LOREX®
VIEW YOUR WORLD™

DIGITAL VIDEO SURVEILLANCE RECORDER

Instruction Manual

English Version 1.0



ECO2

THE ECONOMICAL SOLUTION TO PROTECT YOUR HOME OR BUSINESS











VANTAGE

LH130 ECO2 SERIES

www.lorextechnology.com

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Thank you for purchasing the Eco2 Series Digital Video Surveillance Recorder.

This manual refers to the following models:

- LH134 (4-channel)
- LH138 (8-channel)
- LH136 (16-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



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RICK OF ELECTRIC SHOCK DO NOT REMOVE COVER. NO USER SERVICABLE 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 products ' 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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NEED HELP?

CONTACT US FIRST

DO NOT RETURN THIS PRODUCT TO THE STORE

Please make sure to register your product at www.lorextechnology.com to receive product updates and technical support.

2 Easy Ways to Contact Us



Online:

Product Support is available 24/7 including product information, user manuals, quick start up guides and FAQ's at **www.lorextechnology.com/support**

For all other matters, visit **www.lorextechnology.com**



By Phone:

North America:

Customer Service (for warranty matters): **1-888-425-6739** (1-888-42-LOREX)

Tech Support (for technical/installation issues): **1-877-755-6739** (1-877-75-LOREX)

Mexico: **001-800-514-6739**

International: **+800-425-6739-0** (Example: From the UK, dial 00 instead of +)

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NECESITA AYUDA

COMUNÍQUESE PRIMERO CON NOSOTROS

VOUS AVEZ BESOIN D'AIDE?

CONTACTEZ-NOUS D'ABORD

NO DEVUELVA ESTE PRODUCTO A LA TIENDA

Cerciórese de por favor colocar su producto en www.lorexcctv.com/registration para recibir actualizaciones y la información del producto

2 maneras sencillas de comunicarse con nosotros:

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1-877-755-6739 (1-877-75-LOREX)

Mexico: **001-800-514-6739**

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(Ejemplo: Desde el Reino Unido, marque el 00 en lugar del +)

NE RETOURNEZ PAS CE PRODUIT AU MAGASIN

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2 façons faciles de nous contacter:

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www.lorextechnology.com/support
Pour toutes les autres questions, visitez
www.lorextechnology.com

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Support technique (pour les questions techniques et 'installation):
1-877-755-6739 (1-877-75-LOREX)

Mexico: **001-800-514-6739**

International: **+800-425-6739-0**
(Exemple: À partir du Royaume-Uni, composez 00 au lieu de +)

BEFORE YOU START

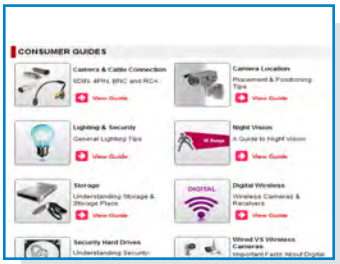
Please make sure to register your product at www.lorextechnology.com to receive product updates and technical support

THIS PRODUCT MAY REQUIRE PROFESSIONAL INSTALLATION

LOREX IS COMMITTED TO FULFILLING YOUR SECURITY NEEDS



- We have developed user friendly products and documentation. Please read the Quick Start Guide and User Manual before you install this product.



- Consumer Guides and Video Tutorials are available on our web site at **www.lorextechnology.com/support**



- If you require further installation assistance, please visit **www.lorextechnology.com/installation** or contact a professional installer.



- Please note that once the components of this product have been unsealed, you cannot return this product directly to the store without the original packaging.

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AVANT DE COMMENCER

Veuillez veiller à enregistrer votre produit à www.lorexcctv.com/registration pour recevoir des mises à jour et l'information de produit et le support technique

CE PRODUIT POURRAIT EXIGER UNE INSTALLATION PROFESSIONNELLE

LOREX S'ENGAGE À SATISFAIRE VOS BESOINS SÉCURITAIRES

- Veuillez lire le guide de démarrage rapide et le mode d'emploi avant d'installer ce produit
- Les guides du consommateur et les séances de tutorat vidéo sont disponibles sur l'Internet en visitant www.lorextechnology.com/support
- Si vous avez besoin de l'aide pour l'installation, veuillez visiter www.lorextechnology.com/installation ou contactez un spécialiste en installation
- Veuillez constater qu'une fois que les composantes de ce produit ont été retirées de l'emballage, vous ne pourrez plus retourner ce produit directement au magasi

ANTES DE EMPEZAR

Cerciórese de por favor colocar su producto en www.lorexcctv.com/registration para recibir actualizaciones y la información del producto y soporte técnico

ESTE PRODUCTO PUEDE EXIGIR UNA INSTALACIÓN PROFESIONAL

LOREX SE COMPROMETE A SATISFACER SUS NECESIDADES EN SEGURIDAD

- Favor de leer la guía de instalación rápida y la guía del usuario antes de instalar este product.
- Puede conseguir las guías del consumidor y los cursos en enseñanza video sobre el Internet visitando www.lorexcctv.com/support
- Si necesita ayuda para la instalación, visite www.lorextechnology.com/installation o contacte un especialista en instalaciones
- Favor de notar que una vez que los componentes de este producto han sido removidos del embalaje, no podrá devolver este producto directamente a la tienda



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FEB 16 2012 - R6

Important Safeguards

In addition to the careful attention devoted to quality standards in the manufacture 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.

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.

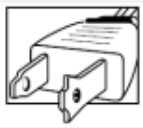
Installation

1. **Read and Follow Instructions** - All the safety and operating instructions should be read before the product is operated. Follow all operating instructions.

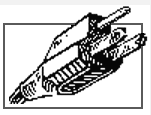
2. **Retain Instructions** - The safety and operating instructions should be retained for future reference.

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.

   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.

Installation (Continued)

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.

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:

   A. When the power supply cord or plug is damaged.

   B. If liquid has been spilled or objects have fallen into the product.

   C. If the product has been exposed to rain or water.

   D. If the product has been dropped or the cabinet has been damaged.

   E. 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.

   F. When the product exhibits a distinct change in performance. This indicates a need for service.

7. **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.

8. **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.

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.

NOTICES

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:

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

Modification:

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

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

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.

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.

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

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Product Information

Specification Sheets

User Manuals

Software Upgrades

Quick Start Guides

Firmware Upgrades

Features



Digital Video Recorder Features

- H.264 video compression[1]
- Real time recording @ 360x240 resolution, D1 capable (720x480)
- Pentaplex operation - View, Record, Playback, Back Up & Remotely Control the system simultaneously
- 24x7 100% duty cycle HDD
- Recording options: Motion, schedule, or continuous
- 2 x USB 2.0 ports (mouse, backup, firmware upgrade)
- Accurate Time Stamps with NTP & automatic Daylight Savings Time adjustments
- PTZ cameras supported (RS-485)

Connectivity Features[2]

- Instant Mobile Viewing on compatible smart phones & tablets[3]
- Exclusive LOREX Easy Connect Internet Set-up Wizard
- PC and Mac compatible (Internet Explorer & Safari browsers).
- Free LOREX DDNS (Dynamic Domain Name Service) for advanced remote connectivity at all times
- Instant email alerts with snap shot attachments and web link

1. Recording time may vary based on recording resolution & quality, lighting conditions, and movement in the scene.
2. Requires a high speed Internet connection and a router (not included).
3. Smart phone & tablet Compatibility: iPad™, iPhone™, BlackBerry (supported model numbers: 9000, 9700, 9800), Android (version 1.5 & above), Windows Mobile (6.0, 6.5), Symbian (3rd & 5th generation phones). Mobile phone data plan is required (not included). For the latest compatibility list check www.lorextechnology.com as new models become available in the market.

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Getting Started

The system comes with the following components:



DVR (DIGITAL VIDEO RECORDER)



12V DC POWER SUPPLY



REMOTE CONTROL
(may not be exactly as shown)



USB MOUSE



ETHERNET CABLE



HDMI CABLE
(included with 8-channel model only)



AUDIO HARNESS CABLE
(included with 16-channel model only)



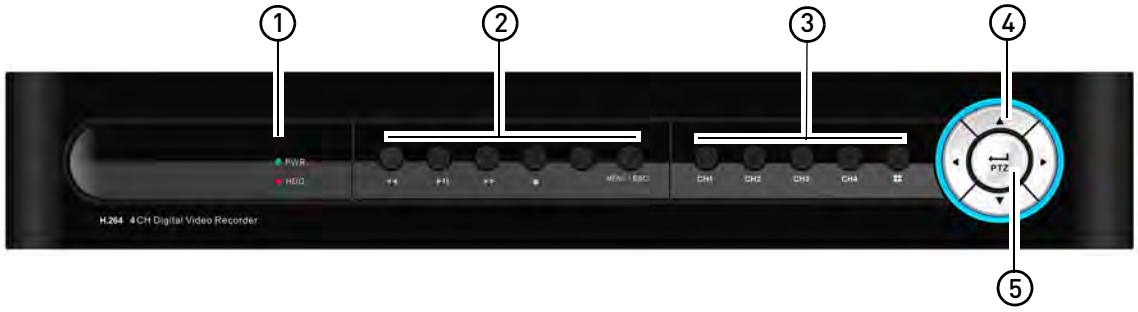
INSTRUCTION MANUAL
QUICKSTART GUIDE
DOCUMENTATION CD

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.

Front Panel

4-Channel



1 **IR Sensor**: IR receiver for the remote control.
LED Indicators:
- **PWR**: Power LED.
- **HDD**: Hard disk activity LED.

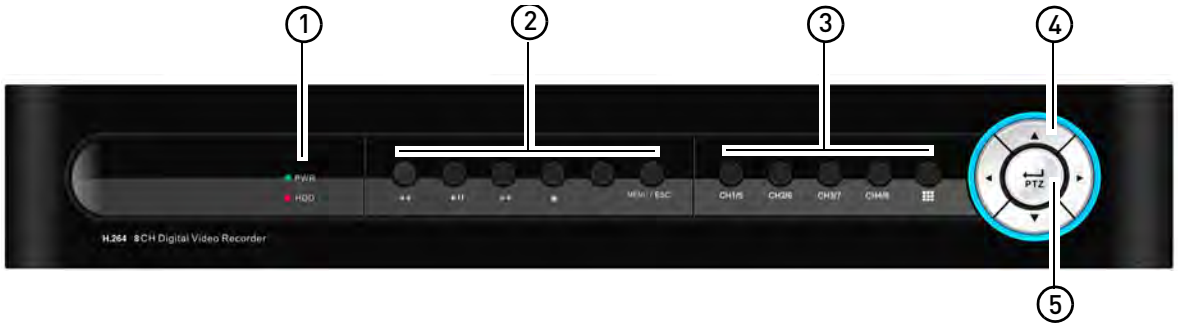
2 Menu & Playback Controls:
- ◀◀ : In Playback Mode, press to rewind. Press repeatedly to increase rewind speed.
- ▶ II : In Playback Mode, press to play / pause video.
  - In Live Viewing Mode, press to open the Search Menu to select playback time.
- ▶▶ : In Playback Mode, press to fast forward. Press repeatedly to increase fast forward speed.
- ■ : In Playback Mode, press to stop video playback.
  - In Live Viewing Mode, press to stop DVR recording.
  - Press and hold for 15 seconds to reset the DVR to the default resolution. DVR will reboot.
- ● : Press to stop / resume recording. When the channel displays a red box with the letter "C", the channel is recording.
- **Menu / Esc**: Opens the system menu. In menus, press to go back / exit menus.

3 Channel Controls:
- **Ch1** - **Ch4**: Press to switch to Full-screen View of the selected channel.
- ▀▀ : In Live Viewing Mode, press to switch to 4-way Split-screen View (Quad View).

4 Navigation Buttons:
- ▲: Press to move cursor up.
- ▼: Press to move cursor down.
- ◀: Press to move cursor left.
- ▶: Press to move cursor right.

5 **PTZ /** ↵ : Within system menus: Press to confirm a selection.
- In Live Viewing Mode, press to open the System Information window.
- In Live Viewing Mode, press and hold for 6 seconds to open the PTZ menu.

8-Channel



1 **IR Sensor**: IR receiver for the remote control.
LED Indicators:
- **PWR**: Power LED.
- **HDD**: Hard disk activity LED.

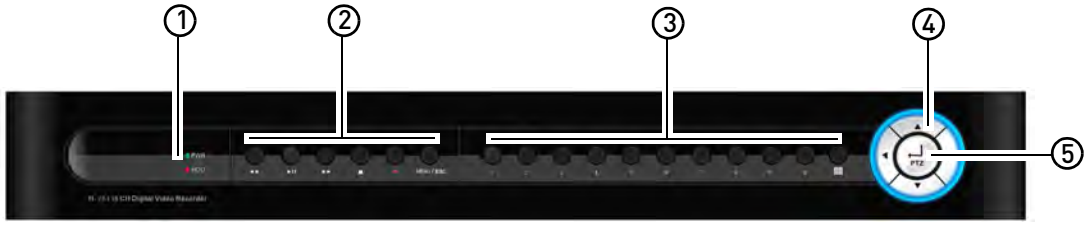
2 Menu & Playback Controls:
- ◀◀ : In Playback Mode, press to rewind. Press repeatedly to increase rewind speed.
- ▶ II : In Playback Mode, press to play / pause video.
  - In Live Viewing Mode, press to open Search Menu to select playback time.
- ▶▶ : In Playback Mode, press to fast forward. Press repeatedly to increase fast forward speed.
- ■ : In Playback Mode, press to stop video playback.
  - In Live Viewing Mode, press to stop DVR recording. Password required; does not override scheduled recording.
  - Press and hold for 15 seconds to reset the DVR to the default resolution. DVR will reboot.
- ● : Press to stop / resume recording. When the channel displays a red box with the letter "C", the channel is recording.
- **Menu / Esc**: Opens the system menu. In menus, press to go back / exit menus.

3 Channel Controls for full screen view:
- **Ch1/5**: Press once to display channel 1. Press ▦ twice and press **1/5** to view channel 5.
- **CH 2/6**: Press once to display channel 2. Press ▦ twice and press **2/6** to view channel 6.
- **CH3/7**: Press once to display channel 3. Press ▦ twice and press **3/7** to view channel 7.
- **CH4/8**: Press once to display channel 4. Press ▦ twice and press **4/8** to view channel 8.
- ▦ : In Live Viewing Mode, press repeatedly to switch between Split-screen Viewing modes.

4 Navigation Buttons:
- ▲: Press to move cursor up.
- ▼: Press to move cursor down.
- ◀: Press to move cursor left.
- ▶: Press to move cursor right.

5 **PTZ/** ↵ : Within system menus: Press to confirm a selection.
- In Viewing mode, press to open the System Information window.
- In Viewing mode, press and hold for 6 seconds to open the PTZ menu.

16-Channel



1 **IR Sensor**: IR receiver for the remote control.
LED Indicators:
- **PWR**: Power LED.
- **HDD**: Hard disk activity LED.

2 Menu & Playback Controls:
- ◀◀ : In Playback Mode, press to rewind. Press repeatedly to increase rewind speed.
- ▶ II : In Playback Mode, press to play / pause video.
  - In Viewing mode, press to open Search Menu to select playback time.
- ▶▶ : In Playback Mode, press to fast forward. Press repeatedly to increase fast forward speed.
- ■ : In Playback Mode, press to stop video playback.
  - In Live Viewing Mode, press to stop DVR recording. Password required; does not override scheduled recording.
  - Press and hold for 15 seconds to reset the DVR to the default resolution. DVR will reboot.
- ● : Press to stop / resume recording. When the channel displays a red box with the letter "C", the channel is recording.
- **Menu / Esc**: Opens the system menu. In menus, press to go back / exit menus.

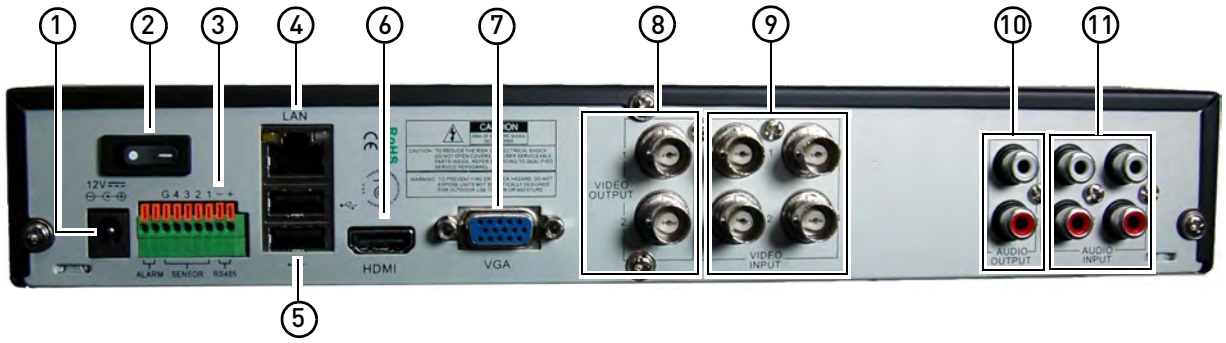
3 Channel Controls:
- **Ch1 ~ Ch9**: Press to view channel in Full-screen View.
- To access channels 10 and greater: Press **0** for channel 10 or 1+0 for channel 10, 1+1 for channel 11, 1+2 for channel 12, etc.
- : In Live Viewing Mode, press repeatedly to switch between Split-screen Viewing modes.

4 Navigation Buttons:
- ▲: Press to move cursor up.
- ▼: Press to move cursor down.
- ◀: Press to move cursor left.
- ▶:Press to move cursor right.

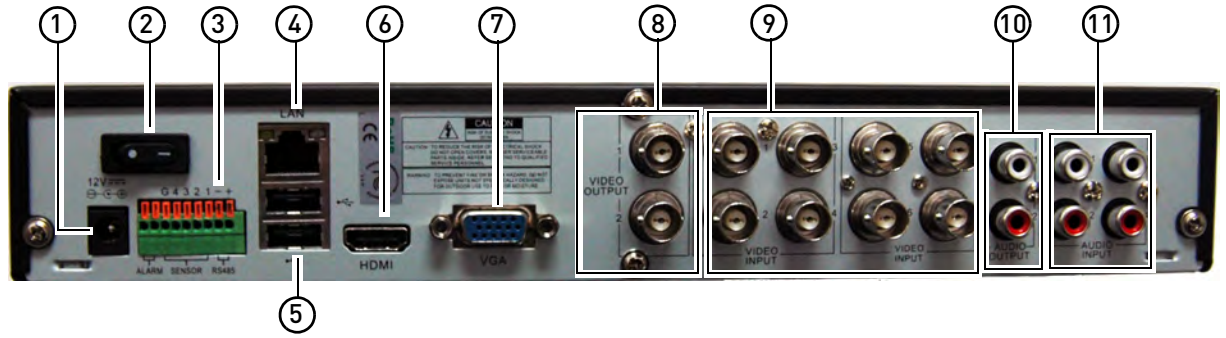
5 **PTZ/** ↵ : Within system menus: Press to confirm a selection.
- In Live Viewing Mode, press to open the System Information window.
- In Live Viewing Mode, press and hold for 6 seconds to open the PTZ menu.

Rear Panel

4-Channel



8-Channel



1 **DC12V**: Connect the included AC power adapter.

2 **On / Off Switch**: Turns the DVR on or off.

3 **PTZ / Alarm Block**: Connect compatible PTZ cameras (not included) or alarm devices (not included).

4 **LAN**: Connect a CAT 5 RJ45 Ethernet cable for local and remote connectivity.

5 **USB Ports**: Connect a USB mouse (included) or USB flash drive (not included) for data backup or firmware updates.

6 **HDMI**: Connect to a HDMI-compatible TV or monitor (not included) to enable multimedia audio and video.

NOTE: HDMI resolution is up-scaled.

7 **VGA**: Connect a VGA monitor (not included) to view the system interface.

8 **Video Output**: Outputs the DVR interface to a BNC connection. This allows you to see your mouse cursor and have full control of the system on a secondary monitor.

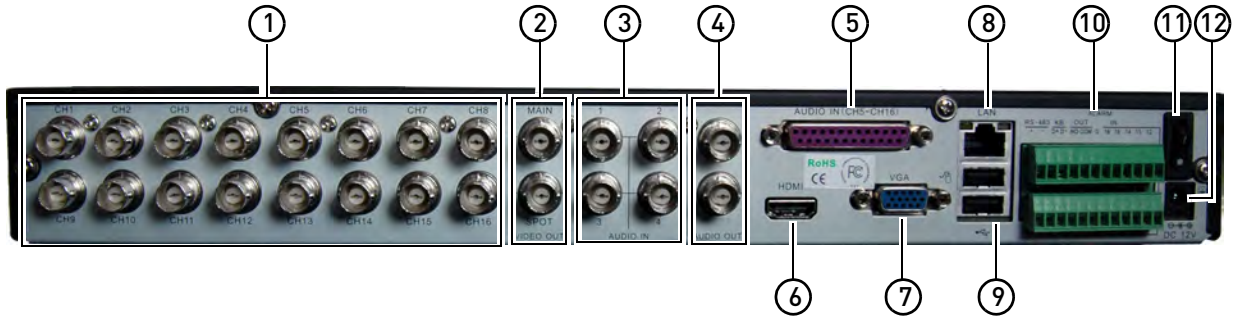
NOTE: Use a BNC to RCA adapter (not included) to connect the DVR to RCA inputs (i.e. for a TV connection).

9 **Video Input**: Connect up to 4 BNC cameras (4-channel) or 8 BNC cameras (8-channel).

10 **Audio Out**: Output for 2 audio channels (e.g. speakers).

11 **Audio In**: Connect up to 4 RCA audio-enabled cameras (not included).

16-Channel



1 **BNC Video IN**: Connect up to 16 BNC cameras.

2 **Video Out**: Video outputs (BNC) for external monitors. For details, see "Appendix I: Connecting Additional External Monitors" on page 123.

NOTE: Use a BNC to RCA adapter (not included) to connect the DVR to RCA inputs (i.e. for a TV connection).

3 **Audio In**: Connect up to 4 RCA audio-enabled cameras (not included). BNC to RCA adapters required (not included).

4 **Audio Out**: Output for 2 audio channels (e.g. speakers). BNC to RCA adapters required (not included).

5 **Audio In (CH5~16)**: Connect up to 12 RCA audio-enabled cameras (not included) using the Audio Harness cable (included). BNC to RCA adapters required (not included).

6 **HDMI Out**: Connect to a HDMI-compatible TV or monitor (not included) for multimedia audio and video. Note that the DVR cannot use an HDMI and VGA monitor at the same time.

7 **VGA Output**: Connect a VGA monitor (not included) to view the system interface.

8 **LAN**: Connect a CAT 5 RJ45 Ethernet cable (included) for local and remote connectivity.

9 **USB Ports**: Connect a USB mouse (included) or USB flash drive (not included) for data backup or firmware updates.

10 **PTZ / Alarm Block**: Connect a PTZ camera (not included) and Alarm Devices (not included).

11 **On / Off Switch**: Turns the DVR on or off.

12 **DC12V**: Connect the included AC power adapter.

Basic Setup

Step 1: Connect the BNC Cameras

- Connect BNC cameras to the **Video In** ports on the rear panel of the DVR.

8-channel model shown



Push and twist the BNC connector clockwise to secure it to the BNC port.

Step 2: Connect the Mouse

- Connect a USB mouse (included) to one of the **USB** ports on the rear panel of the DVR.

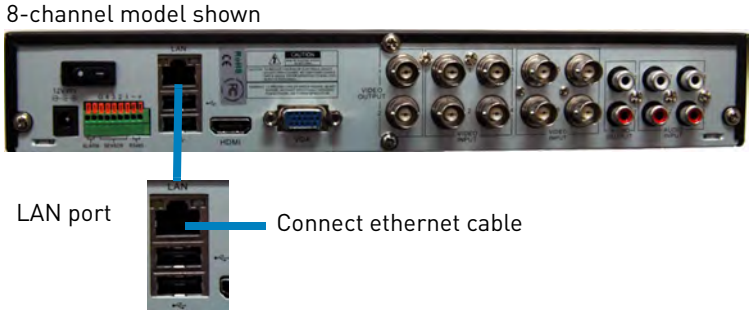
8-channel model shown



Step 3: 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.

8-channel model shown

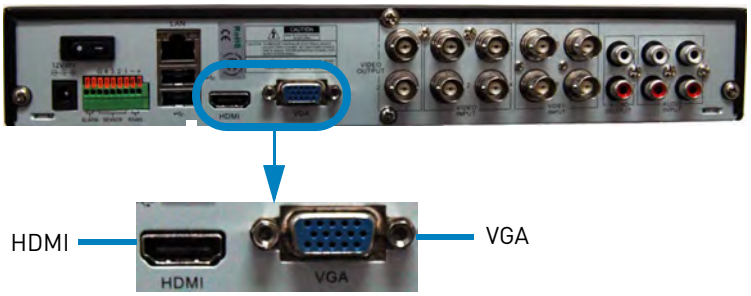


Step 4: Connect the Monitor

- Connect a HDMI cable (included with 8-channel model only) from the **HDMI** port to the TV or monitor (recommended) **OR**;
- Connect a VGA cable (not included) from the **VGA** port to the monitor.

NOTE: If you have a monitor with a DVI input, you must use an HDMI to DVI adapter (not included). You cannot use an DVI to VGA adapter.

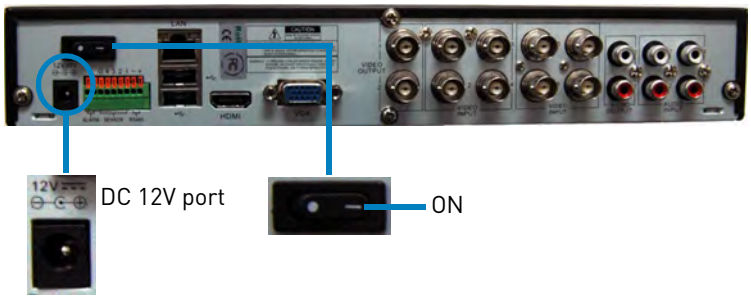
8-channel model shown



Step 5: Connect the Power Adapter and Power 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.
- Turn the power switch to **I** to turn on the DVR. 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.

8-channel model shown



Step 6: 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.

Step 7: 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 “Setting the Date and Time” on page 20.

Default System Password & Port Numbers

By default, the system user name is **admin** and the password is **000000**. Passwords are disabled by default and are not required to access the Menu Bar or Main Menu. However, you may be asked for a password to access certain functions. It is recommended that you enable passwords and create your own password. For details, see "Managing Passwords" on page 29.

- The system requires a user name and password to log in to the system **remotely** using a computer or mobile device.
- **ALL** the system port numbers below must be port forwarded on your router to log in to your system over the Internet or an internal network (LAN).

Local DVR user name and password:

- Username: **ADMIN** / Password: **000000**

Default ports for remote access:

- Port **80** (HTTP port)
- Port **9000** (Client port)
- Port **1025** (Mobile port)

Remote connectivity (LAN & Internet) to the DVR:

- User Name: **admin**
- Password: none (left blank)

Mobile connectivity (e.g. iPhone) to the DVR:

- User Name: **admin**
- Password: **0000**

Quick Access to System Information

- To quickly open a window that displays vital system information, press the **PTZ** / ↵ button on the front panel of the system.



Connecting Cameras

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

Test the cameras before permanent installation. Plan where you will route the wiring for the camera and where you will aim the camera.

Installation Tips

- Mount the camera where the lens is away from direct and intense sunlight.
- Plan your cable wiring so that it does not interfere with power lines or telephone lines.
- Ensure that the camera wiring is not exposed or easily cut.
- Mount the camera in an area that is visible, but out of reach.
- Avoid pointing the camera at a glass window to see outside, as this may result in a poor image caused by glare from indoor / outdoor lighting conditions.
- Adjust the camera angle so that it covers an area with high traffic.
- In "high-risk" locations, have multiple cameras point in the same area. This provides camera redundancy if a vandal attempts to damage the camera.

Installing Cameras

1 Mount the camera(s) to the desired mounting surface according to the instructions that came with the camera(s). Choose a firm mounting surface.

NOTE: If you wish to mount cameras to drywall, it is recommended to use drywall plugs (not included).

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



Table Mount



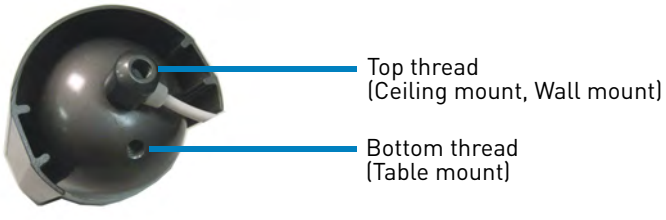
Wall Mount



Ceiling Mount

Camera model not be exactly as shown.

NOTE: There are two connection points for certain cameras. Secure the stand to the top thread for wall mounts or ceiling mounts. Secure the stand to the bottom thread for table mounts or wall mounts.





Camera model may not be exactly as shown.

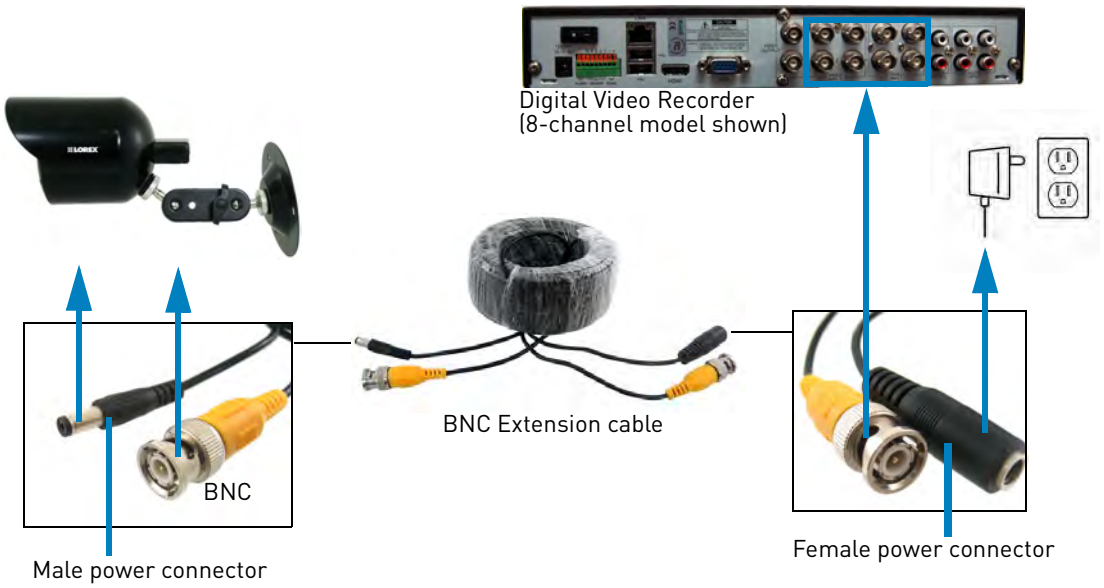
Connecting BNC Cameras to your DVR

1 Connect the male power connector on the BNC extension cable to the female power connector on the camera.
   • Connect the BNC connector to the camera.

2 Connect the female power connector on the BNC extension cable to the power adapter.

3 Connect the BNC connector to one of the **Video Input** ports on the rear panel of the DVR.

4 Plug the camera power adapter to a power outlet.



Connecting and Removing BNC Cables

BNC (Bayonet Nut Connector) is a special connector that locks on to the system port and cannot be accidently removed.

To connect or remove a BNC connector:

- Push the BNC connector firmly into the BNC port and simultaneously twist the connector clockwise to tighten.
- To remove a BNC connector from a BNC port, push and simultaneously twist the connector counter-clockwise to loosen the BNC connector.

Mouse Control

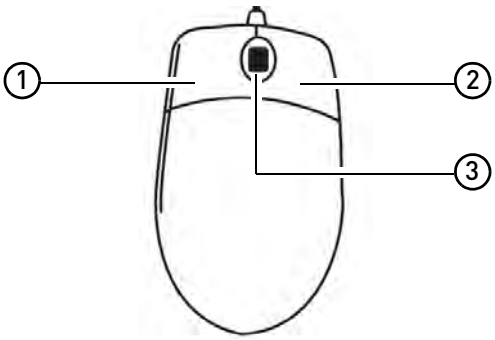
The DVR is designed for mouse navigation. To use a USB mouse (included), connect the mouse to a **USB** port on the rear panel of the DVR.

8-channel model shown



1 Use the mouse buttons to perform the following:

- **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 "Using the Menu Bar" on page 16).
- In menus, use the right-button to go back / exit menus.

3 **Scroll-Wheel**: No function.

Remote Control

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

4 & 8-Channel Remote Control

1 **Number Keys (1-9)**: 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.

2 **Navigation Cursors**: Press to navigate menus.

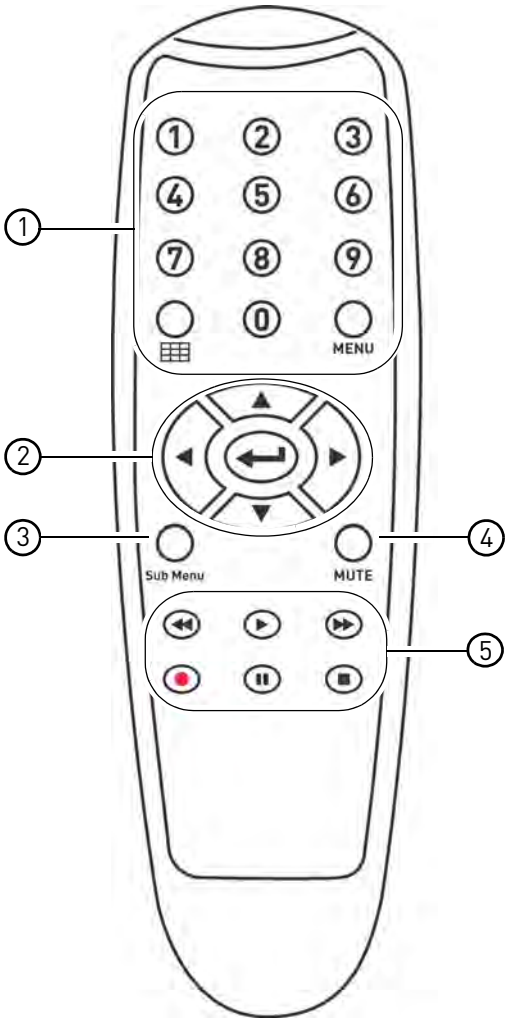
- ↵: Press to select menu items. In Live Viewing Mode, press to access System Information.

3 **SUB MENU**: Press to open the Menu Bar.

4 **MUTE**: Press to mute / un-mute audio during Live Viewing and Playback Mode*.

5 **Playback Controls**:

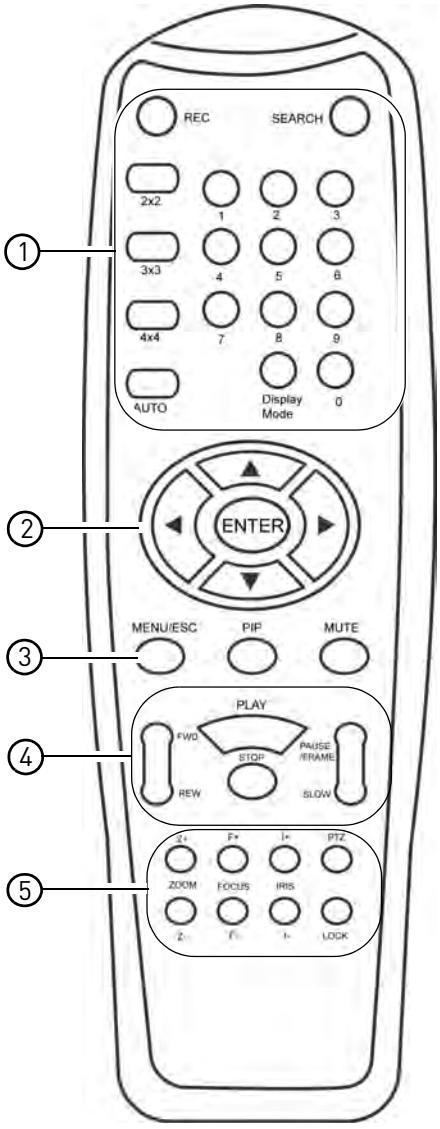
- ⏩: In Playback Mode, press to fast forward / increase fast forward speed.
- ⏪: In Playback Mode, press to rewind / increase rewind speed.
- ⏵:In Live Viewing Mode, press to open the Search Menu to select video for playback.
  - In Playback Mode, press to play video.
- ⏸: In Live Viewing Mode, press 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.



*Audio capable cameras (not included) are required for audio recording and listen-in audio functionality.

TIP: 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.

16-Channel Remote Control



1 **REC:** Press to resume recording after recording has been stopped.

- **SEARCH**: Press to open the Search menu.
- **Number Keys (1-0)**: In Live Viewing Mode, press to open the desired channel in Full-screen view. Press 1+0 for channel 10, 1+1 for channel 11, etc.
- **0**: Press **0** three times to show the mouse cursor on the BNC monitor or the monitor connected with HDMI/VGA.
- **Display Mode**: In Live Viewing Mode, press repeatedly to switch through split-screen viewing modes.
- **2x2 / 3x3 / 4x4**: In Live Viewing Mode, press to open the corresponding Split-screen View. Press repeatedly to change channels shown in split-screen.
- **AUTO**: Press to start / stop Sequence Mode.

2 **Navigation Cursors**: Press to navigate menus.

- **ENTER**: In menus, press to confirm selections.
  - In Live Viewing Mode, press to access System Information.

3 **MENU/ESC**: Press to open the system menu. In menus, press to go back / exit menu.

- **MUTE**: In Live Viewing and Playback Modes, press to mute / un-mute audio.
- **PIP**: In Live Viewing Mode, press once to open Picture in Picture (PIP) 1X1 or twice to open PIP 1X2. Mouse is required to change channels shown in PIP.

