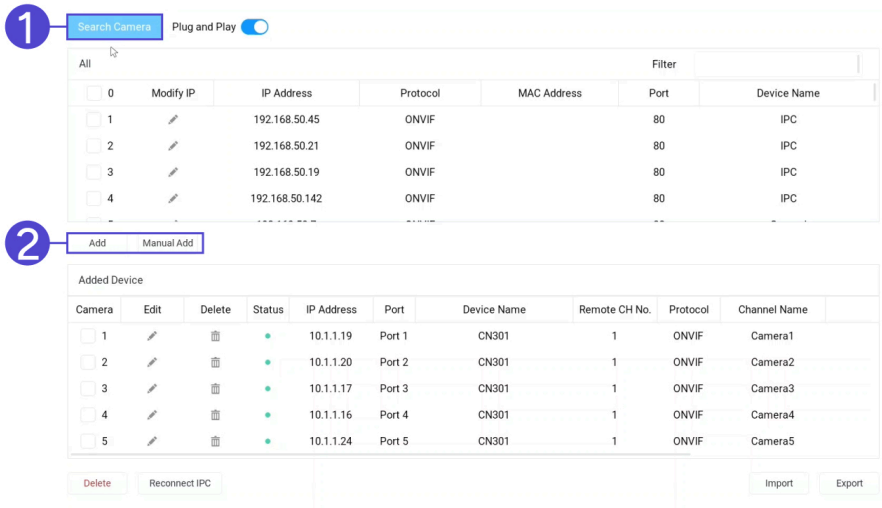
5.2 Adding Cameras to the NVR

The **IP Channels** settings let you manage the connection and configuration of your network cameras. This includes adding, editing, or deleting cameras, as well as troubleshooting connection issues.

How to Access IP Channels Settings

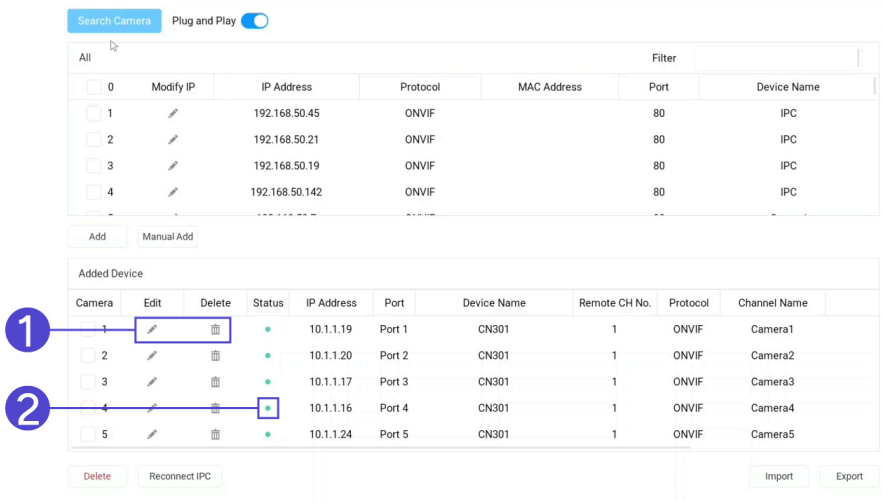
1. **Click** on the  icon to access the Main Menu.
2. Select **Camera Settings**.
3. Go to the **Camera** tab on the left side.

Adding Cameras



1. **Search Camera:** Search all devices on the same network.
2. **Add or Manual Add:** Manually or automatically add cameras.

Modifying Cameras



1. **Modify Camera Settings:**

   1.1.  **Delete:** Remove the camera from the NVR channel.

1.2. **Edit:** Edit connection details such as IP Address, Port, Username, and Password.

2. **State Indicators:**

2.1. **Play Live Video:** Camera is operating correctly; click to view live.

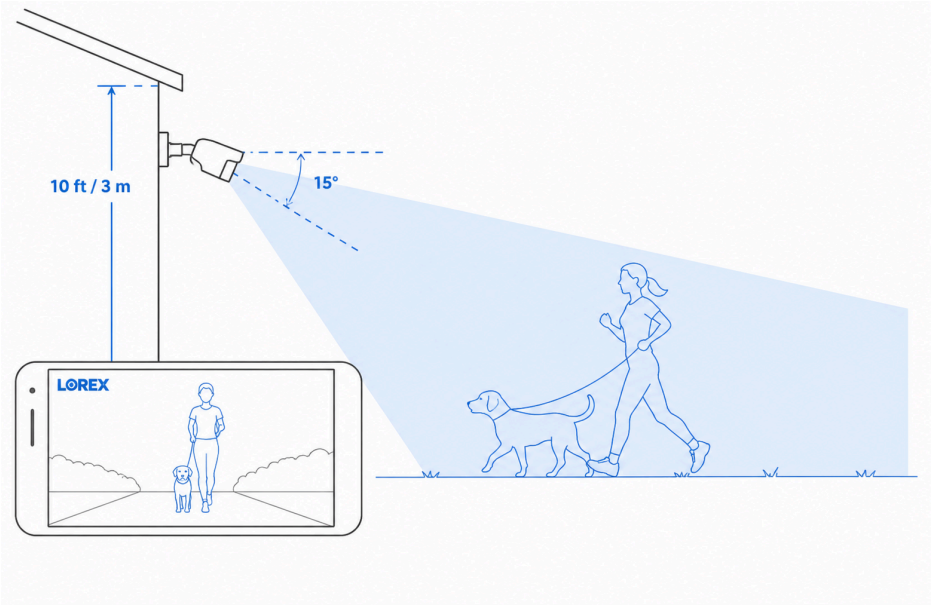
2.2. **Cannot Play Live Video:** Connection issue.

5.3 Camera Installation

This section provides general tips and instructions for connecting cameras to the NVR. For detailed installation steps, refer to your camera's Installation Guide by searching for your camera model at help.lorex.com.

5.3.1 Camera Placement Tips

To ensure optimal camera performance, follow these guidelines:



- **Test first**: Connect the camera to the NVR before permanent installation.
- **Avoid obstacles**: Place the camera away from obstacles like walls or trees. If installed too close, infrared (IR) light used for night vision can reflect off these surfaces, reducing visibility at night.
- **Install in a sheltered location**: For outdoor cameras, install them in a sheltered area to avoid rain or debris blocking the lens. The ideal position is about 10 ft/3 m above ground, angled 15° downward.
- **Avoid direct sunlight**: Install the camera in a location that avoids direct sunlight to prevent glare and lens damage.
- **Secure cabling**: Hide or secure cables to prevent tampering and avoid interference with power lines.
- **Install out of reach**: Keep cameras high enough to prevent tampering but visible as a deterrent.
- **Do not aim through glass**: Avoid pointing cameras through windows, as IR light can reflect off the glass and distort the night vision.
- **Use multiple cameras in key areas**: In high-risk zones, consider installing more than one camera to ensure coverage if one is tampered with.

5.3.2 Installing the Cameras

1. Mount the cameras to a sturdy surface using the provided hardware. Refer to the Installation Guide for specific instructions.

   For the most up-to-date documentation:

   - Visit help.lorex.com/support/home.
   - Search for your camera model number.
   - Click on your NVR's Installation Guide.

2. Adjust the camera's angle to cover the desired area. Depending on the mounting surface (wall or ceiling), adjust accordingly for the best view.

	
Wall Mount	**Ceiling Mount**

5.4 Configuring Image Settings

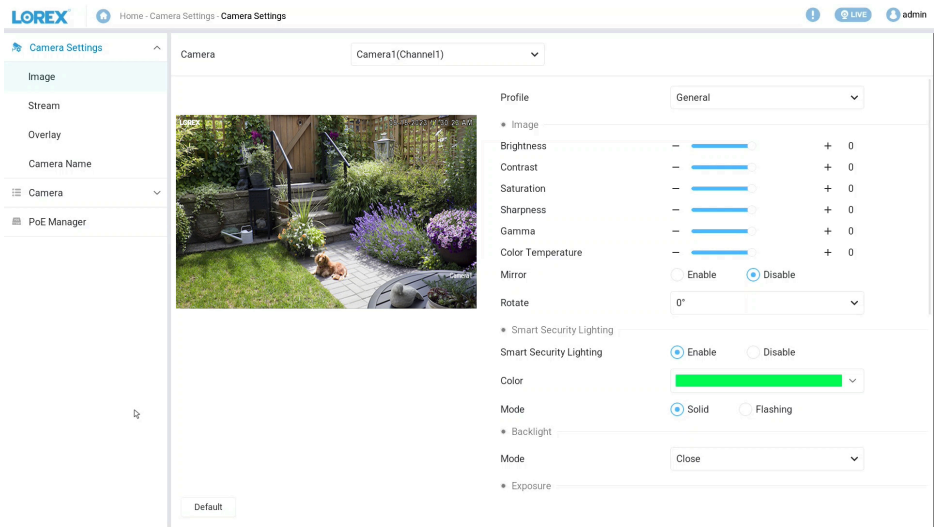
The **Image Settings** allow you to adjust the visual display of each camera feed, including brightness, contrast, and advanced settings like noise reduction and white balance.

How to Access Image Settings

1. **Click** on the icon to access the Main Menu.
2. Select **Camera Settings**.
3. Go to the **Camera Settings** tab at the top.
4. Choose **Image** from the left-hand menu.

Configuring Image Settings

You can immediately make changes on the **Image** page.



- **Channel:** Lists all connected camera channels.
- **Profile:** Choose General, Day, or Night.
- **Brightness:** Change how light or dark the image appears.
- **Contrast:** Adjust the difference between light and dark areas.
- **Saturation:** Control the intensity of colors.
- **Sharpness:** Enhance the clarity of image details.
- **Gamma:** Select the gamma level of the image on the scale. Gamma safely brightens dark mid-tones without blowing out the areas that are already bright. If your image has a mix of very bright sunlight and deep shadows, turning up Gamma will gently lift the shadows so you can see details without ruining the sunny areas.
- **Color Temperature:** Select the visual appearance of a light source from warm to cool.
- **Mirror:** A mirror flips an object across a line to create a backwards image. To flip the image, Mirror can be enabled.
- **Rotate**: A rotation turns an object around a fixed point without flipping. Choose between 0°, 90°, 180°, and 270° of rotation.
- **Smart Security Lighting/Color:** Enable or disable whether your camera will emit light and then select the color of this light.
- **Mode:** Choose if your light will be solid or flashing.
- **Backlight:** Choose if Backlight Mode should be set to close, Backlight Compensation (BLC) (to balance lighting), Highlight Compensation (HLC), or Wide Dynamic Range (WDR).
- **Day/Night:** Choose if Day/Night should turn on automatically (Auto), if the image should always be in color (Color), or if the image should always be in black and white (Black&White).
- **Exposure:** Reduce visual noise in low light by enabling or disabling 3D noise reduction.
- **White Balance:** Adjust color balance for accurate colors. Choose White Balance Mode (Auto, Daylight, Cloudy, Tungsten, Night, Manual) and choose Illuminator by tapping Setting. Choose Fill Light (Infrared Mode or White Mode), and Mode (Auto, Manual, or Off), then tap OK to confirm.
- **Defog:** For Defog Mode, choose between Auto, Off, and Manual.
- **Lens Distortion Correction (LDC):** Fix optical aberrations that cause straight lines in an image to appear bowed or curved.

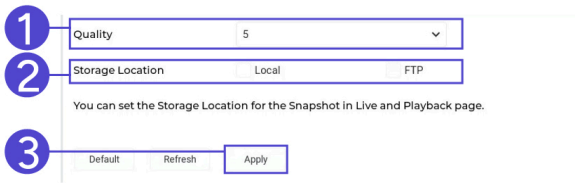
5.5 Taking Snapshots

The **Snapshot** feature allows you to take high-resolution images of your camera footage. These settings help you configure snapshots for each camera channel.

How to Access Snapshot Settings

1. **Click** on the icon to access the Main Menu.
2. Select **System Manager**.
3. Go to the **Storage** from the left-hand menu.
4. Choose **Snapshot Settings** from the drop-down menu.

Configuring the Snapshot Settings



1. **Quality:** Select image quality between Basic, Standard, Enhanced, High Quality, Premium, and Ultra Premium.
2. **Storage Location:** Select if the snapshot will be saved locally or to use File Transfer Protocol (FTP), which is a standard network protocol used to transfer files between a client and server on a computer network.
3. **Apply Changes:** Click **Apply** to save your changes.

Optional Actions

- **Default:** Click **Default** to restore original settings, then **Apply** to confirm.

5.6 Setting Privacy Masking

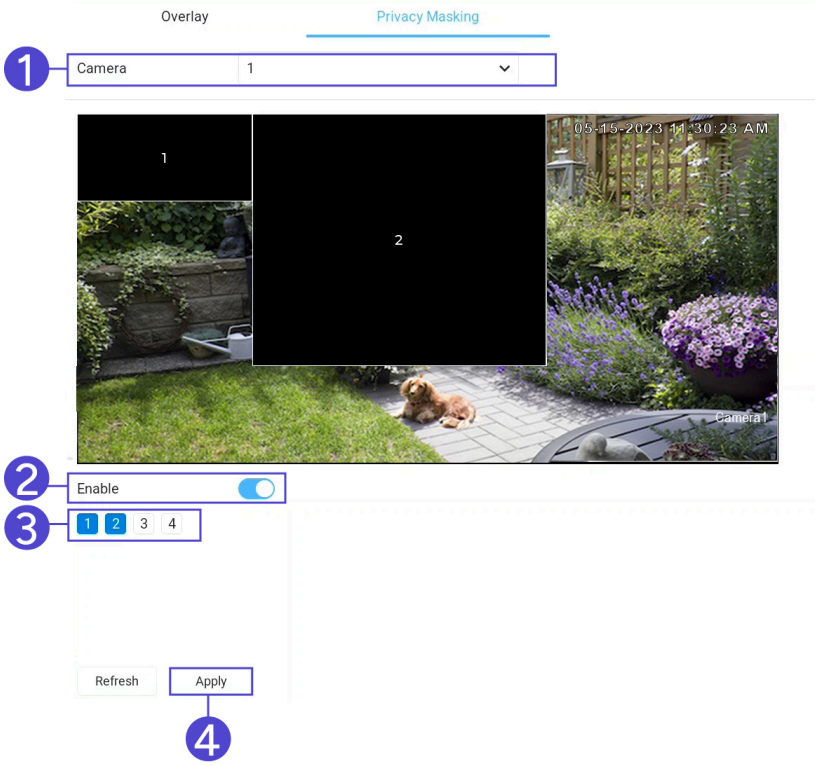
Privacy Masking, also known as the “good neighbor” feature, allows you to hide specific areas of the camera's image for privacy reasons by adding black blocks to the video feed.

How to Access Privacy Masking Settings

1. **Click** on the icon to access the Main Menu.
2. Select **Camera Settings**.
3. Go to the **Stream** from the left-hand menu.
4. Choose **Privacy Masking** from the top.

Configuring Privacy Masking

The Privacy Masking setup panel is displayed on the left, with the camera live view on the right. Adjust settings in real time to immediately see the effects of your changes.



1. **Choose Camera:** Select which camera to configure.
2. **Enable Privacy Masking:** Enable or disable privacy masking for the selected channel.
3. **Area 1 to 4:** Enable or disable up to four masking areas. Each area adds a movable and resizable box to the live view, allowing you to hide the desired private areas. Drag the box to the location you want to mask, and resize it by clicking and dragging the box's outline.
4. **Apply Changes:** Click **Apply** to save your changes.
   - The privacy-masked areas will now be blacked out on both the live view feed and the recorded video.

   Optional Actions

   - **Refresh:** Click **Refresh** to restore original settings, then **Apply** to confirm.

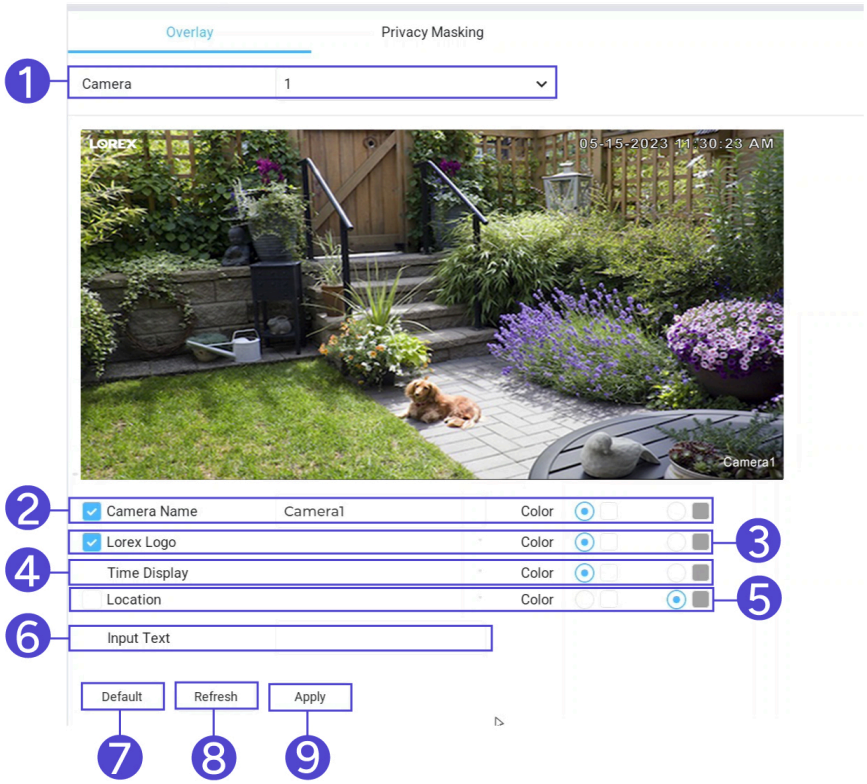
5.7 Setting Overlay Masking

Overlay allows you to decide what will be seen over your live view footage.

How to Access Overlay Settings

1. **Click** on the  icon to access the Main Menu.
2. Select **Camera Settings**.
3. Choose **Overlay** from the left-hand menu.

