LOREX

# User Manual



LOREX®

# User Manual

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

*This manual refers to the following models:*

D231A41B

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

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.

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# 1 Important Safeguards

In addition to the careful attention devoted to quality standards in the manufacturing process of your product, safety is a major factor in the design of every instrument. However, safety is your responsibility too. This sheet lists important information that will help to ensure your enjoyment and proper use of the product and accessory equipment. Please read them carefully before operating and using your product.

### 1.1 General Precautions

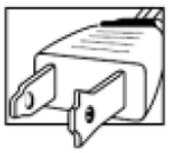
1. All warnings and instructions in this manual should be followed.
2. Remove the plug from the outlet before cleaning. Do not use liquid aerosol detergents. Use a water-dampened cloth for cleaning.
3. Do not use this product in humid or wet places.
4. Keep enough space around the product for ventilation. Slots and openings in the storage cabinet should not be blocked.
5. It is highly recommended to connect the product to a surge protector to protect from damage caused by electrical surges. It is also recommended to connect the product to an uninterruptible power supply (UPS), which has an internal battery that will keep the product running in the event of a power outage.

**⚠ CAUTION**

Maintain electrical safety. Power line operated equipment or accessories connected to this product should bear the UL listing mark or CSA certification mark on the accessory itself and should not be modified so as to defeat the safety features. This will help avoid any potential hazard from electrical shock or fire. If in doubt, contact qualified service personnel.

### 1.2 Installation

1. **Read and Follow Instructions:** All the safety and operating instructions should be read before the product is operated. Follow all operating instructions.
2. **Retain Instructions:** The safety and operating instructions should be retained for future reference.
3. **Heed Warnings:** Comply with all warnings on the product and in the operating instructions.
4. **Polarization:** Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other.



A grounding type plug has two blades and a third grounding prong.



The wide blade or the third prong are provided for your safety.

If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

5. **Power Sources:** This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your location, consult your video dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

6. **Overloading:** Do not overload wall outlets or extension cords as this can result in the risk of fire or electric shock. Overloaded AC outlets, extension cords, frayed power cords, damaged or cracked wire insulation, and broken plugs are dangerous. They may result in a shock or fire hazard. Periodically examine the cord, and if its appearance indicates damage or deteriorated insulation, have it replaced by your service technician.
7. **Power-Cord Protection:** Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
8. **Surge Protectors:** It is highly recommended that the product be connected to a surge protector. Doing so will protect the product from damage caused by power surges. Surge protectors should bear the UL listing mark or CSA certification mark.
9. **Uninterruptible Power Supplies (UPS):** Because this product is designed for continuous, 24/7 operation, it is recommended that you connect the product to an uninterruptible power supply. An uninterruptible power supply has an internal battery that will keep the product running in the event of a power outage. Uninterruptible power supplies should bear the UL listing mark or CSA certification mark.
10. **Ventilation:** Slots and openings in the case are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and the product manufacturer's instructions have been followed.
11. **Attachments:** Do not use attachments unless recommended by the product manufacturer as they may cause a hazard.
12. **Water and Moisture:** Do not use this product near water — for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement, near a swimming pool and the like.
13. **Heat:** The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.
14. **Accessories:** Do not place this product on an unstable cart, stand, tripod, or table. The product may fall, causing serious damage to the product. Use this product only with a cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with the product. Any mounting of the product should follow the manufacturer's instructions and use a mounting accessory recommended by the manufacturer.



15. **Camera Extension Cables:** Check the rating of your extension cable(s) to verify compliance with your local authority regulations prior to installation.
16. **Mounting:** The cameras provided with this system should be mounted only as instructed in this guide or the instructions that came with your cameras, using the provided mounting brackets.
17. **Camera Installation:** Cameras are not intended for submersion in water. Not all cameras can be installed outdoors. Check your camera environmental rating to confirm if they can be installed outdoors. When installing cameras outdoors, installation in a sheltered area is required.

### 1.3 Service

1. **Servicing:** Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

2. **Conditions Requiring Service:** Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
   - When the power supply cord or plug is damaged.
   - If liquid has been spilled or objects have fallen into the product.
   - If the product has been exposed to rain or water.
   - If the product has been dropped or the cabinet has been damaged
   - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
   - When the product exhibits a distinct change in performance. This indicates a need for service.
3. **Replacement Parts:** When replacement parts are required, have the service technician verify that the replacements used have the same safety characteristics as the original parts. Use of replacements specified by the product manufacturer can prevent fire, electric shock, or other hazards.
4. **Safety Check:** Upon completion of any service or repairs to this product, ask the service technician to perform safety checks recommended by the manufacturer to determine that the product is in safe operating condition.

### 1.4 Use

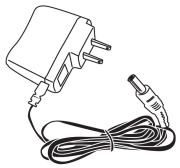
1. **Cleaning:** Unplug the product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
2. **Product and Cart Combination:** When product is installed on a cart, product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.
3. **Object and Liquid Entry:** Never push objects of any kind into this product through openings as they may touch dangerous voltage points or “short-out” parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
4. **Lightning:** For added protection of this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power line surges.

# 2 Package Contents

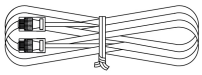
Your security recorder package includes the following components:



1080p HD Security DVR



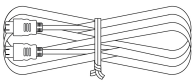
Power Adapter



Ethernet Cable



USB Mouse



HDMI Cable

**NOTE**

Hard drive size, number of channels, and camera configuration may vary by model. Please refer to your package for specific details. Check your package to confirm that you have received the complete system, including all components shown above.

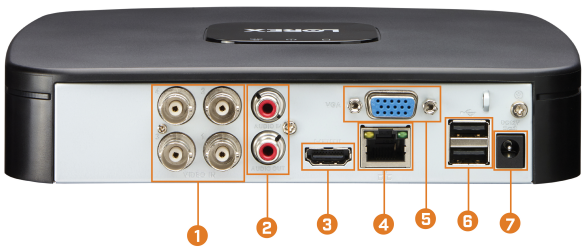
# 3 Recorder Overview

## 3.1 Front Panel




1. **LED Indicators:**
   - **HDD:** Glows to indicate hard drive is in normal state. Turns off when there is a hard drive error.
   - **POWER:** Glows to indicate the system is on.
   - **NETWORK:** Glows when network is in normal state. Turns off when there is a network error.

## 3.2 Back Panel




1. **Video Inputs:** Connect Lorex HD or standard analog cameras to the system. For a full list of compatible cameras, visit lorex.com/compatibility.
2. **Audio IN/Audio OUT:** Connect an external microphone for single-channel audio recording, or an external speaker for system audio. For details on connecting external audio devices, see 17 *Connecting Audio Devices*, page 79.
3. **HDMI:** Connect to an HDMI monitor or TV (not included) to view the system interface.
4. **LAN:** Connect an RJ45 Ethernet cable for local and remote connectivity.
5. **VGA:** Connect a VGA monitor (not included) to view the system interface..
6. **USB Port:** Connect a USB mouse (included) to control the system, or a USB flash drive (not included) for data backup or manual firmware updates.
7. **DC 12V:** Connect the included power adapter.

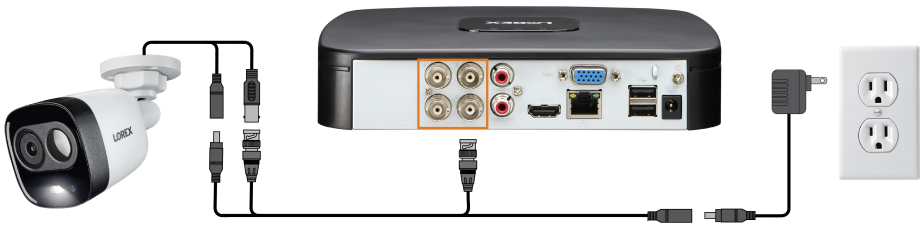
# 4 Basic System Setup

## 4.1 STEP 1: Connect cameras

Test your cameras prior to selecting a permanent mounting location by connecting the cameras and cables to your recorder locally. Push and twist the BNC connector clockwise to secure it to the BNC port.

**NOTE**

This step is for verification of the camera image only. It is recommended to connect cameras to a nearby power adapter for this step. The Lorex Setup Wizard that runs at startup will assist you in naming and organizing your cameras, so it is also recommended to leave cameras connected until the wizard asks you to install cameras in their permanent mounting location.



**NOTE**

- Before selecting a permanent mounting location for your cameras, see 5 *Camera Installation*, page 10 for important notes and installation tips.
- The extension cable must be a single stretch of cable between the recorder and camera. You cannot connect multiple extension cables to each other.

## 4.2 STEP 2: Connect router

Connect the recorder to your router using the included Ethernet cable.



**NOTE**

To receive automatic firmware updates and enable remote viewing with mobile apps, a high speed Internet connection is required (minimum upload speed of 3.5Mbps for remote viewing). All other system features can be used without an Internet connection.

## 4.3 STEP 3: Connect mouse

Connect the included mouse to a USB port on the recorder.



### 4.4 STEP 4: Connect monitor

Connect the recorder to a monitor using the included HDMI cable.



**OR**

Connect the recorder to a monitor using a VGA cable (not included).



**CAUTION**

The system will automatically match the resolution of the connected monitor the first time you use the recorder. If you need to switch monitors, make sure you set the recorder to an output resolution supported by the new monitor **BEFORE** switching. See 14.4.1 *Setting the Recorder's Output Resolution*, page 47 for details.

### 4.5 STEP 5: Connect power

Use the included power adapter to connect the recorder to a nearby outlet. Turn the recorder on using the power switch on the back panel.

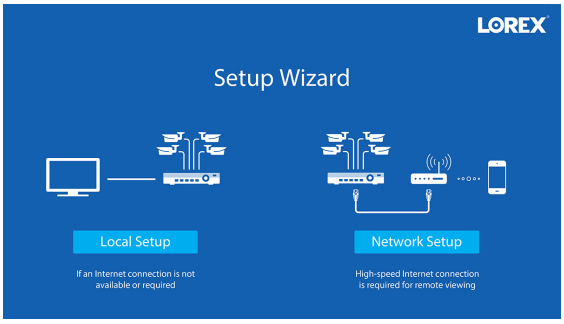


### 4.6 STEP 6: Lorex Setup Wizard

When you first power up your recorder, the **Lorex Setup Wizard** will begin. The Wizard will help you configure core system settings and set up your cameras. It is recommended to review 5 *Camera Installation*, page 10 before choosing a permanent mounting position for your cameras.

**NOTE**

For detailed mounting instructions for your particular camera model, refer to your camera's documentation on lorex.com.




You will also create a password that will be used to access the unit from now on. For future reference, it is recommended that you record your password in a secure location.

### 4.7 STEP 7: Upgrade Firmware to Latest Version (If Available)

If a firmware upgrade is available, you will be asked to install it once the system starts up. It is required to upgrade your system firmware and client software or mobile apps to the latest version to enable remote connection to the system.

**NOTE**

You must connect your recorder to a router with Internet access in order to get automatic firmware upgrades.

**If a firmware upgrade is available:**

1. After startup, a notification will appear asking you to upgrade the firmware. Click **OK** to upgrade.
2. Enter the system user name (default: **admin**) and your secure password, then click **OK**. Wait for the firmware update to complete. The system will restart once the firmware has been upgraded.

**CAUTION**

**DO NOT POWER OFF THE SYSTEM OR DISCONNECT THE POWER CABLE DURING FIRMWARE INSTALLATION.**

### 4.8 Quick Access to System Information

Perform one of the following actions to bring up the system information window. This window contains vital system information including the model number, serial number, and device ID.

**NOTE**

The QR code shown on this screen can be scanned during mobile setup to enter the system's device ID.




**To quickly open a window that displays important system information:**

- From the Live View display, right-click to open the Quick Menu, then click **Info**.

# 5 Camera Installation

The following chapter provides general setup instruction and installation tips for security cameras. Ensure that you review 5.2 *Ensuring Accurate Person/Vehicle Detection*, page 10 for channels you are planning to use Person/Vehicle detection on.

**NOTE**

Cameras differ in terms of mounting instructions. Please see your camera's documentation at lorex.com for specific installation instructions.

## 5.1 Installation Tips

General camera installation tips that apply to all camera models. Please review before selecting a permanent mounting location for your cameras.

- Test the cameras before permanent installation. Plan where you will route the wiring for the camera and where you will aim the camera.
- Point the camera where there is the least amount of obstructions (e.g., tree branches).
- Mount the camera where the lens is away from direct and intense sunlight.
- Plan your cable wiring so that it does not interfere with power lines or telephone lines.
- Secure cabling so that it is not exposed or easily cut.
- Mount the camera in an area that is visible, but out of reach.
- Avoid pointing the camera at a glass window to see outside. This may result in a bright white ring in the night vision image, as the light from the night vision LEDs may reflect off the glass.
- Adjust the camera angle so that it covers an area with high traffic.
- In "high-risk" locations, have multiple cameras point in the same area. This provides camera redundancy if a vandal attempts to damage one of your cameras.
- For outdoor rated cameras, installation in a sheltered location is recommended to ensure the camera lens remains clear of rainwater and other precipitation.

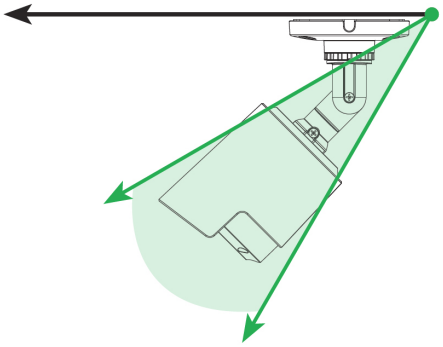
## 5.2 Ensuring Accurate Person/Vehicle Detection

The following are important camera installation notes to ensure accurate Person/Vehicle detection. For full camera mounting instructions, see your camera's documentation at lorex.com.

- Choose a location where objects of interest will be no further than 50ft (~15m) from the camera.
- Angle the camera so that objects of interest appear in the bottom ⅔ of the camera image.



- Angle the camera between 30~60° down from the level position.



- Install the camera between 8-16ft (2.5-5m) off of the ground.

**NOTE**

Accuracy of Person/Vehicle detection will be influenced by multiple factors, such as the object's distance from the camera, the size of the object, and the height and angle of the camera. Night vision will also impact the accuracy of detection.

### 5.3 Installing Cameras

1. Mount the cameras to the desired mounting surface according to the instructions that came with the cameras (visit lorex.com for the most up-to-date documentation). Choose a firm mounting surface that can support the full weight of the camera.

   **NOTE**

   If you wish to mount cameras to drywall, it is recommended to use the included drywall anchors.

2. Adjust the camera stand to ensure that the camera has a satisfactory view of the area you would like to monitor. Stand configuration depends on the mounting surface you have chosen (see below for suggested stand configurations).

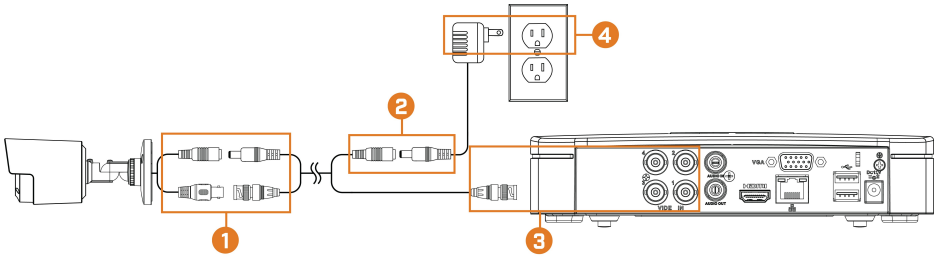
| | |
|---|---|
|  |  |
| Wall Mount | Ceiling Mount |

**NOTE**

Counter / table top mounting is not recommended if you are planning to utilize Person/Vehicle detection due to limited accuracy. Please refer to 5.2 *Ensuring Accurate Person/Vehicle Detection*, page 10 for recommended camera angling to ensure accurate detection.

### 5.4 Connecting Camera Extension Cables

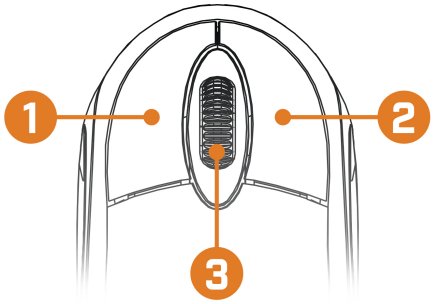
The extension cable must be a single stretch of cable between the recorder and camera. You cannot connect multiple extension cables to each other. For all extension cable options, including maximum extension cable length, refer to your camera's documentation at lorex.com.




1. Connect the male power connector on the BNC extension cable to the female power connector on the camera. Connect the BNC connector to the camera.
2. Connect the female power connector on the BNC extension cable to the power adapter.
3. Connect the BNC connector to one of the **Video Input** ports on the rear panel of the recorder.
4. Plug the camera power adapter to a power outlet.

# 6 Using the Mouse

The mouse is the primary control device for the system. Connect the included mouse to the USB port on the front or rear panel.




1. **Left-button:**
   - In live view, while in a split-screen display mode, click an individual channel to view it in full-screen. Click again to return to the split-screen display mode.
   - While navigating menus, click to open a menu option.
2. **Right-button:**
   - During live view, right-click anywhere on the screen to open the Quick Menu.
   - Within system menus, right-click to exit menus.
3. **Scroll wheel:** In live view, use the scroll wheel to zoom in/out.

# 7 Using the On–Screen Display

Use the system's on–screen display to navigate menus and configure options and settings.

> **NOTE**
>
> To access the on-screen display, you must connect the included mouse and a monitor (not included) to the recorder. See , page for full instructions.

## 7.1 Navigation Bar

The **Navigation Bar** along the bottom of the recorder's Live View display allows you to access the Main Menu and control basic functions of the recorder.

**To show the Navigation Bar:**

- Hover the mouse pointer near the bottom of the Live View screen.

> **NOTE**
>
> You can also lock the Navigation Bar to have it displayed at all times. See below for details.



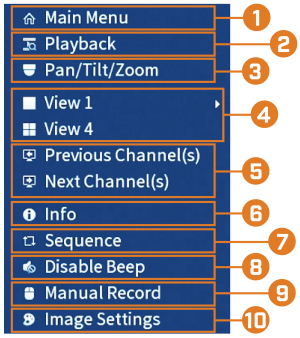

1. **Main Menu:** See 14 *Using the Main Menu*, page 44 for full instructions on using the Main Menu.
2. **Viewing Modes:** Select how many channels are shown on screen during live viewing.
3. **Previous / Next Channel(s):** Display previous / next channel(s) in single or quad channel viewing mode.
4. **Sequence Mode:** Start or stop Sequence Mode. In Sequence Mode, the system display will automatically cycle through connected channels every few seconds.
5. **Playback:** Opens the Playback Menu. This allows you to search for video recordings saved on the recorder's hard drive. For details on using the Playback menu, see 9 *Playback*, page 21.
6. **Information:** Displays system information, such as model number, device ID, IP address, etc.
7. **Network:** View and configure network options, including setting a dynamic or static IP address. For full instructions on configuring network options, see 14.6.1 *Selecting DHCP or Static IP Address (TCP/IP)*, page 55.
8. **Hard Drive Manager:** Configure hard drive read/write options (see 14.8.6 *Configuring Hard Drive Type*, page 66 for details) or format drives (see 14.8.5 *Formatting the Hard Drive*, page 66 for details).
9. **Updates:** Check for available firmware updates — requires an Internet connection.
10. **Warning Light & Siren — Deterrence Cameras Only:** Click to activate warning lights and sirens for all connected deterrence cameras. Click again to deactivate.
11. **System Date & Time**
12. **Lock Navigation Bar:** Choose to always show the Navigation Bar on screen ( ) or hide it until the mouse pointer is near the bottom of the screen ( ).

## 7.2 Quick Menu

The **Quick Menu** gives you quick access to functions which can also be accessed using the Navigation Bar.

**To open the Quick Menu:**

- Right-click anywhere on the Live View screen.




1. **Main Menu:** See 14 *Using the Main Menu*, page 44 for full instructions on using the Main Menu.
2. **Playback:** Opens the Playback Menu. This allows you to search for video recordings saved on the recorder's hard drive. For details on using the Playback menu, see 9 *Playback*, page 21.
3. **Pan/Tilt/Zoom:** Control and configure settings for Pan-Tilt-Zoom (PTZ) cameras. For full instructions on connecting and using PTZ cameras, see 16 *Pan/Tilt/Zoom (PTZ) Cameras*, page 74.
4. **Viewing Modes:** Select how many channels are shown on screen during live viewing.
5. **Previous / Next Channel(s):** Change the display to the previous / next channel(s).
6. **Info:** Displays system information, such as model number, device ID, IP address, etc.
7. **Sequence:** Start or stop Sequence Mode. In Sequence Mode, the system display will automatically cycle through connected channels every few seconds.
8. **Disable Beep:** Temporarily disable the current audible warning.

> **NOTE**
>
> Audible warnings can be given for a wide range of events, such as hard drive issues, network connectivity, motion detection events and more. Disabling the current audible alarm using the Quick Menu will silence the recorder only for a short time, then audible warnings will continue.

9. **Manual Record:** Select manual recording and snapshot options. See 8.4 *Setting up Scheduled or Manual Recording*, page 19 for details.
10. **Image Settings:** Configure camera image settings per channel, such as brightness, contrast, etc. For full details on configuring camera image settings, see 14.5.1 *Adjusting Camera Image Settings*, page 51.

### 7.3 Camera Toolbar

The **Camera Toolbar** lets you perform quick functions for a specific channel on the recorder.

**To use the Camera Toolbar:**

- Hover the mouse near the top of a channel with a connected camera.




1. **Instant Playback:** Plays back recent video from the selected channel. By default, instant playback is set to play the last 5 minutes of recorded video. See 14.7.1 *Configuring General System Settings*, page 58 to set a custom playback length.
2. **Digital Zoom:** Click to enable digital zoom. Click-and-drag over the camera image to zoom in on the selected area. Right-click to return to the full camera image. You can then repeat to zoom in on a different area, or click the icon again to disable zoom.
3. **Real-time Backup:** Click to start recording the current channel manually. Click again to stop recording and save the video file to a USB flash drive (not included).

4. **Snapshot:** Save a snapshot of the current camera image to a USB flash drive (not included).
5. **Mute/Unmute:** Click to mute/unmute listen-in audio.
6. **Warning Light — Deterrence Cameras Only:** Click to manually turn on the camera's warning light for 10 seconds.
7. **Siren — Deterrence Cameras Only:** Click to manually turn on the camera's siren for 10 seconds.