4 **Playback Controls**:

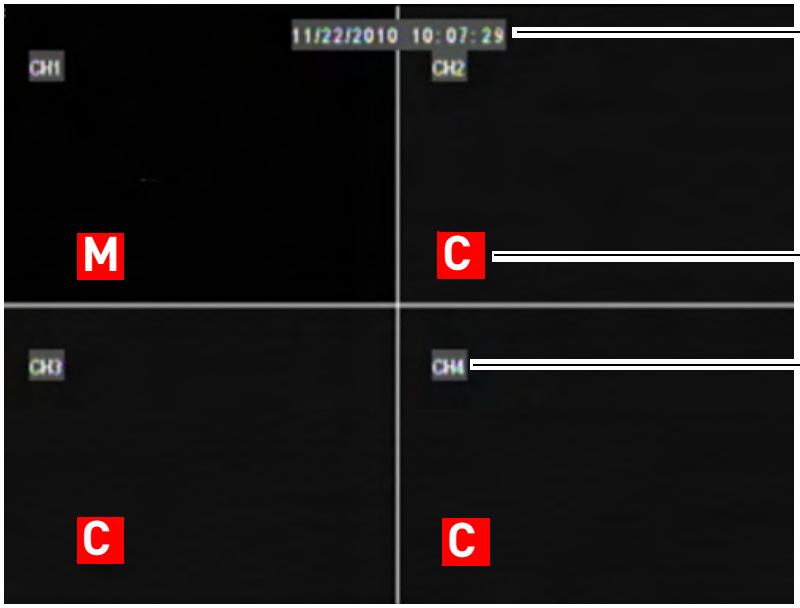
- **FWD**: In Playback Mode, press to fast forward / increase fast forward speed.
- **REW**: In Playback Mode, press to rewind / increase rewind speed.
- **PLAY**: In Playback Mode, press to play / pause video.
  - In Live Viewing Mode, press to open the Record Search Menu.
- **STOP**: In Playback Mode, press to pause playback.
  - In Live Viewing Mode, press to stop recording. Password required; does not override scheduled recording.
- **SLOW**: In Playback Mode, press to play video in slow motion. Press repeatedly to change slow motion playback speed.
- **PAUSE/FRAME**: In Playback Mode, press to pause. Press repeatedly to view recordings frame by frame.

5 PTZ Controls:

- **Z+/Z-** : Adjust camera Zoom.
- **F+/F-** : Adjust camera Focus.
- **I+/I-**: Adjust camera Iris.
- **PTZ**: Opens the PTZ menu.

Using the On-Screen Display

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; **A**=alarm recording.

3 **Channel number / Channel title**: Displays channel number or channel title. To rename the channel number to a title, see "Configuring Custom Channel Names" on page 33.

Tip:

If you can't see your mouse cursor on screen (16-channel model only):

You may have switched output modes from VGA/HDMI to BNC. By default, the DVR outputs to VGA/HDMI mode at 1024 x 768 resolution.

How To Change Video Outputs:

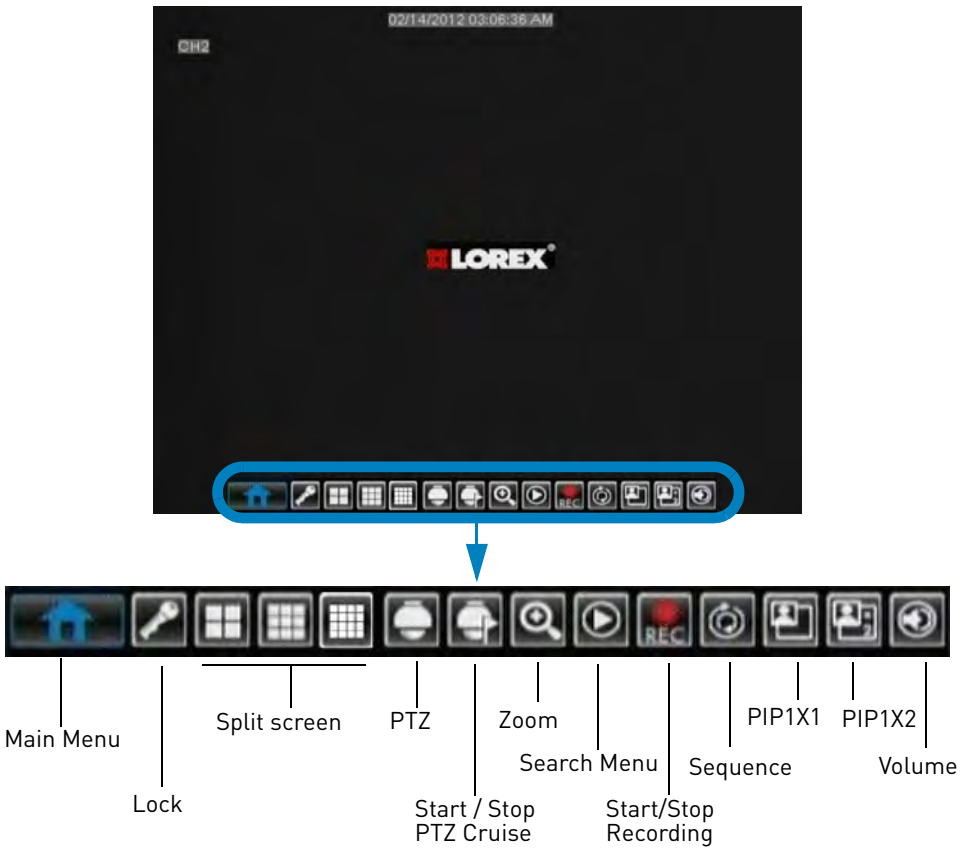
	Front Panel	Remote Control
16-Channel	Press and hold **0** for 6 seconds.	Press **0** three times.

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:

1 Right-click or move the mouse cursor to the bottom of the screen to access the Menu Bar.



Menu Bar Icons

- **Main Menu**: Opens the Main Menu.
- **Lock**: Click to Lock the Main Menu unless the password is entered. Lock icon is not visible unless passwords are enabled.
- **Split Screen buttons**: View the DVR in 4-way, 9-way (8/16-channel models only), or 16-way Split-screen Mode.
- **PTZ**: Opens the PTZ controls.
- **Start / Stop PTZ Cruise**: Start or stop the PTZ cruise function.
- **Zoom**: Opens digital zoom. Must be in Full-screen / Live Viewing Mode.
- **Record Search**: Opens the DVR Search Menu. This allows you to search for video recorded on the DVR.
- **Start / Stop Recording**: Start or stop DVR recording on all channels. Password required; does not override scheduled recording.
- **Start / Stop SEQ**: Start or stop Sequence Mode. In Sequence Mode, DVR automatically switches between channels every few seconds.
- **PIP 1X1**: Enable Picture in Picture Mode with 1 camera in full screen and 1 in a small window.
- **PIP 1X2**: Enable Picture in Picture Mode with 1 camera in full screen and 2 in small windows.
- **Volume**: Adjust the DVR volume (audio-capable cameras required, not included).

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 (if passwords are enabled).

- The Virtual Keyboard opens.



Virtual Keyboard

- Click **Shift** to switch between upper and lowercase letters.
- Click ◄ ► to move the cursor between letters.
- Click ← 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.



Virtual Mini-Keyboard

- Click ← to go back to the previous option.
- Click ↵ to enter your selection.

Using the Zoom Mode

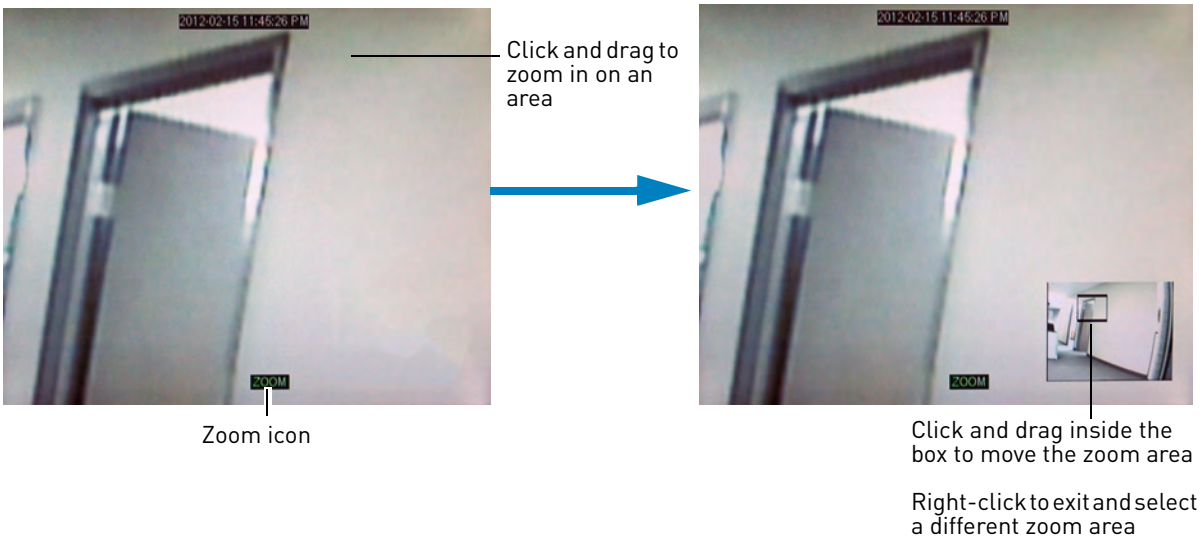
Zoom Mode allows you to zoom in on an image while viewing your cameras live. This can be useful if you want to get a closer look at a situation.

To use the Zoom Mode:

1 In Live Viewing Mode, select the channel you want to zoom in on in full-screen (double-click the channel if you are in a Split-screen View).

2 Right-click to open the Menu Bar and select the Zoom button ( ). A Zoom icon appears on the screen.

3 Click and drag on the area of the screen you would like to enlarge. The image zooms in on the selected area.



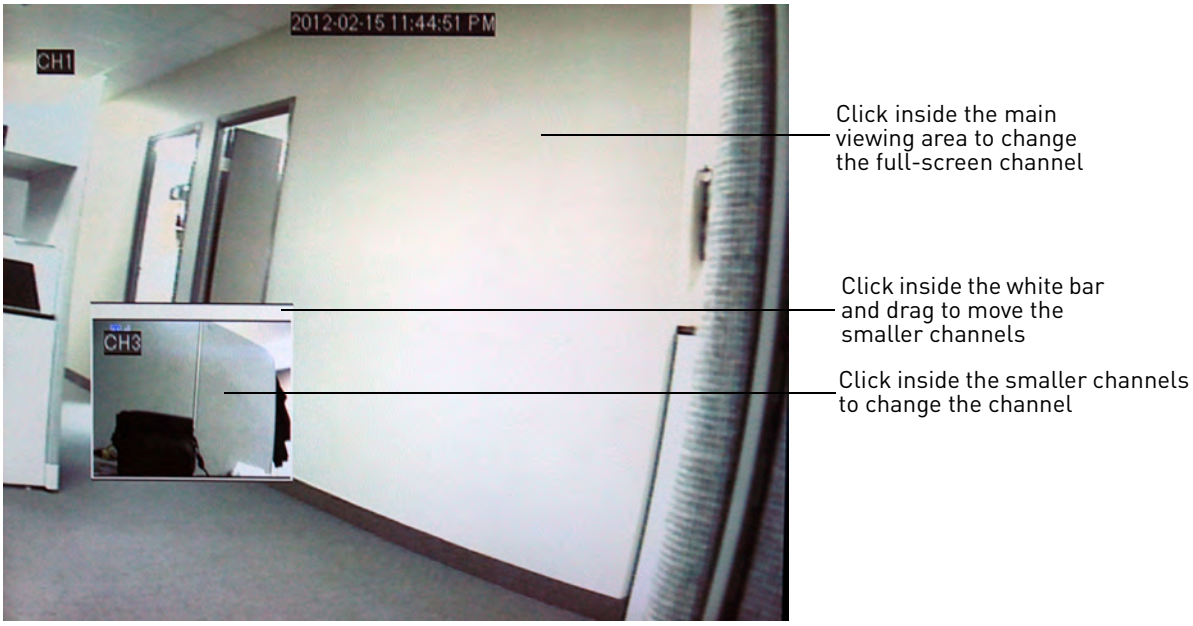
- The box in the lower right-hand corner shows the entire camera picture with a black box around the zoomed-in area.
- Click inside the box and drag to move the zoom area.
- Right-click to exit and select a different zoom area. Right-click again to exit Zoom Mode and return to Live Viewing Mode.

Using Picture in Picture (PIP) Mode

Picture in Picture (PIP) Mode allows you to view one channel in full-screen while viewing up to two other channels.

To use Picture in Picture Mode:

1 Right-click to open the Menu Bar and select the PIP1X1 button ( ) or PIP1X2 button ( ). PIP1X1 shows 1 channel in full screen and 1 other channel; PIP1X2 shows 1 channel in full screen and 2 other channels.



- Picture in Picture Mode opens.
- To change the full-screen channel, click anywhere in the main viewing area.
- To change the smaller channels, click inside the channel.
- To move the smaller channels around the screen, click inside the white bar and drag.
- Right-click to exit and return to Live Viewing Mode.

Setting the Date and Time

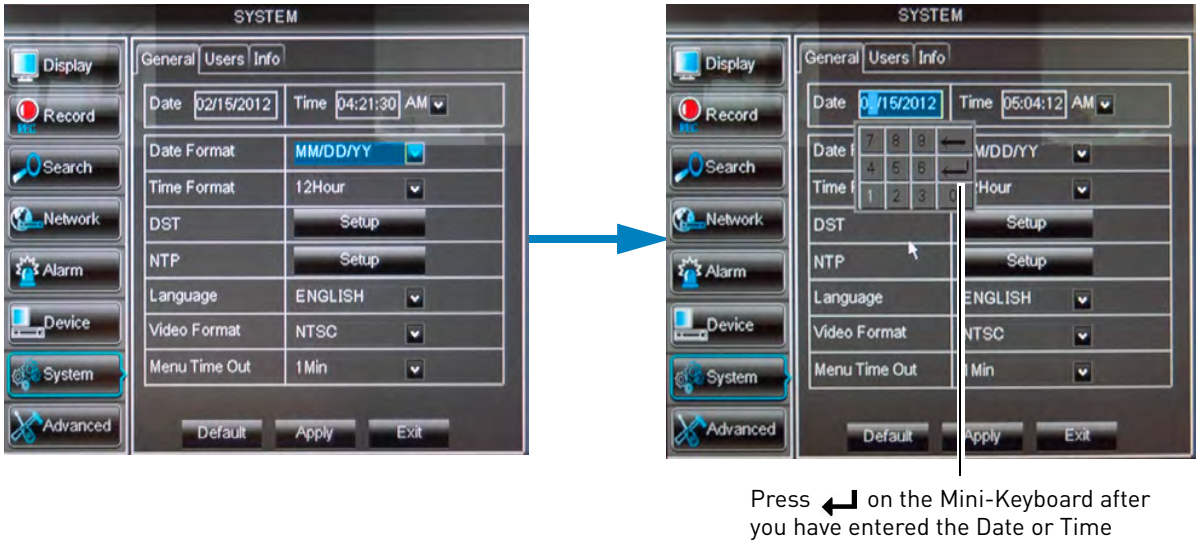
It is highly recommended to set the date and time when first setting up your system.

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

To set the date and time:

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 Click **System.**



Press ↵ on the Mini-Keyboard after you have entered the Date or Time

3 Configure the following:

- **Date**: Click inside the field and enter the month, date, and year.
- **Time**: Click inside the field and enter the time.
- **(Optional) Date Format**: Use the drop-down menu to select **MM/DD/YYYY** or, **DD/MM/YYYY**, or **YYYY-MM-DD**.
- **(Optional) Time Format**: Use the drop-down menu to select **12HOURS** or **24HOURS**.
- **(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.

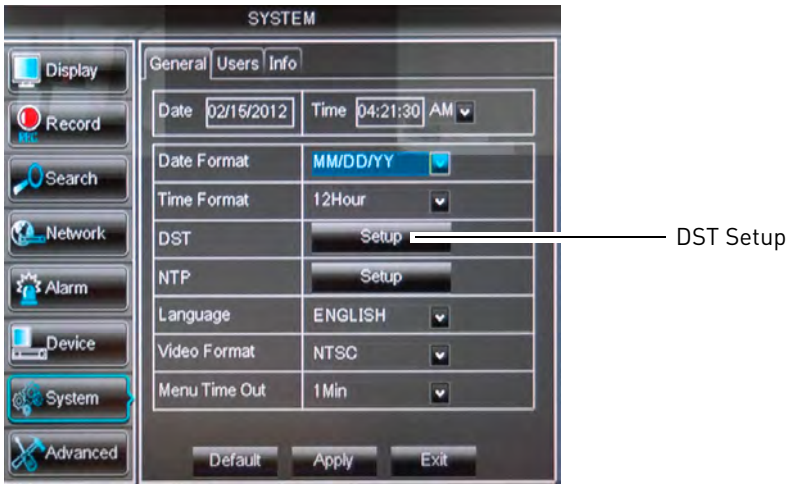
4 Click **Apply** to save your settings.

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.

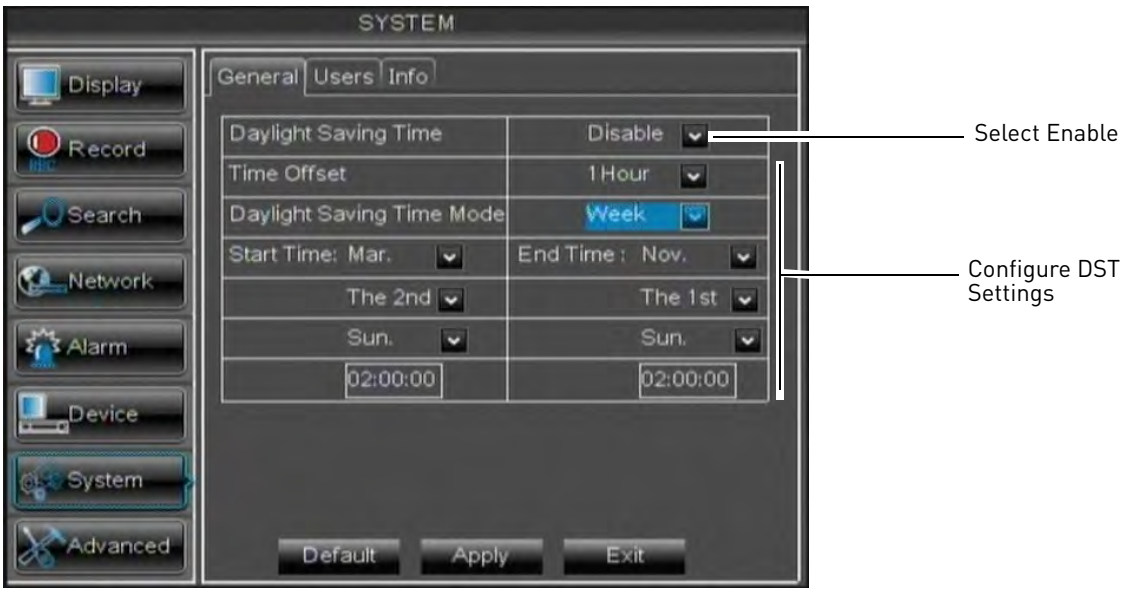
To enable automatic DST adjustments:

1 Click the **DST Setup** button.



2 Configure the following:

- **Daylight Saving Time**: 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 **Date**. This allows you to select whether DST should begin and end at the beginning of the week or on a specific date.
- **Start Time, End Time**: Enter when DST starts and ends.



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

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:

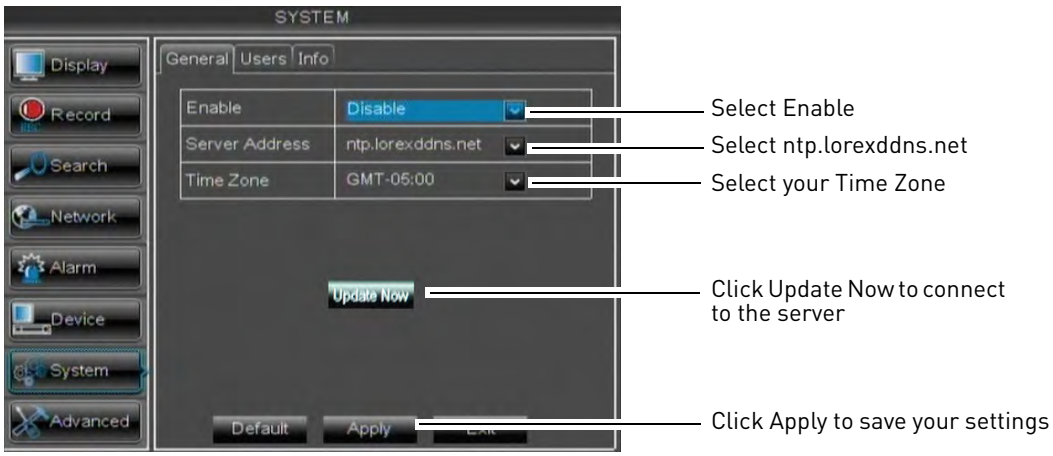
1 Right-click to open the Menu Bar and click the Main Menu button ( ).

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



3 Configure the following:

- **Enable**: 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.



4 Click **Update Now** to connect to the time server.

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

Recording

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

- C **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 "Configuring Hard Drive settings" on page 46.

Event Recording

The system also includes motion recording:

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

Recording Audio

The system can also record audio for up to 4 channels (4/8-channel models) or 16 channels (16-channel model). You must have audio-capable cameras (not included) or self-powered microphones (not included) in order to record audio on the system.

For details, see "Appendix J: Recording Audio" on page 125.

Playback and Backup

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

To playback a specific date and time:

1 Right-click to open the Menu Bar and click the Record Search button ( ). The Record Search tab opens.

2 Configure the following:

- **CH**: Select the channel you wish to search. Select **All** to search all channels.
- **Search Date**: Enter the month, date, and year you wish to search for video.
- **Playback Time**: Enter the desired time you wish to search for video.



3 Click **Play** to select the exact time specified in Replay Time.

4 Select the channel or channels you want to play back and click **Play**.



To search for recorded footage on the DVR:

1 Right-click to open the Menu Bar and click the Record Search button ( ). The Record Search tab opens.

2 Configure the following:

- **CH**: Select the channel you wish to search. Select **All** to search all channels.
- **Search Date**: Enter the month, date, and year you wish to search for video.

3 Click the **Search** button. Your search results appear in the calendar. In the top portion of the calendar, results are shown for each day in the month. In the bottom portion, results are shown for each hour in the selected day.



Days in the selected month

Hours in the selected day

Search results:
Green: Continuous recording
Red: Motion or alarm recording
Grey: No recording

4 Click on a date in the calendar to see the video available for that date.

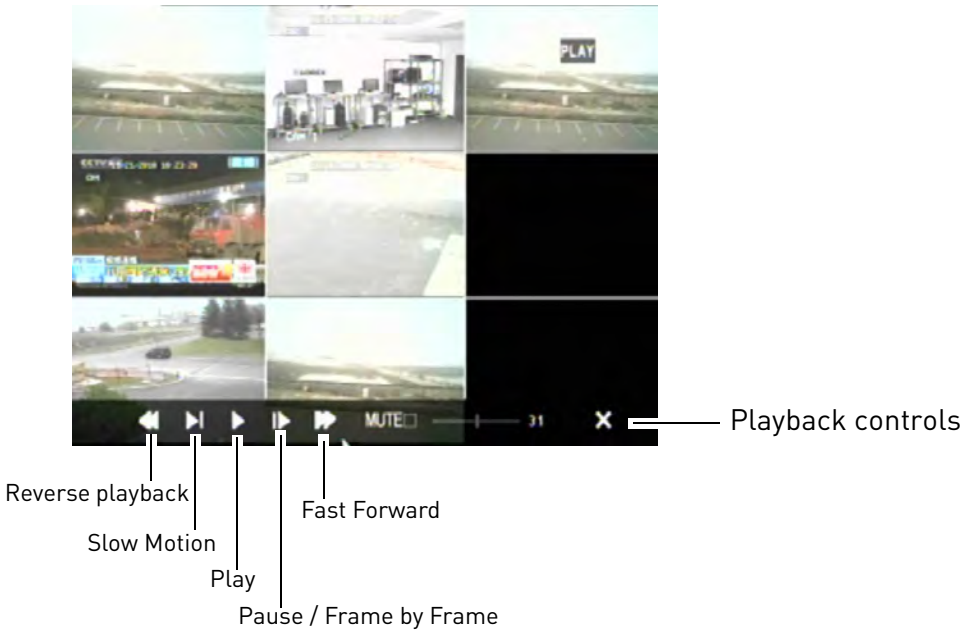
5 Click on the hour of the video you want to play back.

6 Select the channel or channels you want to play back.

7 Click **Play** to begin playback.

Using the On-Screen Playback Controls

1 Move the mouse slightly to display the on-screen playback controls. You can also use the playback control buttons on the remote control or front panel of the system.



2 Click the playback controls to play, pause, fast forward, rewind, and slow down playback.

3 Drag the slider to adjust the volume (audio capable camera required, not included). Click **Mute** to mute the audio.

4 Click **X** to quit playback and return to the Search Menu.

Backing Up Video

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

To back up video:

1 Connect a USB flash drive to one of the **USB** ports on the rear panel of the DVR.

2 Right-click to open the Menu Bar and click the Record Search button ( ).

3 Click the **Backup** tab.

4 Configure the following:

- **Search Date**: Enter the desired month, date, and year
- **Search Time**: Enter the time range you wish to search.
- **CH**: 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 **All, Continuous**, or **Alarm**.

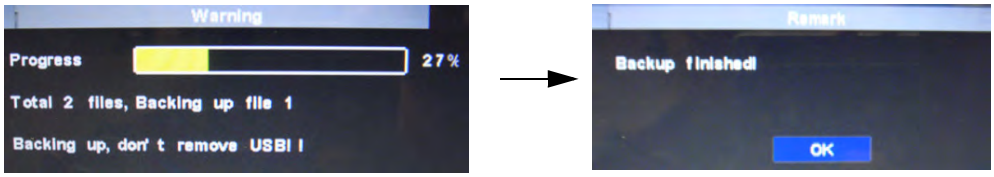
5 Click **Search**. A list of videos populate in the window.



6 Click ◀ ▶ to scroll through the list of videos. The videos are named by time. Videos are "packed" into 15 minute - 60 minute increments.

7 Click the **BAK** checkbox beside the video you wish to back up.

8 Click **Backup**. Wait for the backup to finish before removing the USB memory drive.



NOTE: To change the duration of how often a file is "packaged", see "Configuring Backup File Duration (Pack Duration)" on page 36.

Viewing Backed Up Video

To view the downloaded video, you must install the Lorex Player software.

For details on viewing backed up video, see "Lorex Player 11: Playing Backed up Video on PC" on page 83 or see "Lorex Player for Mac: Viewing Backed up Video on Mac" on page 85.

Converting Backed Up Video to AVI Files

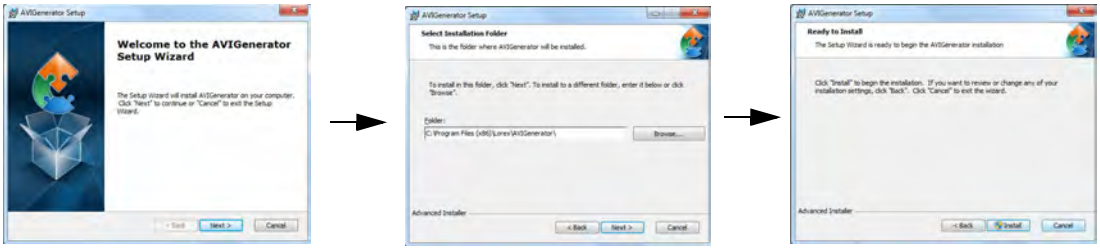
The DVR saves its backup files as proprietary video files. To share these files, you must convert them into .AVI files. Note that the AVI generator can also back up audio from audio-enabled cameras.

To install the AVI converter:

1 Insert the software disc in your computer's CD/DVD rom drive.

2 Locate the **AVI Generator** software from the CD installation wizard.

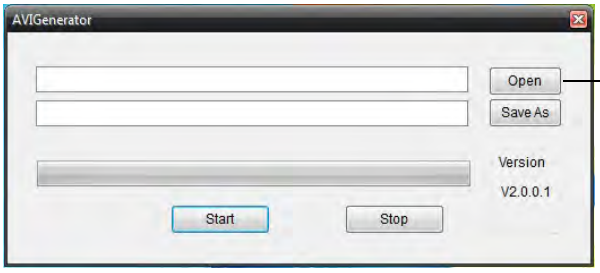
3 Follow the on-screen instructions to install AVI Generator.



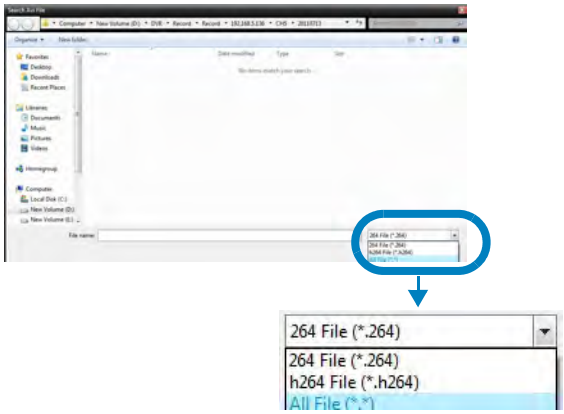
To start the AVI Generator:

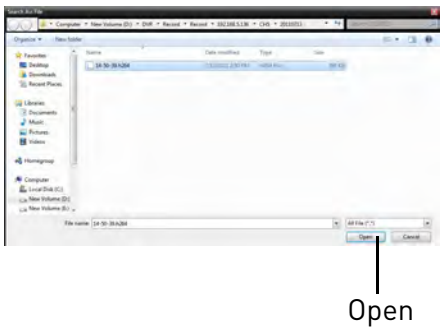
1 Double-click the **AVI Generator** shortcut on the desktop ( ).

2 Click **Open** and then locate the backed up video file on your hard drive.



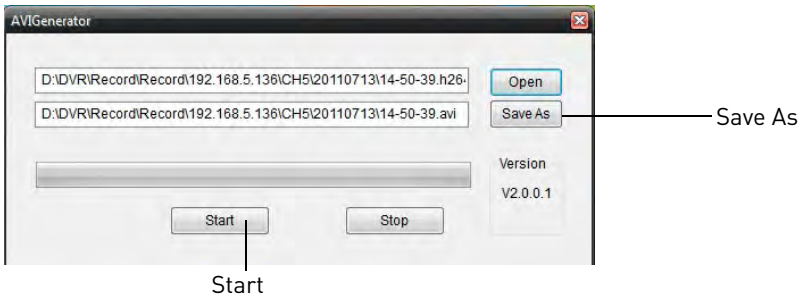
3 Select the desired file format (.264 , h.264, All File) that you wish to search for. Click **Open**.





4 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.



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

Managing Passwords

ATTENTION: By default, the system user name is **admin** and the password is **000000**. Passwords are disabled by default and are not required to access the Menu Bar or Main Menu. However, you may be asked for a password to access certain functions.
You do not need to enter a password to access the system using the browser-based remote software.

When you first startup your system, you are technically logged in as the ADMIN (system administrator) account. 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 highly recommended to enable passwords on your system. If you enable passwords, you must select a 6-digit ADMIN password. **By default, the system password is disabled.**

Enabling and Changing Passwords

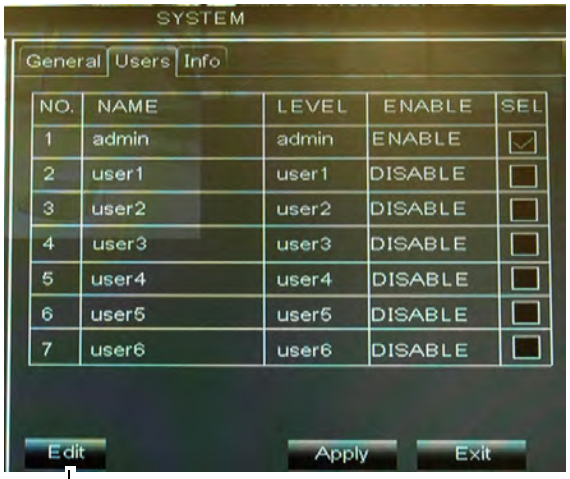
You can change the system password of the ADMIN and the USER from the Users menu.

To enable the admin password:

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

2 Click **System** and select the **Users** tab.

3 Select the checkbox beside admin to change the admin password, then click the **Edit** button.

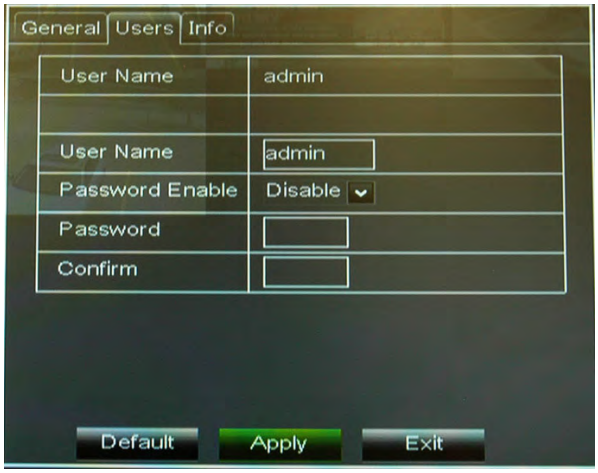


Select checkbox beside admin

Edit

4 Configure the following:

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



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

Adding Users

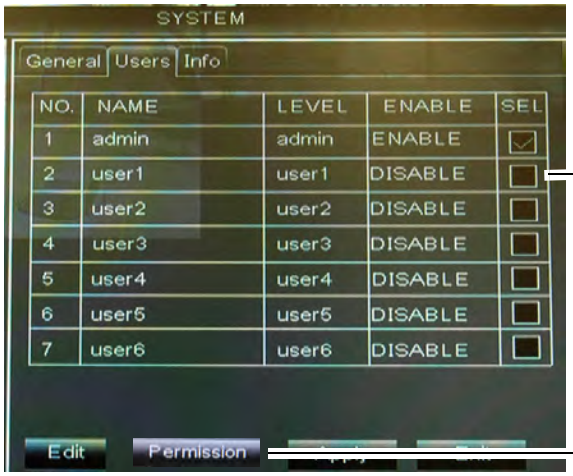
You can allow multiple users to log in to the system. When adding different users, you can assign what menus they have access to. For example, you may want your friend to monitor your system while you are away, while not giving full access to your system.

To add a new user:

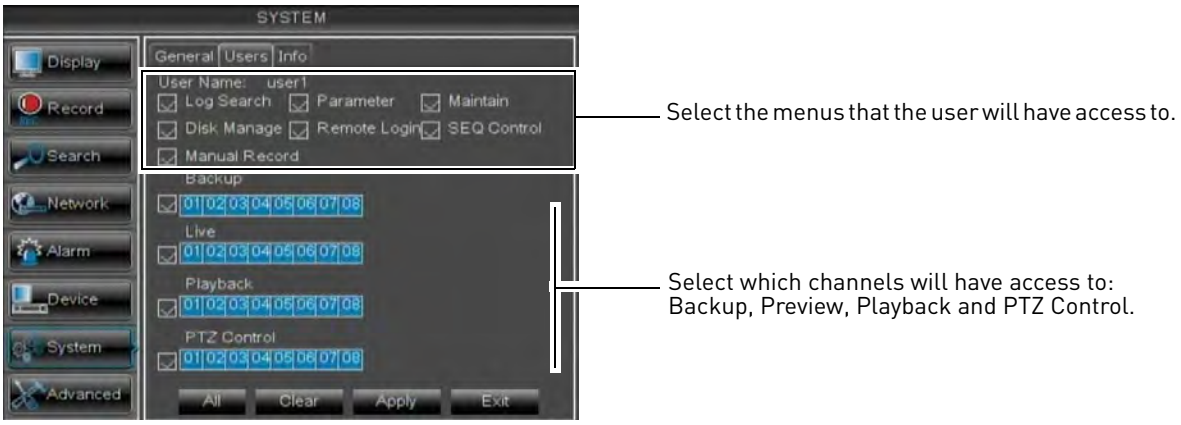
1 Right-click to open the Menu Bar and Click the Main Menu button ( ).

2 Click **System**→ **Users** tab.

3 Select the checkbox beside User1 (or any other user), then click the **Permission** button.



4 Select the menus and channels the user will have access to:



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

6 Configure the following:

- **User Name:** Enter the desired user name.
- User Enable: Select **Enable** to enable the user account.
- **Password Enable**: Select **Enable** or **Disable** to enable or disable the system from prompting you for a user or admin password during log in.
- **Password**: Enter your desired password.
- **Confirm**: Re-enter the password.



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

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

Using the Main Menu

To open the Main Menu:

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

NOTE: If passwords are enabled on the system, you need to enter the 6-digit numerical password to open the Main Menu.



1 **Display**: Configure display options (e.g. camera color settings, camera title, video output).

2 **Search**: Search for recorded video and log files on the system.

3 **Alarm**: Configure motion detection and alarm settings.

4 **System**: Configure system time and user accounts.

5 **Record**: Configure recording settings and recording schedules.

6 **Network**: Configure system network settings (e.g. DDNS, email alert settings).

7 **Device**: Configure PTZ settings, HDD recording mode, HDD format option.

8 **Advanced**: Configure system restart schedule, perform firmware upgrades.



Display

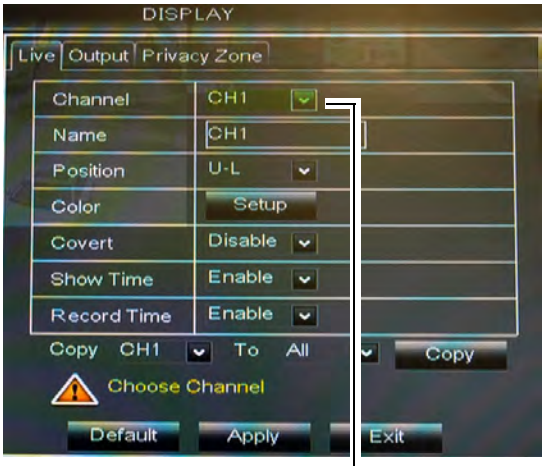
The display menu allows you to configure camera image settings and video output settings.

Tip: 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.

