



User Manual

N883 Series



User Manual

N883 Series

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:

N883A64B

N883A38B

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.

Table of contents

1	Important Safeguards	1
1.1	General Precautions.....	1
1.2	Installation	1
1.3	Service	2
1.4	Use	3
2	Package Contents.....	4
3	Recorder Overview	5
3.1	Front Panel	5
3.2	Back Panel	6
4	Basic System Setup.....	7
4.1	STEP 1: Connect cameras.....	7
4.2	STEP 2: Connect router	7
4.3	STEP 3: Connect mouse.....	7
4.4	STEP 4: Connect monitor.....	8
4.5	STEP 5: Connect power.....	8
4.6	STEP 6: Upgrade Firmware to Latest Version (If Available)	8
4.7	Quick Access to System Information.....	9
4.8	Connecting Cameras to the Local Area Network (LAN)	9
5	Camera Installation	12
5.1	Installation Tips	12
5.2	Installing Cameras	12
5.3	Connecting Camera Extension Cables	13
6	Using the Mouse	14
7	Setting the Date & Time	15
8	Using the On-Screen Display.....	16
8.1	Navigation Bar.....	16
8.2	Quick Menu.....	16
8.3	Camera Toolbar.....	17
8.4	On-Screen Keyboards	18
9	Recording	19
9.1	Video Recording Types.....	19
9.2	Configuring Recording Quality	19
9.3	Setting the Recording Schedule	20
9.4	Setting up Scheduled or Manual Recording.....	21
9.5	Configuring hard disk drive Overwrite.....	22
10	Playback.....	24
10.1	Playing Back Video from the hard disk drive	24
10.2	Playback Controls.....	24
10.3	Area Search	26
10.4	Video Clip Backup.....	27
10.5	Playing Back Video from a USB Drive	29
11	Backup.....	30
11.1	Formatting the USB Flash Drive.....	30
11.2	Backing Up Video.....	31
11.3	Using Video Clip Backup	31
11.4	Viewing Backed Up Files	31
11.4.1	Viewing Backed Up Files on PC	32
11.4.2	Viewing Backed Up Files on Mac.....	32
11.4.3	Lorex Player Controls.....	34
12	Motion Detection	36
12.1	Status Icons	36
12.2	Configuring Motion Detection	36

13	Smart Motion Plus	39
13.1	Ensuring Accurate Person & Vehicle Detection	39
13.2	Configuring Smart Motion Plus (Person & Vehicle Detection).....	40
13.3	Searching for Person & Vehicle Detection (Smart Search).....	42
13.4	Configuring Active View	43
14	Active Deterrence.....	45
14.1	Automatic Deterrence Settings	45
14.2	Manually Activate Deterrence Features.....	48
15	People Counting	50
15.1	Ensuring People Counting Accuracy	50
15.2	Enable People Counting in Smart Plan.....	50
15.3	Configuring People Counting and In Area No.	51
15.3.1	Configuring for People Counting.....	51
15.3.2	Configuring for In Area No.	55
15.4	Searching for People Counting & In Area No. (Smart Search).....	58
15.4.1	Searching for People Counting	58
15.4.2	Searching for In Area No.	59
16	Heat Map.....	60
16.1	Enable Heat Map in Smart Plan.....	60
16.2	Configuring Heat Map.....	60
16.3	Searching for Heat Map (Smart Search)	61
17	Package & Envelope Detection	63
17.1	Ensuring Package & Envelope Detection Accuracy.....	63
17.2	Enable Package & Envelope Detection in Smart Plan	64
17.3	Configuring Package & Envelope Detection	64
17.4	Searching for Package & Envelope Detection (Smart Search).....	67
18	Sound Detection	69
18.1	Configuring Sound Detection	69
19	Face Detection.....	71
19.1	Ensuring Face & Mask Detection Accuracy.....	71
19.2	Enable Face & Mask Detection in Smart Plan	72
19.3	Configuring Face Detection	73
19.4	Configuring Mask Detection	74
19.5	Live Preview of Face & Mask Detection	76
19.6	Searching for Face & Mask Detection (Smart Search).....	76
20	Managing Passwords and User Accounts	78
20.1	User Accounts	78
20.1.1	Changing Passwords	78
20.1.2	Adding Users.....	79
20.1.3	Modifying Users	80
20.1.4	Deleting Users	80
20.2	Account Groups	80
20.2.1	Adding Groups.....	80
20.2.2	Modifying Groups.....	81
20.2.3	Deleting Groups	82
21	Using the Main Menu.....	83
21.1	Main Menu Overview	83
21.2	Events Menu	84
21.2.1	Configuring Smart Plan.....	84
21.2.2	Configuring Video Loss Settings.....	85
21.2.3	Configuring Alarm Input Devices.....	86
21.2.4	Controlling Alarm Output Devices.....	88
21.2.5	Configuring Hard Drive Warnings	89
21.2.6	Configuring Network Warnings	90

Table of contents

	21.2.7	Configuring Device Warnings	90
	21.2.8	Searching Event Logs	91
21.3		Display Menu	92
	21.3.1	Setting the Monitor Resolution (Display)	92
	21.3.2	Configuring Sequence Mode	93
21.4		Camera Menu	94
	21.4.1	Viewing Camera Status	94
	21.4.2	Camera Firmware Versions	95
	21.4.3	Upgrading Camera Firmware	95
	21.4.4	Camera Image Settings	96
	21.4.5	Configuring Video Overlay Settings	99
	21.4.6	Configuring Video Privacy Masking	99
	21.4.7	Configuring Snapshot Recording Settings	100
	21.4.8	Creating Custom Channel Names	101
	21.4.9	PoE Manager	102
21.5		Network Menu	102
	21.5.1	Selecting DHCP or Static IP Address (TCP/IP)	102
	21.5.2	Configuring System Ports (Connection)	103
	21.5.3	Configuring Email Alerts	103
	21.5.4	Configuring Switch Settings (Advanced)	105
	21.5.5	P2P Setting	106
21.6		System Menu	106
	21.6.1	Configuring General System Settings	106
	21.6.2	Configuring Holidays	107
	21.6.3	Configuring Serial Port	108
	21.6.4	Configuring IP Filter	109
	21.6.5	Configuring IP Filter — Sync Time-Allowlist	109
21.7		Storage Menu	110
	21.7.1	Configuring Pre-Recording	110
	21.7.2	Configuring Snapshot Recording Schedule	111
	21.7.3	Formatting the Hard Drive	112
	21.7.4	Configuring Hard Drive Type	112
	21.7.5	Configuring Hard Drive Groups (Advanced)	113
	21.7.6	Configuring Record Estimate (Recording Calculator)	115
	21.7.7	FTP (Advanced)	116
21.8		Information Menu	116
	21.8.1	Version Information	116
	21.8.2	Hard Drive Information	117
	21.8.3	Recording Information	117
	21.8.4	BPS	118
	21.8.5	Fan and CPU Status	118
	21.8.6	System Log	119
	21.8.7	Event Information	119
	21.8.8	Online Users	120
	21.8.9	Network Load	121
	21.8.10	Network Test	121
	21.8.11	Saving Your System Configuration to a USB Thumb Drive	121
21.9		Restore Default Settings	123
	21.9.1	Upgrading Firmware Manually	123
	21.9.2	Automatic Firmware Upgrades	123
21.10		Shutdown	124
22		Connecting Remotely using the Mobile App	125
23		Pan/Tilt/Zoom (PTZ) Cameras	126
	23.1	Connecting PTZ Cameras to the Recorder	126

23.2	Basic PTZ Controls	127
23.3	Advanced PTZ Controls.....	128
23.4	Presets	128
23.5	Tours	129
23.6	Patterns	129
23.7	AutoScan	129
24	Connecting Audio Devices.....	130
25	Replacing the Hard Disk Drive.....	132
25.1	Removing the hard disk drive	132
25.2	Installing a New hard disk drive	133
26	DDNS Setup (Advanced).....	136
26.1	STEP 1: Port Forwarding	136
26.2	STEP 2: Create a Lorex Account	136
26.3	STEP 3: Activate Your Warranty	136
26.4	STEP 4: Sign Up for a DDNS Account.....	137
26.5	STEP 5: Enable DDNS on the Recorder.....	138
27	Troubleshooting.....	139
27.1	Top Reasons Your Lorex Camera May Lose Video or Go Black.....	141
27.1.1	Going over PoE budget will result in video loss	141
27.1.2	When to use a PoE Switch?	142
27.1.3	Not enough power or total loss of it.....	142
27.1.4	Power surge and interference	142
27.1.5	Not supported display output	142
27.1.6	Twisted, bent or damaged cables	143
27.1.7	Outdated firmware and hardware.....	143
27.1.8	Issue with compatibility	143
27.1.9	Low internet bandwidth	143
28	Technical Specifications.....	144
28.1	General	144
28.2	Inputs/Outputs	144
28.3	Display.....	144
28.4	Recording	144
28.5	Playback	144
28.6	Storage.....	144
28.7	Special Features	144
28.8	Connectivity	145
28.9	Additional Specifications	145
29	Notices	146
29.1	FCC/IC	146
29.2	CE	146
29.3	Modification	146
29.4	RoHS.....	146
29.5	ICES-003	146

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.

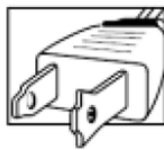


CAUTION

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.

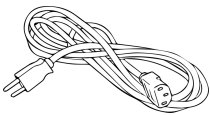
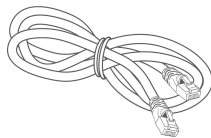
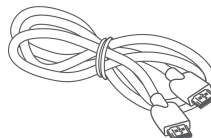
2. **Conditions Requiring Service:** Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - When the power supply cord or plug is damaged.
 - If liquid has been spilled or objects have fallen into the product.
 - If the product has 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.

Package Contents

Your security recorder package includes the following components:

 4K Ultra HD Security NVR			
 Power Adapter	 Ethernet Cable	 USB Mouse	 HDMI Cable
 NOTE hard disk 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.			

3.1 Front Panel



1. LED Indicators:

- **POWER:** Glows to indicate the system is on.
- **HDD:** Glows to indicate hard disk drive is operating properly. Turns off when there is a hard disk drive error.
- **NET:** Glows to indicate the recorder is connected to the Internet for remote access and automatic firmware updates. Turns off when there is no Internet access.

2. Channel Indicators: Glow when camera is connected to the corresponding channel.

3. Navigational Buttons:

- **Center Button:** From live view, press once to open the System Information screen. In menus, press to confirm menu options.
- **Directional Buttons:** Press to move cursor in menus. In live view, press up to change split screen layout; press left / right to select channels when single-channel mode is selected.

4. Power Button: Press and hold to power off the system (system password required). Press to power the system back on.

5. Playback Buttons:

-  **Slow:** Press to slow playback / decrease playback speed.
-  **Fast:** Press to speed up playback / increase playback speed.
-  **Play Backwards:** Press to play video backwards / pause video.
-  **Play:** Press to play video / pause video.

6. **shift:** During text input, press to switch input types.

7. **rec:** Press to open manual recording controls.

8. **fn:** Performs special functions in some menus.

9. **esc:** In menus, press to go back / exit menus. In playback, press to return to live view.



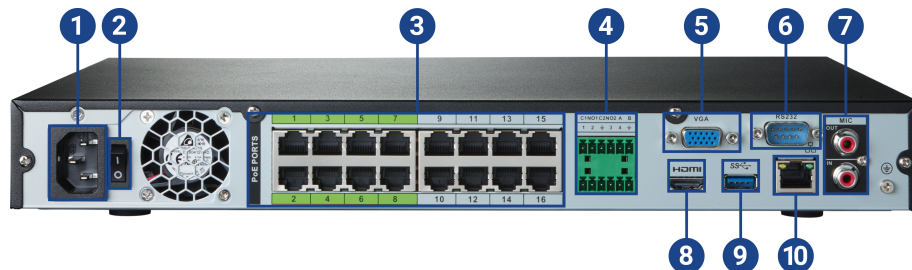
NOTE

To activate deterrence features manually:

Press and hold for 5 seconds. Warning lights and sirens will be activated for all connected deterrence cameras. The camera warning light and siren will automatically switch off after 10 seconds.

10. 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.

3.2 Back Panel



1. **Power Input:** Connect the included AC power cable.
2. **Power Switch:** Press to power the system on / off.
3. **PoE Video Inputs:** Connect Lorex IP cameras to the system. For a full list of compatible cameras, visit lorex.com/compatibility.
4. **Alarm Block:** Connect alarm / sensor devices (not included).
5. **VGA:** Connect a VGA monitor (not included) to view the system interface.
6. **RS232:** Connect access control systems (not included).
7. **AUDIO OUT/IN:**
 - Connect an external speaker to the **AUDIO OUT** port to hear system audio
 - Connect an external microphone to the **AUDIO IN** port for single-channel audio recording.
 - For full details on connecting external audio devices, see 24 *Connecting Audio Devices*, page 130.
8. **HDMI:** Connect to an HDMI monitor or TV (not included) using the included HDMI cable to view the system interface.
9. **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.
10. **LAN:** Connect the included RJ45 Ethernet cable from the recorder to your router for remote connectivity and automatic firmware updates.

4.1 STEP 1: Connect cameras



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.

Option 1: Direct Connection to NVR

Test your cameras prior to selecting a permanent mounting location by temporarily connecting the cameras and cables to your recorder. Connect the cameras to the recorder using the RJ45 Ethernet extension cables provided with your cameras.



Option 2: Connect Cameras to Local Network

You can also connect your IP cameras to your local network for flexible installations. For details, see 4.8 *Connecting Cameras to the Local Area Network (LAN)*, page 9.



NOTE

Before selecting a permanent mounting location for your cameras, see 5 *Camera Installation*, page 12 for important notes and installation tips.

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 5Mbps required for 4K viewing; 3.5Mbps for lower resolutions). 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 (supports up to 4K resolution).



OR

Connect the recorder to a monitor using a VGA cable (not included - supports up to 1080p resolution).



CAUTION

If you need to switch monitors, make sure you set the recorder to an output resolution supported by the new monitor before switching. See 21.3.1 *Setting the Monitor Resolution (Display)*, page 92 for details.

4.5 STEP 5: Connect power

Use the included power adapter to connect the recorder to a nearby outlet.

Turn on the power switch on the back of the unit to power up the recorder.



4.6 STEP 6: 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 recommended to upgrade your system firmware and client software or mobile apps to the latest version to ensure remote connectivity to the system and support newly-developed features.



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:

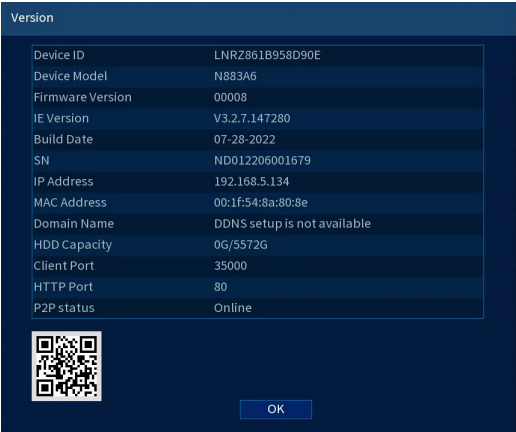
- 1. After startup, a notification will appear asking you to upgrade the firmware. Click **OK** to upgrade.
- 2. Enter the system user name (default: **admin**) and your secure password, then click **OK**. Wait for the firmware update to complete. The system will restart once the firmware has been upgraded.

 **CAUTION**

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

4.7 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**.
- OR**
- Press the front panel button on the recorder.

 **NOTE**

Do not press and hold the button. The front panel button doubles as a panic button that activates warning lights and sirens for deterrence cameras if held for 3 seconds.



4.8 Connecting Cameras to the Local Area Network (LAN)

For flexibility, you may also connect IP cameras to the same Local Area Network (LAN) as the NVR instead of connecting them directly to NVR. This is accomplished by connecting the cameras to the same router as the NVR.

For these installations, an external PoE switch (sold separately) or power adapter (sold separately) must be used to provide power to each IP camera. You also must add the cameras on the NVR before they will show a picture on the monitor or be recorded by the NVR.

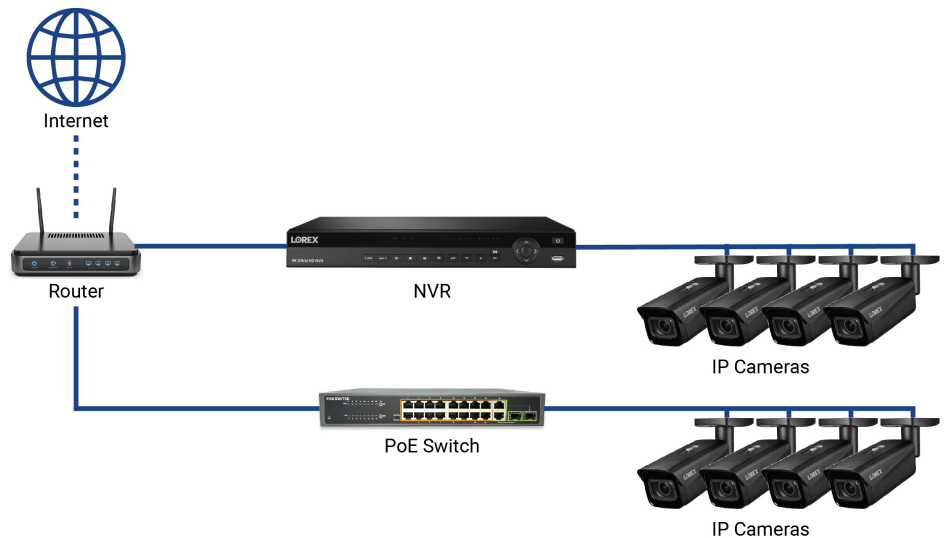
Follow the steps below to connect the cameras to the NVR over the LAN.



NOTE

Compatible with Lorex HD IP cameras. For a list of compatible cameras, please visit lorex.com/compatibility.

Step 1 of 2 — Option A: Connecting cameras to your local network using a PoE switch:



1. Connect an Ethernet cable from the LAN port on an external PoE switch (sold separately on lorex.com) to your router using a CAT5e or higher Ethernet cable. Connect the power cable to the PoE switch and to a power outlet or surge protector.

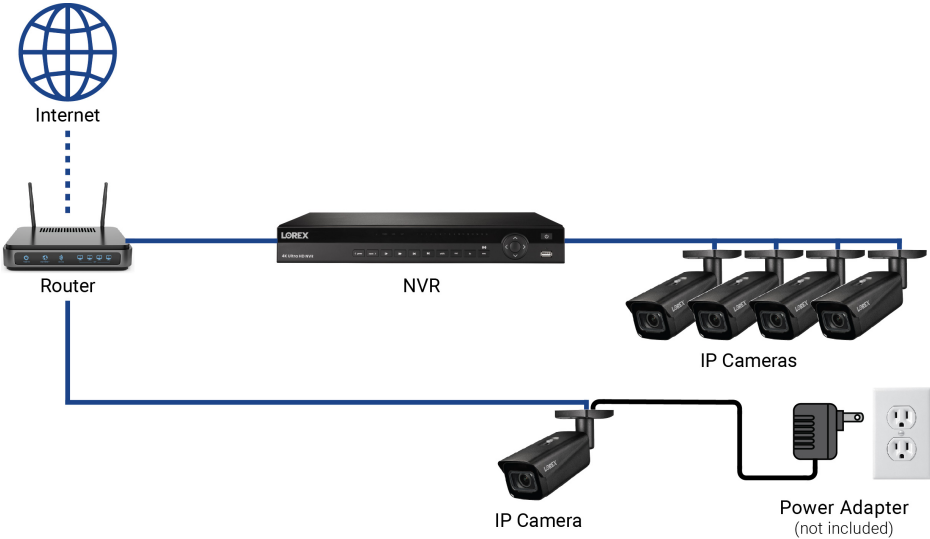


NOTE

Terminology may vary depending on the model of PoE switch you have.

2. Connect the IP cameras to the PoE switch using the Ethernet extension cables. The PoE switch will provide power and video transmission the same way as your NVR.

Step 1 of 2 — Option B: Connecting cameras to your local network using power adapters:



1. Connect each camera to a compatible power adapter (check your camera documentation at lorex.com for compatible power adapters for your cameras).
2. Connect the camera to your router using a CAT5e or higher Ethernet cable.

Step 2 of 2: Add the cameras to your NVR:

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



2. Click **Search Device**. The system searches the network for compatible cameras.

NOTE
It may take a few minutes after you power up IP cameras for them to appear in your search.

3. Check the camera(s) you would like to add.
4. Click **Add**. The **Status** indicator turns green to show the camera is successfully connected.

NOTE
You can also add a camera to a specific channel by hovering the mouse over an empty channel in split-screen view and clicking . Double-click the camera you would like to add, then right-click to exit.

The following chapter provides general setup instruction and installation tips for security cameras.



NOTE

This section covers connection of cameras to the recorder and general installation tips only. Please refer to the documentation that came with your camera or search for your camera model number 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 Installing Cameras

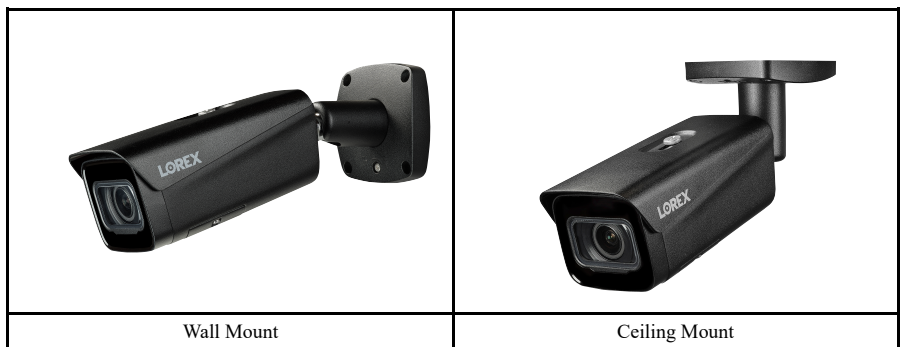
1. Mount the cameras to the desired mounting surface according to the instructions that came with the cameras (visit lorex.com for the most up-to-date documentation). Choose a firm mounting surface that can support the full weight of the camera.



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).



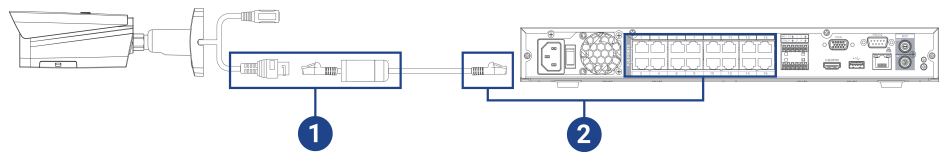
NOTE

Counter / table top mounting is not recommended if you are planning to utilize smart motion detection. Please refer to a smart detection feature chapter for the recommended camera angling to ensure accurate detection for that feature.

5.3 Connecting Camera Extension Cables

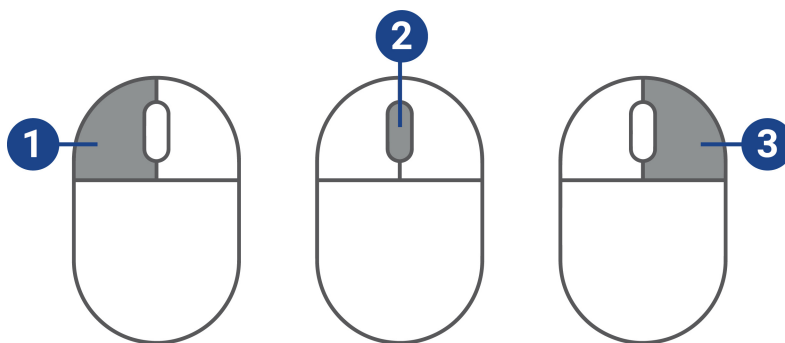
It is recommended to connect your cameras directly to the NVR. This is because the NVR features Power over Ethernet (PoE) ports that are used to transmit video and audio, as well as provide power to the camera without the need for a power adapter.

You can also connect cameras to a network switch or router (see 4.8 *Connecting Cameras to the Local Area Network (LAN)*, page 9 for details). If your switch does not support PoE, or you are connecting cameras to a router, you will require a power adapter for each camera (sold separately). Refer to your camera's documentation at lorex.com for the correct power adapter to use.



1. Connect the camera to the included Ethernet extension cable.
2. Connect the other end of the Ethernet extension cable to one of the PoE ports on the rear panel of the NVR.

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. **Scroll wheel:** In live view, use the scroll wheel to zoom in/out.

3. **Right-button:**

- During live view, right-click anywhere on the screen to open the Quick Menu.
- Within system menus, right-click to exit menus.



CAUTION

It is highly recommended to set the date and time when first setting up your system.

Inaccurate time stamps may render your footage unusable for court evidence.



NOTE

This chapter covers setting system date and time only. See the references below for full instructions on the other submenus shown below:

- **General:** See 21.6.1 *Configuring General System Settings*, page 106.
- **Holiday:** See 21.6.2 *Configuring Holidays*, page 107.

To set the date and time:

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

3. Under **System Time**, enter the current time and select your time zone. Then, click **Save**.
4. Check the **DST** check box to enable auto Daylight Savings Time updates.



NOTE

- You can adjust the **Start Time** and **End Time** for Daylight Savings Time if the default settings do not match your region.
- Under **Type**, select **Week** to set the start and end time based on a day and week (e.g. 2nd Sunday in March), or select **Date** to set the start and end time to a specific date.

5. (Optional) Check the **NTP** check box to sync your system with an Internet time server. Click **Manual Update** to instantly update the time.



NOTE

- Your system must have a constant connection to the Internet to use NTP.
- (Advanced) You can enter a custom NTP server under **Server Address** and **Port**, and you can select how often the system will sync the time using **Interval**.

6. Click **Apply** to save changes.

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



NOTE

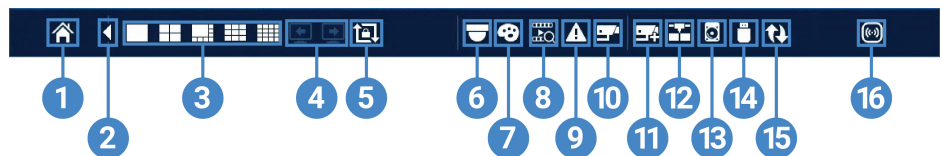
To access the on-screen display, you must connect the included mouse and a monitor (not included) to the recorder. See 4 *Basic System Setup*, page 7 for full instructions.

8.1 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.



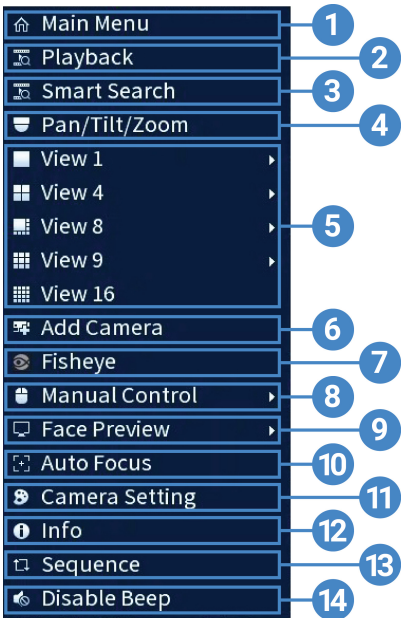
1. **Main Menu:** See 21 *Using the Main Menu*, page 83 for full instructions on using the Main Menu.
2. **Collapse Navigation Bar**
3. **Viewing Modes:** Select how many channels are shown on screen during live viewing.
4. **Previous / Next Channel(s):** Display previous / next channel(s) in single or quad channel viewing mode.
5. **Sequence Mode:** Start or stop Sequence Mode. In Sequence Mode, the system display will automatically cycle through connected channels every few seconds.
6. **Pan/Tilt/Zoom:** Control and configure settings for Pan-Tilt-Zoom (PTZ) cameras. For full instructions on connecting and using PTZ cameras, see 23 *Pan/Tilt/Zoom (PTZ) Cameras*, page 126.
7. **Camera:** Click to open camera image settings. For full details, see 21.4.4 *Camera Image Settings*, page 96.
8. **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 10 *Playback*, page 24.
9. **Alarm Status:** View alarms in progress. See 21.8.7 *Event Information* for details.
10. **Channel Info:** Click to access status information about connected cameras.
11. **Remote Device Search:** Manage IP cameras over the network.
12. **Network:** View and configure network options, including setting a dynamic or static IP address. For full instructions on configuring network options, see 21.5.1 *Selecting DHCP or Static IP Address (TCP/IP)*, page 102.
13. **Hard Drive Manager:** Configure hard drive read/write options (see 21.7.4 *Configuring Hard Drive Type*, page 112 for details) or format drives (see 21.7.3 *Formatting the Hard Drive*, page 112 for details).
14. **USB Manager:** Click to access options for connected USB thumb drives (not included). You can backup video, logs, or system configurations and install firmware upgrades.
15. **System Upgrade:** Check for firmware upgrades. The system must be connected to the Internet to check for or receive updates.
16. **Warning Light & Siren — Deterrence Cameras Only:** Click to activate warning lights and sirens for all connected deterrence cameras. Click again to deactivate.

8.2 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 21 *Using the Main Menu*, page 83 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 10 *Playback*, page 24.
3. **Smart Search:** Search and filter through smart motion detection events from compatible cameras.
4. **Pan/Tilt/Zoom:** Control and configure settings for Pan-Tilt-Zoom (PTZ) cameras. For full instructions on connecting and using PTZ cameras, see 23 *Pan/Tilt/Zoom (PTZ) Cameras*, page 126.
5. **Viewing Modes:** Select how many channels are shown on screen during live viewing.
6. **Add Camera:** Search the network for wired cameras to add to the recorder.
7. **Fisheye:** Currently not supported.
8. **Manual Control:** Select manual recording and snapshot options. For details, see 9.4 *Setting up Scheduled or Manual Recording*, page 21.
9. **Face Preview:** (*Face Detection compatible cameras only*) **Enable** or **Disable** face events to show on the right side of the screen.
10. **AutoFocus:** Access zoom/focus controls for auto-focus cameras (not included).
11. **Camera Setting:** Configure image settings for cameras. For full details, see 21.4.4 *Camera Image Settings*, page 96.
12. **Info:** Displays system information, such as model number, device ID, IP address, etc.
13. **Sequence:** Start or stop Sequence Mode. In Sequence Mode, the system display will automatically cycle through connected channels every few seconds.
14. **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.

8.3 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 21.6.1 *Configuring General System Settings*, page 106 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. **Two-Way Audio:** (*Two—way audio cameras only*) Click to enable two-way talk on compatible cameras.
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.

8.4 On-Screen Keyboards

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

To use the Full Keyboard:

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



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

To use the Number Keyboard:

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



- Right-click to close the Number Keyboard.

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.

9.1 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 a motion event is being recorded.
- **Smart motion recording:** Smart motion video recording of a person or vehicle. An **S** icon is shown in the bottom left-hand corner of the camera image when a motion event of a person or vehicle is being recorded. For more details on configuring smart motion detection of people and/or vehicles, see 13 *Smart Motion Plus*, page 39.

9.2 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 disk drive. The Sub Stream records low-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 from the side panel, then the **Recording** tab from the top panel.



3. Select the camera you would like to configure.

4. Select the **Coding Strategy** used to encode recordings for storage on your hard disk drive. The coding strategy (video encoding) will effect the overall network bandwidth and storage space on your system. Enable one of the following:
 - **Continuous:** By default, the system uses Continuous (standard video encoding).
 - **Smart Codec:** Smart Codec uses scene-adaptive encoding strategy to reduce bandwidth and storage requirements while maintaining the video quality of key areas. Smart Codec is more suitable for large scenes, especially for static scenes where it can achieve a larger proportion of compression.
 - **AI Codec:** AI coding strategy saves bandwidth and storage by focusing on key targets such as person and vehicle while reducing focus on background areas without greatly affecting the image quality. When selecting AI Codec, the bit rate type automatically switches to CBR.
5. Under **Type**, select the recording type you want to configure the recording quality settings for.
6. Configure the following settings. Except where noted, options for Main Stream and Sub Stream are the same:
 - **Compression:** Select the video compression type that will be used. For H.265 compatible cameras, it is recommended to select **H.265**, as it will use the least amount of disk space.
 - **Resolution:** Select the resolution that you want to use to record the selected channel. Higher resolutions create a more detailed image, but take up more hard disk drive space to record and require more bandwidth to stream to connected computers or mobile devices.

**NOTE**

Available resolutions for the Main Stream and Sub Stream depend on the model of camera that is connected to the system.

- **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 requires 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. A higher bit rate results in a better image, but increases the amount of hard disk drive space or bandwidth required.

**NOTE**

Recording settings include options for audio recording. For full details, see 24 *Connecting Audio Devices*, page 130.

7. Click **Apply** to save changes.
8. *(OPTIONAL)* Click **Copy** to apply the settings for the current channel to one or more other channels.

9.3 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 disk 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**.

- Click **STORAGE**. Click the **Schedule** tab from the side panel, then the **Record** tab from the top panel.



- Select the camera you would like to configure or select **All**.
- Configure the schedule as needed:
 - Check **Continuous**, **Motion**, **Alarm**, or **Smart Detection** 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 .
- Click **Apply** to save changes.

9.4 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 9.3 *Setting the Recording Schedule*, page 20.

To set options for manual recording:

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

Record

Main Stream	All	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Auto	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
Manual	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Off	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sub Stream 1																	
Auto	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
Manual	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Off	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Display Stream																	
Auto	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Manual	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Off	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
Snapshot																	
On	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Off	☐	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒

Apply

Back

- 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.
 - **Off:** The system will not record the Main Stream for this channel. This option is not recommended.
- 3. Under **Sub Stream 1**, 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.
 - **Off:** The system will not record the Sub Stream for this channel. This option is not recommended.
- 4. Under **Display 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.
 - **Off:** The system will not record the Sub Stream for this channel. This option is not recommended.
- 5. Under **Snapshot**, select **On** to enable snapshot recording on each channel. Or, select **Off** to disable snapshot recording.

NOTE

To set more preferences for snapshots recording, see 21.4.7 *Configuring Snapshot Recording Settings*, page 100.

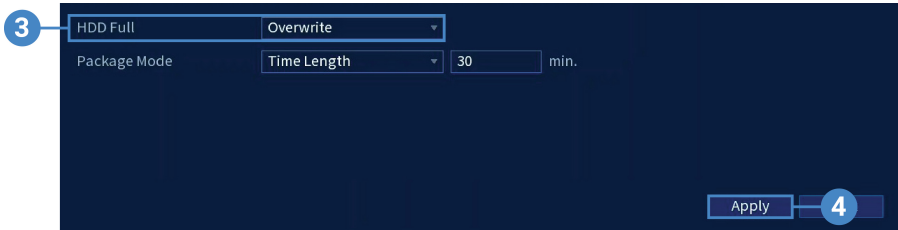
- 6. Click **Apply** to save changes.