Configuring Overlay

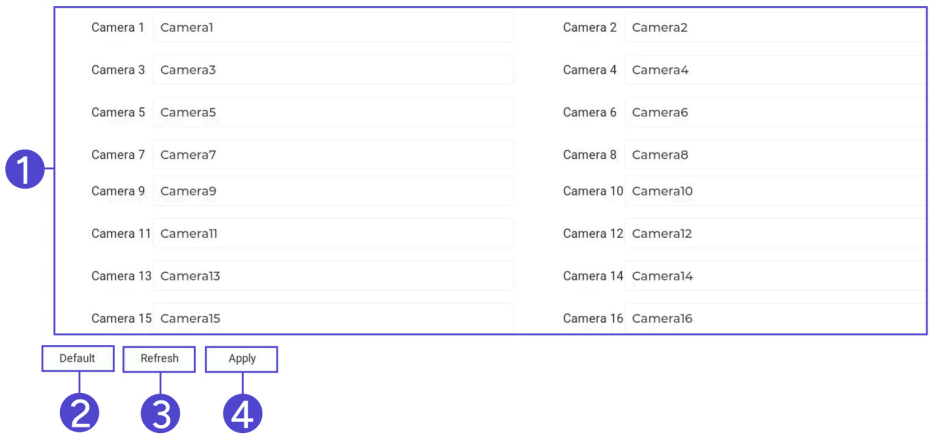


1. **Choose Camera:** Select which camera to configure.
2. **Camera Name:** Enable or disable the camera name overlay, and enter a name for the camera. Choose whether the camera name will be in white or grey.
3. **Lorex Logo:** Enable or disable the Lorex logo overlay, and choose whether it appears in color, white, or gray.
4. **Time Display:** Enable or disable if the time will overlay the live view footage and if the color will be white or grey.
5. **Location:** Enable or disable if your location will overlay the live view footage and if the color will be white or grey.
6. **Input Text:** Add custom text to overlay the live view footage.
7. **Default (Optional):** Click to enable Overlay and set the camera name to “Camera [number]”.
8. **Refresh (Optional):** Click **Refresh** to restore original settings, then **Apply** to confirm.
9. **Apply Changes:** Click **Apply** to save your changes.

5.8 Setting Camera Name

Camera Name allows you to decide what your camera will be called on the live view screen.

How to Access Camera Name Settings



1. **Click** on the  icon to access the Main Menu.
2. Select **Camera Settings**.
3. Choose **Camera Name** from the left-hand menu.

Configuring Camera Name

1. **Camera Name:** Choose a camera and enter a new name.
2. **Default (Optional):** Click to enable Overlay and set the camera name to “Camera [number]”.
3. **Refresh (Optional):** Click **Refresh** to restore original settings, then **Apply** to confirm.
4. **Apply Changes:** Click **Apply** to save your changes.

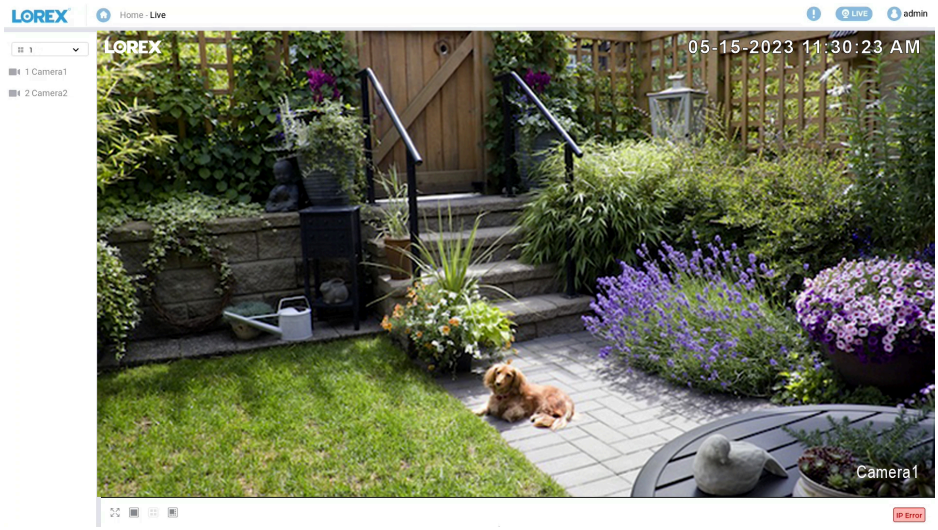
6 Live View

The **Live View** feature gives you real-time access to what's happening on all your connected cameras. You can watch multiple camera feeds at once, making it easy to keep an eye on everything. You can choose a specific camera to see it in full-screen, change camera settings, and use features such as zooming, taking snapshots, and starting recordings manually, and even turn on a warning light or siren if needed.

How to Access Live View

1. **Click** on the  icon to access the Main Menu.
2. Select **Live**.

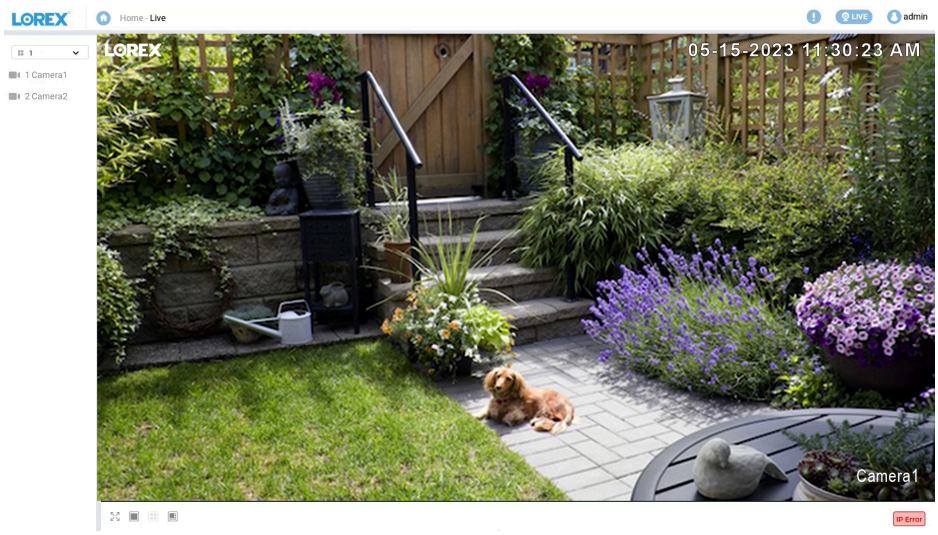
6.1 Camera Live View Overview



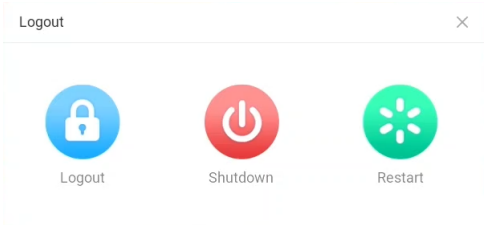
1. **Channels:** View up to 8 channels with 8 cameras connected.
2. **Select Channel:**
   - Click a channel to select it.
   - Double-click to view the channel in full-screen; right-click to exit full-screen mode.
3. **On-Screen Information:**
   - **Date and Time:** Displayed at the top right of each channel.
   - **Channel Number:** Shown at the bottom right of each channel.

6.2 Using the Navigation Bar

The Navigation Bar, accessible at the edges of the Live View screen, provides quick access to various system functions:



1. admin **Start Menu:**



   1.1. **Logout:** Log out of the current user account.
   1.2. **Shutdown:** Choose to shut down the system.
   1.3. **Restart:** Choose to shut down and reboot the system.

2. LIVE **Live:** Click to go back to the default Live View screen.
3. **Fullscreen:** View the footage you are looking at with the full monitor screen.
4. **Layout 1:** View 1 camera.
5. **Layout 4:** View four cameras simultaneously.
6. **Layout Edges:** View one camera in a large view and the rest of the cameras in small views around the right and bottom edges.
7. **System Information:** View device model, firmware version, and network state.

7 Motion Detection Setup

The **Configure Detection Settings** tab allows you to customize how your NVR system detects and responds to motion in the camera's view. You can configure motion detection zones and how the system should react when motion is detected, such as sounding alarms, sending notifications, or activating lights.

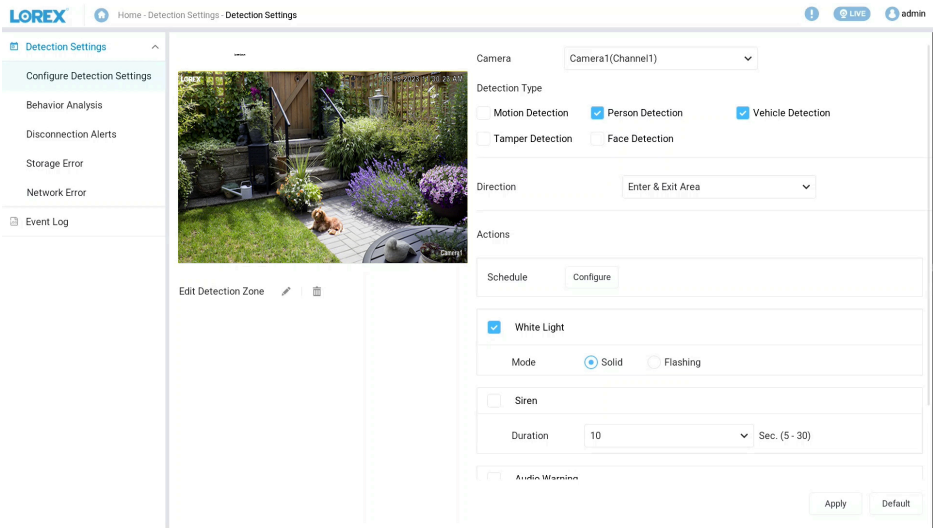
7.1 Configuring Motion Detection

Configure motion detection zones and sensitivity for each camera to ensure the system accurately captures and records movement, while minimizing false alarms.

How to Access Motion Detection Settings

1. **Click** on the  icon to access the Main Menu.
2. Select **Detection Settings**.
3. Go to the **Detection Settings** from the left-hand menu.
4. Choose **Configure Detection Settings** from the drop-down menu.

Configuring Motion Detection Settings



1. **Select Channel:** Select the camera channel to configure. The detection types in step 2 may differ depending on camera model.
2. **Detection:** Choose the type of motion detection:
   - 2.1. **Motion:** Detects any type of motion.
   - 2.2. **Person:** Detects human movement.
   - 2.3. **Vehicle:** Detects vehicle movement.
   - 2.4. **Tamper Detection:** Detects when tampering may have occurred.
   - 2.5. **Face Recognition:** Detects and recognizes specific faces.
   - 2.6. **License Plate Recognition:** Detects and recognizes certain license plates.
3. **Direction:** Choose between:
   - 3.1. **Enter Zone:** Detect when motion enters the drawn zone.
   - 3.2. **Exit Zone:** Detect when motion exits the drawn zone.
   - 3.3. **Enter & Exit Zone:** Detect when motion enters or exits the drawn zone.
4. **Schedule:** Select times, periods, and days for which you would like to schedule motion detection. Click **OK** to continue.
5. **White Light:** This option shines a bright white light when the event selected in step 2 is detected. This is a deterrence measure. Enable by clicking the box and choose the light mode:
   - 5.1. **Solid:** The light will shine without stopping.

5.2. **Flashing:** The light will flash consistently.

6. **Siren:** Enable the camera's siren by clicking the box and choose the duration of the siren between 5 and 30 seconds.
7. **Audio Warning:** Audio warning is a deterrence measure that plays an audio message when the events selected in step 2 are detected. Check the box to play an audio message upon motion detection. Select how many times the siren should repeat (1–10), and the sound.
8. **Edit Detection Zone:** Select  the and then drag a square on the footage to draw a rule. Select  to delete the rule.
9. **Apply Changes:** Click **Apply** to save your changes, or select **Default** to revert the settings to default.

8 Recording Settings

The **Recording Settings** allow you to control how video and sound are recorded for each camera. You can adjust things like video quality, the amount of storage used, and whether or not sound is recorded. There are two types of recordings: **Mainstream** (for high-quality footage) and **Substream** (for lower-quality footage that saves storage). You can also choose to turn recording and sound on or off for each camera, helping you balance video quality and storage space based on your needs.

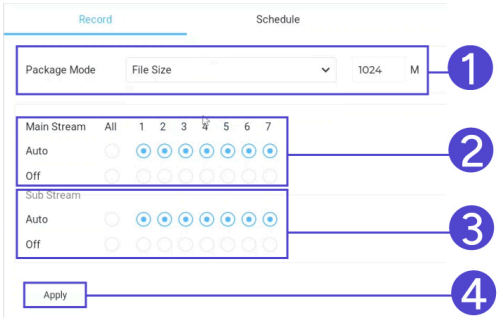
8.1 Configuring Recording Settings

The **Recording Settings** allow you to configure various recording parameters for each camera channel, ensuring that your NVR system captures video with the desired quality and performance.

How to Access Recording Settings

1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Go to the **Storage** from the left-hand menu at the top.
4. Choose **Record Settings** from the left-hand drop-down menu.
5. Go to the **Record** tab at the top.

Record



1. **Package Mode:** Choose between:

   Optional Actions

   - **Time Length:** Select the standard recording length in minutes.
   - **File Size:** Select the standard recording size in Megabytes (M).

2. **Mainstream:** Select which cameras will use mainstream recording.
3. **Substream:** Select which cameras will use substream recording.
4. **Apply Changes:** Click **Apply** to save your changes.

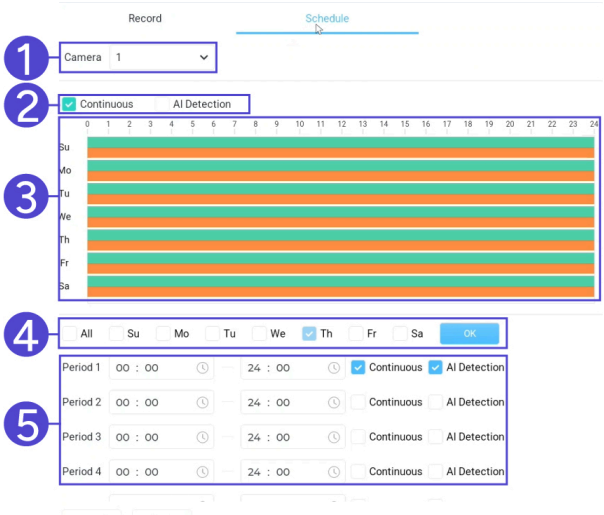
8.2 Configuring Schedule Settings

The **Schedule Settings** allow you to configure when recording occurs.

How to Access Recording Settings

1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Go to the **Storage** from the left-hand menu at the top.
4. Choose **Record Settings** from the left-hand drop-down menu.
5. Go to the **Schedule** tab at the top.

Schedule



1. **Camera:** Select which camera to set a schedule for from the drop-down menu.
2. **Continuous or AI Detection:** Select **Continuous** or **AI Detection** to be able to use the high lighter to customize your recording schedule for each feature.
3. **Schedule:** Drag and erase the lines to create a schedule for continuous and/or AI detection recording, or proceed to the next steps.
4. **Weekdays:** Select which days you would like to create a period for. You can do this more than once and create different schedules for different days.
5. **Periods:** Select start times, end times, and **Continuous** or **AI Detection** for up to 6 periods.
6. **Apply:** Select **Default** to reset the schedule to always record, or select **Apply** to save changes.

9 Playback

The **Playback** feature lets you easily watch and manage video footage that's already been recorded. It shows a visual timeline so you can quickly find and review specific moments by selecting the date and time. You can use simple controls like play, pause, fast forward, rewind, and even slow motion to closely examine what happened. You can also save video clips, take snapshots, and adjust the sound. This feature is important for checking security footage, looking into events, and saving important moments.

9.1 Playback

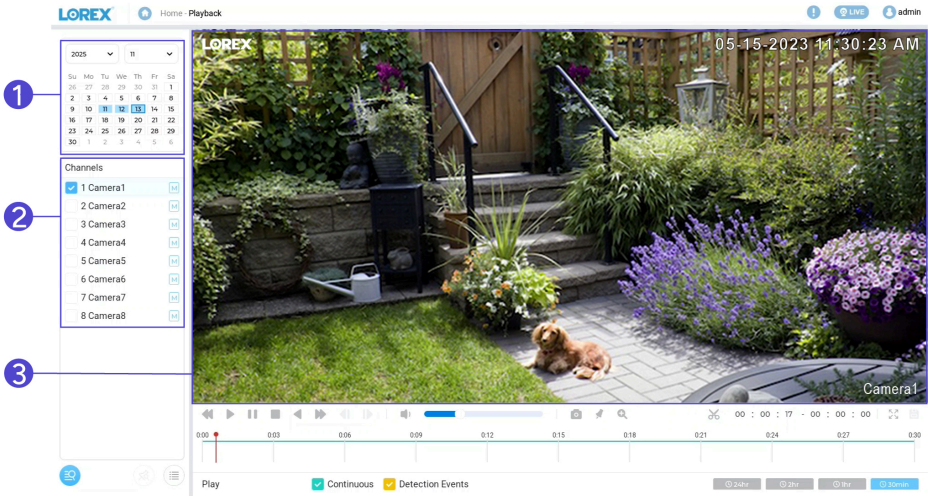
The **Playback** feature lets you easily access and review recorded footage.

How to Access Playback

1. **Click** on the  icon to access the Main Menu.
2. Select **Playback**.
3. Go to the **General Playback** tab at the top.

Viewing Playback

This section covers how to select and view recorded video footage:



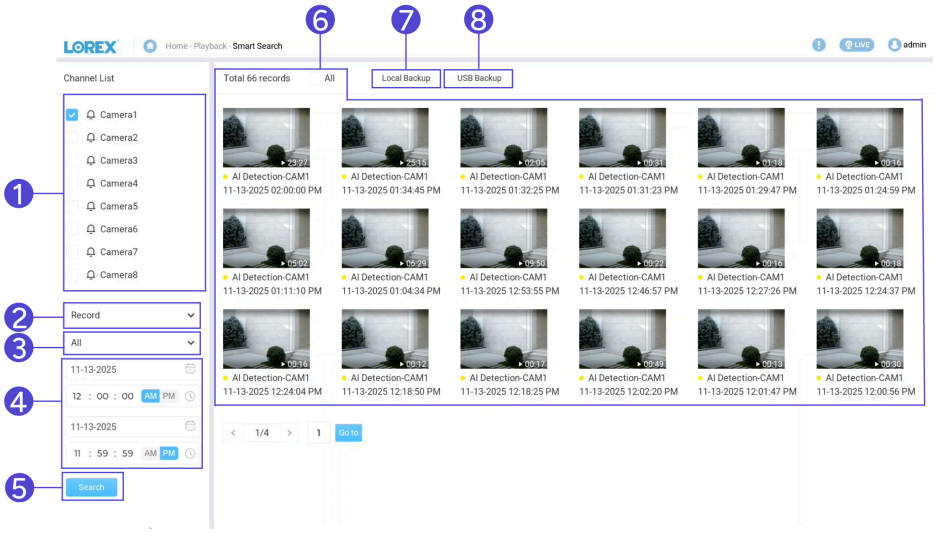
1. **Calendar:** Select a date to view recordings from that day.
2. **Channel List:** Checkmark up to eight channels for simultaneous playback.
3. **Playback Screen:** Watch recorded videos, with options for split-screen viewing of multiple channels.

