Instruction Manual
NR810 Series
Thank you for purchasing this product. Lorex, Inc. is committed to providing our customers with a high quality, reliable security solution.

This manual refers to the following models:

NR814 (4-channel)
NR818 (8-channel)

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

www.lorextechnology.com

WARNING
RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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

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

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

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

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

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

CAUTION

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

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

![A polarized plug](image)

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

![A grounding type plug](image)

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.
Important Safeguards

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.
Your security NVR package includes the following components:

- NVR (Network Video Recorder)
- Power Adapter
- USB Mouse
- HDMI Cable
- Ethernet Cable
- Quick Start Guides

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

1. **Hard Drive**: Glows to indicate hard drive is in normal state. Turns off when there is a hard drive error.
2. **Power**: Glows to indicate the system is on.
3. **Network**: Glows when network is in normal state. Turns off for network error.
1. **Power**: Connect the included power adapter.
2. **PoE Ports**: Connect Lorex network cameras. Integrated PoE (Power Over Ethernet) ports provide power to cameras and video connection to NVR.
3. **LAN**: Connect a CAT5 RJ45 Ethernet cable to a router or switch on your network for local and remote connectivity.
4. **VGA**: Connect a VGA monitor (not included) to view the system interface.
5. **MIC IN / OUT**: RCA input and output for 2-way audio.
6. **HDMI**: Connect to an HDMI monitor or TV (not included — 4K output supported) to view the system interface.
7. **USB Ports**: Connect a USB mouse (included) or connect a USB flash drive (not included) for data backup or firmware upgrades.

**NOTE**

Product image might appear different than the actual product.
Basic Setup

5.1  Step 1: Connect the Network Cameras
• Connect network cameras to the PoE Ports on the rear panel of the NVR using Cat5e or higher grade Ethernet cable. The cameras will appear on the NVR without any additional configuration when the system starts up.

NOTE
You can also connect your network cameras to your local network for flexible installations. For details, see 5.13 Connecting Cameras to the Local Area Network (LAN), page 12.

5.2  Step 2: Connect the Mouse
• Connect the included USB mouse to one of the USB ports.

5.3  Step 3: Connect the Ethernet Cable
• Connect the included Ethernet cable to the LAN port on the rear panel of the system. Connect the other end of the Ethernet cable to a router or switch on your network.

5.4  Step 4: Connect the Monitor
• Connect the included HDMI cable to the HDMI port, then to a TV or monitor (recommended).
  OR
• Connect a VGA cable (not included) to the VGA port, then to a monitor.
Basic Setup

1. **VGA cable (not included)** — supports up to 1080p output.
2. **HDMI cable (included)** — supports up to 4K output.

5.5 Step 5: Connect to Power

Connect the included power adapter to the NVR and connect the other end to a wall socket or surge protector.

At startup, the system performs a basic system check and runs an initial loading sequence. After a few moments, the system loads a live display view.

5.6 STEP 6: Create a Secure Password

The first time you power up your system, you will be asked to create a new 6 character password.

1. Enter the system user name (default: admin) and password (default: 000000).
2. You will be asked to create a new 6 character password. Enter your new password in the New Password and Confirm Password fields, then press OK to confirm.

**Note**

Your new password will be used to access the system from now on.

5.7 Step 7: Upgrade Firmware to Latest Version (if Available)

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

**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 new, secure password.
3. Click **OK**. Wait for the firmware update to complete. The system will restart once the firmware has been upgraded.

### WARNING

DO NOT POWER OFF THE NVR OR DISCONNECT THE POWER ADAPTER DURING FIRMWARE INSTALLATION

5.8 **Step 8: Verify Camera Image**

- Power on the cameras, and then verify the camera video quality before mounting the cameras to a permanent location.
- Mount the cameras under a sheltered location. Always verify the outdoor rating of your camera before installing it in a permanent location.

### CAUTION

Cameras differ in terms of installation or mounting instructions. Please see the documentation that came with your camera(s) for specific installation instructions.

5.8.1 **Camera Installation Tips**

- 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.
- Ensure that the camera wiring 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, as this may result in a poor image caused by glare from indoor/outdoor lighting conditions.
- 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 the camera.

5.9 **Step 9: Set the Time**

- Set the system time and date for accurate video time stamps. Videos with inaccurate times may not be valid as surveillance evidence.
- For details on setting the system time, see 8 Setting The Time, page 26.

5.10 **Quick Access to System Information**

To quickly open a window that displays vital system information:

- During Live View, right-click anywhere on the screen to open the Quick Menu.
- Click **Info**. If prompted, enter the system user name (default: **admin**) and your secure password.
The QR code shown in the System Info screen can be scanned during mobile setup to enter the system's Device ID.

5.11 Default System Password & Port Numbers

By default, the system user name is admin and the password is 000000.

The system requires a user name and password to log in to the system remotely using a computer or mobile device. Enter the system user name (default: admin) and your secure password you set during system start up.

Default ports for DDNS remote access:
- Port 80 (HTTP port)
- Port 35000 (Client port)

5.12 Connect to Your NVR Over the Internet

This system features FLIR Cloud Services. This is a cloud service that allows you to connect with your system over the Internet via a secure handshake with FLIR servers. This means you can easily connect to your system without requiring any port forwarding or other network configuration.

- For details on connecting to your NVR using a smartphone or tablet, see 16 Connecting to your System Using Smartphone or Tablet Apps, page 137.
- For details on connecting to your NVR using a PC or Mac computer, see 14 Connecting to Your System Over the Internet on PC or Mac, page 96.
5.13 Connecting Cameras to the Local Area Network (LAN)

For flexibility, you may also connect network cameras to the same Local Area Network (LAN) as the 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 network 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**
Camera and NVR images in this section are used for illustration only.

**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 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 network 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 a Router (Power Adapters Required)

1. Connect each camera to a compatible power adapter.
2. Connect the camera to your router using a CAT5e or higher Ethernet cable.

Step 2 of 2: Add Cameras to your NVR:

1. From Live View, right-click and select Device Search.
2. Log in using the admin account (Default user name: admin and your secure password).
3. Click Device Search. The system searches the network for compatible cameras.
4. Check the camera(s) you would like to add.

5. Click **Add**. The status indicator turns green to show the camera is successfully connected.

   **NOTE**
   
   If the status indicator is red, click **Update** the camera user name, password, ports, and manufacturer as needed.

6. Click **OK** to save changes.

   **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 **Device Search** and double-click the camera you would like to add. Right click to exit.
Mouse Control

The NVR is designed for mouse navigation. Connect the included mouse to one of the USB ports on the NVR.

To use the USB mouse:

1. **Left Button:**
   - During split-screen display mode, click an individual channel to view it in full-screen. Click again to return to the split-screen display mode.
   - While navigating menus, click to open a menu option.

2. **Right Button:**
   - During Live View, right-click anywhere on the screen to open the Quick Menu.
   - Within system menus, right-click to exit menus.

3. **Scroll wheel:**
   - During Live View, use the scroll wheel to zoom in / out.

---

**NOTE**

In Live View, hover the mouse cursor over the bottom of the screen to open the Navigation Bar. Move the mouse cursor away from the bottom of the screen to close the Navigation Bar.
Using the NVR On-Screen Display

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

7.1 Using the Quick Menu

The Quick Menu gives you quick access to the system’s key functions.

To use the Quick Menu:

- Right-click during Live View to open the Quick Menu.
- The Quick Menu appears:

1. **View**: Select how many channels appear on the live display at once.
2. **PTZ**: Control PTZ cameras (not included). For details, see 20 Connecting PTZ Cameras to the NVR, page 198.
3. **AutoFocus**: Control auto focus cameras (not included). For details, see 7.6 Adjusting Camera Zoom & Focus, page 24.
4. **Camera Setting**: Configure image settings for cameras.
5. **Info**: Displays system information.
6. **Sequence**: Click to start or stop Sequence Mode, which cycles through connected cameras automatically during Live View.
   A will appear to show that sequence mode is on. Click the icon to pause sequence mode on the channel that is currently shown (icon changes to ). Click again to resume sequence mode. Right-click and select **Sequence** to return to normal viewing mode.

7. **Disable Beep**: Disable current audible warning.

8. **Playback**: Opens the Playback Menu. This allows you to search for video recordings saved on the NVR's hard drive. For details, see 10 Playback, page 31.

9. **Manual Control**: Under **Manual Control**, click **Record** to open the **Record** menu to select manual recording options. For details, see 9.3 Setting up Scheduled or Manual Recording, page 28.

10. **Device Search**: Opens the **Remote Device** menu to manage network cameras over the local network.

11. **Main Menu**: Opens the **Main Menu**. For details, see 13 Using the Main Menu, page 50.

### 7.2 Adjusting Camera Image Settings

Use the **Camera Setting** menu to adjust settings related to camera picture quality.

**To adjust camera image settings:**

1. During Live View, right-click on the channel you would like to configure and select **Camera Setting**. If prompted, enter the user name (default: **admin**) and your secure password.
2. Configure the following settings as needed:

- **Mirror**: Select **Enable** to flip the image horizontally.
- **Flip**: Select **Flip 180°** to flip the image vertically, or select **No Flip** for the default orientation. You can also select the options: **Clockwise 90°** or **Anticlockwise 90°** (for selected cameras only).
- **Corridor Mode**: Select Lorex network cameras to support Corridor Mode. For more information about enabling Corridor Mode, visit www.lorextechnology.com and search for “Corridor Mode”.
- **3D NR**: Select **Enable** to turn on the camera’s noise reduction feature. Noise reduction ensures a cleaner image, especially at night, and may reduce the amount of disk space required to store video.
- **Backlight Mode**: Select one of the following:
  - **Backlight Mode**: 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**: The camera compensates for changes in brightness across the image to enhance the picture quality of both light and dark areas.
  - **HLC**: The camera dims the brightest areas of the image to make them clearer.
  - **Off**: Disable this function.
- **Scene Mode**: This mode allows you to adjust white balance levels for the camera. Select **Auto** for the camera to automatically adjust the white balance. Select **Sunny** or **Night** to use preset white balance levels. Select **Customized** to manually set blue and red levels.
- **Day&Night**: This setting sets the camera’s day/night mode. Select **Color** for the camera to use color mode at all times. 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.

**NOTE**

It is recommended to select **Auto** mode, as using **Color** mode may impact the camera’s performance at night.

- **Saturation**: Adjust the vibrancy of colors in the image.
- **Brightness**: Adjust the image brightness.
- **Contrast**: Adjust the image contrast.
- **Hue**: Adjust the color hue of the image.

3. Click **OK** to save changes.

**NOTE**

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.

### 7.2.1 Configuration Profiles

Using configuration profiles, you can customize your camera’s Day and Night setting. There are four configuration profiles, namely:

- **Normal**: For typical camera conditions and environment. Select **Auto** under the **Day&Night** dropdown for optimal 24-hour performance.
- **Day**: For optimal daytime surveillance. Select **Color** under the **Day&Night** dropdown to force your camera to remain in color mode always.
- **Night**: For optimal nighttime surveillance. Select **Black&White** under the **Day&Night** dropdown to force your camera to remain in black and white mode always.
- **Switch By Period**: For scheduling regular switch between Day and Night profiles. See **7.2.2 Setting a Day and Night Schedule**, page 20 for details.
7.2.2 Setting a Day and Night Schedule

You can schedule your camera to automatically switch between day and night mode. Follow the steps below:

1. During Live View, right-click on the channel you would like to configure and select Camera Setting. If prompted, enter the user name (default: admin) and your secure password.
2. Click the Configuration dropdown and select Day.
3. Under the Day&Night dropdown, select Color to set the Day Profile to color mode.
4. Click the Configuration dropdown again and select Night.
5. Under the Day&Night dropdown, select Black&White to set the Night Profile to black and white mode.
6. Click the **Configuration** dropdown again and select **Switch By Period**.

![Configuration Settings]

7. Choose the **Sunrise Time** and the **Sunset Time** (The sunrise time must be earlier than the sunset time.)
8. Click **OK** to save changes.

### 7.3 Using the Navigation Bar

The Navigation Bar gives quick access to certain functions and menus.

**To open the Navigation bar:**

- In Live View, hover the mouse cursor over the bottom of the screen to open the Navigation Bar. Move the mouse cursor away from the bottom of the screen to close the navigation bar. The Navigation Bar has the following options:
1. **Main Menu**: Opens the Main Menu for browsing. For details on Main Menu functions, see 13 Using the Main Menu, page 50
2. **Collapse**
3. **Viewing Options**: Select how many channels are shown on screen during Live View.
4. **Sequence Control**: Click to start / stop sequence mode. In Sequence Mode, the NVR automatically switches between channels every few seconds.
5. **PTZ**: Click to open PTZ controls.
6. **Camera Setting**: Click to open camera image settings.
7. **Playback**: Opens the Playback Menu. This allows you to search for video recordings saved on the NVR’s hard drive. For details on using the Playback menu, see 15.4 Playback, page 111.
9. **Channel Info**: Click to access status information about connected cameras.
10. **Remote Device**: Manage network cameras over the network.
12. **HDD Manager**: Manage hard drives connected to the system. See 13.3.18 Formatting the Hard Drive, page 85.
13. **USB Manager**: Click to access options for connected USB flash drives (not included). You can backup video, logs, or system configurations and install firmware upgrades.
14. **Upgrade**: Check for firmware upgrades. The system must be connected to the Internet to check for or receive updates.

7.4 **Using the Camera Tool bar**

The Camera Tool bar lets you perform quick functions for a specific channel on the NVR.

- Hover the mouse near the top of a channel with a connected camera.
- The Camera Tool bar opens at the top of the camera’s live display:

1. **Instant Playback**
2. Zoom
3. Realtime Backup
4. Snapshot
5. Audio Talk
6. Remote Device

7.4.1 Using Instant Playback

Instant Playback is used to playback the last 5~60 minutes of video from the selected channel. You can also access Instant Playback in split-screen mode, while still viewing live video from the other channels.

To use Instant Playback:

1. Hover the mouse near the top of a channel with a connected camera and click .

   **NOTE**
   By default, the system will begin playback from 5 minutes ago. You can increase this to up to 60 minutes using the Instant Playback setting in Main Menu > Setting > General.

2. Right-click to exit Instant Playback.

7.4.2 Using Zoom in Live Display

Zoom in on an area of live video to enlarge a part of the image.

1. Hover the mouse near the top of a channel with a connected camera and click to activate zoom. A check mark will appear in the icon to indicate digital zoom is activated.

   **NOTE**
   You may activate digital zoom in multiple channels at the same time.

2. Click and drag inside the channel to zoom in.
   - Click and drag to pan the zoom area.
   - Right-click to zoom out and select a new zoom area.

3. Click to disable digital zoom.

7.4.3 Using Real-time Backup

Real-time backup allows you to save footage from the live display to a USB flash drive (not included) or external hard drive (not included).

To use Real-time Backup:

1. Insert the USB flash drive or external hard drive into one of the USB ports on the system.

2. Move your mouse to the top of the channel display and click to start Real-time Backup.
3. Click again to end Real-time Backup. The file is saved to your USB device.

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If the system prompts you to log in, you will need to click again to start Real-time Backup after logging in.

### 7.5 Using the Virtual Keyboard

The Virtual Keyboard is used to input text or numeric values in certain menus.

1. **Backspace**
2. **Enter capital letters**
3. **Confirm entry**

### 7.6 Adjusting Camera Zoom & Focus

Auto-focus cameras (not included) have a motorized lens. The motorized lens allows you to control the zoom and focus settings using the menus on your system.

To adjust the camera’s zoom focus:

1. Click the channel where the motorized lens camera is connected.
2. Right-click and then click **AutoFocus**. If prompted, enter the system user name (default: **admin**) and your secure password.
3. Adjust the zoom and focus using the following options:
   • Use the sliders to adjust the **Zoom** or **Focus** settings for the camera.
   • Click the **AutoFocus** button to automatically focus the camera at the current zoom level.
   • Click **Default** to return the camera to the default zoom and focus levels.
   • Click **Refresh** to refresh the settings shown on the system if someone has used the manual lens controls on the camera.

4. Right-click to exit and save changes.
Setting The Time

**CAUTION**

It is highly recommended to set the correct date and time when first setting up your system. Inaccurate time stamps may render your footage unusable for court evidence.

