

Instruction Manual LH050 Series



Instruction Manual LH050 Series

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

This manual refers to the following models:

LH0504 (4-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.

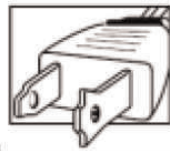


CAUTION

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



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

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

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



15. **Camera Extension Cables:** Check the rating of your extension cable(s) to verify compliance with your local authority regulations prior to installation.
16. **Mounting:** The cameras provided with this system should be mounted only as instructed in this guide or the instructions that came with your cameras, using the provided mounting brackets.

17. **Camera Installation:** Cameras are not intended for submersion in water. Not all cameras can be installed outdoors. Check your camera environmental rating to confirm if they can be installed outdoors. When installing cameras outdoors, installation in a sheltered area is required.

1.3 Service

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

1.4 Use

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

Getting Started (LH050 Series)

The system comes with the following components:



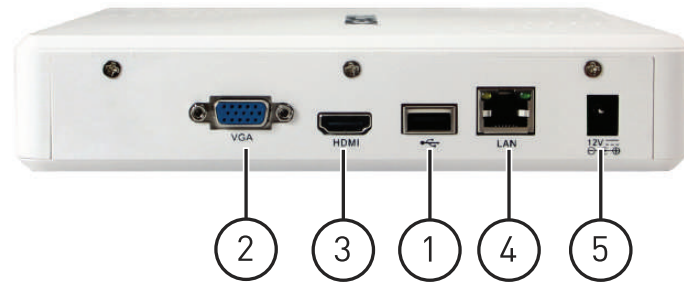
Hard drive size, number of channels, and camera configuration may vary by model. Please refer to your package for specific details. Check your package to confirm that you have received the complete system, including all components shown above.

3 Front Panel (LH050 Series)



1. **PWR LED:** Power indicator LED.
2. **HDD LED:** Hard disk activity LED.
3. **USB Port:** Connect a USB mouse (included) or USB flash drive (not included) for data backup or firmware updates.
4. **IR Sensor:** IR receiver for the remote control.
5. **DVR Docking Stand:** Holds the DVR in vertical position. For details on attaching or removing the docking stand, see 5 *Basic Setup (LH050 Series)*, page 7.

Rear Panel (LH050 Series)



1. **USB:** Connect the wireless receiver (included).
2. **VGA:** Connect a VGA monitor (not included) to view the system interface.
3. **HDMI:** Connect to an HDMI monitor or TV (not included) to view the system interface.
4. **LAN:** Connect a CAT 5 RJ45 Ethernet cable (included) for local and remote connectivity.
5. **DC12V:** Connect the included AC power adapter.

5.1 Step 1: Connect the DVR Docking Stand (OPTIONAL)

The DVR can be positioned in an upright, vertical position using the included docking stand, or laid horizontally.

- For vertical orientation, position the DVR over the docking stand. Push down on the DVR until you hear a “click”.
- To remove the DVR from the docking stand, hold the docking stand down firmly on a flat surface and pull the DVR up.



5.2 Step 2: Connect Wireless Cameras to the DVR



1. Connect the wireless camera cable to the included power adapter, then connect to a local power outlet or surge protector.
2. Connect the wireless receiver to the rear **USB** port.



NOTE

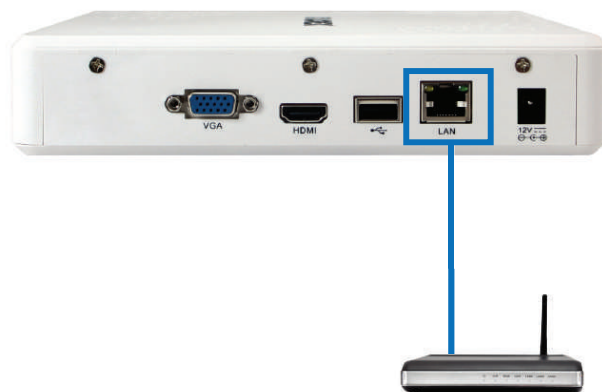
- If you have purchased additional compatible wireless cameras (sold separately), see 8 *Pairing Cameras*, page 15 for instructions on pairing the cameras with the receiver.
- A maximum of 4 wireless cameras can be installed per system.

5.3 Step 3: Connect the Mouse



- Connect a USB mouse (included) to the front **USB** port.

5.4 Step 4: Connect the Ethernet cable



- Connect an Ethernet cable (included) to the **LAN** port on the rear panel of the DVR. Connect the other end of the Ethernet cable to a router on your network.

5.5 Step 5: Connect the Monitor



- Connect the included HDMI cable from the **HDMI** port to the TV or monitor (recommended) **OR**;
- Connect a VGA cable (not included) from the **VGA** port to the monitor.

5.6 Step 6: Connect the Power Adapter and Turn On the DVR



- Connect the included power adapter to the **DC 12V** port. Connect the end of the power adapter to a wall socket or a surge protector.

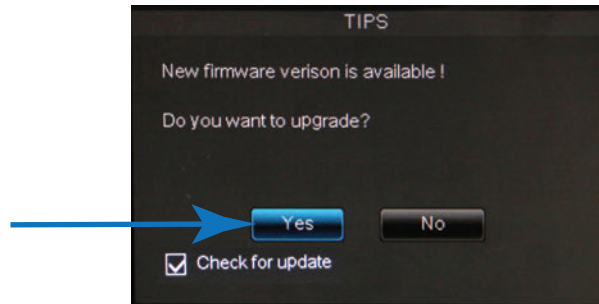
At startup, the system performs a basic system check and runs an initial loading sequence. After a few moments, the system loads a live display view.

5.7 Step 8: Upgrade Firmware to Latest Version (if Available)

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

If a firmware upgrade is available:

1. After startup, a notification will appear asking you to upgrade the firmware. Click **Yes** to upgrade.



2. Enter the system user name (default: **admin**) and password (default: **000000**) and click **Apply**. Wait for the firmware update to complete. The system will restart once the firmware has been upgraded.

**WARNING**

DO NOT POWER OFF THE DVR OR DISCONNECT THE POWER CABLE DURING FIRMWARE INSTALLATION

5.8 Step 9: 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.

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.

**NOTE**

- If you have purchased additional compatible wireless cameras (sold separately), see *8 Pairing Cameras*, page 15 for instructions on pairing the cameras with the receiver.
- A maximum of 4 wireless cameras can be installed per system.

5.9 Step 10: 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 10 *Setting the Date and Time*, page 18.

5.10 Default System Password & Port Numbers



CAUTION

By default, the system user name is **admin** and the password is **000000**. It is essential that you create your own password. For details, see 14 *Managing Passwords*, page 32.

The system requires a user name and password to log in to the system remotely using a computer or mobile device. After logging on remotely the first time, you will be asked to create a custom password for the system.

Local DVR and remote connectivity (LAN & Internet) user name and password:

- Username: **admin**
- Password: **000000**

Default ports for DDNS remote access:

- Port **80** (HTTP port)
- Port **9000** (Client port)

5.10.1 Remote Connectivity

This system features remote connectivity, allowing you to view security video from anywhere in the world using our exclusive apps for smartphones, tablets and computers. Our cloud service allows you to connect to your system over the Internet via a secure handshake with our servers. This means you can easily connect to your system without requiring any network configuration.

For details on setting up your system to connect to the Internet:

- See 16 *Connecting to Your DVR Over the Internet on PC or Mac*, page 64.
- OR
- See 18 *Mobile Apps : Accessing your DVR Using a Mobile Device*, page 88.

Connectivity using Lorex's free DDNS service is also available, but requires the ports listed above to be port forwarded on your router.

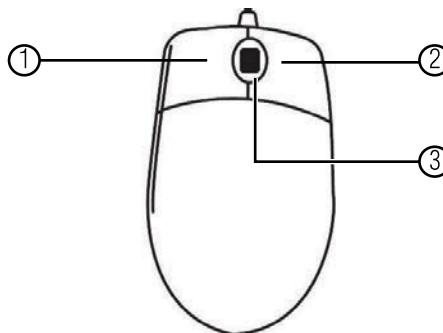
5.11 Quick Access to System Information

To quickly open a window that displays vital system information:

- Press the  button on the remote control to open the System Information window.
- OR
- Right-click and then click the **Main Menu button** (). Login using the DVR user name and password (the default user name is **admin**, and the default password is **000000**). Then click **System>Info**.

The DVR is designed for mouse navigation. To use a USB mouse (included), connect the mouse to a **USB** port on the DVR.

Use the mouse buttons to perform the following:



1. Left-Button:

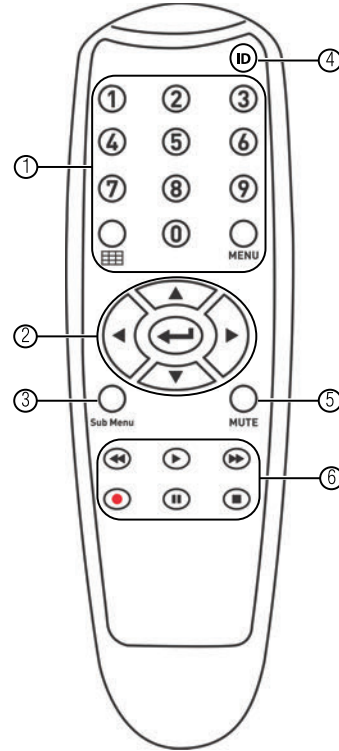
- Click to select a menu option.
- During live viewing in Split-screen View, double-click on a channel to view the selected channel in full-screen; double-click the channel again to return to Split-screen View.

2. Right-Button:

- Click to open the Menu Bar (see 9.1 *Using the Menu Bar*, page 16).
- In menus, use the right-button to go back / exit menus.

3. Scroll-Wheel: No function.

You can also control the DVR using the included remote control.



1. **Number Keys (1~0):** Press to select the desired channel in Full-screen View.
 - : In Live Viewing Mode, press to open Split-screen View. Press repeatedly to switch between split-screen viewing modes.
 - **MENU:** Press to open the Main Menu. In menus, press to go back / exit menus.
 - **0:** Press **0** three times to show the mouse cursor on the BNC monitor or the monitor connected with VGA/HDMI.
2. **Navigation Cursors:** Press to navigate menus.
 - : Press to select menu items. In Live Viewing Mode, press to access System Information.
3. **SUB MENU:** Press to open the Menu Bar.
4. **ID:** Used to pair the remote control to a specific DVR. For details, see 15.7.6 *Setting the Remote Control ID*, page 55.
5. **MUTE:** Press to mute/un-mute audio during Live Viewing and Playback Mode. Audio-capable cameras (not included) are required for audio recording and listen-in audio functionality.

6. Playback Controls:

-  : In Playback Mode, press to fast forward/increase fast forward speed.
-  : In Playback Mode, press to rewind/increase rewind speed.
-  : In Live Viewing Mode, press to open the Search Menu to select video for playback.
In Playback Mode, press to play video.
-  : In Live Viewing Mode, press to start Sequence Mode.
In Playback Mode, press to pause video. Press repeatedly to step through video frames.
-  : Press to stop recording. Password required; does not override scheduled recording.
-  : Record: Press to resume recording after recording has been stopped. Password required.



NOTE

When using the remote control to enter password and camera titles, select the field using the navigation buttons, press  , and then press the number buttons.

If you bought a bundle system, the cameras and the receiver have already been paired out of the box, which means that they are exclusively communicating with each other. If you have purchased add-on cameras, or if for some reason the pairing is lost, follow the steps below to pair the cameras and receiver.

Prerequisites

- Ensure your DVR is powered on and connected to a TV or monitor.

To pair the cameras to the receiver:

1. Make sure that the cameras and receiver are both powered up and all antennas are properly attached.
2. On the recorder's on-screen display, click the channel you want to pair the camera to. The camera toolbar appears.



NOTE

If you pair a new camera to a channel that is already being used by an existing camera, the new camera will be connected to that channel. The old camera will automatically be disconnected.

3. Click  and press the pair button on the camera to activate the pairing mode. This must be done within 30 seconds of clicking the  icon.

If pairing is successful, live video from the camera will appear on the monitor.



NOTE

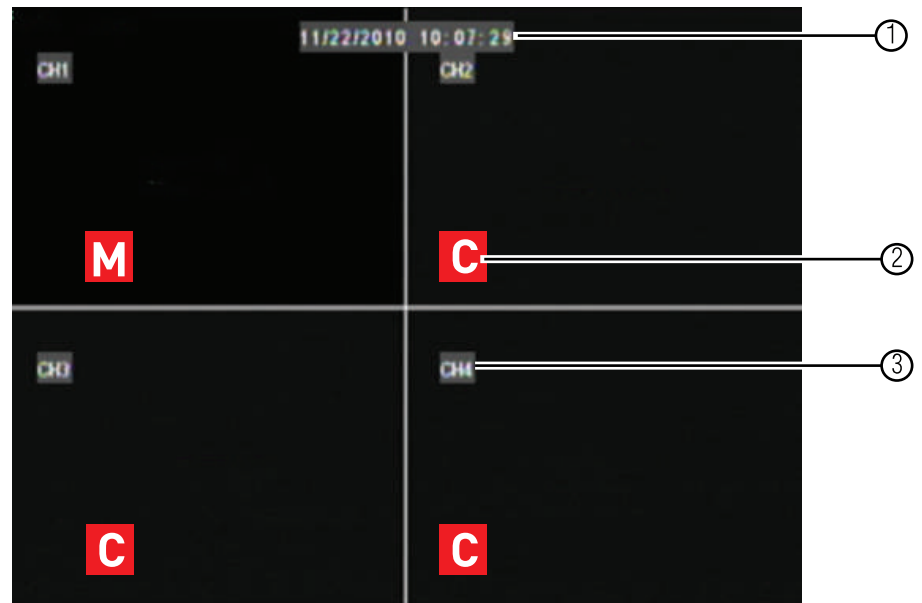
If you do not press the **Pair** button on the camera during the 30 second pairing window, repeat the above steps to try the pairing process again.

8.1 Troubleshooting

If for some reason the camera image does not appear on the monitor, try the following troubleshooting methods:

- Press and hold down the pair button on the camera until you see an image.
- Ensure that the camera is in range of the receiver.
- Remove obstructions between the receiver and camera.
- Avoid installing cameras in locations that require the wireless signal to pass through cement, concrete and metal structures. This will reduce the transmission range.
- Try repositioning the camera, receiver or both to improve the reception.

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



1. **Date & Time:** Displays the date and time on the system
2. **Record Status:** Displays the current recording status of the system: **C** = continuous (normal recording); **M** = motion recording.
3. **Channel Number:** Displays channel number.



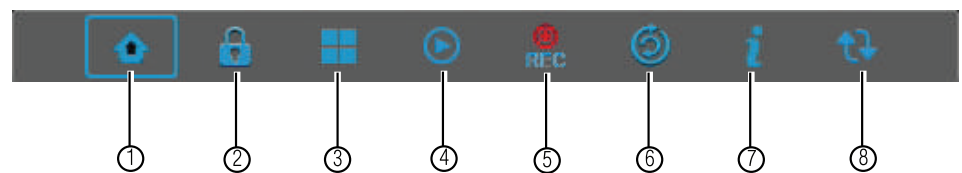
NOTE

If you can't see your mouse cursor on screen:

Press **0** on the remote control three times to switch the mouse and system interface between VGA/HDMI and BNC monitors.

9.1 Using the Menu Bar

The Menu Bar allows you to access the Main Menu and control basic functions of the DVR.



To access the Menu Bar:

- Right-click or move the mouse cursor to the bottom of the screen to access the Menu Bar.
 1. **Main Menu:** Opens the Main Menu.
 2. **Lock:** Click to log out if a user is currently logged in.
 3. **View 4:** Switches to the 4-channel split-screen mode.
 4. **Record Search:** Opens the DVR Search Menu. This allows you to search for video recorded on the DVR.

5. **Start/Stop Manual Recording:** Start or stop DVR recording on all channels. Password required; does not override scheduled recording.
6. **Start/Stop SEQ:** Start or stop Sequence Mode. In Sequence Mode, DVR automatically switches between channels every few seconds.
7. **System Information:** Displays system information.
8. **Auto Upgrade:** Checks if there is a DVR firmware update.

9.2 Using the Virtual Keyboard and Mini-Keyboard

You can input numeric or text values using the on-screen virtual keyboard. You will need to use the Virtual Keyboard when entering your User ID and Password. The Virtual Mini-Keyboard is used to input numeric values, such as the time and date.

To use the Virtual Keyboard:

1. Using the mouse, click on an option or field, such as the User ID and Password fields.
 - The Virtual Keyboard opens.



- Click **shift** to switch between upper and lowercase letters.
- Click  to move the cursor between letters.
- Click **Backspace** to backspace/delete.
- Click **enter** to enter your selection.
- Click **ESC** to close the virtual keyboard.

To use the Virtual Mini-Keyboard:

1. Using the Mouse, click on an option or field, such as the Time or Date fields.
 - The Virtual Mini-Keyboard opens.



- Click  to enter your selection.

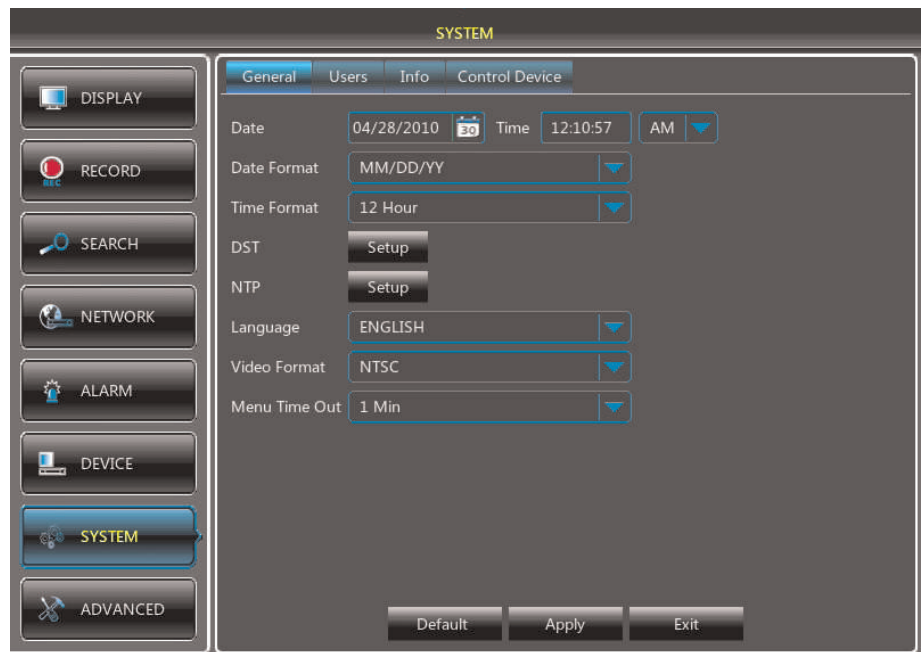


CAUTION

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

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

1. Right-click or move your mouse to the bottom of the screen to open the Menu Bar and click the Main Menu button ().
2. Enter the system user name (default: **admin**) and password (default: **000000**) and click **Apply**.
3. Click **System**.



4. Configure the following:
 - **Date:** Click  to display the on-screen calendar. Select the month, date, and year.
 - **Time:** Click inside the field and enter the time using the on-screen number pad.
 - **(Optional) DST:** Click the **Setup** button next to DST to configure automatic Daylight Savings Time adjustments.
 - **(Optional) NTP:** Click the **Setup** button next to NTP to synchronize your DVR's time and date with a Network Time Protocol (NTP) time server. Lorex provides a free NTP service that automatically updates your DVR's time for Daylight Savings Time.



NOTE

A constant internet connection is required for the NTP server feature to function.

5. Click **Apply** to save your settings.

10.1 Configuring Daylight Savings Time (DST)

If your region observes Daylight Savings Time (DST), follow the instructions below to configure your DVR to automatically update the time when the clock updates.

To enable automatic DST adjustments:

1. Click the **DST Setup** button.
2. Configure the following:

The screenshot shows the 'SYSTEM' menu with the following settings:

Setting	Value
DST	Disable
Time Offset	1 Hour
Daylight Saving Time	Week
Start Time	Mar. The 2nd Sun. 02:00:00
End Time	Nov. The 1st Sun. 02:00:00

Buttons at the bottom: Default, Apply, Exit.

- **DST:** Select **Enable**.
- **Time Offset:** Select the number of hours the system should move forward or backward when DST occurs.
- **Daylight Saving Time Mode:** Select **Week** or **Everyday**. This allows you to select whether DST should begin and end at the beginning of the week or on a specific date.
- **Start Time** and **End Time:** Enter when DST starts and ends.

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

10.2 Using a NTP Server to set your System Time

A NTP (Network Time Protocol) server syncs your system time with an online time server. Lorex provides a free NTP service that allows your DVR to automatically update the time for Daylight Savings Time.



NOTE

A constant Internet connection is required to use the NTP feature.

To enable NTP:

1. Right-click to open the Menu Bar and click the Main Menu button (,).

- Click **System**. Beside NTP, click **Setup**.



- Configure the following:
 - NTP**: Select **Enable**.
 - Server Address**: Select **ntp.lorexddns.net** (recommended) as the time server or select another time server.
 - Time Zone**: Select your region's time zone.
- Click **Update Now** to connect to the time server.
- Click **Apply** to save your settings.

By default, the system is set to immediately record video from connected cameras in Continuous Recording Mode.

-  **Recording—Continuous:** Normal, continuous recording.

You can set the system to stop recording once the hard drive is full, or to continually record by overwriting previously recorded data. For more details, see 15.6.1 *Formatting the Hard Drive*, page 50.

The system also includes motion recording:

-  **Recording—Motion:** The system records when motion is detected by the camera.

12 Playback

You can view and back up recorded video on the system through the Search Menu.

12.1 Playing Back Recorded Video

To playback a specific date and time:

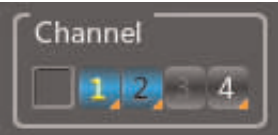
1. Right-click to open the Menu Bar and click the Record Search button ().
2. Enter the system user name (default: **admin**) and password (default: **000000**) and click **Apply**. The Record Search tab opens.
3. Configure the following:



- **Channel:** Select the channel you wish to search. Select **All** to search all channels.
 - **Type:** Select **All** to search for all recordings. Select **Continuous** to search for continuous recordings. Select **Motion** to search for recordings triggered by motion detection.
- Search Date:** Enter the month and year you wish to search for video.
4. Click **Search** to search for recordings based on the settings above.
 5. Use the calendar to select a date to play back recordings from. The selected date is highlighted in yellow.

S	M	T	W	T	F	S
26	27	28	29	30	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

6. Enter the desired **Start Time** and **End Time** for video playback
7. Select the channel or channels you want to play back. Selected channels are highlighted in blue.



8. Click **Play**.



NOTE

The DVR may reduce the frame rate of recorded video when playing back more than one channel. Playback one channel at a time for the maximum frame rate.

12.1.1 Using Playback Controls

This system features advanced playback controls that allow you to see when you have recorded footage and motion events on your cameras. They also allow you to use digital zoom in playback mode or take backups from short video clips.

Playback Controls



- 1. **Playback Bar:** Continuous recordings are shown in green. Motion recording is shown in yellow.
- 2. **Fullscreen Mode.**
- 3. **Rewind.**
- 4. **Slow.**
- 5. **Play.**
- 6. **Pause.**
- 7. **Stop.**
- 8. **Fast Forward.**
- 9. **Zoom.**
- 10. **Video Clip Backup.**
- 11. **Mute.**
- 12. **Volume Control.**
- 13. **Change Time Range:** Click one of the options to select the range of times shown in the Playback Bar.



NOTE

Click **X** (located in the top-right corner) or right-click to quit playback and return to the Search Menu.

12.1.2 Finding Events in the Playback Bar

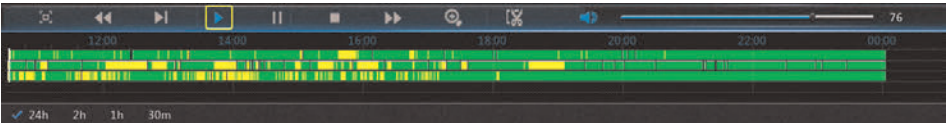
The advanced playback controls show the time and type of video footage available. Continuous recordings are shown in green. Motion recording is shown in yellow.



NOTE

Motion detection must be enabled for each channel before they will be highlighted, see 15.5 *Alarm*, page 49 for details.

When up to four channels are selected for playback, multiple channels are shown.



If more than four channels are selected, one bar is shown that combines all the selected channels. This means that video available on any selected channel will be shown in the bar.

12.1.3 Using Zoom in Playback Mode

You can use Zoom in Playback Mode. This is useful if you need a closer look at recorded video.



NOTE

Zoom is only available when a single channel is selected for playback.

To use zoom in Playback Mode:

1. Open Playback Mode with only one channel selected. For details, see 12.1 *Playing Back Recorded Video*, page 22. You can also select one channel by double clicking on its video view.
2. Click  to open Zoom.
 - 2.1. Click and drag on the area of the screen you would like to enlarge. The image zooms in on the selected area.



- 2.2. The box in the lower right-hand corner shows the entire camera picture with a grey box around the zoomed-in area. Click inside the box and drag to move the zoom area.



3. Right-click to exit Zoom Mode and return to Playback Mode.

12.2 Quick Playback

Quick Playback mode plays video from the last 30 minutes for the selected channel. Playback opens for the selected channel only, and live video continues on the other channels.



To use Quick Playback mode:

1. Left-click on the top of the channel you would like to view. The camera toolbar appears.



2. Click . Enter the system user name (default: **admin**) and password (default: **000000**). A playback window opens in the selected channel.

3. To control playback:

- Click inside the colored bar to fast forward/rewind within the last 30 minutes.
- Click  to pause/restart playback.
- Right-click to exit playback.

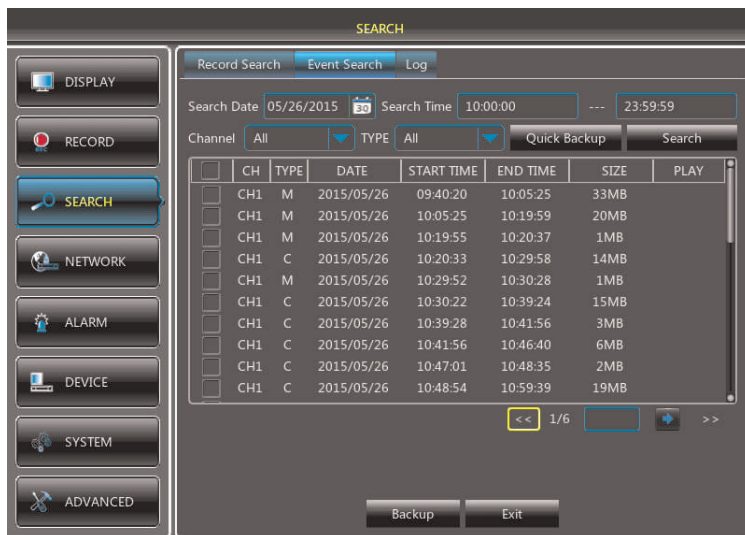
13.1 Backing Up Video

You can back up video to a USB flash drive (not included) connected to the DVR.

	NOTE
The LH050 Series only has two USB ports. Backing up video requires you to unplug the wireless receiver in order to plug in a USB flash drive. You will lose live feeds of all cameras when you unplug the wireless receiver.	

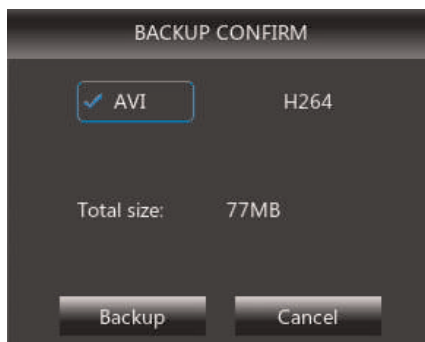
To back up video:

1. Connect a USB flash drive to one of the **USB** ports on the DVR.
2. Right-click to open the Menu Bar and click the Record Search button ().
3. Enter the system user name (default: **admin**) and password (default: **000000**) and click **Apply**.
4. Click the **Event Search** tab.
5. Configure the following:
 - **Search Date:** Enter the desired month, date, and year.
 - **Search Time:** Enter the time range you wish to search.
 - **Channel:** Select the channel you wish to search. To search all channels, select **All**.
 - **Type:** Select the type of recording you wish to search. Choose from **Continuous**, **Motion**, or **All**.
6. Click **Search**. A list of videos populate in the window.



- 6.1. Click the checkbox beside videos you wish to back up.
- 6.2. Click << and >> to change pages.
- 6.3. Click **Backup** to begin backing up the selected files.

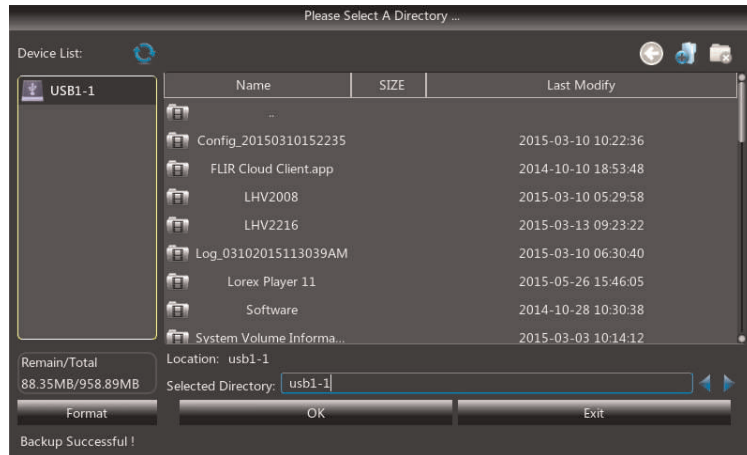
1. Select the format you would like to use to save the video file. Select **AVI** for compatibility with common video players. Select **H264** for uncompressed video (requires Lorex video player software).



