7. Tap  to go back to live view.

> **NOTE**
>
> If you delete a recording schedule during a scheduled recording time, the camera(s) will continue to record video for a short period afterwards. The system checks for changes in recording schedules every half hour and will eventually stop recording if a schedule has been deleted.

10.3 Manual Recording

Manual recording allows you to manually start and stop recording on any of the cameras. You can also record while in digital zoom mode. For details on using digital zoom, see 8.5 *Digital Zoom*, page 17.

When should I use manual recording?

- Recording of unexpected events or emergencies.

> **NOTE**
>
> Manual recording will override schedule recording. The system checks for active recording schedules every half hour and will eventually resume schedule recording after manual recording is stopped.

To enable manual recording:

1. In Quad / Half-Quad mode, select the channel you want to record and tap  to begin manual recording on the channel you are currently viewing. Tap anywhere on the screen to return to Quad / Half-Quad viewing mode.

   > **NOTE**
   >
   > Repeat this step to enable manual recording on other channels. The system can record video from up to 4 cameras at a time.

   OR

   In Quad / Half-Quad mode, tap  located above each camera channel to begin manual recording.

   The manual recording icon turns red () to indicate the system is recording.

2. Tap  again to stop recording. The new file icon () will appear on the top left corner of the LCD receiver indicating that there are new files saved to the SD card.

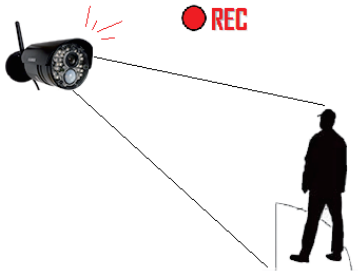
> **CAUTION**
>
> Do not remove the SD card while the system is recording. Disable all recording on the system before ejecting the SD card.

10.4 Motion Recording

Use motion recording to have the system record only when motion is detected by one of the cameras. Video is recorded from any connected camera that detects motion. The system supports 5 second pre-recording, meaning that the system will record 5 seconds of video before a motion event. This allows you to see the entire event instead of starting when motion detection is triggered.

The system detects motion in two ways. The cameras have a built-in Passive InfraRed (PIR) sensor that tracks heat from body movements to detect movement up to a maximum range of 16 feet (4.9 meters). PIR motion detection is extremely accurate at detecting movements from people and animals, but the accuracy decreases in extremely hot environments approaching or exceeding human body temperature (98.6°F / 37°C).

PIR Motion Detection



A camera detects body heat movements, and triggers the system to record.

The system also uses video motion detection, which looks for changes in video images (frames) to detect motion. Video motion detection allows for motion detection beyond the range of the PIR sensors and in extreme temperatures. Video motion detection is highly accurate, but may trigger recording from changes in light or moving trees, leaves, and so on. You can set the sensitivity of video motion detection depending on your preferences. See 10.4.3 *Configuring Video Motion Detection*, page 30

Video Motion Detection

The system detects movement in the image and triggers recording.

Both PIR and video motion detection are enabled by default for enhanced accuracy.

10.4.1 Setting up Motion Recording

Prerequisite:

- Insert an empty SD card into the LCD receiver.

NOTE

- Motion recording will override schedule recording. The system checks for active recording schedules every half hour and will eventually resume schedule recording after motion recording is stopped.
- You can also record motion events on a schedule. See 10.2 *Scheduled Recording*, page 23.

To enable motion recording:

1. Tap located at the bottom left corner of the screen to enable motion recording.
2. Tap again to stop motion recording.

- By default, the system is set to record for 15 seconds after the triggered motion event. To set an alternative motion recording time, see10.4.2 *Configuring Motion Recording Time*, page 29.

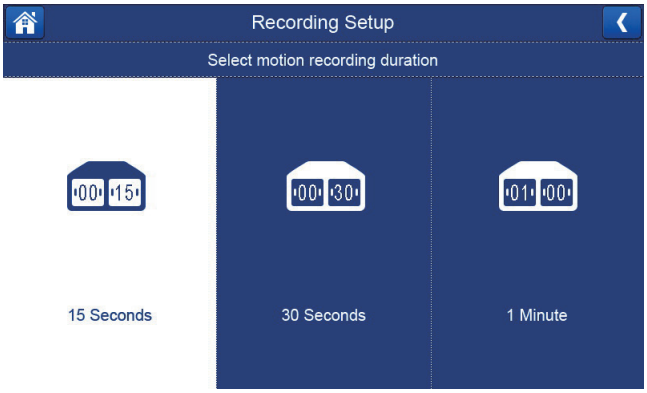
CAUTION
Do not remove the SD card while the system is recording. Disable all recording on the system before ejecting the SD card.