9.2 Managing Playback

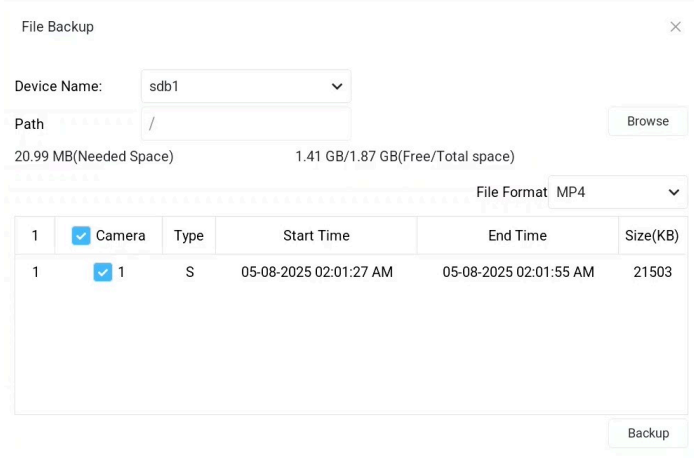
This section explains how to use Smart Search, Bookmarks, and List View:

Smart Search

Select  in the bottom left of the Playback screen.



1. **Select Camera:** Select one or more cameras whose footage you want to search.
2. **Record or Picture:** Select **Record** to view footage and **Picture** to view snapshots.
3. **Motion Detection Type:** Select the type of motion that will be detected from the following:
    - 3.1. **Motion:** Detects any type of motion.
    - 3.2. **Person:** Detects human movement.
    - 3.3. **Vehicle:** Detects vehicle movement.
    - 3.4. **Face Detection:** Detects when a face appears on camera.
    - 3.5. **Tamper Detection:** Detects when the camera or lens may have been tampered with.
    - 3.6. **Line Crossing Detection:** Detects when a pre-drawn line has been crossed.
    - 3.7. **Intrusion Detection:** Detects when an unknown person has entered.
    - 3.8. **Area Entrance Detection:** Detects when someone has entered a pre-drawn area.
    - 3.9. **Area Exit Detection:** Detects when someone has exited a pre-drawn area.
    - 3.10. **Cross Counting:** Detects line crossing and counts how many times it has occurred.
    - 3.11. **Queue Length:** Detects people in a line and counts the number of people.
4. **Search Times:** Select start and end dates and times to search within.
5. **Search:** Search playback using the above parameters.
6. **Pictures and Recordings:** Tap a recording/picture or select **All**.
7. **Local Backup:** Back up your selection to the locally installed hard drive.
8. **USB Backup:** Select to back up your selection on an inserted USB:



    - 8.1. Choose the device name and Browse.
    - 8.2. Choose an existing folder or New Folder and create one.
    - 8.3. Click **OK**.

8.4. Choose the File Format.
8.5. Select **Backup** to save the file(s).

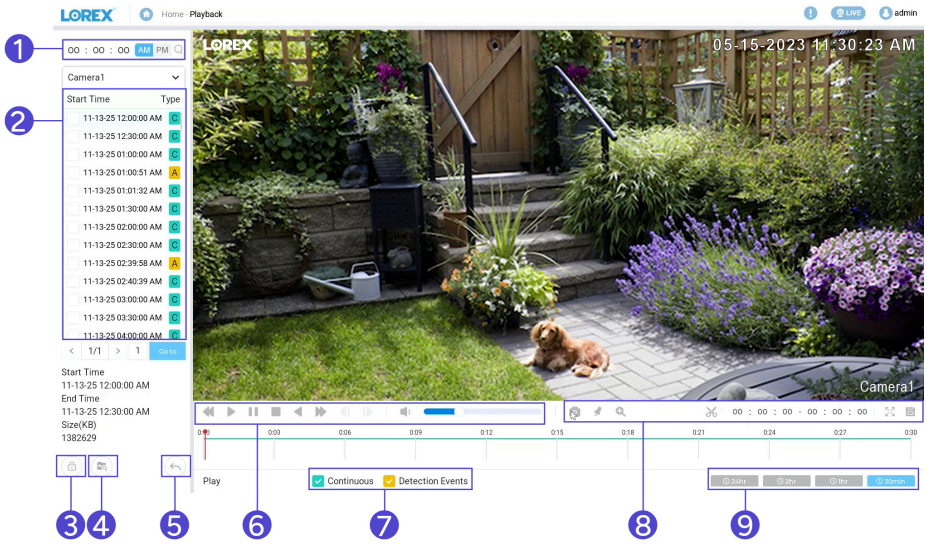
9.3 Playback Lists

Bookmark list

Select in the bottom left of the Playback screen. All tagged recordings will be displayed here.

List Playback

Select in the bottom left of the Playback screen to choose a start time from a list of 30– minute Increments.



1. **Select Time:** Input the start time you would like to look for.
2. **Select Recording by Time:** Select which recording you would like to bookmark by start time.
3. **Lock:** Select a recording and click the lock icon; this locks the file from editing.
4. **File Lock:** Click to open a list of locked recordings. Select one and click **Unlock** to unlock the recording.
5. **Go Back:** Return to Playback page.
6. **Timeline:** Navigate through the video timeline with these options:
   - 6.1. **Slowed Down Playback:** Quickly move backward through the timeline.
   - 6.2. / **Play/Pause:** Start or pause the playback.
   - 6.3. **Stop:** Stop the video.
   - 6.4. **Backwards:** Plays the footage backwards.
   - 6.5. **Fast Forward:** Quickly move forward through the timeline.
   - 6.6. **Frame-by-Frame Backward:** Move backward through the video frame-by-frame.
   - 6.7. **Frame-by-Frame Forward:** Move forward through the video frame-by-frame.

6.8. **Volume:** Set up video volume.

7. **Event Types:** Choose between **Continuous** recording, **Detection Events**, or both.
8. **Manage Footage:** Configure the footage with the following controls:

   8.1. **Snapshot:** Save a snapshot on your USB.

   8.2. **Bookmark:** Click to add a bookmark. Choose a time and name and tap OK, or tap **Default** to make the name “Tag”.

   8.3. **Zoom:** Click to zoom in (Not available for all camera models).

   8.4. **Video Clip:** Select and save a portion of the recorded video.

   - Insert a USB hard disk drive into the NVR.
   - Use the play head to navigate and choose specific frames.
   - Click **Save Video Clip**.

   8.5. **Fullscreen:** View the footage you are looking at with the full monitor screen.

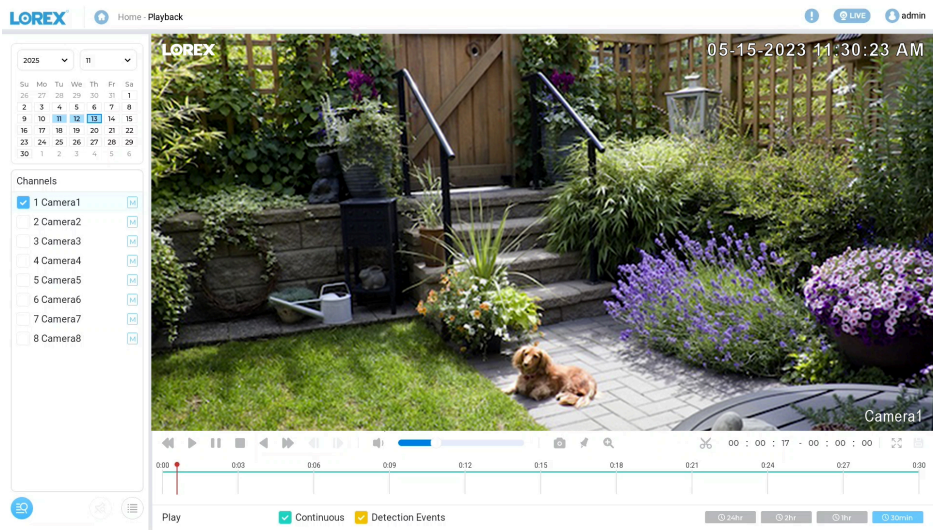
   8.6. **Save:** Click to save the event you are viewing as AVI or MP4.

9. **Increments:** Select the Increments that will be used to organize the timeline.



9.4 Controlling Playback

This section explains the controls available to adjust video playback and capture moments:



1. **Date:** Select the date of the footage you would like to playback.
2. **Camera**: Select the pertinent camera(s).
3. **Rewind:** Quickly move backward through the timeline.
4. / **Play/Pause:** Start or pause the playback.
5. **Stop:** Stop the video.
6. **:** plays the footage backwards.

7. **Fast Forward:** Quickly move forward through the timeline.
8. **Frame-by-Frame Backward:** Move backward through the video frame-by-frame.
9. **Frame-by-Frame Forward:** Move forward through the video frame-by-frame.
10.  **Volume:** Setup the video volume.
11. **Event Types:** Choose between **Continuous** recording, **Detection Events**, or both.
12. **Snapshot:** Save a snapshot on your USB.
13. **Bookmark:** Click to add a bookmark. Choose a time and name and tap OK, or tap **Default** to make the name “Tag”.
14. **Zoom:** Click to zoom in (Not available for all camera models).
15. **Video Clip:** Select and save a portion of the recorded video.
    - Insert a USB hard disk drive into the NVR.
    - Use the play head to navigate and choose specific frames.
    - Click **Save Video Clip**.
16. **Fullscreen:** View the footage you are looking at with the full monitor screen.
17. **Backup:** Insert a USB hard disk into the NVR. Click to save the event you are viewing as AVI or MP4.
18. **Increments:** Select the Increments that will be used to organize the timeline.



10 User and Group Management

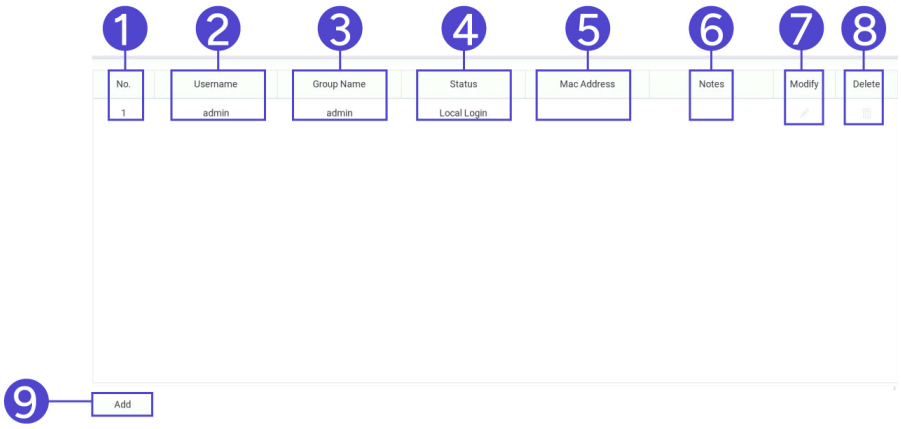
The **Multi-User** settings let you create and manage different user accounts on your NVR system. You can control who has access and what each user is allowed to do, ensuring everyone only has the permissions they need.

10.1 User Management

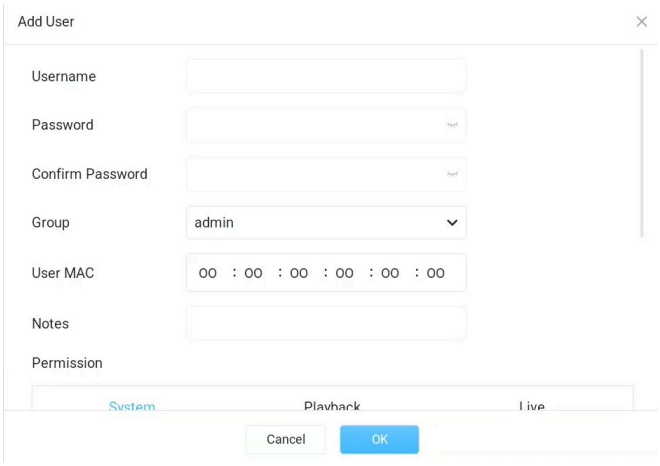
How to Access Multi-User Settings

1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **Account** from the left-hand menu.
4. Choose **User** from the left-hand drop-down menu.

Viewing User Accounts



1. **No.:** Displays the numbered list of user accounts.
2. **Username:** Displays the name of each user, such as "admin" or "user1."
3. **Group Name:** Displays the name of the user's associated group. This may indicate the level of permission assigned to the user, such as **Admin** or **User**.
4. **Status:** Indicates the level of permission assigned to the user, and indicates if the User logs in Locally.
5. **MAC Address:** A MAC (Media Access Control) address is a unique hardware identifier assigned to a network interface controller (NIC) by its manufacturer. This can be inputted when a user is added.
6. **Notes:** This is where notes are displayed if they have been added by a user.
7.  **Modify:** Click to change a user's settings.
8.  **Delete:** Click to delete the selected user.
9. **Add:** Create a new user:



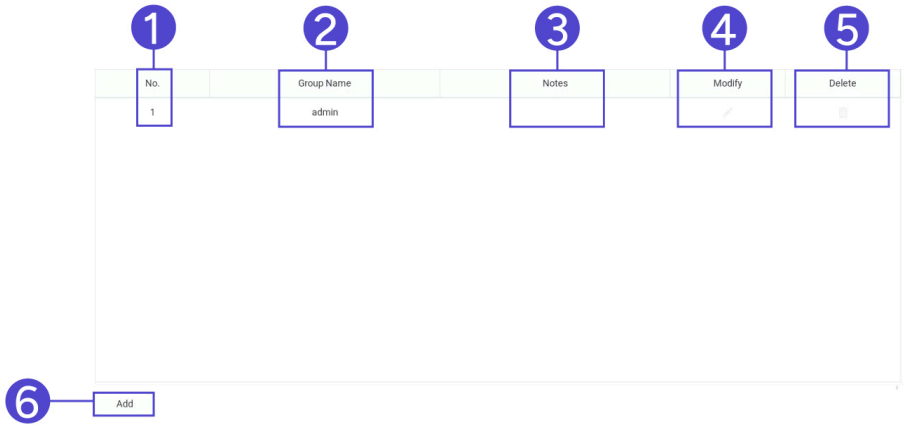
9.1. **Username**: Input a Username.
9.2. **Password**: Create a secure password and type it again to confirm.
9.3. **User MAC**: Input MAC Address if applicable.
9.4. **Notes**: Input notes if desired.
9.5. Set Permissions by selecting which abilities the user will have access to.
9.6. Tap **OK** to save the new user.

10.2 Group Management

How to Access Group Settings

1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **Account** from the left-hand menu.
4. Choose **Group** from the left-hand drop-down menu.

Viewing Groups



1. **No.:** Displays the numbered list of groups.
2. **Group Name:** Displays the name of the group. This may indicate the level of permission assigned to the user, such as **Admin** or **User**.
3. **Notes:** This is where notes are displayed if they have been added by a user.
4.  **Modify:** Click to change a group's settings.
5.  **Delete:** Click to delete the selected group.
6. **Add:** Create a new group:

6.1. **Username**: Enter a group name.
6.2. **Notes**: Input notes if desired.
6.3. Set Permissions by selecting which abilities the group will have access to.
6.4. Tap **OK** to save the new group.

11 Security

A certificate, typically an SSL/TLS certificate, is a digital credential used by an NVR (Network Video Recorder) to authenticate the device and to encrypt communications. It helps ensure that connections made to the NVR over HTTPS (such as through a web browser or mobile app) are secure, and it may also be used when the NVR communicates with other services.

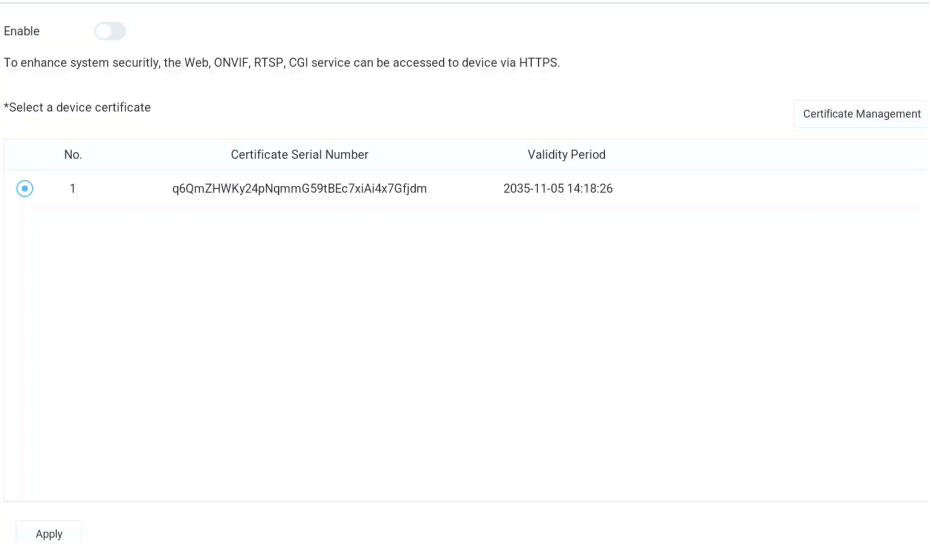
This section will explain how to add, edit, or create a certificate for your NVR.

11.1 HTTPS

How to Access HTTPS

1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **Security** from the left-hand menu.
4. Choose **HTTPS** from the top menu.

Configuring HTTPS



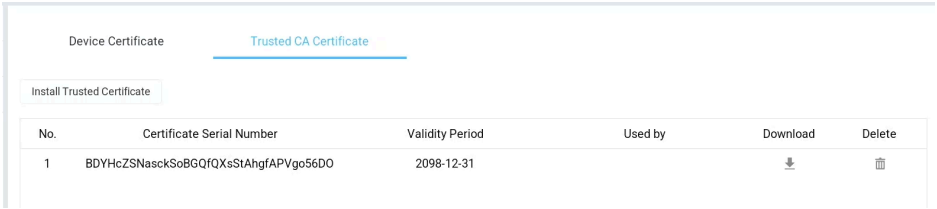
1. **Enable:** Click the slider to enable/disable HTTPS.
2. **Certificate Management:** Select a Device Certificate from the list and tap **Certificate Management**. A device certificate is a proof of the device's legal status.
3. **Create Certificate:** Click and input **Region**, **Province**, **City Name**, **Validity Period**, **Organization**, **Organization Unit**, and **IP/Domain Name** (inputted by default).
4. **Create:** Click to save settings from step 3.
5. **CA Application:** Click this in place of creating a certificate and click **Import**.
6. **Create Certificate Request:** Click and input **Region**, **Province**, **City Name**, **Validity Period**, **Organization**, **Organization Unit**, and **IP/Domain Name** (inputted by default). A certificate request file to a third-party CA institution will be created and you must then submit it to the third-party CA institution to apply for a certificate.
7. **Import Certificate:** Click and then import the CA certificate issued by the third-party institution.
8. Select a file and enter the **Private Key** and **Private Key Password.**
9. **Import:** Select and click **Download** to download your certificate.
10. **Apply:** Click to save all changes.