9.5 Configuring hard disk drive Overwrite

When the hard disk 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 disk drive is full.

To configure hard disk drive overwrite:

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



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

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

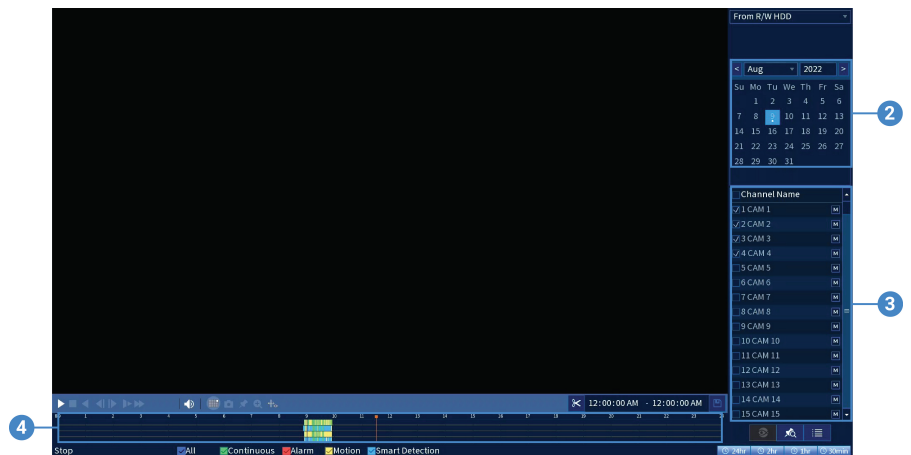
- 4. Click **Apply** to save changes.

Search through and playback recorded video files on the system.

10.1 Playing Back Video from the hard disk drive

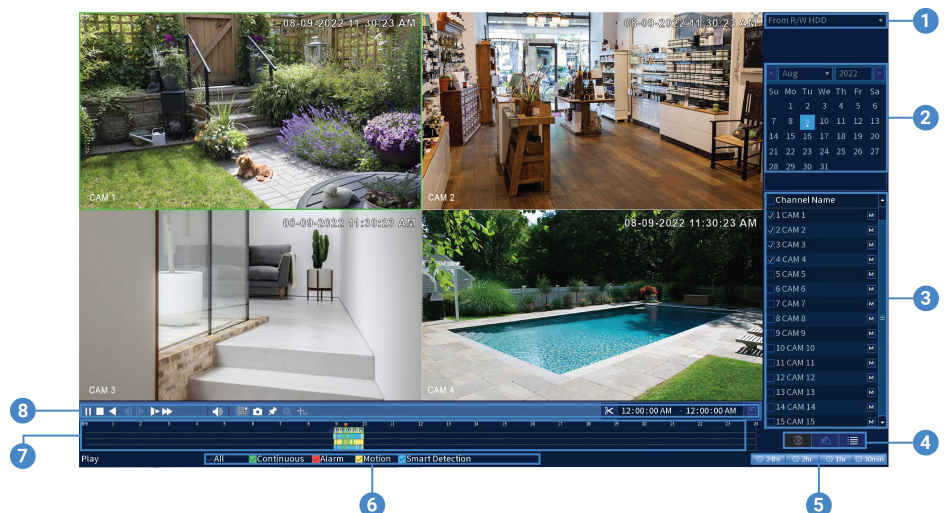
To play back recorded video:

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.

10.2 Playback Controls



1. **Select Playback Device:** Choose between searching the recorder's hard disk 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:

-  **Not supported**
 -  **Bookmark List:** Shows all bookmarked recordings for a single channel on the selected date (requires bookmarked recordings — see below for details).
 -  **File List:** Shows all available recordings for the selected date and channel(s) in list format.
5. **Playback Bar Time Scale:** Select the length of the time period shown on 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:** Click on the volume bar to set the volume for audio in playback. Click the icon to mute/unmute.



NOTE

- You must be viewing an audio camera in single channel to hear audio. 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.
- 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.

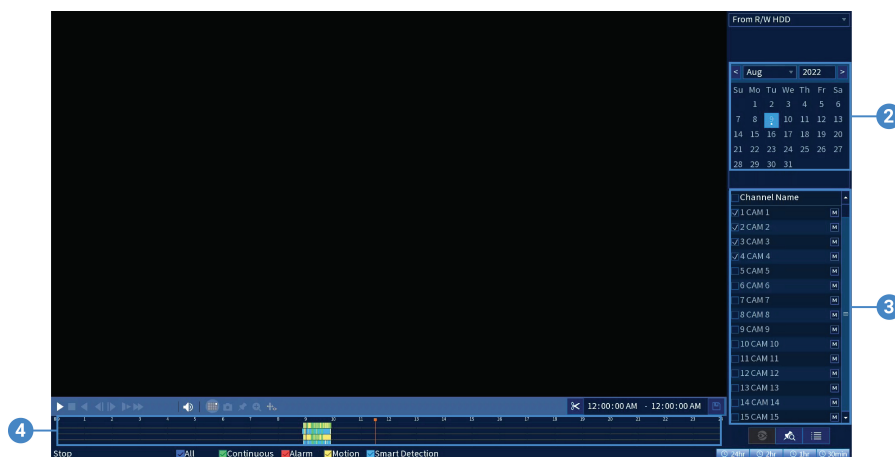
-  **Area Search:** Click to select an area of the camera image and play back all recordings with motion in the selected area. For full details, see 10.3 *Area Search*, page 26.
-  **Snapshot:** Take a snapshot of the video.
-  **Add Bookmark:** Bookmark recordings for easy retrieval.
-  **Digital Zoom:** 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.
-  **Show/Hide Smart Search Rules:** Click to show/hide active areas for smart detection of people and vehicles during playback.
-  **Video Clip:** Back up a custom video clip to a USB flash drive (not included). For full instructions, see 10.4 *Video Clip Backup*, page 27.

10.3 Area Search

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

To perform an area 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 the search.
6. The icon changes to , and 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 part of the image that will be searched for motion events.



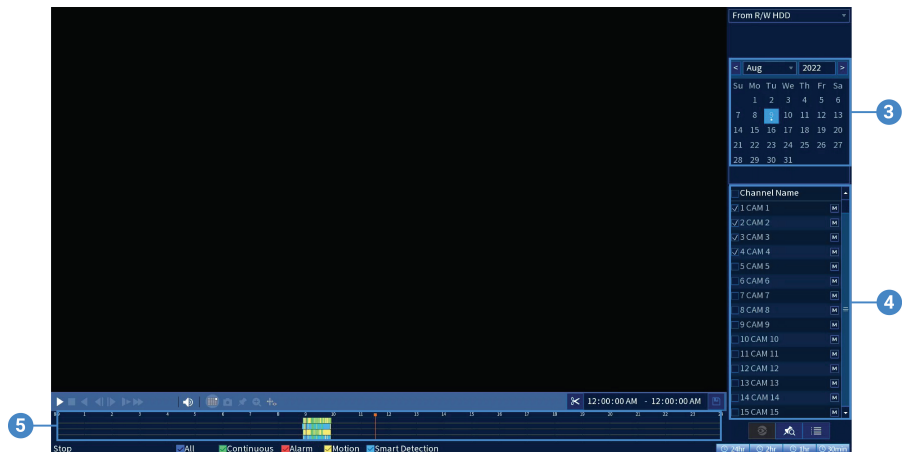
7. Click  to begin area search.

10.4 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:

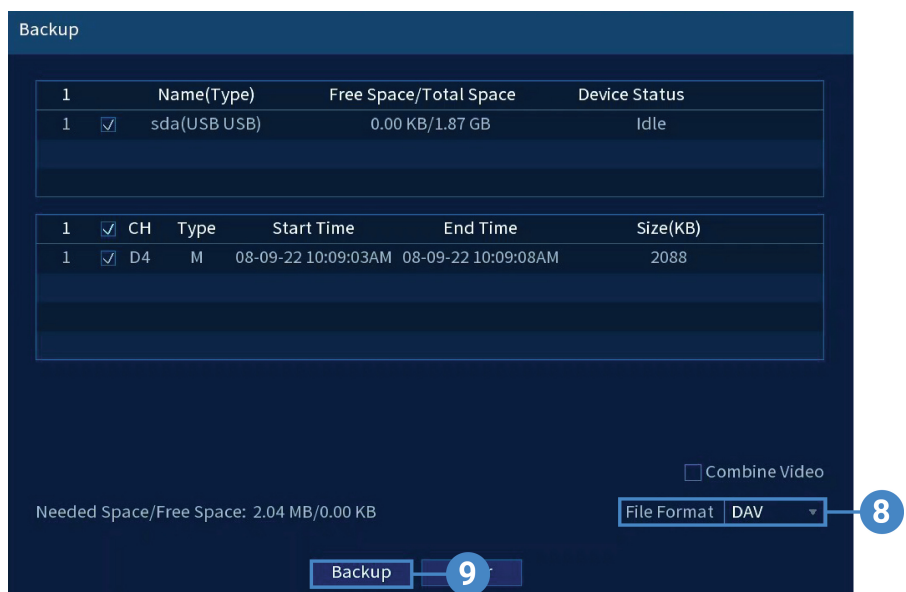
1. Connect the USB thumb drive (not included) to a free USB port on the recorder.
2. From the Live View display, right-click to open the Quick Menu, then click **Playback**.



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**.

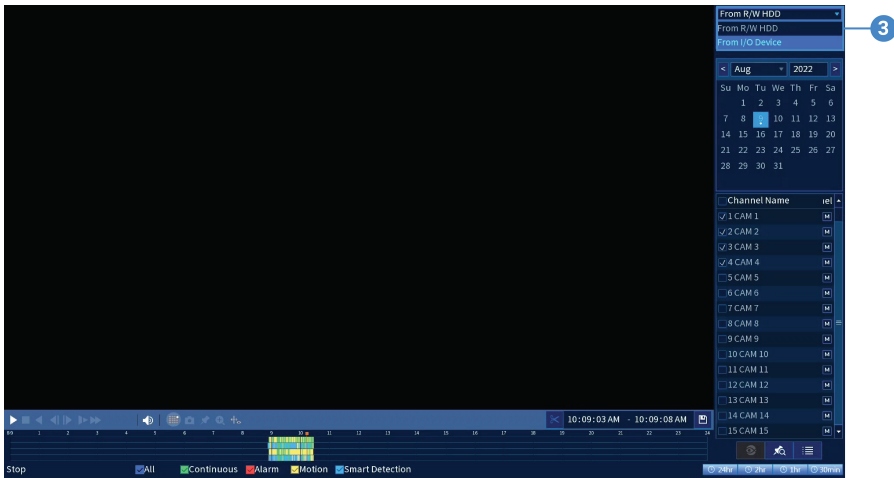
10.5 Playing Back Video from a USB Drive

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

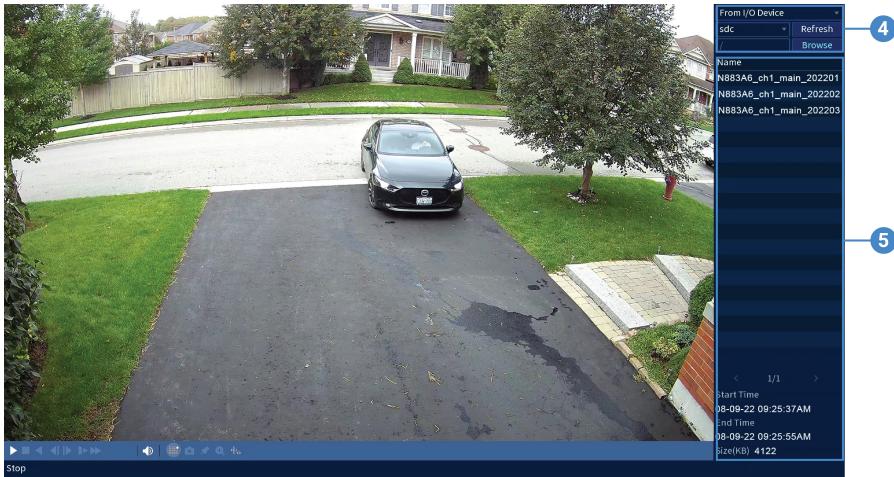
For full instructions on backing up video to a USB flash drive, see 11 *Backup*, page 30.

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.

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

11.1 Formatting the USB Flash Drive

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



CAUTION

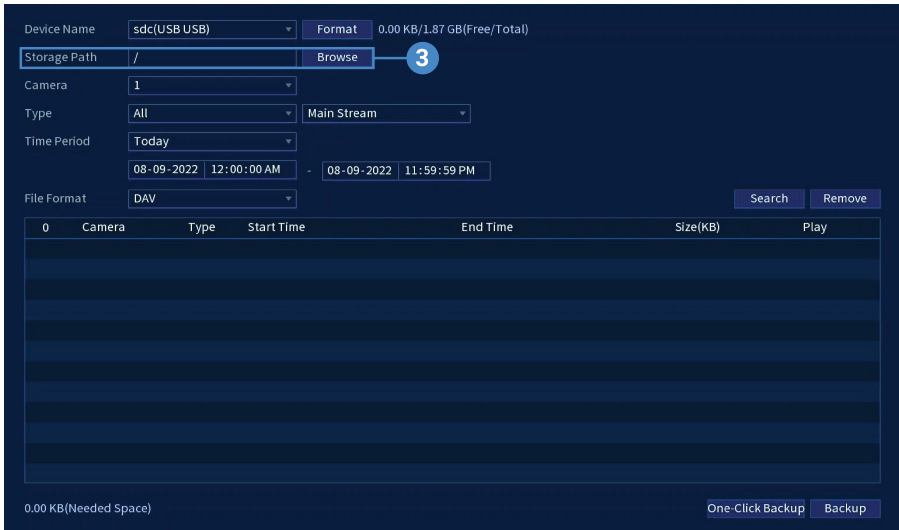
Formatting the USB device will permanently erase all data. **This step cannot be undone.**

Prerequisite:

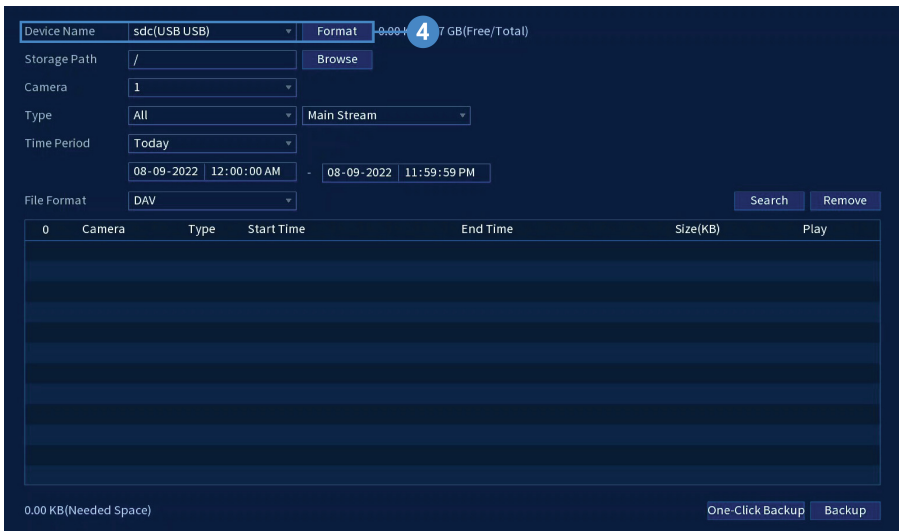
- Connect a USB flash drive (not included) to a free USB port on the unit.

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 **Browse** to locate the USB drive you want to format.



4. Select the correct drive, then click **Format**.

5. 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.

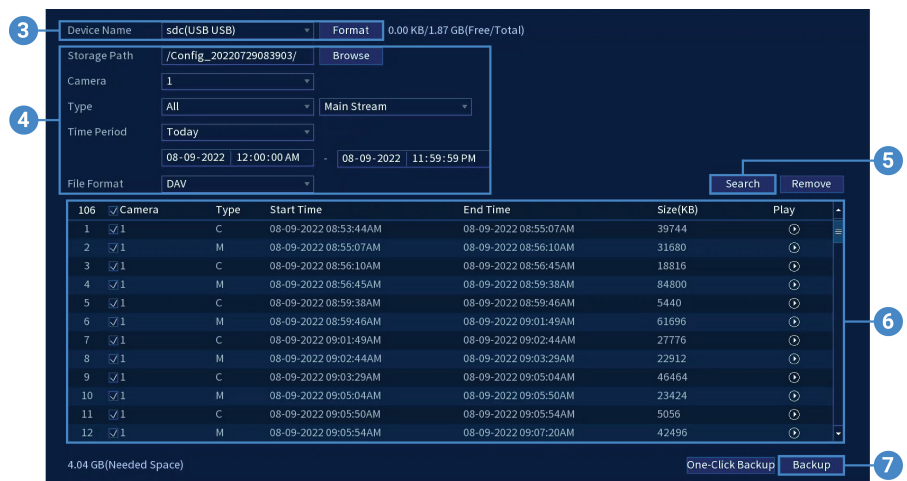
6. Click **OK**.

11.2 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 11.1 *Formatting the USB Flash Drive*, page 30 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. Click **Browse** to select the USB backup device and the folder to save your backup files to.

4. Configure the following:

- **Type:** Select the recording type you would like to search for or select **All** to search all recording types.
- **Time Period:** Select the time period for your search, then enter the start time and end time.
- **File Format:** Select **DAV** to save files to save files to **.dav** format. You can playback **.dav** files using the Lorex video player software.

5. Click **Search**. A list of files that match your search criteria appears.

6. Check files you would like to backup.

7. 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.

11.3 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 10.4 *Video Clip Backup*, page 27.

11.4 Viewing Backed Up Files

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

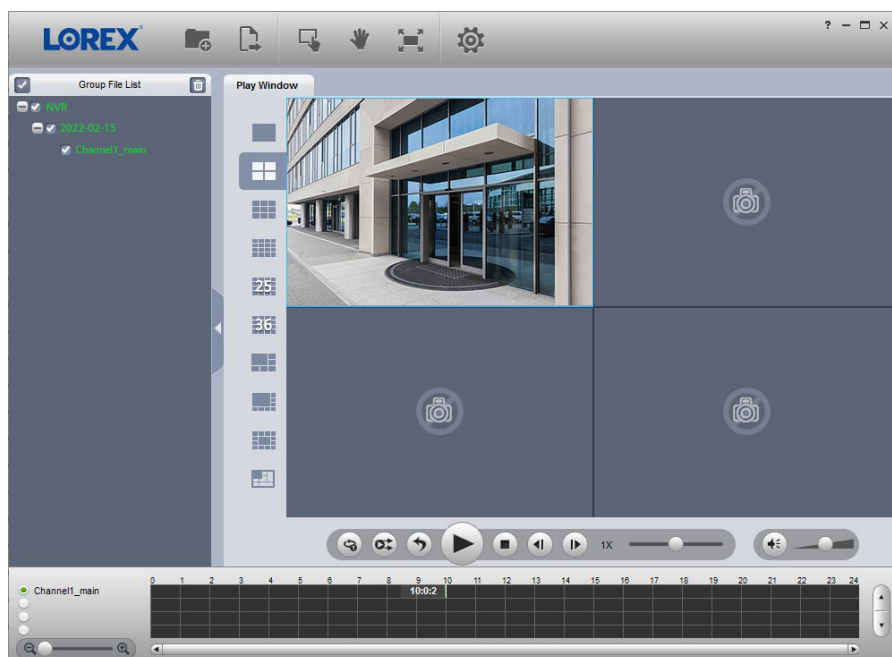
11.4.1 Viewing Backed Up Files on PC

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 under the **Group File List** on the left to begin playback.



NOTE

By default, the video file will play in the top-left playback window as shown below. Select an unused playback window then double-click another file to play additional videos at the same time.



OR

Click  to open a backed 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 11.4.3 *Lorex Player Controls*, page 34.

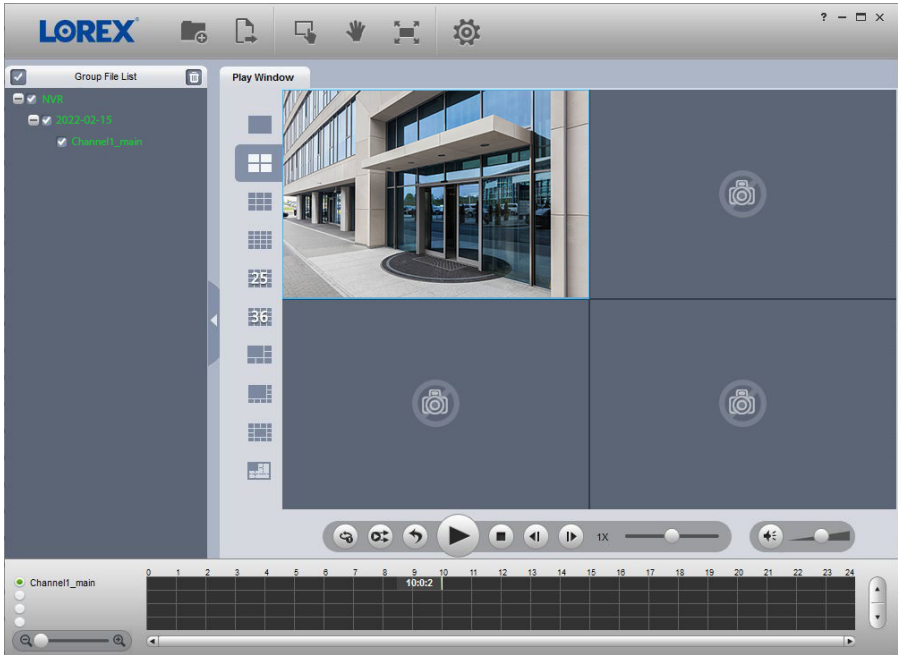
11.4.2 Viewing Backed Up Files on Mac

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 under the **Group File List** on the left to begin playback.

 **NOTE**

By default, the video file will play in the top-left playback window as shown below. Select an unused playback window then double-click another file to play additional videos at the same time.



OR

Click  to open a backed up video file in another location.

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

 **NOTE**

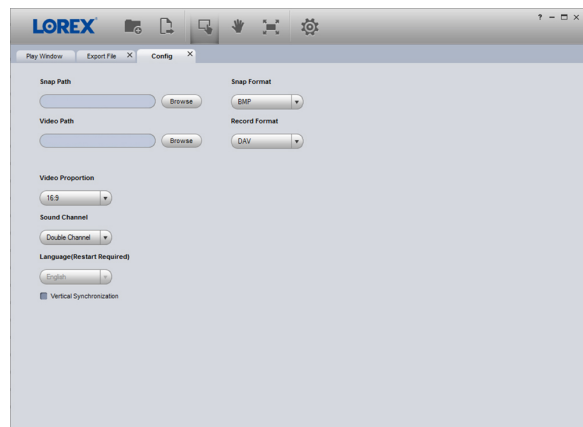
For a full overview of Lorex Player controls, see 11.4.3 *Lorex Player Controls*, page 34.

11.4.3 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 of the video file.
 - : Take a snapshot of 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.



Use motion detection on your camera to capture activity, trigger alarms, and receive notifications. Setting up your recorder to only record on motion detection can save hard disk drive space and eliminate the need to view a whole entire day’s worth of recording to see if an incident occurred. You can set motion detection zones to monitor certain areas in the camera’s field-of-view and decrease or increase the motion sensitivity.

12.1 Status Icons

The system displays different icons in the bottom left-hand corner of the camera image to inform you of motion detection events:

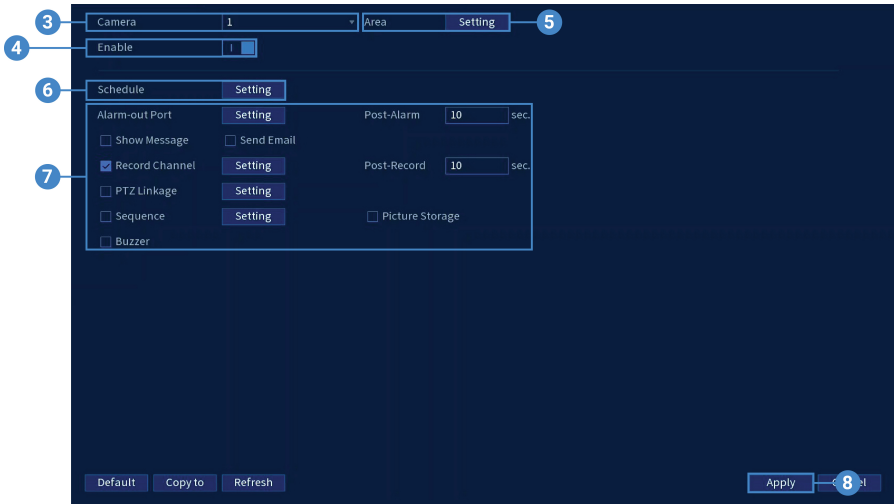
- **Motion detection:** Motion has been detected by the camera. An **M** icon is shown in the bottom left-hand corner of the camera image to show that motion was detected, but the system is not recording a motion event. This is because motion recording is not enabled on the channel, or the movement detected by the camera was not significant enough to trigger motion recording. See 12.2 *Configuring Motion Detection*, page 36 to configure settings for motion detection and recording.
- **Motion recording:** Motion-triggered video recording. An **M** icon is shown in the bottom left-hand corner of the camera image when a motion event is being recorded.

12.2 Configuring Motion Detection

Set preferences for motion detection per channel.

To configure motion detection:

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Motion** tab from the drop-down.

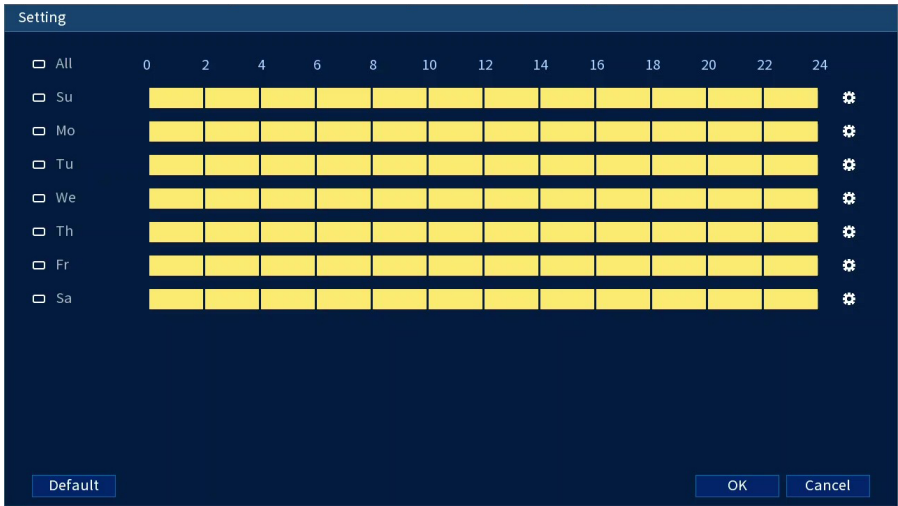


3. Select a compatible camera.
4. Check to enable motion detection on the selected channel.

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

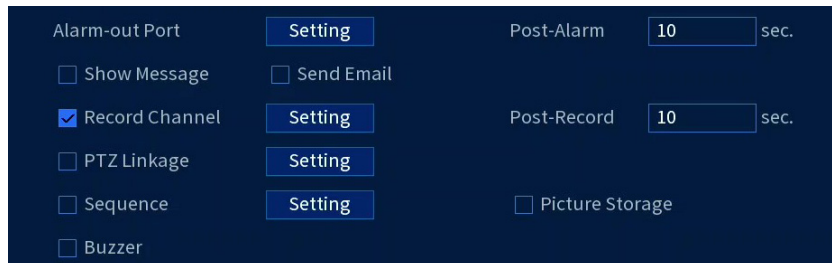


- The camera image appears with a red grid overlay. This means the entire image is enabled for motion detection.
 - Click or click-and-drag to add / remove boxes from the active area. Cells that have been removed from the active area appear transparent.
 - Hover near the top of the image to reveal zone selection. You can set up to 4 different zones with different sensitivity and threshold values.
 - Right-click when finished.
6. Click **Setting** next to **Schedule** to choose which days and times of the week to enable motion detection:



- Click or click-and-drag along each of the yellow timelines to quickly add or remove time from each day's schedule in 30-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 . 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:

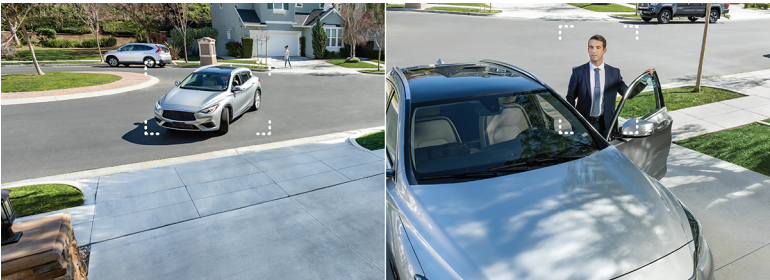


Alarm-out Port	Setting	Post-Alarm	10 sec.
☐ Show Message	☐ Send Email		
☒ Record Channel	Setting	Post-Record	10 sec.
☐ PTZ Linkage	Setting		
☐ Sequence	Setting	☐ Picture Storage	
☐ Buzzer			

- **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 21.5.3 *Configuring Email Alerts*, page 103).
- **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-Record** field.
- **PTZ Linkage:** 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.
- **Picture Storage:** Check the box to save a snapshot of the corresponding channels.
- **Buzzer:** Check to enable the system buzzer.

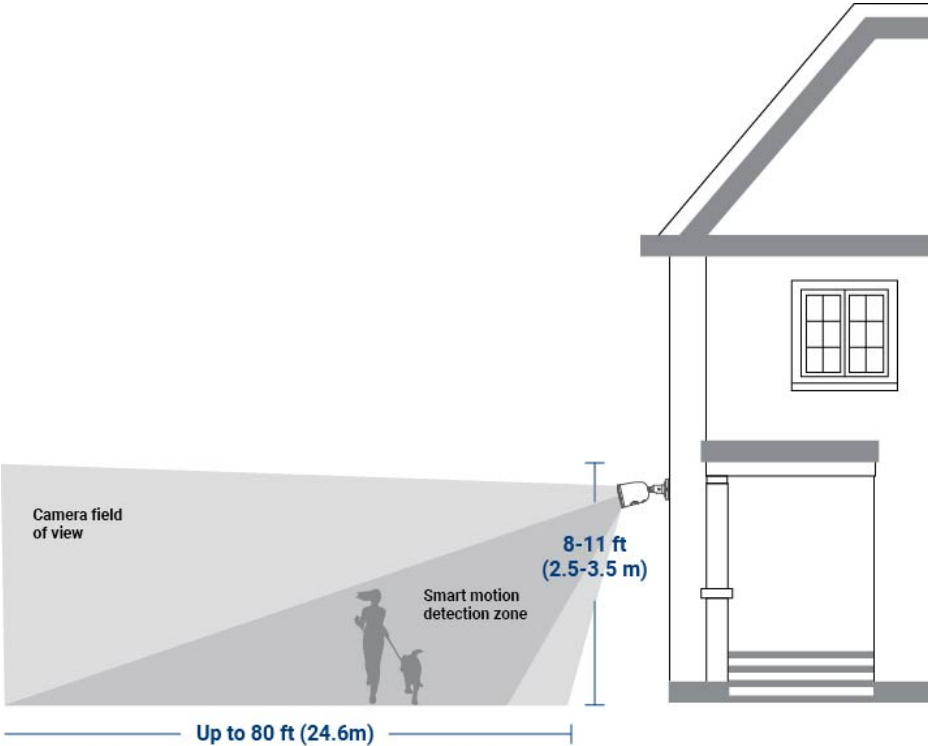
8. Click **Apply** to save changes.

The system supports detection of people and vehicles with compatible IP cameras only. This helps deliver more relevant notifications when using the Lorex Cloud app for remote viewing. You can also link warning light deterrence to person and vehicle detection on compatible Lorex deterrence cameras for an added level of smart security.



13.1 Ensuring Accurate Person & Vehicle Detection

The following are important camera installation notes to ensure accurate person and vehicle detection. Refer to the documentation that came with your camera or search for your camera model number at [lorex.com](https://www.lorex.com) for full mounting instructions.



Person Detection

Angle	Height	Minimum Distance	Maximum Distance
15°	8.2ft (2.5m)	2.8ft (0.86m)	20ft (6.12m)
15°	9.8ft (3m)	4.5ft (1.39m)	19.7ft (6.03m)
15°	11.5ft (3.5m)	6.3ft (1.93m)	19.3ft (5.90m)

Vehicle Detection

Angle	Height	Minimum Distance	Maximum Distance
15°	8.2ft (2.5m)	3.5ft (1.07m)	80ft (24.6m)

- Angle the camera so that objects of interest appear in the bottom 2/3 of the camera image.
- Choose a location where objects of interest will be no further than 20ft (6.1m) from the camera.
- Angle the camera 15° down from the level position.
- Install the camera between 8.2-11.5ft (2.5-3.5m) off of the ground.

Accuracy of person and 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.

13.2 Configuring Smart Motion Plus (Person & Vehicle Detection)

The system allows you to monitor for smart motion events and differentiate between person and vehicle shapes. Adjust preferences for person and vehicle detection per channel.

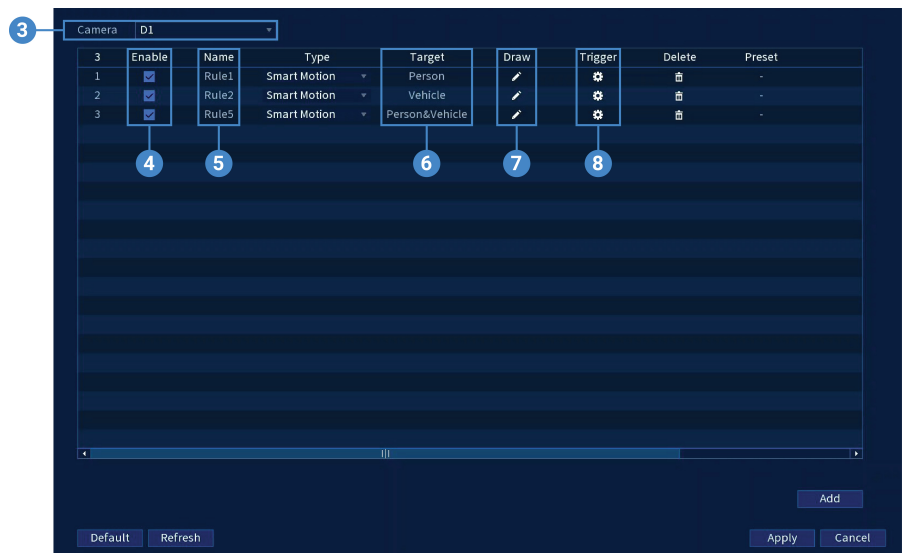


NOTE

If a Smart Plan is not enabled properly on your camera, the Smart Motion Plus feature will not work. Please make sure to enable the **Smart Motion Plus** feature before continuing. Refer to 21.2.1 *Configuring Smart Plan*, page 84 for full instructions.