Configuring Custom Channel Names

1 Select the **Live** tab.

2 In the **Channel** drop-down menu, select the channel that you wish to rename.



Channel drop-down menu

3 Click the **Name** field. Use the Virtual Keyboard to enter in the new channel name.

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

Changing the Position of the Channel Name

1 Select the **Live** tab.

2 In the **Channel** drop-down menu, select the channel you would like to configure.

3 In the **Position** drop-down menu, select where you would like the channel names to appear:

- **U-L**: Upper left hand corner.
- **D-L**: Lower left hand corner.
- **U-R**: Upper right hand corner.
- **D-R**: Lower right hand corner.
- **OFF**: Do not display the channel name.

4 (Optional) Use the drop-downs next to **Copy** to copy settings to another channel or all channels. Click the **Copy** button to copy settings.

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

Adjusting Camera Color Settings

1 Select the **Live** tab.

2 In the **Channel** drop-down menu, select the channel that you wish to configure.

3 Click the **Setup** button next to Color. The Color Setup window opens.



4 Drag the slider to adjust the Hue, Brightness, Contrast, and Saturation.

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

Enabling Covert Recording

Covert Recording blanks out the screen so that it seems as if the system is not recording. Covert channels are only visible when the admin account logs in using a remote computer or mobile device.

To enable covert recording:

1 Select the **Live** tab.

2 In the **Channel** drop-down menu, select the channel you wish to hide.

3 In the **Covert** drop-down menu, select **Enable**.

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

Configuring the Time and Recording Time Display

To add/remove the time stamp in the system display:

1 In the Live Time and Record Time drop-down menu, select enable or disable.

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

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.



SEQ Dwell time

2 Click the **SEQ Dwell time** field and enter the time channels remains on-screen before changing to another channel.

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

Changing the Video-out Resolution

1 Click the **Output** tab.

2 Click the drop-down menu beside **VGA 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 the screen remains blank, press and hold the Stop button (■) on the front panel of the DVR until the DVR restarts. Your system resolution will default to 1024 x 768.

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 front panel of the DVR until the DVR restarts. The DVR will restart with the default resolution of 1024 x 768.



Stop button (■)

3 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.

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.

Adjusting the Video Margin

If you connect your DVR to a BNC monitor, you can adjust the video margins.

NOTE: On the 16-channel model, you must select the BNC output mode to adjust the margins. Press **0** on the remote control three times to switch the output mode between BNC mode and VGA/HDMI mode. When BNC mode is selected, the mouse cursor appears on the BNC monitor.

To adjust the video margin:

1 Click the **Output** tab.

2 Click the **Margin** button.

3 Drag the sliders to the left or right to adjust the Left, Right, Top, or Bottom Margin.



4 Click **Apply** to save your settings and click **OK** to confirm.

Adding Privacy Zones

A privacy zone allows you to block out up to 4 portions of each channel with a black square.

ATTENTION: Areas covered by privacy zones are not visible in recordings.

To configure a privacy zone:

1 Click the **Privacy Zone** tab.

2 In the **Channel** drop-down menu, select the channel you wish to configure.



3 Configure the following:

- **Channel**: Select the channel you wish to configure.
- **Privacy Zone**: Select **ON** to enable privacy zones or **OFF** to disable privacy zones.
- **Area Setup**: Select the **Area1~4** checkboxes to enable up to 4 privacy zones.

4 Click the **Setup** button next to Mask Area. The Privacy Area setup screen opens.



Click and drag to move privacy zones

Click Inside the edge and drag to resize

- Click on a privacy area and drag to change its location.
- Click on the edge of a privacy area and drag to resize a privacy area.
- Right-click when you are finished to exit.

5 (Optional) Use the drop-downs next to **Copy** to copy privacy areas to another channel or all channels. Click the **Copy** button to copy privacy areas.

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



Record

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

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 **PreRecord** drop-down menu, select **Enable** to enable pre-recording or **Disable** to disable pre-recording.

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

Configuring Backup File Duration (Pack Duration)

"Pack Duration" refers to the duration of a backed up file in the system. By default, a recording is "packaged" into 15 minute video files.

To change the DVR's backed up file size:

1 Select the **Rec Para** tab.

2 In the **Pack Duration** drop-down menu, select the desired duration (15~60 minutes).

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



File Size duration

Changing the file size changes the duration of backed up files. For example, if you select 15 minutes as your file size, the system stores video files in 15 minute durations.

Configuring the Recording Schedule (Continuous, Motion, Alarm)

To configure the recording schedule:

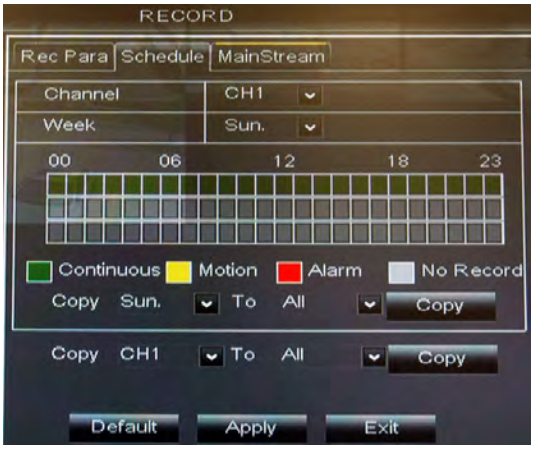
1 Click the **Schedule** tab.

2 Configure the following:

- **Channel**: Select the channel you wish to configure the schedule for.
- **Week**: Select the day of the week you wish to configure.

3 Click inside the grid to configure the recording schedule:

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



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.

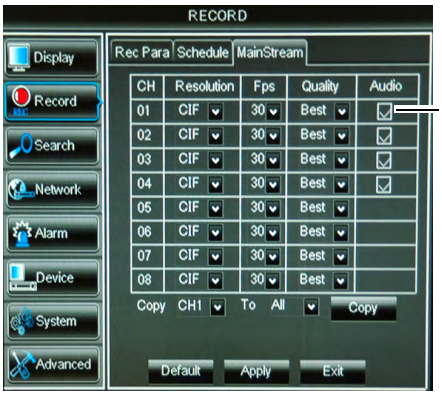
6 Click **Apply** to save your settings.

Enabling Audio Recording

Audio-capable cameras are required (not included) for audio recording.

To enable audio recording:

1 Click the **MainStream** tab.



2 Beside the corresponding channel, select or deselect the checkbox under **Audio** to enable or disable audio recording.

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

Configuring Recording Quality, Resolution, and Video Frame Rate

You can configure the recording quality, recording resolution and video frame rate for each channel.

To change the recording quality, recording resolution, and video frame rate:

1 Click the **MainStream** tab.



2 Under the **Quality** drop-down menu, select from **Good, Better**, or **Best** to adjust the quality of recordings on each channel.

3 Under the Resolution drop-down menu, select the Recording Resolution for each channel: **C1F** (320x240), **HD1** (720x240), or **D1** (720x480).

4 Under the **FPS** drop-down menu, select the number of frames per second you want the DVR to record on each channel.

5 (Optional) Use the **Copy** and **Copy To** drop-down menus to copy recording settings to one or all channels. Click **Copy** to copy recording settings.

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

NOTE: Increasing the resolution or quality settings will decrease the amount of Frames per Second (FPS) the DVR can record. If you receive an error message when saving your changes, reduce the Resolution, Quality, or FPS and try again.



Search

The Search menu allows you to search for saved video on your system for playback and backup.

Searching for Video on the System

1 In the main menu, click **Search**, or click the Search Menu button ( ) in the menu bar.

2 In the **CH** drop-down menu, select the channel you wish to search or select **All** to search all channels.

3 Click the **Search Date** field, to enter the desired month, date, and year you wish to begin searching for video.



4 Click **Search**.

5 Click on a date in the calendar to see the video available for that date.



6 Click on the hour of the video you want to play back.

7 Select the channel or channels you want to play back.



8 Click **Play** to begin playback.

Video Playback Controls

Move the mouse slightly to display the on-screen playback controls. You can also use the playback control buttons on the remote control or front panel of the system.



Use the video control buttons to manipulate video playback

- Drag the slider to adjust the volume (audio capable camera required, not included). Select the box to mute the audio.
- Click **X** to quit playback and return to the Search menu.

Backing up Video Files

You can back up video files on your USB flash drive.

To back up video files:

1 Perform a search.

2 Insert a blank USB flash drive in the rear panel of the system.

3 Click on the desired date you wish to back up.

4 Click the **Backup** button. A list of files appears in the Log menu.



Backup

5 Click the checkbox under **BAK** next to the file you want to backup.

6 Click the **Backup** button to begin copying the video files to your flash drive.

NOTE: You will need the Lorex Player (included on the CD) to view the saved files.

Using the Event Search

Event Search allows you to find videos that are marked as "Alarm" or "Continuous" recording type. This allows you to quickly and easily sort though videos that only have alarm attributes.

NOTE: Videos are not marked as Alarm unless continuous recording is turned off and motion or alarm settings are enabled.

To perform an Event Search:

1 Click the **Event Search** tab.



2 Configure the following:

- **Search Date**: Enter the Month, Date, and Year.
- **CH**: Select the channels you wish to search.
- **Search Time**: Enter the time range you wish to search.
- **Type**: Select the recording type you wish to search for.

3 Click **Search**. A list populates with videos.



4 Perform one of the following:

- **Play video**: Double-click on the desired file.
- **Back up a file**: Connect a blank USB flash drive to your system. Select the **BAK** checkbox beside the desired file name. Then, click the **Backup** button.

Using the Log Search

A log search allows you to search system event logs.

To perform a Log search:

1 Click the **Log** tab.



2 Configure the following to perform a Log search:

- **Log Type**: Select the log type you wish to search under. Choose from **Alarm** (i.e. motion events), **Operation** (i.e. Configuration changes, Setup), or **All**.
- **Start Time**: Enter the time you wish to begin searching.
- **End Time**: Enter the 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).



Network

The Network menu allows you to configure the system's DDNS and network settings.

Configuring Network Type: DHCP & Static IP

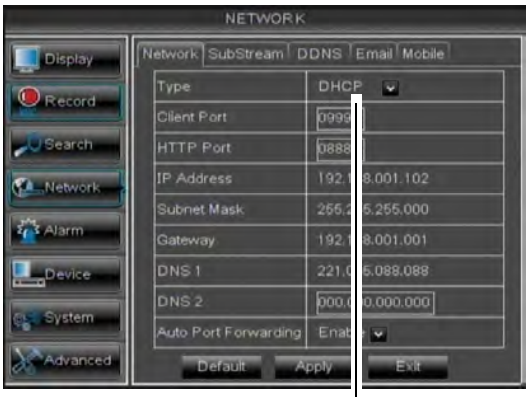
The system has the ability to operate in DHCP mode and Static IP mode.

DHCP allows the router to assign an IP to the DVR. Static IP mode fixes the IP of the DVR. Fixing an IP of the DVR ensures that the IP will not change.

To configure DHCP and Static IP settings:

1 Select the **Network** tab.

2 In the **Type** drop-down menu, select **DHCP** or **Static**. If you select DHCP, the router automatically assigns an IP to your DVR.



Select DHCP or Static

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.

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. If the Auto Port Forwarding feature does not work on your router, it is recommended to use the Auto Port Forwarding Wizard (PC only), located on the software CD. You may have to manually open the port on your router.

To Enable Auto Port Forwarding:

1 Select the **Network** tab.

2 In the **Auto Port Forwarding** drop-down menu, select **Enable** or **Disable**.

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

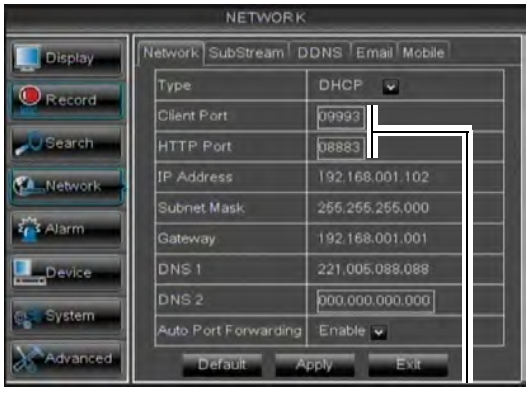
Changing the DVR's Client and HTTP Port

The DVR's Default Client port is **9000**. The default HTTP port is **80**. You must port forward the Client Port and HTTP port to your router for remote access.

To change the default Client port and HTTP port:

1 Select the **Network** tab.

2 In **Client Port**, enter the desired Client Port (default: **9000**).



Client Port & HTTP Port fields

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.

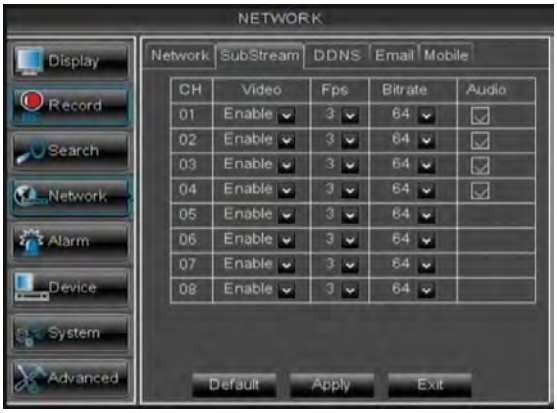
Adjusting Remote Connectivity Streaming Rates

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 adjust the SubStream settings:

1 Click the **SubStream** tab.



2 Configure the following beside the desired channel:

- **Video:** Select **Enabled** or **Disabled**. If you select Disabled, you will not be able to view the channel when connecting remotely to the system.
- **FPS:** Select the desired frames per second.
- **Bitrate**: Select the desired video bitrate.
- **Audio**: Select or deselect the checkbox to enable or disable the system from streaming audio when viewing the system remotely.

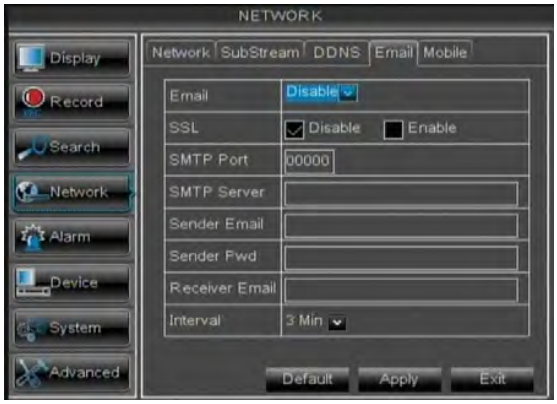
3 Click **Apply** to save your settings.

Setting up Email Notification

The system can send email notifications when it detects motion or when an alarm parameter triggers.

To set up email notification:

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

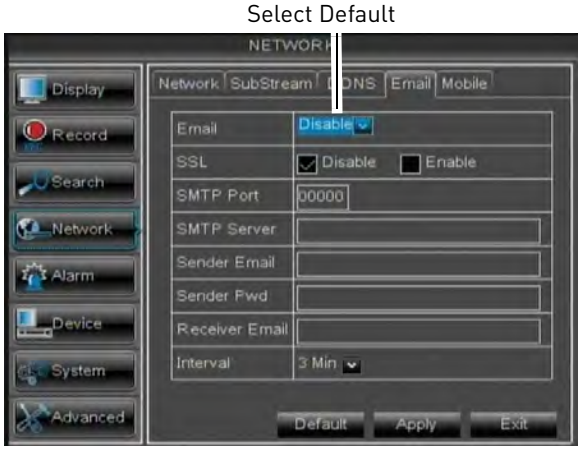


2 From the **Email** drop-down menu, select from:

- **Default**: Uses the Lorex email server to send out alarm 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 In the **Receiver Email** field, enter the email address you want the DVR to send alarm 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 / alarm. The DVR will only send out notifications when it detects motion/alarm triggers.

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 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 **Apply** to save your settings.

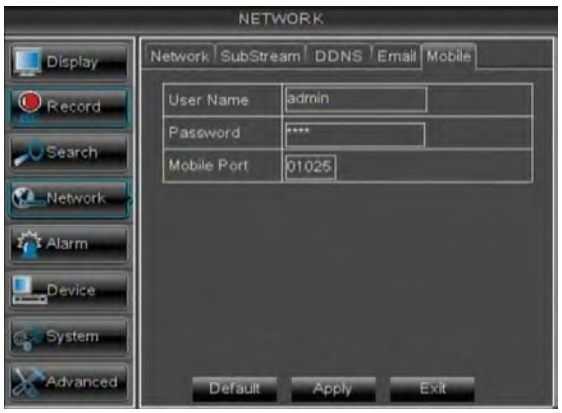
Changing the Mobile Connectivity Port, User Name, and Password

To connect to your DVR using a mobile device, you must complete the **entire** remote setup process described in "Setting up your DVR for Remote Connectivity" on page 51.

Use the steps below to change your Mobile Port or the user name and password used to connect with a mobile device.

To configure mobile connectivity settings:

1 Click the **Mobile** tab.



2 If you want to change the user name and password used to connect to the DVR using a mobile device:

- Under **User Name**, enter a new user name. Under **Password**, enter a new password.
- By default, the user name is **admin** and the password is **0000** to connect with a mobile device.

3 To change the Mobile port, click the field beside **Mobile Port** to enter a new port.

- The default Mobile port is **1025**. This must be port forwarded on your router to enable remote access. Note that 1025 is represented as "01025".

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

5 Right-click until you have exited all menus. You will be prompted to restart.

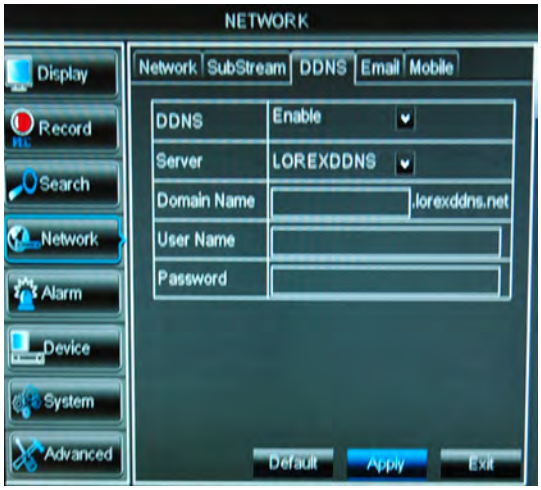
Configuring DDNS settings

You must create a DDNS account and enter your DDNS settings into the DVR before you can remotely connect to your system.

For details on creating a DDNS account, see "Setting up your DVR for Remote Connectivity" on page 51.

To configure DDNS settings:

1 Click the **DDNS** tab.



2 Configure the following:

- **DDNS**: Select **Enable**
- **Server**: Select **LOREXDDNS** (default).
- **Domain Name**: Enter the first portion of your DDNS domain name. For example, if your domain name is *tomsmith.lorexddns.net*, enter only *tomsmith* in the blank field.
- **User Name**: Enter your DDNS user name.
- **Password**: Enter your DDNS password.

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



Alarm

The Alarm tab allows you to configure Motion Detection and Alarm settings.

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.

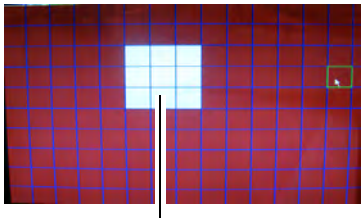
To configure motion settings:

1 Select the **Motion** tab.



2 Configure the following:

- **Channel:** Select the channel you wish to configure.
- **Enable:** Select **Enable** or **Disable** to activate or deactivate motion recording.
- **Area:** Click the **Setup** button to configure the area of the screen that detects motion.



Click and drag the mouse cursor to configure motion detection areas. Motion detection is enabled in red areas and disabled in transparent areas. Right-click to exit.

- **Sensitivity:** Select motion sensitivity. The greater the number, the greater the sensitivity.
- **Alarm Out:** Select the checkbox to enable the system to trigger a device connected to the alarm block.
- **Latch Time:** Enter the duration the alarm continues to trigger after the event ends.
- **Show Message:** Select the checkbox if you want the system to display a system message when an alarm triggers.
- **Buzzer:** Select the duration the system will "beep" when motion is detected. Or select **OFF** to disable the "beep" during motion events.
- **Send Email:** Select the checkbox if you want the system to send email notifications if an alarm triggers. Email notifications must be configured.
- **Record Channel**: Select the channel you wish the DVR to record during motion recording.
- **Full Screen:** Select the **Full Screen** check box so that the system goes into full screen mode when motion or an alarm trigger is detected.
- **Post Recording**: Enter the post recording duration (the time the system continues to record after a motion event occurs).

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

Configuring Alarm Settings

The Alarm settings menu allows you to configure how the system behaves when an external alarm device (not included) is triggered.

To configure the Alarm tab:

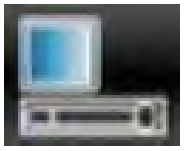
1 From the Alarm menu, click the **Alarm** tab.



2 Configure the following:

- **Alarm In :** Select the channel you wish to configure.
- **Alarm Type:** Select the alarm type of the device. Choose from N/O (normally open), N/C (normally closed).
- **Alarm Out:** Select the checkbox to enable the system's alarm block to trigger a connected external alarm.
- **Latch Time :** Enter the duration the alarm continues to trigger after the event ends.
- **Show Message:** Select the checkbox if you want the system to display a system message when an alarm triggers.
- **Buzzer:** Select the checkbox to enable the system to "beep" if an alarm triggers.
- **Send Email:** Select the checkbox if you want the system to send email notifications if an alarm triggers.
- **Post Recording:** Select the duration the system continues to record as an event after the alarm trigger ends. For example, if you select 30s (30 seconds), the system continues to record for 30 seconds after the alarm trigger ends.
- **Full Screen:** Select the Full Screen check box so that the system goes into full screen mode when motion or an alarm trigger is detected.

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



Device

The Device menu allows you to configure hard drive and PTZ settings and format a USB flash drive (not included).

- For details on connecting PTZ cameras (not included), see "Appendix H: Connecting a PTZ Camera" on page 120.

Configuring Hard Drive settings

To format the hard drive:

> **ATTENTION**: 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.

To set the hard drive recording mode (loop recording or linear recording):

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), or select the desired duration the hard drive should retain its data.

NOTE: If overwrite recording is enabled, the system's hard drive automatically re-writes the hard drive's oldest content (first in first out).

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

Formatting USB Flash Drives

> **ATTENTION**: Formatting a USB flash drive erases **all data** on the drive. **This step cannot be undone.**

1 Insert a USB flash drive (not included) into one of the USB ports on the rear panel of the DVR.

2 In the main menu, **Device→HDD**.

3 Click **Format USB**, then click OK. Wait for formatting to complete.



System

The System tab allows you to configure the system time and user accounts.

- For instructions on how to set the system time, including how to setup automatic Daylight Savings Time adjustments or NTP, see "Setting the Date and Time" on page 20.

Changing Date Format

You can change the way the system displays the time (i.e. Month, Day, Year)

To change the date format:

1. Select the **General** tab.
2. In the **Date Format** drop-down menu, select the desired format. Choose from **MM/DD/YY** (Month, Day, Year), **YY/MM/DD** (Year, Month, Date), or **DD/MM/YY** (Day, Month, Year).
3. Click **Apply** to save your settings.

Changing Time Format

You can change the way the system displays the date and time format (i.e 6:00 pm or 18:00).

To change the time format:

1. Select the **General** tab.
2. In the **Time Format** drop-down menu, select **12 Hour** or **24 Hour**.
3. Click **Apply** to save your settings.

Changing the System Language

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

Changing Video Output - NTSC & PAL

To change the video output:

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

Configuring Menu Time Out and Auto Logout

The Menu Time Out setting allows you to configure how long the system menu will remain on the screen during inactivity. If passwords are enabled, it also configures the Auto Logout time, which allows the system to lock itself after a set duration of inactivity.

To configure Auto Logout:

1. Select the General tab **General**. In the **Menu Time Out** drop-down menu, select the desired time before the system locks itself.
2. Click **Apply** to save your settings.

NOTE: You will need your system's user name and password to unlock the system.

Adding Users & Changing the Admin Password

- For details on changing admin and user passwords, see "Managing Passwords" on page 29.
- For details on creating User accounts, see "Adding Users" on page 30.

Viewing System Information

- Click the **Info** tab.



Advanced

The Advanced menu allows you to update system firmware, load system defaults.

Configuring the "Auto Reboot" feature

Auto Reboot allows the system to restart during a specified time and date. Restarting the system every so often ensures system stability.

To enable the Auto Reboot feature:

1 Select the **Maintain** tab.



2 Configure the following:

- **Auto Reboot:** Select **Enable** or **Disable** to activate or deactivate the Auto Reboot feature.
- **Reboot:** In the drop down menu, select how often the system restarts. Choose from **Every day**, **Every Week**, or **Every Month**. Enter the desired day and time you want the system to restart.

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

Upgrading the System Firmware

Firmware upgrades can provide improved functionality to your DVR. When firmware upgrades become available, you can download them for free from www.lorextechnology.com.

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 in the rear panel of your DVR.

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

5 Click **Advanced**.

6 Click **Firmware Update**.



Firmware Update

7 Follow the on-screen instructions to update the firmware. **Do not remove the USB flash drive or power off the DVR during the firmware update**. Wait for the system to reboot.

Restoring to Factory Default Settings

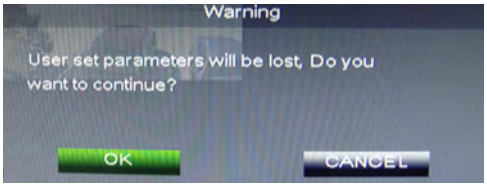
Restoring to factory default settings reverts any setting changes you have made to their original settings. This does not affect the recordings saved on the DVR. You can reset a single menu, or all menus.

To load system defaults:

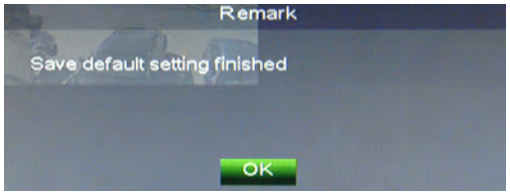
1. Right-click to open the Menu Bar and click the Main Menu button ( ).
2. Click **Advanced**. Then click **Load Default**.
3. Select the menus that you wish to restore to default settings, or click **All** to restore the entire system to default settings.



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



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



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

Restarting or Shutting Down the DVR

To restart or shut down the DVR:

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



Reboot / Shut Down

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

Configuring System Warnings

The system can send out email notifications, or trigger a connected alarm device 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 or alarm trigger. Choose from **Disk No Space** (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.
- **Alarm Out**: Select the checkbox to enable alarm out devices from triggering.
- **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.
- **Latch Time**: Select the delay duration in the drop-down menu.
- **Buzzer**: Select the buzzer (system beep) duration when the system detects a system error.

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

Setting up your DVR for Remote Connectivity

The system features a built-in browser-based software that allows you to access your system remotely over your local area network (LAN) or over the Internet using Internet Explorer® (PC) or Safari® (Mac).



Lorex Web Client

For details on navigating the remote viewing interface, see "Remote Viewing Using a Web Browser" on page 59.

System Requirements

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

Description	Requirement
CPU	Pentium® 4 or above
Operating System	Windows XP/Vista/7 Mac OSX 10.6.6 and above (Intel processors only)**
Memory	256 MB RAM or greater
Video	16 MB of video memory
Network (LAN)	10/100 BaseT Network
Network (WAN)	384 Kbps upstream* *High-speed Internet service is recommended when using DVR Netviewer.
Browser	Internet Explorer 7 or later (PC) / Safari 5.0 and above** (Mac)

NOTE: 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.

** For the latest compatibility list, check www.lorextechnology.com, as new software versions are released to the market.

Accessing your DVR within a local network (LAN)

You can connect to your DVR through Internet Explorer through the local area network (LAN). It is recommended to confirm connectivity over a local network before setting up your DVR for Internet connectivity.

NOTE: To complete the steps below, your computer must be on the same network as your DVR.

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

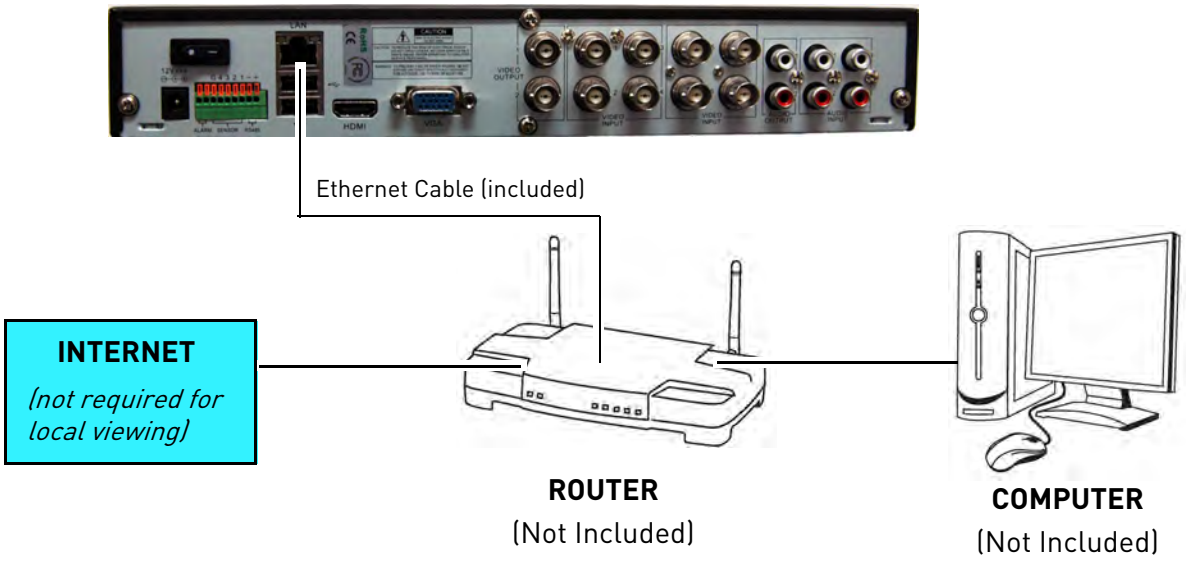
Step 1 of 3: Connect your DVR to the Local Area Network

1 Power off your DVR by turning the power switch to ●.

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.

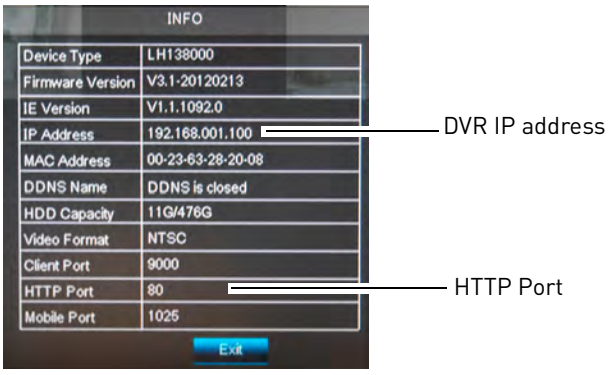
3 Turn the power switch to **I** to power the DVR back on.

8-channel model shown



Step 2 of 3: Obtain the DVR's Local IP Address and HTTP Port

1 Press the **PTZ/** ↵ button on the front panel of the DVR to open the System Information window.



2 Write down the **IP Address** and **HTTP Port** number of the DVR.

- A local IP looks something like this: 192.168.5.118. Note that single digit numbers appear as three digits. For example, "005" is the same as "5".
- Write down the port number beside HTTP Port.

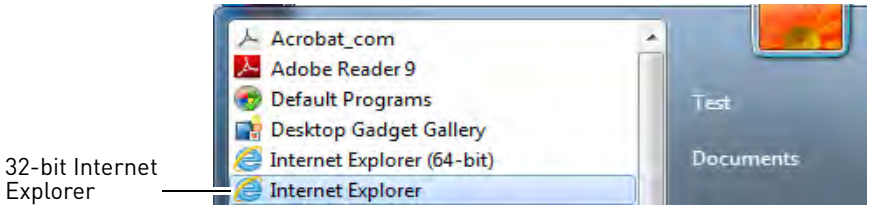
Step 3 of 3: Enter the DVR's Local IP Address into the Browser

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

To connect using the DVR's local IP address on a PC:

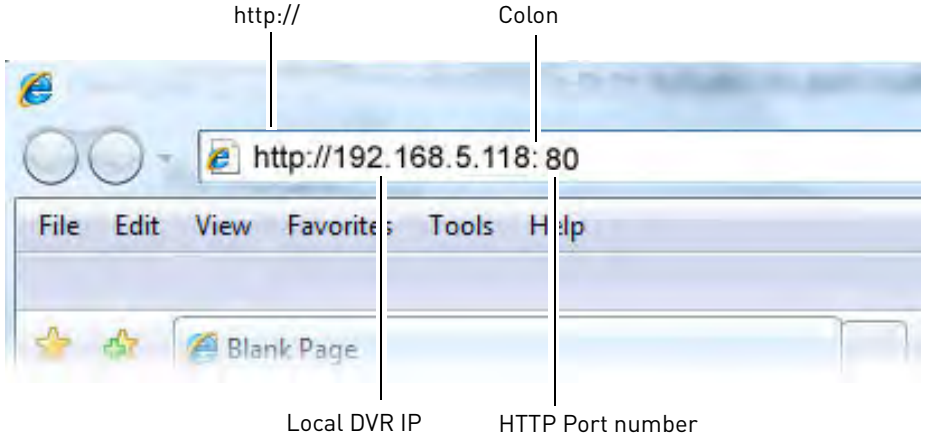
1 Open Internet Explorer.

NOTE: If you are connecting using Internet Explorer 9, you must use the 32-bit version. From the Start Menu, click **Internet Explorer**. Do not click Internet Explorer (64-bit).

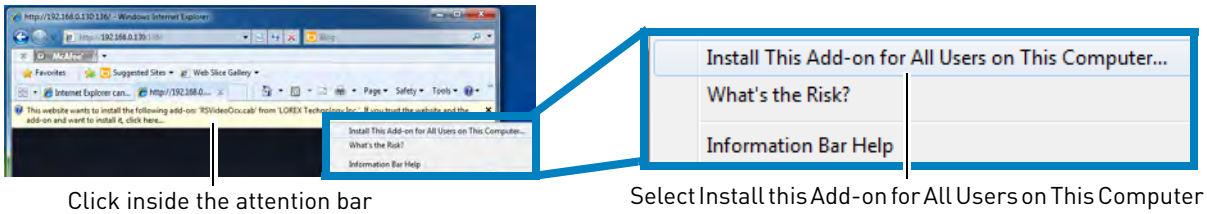


2 Enter **http://**, the **IP address of the DVR**, **colon**, and the **HTTP port number of the DVR** (e.g. http://192.168.5.118**:**80) into the address bar. You must include the HTTP port number of the DVR after the address.

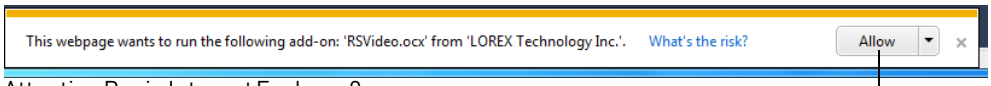
Example (Connecting to a Local IP Address using Internet Explorer):



3 An attention bar prompts you to install ActiveX® plug-ins. You must install the ActiveX® plug-in to connect to your DVR. Click inside the attention bar, and select **Install this Add-on for All Users on This Computer** to install the plug-in.



- If you are connecting using Internet Explorer 9, the attention bar appears on the bottom of the screen. Click **Allow** to install the plug-in.



Attention Bar in Internet Explorer 9

Click Allow

4 Under **User Name** and **Password**, enter the DVR's username and password. By default, the username is **admin** and the password is left blank.

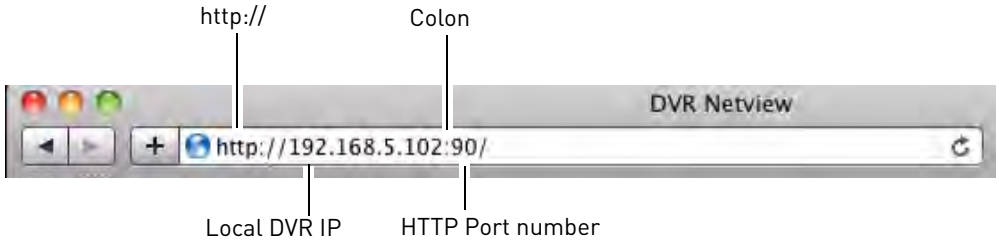
5 Click **Login** to log into the system.

To connect to the DVR's local IP address on a Mac:

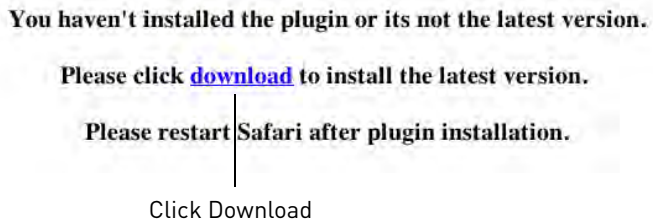
1 Open Safari.

2 Enter **http://**, the **IP address of the DVR**, **colon**, and the **HTTP port number of the DVR** (e.g. http://192.168.5.118**:**80) into the address bar. You must include the HTTP port number of the DVR after the address. A page appears to prompt you to install a plug-in.

Example (Connecting to a Local IP Address using Safari):

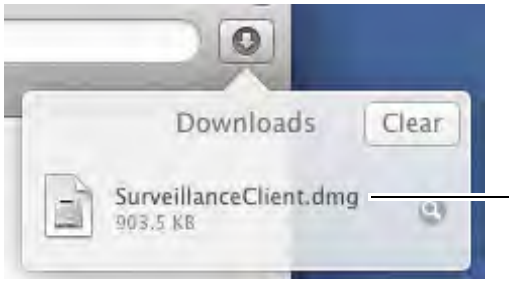


3 Click **Download** to download the plug-in for Safari.



Click Download

4 Click the downloads button ( ) on the top-right corner of Safari. Right-click **SurveillanceClient.dmg** in the downloads list and select **Open**. A web plugin folder appears.



Right-click SurveillanceClient.dmg and click Open

5 Double-click **SurveillanceClient** and follow the on-screen instructions to install.

6 Quit Safari (right-click the Safari icon in the dock and select **Quit**) and then restart Safari.

7 Enter **http://**, the **IP address of the DVR**, **colon**, and the **HTTP port number of the DVR** (e.g. http://192.168.5.118**:**80) into the address bar, as shown above.



8 Enter the DVR username and password to log in to the system. By default, the username is **admin**, and the password is left blank.