10.4.2 Configuring Motion Recording Time

Set the length of the time the system will record after motion is detected by a camera.

To change the motion recording time:

1. Tap , then go to **General Settings > Recording Setup > Duration**. A **Select motion recording duration** screen appears.



2. Tap **15 Seconds**, **30 Seconds**, or **1 minute** to change the motion recording time.
3. Tap to go back to live view.
   - The system supports 5 second pre-event recording, which is added onto the duration value specified in the menu. For example, if you set the duration to 15 seconds, your motion recordings will be roughly 20 seconds long.

10.4.3 Configuring Video Motion Detection

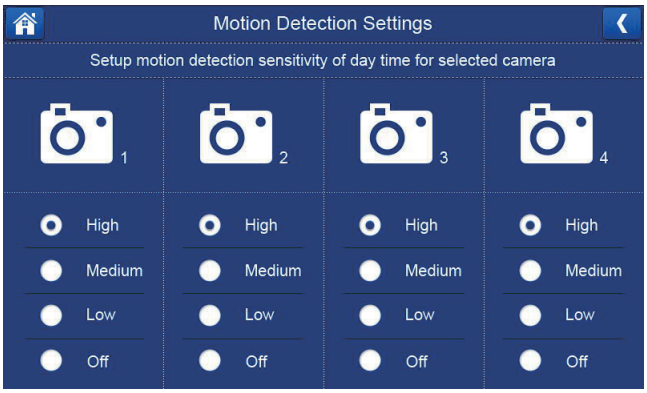
Video motion detection looks for changes in video images (frames) to detect motion. Video motion detection allows for motion detection beyond the range of the PIR sensors.

The drawback to video motion detection is that it can sometimes be falsely triggered by changes in lighting conditions or trees moving in the wind. You can disable video motion detection or configure the sensitivity using the menus. It is recommended to enable video motion detection and set a lower sensitivity if you are experiencing false triggers.

For a description of the two motion detection technologies used by the system, see 10.4 *Motion Recording*, page 28.

To configure video motion detection:

1. Tap , then go to **General Settings > Motion Detection Settings**. The **Setup motion detection sensitivity of day time for selected camera** screen appears.



2. Under camera 1, select **Off** to disable video motion detection, or select **Low**, **Medium**, or **High** sensitivity.

NOTE
Repeat this step for each connected camera.

3. Tap to save your changes.

10.5 Recording Resolution

The recording resolution determines the size and quality of video images. The higher the resolution, the more space your recordings will take up on the memory card.

1. Tap , then go to **General Settings** > **Camera Setup** > **Resolution**.
2. Below each camera that you would like to configure, select **HD** or **VGA** to change the resolution.
   The system supports HD (720p; 1280x720) and VGA (640x480) resolution.
3. Tap to save your settings and return to live view.

NOTE

- Live and recorded HD video appears in 16:9 aspect ratio on the receiver, while VGA video appears in 4:3. This means that if you are viewing two cameras with different resolutions in half-Quad mode, the channel using VGA resolution will appear larger than the channel using HD resolution.
- HD recordings are saved in 720p resolution. The resolution of the receiver is limited to 800x480 pixels. View HD recordings by viewing on a computer or a smartphone / tablet that supports 720p resolution. See 11.3 *Viewing Video Directly from the SD Card*, page 36.

10.6 Enabling / Disabling File Overwrite

Enabling file overwrite will delete the oldest recorded data on the SD card once it is full to make room for new recordings.

To enable file overwrite:

1. Tap , then go to **General Settings > Recording Setup > File Overwrite**.
2. Tap **Yes** to enable file overwrite.
3. Tap to go back to live view. The overwrite icon ( ) displays during live viewing.

NOTE

If you do not enable file overwrite, the SD card icon will turn red ( ) when the SD card is full. You will need to manually delete files from the SD card or insert a new card into the receiver. For details, see 11.2 *Deleting Video Files*, page 35.