To set the date and time:

1. In Live View, right-click and click **Main Menu**.
2. Log in using the system user name (default: **admin**) and your secure password.
3. Click **Setting** and select **Setting**. Click **General** and select the **Date&Time** tab.

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

**NOTE**

- You can adjust the **Start Time** and **End Time** for Daylights Savings Time if the default settings do not match your region.
- Under **DST 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.

6. (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** and **Port**, and you can select how often the system will sync the time using **Interval**.
7. Click **Apply** to save changes.
By default, the system is set to immediately record video from all connected cameras in both continuous recording and motion recording modes.

When a camera is recording video, the type of recording is indicated by icons in the bottom-left corner of the camera image.

9.1 Video Recording Types

The system supports the following recording types.

You may see one of the following icons:

- **Continuous Recording**: The system is recording video constantly. By default, the system is set to record continuously at all times.

- **Motion Recording**: The system has detected motion and is recording the event.

- **Motion Detected — No Recording**: The system detected motion, but motion recording is not enabled or a recording schedule has been set to disable motion recording during this time of day.

9.2 Main Stream and Sub Stream

The system employs two video recording streams, a Main Stream and a Sub Stream. Both Main Stream and Sub Stream recording are enabled by default. The Main Stream records high quality video to your system's hard drive.

The Sub Stream records lower resolution video for efficient streaming to devices over the Internet. Sub Stream recording must be enabled to view video recordings on a computer or mobile device.

You can configure the video quality parameters for the Main Stream or Sub Stream. For details, see 13.1.6 Configuring Recording Quality, page 53.

9.3 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.
To configure the recording schedule, see 13.3.14 Configuring the Video Recording Schedule, page 80.

**To select between scheduled and manual recording:**

1. During Live View, right-click and then select Manual Control > Record.

2. Under **Main Stream**, select how the system will record the Main Stream for each channel.
   - **Schedule**: 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**, select how the system will record the Sub Stream for each channel.
   - **Schedule**: 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.

4. Under **Snapshot**, select **Enable** to enable snapshot recording on each channel. Or, select **Disable** to disable snapshot recording.

5. Click **OK** to save changes.
9.4 Configuring Hard Drive Overwrite

By default, the hard drive in your unit is set to overwrite automatically, meaning that the system deletes the oldest footage when the hard drive is full to make way for new recordings. This is recommended, as it makes sure that your system will continue to record without any input from you. You can also set the system to stop recording once the hard drive is full.

To configure hard drive overwrite:

1. Right-click and select Main Menu. Click > Setting > General > General.
2. Under HDD Full, select Overwrite for the system to overwrite the oldest recordings when the hard drive is full. Or, select Stop Record for the system to stop recording when the hard drive is full.
3. Click OK to save changes.
You can view and back up recorded video on the NVR. To access playback, right-click during Live View to open the Quick Menu, then click Playback.

10.1 Using Playback

Play back video recordings from a specific date and time.

To use video playback:

1. Use the calendar to select a day for playback.
2. Use the drop-down menus to select the channels you would like to playback.

   **NOTE**
   
   Click the display options ( ) to playback multiple channels simultaneously.

3. Click inside the video bar to select the playback time. The system will begin playing back at the selected time.

   **NOTE**
   
   Different recording types are shown with different colored bars:
   - **Green**: Continuous recording available.
   - **Yellow**: Motion recording available.

For a full overview of video playback controls, see 10.2 Video Playback Controls, page 32.
10.2 Video Playback Controls

1. **Video Playback Area**: Click any channel to view in full screen.
2. **Play / Pause**
3. **Stop**
4. **Play Backward**
5. **Previous / Next Frame**
6. **Slow Play**: Click to slow playback by half-speed. Click repeatedly to play as slow as 1/4 of normal speed.
7. **Fast Forward**: Click to fast forward. Click repeatedly to play as fast as 1/3 of normal speed.
8. **Smart Search**: Smart Search allows you to review events intelligently, with the ability to clearly see when there was activity in a specific part of the camera image. See 10.4 Using Smart Search, page 33 for details.
9. **Add Bookmark**: Click to bookmark a specific part of a playback video to review later. For example, you want to quickly access a particular playback event to show someone. Click to view a list of bookmarks you created.
10. **Mute / Unmute Audio**: Mute / unmute audio (audio-enabled cameras required).
11. **Volume Bar**: Control system audio level (audio-enabled cameras required).
12. **Timeline**: Continuous recordings are shown with colored bars to represent different types of recording (legend shown in the bottom of the display). Use the timeframe options in the bottom-right corner to view a smaller or larger time period.
13. **Channel List**: Select channels you would like to search.
14. **Calendar**: Select a date to search for video recordings from.
15. **Select playback device**.

10.3 Playing Back from a USB Drive

If you have video files saved to a USB flash drive (not included) or external hard drive (not included), you can play them using the NVR.

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

1. Connect the USB flash drive (not included) or USB external hard drive (not included) with video files on it into a USB port on the NVR.
2. From Live View, right-click and click **Playback**. If prompted, enter the system username (default: **admin**) and your secure password.
3. From the dropdown list located in the top-right corner of the display, select **From IO Device**. Click **Browse** to open the USB drive and manually select the video file.

4. Double click the video file you would like to open.

**10.4 Using Smart Search**

Smart Search allows you to review events intelligently, with the ability to clearly see when there was activity in a specific part of the camera image. To set up smart search:

1. In multiple-channel playback mode, click a channel you want to apply Smart Search settings for.
2. Click the Smart Search icon ( ).
3. Click and drag over areas of the camera image to set an active area for Smart Search.

NOTE
Repeat these steps for each channel that you want to use Smart Search.

4. Click to start the Smart Search playback. To stop the Smart Search playback, click again.
You can back up video recordings and snapshots to a USB flash drive (not included) connected to the NVR.

### 11.1 Formatting the USB Flash Drive

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

**CAUTION**

Formatting the USB device will permanently erase all data.

To format a USB device:

1. Insert a USB flash drive (not included) into one of the USB ports.
2. From Live View, right-click and then select **Main Menu**. If prompted, enter the system user name (default: **admin**) and your secure password.
3. Click **Backup**.
4. With your USB device selected, click **Browse**.
5. Click **Format**.

6. Select a format mode.

7. Click **OK** to confirm.
11.2 Backing up Video

1. Insert a USB flash drive (not included) into one of the USB ports.
2. From Live View, right-click and then select Main Menu. If prompted, enter the system user name (default: admin) and your secure password.
3. Click > Backup.
4. Configure your search options:

   - Your USB device will be listed in the field next to the Browse button.
   - Type: Select the recording type you would like to search for or select All to search all recording types. Also, select the video stream.
   - Record CH: Select the channel you would like to search or select All to search all channels.
   - File Format: Select DAV to save files in .dav format. You can playback .dav files using the Lorex video player software from www.lorextechnology.com. Or, select ASF for .asf format. You can playback .asf files in VLC Media Player (free download from www.videolan.org) on PC or Mac.

   **NOTE**
   - VLC Media Player is a free software available from www.videolan.org. VLC Media Player is not supported by Lorex.
   - For Mac users who wish to view backed up video on their computer, it is recommended to select AVI or MP4 file format, which can be played by most video player software.

   - Start Time / End Time: Select the start and end time for your search.
5. Click Add. A list of files that match your search criteria appears.
6. Check files you would like to backup, and then click **Start**. Wait for the backup to complete.

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<td>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 at the top of the screen.</td>
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### 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).

**To use Video Clip Backup:**

1. Insert a USB flash drive (not included) or USB external hard drive (not included) into one of the USB ports.
3. Click to mark the beginning of the video clip. Click again to mark the end of the video clip.
4. Click to open the Backup menu.
5. Configure the following:

   5.1. Check the USB device where you would like to save the file.
   5.2. Check a file format.
   5.3. Check the files you would like to backup.
   5.4. Click **Backup**. Then click **Start**. Wait for the backup to complete before removing the USB flash drive.

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<td>Check the <strong>Combine Video</strong> check box to combine playback videos into a single playback file.</td>
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11.4 Viewing Backup Files

To playback .dav backup video files, a FLIR Cloud™ Player is available for PC and Mac at www.lorextechnology.com.

11.4.1 Viewing Backup Files on PC

You need a video player to play back .dav backup video files. To find the video player visit www.lorextechnology.com, search for the model number of your product, click on your product in the search results, and click on the Downloads tab.

To view backup video files using the Player on PC:


2. Click to open a back up video file.

3. Use the Player controls to control playback or select other files for playback.
Video Player Controls

1. **File List**: Double-click to open a file.

2. **Display Area**: Select the split-screen mode. Double-click a video file to expand. Click the controls inside the display area to do the following:
   - ![Information Icon]: View information about the video file.
   - ![Recording Icon]: Start/stop a manual recording from the video file.
   - ![Snapshot Icon]: Take a snapshot from the video file.
   - ![Close Icon]: Close the video file.

3. **Hide/show file list**.
4. **Playback controls:**

   - ![Playback Files in Sequence](image)
     - Playback files in sequence.
   - ![Synchronize Playback Times](image)
     - Synchronize playback times.
   - ![Play/Pause Playback](image)
     - Play/pause playback.
   - ![Stop Playback](image)
     - Stop playback.
   - ![Previous Frame](image)
     - Previous frame.
   - ![Next Frame](image)
     - Next frame.
   - ![Playback Speed](image)
     - Playback speed.
   - ![Volume Control](image)
     - Volume control.

5. **Zoom Timeline.**

6. **Add Files:** Click to open backup video files.

7. **Digital Zoom:** Click to activate digital zoom mode. Click and drag in the video to zoom in. Right-click to unzoom.

8. **Drag:** When digital zoom is activated, click to activate drag mode. Then click and drag in the video to view different areas of the image.

9. **Full-screen:** Click to open the player in full screen. Press ESC to exit full screen.

10. **Config:** Click to open the configuration menu for the player. From here you can control the default file formats and save locations for snapshots and video files saved from the player.
11.4.2 Viewing Backup Files on Mac

You need a video player to play back .dav backup video files. To find the video player visit www.lorextechnology.com, search for the model number of your product, click on your product in the search results, and click on the Downloads tab.

To view backup video files using the Player on Mac:

2. Double click the downloaded file in Safari to extract the Smart Player app file.
3. Drag the Smart Player app to your Desktop or Applications list. Double click Smart Player to open it.
4. Click to open a backup video file in another location.
5. Use the Player controls to control playback or select other files for playback.
Video Player Controls

1. **File List**: Double-click to open a file.

2. **Display Area**: Select the split-screen mode. Double-click a video file to expand. Click the controls inside the display area to do the following:
   - ![Info](image) View information about the video file.
   - ![Snapshot](image) Take a snapshot from the video file.
   - ![Close](image) Close the video file.

3. **Hide/show file list**.
4. **Playback controls:**
   - ![Repeat](image) When a video file ends, this button lets you select if you want the video player to repeat the same file or play the next file.
   - ![Play/Pause](image) Play/pause playback.
   - ![Stop](image) Stop playback.
   - ![Previous](image) Previous file.
   - ![Next](image) Next file.
   - ![Playback Speed](image) Playback speed.
   - ![Volume Control](image) Volume control.

5. **Zoom Timeline.**
6. **Add Files:** Click to open backup video files.
7. **Full-screen:** Click to open the player in full screen. Press **ESC** to exit full screen.
8. **Config:** 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.

9. **About:** Click to see version information for the Player software.
Managing Passwords and User Accounts

By default, the system user name is admin and the password is 000000. 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 new 6 character password the first time you power up your system.

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<tr>
<th>NOTE</th>
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<tbody>
<tr>
<td>If you forget the password to the system, contact technical support to have it reset.</td>
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</table>

The system includes the following default account:

- **Admin**: The admin account has full access to the system, may configure all system settings, and can manage user accounts.

12.1 Changing Passwords

You can change the system password of the admin and user accounts from the User menu.

**To modify an account password:**

1. From Live View, right-click and then select Main Menu. If prompted, enter the system user name (default: admin) and your secure password.

2. Click and select Setting. Select Account.

3. Under the User tab, click next to the user account you would like to modify.

4. Check Modify Password.

5. Under Old Password, enter the account's previous password.

Managing Passwords and User Accounts

7. Click **OK** to save changes.

### 12.2 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 account:**

1. From Live View, right-click and then select **Main Menu**. If prompted, enter the system user name (default: **admin**) and your secure password.

2. Click **Setting** and select **Account**.

3. Under the **User** tab, click **Add User**.

4. Configure the following:

   - **User**: Enter a name for the user account.
   - **Password**: Enter a 6 character password for the user account. Enter the password again under **Confirm Password**.
   - **Memo (optional)**: Enter a description of the user account.
   - **Group**: Select the group you would like to assign to this user account.
   - **System** tab: Select the menus the user account may access.
   - **Playback** tab: Select the channels the user account may access recorded video from.
   - **Cover** tab: Select the channels the user account may view live video from.

5. Click **OK** to save changes.

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.
12.3 Modifying Users

1. In the Account menu, click next to the user account you would like to modify.
2. Update the user's account details as needed, and then click OK to save changes.

12.4 Deleting Users

1. In the Account menu, click next to the user account you would like to delete.
2. Click OK to confirm.

NOTE

The admin account cannot be deleted from the system.

12.5 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.

12.6 Adding Groups

1. From Live View, right-click and then select Main Menu. If prompted, enter the system user name (default: admin) and your secure password.
2. Click and select Setting.
3. Click Account and select the Group tab.
4. Click **Add Group**.
5. Configure the following:

- Under **Group Name**, enter a name for the group.
- Under **Memo**, enter an optional comment for this group.
- Under the **System** tab, select the menus the group may access.
- Under the **Playback** tab, select the channels the group may access recorded video from.
- Under the **Cover** tab, select the channels the group may view live video from.

6. Click **OK** to save changes.

### 12.7 Modifying Groups

1. In the **Group** tab, click **✎** next to the group you would like to modify.
2. Update the group’s details as needed, and then click **OK** to save changes.

### 12.8 Deleting Groups

1. In the **Group** tab, click **✗** next to the group account you would like to delete.
2. Click **OK** to confirm.

**NOTE**

The admin and user groups cannot be deleted from the system.
13 Using the Main Menu

To open the Main Menu:

- **Using the mouse**: Right-click and click **Main Menu**. The system password is required to access the **Main Menu**. Enter the system user name (default: admin) and your secure password.

1. **Playback**: Opens the **Playback** menu. This allows you to search for video recordings saved on the NVR’s hard drive. For details, see 10 **Playback**, page 31.

2. **Backup**: Export files to a USB flash drive (not included). For details, see 11 **Search & Backup**, page 35.

3. **Camera Setting**: Opens the menu to manage cameras connected to the network (see 5.13 Connecting Cameras to the Local Area Network (LAN), page 12 for details), set recording parameters, and assign custom titles for your cameras.

4. **System Information**: View system information. For details, see 13.2 **System Information**, page 58

5. **Setting**: Configure system date and time, user profiles, network settings, display settings and more. This menu also allows you to restore the NVR to factory defaults. For details, see 13.3 **Setting**, page 67

6. **Shut down**: Logout, restart, or shutdown the NVR. For details, see 13.4 **Shutdown**, page 94.

13.1 Camera Setting

Manage network cameras, set recording parameters, and assign custom titles for your cameras.

13.1.1 Remote Device

The **Remote Device** menu allows you to add cameras over the Local Area Network (LAN), view camera status, and upgrade camera firmware. See 5.13 Connecting Cameras to the...
Local Area Network (LAN), page 12 for instructions on connecting cameras to the NVR over the network.

13.1.2 Viewing Camera Status

The Status menu allows you to view the connection status for all connected cameras.

To view camera status:

1. From the Main Menu, click and select Remote Device > Status.

13.1.3 Viewing Camera Firmware Versions

You can use the Firmware menu to view firmware versions for connected cameras.
To view camera firmware versions:

1. From the Main Menu, click and select Remote Device > Firmware.

13.1.4 Upgrading Camera Firmware

You can update the firmware for select Lorex network camera models through the NVR. Firmware upgrades provide enhanced functionality for the cameras.

NOTE

Firmware upgrade via NVR is supported only on select Lorex network cameras. A list of cameras compatible with firmware upgrade via NVR is available at www.lorextechnology.com.