Accessing your DVR Remotely over the Internet

Setting up remote connectivity allows you to view your DVR from any computer with Internet access, and your mobile device.

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, Client, and Mobile ports (default: **80, 9000, and 1025**) on your router.
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.

Step 1 of 4: Port Forwarding

You **must** port forward the HTTP, Client, and Mobile ports (default: **80, 9000, and 1025**) on your router before you can remotely connect to your system. There are several methods to port forward your router:

- Use the **Lorex Auto Port Forwarding Wizard** (PC only) to port forward the required ports (see CD for details). For instructions on how to use the Auto Port Forwarding Wizard, see "Appendix E: Internet Setup Wizard (PC only)" on page 108.
- Manually port forward the required ports on your router by following your router manufacturer's instructions. For more information on port forwarding, see "Appendix D: What is Port Forwarding And Other Frequently Asked Networking Questions" on page 105.

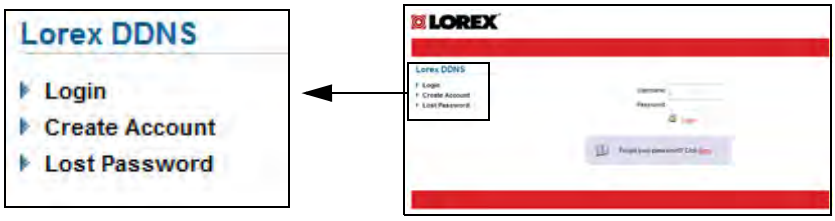
NOTE: If the above ports are not forwarded on your router, you will not be able to access your system remotely.

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:

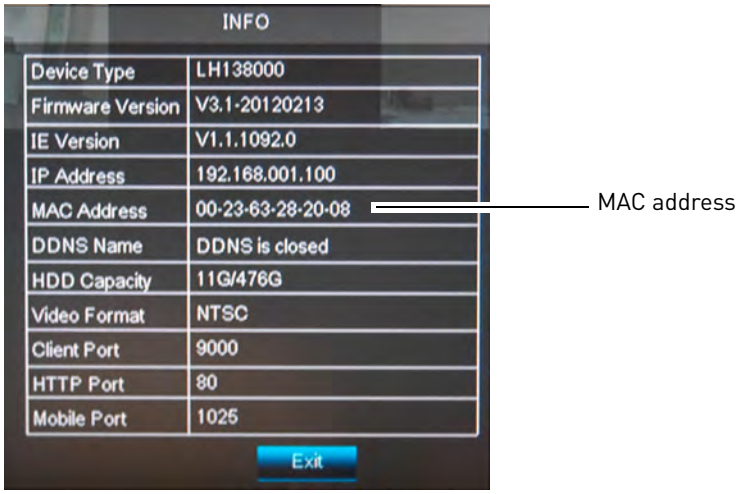
1 In your browser, go to http:\\lorexddns.net and click **Create Account**.



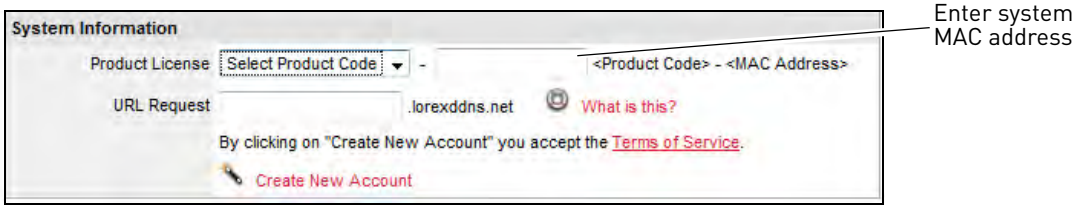
2 Complete the Account Information fields with your personal information. Complete the Warranty Information with your purchase details (optional).

3 Complete the System Information fields:

- **Product License (Code)**: Select your product model (LH100) from the Product License drop-down menu.
- **MAC Address**: The physical address of your system on your network. You can find the MAC address of your DVR by pressing the **PTZ/** ↵ button on the front panel to open the System Information window.



- **URL Request**: Choose a URL for your DDNS connection (i.e. your name, your company or business name, or anything of your choice). This will be the URL that you will enter to access your DVR remotely.



4 Click **Create New Account** to create a new account and save your settings.

5 Your Account information will be sent to you at the email Address you used in step 2.

You will need this information for remote access to your system. Record your information below:

Username: _ _ _ _ _ _ _ _ _ _

Domain name*: _ _ _ _ _ _ _ _ _ _

Password: _ _ _ _ _ _ _ _ _ _

* Only the first part of the Domain Name is required for setup on the system. For example, if the full domain sent is *tomsmith.lorexddns.net*, you only need to enter tomsmith on the system.

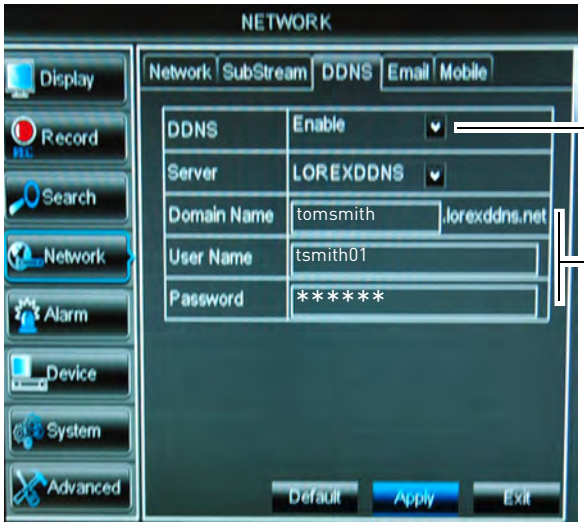
Step 3 of 4: Enable DDNS on the DVR

To enable DDNS in your DVR:

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

2 Click **Network** and select the **DDNS** tab.

3 In the DDNS drop-down menu, select **Enable**. Beside Server, select **LOREXDDNS** (default).



Example of entering DDNS information in the DDNS setup menu

4 Under Domain Name, enter **ONLY THE FIRST PART of the domain name** from the confirmation email that was sent after you created your DDNS account. For example, if your DDNS address is *tomsmith.lorexddns.net*, enter *tomsmith*.

5 Under User Name, enter your **DDNS user name** that was emailed to you after DDNS registration.

6 Under Password, enter your **DDNS user password** that was emailed to you after DDNS registration.

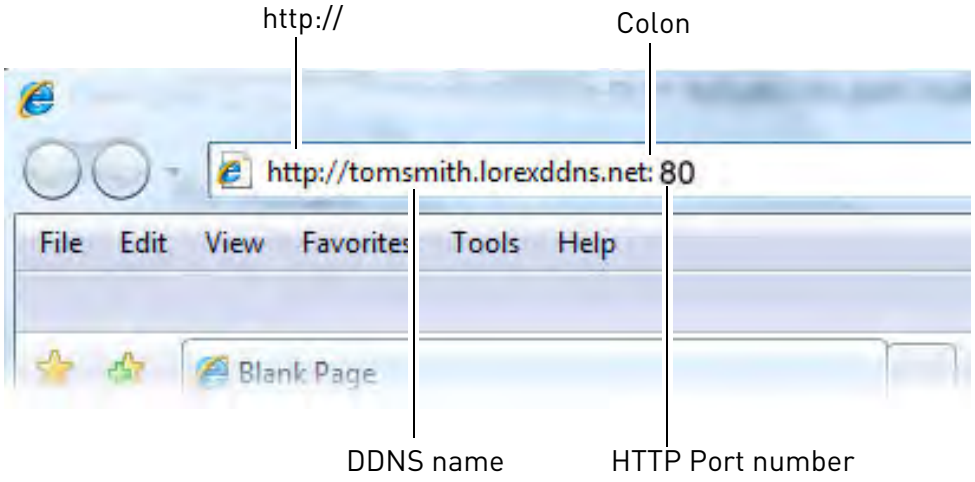
7 Click **Apply** to save your settings.

Step 4 of 4: Enter the DDNS Address into the Browser

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

To access your DVR remotely, enter the DDNS address that you created earlier into Internet Explorer (PC) or Safari (Mac). The DDNS URL must include **http://** , the name of your DDNS URL, **followed by a colon**, then the **HTTP port number of your DVR**.

For example:



Example of a DDNS address

http://tomsmith.lorexddns.net:80

DDNS name created by you

Colon

Web Server Port number

Once you have entered your DDNS address into Internet Explorer or Safari, enter your DVR user name and password at the login screen and click **Login**.

NOTE: To log in remotely, the default user name is **admin.** The password is left blank.

Remote Viewing Using a Web Browser

Upon login, the Remote Surveillance Live tab opens in your browser. The Remote Surveillance 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 **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.

4 **Split screen viewing**: Click the desired viewing mode.

5 **Mute**: Click to mute audio.

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

7 **PTZ Controls**: PTZ (Pan, Tilt, Zoom) control for connected PTZ cameras (not included).

Logging into the System

Log in to your system to begin remotely monitoring the system.



To log in to the DVR:

1 In the **User Name** field, enter **admin.**

2 In the **Password** field, leave the entry blank (default).

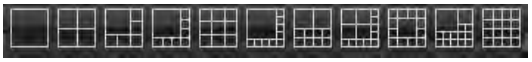
NOTE: By default, the user name is **admin**. The password is left blank.

3 Click **Login** to connect to the system.

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:

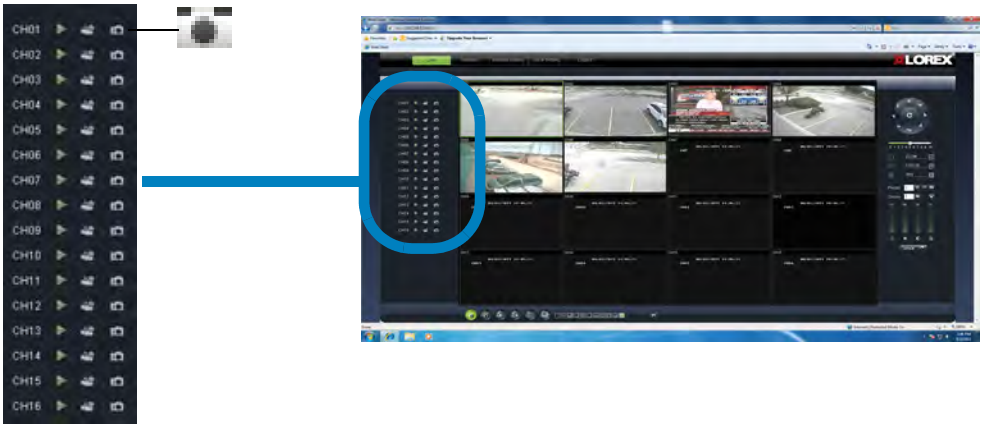
- Click one of the following:  .
  - If the controls are not shown, click .

Taking Screen Shots

The system can take screen shots of a selected channel during live playback.

To take a screen shot of a channel:

1 Click  beside the desired channel to capture an image.



2 A pop-up window opens on the bottom left corner of the window. Click **Preview** to view the image or **Folder** to show the image in the save folder.

If you receive an error taking a screen shot:

You may receive an error when taking a screen capture. This is caused by an Internet Explorer security setting.

To reduce the security setting in Internet Explorer:

1 Click on **Tools→Internet Options**. (In IE9, click the gear icon on the top-right corner).

2 Click the **Security** tab.

3 De-select **Enable Protected Mode**.

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

5 Refresh Internet Explorer.

Recording Video

You can record video footage directly onto your local hard drive. Once the video is in your hard drive, you can back up the video footage onto recordable media such as USB memory keys and blank CD/DVD media.

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.



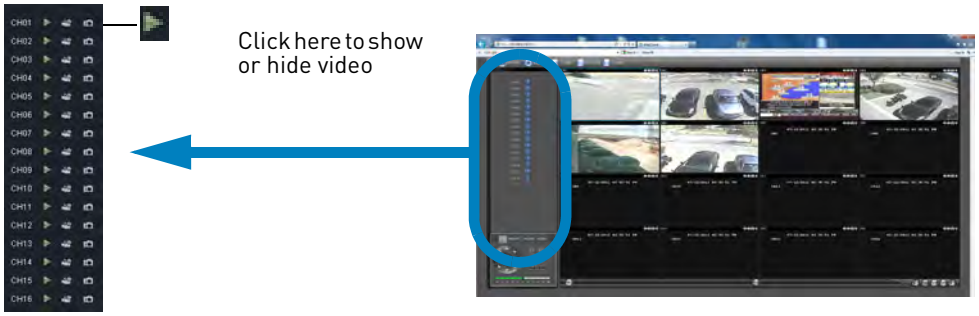
2 Click  to stop video recording.

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.



Adjusting Sub-menu Options

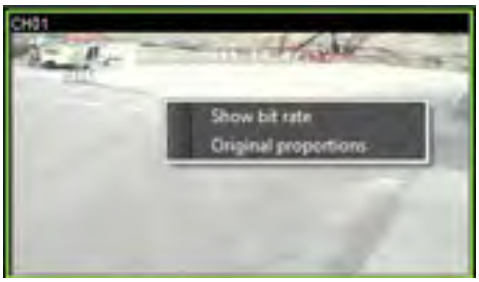
The sub-menu option gives you quick access functions such as viewing video bit rate, and viewing video in its original aspect ratio.

To open the sub-menu:

1 Right-click on a desired channel. A sub-menu opens.

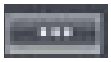
2 Click on one of the following:

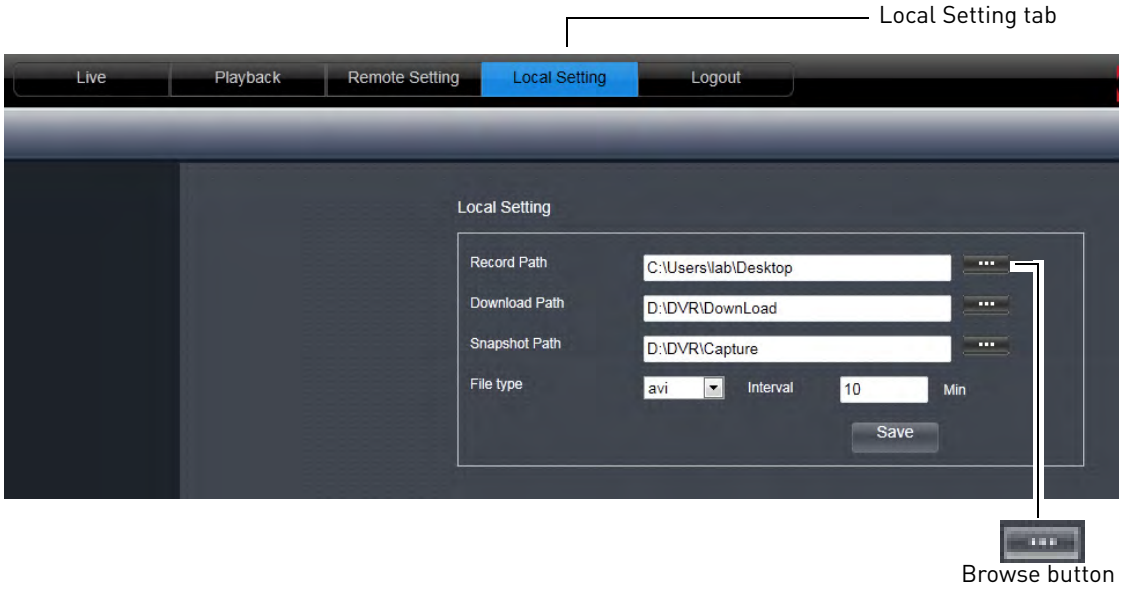
- **Show Bit rate**: Displays video bit rate.
- **Original Proportions**: Displays live video in its original proportions.



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.

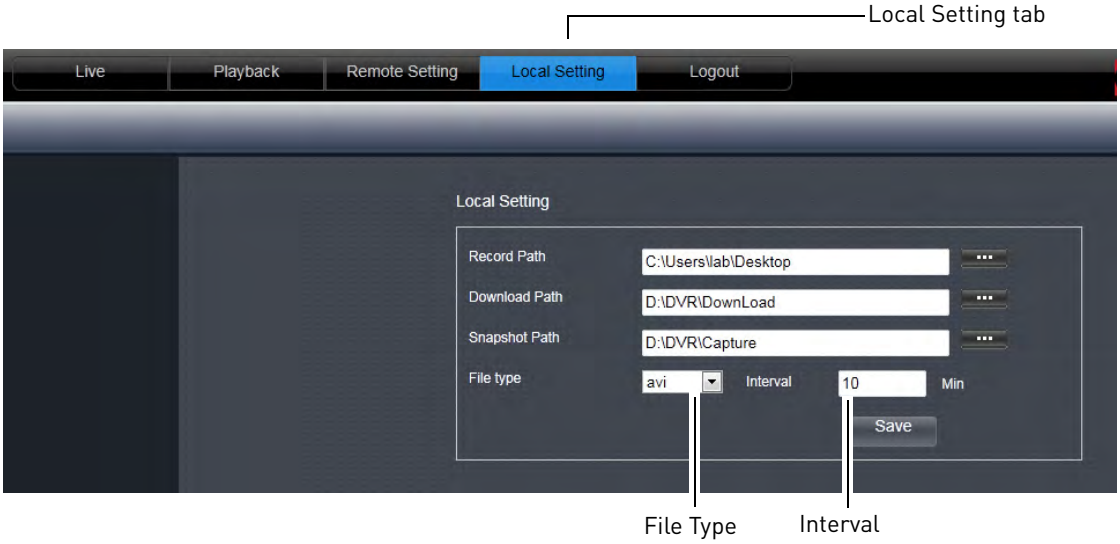
Changing the Format of Recorded Video (PC Only)

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.

Configuring PTZ Settings

The system supports remote PTZ controls for compatible PTZ cameras (not included).

- For details on connecting PTZ cameras to your system, see "Appendix H: Connecting a PTZ Camera" on page 120.

To control the PTZ settings on the DVR:

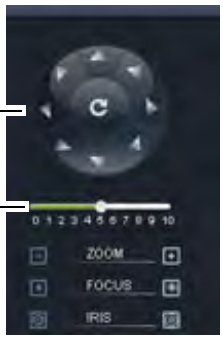
1 From the Live tab, double-click to select the channel the PTZ camera is connected to.

2 Use the PTZ control panel to control the pan, tilt, zoom, focus, and iris control of the camera.



On-screen PTZ Controls:
Click the button to enable / disable on-screen PTZ controls. Click inside the display area to pan and tilt the camera

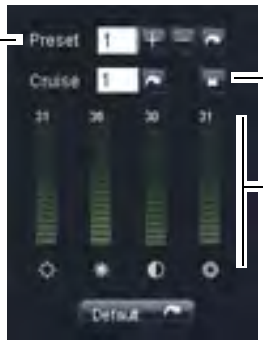
Direction keys:
Click to pan and tilt the camera



Zoom, Focus, and Iris settings

Speed Slider:
Increase or decrease the pan and tilt speed

Preset:
Use the Preset tab to configure camera presets. Once your PTZ camera is in the desired angle, press the + button to add the setting to the Preset



Cruise:
Use the Cruise tab to add desired PTZ cruise options

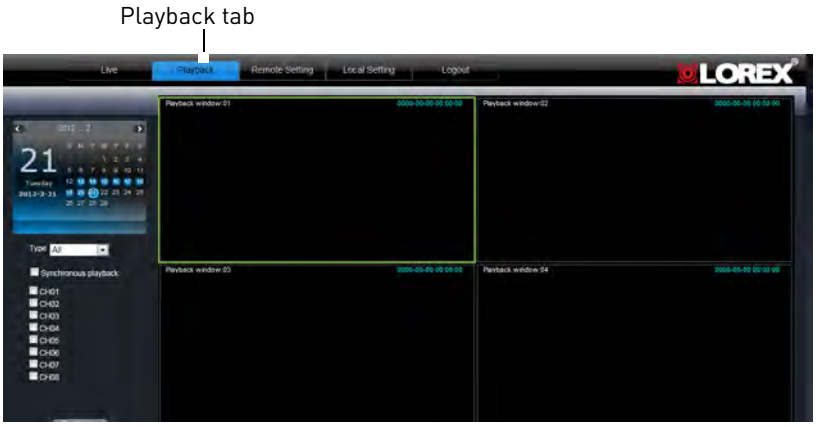
Video Tab:
Use the Video tab to configure the PTZ camera's video quality. Drag the slider to adjust settings

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.

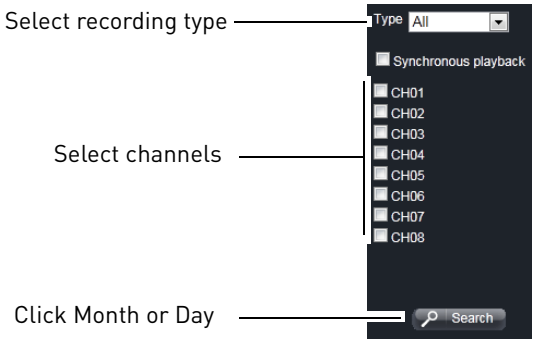


2 In the calendar window, click the desired month, year, and date.



3 Under the **Type** drop-down menu, select the desired recording type you wish to search for (Continuous, Alarm, or All).

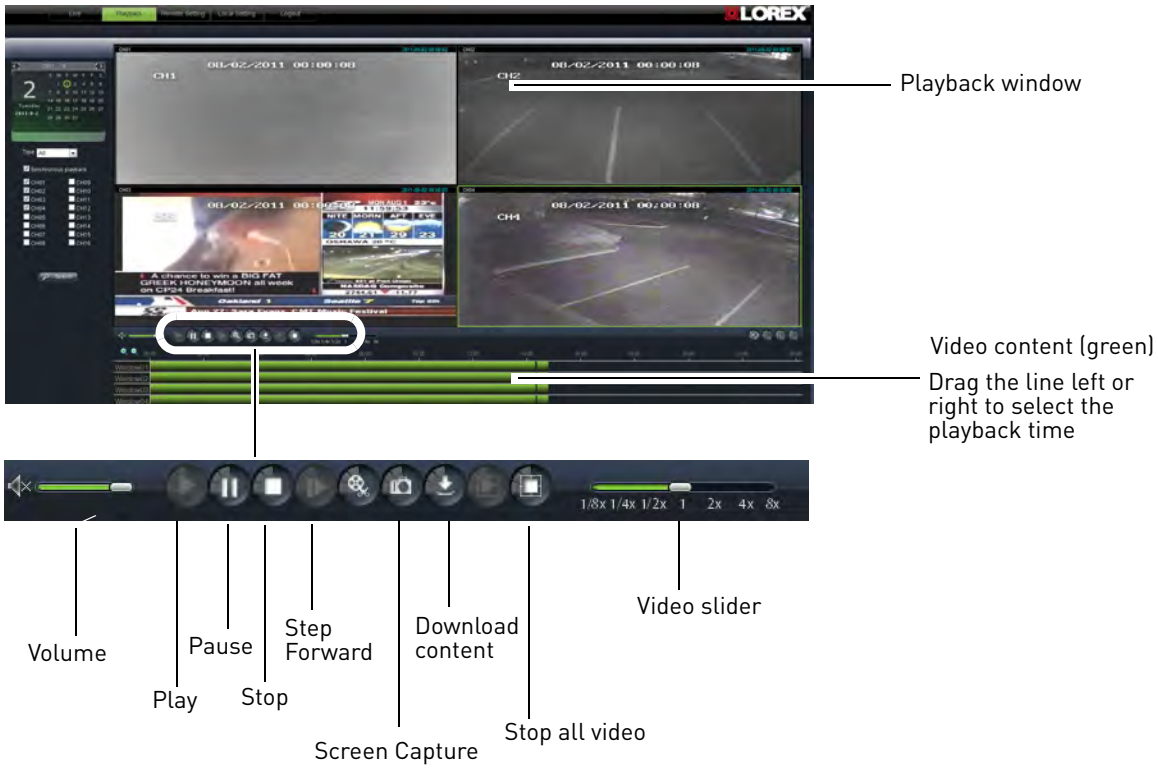
4 Select the channels you wish to search. Check **Synchronous playback** to play all selected channels at the same time.



5 Click the **Search** button.

4 Click **Play** to begin playback.

Video Playback Controls



- **Step Forward**: Plays video frame by frame. Click the Step Forward button to advance the video by 1 frame.
- **Video Slider**: Drag the slider control the playback speed.
- **Download Content**: 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**.

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 see 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.

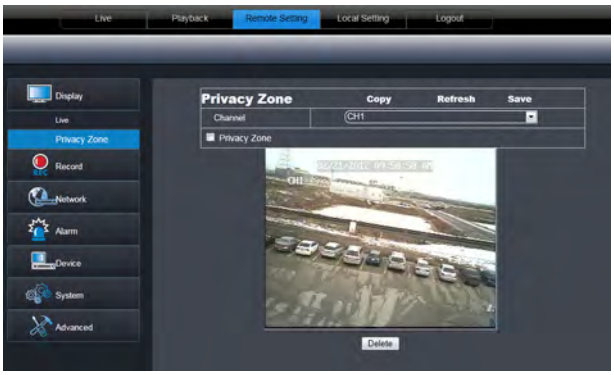
Configuring Privacy Zone Settings

ATTENTION: 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:

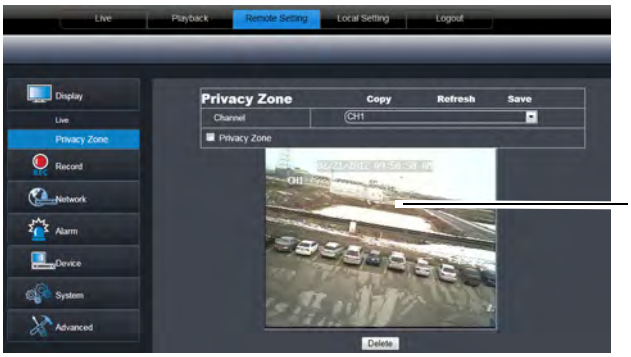
1 Click the **Remote Setting** tab, and then click **Display→Privacy Zone**



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.

Configuring Recording Parameters

To configure system 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.
- **Pack Duration**: Select the duration of each saved file on the system. For example, if you select 15 minutes, then every file will contain 15 minutes of footage.
- **Pre-record**: Select whether to enable or disable pre-recording.

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

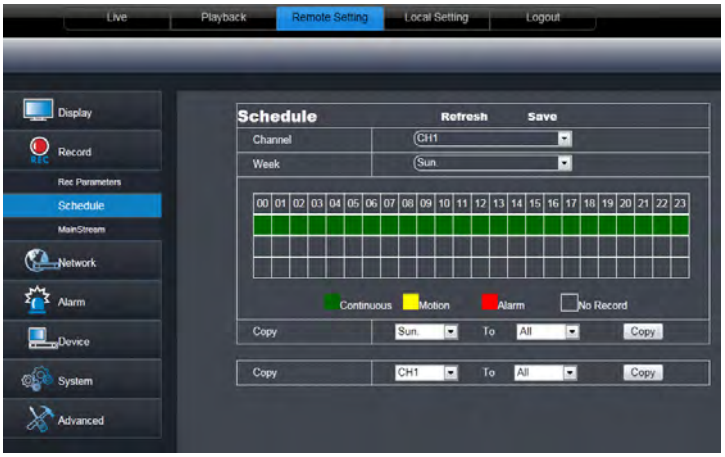
Configuring the Recording Schedule

To configure the recording schedule:

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

2 Configure the following:

- **Channel** drop-down menu: 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, Motion, and Alarm), 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.

Configuring System Recording Quality

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



2 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.
- **Audio**: Select whether you want the system to record audio (audio cameras required, not included).

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

Configuring Basic Network Settings

The basic network menu allows you to configure the network protocol type (DHCP or Static), UPnP and mobile phone login information.

To configure basic network settings:

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



2 Configure the following under Basic Configuration:

- **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.

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:

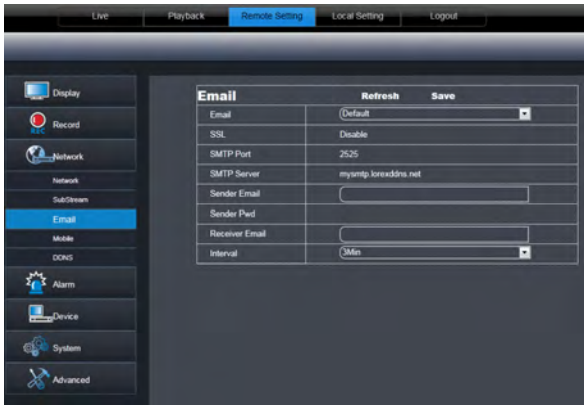
- **Channel**: Select the channel you wish to apply the settings to.
- **Resolution**: Select the desired recording resolution.
- **FPS (Framerate)**: Select the desired recording frame rate. Note that higher frame rates require greater bandwidth consumption during remote viewing.
- **Bit Rate**: Select the desired video bit rate.
- **Audio**: Select whether you want the system to record audio (audio cameras required, not included).

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

Configuring Email Notification Settings

To configure 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 alarm 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 / alarm. The DVR will only send out notifications when it detects motion/alarm triggers.

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.

Changing the Mobile User Name and Password

You can change the User Name and Password used to connect to the system with a mobile device.

To change the mobile user name and password:

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



2 Under **User Name**, enter the desired mobile user name (default: **admin**).

3 Under **Password**, enter the desired mobile password (default: **0000**).

NOTE: The user name and password applies only to mobile devices connecting to the system.

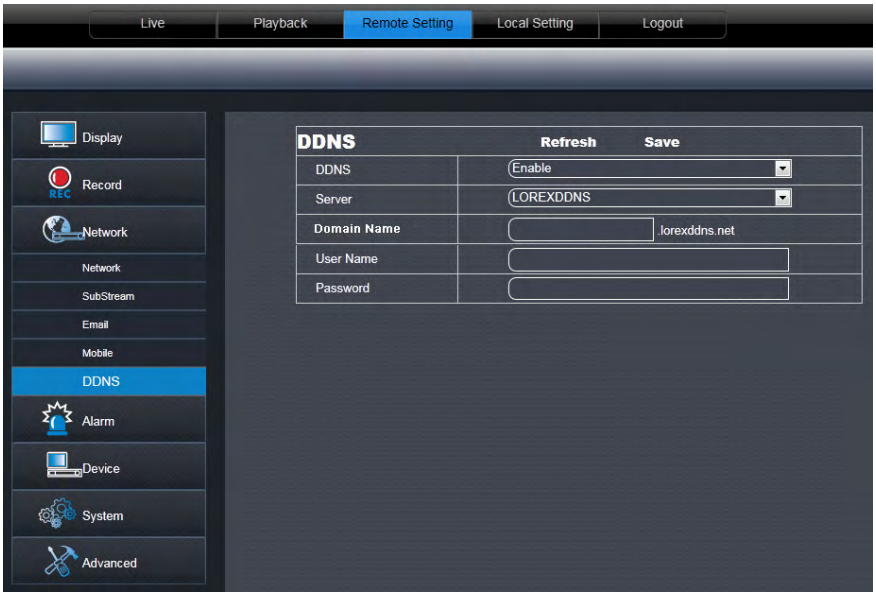
4 Click **Save** to apply your settings.

NOTE: The DVR may reboot after the settings are changed.

Configuring DDNS Settings

To configure DDNS settings:

1 Click the **Remote Setting**, and click **DDNS.**



2 Configure the following:

- **DDNS**: Select **Enable** or **Disable**.
- In the **Server** drop-down menu, select **LOREXDDNS**.
- **Domain Name**: Enter your Lorex DDNS sub-domain name (i.e If your DDNS address is *tomsmith.lorexddns.net*, enter only *tomsmith*).
- **User name**: Enter your Lorex DDNS user name.
- **Password**: Enter your Lorex DDNS account password.

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

Configuring Motion Detection Settings

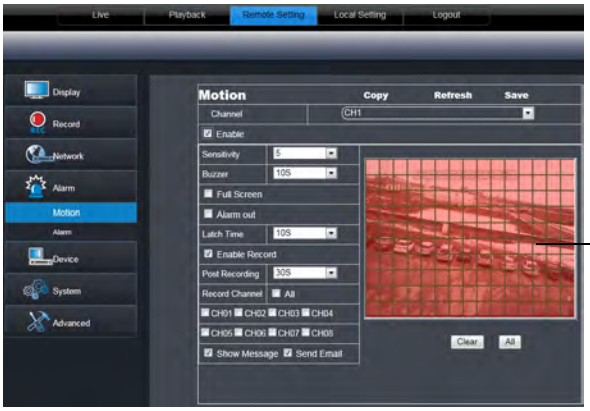
To configure motion settings:

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.
- **Enable**: Select this checkbox to enable motion recording.
- **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.



Click and drag to configure motion detection areas
Red: Motion detection enabled
Clear: Motion detection disabled

- **Alarm Out**: Select the checkbox to trigger connected alarm devices.
- **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 Drag your mouse cursor in the window to select the desired area to monitor the channel for motion.

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

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**).

Configuring Alarm Notifications

Configure the settings for alarm devices (not included).

To configure alarm notifications:

1 Click the **Remote Setting** tab, and click **Alarm →Alarm.**



2 Configure the following:

- **Alarm In**: Select the channel that you wish to configure.
- **Alarm Type**: Select the alarm type **N/O** (normally open), **N/C** (normally closed), of select **OFF**.
- **Buzzer**: Select the "beep" duration when an event occurs.
- **Latch Time**: Select the desired latch time when an alarm triggers.
- **Show Message**: Select the checkbox so that the system displays a warning message during an alarm recording.
- **Send email**: Select the checkbox for the system to send out email alerts during an alarm recording.
- **Full Screen**: Select the checkbox to enable the system to go into Full-screen View when an alarm triggers.
- **Alarm out**: Select the checkbox to enable alarm out devices to activate.
- **Enable Record:** Select the checkbox to enable system recording when an alarm triggers.
- **Post Recording**: Select the desired post recording time after an alarm triggers.
- **Record Channel**: Select the channels that the system should record during an alarm trigger.

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

Configuring Hard Drive Recording Mode

To configure the hard drive recording mode:

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



Overwrite drop-down menu

2 In the Overwrite drop-down menu, select **Auto** to enable the hard drive to record in loop mode. Loop mode allows the system to record continuously. When the hard drive is full, the system deletes the oldest footage (first in, first out).

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 hard drive size determines the duration of hard drive recording.

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

Configuring PTZ Parameters

The system is capable of manipulating PTZ cameras (not included) that are connected to the system. Please note that you will need PTZ information from the PTZ manufacturer's users guide. For details on connecting a PTZ camera to your system, see "Appendix H: Connecting a PTZ Camera" on page 120.

To configure PTZ settings:

1 Click the **Remote Setting** tab, and click **Device→PTZ.**



2 Configure the following:

- **Channel**: Select the channel that the PTZ camera connects to.
- **Protocol**: Select the protocol of the PTZ camera*.
- **Baud Rate**: Select the baude rate of the PTZ camera*.
- **Data Bit**: Select the data bit rate of the PTZ camera*.
- **Stop Bit**: Select the stop bit rate of the PTZ camera*.
- **Parity**: Select the parity settings of the PTZ camera*.
- **Cruise**: Select Enable or Disable*.
- **Address**: Select the address of the PTZ camera*.

*Consult the PTZ camera's instruction manual for protocol and configuration details

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

Configuring the System Time and Date

To configure 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.

Changing the System's Menu Time Out

To change the system's time out menu:

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.

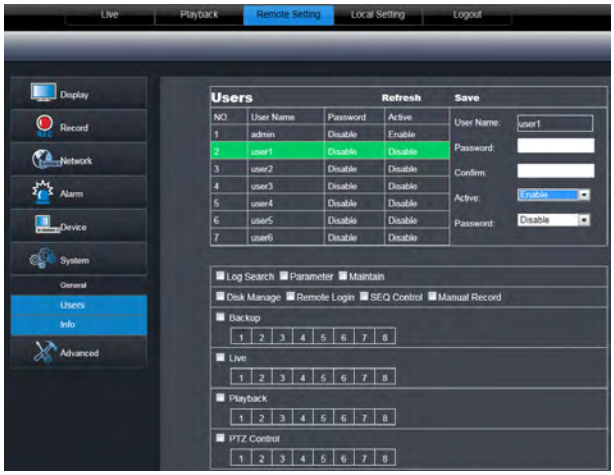
3 Click **Save** to apply your changes.

Configuring System User Accounts

You can add user accounts on the system.

To configure the user accounts menu:

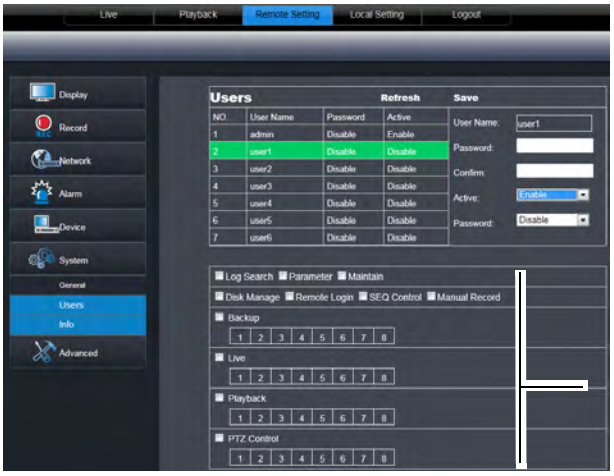
1 Click the **Remote Setting** tab, and click **System→Users**.



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.



Select the menus users will have access to

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

Viewing System Information

To view system information:

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



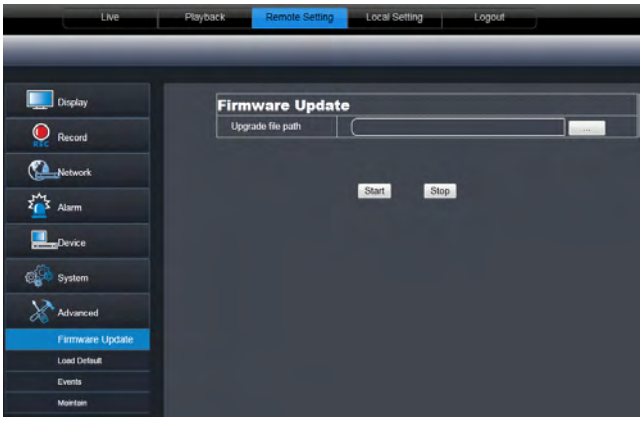
Upgrading System Firmware

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

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.