### 7.4 On-Screen Keypads

The **Full Keypad** is used to input alphanumeric characters, such as in user name or password fields. The **Number Keypad** is used to input numeric characters only, such as in the time or date fields.

**To use the Full Keypad:**

- Using the mouse, click on a field where alphanumeric characters are entered, such as the user name and password fields.
- The Full Keypad opens:




- Click **Shift** to switch between uppercase and lowercase characters.
- Right-click to close the Full Keypad.

**To use the Number Keypad:**

- Using the mouse, click on a field where numeric characters are entered, such as the date or time fields.
- The Number Keypad opens:




- Right-click to close the Number Keypad.

# 8 Recording

By default, the system is set to immediately record video from connected cameras continuously, 24 hours a day. You can customize the recording settings according to your needs.

## 8.1 Video Recording Types

The system supports the following recording types:

- **Continuous recording:** Normal, continuous recording. A C icon is shown in the bottom left-hand corner of the camera image when continuous recording is in progress.
- **Motion recording:** Motion-triggered video recording. An M icon is shown in the bottom left-hand corner of the camera image when motion is detected.

## 8.2 Configuring Recording Quality

The system uses two video recording streams: a **Main Stream** and a **Sub Stream**. The Main Stream records high quality video to your system's hard drive. The Sub Stream records lower resolution video for efficient streaming to devices over the Internet. You can customize the video quality settings for these streams according to your needs.

**To configure recording quality:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **CAMERA**. Click the **RECORDING** tab on the side panel, then **Recording** on the top panel.




3. Select the channel you want to configure.

4. Configure the following settings. Except where noted, options for Main Stream and Sub Stream are the same:

   - **Super Codec: (Main Stream only)** Click to enable (  ) / disable (  ) Super Codec. This setting will help reduce system requirements for unimportant recordings to maximize hard drive storage.

   - **Video: (Sub Stream only)** Click to enable (  ) / disable (  ) Substream video.

     > **CAUTION**
     >
     > Disabling Substream video will prevent you from viewing the system remotely over the Internet. You should disable the Substream only if you plan on viewing and configuring the system locally.

   - **Type:** For the Main Stream, you can set different recording quality settings for **Continuous**, **MD (Motion Detect)**, and **Alarm** recording. Select the type of recording you want to configure.
   - **Resolution:** Select the resolution the selected camera will be recorded at. Higher resolutions create a more detailed image, but take up more hard drive space to record and require more bandwidth to stream to connected computers or mobile devices.
   - **Frame Rate (FPS):** Select the frame rate in Frames Per Second (FPS) that each stream will record at. A higher frame rate provides a smoother picture, but will require more storage and bandwidth.
   - **Bit Rate Type:** Select **CBR (Constant Bit Rate)** or **VBR (Variable Bit Rate)** to determine the bit rate type. If you select VBR, select the **Quality** from **1** (lowest) to **6** (highest).
   - **Bit Rate (Kbps):** Select the bit rate for each recording stream. Higher bit rates provide better image quality, but will require more storage and bandwidth.

5. Click **Apply**.
6. **(OPTIONAL)** Click **Copy** to apply the settings for the current channel to one or more other channels (see 14.11 *Copying Settings to Another Channel*, page 71 for full instructions on using the copy function).

### 8.3 Setting the Recording Schedule

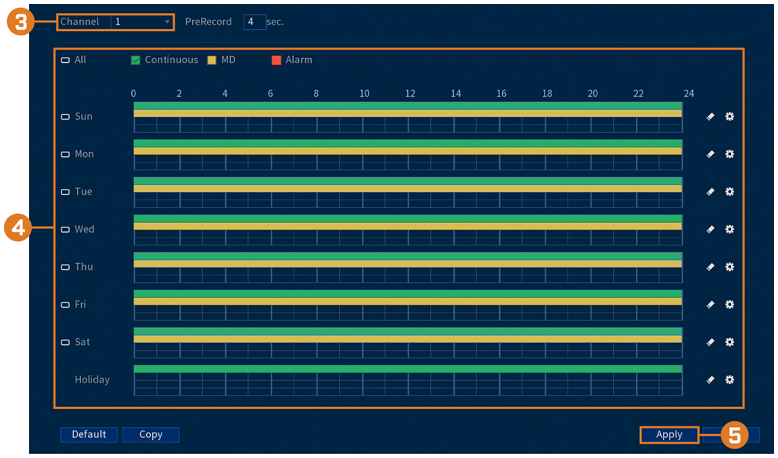
You can set a custom recording schedule according to your needs. For example, you can set the system to record continuously during business hours and record on motion detection only outside of business hours.

A custom recording schedule helps reduce the amount of hard drive space required, increasing the time your system can retain recordings.

**To configure the recording schedule:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.

2. Click **STORAGE**. Click the **SCHEDULE** tab on the side panel, then **Record** on the top panel.




3. Under **Channel**, select the channel you would like to configure or select **All**.
4. Configure the schedule as needed:
   - Check **Continuous**, **MD** (Motion Detection), or **Alarm** to select the recording type you would like to configure.
   - Click-and-drag on each day to customize the recording schedule. The schedule is set up as a grid, which each block representing one hour.
   - Click beside 2 or more days to link schedules ( ). This allows you to quickly change multiple schedules at once.
   - To make fine adjustments to a schedule, click . This will allow you to set exact start and end times for a schedule.
   - To disable all recording of the selected type on the selected day, click .
5. Click **Apply**.
6. **(OPTIONAL)** Click **Copy** to apply the settings for the current channel to one or more other channels (see 14.11 *Copying Settings to Another Channel*, page 71 for full instructions on using the copy function).

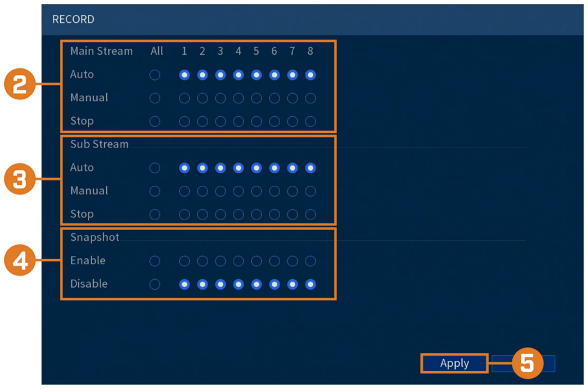
### 8.4 Setting up Scheduled or Manual Recording

You can set the system to record based on a schedule or you can manually turn recording on and off. By default, the system is set to always record on a schedule.

To configure the recording schedule, see 8.3 *Setting the Recording Schedule*, page 18.

**To set options for manual recording:**

1. From the Live View display, right-click to open the Quick Menu, then click **Manual Record**.



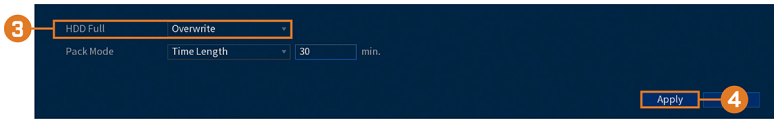

2. Under **Main Stream**, select how the system will record the Main Stream for each channel:
   - **Auto:** Main Stream recording will follow the recording schedule.
   - **Manual:** The system will record the Main Stream continuously as long as this option is checked.
   - **Stop:** The system will not record the Main Stream for this channel. This option is not recommended.
3. Under **Sub Stream**, select how the system will record the Sub Stream for each channel.
   - **Auto:** Sub Stream recording will follow the recording schedule.
   - **Manual:** The system will record the Sub Stream continuously as long as this option is checked.
   - **Stop:** The system will not record the Sub Stream for this channel. This option is not recommended.
4. Under **Snapshot**, select **Enable** to enable snapshot recording on each channel. Or, select **Disable** to disable snapshot recording.
5. Click **Apply**.

## 8.5 Configuring Hard Drive Overwrite

When the hard drive is full, the system will overwrite the oldest recordings by default. This is recommended, as it makes sure that your system will continue to record without any input from you. You can also set the system to stop recording once the hard drive is full.

**To configure hard drive overwrite:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **STORAGE**, then click the **BASIC** tab.




3. Ensure **HDD Full** is set to **Overwrite** to overwrite the oldest recordings when the hard drive is full.

> **NOTE**
>
> Select **Stop Record** for the system to stop recording when the hard drive is full.

4. Click **Apply**.

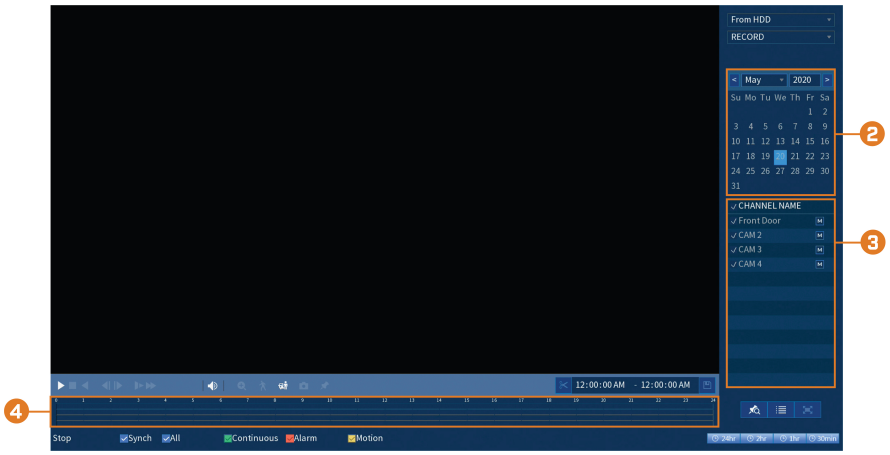
# 9 Playback

Search through and playback recorded video files on the system.

## 9.1 Playing Back Video from the Hard Drive

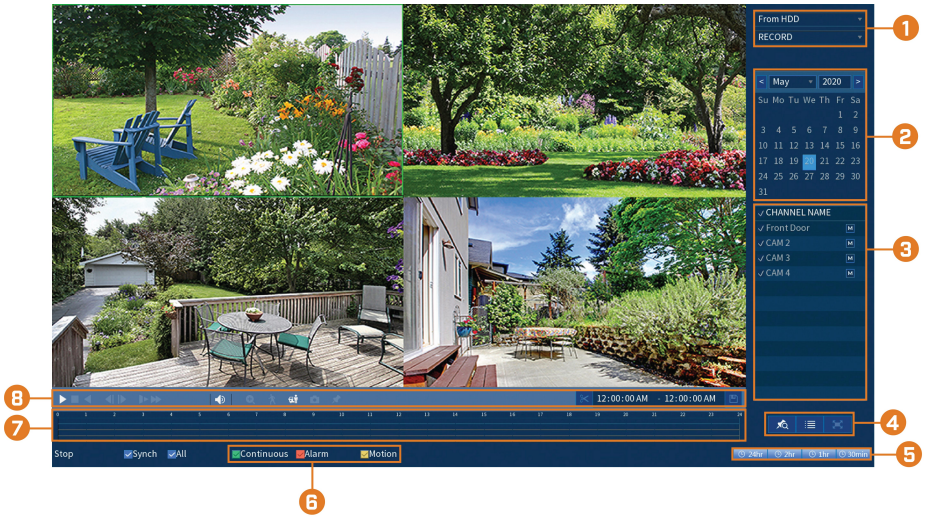
**To play back recorded video:**

1. From the Live View display, right-click to open the Quick Menu, then click **Playback**.




2. Use the calendar on the right to select the day to playback.
3. Check the channels you want to play back. Click the icons to the right of each channel name to choose the video quality ( M for Main Stream, S for Sub Stream).
4. Click inside the video bar to select the playback time. The system will begin playing back video from the selected time.

## 9.2 Playback Controls




1. **Select Playback Device:** Choose between searching the recorder's hard drive or a USB flash drive (not included).
2. **Calendar:** Select the date to playback.
3. **Channel Selection:** Select channels and video quality for playback.

4. **Viewing Modes:**
   -  **Bookmark List:** Shows all bookmarked recordings for a single channel on the selected date.
   -  **File List:** Shows all available recordings for the selected date and channel(s) in list format.
   -  **Fullscreen:** Shows video in fullscreen. Right-click to return to split-screen viewing.
5. **Zoom Playback Bar:** Select the scope of the playback bar.
6. **Recording Type Filters:** Click to show/hide recording types.
7. **Playback Bar:** Click inside the bar to select a playback time.

8. **Playback Controls:**

-  /  **Play / Pause**
-  **Stop**
-  **Play Backwards**
-  **Previous Frame:** Go to the previous frame when video is paused.
-  **Next Frame:** Go to the next frame when video is paused.
-  **Slow Playback:** Click repeatedly to slow the video down by half speed up to 16× slower than normal. Click again to return to regular speed.
-  **Fast Playback:** Click repeatedly to double the speed of the video up to 16× faster than normal. Click again to return to regular speed.
-  **Volume / Mute:** Hover over to reveal the volume bar, where you can set the volume for audio in playback. Click to mute/unmute.

  **NOTE**

  - Audio recording must be enabled to capture audio in playback recordings. For full instructions on enabling audio recording, see 17 *Connecting Audio Devices*, page 79.
  - To hear recorded audio, you must be viewing an audio–enabled camera in single channel. You must also be using an HDMI monitor with built-in speakers, or connect an external speaker to the recorder in order to hear audio.

-  **Digital Zoom:** Click to enable digital zoom. Click-and-drag over the camera image to zoom in on the selected area. Right-click to return to the full camera image. You can then repeat to zoom in on a different area, or click the icon again to disable zoom.
-  **Smart Search:** Click to select an area of the camera image and play back all recordings with motion in the selected area. For full details on Smart Search, see 9.4 *Smart Search*, page 24.
-  **Person/Vehicle Filter:** Hover over to reveal **Person/Vehicle** checkbox. Click to filter recordings on selected channels to show only Person/Vehicle detection events.

  **CAUTION**

  A maximum of 4 channels will support Person/Vehicle detection at once. By default, channels 1-4 have Person/Vehicle detection enabled. See 11 *Motion Detection*, page 32 to set preferences for Person/Vehicle detection.

-  **Snapshot:** Save a snapshot of the current camera image to a USB flash drive (not included).
-  **Add Bookmark:** Shows.
-  **Video Clip:** Back up a custom video clip to a USB flash drive (not included). For full instructions, see 9.5 *Video Clip Backup*, page 25.

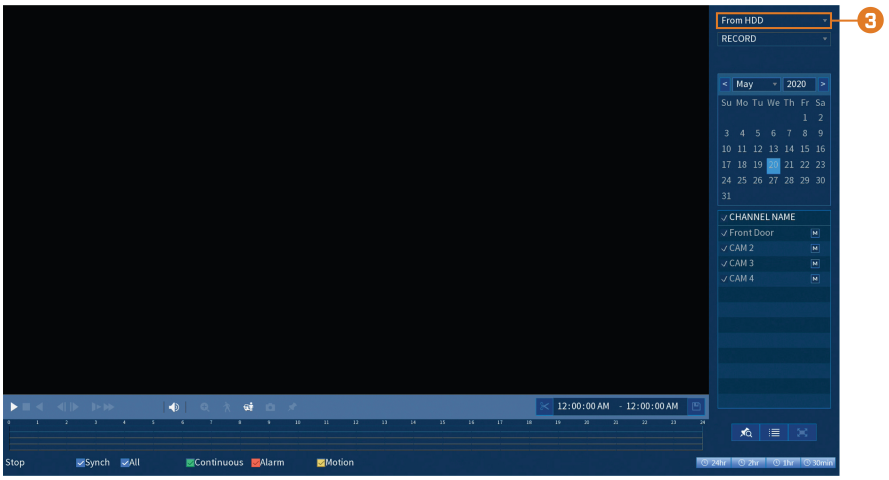
### 9.3 Playing Back Video from a USB Drive

If you have video files saved to a USB flash drive (not included), you can play them back using the system.

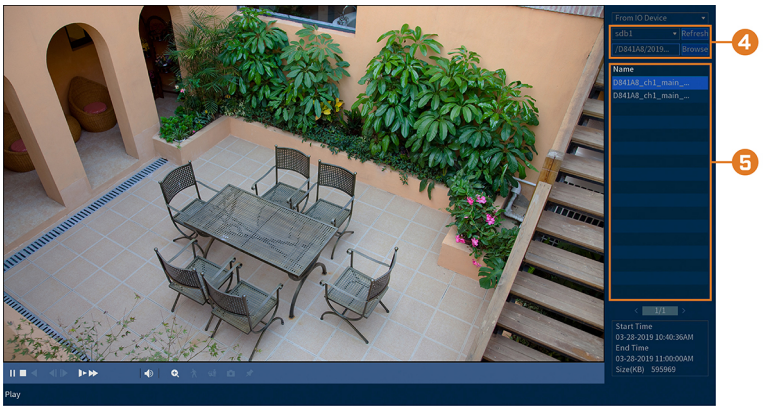
For full instructions on backing up video to a USB flash drive, see 10 *Backup*, page 27.

**To play back video from a USB flash drive:**

1. Connect the USB thumb drive (not included) with video files on it into a free USB port on the recorder.
2. From the Live View display, right-click to open the Quick Menu, then click **Playback**.




3. Click the dropdown and select **From IO Device**.




4. Click **Browse** to locate the video file on your USB flash drive.
5. Double-click the video file you want to open from the file list to start playback.

## 9.4 Smart Search

Play back all recordings from a single channel with motion in a specific area of the camera image.

**To perform a Smart Search:**

1. From the Live View display, right-click to open the Quick Menu, then click **Playback**.



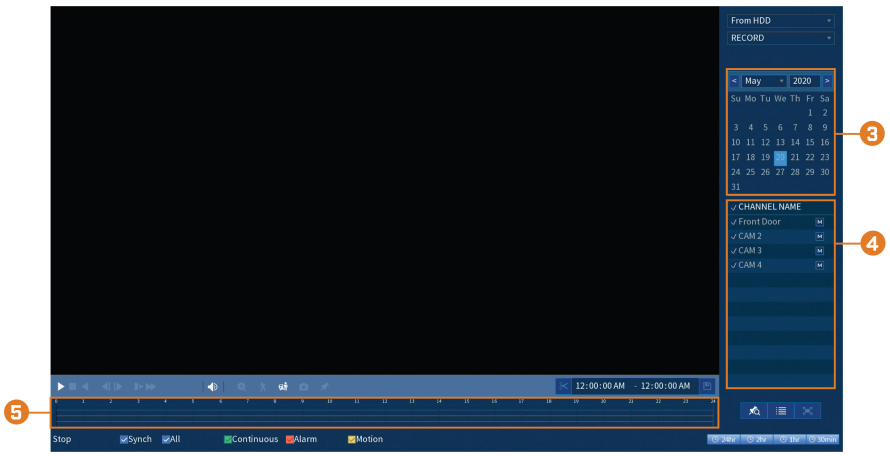

2. Use the calendar on the right to select the day to playback.
3. Check a single channel you want to play back. Click the icon to the right of the channel name to choose the video quality ( M for Main Stream, S for Sub Stream).
4. Click inside the video bar to select the playback time. The system will begin playing back video from the selected time.
5. Click to configure an area for Smart Search.
6. The camera image appears with a grid overlay. Click or click-and-drag to add / remove squares from the grid. Solid blue areas mark the area of the image that will be searched for motion events.
7. Click to begin Smart Search.

## 9.5 Video Clip Backup

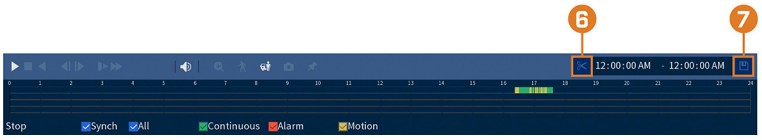
Video clip backup allows you to select a duration of video during playback mode and save it to a USB device (not included).

**To use video clip backup:**

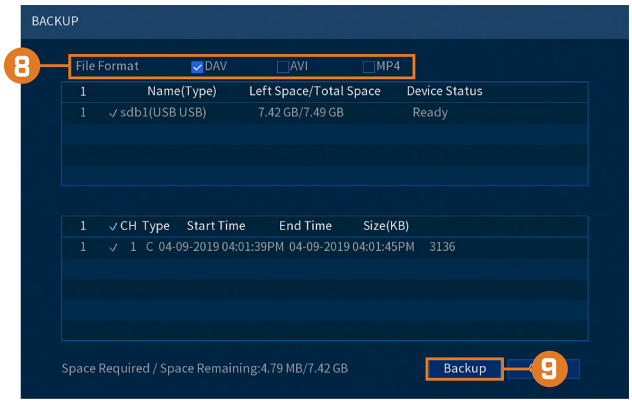
1. Connect the USB thumb drive (not included) to a free USB port on the recorder.
2. From the Live View display, right-click to open the Quick Menu, then click **Playback**.



3. Use the calendar on the right to select the day to playback.
4. Check the channels you want to play back. Click the icons to the right of each channel name to choose the video quality ( M for Main Stream, S for Sub Stream).
5. Click inside the video bar to select the playback time. The system will begin playing back video from the selected time.




6. Click  to mark the beginning of the video clip, then click again to mark the end of the video clip.
7. Click  to open the backup menu.




8. Select a filetype for your backup file.
9. Click **Backup**.

# 10 Backup

Backup video files to external USB flash drive (not included).

## 10.1 Formatting the USB Flash Drive

It is recommended to format your USB thumb drive (not included) before using it with the system.

| ⚠ CAUTION |
| --- |
| Formatting the USB device will permanently erase all data. **This step cannot be undone.** |

**Prerequisite:**

- Connect a USB flash drive (not included) to a free USB port on the unit.

**To format a USB flash drive:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **BACKUP**.




3. Click **Format** next to the **Device Name**.
4. Select a format mode:
   - **FAT32:** Recommended — offers the greatest compatibility with other devices.
   - **NTFS:** Advanced users only — should only be used on drives larger than 32GB where file sizes will be larger than 4GB.
5. Click **OK**.

## 10.2 Backing Up Video

You can save video recordings from your system to a USB flash drive. Ensure you format new drives before backing up video (see 10.1 *Formatting the USB Flash Drive*, page 27 for details).