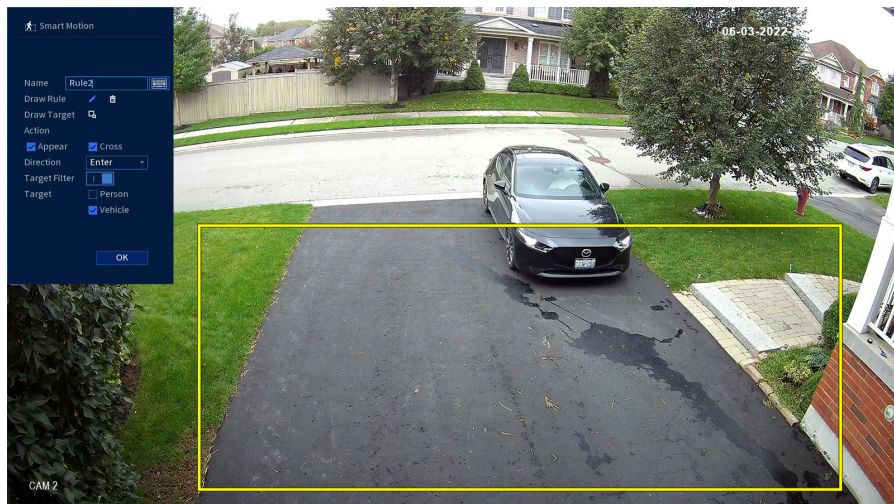
To configure smart motion plus (person and vehicle detection):

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Motion** tab from the drop-down.



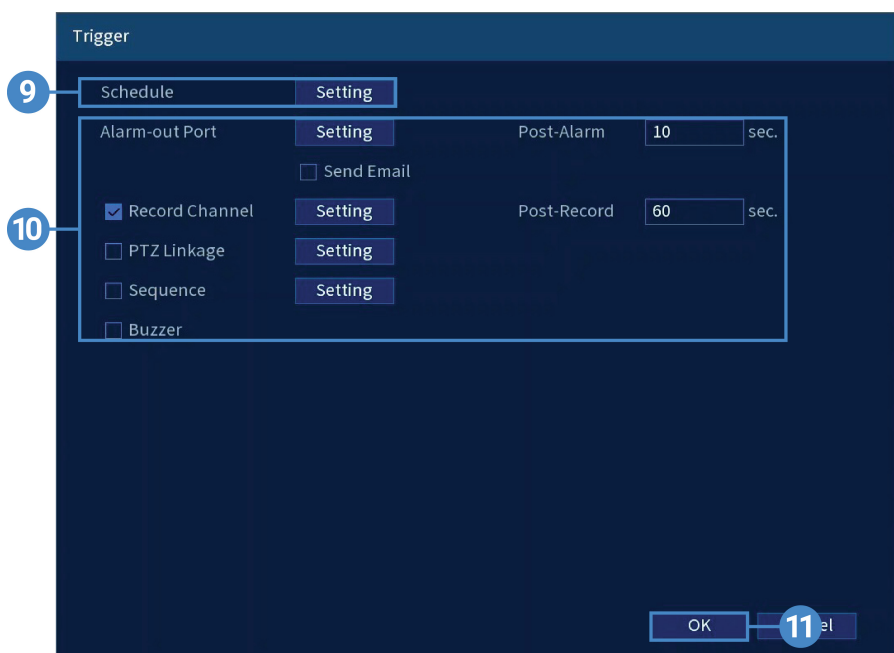
3. Select a channel with a compatible camera you would like to configure smart motion plus.
4. Check to enable the smart motion plus rules that you want to use.
5. Set a name for the rule by double-clicking the mouse over the **Name** of the rule.
6. Displays the **Person**, **Vehicle**, or **Person/Vehicle** detection targets. The targets can be changed in the next step.

7. Click the **Draw** icon  and customize the active area for smart motion plus:

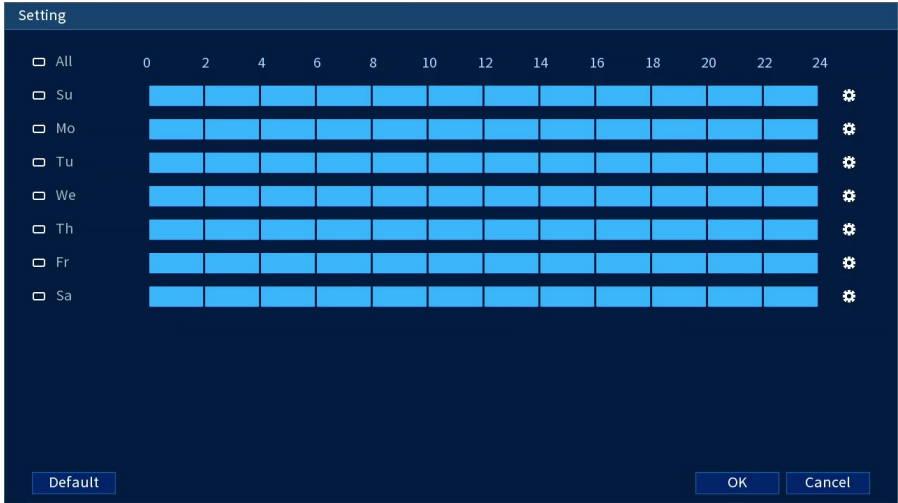


- **Action:** Check **Appear** to detect if an object of interest appears in the defined area. Check **Cross** to detect if an object of interest enters or exits the defined area. Check both to enable each type of action.
- **Direction:** Determine which direction an object needs to travel in order to trigger automatic deterrence. You can select **Enter** for movement entering the defined area, or **Leave** for movement exiting the defined area, or **Both** for both types of directions.
- To draw, click-and-drag the corners of the yellow box to resize the area. For most accurate results, set an area where objects of interest will move within the bounding box as well as into/out of.
- **Target:** Enable the **Target Filter**. Then check the detection targets that you would like to use or both.
- Click **OK** when finished.

8. Click the **Trigger** icon  to adjust how the system will react to smart motion plus.



9. Click **Setting** next to **Schedule** to choose which days and times of the week to enable smart motion plus:



- Click or click-and-drag along each of the blue timelines to quickly add or remove time from each day’s schedule in 30-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 . This will allow you to set exact start and end times for a schedule.
10. Choose how the system will react to smart motion plus:
- **Send Email:** Check to enable email alerts. You must configure email alerts before you will be able to receive them (see 21.5.3 *Configuring Email Alerts*, page 103).
 - **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-Record** field.
 - **PTZ Linkage:** 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.
 - **Picture Storage:** Check the box to save a snapshot of the corresponding channels.
 - **Buzzer:** Check to enable the system buzzer.
11. Click **OK**, click **OK** again.
12. Click **Apply** to save changes.
13. Click **Add** to create additional active areas for smart motion plus on the selected channel.
14. To delete a smart motion plus rule, click the **Delete** icon  for that rule.

13.3 Searching for Person & Vehicle Detection (Smart Search)

Smart Search lets you filter recorded video to search for person detection events, vehicle detection events, animal detection events or all three.

 **NOTE**

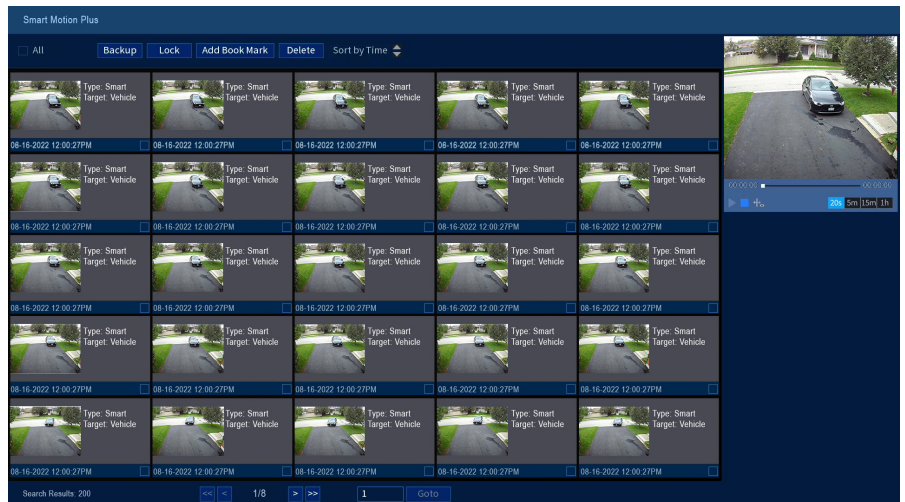
In order to use Smart Search, you must configure at least one channel’s smart detection settings. See the procedure above for full instructions.

To perform a Smart Search:

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

- Click the **Smart Motion Plus** tab from the side panel.

- Select a camera to search for detection events from, or select **All**.
- Enter period for your search, then the start and end time.
- Select the type of smart motion detection for your search, or select **All**.
- Click **Search**.



- Events that match your search criteria are displayed. You now have the following options:
 - Click a thumbnail to preview the event. Double-click the preview window to view in full screen.
 - Check thumbnails to perform other actions:
 - Backup:** Back up events.
 - Lock:** Lock events.
 - Add Book Mark:** Bookmark events.
 - Delete:** Delete events.

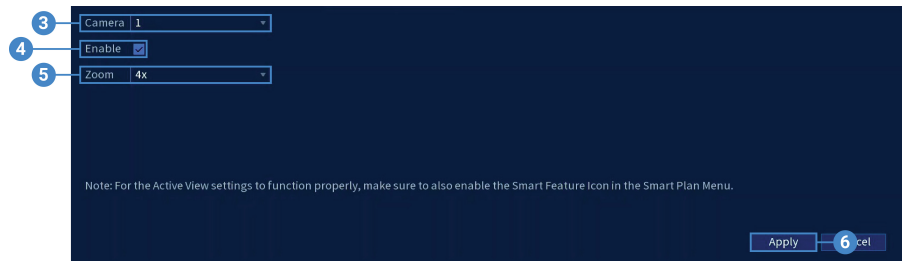
13.4 Configuring Active View

Track motion that is detected by following and zooming in on the moving object.

To configure the active view settings:

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

-
2. Click **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Motion** tab from the drop down, then **Active View** tab from the top panel.



3. Select a camera to configure for active view.
4. Check to enable active view.
5. Click to select the zoom setting between 2x, 4x, 6x, or 8x.
6. Click **Apply** to save changes.

Lorex Active Deterrence cameras feature bright, customizable warning lights and a remote-triggered siren. Active Deterrence features can be used in combination with other detection features, such as smart motion plus. By enabling automatic deterrence, these visuals and audio alerts will trigger when motion is detected, in turn deterring unwanted visitors (see 14.1 *Automatic Deterrence Settings*, page 45). You can also trigger the lights and sirens manually from the recorder on the Lorex Cloud app (see 14.2 *Manually Activate Deterrence Features*, page 48).

Refer to your camera's documentation to locate the warning light and embedded speaker for sirens and voice prompts on your camera.

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



14.1 Automatic Deterrence Settings

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

To configure deterrence settings:

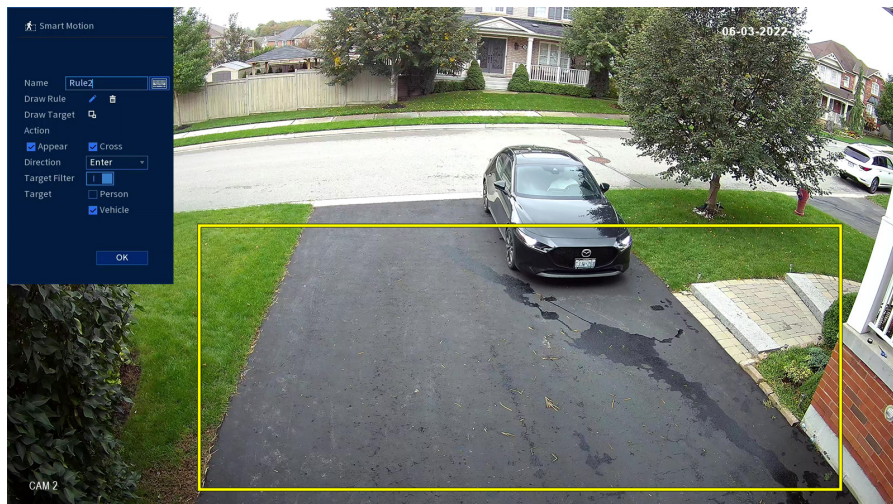
1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.

2. Click **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Smart Motion Plus** tab from the drop-down.



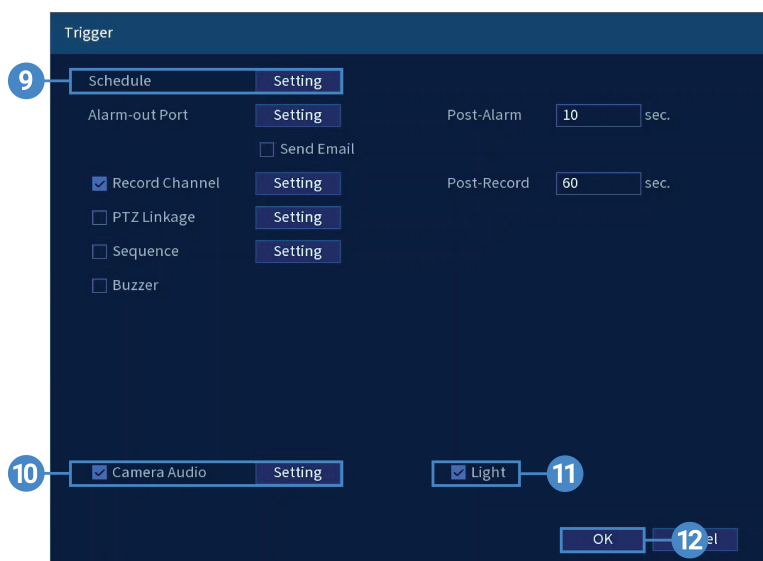
3. Select a compatible camera that you would like to configure for active deterrence.
4. Check to enable the active deterrence rules that you want to use.
5. Set a name for the rule by double-clicking the mouse over the **Name** of the rule.
6. Displays the **Person**, **Vehicle**, or **Person/Vehicle** detection targets. The targets can be changed in the next step.

7. Click the **Draw** icon  and customize the active area for smart motion plus:

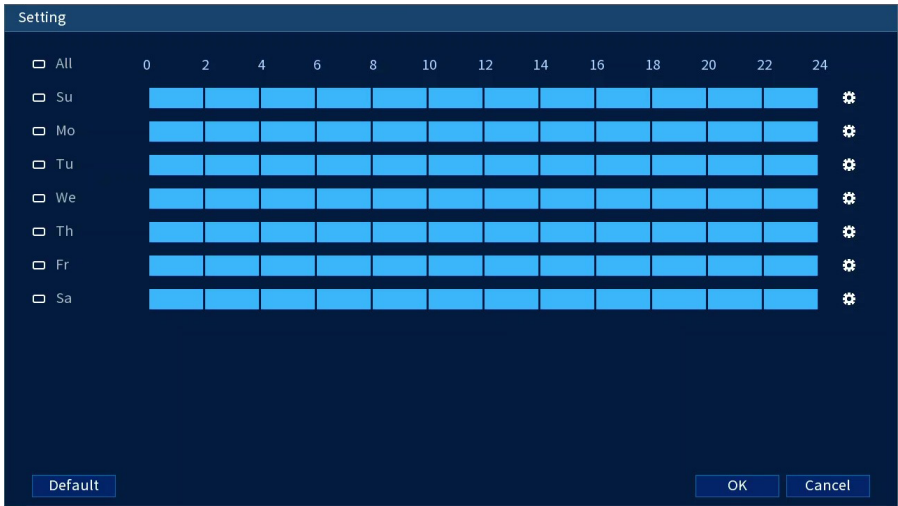


- **Action:** Check **Appear** to detect if an object of interest appears in the defined area. Check **Cross** to detect if an object of interest enters or exits the defined area. Check both to enable each type of action.
- **Direction:** Determine which direction an object needs to travel in order to trigger automatic deterrence. You can select **Enter** for movement entering the defined area, or **Leave** for movement exiting the defined area, or **Both** for both types of directions.
- To draw, click-and-drag the corners of the yellow box to resize the area. For most accurate results, set an area where objects of interest will move within the bounding box as well as into/out of.
- **Target:** Enable the **Target Filter**. Then check the detection targets that you would like to use or both.
- Click **OK** when finished.

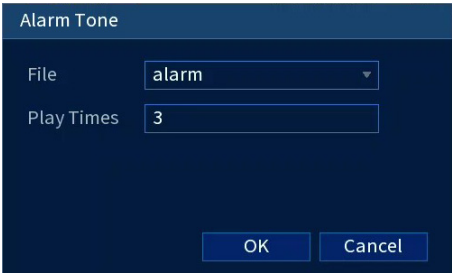
8. Click the **Trigger** icon  to enable automatic deterrence features.



9. Click **Setting** next to **Schedule** to choose which days and times of the week to enable automatic deterrence:



- Click or click-and-drag along each of the blue timelines to quickly add or remove time from each day’s schedule in 30-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 . This will allow you to set exact start and end times for a schedule.
10. Check **Camera Audio** for automatic voice prompt, and then click **Setting** to configure preferences:



- **File:** Select one of the pre-recorded voice prompts.
 - **Play Times:** Select how many times the voice prompt will repeat after a detection event.
 - Click **OK** when finished.
11. Check **Light** for automatic warning light.

 **NOTE**

This is for automatic warning light triggering only. You can manually activate the warning light and siren without enabling automatic warning light triggering.

12. Click **OK** when finished.
13. Click **Apply** to save changes.

14.2 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 Cloud app. For full setup instructions and advanced support for the app, go to your recorder's product support page. Visit help.lorextechnology.com and search your recorder's model number.

To activate deterrence features on all connected cameras:

- Push and hold the front panel panic button on the recorder for 3 seconds.
- From the Live View display, click  on the Navigation Bar.



The People Counting feature anonymously detects, counts, and records the heads of people entering, exiting, and waiting in a monitored area allowing you to detect how long people spend in one place and how often that place was visited. Using smart search for people counting, you can then create reports and graphs broken down by hours, days, months, years based on the data from various cameras.

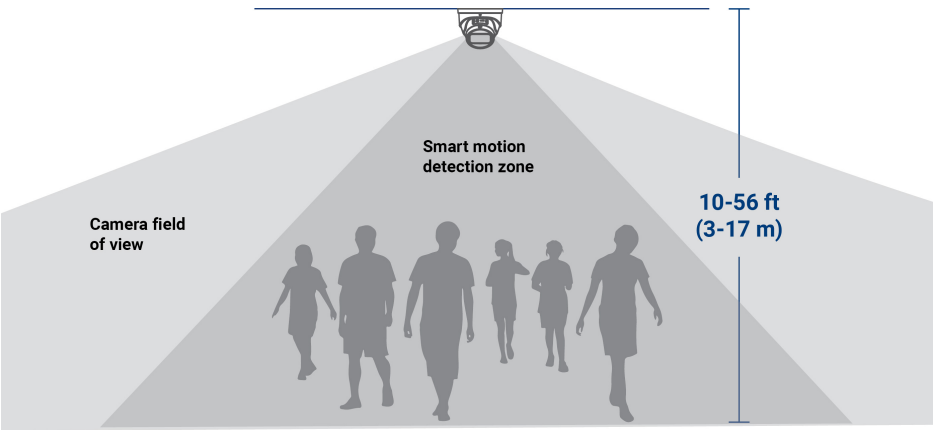
There are two types of people counting functions that can be applied:

- 1. **People Counting:** People are counted as they cross a defined line in the camera’s field-of-view and exit up, down, left, or right depending on your settings. If the number of people crossing exceeds the predefined limit, it will trigger the system.
- 2. **In Area No.:** In Area No. keeps count of the number of people waiting in a defined area and triggers the system if the number or the wait time exceeds a defined threshold.

People counting is compatible with certain Lorex IP cameras. For a complete list of compatible cameras, navigate to your recorder series at lorex.com/compatibility.

15.1 Ensuring People Counting Accuracy

The following are important camera installation notes to ensure accurate people counting. For full camera mounting instructions, see your camera’s documentation at lorex.com.



People Counting can be used in an array of applications for different reasons in settings such as train stations, apartment buildings, churches, retail stores, supermarkets, and other high footfall conversion environments. For accurate results, the camera should be mounted overhead the target area.

Installation Method	Angle	Height
Overhead Ceiling Mounting	5°	10–56ft (3–17m)

- Position the camera overhead the exit, entrance, or area that you want to monitor and aim to the floor.
- The camera should be high enough (at least 3m off the ground) to ensure the head and shoulder contour of people detection in the area is clear.
- The camera should be installed facing against the mainstream flow of traffic.
- Ensure there is a clear view of the monitored area. There should be no obstructions between the camera and the area.
- Avoid monitoring areas with frequent light changes, backlight, or direct sunlight exposure.
- Choose an area with a simple background (floor/walls).

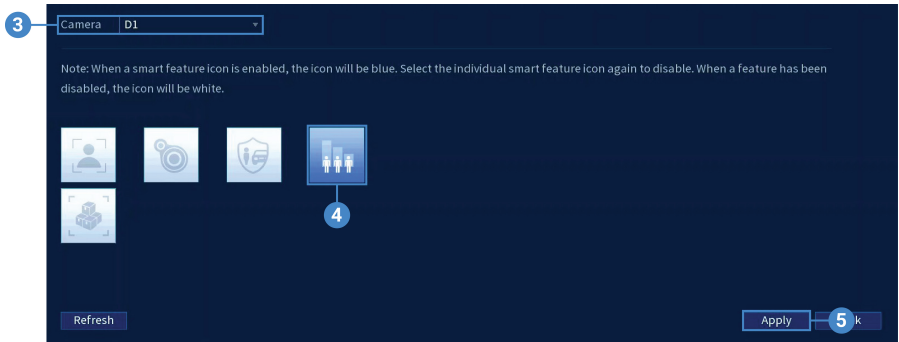
15.2 Enable People Counting in Smart Plan

For certain Lorex IP cameras, the people counting feature cannot be used simultaneously with other smart plans and is disabled by default. If a Smart Plan is not enabled properly on your

camera, the **People Counting** feature will not work. Please make sure to enable the people counting feature before continuing.

To enable people counting in smart plan settings:

- 1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
- 2. Click **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Smart Plan** tab from the drop-down.



- 3. Select a compatible camera that you would like to configure for people counting.
- 4. Select the **People Counting** feature icon.

 **NOTE**

If your Lorex IP camera cannot use the people counting simultaneously with other smart plans, you will need to disable all other smart plans. When a smart feature icon is enabled, the icon appears blue. Click the blue smart feature icon again to disable it. When a feature is disabled, the icon appears white.

- 5. Click **Apply** to save changes.

15.3 Configuring People Counting and In Area No.

The system allows you to define an area and set a period to count the number of people exiting the area or staying in the area. Select channels that you want to enable people counting on and adjust preferences.

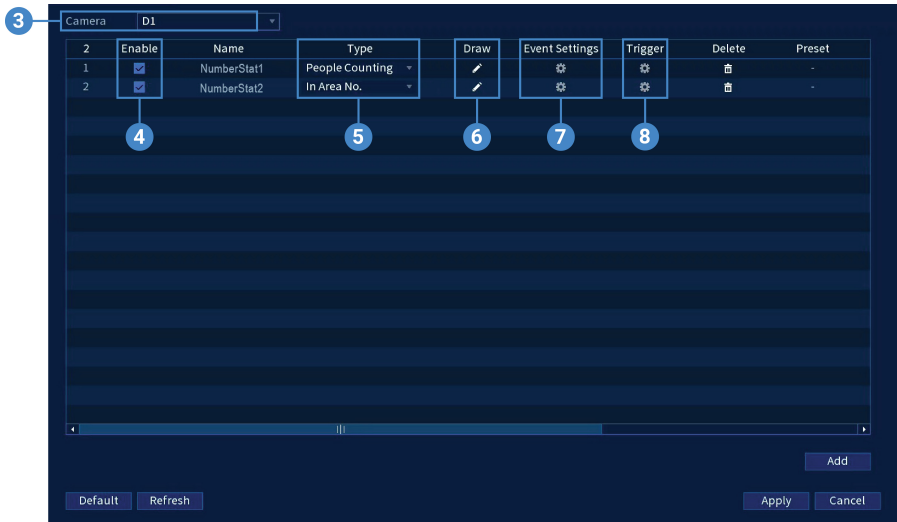
15.3.1 Configuring for People Counting

Count the number of people entering, exiting, and passing by.

To configure people counting:

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

2. Click **EVENTS**. Click the **Event Settings** from the side panel, then the **People Counting** tab from the drop-down.



3. Select a compatible camera.
4. Check to enable the people counting rule(s) that you want to use.
5. Select the **People Counting** type.

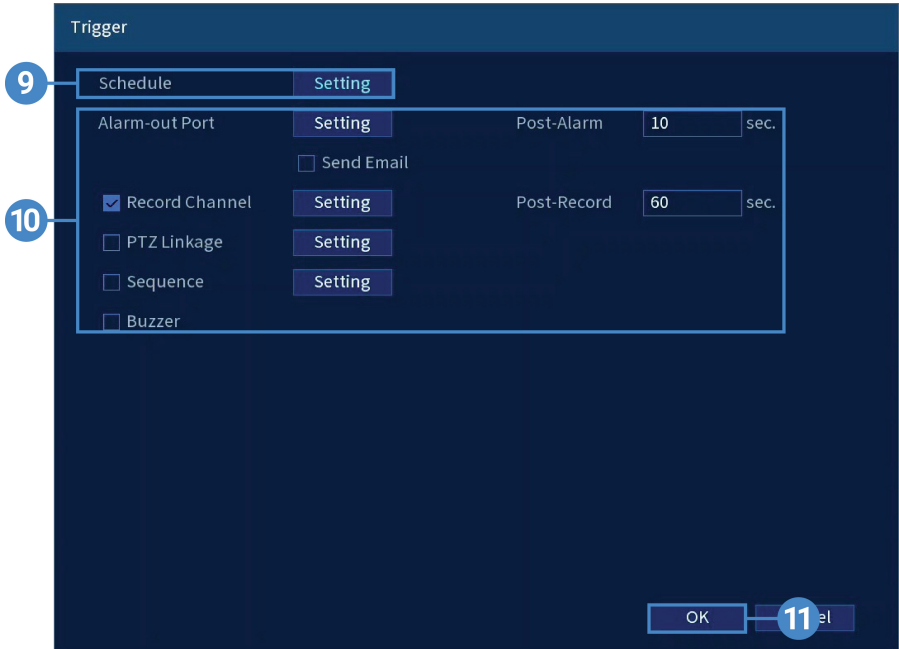
6. Click the **Draw** icon  and customize the active area for people counting:



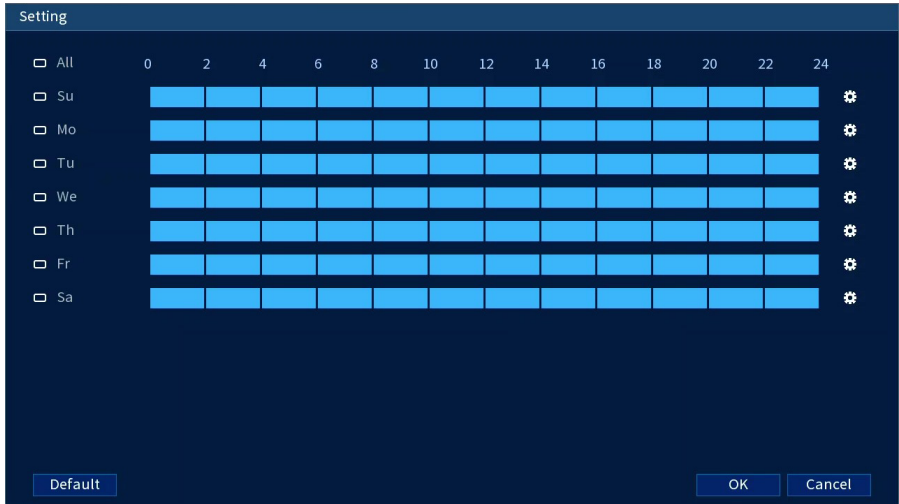
- Under **Name**, click to set a customized name for the rule.
 - To draw the area, click **Draw Area**, and then click-and-drag the corners of the yellow bounding box to resize. To create a customized bounding box, click the delete icon , and click around the area. Right-click to close the bounding box. For most accurate results, set an area where objects of interest will move within the bounding box as well as into/out of.
 - To draw the people counting crossing line, click **Draw Rule**, and then click-and-drag the rule. By default, the rule will count people crossing from up within the bounding box. To change the crossing direction, click the delete icon , and draw a new crossing rule. To count people crossing down, draw the rule from right to left. To count people crossing up, draw the rule from left to right. To count people crossing left, draw the rule from down to up. To count people crossing right, draw the rule from down to up.
 - Click **OK** when finished.
7. Click **Event Settings** to set the limit number for people entering, exiting, or staying in the defined area. The system will trigger an alarm if the number exceeds the limit.

- **Enter No.:** Input a number limit for people entering the defined area.
- **Exit No.:** Input a number limit for people exiting the defined area.
- **Stay No.:** Input a number limit for people staying in the defined area.
- Click **OK**.

8. Click the trigger modifying icon  to adjust how the system will react to exceeding the people counting limit.



9. Click **Setting** next to **Schedule** to choose which days and times of the week to enable people counting:



- Click or click-and-drag along each of the blue timelines to quickly add or remove time from each day's schedule in 30-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 . This will allow you to set exact start and end times for a schedule.

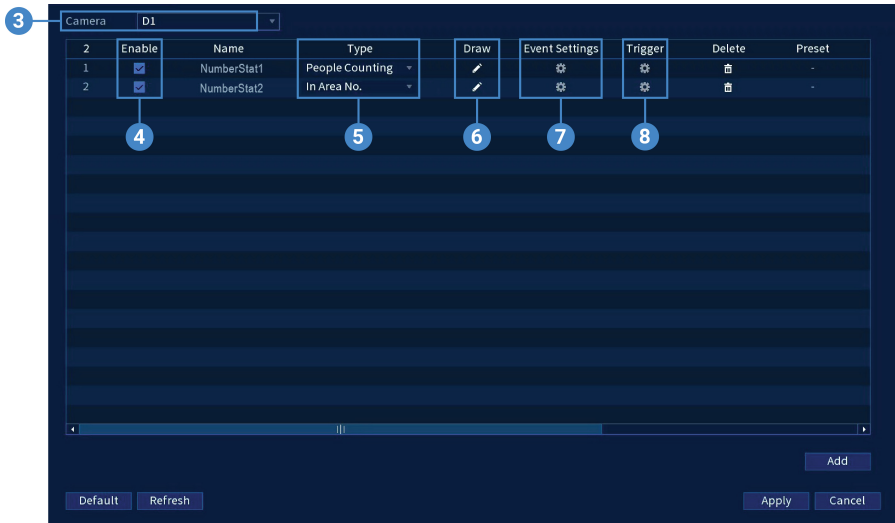
10. Choose how the system will react to exceeding the people counting limit:
- **Send Email:** Check to enable email alerts. You must configure email alerts before you will be able to receive them (see 21.5.3 *Configuring Email Alerts*, page 103).
 - **Record Channel:** Select the channels that will record when motion is detected on the selected channel. Set the length of recording following a video loss event in the **Post-Record** field.
 - **PTZ Linkage:** 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.
 - **Picture Storage:** Check the box to save a snapshot of the corresponding channels.
 - **Buzzer:** Check to enable the system buzzer.
11. Click **Apply** to save changes.
12. Click **Add** to create additional active areas for people counting on the selected channel.
13. To delete a people counting rule, click the **Delete** icon  for that rule.

15.3.2 *Configuring for In Area No.*

Keep count of your area capacity and queuing limits.

To configure people counting:

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **EVENTS**. Click the **Event Settings** from the side panel, then the **People Counting** tab from the drop-down.



3. Select a compatible camera.
4. Check to enable the people counting rule(s) that you want to use.
5. Select the **In Area No.** type.

6. Click the **Draw** icon  and customize the active area for in area no.:



- Under **Name**, click to set a customized name for the rule.
 - To draw the area, click **Draw Rule**, and then click around the area. Right-click to close the bounding box. For most accurate results, set an area where objects of interest will move within the bounding box as well as into/out of. To redraw the area, click the delete icon  next to **Draw Area** and then click **Draw Rule**.
 - Click **OK** when finished.
7. Click **Event Settings** to set the limit number and time for people staying in the defined area. If the number exceeds the set limit, the system will trigger an alarm.

- Under **Area People Counting Alarm**, click **Enable**.
- **Type**: When the real-time number of people in the detection area is **Greater Equal** (greater than), **Less Equal** (less than), **= Threshold** (equal to), or **≠ Threshold** (unequal to) the in area no., the alarm is triggered.
- **In Area No.:** Input a number limit for people in the defined area.
- Under **Stay Alarm**, click **Enable**.
- **Stay Time**: Input a time limit for people in the defined area.

- Click the trigger modifying icon  to adjust how the system will react to exceeding the in area no. limit.

Trigger

9 Schedule Setting

10 Alarm-out Port Setting Post-Alarm 10 sec.

☐ Send Email

☒ Record Channel Setting Post-Record 60 sec.

☐ PTZ Linkage Setting

☐ Sequence Setting

☐ Buzzer

OK 11

9. Click **Setting** next to **Schedule** to choose which days and times of the week to enable in area no.:

Setting

	0	2	4	6	8	10	12	14	16	18	20	22	24	
☐ All														
☐ Su														⚙
☐ Mo														⚙
☐ Tu														⚙
☐ We														⚙
☐ Th														⚙
☐ Fr														⚙
☐ Sa														⚙

Default OK Cancel

- Click or click-and-drag along each of the blue timelines to quickly add or remove time from each day's schedule in 30-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 . This will allow you to set exact start and end times for a schedule.

10. Choose how the system will react to exceeding the in area no. limit:

- **Send Email:** Check to enable email alerts. You must configure email alerts before you will be able to receive them (see 21.5.3 *Configuring Email Alerts*, page 103).
- **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-Record** field.
- **PTZ Linkage:** 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.
- **Picture Storage:** Check the box to save a snapshot of the corresponding channels.
- **Buzzer:** Check to enable the system buzzer.

11. Click **Apply** to save changes.

12. Click **Add** to create additional active areas for in area no. on the selected channel.

13. To delete an in area no. rule, click the **Delete** icon  for that rule.

15.4 Searching for People Counting & In Area No. (Smart Search)

Smart Search for People Counting and In Area No. generates a statistical report based on your search criteria. Data obtained by the People Counting function can be graphed either as a bar graph or line chart and provides insight to daily, monthly, and yearly trend analysis.