To upgrade the camera firmware:

1. Download the camera firmware from www.lorextechnology.com if one is available.

   NOTE

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

2. Extract the firmware file and copy it to a USB flash drive (not included).
3. Insert the USB flash drive (not included) into a USB port on the system.
4. Right-click and select **Main Menu**. Click \(\text{Main Menu} \) and select **Remote Device > IPC Upgrade**.

5. Click **Select**. Select the firmware file on the USB drive and click **OK**.
6. Check the cameras you would like to apply the upgrade to in the list and then click **Start 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.

13.1.5 **Recording**

The Recording menu allows you to set recording parameters for your cameras, such as the resolution and frame rate.

13.1.6 **Configuring Recording Quality**

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

For select cameras, you can configure the live video stream to **Display Stream**. You can view display stream only in multiple channel (8 or more) live view. It is recommended to set the resolution to **D1**.

To configure recording quality:

1. From the **Main Menu**, click ![Settings icon] and select **Recording > Recording**.
2. Under **Channel**, select the camera you would like to configure.
3. Under **Type**, select the recording type you want to configure the recording quality settings for.
4. Configure the following settings. Settings for the Main Stream are in the left column. Settings for the Sub Stream are in the right column.

**NOTE**

For select cameras, you can configure settings for display stream on the right column.

- **Compression**: Select the video compression type that will be used.
- **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 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, you can set the video quality setting between 1 and 6. 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 drive space or bandwidth required.

**NOTE**

Only select cameras support the **Audio/Video** setting. See 13.1.7 Configuring Audio Recording, page 56 for details.
5. (Optional) Click the **Copy** button to copy recording settings to other channels.
6. Click **OK** to save changes.

### 13.1.7 Configuring Audio Recording

The system supports audio recording. Audio-enabled cameras (not included) are required to use audio recording. The MIC IN port is reserved for two-way audio.

**To configure audio recording:**

1. From the **Main Menu**, click ![Configuration Icon](image) and select **Recording > Recording**.

![Recording Configuration Interface](image)

2. Select the audio-enabled camera under **Channel**.
3. Check the left **Audio/Video** check box to enable audio recording. Check the middle check box to enable audio streaming to remote devices (such as a smartphone). Check the right check box to enable video streaming to remote devices.
4. Click **OK** to save changes.

### 13.1.8 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. The **Snapshot** tab in the **Recording** menu controls the quality and recording parameters for each camera.

![Snapshot Configuration Interface](image)

**NOTE**

In order to enable Snapshot recording, the following menu options must be configured:

- The Snapshot schedule must be enabled for times that you would like to save snapshots. See 13.3.16 **Configuring the Snapshot Schedule**, page 82.
- Snapshot recording must be enabled for motion detection in the Event menu. See 13.3.8 **Configuring Motion Detection**, page 73.
To configure snapshot recording settings:

1. From the Main Menu, click \[ icon and select Recording > Snapshot.\]
2. Under Snapshot, select the number of snapshots the NVR will take when the snapshot button is pressed.
3. Configure the following settings for snapshots saved automatically from motion detection or the snapshot schedule:
   - **Channel**: Select the channel you would like to configure.
   - **Mode**: Select **Timing** for the system to take snapshots according to the snapshot schedule (see 13.3.16 Configuring the Snapshot Schedule, page 82). Select **Trigger** for the system to take snapshots only when triggered by motion detection (snapshot must be enabled in the Motion Detect menu; see 13.3.8 Configuring Motion Detection, page 73).
   - **Image 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).
   - **Snapshot Frequency**: Select the number of snapshots (up to 6) the NVR will take each time.
4. Click **Apply** and **OK** to save changes.

### 13.1.9 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:**

1. From the **Main Menu**, click \[ icon and select **Channel Name**.
2. Enter a custom name for each channel.

3. Click **OK** to save changes.

### 13.2 System Information

View system information such as device model, hard drive information, connected users and more.

#### 13.2.1 HDD Info

The **HDD Info** sub-menu shows information related to the hard drives installed in the system, including capacity, status, and type.
To access the HDD Info menu:

- From the Main Menu, click and then click Info > HDD Info.

### 13.2.2 Record Info

The Record Info menu shows the start and end times of recordings saved on the hard drive.
To access the Record Info menu:

- From the Main Menu, click and then select Info > Record Info.

13.2.3 Version

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

- From the Main Menu, click 📋 and then click Info > Version.

### 13.2.4 Event

The Event menu shows you a display of system alarms. Activated alarms are highlighted in white. Additional info such as channels that are currently detecting motion is shown.
The following alarms are shown in the Event menu:

- **No HDD**: No hard drive is detected.
- **Disk Error**: Hard drive error detected.
- **Disk Full**: Hard drive is full.
- **IP Conflict**: More than one device on the network is using the same IP address.
- **Net Offline**: System is not connected to the network.
- **MAC Conflict**: More than one device on the network is using the same MAC address.
- **Video Loss**: Shows disconnected channels.
- **Tampering**: Camera masking alarm has been triggered (e.g. someone has covered the camera lens).
- **Motion Detect**: Shows channels with active motion alarms.

To access the Event Info menu:

- From the **Main Menu**, click ![event icon] and then select **Event**.

### 13.2.5 Online Users

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

- From the Main Menu, click ![Network icon] and then select **Network**.

### 13.2.6 Load

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

- From the **Main Menu**, click and then select **Network > Load**.

### 13.2.7 Test

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

- From the **Main Menu**, click **Network > Test**.

### 13.2.8 BPS

The **BPS** sub-menu shows the bitrates of connected cameras. The bitrate is the amount of data the camera is sending to the system.
To access BPS:

- From the **Main Menu**, click ![Main Menu Icon] and then select **BPS**.

### 13.2.9 Log

The **Log** sub-menu allows you to search for system logs.
To search for system logs:

1. From the Main Menu, click and then select Log.
2. Under Type, select the log type to search for.
3. Under Start Time and End Time, select the start and end time for your search.
4. Click Search.
5. (Optional) Click Backup to export logs to a USB flash drive connected to the system.

### 13.3 Setting

The Setting menu allows you to configure general system, schedule, network, recording, display, and motion settings. It also allows you to restore the system to factory defaults.

### 13.3.1 Network

The Network menu allows you to configure network parameters for your system.

### 13.3.2 Selecting DHCP or Static IP Address (TCP/IP)

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

To configure IP address settings:
1. From the **Main Menu**, click [Main Menu](#) and then select **Network > TCP/IP**.

2. Check **DHCP** (recommended) to let the system automatically obtain an IP address from the router or uncheck to assign a static IP address.

   If you uncheck **DHCP**, configure the following:
   - **IP Address**: Enter the IP address you would like to assign to the system. Make sure that no other device on your network is using the same IP address.
   - **Subnet Mask**: Enter the subnet mask for your network.
   - **Default Gateway**: Enter the gateway address for your network.
   - **Preferred DNS**: Enter the address of your primary DNS server.
   - **Alternate DNS**: Enter the address of your secondary DNS server.

3. Click **OK** to save changes.

### 13.3.3 Configuring System Ports (Connection)

The **Connection** menu allows you to configure ports used by the system. Please note that port forwarding is not required to use FLIR Cloud™.

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

**To configure system ports:**
1. From the Main Menu, click and then select Network > Connection.

2. Configure the ports as needed and click OK to save changes.

**NOTE**

Up to 3 devices may connect to the system at the same time when using FLIR Cloud™.

### 13.3.4 Configuring DDNS Settings

Lorex DDNS is available as an optional connectivity option. Please see 19 DDNS Setup (Advanced), page 180 for details.

The primary connectivity option uses FLIR Cloud™ to connect to your system over the Internet without requiring port forwarding or DDNS registration. For details, see 14 Connecting to Your System Over the Internet on PC or Mac, page 96.

**To configure DDNS Settings:**

2. From the **Main Menu**, click ![Main Menu icon](346x651 to 386x666) and then select **Network > DDNS**.

3. Check **Enable**.
4. Under **Domain Name**, enter the Domain Name/URL Request you received in the email after registering for DDNS.
5. Under **User ID**, enter your DDNS User Name.
6. Under **Password**, enter your DDNS Device password.
7. Click **OK** to save your settings.

**NOTE**

Please allow 10–15 minutes for the DDNS servers to update with your new DDNS address before attempting to connect.

### 13.3.5 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 13.3.8 Configuring Motion Detection, page 73.
- SMTP server connection information is required to set up email alerts. Contact your email service provider to retrieve your SMTP server information.
To configure Email Alerts:

1. From the **Main Menu**, click and then select **Network > Email**.

2. Check **Enable** to enable email notifications.
3. Configure the following:

- **Mail Select**: Select **Lorex** to use the **Lorex** email server to send out notifications. This is the recommended setting.
- **SMTP Server**: Enter the SMTP server address.
- **Port**: Enter the port used by the SMTP server.
- **Anonymous**: Check if your server supports anonymous logins. Otherwise, leave this unchecked.
- **User**: Enter the SMTP user name.
- **Password**: Enter the SMTP password.
- **Email Schedule**: Click **Setup** to 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.
- **Subject**: Enter the subject line for the email alert.
- **Attachment**: Check to include a jpg image attachment of the camera.

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<th>NOTE</th>
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<tbody>
<tr>
<td>You must enable the Snapshot option for motion detection on each camera you would to receive attachments. For details, see 13.3.8 Configuring Motion Detection, page 73.</td>
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</tbody>
</table>

- **Encrypt Type**: Select **SSL** or **TLS** if your server uses encryption. Select **None** if your server does not use encryption.
- **Interval**: Enter the interval between alert emails.
- **Health Enable**: Check to enable health check emails. Enter the interval in minutes for health check emails.

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<tr>
<td>Health check emails will be sent periodically to ensure that the system is functioning normally.</td>
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4. Click **Test** to send a test email.
5. Click **OK** to save settings.

13.3.6 **Configuring Switch Settings (Advanced)**

You can configure the networking settings for the internal PoE switch.

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<th>CAUTION</th>
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<tr>
<td>It is recommended to leave this menu on the default settings. Changing the information in this menu may disrupt the connection to the cameras.</td>
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</table>

To configure switch settings:

1. From **Live View**, right-click and select **Main Menu**.
2. Click **> Network > Switch**.
3. Check **Enable**.
4. Configure the **IP Address**, **Subnet Mask**, and **Default Gateway** for the internal PoE switch.

5. Click **OK**. Click **Save** to save changes. The system will restart.

### 13.3.7 Event

The Event menu allows you to configure settings for motion detection, video loss, and system warnings.

### 13.3.8 Configuring Motion Detection

The system supports motion detection on any connected camera. You can determine the sensitivity as well as the active area for motion detection per channel.

**To configure motion detection events:**
1. From the **Main Menu**, click ![icon](image) and then click **Event > Motion > Motion Detect**.

![Motion Detect Configuration](image)

2. Under **Channel**, select the channel you would like to configure.

3. Check **Enable** to enable motion detection on the selected channel.
4. Click **Set** next to **Region** to configure which areas of the image will be enabled for motion detection. The camera image appears with a red grid overlay on the entire image, letting you know that motion detection is active for the entire image. Click or click-and-drag to add/remove area from the red grid.

**Motion Grid**

- Hover the mouse at the top of the screen to select which motion zone you would like to configure. You can set up to 4 motion detection zones and customize the sensitivity and threshold for motion detection separately for each zone between 0 (lowest) and 100 (highest).
- The **Sensitivity** level determines how sensitive the camera is to motion. For example, if the sensitivity is high, small amounts of motion are more likely to trigger an event. It is recommended to select a sensitivity level between 30–70.
- The **Threshold** level determines how much motion is required to trigger an event. If the amount of motion exceeds the threshold, an event occurs. It is recommended to select a Threshold level between 10–50.
- Right-click when finished.

**NOTE**

It is recommended to have a second person walk in front of the camera to test different sensitivity and threshold settings to determine the best setting for your camera’s location.

5. To configure a schedule when motion detection will be enabled on this channel, click **Set** next to **Period**. Configure times when motion detection will be enabled. For example, you may want to disable motion detection during business hours and enable it outside of business hours. Click **OK** when finished.

**NOTE**

This setting can override scheduled motion recording. This means that motion recording will only take place at times that are enabled both in the Schedule menu and here.
6. Check boxes to your preference:
   - **Show Message**: Check to have a message appear on the system when motion is detected.
   - **Send Email**: Check to receive an email notification when motion is detected. Ensure you have enabled email notifications (see 13.3.5 Configuring Email Alerts, page 70).
   - **Channels**: Check to record video from the selected channel(s) when motion is detected.
   - **PTZ Activation**: Check to enable PTZ actions when motion is detected (PTZ camera required; not included). Click **Set** to select which PTZ actions will be taken by each camera.
   - **Post_REC**: Set how long the system will record video for after motion is detected.
   - **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.
   - **Snapshot**: Check to save a snapshot when the camera detects motion.
   - **Buzzer**: Check to enable the system buzzer.

7. Click **OK** to save changes.

### 13.3.9 Configuring Video Loss Settings

Video Loss occurs if the system loses connection to one of the cameras.

To configure video loss settings:

1. From the **Main Menu**, click and then click **Event > Motion > Video Loss**.

2. Under **Channel**, select the channel you would like to configure.

3. Check **Enable** to enable video loss events for the selected channel.
4. Configure the following to customize settings for video loss events:

- **Period**: Click **Set** to configure a schedule for video loss events. It is recommended to leave this on the default setting, so you can be alerted at any time one of your cameras loses video.
- **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. Enabling **Send Email** requires you to set up email notifications. See 13.3.5 Configuring Email Alerts, page 70 for full instructions.
- **Channels**: Check to enable video recording when video loss occurs.
- **PTZ Activation**: 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.
- **Post_REC**: Enter the number of seconds the system will record after video loss occurs.
- **Sequence**: Check to enable a custom sequence mode when video loss occurs on the selected channel. Then click the channels you would like to display in the custom sequence mode.
- **Snapshot**: Check to save a snapshot when video loss occurs.
- **Buzzer**: Check to enable the system buzzer when video loss occurs on the currently selected channel.

5. Click **OK** to save changes.

### 13.3.10 Configuring Tampering Settings

Allows you to set up your camera to detect video tamper, and trigger alerts.

**To configure video tamper settings:**

1. From the **Main Menu**, click and then click **Event > Motion > Tampering**.
2. Under Channel, select the channel you would like to configure.
3. Check Enable to enable video tamper alarm for the selected channel.
4. Configure the following to customize settings for video tamper events:
   - **Period**: Click Set to configure a schedule when video tamper alarm will be activated. It is recommended to leave this on the default setting, so you will be alerted any time one of your cameras is tampered with.
   - **Show Message**: Check to show a popup message on the monitor if one of your cameras is tampered with.
   - **Send Email**: Check to enable email alerts. Enabling Send Email requires you to set up email notifications. See 13.3.5 Configuring Email Alerts, page 70) for full instructions.
   - **Channels**: Check to enable video recording when video tamper occurs.
   - **PTZ Activation**: Check to enable PTZ actions when video tamper occurs (PTZ camera required; not included). Click Set to select which PTZ actions will be taken by each camera.
   - **Post_REC**: Enter the number of seconds the system will record after video tamper occurs.
   - **Sequence**: Check to enable a custom sequence mode when video tamper occurs on the selected channel. Then click the channels you would like to display in the custom sequence mode.
   - **Snapshot**: Check to save a snapshot when video tamper occurs.
   - **Buzzer**: Check to enable the system buzzer when video tamper occurs on the currently selected channel.
5. Click OK to save changes.

**13.3.11 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 **Main Menu**, click ![Main Menu](image) and then click **Event > Warning > HDD**.

![Main Menu with HDD Warning Configuration](image)

2. Under **Event Type**, select the hard drive event you would like to configure.
   - **No HDD**: 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.

3. Configure the responses the system will take when the selected event occurs:
   - **Show Message**: Show a popup message on the monitor.
   - **Send Email**: Check to enable email alerts. Enabling **Send Email** requires you to set up email notifications. See **13.3.5 Configuring Email Alerts**, page 70) for full instructions.
   - **Buzzer**: Check to activate the system buzzer.

4. Click **OK** to save changes.

**13.3.12 Configuring Network Warnings**

Network warnings will notify you if 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 Main Menu, click and then click Event > Warning > Network.

2. Under Event Type, select the event type you would like to configure.
   - **Net Disconnection**: The system has lost connection to the network.
   - **IP Conflict**: More than one device on your network has the same IP address.
   - **MAC Conflict**: More than one device on your network has the same MAC address.
   - **All**: Configure responses for all network events.