11.2 Trusted Certificate

How to Access Trusted Certificate

1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **Security** from the left-hand menu.
4. Choose **Trusted Certificate** from the top menu.

Configuring Trusted Certificate



1. **Install Trusted Certificate:** Click to open files.
2. Browse to find and select your certificate.
3. **Import:** Click to import the certificate.
4. **Download (Optional):** Click to download the certificate.
5.  **Delete (Optional):** Click to delete the certificate.

12 Password Reset

If you have forgotten your NVR password, this chapter will help you recover it. You must answer the security questions you set up during the initial setup (refer to page 7).

If you set up security questions, you can answer them directly on the NVR to create a new password. If you did not set them up, or if you are having trouble answering them, you can reset the password using the Lorex Connect App.

NOTE

If you forget your security answers and your NVR is not linked to the Lorex Connect app, you will lose access to your system. Store your answers in a safe place. Lorex Support cannot reset or recover your password.

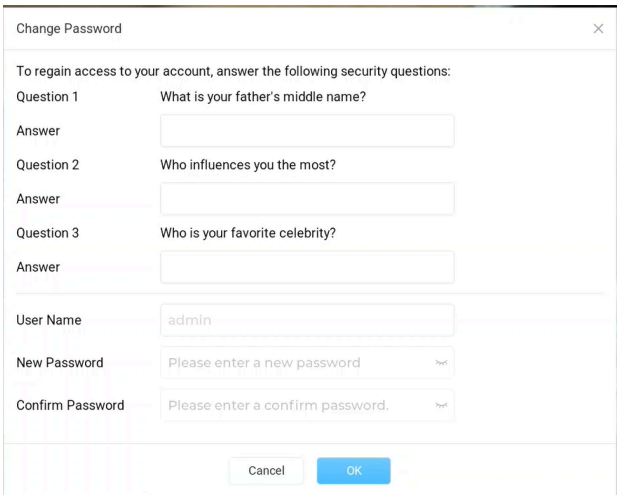
12.1 NVR Security Question Method

If you've forgotten your NVR password, you can reset it using the security questions set up during Lorex Setup.

1. **Open the Unlock Prompt:** Click the screen to open the **Unlock Prompt**.
2. **Forgot Password:** Click **Forgot Password** at the bottom of the prompt to open the **Password Reset** screen.



3. **Answer Security Questions:** Answer the first security question you initially set up.
4. **Enter New Password:** Enter and confirm your **New Password**.
5. **Apply Changes:** Click **OK**. This password will apply to the system and all connected cameras.



6. **Incorrect Answers:** If your answer to the first question is incorrect, the system will prompt the next security questions.
   - If you fail all questions, contact Lorex Technical Support.

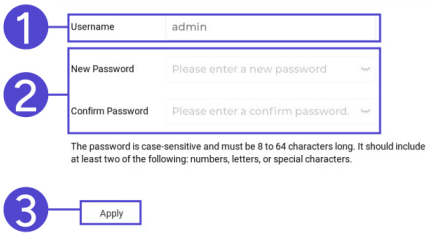
12.2 Changing NVR Password

To change your password when you have access to it, proceed with the following instructions:

How to Change NVR Password

1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **Account** from the left-hand menu.
4. Choose **Change Password** from the left-hand drop-down menu.

Change Password



1. Input your username if it has not been added by default.
2. Input the new desired password and type it again to confirm. There is no need to input the original password, as it is required to open the Main Menu.
3. Click **Apply** to save changes.

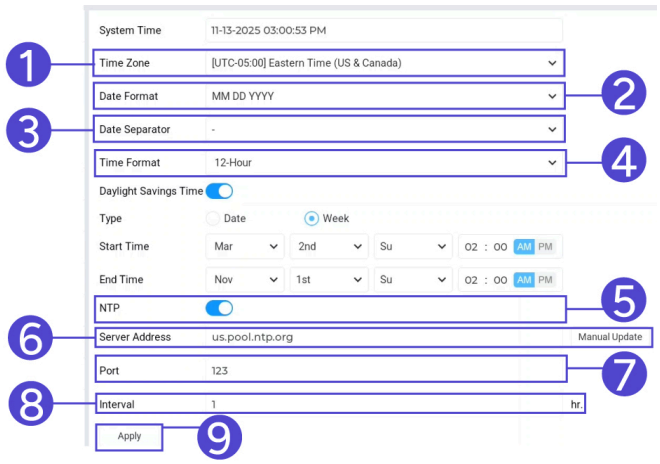
13 Date & Time Setup

Keeping your NVR's **Date and Time** accurate is essential for ensuring your recordings have the correct timestamps, which can be important if the footage is needed for legal purposes. This section will guide you through how to set and adjust the date and time on your NVR.

How to Access Date & Time Settings

1. **Click** on the icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **General** from the left-hand menu.
4. Go to the **Date and Time** from the left-hand drop-down menu.

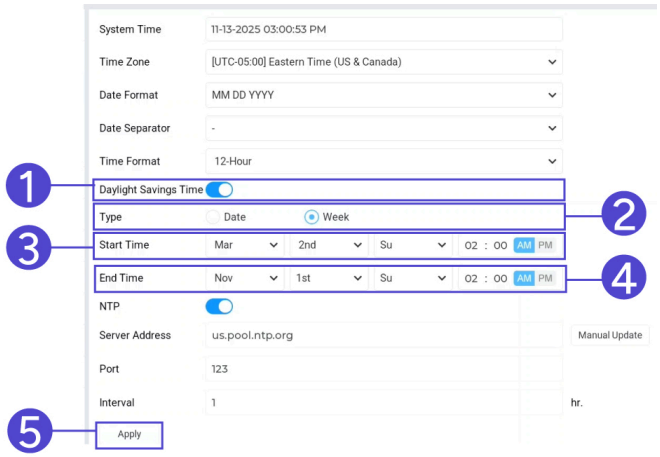
Setting the Date & Time



1. **Time Zone:** Choose your local time zone.
2. **Date Format:** Choose the format in which the date will be displayed on the recordings.
3. **Date Separator:** Click the drop-down menu and choose between - and **.** .
4. **Time Format:** Select either a 12-hour or 24-hour clock format.
5. **NTP (if syncing with a server):** Click the slider to enable or disable NTP Server. When setting the time manually, this setting must be set to OFF.
6. **Server Address (if syncing with a server):** Choose a server like ‘ntp.lorexddns.net’ or ‘time.nist.gov’ for automatic time updates. Click **Manual Update** to instantly sync the time.
7. **Port:** Enter the applicable port.
8. **Interval:** Input the interval in hours.
9. **Apply Changes:** Click **Apply** to save your changes.

Configuring Daylight Savings Time

If your area observes Daylight Savings Time, you can set your NVR to automatically adjust the time during the change.



1. **Enable Daylight Saving Time:** Click to enable or disable Daylight Saving Time configuration.
2. **Choose DST Mode:** Choose between adjusting by **Week** (e.g., the first Sunday of November) or by **Date**.
3. **Start Time:** Set the date and time for when Daylight Saving Time begins.
4. **End Time:** Set the date and time for when Daylight Saving Time ends.
5. **Apply Changes:** Click **Apply** to save your changes.

14 Storage Management

The **Storage** settings in your NVR allow you to control how your system saves video recordings and snapshots. You can create custom schedules for when your cameras should record or take snapshots, and you can also manage how your system uses its hard disk drive space to ensure you never run out of storage.

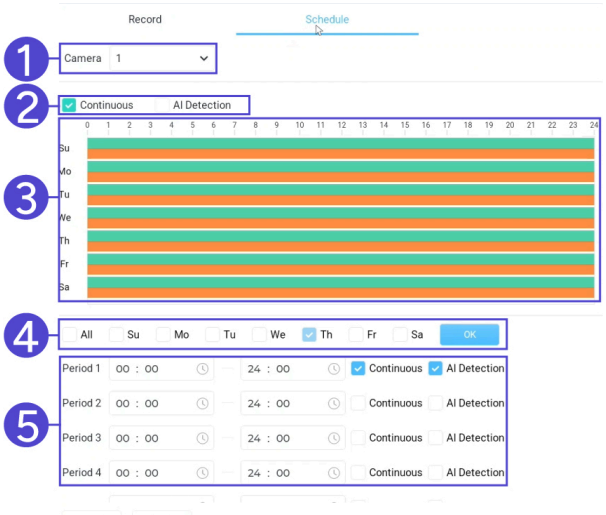
14.1 Configuring the Recording Schedule

The **Recording Schedule** allows you to decide when each camera will record. You can set it up for continuous recording or only when motion is detected, depending on your needs.

Configuring the Recording Schedule

1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Go to the **Storage** from the left-hand menu at the top.
4. Choose **Record Settings** from the left-hand drop-down menu.
5. Go to the **Schedule** tab at the top.

Schedule



1. **Camera:** Select the camera for which you want to set a schedule from the drop-down menu.
2. **Continuous or AI Detection:** Select **Continuous** or **AI Detection** to be able to use the high lighter to customize your recording schedule for each feature.
3. **Schedule:** Drag and erase the lines to create a schedule for continuous and/or AI detection recording, or proceed to the next steps.
4. **Weekdays:** Select which days you would like to create a period for. You can do this more than once and create different schedules for different days.
5. **Periods:** Select start times, end times, and **Continuous** or **AI Detection** for up to 6 periods.
6. **Periods:** Select start times, end times, and **Continuous Recording** or **Event Recording** for up to 6 periods.
7. **Apply:** Select **Default** to reset the schedule to always record, or select **Apply** to save changes.

14.2 Formatting USB Drive

This option lets you clear the connected USB drive storage, which is useful when the storage is full.

How to Access Formatting Camera Storage Settings

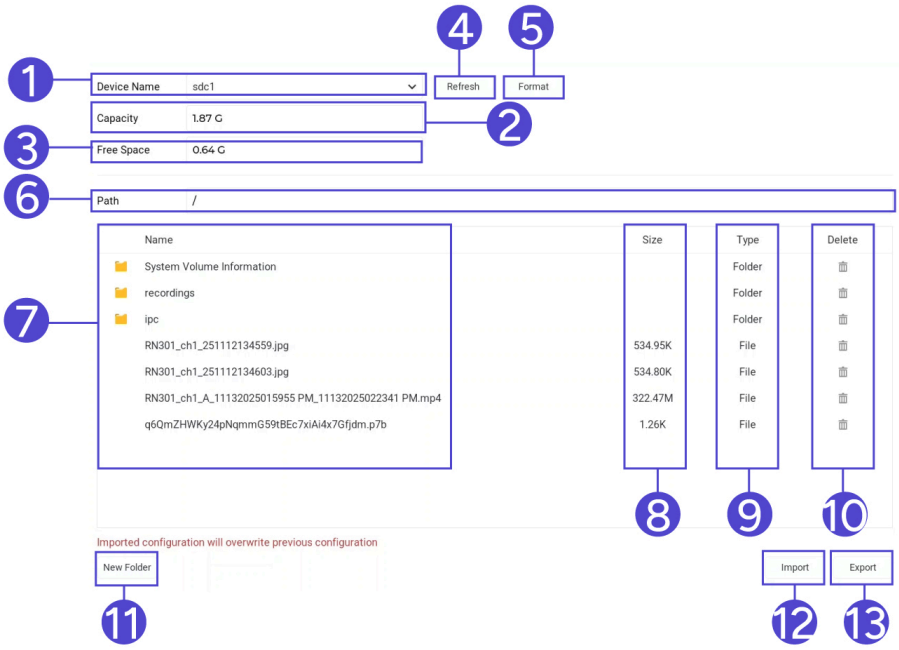
1. **Click** on the icon to access the Main Menu.
2. Select **System Manager**.
3. Go to the **Update & Reset** from the left-hand menu.
4. Choose **Config Backup** from the left-hand drop-down menu.

Formatting the USB Drive's Storage



1. **Device Name:** Choose the device in the drop-down menu that you want to format.
2. **Format:** Click **Format** to start the process. You will be prompted to log in to confirm. Once confirmed, the USB Drive will be formatted, and all data will be erased permanently.

Storage Information



1. **Device Name:** Displays the name of the device selected.
2. **Capacity:** Shows the total storage capacity of the selected device.
3. **Free Space:** Displays available space (0 MB when full) and total storage capacity.
4. **Refresh:** Click to search for more files.
5. **Format:** Shows the formatting status after the process begins.
6. **Path:** Displays the path of the selected object.
7. **Name:** Displays the name of the selected object.
8. **Size:** Displays the size of the selected object.
9. **Type:** Displays the type (File or Folder) of the selected object.
10. **Delete:** Click to delete the selected object.
11. **New Folder:** Create a new folder within the storage of the selected device.
12. **Import:** Import new files into the storage of the selected device.
13. **Export:** Export new files from the storage of the selected device.

14.3 Overwriting and Formatting Your Hard Drive

In the **Storage** settings, you can check the status of your NVR's hard drive, see how much space is available, and manage storage options like overwriting old recordings.

How to Access Hard Drive Settings

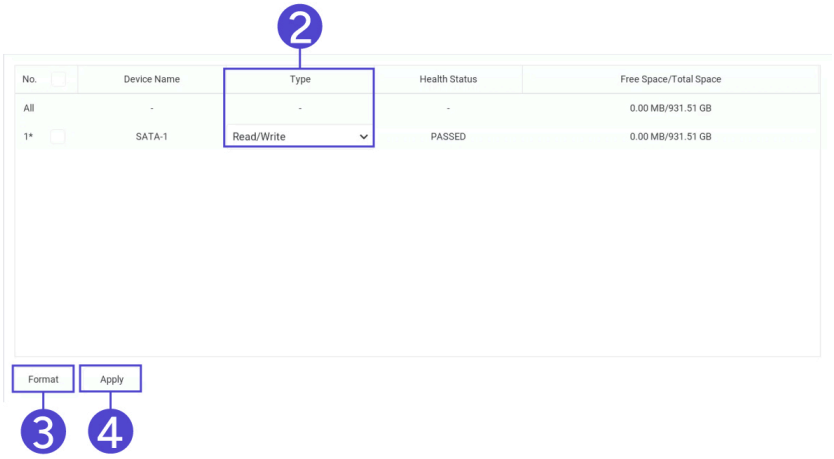
1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Go to the **Storage** from the left-hand menu.

Overwriting and Formatting Your Hard Drive

When your hard drive fills up, overwriting allows the system to automatically replace older recordings with new footage, so you never miss an important event. This is a required step when you install a new hard drive.

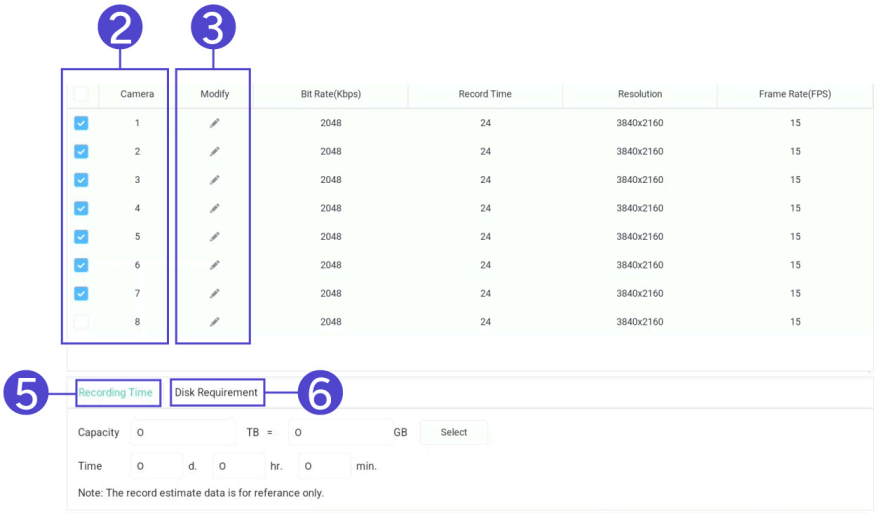
NOTE

Overwriting will erase everything, so make sure to back up any important footage first. For instructions on backing up your recordings, refer to 14.6 *Configuring Backup*, page 58.

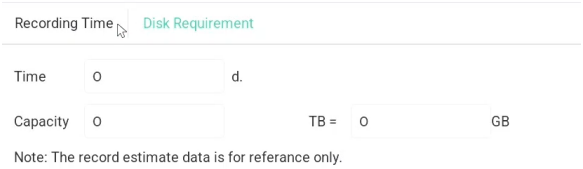


1. Go to the **Storage Manager** from the left-hand drop-down menu.
2. **Change Type:** Choose from **Read Only**, or **Read/Write** for how your device will handle data.
3. **Format Storage:** Click **Format** to format the hard drive, erasing all data.
4. **Apply Changes:** Click **Apply** to save your changes.

Calculating Storage



1. Go to the **Storage Calculator** from the left-hand drop-down menu.
2. **Camera:** Select the cameras for which you want to calculate storage.
3. **Modify:** Click the  icon to change the Camera, Resolution, Frame Rate (FPS), Bi-trate, and Record Time.
4. **OK:** Select to save modifications.
5. **Recording Time:** Remaining recording time will be calculated automatically.
6. **Disk Requirement:** Remaining storage will be calculated automatically.



14.4 Replacing the Hard Drive (HDD)

Your NVR comes with a pre-installed 3.5" SATA hard disk drive (HDD). If necessary, you can replace the current HDD with a new one, supporting up to 10 TB. Follow the instructions below carefully to ensure safe removal and installation of the hard drive.

14.4.1 Removing the Hard Drive

⚠ CAUTION
Ensure the NVR is turned off and the power adapter is disconnected from the power source before proceeding with any hardware adjustments.

Steps to Remove the Hard Drive:

1. **Power off and disconnect the system:**
   - Flip the power switch to "Off" to turn off the NVR.
   - Unplug the power adapter and disconnect all other connected cables.