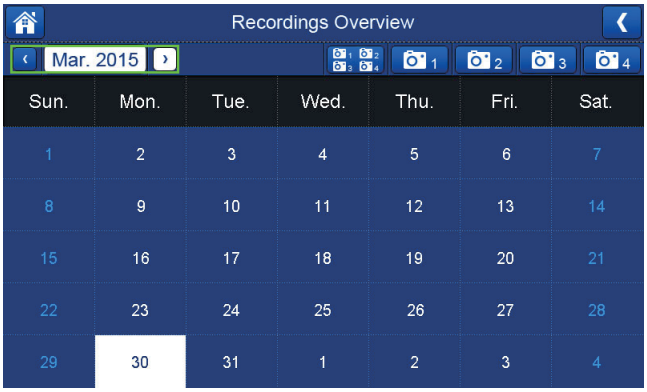
11 Playback

Playback mode allows you to playback recorded video files from the SD card. You can view videos directly on the system or by connecting the SD card to your computer.

11.1 Video Playback

To playback recorded video on the system:

1. During live view, tap the SD card icon ( ). The **Recordings overview** screen opens.
   OR
   Tap > **Playback**.
2. Tap the left / right arrow to change the displayed month.



3. Tap the channels you would like to view recordings from:
   - Tap each channel located at the top of the screen to select it. Tap again to deselect the camera channel.
   - Tap the icon that displays all four channels to show recordings from all connected cameras on the calendar.

NOTE
Dates that have recordings available for playback are highlighted in white.

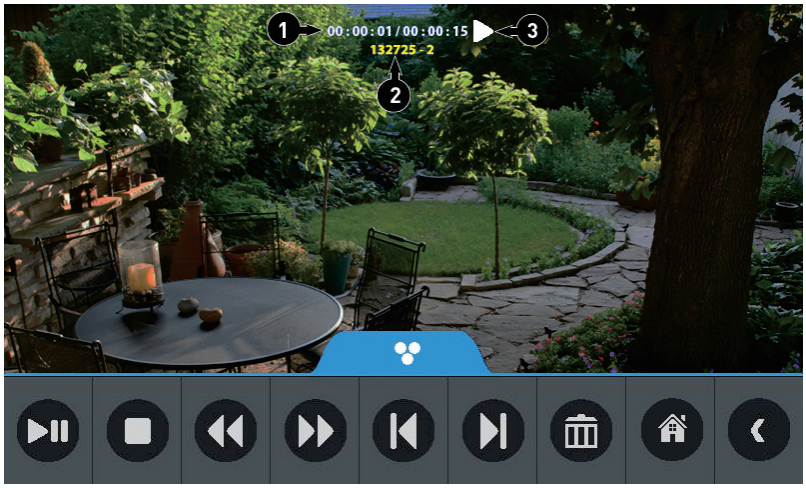
4. Tap a date on the calendar to view a list of recordings for that date. The **Recording List** screen appears.

NOTE
• The system uses a 24-hour clock. • Recordings are named by start time in *hhmmss* format and the channel number (for example, the recording *133245-2* began recording at 1:32:45 PM on channel 2).

5. Tap a file from the list. The selected file loads and playback begins.

NOTE
Tap or located at the bottom of the screen to change pages to find video files quickly.

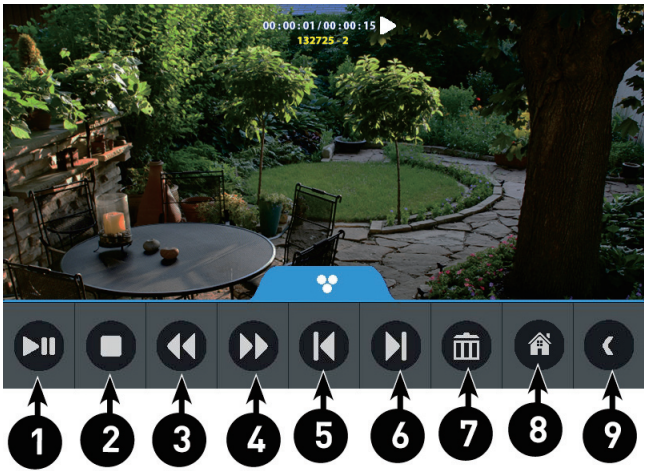
11.1.1 Playback Controls



1. **Playback duration:** Shows the length of the recording and how much has been viewed.
2. **File name**
3. **Playback status:** Shows whether the video is playing, paused, or stopped.

NOTE
Tap  to close the playback controls.