**To back up video:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.

2. Click **BACKUP**.




3. Configure the following:

   - **Device Name:** Select the USB device you would like to back up files to.
   - **Path:** Click **Browse** to locate a folder path on the USB drive to save your files to.
   - **Record CH:** Select the channel you would like to search or select **All** to search all channels.
   - **Type:** Select the recording type you would like to search for or select **All** to search all recording types.
   - **Start Time / End Time:** Select the start and end time for your search.
   - **File Format:** Select **DAV** to save files to save files to **.dav** format. You can playback **.dav** files using the Lorex video player software.

4. Click **Add**. A list of files that match your search criteria appears.
5. Check files you would like to backup.
6. Click **Backup**

> **NOTE**
>
> HD video files saved on the system may take up a large amount of disk space. The size of video files selected and the amount of free space on your USB device is shown on screen.

## 10.3 Using Video Clip Backup

Video clip backup allows you to select a duration of video during playback mode and save it to a USB device (not included). For full instructions on video clip backup, see 9.5 *Video Clip Backup*, page 25.

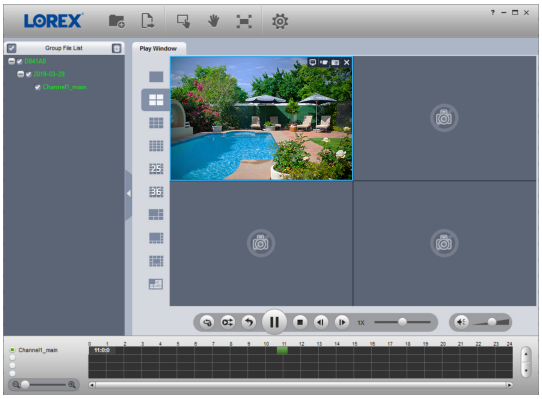
## 10.4 Viewing Backed Up Files

Use the free Lorex Player to play back **.dav** files.

### *10.4.1 Viewing Backed Up Files on PC*

1. Download and install the **Lorex Player for PC** from the recorder's product page at lorex.com

2. Double-click one of the files on the left to begin playback.



**OR**

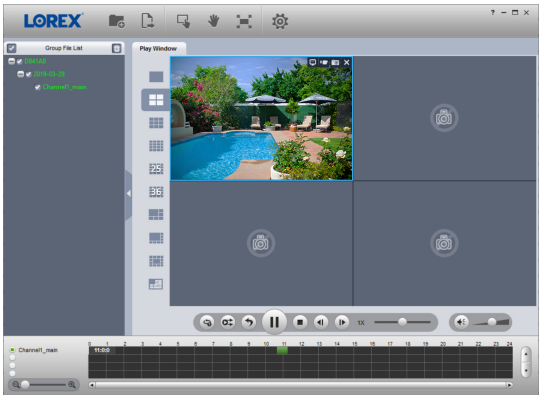
Click to open a back up video file in another location

3. Use the **Lorex Player** controls to control playback or select other files for playback.

> **NOTE**
>
> For a full overview of Lorex Player controls, see 10.4.3 *Lorex Player Controls*, page 30.

### *10.4.2 Viewing Backed Up Files on Mac*

1. Download and install the **Lorex Player for Mac** from the recorder's product page at lorex.com
2. Double-click the downloaded file in Safari to extract the **Lorex Player** app file.
3. Drag the **Lorex Player** app to your Desktop or Applications list. Double-click **Lorex Player** to open the application.
4. Double-click one of the files on the left to begin playback.



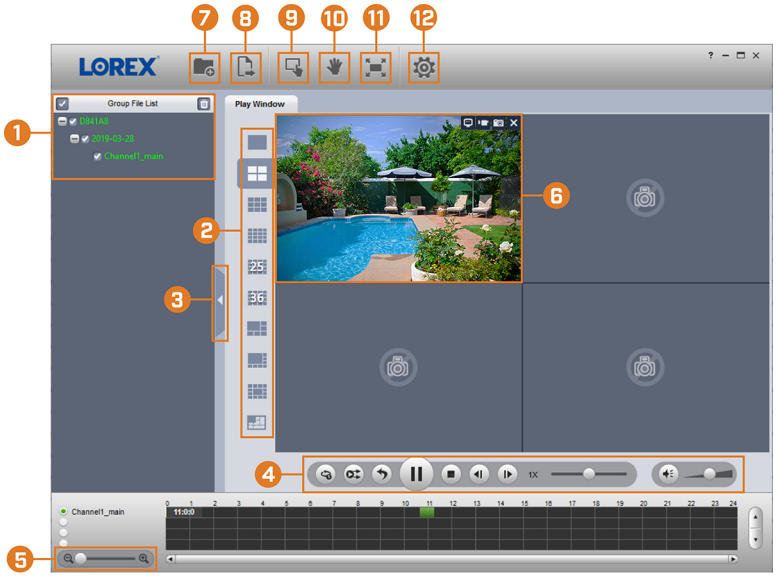
**OR**

Click to open a back up video file in another location

5. Use the **Lorex Player** controls to control playback or select other files for playback.

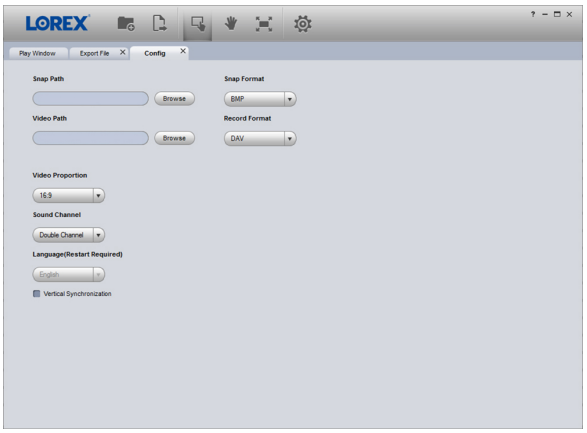
> **NOTE**
>
> For a full overview of Lorex Player controls, see 10.4.3 *Lorex Player Controls*, page 30.

### *10.4.3 Lorex Player Controls*




1. **File List:** Double-click to open a file.
2. **Viewing Mode:** Select between single-channel viewing and various split-screen options.
3. **Hide/Show File List**
4. **Playback Controls:**
   - : Playback files in sequence.
   - : Synchronize playback times.
   - : Play/pause playback.
   - : Stop playback.
   - : Previous frame.
   - : Next frame.
   - : Playback speed.
   - : Volume control.
5. **Zoom Timeline**
6. **Display Area:** Double-click a video file to expand. Click the controls inside the display area to do the following:
   - : View information about the video file.
   - : Start/stop a manual recording from the video file.
   - : Take a snapshot from the video file.
   - : Close the video file.
7. **Add Files:** Click to open backed up video files.
8. **Export Files:** Export a video file to a different format.

9. **Digital Zoom:** Click, then click-and-drag over a camera image to zoom in. Right-click to return to the full image.
10. **Drag:** Click, then click-and-drag to move around a camera image that has been digitally zoomed in.
11. **Fullscreen:** Click to open the player in full screen. Press **ESC** to exit full screen.
12. **Settings:** Click to open the configuration menu for the player. From here you can control the default file formats and save locations for snapshots and control the aspect ratio.



# 11 Motion Detection

In addition to general motion detection, the system supports smart Person/Vehicle detection. Both types of detection can be configured using the menu shown below.

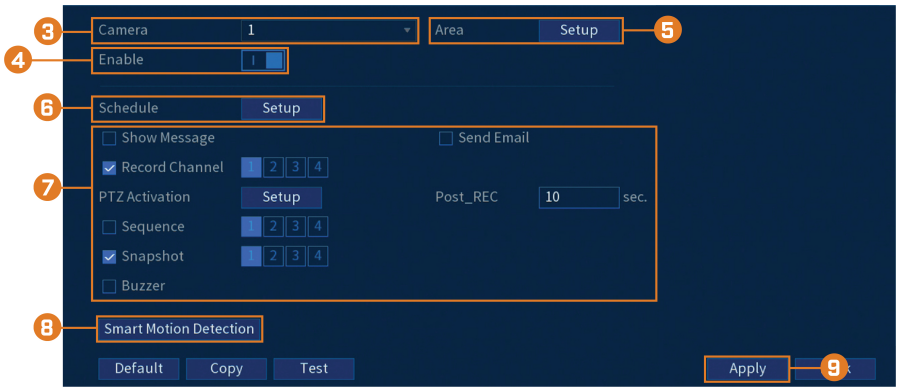
## 11.1 Configuring Motion Detection

Set preferences for motion detection on each channel, and select channels you want to enable smart Person/Vehicle detection on.

> **CAUTION**
>
> A maximum of 1channel will support Person/Vehicle detection at once. By default, channel 1 has Person/Vehicle detection enabled.

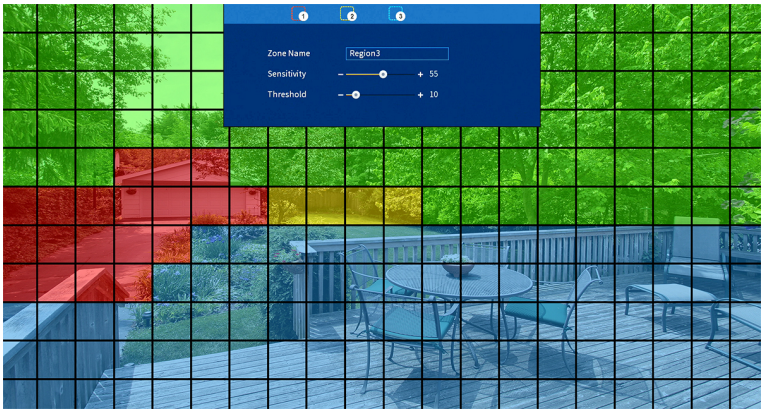
**To configure motion detection:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **ALARM**. Click the **MOTION** tab on the side panel, then **Motion Detect** on the top panel.




3. Select a channel to configure motion detection for.
4. Click to enable ( ) / disable ( ) motion detection on the selected channel.

5. Click **Setup** next to **Area** to configure which areas of the image will be enabled for motion detection. A grid will appear on the monitor:



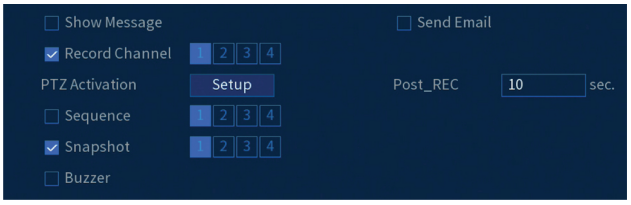

   - The camera image appears with a red grid overlay. This means the entire image is enabled for motion detection.
   - Click or click-and-drag to add / remove boxes from the active area. Cells that have been removed from the active area appear green.
   - Hover near the top of the image to reveal zone selection. You can set up to 3 different zones with different sensitivity and threshold values.
   - Right-click when finished.

6. Click **Setup** next to **Schedule** to choose which days and times of the week to enable motion detection:




   - Click or click-and-drag along the each of the yellow timelines to quickly add or remove time from each day's schedule in 15–minute segments.
   - Click beside 2 or more days to link schedules ( ). This allows you to quickly change multiple schedules at once.
   - To make fine adjustments to a schedule, click **Modify**. This will allow you to set exact start and end times for a schedule.

7. Choose how the system will react when motion is detected:




- **Show Message:** Check to enable an on-screen pop-up when one of your cameras detects motion. On-screen pop-up shows the channels an event occurred on and the type of event.
- **Send Email:** Check to enable email alerts. You must configure email alerts before you will be able to receive them (see 14.6.3 *Configuring Email Alerts*, page 56).
- **Record Channel:** Select the channels that will record when motion is detected on the selected channel. Set the length of recording following a video loss event in the **Post_REC** field.
- **PTZ Activation:** Set connected PTZ cameras to start a tour, pattern, or go to a preset location.
- **Sequence:** Sequence mode will begin. Select the numbered tiles next to this option to include the corresponding channels in the sequence.
- **Snapshot:** Select the numbered tiles next to this option to save a snapshot of the corresponding channels.
- **Buzzer:** Check to enable the system buzzer.

8. Click **Smart Motion Detection** to enable Person/Vehicle detection:

**NOTE**

See 5.2 *Ensuring Accurate Person/Vehicle Detection*, page 10 for important camera installation notes related to channels with Person/Vehicle detection enabled.

- Click **Enable** to activate Person/Vehicle detection on the selected channel.

> **CAUTION**
>
> A maximum of 2 channels will support Person/Vehicle detection at once. By default, channels 1 and 2 have Person/Vehicle detection enabled.

- Select a **Sensitivity** level (a high sensitivity value will detect smaller objects than a low value).
- Check **Person/Vehicle**.
- Click **OK** when finished.

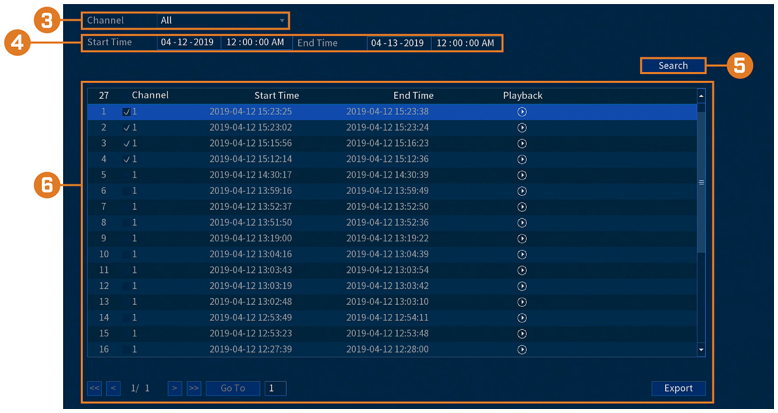
9. Click **Apply**.
10. **(OPTIONAL)** Click **Copy** to apply the settings for the current channel to one or more other channels (see 14.11 *Copying Settings to Another Channel*, page 71 for full instructions on using the copy function).

### 11.2 Search for Person/Vehicle Detection Events

Search for Person/Vehicle detection on a specific channel or the entire system. You can also choose to back up events (USB flash drive required - not included).

**To search for Person/Vehicle detection events:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **ALARM**. Click the **SMART SEARCH** tab on the side panel, then **SMD** on the top panel.




3. Select the channel to search for events from, or select **All**.
4. Choose a start and end time for your search.
5. Click **Search**. Events that match your search criteria appear below.
6. Click  in the **Playback** column to view the event. If you want to back up events, check the events you want to back up, then click **Export**.

# 12 Active Deterrence

Lorex Active Deterrence cameras feature bright, customizable warning lights and remote-triggered sirens. The recorder allows you to customize automatic light-triggering when motion is detected to deter intruders (see 12.1 *Automatic Deterrence Settings*, page 38). You can also trigger the lights and sirens manually using the recorder or Lorex connectivity software (see 12.2 *Manually Activate Deterrence Features*, page 39).

For a complete list of compatible deterrence cameras, navigate to your recorder series at lorex.com/compatibility.




## 12.1 Automatic Deterrence Settings

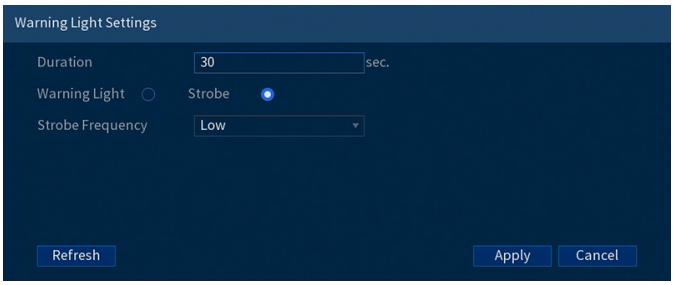
Set preferences for automatic warning light triggering on compatible Lorex deterrence cameras.

**To configure deterrence settings:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **ALARM**. Click the **MOTION** tab on the side panel, then **Deterrence** on the top panel.

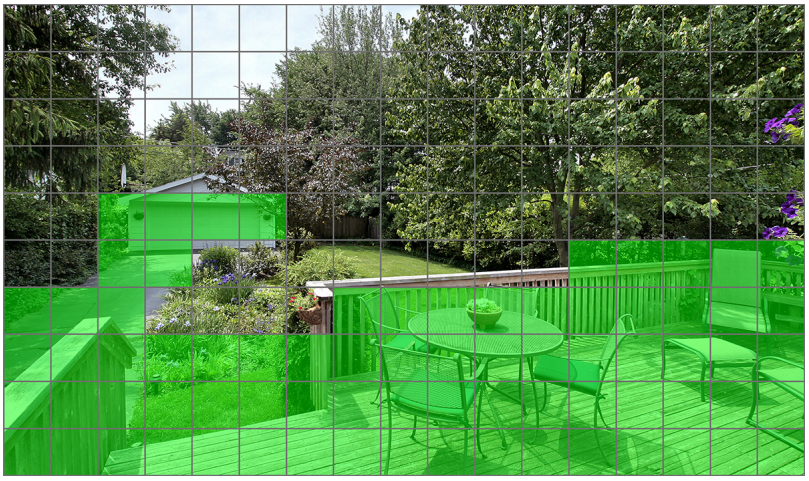



3. Select the channel of a connected deterrence camera.
4. Check **Enable**.
5. Click **Setup** next to **Warning Light** to configure preferences:



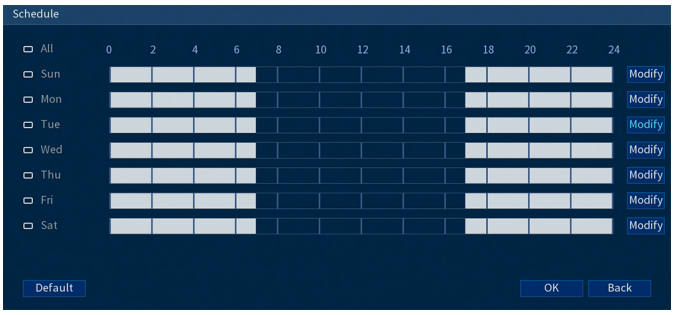

- **Duration:** Choose how long the warning light will stay on when motion is detected.
- Select **Warning Light** for a solid white light, or **Strobe** for a flashing light. If you select **Strobe**, set how quickly the light will flash under **Strobe Frequency**.

6. Click **Setup** next to **Area** to set an active area for automatic deterrence.



- The camera image appears with a grid overlay. The green area is the active area for deterrence.
- Click or click-and-drag to add / remove boxes from the active area.
- In the example image above, only motion around the garage or on the porch will trigger the warning light.
- Right-click when finished.

7. Click **Setup** next to **Schedule** to set the weekly schedule for automatic deterrence.




- The default schedule is active during the night, between 5pm and 7am.
- Click **Modify** to change the schedule for the corresponding day of the week.
- Click **OK** when finished.

### 12.2 Manually Activate Deterrence Features

The system has multiple options for activating deterrence features.

**To activate deterrence features on a single camera:**

- Hover the mouse pointer near the top of the camera image in Live View to reveal the Camera Toolbar. Click  to activate the warning light, or  to activate the siren.



- Activate deterrence features using the Lorex Home app. For details, see , page .

**To activate deterrence features on all connected cameras:**

- From the Live View display, click  on the Navigation Bar.



# 13 Managing Passwords and User Accounts

Passwords are enabled by default and are required to access the Main Menu or connect to the system using a computer or mobile device. You will be prompted to create a custom password after you connect for the first time.

**NOTE**

If you forget the password to the system, contact technical support to have it reset.

## 13.1 User Accounts

**The system includes the following default accounts:**

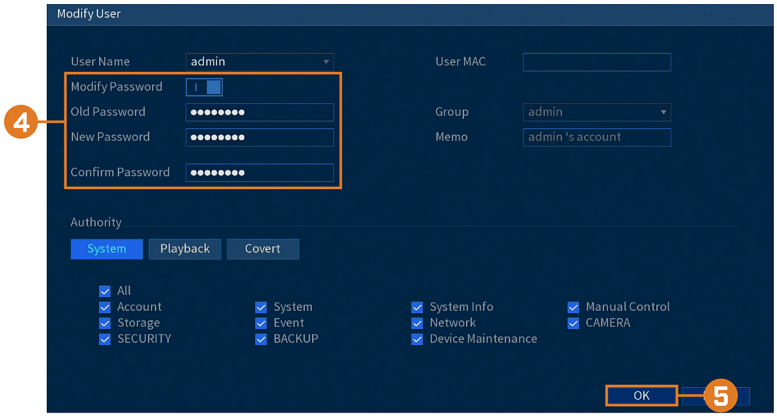
- **admin:** The administrator account has full access to the system, may configure all system settings, and can manage user accounts.
- **user:** User accounts are secondary accounts which can be assigned limited access to system settings and camera feeds.

### *13.1.1 Changing Passwords*

You can change the system password of the administrator and user accounts.

**To change an account password:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **ACCOUNT**, then click the **USER** tab.
3. Click  next to the account you want to change the password for.




4. Configure the following:
   - **Modify Password:** Click to enable (  ) password modification.
   - **Old Password:** Enter the current password.
   - **New Password:** Enter the new password you want to use for the system.

     **NOTE**

     Passwords for the system must be a minimum of 8 characters, and must include at least 2 of the following character types: lowercase, uppercase, numeric, and special characters.

   - **Confirm Password:** Re-enter the new password.
5. Click **OK**.

### *13.1.2 Adding Users*

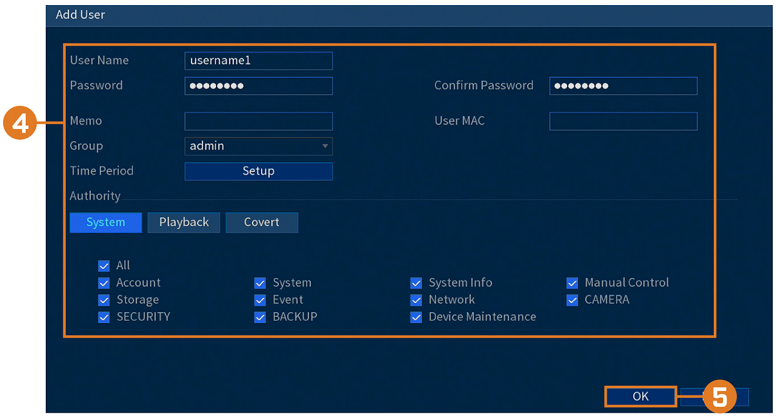
You can allow multiple users to log in to the system. When adding different users, you can assign what menus they have access to. For example, you may want your friend to monitor your system while you are away, while not giving full access to your system.