2. Click **Backup**.
3. Under **Device List**, select the USB flash drive to transfer the backup files to.



4. Click **OK**.
Wait for the backup to finish before removing the USB memory drive.

**NOTE**

For details on playing back video files, see 13.3 *Viewing Backed Up Video*, page 31.

13.2 Using Video Clip Backup

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

**NOTE**

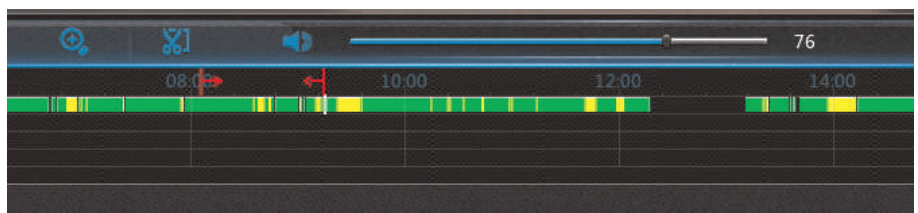
Video clip backup is only available when a single channel is selected for playback.

To create a backup video clip:

**NOTE**

The LH050 Series only has two USB ports. Backing up video requires you to unplug the wireless receiver in order to plug in a USB flash drive. You will lose live feeds of all cameras when you unplug the wireless receiver.

1. Connect a USB flash drive (not included) to one of the **USB** ports on the DVR.
2. Open Playback Mode with only one channel selected. For details, see 12.1 *Playing Back Recorded Video*, page 22.
3. Click on the time seek bar to select the playback time you want to start the backup clip.
4. Click the clip backup button () to start your backup at the current playback time.
5. Click on the time seek bar to select the playback time you want to end the backup clip. The start time and end time of the backup clip is indicated by the red lines.

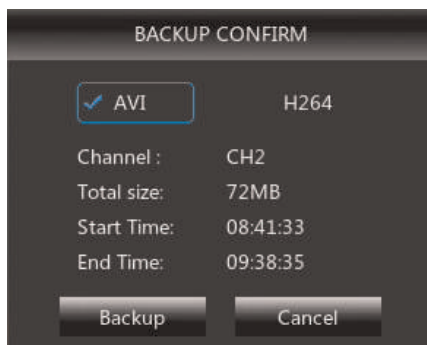


6. Click .

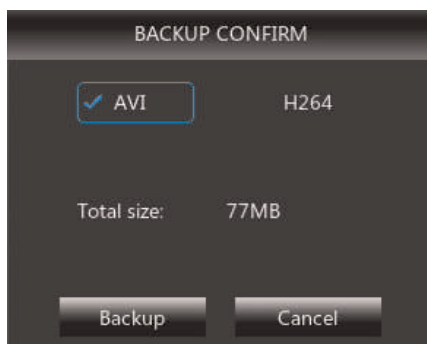
**NOTE**

You can use fast forward or click-and-drag the video seek cursor to select the stop time for the clip. This is useful because it allows you to backup longer segments of video without having to watch the whole video each time. You must have enough space on your USB flash drive to save the file.

7. A confirmation window appears, showing information about the backup file you are about to create. Click **Backup** to confirm.



8. Select the format you would like to use to save the video file. Select **AVI** for compatibility with common video players. Select **H264** for uncompressed video (requires Lorex video player software).



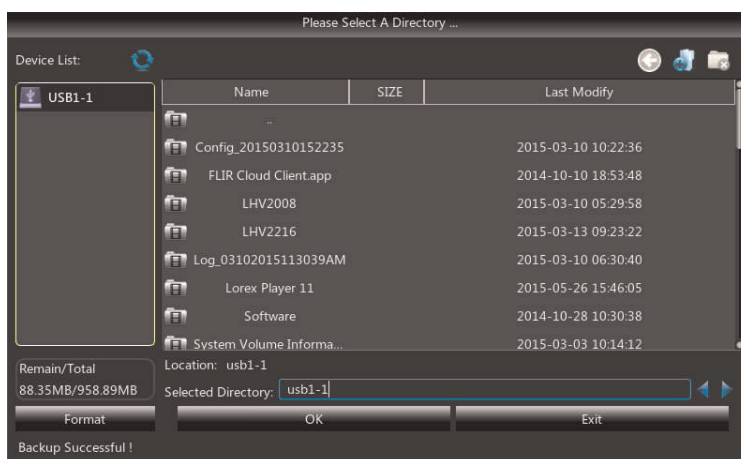
9. Click **Backup**.

10. Under **Device List**, select the USB flash drive to transfer the backup files to.



11. Click **OK**.

Wait for the backup to finish before removing the USB memory drive.



NOTE

For details on playing back video files, see 13.3 *Viewing Backed Up Video*, page 31.

13.3 Viewing Backed Up Video

You can use VLC Media Player to view video files saved to AVI. VLC media player is a free, open-source software. You can download VLC media player from www.videolan.org.



NOTE

VLC Media Player is not supported by Lorex.

To view video files saved to H264, you must install the Lorex Player software.

- For PC instructions, see 19 *Lorex Player 11: Playing Backed up Video on PC*, page 134.
- For Mac instructions, see 20 *Lorex Player for Mac: Viewing Backed up Video on Mac*, page 138.

 **NOTE**

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.

The password is required to log into the system remotely using a computer or mobile device. You will be prompted to create a custom password after you connect for the first time.

The system supports the following account types:

- **admin—system administrator:** has full control of the system, and can change both administrator and user passwords and enable/disable password protection.
- **user—normal user:** only has access to live viewing, search, playback, and other functions. You may set up multiple user accounts with varying levels of access to the system.

For security reasons, it is essential that you change the password on your system. **By default, the system password is enabled.**

14.1 Changing Passwords

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

To change the admin password:

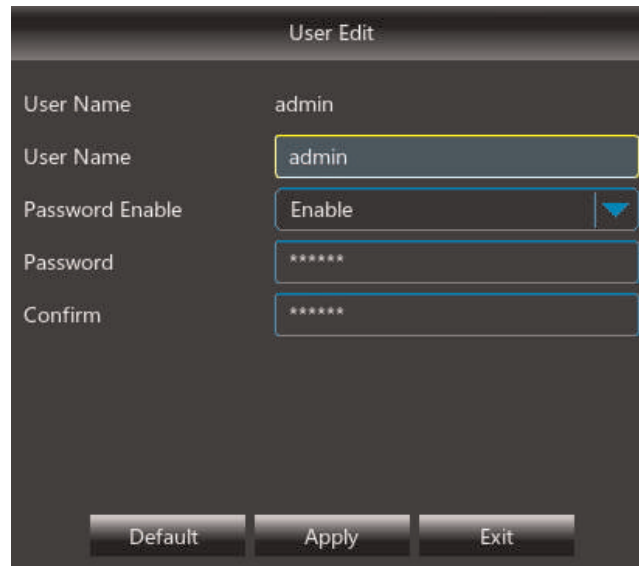
1. Right-click to open the Menu Bar and click the Main Menu button (). Enter the system user name (default: **admin**) and password (default: **000000**) and click **Apply**.
2. Click **System** and select the **Users** tab.



3. Click anywhere on the first row to select the admin account. Click the **Edit** button.

4. Configure the following:

- **User Name:** Enter the desired admin user name.
- **Password Enable:** Select **Enable**.
- **Password:** Enter your desired password.
- **Confirm:** Re-enter the password.

A screenshot of a 'User Edit' dialog box. It has a title bar 'User Edit'. Inside, there are four rows of labels and input fields: 'User Name' with the value 'admin', another 'User Name' with a text box containing 'admin', 'Password Enable' with a dropdown menu showing 'Enable', and 'Password' and 'Confirm' with text boxes containing six asterisks. At the bottom, there are three buttons: 'Default', 'Apply', and 'Exit'.

5. Click **Apply** to save your settings.

14.2 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.

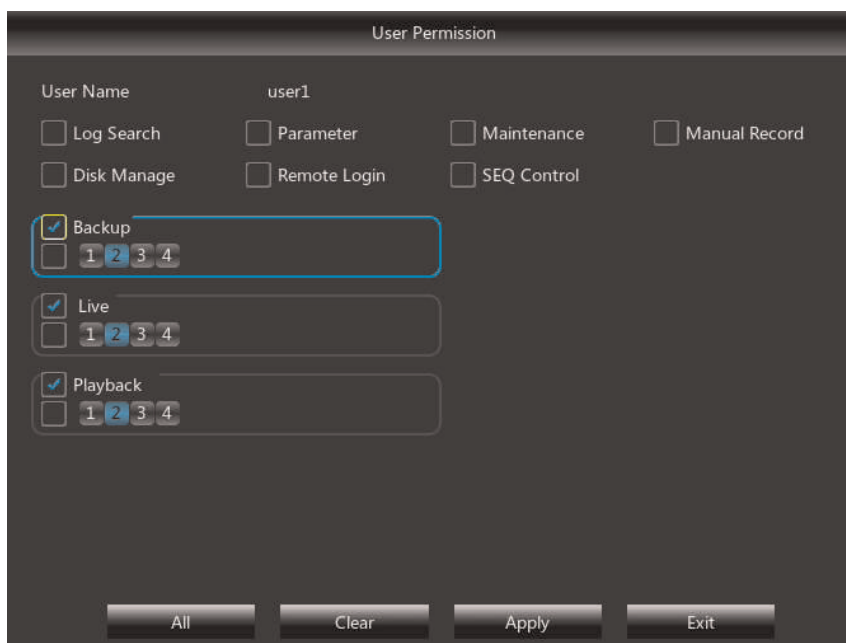
To add a new user:

1. Right-click to open the Menu Bar and click the Main Menu button ().

2. Click **System> Users**.

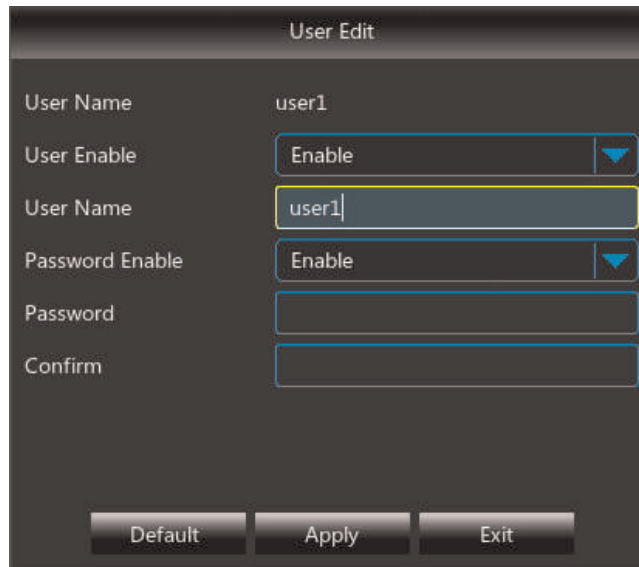


3. Click on a row to select a user account.
4. Click the **Edit** button.
5. Select the menus and channels the user will have access to:



- Select the menus the user account will be able to access.
- Select the channels the user account will be able to access for each function. For example, if channel 1 is selected for Live, the user account will be able to view live video on channel 1.

-
6. Click **Apply** to save your settings.
 7. Configure the following:
 - **User Enable:** Select **Enable** to enable the user account.
 - **User Name:** Enter the desired user name.
 - **Password Enable:** Select **Enable**.
 - **Password:** Enter your desired password.
 - **Confirm:** Re-enter the password.

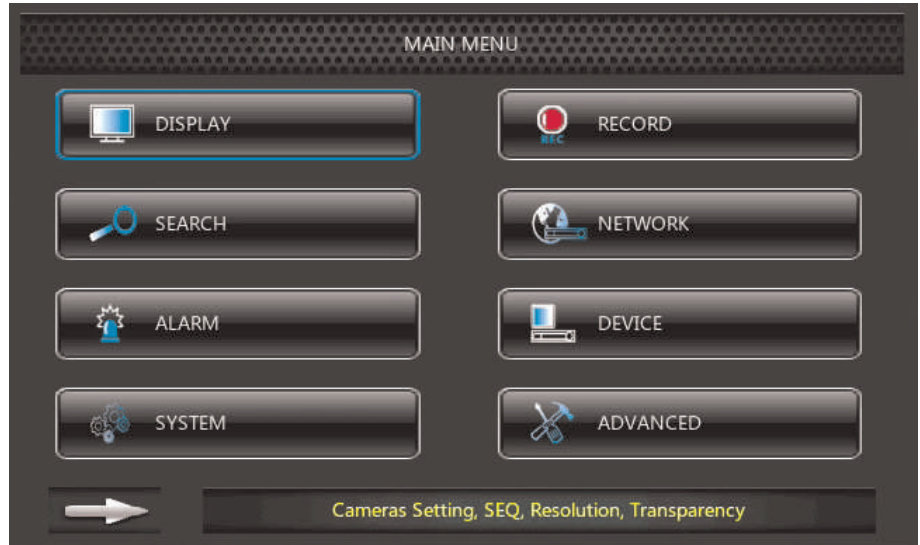
A screenshot of a 'User Edit' dialog box. The dialog has a title bar 'User Edit'. It contains several fields: 'User Name' with the value 'user1', 'User Enable' with a dropdown menu set to 'Enable', another 'User Name' field with 'user1' entered, 'Password Enable' with a dropdown menu set to 'Enable', 'Password' (empty), and 'Confirm' (empty). At the bottom, there are three buttons: 'Default', 'Apply', and 'Exit'.

8. Click **Apply** to save your settings.

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.

To open the Main Menu:

1. Right-click to open the Menu Bar and click the Main Menu button (.
2. Enter the system user name (default: **admin**) and password (default: **000000**) and click **Apply**.



- **Display:** Configure display options (e.g. camera color settings, camera title, video output).
- **Search:** Search for recorded video and log files on the system.
- **Alarm:** Configure motion detection settings.
- **System:** Configure system time and user accounts.
- **Record:** Configure recording settings and recording schedules.
- **Network:** Configure system network settings (e.g. email alert settings, video streaming quality settings).
- **Device:** Configure HDD recording mode, HDD format option.
- **Advanced:** Perform firmware upgrades or configure automatic upgrades.

15.1 Display

The display menu allows you to configure camera image settings and video output settings.

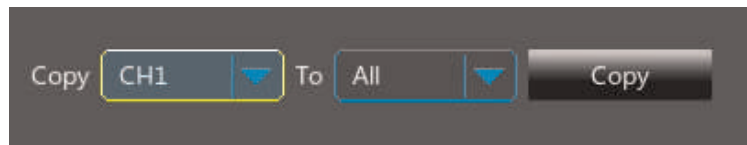


NOTE

If you want to apply settings to all channels, use the "Copy To" drop-down menu, and select **All**. Click the **Copy** button to copy the setting across all channels.

15.1.1 Copying Channel Settings to Another Channel

1. Select the **Cameras** tab.
2. Use the drop-downs next to **Copy** to copy settings to another channel or all channels. Click the **Copy** button to copy settings.



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

15.1.2 Adjusting Camera Brightness Settings

1. Select the **Cameras** tab.
2. In the **Channel** drop-down menu, select the channel that you wish to configure.
3. Drag the slider to adjust the brightness.



4. Click **Apply** to save your settings.

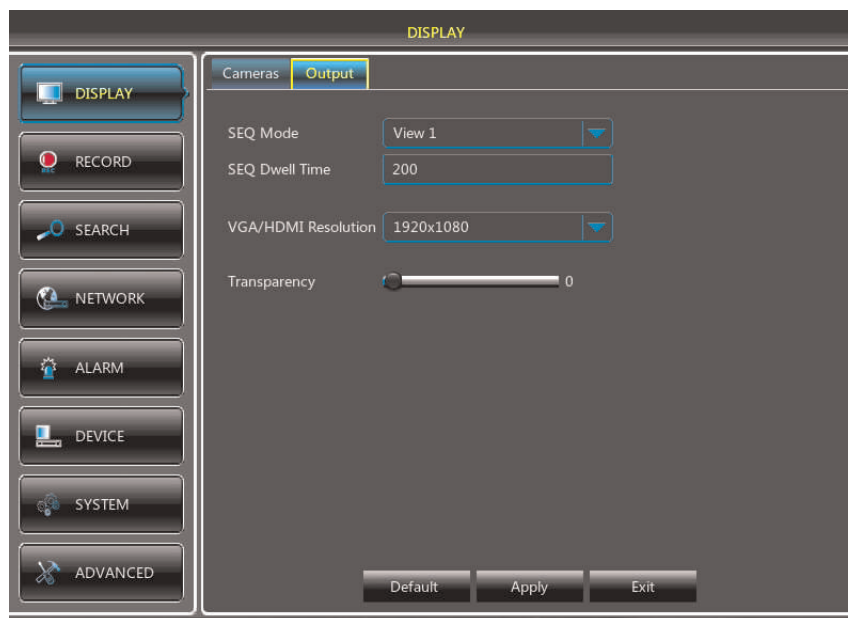
15.1.3 Configuring Sequence Time

Sequence time refers to the amount of time a channel appears on the screen before changing to a different channel when the DVR is in Sequence Mode. For example, when

Sequence Mode is on, channel 1 is shown for several seconds before switching to channel 2.

To configure the sequence time:

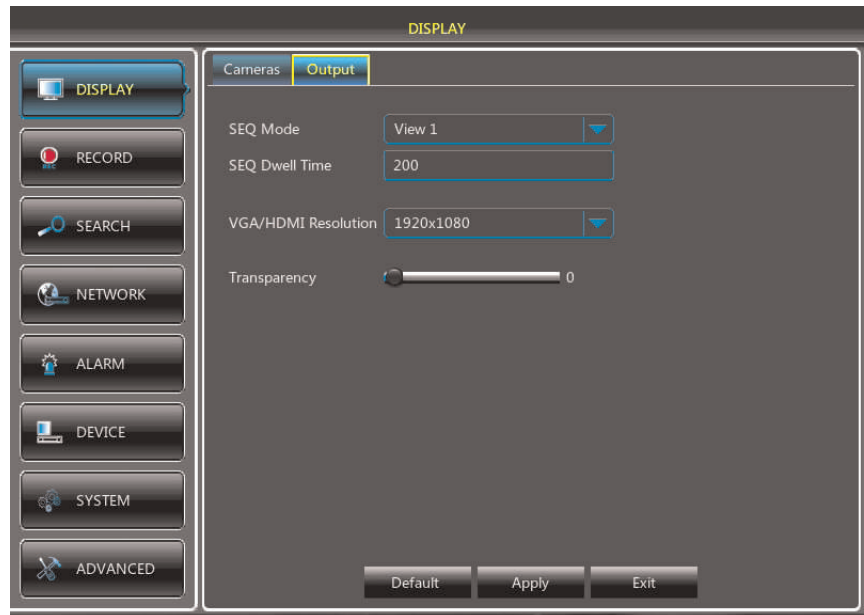
1. Click the **Output** tab.



2. Click the **SEQ Dwell Time** field and enter the time (in seconds) that channels remain on-screen before changing to another channel.
3. Click **Apply** to save your settings.

15.1.4 Changing the Video-out Resolution

1. Click the **Output** tab.



2. Click the drop-down menu beside **VGA/HDMI Resolution** and select the output resolution.
3. Click **Apply** to save your settings.
4. Right-click repeatedly to exit all menus. The DVR prompts you to restart. Click **OK**.
5. The DVR restarts and asks you to confirm the new resolution. Click **Yes** to confirm or **No** to revert to the old resolution. If you do nothing, the DVR will revert to the last selected resolution and restart.



NOTE

If you select a resolution that is greater than what your monitor supports, you may see a blank screen when your DVR restarts. If this occurs, do not do anything and wait until the DVR restarts.

If this does not correct the issue, press and hold the Stop () button on the remote control for 6 seconds. The resolution will be reset and the DVR will restart.

15.1.5 Restoring the System's Resolution if you see a Blank Screen

If you see a blank screen on your monitor after turning on your system, the DVR's output resolution may be higher than what your monitor supports. Follow the steps below to restore the DVR's default resolution to 1024 x 768.

To restore the DVR's default resolution:

1. Ensure the power and video cables are properly connected.

-
2. Press and hold the Stop () button on the remote control for 6 seconds. The resolution will be reset to 1024 x 768 and the DVR will restart. When the DVR restarts, click **Yes** to confirm the default resolution.

**NOTE**

If your system resolution is already in 1024 x 768, pressing and holding the Stop button will not restart the system.

15.1.6 Adjusting Menu Transparency

You can increase or decrease the transparency of the on-screen menus.

To adjust the transparency of on-screen menus:

1. Click the **Output** tab.
2. Drag the **Transparency** slider to adjust transparency.
3. Click **Apply** to save your settings.

15.2 Record

The Record menu allows you to configure recording settings, such as the recording resolution and recording schedule.

15.2.1 Configuring Pre-recording Settings

1. Select the **Rec Para** tab.



2. In the **Channel** drop-down menu, select the desired channel you wish to configure.
3. In the **Pre Record** drop-down menu, select **Enable** to enable pre-recording or **Disable** to disable pre-recording.
4. Click **Apply** to save your settings.

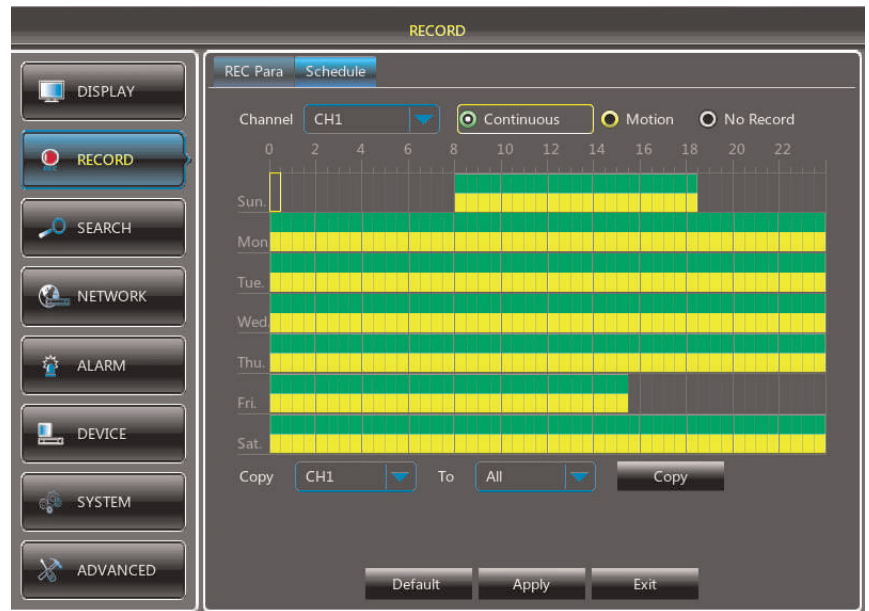
15.2.2 Configuring the Recording Schedule (Continuous, Motion)

To configure the recording schedule:

1. Click the **Schedule** tab.
2. Under **Channel**, select the channel you wish to configure the schedule for.
3. Select the one of the option buttons (**Continuous**, **Motion**, or **No Record**).

4. Click and drag inside the grid to configure the recording schedule:

- The recording schedule is arranged as a grid. Each row represents a recording type (Continuous and Motion), and each box represents half an hour.
- Recording for each recording type is enabled during the selected hour when the box is filled in with the corresponding color. Recording for each recording type is disabled for the selected hour when the box is gray.



5. (Optional): Use the bottom **Copy** drop-down to copy the recording schedule to a specific channel or all channels. Click **Copy** to copy the schedule.
6. Click **Apply** to save your settings.

15.3 Search

The Search menu allows you to search for recorded video and system logs.

- For details on playing back video, see 12 *Playback*, page 22.
- For details on backing up video, see 13 *Backup*, page 27.

15.3.1 Using the Event Search

Event Search allows you to find video files based on the recording type. This allows you to quickly and easily locate videos that were triggered by motion.

To perform an Event Search:

1. Click the **Event Search** tab.
2. Configure the following:
 - **Search Date:** Enter the desired month, date, and year.
 - **Search Time:** Enter the time range you wish to search.
 - **Channel:** Select the channel you wish to search. To search all channels, select **All**.
 - **Type:** Select the type of recording you wish to search. Choose from **Continuous**, **Motion**, or **All**.

3. Click **Search**. A list of videos populate in the window.



4. Double-click on the file to play it back.

15.3.2 Using the Log Search

A log search allows you to search system event logs.

To perform a Log search:

1. Click the **Log** tab.

CH	TYPE	TIME	CON.	RECORD	PLAY
CH2	Alarm	2015/05/28 06:42:45	Motion Start	YES	
CH2	Alarm	2015/05/28 06:43:18	Motion End	YES	
CH2	Alarm	2015/05/28 06:47:07	Motion Start	YES	
CH2	Alarm	2015/05/28 06:47:39	Motion End	YES	
CH2	Alarm	2015/05/28 06:54:23	Motion Start	YES	
CH2	Alarm	2015/05/28 06:54:56	Motion End	YES	

2. Configure the following to perform a Log search:
 - **Log Type:** Select the log type you want to search for.
 - **Start Date** and **Start Time:** Enter the date and time you wish to begin searching.
 - **End Date** and **End Time:** Enter the date and time you wish to end searching.
3. Click **Search**.
4. (Optional) Click the **Backup** button to backup system logs to a USB flash drive (not included).

15.4 Network

The Network menu allows you to configure network settings and email alerts.

15.4.1 Configuring Network Type: DHCP & Static IP

The system has the ability to operate in DHCP mode and Static IP mode.

To configure DHCP and Static IP settings:

1. Select the **Network** tab.
2. Select **DHCP** or **Static**. If you select DHCP, the router automatically assigns an IP to your DVR.

The screenshot shows the 'NETWORK' configuration window. On the left is a sidebar with icons for DISPLAY, RECORD, SEARCH, NETWORK (highlighted), ALARM, DEVICE, SYSTEM, and ADVANCED. The main area has tabs for Network, Email, and DDNS. Under the 'Network' tab, there are two radio buttons: 'DHCP' (selected) and 'Static'. Below these are input fields for Client Port (09000), HTTP Port (00080), IP Address (192.168.001.100), Subnet Mask (255.255.255.000), Gateway (192.168.001.001), DNS1 (192.168.050.001), and DNS2 (008.008.008.008). There is also a dropdown for Auto Port Forwarding set to 'Disable'. At the bottom are 'Default', 'Apply', and 'Exit' buttons.

If you select Static, click the field beside IP Address, and enter in the IP address of your choice.

- Enter your custom **Subnet Mask**, **Gateway**, **DNS1** and **DNS2** using the mouse.
- You must assign the IP in your router that you wish to make static. For example, if you assign 192.168.2.89 as the static IP in the DVR, you must assign 192.168.2.89 in your router as a static IP as well. Consult your router's user's manual for details.

3. Click **Apply** to save your settings.
4. Right-click until you exit all menus. You will be prompted to restart.

15.4.2 Enabling Auto Port Forwarding

Auto Port Forwarding allows the DVR to open required ports on your router. This feature only works on certain router models.



NOTE

Port forwarding is not required to use the Lorex Stratus Connectivity service. For details on setting up remote connectivity, see 16 *Connecting to Your DVR Over the Internet on PC or Mac*, page 64.

To enable Auto Port Forwarding:

1. Select the **Network** tab.

2. In the **Auto Port Forwarding** drop-down menu, select **Enable**.
3. Click **Apply** to save your settings.

15.4.3 Changing the DVR's Client and HTTP Port

The DVR's Default Client port is **9000**. The default HTTP port is **80**.

To change the Client port and HTTP port:

1. Select the **Network** tab.
2. In **Client Port**, enter the desired Client Port (default: **9000**).



NOTE

9000 is represented as "09000."

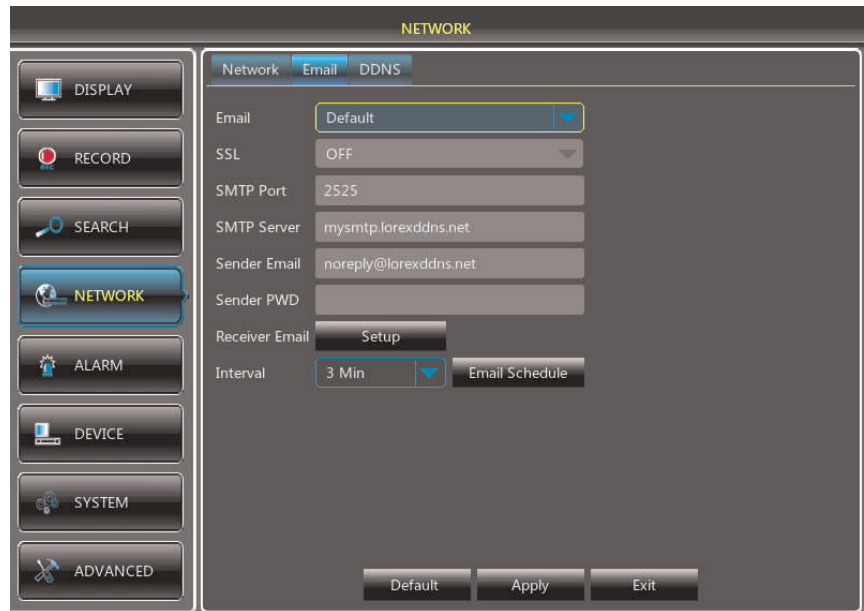
3. In **HTTP Port**, enter the desired HTTP Port (default: **80**).
4. Click **Apply** to save your settings.
5. Right-click to exit all menus. You will be prompted to restart.