NOTE

To use Smart Search, you must configure at least one channel's people counting settings. See the procedure above for full instructions.

15.4.1 Searching for People Counting

Obtain data for people counting.

To perform a Smart Search:

1. From the Live View display, right-click to open the Quick Menu, then click **Smart Search**.
2. Click the **People Counting** tab from the side panel.



3. Select a camera to search for people counting.
4. Select the **People Counting** type for your search.
5. Select the period for your search.
6. Enter a start and end time for your search.
7. Select the corresponding people counting rule for that camera.
8. Check the people counting direction for your search, or both.
9. Click **Search**. The people counting report that matches your search criteria is displayed in the chart.

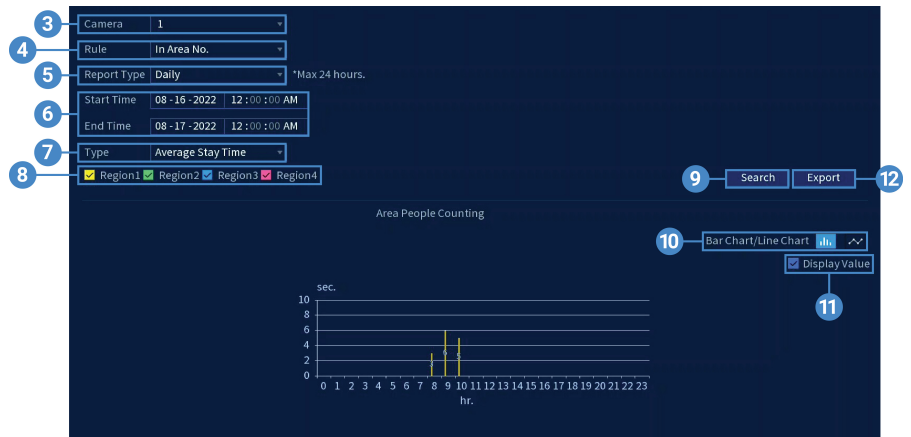
10. Select either a **Bar Chart** (bar graph) or **Line Chart** (line chart) for your report.
11. Check to display the number of people in the chart.
12. Click **Export** to save your data onto a connected USB (not included).

15.4.2 Searching for In Area No.

Obtain data for in area no.

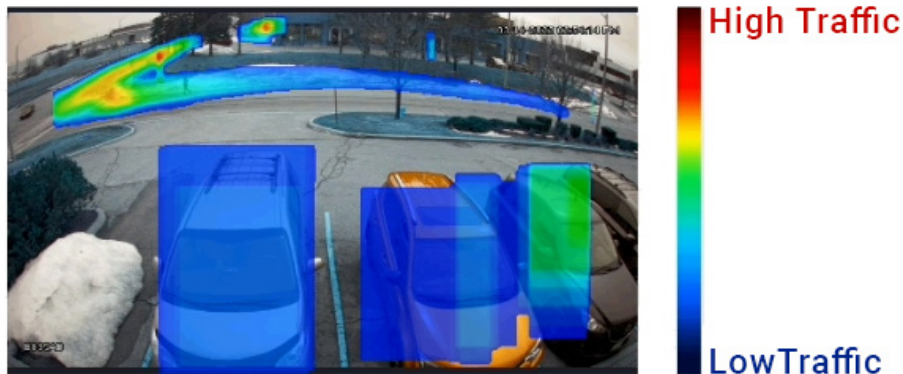
To perform a Smart Search:

1. From the Live View display, right-click to open the Quick Menu, then click **Smart Search**.
2. Click the **People Counting** tab from the side panel.



3. Select a camera to search for in area no.
4. Select the **In Area No.** type for your search.
5. Select the period for your search.
6. Enter a start and end time for your search.
7. Select the report type for your search.
 - **People Counting Report:** This report includes the statistics for the number of visitors within the defined area.
 - **Average Stay Time:** This report includes the statistics for the average stay duration within the defined area.
8. Check the region for your search, or check all.
9. Click **Search**. The in area no. report that matches your search criteria is displayed in the chart.
10. Select either a **Bar Chart** (bar graph) or **Line Chart** (line chart) for your report.
11. Check to display the number of people in the chart.
12. Click **Export** to save your data onto a connected USB (not included).

Heat map works as a graphical overlay that displays the area and frequency of motion detected in the camera's image using a warm-to-cool color scheme. The warm colors indicate sections with the most motion detected, red being the highest detected areas, and the cool colors point to the lowest detected areas.



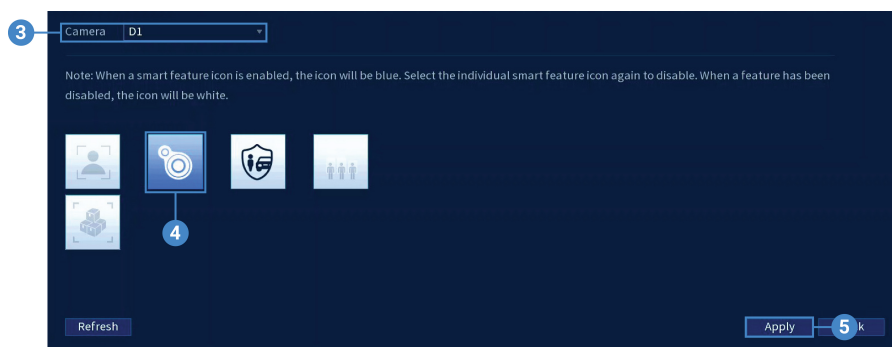
Heat Map is compatible with certain Lorex IP cameras. For a complete list of compatible cameras, navigate to your recorder series at lorex.com/compatibility.

16.1 Enable Heat Map in Smart Plan

If a Smart Plan is not enabled properly on your camera, the heat map feature will not work. Please make sure to enable the **Heat Map** feature before continuing.

To enable heat map in smart plan settings:

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Smart Plan** tab from the drop-down.



3. Select a compatible camera that you would like to configure for heat map.
4. Select the **Heat Map** feature icon.



NOTE

When a smart feature icon is enabled, the icon appears blue. Click the blue smart feature icon again to disable it. When a feature is disabled, the icon appears white.

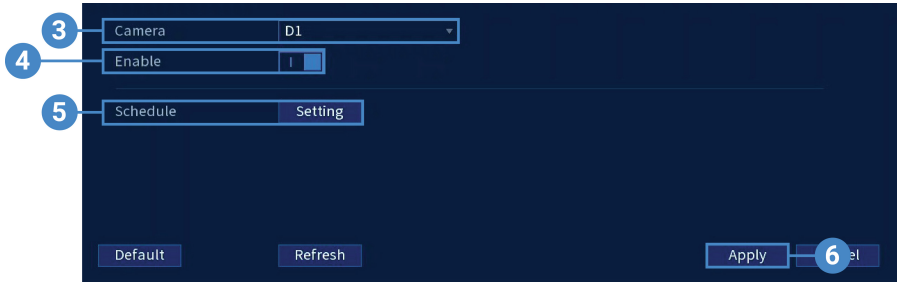
5. Click **Apply** to save changes.

16.2 Configuring Heat Map

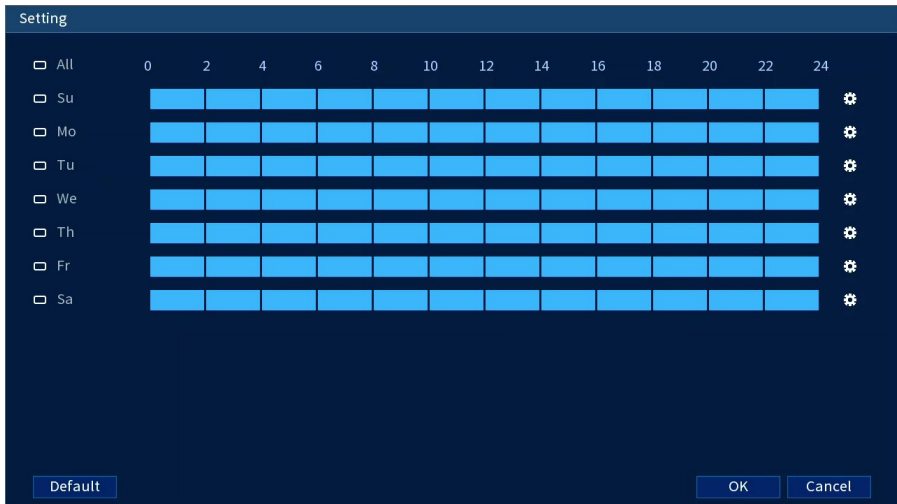
Use the heat map feature to see hot and cold areas of the camera's image. Select channels to use heat map on and adjust preferences.

To configure heat map:

- 1. From the Live View display, right-click to open the Quick Menu, then click Main Menu.
- 2. Click **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Heat Map** tab from the drop-down.



- 3. Select a compatible camera.
- 4. Check to enable heat map on the selected camera.
- 5. Click **Setting** next to **Schedule** to choose which days and times of the week to enable heat map:



- Click or click-and-drag along each of the blue timelines to quickly add or remove time from each day’s schedule in 30-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 . This will allow you to set exact start and end times for a schedule.
6. Click **Apply** to save changes.

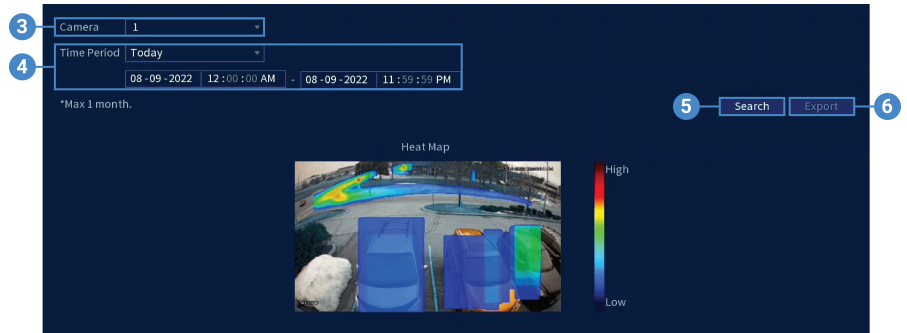
16.3 Searching for Heat Map (Smart Search)

Search for heat mapping on a specific channel or the entire system. You can also choose to back up events (USB flash drive required – not included).

To perform a Smart Search:

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

2. Click the **Heat Map** tab from the side panel.



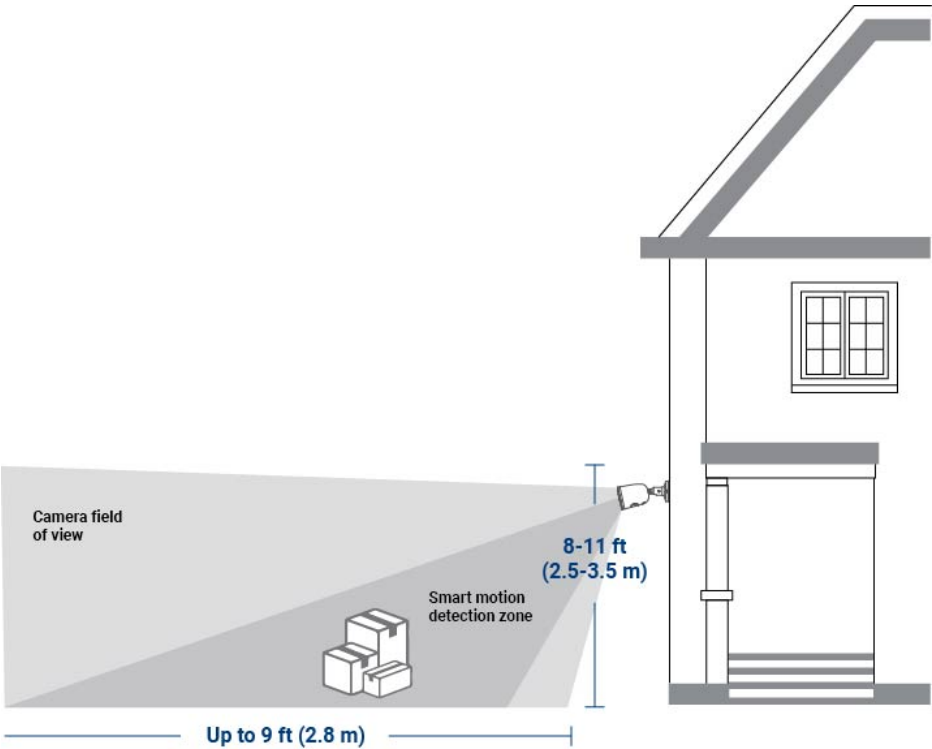
3. Select a camera to search for heat map.
4. Select a period for your search, then enter a start time and end time.
5. Click **Search**.
6. All heat mapping data matching your search criteria is displayed. You now have the option to export:
 - Connect a USB flash drive (not included) to a free USB port on the unit and click **Export**.
 - Select a folder for exporting and click **OK**.

The package and envelope detection feature allows you to create a bounding box within the camera’s field-of-view to notify you of package/envelope deliveries or pick-ups. This feature is used to detect and record mail, boxes, a courier, or a mail truck. Upon detection, the camera begins recording and will have an exact update on the event.

Package and envelope detection is compatible with certain Lorex IP cameras. For a complete list of compatible cameras, navigate to your recorder series at lorex.com/compatibility.

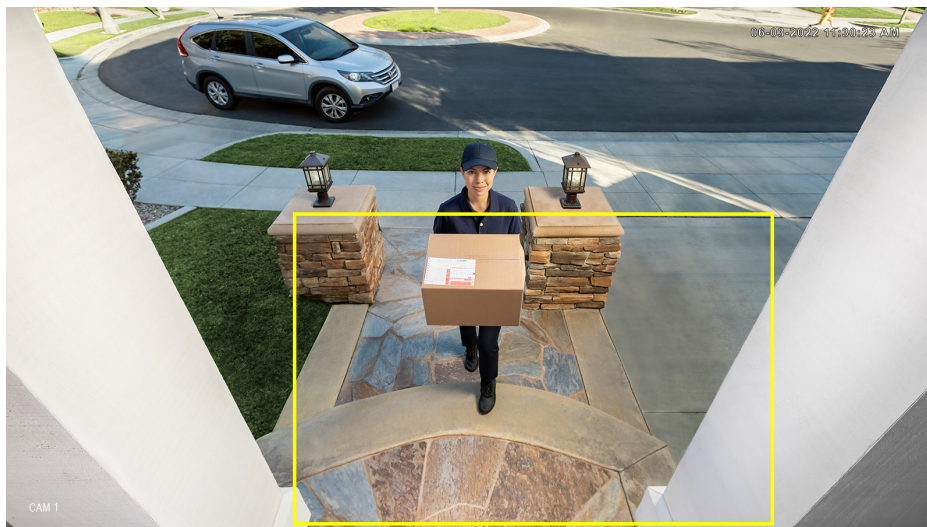
17.1 Ensuring Package & Envelope Detection Accuracy

The following are important camera installation notes to ensure accurate package and envelope detection. For full camera mounting instructions, see your camera’s documentation at lorex.com.



Angle	Height	Minimum Distance	Maximum Distance
15°	8.2–11.5ft (2.5 — 3.5m)	6.8ft (2.1m)	9.1ft (2.8m)

The image below is a good example of camera placement, angle, and height for your camera to detect packages/envelopes. This view captures the path leading up to the door and the door stoop, where packages/envelopes are typically dropped-off. Note that there are no obstructions between the camera and the bounding box; monitoring a simple environment with a clear view ensures accurate detection and minimizes false alerts.

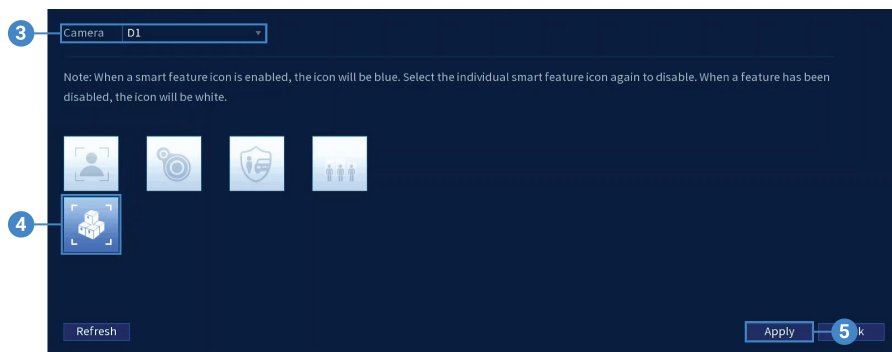


17.2 Enable Package & Envelope Detection in Smart Plan

For certain Lorex IP cameras, the package and envelope detection feature cannot be used simultaneously with other smart plans and is disabled by default. If a Smart Plan is not enabled properly on your camera, the **Package/Envelope Detection** feature will not work. Please make sure to enable the Package/Envelope feature before continuing.

To enable package and envelope detection in smart plan settings:

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Smart Plan** tab from the drop-down.



3. Select a compatible camera that you would like to configure for package and envelope detection.
4. Select the **Package/Envelope Detection** feature icon.



NOTE

If your Lorex IP camera cannot use the package and envelope detection simultaneously with other smart plans, you will need to disable all other smart plans. When a smart feature icon is enabled, the icon appears blue. Click the blue smart feature icon again to disable it. When a feature is disabled, the icon appears white.

5. Click **Apply** to save changes.

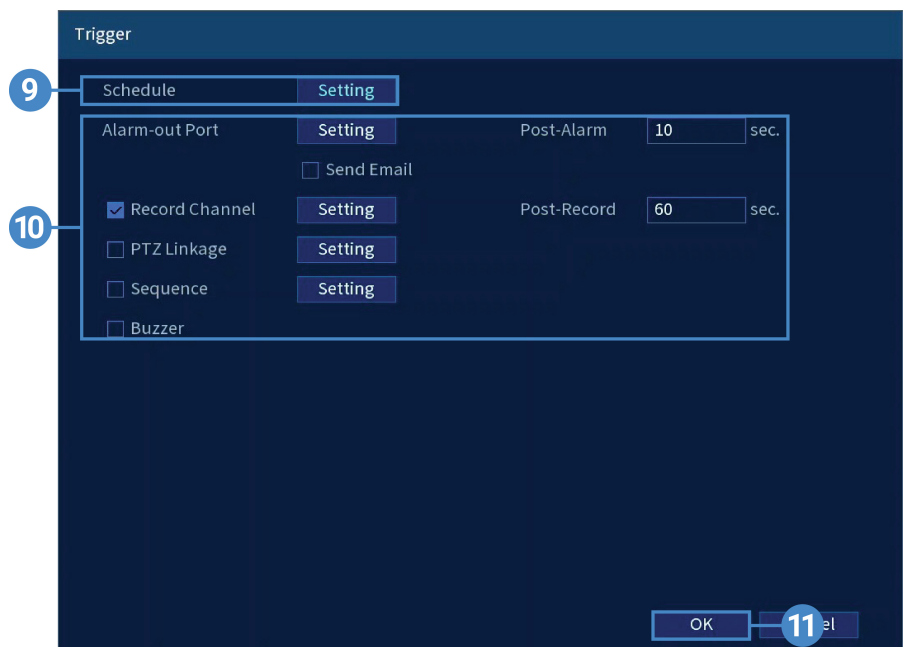
17.3 Configuring Package & Envelope Detection

The system allows you to define an area and set a period to detect packages/envelopes that are either left behind or missing. Select channels that you want to enable package/envelope detection on and adjust preferences.

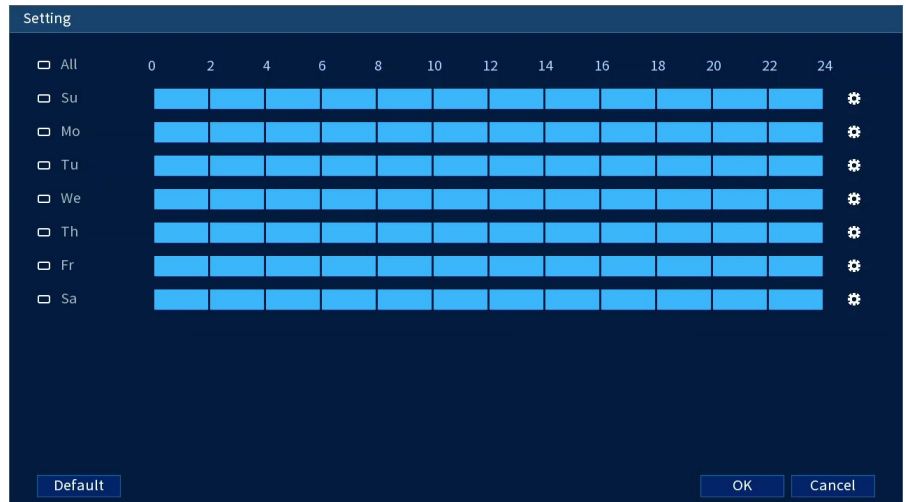
7. Click the **Draw** icon  and customize the active area for package/envelope detection:



- To draw, click-and-drag the corners of the yellow box to resize the area. For most accurate results, set an area where objects of interest will move within the bounding box as well as into/out of.
 - Under **Min Duration**, type in the number of seconds before the device triggers an event.
 - Click **OK** when finished.
8. Click the trigger modifying icon  to adjust how the system will react to package/envelope detection.



9. Click **Setting** next to **Schedule** to choose which days and times of the week to enable package/envelope detection:



- Click or click-and-drag along each of the blue timelines to quickly add or remove time from each day's schedule in 30-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 . This will allow you to set exact start and end times for a schedule.
10. Choose how the system will react to package/envelope detection:
- **Send Email:** Check to enable email alerts. You must configure email alerts before you will be able to receive them (see 21.5.3 *Configuring Email Alerts*, page 103).
 - **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-Record** field.
 - **PTZ Linkage:** 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.
 - **Picture Storage:** Check the box to save a snapshot of the corresponding channels.
 - **Buzzer:** Check to enable the system buzzer.
11. Click **OK**, click **OK** again.
12. Click **Apply** to save changes.
13. Click **Add** to create additional active areas for package/envelope detection on the selected channel.

14. To delete a package/envelope detection rule, click the **Delete** icon  for that rule.

17.4 Searching for Package & Envelope Detection (Smart Search)

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

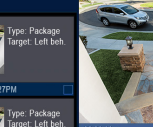
To perform a Smart Search:

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

-
- 3 Camera 1
- 4 Time Period Today
- 08 - 16 - 2022 12 : 00 : 00 AM - 08 - 16 - 2022 11 : 59 : 59 PM
- 5 Event Type All
- Search 6

- Package/Envelop Detection

☐ All

	Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh	
08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	
	Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh	
08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	
	Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh	
08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	
	Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh	
08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	
	Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh	
08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	
	Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh		Type: Package Target: Left beh	
08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	08-16-2022 12:00:27PM	☐	

Search Results: 200

- 68

Sound detection uses the built-in microphone to trigger recording when abnormal audio or intense sounds are detected near the camera. Ensure that the camera is not near constant background noise that will trigger audio detection and create false alerts.

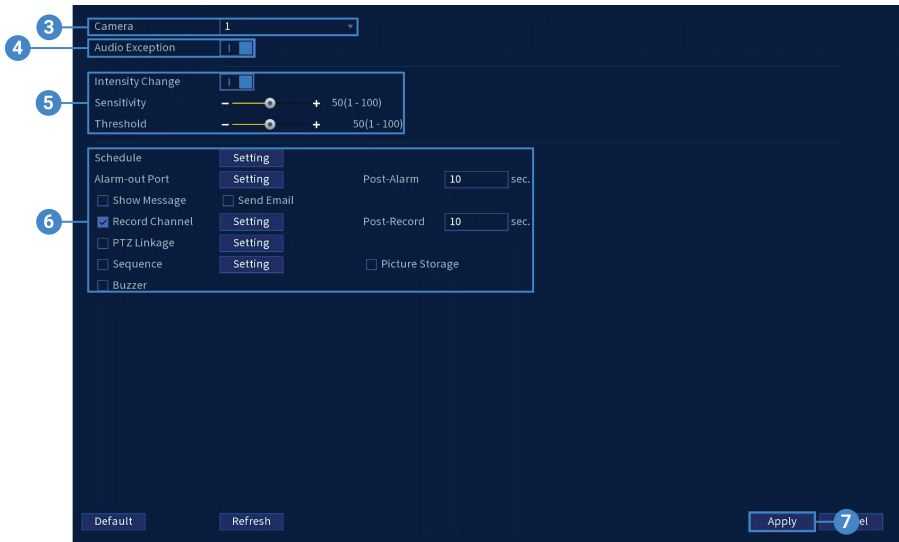
Sound Detection is compatible with certain Lorex IP cameras. For a complete list of compatible cameras, navigate to your recorder series at lorex.com/compatibility.

18.1 Configuring Sound Detection

Make sure you already have the camera audio enabled on the main and sub-stream of the channel you are configuring, see 24 *Connecting Audio Devices*, page 130 for details.

To configure sound detection:

- 1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
- 2. Click **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Sound Detection** tab from the drop-down.



- 3. Select a compatible camera.
- 4. Check to enable **Audio Exception** to trigger the system when the audio input is abnormal.
- 5. Check to enable **Intensity Change** to trigger the system when the sound intensity exceeds the sensitivity and threshold levels.
 - **Sensitivity:** Adjust the sensitivity bar to increase or decrease the amount of sound required to trigger an event above the threshold. Sensitivity is a finer setting than the threshold setting.
 - **Threshold:** Adjust the threshold bar to determine how loud a sound must be to trigger an audio detection event.



NOTE

To avoid receiving too many notifications from a noisy environment, set the **Threshold** level to high. The system is triggered easily when the **Sensitivity** level is set to high and **Threshold** level is set to low.

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

The screenshot shows a 'Setting' window with a grid for scheduling sound detection. The grid has rows for days of the week (Su, Mo, Tu, We, Th, Fr, Sa) and columns for hours (0 to 24). Red bars indicate scheduled times. There are icons for linking schedules and settings. Buttons for 'Default', 'OK', and 'Cancel' are at the bottom.

- Click or click-and-drag along each of the red timelines to quickly add or remove time from each day’s schedule in 30-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 . This will allow you to set exact start and end times for a schedule.
7. Choose how the system will react when there is abnormal or intense sound detection:

The screenshot shows a 'Setting' window for sound detection reaction. It has several sections: 'Alarm-out Port' with a 'Setting' button; 'Post-Alarm' with a value of 10 and 'sec.'; 'Show Message' and 'Send Email' checkboxes; 'Record Channel' with a checked checkbox and a 'Setting' button; 'PTZ Linkage' with a 'Setting' button; 'Sequence' with a 'Setting' button; 'Picture Storage' checkbox; and 'Buzzer' checkbox.

- **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 21.5.3 *Configuring Email Alerts*, page 103).
 - **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-Record** field.
 - **PTZ Linkage:** 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.
 - **Picture Storage:** Check the box to save a snapshot of the corresponding channels.
 - **Buzzer:** Check to enable the system buzzer.
8. Click **Apply** to save changes.



WARNING

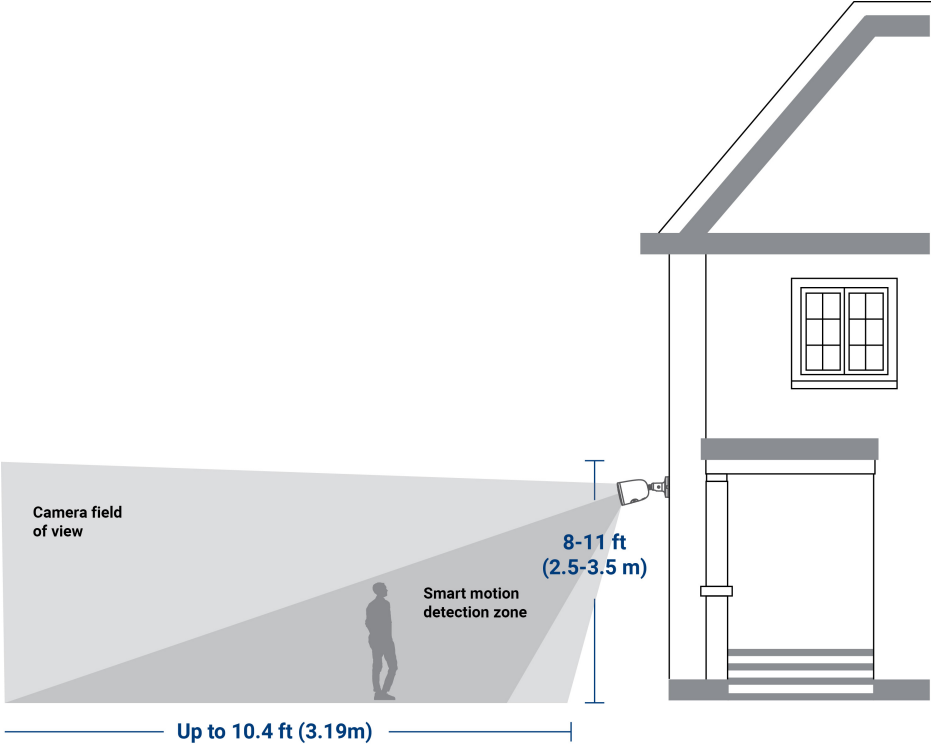
Facial recording without consent is illegal in certain jurisdictions. Lorex Technology does not assume liability for any use of its product that fails to conform with local laws.

The Face Detection feature allows you to detect and capture faces in the camera’s field-of-view while triggering alarms and/or notifications.

Face Detection is compatible with certain Lorex IP cameras. For a complete list of compatible cameras, navigate to your recorder series at lorex.com/compatibility.

19.1 Ensuring Face & Mask Detection Accuracy

The following are important camera installation notes to ensure accurate Face Detection. For full camera mounting instructions, see your camera’s documentation at lorex.com.



Angle	Height	Minimum Distance	Maximum Distance
15°	8.2ft (2.5m)	2.8ft (0.86m)	10.4ft (3.19m)
15°	9.8ft (3m)	4.5ft (1.39m)	9.9ft (3.02m)
15°	11.5ft (3.5m)	6.3ft (1.93m)	9ft (2.75m)

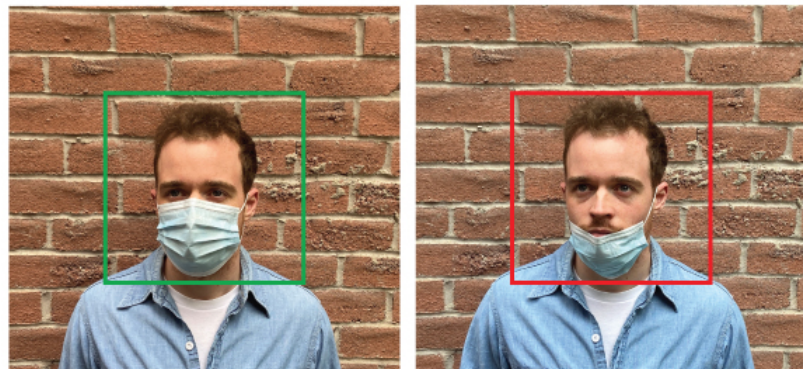
- Install in a bright area and avoid facing direct sunlight with strong backlights and dark shadows.
- Choose a location where objects of interest will be no further than 10.4ft (3.19m) from the camera.
- Position the camera about 9.8ft (3m) off the ground to detect the full proportion of a face.
- Angle the camera around 15° down from the level position.
- Point the camera directly where objects of interest will be facing.

High Accuracy Face Detection Vs. Low Accuracy Face Detection:



Accuracy will be influenced by lighting conditions and the distance/angle of a person's face to the camera. To distinguish facial features, the camera must be positioned head on with a clear view of a person's face. Obscured and partially/fully covered faces will not be accurately captured. To improve the range of face detection in low light conditions, color night vision will switch to black & white. If you cannot meet these requirements for installation, it may be best to follow the guidelines for person and vehicle detection instead.

Mask Detection



From the Face Detection tab, set the **Alarm Type** to **Mask Detect**. Using mask detection, a person improperly wearing or not wearing a face mask will be captured in the side preview panel and a notification will be sent from the **Lorex Home app**. Check **Auto Response** to remind visitors to: *"Please wear your face mask."*



NOTE

You can use the face detection feature without using mask detection.

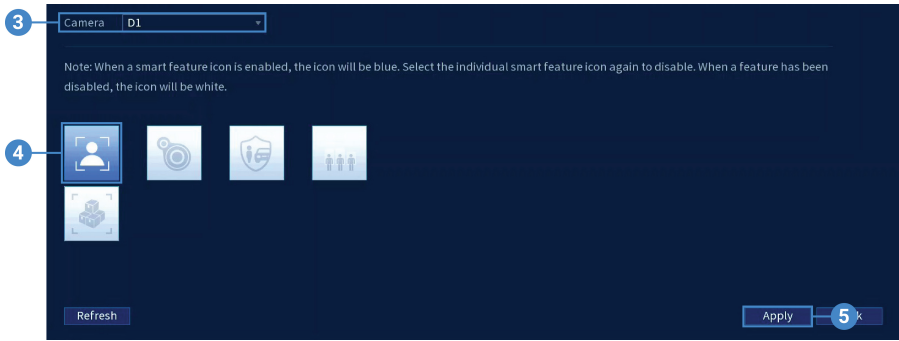
19.2 Enable Face & Mask Detection in Smart Plan

The face detection option cannot be used simultaneously with other smart plans. To enable the **Face Detection** feature, disable all other smart plans.

To enable face detection in smart plan settings:

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

- 2. Click **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Smart Plan** tab from the drop-down.



- 3. Select a compatible camera that you would like to configure for face detection or mask detection.
- 4. Deselect the other smart feature icons, then select the **Face Detection** feature icon.

 **NOTE**

When a smart feature icon is enabled, the icon appears blue. Click the blue smart feature icon again to disable it. When a feature is disabled, the icon appears white.

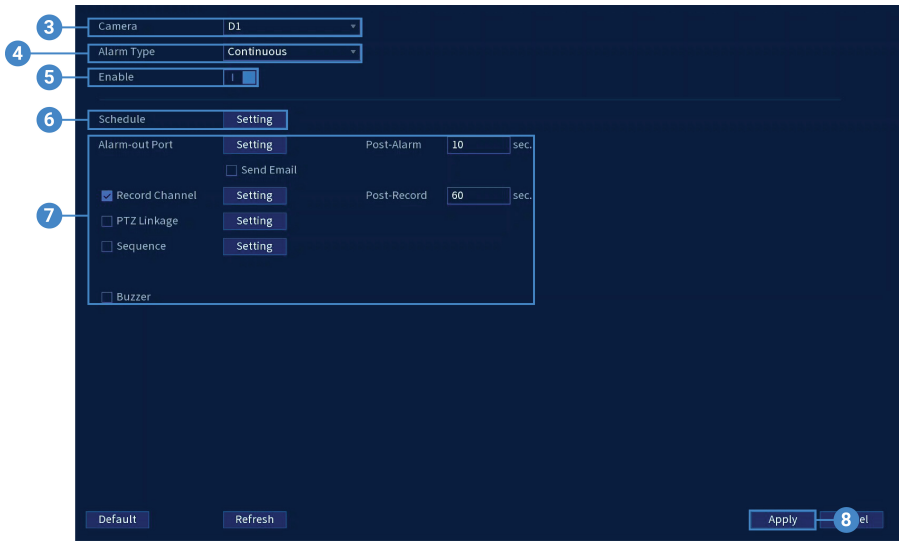
- 5. Click **Apply** to save changes.