**To add a user:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **ACCOUNT**, then click the **USER** tab.




3. Click **Add User**.




4. Configure the following:

- **User Name:** Enter a name for the user account.
- **Password:** Enter a password for the user account. Enter the password again under **Confirm Password**.
- **Memo:** (Optional) Enter a description of the user account.
- **Group:** Select the group you would like to assign to this user account. A user account cannot be given permissions its group does not have.
- **Multiuser:** Check to enable this user account to be used to login from more than one device at the same time.
- **Authority:** Check the permissions you would like the user account to have. Under the **System** tab, select the menus the user account may access. Under the **Playback** tab, select which channels the user account may access recorded video from. Under the **Covert** tab, select the channels the user account may view live video from.
- **User MAC:** Not supported — leave blank.

5. Click **OK**.

> **NOTE**
>
> Now, you can log in to the system locally, or remotely using the user name and password you created. When logging into the system with a user account, the user will only have access to the menus you assigned.

### *13.1.3 Modifying Users*

Modify account details, such as account username or permissions.

**To modify a user:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **ACCOUNT**, then click the **USER** tab.
3. Click  next to the account you want to modify.
4. Update account details as needed, then click **OK**.

### *13.1.4 Deleting Users*

Remove a user from the system.

**To remove a user:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **ACCOUNT**, then click the **USER** tab.
3. Click  next to the account you want to delete.
4. Click **OK**.

## 13.2 Account Groups

Account groups can be used to easily manage permissions for multiple user accounts. User accounts can be given all the permissions of a group, but cannot be given permissions that the group does not have.

**The system includes the following groups by default:**

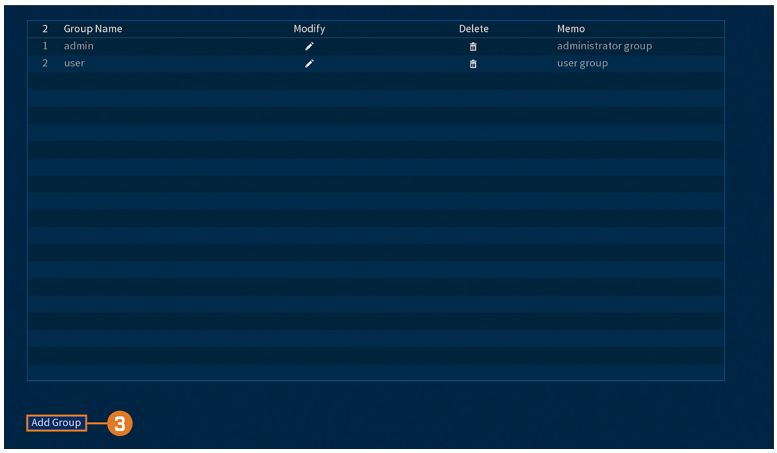
- **admin**: Accounts in the admin group are system administrators. They have full access to the system, may configure all system settings, and can manage user accounts.
- **user**: Accounts in the user group are normal users. They have limited access to system menus.

### *13.2.1 Adding Groups*

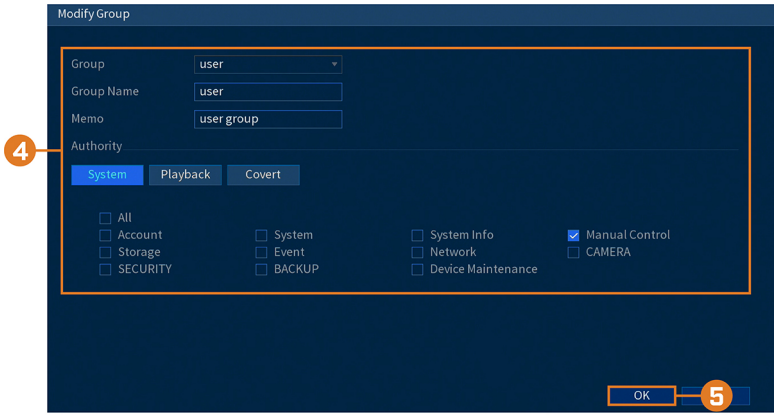
Add a new group with unique system permissions.

**To add a group:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **ACCOUNT**, then click the **GROUP** tab.



3. Click **Add Group**.




4. Configure the following:
   - **Group Name:** Enter a name for the group.
   - **Memo:** (Optional) Enter a description of the group.
   - **Authority:** Check the permissions you would like the user account to have. Under the **System** tab, select the menus the user account may access. Under the **Playback** tab, select which channels the user account may access recorded video from. Under the **Covert** tab, select the channels the user account may view live video from.
5. Click **OK**.

### *13.2.2 Modifying Groups*

Change an existing group's name or permissions.

**To modify a group:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **ACCOUNT**, then click the **GROUP** tab.
3. Click  next to the group you want to modify.
4. Update group details as needed, then click **OK**.

### *13.2.3 Deleting Groups*

Remove a group.

**To delete a group:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **ACCOUNT**, then click the **GROUP** tab.
3. Click  next to the group you want to delete.
4. Click **OK**.

# 14 Using the Main Menu

**To access the main menu:**

- From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
  **OR**
- Click  on the Navigation Bar, then click **Main Menu**.




## 14.1 Playback

See chapter 9 *Playback*, page 21 for details.

## 14.2 Alarm

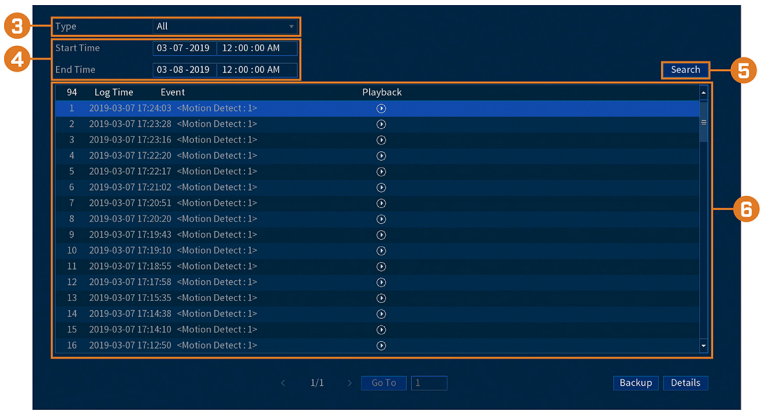
Set preferences for alarm events such as video loss, motion detection, Person/Vehicle detection, and system warnings. The Alarm menu is also used to set preferences for deterrence cameras.

### *14.2.1 Searching Alarm Event Logs*

Search all channels for alarm events, including motion detection and video loss.

**To search for alarm events:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **ALARM**, then click the **ALARM INFO** tab.




3. Select an event type to search for.
4. Enter a start and end time for your search.
5. Click **Search**.

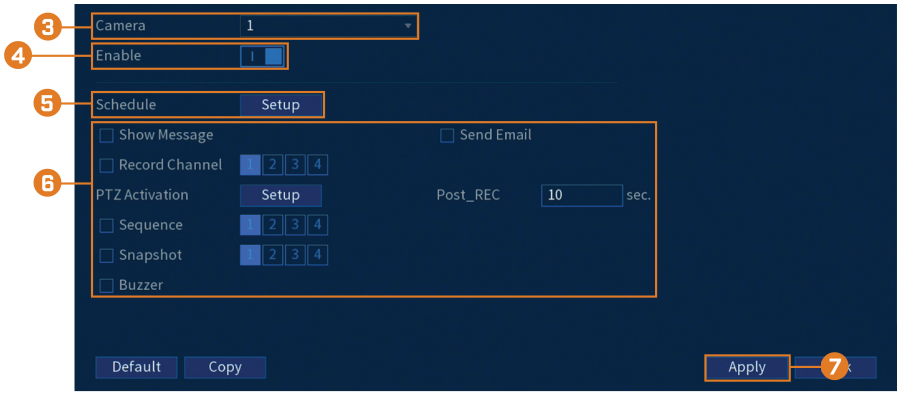
6. Alarm events that match your search criteria are displayed:
   - The **Event** column is formatted to show <**[Event Type]**: **[Channel Number]**>.
   - Click **Details** to see more information on the selected event.
   - Motion events have more options than other alarm events. You can view the event by clicking  in the **Playback** column, or back up the video clip to a USB flash drive (not included) by clicking **Backup**.

### *14.2.2 Video Loss*

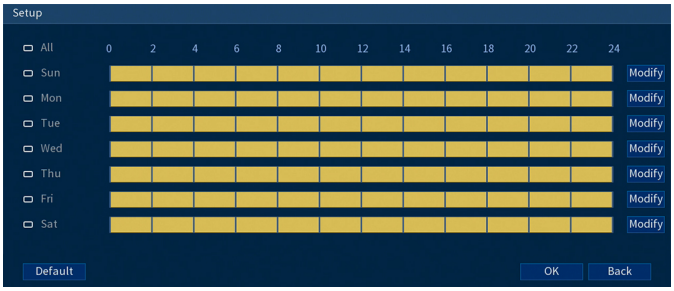
Configure video loss settings and how the system reacts to a video loss event. **Video loss** means that video from one or more cameras was interrupted or disabled. It could be caused by a number of factors, such as a loose or damaged connection, loss of power to a camera, or a blocked camera lens.

**To configure video loss settings:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **ALARM**. Click the **MOTION** tab on the side panel, then **Video Loss** on the top panel.




3. Select a channel to configure.
4. Click to enable (  ) / disable (  ) video loss events for the selected channel.
5. Click to set a weekly schedule for video loss events. By default, video loss events are enabled at all times.




   - Click or click-and-drag along the each of the yellow timelines to quickly add or remove time from each day's schedule in 15–minute segments.
   - Click  beside 2 or more days to link schedules (  ). This allows you to quickly change multiple schedules at once.
   - To make fine adjustments to a schedule, click **Modify**. This will allow you to set exact start and end times for a schedule.

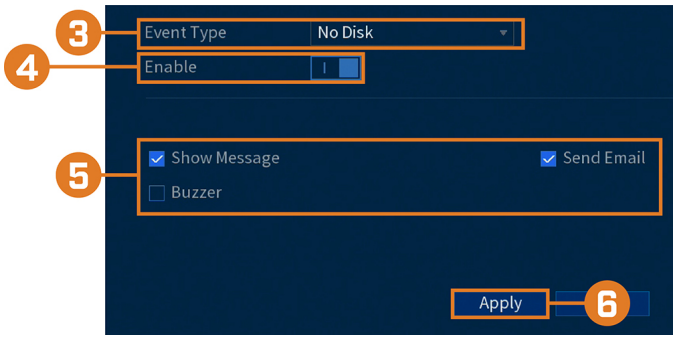
6. Choose how the system will react when video loss occurs:
   - **Show Message:** Video loss error message will appear on the recorder's display.
   - **Record Channel:** Select the numbered tiles next to this option to record video from the corresponding channels. Set the length of recording following a video loss event in the **Post_REC** field.
   - **PTZ Activation:** Set connected PTZ cameras to start a tour, pattern, or go to a preset location.
   - **Sequence:** Sequence mode will begin. Select the numbered tiles next to this option to include the corresponding channels in the sequence.
   - **Snapshot:** Select the numbered tiles next to this option to save a snapshot of the corresponding channels.
   - **Buzzer:** The recorder will sound an audible alarm.
   - **Send Email:** Send an email notification with details on the event (requires email configuration — see 14.6.3 *Configuring Email Alerts*, page 56 for details).
7. Click **Apply**.
8. **(OPTIONAL)** Click **Copy** to apply the settings for the current channel to one or more other channels (see 14.11 *Copying Settings to Another Channel*, page 71 for full instructions on using the copy function).

### *14.2.3 System Warnings*

The system is set to provide warnings for various events and issues. The warning menu is broken into 2 event types: hard drive events and network events.

**To set preferences for hard drive events:**

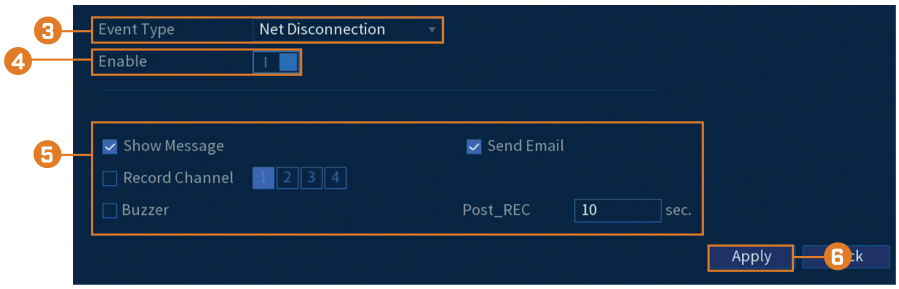
1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **ALARM**. Click the **WARNING** tab on the side panel, then **HardDisk** on the top panel.




3. Choose the event type you want to set preferences for:
   - **No Disk:** No hard drive detected.
   - **Disk Error:** A hard drive error has been detected.
   - **Disk Full:** The hard drive is full or almost full. Enter the percentage of disk space remaining that will trigger a warning next to **Less Than**. Disk Full warnings will not occur if hard drive overwrite is enabled.
   - **All:** Configure warnings for all hard drive events.
4. Click to enable ( ) / disable ( ) the selected event type.
5. Choose how the system will react when the selected event occurs:
   - **Show Message:** Error message will appear on the recorder's display.
   - **Buzzer:** The recorder will sound an audible alarm.
   - **Send Email:** Send an email notification with details on the event (requires email configuration — see 14.6.3 *Configuring Email Alerts*, page 56 for details).
6. Click **Apply**.

**To set preferences for network events:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **ALARM**. Click the **WARNING** tab on the side panel, then **Network** on the top panel.




3. Choose the event type you want to set preferences for:
   - **Net Disconnection:** The system has lost connection to the network.
   - **IP Conflict:** More than one device on your network has the same IP address.
   - **MAC Conflict:** More than one device on your network has the same MAC address.
   - **All:** Configure warnings for all network events.
4. Click to enable ( ) / disable ( ) the selected event type.
5. Choose how the system will react when the selected event occurs:
   - **Show Message:** Error message will appear on the recorder's display.
   - **Record Channel:** For **Net Disconnection** events only. Select the numbered tiles next to this option to record video from the corresponding channels. Set the length of recording following a network disconnection event in the **Post_REC** field.
   - **Buzzer:** The recorder will sound an audible alarm.
   - **Send Email:** Send an email notification with details on the event (requires email configuration — see 14.6.3 *Configuring Email Alerts*, page 56 for details).
6. Click **Apply**.

## 14.3 Backup

See chapter 10 *Backup*, page 27 for details.

## 14.4 Display

Set the system's monitor resolution, configure Sequence mode, and other display settings.

### *14.4.1 Setting the Recorder's Output Resolution*

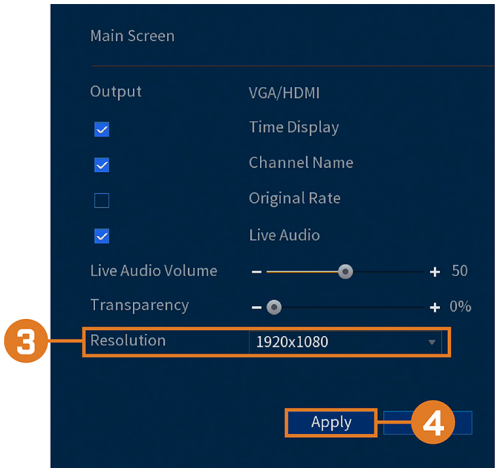
The first time you power up the system and complete the Lorex Setup Wizard, the system will automatically match the resolution of the connected monitor. You can set the recorder to a different output resolution at any time.

| ⚠ CAUTION |
| --- |
| If you need to switch the monitor used with the system, make sure you set the recorder to an output resolution supported by the new monitor before switching. |

**To change the output resolution:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.

2. Click **DISPLAY**, then click the **DISPLAY** tab.




3. Click **Apply**. The recorder will restart before changes take effect.

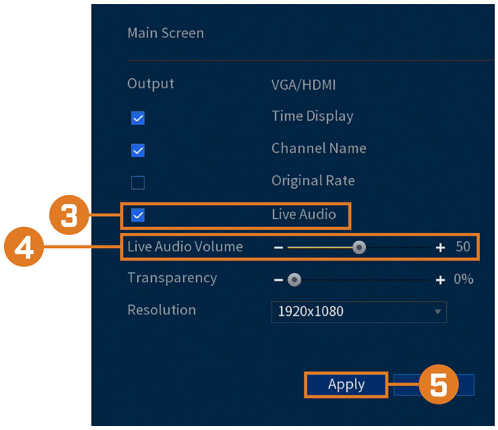
### *14.4.2 Listen–In Audio*

Enable and set volume for camera audio feeds in the Live View display.

> **NOTE**
>
> Audio will only be heard if you are viewing an audio-enabled camera in single-channel view. You will also need an HDMI monitor with built-in speakers, or an external speaker connected to the recorder's **Audio Out** port (see 17 *Connecting Audio Devices*, page 79 for details).

**To set preferences for listen-in audio:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **DISPLAY**, then click the **DISPLAY** tab.




3. Check **Live Audio**.
4. Set the desired volume for live audio.
5. Click **Apply**.

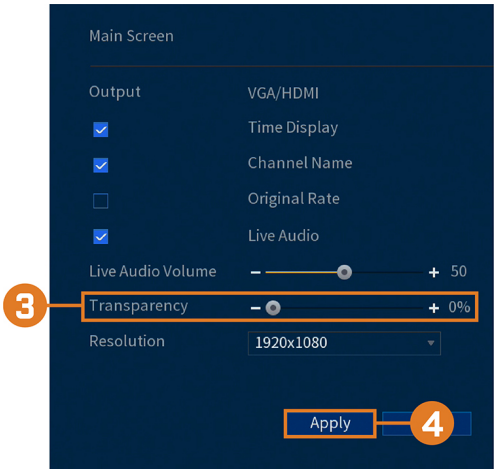
### *14.4.3 Menu Transparency*

Set the level of transparency for system menus.

**To set menu transparency:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.

2. Click **DISPLAY**, then click the **DISPLAY** tab.



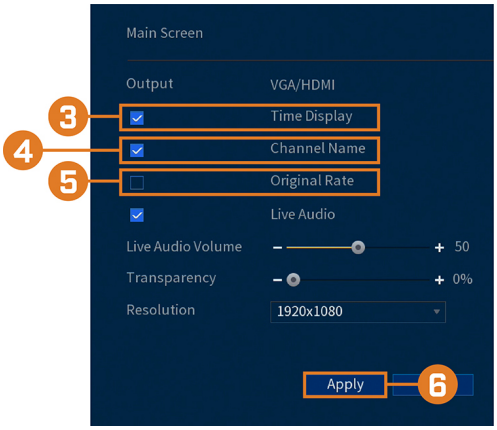

3. Set the desired transparency value. The transparency of the current menu will update instantly to show how other menus will be affected.
4. Click **Apply**.

### *14.4.4 General Display Settings*

Configure miscellaneous display settings.

**To configure general display settings:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **DISPLAY**, then click the **DISPLAY** tab.




3. Check to display system time during Live View.

> **NOTE**
>
> Disabling time display will not affect timestamps in recorded video.

4. Check to display channel names during Live View.
5. Check **Original Rate** to display camera images in their original proportions.
6. Click **Apply**.

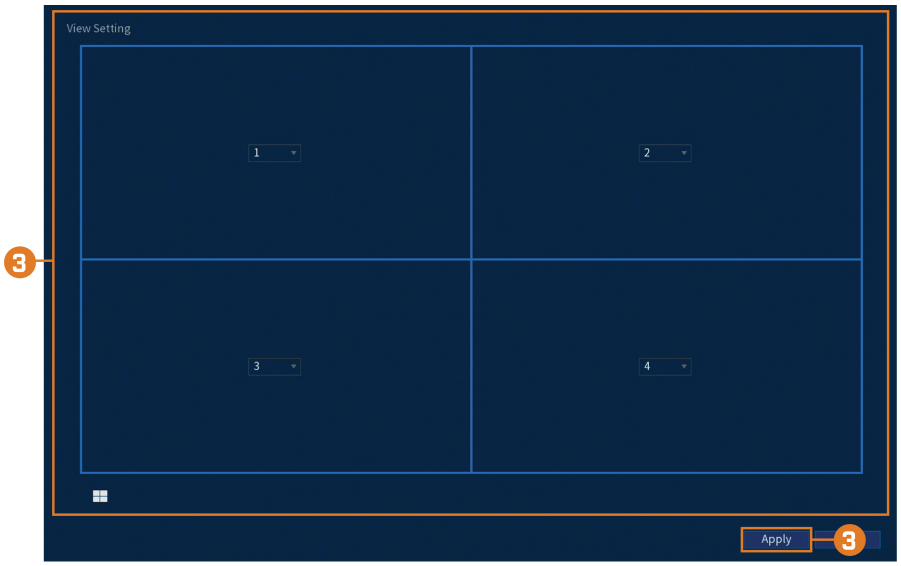
> **NOTE**
>
> You can also adjust where the time and channel name overlays are positioned on screen. See 14.5.3 *Changing On-Screen Overlay*, page 53 for details.

### *14.4.5 Customize Split-Screen Views*

For each of the split-screen viewing modes, you can customize the order that channels are displayed on screen.

**To customize viewing modes:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **DISPLAY**, then click the **VIEW** tab.




3. Select the viewing mode you would like to configure (  ). Use the numbered dropdown menus in each viewing window to choose the channel that will appear in each window.
4. Click **Apply**.

**NOTE**

You can also click-and-drag channels during Live View to change the display order.