15.4.4 Setting up Email Notification

The system can send email notifications when it detects motion.

To set up email notification:

1. Click the **Email** tab in the Network menu.



2. From the **Email** drop-down menu, select from:

- **Default:** Uses the Lorex email server to send out notifications. This is the recommended selection.
- **Enable:** Uses custom email server settings.
- **Disable:** Disables email notification.

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

1. In the **Email** drop-down menu, select **Default**.
2. In the **Sender Email** field, enter the email address of the sender. This can be any email address of your choice.
3. Under **Receiver Email**, click **Setup** and enter the email addresses you want the DVR to send notifications to.
4. In the **Interval** drop-down menu, enter the duration the DVR must wait before sending out a new notification.
For example, if you select a 3 minute interval, the DVR will send out email notifications every 3 minutes until the DVR stops detecting motion. The DVR will only send out notifications when it detects motion.
5. Click **Apply** to save your settings.

If you select "Enable", and want to use your own email server:

1. Configure the following:
 - **SSL:** Select **ON/OFF** to enable/disable Secure Socket Layer protocol.
 - **SMTP Port:** Enter the port used by your SMTP server.
 - **SMTP Server:** Enter your SMTP Server address.
 - **Sender Email:** Enter the sender email address. This can be any address of your choice.
 - **Sender Password:** Enter your email server's password.
 - **Receiver Email:** Enter the recipient's email address.
 - **Interval:** Enter the interval the DVR waits before sending a new email notification.

2. Click **Apply** to save your settings.
3. Right-click until you have exited all menus. You will be prompted to restart.

15.4.5 Configuring DDNS settings

Lorex DDNS is available as an optional connectivity option. Please see *22 DDNS Setup—Access your DVR Remotely over the Internet*, page 146 for details.

The primary connectivity option uses Lorex Stratus Connectivity to connect to your system over the Internet without requiring port forwarding or DDNS registration. For details, see *16 Connecting to Your DVR Over the Internet on PC or Mac*, page 64.

To configure DDNS settings:

1. Visit <http://www.lorexddns.net> and register for a DDNS account.
2. Click the **DDNS** tab.

3. Configure the following:
 - **DDNS:** Select **Enable**.
 - **Server:** Select **LOREXDDNS** (default).
 - **Domain Name:** Enter the Domain name/URL Request you received in the email after registering for DDNS.
 - **User Name:** Enter your DDNS User Name.
 - **Password:** Enter your DDNS Device password.
4. Click **Apply** 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.

15.5 Alarm

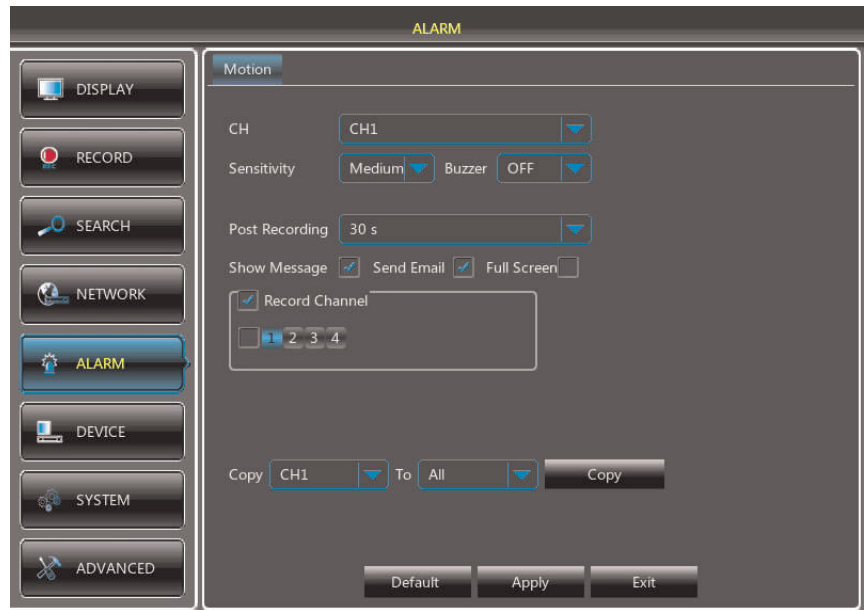
The Alarm menu allows you to configure Motion Detection.

15.5.1 Configuring Motion Detection

Configure motion settings to determine the area you wish to monitor for motion events, and the outcome if a motion event occurs.

To configure motion settings:

1. Select the **Motion** tab.



2. Configure the following:

- **CH:** Select the channel you wish to configure.
- **Sensitivity:** Select a motion sensitivity of **Low**, **Medium**, or **High**. Select **Disable** to deactivate motion recording.
- **Sensitivity:** Select motion sensitivity. The greater the number, the greater the sensitivity.
- **Buzzer:** Select the duration the system will "beep" when motion is detected. Or select **OFF** to disable the "beep" during motion events.
- **Post Recording:** Enter the post recording duration (the time the system continues to record after a motion event occurs).
- **Show Message:** Select the checkbox if you want the system to display a system message when motion is detected.
- **Send Email:** Select the checkbox if you want the system to send email notifications if motion is detected. Email notifications must be configured.
- **Full Screen:** Select the **Full Screen** check box so that the system goes into full screen mode when motion is detected.
- **Record Channel:** Select the channel you wish the DVR to record during motion recording.

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

15.6 Device

The Device menu allows you to configure and format hard drives.

15.6.1 Formatting the Hard Drive



CAUTION

Formatting the HDD erases **all data** on the hard disk. **This step cannot be undone.**

1. Select the **HDD** tab.



2. Click the checkbox under **Select** to choose the drive you wish to reformat.
3. Click **Format HDD**.
4. When the warning window appears, click **OK**. Wait for the system to format the hard drive.

15.6.2 Configuring Overwrite

If Overwrite recording is enabled, the system's hard drive automatically re-writes the hard drive's oldest content (first in first out). Otherwise, the system will stop recording when the hard drive is full.

To configure Overwrite:

1. Select the **HDD** tab.



2. Select the checkbox beside the hard drive you wish to configure.
3. In the **Overwrite** drop-down menu, select **Auto** (recommended), select the desired duration the hard drive should retain its data, or select **Disable** to disable overwrite.
4. Click **Apply** to save your settings.

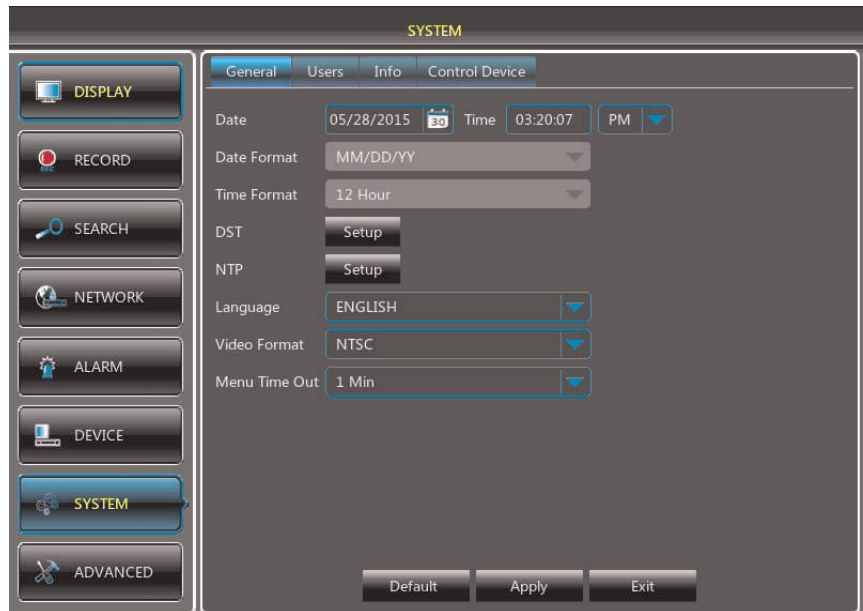
15.7 System

The System tab allows you to configure the system language and video output.

- For instructions on how to set the system time, including how to setup automatic Daylight Savings Time adjustments or NTP, see 10 *Setting the Date and Time*, page 18.

15.7.1 Changing the System Language

- Select the **General** tab.

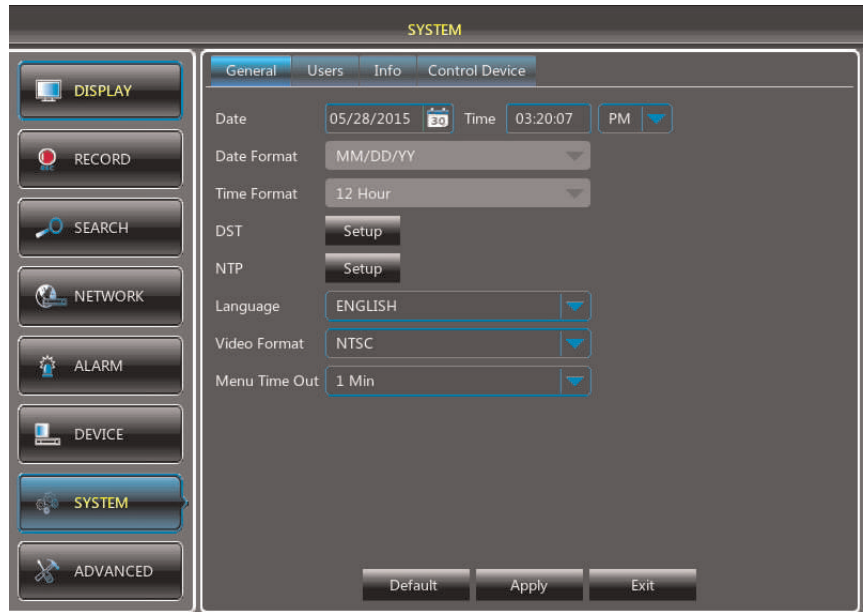


- In the **Language** drop-down menu, select your desired system language.
- Click **Apply** to save your settings.
- Right-click until you exit the menu. Follow the on-screen instructions to restart your system.

15.7.2 Changing Video Output - NTSC & PAL

To change the video output:

1. Select the **General** tab.



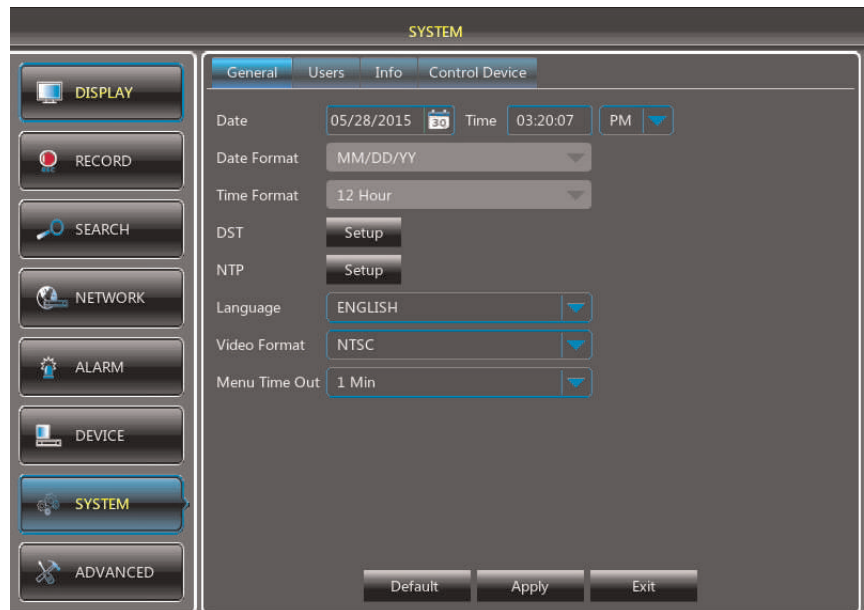
2. In the **Video Format** drop-down menu, select **NTSC** or **PAL**.
3. Click **Apply** to save your settings.

15.7.3 Configuring Menu Time Out

The Menu Time Out setting allows you to configure how long the system menu will remain on the screen during inactivity.

To configure Menu Time Out:

1. Select the **General** tab. In the **Menu Time Out** drop-down menu, select the desired time the system menu remains on the screen during inactivity.



2. Click **Apply** to save your settings.

15.7.4 Adding Users & Changing the Admin Password

For details on creating user accounts, see 14.2 *Adding Users*, page 33.

15.7.5 Viewing System Information

- Click the **Info** tab.

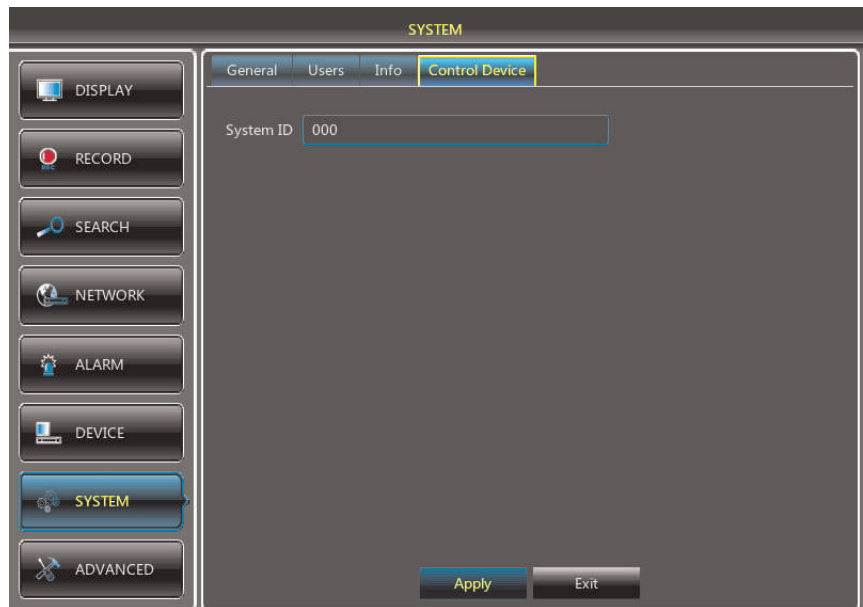


15.7.6 Setting the Remote Control ID

If you have more than one DVR, you can use the ID function to pair the remote control with a specific DVR.

To pair the remote control:

1. On the DVR, right-click to open the menu bar and click .
2. Enter the DVR user name (default: **admin**) and password (default: **000000**).
3. Click **System>Control Device**.



4. Under **System ID**, enter the desired ID number.
5. Click **Apply** to save your settings. Right-click repeatedly to return to live view.
6. On the remote control press **ID**, then press the ID number you entered in step 4 and press **Enter** to confirm.



NOTE

You do not need to enter 0's in the ID for unused digits. For example, if the ID is "004," press **ID>4>Enter**.

15.8 Advanced

The Advanced menu allows you to load system defaults, upgrade the system firmware, and configure automatic firmware updates.



WARNING

Do not remove the USB flash drive or power off the DVR during the firmware update. Wait for the system to reboot.

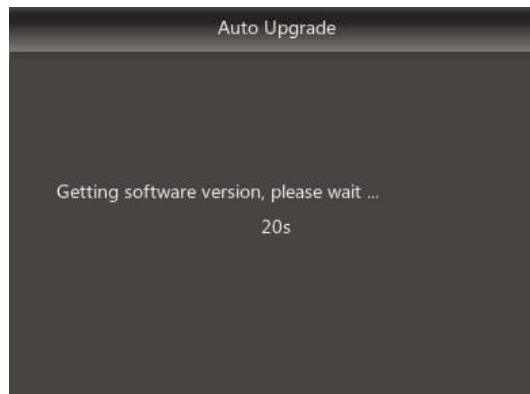
15.8.1 Upgrading the System Firmware Using Auto Upgrade

Firmware upgrades can provide improved functionality to your DVR. You can check for system firmware updates using the Auto Upgrade feature. **You must have the latest DVR firmware and client software or mobile apps to connect to the DVR over the Internet.**

The system must be connected to the Internet to use Auto Upgrade.

To upgrade firmware using auto upgrade:

1. Right-click or move your mouse to the bottom of the screen to open the Menu Bar and click the Auto Upgrade button ().
2. Enter the system user name (default: **admin**) and password (default: **000000**) and click **Apply**.
3. The system checks for firmware updates.



4. If there is a firmware upgrade available, follow the on-screen instructions to update the firmware.

15.8.2 Upgrading the System Firmware Using a USB Thumb Drive

If your system is not connected to the Internet, you may also download firmware upgrades for free from www.lorextechnology.com and install them manually using a USB thumb drive (not included).

You must have the latest DVR firmware and client software or mobile apps to connect to the DVR over the Internet.

To upgrade the system firmware:

1. In your web browser, visit www.lorextechnology.com and search for the model number of your DVR (check the label underneath your DVR for the model number). Download the free firmware upgrade if one is available.

2. Extract the firmware into a blank USB flash drive. The firmware should be in a folder named **dvrupgrade**. Ensure that this is the only folder in the USB drive.
3. Insert the flash drive into one of the **USB** ports.

**NOTE**

The LH050 Series only has two USB ports. Upgrading firmware using a USB flash drive requires you to unplug the wireless receiver in order to plug in a USB flash drive. You will lose live feeds of all cameras when you unplug the wireless receiver.

4. Right-click to open the Menu Bar and click the Main Menu button ().
5. Click **Advanced**.
6. Select the **Maintenance** tab.



7. Click the **Firmware Upgrade** button.
8. Under **Device List**, select your USB flash drive then select the firmware file. Click **OK**.



- Follow the on-screen instructions to update the firmware.

**WARNING**

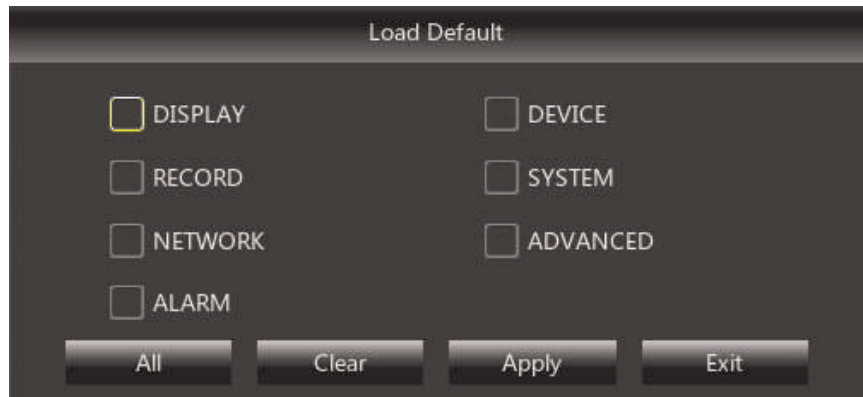
Do not remove the USB flash drive or power off the DVR during the firmware update. Wait for the system to reboot.

15.8.3 Restoring to Factory Default Settings

Restoring to factory default settings reverts any setting changes you have made to their original settings. This does not affect the recordings saved on the DVR. You can reset a single menu, or all menus.

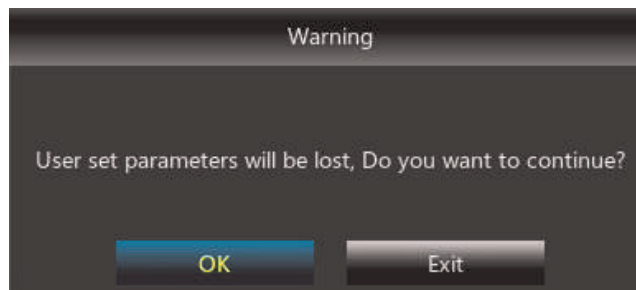
To load system defaults:

- Right-click to open the Menu Bar and click the Main Menu button ()
- Click **Advanced**.
- Select the **Maintenance** tab.
- Click **Load Default**.
- Select the menus that you wish to restore to default settings, or click **All** to restore the entire system to default settings.

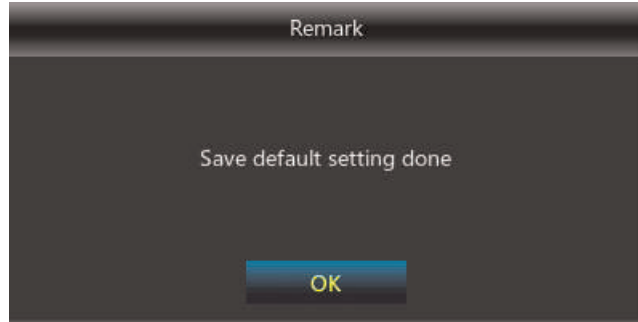
**NOTE**

It is recommended to leave the Network menu unchecked when restoring the system to factory defaults. If you restore the Network menu, you will need to redo remote connectivity setup to access your DVR over the Internet.

- Click **Apply**.
- When the warning window appears, click **OK** to restore your settings.



8. Click **OK** to return to the menu.



9. Right-click until you have exited all menus. The DVR prompts you to restart.

15.8.4 Restarting or Shutting Down the DVR

1. Right-click to open the Menu Bar and click the Main Menu button ().
2. Click **Advanced**.
3. Select the **Maintenance** tab.
4. Click **Reboot** or **Shut Down**.



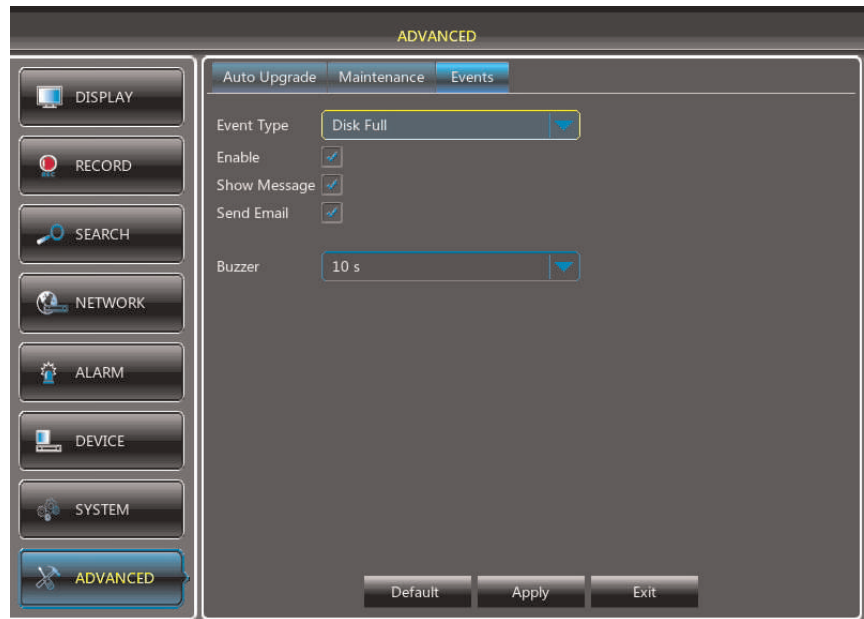
5. Follow the on-screen instructions to restart or shut down your system.

15.8.5 Configuring System Warnings

The system can send out email notifications if it detects system abnormalities. For example, the system can send out a warning if the hard drive is low on storage.

To configure system warnings:

1. Click the **Events** tab.



2. Configure the following:
 - **Event Type:** Select the event that triggers the system to send out a notification. Choose from **Disk Full** (low hard drive space), **Disk Error** (hard drive error), or **Video Loss**.
 - **Enable:** Select **Enable** or **Disable** to activate or deactivate the system from sending out notifications.
 - **Show Message:** Select the checkbox for the system to display an error message when an event occurs.
 - **Send Email:** Select the checkbox for the system to send out email notifications when a system error occurs. Note, email notifications must be configured.
 - **Buzzer:** Select the buzzer (system beep) duration when the system detects a system error.
3. Click **Apply** to save your settings.

15.8.6 Saving Your System Configuration to a USB Flash Drive

The DVR 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 (not included):

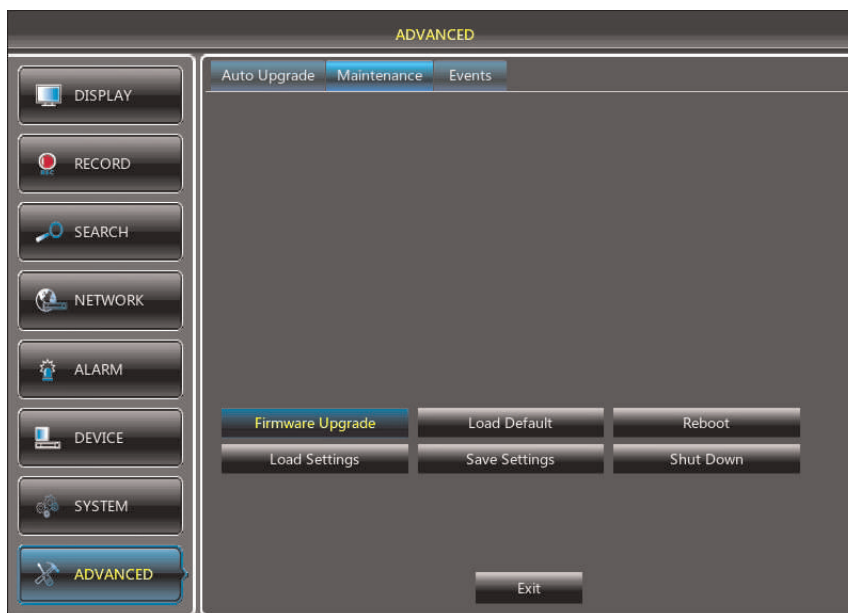
1. Insert a USB flash drive (not included) into one of the **USB** ports.



NOTE

The LH050 Series only has two USB ports. Saving system configuration to a USB flash drive requires you to unplug the wireless receiver in order to plug in a USB flash drive. You will lose live feeds of all cameras when you unplug the wireless receiver.

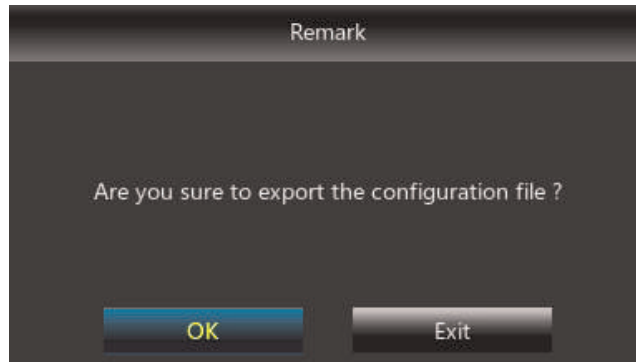
2. Right-click to open the Menu Bar and click **Main Menu** ().
3. Click **Advanced** and select the **Maintenance** tab.
4. Click **Save Settings**.



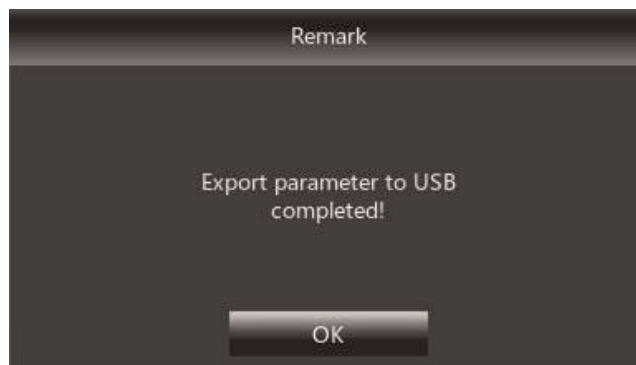
5. Under **Device List**, select your USB flash drive. Click **OK**.



6. Click **OK** to save the configuration file to your USB.



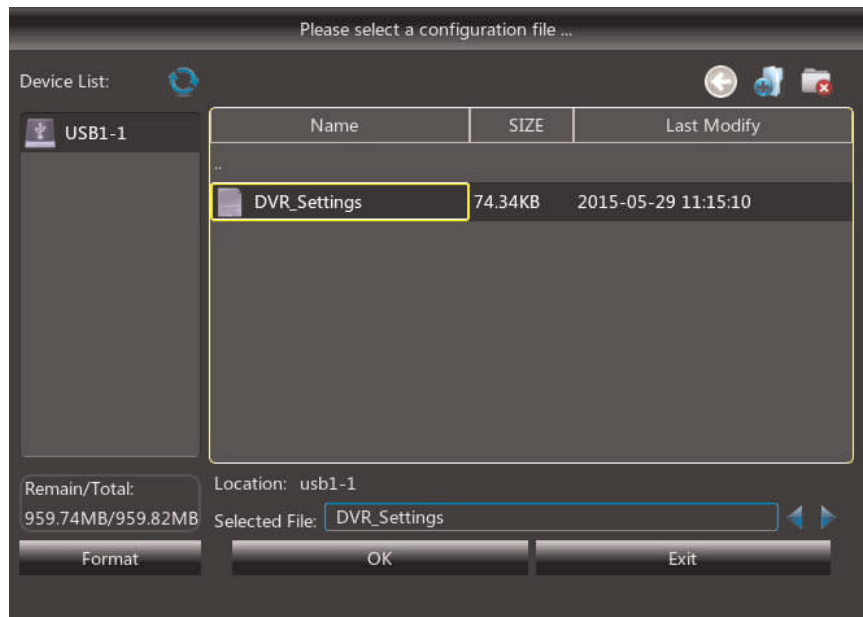
7. Click **OK** to return to the menu.