3. Configure the following for the selected event type:
   - **Enable**: Check to enable the selected event type.
   - **Show Message**: Check to show a popup message when the selected event occurs.
   - **Send Email**: Check to enable email alerts. Enabling Send Email requires you to set up email notifications. See 13.3.5 Configuring Email Alerts, page 70) for full instructions.
   - **Buzzer**: Check to activate the system buzzer.

4. Click OK to save changes.

### 13.3.13 Storage

The Storage menu allows you to configure the recording schedule and hard drives connected to the system.

### 13.3.14 Configuring the Video Recording Schedule

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

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

1. From the **Main Menu**, click and then click **Storage > Schedule > Record**.
2. Under **Channel**, select the channel you would like to configure or select **All**.
3. Configure the schedule as needed:

   - **Continuous** or **Motion** 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 next to **All** to link the recording schedules for all days. The icon for a day changes to when days are linked. You can also click the boxes next to individual days to link them to each other. If the recording schedule is linked, changes made to one of the days will apply to every day that is linked.
   - Click to disable all recording of the selected type on the selected day.
   - Click if you need to set a more precise schedule down to the minute.
4. Click **OK** to save changes.

### 13.3.15 Configuring Pre-Recording

The system can pre-record video when motion detection events occur.
To configure pre-recording:

1. From the **Main Menu**, click and then click **Storage > Schedule > Record**.

2. Under **Channel**, select the camera you would like to configure or select **All**.

3. Under **PreRecord**, select the duration for pre-recording.

4. Click **OK** to save settings.

### 13.3.16 Configuring the Snapshot Schedule

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

**To set up the snapshot schedule:**
1. From the **Main Menu**, click and then click **Storage > Schedule > Snapshot**.

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

3. Configure the schedule as needed:
   - Check **Continuous** or **Motion** 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, with each block representing one hour.
   - Click **next to All** to link the recording schedules for all days. The icon for a day changes to when it is linked. You can also click the boxes next to individual days to link them to each other. If the recording schedule is linked, changes made to one of the days will apply to every day that is linked.
   - Click **to disable all recording of the selected type on the selected day.**
   - Click **if you need to set a more precise schedule down to the minute.**

4. Click **OK** to save changes.

### 13.3.17 Configuring Holidays

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

1. From the **Main Menu**, click ![Main Menu Icon](image) and then click **Setting > General > Holiday**.

2. Click **Add New Holidays**.
3. Configure the following:

- **Holiday Name**: Enter a name for this holiday.
- **Repeat Mode**: Select *Once* for the holiday to occur only this year or *Always* for the holiday to be repeated each year.
- **Holiday Range**: Select *Date* to select a specific date, or select *Week* to select holidays based on which week they fall on.

4. Click **Add**. Now that you have added a holiday, an extra holiday setting is added to the recording schedule.

**NOTE**

You can disable holiday schedules by selecting Close under the Status dropdown and then click Apply.

13.3.18  **Formatting the Hard Drive**

The **HDD Manager** menu allows you to format the hard drive. It is recommended to format any newly-installed hard drives before recording.

**To format the hard drive:**

**CAUTION**

Formatting the hard drive deletes all saved files. *This step cannot be undone.*
1. From the Main Menu, click and then click Storage > HDD Manager.

2. Select the hard dive you would like to format and then click Format. Click OK to confirm.
3. Click OK to save changes. The system will restart to complete the formatting process.

13.3.19 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 Main Menu, click and then click Storage > HDD Manager.

2. Click the hard drive you would like to configure.
3. Under Type, select Read/Write or Read only.
4. Click OK to save changes. The system will restart to complete this operation.

13.3.20 Configuring General System Settings

You can use the General menu to configure miscellaneous system settings.
To configure general settings:

1. From the Main Menu, click and then click Setting > General > General.

![Image of Main Menu settings]

2. Configure the following:
   - **Device Name**: Enter a name for your NVR.
   - **Language**: Set the language for the NVR’s on-screen display.
   - **Video Standard**: Select NTSC (North America) or PAL (Europe).
   - **HDD Full**: Select Overwrite for the system to overwrite the oldest recordings when the hard drive is full or select Stop Record for the system to stop recording when the hard drive is full.
   - **Pack Duration**: Select the length (in minutes) of video files stored on the system. For example, if this is set to 30 minutes, the system will create a new video file for each 30 minutes of continuous recording.
   - **Instant Playback**: Select the amount of time (in minutes) the system will go back when instant playback is activated in live view.
   - **Auto Logout**: Select the idle time (in minutes) before the system will logout the current user.
   - **IPC Time Sync**: Select how often (in hours) the NVR will update the time on the network cameras.
   - **Navigation Bar**: Check to enable the Navigation Bar that comes up when you hover the mouse cursor over the bottom of the screen in Live View.
   - **Startup Wizard**: Check to enable a setup wizard when you start up the system.
   - **Mouse Sensitivity**: Use the slider to adjust the mouse speed.

3. Click OK to save changes.

### 13.3.21 Changing the NVR’s Output Resolution

To optimize display, you can change the output resolution of your NVR to match the maximum supported resolution of your monitor. The Display menu allows you to configure the systems monitor resolution and other display settings.
NOTE

Maximum supported output resolutions:
- Up to 1080p resolution using a VGA cable (not included).
- Up to 4K resolution using the included HDMI cable (4K monitor or TV required).

To change the NVR’s output resolution:

1. From the Main Menu, click and then click Setting > Display > Display.

2. Under Resolution, select the resolution of your monitor or TV.
3. Click OK to save changes. Click OK again to restart the system using the new resolution.
To configure other display settings:

1. From the **Main Menu**, click  and then click **Setting > Display > Display**.

2. Configure the following:
   - **Transparency**: Adjust the menu transparency.
   - **Time Display**: Check to show the time on the live display.
   - **Channel Display**: Check to show the channel names on the live display.
   - **Image Enhance**: Check for the NVR to digitally improve the video quality on the live display. This setting does not affect recordings.
   - **Original Scale**: Click **Set** next to **Original Scale** to set the system to show the true aspect ratio of the cameras on the live display. This may add black bars to the top and bottom of the image.

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

**13.3.22 Saving Your System Configuration to a USB Flash Drive**

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

**NOTE**

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

To save your system configuration to a USB flash drive:

1. Insert a USB flash drive (not included) into one of the USB ports.
2. From the **Main Menu**, click and then click **Setting > Config Backup**.

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. Insert a USB flash drive (not included) with a saved system configuration into one of the USB ports.
2. From the **Main Menu**, click [![Main Menu Icon](Image)] and then click **Setting > Config Backup**.

3. Under **Device Model**, select the USB device.

4. Click the folder with the configuration files you would like to restore. Configuration file folders are labeled "**Config**" followed by the time and date the configuration was saved (e.g. `Config_20140425103727`).

5. Click **Import** to restore the system configuration.

6. Click **OK** to confirm. The system will restart to complete the operation.

### 13.3.23 Restoring Default Settings

The **Default** menu allows you to reset the NVR settings to its out-of-the box state. You can choose to reset all settings at once, or just settings on specific menus. Restoring default settings does not affect recordings and snapshots saved to the hard drive.
To restore default settings:

1. From the Main Menu, click and then click Setting > Default.

2. Do one of the following:
   - Check the menus you would like to reset to default settings, or click All to reset all menus. Click Apply and OK when done.
   - Check Factory Default to restore NVR settings to its out-of-box state. Click OK to confirm. The NVR will reboot automatically.

### 13.3.24 Upgrading Firmware from a USB Flash Drive

The system supports automatic firmware upgrades over the network to ensure your unit is always up-to-date. It is recommended to always use automatic upgrade unless directed to perform a manual upgrade by technical support.

To upgrade firmware from a USB flash drive:

2. Extract the firmware file and copy the firmware to a blank USB flash drive.

   **NOTE**
   Do not have any folders on the USB flash drive—just the firmware file.

3. Insert the USB flash drive to a USB port on the system.
4. Right-click and then click **Main Menu**. Click > Setting > Upgrade.

5. Click **Upgrade**.

6. Select the firmware file on the USB flash drive and click **Start**.

**WARNING**

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

13.4 **Shutdown**

Use the **Shutdown** menu to shutdown, restart, or log out of the system.

**To access the Shutdown menu:**

1. From Live View, right-click and select **Main Menu**.
2. If prompted, enter the system user name (default: `admin`) and your secure password.
3. Click > **Shutdown**.
4. Select one of the following:

- **Shut down**: Shuts down the NVR. You must enter the system user name (default: admin) and your secure password before the unit shuts down.
- **Logout**: Logs out the account that is currently active.
- **Restart**: Restarts the NVR. You must enter the system user name (default: admin) and your secure password before the unit restarts.
Connecting to Your System Over the Internet on PC or Mac

This system features connectivity using the exclusive FLIR Cloud™. This cloud-enabled service allows for Internet connectivity without requiring any network configuration. Up to 3 devices may connect to the system at the same time.

NOTE

- Except where noted, the PC and Mac instructions in this section are the same.
- For smartphone/tablet setup, see 16 Connecting to your System Using Smartphone or Tablet Apps, page 137.
- For the latest list of supported apps and devices, visit www.lorextechnology.com.

14.1 System Requirements

Your system must meet the system requirements below:

<table>
<thead>
<tr>
<th>Description</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Core 2 Duo 3.0GHz</td>
</tr>
<tr>
<td>Operating System</td>
<td>Windows™ 8/7/Vista</td>
</tr>
<tr>
<td></td>
<td>Mac OSX 10.7 and above</td>
</tr>
<tr>
<td>Memory</td>
<td>2GB</td>
</tr>
<tr>
<td>Video</td>
<td>512 MB of video memory and above</td>
</tr>
<tr>
<td>Network (LAN)</td>
<td>10/100 BaseT Network</td>
</tr>
<tr>
<td>Network (WAN)</td>
<td>1 Mbps upstream</td>
</tr>
<tr>
<td></td>
<td>High-speed Internet service is required to remotely connect to your system.</td>
</tr>
</tbody>
</table>
14.2 Step 1 of 3: Connect your System to Your Router

1. Power off your system by disconnecting the power adapter.
2. Connect an Ethernet cable (included) to the LAN port on the rear panel of the system. Connect the other end of the Ethernet cable to an empty LAN port (usually numbered 1–4) on your router.
3. Reconnect the power adapter to power the system back on.

14.3 Step 2 of 3: Obtain the system's Device ID

The Device ID is a unique code that allows your system to handshake with FLIR Cloud™ servers for a secure connection over the Internet.

To find the Device ID:

1. The Device ID is located on a sticker on the system.

2. Write down the Device ID of the system.

14.4 Step 3 of 3: Connect to the System Over the Internet

Follow the steps below to connect to the system over the Internet.

NOTE

Make sure to upgrade your system to the latest firmware version. You must have the latest firmware and client software to connect to the system over the Internet.

To connect to the system over the Internet:
1. Download and install the client software. To find the client software visit [www.lorextechnology.com](http://www.lorextechnology.com), search for the model number of your product, click on your product in the search results, and click on the **Downloads** tab. Next:

   - **PC Users**: Download and install the [Client Software for PC](http://www.lorextechnology.com). Next:
   - **Mac Users**: Download and install the [Client Software for Mac](http://www.lorextechnology.com). Double click to extract the software. Then, drag the software to Applications.

2. Once installation is finished, double-click the FLIR Cloud™ Client icon (٪) from the desktop or Applications list.

3. Log into the Client Software using the Client Software user name (default: **admin**) and password (default: **admin**) and then click **Login**.
4. Click **Add Device**.

5. Enter the following:
5.1. **Device Name:** Choose a name for your system of your choice.
5.2. **Device ID:** Manually enter the Device ID printed on the label.
5.3. **Client Port:** Enter the Client Port (default: 35000).
5.4. **User Name:** Enter the system User Name (default: admin).
5.5. **Password:** Enter your new, secure password. If this is the first time accessing your system, enter the default password of 000000. You will be asked to change the password afterwards.
6. Click **Add**. If this is the first time you are connecting, you will be prompted to change the system password.

![Password Change Alert]

7. Enter a new 6 character password and click **OK**. This password will be used to connect to your system from now on.

![Update Password]

8. Click **Add** then **OK**.
9. Click and drag **Default Group** to the display window to open your cameras in live view.

**Congratulations!** You can now connect over the Internet to view and playback video on your computer.
Using FLIR Cloud™ Client for PC or Mac

FLIR Cloud™ Client allows you to connect to multiple systems from a PC or Mac.

15.1 Home Page

The Home Page allows you to access all the tabs within the software. Each tab allows you to access different features.

To open tabs:

Click a tab from the Home Page to open it or click the button at the top of the screen from within any tab to open a new tab.

15.2 Live View

The Live View tab is where you can view live video from connected systems.

To view live video from a system:

1. Click and then click to create a Live View tab.
2. Click and drag a DVR, NVR, group, or individual camera to open live video. To access individual cameras, you can click + to expand groups or systems.

15.2.1 Live View Controls
1. **Live display**: Double-click to expand the area. Right-click to access additional options. Hold the mouse over the display area to access the camera toolbar.

**Camera toolbar:**

1. **Streaming quality**: Shows the bitrate and resolution for the stream, and shows if display is showing the Sub Stream or Main Stream.
2. **Manual recording**: Click to start/stop manual recording.
3. **Snapshot**: Click to save a snapshot.
4. **Mute/unmute**: Click to mute/unmute audio (audio camera required).
5. **Not supported.**
6. **Instant playback**: Plays back the most recently recorded video from the camera. By default, it will play back the last 5 minutes of recorded video from the camera.
7. **Digital zoom**: Click to enable digital zoom mode. Click and drag over the display area to zoom on the camera. Then click and drag to pan. Click the icon again to zoom out.
8. **Disconnect**.

1. **Split-screen mode**: Click to select split-screen layout.

2. **Aspect ratio**: Use the drop down menu to select the aspect ratio for the selected camera. **Original** uses the actual aspect ratio of the image. **Full-win** stretches the image to fill up the entire display area.

3. **Full-screen**: Click to open full-screen mode. Press **ESC** to exit full-screen mode.

4. **Save view**: Click to save the current display layout and open cameras as a view. Then enter a name for the view.

5. **Start/stop tour**: Click to start the tour. During the tour the client will cycle through all saved views every few seconds. Click again to stop the tour.

6. **PTZ Controls**: Controls for PTZ cameras (not included). See 15.3 Controlling PTZ Cameras, page 107 for details.
7. **View**: Click **View** to access view menu. Then double-click on a view to open it in the display area.

8. **Devices**: Shows a list of groups, cameras, and systems connected to the client. Drag items to the display area to open live video. Right-click to view additional options.

### 15.2.2 Opening Live View in Multiple Monitors

If your computer has multiple monitors, you can open more than one Live View tab and move them to secondary monitors. This allows you to monitor cameras on multiple monitors at the same time.

<table>
<thead>
<tr>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using multiple monitors significantly increases the amount of computing resources necessary to run the application and may affect performance.</td>
</tr>
</tbody>
</table>

**To open Live View in multiple monitors:**

1. Click **Create** and then click **Live View** to create a Live View tab.
2. Click and drag the tab outside of the client window to create a new window. You can drag the window to one of the secondary monitors.

15.3 Controlling PTZ Cameras

If you have PTZ cameras (not included), you can control them using the client.

NOTE

You must ensure the PTZ camera is properly connected to your system and your system is configured to detect it before you can control them using the client.
To control PTZ cameras:
- Click the display area with the PTZ cameras and use the on-screen PTZ controls.

**PTZ controls:**

1. **Open menu:** Click to open camera OSD menu controls. This feature may not be supported for all camera models.

2. **Move camera:** Click the arrows to move the camera.
   - Click to open dynamic zoom mode. Then click and drag in the video area to zoom in the camera on an area.

3. **Zoom +/-:** Click to zoom the camera in and out.

4. **Focus +/-:** Click to increase/decrease the focus.

5. **Iris +/-:** Click to increase/decrease the iris.

6. **Advanced:** Click to access advanced PTZ controls.

### 15.3.1 PTZ Presets

Presets will save a camera position for quick retrieval.

**To add presets:**

1. Click to open the Advanced controls. Select **Preset**.
Using FLIR Cloud™ Client for PC or Mac

15.3.2 PTZ Tours

Tours will cycle through a set of presets.