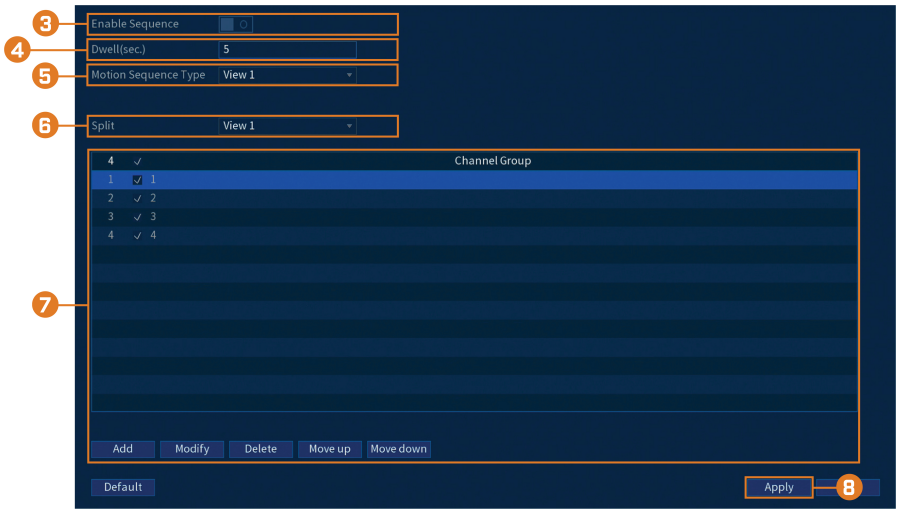

### *14.4.6 Configuring Sequence Mode*

**Sequence mode** cycles through connected channels to give you an overview of what is happening on all cameras. You can customize the order that channels appear in Sequence mode, as well as configure which viewing modes should be used.

**To configure Sequence mode:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.

2. Click **DISPLAY**, then click the **SEQUENCE** tab.




3. Click to enable ( ) / disable ( ) Sequence mode.

> **NOTE**
>
> - Enabling Sequence mode is not necessary for configuration.
> - You can also enable Sequence mode from Live View by clicking on the Navigation Bar, or by right-clicking to open the Quick Menu and clicking **Sequence**.

4. Enter the time in seconds to remain on each channel or split screen during Sequence mode.
5. Choose how many channels will appear on screen when Sequence mode is triggered by motion detection (must be configured separately — see 11 *Motion Detection*, page 32 for details).
6. Select a viewing mode to configure. It is recommended to start with **View 1** and make your way to **View 9**. By default, all viewing modes are included in the Sequence mode cycle.
7. Configure the order of channels shown on screen for each viewing mode. Uncheck channels / channel groups that you want to remove from the Sequence mode cycle.
8. Click **Apply**.

## 14.5 Camera

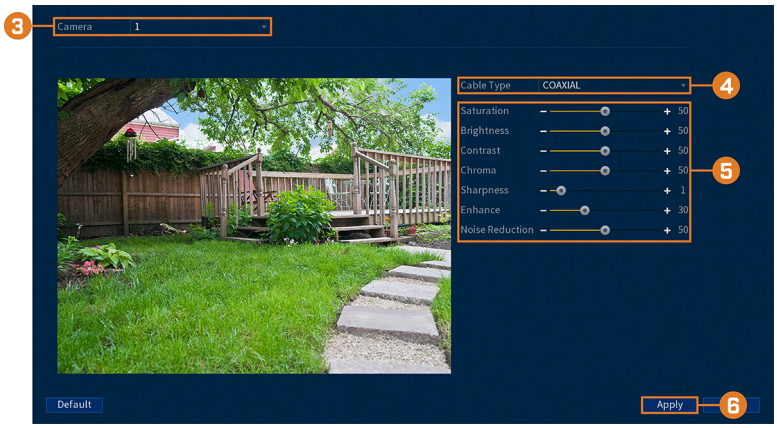
Configure image settings, recording parameters, channel overlay, and privacy masking.

### *14.5.1 Adjusting Camera Image Settings*

Adjust the color and image quality settings of your cameras.

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.

2. Click **CAMERA**, then click the **IMAGE SETTINGS** tab.




3. Select the channel you want to configure.
4. Select **COAXIAL** for cameras connected using BNC cabling, or **UTP** for balun installations.
5. Configure the color settings for the selected channel.
6. Click **Apply**.

### *14.5.2 Configuring Snapshot Recording*

The system can be set to record snapshot images when a camera detects motion. These snapshots can be viewed through the Playback menu or attached to email alerts and push notifications. The Snapshot tab in the Recording menu controls the quality and recording parameters for each camera.

**To configure snapshot recording:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **CAMERA**. Click the **RECORDING** tab on the side panel, then **Snapshot** on the top panel.




3. Under **Snap Number**, select the number of snapshots the system will take when the snapshot button is pressed.
4. Configure the following settings for snapshots saved automatically from motion detection or the snapshot schedule:

   - **Channel:** Select the channel you would like to configure.
   - **Mode:** Select **Timing** for the system to take snapshots according to the snapshot schedule (see 14.8.4 *Setting the Snapshot Schedule*, page 65). Select **Trigger** for the system to take snapshots only when triggered by motion detection (snapshot must be enabled in the Motion Detect menu, see 11 *Motion Detection*, page 32).
   - **Image Size:** Select the resolution for snapshots.
   - **Image Quality:** Select the snapshot image quality between **1** (lowest) and **6** (highest).
   - **Snapshot Frequency:** Select the number of snapshots (up to 6) the system will take each time.

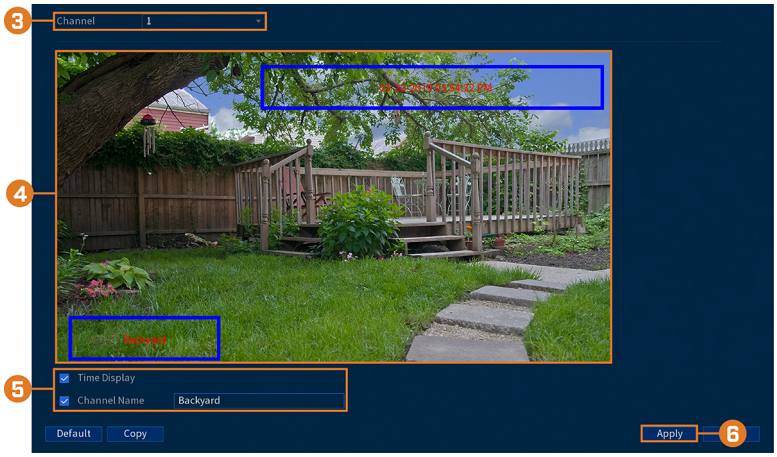
5. Click **Apply**.
6. **(OPTIONAL)** Click **Copy** to apply the settings for the current channel to one or more other channels (see 14.11 *Copying Settings to Another Channel*, page 71 for full instructions on using the copy function).

### *14.5.3 Changing On-Screen Overlay*

Remove or change the location of the date/timestamps and channel names. You can also change channel names from this menu.

**To change the on-screen overlay:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **CAMERA**. Click the **OVERLAY** tab on the side panel, then **Overlay** on the top panel.



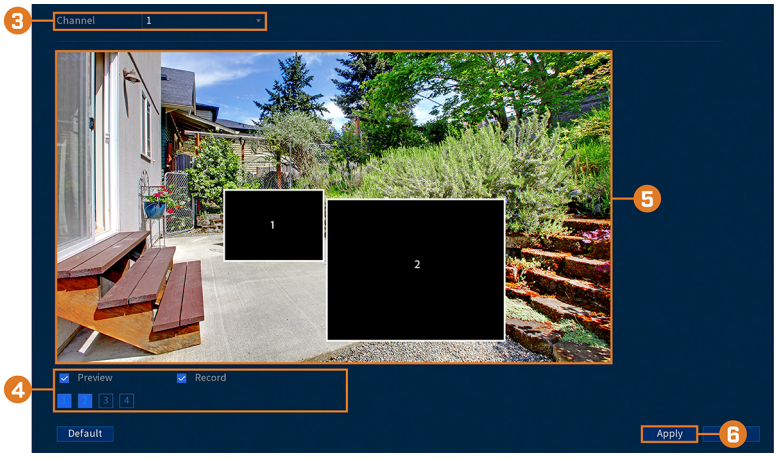

3. Select the channel you want to configure.
4. Click-and-drag the blue boxes on the camera image to adjust the location of the date/time and channel name.
5. Use the checkboxes to enable/disable overlays. If needed, use the text field next to **Channel Name** to adjust the channel name.
6. Click **Apply**.
7. **(OPTIONAL)** Click **Copy** to apply the settings for the current channel to one or more other channels (see 14.11 *Copying Settings to Another Channel*, page 71 for full instructions on using the copy function).

### *14.5.4 Configuring Privacy Masking*

A **privacy mask** blocks out a portion of the camera image with a black box, letting you have privacy in certain parts of a camera image. You can configure up to 4 privacy zones per channel.

**To configure privacy masking:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **CAMERA**. Click the **OVERLAY** tab on the side panel, then **Privacy Masking** on the top panel.



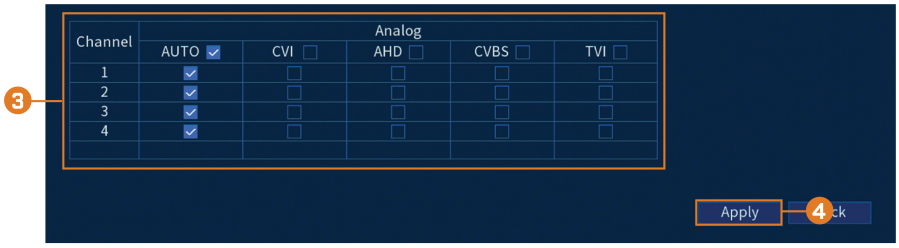
3. Select the channel you want to configure.
4. Configure the following settings:
   - **Preview:** Check to set and preview privacy masks.
   - **1–4:** Click the numbered boxes to create a corresponding privacy mask on the camera image.
   - **Record:** Check to include privacy masks in video recordings. Leave unchecked if you would like privacy masks only to show during Live View.
5. Active privacy masks are shown on the camera image. Click-and-drag to move a privacy mask, or click-and-drag the edge of a privacy mask to resize it.
6. Click **Apply**.

### *14.5.5 Connecting Multi-Format Cameras (Cable Type)*

The recorder works with multiple types of HD analog cameras. By default, the system is set to automatically detect the type of camera so it works instantly with the recorder. If you experience issues with image clarity or camera performance, you can set certain channels to a specific HD standard.

**To manually change the camera format:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **CAMERA**, then click the **CABLE TYPE** tab.




3. By default, all channels are set to **AUTO** to automatically detect the camera's format. Change the selection for each channel as needed.
4. Click **Apply**.

### *14.5.6 Camera Firmware Upgrade (CVI Upgrade)*

Manually upgrade camera firmware. This is typically only necessary if directed to do so by Lorex technical support.

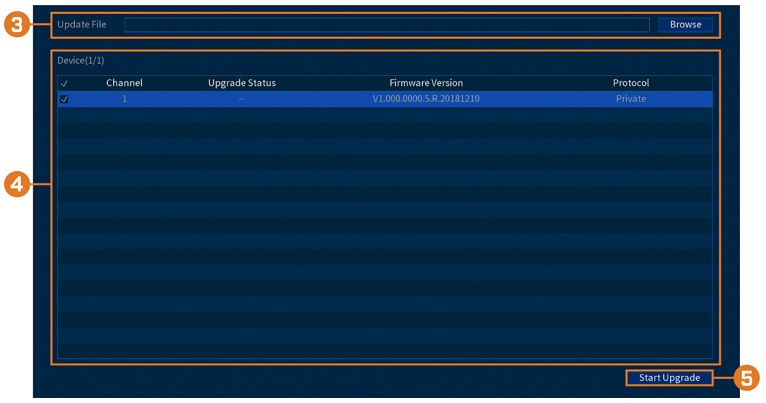
**Prerequisite:**

- Connect a USB flash drive (not inlcuded) to the recorder with the **.bin** camera firmware file (s) preloaded.

**To manually upgrade camera firmware:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.

2. Click **CAMERA**, then click the **CVI UPGRADE** tab.




3. Click **Browse** to search for the **.bin** firmware file on the USB flash drive.
4. Check cameras you would like to upgrade using the selected firmware file.
5. Click **Start Upgrade**.

## 14.6 Network

Configure network parameters for your system.

### *14.6.1 Selecting DHCP or Static IP Address (TCP/IP)*

The TCP/IP menu allows you to configure IP address settings.

**To configure basic networking settings:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **NETWORK**, then click the **TCP/IP** tab.




3. Configure the following settings:
   - **IP Version:** Select **IPv4** or **IPv6**.
   - **DHCP:** Click to enable ( ) / disable ( ) DHCP. It is recommended to enable DHCP to let the system automatically obtain an IP address from the router. If you are an advanced user, disable DHCP to assign a static IP address to the system. **To assign a static IP address, configure the following:**
     - **IP Address:** Enter the IP address you would like to assign to the system. Make sure that no other device on your network is using the same IP address.
     - **Subnet Mask:** Enter the subnet mask for your network.
     - **Default Gateway:** Enter the gateway address for your network.
     - **Preferred DNS:** Enter the address of your primary DNS server.
     - **Alternate DNS:** Enter the address of your secondary DNS server.
   - **MTU: (Advanced users only)** Enter the value for the network card.
4. Click **Apply**.

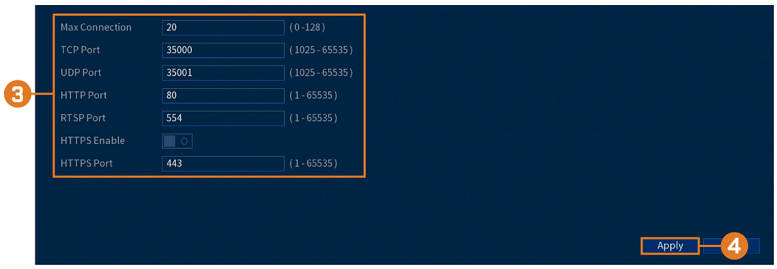
### *14.6.2 Configuring System Ports (Connection)*

Configure ports used by the system. If you are using DDNS connectivity, port forwarding is required for the **HTTP Port** (default: **80**) and **TCP Port** (Client Port) (default: **35000**).

> **NOTE**
>
> Port forwarding is not required unless you are using DDNS for remote access. Using mobile apps does not require port forwarding or DDNS setup.

**To configure system ports:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **NETWORK**, then click the **CONNECTION** tab.




3. Configure the port numbers as needed.
4. Click **Apply**.

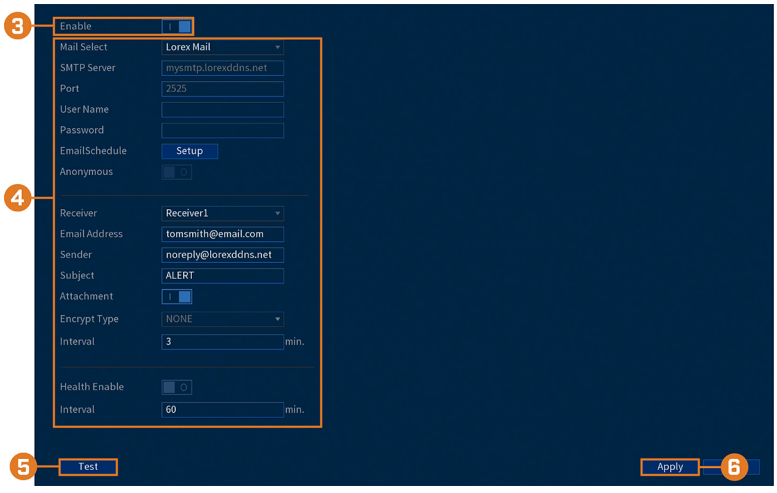
### *14.6.3 Configuring Email Alerts*

You can configure the system to send out email alerts for motion detection or other events.

> **NOTE**
>
> To send out motion detection alerts, you must enable the **Send Email** option for motion detection on each camera you would to receive alerts from. For details, see 11 *Motion Detection*, page 32.

**To configure email alerts:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **NETWORK**, then click the **EMAIL** tab.




3. Click to enable ( ) email alerts.

4. Configure the following:
   **If you want to use Lorex's email server (recommended):**

   - **Mail Select:** Select **Lorex Mail**.
   - **Receiver:** Select up to 3 email addresses that will receive alerts. Enter each email address into the field **Email Address** below.
   - **Subject:** Enter a subject line for email alerts.
   - **Attachment:** Enable (  ) to include a image attachment of the camera.

     **NOTE**

     You must enable the **Snapshot** option for motion detection on each camera you would to receive attachments. For details, see 11 *Motion Detection*, page 32.

   - **Interval:** Enter the interval in minutes between email alerts.
   - **Health Enable:** Check to enable health check emails. Health check emails will be sent periodically to ensure that the system is functioning normally.
   - **Interval:** Enter the interval in minutes for health check emails.

   **If you want to use your own email server (advanced):**

   - **Mail Select:** Select the mail server you want to use, or select **Customize** to use your own.
   - **SMTP Server:** Enter the SMTP server address.
   - **Port:** Enter the port used by the SMTP server.
   - **User Name:** Enter the SMTP user name.
   - **Password:** Enter the SMTP password.
   - **Email Schedule:** Click to setup a weekly schedule for email alerts.
   - **Receiver:** Select up to 3 email addresses that will receive alerts. Enter each email address into the field **Email Address** below.
   - **Sender:** Enter the sender's email address.
   - **Subject:** Enter a subject line for email alerts.
   - **Attachment:** Enable (  ) to include a image attachment of the camera.

     **NOTE**

     You must enable the **Snapshot** option for motion detection on each camera you would to receive attachments. For details, see 11 *Motion Detection*, page 32.

   - **Encrypt Type:** Select **SSL** or **TLS** if your server uses encryption. Select **None** if your server does not use encryption.
   - **Interval:** Enter the interval in minutes between email alerts.
   - **Health Enable:** Check to enable health check emails. Health check emails will be sent periodically to ensure that the system is functioning normally.
   - **Interval:** Enter the interval in minutes for health check emails.

5. Click **Test** to send a test email to ensure settings are configured properly.
6. Click **Apply**.

### *14.6.4 P2P Setting*

The P2P Setting menu is used only to enable / disable remote access to the system using a P2P connection.

**CAUTION**

P2P connection is the primary method used for remote access to your security system using the Lorex Home app. If you disable P2P connectivity, you will only be able to access your system over the Internet using DDNS. See 19 *DDNS Setup (Advanced)*, page 87 for details.

**To change P2P setting:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.

2. Click **NETWORK**, then click the **P2P SETTING** tab.




3. Click to enable ( ) / disable ( ) P2P connectivity.
4. Click **Apply**.

## 14.7 System

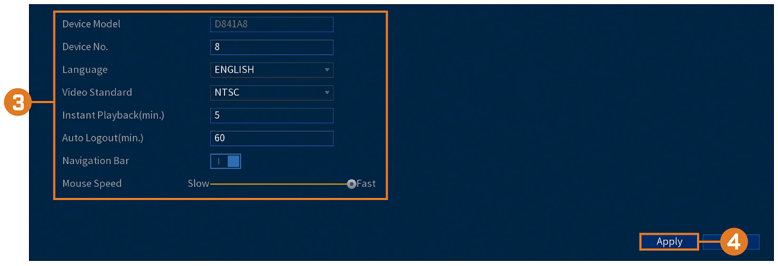
Configure general system settings, such as date & time, time zone, and DST. It also allows you to check for firmware updates over the Internet and restore the system to default settings.

### *14.7.1 Configuring General System Settings*

Configure miscellaneous system settings.

**To configure general system settings:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **SYSTEM**. Click the **GENERAL** tab on the side panel, then **General** on the top panel.




3. Configure the following:
   - **Device Type:** Shows the model number of your system.
   - **Device No.:** Select the remote control address of the system.
   - **Language:** Set the system languages. Available options are English, French, and Spanish.
   - **Video Standard:** Select **NTSC** (North America) or **PAL** (Europe).
   - **Instant Playback:** Select the amount of time (in minutes) the system will go back when instant playback is activated in live view.
   - **Auto Logout:** Select the idle time (in minutes) before the system will logout the current user.
   - **Navigation Bar:** Check to enable the Navigation Bar that comes up when you left click in live view.
   - **Mouse Speed:** Use the slider to adjust the mouse speed.
4. Click **Apply**.

### *14.7.2 Setting Date & Time*

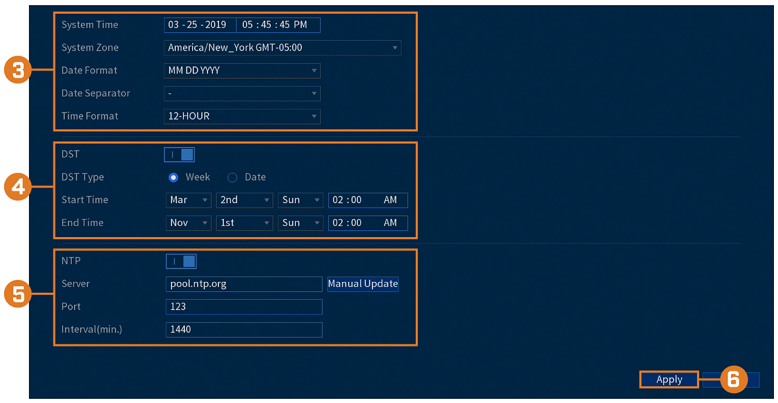
As part of the initial setup, you will set the system date & time. This menu allows you to adjust the date & time, and configure settings for Daylight Savings Time (DST) and Network Protocol Time (NTP).

**CAUTION**

It is important to always ensure your system date and time are accurate. **Inaccurate time stamps may render your footage unusable for court evidence.**

**To set system date and time:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **SYSTEM**, then click the **DEFAULT** tab.




3. Configure system time:
   - **System Time:** Set the current date and time.
   - **System Zone:** Select your time zone.
   - **Date Format:** Choose how the date and time appear.
   - **Date Separator:** Choose the symbol that separates date from time.
   - **Time Format:** Choose from 12–hour or 24–hour time.
4. Configure Daylight Savings Time (DST) settings:
   - **DST:** Click to enable ( ) / disable ( ) Daylight Savings Time.
   - **DST Type:** Select **Week** to set the start and end time based on a day and week (e.g., 2nd Sunday of March), or select **Date** to set the start and end time to a specific date.
   - **Start Time / End Time:** Set start and end times for DST. Format will change depending on your selection for **DST Type**.
5. Configure Network Time Protocol (NTP) settings:

   **NOTE**

   Your system must have a constant connection to the Internet to use NTP.

   - **NTP:** Click to enable ( ) / disable ( ) Network Protocol Time.
   - **Server:** (Advanced users only) Enter a custom NTP server.
   - **Port:** (Advanced users only) Enter a custom NTP port.
   - **Interval:** Select how often the system will sync time with the NTP server.
6. Click **Apply**.