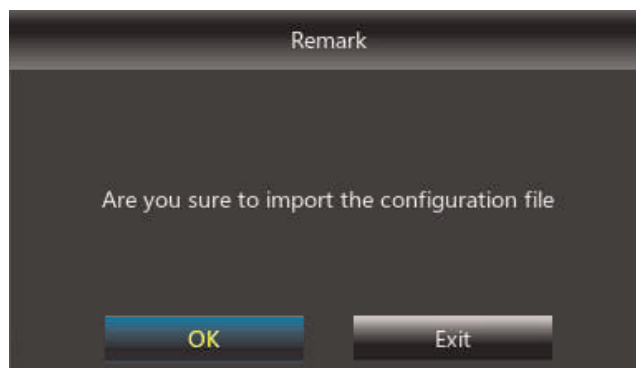
15.8.7 Loading a System Configuration from a USB Flash Drive

1. Insert a USB flash drive (not included) that contains a saved configuration to a **USB** port. See above for details on how to save your DVR configuration.
2. Right-click to open the Menu Bar and click **Main Menu** ().
3. Click **Advanced** and select the **Maintenance** tab.
4. Click **Load Settings**.

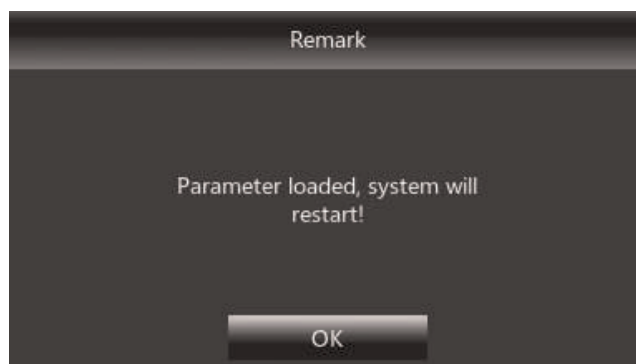
- Under **Device List**, select your USB flash drive then select the **DVR_Settings** file. Click **OK**.



- Click **OK** to import the configuration file.



- Click **OK** to restart your system.



16

Connecting to Your DVR Over the Internet on PC or Mac

This DVR features connectivity using the exclusive Lorex Stratus Connectivity. 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.

This section refers to Internet setup on PC or Mac, for smartphone/tablet setup, see 18 *Mobile Apps : Accessing your DVR Using a Mobile Device*, page 88.



16.1 System Requirements

Prior to using Lorex Stratus Client, make sure your system meets or exceeds the following system requirements:

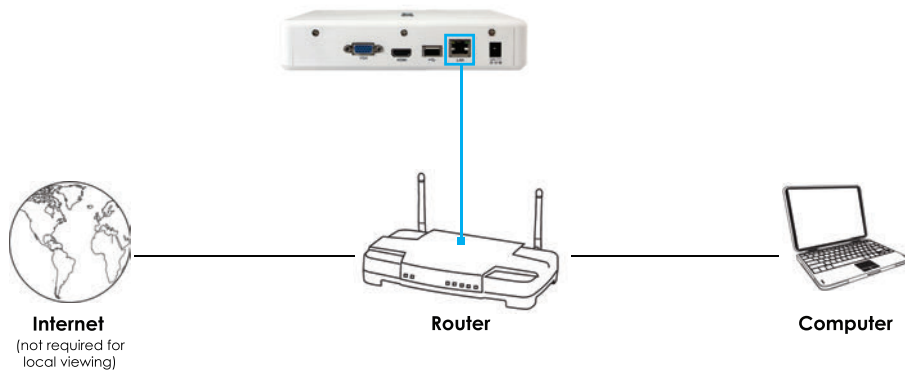
Description	Requirement
CPU	Pentium® 4 or above
Operating System	Windows 7/8 Mac OSX 10.6.6 and above (Intel processors only) ¹
Memory	256 MB RAM or greater
Video	16 MB of video memory
Network (LAN)	10/100 BaseT Network
Network (WAN)	384 Kbps upload ²
Browser	Safari 6.0 and above (Mac) ¹

1. For the latest compatibility list, check www.lorextechnology.com, as new software versions are released to the market
2. An upload speed of 1Mbps is recommended for best video performance
3. If a user connects to the system remotely, there may be slow performance when accessing the system locally. This is normal, and not a malfunction.

16.2 Step 1 of 3: Connect your DVR to Your Router

1. Power off your DVR by disconnecting the power adapter.
2. Connect an Ethernet cable (included) to the **LAN** port on the rear panel of the DVR. 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 DVR back on.

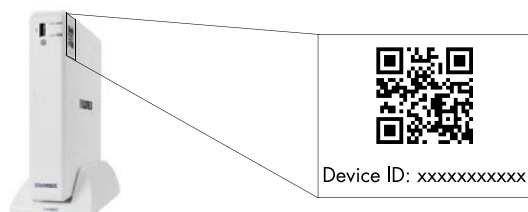


16.3 Step 2 of 3: Obtain the DVR's Device ID

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

To find the Device ID:

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



You can also find the Device ID by:

- Pressing the  button on the front panel or remote control to open the System Information window.
- OR**
- Right-clicking and then clicking the Main Menu button (). Enter the DVR password (default: **000000**). Then click **System>Info**.



2. Write down the **Device ID** of the DVR.

16.4 Step 3 of 3: Connect to the DVR Over the Internet

Follow the steps below to connect to the DVR over the Internet using a PC or Mac.

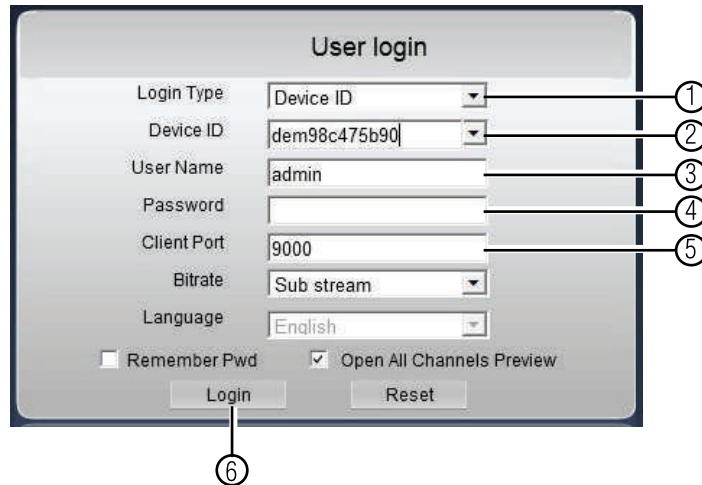
 NOTE

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

PC

1. Download and install the **Client Software for PC** from www.lorextechnology.com.

2. Once installation is finished, double-click the Lorex Stratus Client icon () from the desktop. The DVR login screen appears.
3. Configure the following:



The 'User login' dialog box contains the following fields and controls, each indicated by a numbered callout:

- ① Login Type: Device ID (dropdown menu)
- ② Device ID: dem98c475b90 (text field)
- ③ User Name: admin (text field)
- ④ Password: (empty text field)
- ⑤ Client Port: 9000 (text field)
- ⑥ Login button

Additional fields and controls include:

- Bitrate: Sub stream (dropdown menu)
- Language: English (dropdown menu)
- ☐ Remember Pwd
- ☒ Open All Channels Preview
- Reset button

- 3.1. Under **Login Type**, select **Device ID**.
- 3.2. Under **Device ID**, enter the **DVR's Device ID**. See the label on the top of the DVR to find the Device ID.
- 3.3. Under **User Name**, enter the DVR's **user name** (default: **admin**).
- 3.4. Under **Password**, enter the DVR's **password** (default: **000000**).
- 3.5. Under **Client Port**, enter the DVR's **Client Port** (default: **9000**).
- 3.6. Click **Login**.

- If this is the first time connecting to your system, you will be prompted to change the password. Enter a new 6 character password and click **OK**.



The 'Change Password' dialog box displays the following:

- Warning message: **Current password is insecure, please change the password.**
- New Password: (empty text field)
- Confirm Password: (empty text field)
- OK button
- Cancel button

4. Enter the new password in the login screen and click **Login** to connect to the DVR. The Client Software connects to your DVR and streams live video from your cameras.

Mac

1. Visit www.lorextechnology.com and download the **Client Software for Mac**.
2. Extract the installer file and double-click it to install.
3. Open Safari, then click **Safari>Quit Safari**. This resets Safari to complete the installation.
4. Open the Lorex Stratus Client icon () from the Applications list.

The image shows a 'User login' dialog box with the following fields and callouts:

- ① Login Type: Device ID
- ② Device ID: dem736ae2df7
- ③ User Name: admin
- ④ Password: *****
- ⑤ Client Port: 9000
- Bitrate: Sub stream
- Language: English
- ☐ Remember Pwd
- ☒ Open All Channels Preview
- ⑥ Login button
- Reset button

- 4.1. Under **Login Type**, select **Device ID**.
 - 4.2. Under **Device ID**, enter the **DVR's Device ID**. See the label on the top of the DVR to find the Device ID.
 - 4.3. Under **User Name**, enter the DVR's **user name** (default: **admin**).
 - 4.4. Under **Password**, enter the DVR's **password** (default: **000000**).
 - 4.5. Under **Client Port**, enter the DVR's **Client Port** (default: **9000**).
 - 4.6. Click **Login**.
- If this is the first time connecting to your system, you will be prompted to change the password. Enter a new 6 character password and click **OK**.

The image shows a 'Change Password' dialog box with the following fields and buttons:

- Message: Current password is insecure, please change the password.
- New Password: [text input field]
- Confirm Password: [text input field]
- OK button
- Cancel button

5. Enter the new password in the login screen and click **Login** to connect to the DVR. The Client Software connects to your DVR and streams live video from your cameras.

Upon login, the Live tab opens. The Client Software interface is the same on PC or Mac.



1. **Navigation Tabs:** Allows you to access the following tabs:

- **Live:** Watch live video.
- **Playback:** View saved video footage.
- **Remote Setting:** Configure system and networking options.
- **Local setting:** Configure where local files are stored on your hard drive.
- **Logout:** Exits remote viewing.

2. **Active Channel List:** Displays channels that are currently live.

3. **Main Screen:** Main display screen for live viewing and playback. You can also drag the screens to any desired position.

4. **Viewing options:**

- : Click to open all connected channels.
- : Click to close all connected channels. Note that the system continues to record when you close channels remotely.
- : Previous page.
- : Next page.
- : Click to open the selected channel in full screen view.
- : Click to select the desired split-screen viewing options.

5. **Split screen Views:** Click the desired viewing mode.

6. **Mute:** Click to mute audio (not supported).



NOTE

The LH050 Series does not support audio recording.

7. **Connection Status:** Shows the type of connection used.

- **P2P** (peer-to-peer) indicates that the video is streaming directly from the DVR to the computer running the Client Software.
- **RLY** (relay) indicates that the video is streaming through a Lorex video server. While relay mode is activated, the system will disconnect after 10 minutes of inactivity. Relay mode is only used when a direct connection cannot be made between the DVR and computer.

17.1 Changing Viewing Modes

You can change the number of channels that the system displays simultaneously (i.e. Split-screen Mode, Single-channel Mode, etc.).

To change the DVR's viewing mode:

- Click one of the following:

To record video:

1. Click  next to the channel that you wish to capture video from. The video will record to the default save directory.



2. Click  to stop video recording.

17.4 Showing / Hiding Channels

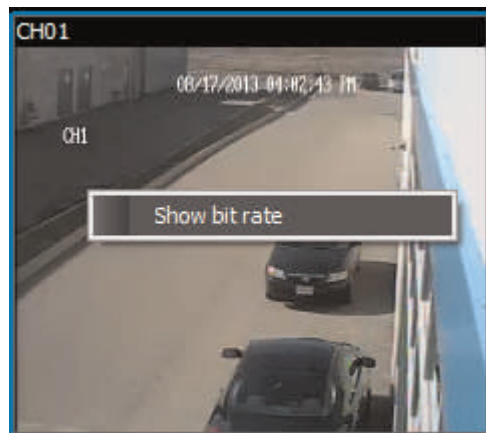
The Active Channel List is a convenient way to show / hide the cameras that display in the main viewing window.

To show or hide video in the main video window:

1. Click  beside the channel number to show a channel. Click  again to hide the channel.

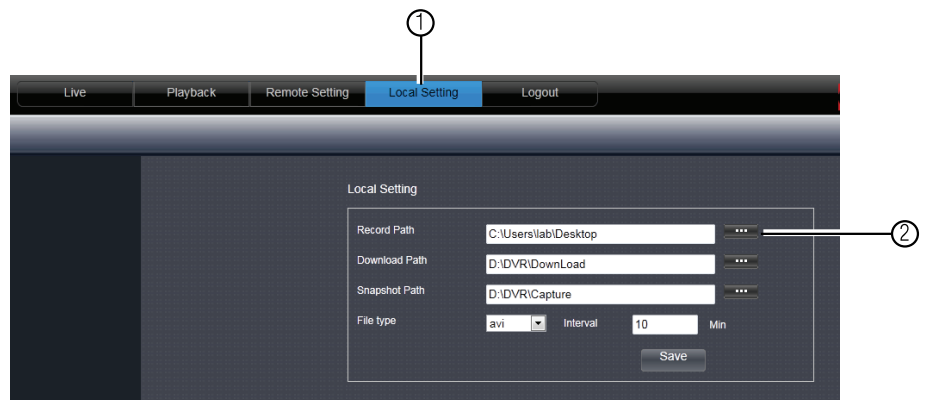
**17.5 Viewing the Bit Rate**

- Right-click on a channel and click **Show Bit rate** to display the video bit rate.



17.6 Changing the Save Directory of Screenshots or Recorded Video

1. Click the **Local Setting** tab.



2. Click  beside the desired category to browse for a save directory.
3. Select the desired save directory, and then click **OK**.
4. Click **Save** to save your changes.

17.7 Changing the Format of Recorded Video (PC Only)

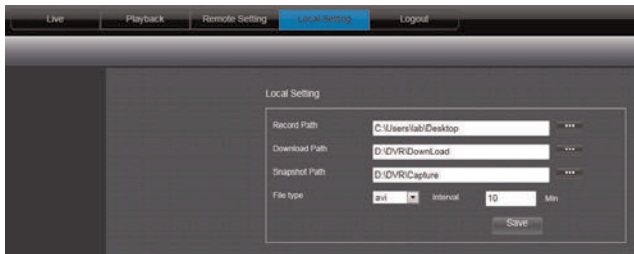
You can change the format of recorded video saved using Remote Surveillance. This allows you to directly backup footage from your DVR as an .avi file. This does not affect the format of video files that are backed up locally on the DVR (i.e. using a USB flash drive).



NOTE

This feature is not available via Mac.

1. Click the **Local Setting** tab.



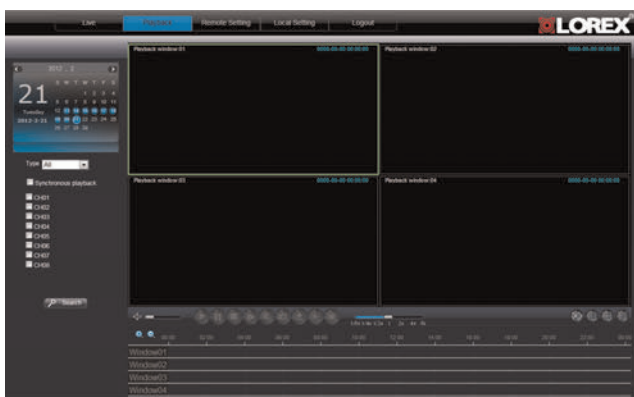
2. Under **File Type**, select the file format you would like to use when saving video (**264** or **avi**).
3. (Optional) Under **Interval**, select the maximum length (in minutes) for video saved on the remote computer.
4. Click **Save** to save your changes.

17.8 Video Playback

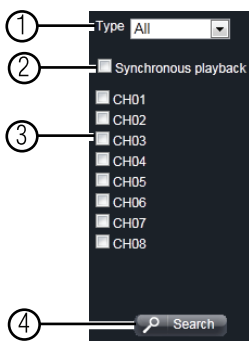
Video playback allows you to watch video that has been saved in the DVR's hard drive.

To playback video:

1. Click the **Playback** tab.

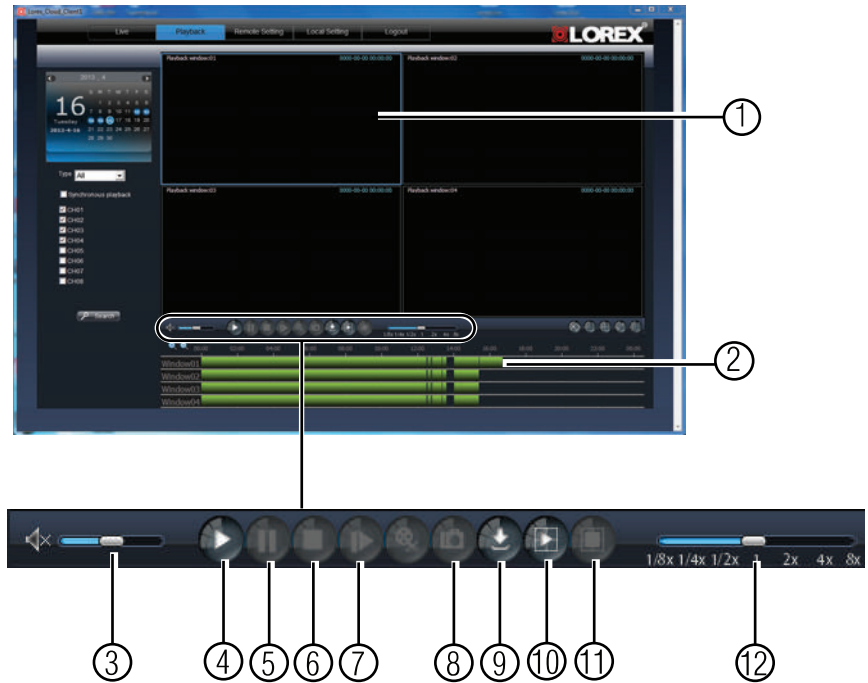


2. In the calendar window, click the desired month, year, and date. Then, perform the following:



- 2.1. Under the **Type** drop-down menu, select the desired recording type you wish to search for (Continuous, Motion, or All).
 - 2.2. Check **Synchronous playback** to play all selected channels at the same time.
 - 2.3. Select the channels you wish to search.
 - 2.4. Click the **Search** button.
1. Click  to begin playback.

17.8.1 Video Playback Controls



1. **Playback Window.**
2. **Video Content:** Drag the line left or right to select the playback time.
3. **Volume.**
4. **Play.**
5. **Pause.**
6. **Stop.**
7. **Step Forward:** Click to advance the video by one frame.
8. **Take Screenshot.**
9. **Download:** Allows you to download recorded videos to your computer hard drive. To download video, click the channel you want to back up and click the Download content button. A list of files appears. Select the files you want to back up and click **Start Download**.
10. **Play All.**
11. **Stop All.**
12. **Speed Slider:** Drag the slider to control playback speed.

17.9 Configuring Display Settings

1. Click the **Remote Setting** tab, and then click **Display>Live**.



2. Configure the following:
 - **Channel:** Select the channel you want to modify.
 - **Name:** Enter the channel name if you want to re-name the channel
 - **Position:** Select the position of where the title appears in the channel.
 - **Covert:** **Enable** or **Disable** covert recording. Covert recording will hide the channel on the DVR's local display. You will be able to see the channel when you log in remotely.
 - **Show Time:** Select **Enable** or **Disable** to show or hide the time on the DVR's local display.
 - **Record Time:** Select **Enable** or **Disable** to show or hide the record time on the remote display.
3. Click **Save** to apply your settings.

17.10 Configuring Privacy Zone Settings

CAUTION

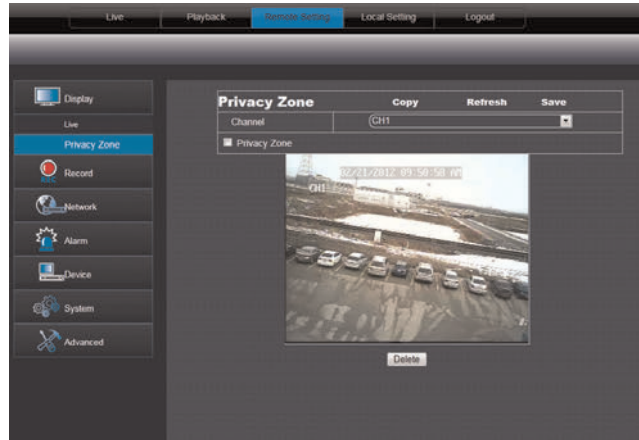
Areas covered by privacy zones are not visible in recordings.

You can blank out a certain portion of the channel with a black box.

To configure a privacy zone:

1. Click the **Remote Setting** tab, and then click **Display>Privacy Zone**.
2. In the **Channel** drop-down menu, select the channel you wish to configure.
3. Select the **Privacy Zone** checkbox to enable privacy masking.

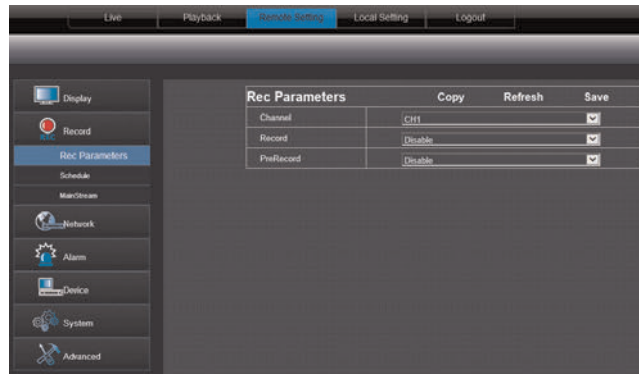
4. Drag your mouse cursor over the areas you wish to black out. A red box indicates the area that is masked (blocked out).



- To remove a privacy area, click on the red box, then click the **Delete** button.
5. Click **Save** to apply your settings.

17.11 Configuring Recording Parameters

1. Click the **Remote Setting** tab, and then click **Record>Rec Parameters**.



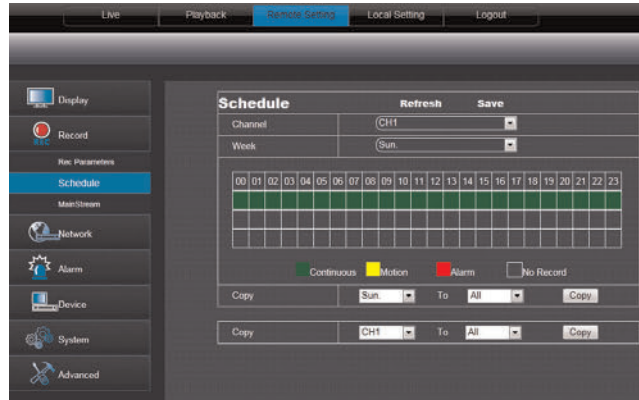
2. Configure the following:
 - **Channel:** Select the channel you wish to configure.
 - **Record:** Select **Enable** or **Disable** to start or stop system recording.
 - **Pre-record:** Select whether to enable or disable pre-recording.
3. Click **Save** to apply your settings.

17.12 Configuring the Recording Schedule

1. Click the **Remote Setting** tab, and then click **Record>Schedule**.

2. Configure the following:

- **Channel:** Select the channel you wish to configure.
- **Week:** Select the day of the week you would like to apply the settings to.



The recording schedule is arranged as a grid. Each row represents a recording type (Continuous and Motion), and each box represents an hour.

3. Click the recording grid, and select the type and duration of recording.
4. (Optional) Use the top **Copy** and **Copy To** drop-down to copy the recording schedule to a specific day or all days. Click **Copy** to copy the schedule.
5. (Optional) Use the bottom **Copy** and **Copy To** drop-down to copy the recording schedule to a specific channel or all channels. Click **Copy** to copy the schedule.
6. Click **Save** to apply your settings.

17.13 Configuring System Recording Quality

1. Click the **Remote Setting** tab, and click **Record>MainStream**.



2. Under **Resolution Mode**, select **D1** or **960H**. If you change the Resolution Mode setting, the system will restart once you save your changes.
3. Configure the following:
 - **Channel:** Select the channel you wish to apply the settings to.
 - **Resolution:** Select the desired recording resolution.
 - **FPS (Framerate):** Select the desired recording frame rate. Note that higher frame rates require greater bandwidth consumption during remote viewing.
4. Click **Save** to apply your settings.

17.14 Configuring Basic Network Settings

The basic network menu allows you to configure the network protocol type (DHCP or Static).

To configure basic network settings:

1. Click the **Remote Setting** tab, and click **Network**.

Network		Refresh	Save
Type	DHCP		
Client Port	8000		
HTTP Port	80		
IP Address	192.168.0.130		
Subnet Mask	255.255.255.0		
Gateway	192.168.0.1		
DNS 1	207.164.234.133		
DNS 2	0.0.0.0		
Auto Port Forwarding	Enable		

2. Configure the following:
 - **Type:** Select between **DHCP** or **Static**. If you select Static, you can edit the IP address, Subnet Mask, Gateway, and DNS settings.
 - **Auto Port Forwarding:** Select **Enable** or **Disable** to enable or disable the Auto Port Forwarding feature.
3. Click **Save** to apply your settings.

17.15 Configuring the System Substream

You can adjust the data streaming rate (also called the SubStream) when you connect to the system remotely. If you want to conserve bandwidth, select a lower frame rate and bitrate.



NOTE

Setting your system to stream with a lower frame and bitrate may cause the video to appear choppy or slow.

To configure the system's substream:

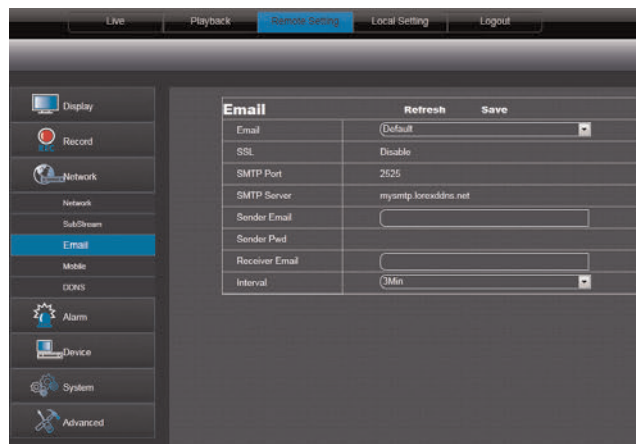
1. Click the **Remote Setting** tab, and click **Network>SubStream**.



2. Configure the Substream settings:
 - **Channel:** Select the channel you wish to apply the settings to.
 - **Resolution:** Select the desired recording resolution.
 - **FPS (Framerate):** Select the desired recording frame rate. Note that higher frame rates require greater bandwidth consumption during remote viewing.
 - **Bit Rate:** Select the desired video bit rate.
3. Click **Save** to apply your settings.

17.16 Configuring Email Notification Settings

1. Click the **Remote Setting** tab, and click **Network>Email**.



2. In the Email drop-down menu, select **Default** to use the default Lorex email server (recommended) or select **Custom** to use your own custom SMTP email server.

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

1. In the **Sender Email** field, enter the email address of the sender. This can be any email address of your choice.
2. In the **Receiver Email** field, enter the email address you want the DVR to send notifications to.

3. In the **Interval** drop-down menu, enter the duration the DVR must wait before sending out a new notification. For example, if you select a 3 minute interval, the DVR will send out email notifications every 3 minutes until the DVR stops detecting motion. The DVR will only send out notifications when it detects motion.
4. Click **Save** to save your settings.

If you select "Enable", and want to use your own email server:

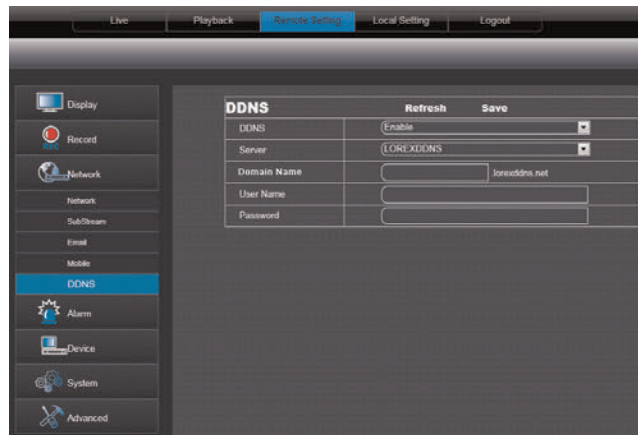
1. Configure the following:
 - **SSL:** Select **ON/OFF** to enable/disable Secure Socket Layer protocol.
 - **SMTP Port:** Enter your SMTP address.
 - **SMTP Server:** Enter your SMTP Server.
 - **Sender Email:** Enter the sender email address. This can be any address of your choice.
 - **Sender Password:** Enter your email server's password.
 - **Receiver Email:** Enter the recipient's email address.
 - **Interval:** Enter the interval the DVR waits before sending a new email notification.
2. Click **Save** to save your settings.