19.3 Configuring Face Detection

The system allows you to monitor for face events. Select channels that you want to enable face detection on and adjust preferences.

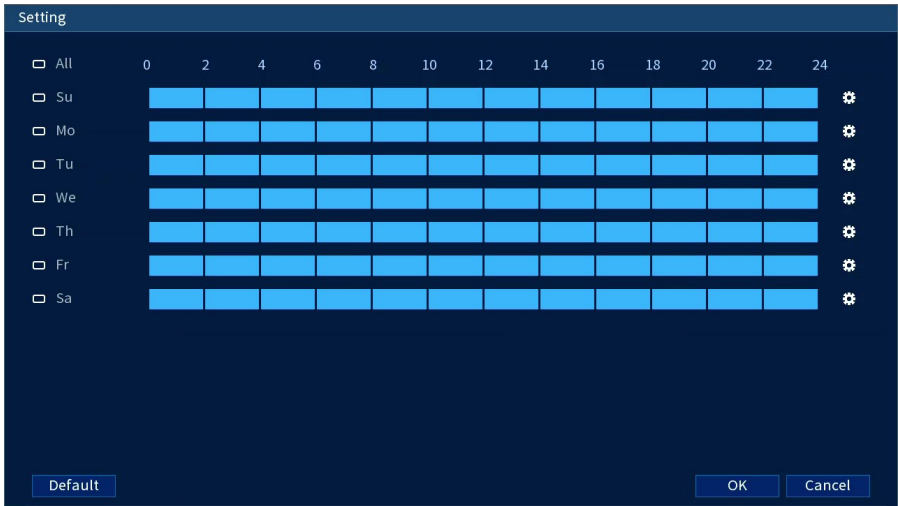
To configure face detection:

- 1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
- 2. Click **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Face Detection** tab from the drop-down.

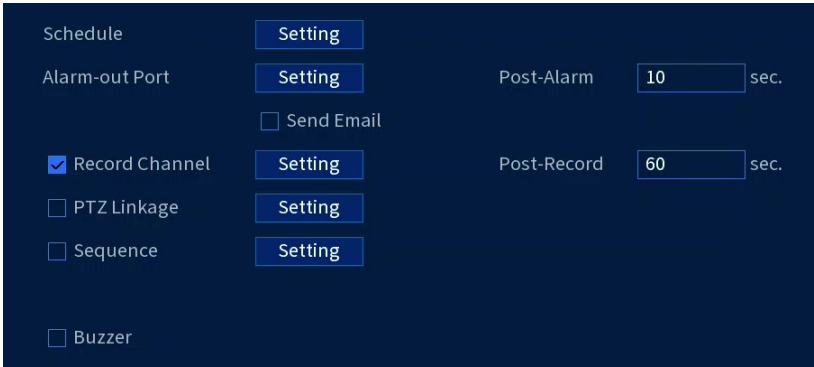


- 3. Select a compatible camera.
- 4. Select **Continuous**.
- 5. Check to enable face detection on the selected channel.

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



- Click or click-and-drag along each of the blue timelines to quickly add or remove time from each day’s schedule in 30-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 . This will allow you to set exact start and end times for a schedule.
7. Choose how the system will react to face detection:



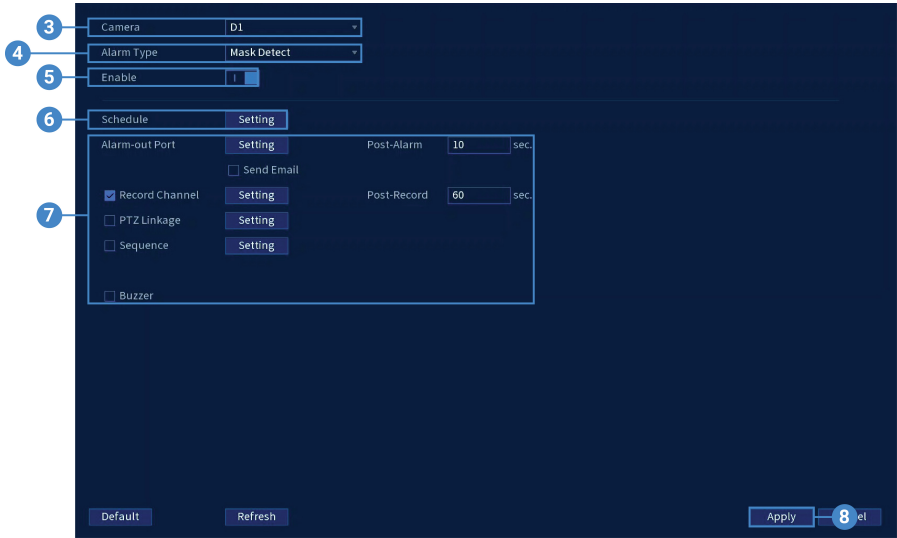
- **Send Email:** Check to enable email alerts. You must configure email alerts before you will be able to receive them (see 21.5.3 *Configuring Email Alerts*, page 103).
 - **Record Channel:** Select the channels that will record when motion is detected on the selected channel. Set the length of recording following a video loss event in the **Post-Record** field.
 - **PTZ Linkage:** 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.
 - **Buzzer:** Check to enable the system buzzer.
8. Click **Apply** to save changes.

19.4 Configuring Mask Detection

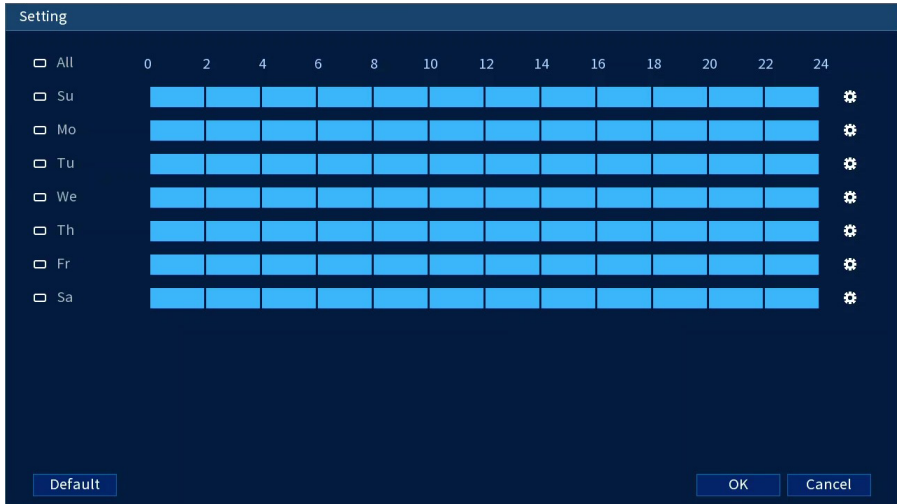
Select channels that you want to enable mask detection on and adjust preferences.

To configure mask detection:

- 1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
- 2. Click **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Face Detection** tab from the drop-down.



- 3. Select a compatible camera.
- 4. Select **Mask Detect**.
- 5. Check to enable mask detection on the selected channel.
- 6. Click **Setting** next to **Schedule** to choose which days and times of the week to enable mask detection:



- Click or click-and-drag along each of the blue timelines to quickly add or remove time from each day's schedule in 30-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 . This will allow you to set exact start and end times for a schedule.

7. Choose how the system will react to mask detection:

Schedule

Setting

Alarm-out Port

Setting

Post-Alarm

10

sec.

☐ Send Email

☒ Record Channel

Setting

Post-Record

60

sec.

☐ PTZ Linkage

Setting

☐ Sequence

Setting

☐ Buzzer

- **Send Email:** Check to enable email alerts. You must configure email alerts before you will be able to receive them (see 21.5.3 *Configuring Email Alerts*, page 103).
- **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-Record** field.
- **PTZ Linkage:** 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.
- **Buzzer:** Check to enable the system buzzer.

8. Click **Apply** to save changes.

19.5 Live Preview of Face & Mask Detection

Preview captured face detection and mask detection on your camera’s live view display.

To preview face and/or mask detection:

1. From the Live View display, right-click to open the Quick Menu, then click **Face Preview**.
2. Click **Enable** for the face preview panel to appear on the right side of the screen. Click **Disable** for the face preview panel to disappear from live view.

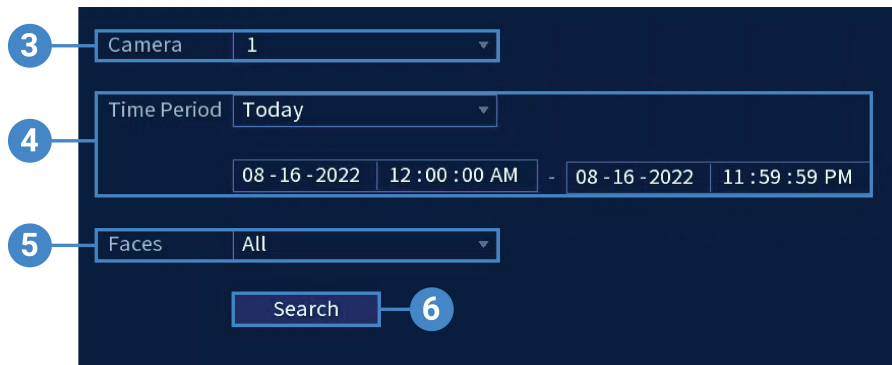


19.6 Searching for Face & Mask Detection (Smart Search)

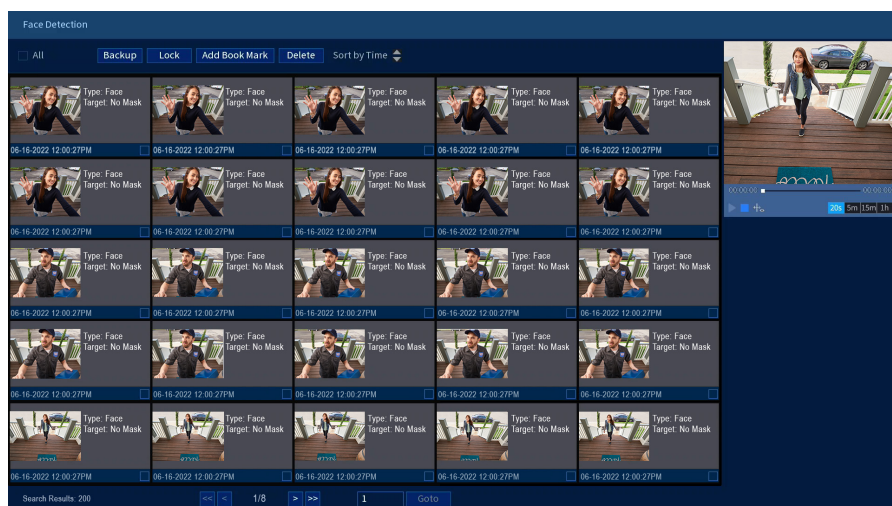
Search for face detection events on a specific channel or the entire system. You can also choose to back up events (USB flash drive required – not included).

To perform a Smart Search:

1. From the Live View display, right-click to open the Quick Menu, then click **Smart Search**.
2. Click the **Face Detection** tab from the side panel.



3. Select a channel to search for detection events from, or select **All**.
4. Enter a start and end time for your search.
5. Select the type of face detection for your search, or select **All**.
6. Click **Search**.



7. Events that match your search criteria are displayed. You now have the following options:
 - Click a thumbnail to preview the event. Double-click the preview window to view in full screen.
 - Check thumbnails to perform other actions:
 - **Backup:** Back up events.
 - **Lock:** Lock events.
 - **Add Book Mark:** Bookmark events.
 - **Delete:** Delete events.

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.

20.1 User Accounts

The system includes the following default accounts:

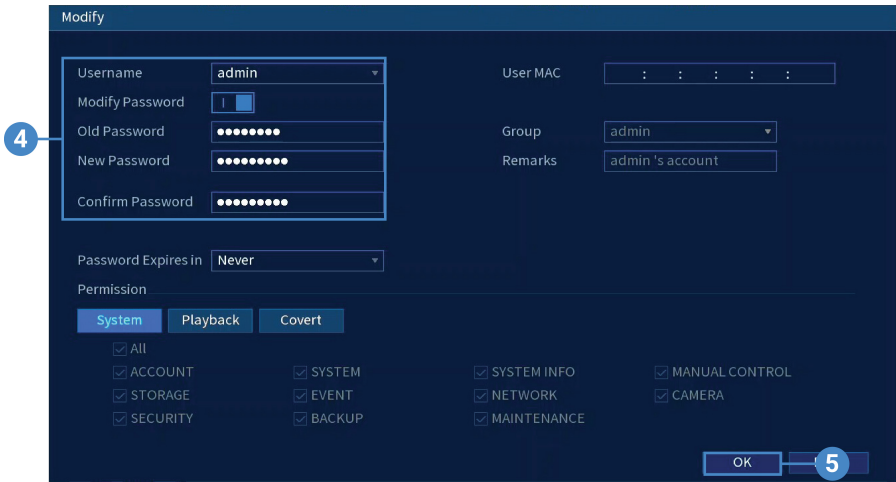
- **admin:** The administrator account has full access to the system, may configure all system settings, and can manage user accounts.
- **user:** User accounts are secondary accounts which can be assigned limited access to system settings and camera feeds.

20.1.1 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 the **User** tab from the side panel.
3. Click  next to the account you want to change the password for.



4. Configure the following:
 - **Username:** Set to admin.
 - **Modify Password:** Check to modify password.
 - **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.

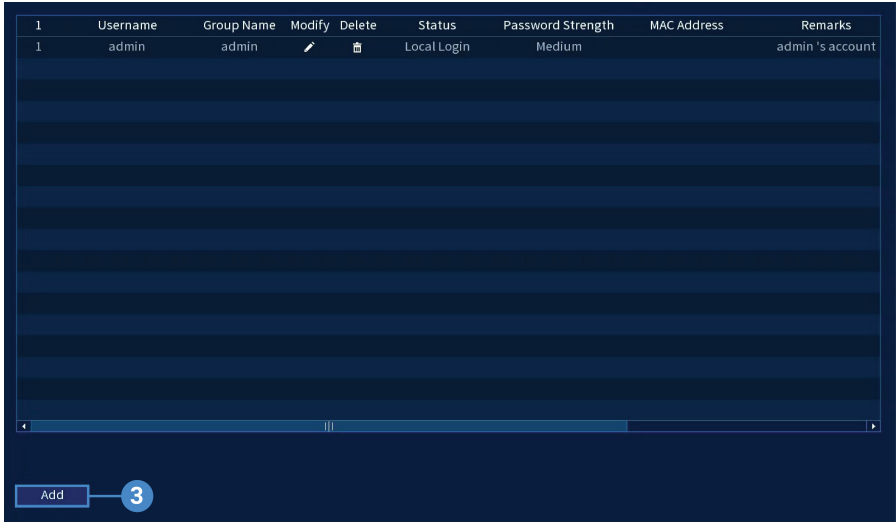
- **Confirm Password:** Re-enter the new password.
5. Click **OK**.

20.1.2 Adding Users

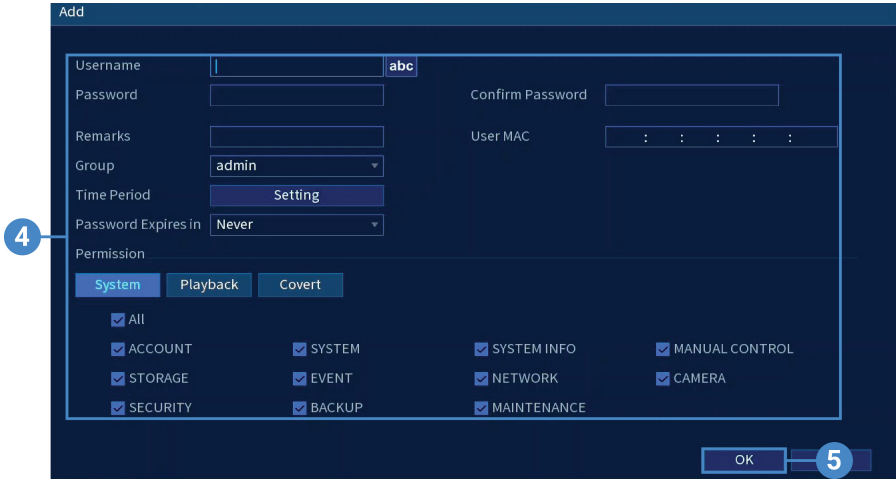
You can allow multiple users to log in to the system. When adding different users, you can assign what menus they have access to. For example, you may want your friend to monitor your system while you are away, while not giving full access to your system.

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 the **User** tab from the side panel.



- 3. Click **Add**.



4. Configure the following:

- **Username:** Enter a name for the user account.
- **Password:** Enter a password for the user account. Enter the password again under **Confirm Password**.
- **Remarks:** (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.
- **Time Period:** Click **Setting** to set a schedule for when the user can access the system.
- **Password Expires in:** (Optional) Set an expiry date for the user's password.
- **Permission:** 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**.



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.

20.1.3 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 the **User** tab from the side panel.
3. Click  next to the account you want to modify.
4. Update account details as needed, then click **OK**.

20.1.4 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 the **User** tab from the side panel.
3. Click  next to the account you want to delete.
4. Click **OK**.

20.2 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.

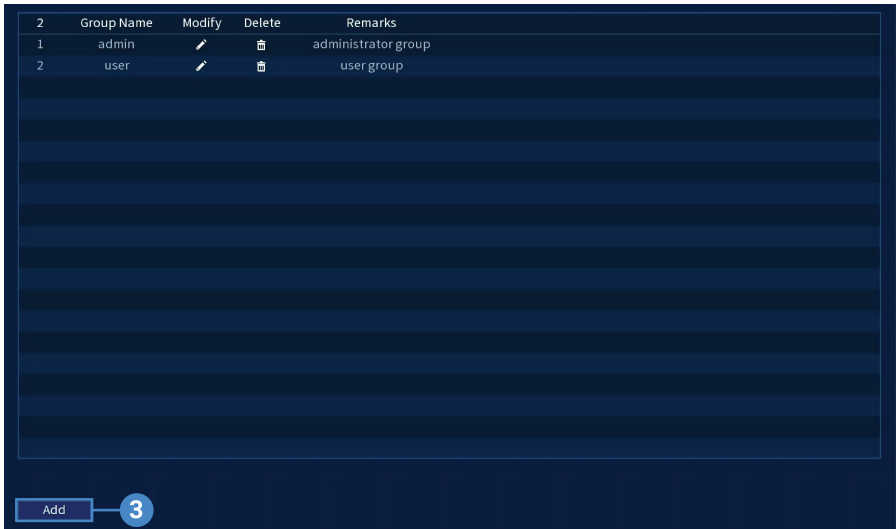
20.2.1 Adding Groups

Add a new group with unique system permissions.

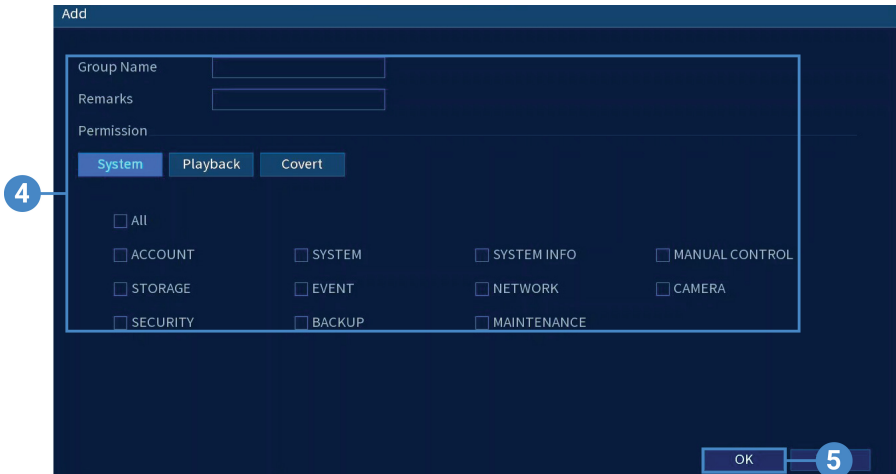
To add a group:

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

2. Click **ACCOUNT**, then the **Group** tab from the side panel.



3. Click **Add**.



4. Configure the following:
- **Group Name:** Enter a name for the group.
 - **Remarks:** (Optional) Enter a description of the group.
 - **Permission:** 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**.

20.2.2 *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 the **Group** tab from the side panel.
3. Click  next to the group you want to modify.
4. Update group details as needed, then click **OK**.

20.2.3 *Deleting Groups*

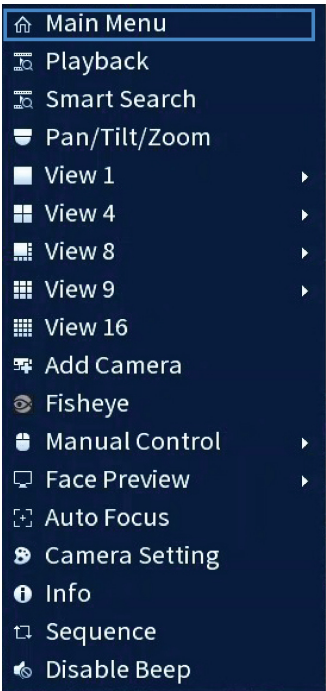
Remove a group.

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 the **Group** tab from the side panel.
3. Click  next to the group you want to delete.
4. Click **OK**.

To open the main menu:

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

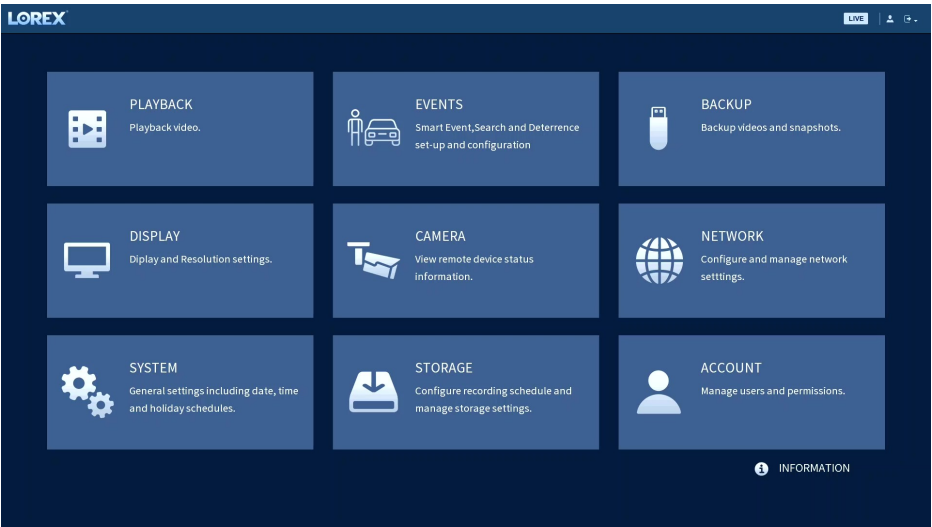


OR

- From the Live View display, hover the mouse near the bottom of the screen, then click  on the Navigation Bar.



21.1 Main Menu Overview



- Playback:** Search for and play back recordings, or search for person and/or vehicle detection events. For full details, see 10 *Playback*, page 24.

2. **Events:** Configure smart motion detection settings, then use smart search to filter through detection events. For full details, see 21.2 *Events Menu*, page 84.
3. **Backup:** Export recordings and snapshots to a USB flash drive (not included). For full details, see 11 *Backup*, page 30.
4. **Display:** Configure display, resolution, and viewing sequence settings. For full details, see 21.3 *Display Menu*, page 92.
5. **Camera:** Open the menu to manage IP cameras connected to the network, set recording parameters, and assign custom names for your cameras. For full details, see 21.4 *Camera Menu*, page 94.
6. **Network:** Configure and manage network settings, including email. For full details, see 21.5 *Network Menu*, page 102.
7. **System:** Configure general system settings, including date & time, holidays, and security. For full details, see 21.6 *System Menu*, page 106.
8. **Storage:** Set the recording schedule and manage the hard disk drive. For full details, see 21.7 *Storage Menu*, page 110.
9. **Account:** Manager users, user groups, and permissions. For full details, see 20 *Managing Passwords and User Accounts*, page 78.
10. **Information:** View system information, backing up or upgrading the system, and more. For full details, see 21.8 *Information Menu*, page 116.
11. **Shutdown:** Logout, manual reboot, or shutdown. For full details, see 21.10 *Shutdown*, page 124.

21.2 Events Menu

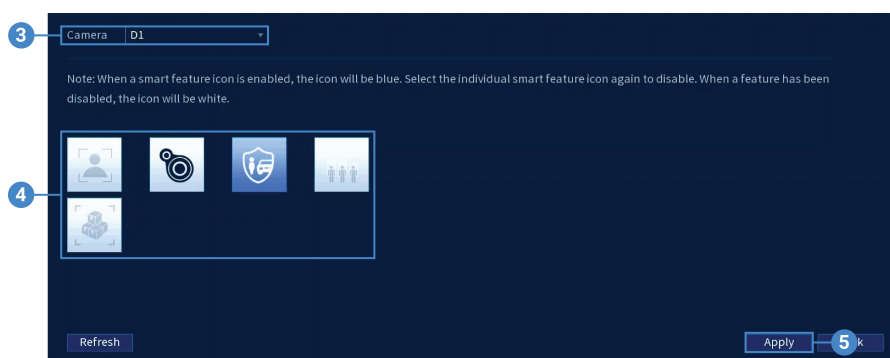
The Events Menu allows you to set the smart plan feature, configure event settings including local alarm and video loss, as well as search and filter through recorded videos.

21.2.1 Configuring Smart Plan

To use a smart feature on your camera, it must be enabled in the Smart Plan settings from your system. Select the smart plan feature for each camera.

To configure your smart plan settings:

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Smart Plan** tab from the drop-down.



3. Select the camera you would like to enable a smart plan feature on.

4. Select the icon for a smart feature that you want to enable:

-  Face Detection
-  Heat Map
-  Smart Motion Plus
-  People Counting
-  Package and Envelope Detection



NOTE

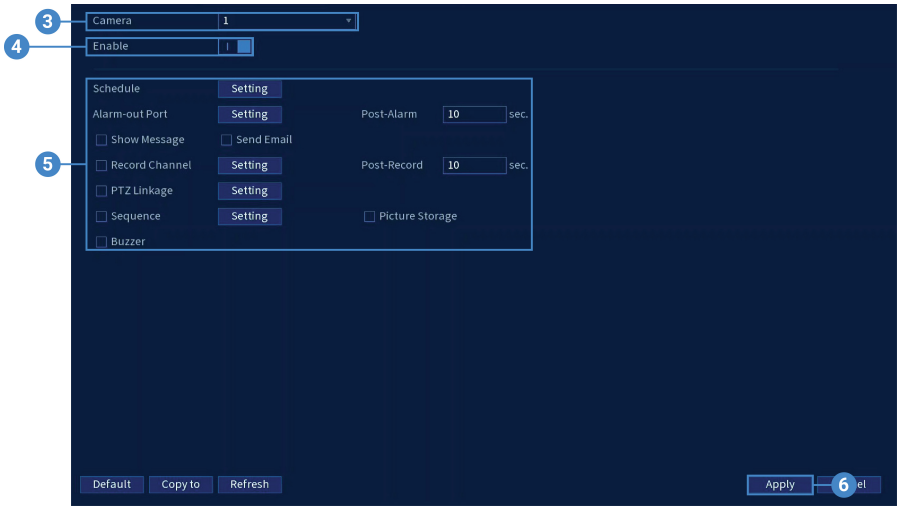
Some smart features cannot be used simultaneously with other smart plans and are disabled by default. In such a case, disable all other smart plans to enable the smart feature that you want to use.

21.2.2 Configuring Video Loss Settings

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 **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Motion** tab from the drop-down. Click the **Video Loss** tab from the top panel.



3. Select a camera you would like to configure.
4. Check **Enable** to enable video loss events for the selected channel.

5. Configure the following to customize settings for video loss events:

- **Show Message:** Check to show a popup message on the monitor if one of your cameras loses video.
- **Send Email:** Check to enable email alerts. You must configure email alerts before you will be able to receive them (see 21.5.3 *Configuring Email Alerts*, page 103).
- **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-Record** field.
- **PTZ Linkage:** 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.
- **Picture Storage:** Check the box to save a snapshot of the corresponding channels.
- **Buzzer:** Check to enable the system buzzer.

6. Click **Apply** to save changes.

21.2.3 Configuring Alarm Input Devices

You can connect alarm input devices such as motion sensors (not included) or glass break detectors (not included) to the system. The system can be set to trigger recording or take other actions when these devices are activated.

To connect alarm devices:



- Connect the included green alarm blocks to the back panel of the recorder.
- Connect your alarm device according to the supplied documentation.

To configure alarm input devices (not included):

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Local Alarm** tab from the drop-down.

3. Local Alarm 1

4. Enable ☒

5. Alarm Name Local Alarm1

6. Device Type NO

7. Schedule Setting

8. Alarm-out Port Setting

9. Apply

Post-Alarm 10 sec.

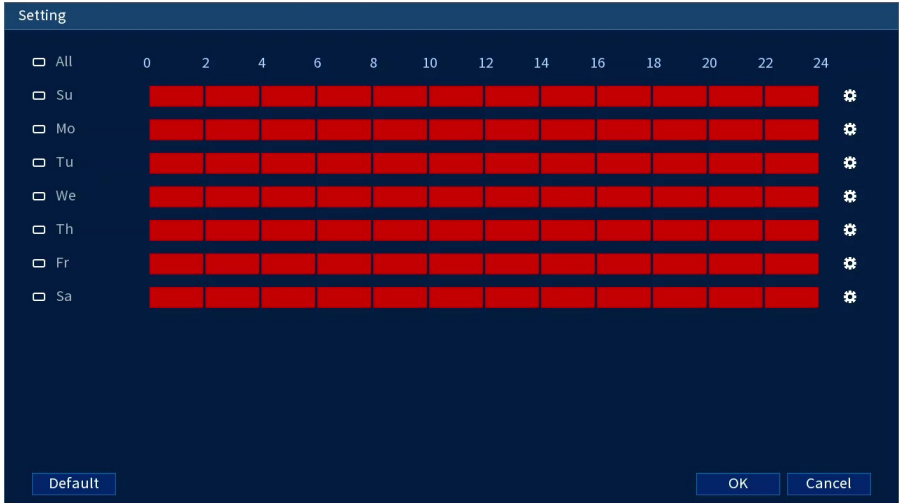
Post-Record 10 sec.

Picture Storage Setting

Default Copy to

3. Select the alarm input port the device is connected to.
4. Check **Enable**.
5. Enter a name for the alarm.

- 6. Select **NO (Normal Open)** or **NC (Normal Close)** depending on the type of alarm input device you have.
- 7. Click **Setting** next to **Schedule** to configure the times of the week when the selected device will be activated. By default, the device will be activated 24/7.



- Click or click-and-drag along each of the red timelines to quickly add or remove time from each day's schedule in 30-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 . This will allow you to set exact start and end times for a schedule.

8. Configure the following system responses and parameters for the alarm input device:

- **Alarm-out Port:** Check the box to activate alarm output devices (not included) when the selected device is triggered. Select the alarm output devices that will be activated, then enter the number of seconds the alarm output device(s) will activate after the selected device is triggered next to **Post-Alarm**.
- **Show Message:** Check to enable an on-screen pop-up when the selected device is triggered.
- **Send Email:** Check to enable email alerts. You must configure email alerts before you will be able to receive them (see 21.5.3 *Configuring Email Alerts*, page 103).
- **Record Channel:** Click the checkbox to enable video recording when the alarm is triggered. You can then select the channels the system will record on.
- **Post-Record:** Enter the number of seconds the system will record after video loss occurs.
- **PTZ Linkage:** Check to enable PTZ actions when video loss occurs (PTZ camera required; not included). Click **Set** to select which PTZ actions will be taken by each camera.
- **Sequence:** Check to enable a custom sequence mode when motion is detected on the selected channel. Then click the channels you would like to display in the custom sequence mode.
- **Picture Storage:** Check to save a snapshot.
- **Buzzer:** Check to enable the system buzzer.

9. Click **OK** to save changes.

21.2.4 Controlling Alarm Output Devices

You can connect alarm output devices (not included), such as sirens or strobe lights, to the system. The Alarm Output menu allows you to enable or disable alarm output devices and manually an activated device.

To connect alarm devices:

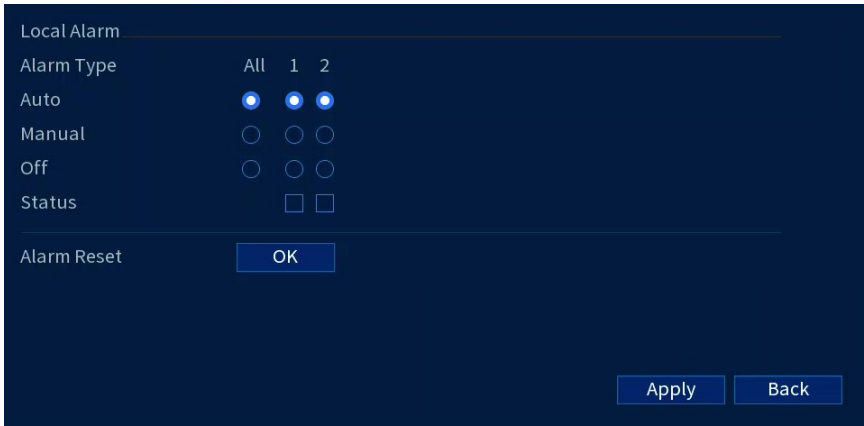


- Connect the included green alarm blocks to the back panel of the recorder.
- Connect your alarm device according to the supplied documentation.

To configure alarm output devices (not included):

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

- 2. Click **EVENTS**. Click the **Event Settings** tab from the side panel, then the **Alarm-out Port** tab from the drop-down.



To control alarm output devices:

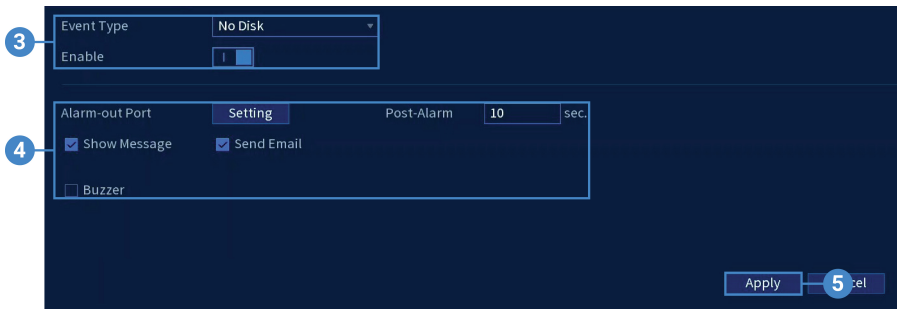
- To enable alarm output devices, select **Auto** or **Manual** for each device you would like to enable. Select **Off** to disable the alarm output device. Click **Apply** to save changes.
- To manually disable activated alarm devices, click **OK** next to **Alarm Reset**.