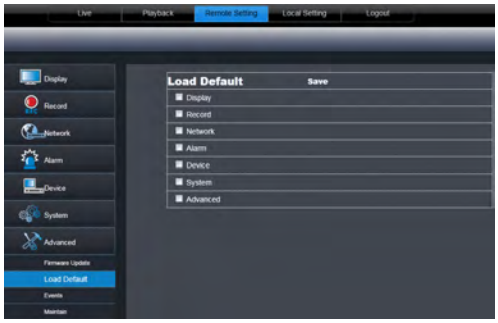
5 Follow the on-screen instructions to complete the firmware upgrade.

NOTE: Your system may have to restart after a firmware upgrade.

Restoring Default Settings

To restore the system's system defaults:

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.

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.
- **Alarm Out**: Enable or disable the alarm out panel.
- **Latch Time**: Configure the system latch time after an event occurs.

3 Click **Save** to save changes.

Configuring Auto-Reboot

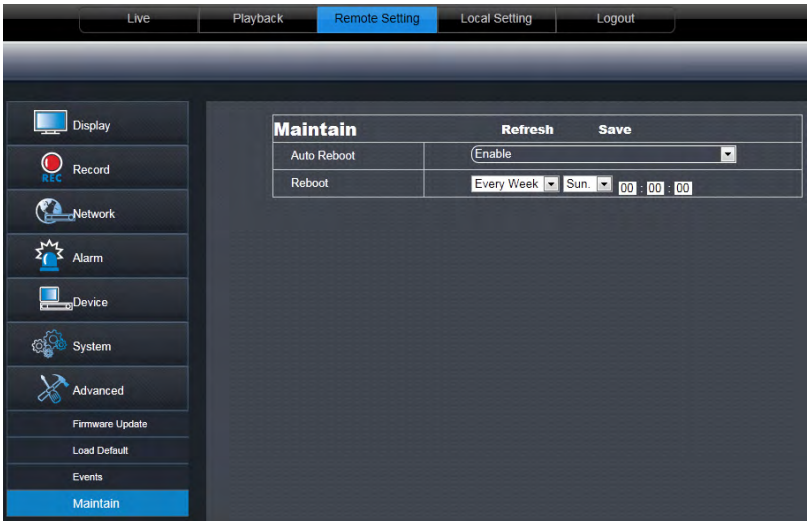
Auto-reboot allows the system to restart automatically at a set time or date. This improves system stability.

To configure Auto Maintain:

1 Click the **Remote Setting tab**, and click **Advance→Maintain.**

2 Click the **Auto Reboot** drop-down menu, and select **Enable** or **Disable** to activate or deactivate the auto-reboot feature.

3 Under **Reboot**, select how often you want the system to reboot and the time you want the system to reboot.



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

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 "Lorex Player for Mac: Viewing Backed up Video on Mac" on page 85.

Minimum System Requirements

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

Prerequisites

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

Installing Lorex Player 11

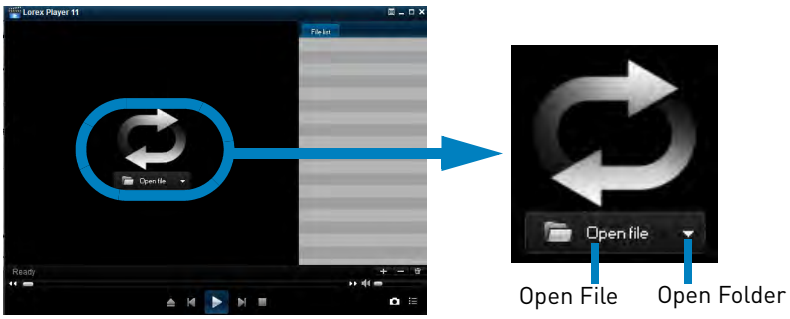
1 Insert the software CD that comes included with the system.

2 Click **DVR Software→Lorex Player - PC**. Follow the on-screen instructions to install Lorex Player 11.

Running Lorex Player 11

1 Double-click the Lorex Player 11 ( ) icon on the desktop.

2 Click the **Open File** to load a single video file. Click the ▼ button next to it to load a folder with backed-up videos.

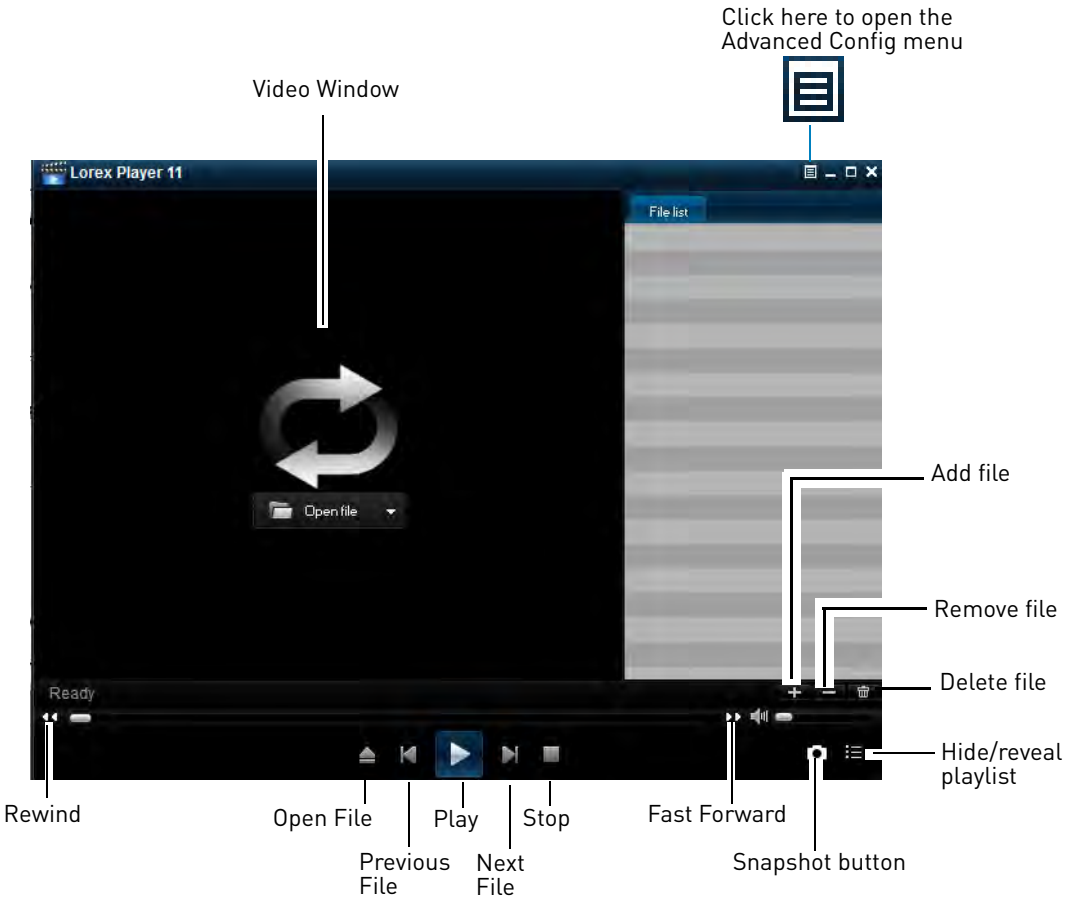


3 Select the file and click **Open**.

- If you are opening a folder, click **Add**.

4 Double-click the file in the list on the right to begin playback.

Lorex Player 11 Interface Overview



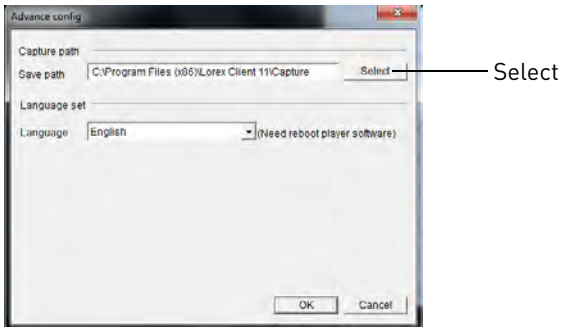
About the Advanced Config menu

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

To open the Advanced Config menu:

1 Click the button.

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



Select

3 Click **OK** to save changes.

Lorex Player for Mac: Viewing Backed up Video on Mac

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

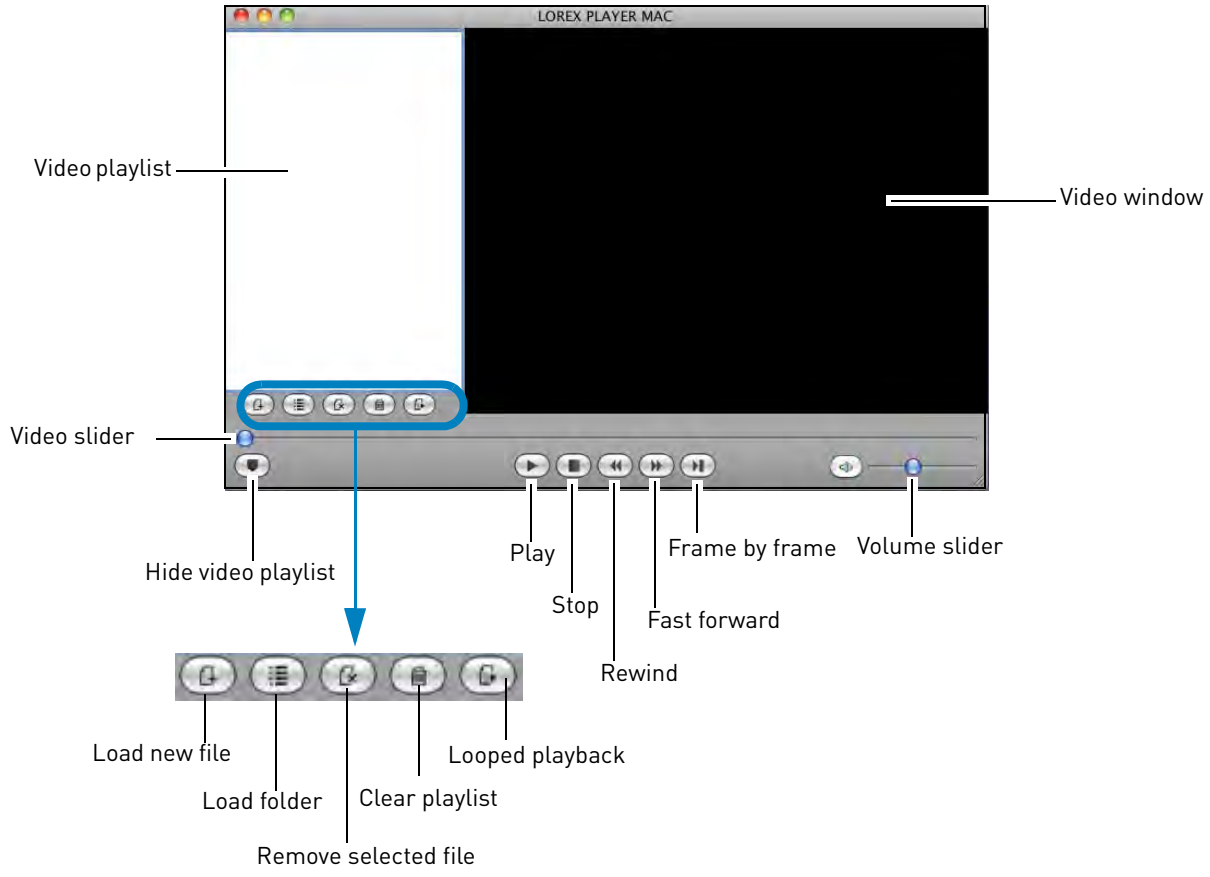
To install Lorex Player Mac:

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 **LH130 Eco2 Series Player - MAC**.
3. Extract the file and double-click the Lorex Mac Player installer (**.pkg**) file. Follow the on-screen instructions to install the software.

Launching Lorex Player Mac:

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

Lorex Player Mac interface



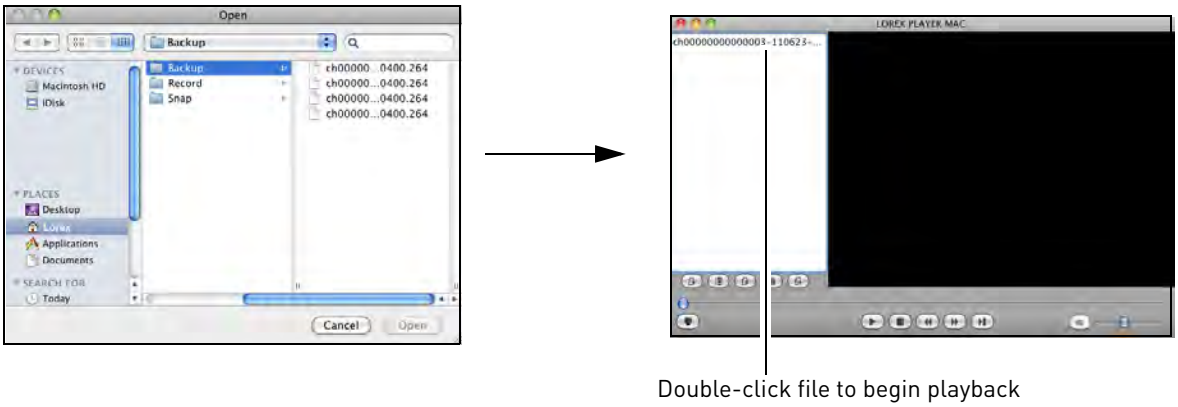
Loading Individual Video Files

To load files saved onto your hard drive:

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.

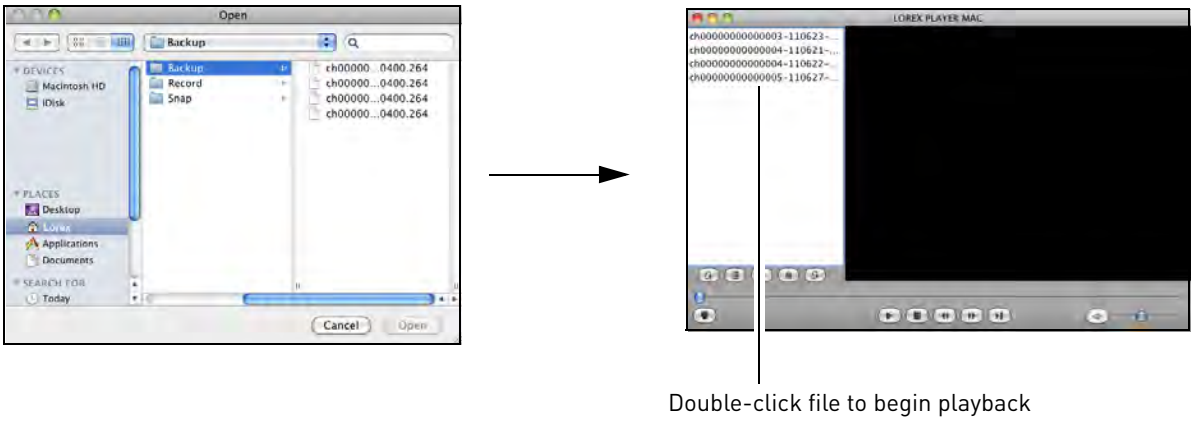
Loading Multiple Video Files

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.

Mobile Apps: Accessing your DVR Using a Mobile Device

You can remotely view camera streams from your DVR on compatible mobile phones and tablets.

NOTE: Port forwarding is required before you can connect to your DVR using a mobile device. Different features are available on each mobile viewing device and application.

Compatible Devices and Platforms

Platform	Supported Versions and Devices	App Name	Get App From
iOS	iOS v. 4.0 and higher iPhone/iPod Touch iPad (1st generation and above)	Lorex Mobile Eco	Apple App Store
Android	Android v. 1.5 and above	Lorex Mobile Eco	Android Market
BlackBerry	9000, 9700, 9800	Lorex Mobile Eco	www.lorextechnology.com
Symbian	3rd and 5th generation models	Lorex Mobile Eco	www.lorextechnology.com
Windows Mobile	v.6.0, 6.5, touch screen models only **Note:** Windows Phone 7 is not currently supported	Lorex Mobile Eco	www.lorextechnology.com

For the latest device compatibility list, visit www.lorextechnology.com

Before you Begin

You will need the following before you can start viewing on your mobile device:

- **Your DVR's DDNS address:**
  Before you can connect with a mobile device, you must complete the setup process for remote viewing to obtain your DDNS address and enable DDNS on your DVR. Complete all the steps under "Setting up your DVR for Remote Connectivity" on page 51.
- **The Mobile Port Number of your DVR:**
  The Mobile Port (default: **1025**) must be port forwarded before you can connect using a mobile device. For details on port forwarding, see "Appendix E: Internet Setup Wizard (PC only)" on page 108. To find your Mobile port, press **PTZ /** ↵ on the front panel of the DVR to open the System Information window and look under Mobile Port.
- **The mobile user ID and password of your DVR:**
  See the table on the right for the default mobile access user ID and password.

Mobile ID / Password

ID	PASSWORD
admin	0000

iPhone / iPad

Use the **Lorex Mobile Eco** application to connect to your DVR on the iPhone or iPad.

NOTE: Resolution is scaled up for the iPad screen.

System requirements

- iOS version 4.0 and above.

NOTE: For the latest device compatibility list, visit www.lorextechnology.com

Prerequisites

- An iTunes account (requires valid credit card number).

NOTE: Your credit card will not be billed when downloading the Lorex Mobile Eco App.

> **!** **You must port forward the mobile port (default: 1025) on your router before you can connect to your system using a mobile device** (e.g. iPhone, iPad)

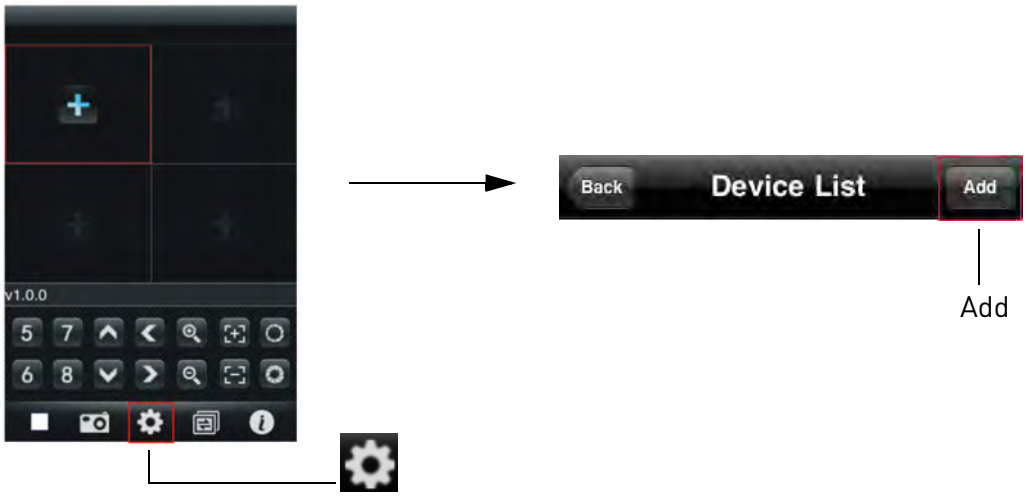
Step 1 of 3: Downloading the App

1. In the App Store, search for **Lorex Mobile Eco**.
2. Touch the **Free** button (iPhone) or **Install** button (iPad), and then touch **Install** to download the app.
   - Enter your App Store password if required.
   - The App installs on your iPhone / iPad and the Lorex Mobile Eco icon ( ) appears
3. in your application list.

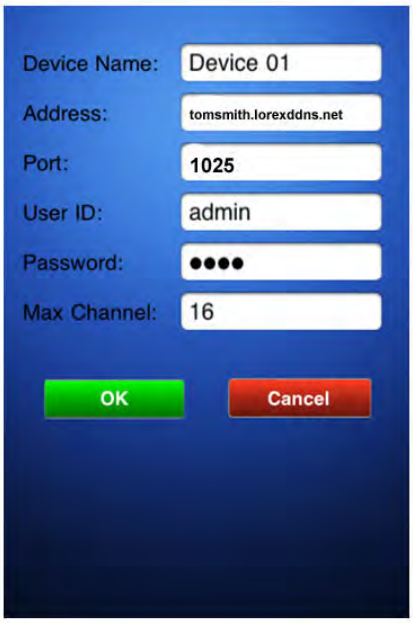
NOTE: For support on downloading or installing iPhone apps, consult your iPhone user's manual or www.apple.com for support.

Step 2 of 3: Configuring Lorex Mobile Eco

1. Touch the Lorex Mobile Eco icon ( ).
2. Touch to open the Device List menu and then touch **Add**.



3 Enter the following:

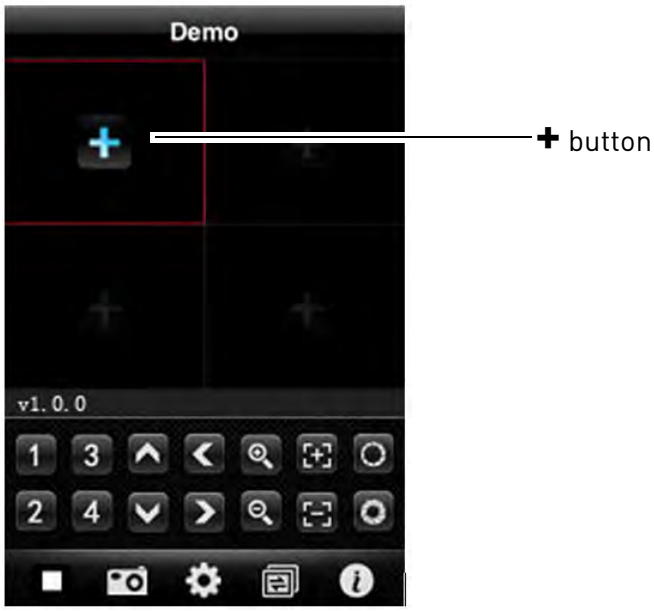


- **Device Name**: Enter the name of your system. This can be any name of your choice.
- **Address**: Enter the DDNS address of the DVR (e.g. *tomsmith.lorexddns.net*)[1].
- **Port**: Enter the Mobile Port number of the DVR (by default, port **1025**).
- **User ID**: Enter the mobile access user ID of the DVR (default: **admin**).
- **Password**: Enter the DVR's mobile access password (default: **0000**)
- **Max Channel**: Enter the number of channels of the DVR (4, 8 or 16).

4 Touch the **OK** button and then touch the **Back** button.

Step 3 of 3: Connecting to your DVR

1 In Quad View, touch the plus button **(+)**.



- If a channel is already selected, touch ■ then touch + to select another channel.

2 Touch the name of your DVR. Select the channel that you want to display in the selected space.

1. Some routers may prevent you from connecting to your DVR using a DDNS address on a local network. If you are unable to connect, try disabling WiFi on your mobile device and attempt to connect using the 3G or mobile network. If you need to use WiFi, use the DVR's internal IP address to connect.

- The selected channel appears in the quad screen display.



Touch the name of your DVR. Select the desired channel. The channel appears in quad

TIP: Double-tap the channel to view video in full screen.

3 Repeat steps 1~2 as required for the remaining channels.

Deleting Accounts

- From the Device List, swipe your finger on beside your device name. The Delete button appears. Touch the **Delete** button to remove the device.

Taking Snapshots

You can take a picture of the selected channel. The images save into your Photos directory.

To take snapshots:

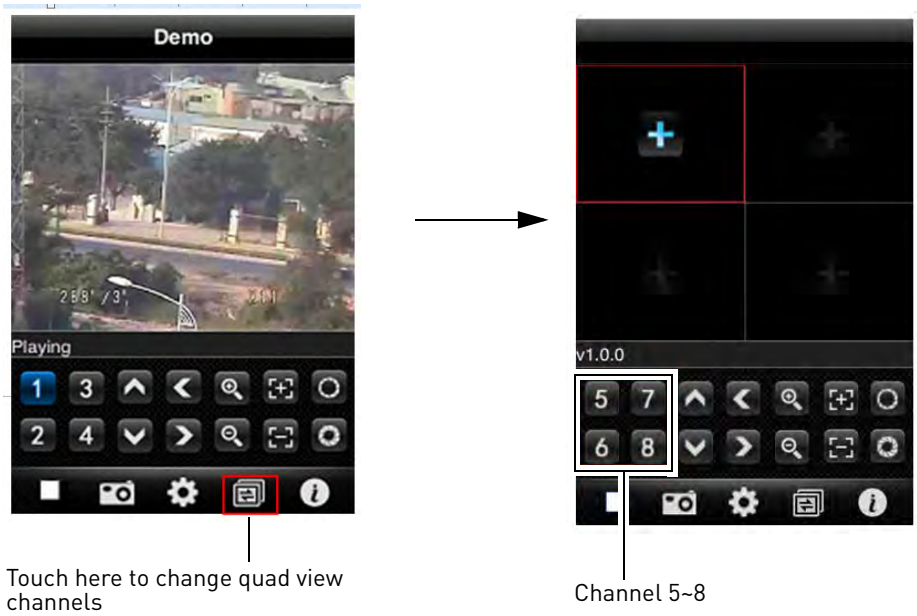
- Touch the camera button ( ).



Camera button

Changing Channels

- Touch the button repeatedly to display channel 1~4, 5~8, 9~12, 13~16.



Interface Overview

1 **Add Device**: Touch to add a DVR channel.

2 **Channel List**: Touch to view channel in full screen.

3 **Pan & Tilt camera** (PTZ only).

4 **Zoom in/out** (PTZ only).

5 **Focus** (PTZ only).

6 **Iris** (PTZ only).

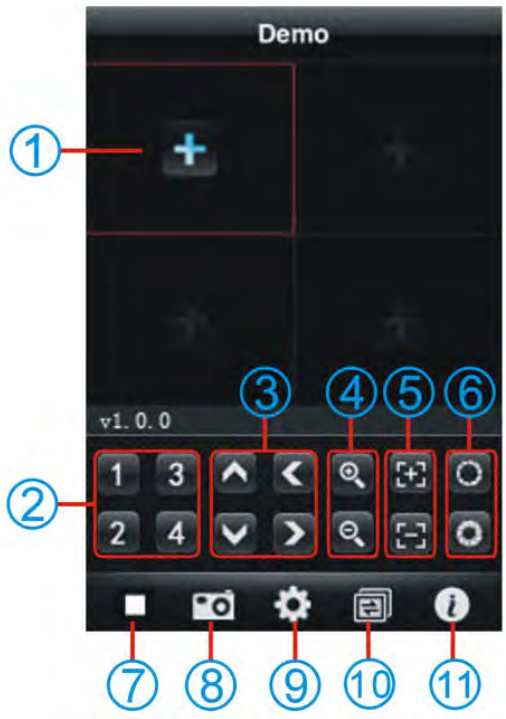
7 **Disconnect**: Disconnects channel.

8 **Snapshot**: Takes an image of the channel.

9 **Setup:** Touch to enter the setup menu.

10 **Channel button**: Touch to change the quad channel numbers (Ch 1~4, 5~8, 9~16).

11 **System info**: Display system information.



Android

Use the **Lorex Mobile Eco** 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.

System requirements

- Android v. 1.5 and above.

NOTE: For the latest device compatibility list, visit www.lorextechnology.com

! You must port forward the mobile port (default: 1025) on your router before you can connect to your system using a mobile device (e.g. Samsung Galaxy S, HTC Incredible S)

Step 1 of 2: Downloading the App

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

1 Touch the Market icon (

) in your Applications list to open the Android Market.

2 Press the search button ( ).

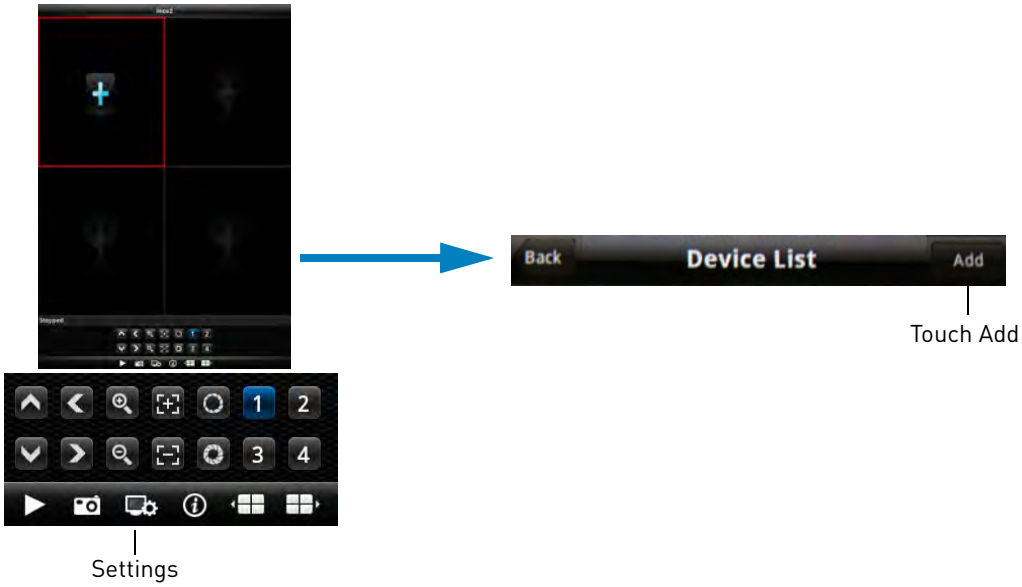
3 Enter **Lorex Mobile Eco** and then touch **Search**.

4 Touch **Lorex Mobile Eco**. Then touch **Install** to download and install the app. Wait for the app to install.

Step 2 of 2: Configuring and Connecting to Lorex Mobile Eco

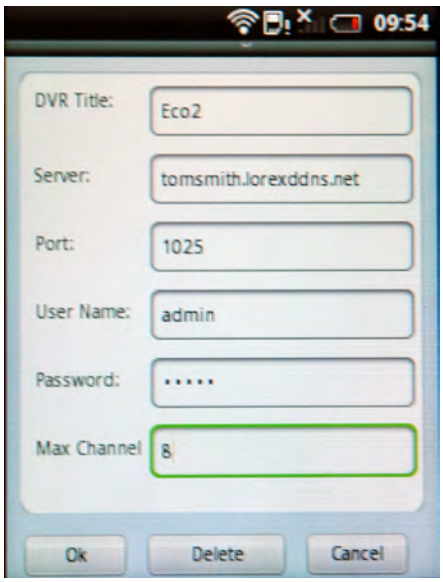
1 Open the **Lorex Mobile Eco** ( ) app from the applications list.

2 Touch the Settings button ( ) to open the Device List and touch **Add**.



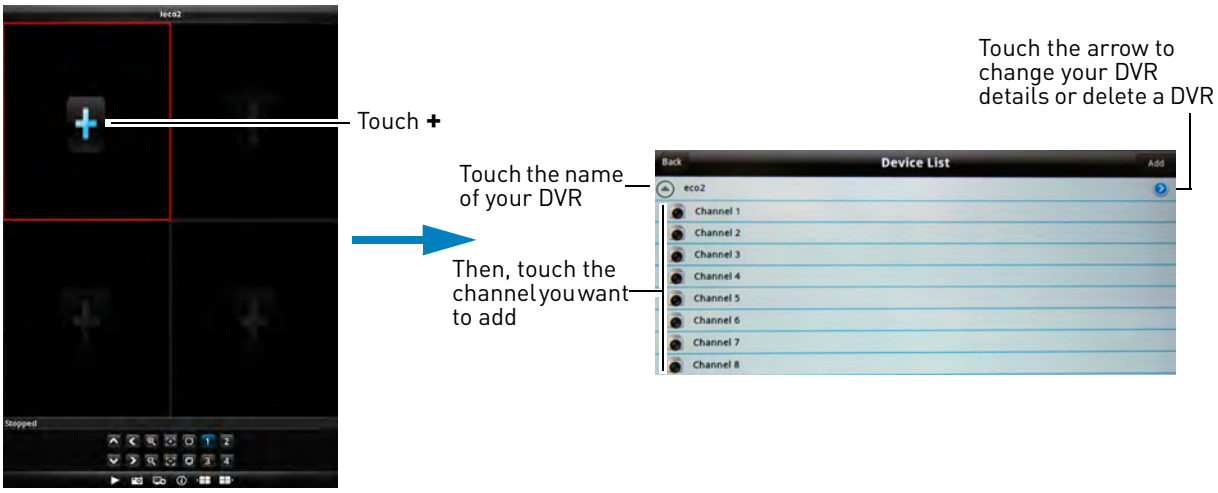
3 Configure the following:

- **DVR Title**: Enter a name for your DVR of your choice.
- **Server**: Enter the DDNS address of the DVR (e.g. *tomsmith.lorexddns.net*)[1].
- **Port**: Enter the DVR's Mobile Port number (default: **1025**).
- **User Name**: Enter the mobile access ID (default: **admin**).
- **Password**: Enter the DVR password (by default: **0000**).
- **Max Channel**: Enter the number of total channels your DVR can support (e.g. **4**, **8**, or **16**).

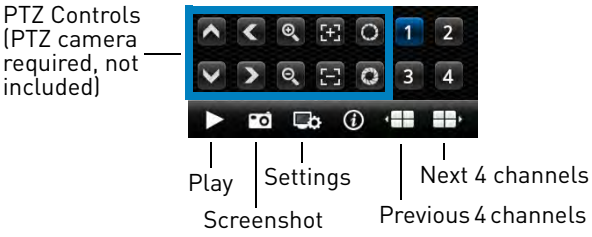


4 Touch **OK**. Touch the **Back** button.

5 In Quad View, touch **+**. Touch the name of your DVR and select the channel you would like to display in the space in Quad view.



Viewing Controls



1. Some routers may prevent you from connecting to your DVR using a DDNS address on a local network. If you are unable to connect, try disabling WiFi on your mobile device and attempt to connect using the 3G or mobile network. If you need to use WiFi, use the DVR's internal IP address to connect.

BlackBerry

Use the **Lorex Mobile Eco** application to connect to your DVR on a Blackberry smartphone.

Prerequisites:

- Blackberry 9000, 9700, 9800
- Blackberry Desktop Software
- Obtain your Blackberry's **APN** (Access Point Name) from your service provider, and enable APN on your Blackberry

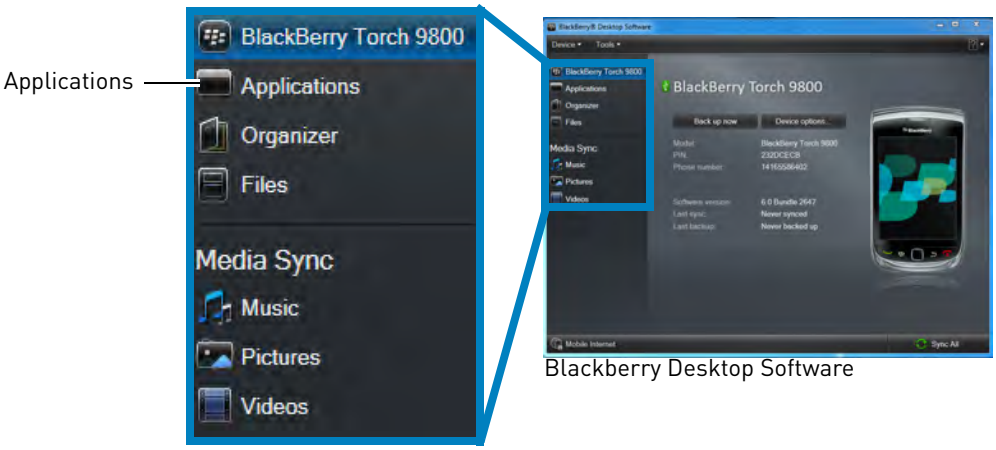
! You must port forward the mobile port (default: 1025) on your router before you can connect to your system using a mobile device (e.g. Blackberry 9000)

NOTE: For the latest device compatibility list, visit www.lorextechnology.com

Step 1 of 2: Downloading and Installing the App

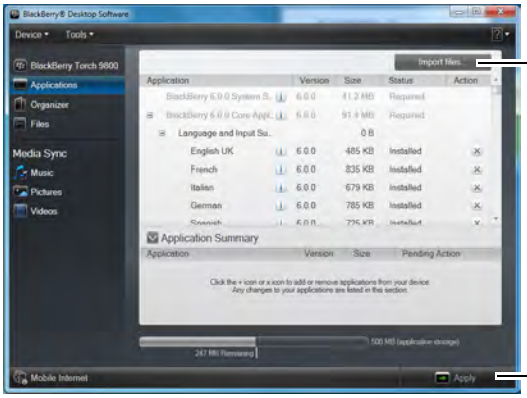
NOTE: For support on downloading or installing BlackBerry apps, consult your BlackBerry's user's manual or www.blackberry.com for support.

1. Go to www.lorextechnology.com, and search for the model number of your DVR (look at the label underneath the DVR for the model number).
2. Navigate to the product page for your model and download the appropriate app for the BlackBerry. Extract the contents of the .zip file to a folder.
3. Connect the Blackberry to your computer using a USB cable.
4. Open Blackberry Desktop Software.
5. Click **Applications**. Wait for the applications list to populate.



Blackberry Desktop Software

6 Click **Import Files**.



7 Locate the folder where you extracted the install files. Select the install file (ends in an .**alx** extension) and then click **Open** to install the file.

8 Click **Apply** to complete the installation.

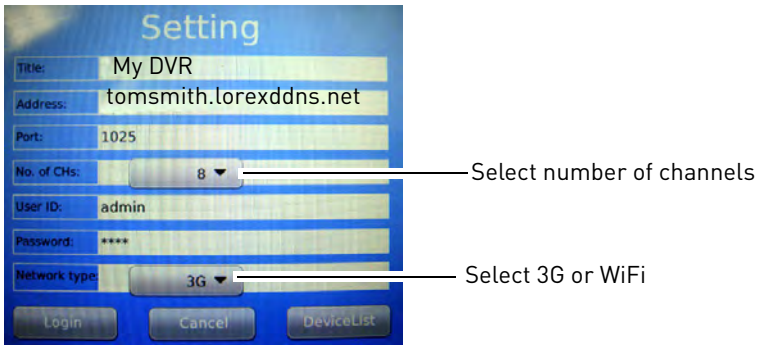
Wait for the installation to complete.