17.17 Configuring DDNS Settings

The primary connectivity option uses Lorex Stratus Connectivity to connect to your system over the Internet without requiring port forwarding or DDNS registration (see 16 *Connecting to Your DVR Over the Internet on PC or Mac* for details). Lorex DDNS is also available as an optional connectivity option (see 22 *DDNS Setup—Access your DVR Remotely over the Internet*, page 146 for details).

To configure DDNS settings:

1. Visit <http://www.lorexddns.net> and register for a free DDNS account.
2. Click the **Remote Setting** tab, and click **DDNS**.



3. Configure the following:
 - **DDNS:** Select **Enable** or **Disable**.
 - **Server:** drop-down menu, select **LOREXDDNS**.
 - **Domain Name:** Enter your **Domain name/URL Request** from the confirmation email that was sent after you created your DDNS account.
 - **User name:** Enter your **DDNS User Name** that was emailed to you after DDNS registration.
 - **Password:** Enter your **DDNS Device password** that was emailed to you after DDNS registration.

-
4. Click **Save** to apply your settings.

17.18 Configuring Motion Detection Settings

1. Click the **Remote Setting**, and click **Alarm>Motion**.
2. Configure the following motion recording parameters:
 - **Channel**: Select the channel you wish to apply the settings to.
 - **Sensitivity**: Select the desired motion detection sensitivity. The greater the value, the greater the motion sensitivity.
 - **Buzzer**: Select **OFF** to disable the buzzer when the system detects a motion event or select the duration of the buzzer after the system detects a motion event.
 - **Full Screen**: Select the checkbox so that the channel goes into full screen mode when motion is detected.
 - **Enable Record**: Select to enable system recording when motion is detected.
 - **Post Recording**: Select the post-recording time after a motion event occurs.
 - **Record Channel**: Select the channels that should record during a motion event.
 - **Show Message**: Select the checkbox to enable the system to display a warning message during a motion event.
 - **Send Email**: Select the checkbox for the system to send a email notification during a motion event.
3. Click **Save** to apply your settings.

17.19 Configuring your System to "Beep" During Motion

You can set your system to "beep" during motion. This is useful to notify you if someone enters or exits an area.

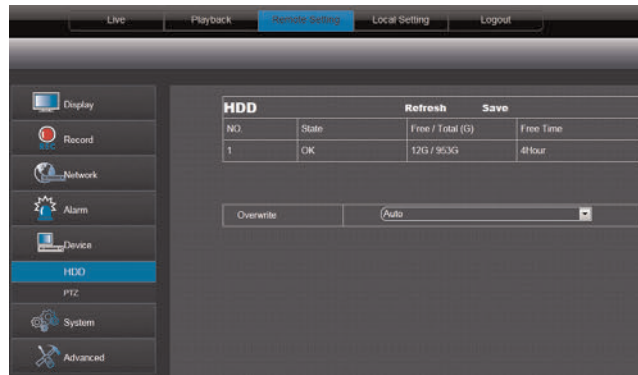
To configure the system to "beep" during motion:

1. Click the **Remote Setting** tab, and click **Alarm>Motion**.
2. In the **Channel** drop-down menu, select the channel you wish to configure.
3. Select the **Enable** checkbox.
4. Beside the **Buzzer** drop-down menu, select the "beep" duration or select **OFF** to disable the "beep."
5. In the video window, select the area you wish to monitor for motion.
6. Click **Save** to apply your settings.

Result: The system beeps when it detects motion, and a green "M" icon appears. The green "M" icon indicates that the system is only detecting motion, but not recording. To have the system record motion events, enable motion recording in the recording calendar (**Remote Setting tab>Record>Schedule**).

17.20 Configuring Hard Drive Recording Mode

1. Click the **Remote Setting** tab, and click **Device>HDD**.



2. In the **Overwrite** drop-down menu, select **Auto** to enable overwrite mode.

NOTE

When overwrite is enabled, the system deletes the oldest footage (first in, first out) when the hard drive is full. You can also select a desired amount of days or hours the system should retain data. For example, if you select 30 days, the hard drive will begin to overwrite itself after 30 days. Note that your hard drive must be large enough to store video for the selected duration.

3. Click **Save** to apply your settings.

17.21 Configuring the System Time and Date

1. Click the **Remote Setting** tab, and click **System>General**.



2. Configure the system format and time:
 - **System Time:** Enter the desired system time and date. An on-screen calendar appears when you click the date.
 - **Date Format:** Select the desired format the date is displayed in.
 - **Time Format:** Select between 12 hour or 24 hour time formats.

3. Select **DST** to enable daylight savings time, or **NTP** to sync the time with a NTP time server.

**NOTE**

Using the NTP feature requires that your DVR have a constant Internet connection.

17.22 Changing the System's Menu Time Out

1. Click the **Remote Setting** tab, and click **System>General**.
2. In the **Menu Timeout** drop-down menu, select the duration the menu stays on screen before disappearing.
3. Click **Save** to apply your changes.

17.23 Configuring System User Accounts

You can add user accounts on the system.

To configure the user accounts menu:

1. Click the **Remote Setting** tab, and click **System>Users**.

NO.	User Name	Password	Active	Refresh
1	admin	Disable	Enable	
2	user1	Disable	Disable	
3	user2	Disable	Disable	
4	user3	Disable	Disable	
5	user4	Disable	Disable	
6	user5	Disable	Disable	
7	user6	Disable	Disable	

Save

User Name:

Password:

Confirm:

Active:

Password:

Log Search ☐ **Parameter** ☐ **Maintain** ☐

Disk Manage ☐ **Remote Login** ☐ **SEO Control** ☐ **Manual Record** ☐

Backup

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Live

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Playback

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

PTZ Control

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

2. Configure the following:
 - Click the desired user you wish to configure (i.e. user1).
 - **User name:** Enter the desired user name.
 - **Password:** Enter the desired user password.
 - **Confirm:** Re-enter the user password.
 - **Active:** Select **Enable** or **Disable** to activate or de-activate a user account.
 - **Password:** Select **Enable** to require a user password when users log on.
3. Select the menus that the user will have access to.
4. Click **Save** to apply your settings.

17.24 Viewing System Information

1. Click the **Remote Setting** tab, and click **System>Info**.

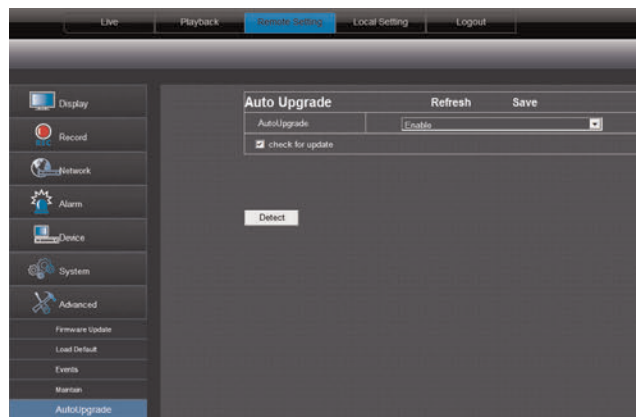


17.25 Configuring Firmware Upgrades

Firmware upgrades can provide improved functionality to your DVR. When firmware upgrades become available, you will automatically be prompted to upgrade your system. You must have the latest DVR firmware and client software to connect to the DVR over the Internet.

To configure firmware auto upgrades:

1. Click the **Remote Setting** tab, and click **Advanced>Auto Upgrade**.



2. Under **Auto Upgrade**, select **Enable** to enable automatic firmware updates. Messages for firmware upgrades will appear on the DVR locally and on the client software.
3. Check **Check for update** to enable local messages on the DVR to notify you for updates. The system will check for firmware upgrades every hour.



NOTE

Click **Detect** to check for firmware updates manually.

4. Click **Save** to save changes.

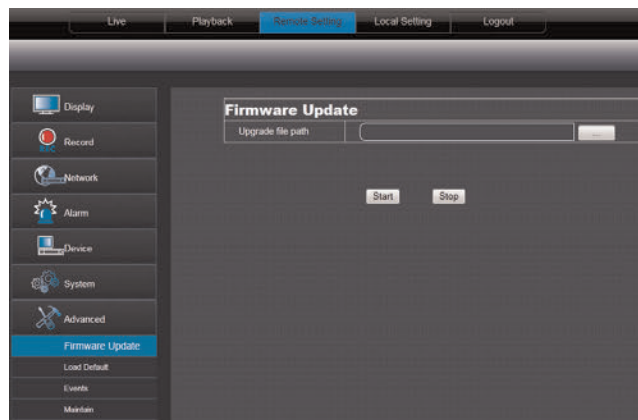
17.26 Manually Upgrading System Firmware

To manually upgrade the system firmware, download the latest firmware from the system's product page at www.lorextechnology.com.

You must have the latest DVR firmware and client software to connect to the DVR over the Internet.

To upgrade the system firmware:

1. Download and extract the file to your computer's desktop.
2. Click the **Remote Setting** tab, and click **Advanced>Firmware upgrade**.



3. Beside **Upgrade File Path**, click the browse button (...). Locate the firmware, and click **Open**.
4. Click **Start** to begin the firmware upgrade.
5. Follow the on-screen instructions to complete the firmware upgrade.

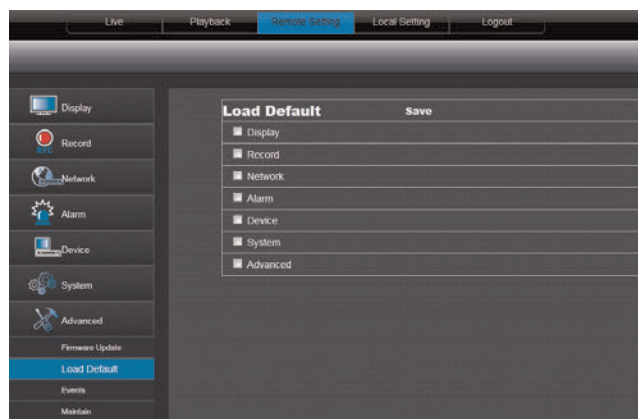


CAUTION

DO NOT POWER OFF THE DVR OR DISCONNECT THE POWER CABLE DURING A FIRMWARE UPGRADE. Your system will restart during the firmware upgrade process.

17.27 Restoring Default Settings

1. Click the **Remote Setting** tab, and click **Advanced>Load Default**.



2. Select the menus that you wish to restore to factory defaults.

3. Click **Save** to restore system defaults for the selected items.

17.28 Configuring Event Settings

The Event Settings tab allows you to configure how the system behaves when a system event occurs (e.g. hard drive error, video loss). This is useful if you want your DVR to notify you if there is a potential system problem.

To configure the system event settings:

1. Click the **Remote Setting** tab, and click **Advanced>Events**.



2. Configure the following:
 - **Event Type:** Configure the type of event that triggers the system to send an alert.
 - **Enable:** Select **Enable** to activate the system to notify you if an event occurs.
 - **Buzzer:** Select **OFF** to enable/disable the system buzzer or select the duration of the system buzzer after an event occurs.
 - **Show Message:** Select the checkbox to enable the system to display a warning message when an event occurs.
 - **Send Email:** Select the checkbox to enable email notifications. Email notification must be enabled.
 - **Latch Time:** Configure the system latch time after an event occurs.
3. Click **Save** to save changes.

Mobile Apps : Accessing your DVR Using a Mobile Device

18.1 FLIR Secure™

You can view video from your security cameras on compatible smartphones and tablets from anywhere in the world over the Internet. Our new systems feature remote access with our new, powerful FLIR Secure™ app, which provides hassle-free remote access that is secure, reliable, and easy to set up.



NOTE

Some configurations of this recorder may not support FLIR Secure™ setup. Please refer to the Quick Networking Guide provided with your security system to determine whether or not your recorder is FLIR Secure™ enabled.

If your recorder does not support FLIR Secure™, you can still set up remote access using our Lorex Eco Stratus mobile app. See 18.2 *Lorex Stratus Connectivity*, page 107 for full setup instructions.

18.1.1 Connect to Your Mobile Device Using FLIR Secure™

Use the **FLIR Secure™** application to connect to your recorder on your mobile device.

Requirements

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



NOTE

For the latest list of supported apps and devices, visit www.lorextechnology.com/support.



NOTE

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

To add a device:

1. Install the free FLIR Secure™ app from the App Store or Google Play Store.
2. Tap the FLIR Secure™ icon () to open the app.
3. Tap **SIGN UP**, then enter your email address and password to create a new account.



NOTE

If you already have an account, enter your email address and password and tap **LOG IN**. If you re-install FLIR Secure™ and log in, the app prompts you to re-enter login credentials for all the devices in your account.

4. Tap , then tap **Security System**.
5. Use the camera of your mobile device to scan the QR code on top of your recorder.



NOTE

If you cannot scan the QR code, tap  and enter the **Device ID** located under the QR code.



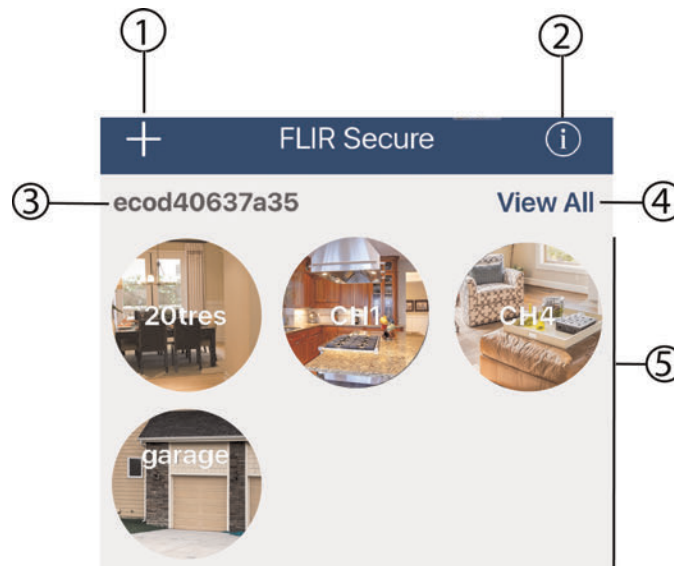
NOTE

Make sure your device is on and connected to the network.

6. Enter the recorder's user name (default: **admin**), and the recorder's password (default: **000000**). Tap **Done**.
7. On the **Update Device Name** screen, enter a new name for your device and tap **NEXT**. You will be prompted to change the device password.
8. Enter a new 6 character password and tap **DONE**. This password will be used to log on to your system from now on.
9. The app displays all the cameras that are connected to your recorder on the home screen. Tap any camera to stream live video from it.

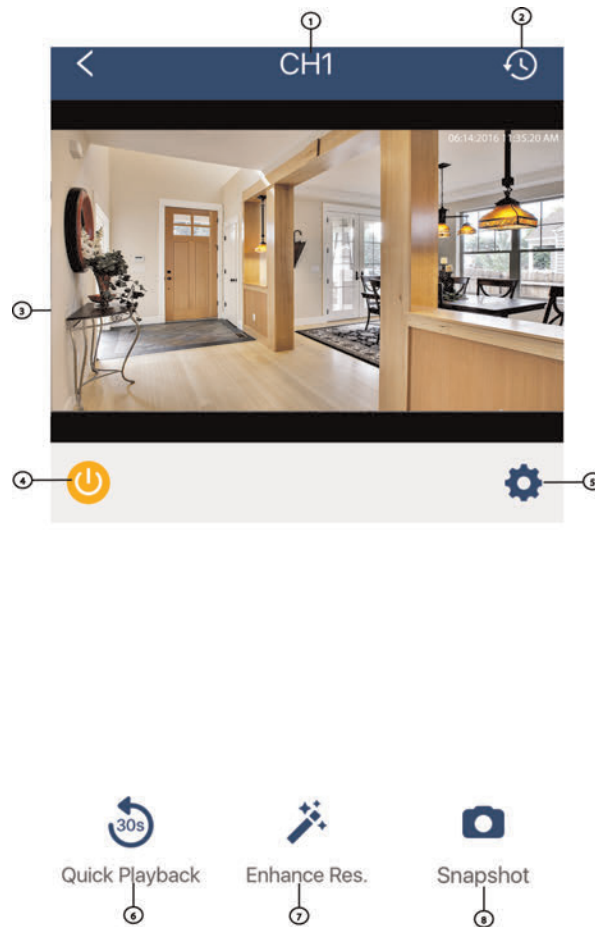
**NOTE**

If you already have cameras and recorders associated with your FLIR Secure™ account, you can find them under the **Cameras** and **Security Systems** tabs in the FLIR Secure™ home screen.

18.1.2 iPhone**18.1.2.1 FLIR Secure™ Interface****Home Screen**

1. : Tap to add new devices or create new groups.
2. : Tap to view the FLIR Secure™ app information. You can also log out from the FLIR Secure™ app in this screen by tapping **Log Out**.
3. **Device Name / ID**
4. **View All**: Tap to stream live video from all connected cameras. Tap (hold for one second) and drag a camera channel to rearrange it.
5. **Camera channels**

Single-Channel Live View



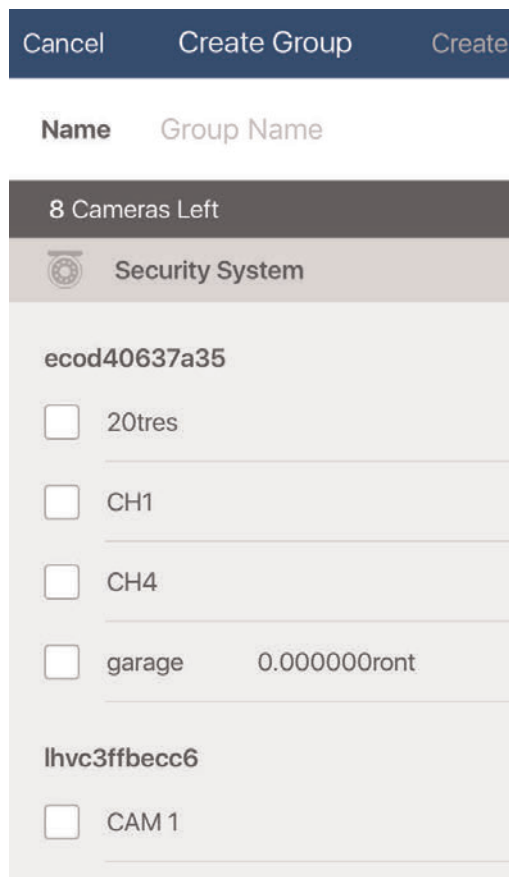
1. **Channel number / channel name**
2. **Playback History:** Tap to view recorded videos saved on your recorder's hard drive.
3. **Live View:** Double-tap to zoom in. Turn your mobile device sideways to view in landscape mode, or hold upright to view in portrait mode.
4. **Disconnect Camera Channel:** Tap to disable live video, video recording, and push notifications. Tap again to enable the disconnected camera.
5.  : Tap to open channel settings for the selected camera channel. You can change the channel name, enable PTZ controls (not applicable for LH050 Series), and enable motion detection notification for the selected camera channel. Tap **Save** after you make your changes. On the channel settings screen, swipe to the bottom of the screen and tap **DEVICE SETTINGS** to view your device information. You can also change the device name, enable / disable mobile notifications for your device, enable / disable device error notifications, and check the Cloud subscription plan for your camera channels.

6. **Quick Playback:** Tap to play back video from the last 30 seconds for the camera channel. Tap anywhere on the video to pause / play the playback.
7. **Enhance Res:** Tap to enhance the resolution of the camera image.
8. **Snapshot:** During single-channel live view and quick playback mode, tap to take a screenshot of the currently-selected channel. Your mobile device must be in portrait mode.

18.1.2.2 Creating Groups

The **CREATE GROUP** function allows you to group multiple cameras from various devices in your FLIR Secure™ account. You can then quickly bring up the selected group of cameras in Live View without having to individually select each camera.

1. From the home screen, tap .
2. Tap **CREATE GROUP**. The FLIR Secure™ app displays all cameras that are connected to your FLIR Secure™ account.



3. Tap the **Name** text box and enter a group name of your choice.
4. Select the cameras you would like to include in the new group and tap **Create**.

	NOTE
You can add a maximum of 8 cameras to a group.	

-
5. On the home screen, you will notice a new tab called **Groups**. Tap to view the new group you created.
 6. Tap the group to stream live video from all the cameras in the group.

18.1.2.2.1 How to Edit a Group

To edit a group:

1. On the home screen, tap the **Groups** tab.
2. Tap **Edit** next to the group you want to edit. The **Edit Group** screen appears.
3. Tap **Save** after you make your changes.



NOTE

Tap the **Name** text box to rename your group.

18.1.2.2.2 How to Delete a Group

To delete a group:

1. On the home screen, tap the **Groups** tab.
2. Tap **Edit** next to the group you want to edit. The **Edit Group** screen appears.
3. Swipe to the bottom of the screen and tap **Delete Group**.
4. A confirmation pop-up appears. Tap **Delete Group** again. Your group is deleted.

18.1.2.3 Using History Mode

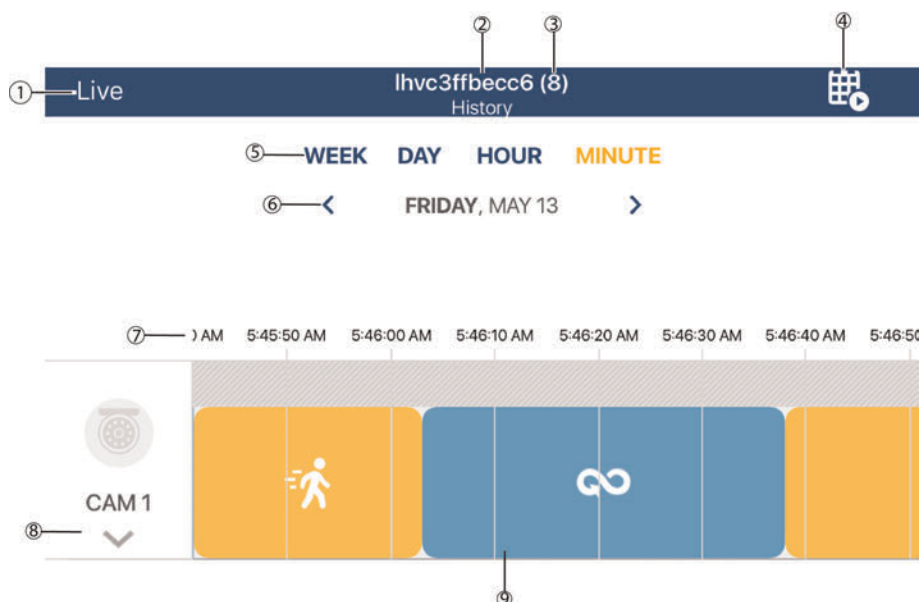
History mode allows you to view recorded video saved on your recorder's hard drive.

To use History mode:

1. From the Home screen, tap **View All** next to the device name / device ID of the recorder you would like to play back from. The FLIR Secure™ app will stream live video from all cameras connected to your recorder.
2. Tap .

3. The **History** screen appears.

History Screen



- 1. Go back to Live View
- 2. Device Name / ID of your recorder
- 3. Shows the number of cameras connected to your recorder
- 4. Play multiple recordings within a desired time frame.
- 5. Tap to select a time scale. You can search recordings by week, day, hour, or minute.
- 6. Tap the left / right arrow to select the day you would like to play back from.



NOTE

If you select **WEEK** as the time scale, this becomes a range of dates, for example: May 08 — May 14.

- 7. Changes according to the time scale selected. For example, if you select **DAY** as your time scale, this area shows: 12 AM, 4 AM, 8 AM, etc.
- 8. Swipe up / down to select the camera channel you would like to play back from.
- 9. Swipe left / right to search for recordings. Tap inside the timeline to select the playback time. Playback starts immediately at the selected time.



NOTE



: Motion recording

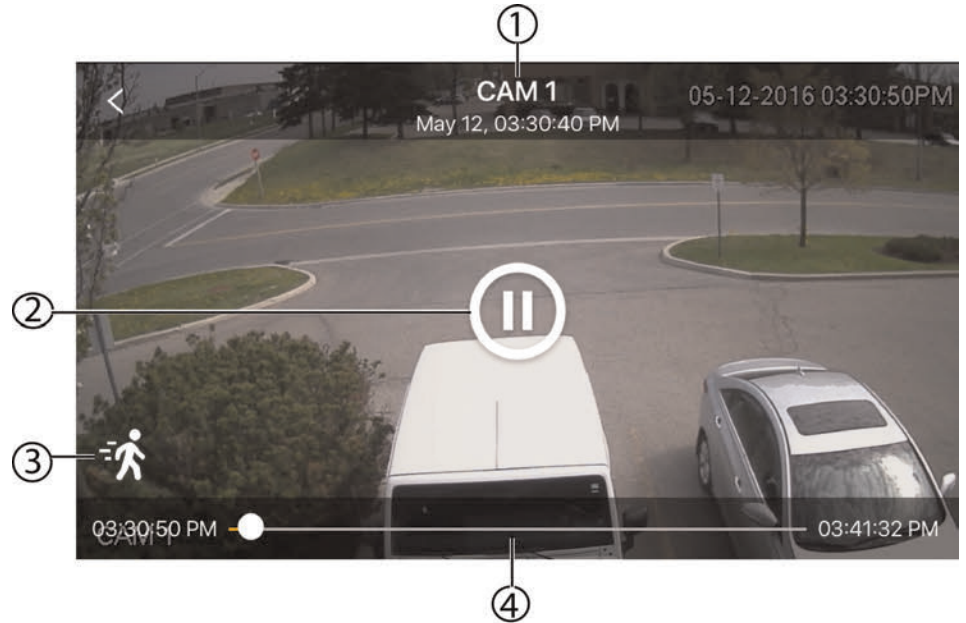


: Continuous recording



NOTE

Recordings are also color-coded: orange for motion events, and blue for continuous recording. No color indicates that no recordings are available.

Playback Controls:

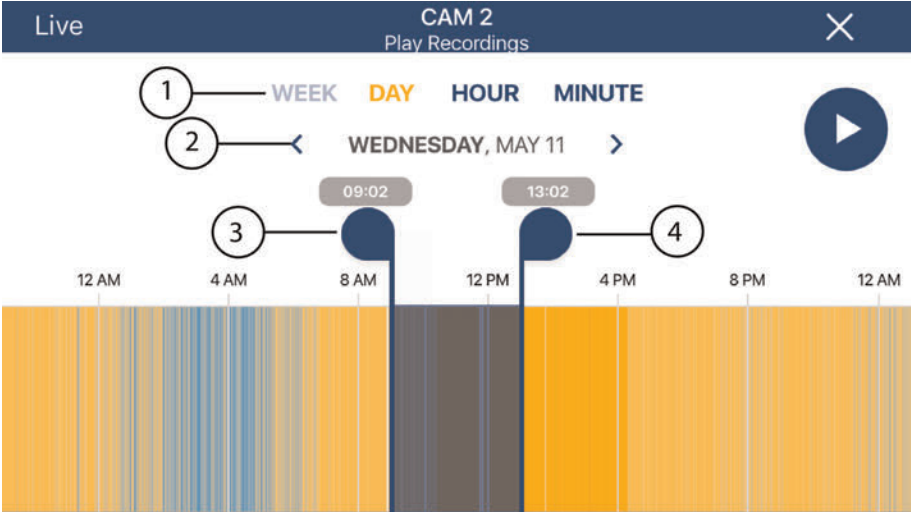
1. Channel, day, and time indicator
2. Tap anywhere in the playback video to pause / play.
3. Indicates the type of recording, for example: motion or continuous event.
4. **Playback duration:** Shows the length of the recording and how much has been viewed. You can tap and drag inside the time bar to select the time you wish to view.

18.1.2.3.1 How to Play Multiple Recordings

To play multiple recordings within a desired time frame for a single channel:

1. From the Home screen, tap the camera channel under the recorder you would like to play back from. The FLIR Secure™ app will stream live video from the selected camera channel.
2. Tap . The **History** screen appears.
3. Tap . The **Play Recordings** screen appears.

4. Play Recordings Screen



- 1. Select the time scale. You can search recordings by week, day, hour, or minute.
- 2. Tap the left / right arrow to select the day you would like to play back from.
- 3 and 4: Playback start and end markers
- 5. Tap and drag the markers to set a time frame for playback. The marker on the left sets the start time for playback and the marker on right sets the end time.
- 6. Tap . Playback will start within the time frame that you selected.

NOTE

Tap / to play the previous / next playback video, respectively.

18.1.2.4 How to Manage Devices in the FLIR Secure™ app

You can add, delete, or modify your devices in the FLIR Secure™ app:

To add devices in the FLIR Secure™ app, see 18.1.1 *Connect to Your Mobile Device Using FLIR Secure™*, page 88

To modify a device:

- 1. From the Home screen, tap a camera channel under the recorder you want to modify. The FLIR Secure™ app will stream live video from the selected camera channel.
- 2. Tap . The app opens a channel settings screen.
- 3. Swipe to the bottom of the screen and tap **DEVICE SETTINGS**.
- 4. The **Device Settings** screen appears. You can modify the name of your device, enable / disable mobile and device error notifications.
- 5. Tap **Save** after you make your changes.