2. **Open the NVR case:**
   - Use a Phillips head screwdriver to remove the three bottom and one back panel screws.





- Slide the upper cover away from the NVR and slide the inside out completely, exposing the internal components.



3. **Access the hard drive:**

   - Hold the hard drive in place with one hand.
   - Carefully flip the NVR over to expose the bottom panel while keeping a firm hold on the HDD.



4. **Unscrew the hard drive:**
   - While holding the HDD steady, use a Phillips head screwdriver to remove the two screws securing the drive to the NVR chassis.



5. **Remove the hard drive:**
   - Once the screws are removed, gently flip the NVR back to its original position while still holding the hard drive with the other hand.
   - Remove the attached cables.



- Carefully slide the hard drive out from its position.



After following these steps, the hard drive will be safely removed from the NVR. Proceed to the next section to install a new hard drive.

14.4.2 Installing a New Hard Drive

To install a new hard drive, follow these steps carefully:

1. **Prepare the new hard drive:**
   - Ensure the replacement drive is a compatible 3.5" SATA drive with up to 10 TB capacity.

2. **Position the new hard drive:**
   - Gently slide the new hard drive into the designated slot in the NVR and attach the cables.





3. **Secure the new disk drive:**
   - While holding the drive in place, carefully flip the NVR over.



- Secure the hard drive by inserting the two screws into the bottom panel using a Philips-head screwdriver.



4. **Close the NVR case:**
   - Flip the NVR back to its original position and slide it into the upper cover.



   - Use a Philips-head screwdriver to secure the three bottom screws and one back panel screw.





5. **Reconnect and power on:**
   - Plug the power adapter and all other cables back into the NVR.
   - Power on the system to complete the installation.
6. **Format the new hard drive:**
   - After installation, the drive needs to be formatted before use. Refer to the next section, *Overwriting and Formatting Your Hard Drive*, page 44 for detailed steps on how to format the new hard drive.

Your new hard drive is now installed and ready for use once formatted.

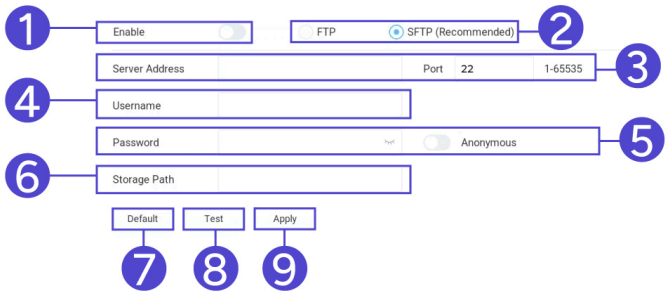
14.5 Configuring File Transfer Protocol

File Transfer Protocol (FTP) is a standard network protocol for moving files between computers (client-server) over a network, enabling uploads, downloads, and file management (rename, delete) using separate control and data connections.

Navigating to File Transfer Protocol (FTP)

1. **Click** on the icon to access the Main Menu.
2. Select **System Manager**.
3. Go to the **Storage** from the left-hand menu at the top.
4. Choose **FTP** from the left-hand drop-down menu.

File Transfer Protocol (FTP)



1. **Enable:** Click the slider to enable/disable FTP.
2. **FTP or SFTP:** Select **FTP** or **SFTP (Recommended)** to choose between File Transfer Protocol and Secure File Transfer Protocol. SFTP is a secure, encrypted protocol that runs over SSH on port 22, while FTP is an older, insecure protocol that sends data in plain text over port 21. SFTP encrypts all data, making it more appropriate for sensitive information, but FTP is faster.
3. **Server Address and Port:** Input your server address; the port will be filled in by default.
4. **Username:** Input your username.
5. **Password:** Input your password and click the **Anonymous** slider to keep your password hidden from view.
6. **Storage Path:** Input where you would like to store data.
7. **Default:** Reset all fields to empty.
8. **Test:** Select this option to test that all of the fields you have entered will work correctly.
9. **Apply:** Click to save all changes.

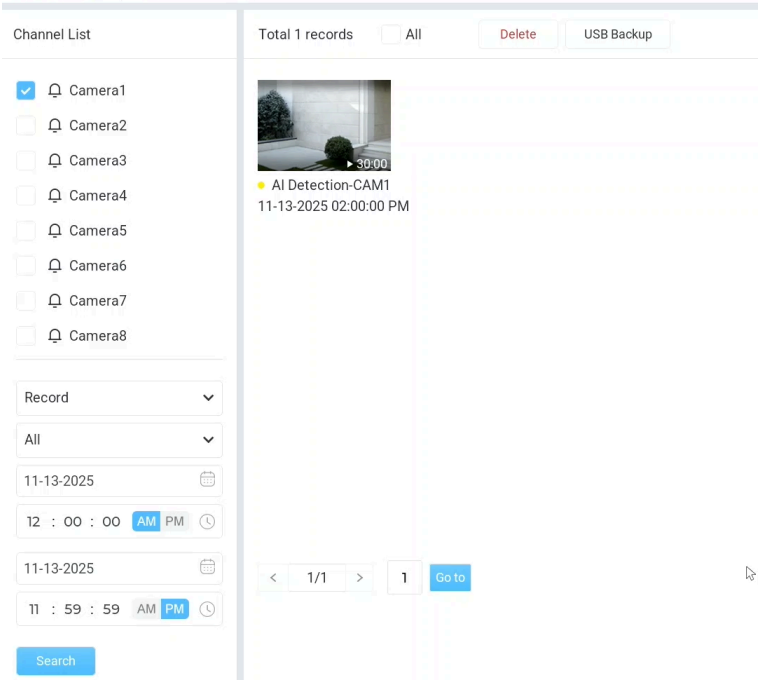
14.6 Configuring Backup

Storage Backup: Allows you to save recordings to an external USB. to backup any files, a USB device must be inserted into the NVR.

Navigating to Backup

1. **Click** on the  icon to access the Main Menu.
2. Select **Backup**.

Backup



1. **Camera:** Select a camera in the left-hand panel.
2. **Record:** Select between recorded and snapshot events.
3. **Motion Detection Type:** Select the type of motion that will be detected between the following:
    - 3.1. **Motion:** Detects any type of motion.
    - 3.2. **Person:** Detects human movement.
    - 3.3. **Vehicle:** Detects vehicle movement.
    - 3.4. **Face Recognition:** Detects and recognizes certain faces when they appear on camera.
    - 3.5. **License Plate Recognition:** Detects and recognizes specified license plates when they appear on screen.
    - 3.6. **Tamper Detection:** Detects when the camera or lens may have been tampered with.
    - 3.7. **Line Crossing Detection:** Detects when a pre-drawn line has been crossed.
    - 3.8. **Intrusion Detection:** Detects when an unknown person has entered.
    - 3.9. **Area Entrance Detection:** Detects when someone has entered a pre-drawn area.
    - 3.10. **Cross Counting:** Detects and counts when a pre-drawn line is crossed.
    - 3.11. **Queue Length:** Detects lines of people and counts the number of people in line.
4. **Date / Time:** Select **Start Date**, **End Date**, **Start Time**, and **End Time**.
5. **Search:** Click to search with the aforementioned parameters.
6. **Select:** Select a record or **Select All**, then choose **Delete** to remove or **USB Backup** to save.

15 Configuration

The **Configuration** menu is where you can control all the important settings for your NVR system. From this menu, you can adjust camera settings, manage storage, set up alerts, customize motion detection, and configure your network. It is designed to help you fine-tune your system so it works exactly how you need it to, keeping everything running smoothly and securely.

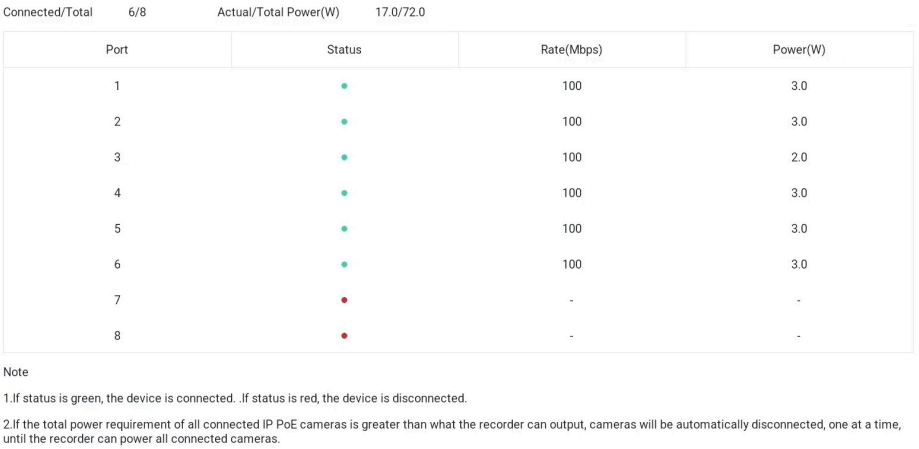
15.1 Camera PoE Power Statuses

You can easily view how much power each camera is using and how much power is still available for other devices connected by Ethernet cables.

How to Access Camera PoE Power Statuses

1. **Click** on the  icon to access the Main Menu.
2. Select **Camera Settings**.
3. Choose **PoE Manager** from the left-hand menu.

Viewing PoE Power Usage



PoE Manager: Displays PoE status, Actual/Total Power (W), Rate (Mbps), Power (W).

15.2 Alerts Settings

The **Alerts** settings allow you to set up notifications and deterrent actions for your NVR system. This ensures that you receive timely updates for critical events, improving security and system performance.

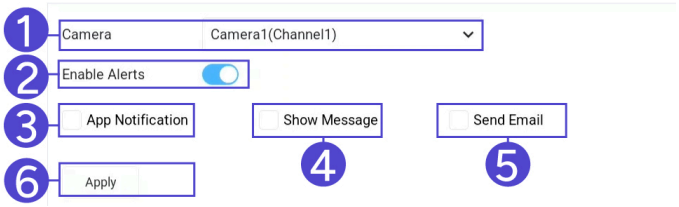
15.2.1 Setting Up Disconnection Alerts

The **Warning** feature lets you set up notifications for when disconnection occurs. These alerts help you quickly respond to issues that could affect your system's performance.

How to Access Disconnection Alerts

1. **Click** on the  icon to access the Main Menu.
2. Select **Detection Settings**.
3. Choose **Detection Settings** from the left-hand menu.
4. Choose **Disconnection Alerts** from the left-hand menu.

Configuring Disconnection Alerts



1. **Camera:** Choose the desired camera in the drop-down menu.
2. **Enable Alerts:** Enable or disable alerts for the selected camera.
3. **App Notification:** Enable or disable a pop-up message on your phone screen when the event occurs.
4. **Show Message:** Enable or disable showing the message when a disconnection alert occurs.
5. **Send Email:** Enable or disable email notifications to be informed of the event wherever you are.
6. **Apply Changes:** Click **Apply** to save your changes.

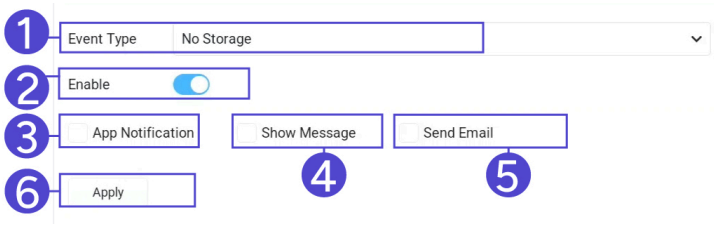
15.2.2 Setting Up Storage Error Alerts

This feature lets you set up notifications for when a storage error occurs. These alerts help you quickly respond to issues that could affect your system's performance.

How to Access Storage Error

1. **Click** on the  icon to access the Main Menu.
2. Select **Detection Settings**.
3. Choose **Storage Error** from the left-hand menu.

Configuring Storage Error Alerts



1. **Event Type:** Choose between events:
   - **No Storage**: Indicates that the hard drive has no available storage.
   - **Storage Error**: Indicates a hard drive error that prevents data from being stored.
   - **Storage Full**: Indicates that the hard drive has no or little remaining storage. On this page you can indicate how much remaining storage should be left before this event occurs.
   - **All Errors**: Covers all events.
2. **Enable:** Enable or disable alerts for the selected event.
3. **App Notification:** Enable or disable a pop-up message on your phone screen when the event occurs.
4. **Show Message:** Enable or disable showing the message when a disconnection alert occurs.
5. **Send Email:** Enable or disable email notifications to be informed of the event wherever you are.
6. **Apply Changes:** Click **Apply** to save your changes.

15.2.3 Setting Up Network Area Alerts

This feature lets you set up notifications relating to network events. These alerts help you quickly respond to issues that could affect your system's performance.

How to Access Network Error

1. **Click** on the icon to access the Main Menu.
2. Select **Detection Settings**.
3. Choose **Detection Settings** from the left-hand menu.
4. Choose **Network Area** from the left-hand menu.

Configuring Storage Error

1. **Event Type:** Choose between events:
   - **Network Disconnected**: Indicates that the NVR has lost network connection.
   - **IP Error**: Indicates that the NVR is having issues with the IP address.
   - **MAC Error**: Indicates that the NVR is having issues with the MAC address.
   - **All Errors**: Covers all events.
2. **Enable:** Enable or disable alerts for the selected event.
3. **App Notification:** Enable or disable a pop-up message on your phone screen when the event occurs.
4. **Show Message:** Enable or disable showing the message when a disconnection alert occurs.
5. **Send Email:** Enable or disable email notifications to be informed of the event wherever you are.
6. **Apply Changes:** Click **Apply** to save your changes.

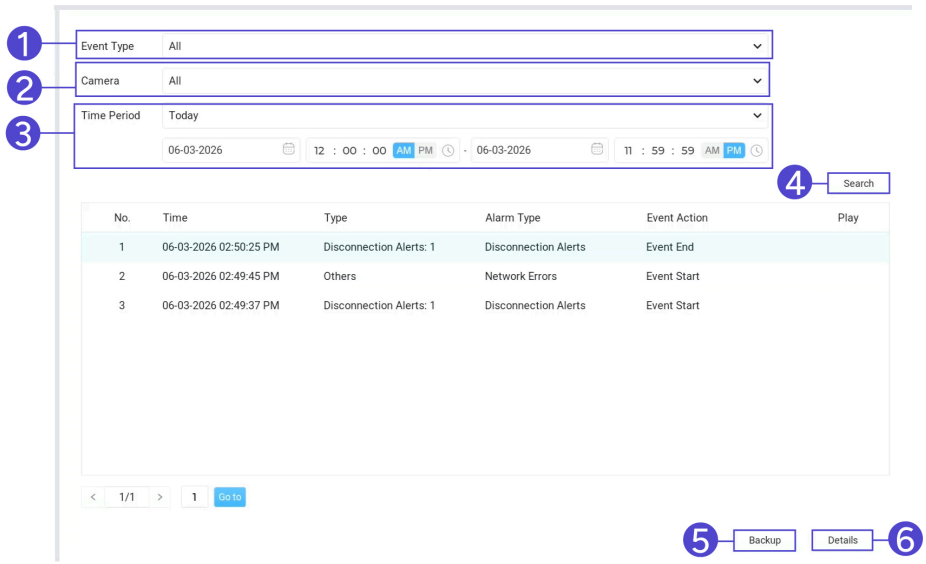
15.2.4 Viewing Event Log

This feature allows you to review past events.

How to Access Event Log

1. **Click** on the icon to access the Main Menu.
2. Select **Detection Settings**.
3. Choose **Event Log** from the left-hand menu.

Configuring Event Log



1. **Event Type:** Choose between events:
   - **All**: Covers all events.
   - **Motion Detection**: Includes events in which any motion has been detected.
   - **AI Detection**: Includes any AI-detected events such as person and vehicle motion.
   - **Disconnection Events**: Includes any time Disconnection occurred.
   - **Others**: Covers all events other than Motion Detection, AI Detection, and Disconnection Events.
2. **Camera:** Select the camera whose events you want to search.
3. **Time Period:** Select date, start time, and end time.
4. **Search:** Filter all events using the above parameters.
5. **Backup:** Select an event and save it for future viewing (requires a USB).
6. **Details:** Select an event and click to see more information on the event.
7. **Apply Changes:** Click **Apply** to save your changes.

15.3 Network Settings

The **Network** settings help you set up and manage your NVR's network connection, ensuring your system stays connected and operates smoothly.

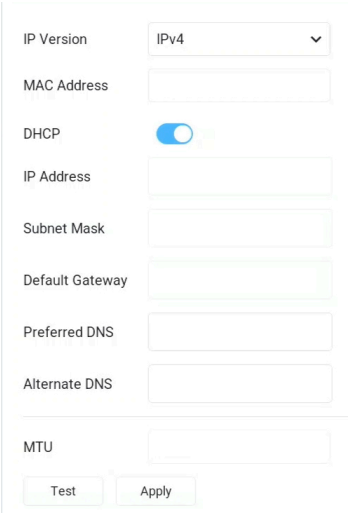
15.3.1 Configuring General Network Settings

The **General Network** settings allow you to set up important network details like your NVR's IP address, gateway, and DNS servers. This ensures that your NVR can communicate effectively with your local network and the internet.

How to Access General Network Settings

1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **Network** from the left-hand menu.

Configuring TCP / IP (Transmission Control Protocol/Internet Protocol) Settings



1. Choose **TCP/IP** from the left-hand drop-down menu.
2. **IP Version**: An IP (Internet Protocol) version refers to the specific standard for assigning unique numerical addresses to devices on a network. This can be viewed or changed here.
3. **DHCP**: Enable or disable DHCP (Dynamic Host Configuration Protocol). To manually edit the IP settings below, DHCP must be disabled.
4. **Primary DNS**: Click to edit the primary DNS (Domain Name System) server.
5. **Alternate DNS**: Click to edit the secondary DNS server.

6. **MTU (Maximum Transmission Unit)**: MTU is the largest size of a data packet, measured in bytes, that can be transmitted over a network in a single transaction. This can be viewed or changed here. The default size for MTU is 1500 bytes.
7. **Apply Changes:** Click **Apply** to save your changes.
8. **Test**: Click to check network status.

Configuring Internal PoE Switch Settings

If your NVR has an internal PoE switch, you can set its IP address and DHCP server here:

1. Choose **Switch** from the left-hand drop-down menu.
2. **DHCP Server**: Enable or disable the DHCP server. If enabled, the NVR will automatically assign IP addresses to cameras connected via PoE.
3. **IP Address**: Click to edit the IP Address for the internal PoE switch.
4. **Subnet Mask**: Click to edit the Subnet Mask for the internal PoE switch.
5. **Apply Changes:** Click **Apply** to save your changes.