21.2.5 Configuring Hard Drive Warnings

Hard drive warnings will notify you if an issue is detected with the hard drive.

To configure hard drive warnings:

- 1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
- 2. Click **EVENTS**. Click the **Warning** tab from the side panel, then the **HDD** tab from the top panel.



- 3. Under **Event Type**, select the hard drive event you would like to configure. Check **Enable** to activate the selected warning.
 - **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. You can enter the percentage of disk space remaining that will trigger a warning under **Less Than** (e.g. when less than 10% of the hard drive is empty, trigger a warning). Disk Full warnings will not occur if overwrite is enabled.
 - **All:** Configure warnings for all hard drive events.

4. Configure the responses the system will take when the selected event occurs:

- **Alarm-out Port:** Check the box to activate alarm output devices (not included) when the selected event occurs. Select the alarm output devices that will be activated, then enter the number of seconds the alarm output device(s) will activate after the selected event occurs next to **Post-Alarm**.
- **Show Message:** Show a popup message on the monitor.
- **Send Email:** Check to enable email alerts. You must configure email alerts before you will be able to receive them (see 21.5.3 *Configuring Email Alerts*, page 103).
- **Buzzer:** Check to activate the system buzzer.

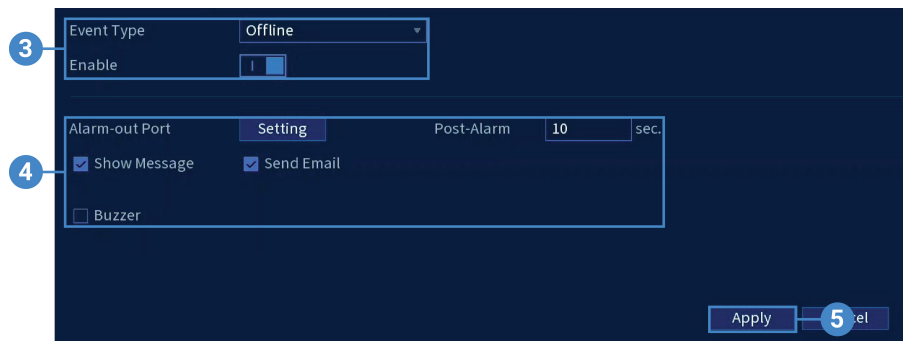
5. Click **Apply** to save changes.

21.2.6 Configuring Network Warnings

Network warnings will notify you if there your system loses connection to the Internet or local network or if there is an issue on your network.

To configure network warnings:

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



3. Under **Event Type**, select the event type you would like to configure. Check **Enable** to activate the selected warning.

- **Offline:** 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 responses for all network events.

4. Configure the following for the selected event type:

- **Alarm-out Port:** Check the box to activate alarm output devices (not included) when the selected event occurs. Select the alarm output devices that will be activated, then enter the number of seconds the alarm output device(s) will activate after the selected event occurs next to **Post-Alarm**.
- **Show Message:** Check to show a popup message when the selected event occurs.
- **Send Email:** Check to enable email alerts. You must configure email alerts before you will be able to receive them (see 21.5.3 *Configuring Email Alerts*, page 103).
- **Buzzer:** Check to activate the system buzzer.

5. Click **Apply** to save changes.

21.2.7 Configuring Device Warnings

Network warnings will notify you if there your system loses connection to the Internet or local network or if there is an issue on your network.

To configure network warnings:

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

- Click **EVENTS**. Click the **Warning** tab from the side panel, then the **Device** tab from the top panel.

The screenshot shows the 'Event Configuration' window for the 'Fan Speed Exception' event type. The 'Event Type' dropdown is set to 'Fan Speed Exception'. The 'Enable' checkbox is checked. The 'Alarm-out Port' section has a 'Setting' button and a 'Post-Alarm' field set to '10' seconds. The 'Show Message', 'Send Email', and 'Buzzer' checkboxes are all unchecked. An 'Apply' button is at the bottom right, with a '5 cel' label next to it.

- Under **Event Type**, select the event type you would like to configure. Check **Enable** to activate the selected device warning.
 - Fan Speed Exception:** The device has a fan speed issue.
 - Disk:** The device has an HDD error, no HDD, or no space.
 - Network:** The device has network disconnection, IP conflict, or MAC conflict.
- Configure the following for the selected event type:
 - Alarm-out Port:** Check the box to activate alarm output devices (not included) when the selected event occurs. Select the alarm output devices that will be activated, then enter the number of seconds the alarm output device(s) will activate after the selected event occurs next to **Post-Alarm**.
 - Show Message:** Check to show a popup message when the selected event occurs.
 - Send Email:** Check to enable email alerts. You must configure email alerts before you will be able to receive them (see 21.5.3 *Configuring Email Alerts*, page 103).
 - Buzzer:** Check to activate the system buzzer.
- Click **Apply** to save changes.

21.2.8 Searching Event Logs

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

To access the log menu:

- From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
- Click **EVENTS**, then the **Event Log** tab from the side panel.

The screenshot shows the 'Event Log' window. At the top, there are filters for 'Type' (set to 'All') and 'Time Period' (set to 'Today'). Below these is a search bar. The main area is a table with columns: '100 Time', 'Type', 'Play', and 'Picture'. The table lists 15 events, including 'Motion Detect' and 'Smart Motion (Person)'. At the bottom, there are navigation buttons: '< 01/70 > Goto 1 Backup Details'.

- Select an event type to search for.
- Select a time period for your search, then enter a start and end time.

5. Click **Search**.
6. Events that match your search criteria are displayed:
 - The **Time** column displays the date and time of the event.
 - The **Type** column is formatted to show <[Event Type]: [Channel Number]>.
 - Click **Details** to see more information on the selected event.
 - Smart motion events have more options than other events. You can view the event by clicking the **Playback** icon  and view a snapshot by clicking the **Picture** icon , or back up the video clip and picture to a USB flash drive (not included) by clicking **Backup**.

21.3 Display Menu

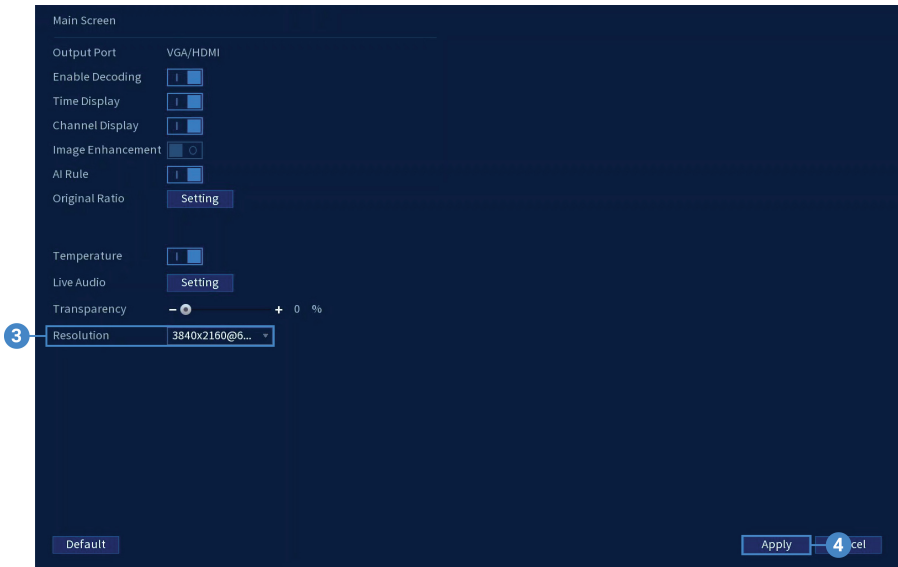
Configure display, resolution, and viewing sequence settings.

21.3.1 Setting the Monitor Resolution (Display)

Configure the system’s monitor resolution and other display settings.

To set the monitor resolution:

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

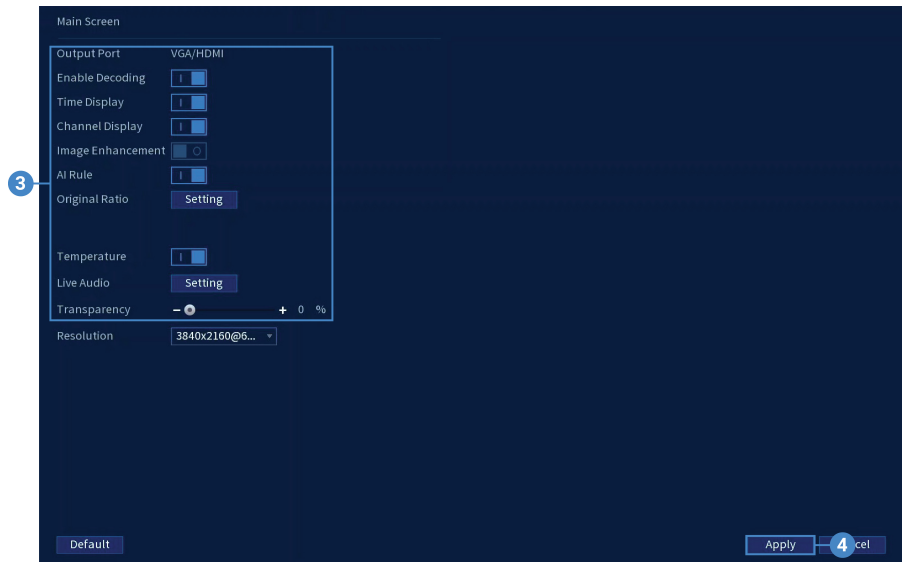


3. Under **Resolution**, select the correct resolution for your monitor.
4. Click **Apply** to save changes. Click **OK** again to restart the system using the new resolution.

To configure other display settings:

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

- Click **DISPLAY**, then the **Display** tab from the side panel.



- Configure the following:

- **Output Port:** Indicates the main screen port.
- **Enable Decoding:** Check to enable smart decoding.
- **Time Display:** Check to show the time on the monitor.
- **Channel Display:** Check to show the channel names on the monitor.
- **Image Enhancement:** Check for the system to digitally improve the video quality on the live display. This setting does not affect recordings.
- **AI Rule:** Check to enable displaying the captured face and mask detection images or to display the value of people detected during people counting.
- **Original Ratio:** Set the system to show the true aspect ratio of the cameras on the live display. This may add black bars on the top and bottom of the image.
- **Temperature:** Check to enable to display temperature reading.
- **Live Audio:** Check to enable the audio adjustment function for a channel during live view.
- **Transparency:** Select the menu transparency.

- Click **Apply** to save changes.

21.3.2 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:

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

2. Click **DISPLAY**. Click the **Sequence** tab from the side panel, then the **Main Screen** tab from the top panel.



3. Choose how many channels will appear on screen when Sequence mode is triggered by motion detection (you must check **Sequence** when configuring motion detection — see 13 *Smart Motion Plus*, page 39 for details) or by an alarm.
4. Check to enable Sequence mode.
5. Enter the amount of time in seconds that each channel or page will appear on screen during Sequence mode.
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** to save changes.

21.4 Camera Menu

The Camera Menu allows you to manage IP cameras, set recording parameters, and assign custom names for your cameras.

21.4.1 Viewing Camera Status

View the connection and alarm status for all connected cameras.

To view camera status:

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

- Click **CAMERA**. Click the **Registration** tab from the side panel, then the **Device Status** tab from the top panel.

Device Status

Camera	Status	IP Address	Motion	Video Loss	Channel Name	Protocol	Type
1	●	192.168.5.1	●	●	CAM 1	Private	LNB9383
2	●	192.168.5.2	▲	●	CAM 2	Private	LNB9383
3	●	192.168.5.3	▲	●	CAM 3	Private	LNB9383
4	●	192.168.5.4	▲	●	CAM 4	Private	LNB9383
5	●	192.168.5.5	●	●	CAM 5	Private	LNB9383
6	●	192.168.5.6	▲	●	CAM 6	Private	LNB9383
7	●	192.168.5.7	▲	●	CAM 7	Private	LNB9383
8	●	192.168.5.8	●	●	CAM 8	Private	LNB9383
9	●	192.168.5.9	●	●	CAM 9	Private	LNB9393
10	●	192.168.5.10	▲	●	CAM 10	Private	LNB9393
11	●	192.168.5.11	●	●	CAM 11	Private	LNB9393
12	●	192.168.5.12	●	●	CAM 12	Private	LNB9393
13	●	192.168.5.13	●	●	CAM 13	Private	LNB9393
14	●	192.168.5.14	●	●	CAM 14	Private	LNB9393
15	●	192.168.5.15	▲	●	CAM 15	Private	LNB9383
16	●	192.168.5.16	●	●	CAM 16	Private	LNB9383

Refresh

21.4.2 Camera Firmware Versions

View firmware versions for connected cameras.

To view camera firmware versions:

- From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
- Click **CAMERA**. Click the **Registration** tab from the side panel, then the **Firmware** tab from the top panel.

Camera	IP Address	Protocol	Type	System Version	SN
1	192.168.5.1	Private	LNB9383	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC7B
2	192.168.5.2	Private	LNB9383	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC8B
3	192.168.5.3	Private	LNB9383	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC9B
4	192.168.5.4	Private	LNB9383	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC1C
5	192.168.5.5	Private	LNB9383	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC2C
6	192.168.5.6	Private	LNB9383	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC3C
7	192.168.5.7	Private	LNB9383	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC4C
8	192.168.5.8	Private	LNB9383	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC5C
9	192.168.5.9	Private	LNB9393	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC6C
10	192.168.5.10	Private	LNB9393	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC7C
11	192.168.5.11	Private	LNB9393	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC8C
12	192.168.5.12	Private	LNB9393	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC9C
13	192.168.5.13	Private	LNB9393	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC1D
14	192.168.5.14	Private	LNB9393	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC2D
15	192.168.5.15	Private	LNB9383	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC3D
16	192.168.5.16	Private	LNB9383	2.840.00IR000.4.R.2022-07-27	8B04FE3YAGBC4D

Refresh

21.4.3 Upgrading Camera Firmware

You can update the firmware for connected IP cameras through the NVR. Firmware upgrades provide enhanced functionality for the cameras. Typically, a camera firmware upgrade will not be necessary unless directed to do so by technical support.

To upgrade the camera firmware:

- Download the camera firmware file.



NOTE

Make sure that the firmware file you are using is compatible with your IP camera model.

- 2. Extract the firmware file and copy it to a USB thumb drive (not included).
- 3. Insert the USB thumb drive (not included) into a USB port on the system.
- 4. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
- 5. Click **CAMERA**. Click the **Registration** tab from the side panel, then the **Update** tab from the top panel.

Camera Update(0/16)							Device Type		None ▾
☐	Camera	Status	IP Address	System Version	Status	Update	Port	Type	
☐	1	●	192.168.5.1	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9383	
☐	2	●	192.168.5.2	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9383	
☐	3	●	192.168.5.3	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9383	
☐	4	●	192.168.5.4	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9383	
☐	5	●	192.168.5.5	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9383	
☐	6	●	192.168.5.6	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9383	
☐	7	●	192.168.5.7	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9383	
☐	8	●	192.168.5.8	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9383	
☐	9	●	192.168.5.9	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9393	
☐	10	●	192.168.5.10	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9393	
☐	11	●	192.168.5.11	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9393	
☐	12	●	192.168.5.12	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9393	
☐	13	●	192.168.5.13	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9393	
☐	14	●	192.168.5.14	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9393	
☐	15	●	192.168.5.15	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9383	
☐	16	●	192.168.5.16	2.840.00IR000.4.R.2022-07-27	Pending	Check	35000	LNB9383	

USB Upgrade

Check for Updates

Cloud Upgrade

- 6. Check the cameras you would like to apply the upgrade to in the list and then click **USB Upgrade**.

 **CAUTION**

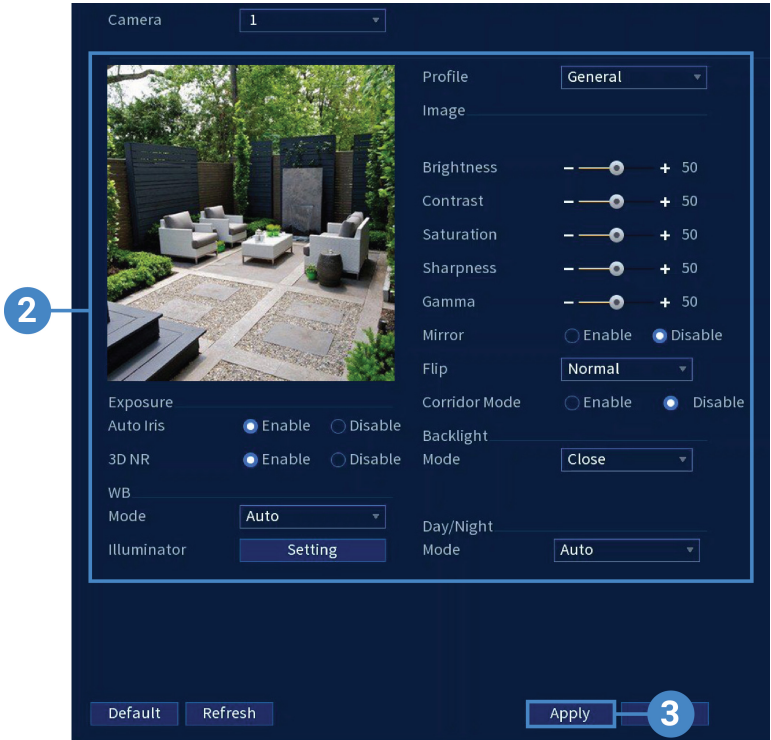
Wait for the firmware upgrade to complete before turning off or unplugging the cameras or NVR. The cameras will restart during the firmware update process.

21.4.4 Camera Image Settings

Use the Camera Setting menu to adjust image settings for your cameras.

To adjust image settings:

- 1. In the Live View display, right-click on the channel you would like to configure and select **Camera Setting**.



2. Configure the following settings as needed:



NOTE

The settings listed below are only shown if they are supported on the selected camera. Some camera models do not support all settings.

- **Profile:** Select from image setting presets.
- **Brightness:** Adjust the image brightness.
- **Contrast:** Adjust the image contrast.
- **Saturation:** Adjust the vibrancy of colors in the image.
- **Sharpness:** Adjust the sharpness of the image.
- **Gamma:** Adjust the light-to-dark balance of the image.
- **Mirror:** Select **Enable** to flip the image horizontally.
- **Flip:** Select **180°** to flip the image vertically, or select **Normal** for the default orientation. You can also select **90°** or **270°**.
- **Corridor Mode:** Not supported.
- **Backlight Mode:** Select one of the following backlight compensation modes:
 - **SSA (Smart Scene Adaptive):** Adjusts the lighting levels in the picture so you can see objects in the foreground if there is a strong light source behind them, especially good for scenes that include traffic lights or headlights.
 - **BLC (Back Light Compensation):** Adjusts the lighting levels in the picture so you can see objects in the foreground if there is a strong light source behind them.
 - **WDR (Wide Dynamic Range):** *(Compatible camera required)* The camera compensates for changes in brightness across the image to enhance the picture quality of both light and dark areas.
 - **HLC (High Light Compensation):** The camera dims the brightest areas of the image to make them clearer.
 - **Close:** Disable this function.
- **Day/Night Mode:** This setting sets the camera's day/night mode. Select **Auto** for the camera to automatically determine whether to use color or black and white mode. Select **Black&White** for the camera to use black and white mode at all times. Select **Color** for the camera to use color mode at all times.



NOTE

It is recommended for most installations to select **Auto** mode. Using **Color** mode will keep the camera in color even as light levels drop, which will impact image quality on cameras without low-light image sensors.

- **Auto Iris:** *(Compatible camera required)* When set to **Enable**, the iris size changes automatically according to the ambient lighting condition, and the image brightness changes accordingly. When set to **Disable**, the iris stays at full size and does not change with the ambient lighting condition.
- **3D NR:** Select **On** to turn on the camera's noise reduction feature. Noise reduction will ensure a cleaner image, especially at night, and may reduce the amount of disk space required to store video.
- **WB Mode:** This mode allows you to adjust white balance levels for the camera. Choose from the list of preset modes, or select **Auto** to have the system automatically set the optimal white balance mode.
- **Illuminator:** *(Compatible camera required)* Click **Setting** to adjust the illuminator intensity in the image for ambient lighting conditions. Select **Manual** to adjust the brightness of the illuminator manually or **Auto** for the system to automatically adjust the illuminator intensity. Select **Off** to turn off the Illuminator.

3. Click **Apply** to save changes.



NOTE

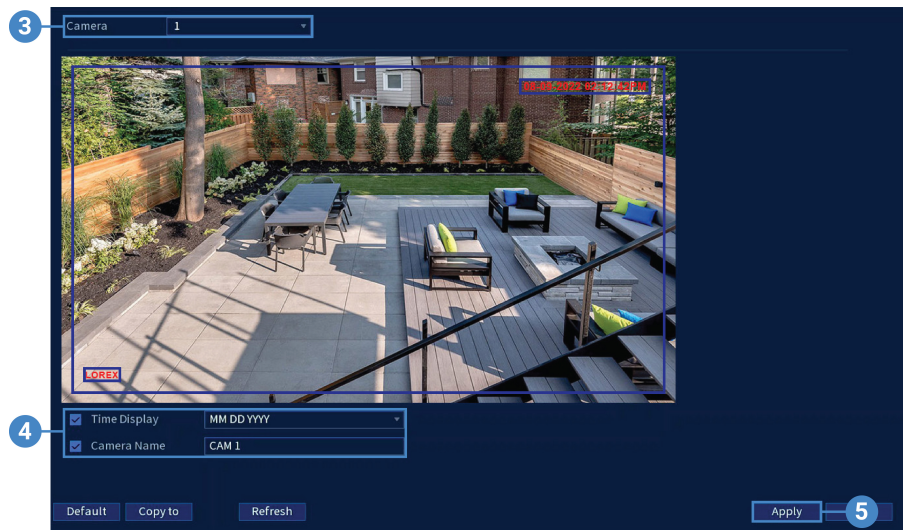
You must save changes to apply settings changes. It is recommended to adjust one setting at a time so you can see the results of each change. Click **Default** to reset the camera to default image settings.

21.4.5 Configuring Video Overlay Settings

The Overlay tab allows you to configure the text and information that appears overtop of the camera image, such as time and channel display.

To configure video overlay settings:

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



3. Select the camera you would like to configure.
4. Configure the following settings:
 - **Time Display:** Check to display the time information during live view. Click **Set** next to **Time Display** to choose the position of the time display overlay. Click-and-drag the time display to reposition it. Right-click when finished.
 - **Camera Name:** Check to display the channel information. Click **Set** next to **Channel Display** to choose the position of the channel display overlay. Click-and-drag the channel display to reposition it. Right-click when finished.
5. Click **Apply** to save changes.
6. (Optional) Click **Copy to** to copy overlay settings to other channels.

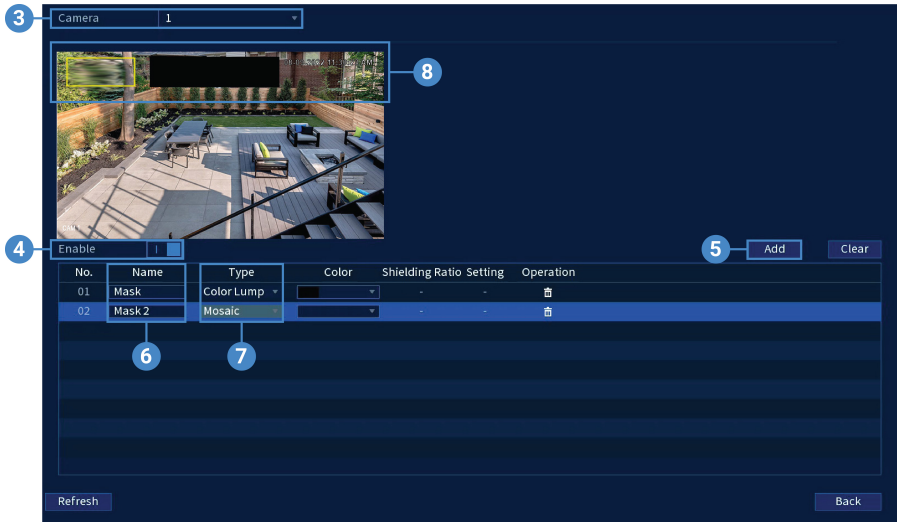
21.4.6 Configuring Video Privacy Masking

Privacy Masking, also known as the good neighbor feature, allows you to hide areas in the camera's field-of-view when recording.

To configure video privacy masking settings:

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

2. Click **CAMERA**. Click the **Overlay** tab from the side panel, then the **Privacy Masking** tab from the top panel.



3. Select the camera you would like to configure.
4. Check to enable privacy masking.
5. Click **Add**.
6. Set a name for the rule by double-clicking the mouse over the **Name**.
7. Select the privacy masking type, then draw the area:
- **Color Lump**: This option will black out the camera’s image in the defined privacy masking area.
 - **Mosaic**: This option will blur the camera’s image in the defined privacy masking area.
8. To draw a privacy masking box, click around the designated area in the camera’s live view screen.
9. To delete a rule click the **Operation** icon  for that rule or click **Clear** to delete all.

21.4.7 *Configuring Snapshot Recording Settings*

The system can be set to record snapshot images when a camera detects motion. These snapshots can be viewed through the Playback menu or can be attached to email alerts and push notifications. Use the following procedure to set the snapshot parameters for each camera.

 **NOTE**

Snapshot (**Picture Storage**) recording must be enabled for motion detection in the Events menu. See 13 *Smart Motion Plus*, page 39 for details.

To configure snapshot recording settings:

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

- Click **CAMERA**. Click the **Recording** tab from the side panel, then the **Snapshot** tab from the top panel.

- Configure the following settings for snapshots saved automatically from motion detection or the snapshot schedule:
 - **Camera:** Select the camera you would like to configure.
 - **Type:** Select **Scheduled** for the system to take snapshots at fixed intervals throughout the day, or select **Event** for the system to take snapshots only when triggered by motion detection (snapshot recording must be enabled in the motion detection menu - see 13 *Smart Motion Plus*, page 39 for details).
 - **Size:** The image size is the same as the Main Stream resolution of the camera.
 - **Quality:** Select the snapshot image quality between **1** (lowest) and **6** (highest)
 - **Interval:** Enter the time between snapshots in seconds.
- Under **Snapshot**, select the number of snapshots the system will take when the snapshot button is pressed.
- Click **Apply** to save changes.

21.4.8 Creating Custom Channel Names

You can assign custom names to your cameras. For example, you can name your cameras based on their location (e.g. hallway or front door).

To create custom channel names:

- From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
- Click **CAMERA**, then the **Channel Name** tab from the side panel.

- Click a channel to enter a custom name.
- Click **Apply** to save changes.

21.4.9 PoE Manager

View the status of IP cameras connected to the recorder, including video transmission speed and power drawn through PoE.

 **NOTE**

If the total power requirement of cameras connected to the system exceeds the power output of the unit, cameras will be automatically disconnected one at a time until all connected cameras can be powered.

To view camera PoE status:

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

Connected/Total 12/16 Actual/Total Power(W) 63.9/219.0

Status	Port	Rate(Mbps)	Power(W)
	1	100	4.7
	2	-	-
	3	100	2.4
	4	100	5.3
	5	100	5.5
	6	100	5.5
	7	100	5.2
	8	100	3.5

Note:

1. In the Connection State column, a green icon means the device is connected, while red means offline.

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

21.5 Network Menu

Configure and manage network settings.

21.5.1 Selecting DHCP or Static IP Address (TCP/IP)

Configure IP address settings.

To configure IP address settings:

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

4

IP VersionIPv4

MAC Address00:1f:54:8a:80:8e

DHCP☒3

IP Address192 . 168 . 5 . 134

Subnet Mask255 . 255 . 255 . 0

Default Gateway192 . 168 . 5 . 1

Preferred DNS8 . 8 . 8 . 8

Alternate DNS8 . 8 . 4 . 4

MTU1500

Test

Apply5

3. Check **DHCP** (recommended) to let the system automatically obtain an IP address from the router.
OR
Uncheck **DHCP** to assign a static IP address (advanced users only).
4. If you uncheck **DHCP**, configure the following:
 - **IP Version:** Select **IPv4** or **IPv6**.
 - **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.
5. Click **Apply** to save changes.

21.5.2 Configuring System Ports (Connection)

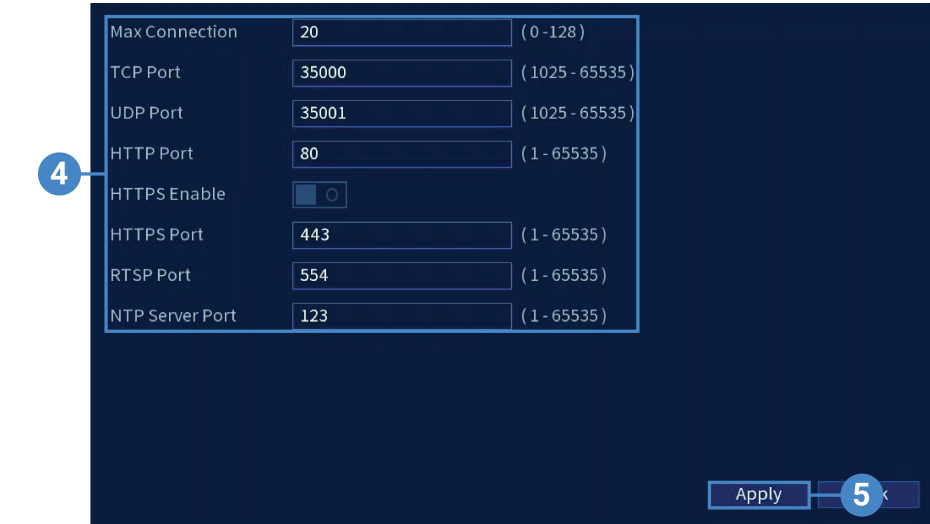
Configure ports used by the system for remote connectivity. If you are using DDNS connectivity, port forwarding is required for the HTTP Port (default: **80**) and TCP (Client) Port (default: **35000**).

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**.
3. Click the **Port** tab from the side panel.



4. Configure the port numbers as needed.
5. Click **Apply** to save changes.

NOTE

Up to 3 devices may connect to the system at the same time.

21.5.3 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 13 *Smart Motion Plus*, page 39.

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 the **Email** tab from the side panel.
3. Check **Enable** to enable email notifications.

If you want to use Lorex’s email server (recommended):



1. Under **Mail Select**, select **Lorex Mail** to use the Lorex email server to send out alarm notifications. This is the recommended setting.
2. Configure the following:
 - **Email Schedule:** Configure time periods during which email alerts will be sent.
 - **Receiver:** Enter the email address that will receive alerts.
 - **Sender:** Enter the sender’s email address.
 - **ALERT:** Enter the subject line for the email alert.
 - **Attachment:** Check to include an 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 , page .

- **Sending Interval:** Enter the interval between alert emails.
 - **Health Mail:** Check to enable health check emails. Health check emails will be sent periodically to ensure that the system is functioning normally. Enter the interval in minutes for health check emails.
3. Click **Test** to send a test email.
 4. Click **Apply** to save settings.

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

The screenshot shows an email configuration window with the following fields and settings:

- 1** (Mail Select): A dropdown menu currently showing "Lorex Mail".
- 2** (SMTP Server): A text field containing "mysmtp.lorexddns.net".
- Port**: A text field containing "2525" with a range "(1 - 65535)".
- Username**: An empty text field.
- Password**: An empty text field.
- EmailSchedule**: A button labeled "Setting".
- Anonymous**: A checkbox that is currently unchecked.
- Receiver**: A dropdown menu showing "Receiver1".
- Email Address**: A text field containing "none".
- Sender**: A text field containing "noreply@lorexddns.net".
- Subject**: A text field containing "ALERT".
- Attachment**: A checkbox that is currently unchecked.
- Encryption Type**: A dropdown menu showing "None".
- Sending Interval**: A text field containing "3" with a unit "min.".
- Health Mail**: A checkbox that is currently unchecked.
- Sending Interval**: A text field containing "60" with a unit "min. (30 - 1440)".
- 3** (Test): A button at the bottom left.
- 4** (Apply): A button at the bottom right.

1. Under **Mail Select**, select **Customize**.
2. Configure the following:
 - **SMTP Server:** Enter the SMTP server address.
 - **Port:** Enter the port used by the SMTP server.
 - **Anonymous:** Check if your server supports anonymous log ins. Otherwise, leave this unchecked.
 - **Username:** Enter the SMTP user name.
 - **Password:** Enter the SMTP password.
 - **Receiver:** Enter the email address that will receive alerts.
 - **Sender:** Enter the sender's email address.
 - **ALERT:** Enter the subject line for the email alert.
 - **Attachment:** Check to include an 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 13 *Smart Motion Plus*, page 39.

- **Encryption Type:** Select **SSL** or **TLS** if your server uses encryption. Select **None** if your server does not use encryption.
 - **Sending Interval:** Enter the interval between alert emails.
 - **Health Mail:** Check to enable health check emails. Health check emails will be sent periodically to ensure that the system is functioning normally. Enter the interval in minutes for health check emails.
3. Click **Test** to send a test email.
 4. Click **Apply** to save settings.

21.5.4 Configuring Switch Settings (Advanced)

Configure the networking settings for the internal PoE switch.



CAUTION

It is recommended to leave this menu on the default settings. Changing the information in this menu may disrupt the connection to the cameras.

To configure switch settings:

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

- 2. Click **NETWORK**, then the **Switch** tab from the side panel.



- 3. Configure the **IP Address**, **Subnet Mask**, and **Default Gateway** for the internal PoE switch.
- 4. Click **Apply** to save changes. The system will restart.