NOTE

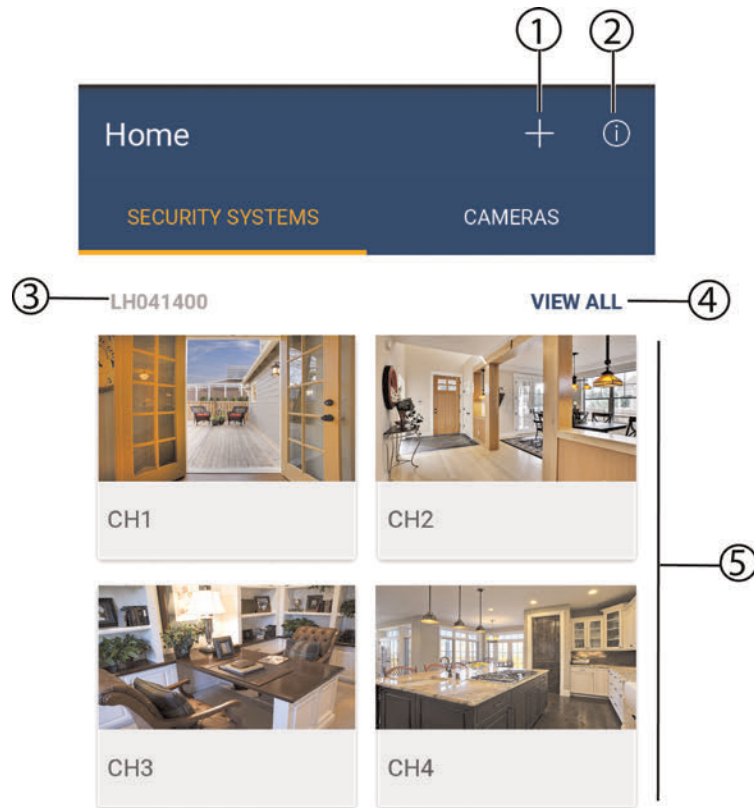
You can change the password of your recorder through the FLIR Secure™ app (for **Admin** users only). From the **Device Settings** screen, tap **Update password** and enter a new password for your recorder. Tap **UPDATE**. Your password is updated in the FLIR Secure™ app and recorder.

To delete a device:

1. From the Home screen, tap a camera channel under the recorder you want to delete. The FLIR Secure™ app will stream live video from the selected camera channel.
2. Tap . The app opens a channel settings screen.
3. Swipe to the bottom of the screen and tap **DEVICE SETTINGS**.
4. The **Device Settings** screen appears. Swipe to the bottom of the screen and tap **RE-MOVE DEVICE**.
5. A confirmation pop-up appears, tap **OK**.

18.1.3 Android Phone

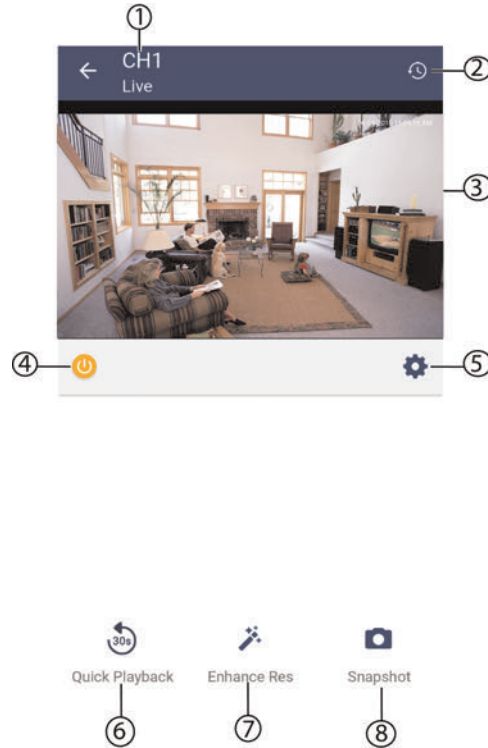
18.1.3.1 FLIR Secure™ Interface



Home Screen

1.  : Tap to add new devices or create new groups.
2.  : Tap to view the FLIR Secure™ app information. You can also log out from the FLIR Secure™ app in this screen by tapping **Log Out**.
3. **Device Name / ID**
4. **VIEW ALL**: Tap to stream live video from all connected cameras. Tap (hold for one second) and drag a camera channel to rearrange it.
5. **Camera channels**

Single Channel Live View



1. **Channel number / channel name**
2. **Playback History:** Tap to view recorded videos saved on your recorder's hard drive.
3. **Live View:** Double-tap to zoom in. Turn your mobile device sideways to view in landscape mode, or hold upright to view in portrait mode.
4. **Disconnect camera channel:** Tap to disable live video, video recording, and push notifications. Tap again to enable the disconnected camera.
5.  : Tap to open channel settings for the selected camera channel. You can change the channel name, enable PTZ controls (not applicable for), and enable motion detection notification for the selected camera channel. Tap **SAVE** after you make your changes. On the channel settings screen, swipe to the bottom of the screen and tap **DEVICE SETTINGS** to view your device information. You can also change the device name, enable mobile notifications for your device, and check the Cloud subscription plan for your camera channels.
6. **Quick Playback:** Tap to play back video from the last 30 seconds for the camera channel. Tap anywhere on the video to pause / play the playback.
7. **Enhance Res:** Tap to enhance the resolution of the camera image.
8. **Snapshot:** During single channel live view and quick playback mode, tap to take a screenshot of the currently-selected channel. Your mobile device must be in portrait mode.

18.1.3.2 Creating Groups

The **CREATE GROUP** function allows you to group multiple cameras from various devices in your FLIR Secure™ account. You can then quickly bring up the selected group of cameras in Live View without having to individually select each camera.

1. From the home screen, tap .
2. Tap **CREATE GROUP**. The FLIR Secure™ app displays all cameras and the cameras that are connected to your FLIR Secure™ account.

 **Create Group** CREATE

Name

Cameras Left 8

 **Security System**
lhvc3ffbcecc6

☐

CAM 1

☐

CAM 2

☐

CAM 3

☐

CAM 4

☐

CAM 5

☐

CAM 6

☐

CAM 7

☐

CAM 8

3. Tap the **Name** text box and enter a group name of your choice.

-
4. Select the cameras you would like to include in the new group and tap **CREATE**.

**NOTE**

You can add a maximum of 8 cameras in a group.

5. On the home screen, you will notice a new tab called **GROUPS**. Tap to view the new group you created.
6. Tap the group to stream live video from all the cameras in the group.

18.1.3.2.1 How to Edit a Group

To edit a group:

1. On the home screen, tap the **GROUPS** tab.
2. Tap  next to the group you want to edit. The **Edit Group** screen appears.
3. Tap **SAVE** after you make your changes.

**NOTE**

Tap the **Name** text box to rename your group.

18.1.3.2.2 How to Delete a Group

To delete a group:

1. On the home screen, tap the **Groups** tab.
2. Tap  next to the group you want to edit. The **Edit Group** screen appears.
3. Tap  next to **SAVE**.
4. Tap **Delete**.
5. A confirmation pop-up appears, tap **DELETE**. Your group is deleted.

18.1.3.3 Using History Mode

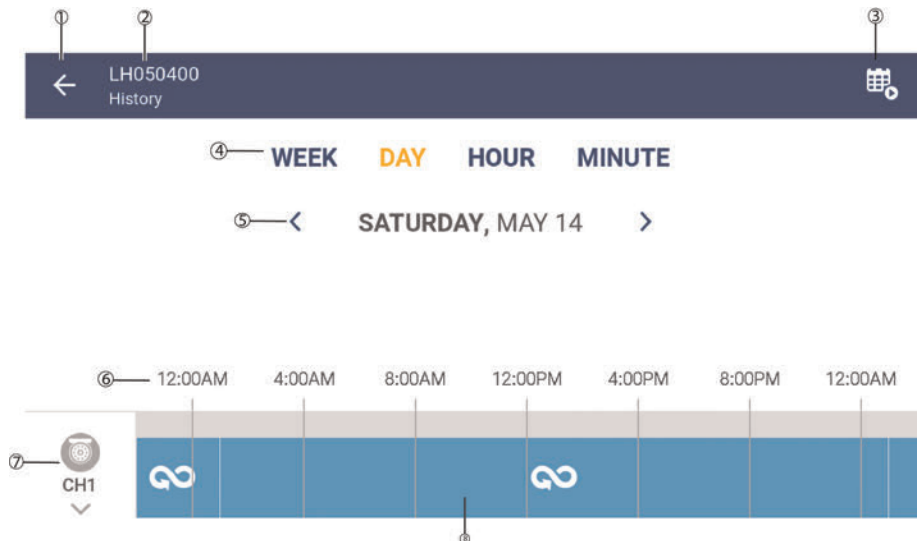
History mode allows you to view recorded video saved on your recorder's hard drive.

To use History mode:

1. From the Home screen, tap **VIEW ALL** next to the device name / device ID of the recorder you would like to play back from. The FLIR Secure™ app will stream live video from all cameras connected to your recorder.
2. Tap .

3. The **History** screen appears.

History Screen



- 1. Go back to Live View
- 2. Device Name / Device ID of your recorder
- 3. Play multiple recordings within a desired time frame.
- 4. Tap to select a time scale. You can search recordings by week, day, hour, or minute.
- 5. Tap the left / right arrow to select the day you would like to play back from.



NOTE

If you select **WEEK** as the time scale, this becomes a range of dates, for example: May 08 — May 14.

- 6. Changes according to the time scale selected. For example, if you select **DAY** as your time scale, this area shows: 12 AM, 4 AM, 8 AM, etc.
- 7. Swipe up / down to select the camera channel you would like to play back from.
- 8. Swipe left / right to search for recordings. Tap inside the timeline to select the playback time. Playback starts immediately at the selected time.



NOTE



: Motion recording



: Continuous recording



NOTE

Recordings are color-coded: orange for motion recording and blue for continuous recording. No color indicates that no recordings are available.

Playback Controls:

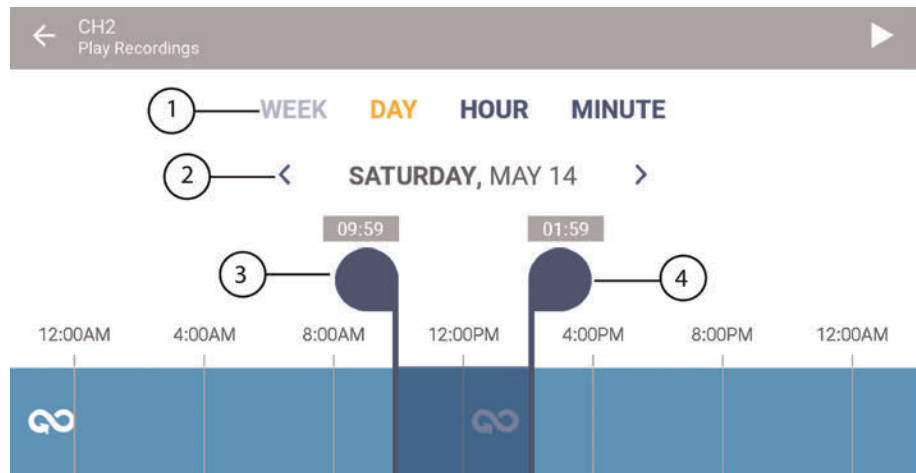
1. Channel, day, and time indicator
2. Tap anywhere in the playback video to pause / play.
3. Indicates the type of recording, for example: motion or continuous event.
4. **Playback duration:** Shows the length of the recording and how much has been viewed. You can tap and drag inside the bar to select the time you wish to view.

18.1.3.3.1 How to Play Multiple Recordings

To play multiple recording within a desired time frame for a single channel:

1. From the Home screen, tap the camera channel under the recorder you would like to play back from. The FLIR Secure™ app will stream live video from the selected camera channel.
2. Tap . The **History** screen appears.
3. Tap . The **Play Recordings** screen appears.

4. Play Recordings Screen



- 1. Select the time scale. You can search recordings by week, day, hour, or minute.
- 2. Tap the left / right arrow to select the day you would like to play back from.
- 3 and 4: Playback start and end markers
- 5. Tap and drag the markers to set a time frame for playback. The marker on the left sets the start time for playback and the marker on right sets the end time.
- 6. Tap . The playback will start within the time frame that you selected.

NOTE

Tap / to play the previous / next playback video, respectively.

18.1.3.4 How to Manage Devices in the FLIR Secure™ app

You can add, delete, or modify your devices using the FLIR Secure™ app:

To add devices in the FLIR Secure™ app, see 18.1.1 *Connect to Your Mobile Device Using FLIR Secure™*, page 88

To modify a device:

- 1. From the Home screen, tap the camera channel under the recorder you want to modify. The FLIR Secure™ app will stream live video from the selected camera channel.
- 2. Tap . The app opens a channel settings screen.
- 3. Swipe to the bottom of the screen and tap **Device Settings**.
- 4. The **Device Settings** screen appears. You can modify the name of your device, enable / disable mobile and device error notifications.
- 5. Tap **SAVE** after you make your changes.

NOTE

You can change the password of your recorder through the FLIR Secure™ app (for **Admin** users only). From the **Device Settings** screen, tap **Update password** and enter a new password for your recorder. Tap **UPDATE**. Your password is updated in the FLIR Secure™ app and recorder.

To delete a device:

1. From the Home screen, tap a camera channel under the recorder you want to delete. The FLIR Secure™ app will stream live video from the selected camera channel.
2. Tap . The app opens a channel settings screen.
3. Swipe to the bottom of the screen and tap **DEVICE SETTINGS**.
4. The **Device Settings** screen appears. Swipe to the bottom of the screen and tap **RE-MOVE DEVICE**.
5. A confirmation pop-up appears, tap **OK**.

18.2 Lorex Stratus Connectivity

You can remotely view camera streams from your DVR on compatible mobile phones and tablets. This system features connectivity using the exclusive Lorex Stratus Connectivity, which allows for easy access using a mobile device without requiring network configuration or a computer to complete the setup.

**NOTE**

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

18.2.1 Supported Apps and Platforms

Platform	App Name	Get App From
iPhone	Lorex Eco Stratus	Apple App Store
iPad	Lorex Eco Stratus HD	Apple App Store
Android	Lorex Eco Stratus	Google Play Store

For the latest list of supported apps and devices, visit www.lorextechnology.com/support.

18.2.2 iPhone

Use the **Lorex Eco Stratus** application to connect to your DVR on the iPhone.

Prerequisites

- An iTunes account (requires valid credit card number). Your credit card will not be billed when downloading the app.
- Connect your DVR to your router using an Ethernet cable (included).
- **Make sure to upgrade your DVR to the latest firmware version.** You must have the latest DVR firmware and mobile apps to connect to the DVR over the Internet.

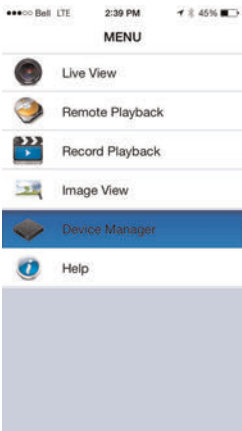
**NOTE**

For the latest list of supported apps and devices, visit www.lorextechnology.com/support.

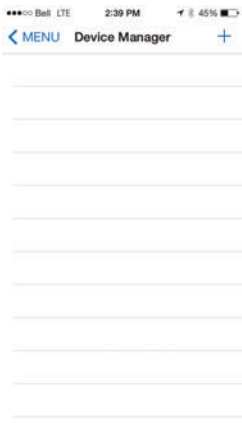
18.2.2.1 Connecting to Your System Using Lorex Eco Stratus

1. Install the **Lorex Eco Stratus** app for free from the App Store.
2. Tap the Lorex Eco Stratus icon () to open the app.

3. Tap **Device Manager**.



4. Tap **+**.



5. Configure the following:

EXAMPLE

Device configuration screen showing the following fields:

- 1. Name: DVR1
- 2. Device ID: dem6a99b4934 (with QR code icon)
- 3. Client Port: 9000
- 4. User Name: admin
- 5. Password: ••••••
- Channels: 8

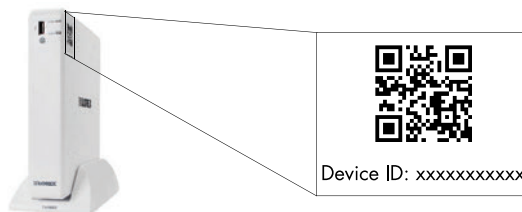
Connected

5.1. Under **Name**, enter a name for your DVR of your choice.

5.2. Press the QR code icon () next to Device ID and line up the QR code on the top of the DVR using the camera on your device.

OR

If your device does not have a camera (e.g. 1st generation iPad), manually enter the **Device ID** printed on the label.

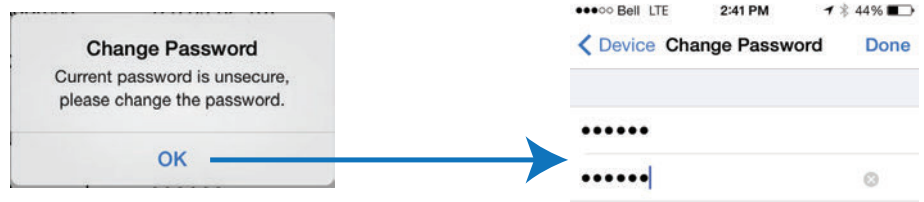


5.3. Under **Client Port**, enter the **DVR's Client Port** (default: **9000**).

5.4. Under **User Name**, enter the DVR's User Name (default: **admin**).

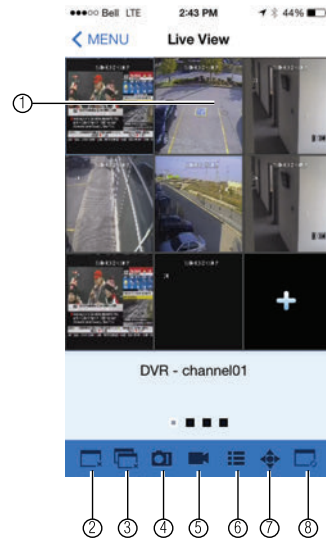
5.5. Under **Password**, enter the **DVR's Password** (default: **000000**).

1. Tap **Save**. If this is the first time connecting, you will be prompted to change the DVR password. Tap **OK**. Enter a new 6 character password and tap **Done**. This password will be used to connect to your system from now on.



2. Tap **Save** again to connect to the DVR. The app opens in Live View and streams video from all connected cameras.

18.2.2.2 Lorex Eco Stratus Interface



1. **Live View:** Tap a channel to select it. Double tap to view a channel in full screen. Swipe left or right to change cameras or pages.
2. **Disconnect selected channel**
3. **Disconnect/connect all channels**
4. **Screenshot**
5. **Manual Record**
6. **Select Device**
7. **PTZ Controls** (not supported by the LH050 Series)
8. **Select Display Mode.**

18.2.2.3 Taking Screenshots

1. Tap  during live view or playback.
 - If taking screenshots from live view: select the grid area you would like to take a screenshot from or tap  to take a screenshot from all connected cameras.



2. To view screenshots, see 18.2.2.6 *Viewing Screenshots*, page 112.

18.2.2.4 Taking Manual Recordings

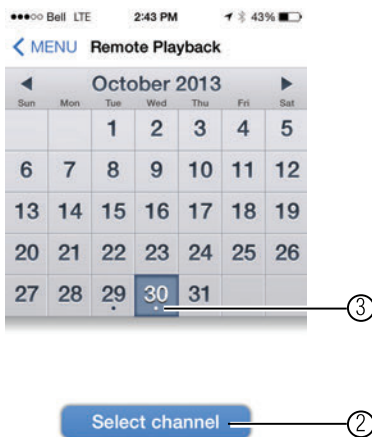
1. Tap  during live view or playback.
 - If taking manual recordings from live view: tap the grid area you would like to start recording on. Tap again when you would like to stop recording.
 - If taking manual recordings from playback: tap  when you would like to stop recording.
2. To view manual recordings, see 18.2.2.7 *Viewing Manual Recordings*, page 113.

18.2.2.5 Using Remote Playback Mode on iPhone

Remote Playback Mode allows you to view recorded video saved on your DVR's hard drive.

To use remote playback mode:

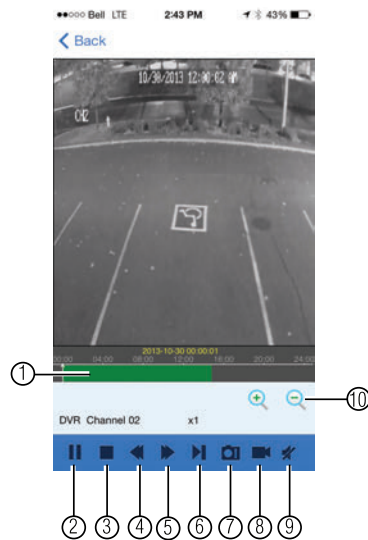
1. From the Main Menu, tap **Remote Playback**.
2. Tap **Select Channel**. Select the channel you would like to playback from.
3. The calendar shows any days that have recorded video for the selected channel with dots under the date. Tap on a date to view video from that day. Swipe up or down to change the month shown in the calendar.



NOTE

Swipe up or down to select the month.

4. Playback begins at the earliest available recordings from the selected day. Use the on-screen playback controls.

Remote Playback Controls:

1. **Playback Bar:** Shows times with recorded video available.
2. **Pause/Play.**
3. **Stop.**
4. **Slow Playback.**
5. **Fast Forward.**
6. **Step Forward:** Advance the video by one frame.
7. **Take Screenshot.**
8. **Manual Record:** Tap to start/stop manual recording.
9. **Mute/Unmute.**
10. **Zoom:** Change scope of times shown in Playback Bar.

18.2.2.6 Viewing Screenshots

You can view screenshots or email them using the app.

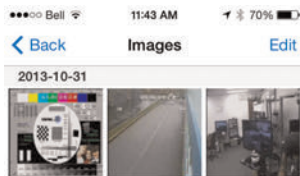
**NOTE**

To email screenshots, you must have an email account configured in the Email app. Lorex does not support the Email app. Please refer to your device's user's guide or www.apple.com if you need support to set up the Email app.

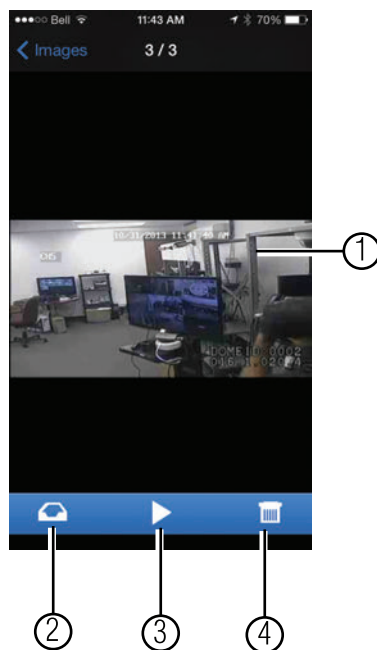
To view screenshots:

1. From the Main Menu, tap **Image Manager**.
2. Select the DVR with screenshots you would like to view.

3. Tap the screenshot you would like to view.



Screenshot Viewing Controls



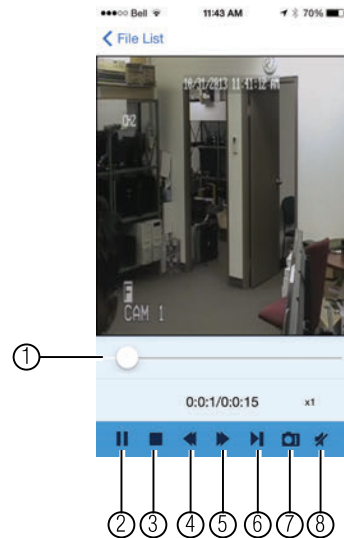
1. Swipe left or right to select screenshot
2. Send screenshot as email attachment.
3. Begin slideshow (tap inside the picture to stop the slideshow).
4. Delete screenshot.

18.2.2.7 Viewing Manual Recordings

You can view manual recordings using the app.

To view manual recordings:

1. From the Main Menu, tap **Record Playback**.
2. Tap the DVR you would like to view manual recordings from.
3. Tap the recording file you would like to view.
4. Use the on-screen controls.

Manual Recording Playback Controls

1. **Playback Bar:** Select playback time.
2. **Pause/play.**
3. **Stop.**
4. **Slow.**
5. **Fast Forward.**
6. **Step forward:** Advance the video one frame.
7. **Take Screenshot.**
8. **Mute/Unmute.**

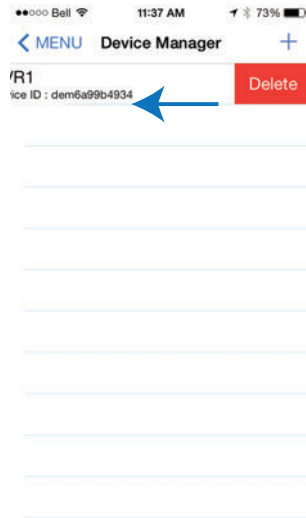
18.2.2.8 Using Device Manager to Manage DVR's

You can use the Device Manager to add, delete, or modify your DVR's.

To delete a DVR:

1. From the Main Menu, tap **Device Manager**.

2. Swipe to the left on the DVR you would like to delete and tap **Delete**.



3. Tap **Delete** to confirm.

To modify a DVR:

1. From the Main Menu, tap **Device Manager**.
2. Tap on the DVR you would like to modify.
3. Change the connection details as needed and then tap **Save**.

18.2.3 iPad

Use the Lorex Eco Stratus HD application to connect to your DVR on an iPad.

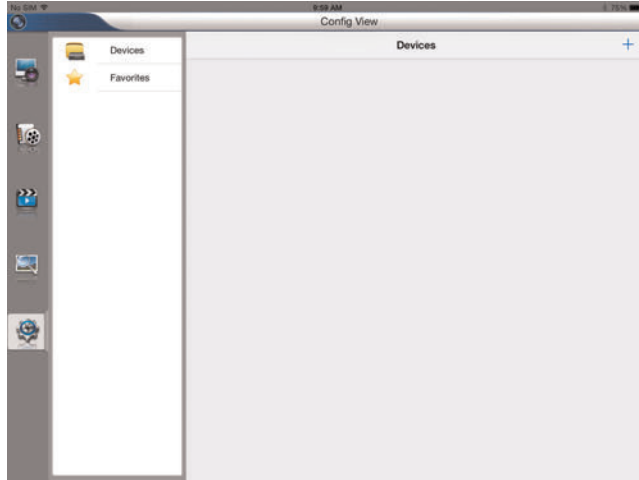
18.2.3.1 Prerequisites:

- Connect your DVR to your router using an Ethernet cable.
- **Make sure to upgrade your DVR to the latest firmware version.** You must have the latest DVR firmware and mobile apps to connect to the DVR over the Internet.
- For the latest list of supported apps and devices, visit www.lorextechnology.com/support.

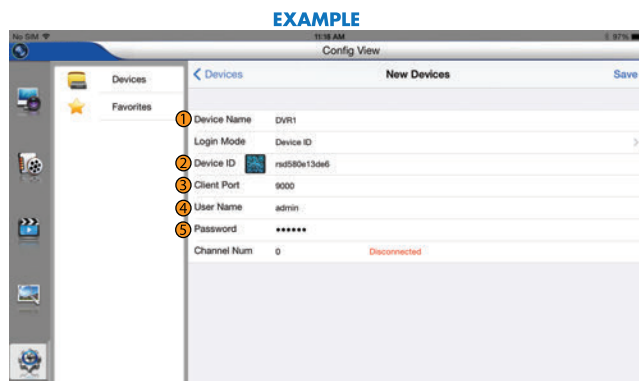
18.2.3.2 Connecting to your DVR

1. Install the free **Lorex ECO Stratus HD** app from the App Store.
2. Tap the **Lorex ECO Stratus HD** icon () to open the app.
3. Tap .

4. Tap +.

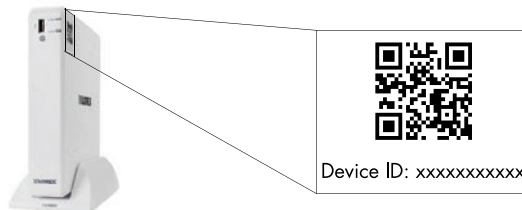


5. Configure the following:



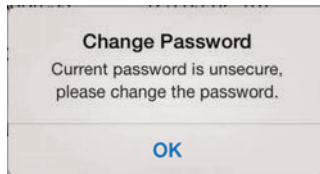
- 5.1. Under **Name**, enter a name for your DVR of your choice.
- 5.2. Press the QR code icon () next to Device ID and line up the QR code on the top of the DVR using the camera on your device.
OR

If your device does not have a camera, manually enter the **Device ID** printed on the label.

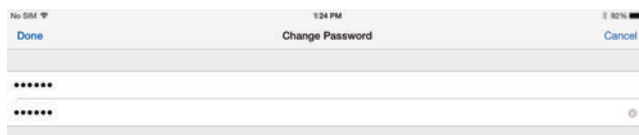


- 5.3. Under **Client Port**, enter the DVR's **Client Port** (default: **9000**).
- 5.4. Under **User Name**, enter the DVR's **User Name** (default: **admin**).
- 5.5. Under **Password**, enter the DVR's **Password** (default: **000000**).

-
6. Tap **Save**. If this is the first time connecting, you will be prompted to change the DVR password. Tap **OK**.