### *14.7.3 Configuring Holidays*

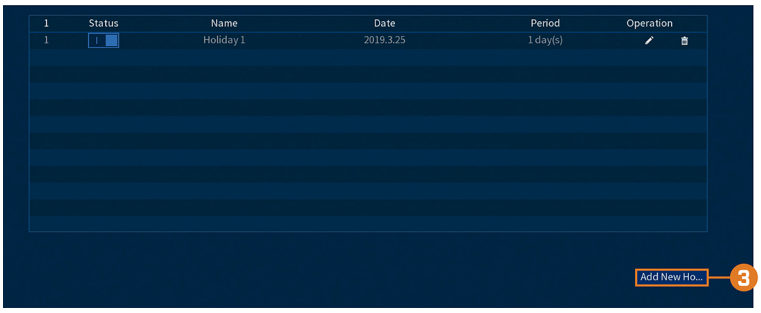
You can set certain days as holidays. Holidays have a special recording schedule.

**NOTE**

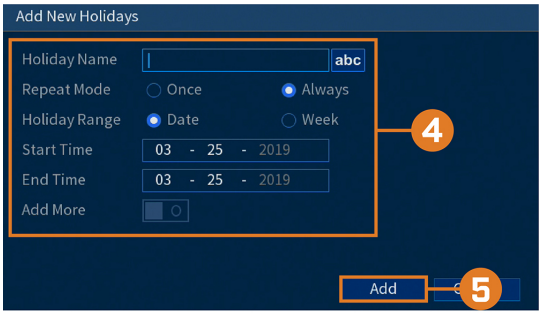
Ensure you adjust the holiday recording schedule to your preferences. See 8.3 *Setting the Recording Schedule*, page 18 for details.

**To configure holidays:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **SYSTEM**. Click the **GENERAL** tab on the side panel, then **Holiday** on the top panel.




3. Click **Add New Holiday**.




4. Configure the following:
   - **Holiday Name:** Enter a name for this holiday.
   - **Repeat Mode:** Select **Once** for the holiday to occur only this year or **Always** for the holiday to be repeated each year.
   - **Holiday Range:** Select **Date** to select a specific date, or select **Week** to select holidays based on which week they fall on.
   - **Start Time / End Time:** Set the start and end time for this holiday.
   - **Add More:** Click to enable (  ) to configure another holiday.
5. Click **Add**.

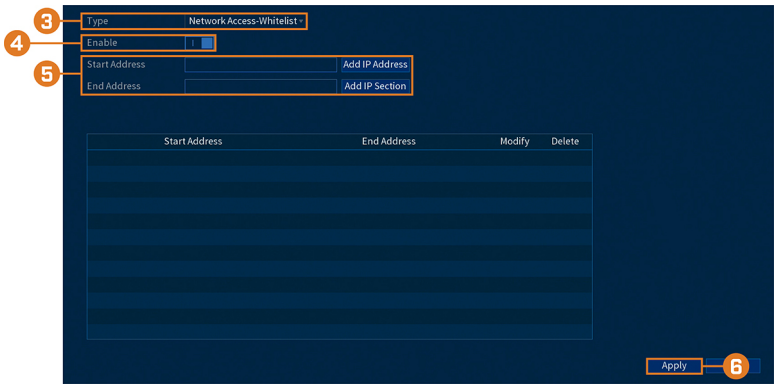
### *14.7.4 Configuring IP Filter*

Configure permissions for external IP addresses attempting to access the unit.

**To configure the IP filter:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.

2. Click **SYSTEM**, then click the **SECURITY** tab.




3. Under **Type**, select which type of filter to apply:
   - **Network Access — Whitelist:** IP addresses that are permitted to access the recorder.
   - **Network Access — Blacklist:** IP addresses that are not permitted to access the recorder.
   - **Sync Time — Whitelist:** IP addresses that are permitted to sync the recorder's time.
4. Click to enable ( ) / disable ( ) the selected filter type.
5. Configure the following:
   - To add a single IP address to the selected filter type, enter it into **Start Address**, then click **Add IP Address**.
   - To add a range of IP addresses to the selected filter type, enter the **Start Address** and **End Address**, then click **Add IP Section**.
6. Click **Apply**.

### *14.7.5 Save System Settings to a USB Flash Drive*

The system allows you to save your current system configuration to a USB flash drive (not included). This is useful if you want to backup your current settings.

| NOTE |
| --- |
| This function only saves settings created in system menus. It does not save or backup any video. |

**Prerequisite:**

- Connect a USB flash drive (not included) to a free USB port on the unit.

**To save system settings:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **SYSTEM**, then click the **CONFIG BACKUP** tab.



3. Under **Device Model**, select the USB device where you would like to save the configuration.
4. Click **Export** to save your current system configuration.

### *14.7.6 Import System Settings from a USB Flash Drive*

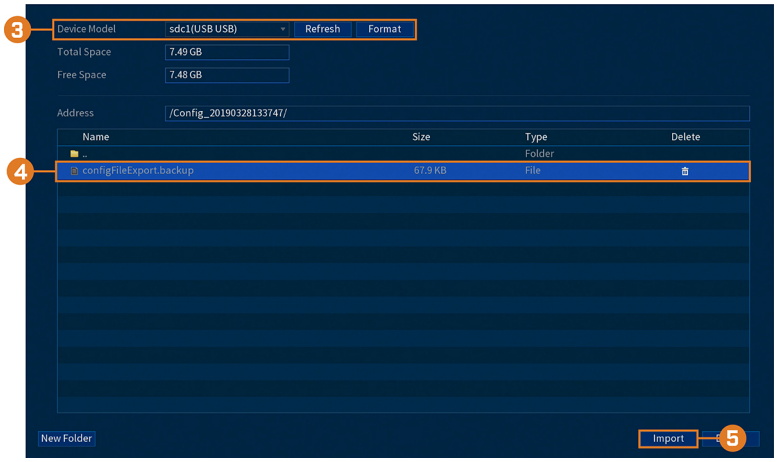
If you have backed up your system configuration, you can import it to apply all your saved menu settings.

**Prerequisite:**

- Connect a USB flash drive (not included) to a free USB port on the unit with an exported system configuration (see 14.7.5 *Save System Settings to a USB Flash Drive*, page 61 for full details).

**To import system settings:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **SYSTEM**, then click the **CONFIG BACKUP** tab.



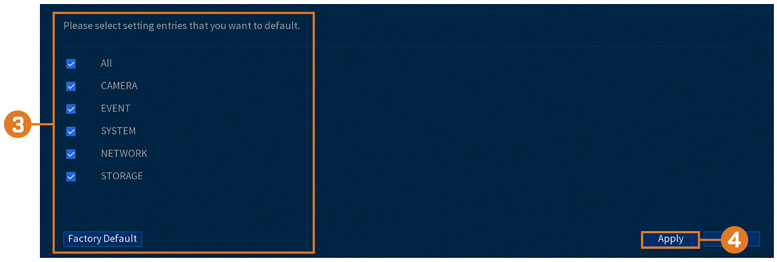

3. Under **Device Model**, select the USB device where a system configuration has been saved.
4. Click the folder with the configuration files you would like to restore. Configuration file folders are labeled **Config** and then the time and date the configuration was saved (e.g., *Config_20140425103727*).
5. Click **Import** to save your current system configuration.

### *14.7.7 Restoring Default Settings*

Reset the system to default settings.

**To restore default settings:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **SYSTEM**, then click the **DEFAULT** tab.




3. Check boxes for menus you would like to be reset to default settings, or click **Factory Default** to reset the unit to its out-of-box state.
4. Click **Apply**. The system will restart automatically. Do not power down the unit or disconnect the power cable.

### *14.7.8 Upgrading Firmware Manually*

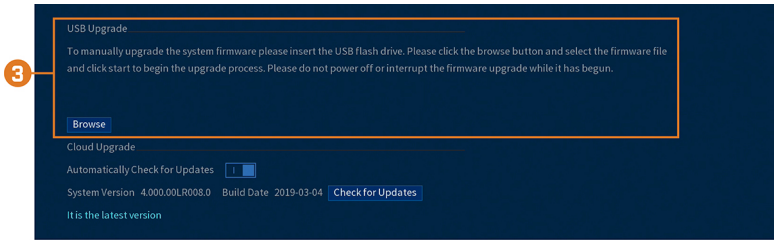
The primary method for upgrading system firmware is automatically over the Internet. The system also supports firmware upgrades from a USB thumb drive (not included).

**Prerequisite:**

- Save the **.bin** firmware file for your unit onto a USB flash drive (not included), and connect the drive to one of the system's free USB ports.

**To upgrade firmware manually:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **SYSTEM**, then click the **UPGRADE** tab.



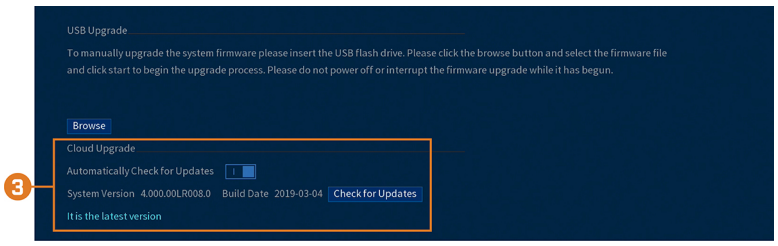

3. Click **Browse**.
4. Click on the **.bin** firmware file for your recorder.
5. Click **Start**.

### *14.7.9 Automatic Firmware Upgrades*

Firmware upgrades provide enhanced functionality. The system will automatically check for firmware upgrades if it is connected to the Internet.

**To configure automatic firmware upgrade:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **SYSTEM**, then click the **UPGRADE** tab.




3. Ensure **Automatically Check for Updates** is enabled (  ). Click **Check for Updates** to check if a newer version is available.
4. If a newer version is found, click **Upgrade Now** to upgrade the system.

## 14.8 Storage

Configure recording schedule and set preferences for hard drives connected to the system.

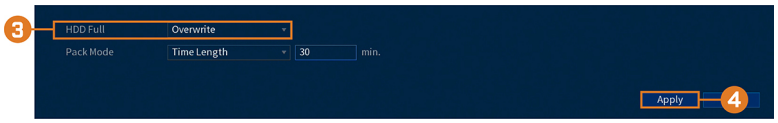
### *14.8.1 Configuring Hard Drive Overwrite*

When the hard drive is full, the system will overwrite the oldest recordings by default. This is recommended, as it makes sure that your system will continue to record without any input from you. You can also set the system to stop recording once the hard drive is full.

**To configure hard drive overwrite:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.

2. Click **STORAGE**, then click the **BASIC** tab.




3. Ensure **HDD Full** is set to **Overwrite** to overwrite the oldest recordings when the hard drive is full.

| NOTE |
| --- |
| Selecting **Stop Record** for the system to stop recording when the hard drive is full. |

4. Click **Apply**.

### *14.8.2 Configuring Recording File Length*

Select how the system will store video files.

**To configure recording length:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **STORAGE**, then click the **BASIC** tab.




3. Next to **Pack Mode**, select **Time Length** for the system to package recording files based on recording length, or **File Length** to package based on file size. The field next to the drop-down will change between minutes and megabytes (MB) depending on your selection.

| NOTE |
| --- |
| Selecting **Stop Record** for the system to stop recording when the hard drive is full. |

4. Click **Apply**.

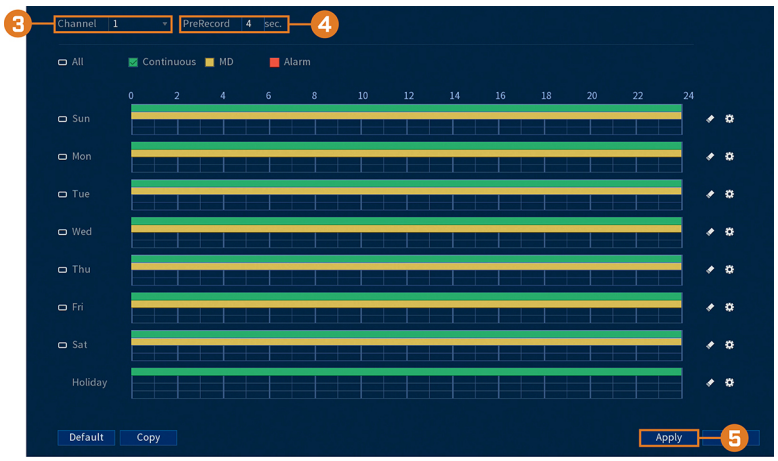
### *14.8.3 Configuring Pre-Recording*

The system can pre-record video when motion detection events occur.

**To configure pre-recording:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.

2. Click **STORAGE**. Click the **SCHEDULE** tab on the side panel, then **Record** on the top panel.



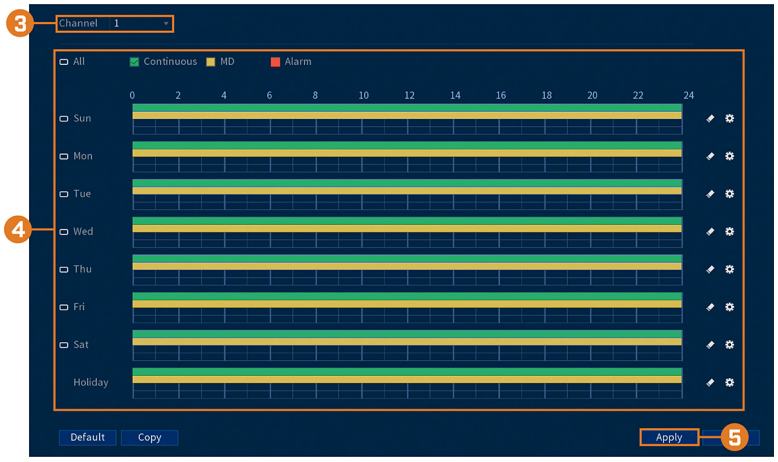

3. Under **Channel**, select the channel you would like to configure or select **All**.
4. Set the duration for pre-recording in seconds.
5. Click **Apply**.
6. **(OPTIONAL)** Click **Copy** to apply the settings for the current channel to one or more other channels (see 14.11 *Copying Settings to Another Channel*, page 71 for full instructions on using the copy function).

### *14.8.4 Setting the Snapshot Schedule*

You can set a schedule for recording snapshots from the cameras.

**To set the snapshot schedule:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **STORAGE**. Click the **SCHEDULE** tab on the side panel, then **Snapshot** on the top panel.




3. Under **Channel**, select the channel you would like to configure or select **All**.

4. Configure the schedule as needed:
   - Check **Continuous**, **MD (Motion Detection)**, or **Alarm** to select the recording type you would like to configure.
   - Click-and-drag on each day to customize the recording schedule. The schedule is set up as a grid, which each block representing one hour.
   - Click  beside 2 or more days to link schedules (  ). This allows you to quickly change multiple schedules at once.
   - To make fine adjustments to a schedule, click  . This will allow you to set exact start and end times for a schedule.
   - To disable all recording of the selected type on the selected day, click  .
5. Click **Apply**.
6. **(OPTIONAL)** Click **Copy** to apply the settings for the current channel to one or more other channels (see 14.11 *Copying Settings to Another Channel*, page 71 for full instructions on using the copy function).

### *14.8.5 Formatting the Hard Drive*

If you install a new hard drive, you must format the hard drive using the system before you will be able to record.

| ⚠ CAUTION |
| --- |
| Formatting the hard drive erases **all data** on the hard drive. **This step cannot be undone.** |

**To format hard drives:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **STORAGE**, then click the **HDD MANAGER** tab.




3. Check the hard drive you want to format.
4. Click **Format**. The system will restart to complete the formatting process.

### *14.8.6 Configuring Hard Drive Type*

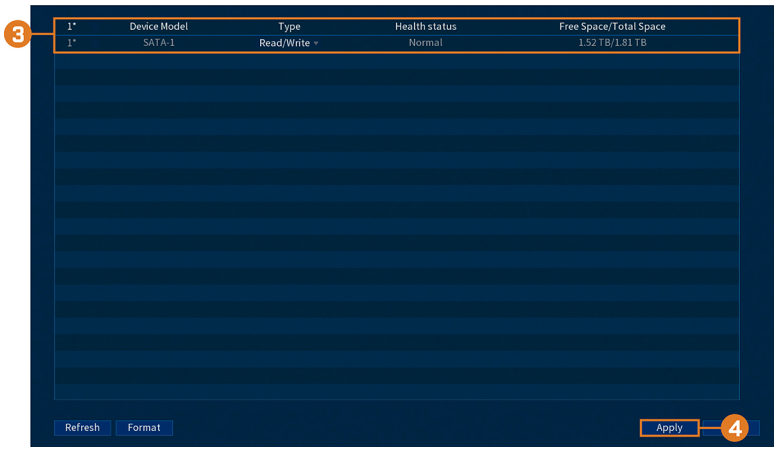
The system supports the following hard drive types:

- **Read-write HDD:** Normal recording hard drive.
- **Read-only HDD:** The system can playback data from this hard drive, but it will not record to it.

**To configure hard drive types:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.

2. Click **STORAGE**, then click the **HDD MANAGER** tab.



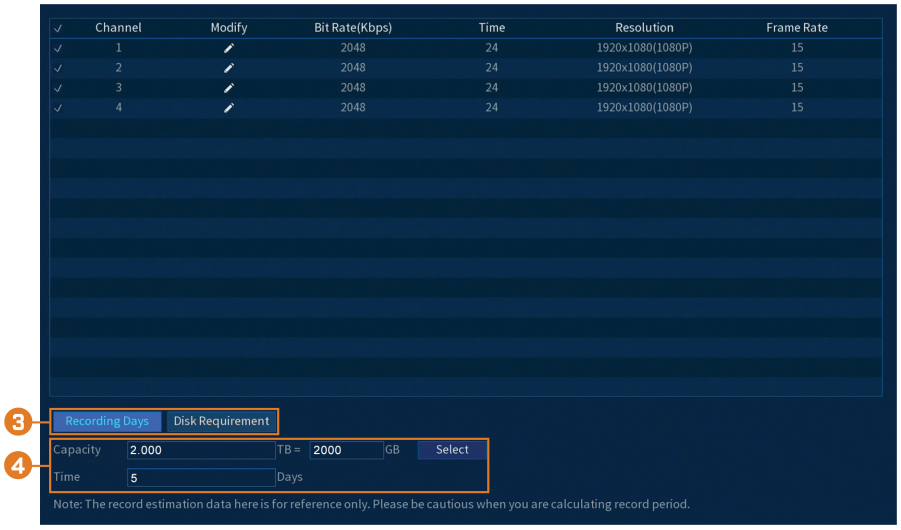

3. Under **Type** next to the hard drive you want to configure, select **Read/Write** or **Read only**.
4. Click **Apply**.

### *14.8.7 Recording Calculator (REC Estimate)*

Use the recording calculator to get an estimate of your maximum recording time in days for the installed hard drive, or how much hard drive space would be required to retain a specific amount of days.

**To obtain a recording estimate:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **STORAGE**, then click the **REC ESTIMATE** tab.



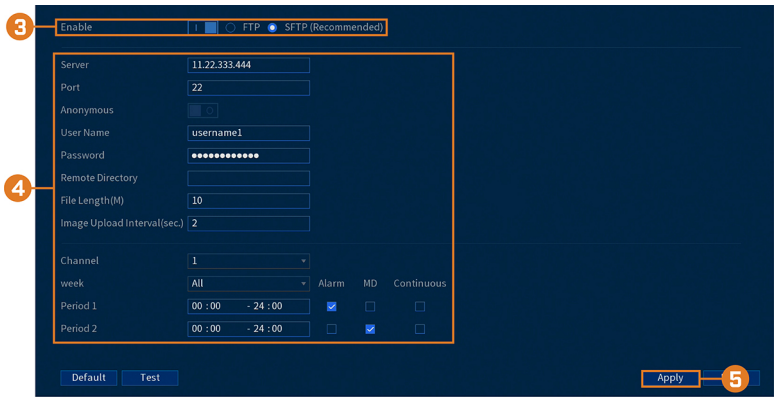

3. Select **Recording Days** for the total number of days worth of recordings your hard drive can store, or select **Disk Requirement** for the total storage needed to record for a specific number of days.
4. For **Recording Days** mode, click **Select** to choose your hard drive from a list to output the total number of days your hard drive can store. For **Disk Requirement** mode, enter a number of days to output the total amount of storage required.

### *14.8.8 FTP (Advanced)*

Send recordings and/or snapshots to an FTP server.

**To configure FTP settings:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **STORAGE**, then click the **FTP** tab.




3. Click to enable (  ) / disable (  ) FTP connection, and select either **FTP** or **SFTP** depending on your configuration.
4. Configure the following:
   - **Server:** Enter the FTP server's address.
   - **Port:** Enter the FTP port.
   - **Anonymous:** Enable if your FTP server supports anonymous login.
   - **Username:** Enter your FTP username.
   - **Password:** Enter your FTP password.
   - **Remote Directory:** Enter the directory to save recordings and/or snaphsots to.
   - **File Length:** Enter the recording file length in minutes.
   - **Image Upload Interval:** Enter the interval between snapshots in seconds.
   - **Channel:** Select a channel to set FTP recording preferences for.
   - **Week:** Select a day of the week to configure FTP recording settings for, or select **All** to apply to all days of the week.
   - **Period 1 ~ Period 2:** Select up to 2 periods of time where the system will save recordings to the FTP. Check **Alarm**, **MD** (Motion Detection), or **Continuous** beside each period to determine which recording type will be uploaded to the FTP.
5. Click **Apply**.

## 14.9 Account

See chapter 13 *Managing Passwords and User Accounts*, page 40 for details.

## 14.10 Information

Menus that show you different types of system information.

### *14.10.1 Version Info*

The Version sub-menu allows you to view information about the current firmware installed on the system.

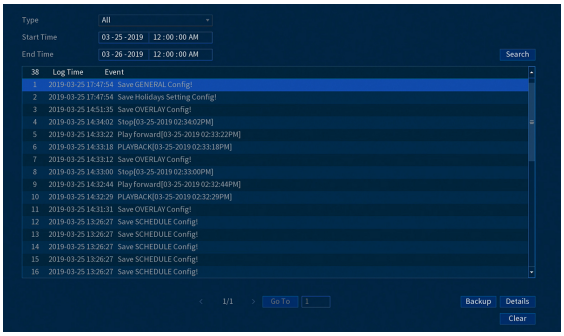



**To access the Version menu:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **INFORMATION**, then click the **VERSION** tab.

### *14.10.2 Log*

The Log menu allows you to search for system logs.




**To search for system logs:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **INFORMATION**, then click the **LOG** tab.
3. Under **Type**, select the type of event to search for, or select **All**.
4. Enter a start and end time for your search.
5. Click **Search**.