15.3.2 Setting Up Port Configuration

The **Port Configuration** allows you to manage the ports your NVR uses for different services and protocols, ensuring smooth communication between devices and services.

How to Access Port Configuration

1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **Network** from the left-hand menu.
4. Go to the **Port** from the left-hand drop-down menu.



1. **Max Connection**: Input a number between 0 and 128. This number refers to the number of simultaneous connections and controls how many remote clients (apps, browsers, etc.) can be connected to the NVR at the same time for live view / playback.
2. **HTTP Port**: An **HTTP port** is the “door number” on a device that web traffic uses to get to a specific service. The number (e.g. 80, 8080, 8888) is the port number. Enter an HTTP port between 1 and 65535.
3. **HTTPS Enable**: Enable or disable HTTPS for your NVR. HTTPS is the secure version of HTTP.
4. **HTTPS Port:** Input a port between 1 and 65535.
5. **Apply Changes:** Click **Apply** to save your changes.

15.3.3 DDNS Setup

By setting up DDNS, you can view your NVR remotely from any computer or compatible mobile device with internet access.

NOTE

The easiest way to access your NVR is through the Lorex Connect App, which provides remote access without needing port forwarding or DDNS.

15.3.3.1 Step 1: Port Forwarding

If you are using DDNS, you will need to port forward the **HTTP** and **Client** ports on your router to your NVR’s IP address.

- Default HTTP Port: **80**

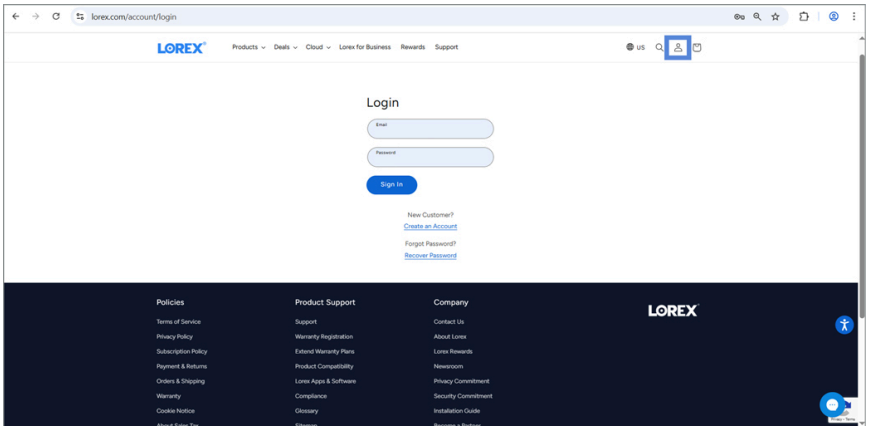
- Default Client Port: **35000**

Follow your router manufacturer's instructions to manually port forward these ports.

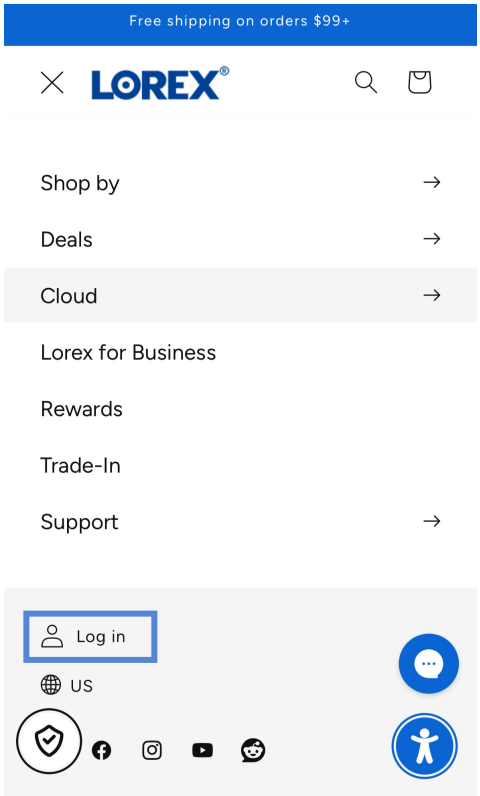
15.3.3.2 Step 2: Create a Lorex Account

You can create an account from either a computer or mobile browser.

1. Go to lorex.com.
2. **Log in** or tap **Create An Account** to register.
   - On computer: Click the **(My Account)** button in the top-right corner.



   - On mobile: Tap the **(Menu)**, then tap **Login**.

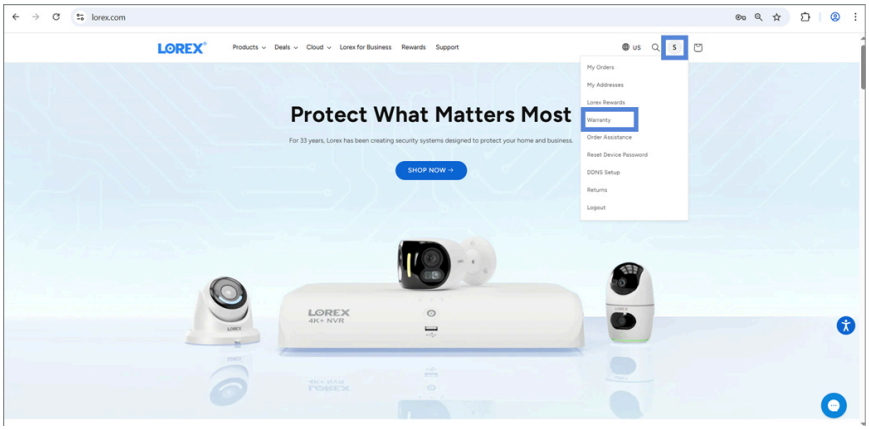


15.3.3.3 Step 3: Activate Your Warranty

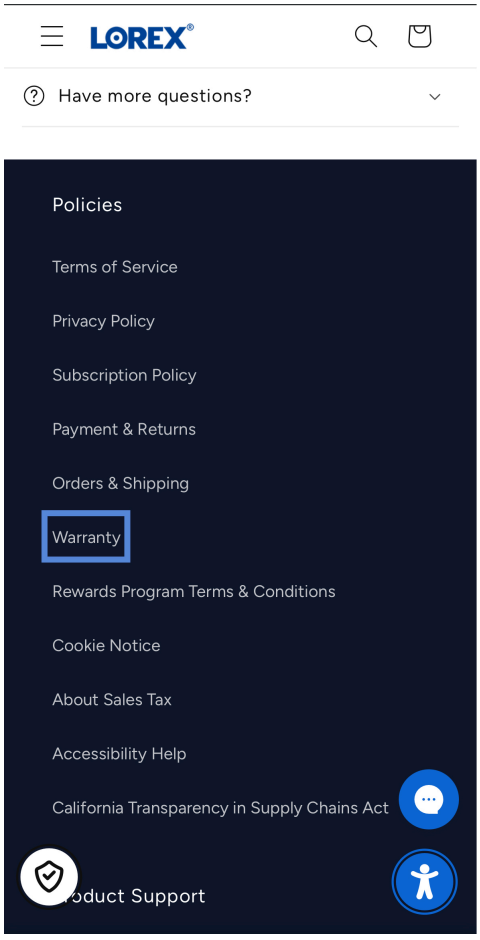
Before setting up DDNS, you must activate your NVR's warranty.

1. After logging in, access **My Account**.

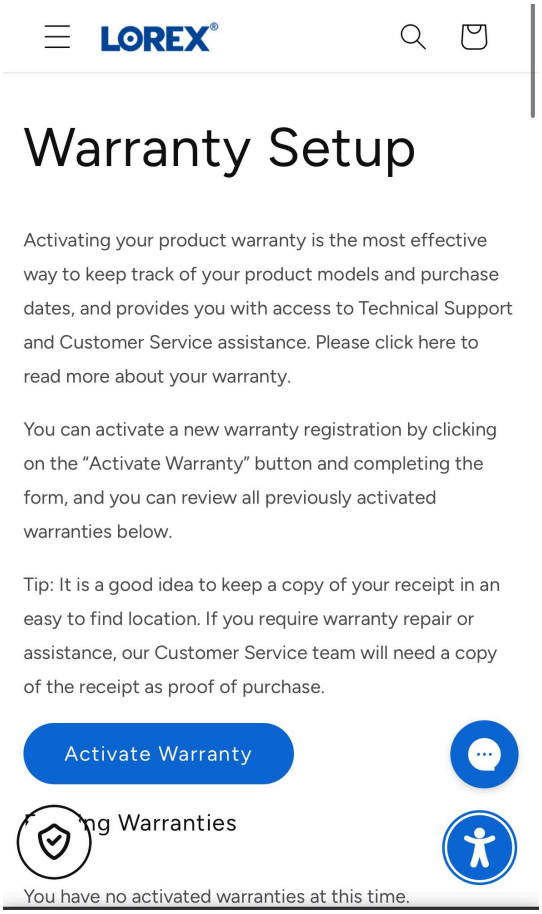
   - **On computer:** Click the **(My Account)** button, then choose **Warranty** from the menu.



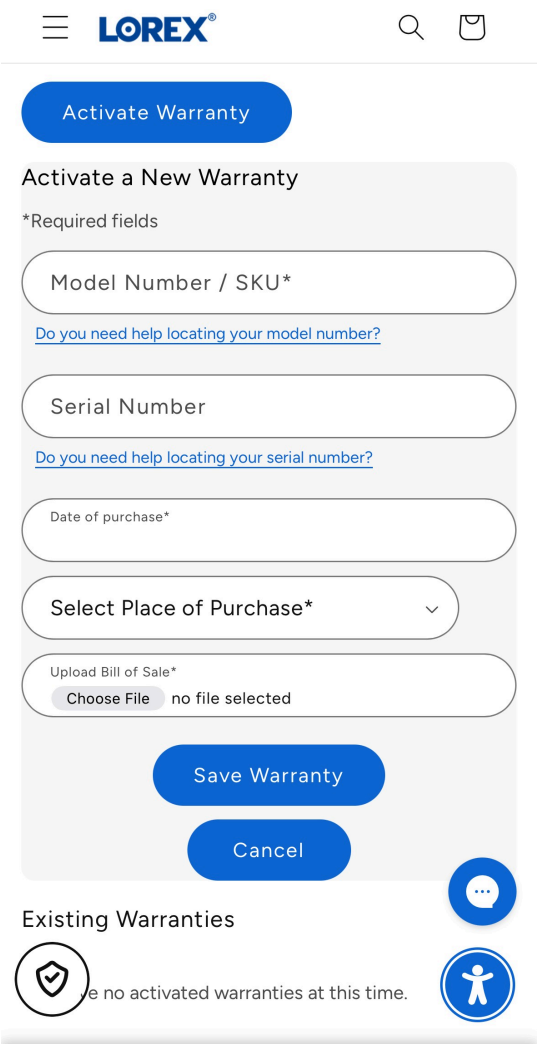
   - **On mobile:** Tap the **menu**, then **My Account**, then scroll down and tap **Warranty**.



2. Click **Register Warranty > Activate Warranty**.



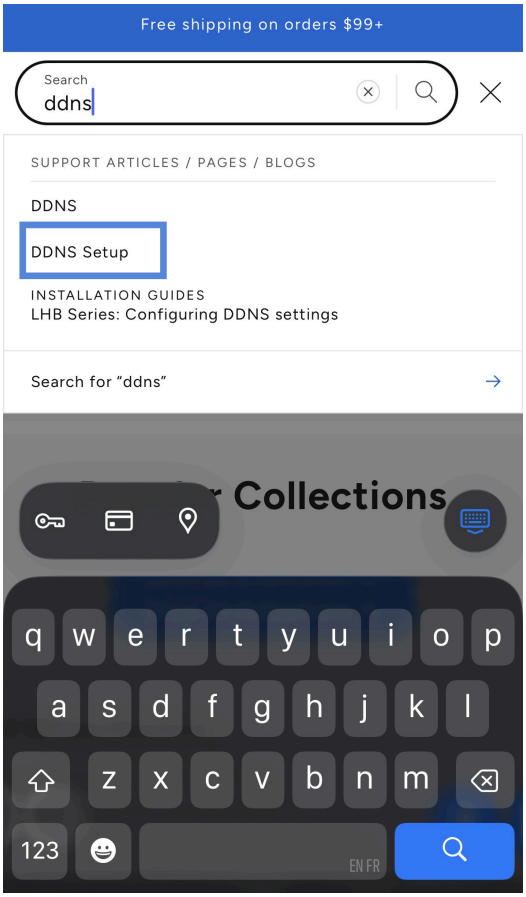
3. Fill in your NVR's product details and click **Save Warranty**.



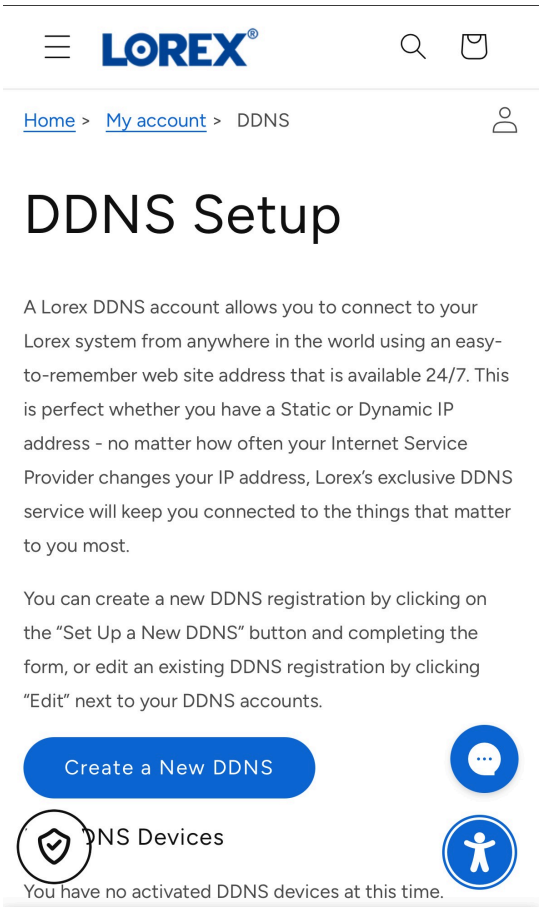
Your device will now be listed under **Existing Warranties**.

15.3.3.4 Step 4: Create a DDNS Entry

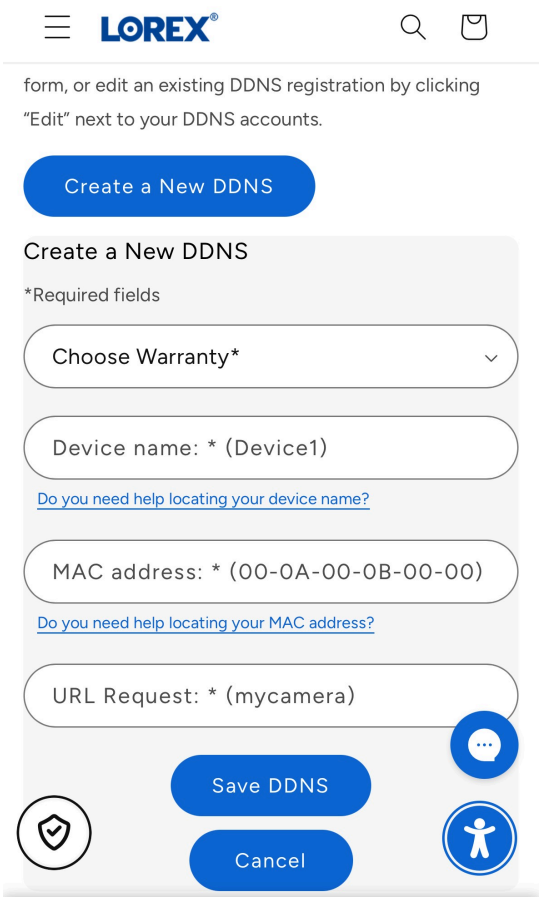
1. In the search bar, search and click **DDNS Setup**.



2. Click **Create a New DDNS**.



3. Fill in your product details:



- **Choose Warranty:** Select your NVR from the **Warranty** dropdown.
- **Device Name:** Enter a name for your system (for example, *HomeNVR*).
- **MAC Address:** Enter your NVR's **MAC Address**, found under **Navigation Bar > Device Info** on the NVR, refer to 15.5.1 *Device Information*, page 82.
- **URL Request:** Choose a unique name for your DDNS address (for example, *myhome*). Your full Host URL will be automatically generated as: myhome.lorexddns.net.

4. Click **Save DDNS**.
   Once saved, your new DDNS settings will appear under **My DDNS Devices**. Make a note of your **Host URL**, **username**, and **password** — you'll need them when configuring remote access on your NVR or app.

15.3.3.5 Step 5: Enable DDNS on Your NVR

Now that your DDNS account is set up, you'll need to enter the details into your NVR's settings.

How to Access DDNS Settings

1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **Network** from the left-hand menu.
4. Go to the **DDNS** from the left-hand drop-down menu.

Configuring DDNS in the NVR

1. **Enable DDNS:** Toggle to enable or disable DDNS.



2. **Type:** Choose your DDNS service provider.
   2.1. **LOREXDDNS:** Lorex's proprietary DDNS service.
3. **Domain Name:** Enter the domain name for your NVR (e.g., yourhostname.lorexddns.net).
4. **User ID:** Enter your DDNS account username.
5. **Password:** Enter your DDNS account password.
6. **Test:** Tap to test that DDNS is working correctly.
7. **Apply Changes:** Click **Apply** to save your changes.

You will now be able to access your system remotely using DDNS. Enter the full domain name into a web browser (e.g., http://www.tomsmithsecurity.lorexddns.net) and log in using the provided credentials.

NOTE
If your system uses an HTTP port other than 80, you will need to add a colon to the end of your DDNS domain name and enter the port number (e.g., http://www.tomsmithsecurity.lorexddns.net:81)

15.3.4 Configuring Email Alerts

The **Email Settings** allow you to set up email alerts from your NVR system. You can choose the default LOREX email service or configure custom email settings, including encryption type, SMTP server details, and recipient addresses. This section also includes the **Email Schedule**, which lets you define specific times for when alerts are sent.