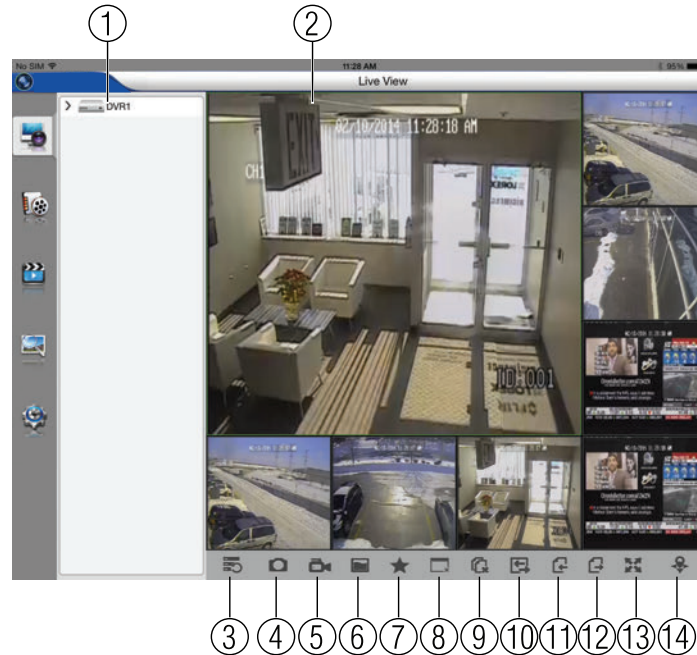


7. Enter a new 6 character password and tap **Done**. This password will be used to connect to your system from now on.



8. Tap **Save** again to connect to the DVR. The app opens in Live View and streams video from all connected cameras.

18.2.3.3 Live View Interface



1. **Device List:** Drag cameras to the display area to open a single camera. Drag a DVR to the display area to open all cameras connected to that DVR.
2. **Display Area:** Tap a camera to select. Double tap to view a camera in full screen.
3. **Show/Hide Device List.**
4. **Screenshot:** Tap to take a screenshot from the currently selected camera.
5. **Manual Recording:** Tap to start recording the currently selected camera. Tap again to stop recording.
6. **Clear/Fluent:** Select **Clear** for the app to prioritize video quality over frame rate if the connection is not fast enough. Select **Fluent** for the app to prioritize frame rate over video quality.
7. **Favorites**
8. **Disconnect/Connect:** Tap to disconnect from/connect to the currently selected camera.
9. **Disconnect/Connect All:** Tap to disconnect from/connect to all cameras.
10. **Split-screen:** Select desired split-screen layout.
11. **Previous Page:** Tap to select the previous page of cameras.
12. **Next Page:** Tap to select the next page of cameras.
13. **Full-screen:** Tap to open the display area in full-screen. Tap again to exit full-screen.
14. **PTZ Controls:** Tap to open PTZ camera controls (not supported by the LH050 Series).

18.2.3.4 Taking Screenshots

1. Tap  during live view or playback to take a screenshot from the currently selected camera. To view snapshots, please refer to the section 18.2.3.7 *Viewing Screenshots*, page 120.

18.2.3.5 Taking Manual Recordings

1. Tap  during live view or playback to start manual recording from the selected camera.

2. Tap  again to stop recording. To view manual recordings, please refer to the section 18.2.3.8 *Viewing Manual Recordings*, page 121.

18.2.3.6 Using Remote Playback Mode

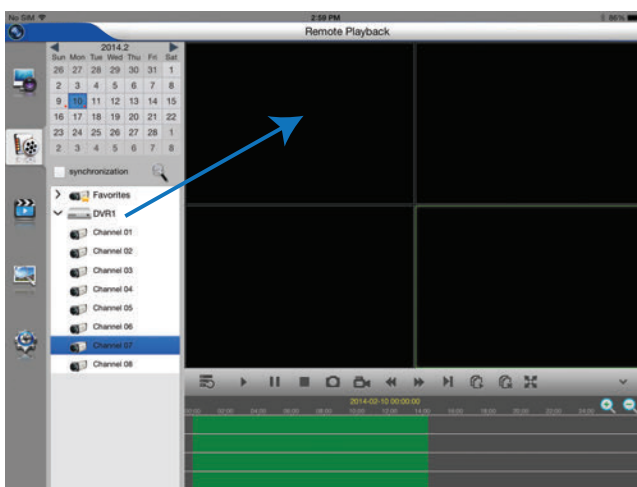
Remote Playback Mode allows you to view recorded video saved on your DVR's hard drive.

To use remote playback mode:

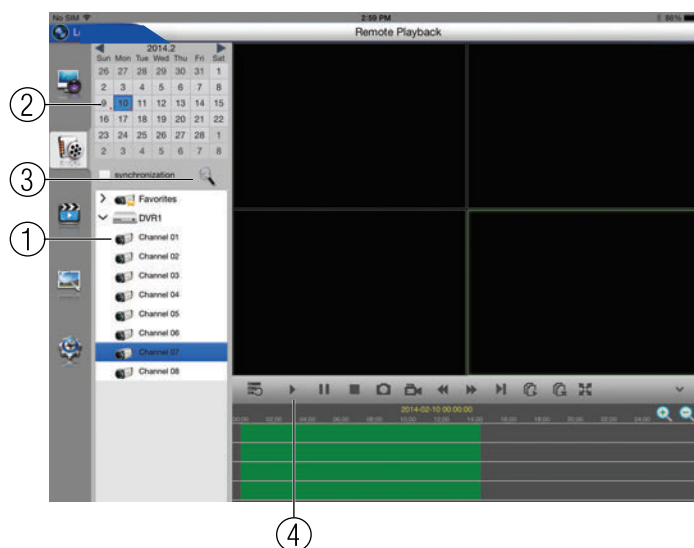
1. Tap .

To open video for playback:

1. Drag the DVR or a camera to the display area to open the earliest available recordings from today.

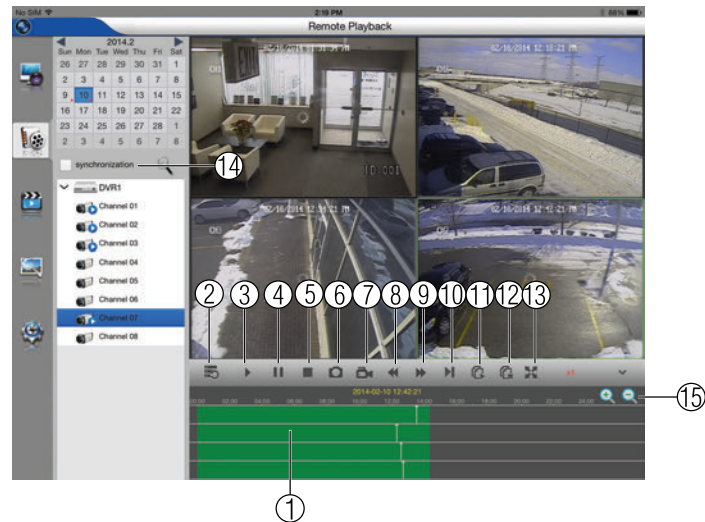


OR



1. Tap cameras to select them. Red dots will appear in the calendar on days that have video available.
2. Tap a day to select it.
3. Tap .
4. Press  to start playback. Use the on-screen playback controls.

Remote Playback Controls



1. **Playback Bar:** Tap to select playback time.
2. **Show/Hide Device List.**
3. **Play.**
4. **Pause.**
5. **Stop.**
6. **Screenshot:** Tap to take a screenshot from the currently selected camera.
7. **Manual Record:** Tap to start recording the currently selected camera. Tap again to stop recording.
8. **Slow.**
9. **Fast Forward.**
10. **Single Frame.**
11. **Play All.**
12. **Close All.**
13. **Full-screen.**
14. **Synchronization:** Synchronizes playback time across all cameras when checked.
15. **Change Scope:** Change the time range shown on the playback bar.

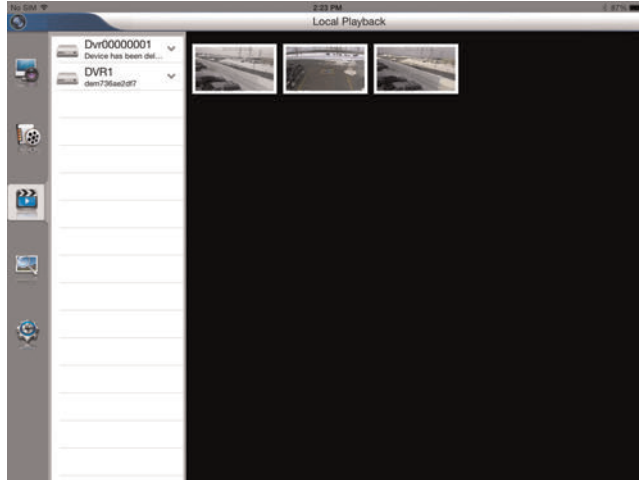
18.2.3.7 Viewing Screenshots

You can view screenshots using the app.

To view screenshots:

1. Tap .
2. Select the DVR with screenshots you would like to view. Then, select the day you would like to open.

3. Tap the screenshot you would like to view.

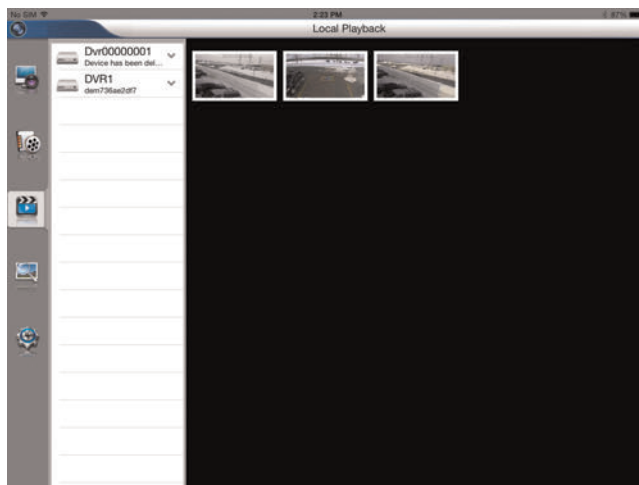


18.2.3.8 Viewing Manual Recordings

You can view manual recordings using the app.

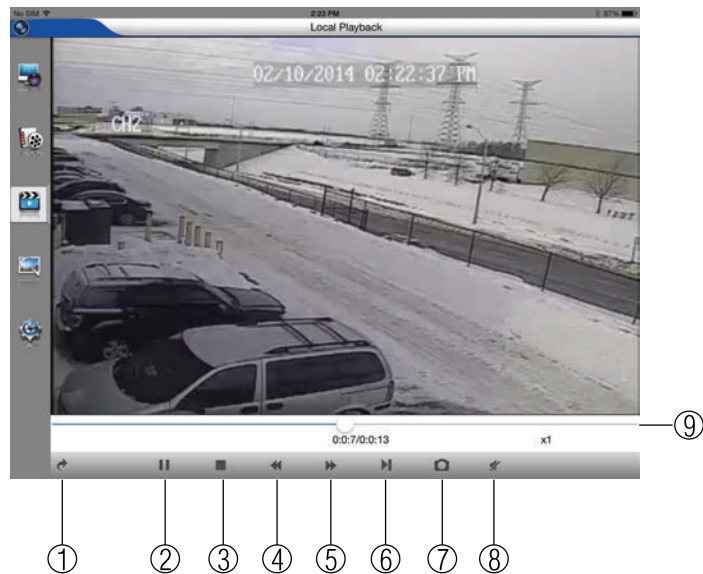
To view manual recordings:

1. Tap .
2. Tap the DVR you would like to view manual recordings from. Then, select the day you would like to open.
3. Tap the recording file you would like to view.



4. Use the on-screen playback controls.

Manual Record Playback Controls



1. **Back:** Tap to select a different video file.
2. **Pause/Play.**
3. **Stop.**
4. **Slow.**
5. **Fast Forward.**
6. **Next Frame.**
7. **Screenshot.**
8. **Mute/Unmute.**
9. **Playback Bar:** Select playback time.

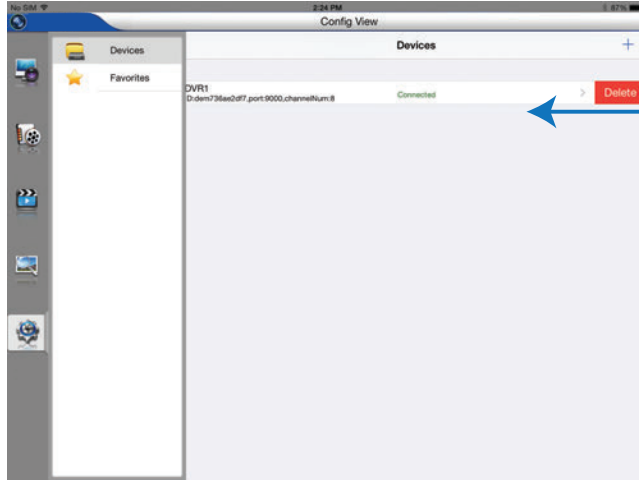
18.2.3.9 Using Device Manager to Manage DVRs

You can use the Device Manager to add, delete, or modify your DVRs.

To delete a DVR:

1. Tap .

2. Swipe to the left on the DVR you would like to delete and tap **Delete**.



3. Tap **Delete** to confirm.

To modify a DVR:

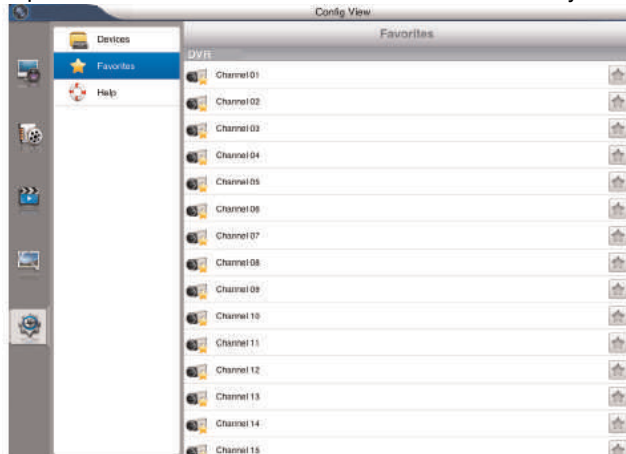
1. Tap .
2. Tap on the DVR you would like to modify.
3. Change the connection details as needed and then tap **Save**.

18.2.3.10 Managing Favorites

You can use Device Manager to add or remove cameras from your favorites list. Your favorites list appears in the Live View and Remote Playback modes for quick access to certain cameras.

To add/remove favorites:

1. Tap .
2. Tap **Favorites**.
3. Tap the star next to a camera to add or remove it from your favorites.



18.2.4 Android

Use the **Lorex Eco Stratus** application to connect to your DVR on an Android smartphone or tablet.



NOTE

The instructions below may differ depending on the model of your Android device.

Prerequisites

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



NOTE

For the latest list of supported apps and devices, visit www.lorextechnology.com/support.

18.2.4.1 Connecting to Your System Using Lorex Eco Stratus

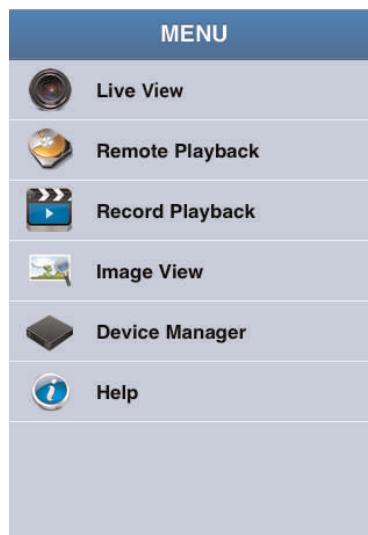
1. Install **Lorex Eco Stratus** from the Google Play Store.



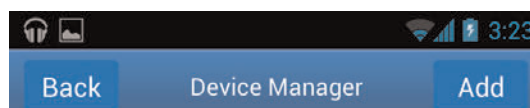
NOTE

For support on downloading or installing Android apps, consult your Android device's instruction manual or the manufacturer's support site.

2. Tap the Lorex Eco Stratus icon () to open the app.
3. Tap **Device Manager**.



4. Tap **Add**.



5. Configure the following:

EXAMPLE

Back Device Manager Save

Device Name EC04 ①

Login Type Device ID

Device ID dem6a99b4934 ②

Client Port 9000 ③

User Name admin ④

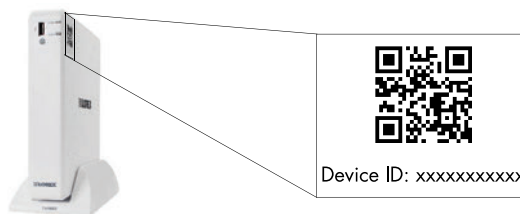
Password ***** ⑤

Channels 8

- 5.1. Under **Device Name**, enter a name for your DVR of your choice.

- 5.2. Press the QR code icon () next to **Device ID** and line up the QR code on the top of the DVR using the camera on your device.
OR

If your device does not have a camera, manually enter the **Device ID** printed on the label.



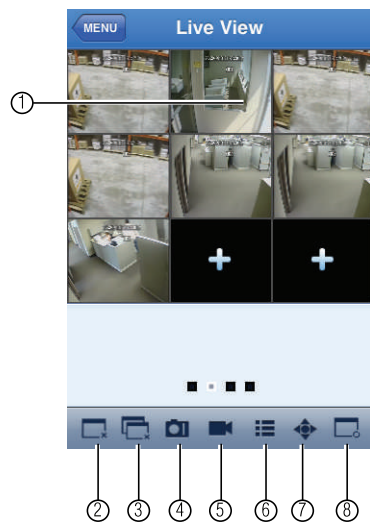
- 5.3. Under **Client Port**, enter the **DVR's Client Port** (default: **9000**).
- 5.4. Under **User Name**, enter the **DVR's User Name** (default: **admin**).
- 5.5. Under **Password**, enter the **DVR's Password** (default: **000000**).

1. Tap **Save**. If this is the first time connecting to the system, you will be prompted to change the DVR password. Tap **Confirm**. Enter the new 6 character password and tap **Save**. This password will be used to connect to your system from now on.



2. Tap **Save** again to connect to the DVR. The app opens in Live View and streams video from all connected cameras.

18.2.4.2 Lorex Eco Stratus Interface



1. **Live View:** Tap a channel to select it. Double tap to view a channel in full screen. Swipe left or right to change cameras or pages.
2. **Disconnect selected channel**
3. **Disconnect/connect all channels**
4. **Screenshot**
5. **Manual Record**
6. **Select Device**
7. **PTZ Controls** (not supported by the LH050 Series)
8. **Select Display Mode**

18.2.4.3 Taking Screenshots

1. Tap  during live view or playback.
 - **If taking screenshots from live view:** Select the grid area you would like to take a screenshot from or tap  to take a screenshot from all connected cameras.



2. To view screenshots, see 18.2.4.6 *Viewing Screenshots*, page 129.

18.2.4.4 Taking Manual Recordings

1. Tap  during live view or playback.
 - **If taking manual recordings from live view:** Tap the grid area you would like to start recording on. Tap again when you would like to stop recording.
 - **If taking manual recordings from playback:** Tap  when you would like to stop recording.
2. To view manual recordings, see 18.2.4.7 *Viewing Manual Recordings*, page 131.

18.2.4.5 Using Remote Playback Mode on Android

Remote Playback Mode allows you to view recorded video saved on your DVR's hard drive.

To use remote playback mode:

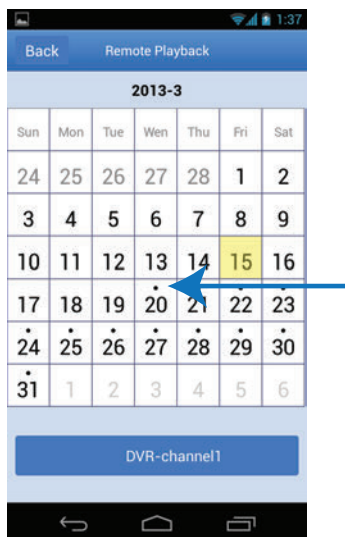
1. From the Main Menu, tap **Remote Playback**.

2. Tap **Select Channel**. Select the channel you would like to playback from.

**NOTE**

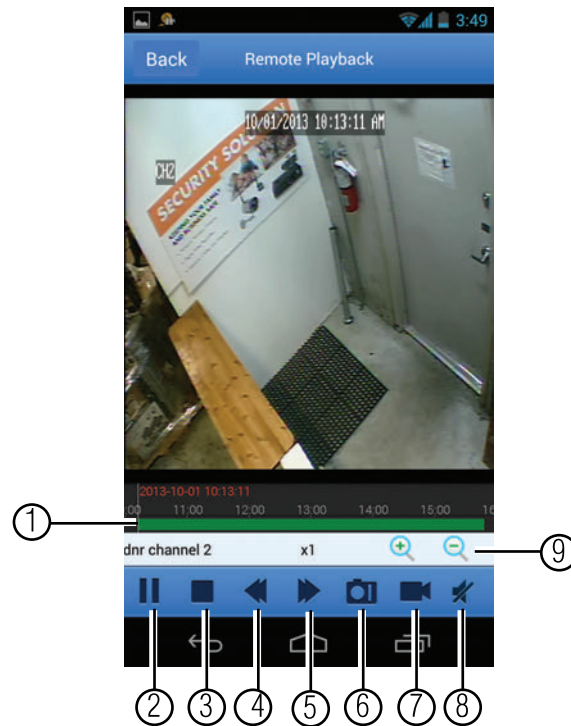
If you receive the message "No video found," close the app and restart it.

3. The calendar shows any days that have recorded video for the selected channel with dots under the date. Tap on a date to view video from that day. Swipe up or down to change the month shown in the calendar.



4. Playback begins at the earliest available recordings from the selected day. Use the on-screen playback controls.

Remote Playback Controls



1. **Playback Bar:** Shows times with recorded video available.
2. **Pause/Play.**
3. **Stop.**
4. **Slow Playback.**
5. **Fast Forward.**
6. **Take Screenshot.**
7. **Manual Record:** Tap to start/stop manual recording.
8. **Mute/Unmute.**
9. **Zoom:** Change scope of times shown in Playback Bar.

18.2.4.6 Viewing Screenshots

You can view screenshots or share them using the app.



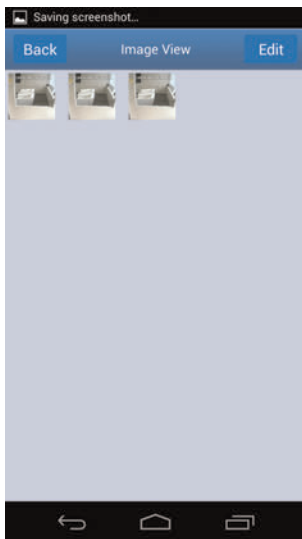
NOTE

To share screenshots, you must configure the apps used for sharing. Lorex does not support 3rd party applications.

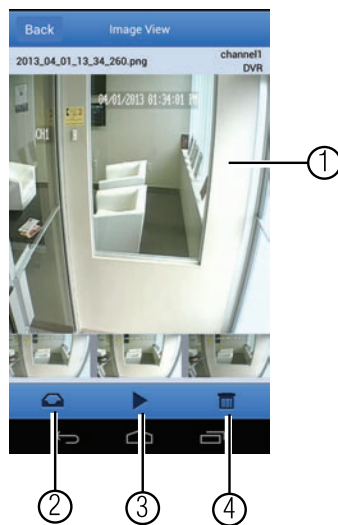
To view screenshots:

1. From the Main Menu, tap **Image Manager**.
2. Select the DVR with screenshots you would like to view.

3. Tap the screenshot you would like to view.



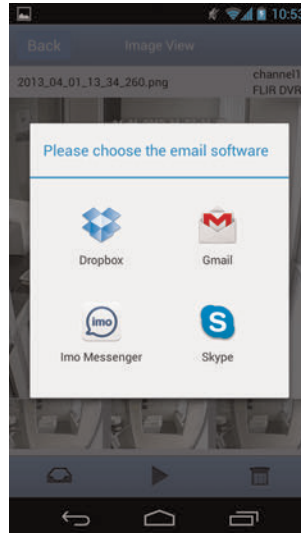
Screenshot Viewing Controls



1. Swipe left or right to select screenshot
2. Tap to share screenshot.
3. Begin slideshow (tap inside the picture to stop the slideshow).
4. Delete screenshot.

To share screenshots:

1. Tap  to share. Select an app that you would like to share the file with. Follow the app's instructions to share the file.

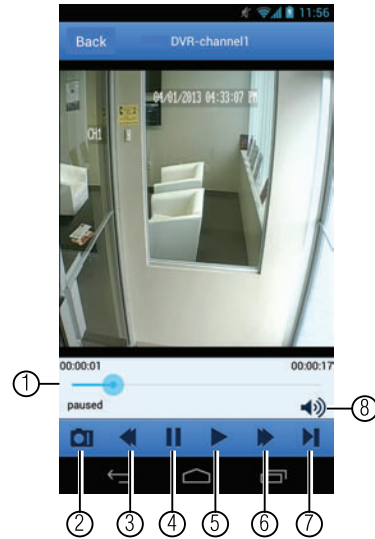
**18.2.4.7 Viewing Manual Recordings**

You can view manual recordings using the app.

To view manual recordings:

1. From the Main Menu, tap **Record Playback**.
2. Tap the DVR you would like to view manual recordings from.
3. Tap the recording file you would like to view.
4. Use the on-screen controls.

Manual Record Playback Controls



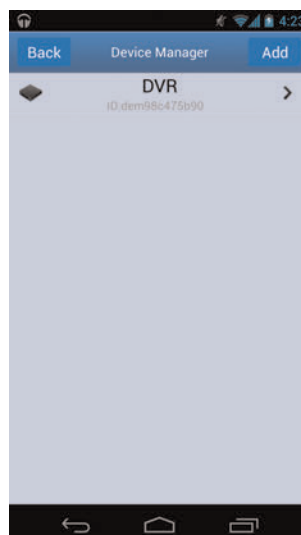
1. **Playback Bar:** Select playback time.
2. **Take Screenshot.**
3. **Slow.**
4. **Pause.**
5. **Play/Stop.**
6. **Fast Forward.**
7. **Step forward:** Advance the video one frame.
8. **Mute/Unmute.**

18.2.4.8 Using Device Manager to Manage DVR's

You can use the Device Manager to add, delete, or modify your DVR's.

To delete a DVR:

1. From the Main Menu, tap **Device Manager**.
2. Press and hold on the DVR you would like to delete and then tap **Delete**.



To modify a DVR:

1. From the Main Menu, tap **Device Manager**.
2. Tap on the DVR you would like to modify.
3. Change the connection details as needed and then tap **Save**.

Lorex Player 11: Playing Backed up Video on PC

Lorex Player 11 allows you to view your backed up video files from your DVR on your PC.



NOTE

To view backed up video files on Mac, see 20 *Lorex Player for Mac: Viewing Backed up Video on Mac*, page 138.

Minimum System Requirements

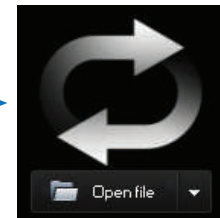
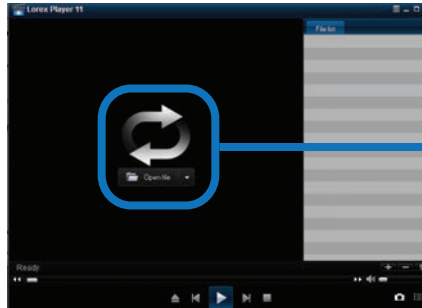
- Intel Pentium 4 or above.
- Microsoft Windows XP/Vista/7/8.
- 256 MB Ram.
- 16 MB video memory.

Prerequisites

- Back up video files from the DVR to your local hard drive.

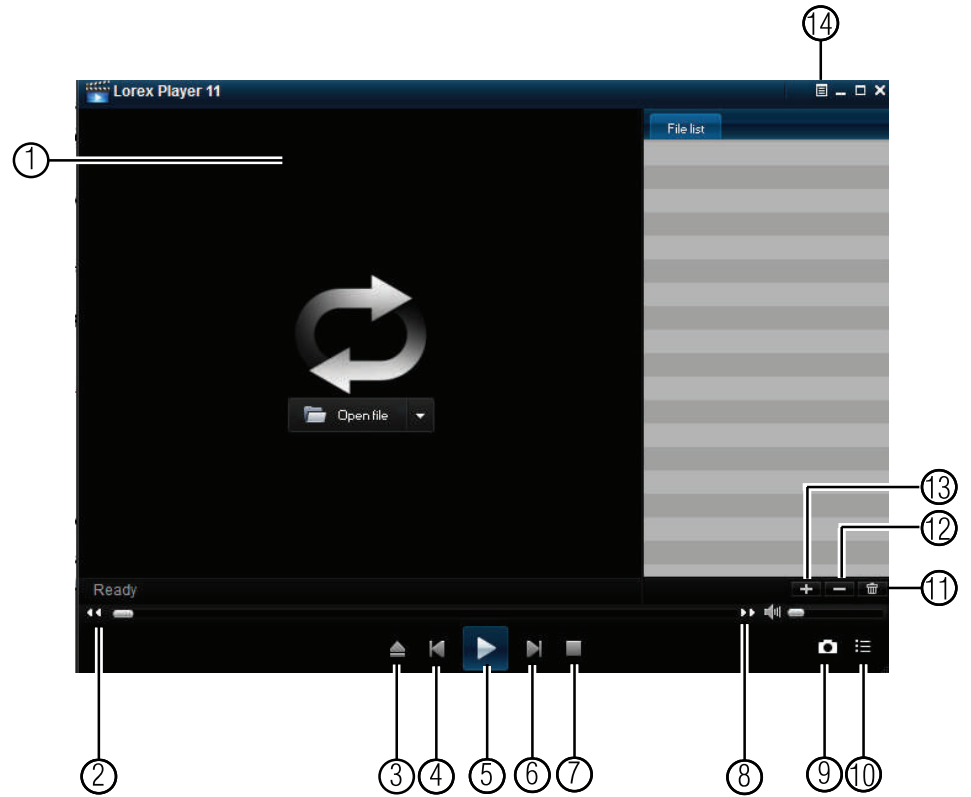
19.1 Running Lorex Player 11

1. Download **Video Player for PC** from www.lorexttechnology.com, under the page for your DVR model.
2. Double-click the Lorex Player 11 () icon on the desktop.
3. Click the **Open File** to load a single video file. Click the  button next to it to load a folder with backed-up videos.