Step 2 of 2: Configuring Lorex Mobile Eco

1 Locate the app in your BlackBerry and open **Lorex Mobile Eco** ( ).

2 In the Setting window, enter the following:

- **Title**: The name of your system. This can be any name of your choice.
- **Address**: Enter the DDNS address of the DVR (e.g. *tomsmith.lorexddns.net*)[1].
- **Port**: Enter the Mobile Port number of the DVR (by default, port **1025**).
- **No. of CHs:** Select the number of channels of your DVR.
- **User ID**: Enter the mobile access user ID of the DVR (by default: **admin**).
- **Password**: Enter the DVR's mobile access password (by default: **0000**):



3 Click the **Login** button to log in to the DVR.

1. Some routers may prevent you from connecting to your DVR using a DDNS address on a local network. If you are unable to connect, try disabling WiFi on your mobile device and attempt to connect using the 3G or mobile network. If you need to use WiFi, use the DVR's internal IP address to connect.

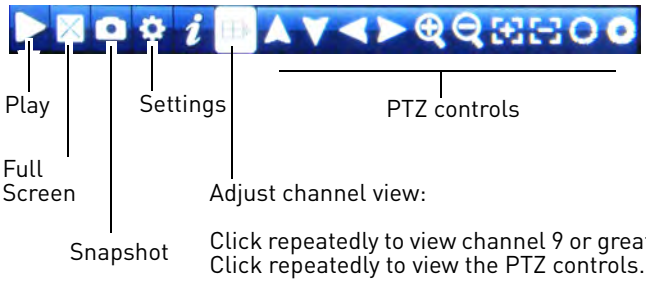
Connecting to the DVR through the Device List

1 In the Device List, select and open the name of the account you created.



Controls





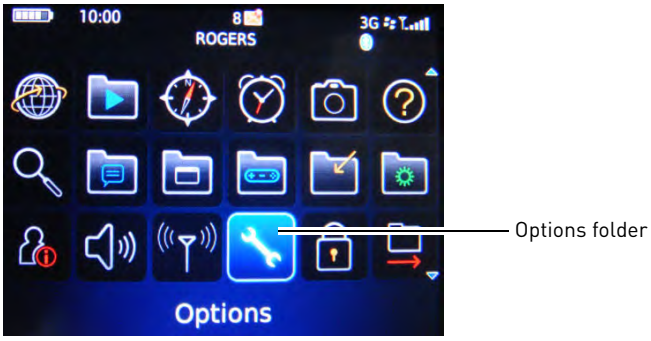
Enabling APN on Your Blackberry

In order for Mobile View to run, you must enable APN (Access Point Name) on your Blackberry. Contact your service provider for your Blackberry's APN name.

NOTE: The instructions below may differ based on the model of your Blackberry smartphone. For support related to enabling APN, please contact your smartphone service provider.

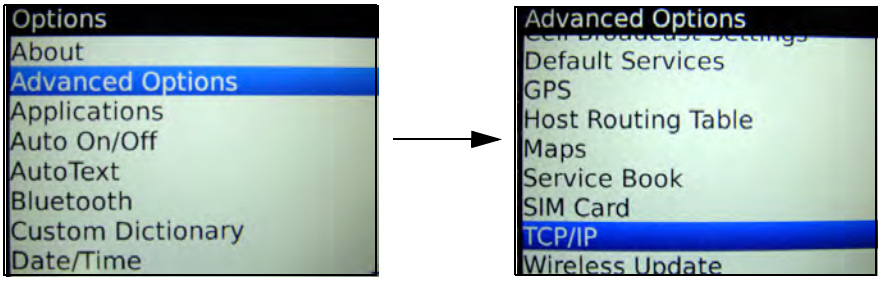
To enable APN:

1 Press the Menu button ( ) and open the **Options** menu.



Opening the Options folder

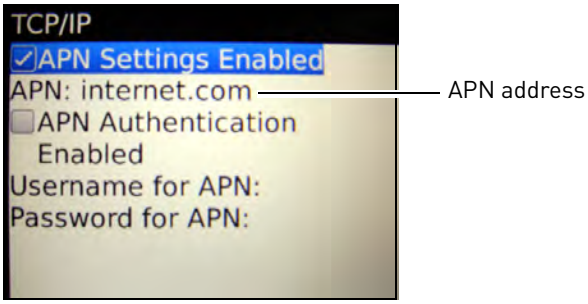
2 Select **Advanced Options** → **TCP/IP**



Opening APN settings menu

3 Select the checkbox beside **APN Settings** to enable APN.

Example



Enabling APN settings

4 Beside APN, enter your APN. **You must obtain the APN from your local service provider.**

5 Exit to save your settings.

Windows Mobile

System requirements

- v. 6.0, 6.5 (touch screen models only)
- Windows Phone 7 is not currently supported

NOTE: For the latest device compatibility list, visit www.lorextechnology.com

NOTE:

! You must port forward the mobile port (default: 1025) on your router before you can connect to your system using a mobile device (e.g. Windows Mobile Smartphone)

Step 1 of 2: Downloading the App

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 model and download the appropriate app for Windows Mobile devices.

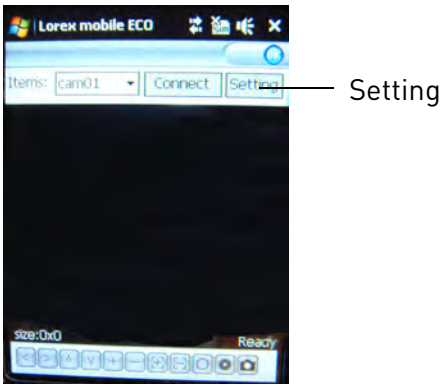
3 Download and install the app on your Windows Mobile phone.

For support on downloading or installing Windows Mobile apps, consult your Windows Mobile's user's manual, or www.microsoft.com/windowsphone for support.

Step 2 of 2: Configuring and Connecting to Lorex Mobile Eco

1 Open the **Lorex Mobile Eco** ( ) app on your phone.

2 Click the **Setting** button.



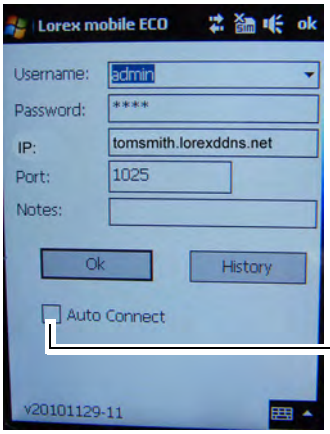
Setting

3 Configure the following:

- **User Name**: Enter the mobile access user ID of the DVR (default: **admin**).
- **Password**: Enter the mobile access password (by default: **0000**).
- **IP**: Enter the DDNS address of the DVR (e.g. *tomsmith.lorexddns.net*)[1].

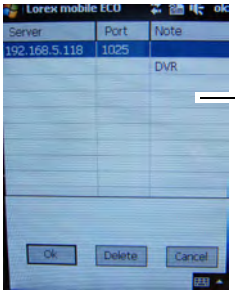
1. Some routers may prevent you from connecting to your DVR using a DDNS address on a local network. If you are unable to connect, try disabling WiFi on your mobile device and attempt to connect using the 3G or mobile network. If you need to use WiFi, use the DVR's internal IP address to connect.

• **Port**: Enter the DVR's Mobile Port number (by default, port **1025**).



4 Select the **Auto Connect** checkbox and then click **Ok**.

5 From the Server window, select the DVR account you created. Click **OK** to connect to the DVR.



Symbian OS

System requirements

• 3rd and 5th generation models

NOTE: For the latest device compatibility list, visit www.lorextechnology.com

! You must port forward the mobile port (default: 1025) on your router before you can connect to your system using a mobile device (e.g.Symbian Smartphone)

Step 1 of 2: Downloading the App

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 model and download the appropriate app for Symbian devices.

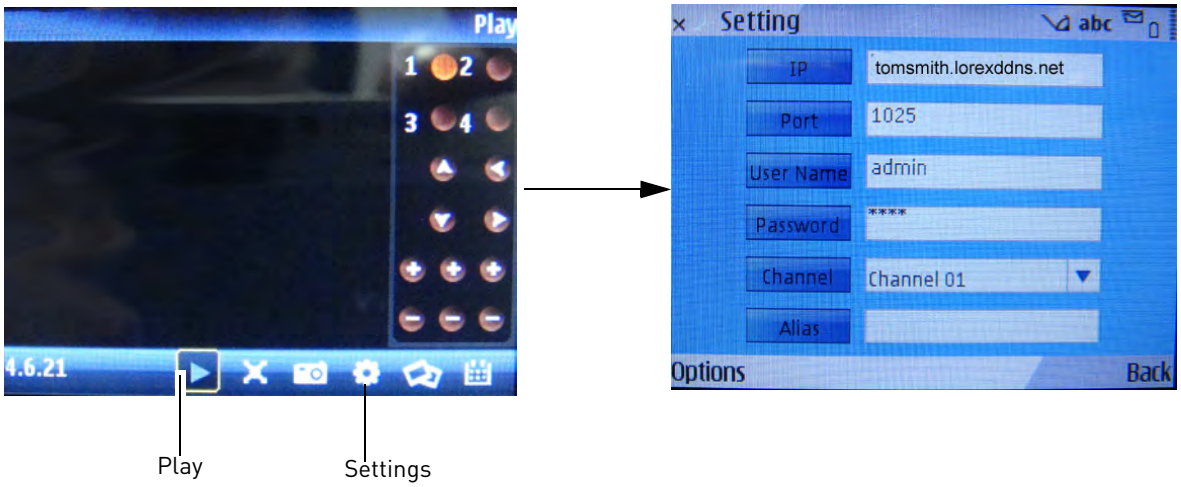
3 Download and install the app on your Symbian-based phone.

• For support on downloading or installing Symbian OS apps, consult your Symbian device's user's manual or the manufacturer's support site.

Step 2 of 2: Configuring and Connecting to Lorex Mobile Eco

1 Open the **Lorex Mobile Eco** ( ) app on your phone.

2 Click the Settings button ( ).



3 Configure the following:

- **IP**: Enter the DDNS address of the DVR (i.e *tomsmith.lorexddns.net*)[1].
- **Port**: Enter the DVR's Mobile Port number (by default, port **1025**).
- **User Name**: Enter the DVR's user name (by default: **admin**)
- **Password**: Enter the DVR password (by default: **0000**)
- **Alias**: Enter a DVR name of your choice

4 Save your settings. From the main viewing window, press the play button to connect to the DVR.

1. Some routers may prevent you from connecting to your DVR using a DDNS address on a local network. If you are unable to connect, try disabling WiFi on your mobile device and attempt to connect using the 3G or mobile network. If you need to use WiFi, use the DVR's internal IP address to connect.

Appendix A: System Specifications

DVR:

SYSTEM	
Operating System	Linux (embedded)
Pentaplex	Simultaneous View, Record, Playback, Backup & Remote Monitoring
Number of Channels	**4/8/16** Channel
Inputs/Outputs	
Video IN	4/8/16 x 1Vp-p, CVBS, 75ohms, BNC
Video OUT	2 x BNC
VGA OUT	**4 ch:** Yes **8 ch:** Yes **16 ch:** VGA port works only when HMDI is not used
HDMI	Yes
Audio IN	4 Line in(RCA), G.711(4&8 ch), 16 Line in(BNC), G.711(16 ch)
Audio OUT	2 line out(RCA), G.711(4&8 ch), 2 line out(BNC), G.711(16 ch)
USB Port	2 at the back
Alarm IN	**4 ch:** 4 ch IN **8 ch:** 4 ch IN **16 ch:** 16 ch IN
Alarm OUT	1 ch OUT
Video Output Resolution	800x600, 1024x768, 1280x1024, 1440x900, HDMI
PTZ control	RS-485 Pelco D & P Protocol
Display	
Live Display	**4 ch:** 1,4 **8 ch:** 1, 4, 8 **16 ch:** 1, 4, 9, 16
Live Display Speed	120 (4 ch)/ 240 (8 ch)/ 480 (16 ch) NTSC 100 (4 ch)/ 200 (8 ch)/ 400 (16 ch) PAL
OSD	ON/OFF
System Navigation	USB Mouse, IR Remote Controller, Front Panel
Motion Area Setting	Adjustable grid (10 x15) NTSC Adjustable grid (12 x15) PAL
Sensitivity levels	8
Firmware Upgrade	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	G.711
Recording Resolution	NTSC: 360x240 (CIF), 720x240 (HD1), 720x480 (D1) PAL: 360x288 (CIF), 720x288 (HD1), 720x576 (D1)
Recording Speed:	**4 ch:** 120/100 (NTSC/PAL) @ CIF, HD1, 60/50 (NTSC/PAL) @ D1 **8 ch:** 240/200 (NTSC/PAL) @ CIF, 120/100(NTSC/PAL) @ HDI, 60/50 (NTSC/PAL) @ D1 **16 ch:** 480/400 (NTSC/PAL) @ CIF, 240/120(NTSC/PAL) @ HDI, 120/100 (NTSC/PAL) @ DI
Recording Resolution Setting	Per camera for different resolutions (CIF/2CIF/D1)
Recording Quality Control	3 levels
Recording Schedule	By hour, by day, by recording mode, by alarm, by ch
Pre Recording	Max. 10 Secs
Post Recording	Max. 5 Minutes
Reliability	Watch-Dog, Auto-recovery after power failure
Covert Video	Yes

PLAYBACK	
Playback Channel	1~4 Adjustable(4 ch), 1~8 Adjustable (8 ch), 1~16 Adjustable (16 ch)
Playback Speed	Variable Max 16x
Playback Players	Backup Player
Search	By time & event
Log Search	Up to 10,00,000 lines for alarm activated, motion detected, configuration changes, connects/disconnects and video loss.
Audio Play	Yes
STORAGE & ARCHIVE	
Storage	**4 & 8 ch:** Up to 1 HDD's (SATA) **16 ch:** Up to 2 HDD's (SATA)
Maximum Capacity	**4 & 8 ch:** Up to 2TB **16 ch:** Up to 2 x 1 TB
Backup Media	USB Flash Drive & HDD
Backup File Format	H.264 file (AVI generator included)
CONNECTIVITY	
Easy Connect	Lorex Auto Port Forward Wizard
Supported Operating Systems	**4/8/16 ch: Windows**™ XP, Vista, 7 **4/8/16 ch: Mac** OSX Snow Leopard 10.6 or above
Browsers	Internet Explorer & Safari 5.1
Email notification	Text with snapshot
Instant Smart Phone Compatibility†	Smart Phone & Tablet Compatibility: iPad™, iPhone™, BlackBerry (supported model numbers: 9000, 9700, 9800), Android (version 1.5 & above), Windows Mobile (6.0, 6.5), Symbian 3rd & 5th generation phones.
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	**4 & 8 ch:** Approx. 10 watts **16 ch:** Approx. 15 watts
Supply Voltage	**4 & 8 ch:** 100VAC-240VAC, 12VDC , 3A, 50/60Hz **16 ch:** 100VAC-240VAC, 12VDC , 5A, 50/60Hz
Unit Dimensions (W x D x H)	**4 & 8 ch:**11.81"/300mm x 8.66"/220mm x 1.97"/50mm **16 ch:**14.96" /380mm x13.39"/340mm x 1.97"/50mm
Unit Weight (KGs)	**4 & 8 ch:** 1.7 kg/3.75 Lbs **16 ch:** 3 kg/6.6 Lbs
Operating temperature	32° ~ 104° F / 0° ~ 40° C
Humidity	10 ~ 90% NC

DISCLAIMERS:

1. Recording time may vary based on recording resolution & quality, lighting conditions and movement in the scene.
2. Requires a high speed internet connection and a router (not included).

† Smart Phone & Tablet Compatibility: iPad™, iPhone™, BlackBerry (supported model numbers: 9000, 9700, 9800), Android (version 1.5 & above), Windows Mobile (6.0, 6.5), Symbian 3rd & 5th generation phones. Mobile phone data plan is required (not included). Router port forwarding required.

For the latest compatibility list check www.lorextechnology.com as new models become available in the market.

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VANTAGE

LH130 ECO2 SERIES

www.lorextechnology.com

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

Appendix B: Networking Checklist

Use this checklist to confirm you have completed all the steps of the Network Setup.

I have the following:

- High-Speed Internet
- Router
- Ethernet cable (included with the system)
- Computer

I have turned off the system and performed the following:

- Connected the Ethernet cable to the LAN (RJ45) port on the rear panel of the system
- Connected the other end of the Ethernet cable to my router

NOTE: Network Setup will not work if you do not have a router.

I have found my System Information:

- Press the **PTZ /** ↵ button on the front panel of your system

My IP Address is: _____

My MAC Address is: _____

I have enabled Port Forwarding on my router:

- **HTTP Port (default: 80)**
- **Client Port (default: 9000)**
- **Mobile Port (default: 1025)**

NOTE: For added security, we strongly recommend changing HTTP port 80 on the system to *any desired port*—the port must not blocked by your Internet service provider (ISP).

NOTE: Each router is different, so port forwarding settings vary by model. If your router is not listed, please refer to your router's manual or contact your router's manufacturer for assistance.

I have configured DDNS for remote access to my system:

Go to http://lorexddns.net and create a new account. Fill in the information below from the confirmation email you receive after creating your account.

Domain: _____

User Name: _____

Password: _____

I have configured my system to connect to the DDNS server:

ATTENTION: You *MUST* enter your DDNS information *LOCALLY* before attempting remote access.

To enable DDNS on your system:

1. Right-click to open the Menu Bar and click **Main Menu(**  **).**
2. Click **Network**.
3. Click the **DDNS** tab.
4. In the **DDNS** drop-down menu, select **Enable.**
5. Enter the following into the DDNS Setup menu:
   - **Domain Name**: Enter the first portion of your DDNS domain name. For example, if your DDNS address is *tomsmith.lorexddns.net*, enter *tomsmith*.
   - **User Name**: Enter your DDNS user name that was emailed to you after DDNS registration.
   - **Password**: Enter your DDNS account password that was emailed to you after DDNS registration.
6. Click **Apply** to save your settings.
7. Right-click repeatedly to exit all menus.

NOTE: Please allow 10~15 minutes for the DDNS servers to update with your new DDNS address. This is normal for the DDNS system.

I can access my system from a remote Computer:

To access your system remotely:

1. Open Internet Explorer (PC) or Safari (Mac) and enter **http;//**, your **DDNS address** from the confirmation email, **colon**, and the **HTTP port**. For example, *http://tomsmith.lorexddns.net:80.*
2. Log in using your ADMIN **password**. If you have not enabled passwords on the system, leave the password field **blank**.

NOTE: By default, the login name is **admin**, the password field is left blank.

Appendix C: How do I find my IP & MAC address?

The IP and MAC address of your system are necessary for DDNS setup. DDNS allows you to view and control your system from a remote location.

NOTE: Make sure you have connected the DVR to your local or wide area network via the LAN port on the rear panel of the system, and then restart the DVR using the power switch.

To find your IP address and MAC address:

1 Press the **PTZ /** ↵ button on the front panel of the system.



2 Press the **Exit** button to close the menu.

Finding Your External IP Address

If you wish to find your external IP address, you can use a third-party website such as www.showmyip.com. Your external IP address can also be found within your Router settings. Refer to your router user guide for further details.

Appendix D: What is Port Forwarding And Other Frequently Asked Networking Questions

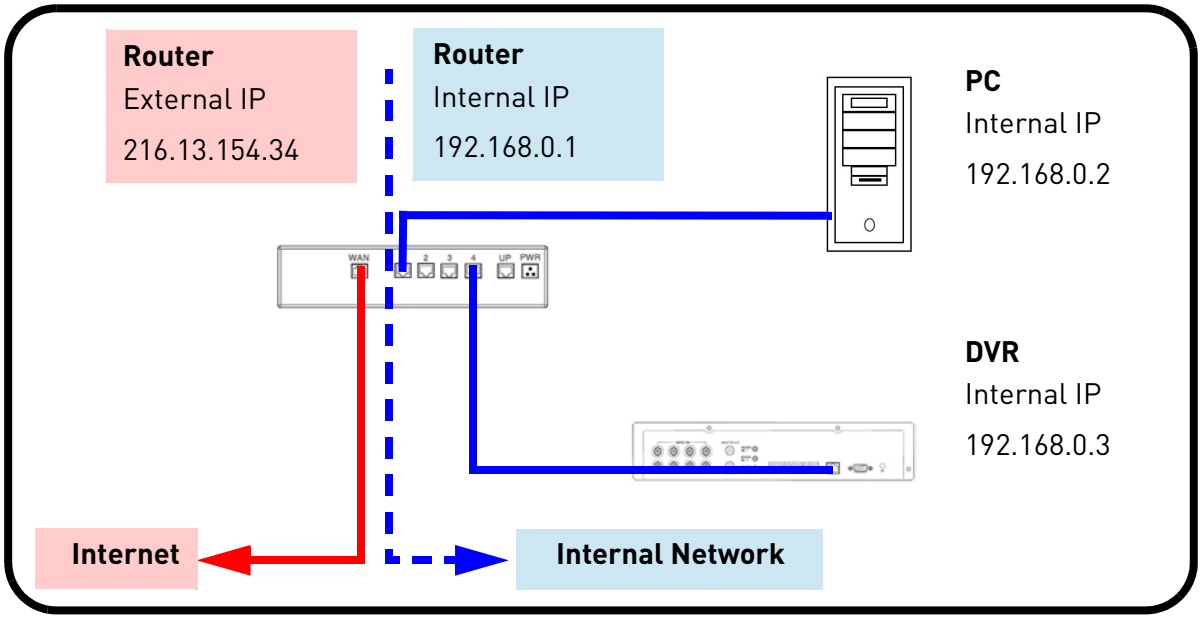
You need to enable port forwarding on your router to allow for external communications with your system for **all** of the following ports:

- **80** (HTTP Port)
- **9000** (Media Port)
- **1025** (Mobile Connectivity Port)

NOTE: For added security, we strongly recommend changing HTTP port 80 on the system to *any desired port*—the port must not blocked by your Internet service provider (ISP).

Computers, DVRs, and other devices inside your network can only communicate directly with each other within the internal network. Computers and systems outside your network cannot directly communicate with these devices. When a system on the internal network needs to send or receive information from a system outside the network (i.e. from the Internet), the information is sent to the router.

NETWORK EXAMPLE



When a computer on the Internet needs to send data to your internal network, it sends this data to the external IP address of the router. The router then needs to decide where this data is to be sent to. This is where setting up Port Forwarding becomes important.

Port Forwarding tells the router which device on the internal network to send the data to. When you set up port forwarding on your router, it takes the data from the "**external IP address:port number"** and sends that data to an "**internal IP address:port number"** (e.g. Router External IP 216.13.154.34 to DVR Internal IP **192.168.0.3:80**).

How Can I Port Forward my Gateway or Router?

This question depends on the particular model of router you have. Nearly all models support some form of inbound TCP/IP routing, or port forwarding, and there are many resources to help you to forward an incoming connection to your video device. We provide an Auto Port Forwarding Wizard (for PC only), technical support information, and consumer guides on the CD and online at www.lorextechnology.com. You can also refer to www.portforward.com for details on a large variety of routers.

NOTE: The information on www.portforward.com is not maintained or supported by Lorex. Please check the instruction manual for your product to determine which ports must be configured to enable a remote connection.

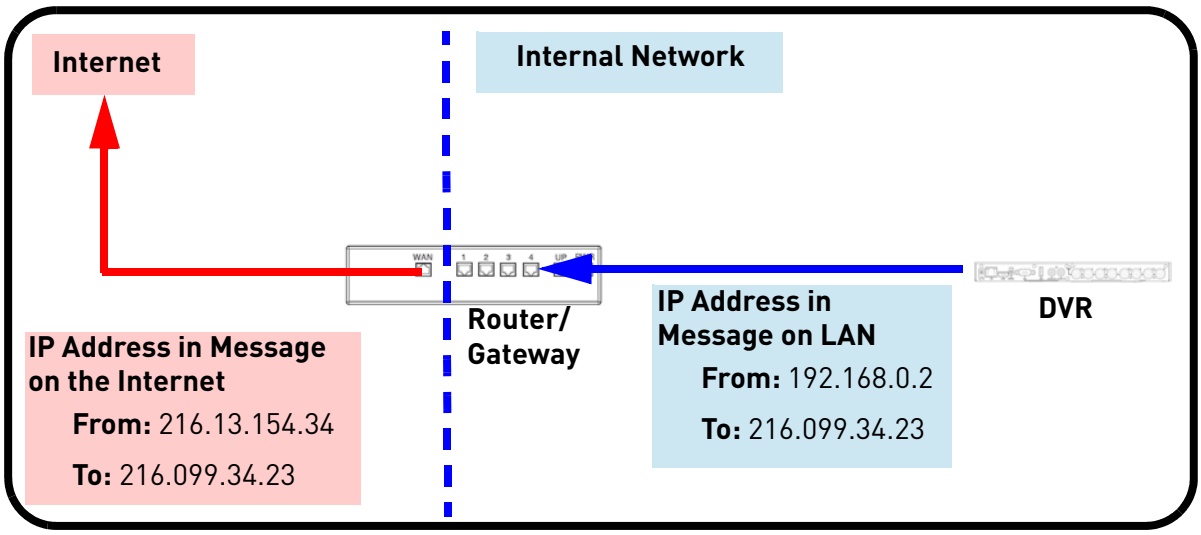
How Can I Test my Port Forwarding Configuration?

There are third-party websites that provide free port forwarding testers, such as http://canyouseeme.org/ and the Port Forwarding Tester at http://www.yougetsignal.com/ These websites will find your external IP address and test if specified ports are open at that address.

NOTE: These websites are not supported by Lorex.

What is the Difference Between Internal and External IP Addresses?

Every device that communicates over the Internet must have a unique IP Address. These are called **external IP addresses** (sometimes referred to as public IP addresses). However, there are ranges of IP addresses that are excluded from this address space, so that they can be used internally by devices connected to Local Area Networks (LANs). These are **internal IP addresses** (sometimes referred to as private IP addresses). If devices that are using internal addresses wish to communicate with devices on the Internet, they must pass their messages through a network gateway, which will map the internal IP Addresses into a valid external IP address. This is called Network Address Translation (NAT), as shown in the following figure.



Example of Network Address Translation

How can I Find my External IP Address?

If you wish to find your external IP address, you can use a third-party website such as www.showmyip.com. Your external IP address can also be found within your Router settings. Refer to your router's user guide for further details.

What is the difference between Static and Dynamic IP Addresses?

IP Addresses are the numbers used by the Internet Protocol (IP) to identify your computer or device. Every computer or device that wants to communicate over the Internet must have an address, unique to that computer or device.

Internet Service Providers (ISPs) can issue IP Addresses in two ways:

- **Static assignment:** The ISP issues a permanent, non-changing address that must be manually entered into the computer or device. This number cannot be used by any other device.
- **Dynamic assignment:** The ISP uses a protocol called Dynamic Host Configuration Protocol (DHCP) that generates an IP Address and leases (i.e. provides) it to your computer or device for a predetermined length of time. After that time expires, your computer or device must request a new IP address. This means that your external IP address will change occasionally. Most residential Internet service packages use dynamic assignment.

Lorex provides a free Dynamic Domain Name Service (DDNS) for use with your system. DDNS allows you to set up a web site address that points back to your local network. This means that even if your external IP address changes, the web site address of your device will not change. Please visit http://lorexddns.net to sign up for your free DDNS account.

You must create a DDNS account in the same network as your DVR.

Appendix E: Internet Setup Wizard (PC only)

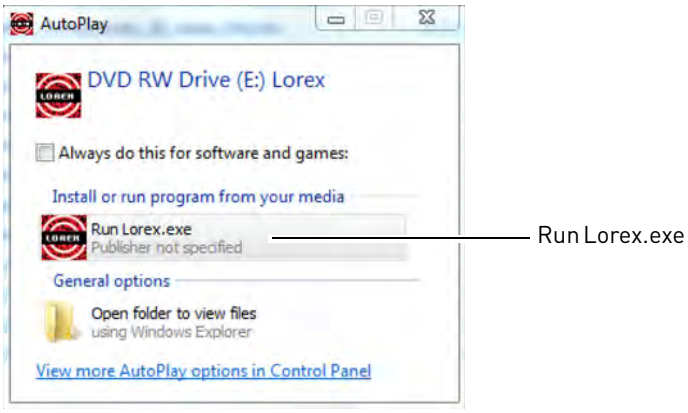
The Lorex Auto Port Forwarding Wizard is an exclusive software that easily automates router port forwarding. Before setting up a DDNS account, it is recommended to run the Auto Port Forwarding Wizard to port forward the required ports.

Installation

To install the Lorex Auto Port Forwarding Wizard:

1 Insert the system's software CD. An Autorun window appears.

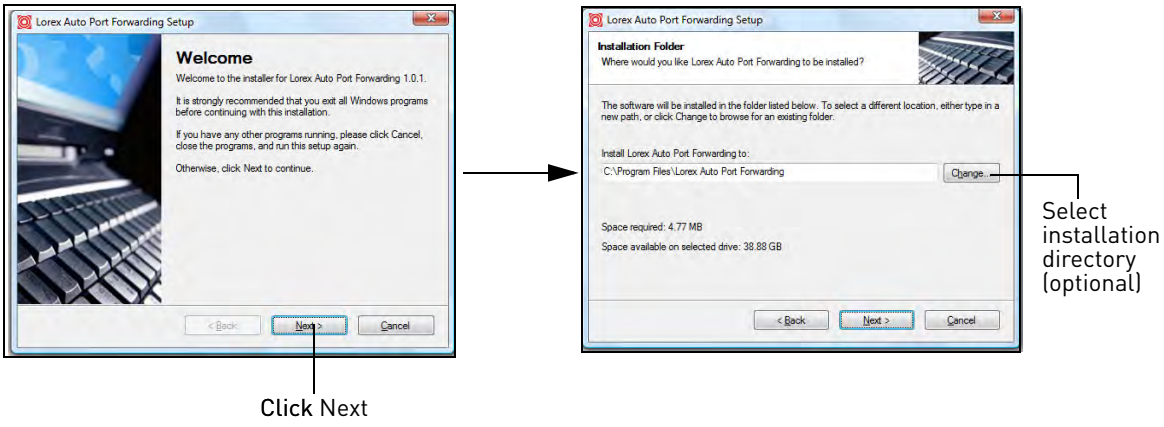
2 Click **Run Lorex.exe**.



3 Click **Lorex Easy Connect**. Then click **Lorex Easy Connect Wizard**.

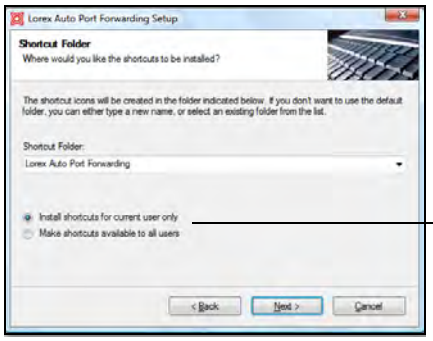
• The installation window opens.

4 Click **Next** to continue.



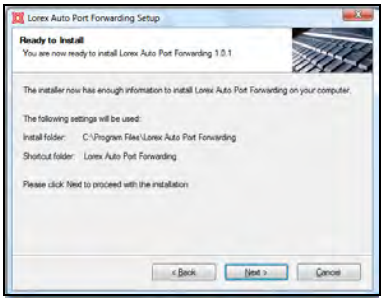
5 Click the **Change** button to change the default installation directory (optional). Click the **Next** button to continue.

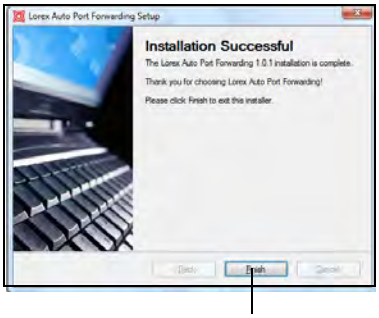
6 Select the users who can see the Auto Port Forwarding shortcut (optional). Click the **Next** button to continue.



Select the users who can see the software shortcut (optional)

7 Click the **Next** button and then click **Finish** to complete the software installation.





Finish button

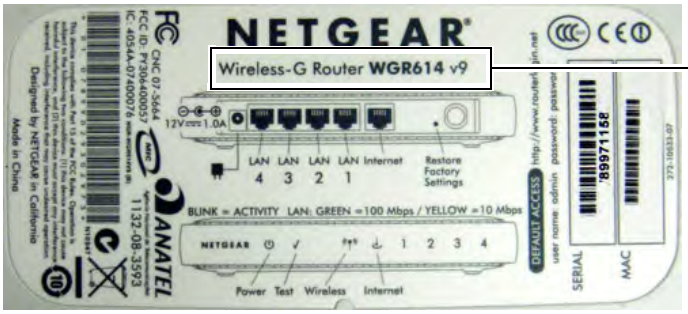
8 Double-click the Lorex Auto Port Forwarding shortcut (

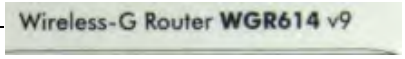
)from your desktop to start the program.

Obtaining Your Router Model Number and Version

On most routers, the model and version number can be found underneath the router, printed on a sticker.

Example





- WGR614 refers to the model number
- v9 refers to the version number

Configuration

You must have the following before you configure the software:

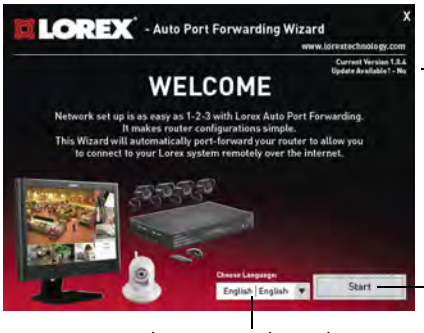
1. Your router's model number and version number
2. Your router's user name and password
3. Your Lorex device's IP address
4. Your Lorex device's port numbers that require port forwarding

Initial Startup: Select language

5 Check the top-right corner of the screen to see if software updates are available. If updates are available click **Download Now**.

- Run the update file and install the latest version of the software.

6 Click the Language drop-down menu and select a language (English, French, Spanish). Click the **Start** button to continue.



Software update section

Start button

Language drop-down menu



Download Now button

A software update includes an updated list of routers compatible with the Auto Port forwarding Wizard

Step 1: Populate the router database

The Auto Port Forwarding Wizard automatically populates a list of current routers, and detects the number of connected routers.

- Click the **Next** button after the software detects your router configuration.



Click to update router database

Click to check for multiple routers

If more than one router is detected, you may need to contact your ISP (Internet Service Provider) to port forward.

For details on configuring multiple routers, see "Configuring Multiple Routers" on page 112.

Step 2: Enter your router settings

1 Under the Router drop-down list, select the model of your router. **OR**

- Click the **Search** button ( ) to enter the name of your router model.

NOTE: Click the **Auto Detect** button ( )if you have a Linksys or Netgear router (works with most Linksys or Netgear models).

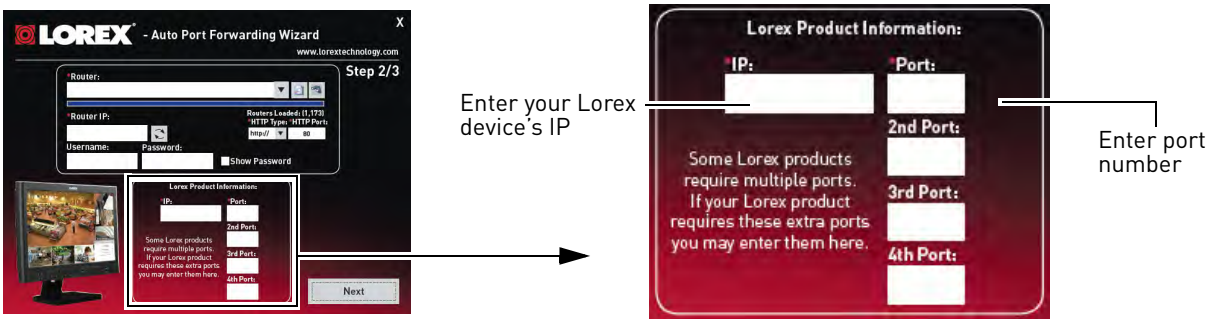


2 Under Router IP, click the **Detect Router IP** button ( ).

- The router's IP populates in the blank field. Click **OK** to exit the prompt.

3 Under Username and Password, enter ***the router's*** username and password.

- Optional: Under HTTP Type (default http://) and HTTP Port (default, 80), you may have to change the values depending on your router model. Consult your router manual for details.



4 Under IP, enter the IP address of your Lorex device.

- To find your system IP, exit to the main viewing mode, and then press the **INFO** button on your remote, or press the **RETURN** button on the front panel of the system.

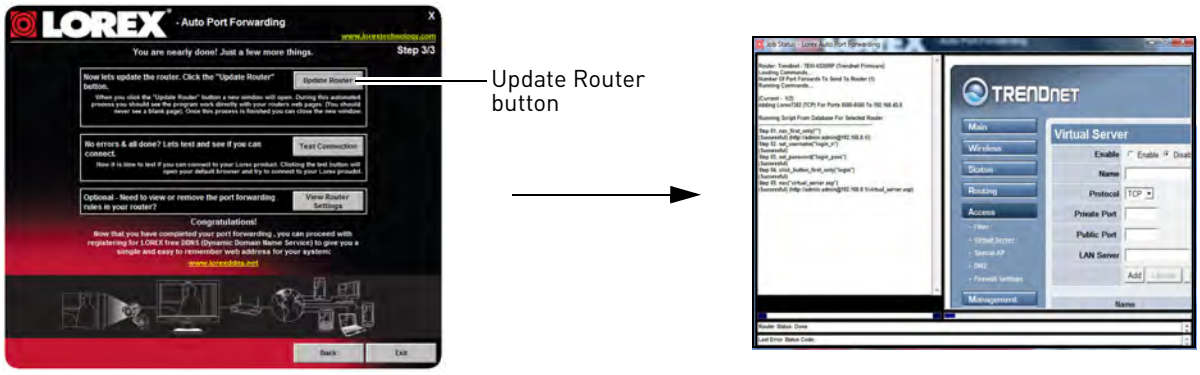
5 Under **Port**, enter the HTTP Port (default: **80**). Under **2nd Port**, enter the Media port (default: **9000**). Under **3rd port**, enter the Mobile Port (default: **1025**).