To configure a PTZ tour:

1. Click to open the Advanced controls. Select Tour.

2. Click .

3. Under Cruise ID, select the number of the tour you would like to configure.

4. (Optional) Under Cruise Name, enter a name for the tour.

2. Click  

3. Select the number of the preset you would like to add.

4. Move the camera to the desired position.

5. Click  to save the current position as a preset.

To go to a saved preset:

1. Select the preset number from the list or click  to go to the currently selected preset.
5. Use the chart to select which presets you would like to include in the tour and the order of presets.

- **Preset**: Select the preset number.
- **Time(s)**: Enter the time in seconds the camera will remain on the selected preset.
- **Operation**: Click to add a preset to the tour. Click to delete a preset from the tour.

6. Click **OK** to save changes.

**To run a PTZ tour:**

1. Select the tour number and click .

15.3.3 **PTZ Pattern**

Patterns automatically cycle the camera between two positions.

**To create a pattern:**

1. Click to open the Advanced controls. Select **Pattern**.
2. Select the number of the pattern you would like to set up.
3. Move the camera into the desired start position.

4. Click to start recording the pattern.

5. Move the camera to the desired end position. Then, click to stop recording the pattern.

To run a pattern:

1. Select the pattern number and click.

15.3.4 PTZ Scan

Scan automatically cycles between a left and right point.

To set up scan mode:

1. Click to open the Advanced controls. Select Scan.

2. Move the camera to the desired left position and click.

3. Move the camera to the desired right position and click.

To run scan mode:

1. Click.

15.3.5 PTZ Pan

Pan makes the camera continuously pan 360°.

To run Pan mode:

1. Click to open the Advanced controls. Select Pan.

2. Click.

15.4 Playback

You can use Playback mode to playback video saved on systems connected to the client.

To access Playback mode:

• Click and then click to create a Playback tab.
To playback video:

1. Check the channels you would like to play back from in the Device List.
2. Under Type, check the file types you would like to search for.
   - All: All recordings.
   - General: Continuous recordings.
   - MD: Motion recordings.
   - Alarm: Alarm recordings. Your system must support alarm devices (not included) to use this feature.
3. Under Stream, select Main Stream to search for Main Stream recordings (high quality) or Sub Stream to search for Sub Stream recordings (smaller file size).
4. Select the start time and end time for your search under From and To. You may not search more than 24 hours of video.
5. Click Search. Wait for the client to find video saved to the system.
6. Click inside the playback bar to start playback.

15.5 Playback Controls
1. **Display area**: Double-click to expand/return to split-screen mode. Hold the mouse over the display area to open the camera toolbar.

- **Snapshot**: Click to save a snapshot.
- **Digital zoom**: Click to enable digital zoom mode. Then, click and drag to zoom in. Click and drag to pan the camera. Click again to zoom out.

2. **Event**: Click to view recordings based on a list of events and files.
3. **Record**: Click to view recordings on a timeline.
4. **Sync**: Click to sync playback between channels. This forces all channels to playback from the same time.
5. **Pause/play**.
6. **Stop**.
7. **Frame-by-frame**: Click to advance the video by a single frame.
8. **Playback speed**: Use the slider to adjust the playback speed.
9. **Mute**.
10. **Volume**.
11. **Split-screen**: Select split screen configuration.
12. **Full-screen**: Click to open playback in full-screen. Press **ESC** to exit full-screen.
13. **Timeline zoom**: Use the slider to zoom in/out on the timeline.
14. **Playback timeline**: Shows recordings from the selected channels on a timeline. Click inside the timeline to start playback or select a playback time. Each type of recordings is shown in a different color. Continuous recordings are green, motion recordings are yellow, and alarm recordings are red.
15. **Video clip**: Click to start a video clip. You can download video clips to your hard drive.
16. **Download list**: Click to see a list of files you have downloaded and the progress of files that are currently downloading.
17. **Search**: Search for video on the selected channels based on the search parameters you set.
18. **Device list**: Select the channels you would like to search or playback video from.

### 15.6 Downloading Video to your Computer Hard Drive

You can download video to your computer hard drive to save important events or share them. It is recommended to download video of important events as soon as possible to ensure they are not overwritten by new recordings.

**NOTE**

**PC Users**: You may need to run FLIR Cloud™ Client as an administrator to download files to your hard drive.

**To download video files**:  
1. Start playing back video using the steps in 15.4 *Playback*, page 111.
2. Click to start a video clip at the current playback time. Click to stop the video clip.
3. Configure the following save options:

- **Path**: Use the default save folder or click **Browse** to select a different folder.
- **File Format**: Select **Original Format** to save to .dav format (requires the video player). Select **AVI** to save files to .avi format (can be played in VLC Media Player).

**NOTE**
The Mac version only supports downloading video to .dav format.

- **Download Video Player**: Check to save a copy of the video player with the downloaded file.

4. Click **OK** to start the download. A status screen will pop up to show progress on downloaded files.

**NOTE**
To retrieve downloaded video files:
- **PC Users**: Browse to the folders listed in **General>File**.
- **Mac Users**: Browse to the folders listed in **General>File**. To get to the default location, open Applications in Finder, right-click on **FLIR Cloud Client** and select **Show Package Contents**. Then, navigate to the desired folder.

15.7 **Alarm**
The Alarm menu allows you to view a list of alarms received by the client software.
NOTE

You must set up alarms in the Alarm CFG menu before they will appear in this list. See 15.12 Alarm CFG, page 123 for more details.

To access Alarms:

- Click 🔄 and then click 🔄.

Alarm menu overview:

1. **Number of alarms**: Shows the number of open alarms.
2. **Alarm list**: Shows the list of alarms and information on when they occurred and which systems and channels triggered them.
3. **Alarm Process**: You can close alarms by selecting one of the options and clicking OK.
4. **Options**: Check to enable the following:
   - **Display Link Video**: Open live video to monitor alarms on a continuous basis.
   - **Display Overlay Window**: Show the overlay controls. They allow you to enable/disable sound alerts and quickly jump back to the Alarm menu from another tab.
   - **Pause Refresh**: Stop refreshing the live video in the video popup.

15.8 Log

The Log menu allows you to view logs for the client software or to view logs for connected systems.

To access logs:

- Click 🔄 and then click 🔄.
To view client logs:

1. Click **Client Log** to view logs for the client software.

2. Configure the following:
   - **Start Time/End Time**: Select the start and end times to search for logs.
   - **Log Type**: Select the type of logs to search for.

3. Click **Search**.

To view logs from connected systems:
1. Click **Device Log** to view logs from connected systems.

![FLIR Cloud™ Client for PC or Mac](image)

2. Configure the following:
   - **Start Time/End Time**: Select the start and end times to search for logs.
   - **Log Type**: Select the type of logs to search for.
   - **Device Name**: Select the system you would like to view logs from.

3. Click **Search**.

### 15.9 E-map

E-Map allows you to place cameras over a still image. For example, you can use the E-Map to create a virtual map of your cameras over a floor plan of your home or business.

**To create an E-map:**

1. Click **E-Map** and then click **...**.
2. Click **Add Map**.

3. Configure the following:

   - **Name**: Enter a name for your e-map of your choice.
   - **Picture**: Click **File** and then select a .png, .bmp, or .jpg image on your computer to use as the e-map.
   - **Describe (optional)**: Enter a text description of the e-map.

4. Click **Save**.
5. Click **Edit** to edit the e-map.

To open cameras from the e-map:

1. Click **View**.
2. Double-click cameras on the map to open live video.

15.10 Devices

The Devices menu is where you can manage systems connected to the client software.

To access the Devices menu:

- Click ![Add](image) and then click ![My Devices](image).

Devices overview:

- ![Add](image)
- ![Search](image)
- ![Add](image)
- ![Add](image)
- ![Add](image)
- ![Add](image)
- ![Add](image)
- ![Add](image)
- ![Add](image)
1. **Devices Found**: Shows systems that are connected to the same network as the computer where the client is installed. Once you connect to the system, it moves to the bottom of the screen.

2. **Search**: Refresh the list of systems connected to the network.

3. **Add**: Add checked systems to the client software.

4. **Device list**: Shows a list of systems connected to the client software, and shows which systems are online.

5. **Add Device**: Add a remote system using a Device ID or IP/DDNS address.

6. **Delete**: Delete the selected system.

7. **Import**: Import a list of systems from a saved .xml file.

8. **Export**: Export a list of currently connected systems to an .xml file. This is useful if you need to re-install the software or if you want to open the same list of systems on a different computer.

9. **Delete**: Delete system.

10. **Manual connect/disconnect**: Manually connect/disconnect the system.

11. **Edit**: Edit the connection details for the system.

### 15.11 Device Config

The Device Config menu allows you to remotely configure settings for connected systems.

**To access the Device Config menu:**

- Click and then click .
- Click on a system in the device list to see the settings available for that system and then configure settings as needed.

---

**NOTE**

The settings available depend on the model of system you have.
15.12 Alarm CFG

The Alarm CFG menu allows you to configure alarms for the client software. The client software will alert you by popping up live video and playing sound alerts.

**NOTE**

Alarm upload must be enabled on the system in order for it to send the alarm to the client software.

To create alarms:

1. Click ![Edit] and then click ![Add].
2. Click **Add** to create a new alarm.
3. In the **Alarm sources** menu, you set up the parameters that trigger the alarm.

- Under **Alarm Type**, select the alarm type that will trigger an alarm. For example, you can select Motion Detect for the alarm to be triggered by motion.
- Select the systems or channels you would like to trigger an alarm. Continuing the example, if CAM 1 is selected, the alarm will be triggered if there is motion on CAM 1.
- Click **Next**.
4. In the **Alarm link** menu, you set up the responses to alarms. Select the channels that will pop up or alarm out devices (not included; not all systems support alarm out devices) that will be triggered by an alarm.

   For each channel selected, configure the following:

   - **Video**: Pop up a window with live video from the selected channel, like the one below.

   - **Record**: Record video from the selected channel.

   **NOTE**

   **PC Users**: You may need to run the client software as admin to record.

   - **Preset**: If you select a PTZ camera, you can select the preset that will be activated when an alarm occurs.

   - **Stay Time**: Enter how many seconds the video window will stay open or record when an alarm occurs.

5. Click **Next**.
6. In the **Period** window, configure times the alarm will be activated.

7. Click **Confirm** to save the alarm.

To manage alarms:

1. **Export**: Export current list of alarms as an xml file.
2. **Import**: Import list of alarms.
3. **Delete**: Delete selected alarm.
4. **Add**: Add new alarm.
5. **Alarms**.
6. **On/off**: Click to enable/disable alarm.
7. **Delete**: Click to delete alarm.
8. **Edit**: Click to edit alarm settings.

### 15.13 Tour & Task

The Tour & Task menu is where you can set up custom views for the system. You can also set up tours, which sets the client to automatically cycle through views.

**To start a tour:**

- Click 🎥 in Live View to start a tour. The live view will automatically cycle through all views you have set up in the Tour & Task menu. Click again to stop the tour.

**To add views:**

1. Click 📅 and then click 📅.
2. Click + to create a new view.
3. Under **Name**, enter a name for your view.
4. Under **Stay Time**, enter the number of seconds the view will be shown before the client switches to the next view.
5. Select the split-screen mode you would like to use for the view and then click and drag channels to the empty grid areas to select channels to be shown in the view.

6. Click **Save** to save the view. Or click **Add More** to save the view and create another view.

### 15.14 Account

The Account menu is where you can set up user accounts and passwords for the client software. To simplify management, you can group user accounts according to role. A role determines the permissions an individual user account can have.

**To access the account menu:**

- Click ![Account icon](image) and then click ![User icon](image).

#### 15.14.1 Managing User Accounts

By default, the client software includes an admin account that has full access to all features of the software and all connected systems. You can add user accounts with customized levels of access.

<table>
<thead>
<tr>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>The admin account cannot be deleted. The default user name for the admin account is <strong>admin</strong> and the default password is <strong>admin</strong>.</td>
</tr>
</tbody>
</table>
To create a user account:

1. Click Add.
2. Configure the following settings for the user account:

- **User Name**: Enter a user name for the account.
- **Role**: Select the role for the user account. By default, the user account gains all the permissions of the role selected, but you can deactivate permissions as needed.
- **Password/Confirm Password**: Enter the password for the user account.
- **Remarks (Optional)**: Enter a text description of the user account.
- **User Rights**: Check the permissions that will apply to the user account. If you click on LiveView, Playback, and PTZ, you can select which channels the user account can access in the Channel List section.

3. Click **Save** to create the account.

**To switch between user accounts:**

- Click  

**To modify a user account:**

- **NOTE**
  Admin accounts with Account Setup permissions can change account passwords. A user cannot change his own password.

- Click  next to the user account you would like to modify. Edit the user account details and click **Save**.

**To delete a user account:**

1. Click  next to the user account you would like to delete. Click **OK** to confirm.

15.14.2  **Managing Roles**

Roles make it easier to manage user accounts by determining the permissions an individual user account can have. By default, a new user account is given all the permissions of the role they are assigned to.
To create a role:
1. Click the Role tab.
2. Click Add.
3. Configure the following settings for the role:

![Add Role Window](image)

- **Role Name**: Enter a name for the role.
- **Remarks (Optional)**: Enter a text description of the role.
- **Role Rights**: Check the permissions that will apply to user accounts assigned this role. If you click on LiveView, Playback, and PTZ, you can select which channels may be accessed in the Channel List section.

4. Click **Save**.

**To modify a role:**

- Click next to the role you would like to modify. Edit the role details and click **Save**.

**To delete a user account:**

1. Click next to the role you would like to delete. Click **OK** to confirm.

### 15.15 General

The General menu is where you can configure application settings for the client software.

**To access the General menu:**

- Click and then click .

### 15.15.1 Basic

The Basic menu contains general settings for the client software.
The Basic menu contains the following settings:

- **Log Saved Time**: Select the number of days you would like the client to save log entries.
- **Instant Playback Time**: Select the number of minutes the system will go back when you start an instant playback.
- **Network Capability**: Select the speed of your computer's network connection.
- **Resume Live View State**: Check for the client to resume live view when it starts up. The live view will open to the last view that you had open.
- **Auto login application**: Check for the client to automatically login when it starts up without entering a user name or password.
- **Auto Login Windows**: Not supported.
- **Language**: Select the language for the client software.
- **Sync Time**: Check to have the client software sync time with your computer's system time. Select the time the software will sync the time. Click **Sync Now** to manually sync the time.
- **Time Format**: Select **12-Hour** or **24-Hour** time format. You must close the client and restart it to apply this setting.

### NOTE
Click **Save** to save setting changes.

#### 15.15.2 File

The File menu allows you to select the folders where the client software will save downloaded video files and snapshots.
Using FLIR Cloud™ Client for PC or Mac

The File menu contains the following options:

- **Snapshot Path**: Click **Browse** to select the default folder to save snapshots.
- **Record Path**: Click **Browse** to select the default folder to save video recordings.
- **Config Path**: Click **Browse** to select the folder where the client will save software config files.

**NOTE**

Click **Save** to save setting changes.

**PC Users**: You may need to run the client software as admin to save files to enable snapshot or video recording.

### 15.15.3 Alarm Prompt

The Alarm Prompt menu allows you to configure audio alerts. The client will play audio alerts when events occur. You can replace the default sounds with any .wav file.

**NOTE**

You must configure alarms in the Alarm CFG menu before the client will play alarm sounds.
The Alarm Prompt menu has the following options:

- **Open Audio**: Check to enable audio alerts.
- **Loop**: Check to repeat audio alerts until acknowledged.
- **Camera Masking**: Select or preview the sound that will play for camera masking alarms.
- **Motion Detect**: Select or preview the sound that will play for motion detection.
- **Video Loss**: Select or preview the sound that will play for video loss alarms.
- **Disk Full**: Select or preview the sound that will play for disk full alarms.
- **Disk Error**: Select or preview the sound that will play for disk errors.
- **External**: Select or preview the sound that will play for external alarms (triggered by sensor devices, which may not be supported on all systems).
- **E-map flashes when alarm occurs**: If the camera has alarms enabled and is added to an e-map, a 🚨 appears on the e-map when an event occurs.

### NOTE

Click **Save** to save changes.