### *14.10.3 Event Status Info*

Shows you a complete summary of system events. Additional info such as channels that are currently detecting motion is also shown.




**To access the Event Status menu:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **INFORMATION**, then click the **EVENT STATUS** tab.

**The following alarms are shown in the Event Status menu:**

- **No HDD:** No Hard drive is detected.
- **Disk Error:** Hard drive error detected.
- **Disk Full:** Hard drive is full.
- **Net Disconnection:** System is not connected to the network.
- **IP Conflict:** More than one device on the network is using the same IP address.
- **MAC Conflict:** More than one device on the network is using the same MAC address.
- **Video Loss:** Shows disconnected channels.
- **Motion:** Shows channels with active motion alarms.

### *14.10.4 HDD Info*

Information related to the hard drives installed in the system, including capacity, status, and type.

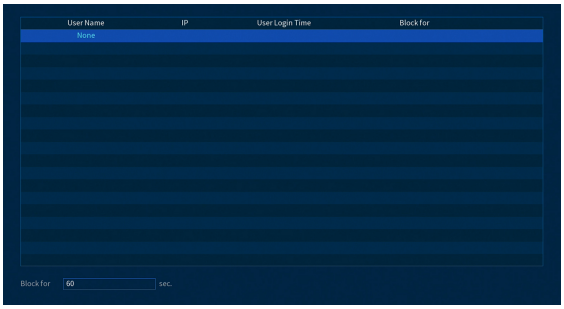



**To access the HDD Info menu:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **INFORMATION**, then click the **HDD INFO** tab.

### *14.10.5 Online Users*

The Online Users menu shows a list of users connected to the system using computers or mobile devices.

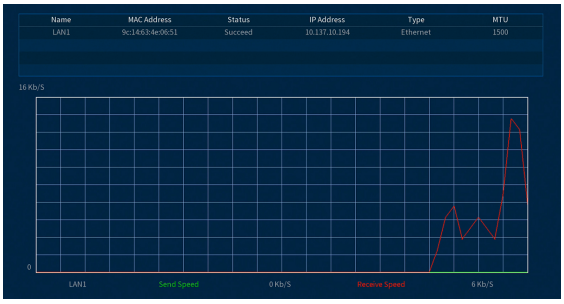



**To access the Online Users menu:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **INFORMATION**. Click the **NETWORK** tab on the side panel, then **Online User** on the top panel.

### *14.10.6 Load*

The Load menu shows you the network traffic your system is sending and receiving.




**To access the Load menu:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **INFORMATION**. Click the **NETWORK** tab on the side panel, then **LOAD** on the top panel.

### *14.10.7 Network Test*

The Test menu allows you to test if your system can connect to other devices over the LAN or Internet. You can enter the IP address of a device and click **Test** to determine if your system can connect to it.

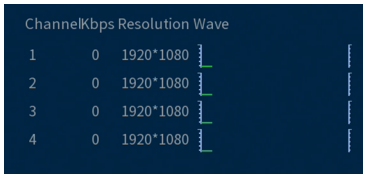



**To access the Network Test menu:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **INFORMATION**. Click the **NETWORK** tab on the side panel, then **Network Test** on the top panel.

### *14.10.8 BPS*

The BPS menu shows the bitrates of connected cameras. The bitrate is the amount of data the camera is sending to the system.




**To access the BPS menu:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **INFORMATION**, then click the **BPS** tab.

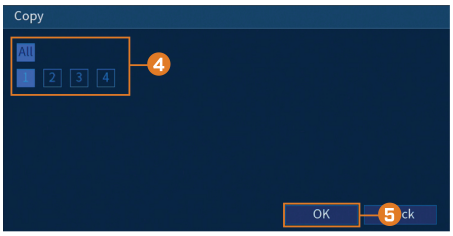
## 14.11 Copying Settings to Another Channel

Some areas of the main menu allow you quickly copy over the settings from one channel to one or multiple other channels on the system.

**To copy channel settings:**

1. Configure at least one channel to your preference.

2. Click **Apply** to save the settings for that channel.
3. Click **Copy**.




4. Click the numbered boxes to indicate the channels you want to copy settings to, or click **All** to copy to all channels.
5. Click **OK**.

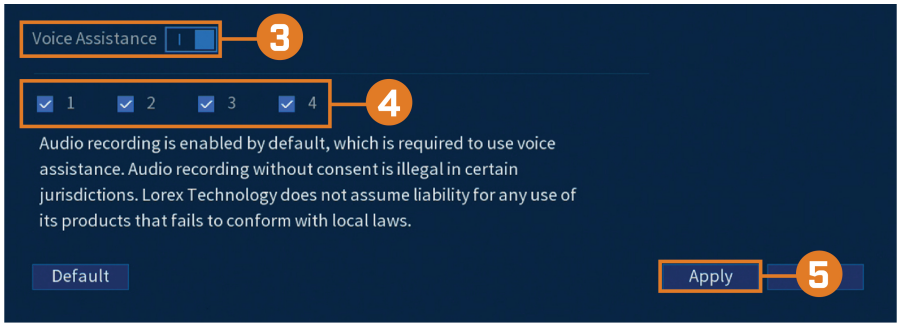
# 15 Smart Home & Voice Assistance

The recorder is compatible with third-party smart home solutions, including Amazon Alexa® and Google Assistant®. You can use these services to take your security experience to the next level, with smart home options that make accessing your system even easier.

For compatibility information, as well as full instructions on setup and use, visit lorex.com/SmartHome.

**To enable Smart Home services on the recorder:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **CAMERA**, then click the **VOICE ASSISTANCE** tab.




3. Click to enable ( ) / disable ( ) voice assistance.
4. Check channels you would like to enable for use with smart home services.

> **CAUTION**
>
> Channels enabled for use with smart home services will automatically enable the channel's audio functions, and will activate audio recording on audio-enabled cameras. Audio recording and / or use of listen-in audio without consent is illegal in certain jurisdictions. Lorex Corporation assumes no liability for use of its products that does not conform with local laws.

5. Click **Apply**.

# 16 Pan/Tilt/Zoom (PTZ) Cameras

Pan/Tilt/Zoom (PTZ) cameras are specialty cameras that move according to commands given by the recorder. You can move PTZ cameras manually using the recorder's on-screen display, or create preset locations and patterns for the camera to follow automatically.



## 16.1 Connecting PTZ Cameras to the Recorder

Lorex HD PTZ cameras connect to your recorder just like any other camera with no need to run special wiring — these cameras can accept PTZ commands directly through the video cable.

If you are using a standard definition PTZ camera, you will need to run the camera's RS485 cabling to the recorder in order to send PTZ commands.

**To connect standard definition PTZ cameras:**



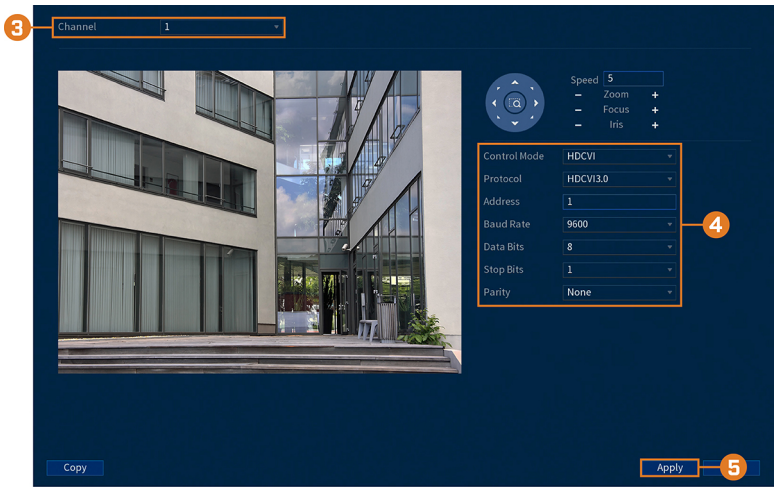
**STEP 1: Physical connection**

1. Connect the BNC video cable to one of the video inputs on the recorder.
2. 
3. Connect the PTZ camera's power adapter to a power outlet.

> **CAUTION**
>
> When the PTZ camera powers on, it will perform an initial diagnostics check. The camera will move around during this process, so ensure the camera module is not resting against another object or surface.

### STEP 2: Camera configuration

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **CAMERA**, then click the **IMAGE SETTINGS** tab.




3. Select the channel you want to configure.
4. Configure the highlighted fields as needed.

> **NOTE**
>
> For Lorex HD PTZ cameras, there is no need for configuration — leave all fields at their default values. For third-party PTZ cameras, select **Serial** next to **Control Mode**. For the correct settings to use in the remaining fields, please reference your camera documentation.

5. Click **Apply**.
6. **(OPTIONAL)** Click **Copy** to apply the settings for the current channel to one or more other channels (see 14.11 *Copying Settings to Another Channel*, page 71 for full instructions on using the copy function).

> **NOTE**
>
> If you copy settings over to connect multiple PTZ cameras, please note that each camera requires a unique address. You cannot use the same address for 2 different cameras.

## 16.2 Basic PTZ Controls

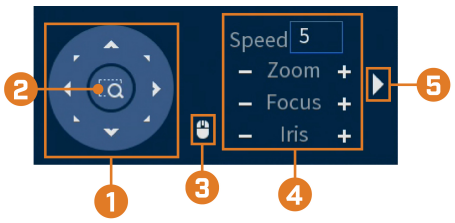
Controlling PTZ cameras.

> **NOTE**
>
> Ensure you have completed initial setup of your PTZ camera in order to control the camera using the recorder. See 16.1 *Connecting PTZ Cameras to the Recorder* for more details.

**To access the PTZ controls:**

- Open the Live View screen for your PTZ camera in single-channel view (fullscreen). Right-click to open the Quick Menu, then click **Pan/Tilt/Zoom**.
- Right-click again to close PTZ controls.

**To use the PTZ controls:**




1. **Navigation Controls:** Click the directional arrows to move the PTZ camera manually.
2. **Zoom-to-Area:** Click, then click-and-drag to draw a box on the camera image. The PTZ camera will zoom in to the selected area.
3. **Mouse Tracking:** Click to enable/disable mouse tracking. When enabled, click-and-drag in the direction you would like the PTZ camera to move. The camera will follow the path of the mouse cursor.
4. **PTZ Settings:**
   - **Speed:** The speed of PTZ camera movement. A higher value means the camera will move faster.
   - **Zoom:** Optical zoom level. Click + to zoom in, and – to zoom out.
   - **Focus:** Manually control focus level. Click + to focus on objects further from the camera, or – to focus on objects closer to the camera.
   - **Iris:** Controls the amount of light coming through the lens. Click + to allow more light, or – for less.
5. **Advanced:** Expand to show advanced options. For a full overview, see 16.3 *Advanced PTZ Controls*, page 76.

### 16.3 Advanced PTZ Controls

Using advanced options for PTZ cameras, including presets, tours, patterns, etc.

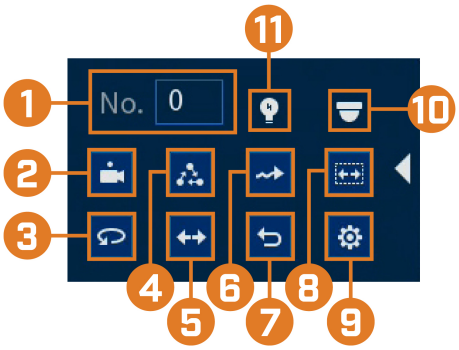
**NOTE**

Ensure you have completed initial setup of your PTZ camera in order to control the camera using the recorder. See 16.1 *Connecting PTZ Cameras to the Recorder* for more details.

**To access the advanced PTZ controls:**

- Open the Live View screen for your PTZ camera in single-channel view (fullscreen). Right-click to open the Quick Menu, then click **Pan/Tilt/Zoom**.
- Click the arrow on the far-right side of the PTZ control panel to access advanced options.
- Right-click again to close PTZ controls.

**To use the PTZ controls:**




1. **No.:** Enter the ID number for a preset, tour, or pattern you want to activate.
2. **Preset:** Move the camera to the preset number specified in the **No.** field. For instructions on setting up preset locations, see 16.4 *Presets*, page 77.
3. **AutoPan:** Set the camera to rotate 180° back and forth.

4. **Tour:** Perform the tour number specified in the **No.** field. For instructions on creating a tour, see 16.5 *Tours*, page 77.
5. **Flip:** Rotate the camera 180° from its current position.
6. **Pattern:** Perform the pattern number specified in the **No.** field. For instructions on creating a pattern, see 16.6 *Patterns*, page 77.
7. **Reset:** Move the camera to the home position.
8. **AutoScan:** Move the camera between a predetermined left and right point. For instructions on creating an autoscan, see 16.7 *AutoScan*, page 78.
9. **Configuration:** Click to open the configuration menu, where you can configure presets, tours, patterns and autoscans.
10. **OSD Menu:** Click to open the camera's OSD menu. This may not be supported on all camera models.
11. **Auxiliary Settings:** Not supported.

### 16.4 Presets

Presets will save a camera position for quick retrieval.

**To add preset locations:**

1. From the Live View display of your PTZ camera, right-click to open the Quick Menu, then click **Pan/Tilt/Zoom**.
2. The PTZ controls open. Click  to open advanced PTZ controls, then click  .
3. Click the **Preset** tab.
4. Enter the number of the preset you want to create under **Preset**.
5. Move the camera to the desired position and click **Set**.

**To go to a preset location:**

- Under **No.**, select the number of the preset you want to go to, then click  .

### 16.5 Tours

Tours will cycle through a set of presets.

**To add tours:**

1. From the Live View display of your PTZ camera, right-click to open the Quick Menu, then click **Pan/Tilt/Zoom**.
2. The PTZ controls open. Click  to open advanced PTZ controls, then click  .
3. Click the **Tour** tab.
4. Under **Patrol No.**, enter the number of the tour you want to create.
5. Under **Preset**, select a preset you want to add to the tour.
6. Click **Add Preset**.
7. Repeat steps 5 & 6 to add additional presets to the tour.

**To run a tour:**

- Under **No.**, select the number of the tour you want to go to, then click  .

### 16.6 Patterns

Patterns automatically move the camera according to manually-entered movements.

**To add patterns:**

1. From the Live View display of your PTZ camera, right-click to open the Quick Menu, then click **Pan/Tilt/Zoom**.
2. The PTZ controls open. Click  to open advanced PTZ controls, then click  .
3. Click the **Pattern** tab.
4. Under **Pattern**, enter the number of the pattern you want to create.

5. Move the camera to the desired starting position, then click **Start**.
6. Using the on-screen controls, move the camera in any pattern you wish. When finished, click **End**.

**To run a pattern:**

- Under **No.**, select the number of the pattern you want to go to, then click  .

### 16.7 AutoScan

An autoscan automatically cycles between a left and right point.

**To configure autoscan:**

1. From the Live View display of your PTZ camera, right-click to open the Quick Menu, then click **Pan/Tilt/Zoom**.
2. The PTZ controls open. Click  to open advanced PTZ controls, then click  .
3. Click the **Border** tab.
4. Move the camera into the desired left position and click **Left**.
5. Move the camera into the desired right position and click **Right**.

**To run autoscan:**

- Click  .

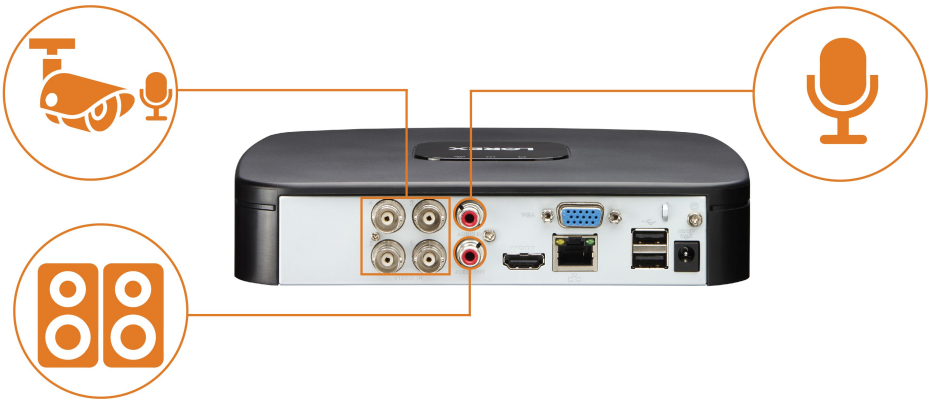
# 17 Connecting Audio Devices

The system supports Lorex HD audio cameras, which transmit audio through the same coax cable used for video connection. The system can also record one audio channel using the **AUDIO IN** port on the rear panel. You must have a self-powered microphone or an audio camera with an RCA–type audio connection to use this port.

**NOTE**

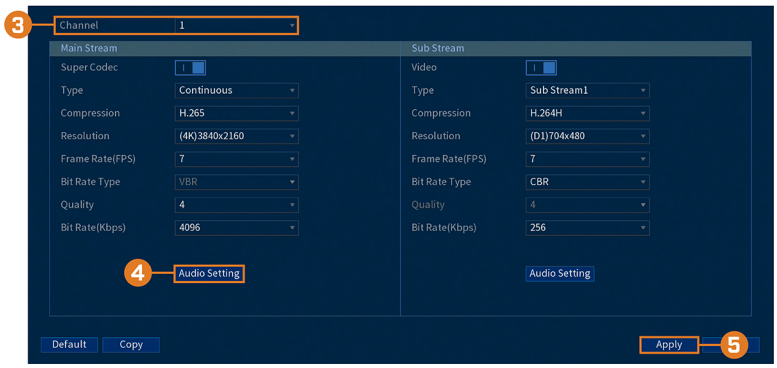
Use of an external microphone allows you to record audio on **Channel 1** of the system. It cannot be moved to a different channel.

The second RCA-type connector on the back panel is the **AUDIO OUT** port, which can be used to connect a self-powered speaker that will play audio from the system (requires audio-capable camera or self-power microphone).



**To enable audio recording using a Lorex HD audio camera:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **CAMERA**. Click the **RECORDING** tab on the side panel, then **Recording** on the top panel.




3. Select the channel where the audio camera is connected.

4. Click **Audio Setting**, then configure the following:




- **Audio Recording:** Click to enable ( ) / disable ( ) audio recording.

> **CAUTION**
>
> Audio recording and / or use of listen-in audio without consent is illegal in certain jurisdictions. Lorex Corporation assumes no liability for use of its products that does not conform with local laws.

- **Audio Format:** Choose the desired format for audio recording (**G711a** or **AAC** recommended).
- **Audio Source:** Select **HDCVI**.
- Click **OK**.

5. Click **Apply**.
6. **(OPTIONAL)** Click **Copy** to apply the settings for the current channel to one or more other channels (see 14.11 *Copying Settings to Another Channel*, page 71 for full instructions on using the copy function).

**To enable audio recording using an external microphone:**

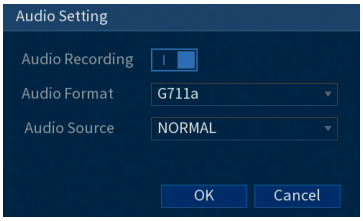
1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **CAMERA**. Click the **RECORDING** tab on the side panel, then **Recording** on the top panel.




3. Select **Channel 1**.

> **NOTE**
>
> Use of an external microphone allows you to record audio on **Channel 1** of the system. It cannot be moved to a different channel.

4. Click **Audio Setting**, then configure the following:




- **Audio Recording:** Click to enable ( ) / disable ( ) audio recording.

> **CAUTION**
>
> Audio recording and / or use of listen-in audio without consent is illegal in certain jurisdictions. Lorex Corporation assumes no liability for use of its products that does not conform with local laws.

- **Audio Format:** Choose the desired format for audio recording (**G711a** or **AAC** recommended).
- **Audio Source:** Select **NORMAL**.
- Click **OK**.

5. Click **Apply**.

# 18 Replacing the Hard Drive

The system comes with a pre-installed 3.5" SATA hard drive. You can replace the hard drive with one up to a maximum size of 10TB.

## 18.1 Removing the Hard Drive

> **CAUTION**
>
> Make sure that the system is OFF and the power adapter is disconnected before removing/installing a hard drive.

**To remove the hard drive:**

1. Power off the system, and unplug all cabling from the system.
2. Turn the recorder over. Remove the bottom panel screws (6×).



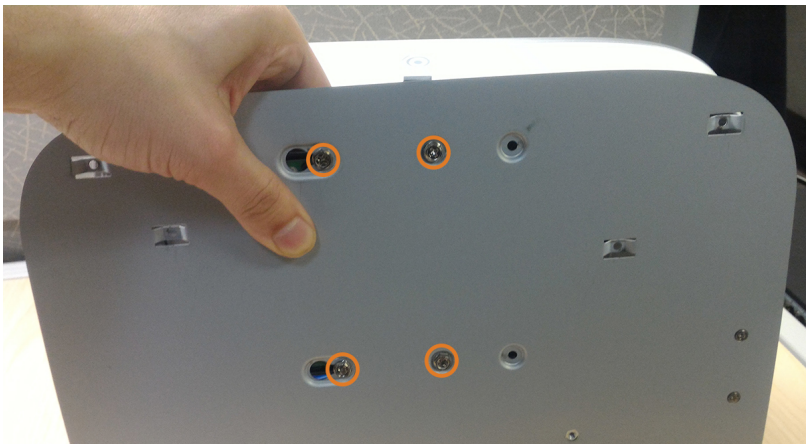
3. Turn the recorder over carefully, then remove the top panel.

> **CAUTION**
>
> The wiring to the front panel button and USB port runs along the top panel of the recorder. When separating the top panel, rest it carefully beside the bottom panel as shown below.

4. Remove the power and SATA cables from the hard drive.




5. Carefully pick up the hard drive to lift the bottom panel, being mindful of the sharp edges of the bottom panel. Remove the hard drive screws (4×) from the bottom panel. Hold onto the hard drive so it remains in place when all screws have been removed.