21.5.5 P2P Setting

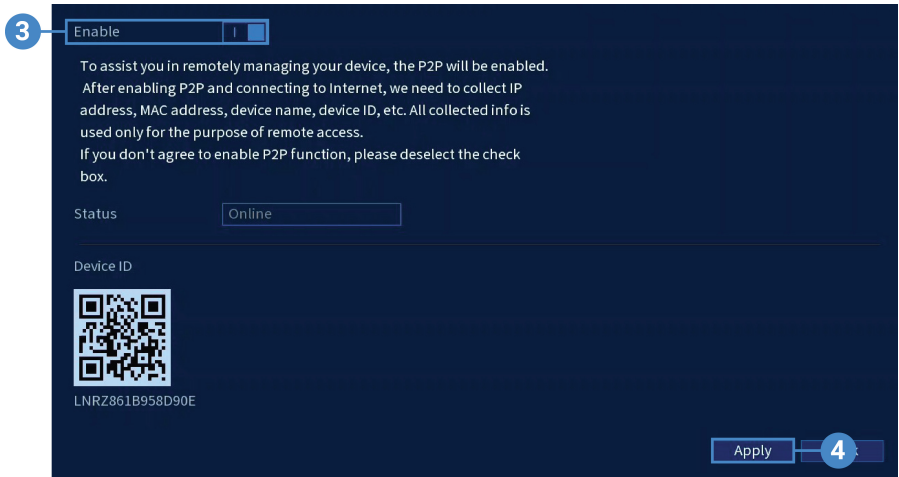
The P2P Setting menu is used only to enable / disable remote access to the system using a P2P connection.

 **CAUTION**

P2P connection is the primary method used for remote access to your security system using the Lorex Cloud app. If you disable P2P connectivity, you will only be able to access your system over the Internet using DDNS. See 26 *DDNS Setup (Advanced)*, page 13626 *DDNS Setup (Advanced)*, page 136for 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 the **P2P** tab from the side panel.



- 3. Check **Enable** to use P2P, or uncheck to disable.
- 4. Click **Apply**.

21.6 System Menu

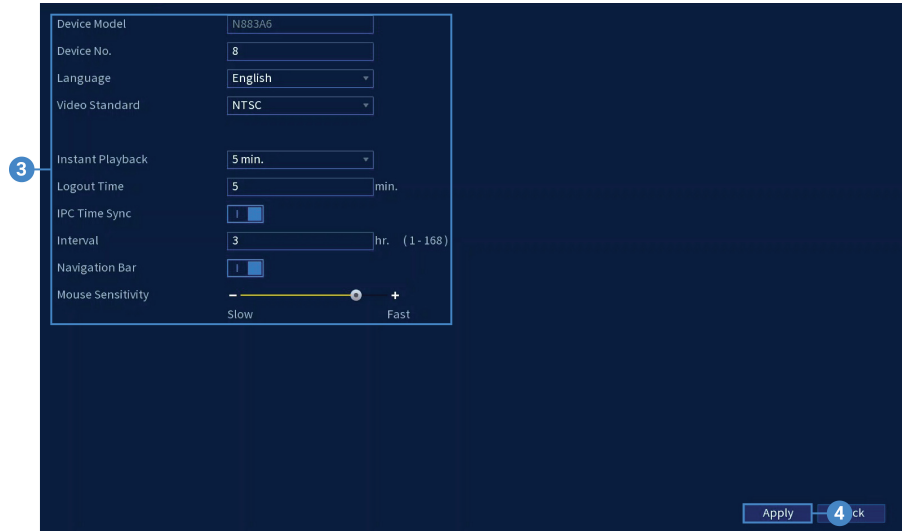
Configure general system settings, including date & time, holidays, and security.

21.6.1 Configuring General System Settings

Configure miscellaneous system settings.

To configure general 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 from the side panel, then the **General** tab from the top panel.



3. Configure the following:

- **Device Model:** The device's model number.
- **Device No.:** Not supported.
- **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.
- **Logout Time:** Select the idle time (in minutes) before the system will logout the current user.
- **IPC Time Sync:** Select how often (in hours) the NVR will update the time on the IP cameras.
- **Interval:** Set the length of time (hourly) for video files saved to the hard drive. For example, if set to 3 hours, the system will create a new video file for 3 hours of continuous recording.
- **Navigation Bar:** Check to enable the Navigation Bar that comes up when you left click in live view.
- **Mouse Sensitivity:** Use the slider to adjust the mouse speed.

4. Click **Apply** to save changes.

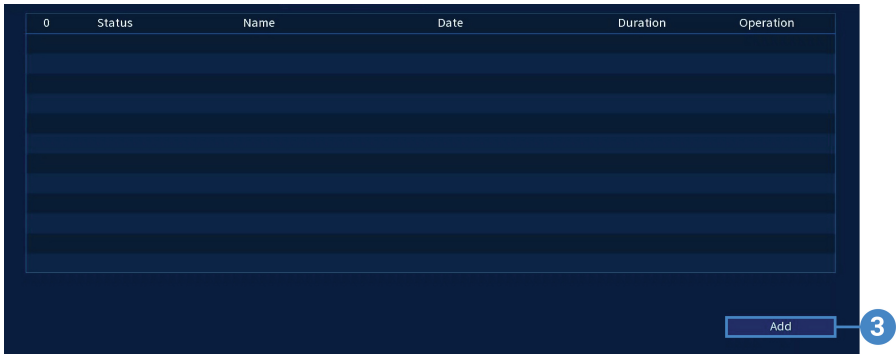
21.6.2 Configuring Holidays

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

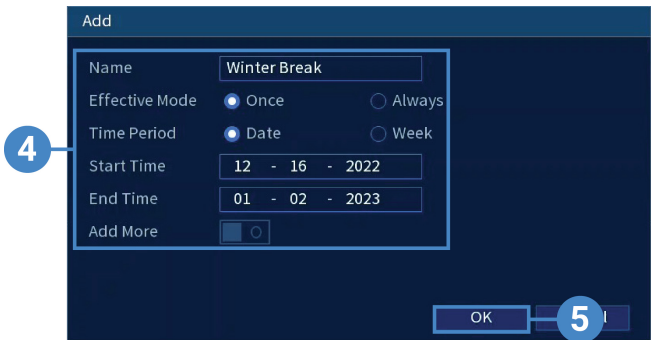
To configure holidays:

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

2. Click **SYSTEM**. Click the **General** tab from the side panel, then the **Holiday** tab from the top panel.



3. Click **Add**.
4. Configure the following:



- **Name:** Enter a name for this holiday.
 - **Effective Mode:** Select **Once** for the holiday to occur only this year or **Always** for the holiday to be repeated each year.
 - **Time Period:** Select **Date** to select a specific date, or select **Week** to select holidays based on which week they fall on.
 - **Start Time / End Time:** Enter the date for this holiday.
 - **Add More:** Check to enable adding another holiday.
5. Click **OK**.
6. To delete a Holiday after it's been added, click the **Operation** icon .

21.6.3 *Configuring Serial Port*

The serial port, also known as the communication port, is used to connect to external control devices.

To configure the serial port parameters:

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

2. Click **SYSTEM**, then the **Serial Port** tab from the side panel.

Function	General
Baud Rate	115200
Data Bit	8
Stop Bit	1
Parity	None

ApplyBack

3. Configure the following:
 - **Function:** Select a serial port protocol.
 - **Baud Rate:** Select the proper baud rate, with 115200 being the default.
 - **Data Bit:** Select the proper data bit between the value range from 5 to 8, with 8 being the default.
 - **Stop Bit:** Select between the values 1 or 2 bit seconds.
 - **Parity:** Select between None, Odd, Even, Mark, and Null.
4. Click **Apply** to save changes.

21.6.4 Configuring IP Filter

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

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **SYSTEM**.
3. Click the **Security** tab from the side panel, then the **Firewall** tab from the top panel.

[illegible]

4. Check **Enable**.
5. Select **Allow List** to add IP addresses or ranges that are permitted to access the recorder, or select **Block List** to add IP addresses or ranges that are not permitted to access the recorder.
6. Click **Add** to enter an IP address or range.
7. Click **Apply** when finished.

21.6.5 Configuring IP Filter — Sync Time-Allowlist

Configure permissions for external IP addresses that are permitted to sync the recorder's time.

1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **SYSTEM**.
3. Click the **Security** tab from the side panel, then the **Sync Time-Allowlist** tab from the top panel.



4. Check **Enable**.
5. Select **Allow List** to add IP addresses or ranges that are permitted to access the recorder, or select **Block List** to add IP addresses or ranges that are not permitted to access the recorder.
6. Click **Add** to enter an IP address or range.
7. Click **Apply** when finished.

21.7 Storage Menu

Set the recording schedule and manage the hard disk drive.

21.7.1 Configuring Pre-Recording

The system can pre-record video when motion detection events occur. This will ensure that the system records the entire event when motion is detected. By default, the system pre-records 4 seconds of video every time motion is detected.

 **NOTE**

Ensure you have set your preferences for motion detection (see 13 *Smart Motion Plus*, page 39 for details).

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 from the side panel, then the **Record** tab from the top panel.



- 3. Select the camera you would like to configure.
- 4. Under **Pre-Record**, select the duration for pre-recording.
- 5. Click **Apply** to save settings.

21.7.2 Configuring Snapshot Recording Schedule

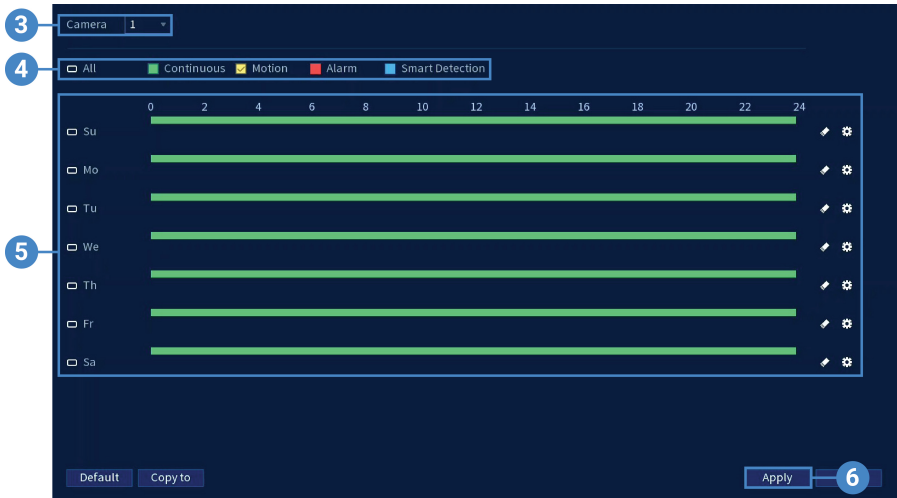
The system can capture snapshots when motion detection or smart motion detection events occur. This will ensure that the system captures the event when motion is detected.

 **NOTE**

Ensure you have enabled snapshot (**Picture Storage**) for motion detection or smart motion detection (see 13 *Smart Motion Plus*, page 39 for details).

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 from the side panel, then the **Snapshot** tab from the top panel.



- 3. Select the camera you would like to configure.
- 4. Check the recording type you would like to configure, or check **All**.

5. Configure the schedule as needed:
- Check **Continuous**, **Motion**, **Alarm**, or **Smart Detection** 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 .
6. Click **Apply** to save settings.

21.7.3 *Formatting the Hard Drive*

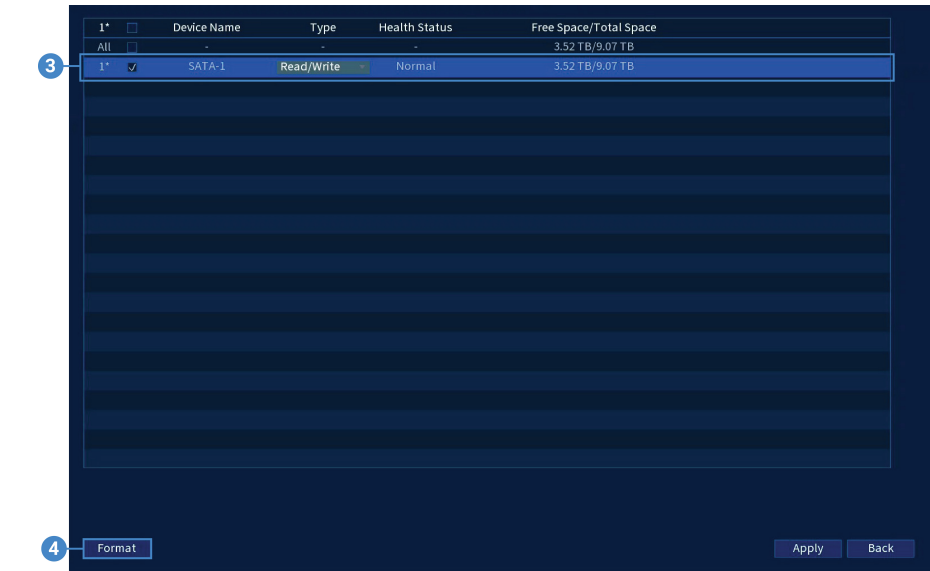
Format the hard drive to erase all saved data. If you install a new hard drive, you must format the hard drive using the procedure below before you will be able to record.

To format the hard drive:

 **CAUTION**

Formatting the hard drive erases **all data** on the hard drive. **Formatting cannot be undone.**

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



3. Select the hard drive you would like to format.
4. Click **Format**, then click **Yes** to confirm.

21.7.4 *Configuring Hard Drive Type*

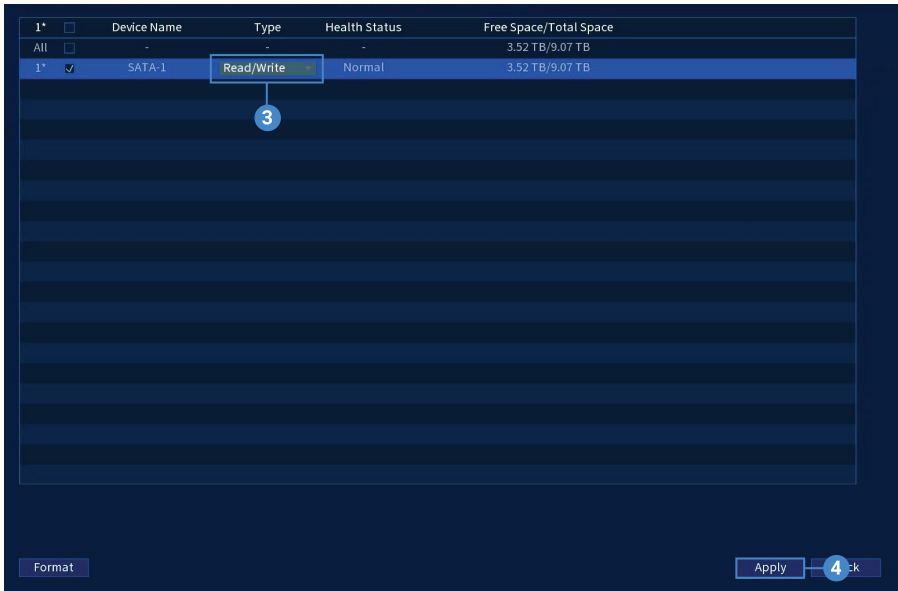
The system supports the following hard drive types:

- **Read/Write:** Normal recording hard drive.
- **Read-Only:** The system can playback data from this hard drive, but it will not record to it.

To set the hard drive type:

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

2. Click **STORAGE**, then the **HDD Manager** tab from the side panel.



3. Select the hard drive type under the **Type** column next to the hard drive you would like to configure.
4. Click **Apply** to save changes. The system will restart to complete this operation.

21.7.5 *Configuring Hard Drive Groups (Advanced)*

Hard drive groups allow you to balance recordings across multiple hard drives. For example, you can record channels 1~4 to one hard drive and 4~8 to a second hard drive. This can reduce the amount of wear on the hard drives and may extend the life of the hard drives.

 **NOTE**

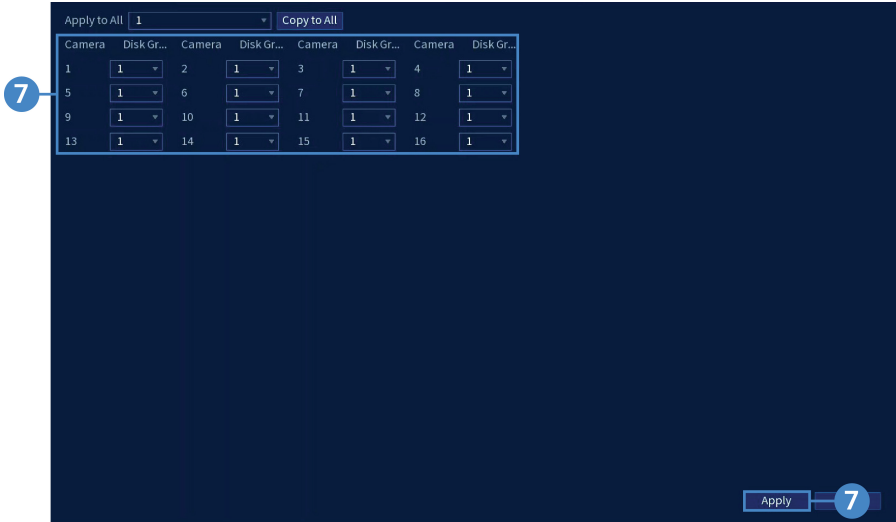
Two hard drives must be installed in the system to use hard drive groups, and both hard drives must be formatted as Read-write hard drives. For details on installing hard drives, see 25 *Replacing the Hard Disk Drive*, page 132.

To configure hard drive groups:

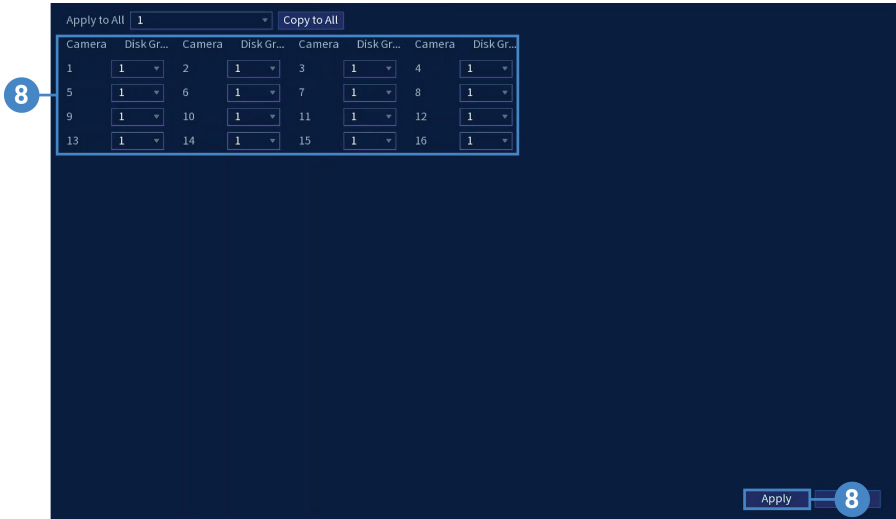
1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
2. Click **STORAGE**. Click the **Disk Group** tab from the side panel, then the **Disk Group** tab from the top panel.



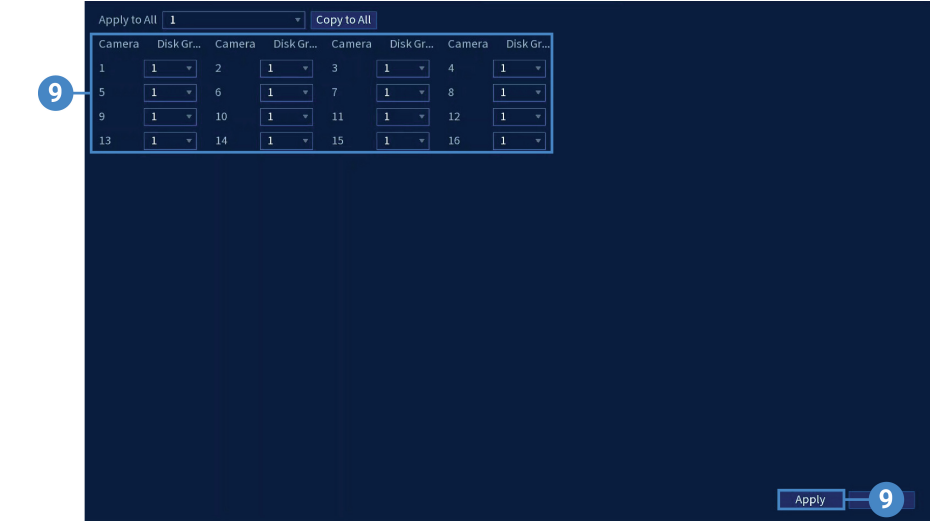
- 3. Under **Disk Group**, assign a group to each hard drive. To set up two hard drive groups, assign one hard drive to group 1 and the other to group 2.
- 4. Click **Apply**. The system will restart to apply changes.
- 5. When the system restarts, right-click to open the Quick Menu, then click **Main Menu**.
- 6. Click **STORAGE**. Click the **Disk Group** tab from the side panel, then the **Main Stream** tab from the top panel.
- 7. For each channel, select the hard drive group you would like to record the main stream (high quality) video and then click **Apply**.



- 8. Click the **Sub Stream** tab. For each channel, select the hard drive group you would like to record the sub stream (reduced quality) video and then click **Apply**.



9. Click the **Snapshot** tab. For each channel, select the hard drive group you would like to record snapshots and then click **Apply**.

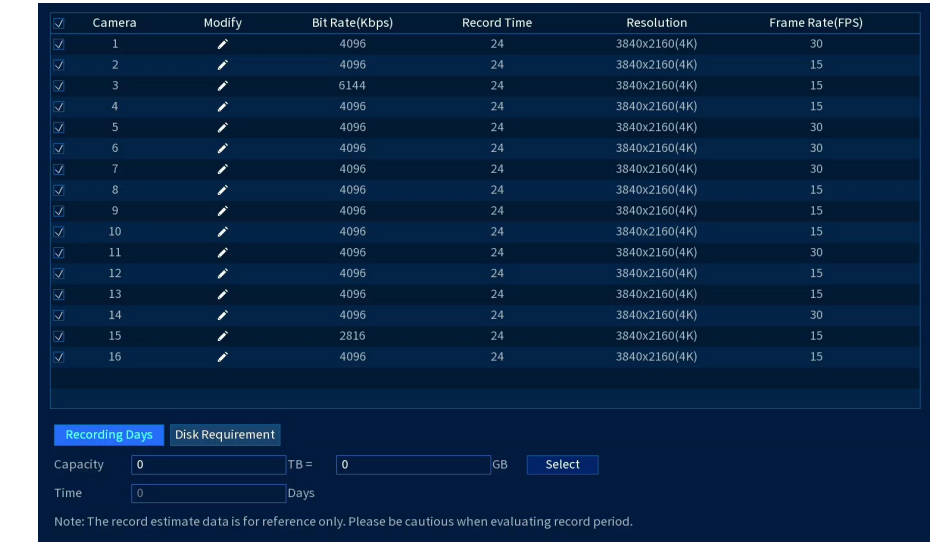


21.7.6 *Configuring Record Estimate (Recording Calculator)*

Use the recording calculator to get an estimate of your maximum recording time in days for the installed hard disk drive, or how much hard disk 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 **Record Estimate** from the side panel.



3. Select **Recording Days** for the total number of days worth of recordings your hard disk 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 disk drive from a list to output the total number of days your hard disk drive can store. For **Disk Requirement** mode, enter a number of days to output the total amount of storage required.
5. Click **Apply** to save changes.

21.7.7 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 the **FTP** tab from the side panel.

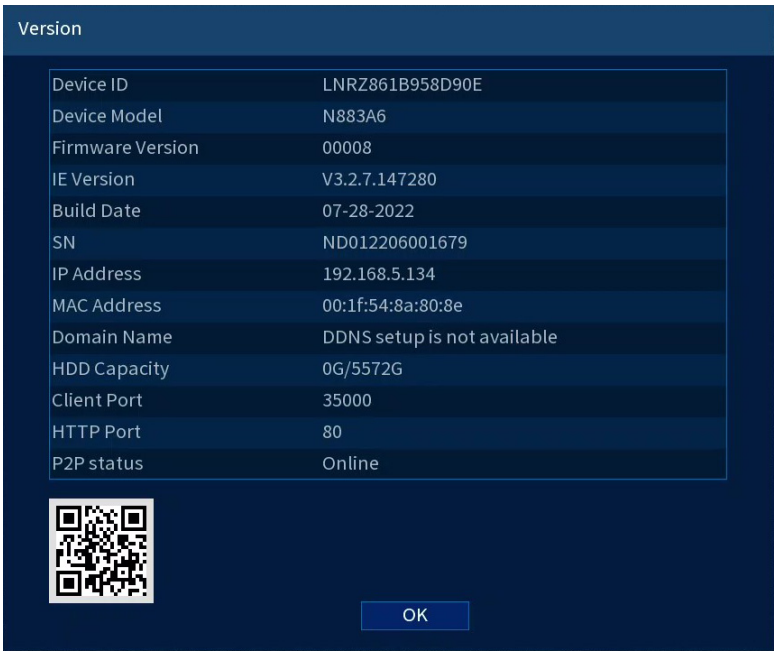
3. Check **Enable** to allow FTP connection, and select either **FTP** or **SFTP** depending on your configuration.
4. Configure the following:
 - **Server Address:** Enter the FTP server's address.
 - **Port:** Enter the FTP port.
 - **Username:** Enter your FTP username.
 - **Password:** Enter your FTP password.
 - **Anonymous:** Enable if your FTP server supports anonymous login.
 - **Storage Path:** Enter the directory to save recordings and/or snapshots to.
 - **Record File Size:** Enter the recording file length in minutes.
 - **Camera:** Select a camera to set FTP recording preferences for.
 - **Day:** Select a day of the week to configure FTP recording settings for, or select **All** to apply to all days of the week.
 - **Period 2:** Select up to 2 periods of time where the system will save recordings to the FTP. Check **Alarm**, **Motion**, or **Continuous** beside each period to determine which recording type will be uploaded to the FTP.
 - **Picture Upload Interval:** Enter the interval between snapshots in seconds.
 - **Camera Setting:** Select the camera tiles for FTP.
5. Click **Apply** to save changes.

21.8 Information Menu

View system information, backing up or upgrading the system, and more.

21.8.1 Version Information

View system information such as device ID, model number, IP address, and firmware version.



To access the Version Info menu:

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

21.8.2 Hard Drive Information

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

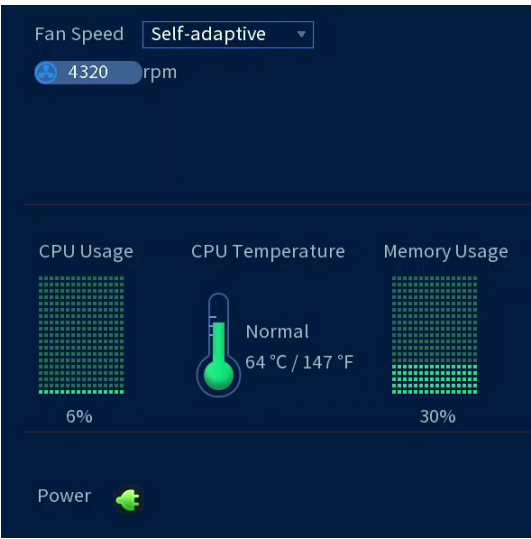
1*	Device Name	Type	Capacity	Free Space	Health Status
All	-	-	9.07 TB	3.56 TB	-
1*	SATA-1	Read/Write	9.07 TB	3.56 TB	Normal

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**. Click the **Information** tab from the side panel, then the **Disk** tab from the top panel.

21.8.3 Recording Information

View start and end times of recordings saved on the hard drive.



- 1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
- 2. Click **INFORMATION**. Click the **Information** tab from the side panel, then the **Device Status** tab from the top panel.

21.8.6 System Log

Search for system logs in a certain time range.



To access the log menu:

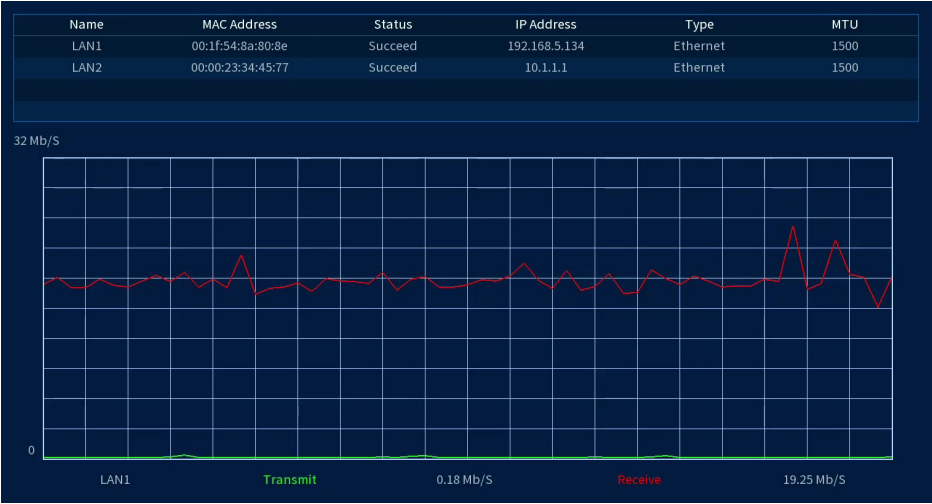
- 1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
- 2. Click **INFORMATION**, then the **Log** tab from the side panel.

21.8.7 Event Information

View a summary of active system alarms. Activated alarms are highlighted in white. Additional info such as channels that are currently detecting motion is shown.

21.8.9 Network Load

View network traffic your system is sending and receiving.

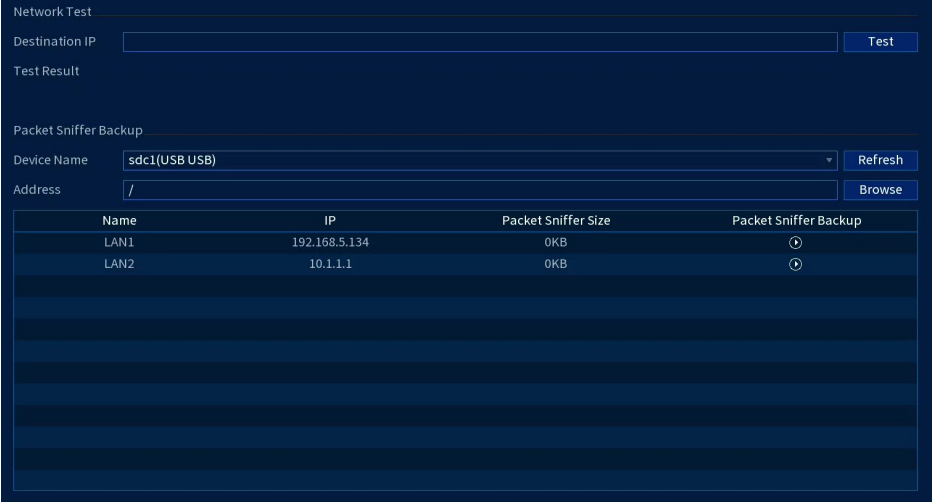


To access the network load menu:

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

21.8.10 Network Test

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 from the side panel, then the **Test** tab from the top panel.

21.8.11 Saving Your System Configuration to a USB Thumb Drive

The system allows you to save your current system configuration to a USB thumb 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.

To save your system configuration to a USB thumb drive:

- 1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
- 2. Click **INFORMATION**. Click the **Update/Reset** tab from the side panel, then the **Config-Backup** tab from the top panel.



- 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.

To restore a saved system configuration:

- 1. From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
- 2. Click **INFORMATION**. Click the **Update/Reset** tab from the side panel, then the **Config-Backup** tab from the top panel.



- 3. Under **Device Name**, select the USB device where the system configuration is saved.
- 4. Click the folder with the configuration file you would like to restore. Configuration file folders are labeled “Config” and then the time and date the configuration was saved (e.g., *Config_20220425103727*).

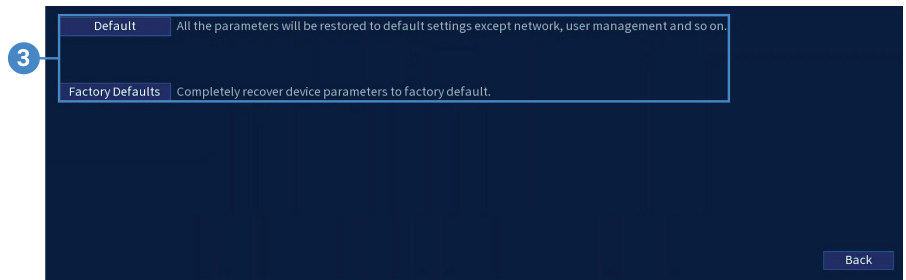
5. Click **Import** to restore the system configuration.
6. Click **OK** to confirm. The system will restart to complete the operation.

21.9 Restore Default Settings

Restore the system to its 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 **INFORMATION**. Click the **Update/Reset** tab from the side panel, then the **Default** tab from the top panel.



3. Check the menus you would like to reset to default settings.
4. Click **OK**.

21.9.1 Upgrading Firmware Manually

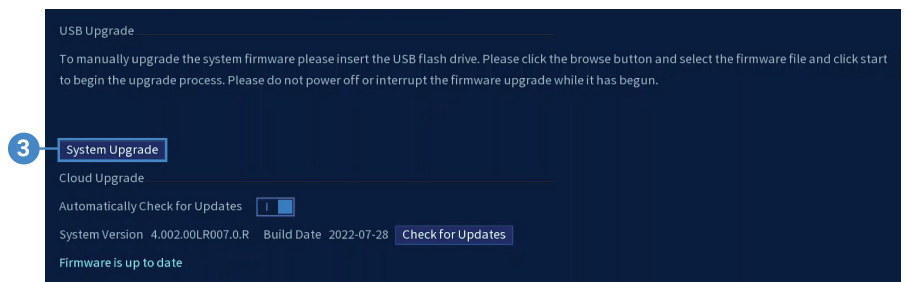
The primary method for upgrading system firmware is automatically over the Internet. The system also supports firmware upgrades from a USB thumb drive (not included).

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 **INFORMATION**. Click the **Update/Reset** tab from the side panel, then the **System Upgrade** tab from the top panel.



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

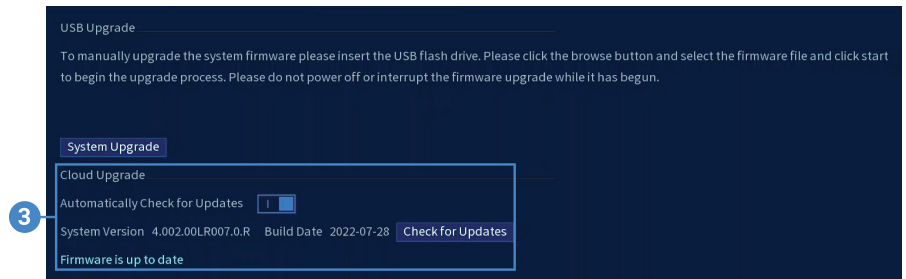
21.9.2 Automatic Firmware Upgrades

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**.

- Click **INFORMATION**. Click the **Update/Reset** tab from the side panel, then the **System Upgrade** tab from the top panel.



- Ensure **Automatically Check for Updates** is checked.
- Click **Check for Updates** to check for a newer firmware version.
- If a newer version is found, click **Upgrade Now** to upgrade the system.

21.10 Shutdown

Shut down, restart, or log out of the system.