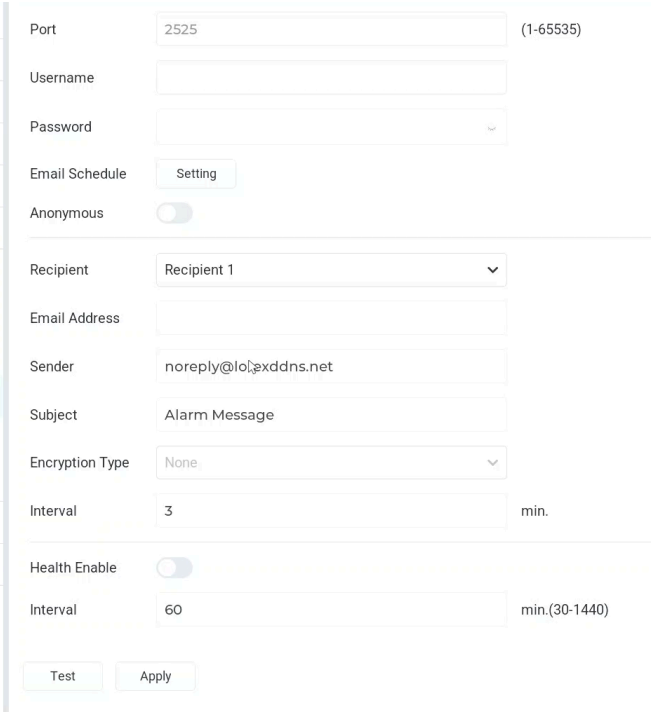
15.3.4.1 Setting Up Email Alerts

The **Email Settings** allow you to configure email settings for receiving alerts from the NVR system.

How to Access Email Settings

1. **Click** on the icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **Network** from the left-hand menu.
4. Go to the **Email** from the left-hand drop-down menu.

Configuring Email Alerts



1. **Enable:** Click the slider to enable using email.
2. **Mail Select:** You can select from the following options:
   2.1. **Lorex Mail:** Uses the pre-configured LOREX email settings.
   2.2. **Gmail**
   2.3. **Yahoo Mail**
   2.4. **DDNS Customize**
3. **SMTP Server:** Enter the address of the SMTP server used to send the emails (e.g., '**mysmtp.lorexddns.net**').
4. **Port:** Enter the port number for the server.
5. **Username:** Enter the username for the email account that will send the alerts.
6. **Password:** Enter the password for the email account.
7. **Anonymous:** Toggle this option to anonymize the email address used to send notifications.
8. **Recipient 1-3:** Enter up to three email addresses that will receive the alerts.
9. **Sender:** Enter the email that will appear as the sender of the email alerts.
10. **Subject:** Enter the subject of the email alerts.
11. **Encryption:** Select the type of encryption (e.g., Disable, SSL, or TLS) to secure the email communication.
12. **Interval:** Set the time interval between email alerts to prevent spam.
13. **Health Enable:** When enabled, this setting sends email notifications when the system detects a health issue (such as hard drive or system errors).
14. **Interval:** Set the time interval between health alerts to prevent spam.
15. **Test:** Send a test email to verify that the above settings work correctly.
16. **Apply Changes:** Click **Apply** to save your changes.

15.3.4.2 Scheduling Email Alerts

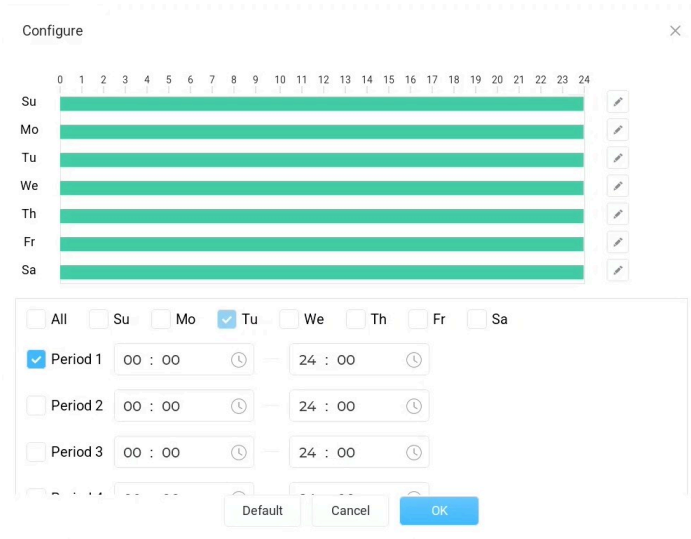
The **Email Schedule** allows you to set the schedule for when email alerts are sent.

How to Access Email Schedule

1. **Click** on the  icon to access the Main Menu.

2. Select **System Manager**.
3. Choose **Network** from the left-hand menu.
4. Go to the **Email** from the left-hand drop-down menu.
5. Click **Schedule**.

Creating the Email Schedule



1. **Setting**: Click to manage email schedule.
2. **Highlight**: Drag to extend and erase the schedule you would like to implement.
3. **Date & Time**: Alternatively, choose a date and input start and end times for up to six periods per day.
4. **Apply Changes:** Click **Apply** in the main email page to save your changes.

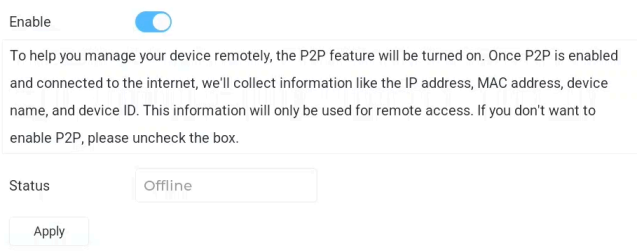
15.3.4.3 P2P

P2P (peer-to-peer) is a connection method that allows remote access to an NVR without manually configuring port forwarding on the router. When P2P is enabled, the NVR establishes an outbound connection to a vendor-provided service, and the mobile app or client software uses that service to help locate the NVR and set up a secure session for live view, playback, and device management. P2P simplifies remote access, but its performance depends on the quality of the internet connections and the availability of the P2P service.

How to Access P2P

1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **Network** from the left-hand menu.
4. Go to the **P2P** from the left-hand drop-down menu.

Configuring P2P



1. **Enable**: Click the slider to enable/disable P2P.

2. **Status**: Indicates if P2P is connected to the internet.
3. **Apply**: Click to save your changes.

15.3.4.4 Network Load

Network Load refers to the amount of network bandwidth the NVR is using to send and receive data.

How to Access and View Network Load



1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **Network Info** from the left-hand menu.
4. Go to the **Network Load** from the left-hand drop-down menu.
5. View your **Network Load** and **Status** here.

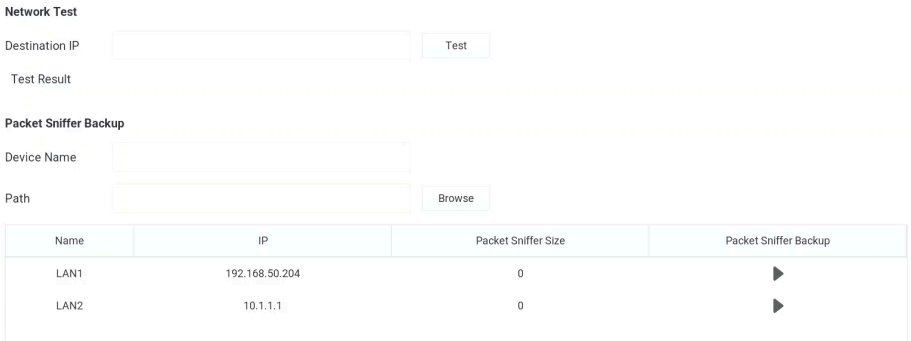
15.3.4.5 Network Test

Network Test allows you to test connectivity between the NVR and a destination IP address.

How to Access Network Test

1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **Network Info** from the left-hand menu.
4. Go to the **Test** from the left-hand drop-down menu.

Configuring Network Test



1. **Run a Network Test**: Input Destination IP and click Test. The result will display below.
2. **Packet Sniffer Backup**: Input **Device Name** and click **Browse** to find the path. The **Packet Sniffer** shows up below. A packet sniffer is a network diagnostic tool that captures and displays data packets traveling between an NVR and other devices on the network, such as cameras, switches, routers, and client computers.

15.4 System Manager Settings

The **System** settings allow you to manage the general settings of your NVR, such as user management, maintenance tasks, IP camera settings, and system information. These settings help you control how your NVR operates.

15.4.1 Managing Basic System Settings

The **General System** settings control key features that affect how your NVR runs, such as the language and logout time.

How to Access General System Settings

1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **General** from the left-hand menu.
4. Go to the **Basic** from the left-hand drop-down menu.

Configuring General System Settings



1. **Device model:** Your device model is displayed here. This is how your NVR will be identified on the network.
2. **Language:** Select the language for the recorder's settings from **English**, **French**, or **Spanish**.
3. **Logout Time:** Set the time interval before the NVR locks when idle, ranging from 0 to 60 minutes.
4. **Apply Changes:** Click **Apply** to save your changes.

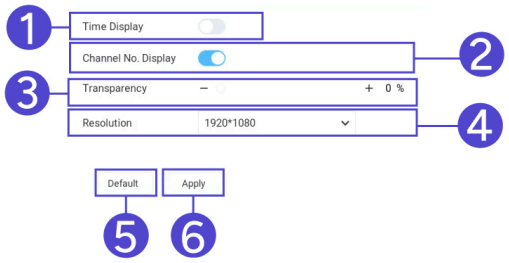
15.4.2 Configuring Display Settings

The **Display** settings allow you to customize how video is displayed on your connected monitor, ensuring an optimal viewing experience.

How to Access Output Configuration Settings

1. **Click** on the icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **General** from the left-hand menu.
4. Go to the **Display** from the left-hand drop-down menu.

Configuring Display Settings



1. **Time Display:** Enable or disable showing the time on the live view feed.
2. **Channel No. Display:** Enable or disable showing the Channel Number on the live view feed.
3. **Transparency:** Adjust the transparency of the menu and settings. A lower number means less transparency, while a higher number makes the menu more see-through, allowing you to see the live camera feed behind it.
4. **Resolution:** Select the output resolution for your monitor from the drop-down menu.
5. **Default (Optional):** Click **Default** to restore original settings, then **Apply** to confirm.
6. **Apply Changes:** Click **Apply** to save your changes.

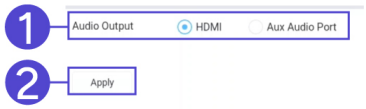
15.4.3 Configuring Audio Output Settings

The **Audio Output** settings allow you to customize output between HDMI and Aux Audio Port.

How to Access Audio Output Settings

1. **Click** on the icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **General** from the left-hand menu.
4. Go to the **Audio Output** from the left-hand drop-down menu.

Configuring Audio Output Settings



1. **Audio Output:** Select between **HDMI** and **Aux Audio Port**.
2. **Apply Changes:** Click **Apply** to save your changes.

15.4.4 Performing Recorder Maintenance

The **Maintenance** menu allows you to manage and maintain your NVR system, ensuring it operates smoothly.

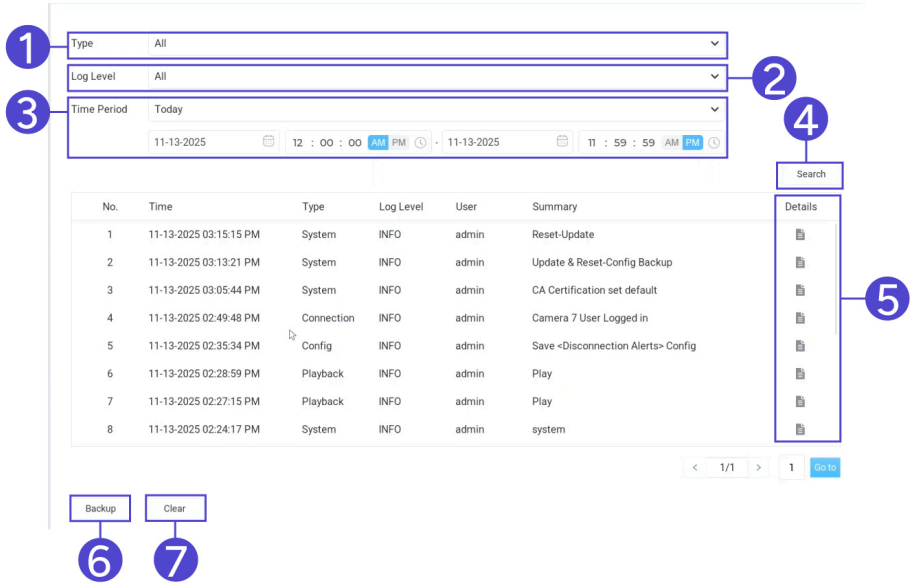
15.4.4.1 Viewing System Logs

The **System Log** settings allow you to search and review system logs, which record various events and actions taken by the NVR.

How to Access System Logs

1. **Click** on the icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **System Info** from the left-hand menu.
4. Go to the **Log** from the left-hand drop-down menu.

Searching & Viewing System Logs



1. **Type:** Select specific log types or select **All** to search across all log types.
2. **Log Level:** This indicates the importance or severity of the log.
3. **Time Period:** Enter the date range and the time range within the selected dates for your log search.
4. **Search Logs:** Click **Search** to generate the log results based on your criteria. The results will be displayed in the table below with the following details:
   - 4.1. **No.:** Displays the channel related to the log event.
   - 4.2. **Time:** Shows the exact time the log was recorded.
   - 4.3. **Type:** Lists the type of log (e.g., System, Alarm).
   - 4.4. **User:** Indicates the user associated with the event.
   - 4.5. **Summary:** Describes the event or action, such as "Motion alarm started" or "Motion alarm ended."
5. **Details:** Select to view further details on the event.
6. **Backup Logs:** Click **Backup** to save the log information to an external USB drive. Ensure a USB drive is inserted into the NVR before attempting to back up the logs.
7. **Clear Logs:** Click **Clear** to clear your search (steps 1–3).

15.4.4.2 Restoring Default Settings

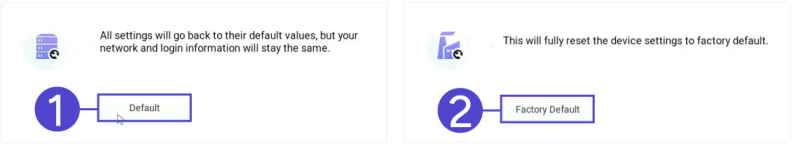
The **Load Default** settings feature allows you to reset your NVR to its original factory settings. You can choose to reset either all settings or almost all, depending on what you need.

How to Access System Default Settings

1. **Click** on the icon to access the Main Menu.
2. Select **System Manager**.

3. Choose **Update & Reset** from the left-hand menu.
4. Go to the **Reset** from the left-hand drop-down menu.

Restoring Default Options



1. **Default:**
   - Resets all settings to their factory defaults except for the network settings and the admin password.
2. **Factory Default:**
   - Resets all settings, including the network settings and admin password, to their original factory defaults.
   - After selecting this option, you will also need to enter your password to confirm the reset.

15.4.4.3 Updating Firmware

The NVR's **Update** settings allow you to manually update your NVR system's firmware to the latest version, ensuring optimal performance and access to the latest features.

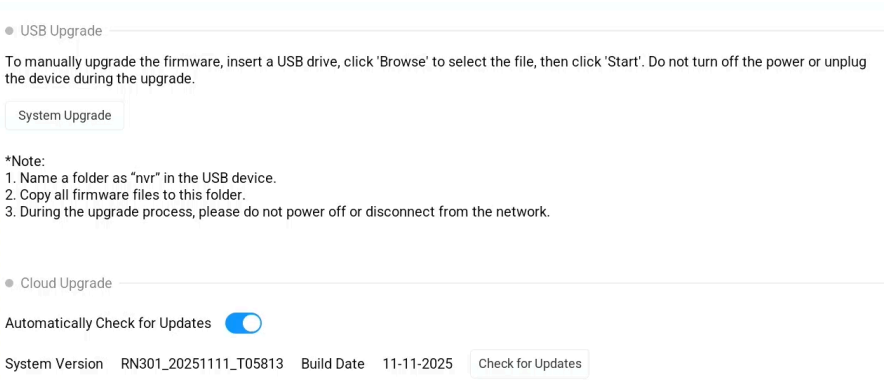
How to Access Update Settings

1. **Click** on the  icon to access the Main Menu.
2. Select **System Manager**.
3. Choose **Update & Reset** from the left-hand menu.
4. Go to the **Update** from the left-hand drop-down menu.

Automatic Firmware Updates

To enable automatic firmware updates, you can use the steps below. Just make sure your NVR is connected to the internet.

Manual Update Options



1. **Download Firmware:** Download the latest firmware version from Lorex Technical Support if available, and use a USB drive to install it on your NVR.
   1.1. Name a folder "nvr" in the USB device.
   1.2. Copy all firmware files to this folder.
2. **System Update:** The firmware will update automatically.
   During the update process, please do not power off or disconnect from the network.

3. **Cloud Update:** Click **Automatically Check for Updates** to have your system regularly check for cloud updates.
   - Click **Check for Updates** to manually check for cloud updates.

15.4.5 Managing IP Camera Settings

The **IP Camera Settings** allow you to easily manage the cameras connected to your NVR, ensuring your security system is running efficiently and performing at its best.

15.4.5.1 Updating Camera Firmware

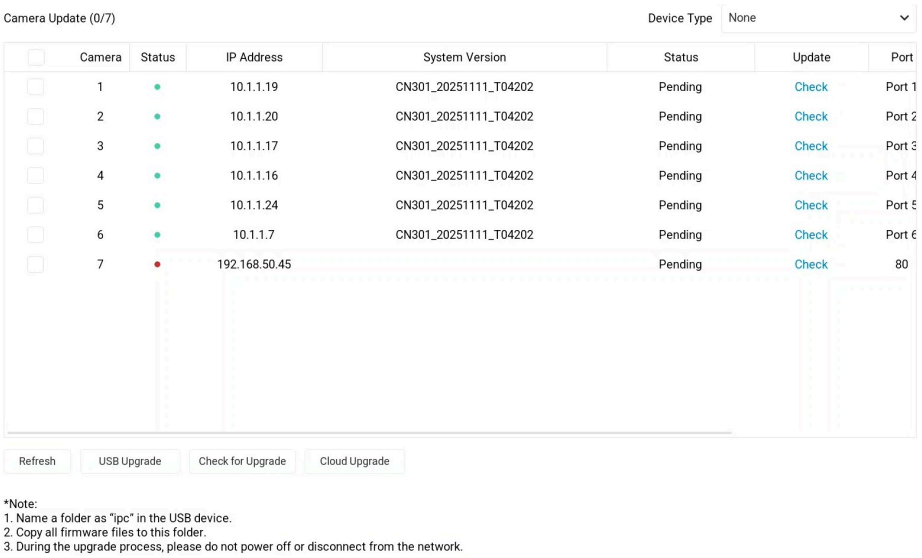
The **Update** settings allow you to update the firmware for your connected cameras, ensuring they operate with the latest features and security improvements.