### 15.15.4 Version

The Version menu shows you which version of the client software you are using. It is recommended to always run the latest version of the software. To find the latest version of the client software, visit [www.lorextechnology.com](http://www.lorextechnology.com), search for the model number of your product, click on your product in the search results, and click on the **Downloads** tab.
Using FLIR Cloud™ Client for PC or Mac
Connecting to your System Using Smartphone or Tablet Apps

The system is compatible with iPhone, iPad and Android devices.

<table>
<thead>
<tr>
<th>Platform</th>
<th>App Name</th>
<th>Get App From</th>
</tr>
</thead>
<tbody>
<tr>
<td>iPhone/iPad</td>
<td>FLIR Cloud™</td>
<td>Apple App Store</td>
</tr>
<tr>
<td>Android</td>
<td>FLIR Cloud™</td>
<td>Google Play Store</td>
</tr>
</tbody>
</table>

See [www.lorextechnology.com](http://www.lorextechnology.com) for the latest list of supported apps and devices.

16.1 iPhone / iPad

FLIR Cloud™ is an iPhone / iPad app that allows you to remotely view your system.

### 16.1.1 Prerequisites

- Connect your system to your router using an Ethernet cable (included).
- **Make sure to upgrade your system to the latest firmware version.** You must have the latest firmware and mobile apps to connect to the system over the Internet.

**NOTE**

For the latest list of supported apps and devices, visit [www.lorextechnology.com](http://www.lorextechnology.com).

**NOTE**

The app will ask for permission to send push notifications and to access Photos. It will only send notifications if you enable motion-activated push notifications in the Push Config menu. It needs access to Photos to save snapshots and video clips to the local storage on your mobile device.

#### 16.1.2 Connecting to your System on iPhone / iPad

1. Download FLIR Cloud™ for free from the App Store.
2. Tap on the FLIR Cloud™ icon () to start the app.
3. Tap **Sign up** and enter your email address and password to create a new account.
4. Tap  then +.
5. Configure the following:
5.1. Tap **Scan QR Code** and line up the QR code on the top of your system using the camera on your mobile device.

OR

Under **Device ID**, manually enter the Device ID printed on the label.

5.2. **Name**: Choose a name for your system of your choice.

5.3. **Client Port**: Enter the **Client Port** (default: 35000).

5.4. **User Name**: Enter the **system’s User Name** (default: admin).
5.5. **Password:** Do one of the following, as appropriate:

- If you have reset the default system password through your recorder, enter your secure password.
  
  (Or)

- If you are accessing your system for the first time using the FLIR Cloud™ app:
  
  5.5.1. Enter the default system password (*000000*). You will be prompted to change the default system password.
  
  5.5.2. Enter a new 6 character password for your system and tap **OK**. This secure password will be used to access your system from now on.

6. Tap **Connect**.

7. The app opens in Live View and streams video from your cameras.

**16.1.3 Live View Interface**

You can use FLIR Cloud™ in portrait and landscape mode.
Live View Overview

1. **Menu**: Tap for Menu options.
2. **Display Area**: Double-tap to open a channel in full screen. Swipe left or right to select a different page of channels.
3. **Pages**: Shows the number of pages available and highlights the currently selected page.
4. **Split**: Select the split-screen layout.
5. **Snapshot**: Tap to take a snapshot from the currently selected channel.
6. **Control Bar**: Contains the following options. Swipe left or right to access more options.

1. **Quick Playback**: Tap to start/stop quick playback.
2. **PTZ Control**: Open/close PTZ controls. PTZ camera required (not included).
3. **Microphone**: Audio enabled cameras required.
4. **Video Quality**: Open/close streaming quality panel.
5. **Alarms**: Not supported.
6. **Audio**: Audio enabled cameras required.

7. **Manual record**: Tap to start/stop manual recording.
8. **Access Favorites**
9. **Connect / disconnect all**: Connect to / disconnect from all previously added cameras.
10. **Device List**: Tap to open a list of devices. You can use the Device List to open multiple systems or cameras at once.

### 16.1.4 Controlling PTZ Cameras

If you have PTZ cameras (not included), you can control them from the app.

**To control PTZ cameras:**

1. Tap the display area the PTZ camera is connected to.

2. Tap to open PTZ controls.
PTZ Controls

1. Live Display: Swipe to move the camera. Pinch to zoom in/out.
2. Focus: Tap to show focus controls.
3. Zoom: Tap to show zoom controls.
4. Iris: Tap to show iris controls.
5. Goto preset: Tap to access preset controls. Then use the sliders to select a preset and then tap the check mark to goto the preset.

NOTE
You must set presets for the camera using the system’s local menus before you can use this feature.

16.1.5 Viewing Snapshots and Videos with Local Files

If you have saved snapshots or videos using the app, you may open them with Local Files.

To access Local Files:

- Tap to access the Menu, and then tap Local Files.
Connecting to your System Using Smartphone or Tablet Apps

Local Files Overview

1. **Menu**: Return to Menu.
2. **Files**: Tap to open files.
3. **File Type**: Tap the options to select video files or snapshots.
4. **Options**: Tap to delete or export files to your device’s local storage.

**NOTE**
Exported snapshots and video files are saved to the Photos app. Video files are saved to MP4 format.

16.1.6 Using Playback Mode on iPhone / iPad

You can access recorded video on your system using your iPhone / iPad.

**NOTE**
You must enable Sub Stream Recording to use playback mode on mobile devices.

To use Playback Mode:

1. Tap to access the Menu, and then tap **Playback**.
2. Tap + and select a channel to playback.
3. Select the date then the start and end times to playback.
4. Use the on-screen controls to control playback.

**Playback Controls**

- **Display Area**: Double-tap to open in full-screen.
- **Time Bar**: Shows the length of the recording. Swipe left or right to select the time you wish to view.
- **Play/pause**.
- **Slow**.
- **Snapshot**: Tap to take a snapshot from the selected camera.
- **Stop All**: Stop playback on all channels.
- **Audio**: Audio enable cameras required.
- **Manual Record**: Tap to start/stop recording to your mobile device's local storage.
- **Next frame**.
- **Fast**.

16.1.7 Enabling Push Notifications

You can have the app send push notifications to the notifications area on your device when one of your cameras detects motion. Once you have received a push notification, you can select it to open live video or a snapshot attachment from the camera that detected motion.
Connecting to your System Using Smartphone or Tablet Apps

**NOTE**

Your cameras must have motion detection activated to receive push notifications.

To enable Push Notifications:

1. Tap ☰ to access the Menu, and then tap Push Config.
2. Tap the system you would like to configure.
3. Tap **Motion Detect** and then check each channel you would like to receive push notifications from.
4. Tap 📱 to save changes. You will now receive a notification when one of the selected cameras detect motion.

### 16.1.8 Using the Event List

The Event List menu shows a list of events that were sent to your device via push notifications.

<table>
<thead>
<tr>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>You must configure push notifications before you can use the Event List.</td>
</tr>
</tbody>
</table>

**To access the Event List:**

- Tap 📱 to access the Menu, and then tap **Event List**.

### Event List Overview

1. **Events**: Shows the details of each motion detection event. Tap the event to view the video or snapshot.
2. **Delete All**: Tap to delete all events in the Event List.

---

3. **View**: Tap to view the video or snapshot for the selected event.

### 16.1.9 Using Favorites

Favorites allows you to select a group of cameras as a favorite. You can then quickly bring up the group of cameras in Live View without having to individually select each camera.

**To use Favorites:**

1. Tap 📱 to access the Menu, and then tap **Favorites**.
2. Tap a group to configure an existing group.

<table>
<thead>
<tr>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tap to create a new group and then enter a name for the new group.</td>
</tr>
</tbody>
</table>

3. To add cameras to the group, tap 🌟.
4. Select the cameras you would like to add to the group. Tap ✅ to save changes.
To open Favorites in Live View:

1. Tap \( \text{Menu} \) to access the Menu, and then tap \( \text{Live View} \).
2. Tap \( \text{Group} \), and then tap \( \text{Group} \) to open the group.

16.1.10 Using the E-Map

E-Map allows you to place cameras over a still image. For example, you can use the E-Map to create a virtual map of your cameras over a floor plan of your home or business.

To add an E-Map:

1. Tap \( \text{Menu} \) to access the Menu, and then tap \( \text{E-Map} \).
2. Tap +

3. Select a .jpg image on your mobile device.
4. Press and select a camera. Drag the camera on the screen to place it on the map. Repeat to add additional cameras.
5. Click 📢. Choose a name for your E-Map and then tap OK.

To open cameras from an E-Map:

1. Tap 📢 in Live View.
2. Select the E-Map in the Device List.
3. Tap the camera or cameras to select and then tap **Connect** to open the cameras.
16.1.11 Device Manager
You can use Device List to add, delete, or edit your systems.

To access Device Manager:
• Tap to access the Menu, and then tap Device Manager.

To edit a system:
1. Tap the system in Device Manager. Tap .
2. Edit the connection details as needed.
3. Tap Connect to save changes and connect to the system.

To delete a system:
1. Tap the system you would like to delete.
2. Tap . Tap OK to confirm.

16.1.12 Adding Devices Using an IP or DDNS Address (Advanced)
The app can connect directly to a device via the IP address or DDNS address as an optional advanced connectivity method or for systems that do not support FLIR Cloud™.

Prerequisites:
• The device you are connecting to must be connected to the Internet.
• You must port forward the HTTP Port (default: 80) and Client port (35000) on your router to the device's local IP address.
• To ensure connectivity, it is highly recommended to register for a free DDNS domain to use with your system.
• For more information on port forwarding and DDNS, visit www.lorextechnology.com.

To add a device using an IP or DDNS address:
1. In Live View, tap then .
2. Configure the following:
2.1. Tap **Register Mode** and select **IP/Domain**.

2.2. **Name**: Choose a name for your system of your choice.

2.3. **Address**: Enter the IP address or DDNS address of your system.

2.4. **Client Port**: Enter the **Client Port** (default: 35000).

2.5. **Username**: Enter the **system's Username** (default: admin).

2.6. **Password**: Do one of the following, as appropriate:

   - If you have reset the default system password through your recorder, enter your secure password.
   (Or)

   - If you are accessing your system for the first time using the FLIR Cloud™ app:

     2.6.1. Enter the default system password (**000000**). You will be prompted to change the default system password.

     2.6.2. Enter a new 6 character password for your system and tap OK. This secure password will be used to access your system from now on.

3. Tap **Connect**.

4. The app opens in Live View and streams video from your cameras.

### 16.2 Android

FLIR Cloud™ allows you to remotely view your system on Android devices.

#### 16.2.1 Prerequisites

- Connect your system to your router using an Ethernet cable (included).
- **Make sure to upgrade your system to the latest firmware version.** You must have the latest firmware and mobile apps to connect to the system over the Internet.
16.2.2 Connecting to your System on Android

1. Download FLIR Cloud™ for free from the Google Play Store.

2. Tap on the FLIR Cloud™ icon (1) to start the app.

3. Tap Sign up and enter your email address and password to create a new account.

4. Tap  then + .

5. Configure the following:

**EXAMPLE**

5.1. Tap Scan QR Code and line up the QR code on the top of your system using the camera on your mobile device.

OR

Under Device ID, manually enter the Device ID printed on the label.

5.2. Name: Choose a name for your system of your choice.

5.3. Client Port: Enter the Client Port (default: 35000).

5.4. Username: Enter the system's Username (default: admin).
5.5. **Password:** Do one of the following, as appropriate:

- If you have reset the default system password through your recorder, enter your secure password.
  
  (Or)

- If you are accessing your system for the first time using the FLIR Cloud™ app:
  
  5.5.1. Enter the default system password (000000). You will be prompted to change the default system password.
  
  5.5.2. Enter a new 6 character password for your system and tap **OK**. This secure password will be used to access your system from now on.

6. Tap **Connect**.
7. The app opens in Live View and streams video from your cameras.

### 16.2.3 Live View Interface

You can use FLIR Cloud™ in portrait and landscape mode.

**Live View Overview**

1. **Menu:** Tap to bring up the Menu.
2. **Display Area:** Double-tap to open a channel in full screen. Swipe left or right to select a different page of channels.
3. **Pages:** Shows the number of pages available and highlights the currently selected page.
4. **Split:** Select the split-screen layout.
5. **Snapshot:** Tap to take a snapshot from the currently selected channel.
6. **Control Bar:** Contains the following options. Swipe left or right to access more options.
6.1. **Quick Playback**: Tap to start/stop quick playback.
6.2. **PTZ Controls**: Open/close PTZ controls. PTZ camera required (not included).
6.3. **Video Quality**: Open/close streaming quality panel.
6.4. **Alarms**: Not supported.
6.5. **Audio**: Audio enabled cameras required.
6.6. **Microphone**: Audio enabled cameras required.
6.7. **Digital Zoom**: Tap to activate digital zoom mode. Pinch to zoom in/out.
6.8. **Color Settings**: Tap to access color controls for the currently selected camera.

7. **Manual record**: Tap to start/stop manual recording.
8. **Access Favorites**.
9. **Connect/disconnect all**: Connect to/disconnect from all previously added cameras.
10. **Device List**: Tap to open a list of devices. You can use the Device List to open multiple systems or cameras at once.

16.2.4 **Controlling PTZ Cameras**

If you have PTZ cameras (not included), you can control them from the app.

**To control PTZ cameras:**

1. Tap the display area the PTZ camera is connected to.
2. Tap to open PTZ controls.

**PTZ Controls**
1. **Live Display**: Swipe to move the camera. Pinch to zoom in/out.
2. **Focus**: Tap to show focus controls.
3. **Zoom**: Tap to show zoom controls.
4. **Iris**: Tap to show iris controls.
5. **Goto preset**: Tap to access preset controls. Then use the sliders to select a preset and then tap the checkmark to goto the preset.

**NOTE**
You must set presets for the camera using the system’s local menus before you can use this feature.

### 16.2.5 Viewing Snapshots and Videos with Local Files

If you have saved snapshots or videos using the app, you may open them with Local Files.

**To access Local Files:**

- Tap to access the Menu, and then tap **Local Files**.

1. **Menu**: Return to Menu.
2. **Files**: Tap to open files.
3. **File Type**: Tap the options to select video files or snapshots.
4. **Options**: Tap to share, delete, or export files to your device’s local storage.

**NOTE**
Exported video files are saved to MP4 format in the folder /snapshot/mp4/, which you can access by connecting your Android device to a computer using a USB cable.

### 16.2.6 Using Playback Mode on Android

You can access recorded video on your system using your Android.
Connecting to your System Using Smartphone or Tablet Apps

NOTE
You must enable Sub Stream Recording to use playback mode on mobile devices. For details on enabling Sub Stream Recording, see 9.3 Setting up Scheduled or Manual Recording, page 28.

To use Playback Mode:

1. Tap \( \text{Menu} \) to access the Menu, and then tap \text{Playback}.  
2. Tap \(+\) and select a channel to playback.  
3. Select the date then the start and end times to playback.  
4. Use the on-screen controls to control playback.

Playback Controls

4.1. **Display Area**: Double-tap to open in full-screen.  
4.2. **Play/pause**.  
4.3. **Time Bar**: Tap inside the bar to fast forward or rewind.  
4.4. **Previous**: Select previous video file.  
4.5. **Next**: Select next video file.  
4.6. **Snapshot**: Tap to take a snapshot from the selected camera.  
4.7. **Stop All**: Stop playback on all channels.  
4.8. **Not supported**.  
4.9. **Manual Record**: Tap to start/stop recording to your mobile device's local storage.  
4.10. **Fast**.  
4.11. **Slow**.  
4.12. **Time Range**: Tap to change the range of time shown in the time bar.  
4.13. **Next frame**.
16.2.7 **Enabling Push Notifications**

You can have the app send push notifications to the notifications area on your device when one of your cameras detects motion. Once you have received a push notification, you can select it to open live video or a snapshot attachment from the camera that detected motion.

**NOTE**

Your cameras must have motion detection activated to receive push notifications.

**To enable Push Notifications:**

1. Tap to access the Menu, and then tap **Push Config**.
2. Tap the system you would like to configure.
3. Tap **Motion Detect** and then check each channel you would like to receive push notifications from.

4. Under **Push type**, select **Video** to attach a video clip to each push notification. Or, select **Image** to attach an image to each push notification.
5. Tap ✅ to save changes. You will now receive a notification when one of the selected cameras detect motion.

16.2.8 Using the Event List

The Event List menu shows a list of events that were sent to your device via push notifications.