To access the shutdown menu:

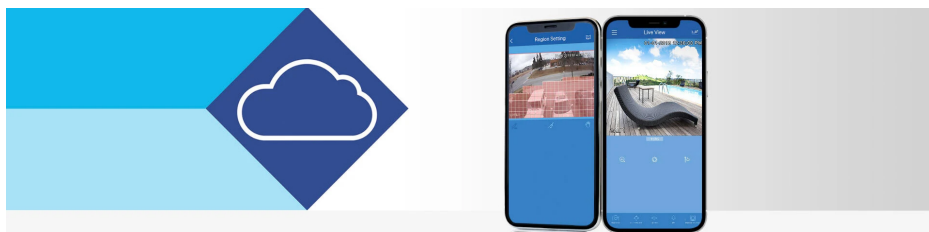
- From the Live View display, right-click to open the Quick Menu, then click **Main Menu**.
- Click , then select one of the following:



- **Logout:** Log out the account that is currently active.
- **Manual Reboot:** Manually power off the system, then restart.
- **Shutdown:** Power off the system.

Connecting Remotely using the Mobile App

You can connect to your security system over the Internet using our free Lorex Cloud app for iOS and Android devices. Securely connect to your system from anywhere with no recurring fees for live viewing.



The Lorex Cloud app allows you to:

- View live video from cameras
- Play back recorded video from the hard disk drive
- Manually record video clips or take a snapshot of live video
- Activate deterrence features including warning lights and sirens*
- Set preferences for push notifications, informing you of motion detection and other system events

For full setup instructions and advanced support for the app, go to your recorder's product support page. Visit help.lorexttechnology.com and search your recorder's model number.

* On supporting devices.

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.



23.1 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 Ethernet cable.



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.

To connect Lorex PTZ cameras:



1. Connect the Ethernet cable to one of the video inputs on the recorder.
2. (OPTIONAL) Connect the PTZ camera's power adapter to a power outlet.

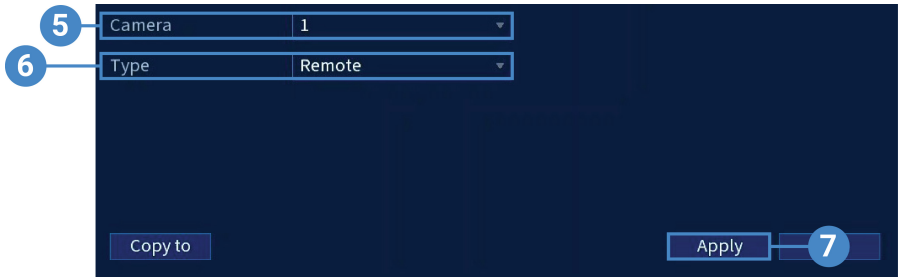


CAUTION

Most PTZ cameras have a higher power requirement than fixed cameras. If you are planning to connect more than one PTZ camera to the system, check the power requirement in your PTZ camera's documentation to ensure you remain within the total PoE power output of the recorder (220W). Connecting the included power adapter to your PTZ camera as shown above will force it to draw power from the wall outlet rather than the recorder's PoE switch.

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

4. Click **CAMERA**, then the **PTZ** tab from the side panel.



- 5. Select a connected PTZ camera.
- 6. Select **Remote** if you are connecting to a network PTZ camera or **Local** if you are using an RS485 cable to connect to a PTZ camera.
- 7. Click **Apply** to save changes.

23.2 Basic PTZ Controls

Controlling PTZ cameras.

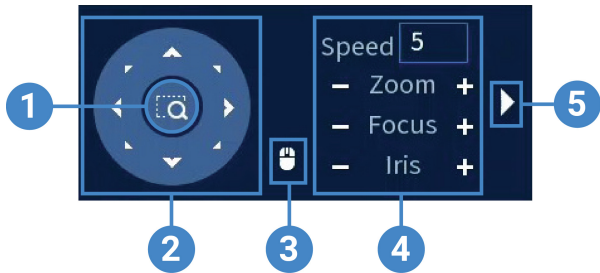
 **NOTE**

Ensure you have completed initial setup of your PTZ camera in order to control the camera using the recorder. See 23.1 *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. **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.
- 2. **Navigation Controls:** Click the directional arrows to move the PTZ camera manually.
- 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 23.3 *Advanced PTZ Controls*, page 128.

23.3 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 23.1 *Connecting PTZ Cameras to the Recorder* for more details.

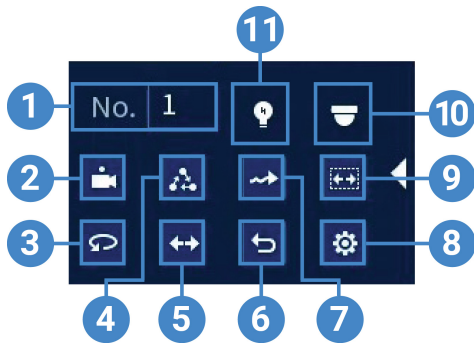
To access the advanced PTZ controls:

- 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 advanced PTZ controls:

 **NOTE**

Depending on your PTZ camera model, some of the features in the advanced menu may not be supported. Refer to your camera documentation to confirm which features are supported by your camera.



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 23.4 *Presets*, page 128.
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 23.5 *Tours*, page 129.
5. **Flip:** Rotate the camera 180° from its current position.
6. **Reset:** Move the camera to the home position.
7. **Pattern:** Perform the pattern number specified in the **No.** field. For instructions on creating a pattern, see 23.6 *Patterns*, page 129.
8. **Configuration:** Click to open the configuration menu, where you can configure presets, tours, patterns and autoscans.
9. **AutoScan:** Move the camera between a predetermined left and right point. For instructions on creating an autoscan, see 23.7 *AutoScan*, page 129.
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.

23.4 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 .

23.5 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 .

23.6 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 .

23.7 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:

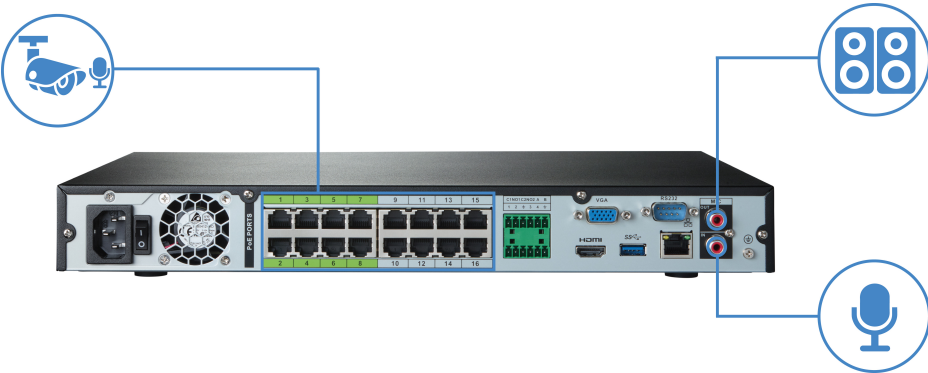
- Click .

The system supports Lorex HD audio cameras, which transmit audio through the same network cable used for video connection and powering the camera. 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).

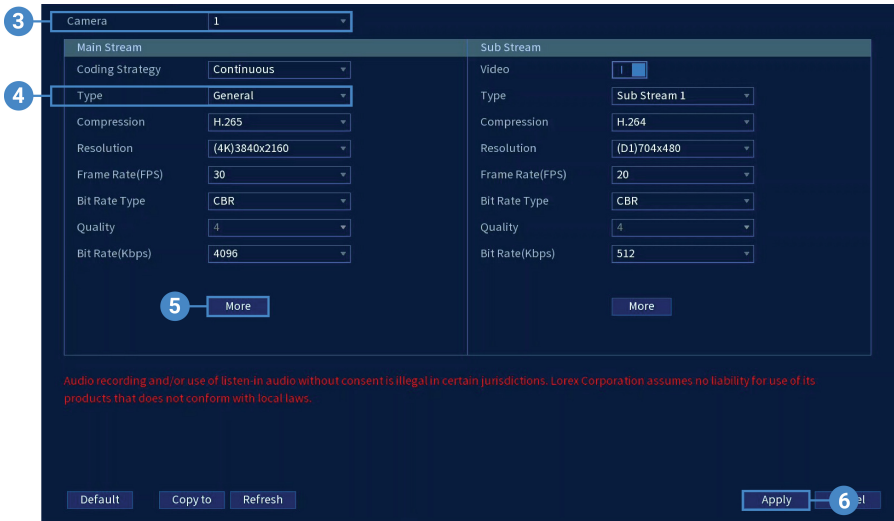


To enable audio recording:

 **CAUTION**

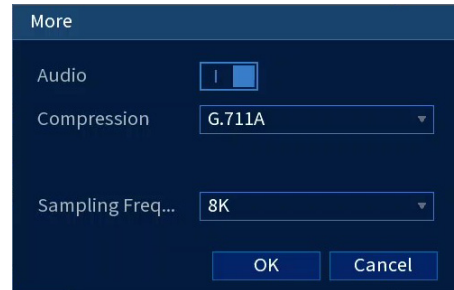
Audio recording and / or use of listen-in audio without consent is illegal in certain jurisdictions. Lorex Corporation assumes no liability for use of its products that does not conform with local laws.

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



3. Select the channel where the audio camera is connected.
4. Select the type of recording to enable audio for. If you wish to record audio at all times, ensure you configure both **General** (continuous) and **Motion** (motion detection) recording.

-
5. Under **Main Stream**, click **More** and configure the following:



The image shows a 'More' configuration dialog box with a dark blue background. It contains three settings: 'Audio' with a toggle switch that is currently turned on, 'Compression' with a dropdown menu showing 'G.711A', and 'Sampling Freq...' with a dropdown menu showing '8K'. At the bottom right, there are 'OK' and 'Cancel' buttons.

- **Audio:** Click to enable.
 - **Compression:** Select an audio codec (**G711a** recommended).
 - **Sampling Frequency:** Select an audio sampling rate (**8000** recommended).
6. Click **Apply** to save changes.

The system comes with a pre-installed 3.5" SATA hard disk drive. You can replace the hard disk drive with one up to a maximum size of up to 2 x 10TB, and add a second drive if you choose to.

25.1 Removing the hard disk drive

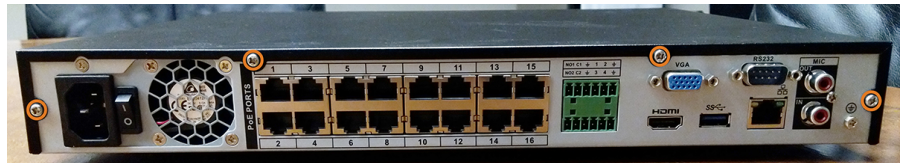


CAUTION

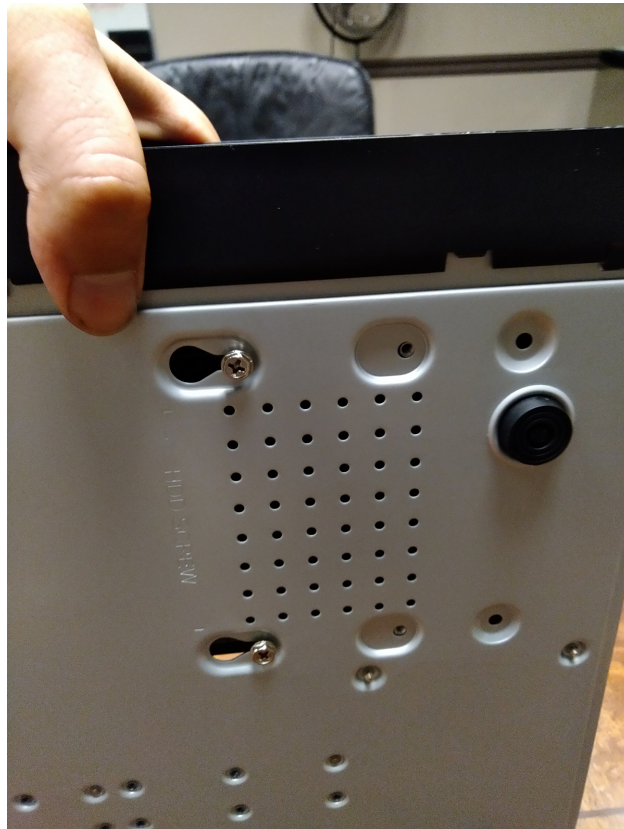
Make sure that the system is OFF and the power adapter is disconnected before removing/installing a hard disk drive.

To remove the hard disk drive:

1. Power off the system, and unplug all cabling from the system.
2. Remove the back panel screws (4×). Remove the cover by sliding it backwards.



3. Turn the recorder over carefully. Remove the 2 hard disk drive screws closest to the edge of the recorder. Loosen the remaining 2 hard disk drive screws, but do not remove them.



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



5. Slide the hard disk drive out of the recorder.
6. If you are not immediately going to install a new hard disk drive, replace the top panel and the 4 back panel screws.

25.2 Installing a New hard disk drive

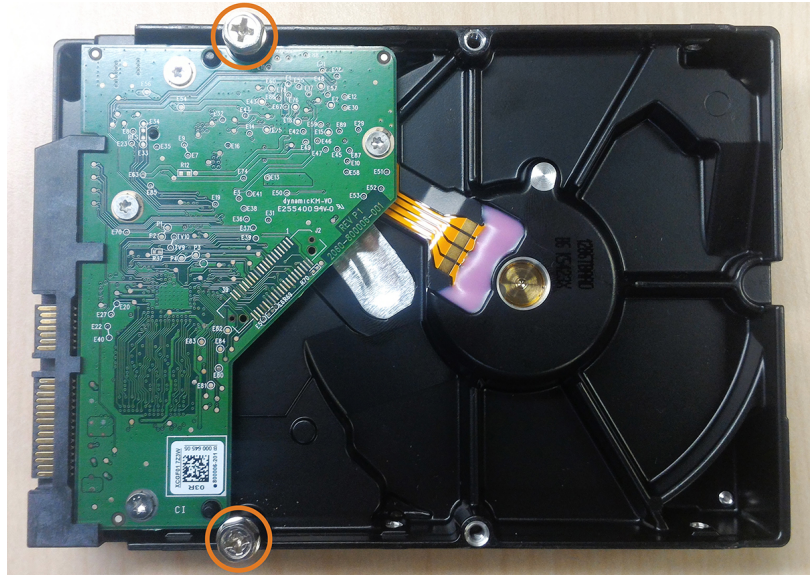


CAUTION

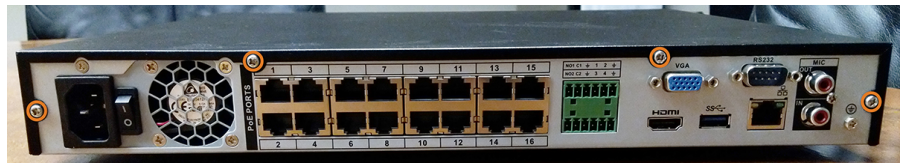
Make sure that the system is OFF and the power adapter is disconnected before removing/installing a hard disk drive.

To install a new hard disk drive:

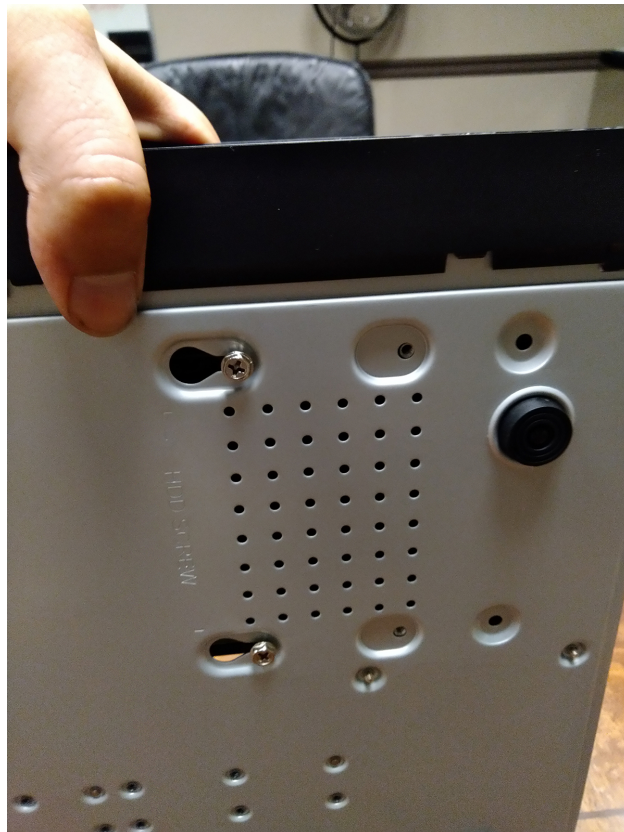
1. Insert the 2 hard disk drive screws closest to the SATA and power ports on the hard disk drive and tighten them half way.



2. Power off the system, and unplug all cabling from the system.
3. Remove the back panel screws (4×). Remove the cover by sliding it backwards.



4. Insert the hard disk drive so the 2 pre-inserted screws line up with the holes in the bottom panel as shown below. Slide the hard disk drive in place. Insert the remaining 2 hard disk drive screws, and tighten all 4 screws tightly.



5. Connect the power and SATA cables to the hard disk drive.



6. Replace the top panel and the 4 back panel screws.

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 Cloud app to connect to your system over the Internet without the need for port forwarding or DDNS registration.

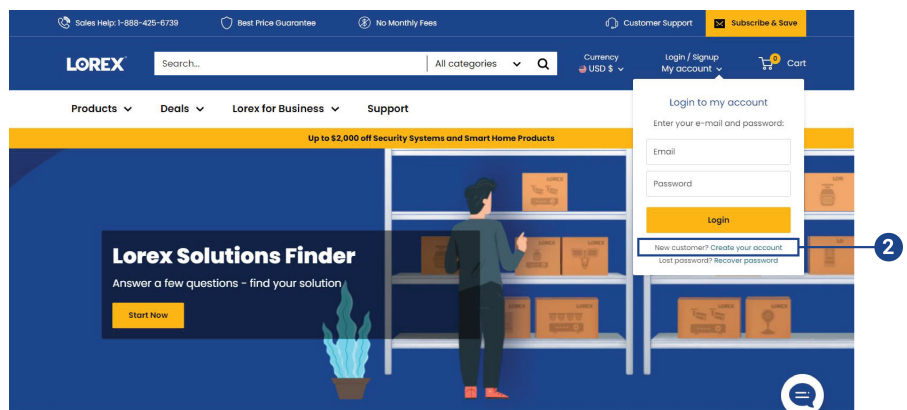
26.1 STEP 1: Port Forwarding

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:

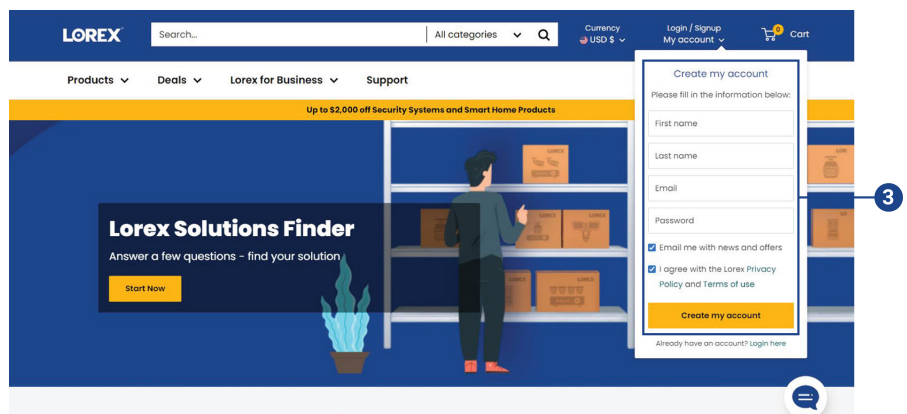
- Manually port forward the required ports on your router to your recorder's IP address by following your router manufacturer's instructions. For more information on port forwarding, see the reference guides on lorex.com.

26.2 STEP 2: Create a Lorex Account

- Visit lorex.com and click **Login/Signup** at the top of the page.



- Select **Create your account**.



- Enter basic information for account setup, and then select **Create my account**.

26.3 STEP 3: Activate Your Warranty

Activate the manufacturer's warranty on your recorder.

To activate your product warranty:

My orders

My addresses

Warranty

DDNS

Returns

Logout

Activate Warranty

Activate a New Warranty

*Required fields

Please enter you model number*

Example: N841A8-Z or E892DD-Z

Model No

[Do you need help locating your model number?](#)

Please enter you serial number*

Example: ND021911030913

Serial No

[Do you need help locating your serial number?](#)

Date of purchase*

MM

-

mm

-

dd

Select Place of Purchase*

Upload Bill of Sale*

(File with max size of 5MB)

Choose File

No file chosen

Save Warranty

Cancel

1. From your Lorex account, click the **Warranty** tab.

2. Select **Activate Warranty**.

3. Enter your product information (attaching bill of sale optional).

4. Select **Save Warranty**.

Once submitted, your warranty information will be summarized under **Existing Warranties**.

26.4 STEP 4: Sign Up for a DDNS Account

Activate the manufacturer’s warranty on your recorder.

To sign up for a DDNS account:

My orders

My addresses

Warranty

DDNS

Returns

Logout

Create a New DDNS

Create a New DDNS

*Required fields

Manufacturer Warranty: *

Choose Warranty

Device name: *

Example: Device1

Device name

[Do you need help locating your device name?](#)

MAC address: *

Example: 00-0A-00-0B-00-00

MAC address

[Do you need help locating your MAC address?](#)

URL Request: *

Example: mycamera

URL Request

Save DDNS

Cancel

#LX400124; r. 1.0/60009/60009; en-US

137

1. From your Lorex account, select the **DDNS** tab.
2. Select **Create a New DDNS**.
3. Select your recorder warranty from the drop-down next to **Manufacturer 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.

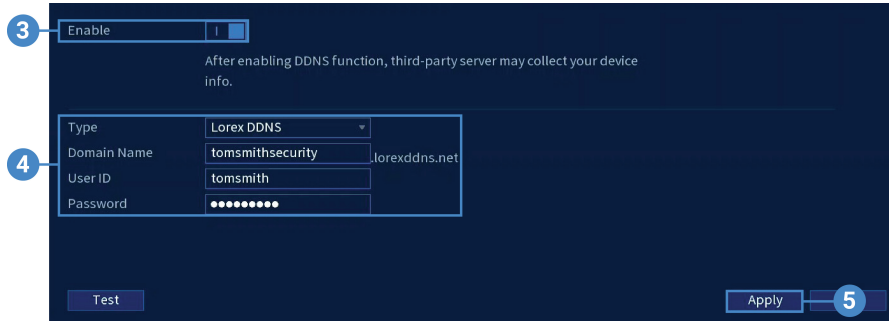
4. Click **Save DDNS**.
Once submitted, your DDNS account information will be summarized under **My DDNS Devices**. Make a note of your **DDNS URL**, **Username** and **Password**, as they will be needed to complete DDNS setup.

26.5 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 **System**, then **Network**. Click the **DDNS** tab from the side panel.



3. Configure the following:
 - **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.
4. 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>)

When a malfunction occurs, it may not be serious and can be corrected easily. The following describes the most common problems and solutions. Please refer to the following 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. - 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). - 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. - Confirm that there is power at the outlet: - Connect the power cable to another outlet. - Test the outlet with another device (such as a lamp or phone charger).
Hard disk drive is not detected by the system.	Hard disk drive cables are loose or not properly connected.	Remove the housing and check that hard disk drive cables are firmly connected.
	There is no hard disk drive in the system.	Open the housing and install compatible hard disk drive. Make sure to format the drive after installing. For details, see <i>25 Replacing the Hard Disk Drive</i>, page 132.
Hard disk drive is full (0%) and the unit is no longer recording.	Overwrite is not enabled.	See <i>9.5 Configuring hard disk drive Overwrite</i>, page 22 for full instructions on enabling hard disk drive overwrite.
There is no picture on monitor/TV after connecting it to the system.	Monitor/TV not detected by system.	Power off the monitor/TV and system. Power on the monitor/TV, and then power on the system.
	Input channel for system not selected on monitor/TV.	On the monitor/TV, select the input channel the system is connected to.
	Video cable is loose or has become disconnected.	Check the video cable connection to the system and monitor/TV.
	Camera is not compatible with the recorder.	Visit lorex.com/compatibility and navigate to N883 Series for a list of all compatible cameras.

Error	Possible Causes	Solutions
Mouse not detected by system.	Mouse cable is not firmly connected to the system. 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 DC 12V port on the rear panel.
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. - Disconnect and reconnect the cable at the system and at the camera. - Try moving the camera to another channel or use another cable.
	Camera is not compatible with the recorder.	Visit lorex.com/compatibility and navigate to N883 Series for a list of all compatible cameras.
	Power output of the recorder's PoE switch is being exceeded.	If you have multiple PTZ cameras connected to the recorder's PoE ports, the camera power requirement may surpass the recorder's power output. Lorex PTZ cameras come with a power adapter, which you can use to power the camera instead of the recorder's PoE ports. See <i>23 Pan/Tilt/Zoom (PTZ) Cameras</i> , page 126 for full instructions.
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. - Disconnect and reconnect the cable at the system and at the camera. - Try moving the camera to another channel or use another cable.
	Camera is not compatible with the recorder.	Visit lorex.com/compatibility and navigate to N883 Series for a list of all compatible cameras.
	Power output of the recorder's PoE switch is being exceeded.	If you have multiple PTZ cameras connected to the recorder's PoE ports, the camera power requirement may surpass the recorder's power output. Lorex PTZ cameras come with a power adapter, which you can use to power the camera instead of the recorder's PoE ports. See <i>23 Pan/Tilt/Zoom (PTZ) Cameras</i> , page 126 for full instructions.
The system beeps at startup.		The beep at startup is normal.
The system beeps during motion detection.	Motion detection is enabled and the alarm buzzer is activated.	See <i>13 Smart Motion Plus</i>, page 39 for instructions on configuring motion detection options. Uncheck the Buzzer option in the motion detection configuration screen.

Error	Possible Causes	Solutions
I am not receiving email notifications.	Email notification is disabled.	Ensure you have configured email notification. For details, see 21.5.3 <i>Configuring Email Alerts</i>, page 103.
	Send Email setting not enabled in Event menu.	Make sure that Send Email is checked for any events you want to be notified of.

27.1 Top Reasons Your Lorex Camera May Lose Video or Go Black

There are a multitude of reasons why your security camera may lose video or go black. The following list of potential issues will walk you through the process of identifying the root cause and do a quick fix on the issue.

27.1.1 Going over PoE budget will result in video loss

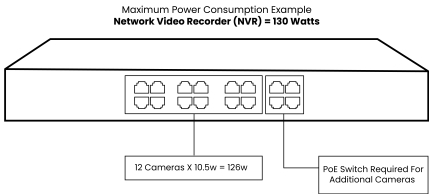


Our recorders use [Power over Ethernet \(PoE\)](#) technology to deliver power to IP cameras and the same PoE is used to transmit video back to the recorder.

Known as **Maximum Power Consumption** (wattage), each IP camera requires a specific amount of power to operate and function efficiently. You will find the Max Power Consumption on the camera's specification sheet in the Download section of the camera's product page.

Our Network Video Recorders (NVR) have a total power output or **PoE budget** of between **80 and 220 watts**. When adding additional cameras to your recorder, please ensure that you do not exceed the PoE budget. If you go over your PoE budget, the system will shut down or drop a camera as it does not have enough power to supply to the camera, resulting in video loss.

When adding cameras to your recorder, please make sure you are within your wattage allowance. Please refer to the image below to get an idea on how to calculate your PoE budget.





27.1.2 When to use a PoE Switch?

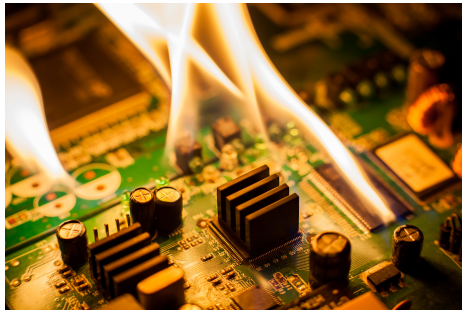
If you find that your recorder does not have enough power to support the camera(s) you have added, you have the option of using a [PoE Switch](#) to increase the power to the recorder and extend the range of your cameras at the same time. To purchase a PoE Switch, check out our 8 or 16-channel PoE Switches [here](#).

27.1.3 Not enough power or total loss of it

Loss of power is the most common reason why security cameras go black. It happens when power adapter is disconnected and cable that connect the camera to the recorder and monitor becomes loose and faulty.

To fix the issue, we recommend that you check any point of contact on your camera, recorder, and monitor.

27.1.4 Power surge and interference



A power surge can burn your camera's circuit board and other components. Power surge is even more hazardous to metal cameras installed on vertical pole as there's a great likelihood of it getting hit by lightning strikes.

A quick fix would be to use power or lightning surge protectors. It's also a wise idea to screw the camera onto a block of wood and then attach the wood to the pole.

27.1.5 Not supported display output

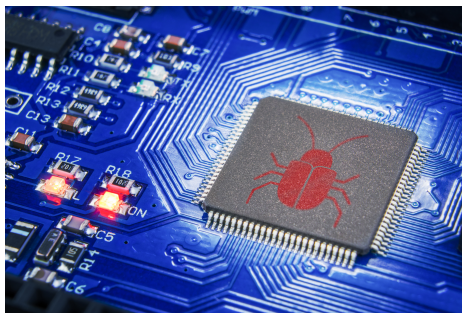
Before [changing the display output](#) of your recorder to higher resolution (e.g., 4K), please make sure that your monitor can support the higher resolution output of your recorder. If your monitor cannot support the higher resolution of your recorder, it will lose video signal and will turn black. Please [read our guide](#) before changing the display output of your recorder.

27.1.6 Twisted, bent or damaged cables



The great advantage of using a wired security system is the reliability of the cables that came with the system. Unfortunately, cables get twisted, bent and damaged as you run them around tight corners of your property. As they get twisted and damaged, there is great likelihood that video signal will get cut off. Being extra careful in running the cable and personally checking its condition may help prevent video loss. To replace a damaged cable, check out our extensive collection of cables [here](#).

27.1.7 Outdated firmware and hardware



We always release [new firmware updates](#) to patch up vulnerabilities and fix compatibility issues on our recorders. If you have ruled out all possible causes but still experience video loss, then it may be time to upgrade the firmware of your recorder. To check if you have the latest firmware, please see our guide [here](#).

27.1.8 Issue with compatibility

All of our cameras are paired with specific recorders, apps, and software. If you pair your camera with the wrong recorder, app, or software, there is a great likelihood that you will encounter a compatibility issue along the way. To know if your Lorex product will work with other lineup, please see our [Compatibility Chart](#).

27.1.9 Low internet bandwidth

Your internet plan plays a major role in your camera's ability to connect to the internet. Low internet bandwidth creates hiccups that often lead to disconnection. If you are experiencing video loss, it may be good to check with your ISP and make sure your plan can support multiple devices. If you have gone through all the steps above and still experience disconnection or video loss, please connect with our Tech Support at 1.888.425.6739. We are more than happy to help you.

If you have gone through all the steps above and still experience disconnection or video loss, please connect with our [Tech Support](#) at 1.888.425.6739. We are more than happy to help you.

28.1 General

Video Transmission Technology	IP
Channels	16, 32 channel (32ch. includes 16ch. PoE Switch)

28.2 Inputs/Outputs

Video Input	16ch: 16 x PoE
Video Outputs ¹	1 × VGA/1 x HDMI
Audio Input	1 × RCA
Audio Output	1 × RCA
Alarm Input	4 channels
Alarm Output	2 channels

28.3 Display

Display Output Resolution	Up to 4K UHD, Auto Detect
Live Display	16ch: 1, 4, 8, 9, 16 32ch: 1, 4, 8, 9, 16, 25, 32
Live Display Speed (Max)	Up to 4ch 4K @ 30fps
OSD	On/Off
System Navigation	USB Mouse, Front Panel Buttons

28.4 Recording

Recording Resolution	4K (8MP)/5MP/4MP/3MP/1080p/720p
Recording Frame Rate	Up to 30fps
Recording Scheduling	Per Channel: Continuous/Motion/Smart Motion (Person & Vehicle)/ Alarm/ Day/ Hour
Back-up Media	USB, USB HDD
Video Compression	H.265/H.264

28.5 Playback

Simultaneous Playback	4ch@4K 30fps
Playback Speed	Variable Max 16×
Search	By Time/Date, All Motion Events or Smart Search (Person & Vehicle), Area Search

28.6 Storage

hard disk drive Bays	2 Bays
hard disk drive Capacity	Up to 2× 10TB (SATA)
Backup Media	USB Flash Drive & USB HDD
Storage Mirroring	Yes

28.7 Special Features

Smart Motion Detection	Person and Vehicle Smart Motion Detection ²
------------------------	--

28.8 Connectivity

Mobile Viewing³	Android, iOS
Compatible App	Lorex Cloud™
Email Notification	Text and Snapshot
PC/MAC Remote Viewing	Yes/Lorex Cloud™
Network Interface	1000 Base-TX (Gigabit), RJ45
Network Bit Rate	320Mbps total
DDNS	Yes (Optional)
USB Interface	USB 2.0 × 2

28.9 Additional Specifications

FW Upgrade	USB/Network
Watchdog Function	Yes
Power Consumption	Approx. 15W (without HDD)
Supply Voltage	100VAC-240VAC, 50/60Hz
Total PoE Power Output	16 PoE: Max 25.5W for single port, 220W total
Unit Dimensions (W × D × H)	14.7 × 12.9 × 2.1" (375 × 327 × 53mm)
Unit Weight	5.8lbs (2.6kg) (without HDD)
Operating Temperature	14° ~ 131°F / -10° ~ 55°C
Humidity	10 ~ 90% RH

Disclaimers:

1. 4K (8MP) IP cameras are required to take advantage of 4K recording.
2. Recording time may vary based on recording resolution and quality, lighting conditions and movement in the scene.
3. Accuracy of Advanced Person and Vehicle 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. Night vision will also impact the accuracy of detection.
4. Accessing your security system remotely requires a high-speed Internet connection. Ensure your NVR has a wired connection to a router (not included). A minimum upload speed of 6 Mbps is recommended for reasonable video performance. Up to 3 devices may connect to the system at the same time. For the latest list of supported apps and devices, please visit lorex.com/compatibility.
5. Compatible with certain Lorex IP cameras only. For a list of compatible cameras please visit lorex.com/compatibility.
6. HDMI output supports 4K HD for high definition multi-channel live or recorded video viewing. Image quality and resolution is dependent on the type of camera connected to the NVR, as well as TV/monitor resolution.
7. Both firmware and software must be updated to latest version to ensure remote connectivity.

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.

29.1 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.

29.2 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.

29.3 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'utilisateur à utiliser l'appareil.

29.4 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.

29.5 ICES-003

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



Website

www.lorextechnology.com

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Legal disclaimer

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

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