To control playback:



1. Pause / Play video.
2. Stop video.
3. Rewind video (2x > 4x > 8x > 16x).
4. Fast-forward video (2x > 4x > 8x > 16x).
5. Play the previous video.
6. Play the next video.
7. Delete the video file.
8. Return to live view.
9. Go back to the Recording list.

- To change playback volume, use the volume controls (▮) on the side panel of the receiver.

11.2 Deleting Video Files

You can delete files on the SD card directly on the system. Delete files if you need to clear space on the SD card (if file overwrite is disabled), or for your own file management purposes.

To delete files on the SD card:

1. Repeat steps 1– 4 of section 11.1 *Video Playback*
2. To delete a file, tap 🗑 next to the channel indicator icon of each file.

3. A confirmation message appears. Tap **Yes** to delete the file.

4. Repeat the steps above to delete other files on the SD card.
5. Tap  to go back to live view.

CAUTION

Do NOT delete folders on the SD card using your computer. Deleting folders may affect your access to other files on the card or may affect normal operation of the SD card with the system. If you want to delete the entire contents of the SD card, it is highly recommended to format the card using the system. For details, see 10.1 *Format Memory Card*, page 22.

11.3 Viewing Video Directly from the SD Card

You can view the saved video files on your computer (PC or Mac) by using a SD card reader (not included). Saved video files are in ASF format.

NOTE

Some PCs and Macs may have a SD card reader built-in. Refer to your computer's instruction manual for more details.

11.3.1 PC

NOTE

You can view ASF files natively in Windows Media Player™, as well as other media players such as VLC. VLC is an open-source software application available at www.videolan.org

To playback recorded video on a PC:

1. Remove the SD card from the receiver by gently pushing on the SD card and then releasing. The card will eject.
2. Insert the SD card into a SD card reader (not included) connected to your PC. Your PC should load the SD card as a new Removable Drive and an Autorun window opens.
3. Click **Open folder to view files** or open the folder in Computer. Open the folder **MFG**. You will then see a folder for each page of recorded video in Playback mode. Folders are named by page number (e.g. recordings found on the second page are in the folder **00000002**).
4. Double-click any of the ASF files. The video will begin playing in your default ASF media player.

11.3.2 Mac

NOTE

Downloading and installing the Flip4Mac WMV Components will allow you to play ASF files in QuickTime. VLC Player is recommended for viewing ASF files on a Mac. VLC is an open-source software application available at www.videolan.org

To playback recorded video on a Mac:

1. Remove the SD card from the receiver by gently pushing on the SD card. The card will eject.
2. Insert the SD card into a SD card reader (not included) connected to your Mac. Your Mac should load the SD card as a new disk on your desktop.
3. Double-click the disk on your desktop or open it through Finder. Open the folder **MFG**. You should see a folder for each page of recorded video in Playback mode. Folders are named by page number (e.g. recordings found on the second page are in the folder **00000002**).
4. Double-click any of the ASF files. The video will begin playing in your default ASF media player.

12 Scan Mode

In Scan mode, the receiver's LCD screen and speaker will turn off unless motion is detected by one of the cameras. The LCD screen turns on and displays video from the camera where motion was detected for 15 seconds before turning off again. This conserves battery power and alerts you only when needed.

You can configure how much motion is needed to turn the display on in Scan mode by changing a camera's video motion detection settings. See 10.4.3 *Configuring Video Motion Detection*, page 30.

To enable Scan mode:

1. In live view mode, press and release the power button () on top of the receiver.

NOTE
The power indicator LED on the side panel of the receiver glows indicating the receiver is in scan mode.

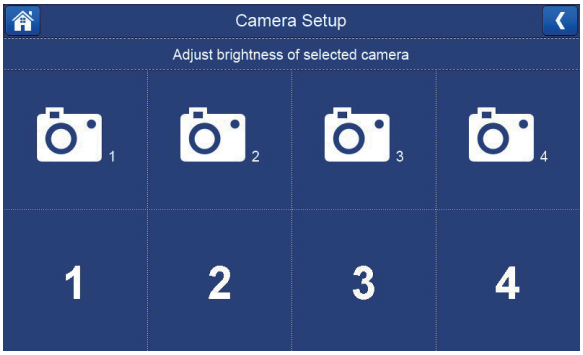
2. Press and release the power button again to exit Scan mode.

NOTE
When exiting Scan mode, the receiver resumes live viewing in Auto Sequence Viewing mode.