6 Click **Next** to continue.

Step 3: Update the router settings

1 Click the **Update Router** button.

- You will see your router window open. The Auto Port Forwarding Wizard automatically populates your router with the relevant information. This will take a few moments.



2 Close the update window when the update finishes.

Step 4: Test your connection

1 Click the **Test Your Connection** button.

- Your system's default browser opens and connects to your **Lorex device**.

NOTE: Ensure that Internet Explorer is your system's default internet browser.

NOTE: A window opens that prompts you to enter in your **DVR's** user name and password (do not enter your DDNS log in information).

NOTE: ActiveX warnings may appear. Accept all ActiveX installation warnings to connect to your system.

Configuring Multiple Routers

Your network may have two or more connected routers. During the initial launch of the auto port forwarding wizard, the program scans the network to detect the number of connected routers.

To check for multiple routers:

1 Click the **Detect Multiple Routers** button ( ).

- A list of connected router populates in the window.



- The "Possible 1st Router" refers to the router directly connected to your system. This is the router that requires the port forward information.

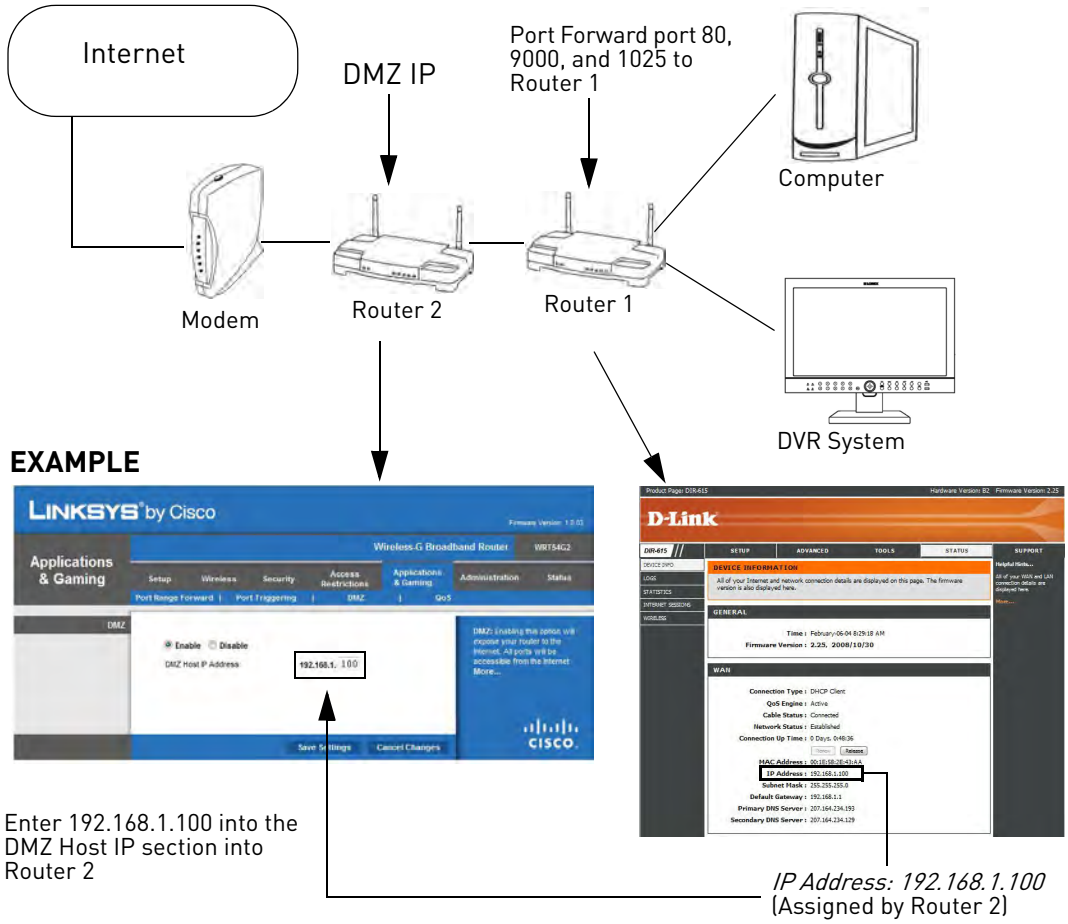
- The "Possible 2nd Router" refers to the router immediate to the internet connection. This is the router that requires you to configure a DMZ host connection.

Scenario A: Router/Modem combination + Router

- You may have a router/modem combination, with a second router in your network.

Scenario B: Multiple Routers

- You may have two routers in your network.



In both scenarios, the router that is immediate to the internet connection (Router 2 in illustration) must act as a "bridge" to another router (Router 1 in illustration). The Auto Port Forwarding Wizard must connect to Router 1.

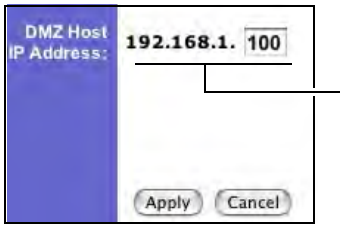
A proper DMZ configuration in Router 2 allows all incoming traffic going through Router 2 to automatically pass to Router 1. Router 2 acts as a "dummy" router and passes all the incoming data onto Router 1. Router 1 is the router that needs the port forwarding information.

Configuring a DMZ host connection

- Connect to "Router 1" on your network (referred to as "Possible 1st Router" in the Auto Port Forwarding Wizard). Obtain the IP address of Router 1. Usually this can be found in the "Status" section of your router menu. The IP should begin with "192.168...."This IP address is your DMZ IP.
- Enter the IP address obtained from Router 1 into the DMZ section of Router 2.
- Once you have configured Router 2 with a DMZ connection, run the Auto Port Forwarding Wizard to begin auto port forwarding to Router 1.
- Consult your router's owner's manual for details on configuring DMZ settings.

Example

DMZ stands for Demilitarized Zone. Enabling a DMZ IP on your router enables one of the routers to pass information onto the second router.

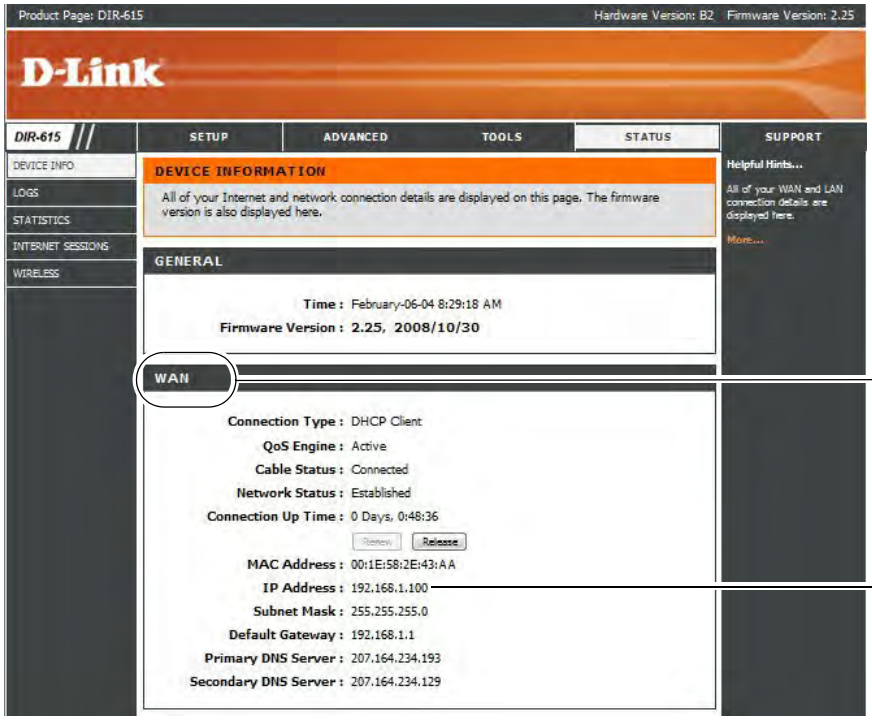


DMZ IP address assigned by a secondary router

Locating your Router IP - The Status Page

The "Status Page" of a router normally includes the router's vital information such as the IP address.

EXAMPLE



The IP information is normally under a header called "WAN" or "Internet Port". Each router has different terminology.

Router IP assigned by the main router. Enter this IP into the DMZ section of the primary router.

Appendix F: Assigning A Fixed IP To Your DVR

When connecting to your DVR through a local area network (LAN), you have the option of connecting to your system by entering the local IP of the DVR in a web browser. The local IP of your DVR is like your home's address. If someone wants to visit you, they need to know your home address. Similarly, the local IP of your DVR is your DVR's address.

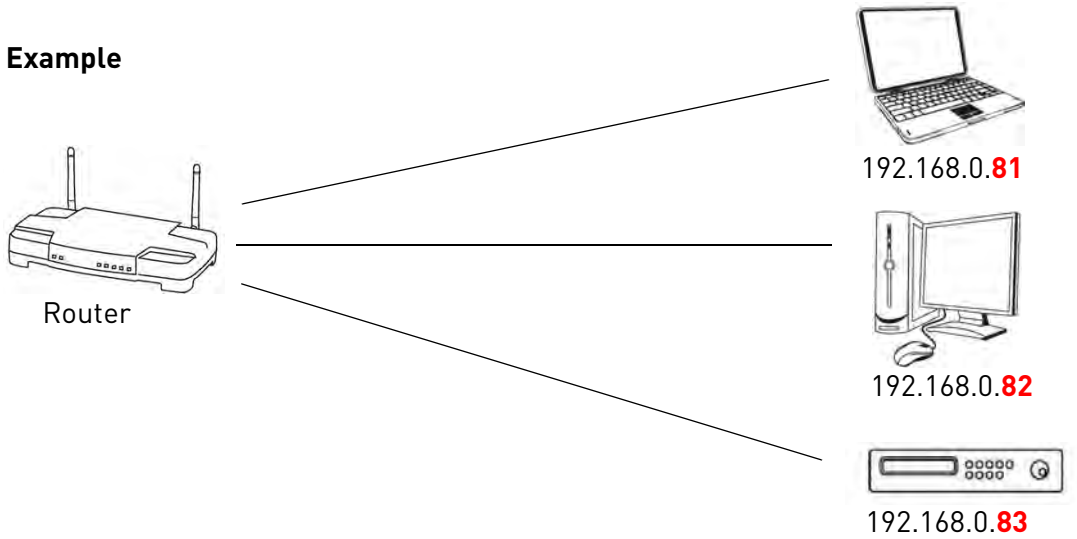
The problem arises when the local IP address of the DVR changes. Imagine moving every three months—nobody would ever be able to find you. To solve this problem, we can assign a fixed IP address—also known as a static IP address—so that the local IP of your DVR will never change.

What's the difference between DHCP and Static IPs?

DHCP

DHCP (Dynamic Host Configuration Protocol) allows your router to automatically assign an IP address to devices that are connected to it. DHCP is a convenient method for connected devices on your router to have an IP address immediately. This allows devices connected to your router to work right away on the network.

For example, your router assigns an IP address to your laptop, your desktop, and your DVR.



Each time the router restarts (due to power failure etc.), there is no guarantee that the router will assign the same IP address to your laptop, desktop or your DVR. The router may assign a new IP address to all of the devices connected to it. This can be a problem if you want to connect to your DVR locally, since the IP address of the DVR has changed.

Static IPs

Setting a static IP on the router tells the router to reserve an IP address to a particular device. The static IP number is saved onto the router, and remains saved even if the router

is powered off. Likewise, a Fixed IP address must also be specified in your DVR so that even if your DVR turns off, the IP address of the DVR remains the same. The static IP address must be assigned in the router and DVR. The end result is that you can power on and off the router and DVR, and the router will always assign the same IP address to the DVR.

Setting up a Fixed IP

Creating a static IP must be done on both the router and DVR.

NOTE: These are guidelines on how to create a static IP. Refer to the DVR & Router's owner's manual for details.

To create a static IP on the DVR:

1. Disable DHCP on the DVR.
2. Assign the designated local IP address of the DVR.

To create a static IP on the router:

1. Write down the MAC address of your DVR.
2. In the "DHCP Reservation List", enter the DVR's MAC address, and the desired IP that you wish to reserve.

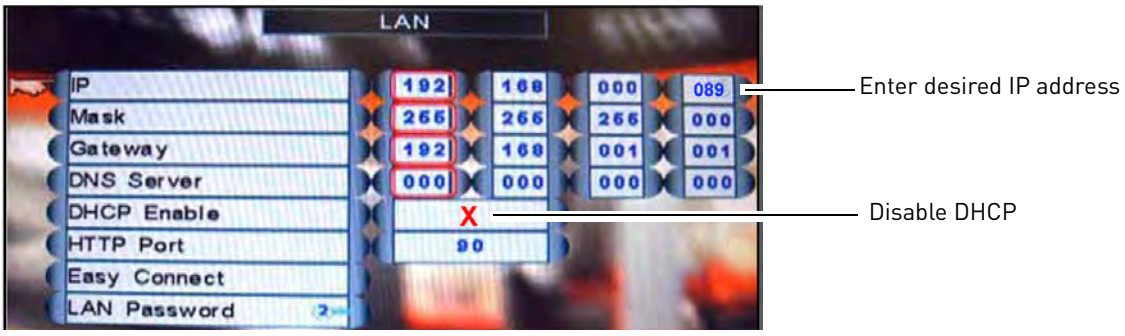
NOTE: The terminology varies between routers. "DHCP Reservation List" is an example only. Consult your router's user's manual for details.

Scenario Example

NOTE: The following scenario example is based on the Lorex Edge series (LH300 series) DVR, and the Trendnet TEW-652BRP router. The instructions below are for reference only.

Step 1 of 2: Enter the desired static IP address in the DVR

1. Open the LAN menu (Main Menu →LAN).
2. Beside **IP**, Enter the desired IP address. This IP address must be in the range specified by your router.
3. Beside **DHCP Enable**, Disable DHCP. Right-click to save your settings.



About IP Ranges

It is recommended to set the static IP address below the scope of your router. For example, if the router assigns an address ending between 100-254, choose an address ending between 2-99.

Step 2 of 2: Enter the desired static IP address in the router

Prerequisites:

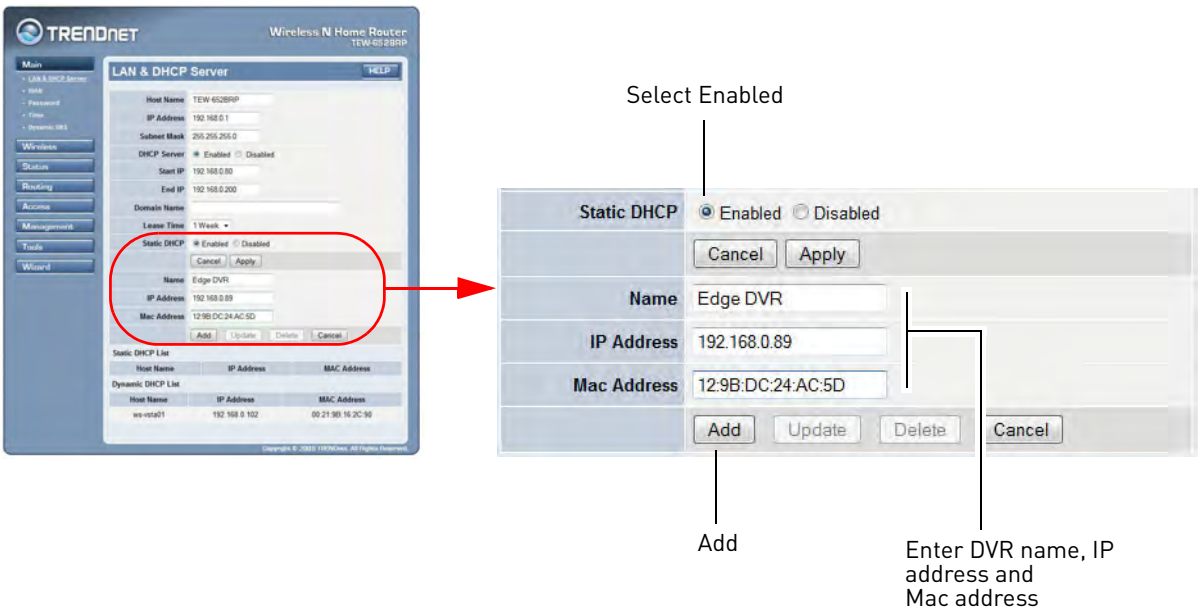
- Obtain the DVR's MAC address

To enter a static IP into the router:

1 Under the main menu, click on **LAN & DHCP Server**.

2 Configure the following:

- **Static DHCP:** Select **Enabled** and then click **Apply**.
- **Name:** Enter the desired name of your device
- **IP Address:** Enter the IP address that you wish to make static. This IP address must be the same address specified in the DVR.
- **MAC Address:** Enter the MAC address of your DVR.



3 Click **Add**.

- The DVR info appears in the Static DHCP list.

Static DHCP List

Host Name	IP Address	MAC Address
Edge DVR	192.168.0.89	12:9B:DC:24:AC:5D

Once the DVR has been added to the Static DHCP list, you have successfully created a static IP address for your system.

Appendix G: Auto Port Forwarding Router Compatibility List

The system features a built-in port forwarding feature that is compatible with certain routers. Below is a list of routers that is compatible with the Auto Port Forwarding feature.

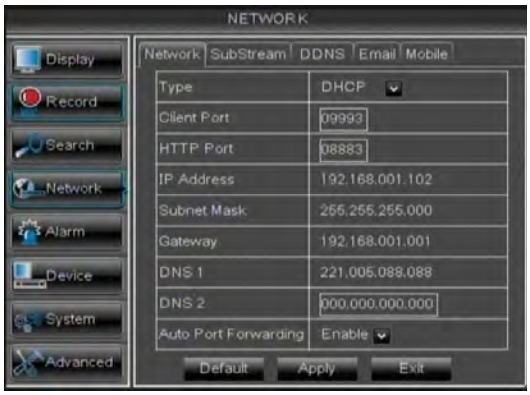
NOTE: Even if your router is included on this list, it is recommended to use the Auto Port Forwarding Wizard (PC only; provided on the CD) to configure your router. For details, see "Appendix E: Internet Setup Wizard (PC only)" on page 108.

Brand	Model	Version
ASUS	WL-500g Deluxe	1.9.6.0
AVM	WLAN7170	29.04.29
Belkin	F5D7230-4	
Billion	BiPAC 7401VGP R3	
Billion	BiPAC 7404VGOX	
Billion	Billion BiPAC 7404VGPX	
Billion	BiPAC 7404VNOX	
Billion	BiPAC 7404VNPX	
D-Link	Dl-524	2.04TW
D-Link	Dl-604	v2.20
D-Link	2640B	
DrayTek	Vigor 2700 Series	2.8.2_1401302
DrayTek	Vigor 2900 Series	2.5.6
Free	Freebox ADSL	v5
Inventel	LiveBox	
LevelOne	WBR3407A	
LinkSys	BEFW11S4	2.1
LinkSys	RTP300	5.01.04
LinkSys	WAG200G	1.01.09
LinkSys	WRT54G	v4.20.7
LinkSys	WRT120N	1.0.00
LinkSys	WRH54G	V1.01.04
Motorola	VT2442	11.4.1-r070201-1.3.2

Netcore	NW606	V1.1.77
Netgear	MR814	v2
Netgear	RP614	v3
Netgear	WGT624	v3
Netgear	WPN824	
PCI	MZK-W04NW	
PLANET	ADE-3400B	
Siemens	Gigaset SE551	
SMC	SMCWGBR14-N	
Surecom	EP-4904SX	
Thomson	Speedtouch546	
Thomson	Speedtouch780	
TP-Link	TL-WR841N	V8.0
ZyXEL	Prestige 660H-61	

To enable the Auto Port Forwarding feature:

1. In the Main Menu, click **Network**.
2. Beside the Auto Port Forwarding drop-down menu, select **Enable**.
3. Click **Apply** to save your settings.



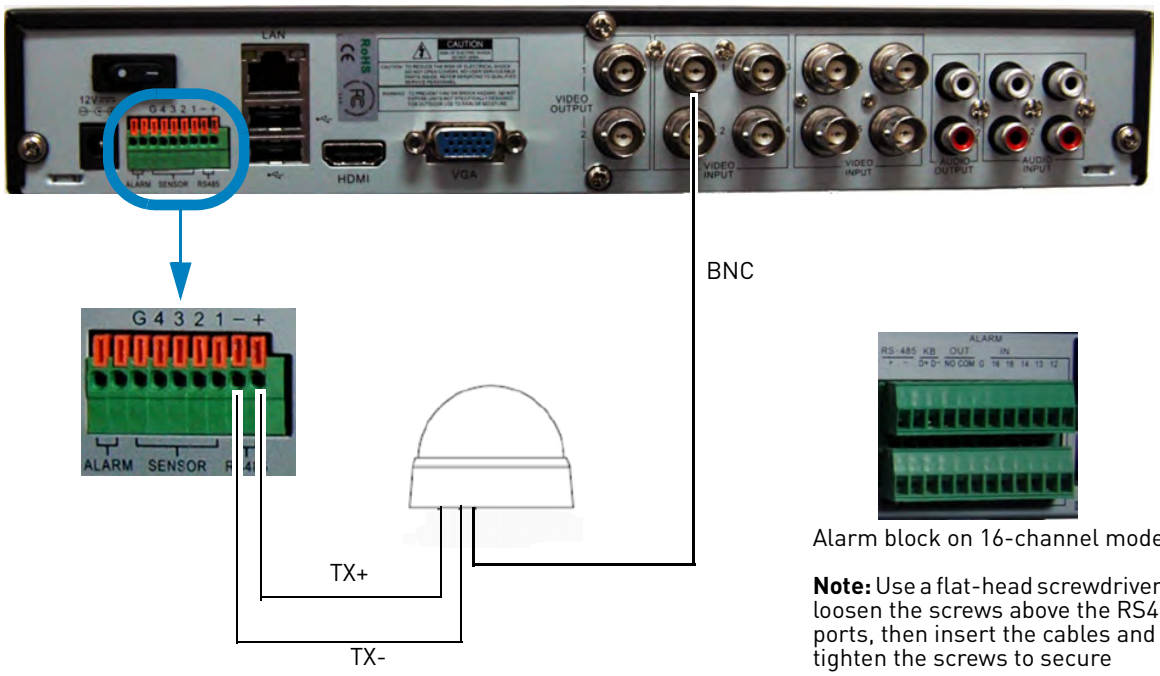
Appendix H: Connecting a PTZ Camera

You can connect RS-485 PTZ cameras (not included) to the RS485 ports on the rear panel.

To connect a PTZ camera to the system:

1. Connect the Transmit+ (TX+) Cable to the **+** side of the **RS485** port on the rear panel.
2. Connect the Transmit- (TX-) Cable to the **-** side of the **RS485** port on the rear panel.
3. Connect the video cable to a BNC port.

8-channel model shown



Alarm block on 16-channel model

Note: Use a flat-head screwdriver to loosen the screws above the RS485 ports, then insert the cables and tighten the screws to secure

Configuring PTZ Settings

Before you can use the PTZ controls, you must enter your camera's PTZ protocol details into the DVR.

Prerequisite:

- Obtain the PTZ protocol details for your camera. Check your camera's instruction manual for details.

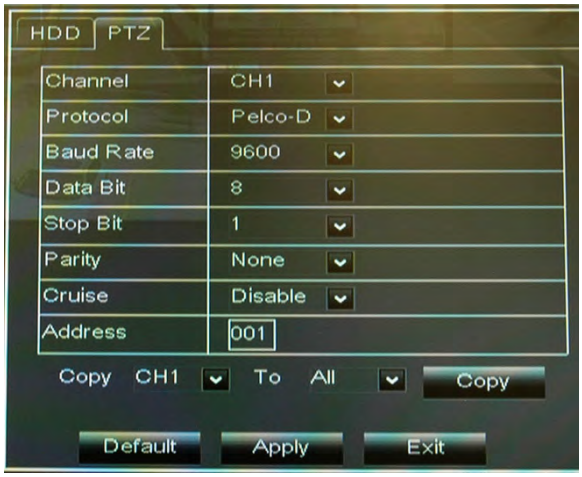
To enter PTZ camera settings in the DVR:

1. Right-click to open the Menu Bar and click the Main Menu button ( ).
2. Click **Device** and select the **PTZ** tab.

3 Configure the following according to your PTZ camera's specifications:

- **Channel**: Select the channel the PTZ camera is connected to.
- **Protocol**: Select from **Pelco-D** or **Pelco-P**
- **Baud** rate: Select the PTZ camera's baud rate
- **Data Bit**: Select from **5~8** data bits.
- **Stop Bit**: Select from **1** or **2** stop bits.
- **Parity**: Select from **None, Odd, Even, Mark** or **Space**.
- **Cruise**: Select **Enable** to enable PTZ cruise.
- **Address**: Enter the PTZ camera's address

Use the Copy To drop-down menu to copy the PTZ settings to multiple channels.



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

Using the PTZ Menu (Local DVR)

To control the PTZ camera locally on your DVR:

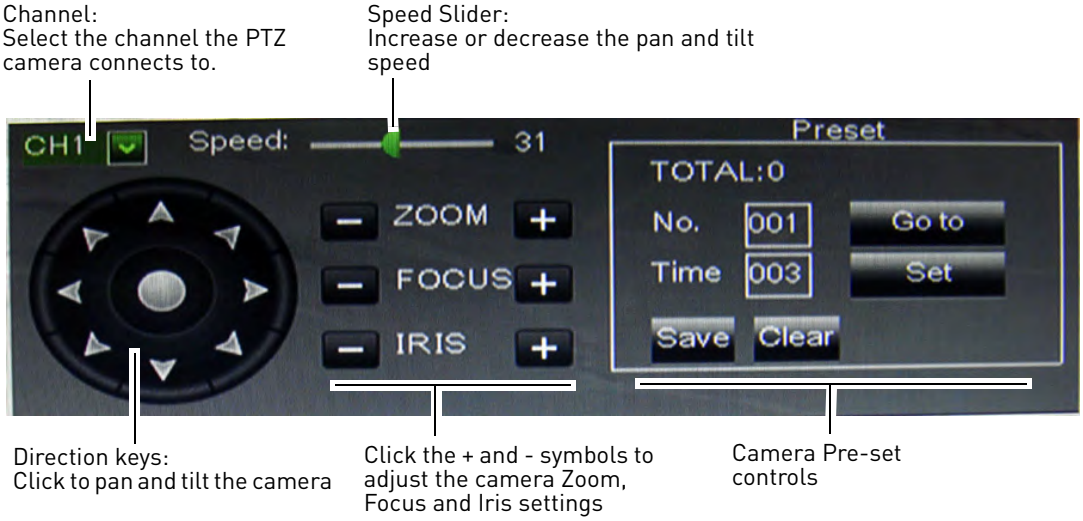
1 Select the channel that the PTZ camera is connected to.

2 Press and hold the **PTZ** button on the front panel of the system for 6 seconds. Enter the system password. The PTZ menu opens.



Press & hold 6 seconds

3 Use the on-screen PTZ controls to control the camera.



PTZ Presets and PTZ Cruise

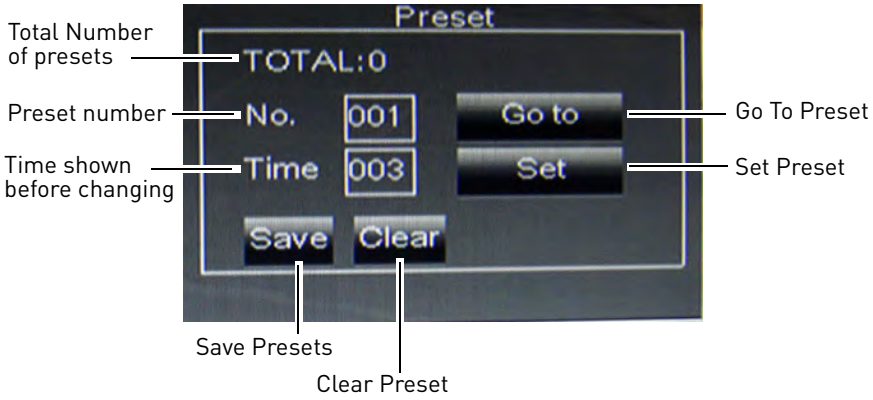
You can set preset positions for your PTZ cameras. You can also use PTZ cruise to have the camera automatically cycle through presets.

Setting PTZ Presets

1 Using the PTZ controls, move the camera into position.

2 (Optional) In the **Time** field, select the number of seconds the camera will remain in that position during PTZ cruise before going to the next position.

3 Click **Set** to set the preset. The Total and No. field will automatically increase. The Total field shows you the total number of created presets, and the No. field shows you the number of the preset you are currently creating.



4 Complete the steps above to create additional presets as needed. Press **Save** when you are finished to save all created presets.

Selecting PTZ Presets

1 In the **No.** field, select the number of the preset you would like to select.

2 Click **Go to** to go to the preset.

Deleting PTZ Presets

1 In the **No.** field, select the number of the preset you would like to delete.

2 Click **Clear** to delete the preset and click **Save** to save your changes.

Starting / Stopping PTZ Cruise

When PTZ cruise is enabled, the camera will cycle through saved presets. You must set and save presets to use PTZ cruise.

To start / stop PTZ cruise:

1 Right-click to open the Menu Bar and click the Start Cruise button ( ). Enter the system password. The camera will cycle through PTZ presets.

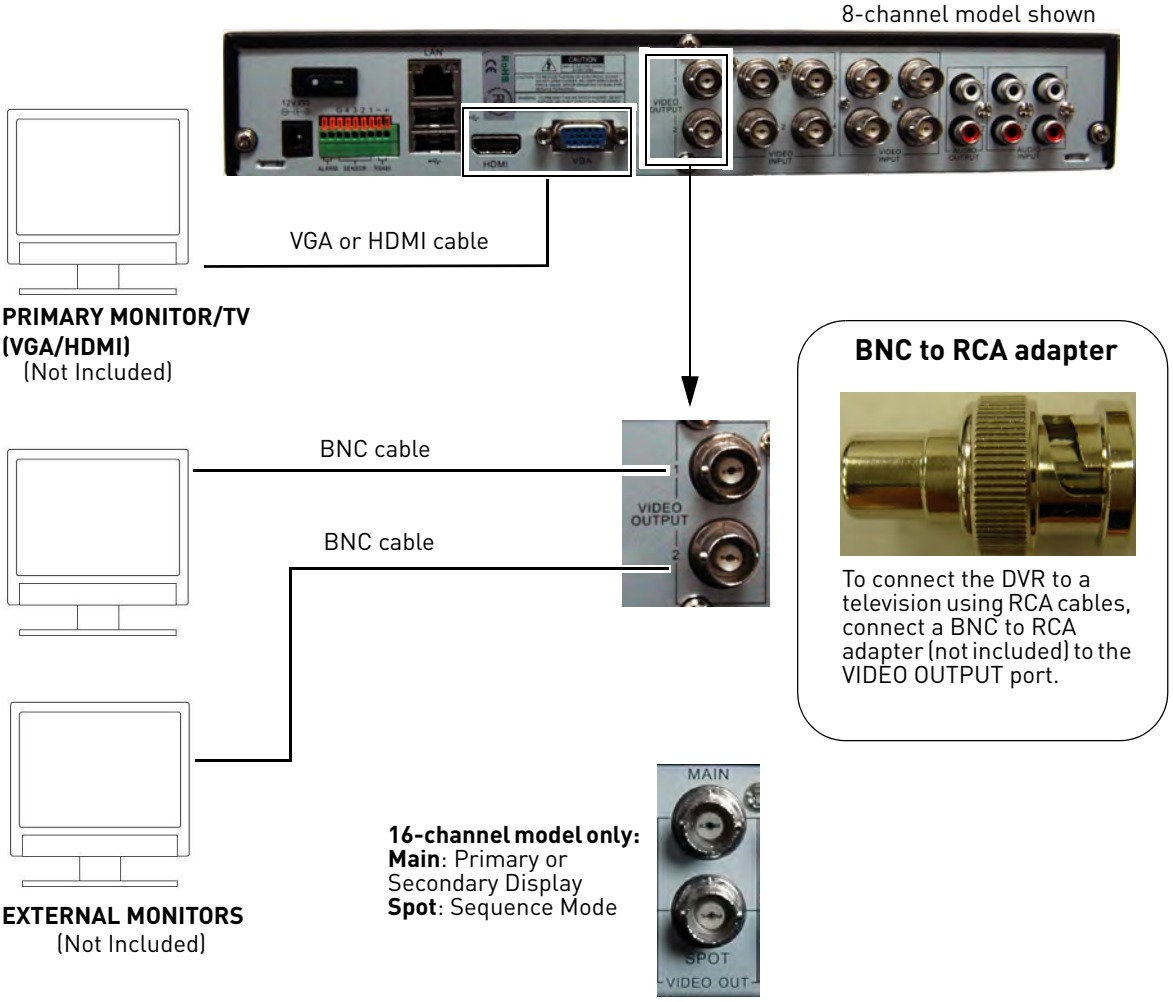
- To stop the PTZ cruise, right-click to open the Menu Bar and click the Stop Cruise button ( ). Enter the system password.

Appendix I: Connecting Additional External Monitors

Use the **Video Output** ports (BNC) on the rear panel of the system to connect an external monitor(s). This is useful if you need to monitor the system from a second location (e.g. a back office).

On the 4/8-channel models, monitors connected to the **Video Output** ports mirror the entire screen of your system and show the mouse cursor and system menus.

8-channel model shown

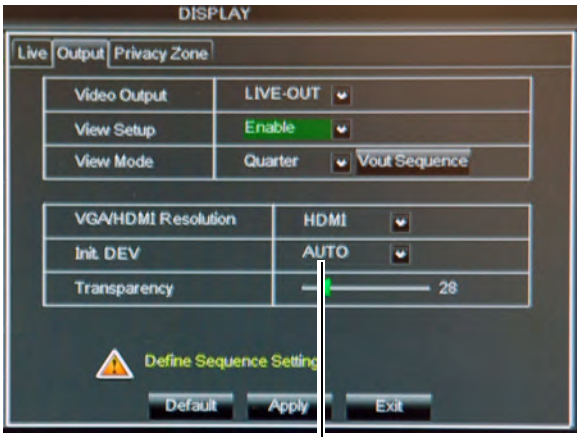


On the 16-channel model, connect external monitors to either the **Main** or **Spot** port.

- The **Spot** port automatically shows channels in Sequence View.
- The **Main** port can be used to connect an additional monitor for observation, or to use a BNC monitor or TV (using a BNC to RCA adapter, not included) as the primary monitor. You must configure the DVR to select either the VGA/HDMI monitor or the Main Out monitor as your primary monitor.

To configure the monitor connected to Main as the primary display (16-channel models only:

1. Right-click to open the Menu Bar and click the Main Menu button ( ).
2. Click **Display** and select the **Output** tab.
3. Under **Init DEV**, select **VOUT** to select the monitor connected to Main Out as the primary display.
4. Click **Apply** to save your settings.
5. Restart the DVR using the power switch. When the DVR restarts, the system interface and mouse cursor is shown on the external display.



Select VOUT to use the monitor attached to Main Out as the primary display

NOTE: If you see a blank screen when you restart, the output resolution might be configured incorrectly for the external display. Press and hold the ■ button on the front panel for 15 seconds to reset the resolution to the default (1024x768).

Appendix J: Recording Audio

The system can also record audio for up to 4 channels (4/8-channel models) or 16 channels (16-channel model). You must have audio-capable cameras (not included) or self-powered microphones (not included) in order to record audio on the system.

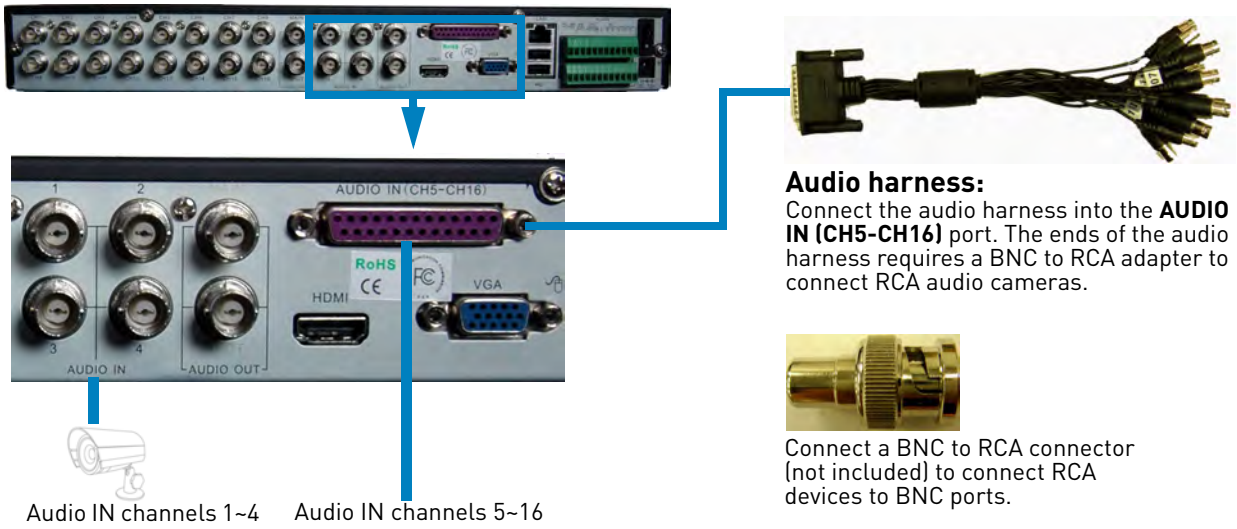
Connecting Audio Cameras 4/8-Channel Models



8-channel model shown

Connect an RCA audio cable from the camera into the corresponding Audio INPUT port

Connecting Audio Cameras 16-Channel Models



Audio harness:
Connect the audio harness into the **AUDIO IN (CH5-CH16)** port. The ends of the audio harness requires a BNC to RCA adapter to connect RCA audio cameras.

Connect a BNC to RCA connector (not included) to connect RCA devices to BNC ports.