4. Select the file and click **Open**.
 - If you are opening a folder, click **Add**.
5. Double-click the file in the list on the right to begin playback.

19.2 Lorex Player 11 Interface Overview



1. Video Window.
2. Ready.
3. Open File.
4. Previous File.
5. Play.
6. Next File.
7. Stop.
8. Fast Forward.
9. Take Screenshot.
10. Hide/Show Playlist.
11. Delete File.
12. Remove File.
13. Add File.
14. Advanced Config Menu.

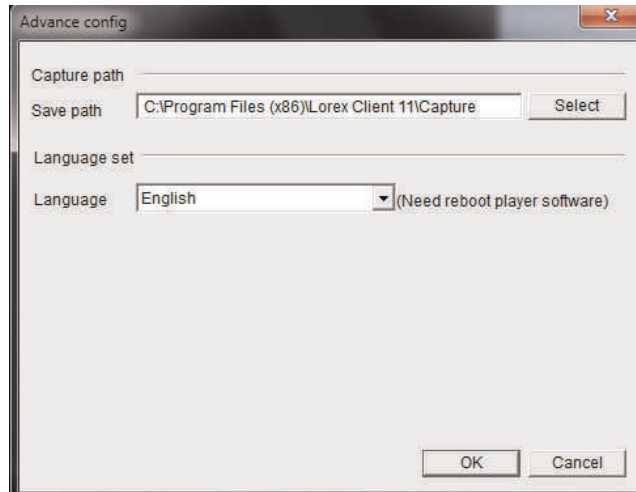
19.2.1 About the Advanced Config Menu

The Advanced Config menu allows you to select where the screen captures are stored.

To open the Advanced Config menu:

1. Click the  button.

- Click **Select** to change the snapshot save folder. Then select the folder and click **OK**.



- Click **OK** to save changes.

19.3 Converting Backed Up Video to AVI Files

The DVR saves its backup files as proprietary video files. To share these files, you must convert them into .AVI files.

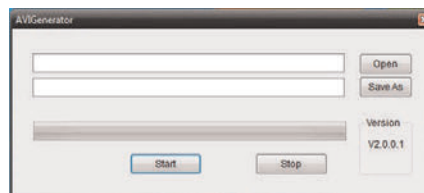


NOTE

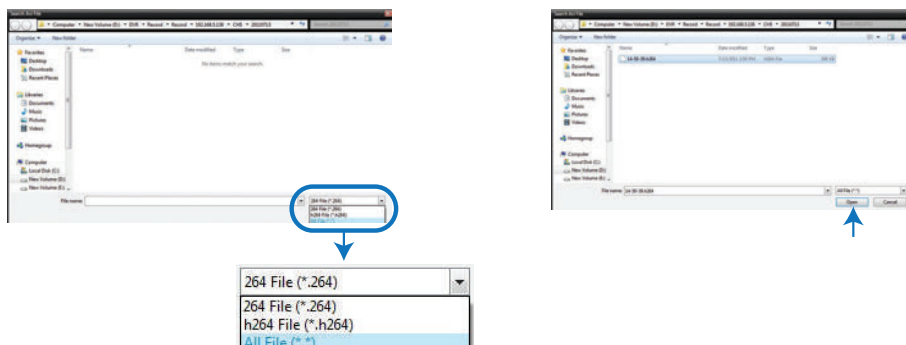
The AVI Generator is only available for PC.

To start the AVI Generator:

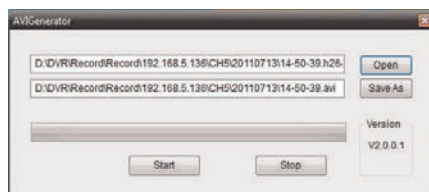
- Download and install **AVI Generator for PC** from www.lorextechnology.com, under the page for your DVR model.
- Double-click the **AVI Generator** shortcut on the desktop (264 AVI Generator).
- Click Open and then locate the backed up video file on your hard drive.



4. Select the desired file format (.264 , h.264, All File) that you wish to search for. Click **Open**.



5. Click **Start** to convert and save the file in the default save folder.
- Or click **Save As** to select a desired save folder, then click **Start** to convert the file.



6. Locate the file in the folder you selected in step 4.

Lorex Player for Mac: Viewing Backed up Video on Mac

Lorex Player for Mac allows you to view your backed up video files on a Mac computer.

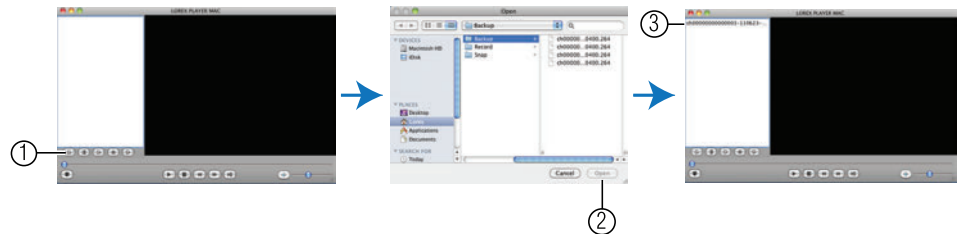
To install Lorex Player for Mac:

1. Go to www.lorextechnology.com and search for the model number of your DVR (look at the label underneath your DVR for the model number).
2. Navigate to the product page for your DVR model and download **Video Player for MAC**.
3. Extract the file and double-click the Lorex Player for Mac installer (.pkg) file. Follow the on-screen instructions to install the software.

Launching Lorex Player for Mac:

- Click the Lorex Player for Mac icon () in the Dock or in your Applications List in Finder.

20.1 Opening Individual Video Files



1. Click the Load new file button ().
2. Browse and select the desired file. Click **Open** to add the file to the video playlist.



NOTE

The default save directory is in your Home folder/dvr.

3. Double-click the video file in the playlist to begin playback.

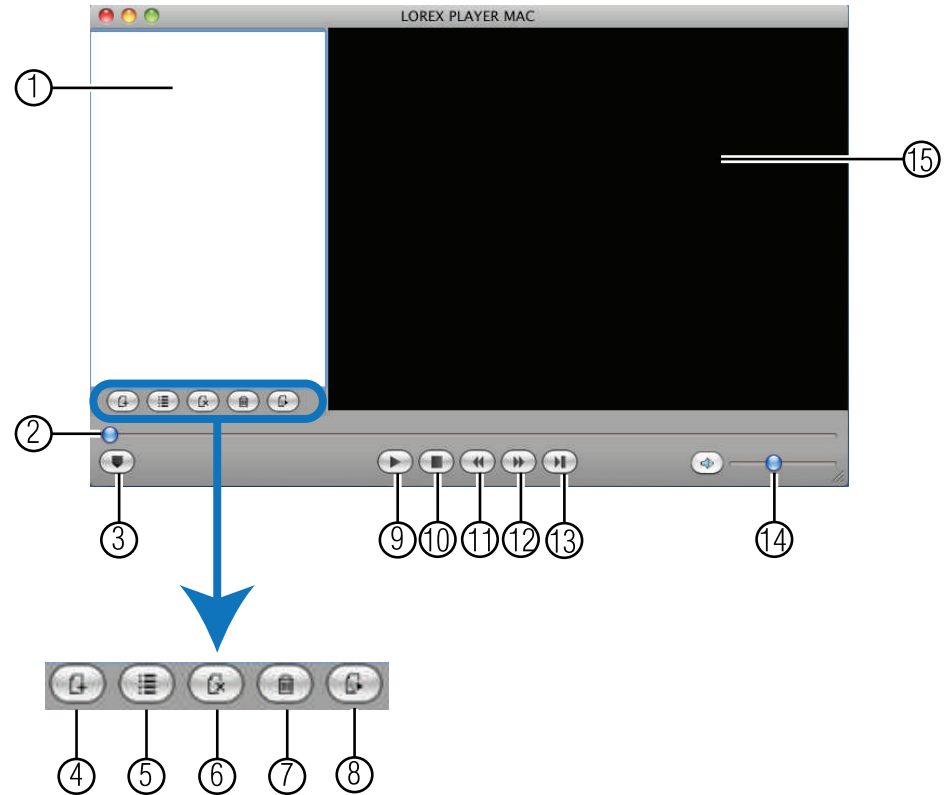
20.2 Loading Multiple Video Files

You can load an entire folder of video files.

To load multiple video files saved onto your hard drive:

1. Click the Load folder button ().
2. Select the desired folder you wish to add to the playlist. Click **Open** to add all the videos in the folder.
3. Double-click the video file in the playlist to begin playback.

20.3 Lorex Player for Mac Interface



1. **Video Playlist.**
2. **Video Slider.**
3. **Hide/Show Playlist.**
4. **Load File.**
5. **Load Folder.**
6. **Remove Selected File.**
7. **Clear Playlist.**
8. **Looped Playback.**
9. **Play.**
10. **Stop.**
11. **Rewind.**
12. **Fast Forward.**
13. **Step Forward.**
14. **Volume.**
15. **Video Window.**

The system comes with a pre-installed SATA hard drive. You can expand the hard drive with a replacement 3.5" SATA hard drive up to 4TB.

**NOTE**

It is recommended to use surveillance or security-certified hard drives, which are designed to be reliable over long periods of time while recording 24/7. Security-certified hard drives are available at www.lorextechnology.com.

21.1 Removing the Hard Drive

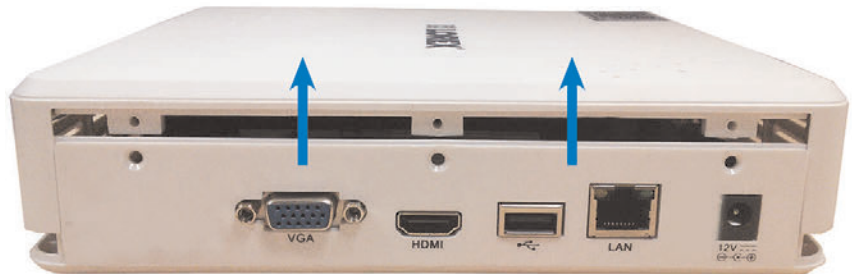
**WARNING**

Make sure that the power cable has been disconnected before changing the hard drive.

1. Remove the screws from the rear panel (x3) of the cover.



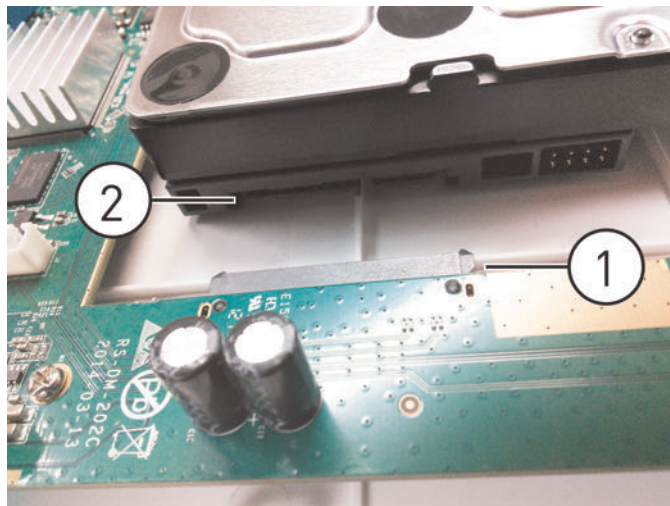
2. Gently lift the cover away from the rear panel and lift off. Be careful of sharp edges.



3. Using a Phillips screwdriver (not included), remove the screws (x4) from the plastic brackets on either side of the hard drive.



4. Carefully slide the hard drive back until it is clear of the SATA connector and lift it out of the DVR.



- 4.1. DVR SATA connector
- 4.2. Hard drive SATA ports

-
- Using a Phillips screwdriver (not included), remove the screws (x4) holding the plastic brackets on either side of the hard drive.



- Hold the top panel of the DVR at an angle. Ensure the front panel of the DVR lines up with the bottom panel. Lower the top panel onto the DVR.



- Replace the screws on the rear panel (x3) of the cover.



21.2 Installing the Hard Drive



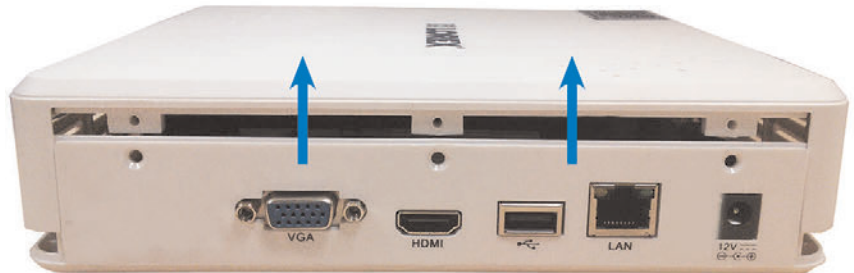
WARNING

Make sure that the power cable has been disconnected before changing the hard drive.

- Remove the screws from the rear panel (x3) of the cover.



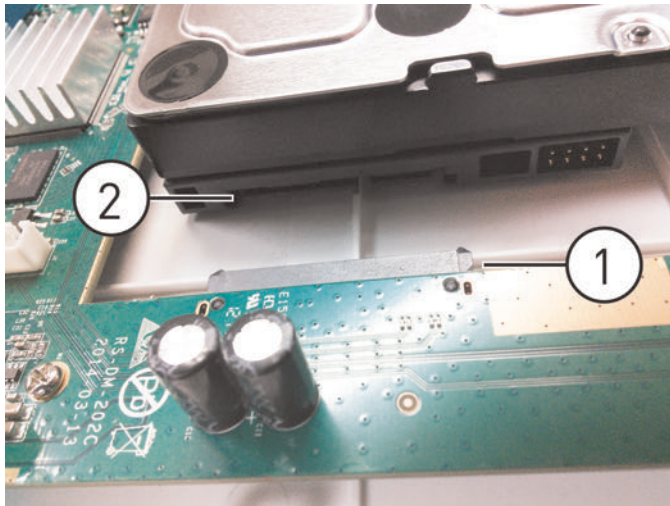
2. Gently lift the cover away from the rear panel and lift off. Be careful of sharp edges.



3. Attach the two plastic hard drive brackets to either side of the 3.5" hard drive.



4. Place the hard drive in the DVR. Slide the hard drive gently forward to insert the hard drive SATA ports into the DVR SATA connector.



- 4.1. DVR SATA connector
- 4.2. Hard drive SATA ports

- Secure the hard drive mounting brackets to the DVR housing using the 4 screws.



- Hold the top panel of the DVR at an angle. Ensure the front panel of the DVR lines up with the bottom panel. Lower the top panel onto the DVR.



- Replace the screws on the rear panel (x3) of the cover.



21.3 Formatting the Hard Drive

If you replace the pre-installed hard drive, it *must* be formatted in order to function properly with the system.



CAUTION

Formatting the HDD erases **all data** on the hard disk. **This step cannot be undone.**

1. Select the **HDD** tab.



2. Click the checkbox under **Select** to choose the drive you wish to reformat.
3. Click **Format HDD**.
4. When the warning window appears, click **OK**. Wait for the system to format the hard drive.

DDNS Setup—Access your DVR Remotely over the Internet

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



NOTE

Except where noted, the instructions below are the same for PC and Mac.

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

1. Port forward the HTTP and Client ports (default: **80 and 9000**) on your router to your DVR's IP address.
2. Create a DDNS account.
3. Enable DDNS on the DVR.
4. Test the remote connection by entering your DDNS address in a web browser.

22.1 Step 1 of 4: Port Forwarding

You **must** port forward the HTTP and Client ports (default: **80 and 9000**) on your router to your DVR's IP address before you can remotely connect to your system. There are several methods to port forward your router:

- Use the **Easy Connect Auto Port Forwarding Wizard** (PC only) to port forward the required ports (see www.lorextechnology.com for details). For instructions on how to use the Easy Connect Wizard, see the Easy Connect manual on www.lorextechnology.com.
- Manually port forward the required ports on your router to your DVR'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.

22.2 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 DVR.

To setup your free Lorex DDNS account:

1. In your browser, go to <http://www.lorexddns.net> and click **Step 1**.

Lorex DDNS - Remote Viewing Setup

A Lorex DDNS account allows you to connect to your Lorex system from anywhere in the world using an easy-to-remember web site address that is available 24/7. This is perfect whether you have a Static or Dynamic IP address - no matter how often your Internet Service Provider changes your IP address, Lorex's exclusive DDNS service will keep you connected to the things that matter to you most.

To set up Lorex DDNS:

Step 1

Create an account

Step 2

Activate your warranty

Step 3

Setup Remote Viewing

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.

**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**.

The image shows two overlapping web forms. The background form is titled "Activate Warranty" and contains fields for "Your Address*", "Product Model Number*", "Serial Number", "Date of Purchase*", and "Place of Purchase*". A red button labeled "Save Warranty" is at the bottom right. A modal form titled "Add an address" is open in the foreground, showing fields for "First Name*", "Last Name*", "Address (Line 1)*", "Address (Line 2)", "City*", "Country*", "State (Province)*", "ZIP (Postal Code)*", "Phone Number*", and "Fax Number". A red button labeled "Create Address" is at the bottom right of the modal. A blue arrow points from the "Enter a new address" link in the background form to the "Add an address" modal.

6. Fill in the warranty registration form with your product and purchase details. Check the sticker underneath your DVR for the Product Model Number and Serial Number. Click **Save Warranty**.

The image shows the "Activate Warranty" form. It includes a thank you message, a "Your Address*" dropdown menu with an "Enter a new address" link, and fields for "Product Model Number*", "Serial Number", "Date of Purchase*", and "Place of Purchase*". There is a "Bill of Sale" section with a "Choose File" button and a "No file chosen" status. A red button labeled "Save Warranty" is at the bottom right.

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:

Press the  button on the front panel or remote control to open the System Information window.

OR

Right-click and click the Main Menu button (). Enter the DVR password (default: **000000**). Then click **System>Info**.



- 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 *http://www.tomsmith.lorexddns.net*
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:

Domain name/URL Request:	
DDNS User Name:	
Device DDNS password:	

22.3 Step 3 of 4: Enable DDNS on the DVR

To enable DDNS in your DVR:

1. Right-click to open the Menu Bar and click the Main Menu button (). Enter the system password if prompted.
2. Click **Network** and select the **DDNS** tab.

3. Configure the following:

The screenshot shows the 'NETWORK' configuration window with the 'DDNS' tab selected. The interface includes a sidebar with buttons for DISPLAY, RECORD, SEARCH, NETWORK (highlighted), ALARM, DEVICE, SYSTEM, and ADVANCED. The main area contains the following fields:

- DDNS:** A drop-down menu set to 'Enable'.
- Server:** A drop-down menu set to 'LOREXDDNS'.
- Domain Name:** A text field containing 'test' with '.lorexddns.net' displayed to its right.
- User Name:** A text field containing 'tester'.
- Password:** A text field containing '*****'.

At the bottom right of the main area are three buttons: 'Default', 'Apply', and 'Exit'.

- In the **DDNS** drop-down menu, select **Enable**.
- Beside **Server**, select **LOREXDDNS** (default).
- Under **Domain Name**, enter your **Domain name/URL Request** from the confirmation email that was sent after you created your DDNS account.
- Under **User Name**, enter your **DDNS User Name** that was emailed to you after DDNS registration.
- Under **Password**, enter your **DDNS Device password** that was emailed to you after DDNS registration.

4. Click **Apply** to save your settings.

22.4 Step 4 of 4: Connect to the DVR'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 DVR's DDNS address on a PC:

1. Install the Lorex Stratus Client on a remote computer.
2. Once installation is finished, double-click the **Lorex Stratus Client icon** () from the desktop. The DVR login screen appears.

3. Configure the following:

EXAMPLE

The screenshot shows a 'User login' window with the following fields and callouts:

- 1. Login Type: IP Login
- 2. IP Address: tomsmith.lorexddns.net
- 3. User Name: admin
- 4. Password: 000000
- 5. Client Port: 9000

Additional fields and options include:

- Bitrate: Sub stream
- Language: English
- ☐ Remember Pwd
- ☒ Open All Channels Preview
- Login button
- Reset button

- 3.1. Under **Login Type**, select **IP Login**.
- 3.2. Under **IP Address**, enter the **DVR's DDNS Address** (e.g. <http://www.tomsmith.lorexddns.net>).
- 3.3. Under **User Name**, enter the DVR's **user name** (default: **admin**).
- 3.4. Under **Password**, enter the DVR's **password** (default: **000000**).
- 3.5. Under **Client Port**, enter the DVR's **Client Port** (default: **9000**).

1. Click **Login**.

To connect using the DVR's DDNS address on a Mac:

1. Install the Lorex Stratus Client on a remote computer.
2. Open Safari, then click **Safari>Quit Safari**. This resets Safari to complete the installation.
3. Open the Lorex Stratus Client (📁) from the Applications list.

4. Configure the following:

EXAMPLE

The screenshot shows a 'User login' window with the following fields and callouts:

- 1. Login Type: IP Login
- 2. IP Address: tomsmith.lorexddns.net
- 3. User Name: admin
- 4. Password: 000000
- 5. Client Port: 9000

Other fields include Bitrate (Sub stream) and Language (English). At the bottom, there are checkboxes for 'Remember Pwd' (unchecked) and 'Open All Channels Preview' (checked), and 'Login' and 'Reset' buttons.

- 4.1. Under **Login Type**, select **IP Login**.
 - 4.2. Under **IP Address**, enter the **Domain name/URL Request** followed by **.lorexddns.net** (e.g. *http://www.tomsmith.lorexddns.net*).
 - 4.3. Under **User Name**, enter the DVR's **user name** (default: **admin**).
 - 4.4. Under **Password**, enter the DVR's **password** (default: **000000**).
 - 4.5. Under **Client Port**, enter the DVR's **Client Port** (default: **9000**).
1. Click **Login**.

When a malfunction occurs, it may not be serious and can be corrected easily. The following describes the most common problems and solutions. Please refer to the following before calling Lorex Technical Support:

Error	Possible Causes	Solutions
System is not receiving power, or is not powering up.	Cable from power adapter is loose or is unplugged.	- Confirm that all cables are connected correctly. - Confirm that the power adapter is securely connected to the back of the unit.
	Cables are connected, but system is not receiving sufficient power.	- Confirm that the system is powered on (LED indicators on the front should be ON). - If the unit is connected through a power bar or surge protector, try bypassing the bar and connecting the power directly to the wall outlet. - Confirm that there is power at the outlet: - Connect the power cable to another outlet. - Test the outlet with another device (such as a lamp or phone charger).
Remote control is not detected by the system.	- Battery in the remote control is drained. - There are no batteries in the remote control.	Install two fresh AAA alkaline batteries in the remote control.
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 <i>Replacing the Hard Drive</i>, page 140.
Hard drive is full (0%) and the unit is no longer recording.	Overwrite is not enabled.	From the Main Menu, select DEVICE>HDD. Select Auto under Overwrite and click Apply.

Error	Possible Causes	Solutions
There is no picture on monitor/TV after connecting it to the DVR.	Monitor/TV not detected by DVR.	Power off the monitor/TV and DVR. Power on the monitor/TV, and then power on the DVR.
	Input channel for DVR not selected on monitor/TV.	On the monitor/TV, select the input channel the DVR is connected to.
	Video cable is loose or has become disconnected.	Check the video cable connection to the DVR and monitor/TV.
	Video-out resolution has been set to the incorrect setting.	Press and hold the  button on the remote control until the DVR restarts. The DVR will reset to the default resolution (1024x768).
Mouse not detected by system.	Mouse cable is not firmly connected to the system. Mouse is not connected to the system.	Firmly connect the mouse cable to one of the USB ports.
	System needs to be reset	Power off the system (disconnect power cable). Firmly connect a USB mouse to one of the USB ports. Reconnect the power cable to the DC 12V port on the rear panel.
There is no picture on selected channels / camera picture is not being displayed.	Camera cables are loose or have become disconnected.	- Check the camera video cable and connections. - Disconnect and reconnect the cable at the system and at the camera. - Try moving the camera to another channel or use another cable.
The image on the DVR appears, but does not have sound.	The LH050 Series does not support audio recording.	
The system beeps at startup.		The beep at startup is normal.
The system beeps during motion detection.	Motion detection is enabled and the buzzer is activated.	Open the Main Menu and click Alarm>Motion. In the Buzzer drop-down, select OFF. Click Apply.
I am not receiving email notifications.	Email notification is disabled.	Ensure you have configured email notification. For details, see 15.4.4 <i>Setting up Email Notification</i>, page 46.
	Default setting is disabled, but you have not entered your own SMTP information.	If you want to use your own SMTP server, deselect the Default box, and enter your SMTP Server address, Port, User name, and Password in the respective fields.

LH050 Series System Specifications

System

Operating System	Linux (embedded)
Pentaplex	Simultaneous view, record, playback, backup & remote monitoring
Number of Channels	4 channels

Inputs/Outputs

Video IN	None (wireless)
Video OUT	1 x HDMI, 1 x VGA
VGA OUT	Yes
HDMI	Yes
Audio IN	None
Audio OUT	None
USB Port	2x USB (one at front and one at back panel)
Alarm IN	Alarm IN not supported
Alarm OUT	Alarm OUT not supported
Video Output Resolution	1920x1080 (HDMI), 1440x900, 1280x1024, 1280x720, 1024x768
PTZ Control	PTZ cameras not supported

Display

Live Display	1, 4
Live Display Speed	60 NTSC, 50 PAL
System Navigation	USB mouse, IR remote controller
Motion Area Setting	None
Sensitivity Levels	3
Firmware Upgrade	Automatic over the Internet & via USB device and network
User Authority	By user group
Time Synchronization	Auto time sync by NTP server

Recording

Video Compression	H.264
Audio Compression	None
Recording Resolution	NTSC: 1280x720 (720p) PAL: 1280x720 (720p)
Recording Quality Control	3 levels
Recording Schedule	By hour, by day, by recording mode, by motion, by channel
Pre Recording	Max. 10 Secs
Post Recording	Max. 5 Minutes
Reliability	Watch-Dog, auto-recovery after power failure
Covert Video	No

Playback

Playback Channel	1~4 Adjustable
Playback Speed	Variable Max 16x
Playback Players	Backup Player
Search	By time & event
Log Search	Up to 10,000 lines for motion detected, video loss, and changes to system, configuration, account, record, storage
Audio Play	No

Storage & Archive

Storage	Up to 1 HDD (SATA)
Maximum Capacity	Up to 4TB
Backup Media	USB flash drive & USB external HDD
Backup File Format	H.264 file (AVI generator included)

Connectivity

Cloud Connection	Lorex Stratus Connectivity & FLIR Secure™
Supported Operating Systems	Windows™ Mac OSX
Remote Software	Client Software (PC) & Safari (Mac)
Email Notification	Text with snapshot
Instant Smart Phone & Tablet Support	iPad®, iPhone®, Android™
DDNS	Free Lorex DDNS
System Configuration	Full setup configuration over network
Ports	Programmable by User
Network Protocol	TCP/IP / DHCP / UDP / DDNS / PPPoE
Network Interface	10/100-Base-TX, RJ-45
Network Speed Control	48Kb ~ 8MB/sec.

General

Power Consumption	Approx. 10 watts (No HDD Installed)
Supply Voltage	100VAC-240VAC, 12VDC, 2A, 50/60Hz
Unit Dimensions (W x D x H)	DVR with Docking Stand: 3.5" x 7.8" x 8.3"; 90mm x 197mm x 210mm DVR without Docking Stand: 7.9" x 7.6" x 1.7"; 200mm x 194mm x 44mm
Unit Weight	DVR with Docking Stand: 1.2kg / 2.6lbs; DVR without Docking Stand: 1kg / 2.3lbs
Operating Temperature	32° ~ 104° F / 0° ~ 40° C
Humidity	10 ~ 90% RH

Recording Resolution (Pixels) & Speed (FPS - Frames per second)

Model	FPS	720p Mode
		1280x720
4ch	Total	52
	Per channel	13

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

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

25.1 FCC/IC Notice

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

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception (which can be determined by turning the equipment on and off), the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio or television technician for assistance.

25.2 Modification

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

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

25.3 ROHS

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



Website

www.lorextechnology.com

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