**NOTE**
You must configure push notifications before you can use the Event List.

To access the Event List:
- Tap ☐ to access the Menu, and then tap Event List.

**Event List Overview**

1. Events: Shows the details of each motion detection event. Long press an event to delete just that event.
2. Delete All: Tap to delete all events in the Event List.
3. View: Tap to view the video or snapshot for the selected event.

16.2.9 Using Favorites

Favorites allows you to select a group of cameras as a favorite. You can then quickly bring up the group of cameras in Live View without having to individually select each camera.

To use Favorites:

1. Tap ☐ to access the Menu, and then tap Favorites.
2. Tap a group to configure an existing group.

**NOTE**
Tap ☐ to create a new group and then enter a name for the new group.

3. To add cameras to the group, tap ✡.
4. Select the cameras you would like to add to the group. Tap ✔ to save changes.

**NOTE**
To delete cameras that have been added to the group, select the group in the group list. Then, press and hold to delete cameras from the group.
To open Favorites in Live View:

1. Tap to access the Menu, and then tap Live View.

2. Tap and then tap to open the group.

16.2.10 Using the E-Map

E-Map allows you to place cameras over a still image. For example, you can use the E-Map to create a virtual map of your cameras over a floor plan of your home or business.

To add an E-Map:

1. Tap to access the Menu, and then tap E-Map.
2. Tap 

3. Select a .jpg image on your mobile device.
4. Press and select a camera. Drag the camera on the screen to place it on the map. Repeat to add additional cameras.
5. Click . Choose a name for your E-Map and then tap OK.

To open cameras from an E-Map:

1. Tap in Live View.
2. Select the E-Map in the Device List.

3. Tap the camera or cameras to select and then tap Connect to open the cameras.

16.2.11 Device Manager

You can use Device List to add, delete, or edit your systems.

To access Device Manager:

- Tap to access the Menu, and then tap Device Manager.

To edit a system:

1. Tap the system in Device Manager. Tap .

2. Edit the connection details as needed.
3. Tap Connect to save changes and connect to the system.
To delete a system:
1. Tap the system you would like to delete.
2. Tap ▼. Tap OK to confirm.

16.2.12 Adding Devices Using an IP or DDNS Address (Advanced)
The app can connect directly to a device via the IP address or DDNS address as an optional advanced connectivity method or for systems that do not support FLIR Cloud™.

Prerequisites:
- The device you are connecting to must be connected to the Internet.
- You must port forward the HTTP Port (default: 80) and Client port (default: 35000) on your router to the device's local IP address.
- To ensure connectivity, it is highly recommended to register for a free DDNS domain to use with your system.
- For more information on port forwarding and DDNS, visit www.lorextechnology.com.

To add a device using an IP or DDNS address:
1. Tap ▼ then +.

2. Configure the following:

**EXAMPLE**

1. **Register Mode**: Tap Register Mode and select IP/Domain.
2. **Name**: Choose a name for your system of your choice.
3. **Address**: Enter the IP address or DDNS address of your device.
4. **Client Port**: Enter the Client Port (default: 35000).
5. **Username**: Enter the system's User Name (default: admin).
6. **Password**: Enter the password.

2.1. Tap **Register Mode** and select IP/Domain.
2.2. **Name**: Choose a name for your system of your choice.
2.3. **Address**: Enter the IP address or DDNS address of your device.
2.4. **Client Port**: Enter the Client Port (default: 35000).
2.5. **Username**: Enter the system's User Name (default: admin).
2.6. **Password**: Do one of the following, as appropriate:

- If you have reset the default system password through your recorder, enter your secure password.
  
  (Or)

- If you are accessing your system for the first time using the FLIR Cloud™ app:
  
  2.6.1. Enter the default system password (**000000**). You will be prompted to change the default system password.

  2.6.2. Enter a new **6 character password** for your system and tap **OK**. This secure password will be used to access your system from now on.

3. Tap **Connect**.

4. The app opens in Live View and streams video from your cameras.
Remote Viewing On Internet Explorer

You can also view your system remotely using Internet Explorer (version 8 or later required). In order to view your system on Internet Explorer over the Internet, you must set up DDNS and port forwarding.

**NOTE**
Remote viewing is only compatible with Internet Explorer. Mozilla Firefox, Opera, Safari, and other browsers are not supported.

17.1 Prerequisites

- The HTTP Port (default: 80) and Client Port (default: 35000) must be port forwarded to your router.
- You must create a DDNS account, and have the DDNS settings configured in your NVR. For details, 19 DDNS Setup (Advanced), page 180.
- The NVR must have internet access.

To view your system using Internet Explorer:

1. Open Internet Explorer. It is recommended to select Run as Administrator when opening Internet Explorer to ensure full functionality.
2. In the address bar, enter your system's IP address or DDNS address followed by the HTTP Port (default: 80). For example, http://192.168.1.1:80 or http://tomsmith.myddns-flir.com:80.

**NOTE**
You MUST include http:// in order to access your system.

3. An attention bar appears at the top or bottom of the screen to prompt you to install ActiveX plugins, click Install or Allow and follow the prompts to install the plugins.
4. Enter the system user name and password (by default admin / 000000).
5. Select LAN to connect using the main (high quality) stream. Select WAN to use the substream to conserve bandwidth and for improved performance when connecting over the Internet.
6. Click Login to log in.
7. Double click on cameras in the camera list to open them in live view.

17.1.1 IE Live Display Overview

NOTE

Some options are not available in WAN mode.

1. **Cameras**: Double-click cameras to open in live view.
Remote Viewing On Internet Explorer

2. **Camera Controls:**

   ![Camera Controls](image)

   1. **Digital zoom:** Click and drag to select the zoom area.
   2. **Manual record.**
   3. **Snapshot.**
   4. **Mute/unmute.**
   5. **Close.**

   **NOTE**
   Manual Recordings are saved to `C:\RecordDownload`. Snapshots are saved to `C:\PictureDownload`. You must select Run as Administrator when you open Internet Explorer to use these functions.

1. **Live View Controls:**
   - **Start Talk:** Click to enable 2-way audio.
   - **Instant Record:** Not supported.
   - **Local Play:** Open recorded or back up video files (.dav) saved on the local computer.

2. **Live View Toolbar:**

   ![Live View Toolbar](image)

   1. **Select image quality.**
   2. **Fluency/latency.**
   3. **Full-screen.**
   4. **Select display view.**

1. **PTZ Controls.**
2. **Color Settings:** Use the sliders to adjust the brightness, contrast, saturation, and hue for the selected camera.

17.1.2 **Using Search Mode in IE (Playback)**

You can access recorded video from your NVR using the Internet Explorer client.

**To access recorded video from your NVR:**

1. Click **Search**.
2. Perform the following to start playback:
Remote Viewing On Internet Explorer

2.1. Select the date you would like to playback.
2.2. Select the channel or channels you would like to playback from. The time bar will populate with times that have video available.
2.3. Click in side the time bar to start playback.
RTSP streaming allows you to stream video from a specific camera using a web address. It is an optional connectivity method used by 3rd party software applications.

**NOTE**

The instructions in this section are using VLC Media Player. VLC Media Player is a free software provided at [www.videolan.org](http://www.videolan.org). Lorex cannot provide support for VLC Media Player or any other 3rd party software. Please contact the software vendor for technical support related to 3rd party software applications.

To connect to the video stream using VLC Media Player:

1. Open VLC Media Player.
2. Click **Media>Open Network Stream**.

![VLC Media Player](image)
3. Enter the RTSP address in the following format:
   - rtsp://<username>:<password>@<IP address>:<port>/cam/realmonitor?channel=<channelNo>&subtype=<typeNo>
   - <username>: The user name of the system (default: admin).
   - <password>: The password for the system (default: 000000).
   - <IP address>: The IP address of the system.

   **NOTE**
   In order to view the RTSP stream over the Internet, you must port forward the RTSP port (default: 554) on your router to the system’s IP address.

   - <Port>: The RTSP port (default: 554) of the system.
   - <channelNo>: The number of the channel you would like to stream from.
   - <typeNo>: Enter 1 for the Sub Stream of the camera or 0 for the Main Stream. It is recommended to use the Sub Stream if connecting over the Internet.

The example below shows the correct format to connect to the Sub Stream on channel 1.

4. Click **Play**. The video stream will open in VLC Media Player.

If it does not connect, check the following:
- Check that the syntax on the RTSP address is correct.
- Make sure the system is connected to the network.
- If connecting over the Internet, make sure to use the remote IP address of the system and that the RTSP port is open.
Free DDNS service is available as an optional connectivity method to connect to your system over the Internet.

DDNS Service is not required to connect to your system, since the system supports FLIR Cloud™. For details on setting up your system using FLIR Cloud™, see 14 Connecting to Your System Over the Internet on PC or Mac, page 96.

### 19.1 Accessing your System within a Local Network (LAN)

You can connect to your system through using the Client Software through the local area network (LAN). It is recommended to confirm connectivity over a local network before setting up your system for DDNS connectivity.

#### 19.1.1 Step 1 of 3: Connect your System to Your Router

1. Power off your system by disconnecting the power adapter.
2. Connect an Ethernet cable (included) to the **LAN** port on the rear panel of the system. Connect the other end of the Ethernet cable to an empty LAN port (usually numbered 1~4) on your router.
3. Reconnect the power adapter to power the system back on.

19.1.2 Step 2 of 3: Obtain the System’s Local IP Address

1. Right-click to open the Quick Menu and click **Info**. Enter the system user name (default: **admin**) and password (default: **000000**).

2. Write down the **IP Address** of the system.
   - A local IP looks something like this: 192.168.5.118.

19.1.3 Step 3 of 3: Connect to the System’s Local IP Address

Follow the steps below to confirm connectivity over a local network on a PC or Mac.

To connect using the system’s local IP address:
1. Download and install the client software. To find the client software visit www.lorextechnology.com, search for the model number of your product, click on your product in the search results, and click on the Downloads tab.
   - **PC Users**: Download and install the Client Software for PC.
   - **Mac Users**: Download and install the Client Software for Mac. Double click to extract the software. Drag the software to Applications.

2. Once installation is finished, double-click the FLIR Cloud™ Client icon (ၔ) from the desktop or Applications list.

3. Log into the Client Software using the Client Software user name (default: admin) and password (default: admin) and then click Login.
4. The client scans your LAN for connected systems. Check your system (a) and click **Add** (b).

5. Enter the password for your system (default: **000000**) and click **OK**.

6. If this is the first time you are connecting, you will be prompted to change the system password.
7. Enter a new 6 character password and click **OK**. This password will be used to connect to your system from now on.

![Password Update]

8. Click **Play** then **Stop**.

9. Click and drag **Default Group** to the display window to open your cameras in live view.

![Display Window]
19.2 DDNS Setup—Access your System Remotely over the Internet

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

To set up remote connectivity with your system, you must:

1. Port forward the HTTP port (default: 80) and Client port (default: 35000) on your router to your system’s IP address.
2. Create a DDNS account.
3. Enable DDNS on the system.
4. Test the remote connection by entering your DDNS address in the client software.

19.2.1 Step 1 of 4: Port Forwarding

You must port forward the HTTP port (default: 80) and Client port (default: 35000) on your router to your system’s IP address before you can remotely connect to your system. There are several methods to port forward your router:

- Use the Auto Port Forwarding Wizard (PC only) to port forward the required ports (see www.lorextechnology.com for details). For instructions, see the Auto Port Forward Wizard manual on www.lorextechnology.com.
- Manually port forward the required ports on your router to your system’s IP address by following your router manufacturer’s instructions. For more information on port forwarding, see the reference guides on www.lorextechnology.com.

NOTE

If the above ports are not forwarded on your router, you will not be able to access your system remotely.
19.2.2 Step 2 of 4: Create a DDNS Account

Lorex offers a free DDNS service for use with your system. A DDNS account allows you to set up a web site address that points back to your local network. This allows you to connect to your system remotely. You must create a DDNS account in the same network as your system.

To setup your free Lorex DDNS account:

1. In your browser, go to [http://ddns.myddns-flir.com](http://ddns.myddns-flir.com) and click **Step 1**.

2. The My Lorex account login screen opens (if you are already logged in, skip to step 4). Create a new account or log into an existing account. To create a new account, fill in the required fields on the right and click **Create Account**.
3. Click **Warranties** to register your product for warranty.

![Warranties screenshot](image)

**NOTE**
Warranty registration is required to register for DDNS.

4. The Warranty page opens. Click **Activate Warranty** to register your product for warranty.

5. Under **Your Address**, select an address or click **Enter a New Address** to create a new address. Fill in your address information and click **Create Address**.
6. Fill in the warranty registration form with your product and purchase details. Check the sticker underneath your system for the Product Model Number and Serial Number. You can also upload a scan, photo, or electronic copy of your receipt or bill of sale. Click **Save Warranty**.

![Activate Warranty form](image)
7. A page pops up to prompt you to register your product for Lorex DDNS. Click **Set Up a New DDNS**.

8. Configure the following:

8.1. **Product Warranty**: Select the product warranty you created in the previous steps.

8.2. **Device Name**: Enter a name for your device. You can enter your name, business name, or anything of your choice. This is used to identify this device in your list of activated DDNS accounts that appears anytime you visit the DDNS page.
8.3. **MAC Address**: Enter the MAC address of your Lorex product. To find the MAC address:

- Right-click to open the Quick Menu and click **Info**. Enter the system username (default: *admin*) and password (default: *000000*).

8.4. **URL Request**: Enter the web site address that will be used to connect to your Lorex product. For example, if you enter *tomsmith*, the address to access your video will be *tomsmith.myddns-flir.com*.

9. Click **Save** to register your product for DDNS. A confirmation email will be sent to the email address used to register for My Lorex. **You will need this information to enable remote access to your system.** Record your information below:

<table>
<thead>
<tr>
<th>Domain name/URL Request:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DDNS User Name:</td>
<td></td>
</tr>
<tr>
<td>Device DDNS password:</td>
<td></td>
</tr>
</tbody>
</table>

19.2.3 **Step 2 of 4: Create a DDNS Account**

To setup your free Lorex DDNS account:

1. In your browser, go to [http://ddns.myddns-flir.com](http://ddns.myddns-flir.com) and click **Create Account**.
2. Complete the **Account Information** fields with your personal information. Complete the **Warranty Information** with your purchase details (optional).
3. Complete the System Information fields:
   - **Product License**: Select your product model from the Product License drop down menu (i.e. NR810 Series).
   - **<Product Code> - <MAC Address>**: Enter the MAC address of your system.
     - To find the MAC address, right-click to open the Quick Menu and click *Info*.
   - **URL Request**: Choose a URL for your DDNS connection (i.e. your name, your company or business name, or anything of your choice).

4. Click *Create New Account*.

5. Your account information will be sent to you at the email Address you used in Step 2. You will need this information for remote access to your system. Record your information below:

<table>
<thead>
<tr>
<th>Domain name/URL Request:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DDNS User Name:</td>
<td></td>
</tr>
<tr>
<td>Device DDNS password:</td>
<td></td>
</tr>
</tbody>
</table>

19.2.4  **Step 3 of 4: Enable DDNS on the System**

**To enable DDNS in your System:**

1. Right-click and click *Main Menu*. Enter the system password if prompted.
2. Click and then click **Network > DDNS**.

![DDNS Setup Screen](image)

3. Check **Enable**.
4. Under **Domain Name**, enter the Domain Name/URL Request you received in the email after registering for DDNS.
5. Under **User ID**, enter your DDNS User Name.
6. Under **Password**, enter your DDNS Device password.
7. Click **OK** to save your settings.

**NOTE**
Please allow 10–15 minutes for the DDNS servers to update with your new DDNS address before attempting to connect.

**19.2.5 Step 4 of 4: Connect to the System’s DDNS Address**

**NOTE**
Please allow 10–15 minutes for the DDNS servers to update with your new DDNS address before attempting to connect.

To connect using the system’s DDNS address:

1. Download and install the client software on a remote computer. To find the client software visit [www.lorextechnology.com](http://www.lorextechnology.com), search for the model number of your product, click on your product in the search results, and click on the **Downloads** tab.
   - **PC Users**: Download and install the **Client Software for PC**.
   - **Mac Users**: Download and install the **Client Software for Mac**. Double click to extract the software. Drag the software to **Applications**.
2. Once installation is finished, double-click the FLIR Cloud™ Client icon (Desktop) from the desktop.