Audio IN channels 1~4

Audio IN channels 5~16

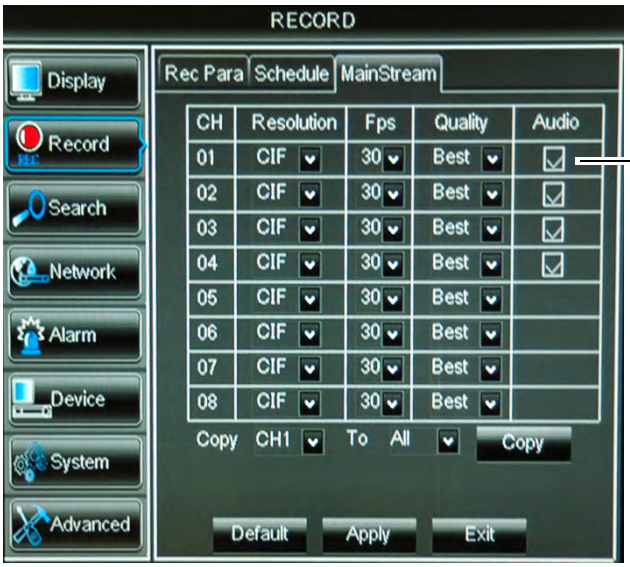
To enable audio recording:

1. Connect the BNC video cable from the camera to one of the BNC **Video INPUT** ports on the rear panel of the DVR between 1 and 4 (4/8-channel models) or any Video Input port (16-channel). For example, connect the camera to Video INPUT port 1.
2. Connect the RCA audio cable from the camera to the corresponding **Audio INPUT**. Following the example in step 1, you would connect the cable to Audio INPUT port 1.

- **16-channel model only**: BNC to RCA adapters (not included) are required to connect RCA devices to BNC ports. Use the included Audio Harness cable to connect Audio for channels 5~16.

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

4 Click **Record** and select the **MainStream** tab.

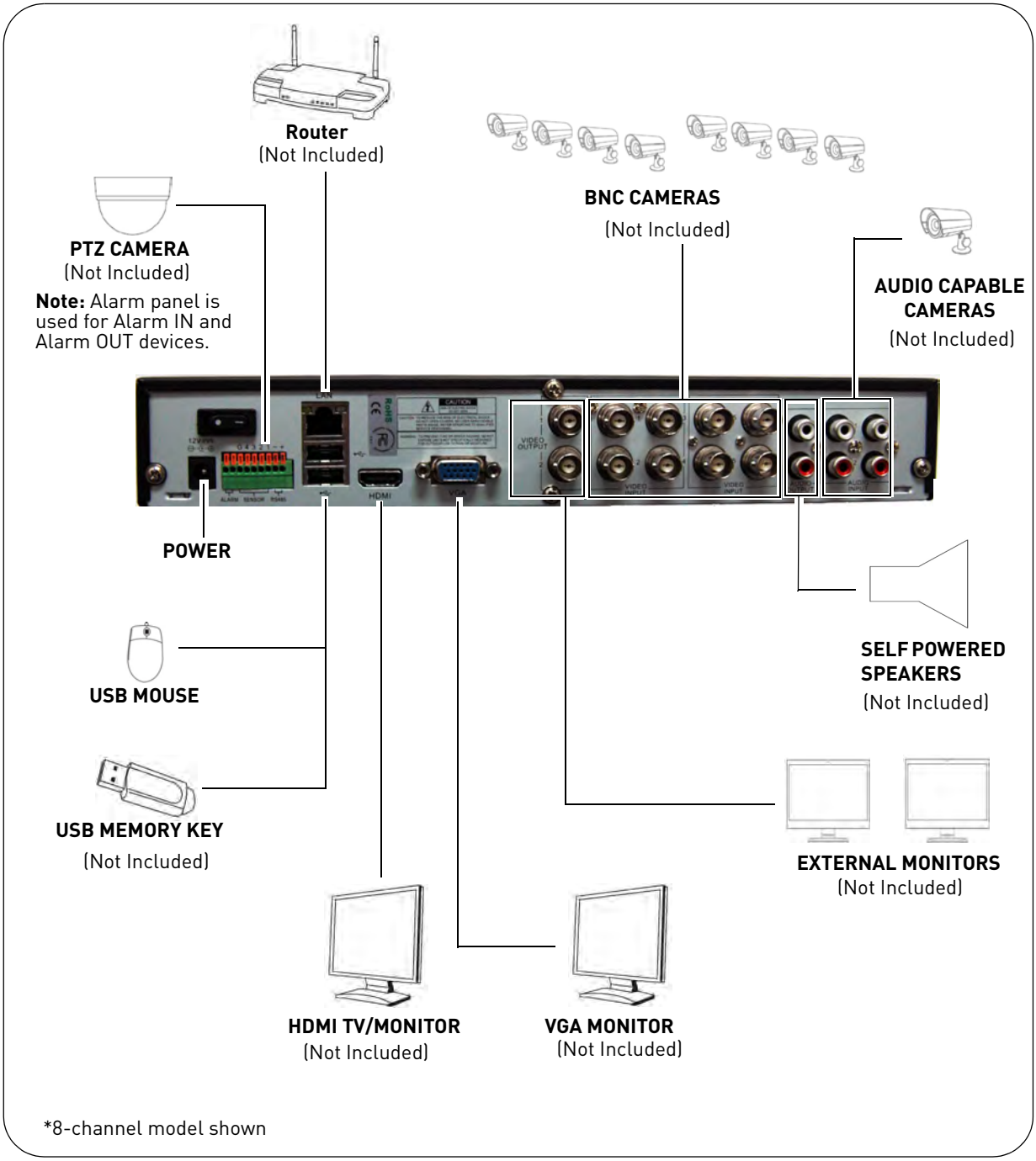


5 Ensure the **Audio** checkbox is checked next to the channel the audio-enabled camera is connected to.

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

Appendix K: Full Connectivity Diagram

The following diagram outlines a general set of connections available with the system*.



Appendix L: Replacing the Hard Drive

The system comes with a pre-installed 3.5" SATA hard drive. You can expand the 4/8-channel models with a replacement single hard drive up to 2 terabyte (TB). The 16-channel model has two hard drive bays and can be expanded with a maximum of two 1 terabyte (TB) hard drives (for a maximum storage space of 2TB).

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

Removing the Hard Drive

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

To remove the hard drive:

1 Remove the screw from each side panel and rear panel (x3) of the cover.



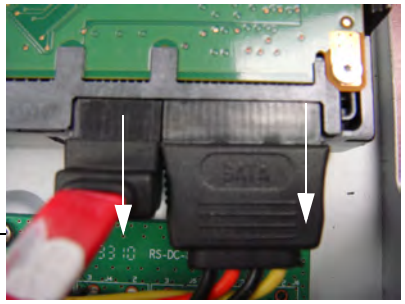


NOTE: The 16-channel model has 4 rear panel screws and 2 screws on each side panel.

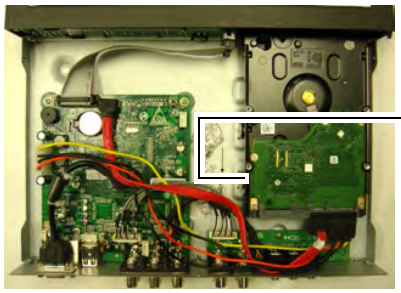
2 Gently slide the cover away from the rear panel and lift off. Be careful of sharp edges.

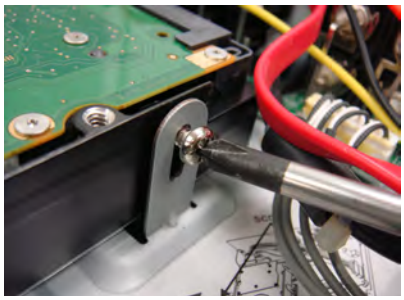
3 Disconnect the power and data cables.





4 Remove the screws from the mounting brackets.





5 Gently remove the hard drive from the housing.

Replacing the Hard Drive

To replace the hard drive:

1 Place the new drive in the housing. Note that the hard drive must be installed upside down on the 4/8-channel models only.

2 Reconnect the power and data cables. Each cable can only be connected one way.

3 Replace the cover, tucking the lip of the cover at the front panel.

4 Replace the screws on the side and rear panels of the cover.

Formatting the Hard Drive

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

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

To format the hard disk:

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

2 Click **Device**.

3 Click the checkbox under **Select** to choose the drive you wish to reformat.



Select checkbox

4 Click **Format HDD**.

5 When the warning window appears, click **OK**. Wait for the system to format the hard drive.

NOTE: You will notice that the size of the HDD and the free space are not the same. The system uses a portion of the disk space for the operating system and initialization. This is common in all security DVRs as well as computer hard drives.

Appendix M: Daylight Saving Time on your DVR

This DVR supports automatic Daylight Savings Time adjustments and Network Time Protocol (NTP), which allows you to sync your DVR's time with a online time server. For details, see "Configuring Daylight Savings Time (DST)" on page 21 or see "Using a NTP Server to set your System Time" on page 22.

NOTE: You must configure and enable automatic DST on your DVR even to use this feature.

Why is the DVR Timestamp Important?

Your DVR's time stamp is crucial when submitting surveillance video as court evidence. It is highly recommended to double-check that your system has the proper time, even if your system supports automatic DST adjustments.

When should I adjust my system clock?

In North America, most cities observe DST.

- **In March**: the clock moves one hour **forward**
- **In November:** the clock moves one hour **backward**

The specific date in the month where DST starts and ends varies each year. **The table below applies to North America only**.

Year	DST Begins 2:00am (+ 1hr)	DST Ends 2:00am (- 1hr)
2012	March 11	November 4
2013	March 10	November 3
2014	March 9	November 2
2015	March 8	November 1

Source: NASA (2010).

Retrieved online: http://eclipse.gsfc.nasa.gov/SEhelp/daylightsaving.html

Troubleshooting

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
	• Power switch is set to OFF (•) position	• Confirm that the power switch is in the ON (**I**) position.

	• 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	• Install two fresh AAA alkaline batteries in the remote control
	• There are no 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 a 3.5" SATA hard drive. Make sure to format the drive after installing. For details, see "Configuring Hard Drive settings" on page 46.
• 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.

Troubleshooting (Continued)

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 front panel of the DVR 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	• Firmly connect the mouse cable to the USB Mouse port on the front panel
	• Mouse is not connected to the system	
	• System needs to be reset	• Power off the system (disconnect power cable). Firmly connect a USB mouse to the USB Mouse port on the front panel of the system. 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	• Audio cables are loose or have been disconnected	• Check the AUDIO Input connections to the DVR
	• Volume on external speakers (not included) is low or off	• Increase volume on external speakers (not included)
• The system beeps at startup		• The beep at startup is normal
• The system beeps during motion detection	• Motion detection is enabled and the alarm buzzer is activated	• Open the Main Menu and click System→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 “Setting up Email Notification” on page 42.
	• 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

Troubleshooting Remote Connections

Error	Possible Causes	Solutions
• Cannot connect to the DVR on a local network	• DVR not connected to router	• Connect an Ethernet cable from the DVR LAN port to your router, and then reset the DVR using the power switch
	• DVR and computer not on same network	• Ensure your DVR and computer are connected to the same router • If your computer is using a WiFi network, try connecting it to the router using an Ethernet cable
• Cannot connect to the DVR over the Internet	• Ports not forwarded	• Port Forward the HTTP port (default: 80), Client Port (default: 9000), and Mobile Port (default: 1025) on your router. For details, see "Appendix E: Internet Setup Wizard (PC only)" on page 108 or see "Appendix D: What is Port Forwarding And Other Frequently Asked Networking Questions" on page 105
	• DDNS account not created	• Follow the instructions under "Step 2 of 4: Create a DDNS Account" on page 55
	• DDNS not enabled on DVR	• Follow the instructions under "Step 3 of 4: Enable DDNS on the DVR" on page 57
	• DDNS address not entered correctly	• In Internet Explorer or Safari, enter http://, the DDNS domain name from the confirmation email in full, and then colon and HTTP port (for example, *http://tomsmith.lorexddns.net:80*)
• Cannot connect to the DVR using a mobile device	• DVR has not been configured for Internet connection	• Ensure you have followed all the steps in "Setting up your DVR for Remote Connectivity" on page 51. See above to troubleshoot remote connections
	• Mobile Port has not been forwarded	• Forward the Mobile Port (default: 1025) on your router. For details, see "Appendix E: Internet Setup Wizard (PC only)" on page 108 or see "Appendix D: What is Port Forwarding And Other Frequently Asked Networking Questions" on page 105
	• IP address used from outside internal network	• Use the DDNS address to connect to the DVR using a mobile application
	• Router is blocking DDNS connection from internal network	• Turn off WiFi connection and attempt to connect using 3G or mobile network

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LOREX PRODUCT LIMITED WARRANTY

Lorex warrants, to the original retail purchaser only (the "Purchaser"), that this item (the "Product") if properly used and installed, and where applicable, the CD-ROM on which the accompanying software is provided, is free from manufacturing defects in material and workmanship, provided the Product is used in normal conditions and is installed and used in strict accordance with the instructions contained.
This warranty shall be for the following warranty periods (the "Warranty Period"), commencing on the date the Purchaser buys the Product at retail in an unused condition.

Parts and Labor: *1 year (Warranted parts do not include Bulbs, LED's and Batteries)*

Lorex's obligations under this warranty shall be limited to
• The repair and or replacement of the product by means of hardware and/or software (at option of Lorex);
• The replacement of any warranted parts found by Lorex to be defective in the Product or, in Lorex's sole discretion, the replacement of the Product found be Lorex to be defective.
• If Lorex is unable to repair or replace the Product or CD-ROM, refund the then-current value of the Product.
Any replacement parts furnished by Lorex in connection with this warranty shall be warranted to the Purchaser for a period equal to the un expired portion of Warranty Period for the Product.

Warranty Exclusions
This warranty does not apply to Bulbs, LED's and Batteries supplied with or forming part of the product.
This warranty is invalidated if other than Lorex accessories are or have been used in or in connection with the Product or in any modification or repair is made to the Product by other than a service depot authorized by Lorex.

This warranty does not apply to defects or damages arising by use of the Product in other than normal (including normal atmospheric, moisture and humidity) conditions or by installation or use of the Product other than in strict accordance with the instructions contained in the Product's Owner's Manual.
This warranty does not apply to defects in or damages to the Product caused by (i) negligent use of the Product, (ii) misuse, abuse, neglect, alteration, repair or improper installation of the Product, (iii) electrical short circuits or transients, (iv) Purchaser usage not in accordance with product installation, (v) use of replacement parts not supplied by Lorex (vi) improper Product maintenance, or (viii) accident, fire, flood or other Acts of God.

This warranty does not cover the performance or functionality of any computer software included in the package with the Product. This warranty only covers defects in the CD-ROM media such as a broken or a defect in the CD-ROM that would prevent the CD-ROM from being read by your personal computer's CD-ROM drive. Lorex makes no warranty that the software provided with the Product will function without interruption or otherwise be free of anomalies, errors or 'Bugs'. Lorex makes no warranty with regard to any software provided with the Product unless specifically set forth otherwise in a license agreement accompanying such software. This warranty does not cover any costs relating to removal or replacement of any Product, CD-ROM, or software installed on your computer.

Lorex reserves the right to make changes in design or to make additions to or improvements in its products without incurring any obligation to modify any product which has already been manufactured. Lorex will make every effort to provide updates and fixes to its software via its website. This warranty does not cover any alteration or damage to any other software that may be or may become resident on the users system as a result of installing the software provided. This warranty is in lieu of other warranties, express or implied, and Lorex neither assumes nor authorizes any person to assume for it any other obligation or liability in correction with the sale or service of the Product. In no event shall Lorex be liable for any special or consequential damages arising from the use of the Product or arising from the malfunctioning or non-functioning of the Product, or for any delay in the performance of this warranty due to any cause beyond its control.

This warranty shall not apply to the appearance or accessory items including, but not limited to cabinets, cabinet parts, knobs etc., and the uncrating, setup, installation or the removal and reinstallation of products after repair.

Lorex does not make any claims or warranties of any kind whatsoever regarding the Product's potential, ability or effectiveness to prevent minimize, or in any way affect personal or property damage or injury. Lorex is not responsible for any personal damage, loss or theft related to the Product or to its use for any harm, whether physical or mental related thereto. Any and all claims or statements, whether written or verbal, by salespeople, retailers, dealers or distributors to the contrary are not authorized by Lorex, and do not affect this provision of this warranty.

Lorex's responsibility under this, or any other warranty, implied or expressed, is limited to repair, replacement or refund, as set forth above. These remedies are the sole and exclusive remedies for any breach of warranty. Lorex is not responsible for direct, special, incidental, or consequential damages resulting from any breach of warranty or under any other legal theory including but not limited to, loss profits, downtime, goodwill, damage to or replacement of equipment and property and any costs of recovering, reprogramming or reproducing any program or data stored in or used with a system containing the Product CD-ROM or accompanying software.

Lorex does not warrant that the software will operate with any other software except that which is indicated. Lorex cannot be responsible for characteristics of third party hardware or software which may effect the operation of the software included.

The purchaser may have other rights under state, provincial, or federal laws and where the whole or part of any item of this warranty is prohibited by such laws, it shall be deemed null and void, but the remainder of the warranty shall remain in effect.
All expressed and implied warranties are limited in duration to the limited warranty period. No warranties apply after that period. Some states do not allow limitation on how long an implied warranty lasts, so this limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above warranty may not apply to you. This limited warranty gives you specific legal rights and you may also have other rights that vary from state to state.

Obtaining Service

In order to obtain service, please make sure that you have registered your product on-line (www.lorexcctv.com) in the warranty registration section. Should the Product require service under this warranty, the Purchaser must provide Lorex with a copy of his/ her original, dated bill of sale; receipt or invoice, failing which Lorex will not perform any of its obligations under this warranty. If you return the Product and/or CD-ROM to Lorex, you must assume the risk of damage or loss during shipment. You must use the original packaging or the equivalent, and you must pay postage.
To claim on this warranty, proceed with the following steps.

1 Pack the Product in a well-padded sturdy carton.
2. i). If the unit was purchased in the United States proceed as follows:
a. Please contact our customer service department to obtain a return authorization number.
b. Return the unit to: Lorex Returns
Schenker Logistics
2363 E. Perry Road, Suite 171, Dock Door 44
Plainsfield, IN 46168

ii). If the unit was purchased in Canada proceed as follows:
a. Please contact our customer service department to obtain a return authorization number.
b. Return the unit to: Lorex Service Center.
250 Royal Crest Court, Markham, Ont. L3R 3S1

iii) If the unit was purchased in Europe please visit:

www.lorexinternational.com for return instructions.

TOLL FREE CUSTOMER SUPPORT
North America: 1-888-42-LOREX (1-888-425-6739)
Local: 905-940-5355
International: 800-42-LOREX 0 (800-425-67390)
www.lorextechnology.com

Always use discretion when installing video and/or audio surveillance equipment especially when there is perceived privacy. Inquire regarding federal, state and/or local regulations applicable to the lawful installation of video and or audio recording or surveillance. Party consent may be required.

GARANTIE LIMITÉE DES PRODUITS LOREX

Lorex garantit à l'acheteur original (ci-après désigné comme étant "l'acheteur") dans un magasin au détail seulement, et que ce produit (ci-après désigné comme étant le "produit"), s'il est installé correctement et - s'il y a lieu - utilisé conformément aux instructions ci-incluses, et le disque CD-ROM qui comporte le logiciel, seront libres de tout défaut de fabrication, tant dans les pièces que la main-d'oeuvre, pourvu que le produit soit utilisé dans des conditions normales et installé et utilisé strictement selon les instructions incluses dans le guide qui l'accompagne.
Cette garantie couvrira la période mentionnée ci-dessous (ci-après désignée comme étant la "période de garantie"), commençant le jour où l'acheteur se procure le produit à l'état neuf dans un magasin au détail.
Pièces et main-d'oeuvre : *1 année (les pièces couvertes n'incluent pas les ampoules, voyants à DEL ni les piles).*
Les obligations de Lorex selon les termes de cette garantie se limitent exclusivement aux points suivants :
- Lorex se réserve le droit de réparer ou de remplacer, sa seule discrétion, le logiciel et/ou le matériel.
- Le remplacement des pièces sous garantie que Lorex estime être défectueuses dans le produit ou le disque CD-ROM ou, à sa seule discrétion, le remplacement du produit jugé défectueux.
- Si Lorex ne peut réparer ni remplacer le produit ou le disque CD-ROM, rembourser la valeur monétaire du produit ou du disque CD-ROM en cours au moment de l'achat.

Toutes les pièces remplacées par Lorex seront couvertes pendant la période résiduelle de la garantie dudit produit.

Exclusions de la garantie
Pour obtenir du service, veuillez vous assurer que vous avez inscrit votre produit en ligne (www.lorexcctv.com) dans la section d'abonnement à la garantie. Cette garantie ne couvre pas les ampoules, voyants à DEL ni les piles incluses avec le produit ou faisant partie de celui-ci.
Cette garantie deviendra nulle si des accessoires autres que ceux vendus ou distribués par Lorex sont utilisés ou ont été utilisés conjointement avec le produit ou si des modifications ou des réparations ont été effectuées au produit par une entité autre qu'un centre de service autorisé par Lorex.

Cette garantie ne s'applique pas aux défauts ni aux dommages survenus suite à une utilisation anormale du produit (incluant des conditions atmosphériques et des taux d'humidité anormaux) ou suite à une installation ou une utilisation du produit autre que celle décrite dans le guide accompagnant le produit.

Cette garantie ne s'applique pas aux défauts ni aux dommages causés au produit suite à (i) une utilisation insouciante du produit, (ii) mauvaise utilisation, abus, négligence, modification ou mauvaise installation du produit, (iii) court-circuits ou transitoires électriques, (iv) tout usage de l'acheteur qui ne correspond pas à l'installation prescrite du produit, (v) l'utilisation de pièces non fournies par Lorex, (vi) un entretien inadéquat du produit, ou (vii) tout accident, incendie, inondation ou autres désastres naturels.

Cette garantie ne couvre pas la performance ni la fonctionnalité de tout logiciel informatique inclus avec le produit. Cette garantie ne couvre pas les défauts que pourrait contenir le support optique (disque CD-ROM) ou magnétique (disquette), tel qu'un CD-ROM brisé ou comportant un défaut qui l'empêcherait d'être lu adéquatement par le lecteur de disque de votre ordinateur. Lorex ne garantit pas que le logiciel fourni avec le produit fonctionnera sans interruption ni qu'il sera libre de tout défaut, d'erreurs ou de 'bogues'. Lorex ne garantit pas le logiciel inclus à moins que cela ne le soit mentionné spécifiquement dans l'entente de la licence incluse avec le produit. Cette garantie ne couvre pas les frais se rapportant à l'enlèvement ni à la réinsertion de tout produit, logiciel, périphérique ou disque CD-ROM installé sur votre ordinateur.

Lorex se réserve le droit de modifier la conception ou d'apporter des ajouts ou des améliorations à ses produits, sans obligation de sa part de modifier les produits déjà fabriqués. Lorex fera tout en son pouvoir pour fournir des améliorations et des réparations à son logiciel via son site web.
Cette garantie ne couvre pas les altérations ni les dommages effectues tout autre logiciel, ni les bogues pouvant résider de fa on permanente sur le système de l'utilisateur suite l'installation du logiciel ci-inclus.

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Cette garantie a préséance sur toutes les autres garanties tacites ou explicites, incluant la garantie en qualité loyale et marchande et les aptitudes visant toute autre obligation ou responsabilité de la part de Lorex, et par les présentes, Lorex n'autorise aucune personne ni entité à assumer pour elle nulle autre responsabilité en rapport avec la vente de ce produit. Lorex ne sera pas tenue responsable, en aucune circonstance, des dommages-intérêts directs ou indirects survenant de l'utilisation du produit ou suite au mauvais fonctionnement ou à l'absence de fonctionnement dudit produit, ainsi que pour tout délai dans l'exécution de cette garantie suite à des circonstances hors du contrôle de Lorex.

Lorex ne garantit d'aucune manière l'apparence extérieure du produit, ni les pièces ou accessoires incluant, mais ne s'y limitant pas, le boîtier, les pièces du boîtier, les boutons, etc., ainsi que le déballage, l'installation, l'enlèvement et la réinstallation du produit après une réparation.

Lorex ne garantit pas et ne fait aucune revendication en ce qui a trait au potentiel, à la capacité ou l'efficacité de prévenir, réduire ou d'une façon quelconque, d'influer sur les dommages à la propriété privée ou sur les blessures corporelles. Lorex ne sera pas tenue responsable des blessures corporelles, dommages à la propriété personnelle, perte ni au vol se rapportant de près ou de loin au produit ou son usage dans un cadre malveillant, qu'il soit physique ou mental. Lorex n'autorise aucunement les représentants, détaillants ou grossistes, à faire des revendications ou des énoncés de la part de Lorex, tant par voie écrite que verbale et ces énoncés n'influent d'aucune manière sur les clauses de cette garantie.

La seule responsabilité de Lorex, selon les termes de cette garantie, qu'ils soient tacites ou explicites, se limite à une réparation, un remplacement ou un remboursement, selon les clauses décrites dans les présentes. Ces recours constituent les seuls auxquels a droit l'acheteur pour les bris des clauses de la garantie. Lorex ne sera pas responsable des dommages-intérêts spéciaux, directs ou indirects, qui résulteraient d'un bris des clauses de cette garantie ou de toute autre convention législative, incluant mais ne s'y limitant pas, les pertes de profits, pannes de courant immobilisant des équipements, la valeur ajoutée des biens incorporels, les dommages effectués au produit et à la propriété ou les coûts reliés à leur remplacement, ainsi que les frais de recouvrement, reprogrammation ou reproduction d'un programme ou des données stockées dans un système contenant le disque CD-ROM du produit ou le logiciel qui accompagne celui-ci.
L'acheteur peut bénéficier de certains droits provinciaux ou fédéraux additionnels et toute clause de cette garantie qui soit prohibée par de telles lois sera jugée nulle et sans effet mais les autres clauses demeureront en vigueur.

Lorex ne garantit pas que ce logiciel fonctionnera conjointement avec tout autre logiciel ou suite logicielle, ˆ moins que cela ne soit indique. Lorex ne sera pas tenue responsable des caractéristiques ni des fonctions du matériel ou des logiciels d'un tiers pouvant entrer en conflit avec le fonctionnement du logiciel ci-inclus.

Toutes les garanties tacites ou explicites se limitent à la durée de la garantie limitée. Aucune garantie ne sera applicable après cette période de temps. Certains états ou provinces ne permettent pas de restrictions en ce qui a trait aux termes d'une garantie tacite, ni d'exclusions aux dommages-intérêts directs ou indirects et il se peut que ces restrictions ne s'appliquent pas à vous. Cette garantie donne à l'acheteur original des droits spécifiques et il se peut que d'autres droits, variant d'un état ou d'une province à l'autre, puissent lui être conférés.

Obtention du service
Si l'acheteur a besoin de service pour son produit, selon les termes de cette garantie limitée, il doit fournir à Lorex une copie de la facture d'achat affichant clairement la date et l'endroit où le produit a été acheté. Sans cette preuve d'achat, Lorex ne sera pas dans l'obligation de remplir ses obligations envers l'acheteur. Si vous retournez le produit et/ou le disque CD-ROM à Lorex, vous devez assumer le risque que ceux-ci soient endommagés ou perdus au cours de l'expédition. Vous devez emballer le produit dans sa boîte originale ou un emballage adéquat et vous devez défrayer les coûts d'expédition à l'une des adresses mentionnées ci-dessous.
Pour bénéficier du service sous garantie, vous devez suivre les étapes ci-dessous :

1. Emballez le produit dans une boîte solide et remplie de matériau d'expédition.
2. i) Si l'appareil a été acheté aux États-Unis, suivez ces étapes-ci :
   a. Veuillez contacter notre département de service à la clientèle pour obtenir un numéro d'autorisation pour le retour.
   b. Retournez le produit à : Lorex Returns
      Schenker Logistics
      2363 E. Perry Road, Suite 171, Dock Door 44
      Plainsfield, IN 46168

   ii) Si l'appareil a été acheté au Canada, suivez ces étapes-ci :
   a. Veuillez contacter notre département de service à la clientèle pour obtenir un numéro d'autorisation pour le retour.
   b. Retournez le produit à : Lorex Customer Service
      250 Royal Crest Court, Markham, ON L3R 3S1

   iii) Si l'unité a été achetée dans Europe veuillez visiter : www.lorexinternational.com pour les instructions de retour

COMPOSEZ LA LIGNE D'ASSISTANCE SANS FRAIS AUS CONOMMATEURS:
L'Amérique du nord: 1-888-42-LOREX (1-888-425-6739)
Local : 905-940-5355
International : 800-42-LOREX 0 (800-425-67390)
www.lorextechnology.com

Soyez toujours très discret lorsque vous installez des systèmes de surveillance, surtout dans les endroits plus retirés. Informez-vous au sujet des lois et règlements municipaux, provinciaux ou fédéraux qui s'appliquent à l'installation d'appareils de surveillance audio et vidéo. Il se peut que le consentement de la partie surveillée soit exigé.

GARANTÍA LIMITADA DEL PRODUCTO LOREX

Lorex garantiza, sólo al comprador original al por menor (el "Comprador") que este artículo (el "Producto"), si se usa e instala debidamente, y – si hay lugar - el CD-ROM en el que se proporciona el software asociado, está libre de defectos de fabricación en materiales y mano de obra, sujeto a que el Producto sea usado en condiciones normales y que sea instalado y usado estrictamente de acuerdo con las instrucciones contenidas.
Esta garantía será para los siguientes períodos de garantía (el "Período de Garantía"), a partir de la fecha en que el Comprador adquiera el Producto al por menor en la condición de no haber sido usado previamente.
Repuestos y Mano de Obra: 1 año (Las piezas garantizadas no incluyen bombillas, LEDs y baterías)
Las obligaciones de Lorex bajo esta garantía estarán limitadas a:

- la reparación o el reemplazo del producto por medio de hardware y/o software (a opción de Lorex).
- el reemplazo de cualquier parte garantizada que Lorex determine que está defectuosa en el Producto o CD-ROM o, por decisión única de Lorex, al reemplazo del Producto que Lorex encuentre defectuoso.
- Si a Lorex no le es posible reparar o reemplazar el Producto o el CD-ROM, se devolverá el valor vigente en ese momento del Producto o CD-ROM.

Se garantizará al Comprador cualquier pieza de repuesto provista por Lorex en conexión con esta garantía por un período igual a la parte no vencida del Período de Garantía del Producto.

Exclusiones de la garantía
Esta garantía no se aplica a las bombillas, LEDs y baterías suministradas con el producto o que formen parte del mismo.
Esta garantía quedará nula si se han usado accesorios que no son Lorex en el Producto o en relación con el mismo o si se hace alguna modificación o reparación al Producto en algún taller que no sea un local de servicio autorizado por Lorex.

Esta garantía no se aplica a defectos o daños resultantes del uso del producto en condiciones diferentes a las normales (incluyendo condiciones atmosféricas o de humedad normales) o por la instalación o uso del Producto en forma distinta a seguir estrictamente las instrucciones contenidas en el Manual del Propietario del Producto.

Exclusiones de la garantía
Esta garantía no se aplica a las bombillas, LEDs y baterías suministradas con el producto o que formen parte del mismo.
Esta garantía quedará nula si se han usado accesorios que no son Lorex en el Producto o en relación con el mismo o si se hace alguna modificación o reparación al Producto en algún taller que no sea un local de servicio autorizado por Lorex.

Esta garantía no se aplica a defectos o daños resultantes del uso del producto en condiciones diferentes a las normales (incluyendo condiciones atmosféricas o de humedad normales) o por la instalación o uso del Producto en forma distinta a seguir estrictamente las instrucciones contenidas en el Manual del Propietario del Producto.

Esta garantía no se aplica a defectos o daños al Producto causados por (i) uso negligente del Producto, (ii) mal uso, abuso, negligencia, alteración, reparación o instalación incorrecta del Producto, (iii) cortocircuitos o corrientes eléctricas transitorias, (iv) uso por el Comprador que no está de acuerdo con la instalación del producto, (v) uso de piezas de repuesto no suplidas por Lorex (vi) inadecuado mantenimiento del Producto, o (vii) accidente, incendio, inundación u otros accidentes naturales.

Esta garantía no cubre el rendimiento o funcionalidad de ningún software de computadora incluido en el paquete con el Producto. Esta garantía sólo cubre defectos en el material de CD-ROM, tal como roturas o defectos en el CD-ROM que impida que sea leído por la unidad de CD-ROM de su computadora personal. Lorex no garantiza que el software provisto con el Producto funcione sin interrupción o que de otra forma esté libre de anomalías, errores o "bugs". Lorex no ofrece ninguna garantiza con respecto a algún software provisto con el equipo a menos que específicamente se establezca de otra forma en un acuerdo de licencia que acompañe a dicho software.
Esta garantía no cubre ningún costo relativo a la remoción o reemplazo de algún Producto, CD-ROM, o software instalado en su computadora.
Lorex se reserva el derecho de hacer cambios en el diseño o hacer adiciones o mejoras a sus productos sin incurrir en ninguna obligación de modificar algún producto que ya haya sido fabricado.
Lorex tratará en lo posible de proporcionar actualizaciones y arreglos a su software por medio de su página en la red.
Esta garantía no cubre ninguna alteración ni daño a algún otro software que pueda ser instalado o pueda quedar instalado en el sistema del usuario como resultado de la instalación del software provisto.
Esta garantía es el reemplazo de otras garantías, expresas o implícitas, y Lorex no asume ni autoriza a ninguna persona a asumir por ella ninguna obligación en relación con la venta o servicio del producto. En ningún caso Lorex será responsable por ningún daño o perjuicio especial o consecuente resultante del uso del Producto o de su mal funcionamiento o incapacidad de funcionar, o por cualquier demora en la atención de esta garantía debida a causas fuera de su control.

Esta garantía no se aplicará a la apariencia o artículos accesorios incluyendo, sin estar limitado a ellos, gabinetes, piezas de gabinetes, perillas, etc., y el desembalaje, instalación, configuración, o remoción y reinstalación del producto después de ser reparado.

Lorex no hace ninguna de cada declaración ni garantía de ninguna clase con respecto al potencial, capacidad o eficacia del Producto para evitar, minimizar o en alguna forma afectar a los daños o lesiones personales o a la propiedad. Lorex no es responsable por ningún daño personal, siniestro o robo relacionado con el Producto o a su uso para cualquier daño, sea físico o mental relacionado con el mismo. Cualquier afirmación o declaración, sea escrita o verbal, hecha por vendedores, minoristas o distribuidores en sentido contrario no es autorizada por Lorex y no afecta esta disposición de esta garantía.
La responsabilidad de Lorex según ésta o cualquier otra garantía, implícita o explícita, está limitada a la reparación, reemplazo o reembolso, como se establece anteriormente. Estas compensaciones son el único y exclusivo remedio por cualquier incumplimiento de garantía. Lorex no es responsable por daños y perjuicios directos, especiales, incidentes, o consecuentes resultantes de algún incumplimiento de garantía o bajo cualquier otra teoría legal, incluyendo pero sin estar limitada a: pérdida de utilidades, paralización, plusvalía, daños o reemplazo de equipos y propiedad y cualquier costo de recuperar, reprogramar o reproducir cualquier programa o datos almacenados o usados con un sistema que contenga el CD-ROM del Producto o el software que lo acompaña.

Lorex no garantiza que el software operará con ningún otro software excepto con el que se indica. Lorex no puede ser responsable de las características de hardware o software de terceras personas que puedan afectar la operación del software incluido.

El comprador puede tener otros derechos de acuerdo con las leyes federales, provinciales o estatales y cuando toda esta garantía o parte de la misma sea prohibida por dichas leyes, será considerada nula, pero el resto de la garantía permanecerá vigente.
Todas las garantías expresadas e implícitas están limitadas en duración al período de garantía limitada. Ninguna garantía se aplicará después de dicho período. Algunos estados no permiten limitación a la duración de una garantía implícita, de modo que esta limitación puede no serle de aplicación. Algunos estados no permiten la exclusión o limitación de daños y perjuicios incidentes o consecuentes, por lo que la garantía anterior puede no serle de aplicación. Esta garantía limitada le otorga derechos legales específicos y usted puede también tener otros derechos que varía de un estado a otro.
Cómo obtener servicio

Con el fin de obtener servicio, por favor asegúrese de registrar haber registrado su producto en nuestra pagina web www.lorexcctv.com en la sección de registro de garantía. Si el Producto necesitase servicio bajo esta garantía, el Comprador debe hacer llegar a Lorex una copia del recibo o factura de compra, con su fecha respectiva, sin lo cual Lorex no estará obligada a cumplir con ninguna de sus obligaciones bajo esta garantía. Si devuelve el Producto y/o el CD-ROM a Lorex, debe usted asumir el riesgo de daño o pérdida durante el envío. Debe usar el envase original o equivalente y debe pagar el flete.
Para hacer un reclamo bajo esta garantía, proceda con los siguientes pasos.

1. Empaque el Producto en una caja robusta bien acolchada.
2. i). Si la unidad fue comprada en Estados Unidos proceda en la siguiente forma:
   a. Para devoluciones por favor contacte nuestro departamento de servicio para obtener un número de autorización
   b. Devuelva la unidad a: Lorex Returns
      Schenker Logistics
      2363 E. Perry Road, Suite 171, Dock Door 44
      Plainsfield, IN 46168

   ii). Si la unidad fue comprada en Canadá proceda en la siguiente forma:
   a. Para devoluciones por favor contacte nuestro departamento de servicio para obtener un número de autorización.
   b. Devuelva la unidad a: Lorex Customer Service.
      250 Royal Crest Court, Markham, Ont. L3R 3S1

   iii) Si la unidad fue adquirida en Europa y desea devolver el producto por favor visite: www.lorexinternational.com para obtener instrucciones.

NUMERO GRATUITO DE SERVICIO A CLIENTES:
Norteamérica: 1-888-42-LOREX (1-888-425-6739)
Internacional: 800-42-LOREX 0 (800-425-67390)
Local : 905-940-5355

www.lorextechnology.com

Use siempre discreción cuando instale equipo de vigilancia por video y/o audio especialmente cuando se percibe privacidad. Consulte acerca de las regulaciones federales, estatales y /o locales aplicables a la instalación legal de equipos de grabación o vigilancia por video y/o audio. Puede requerirse el consentimiento de las partes.

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