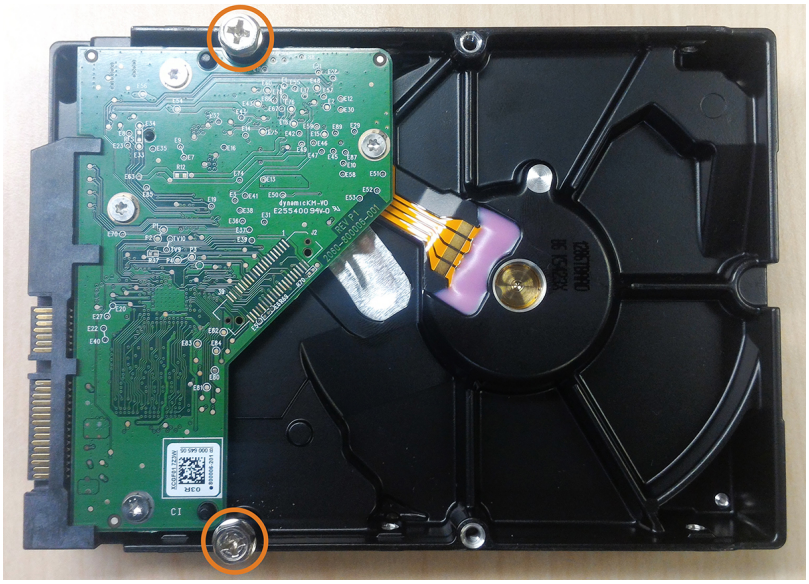
6. If you are not immediately going to install a new hard drive, replace the top panel and the 6 bottom panel screws.

## 18.2 Installing a New Hard Drive

| ⚠ CAUTION |
| --- |
| Make sure that the system is OFF and the power adapter is disconnected before removing/installing a hard drive. |

**To install a new hard drive:**

1. Insert the 2 hard drive screws closest to the SATA and power ports on the hard drive and tighten them half way.



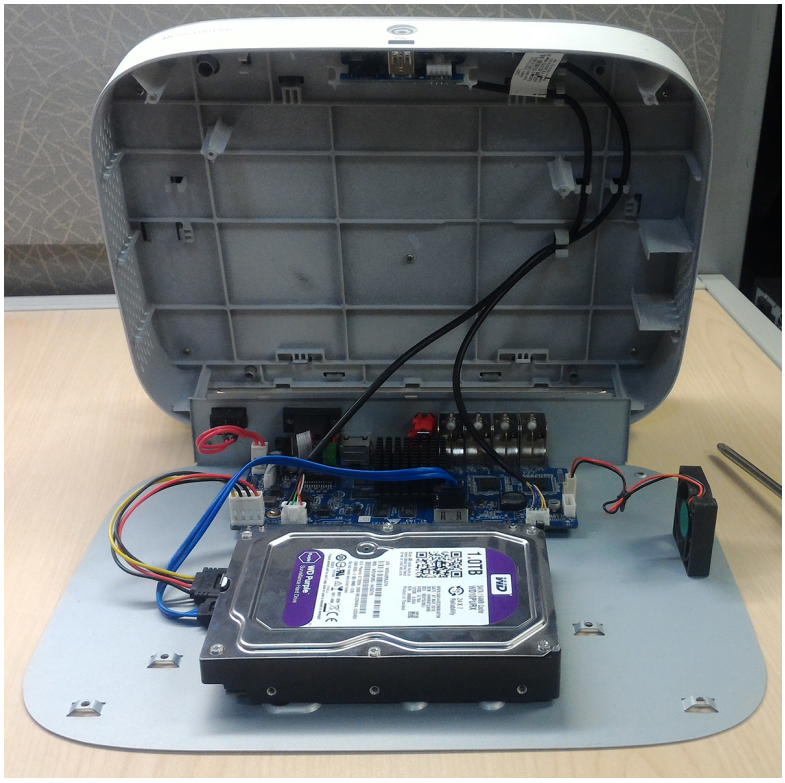
2. Power off the system, and unplug all cabling from the system.
3. Turn the recorder over. Remove the bottom panel screws (6×).



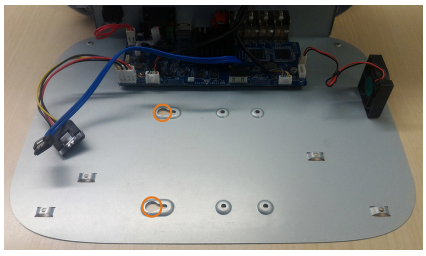
4. Turn the recorder over carefully, then remove the top panel.

**CAUTION**

The wiring to the front panel button and USB port runs along the top panel of the recorder. When separating the top panel, rest it carefully beside the bottom panel as shown below.

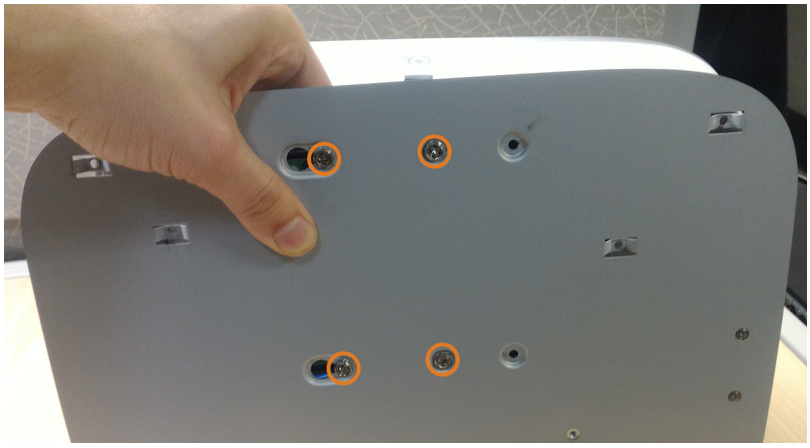


5. Line the 2 half-inserted hard drive screws with the 2 holes shown below.





6. Carefully pick up the bottom panel with the hard drive, being mindful of the sharp edges of the bottom panel. Slide the 2 pre-inserted screws into the locked position, then tighten the screws. Insert and tighten the 2 remaining hard drive screws.



7. Connect the power and SATA cables to the hard drive.




8. Replace the top panel and the 6 bottom panel screws.

# 19 DDNS Setup (Advanced)

Setting up DDNS connectivity allows you to view your recorder from any computer or compatible mobile device with Internet access.

**NOTE**

The primary connectivity option for the recorder uses the Lorex Home app to connect to your system over the Internet without the need for port forwarding or DDNS registration.

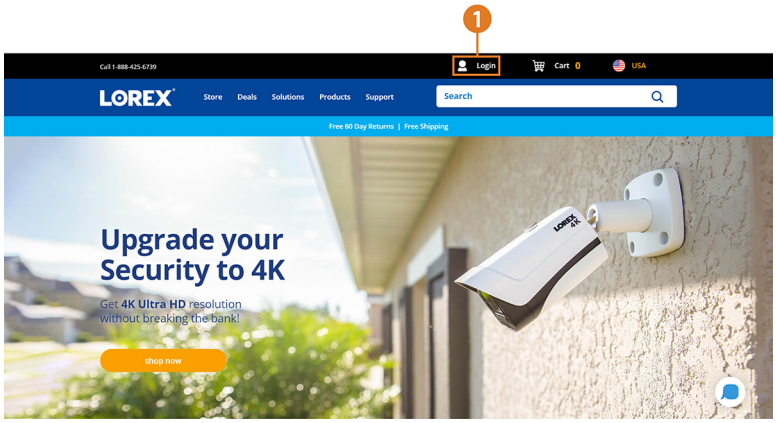
- For instructions on using the Lorex Home app for mobile devices, see , page .

## 19.1 STEP 1: Port Forwarding

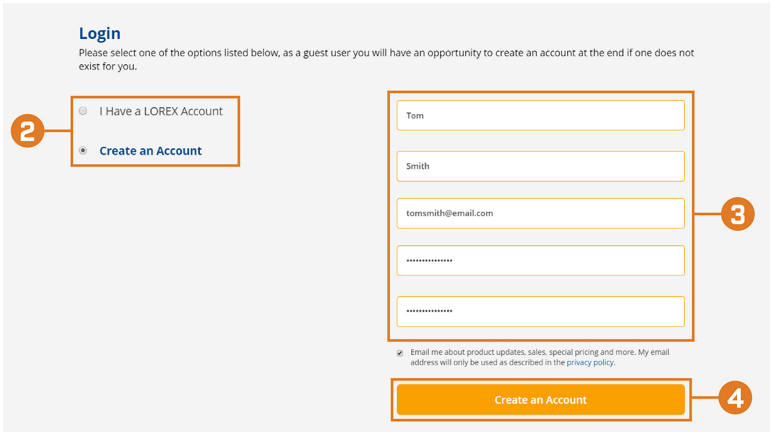
If you are using DDNS, you **must** port forward the HTTP and Client Ports (default: **80** and **35000**) on your router to your recorder's IP address before you can remotely connect to your system:

- Manually port forward the required ports on your router to your recorder's IP address by following your router manufacturer's instructions. For more information on port forwarding, see the reference guides on lorex.com.

## 19.2 STEP 2: Create a Lorex Account




1. Visit lorex.com and click **Login** at the top of the page.




2. Select **Create an Account**.

**NOTE**

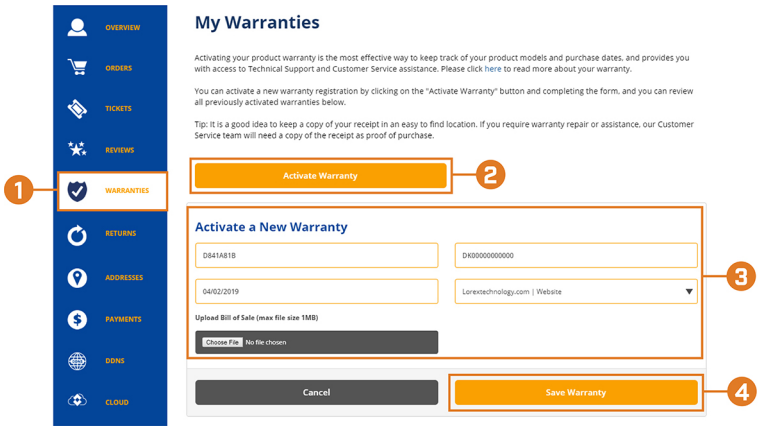
If you have already set up an account, select **I Have a LOREX Account** and log in. Proceed directly to , page .

3. Enter basic information for account setup.
4. Click **Create an Account**.

### 19.3 STEP 3: Activate Your Warranty

Activate the manufacturer's warranty on your recorder.

**To activate your product warranty:**

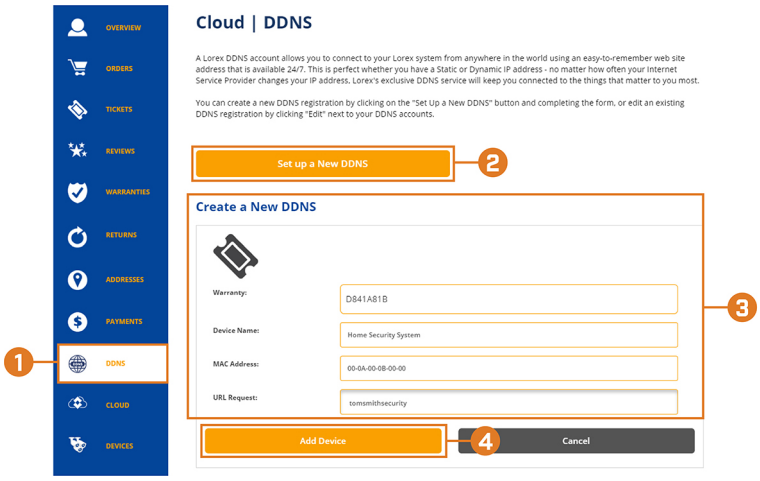



1. From your Lorex account, click the **WARRANTIES** tab.
2. Click **Activate Warranty**.
3. Enter your product information (attaching bill of sale optional).
4. Click **Save Warranty**.
   Once submitted, your warranty information will be summarized under **My Warranties**.

### 19.4 STEP 4: Sign Up for a DDNS Account

Activate the manufacturer's warranty on your recorder.

**To sign up for a DDNS account:**




1. From your Lorex account, click the **DDNS** tab.
2. Click **Set up a New DDNS**.

3. Select your recorder warranty from the dropdown next to **Warranty**. Enter the rest of your product information.

> **NOTE**
>
> - The **Device Name** can be any name of your choice (for example, “Store Security System”).
> - You can find your recorder’s **MAC Address** in the system information window on the recorder. From the Live View display, right-click and click **Info**, or click on the Navigation Bar.

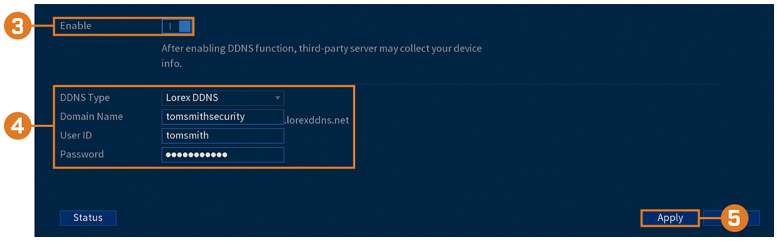
4. Click **Add Device**.
   Once submitted, your DDNS account information will be summarized under **My DDNS Devices**. Make a note of your DDNS **URL**, **Username** and **Password**, as they will be needed to complete DDNS setup.

### 19.5 STEP 5: Enable DDNS on the Recorder

Enter your DDNS information into the menu of your recorder. You can find the information referenced below on your My Lorex account, or on the confirmation email sent to you after registering for DDNS service.

**To configure DDNS in the recorder:**

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **NETWORK**, then click the **DDNS** tab.




3. Click to enable ( ) DDNS connectivity.
4. Configure the following:
   - **DDNS Type:** Select **Lorex DDNS**.
   - **Domain Name:** Enter the first part of the DDNS domain that you requested during setup.
   - **User ID:** Enter the username provided in the DDNS confirmation email.
   - **Password:** Enter the password provided in the DDNS confirmation email.
5. Click **Apply**.

**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 login 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)

# 20 Troubleshooting

When a malfunction occurs, it may not be serious or difficult to correct. The following chart contains solutions to most common problems. Please refer to the topics below before calling Lorex Technical Support.

| Error | Possible Causes | Solutions |
|---|---|---|
| System is not receiving power, or is not powering up. | Cable from power adapter is loose or is unplugged. | • Confirm that all cables are connected correctly.<br>• Confirm that the power adapter is securely connected to the back of the unit. |
| | Cables are connected, but system is not receiving sufficient power. | • Confirm that the system is powered on (LED indicators on the front should be ON).<br>• If the unit is connected through a power bar or surge protector, try bypassing the bar and connecting the power directly to the wall outlet.<br>• Confirm that there is power at the outlet:<br>◦ Connect the power cable to another outlet.<br>◦ Test the outlet with another device (such as a lamp or phone charger). |
| Hard drive is not detected by the system. | Hard drive cables are loose or not properly connected. | Remove the housing and check that hard drive cables are firmly connected. |
| | There is no hard drive in the system. | Open the housing and install compatible hard drive. Make sure to format the drive after installing. For details, see 14.8.5 *Formatting the Hard Drive*, page 66. |
| Hard drive is full (0%) and the unit is no longer recording. | Overwrite is not enabled. | If hard drive overwrite is not enabled, the system will stop recording when the hard drive is full. For instruction on enabling hard drive overwrite, see 8.5 *Configuring Hard Drive Overwrite*, page 20. |
| There is no picture on monitor/TV after connecting it to the recorder. | Monitor/TV not detected by recorder. | Power off the monitor/TV and the recorder. Power on the monitor/TV, and then power on the recorder. |
| | Input channel for recorder not selected on monitor/TV. | Ensure that the monitor/TV is set to the input channel that the recorder is connected to. |
| | Video cable is loose or has become disconnected. | Check the video cable connection to the recorder and the monitor/TV. |
| | Camera is not compatible with the recorder. | Visit lorex.com/compatibility and navigate to for a list of all compatible cameras. |
| Mouse not detected by system. | Mouse cable is not firmly connected to the system, or the mouse is not connected to the system. | Firmly connect the mouse cable to one of the USB ports. |
| | System needs to be reset. | Power off the system (disconnect power cable). Firmly connect a USB mouse to one of the USB ports. Reconnect the power cable to the 12V DC port on the rear panel. |

| Error | Possible Causes | Solutions |
|---|---|---|
| There is no picture on selected channels / camera picture is not being displayed. | Camera cables are loose or have become disconnected. | • Check the camera video cable and connections.<br>• Disconnect and reconnect the cable at the system and at the camera.<br>• Try moving the camera to another channel or use another cable. |
| The image on the recorder appears, but does not have sound. | Cameras do not feature a microphone for audio recording. | The recorder supports audio recording, but requires audio-enabled cameras with a built-in microphone, or an external microphone to be connected. See 17 *Connecting Audio Devices*, page 79 for details on using audio-enabled devices. |
| The system beeps during motion detection. | Motion detection is enabled and the buzzer is activated. | See 11 *Motion Detection*, page 32 for full instructions on configuring motion detection options. You will need to uncheck the **Buzzer** option to prevent the recorder from beeping every time motion is detected. |
| I am not receiving email notifications. | Email notification is disabled. | Ensure you have configured email notification. For full instructions, see 14.6.3 *Configuring Email Alerts*, page 56. |
| | Email notification is enabled, but you have not entered your own SMTP information. | If you want to use your own SMTP server, you must enter your SMTP server address, SMTP port, username, and password in the appropriate fields. For full instructions, see 14.6.3 *Configuring Email Alerts*, page 56. |
| Smart home / voice assistance not working. | Voice assistance has not been enabled on the recorder. | • Ensure you have enabled voice assistance on the recorder. See 15 *Smart Home & Voice Assistance*, page 73 for full instructions.<br>• If the issue persists, visit lorex.com/SmartHome for complete setup instructions, FAQS, and a list of available voice commands. |

# 21 Technical Specifications

## 21.1 General

| | |
|---|---|
| **Video Transmission Technology** | HD Analog |
| **Channels** | 4 Channels |

## 21.2 Inputs/Outputs

| | |
|---|---|
| **Video Input(s)** | 4 × 1Vp-p BNC Type |
| **Video Outputs(s)**[1] | 1 × VGA, 1 × HDMI |
| **Audio Input(s)** | 1 ch: RCA |
| **Audio Output(s)** | 1 ch: RCA |

## 21.3 Display

| | |
|---|---|
| **Display Output Resolution** | 1080P, 720P |
| **Live Display** | 4 ch: 1, 2, 3, 4 |
| **Live Display Speed (Max)** | 4ch: 120fps NTSC |
| **OSD** | On/Off |
| **System Navigation** | USB Mouse |

## 21.4 Recording

| | |
|---|---|
| **Recording Resolution** | 1080P, 720P |
| **Recording Frame Rate** | 1080P @ 15fps, 720P @ 30fps |
| **Recording Schedule** | Per Channel by Continuous/ Motion/Smart Motion (Person and Vehicle)/Alarm/Day/Hour per channel |
| **Back-up File Format** | DAV / AVI / MP4 file |
| **Video Compression** | H.265 / H.264 |

## 21.5 Playback

| | |
|---|---|
| **Simultaneous Playback** | Up to 4 Channels |
| **Playback Speed** | Variable Max 8× |
| **Search** | By Time/Date, All Motion Events or Smart Motion (Person and Vehicle), Area Search (Smart Search) |

## 21.6 Storage

| | |
|---|---|
| **Hard Drive Bays** | 1 Bay |
| **Hard Drive Capacity** | Up to 1 × 1TB (SATA) |
| **Backup Media** | USB Flash Drive & USB HDD |

## 21.7 Special Features

| | |
|---|---|
| **Smart Motion Detection** | Person/Vehicle Motion Detection (enabled on 1 channel at a time)[3] |
| **Active Deterrence Support** | Yes |
| **Smart Search** | Yes |

### 21.8 Connectivity

| | |
|---|---|
| **Mobile Viewing** | Android, iOS |
| **Compatible App** | Lorex Home™ |
| **PC/MAC Remote Viewing** | Yes/Lorex Cloud |
| **Email Notification** | Text and Snapshot |
| **Network Interface** | 10/100 Base-TX, RJ45 |
| **DDNS** | Yes (Optional) |
| **USB Interface** | USB 2.0 × 2 |

### 21.9 Additional Specifications

| | |
|---|---|
| **FW Upgrade** | USB/Network |
| **Watchdog Function** | Yes |
| **Power Consumption** | < 10W (without HDD) |
| **Supply Voltage** | 12V/1.5A |
| **Unit Dimensions (W × D × H)** | 3.7 × 3.7 × 1.6” (95× 95× 40mm) |
| **Unit Weight** | 1lb (0.45kg) (without HDD) |
| **Operating Temperature** | 14° ~ 131°F / –10° ~ 55°C |
| **Humidity** | 10 ~ 90% RH |

**Disclaimers:**

1. 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 DVR, as well as TV/monitor resolution.
2. Person/Vehicle Advanced Motion Detection can be enabled only on channels 1-4. General motion detection will still be available on all remaining channels. Accuracy of Person/Vehicle Advanced Motion Detection will be influenced by multiple factors, such as the object’s distance from the camera, the size of the object, and the height and angle of the camera.
3. Controlling certain features in your security system requires a compatible smart device. Availability and performance of certain features and services are smart device dependent and may not be available in all areas or networks. For compatibility, features, instructions visit: lorex.com/SmartHome

# 22 Notices

This product has been certified and found to comply with the limits regulated by FCC, EMC, and LVD. Therefore, it is designated to provide reasonable protection against interference and will not cause interference with other appliance usage. However, it is imperative that the user follows the guidelines in this manual to avoid improper usage, which may result in damage to the product, electrical shock and fire hazard injury.

### 22.1 FCC/IC

This equipment has been tested and found to comply with the limits for a digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential or commercial installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

### 22.2 CE

This product and the supplied accessories are marked with “CE” and comply with the applicable harmonized European standards listed under Low Voltage Directive 2006/95/EC and the EMC Directive 2004/108/EC.

### 22.3 Modification

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the device.

Toute modification non approuvée explicitement par le fournisseur de licence de l'appareil peut entraîner l'annulation du droit de l'utilsateur à utiliser l'appareil.

### 22.4 RoHS

This product is fully compliant with the European Union Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment ("RoHS") Directive (2002/95/EC). The RoHS directive prohibits the sale of electronic equipment containing certain hazardous substances such as lead, cadmium, mercury, and hexavalent chromium, PBB, and PBDE in the European Union.

### 22.5 ICES-003

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

**Website**
www.lorextechnology.com

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Publ. No.: LX400111
Release: 3.0
Commit: 56507
Head: 56507
Language: en-US
Modified: 2020-05-27
Formatted: 2020-05-27