3. Log into the Client Software using the Client Software user name (default: admin) and password (default: admin) and then click Login.

4. Click Add Device.

5. Enter the following:
5.1. Check **By IP/Domain** to add a system using the DDNS address.

5.2. **Device Name**: Choose a name for your system of your choice.

5.3. **IP/DDNS Address**: Enter the Domain Name/URL Request you received in the email when you registered for DDNS followed by `.myddns-flir.com`.

5.4. **Client Port**: Enter the Client Port (default: 35000).

5.5. **User Name**: Enter the system User Name (default: admin).

5.6. **Password**: Enter the system Password (default: 000000).
6. Click **Add**. If this is the first time you are connecting, you will be prompted to change the system password.

![Password Change Warning]

7. Enter a new 6 character password and click **OK**. This password will be used to connect to your system from now on.

![Password Update]

8. Click **Add** then **OK**.
9. Click and drag **Default Group** to the display window to open your cameras in live view.

**Congratulations!** You can now connect over the Internet to view and playback video on your computer.
You can connect PTZ cameras (not included) to the system. You must use Lorex network PTZ cameras with the system. Lorex network PTZ cameras can accept PTZ commands directly through the Ethernet cable. There is no need to run special wiring to use PTZ cameras.

20.1 Controlling a PTZ Camera (Local NVR)
1. In Live View, click the channel that has the PTZ camera connected to open in full-screen.
2. Right-click and click PTZ. Enter the system user name and password if prompted. The PTZ menu opens.
3. Use the on-screen PTZ controls to control the camera.

PTZ Controls

1. **Direction keys**: Click to pan and tilt the camera. Click SIT to stop the current action.
2. **Mouse PTZ**: Click to activate mouse PTZ mode. In mouse PTZ mode:
   - Click and drag to move the camera.
   - Use the scroll wheel to zoom in and out.
   - Right-click to exit and return to normal PTZ controls.
3. **Zoom/Focus/Iris**: Click +/- to adjust the zoom, focus, and iris.
4. **Advanced controls**: Click to open advanced PTZ controls.
5. **Speed**: Enter the PTZ speed.

20.2 Advanced PTZ Controls
Advanced PTZ controls can be used to save camera positions and cycle through various positions, and automate camera actions.

To open advanced PTZ controls:
- Click the arrow in the PTZ control window to open advanced controls.
Connecting PTZ Cameras to the NVR

Advanced PTZ controls overview:

1. **No.**: Select the number of the action you want to perform.
2. **Not supported**.
3. **PTZ camera menu**: Click to open the camera’s OSD menu. This may not be supported on all camera models.
4. **Preset**: Click to call the selected preset.
5. **Autopan**: Click to start autopan. During autopan, the camera will continuously pan 360°.
6. **Tour**: Click to run the selected tour.
7. **Flip**: Click to flip the camera 180°.
8. **Pattern**: Click to run the selected pattern.
9. **Reset**: Click to move the camera to the home position.
10. **Auto scan**: Click to run the selected autoscan.
11. : Click to open the PAN/TILT/ZOOM menu, where you can set up Presets, Tours, Patterns, and Auto Scans.

### 20.2.1 Presets

Presets will save a camera position for quick retrieval.

**To add presets:**

1. Click to open the PAN/TILT/ZOOM menu.
2. Click the **Preset** tab.

3. Enter the number of the preset you want to create under **Preset**.
4. Move the camera to the desired position and click **Set**.

**To go to a preset:**

- Under **No.**, select the number of the preset you would like to go to and click **Set**.

20.2.2 **Tours**

Tours will cycle through a set of presets.

**To create a tour:**

1. Click **Pan/Tilt/Zoom** to open the **PAN/TILT/ZOOM** menu.
2. Click the **Tour** tab.

![PAN/tilt/zoom menu](image)

3. Under **Preset No.**, select the tour you would like to configure.
4. Under **Preset**, select a preset you would like to add to the tour.
5. Click **Add Preset**.
6. Repeat steps 4 and 5 to add additional presets to the tour.

**NOTE**

Click **Del Tour** to clear all presets from a tour.

---

**To run a tour:**

- Under **No.**, select the number of the tour you would like to go to and click 🔄.

**20.2.3 Pattern**

Patterns automatically cycle the camera between two positions.

**To create a pattern:**

1. Click 🔄 to open the **PAN/tilt/zoom** menu.
2. Click the **Pattern** tab.

3. Under **Pattern**, enter the pattern you would like to configure.

4. Move the camera into the desired start position and click **Begin**.

5. Move the camera into the desired end position and click **End**.

   **To run a pattern:**

   - Under **No.**, select the number of the pattern you would like to go to and click.

   **20.2.4 Auto Scan**

   An auto scan automatically cycles between a left and right point.

   **To create a new auto scan:**

   1. Click to open the **PAN/ TILT/ZOOM** menu.
2. Click the **Border** tab.

3. Move the camera into the desired left position and click **Left**.
4. Move the camera into the desired right position and click **Right**.

**To run an auto scan:**

- Click 📈
The system comes with a pre-installed SATA hard drive. You can replace the hard drive with one up to a maximum size of 8TB.

**NOTE**

NVR images in this section are used for illustration only.

### 21.1 Removing the Hard Drive

**WARNING**

Make sure that the power cable has been disconnected from the NVR before removing / installing the hard drive.

1. Power off the system, and unplug all cabling from the system.
2. Turn the NVR over and remove the cover screws (4x).
3. Loosen the hard drive screws (4x), but do not remove them.
4. Carefully turn the NVR over and remove the cover. The easiest way to do this is to pull up on the edge that hangs over the rear panel of the unit.

5. Disconnect the power and data cables from the hard drive.

6. Slide the hard drive towards the front of the NVR and remove it from the unit.

7. If you are not planning to replace the hard drive immediately, reattach the cover and cover screws (4x). For full instructions on installing a hard drive, see 21.2 Installing a Hard Drive, page 205

21.2 Installing a Hard Drive

WARNING
Make sure that the power cable has been disconnected from the NVR before removing / installing the hard drive.

Prerequisites:
- There must be no hard drive currently installed in your NVR before using the steps below. For full instructions on removing hard drives, see 21.1 Removing the Hard Drive, page 204.
To install the hard drive:

1. Insert hard drive screws (4x) on the hard drive and tighten them half way.

2. Power off the system, and unplug all cabling from the system.
3. Turn the NVR over and remove the cover screws (4x).

4. Turn the NVR back over and remove the cover. The easiest way to do this is to pull up on the edge that hangs over the rear panel of the unit.
5. Place the hard drive over the screw slots on the bottom of the NVR and then slide the hard drive into place. The SATA connectors on the hard drive should face the front of the unit.

6. Connect the power and data cables to the hard drive.

7. Turn the NVR over carefully. Tighten the hard drive screws (4x) to secure the hard drive.

8. Replace the cover and cover screws (4x).

<table>
<thead>
<tr>
<th>CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hold the hard drive in place when turning the NVR over to prevent damage to the NVR.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>You must format any newly-installed hard drive in order for it to function properly with the system. For full instructions on formatting the hard drive, see 13.3.18 Formatting the Hard Drive, page 85.</td>
</tr>
</tbody>
</table>

21.3 Formatting Hard Drives

Formatting the hard drive deletes all saved files from the hard drive. It is recommended to format any newly-installed hard drives before recording.

To format the hard drive:
1. From the **Main Menu**, click and then click **Storage > HDD Manager**.

![HDD Manager Screen](image)

2. Select the hard drive you would like to format and then click **Format**. Click **OK** to confirm.

3. Click **OK** to save changes. The system will restart to complete the formatting process.

<table>
<thead>
<tr>
<th>CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formatting the hard drive deletes all saved files. <strong>This step cannot be undone.</strong></td>
</tr>
</tbody>
</table>
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:

<table>
<thead>
<tr>
<th>Error</th>
<th>Possible Causes</th>
<th>Solutions</th>
</tr>
</thead>
</table>
| • 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 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 drive is not detected by the system. | Hard drive cables are loose or not properly connected. | Remove the housing and check that hard drive cables are firmly connected. |
| | There is no hard drive in the system. | Open the housing and install compatible hard drive. Make sure to format the drive after installing. For details, see 21 Hard Drive Installation, page 204. |
| • Hard drive is full (0%) and the unit is no longer recording. | Overwrite is not enabled. | From the Main Menu, select > Setting > General > General. Select Overwrite under HDD Full and click OK. |
| • There is no picture on monitor/TV after connecting it to the NVR. | Monitor/TV not detected by NVR. | Power off the monitor/TV and the NVR. Power on the monitor/TV, and then power on the NVR. |
| | Input channel for NVR not selected on monitor/TV. | Ensure that the monitor/TV is set to the input channel that the NVR is connected to. |
| | Video cable is loose or has become disconnected. | Check the video cable connection to the NVR and the monitor/TV. |
| • Mouse not detected by system. | Mouse cable is not firmly connected to the system, or the mouse is not connected to the system. | Firmly connect the mouse cable to one of the USB ports. |
| | System needs to be reset | Power off the system (disconnect power cable). Firmly connect a USB mouse to one of the USB ports. Reconnect the power cable. |
## Troubleshooting

<table>
<thead>
<tr>
<th>Error</th>
<th>Possible Causes</th>
<th>Solutions</th>
</tr>
</thead>
</table>
| • 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. |
| • 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.                  | Open the Main Menu and click > Event > Motion > Motion Detect. Uncheck Buzzer for any channels you want to disable the buzzer for and click Apply. |
| • I am not receiving email notifications.                            | Email notification is disabled.                                                | Ensure you have configured email notification. For details, see 13.3.5 Configuring Email Alerts, page 70. |
|                                                                                                                                  | **Send Email** setting not enabled in **Event** menu.                         | Make sure that Send Email is enabled for any events you want to be notified of. |
# Technical Specifications

## 23.1 System

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Linux (embedded)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentaplex</td>
<td>Simultaneous View, Record, Playback, Backup, and Remote Monitoring</td>
</tr>
<tr>
<td>Number of Channels</td>
<td>4/8 Channels</td>
</tr>
</tbody>
</table>

## 23.2 Inputs/Outputs

| Video IN               | 4 ch: 4 PoE Video Input          |
|                        | 8 ch: 8 PoE Video Input          |
| Video OUT              | No                                |
| VGA OUT                | Yes                               |
| HDMI                   | Yes                               |
| Audio IN               | 1 Line IN (RCA), G.711            |
| Audio OUT              | 1 Line OUT (RCA), G.711           |
| USB Port               | 2 at the back                     |
| Alarm IN / OUT         | No                                |
| Video Output Resolution| 4K (3840x2160), 4MP, 1080p (1920x1080), 1280x1024, 1280x720, 1024x768 |
| PTZ Control            | Lorex Network PTZ cameras only    |

## 23.3 Display

| Display Split          | 4 ch: 1/4                         |
|                        | 8 ch: 1/4/8/9                     |
| Live Display Speed     | 4 ch: 120fps NTSC, 100fps PAL     |
|                        | 8 ch: 240fps NTSC, 200fps PAL     |
| OSD                    | ON/OFF                            |
| System Navigation      | USB mouse                         |
| Motion Area Setting    | Fixed grid 396 (22x18)            |
| Sensitivity Levels     | 100                               |
| Firmware Upgrade       | Automatic over the Internet & via USB device |
| User Authority         | By user group                      |
| Time Synchronization   | Auto time sync by NTP server      |

## 23.4 Recording

| Video Compression      | H.265 / H.264                     |
| Audio Compression      | G.711                             |
| Resolution             | 8MP (4K) – 720p                    |
| Record Rate            | 4 ch: 140fps@720p/1080p/3MP/4MP/8MP(4K) |
|                        | 8 ch: 240fps@720p/1080p/3MP/4MP/8MP(4K) |
| Recording Quality Control | 6 levels                        |
| Recording Schedule     | By hour, by day, by recording mode, by motion, by channel |
### Technical Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Recording</td>
<td>Max. 4 seconds</td>
</tr>
<tr>
<td>Post Recording</td>
<td>Max. 10 minutes</td>
</tr>
<tr>
<td>Reliability</td>
<td>Watch-Dog, auto-recovery after power failure</td>
</tr>
<tr>
<td>Covert Video</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### 23.5  Playback and Backup

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Playback Channel</td>
<td>1/4</td>
</tr>
<tr>
<td>Playback Speed Variable</td>
<td>Variable Max 16x</td>
</tr>
<tr>
<td>Playback Players</td>
<td>Backup Player</td>
</tr>
<tr>
<td>Search</td>
<td>By time/date, motion detection &amp; exact search (accurate to the second)</td>
</tr>
<tr>
<td>Log Search</td>
<td>Up to 1,000 lines for system configuration changes, motion detected, account, recording and storage</td>
</tr>
<tr>
<td>Audio Play</td>
<td>Yes (audio camera required)</td>
</tr>
</tbody>
</table>

#### 23.6  Storage & Archive

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage</td>
<td>4/8 ch: Up to 1 HDD (SATA)</td>
</tr>
<tr>
<td>Maximum Capacity</td>
<td>4/8 ch: Up to 1 x 8TB</td>
</tr>
<tr>
<td>Backup Media</td>
<td>USB flash drive, HDD, and network</td>
</tr>
<tr>
<td>Backup File Format</td>
<td>DAV, ASF, H.265, H.264, or MP4 file</td>
</tr>
</tbody>
</table>

#### 23.7  Connectivity

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloud Connection</td>
<td>FLIR Cloud™</td>
</tr>
<tr>
<td>Supported Operating Systems</td>
<td>Windows™, Mac OSX</td>
</tr>
<tr>
<td>Remote Software</td>
<td>Client Software (PC/Mac)</td>
</tr>
<tr>
<td>Email Notification</td>
<td>Text with snapshot</td>
</tr>
<tr>
<td>Instant Smart Phone &amp; Tablet Support</td>
<td>iPad®, iPhone®, Android™</td>
</tr>
<tr>
<td>DDNS</td>
<td>Free FLIR DDNS</td>
</tr>
<tr>
<td>System Configuration</td>
<td>Full setup configuration over network</td>
</tr>
<tr>
<td>Ports</td>
<td>Programmable by user</td>
</tr>
<tr>
<td>Network Protocol</td>
<td>HTTP, IPv4/IPv6, TCP/IP, UPNP, RTSP, UDP, SMTP, NTP, DHCP, DNS, PPPOE, DDNS, FTP, IP Filter</td>
</tr>
<tr>
<td>Network Interface</td>
<td>10/100–Base-TX, RJ-45</td>
</tr>
</tbody>
</table>

#### 23.8  General

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Consumption</td>
<td>4 ch: Approx. 10 watts (No HDD Installed)</td>
</tr>
<tr>
<td></td>
<td>8 ch: Approx. 12 watts (No HDD Installed)</td>
</tr>
<tr>
<td>Total PoE Power Output</td>
<td>4 ch: 50W (Max 25W per Camera)</td>
</tr>
<tr>
<td></td>
<td>8 ch: 120W (Max 25W per Camera)</td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>4 ch: 100VAC-240VAC, 48V DC, 1.5A, 50/60Hz</td>
</tr>
<tr>
<td></td>
<td>8 ch: 100VAC-240VAC, 48V DC, 2A, 50/60Hz</td>
</tr>
</tbody>
</table>
### Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>4 ch</th>
<th>8ch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Weight (lbs / kg)</td>
<td>1.1lbs / 0.5kg (without HDD)</td>
<td>1.5lbs / 0.7kg (without HDD)</td>
</tr>
<tr>
<td>Unit Dimensions (W x H x D)</td>
<td>8.1” x 1.8” x 8.1” (205mm x 45mm x 205mm)</td>
<td>10.6” x 1.8” x 8.1” (270mm x 45mm x 205mm)</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>14° – 131°F / –10° – 55°C</td>
<td></td>
</tr>
<tr>
<td>Humidity</td>
<td>10 – 90% NC</td>
<td></td>
</tr>
</tbody>
</table>

As our products are subject to continuous improvement, Lorex, Inc. and its subsidiaries reserve the right to modify product design, specifications, and prices without notice and without incurring any obligation. E&OE
This equipment 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 unit, electrical shock and fire hazard injury.

In order to improve the feature functions and quality of this product, the specifications are subject to change without notice from time to time.

24.1 FCC Class A Notice

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

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