- If you need to update the camera's firmware, contact Lorex Technical Support to download the latest version.

How to Access Camera Firmware Update Settings

1. **Click** on the  icon to access the Main Menu.
2. Select **Camera Settings**.
3. Choose **Camera** from the left-hand menu.
4. Go to the **Update** from the left-hand drop-down menu.

Camera Firmware Update Options



1. **Choose Camera:** Check the boxes next to the cameras you want to update.
2. **Download Firmware:** Download the latest firmware version from Lorex Technical Support if available, and use a USB drive to install it on your camera.
   2.1. Name a folder as "ipc" in the USB device.
   2.2. Copy all firmware files to this folder.
3. **Refresh:** Refreshes the page and reloads camera details to check if they have changed.
4. **USB Update:** The firmware will update automatically.
   During the update process, please do not power off or disconnect from the network.
5. **Check for Update:** Checks all cameras for updates.

6. **Cloud Update:** Click **Automatically Check for Updates** to have your system regularly check for cloud updates.
   - Click **Check for Updates** to manually check for cloud updates.

Camera Details and Update Progress

1. **Channel:** Lists the connected camera channels.
2. **Status:** Indicates if the camera is online or offline.
3. **IP Address:** Displays the IP addresses of the cameras.
4. **Current System Version:** Displays the firmware version installed on each camera.
5. **Status:** Shows if the firmware update was successful or not.
6. **Update:** Allows you to check if there is an update available.
7. **Port Number:** Shows which port the camera is connected to.

15.4.5.2 Managing Camera Parameters

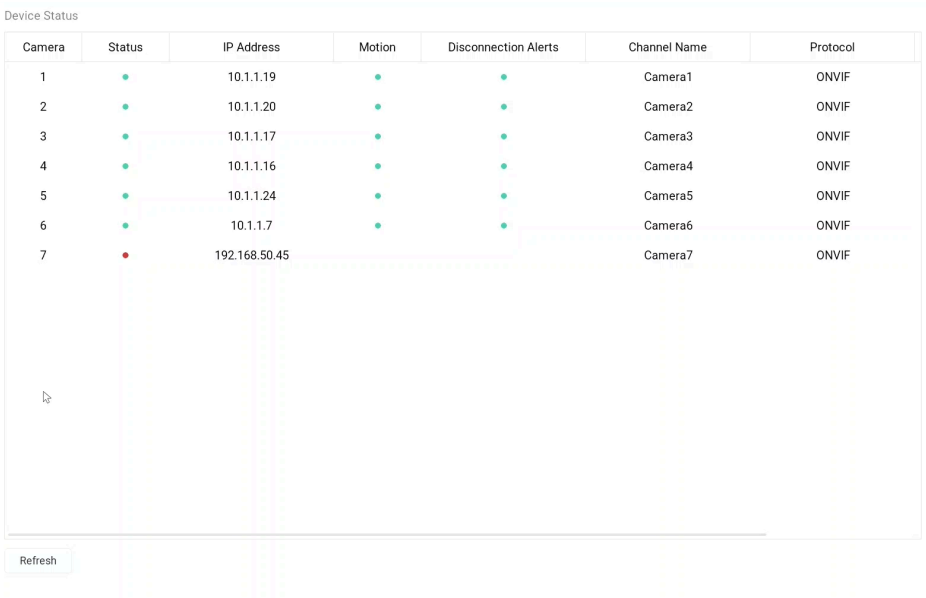
The **Parameter Management** feature allows you to save and load custom camera settings, making it easy to back up and restore configurations when needed.

How to Access Camera Parameter Management Settings

1. **Click** on the  icon to access the Main Menu.
2. Select **Camera Settings**.
3. Choose **Camera** from the left-hand menu.

Viewing Camera Status

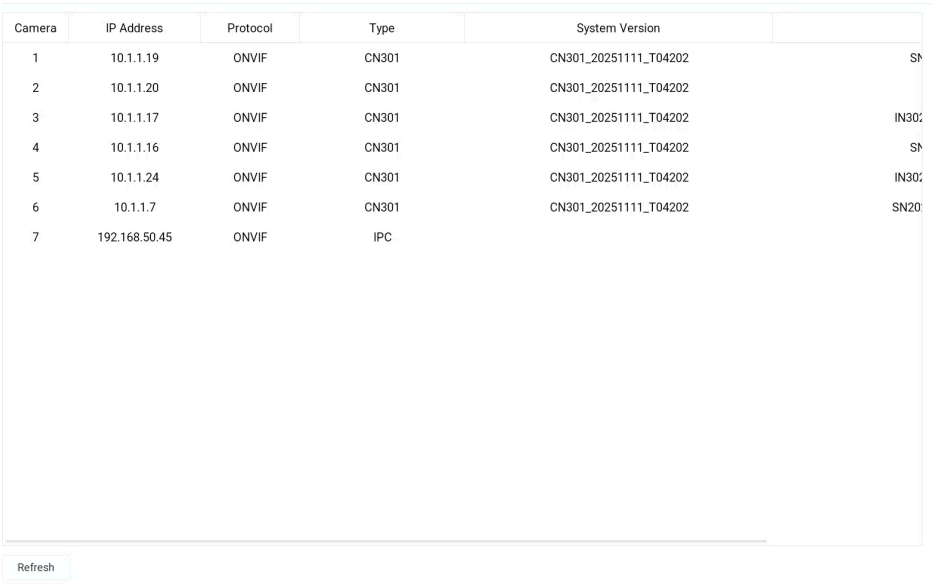
Select **Status** in the left-hand drop-down menu.



1. **Device Status:** Camera, Online Status, IP Address, Motion detection, Detection Alerts, Channel Name, and Protocol are displayed here.
2. **Refresh:** Click to check if any of the above parameters have changed.

Viewing Camera Firmware

Select **Firmware** in the left-hand drop-down menu.



Camera	IP Address	Protocol	Type	System Version	
1	10.1.1.19	ONVIF	CN301	CN301_20251111_T04202	SN
2	10.1.1.20	ONVIF	CN301	CN301_20251111_T04202	
3	10.1.1.17	ONVIF	CN301	CN301_20251111_T04202	IN302
4	10.1.1.16	ONVIF	CN301	CN301_20251111_T04202	SN
5	10.1.1.24	ONVIF	CN301	CN301_20251111_T04202	IN302
6	10.1.1.7	ONVIF	CN301	CN301_20251111_T04202	SN20
7	192.168.50.45	ONVIF	IPC		

Refresh

1. **Device Status:** Camera, IP Address, Protocol, Type of camera, System Version, and Serial Number are displayed here.
2. **Refresh:** Click to check if any of the above parameters have changed.

Viewing PoE Status

Select **PoE Manager** in the left-hand drop-down menu.



Connected/Total 6/8 Actual/Total Power(W) 17.0/72.0

Port	Status	Rate(Mbps)	Power(W)
1		100	3.0
2		100	3.0
3		100	2.0
4		100	3.0
5		100	3.0
6		100	3.0
7		-	-
8		-	-

Note

1.If status is green, the device is connected. .If status is red, the device is disconnected.

2.If the total power requirement of all connected IP PoE cameras is greater than what the recorder can output, cameras will be automatically disconnected, one at a time, until the recorder can power all connected cameras.

1. **Device Status:** Total connected cameras, Actual/Total Power (W), Port, PoE Status, Rate (Mbps), and Power (W) are displayed here.

15.5 Viewing System Information

The **Information** menu provides detailed technical information about your NVR, including device specifics, channel information, recording details, and network status.

15.5.1 Device Information

The **Device Info** provides key details about your NVR, including its model, software version, and network settings.

How to Access Device Information

1. **From Live View:**
   1.1. Click on the **Info**  icon from the Navigation Bar.
2. **From the Main Menu:**
   2.1. **Click** on the  icon to access the Main Menu.
   2.2. Choose **System Manager** from the menu.
   2.3. Select **System Info**.
   2.4. Choose **Recorder Info** from the left-hand menu.

Device Information

Device ID	LRC12103B763SMCY
Device Model	RN301
Firmware Version	RN301_20251111_T05813
Build Date	11-11-2025 09:36:28 PM
SN	IN102508000008
IP Address	192.168.50.204
MAC Address	00:1F:54:CC:20:03
Device Storage	0.00 MB/931.51 GB
HTTP Port	80
P2P Status	Offline

1. **Device ID:** Displays your NVR's device identification.
2. **Device Model:** Displays the model number of your NVR.
3. **Firmware Version:** Shows the current firmware version installed on the NVR.
4. **Build Date:** Displays when your NVR was built.
5. **Serial Number:** Displays the serial number of the recorder, which is useful for support and warranty purposes.
6. **IP Address:** Displays the IP address assigned to the recorder.
7. **MAC Address:** Displays the recorder's MAC address, a unique identifier for network communications.
8. **Device Storage:** Displays the storage used and the total hard disk drive capacity.
9. **HTTP Port:** Shows the HTTP port number used by the recorder, typically 8000.
10. **P2P Status:** Indicates if your device can connect to the manufacturer's cloud server for easy remote viewing on apps.

15.5.2 Storage Information

The **Storage Info** page provides key details about your NVR's storage.

How to Access Storage Information

1. **Click** on the  icon to access the Main Menu.
2. Choose **System Manager** from the menu.
3. Select **System Info**.
4. Choose **Storage Info** from the left-hand menu.

Storage Information

No.	Device Name	Type	Health Status	Free Space/Total Space	S.M.A.R.T
All	-	-	-	0.00 MB/931.51 GB	-
1*	SATA-1	Read/Write	PASSED	0.00 MB/931.51 GB	

1. **No.:** Displays your Hard Drive number (if multiple installed).

2. **Device Name:** Displays the name of your selected hard drive.
3. **Type:** Shows if the storage is set to **Read/Write** or **Read Only**.
4. **Health Status:** Displays whether your Hard Drive is working well enough to pass the Health Status test.
5. **Free Space / Total Space:** Displays the amount of available space versus the total space on the Hard Drive.
6. **S.M.A.R.T.:** Select the icon for additional information.

15.5.3 Bitrate

Bitrate (sometimes called data rate) is a key factor in how an NVR (Network Video Recorder) uses and reports storage. It describes how much video data is being generated and saved per unit of time.

How to Access and View Bitrate

1. **Click** on the  icon to access the Main Menu.
2. Choose **System Manager** from the menu.
3. Select **System Info**.
4. Choose **Bitrate** from the left-hand menu.
5. The **Resolution**, **Video Stream**, and **Bitrate** of each connected camera are displayed here.

15.5.4 Recording Information

No.	Device Name	Start Time	End Time
All	-	05-01-2025 01:00:46 AM	08-06-2026 03:42:41 PM
1*	SATA-1	07-16-2026 11:49:24 PM	07-23-2026 06:50:03 PM
	SATA-1	07-09-2026 08:39:40 AM	07-09-2026 09:00:00 AM
	SATA-1	05-01-2025 07:00:24 PM	05-09-2025 01:11:44 AM
	SATA-1	05-01-2025 01:00:46 AM	08-06-2026 03:42:41 PM
	SATA-1	05-01-2025 01:00:46 AM	05-01-2025 01:03:57 AM
	SATA-1	05-01-2025 01:00:46 AM	05-01-2025 07:00:24 PM

The **Record Info** page provides detailed information about the recording settings for each connected camera channel, helping you ensure that your NVR is capturing video at the desired quality and performance levels.

How to Access Recording Information

1. **From the Main Menu:**
    1.1. **Click** on the  icon to access the Main Menu.
    1.2. Choose **System Manager** from the menu.
    1.3. Select **System Info**.
    1.4. Choose **Record** from the left-hand menu.

Recording Information

No.	Device Name	Start Time	End Time
All	-	11-11-2025 10:31:35 AM	11-13-2025 03:31:36 PM
1*	SATA-1	11-13-2025 02:00:00 PM	11-13-2025 02:23:41 PM
	SATA-1	11-12-2025 12:22:07 AM	11-13-2025 03:31:36 PM
	SATA-1	11-11-2025 10:31:35 AM	11-12-2025 12:22:07 AM

1. **No.:** Lists all connected camera channels.
2. **Device Name:** Indicates the name of each channel.
3. **Start Time:** Indicates when the camera first started recording.

4. **End Time:** Indicates when the camera last stopped recording.

16 Troubleshooting

The **Troubleshooting Guide** provides quick solutions to common issues related to your NVR system.

Forgotten Password	If you forget the password after changing it: • Use the **Password Reset** feature to reset the password. For detailed instructions, refer to 12 *Password Reset*, page 38. • Restore the device to factory settings. For full instructions, refer to 15.4.4.2 *Restoring Default Settings*, page 78. • To avoid future issues, choose a password that is both easy to remember and secure.
Hard Drive Not Detected	If the hard drive is not detected: • Ensure the hard drive is securely connected, refer to 14.4.2 *Installing a New Hard Drive*, page 52. • Check that the hard drive ports on the main board are in good condition. • Ensure the hard drive you are using is designed for video surveillance to ensure stable operation.
No Recorded Information During Playback	If no recorded footage is found during playback: • Verify that the hard disk drive's data cable is properly connected, refer to 14.4.2 *Installing a New Hard Drive*, page 52. • Confirm that the system time has not been altered. • Ensure the hard drive you are using is designed for video surveillance to ensure stable operation. • If the issue persists, inspect the hard drive for possible damage.
No Video Signal / Output is Abnormal	If there is no video signal or the output is abnormal: • Check that the network cable is securely connected. • Ensure that the NTSC/PAL system settings are consistent on both ends.
Motion Detection Not Working	If motion detection is not functioning: • Verify that the motion detection time, area, and sensitivity settings are correctly configured, refer to 7 *Motion Detection Setup*, page 24.
Device Still Recording After Selecting Stop Recording	If the device continues to record after selecting Stop Recording: • Stopping manual recording does not affect scheduled recordings. To stop scheduled recordings (refer to 8.2 *Configuring Schedule Settings*, page 26), adjust the recording status or disable the channel (refer to 5.2 *Adding Cameras to the NVR*, page 14).
Deleting Specific Video Records	If you want to delete specific video records: • For security reasons, individual video records cannot be deleted. To remove footage, you must format the entire hard drive, refer to 14.3 *Overwriting and Formatting Your Hard Drive*, page 44.

17 Technical Specifications

The **Technical Specifications** outline your NVR system's key performance and hardware details.

17.1 Inputs & Outputs

17.2 Display

Maximum Display Resolution	Up to 4K Ultra HD (3840 × 2160 pixels)
HDMI Output Resolutions	3840 × 2160, 2560 × 1440, 1920 × 1080, 1280 × 1024
VGA Output Resolutions	1920 × 1080, 1440 × 900, 1280 × 1024, 1280 × 720, 1024 × 768
Live Display Modes	1, 4, 8, 16 view split
On-Screen Display (OSD)	On/Off
System Navigation	USB Mouse

17.3 Recording

Supported Recording Resolutions	8 MP (3840 × 2160), 2 MP (1920 × 1080 pixels), 1 MP (1280 × 720)
Video Compression	H.264/H.265
Recording Modes	Continuous, Motion Detection, and AI Motion Detection (per channel)

17.4 Playback

Simultaneous Playback	Up to 16 Channels (Synchronized)
Playback Speed Options	• Fast Forward/Rewind: 2×, 4×, 8× • Slow Motion: 1/2×, 1/4×, 1/8×
Search Options	By Time/Date, All Motion Events, or Smart Motion (Person and Vehicle)

17.5 Storage & Backup

HDD Bay	1 Bay
Maximum HDD Capacity	Up to 10 TB
Backup Media	USB Flash Drive

17.6 AI Detection & Smart Features

Adjustable Motion Detection Sensitivity Levels	1 to 8
AI Motion Detection	Supported, for Person & Vehicle, Perimeter Intrusion, and Smart Search (playback) Support Pedestrian & Vehicle, Face Detection, Perimeter Intrusion, Line Crossing
Active Deterrence Support	Supported
Smart Search	Supported

17.7 Connectivity

Mobile Viewing	Lorex Connect App (iOS and Android)
Event Notifications	Supported
Email Notifications	Yes
Network Interface	10/100 Base-TX (RJ45)
Network Bit Rate	320 Mbps
USB Ports	• Back: 2 × USB 2.0

Firmware Update	USB, Network (OTA - Over-The-Air)
Supported Languages	English, French, and Spanish
DDNS	Yes

17.8 Security

Password Reset	Yes

17.9 Power

Power Supply	54 V/1.33 A
PoE Power Output	Maximum 25.5 W per port, 57 W total
Power Consumption (Excluding HDD)	6 W

17.10 Physical & Environmental

QuietTek (Fanless Design)	Yes
Product Weight	2.602 lbs (1.18 kg)
Product Dimensions (W × D × H)	12.24” × 7.57” × 1.91” (310.90 × 192.28 × 48.51 mm)
Operating Temperature	14°F to 131°F (-10°C to 55°C)
Humidity	10 ~ 90% RH

Disclaimers:

1. 4K (8MP) IP cameras are required to take advantage of 4K recording.
2. Recording time may vary based on recording resolution and quality, lighting conditions and movement in the scene.
3. Accessing your security system remotely requires a high-speed Internet connection. Ensure your NVR has a wired connection to a router (not included).
4. HDMI output supports 4K HD for high definition multi-channel live or recorded video viewing. Image quality and resolution is dependent on the type of camera connected to the NVR, as well as TV/monitor resolution.
5. All connected cameras do not typically draw maximum power at the same time. If the total power demand exceeds the NVR's PoE power budget, recording performance may be temporarily affected.

Lorex products are designed for consumer and business use only and not for US federal governments, federally-funded projects or contractors subject to NDAA.

All trademarks belong to their respective owners. No claim is made to the exclusive right to use the trademarks listed, other than the trademarks owned by Lorex Corporation. We reserve the right to change models, configurations or specifications without notice or liability. Product may not be exactly as shown.

18 Notices

This product has been certified and found to comply with the limits regulated by FCC.

18.1 FCC

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Website
www.lorextechnology.com

Copyright
© 2026, Lorex Corporation
All rights reserved worldwide. Names and marks appearing herein are either registered trademarks or trademarks of Lorex Corporation and/or its subsidiaries. All other trademarks, trade names or company names referenced herein are used for identification only and are the property of their respective owners.

Legal disclaimer
As our product is subject to continuous improvement, Lorex Corporation & subsidiaries reserve the right to modify product design, specifications & prices without notice and without incurring any obligation.E&OE.

Publ. No.:
Release: 4.0
Commit: 63488
Head: 63488
Language: en-US
Modified: 2026-09-01
Formatted: 2026-09-01