13 Brightness

Adjust the brightness level of video coming from the camera(s).

NOTE
You cannot adjust the brightness of the LCD display.



To adjust camera brightness:

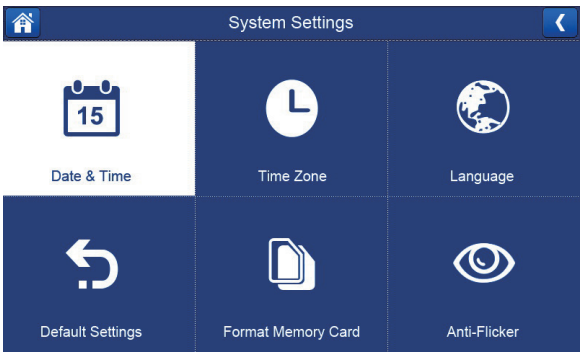
1. Tap , then select **Brightness**.
2. To change the brightness level:
   - Tap the value repeatedly under the desired camera to increase the brightness level.

NOTE
Camera brightness is measured on a scale of 1-6 where 1 is the darkest and 6 is the brightest.

3. Tap to save changes and go back to live view mode.

NOTE
Repeat step 2 to configure your other cameras as needed.

14 System Settings

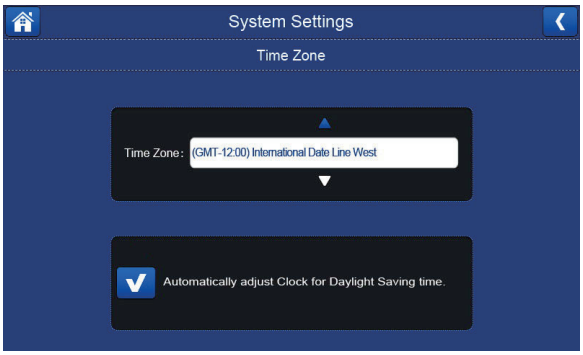


The System Settings menu contains the following sub-menus:

- **Date & Time:** Set the date and time on the system. For details, see 9 *Setting the Time*, page 19.
- **Time Zone:** Select the time zone where the system is being used and enable / disable Daylight Savings Time (DST).
- **Language:** Select the language of your preference.
- **Default Settings:** Restore the system to default settings.
- **Format Memory Card:** Format the SD card.
- **Anti-Flicker:** Set the anti-flicker mode.

14.1 Time Zone

Select the time zone where the system is being used. The time zone menu is also used to enable Daylight Savings Time.



To set the time zone:

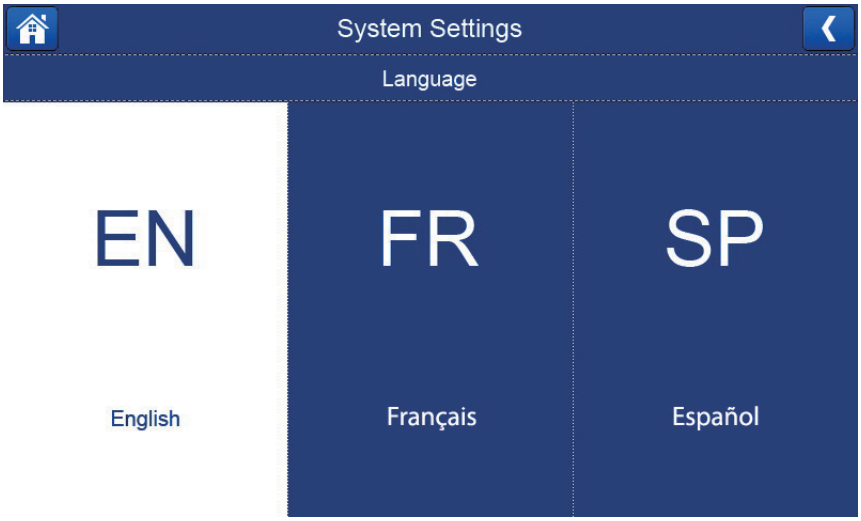
1. Tap , then go to **General Settings > System Settings > Time Zone**.
2. Tap the up / down arrow to change the time zone.
3. Tap to save your settings and return to live view mode.
   The system time will be automatically updated according to the time zone you have selected.

To enable / disable Daylight Savings Time:

1. Tap , then go to **General Settings > System Settings > Time Zone**.
2. Tap the **Automatically adjust Clock for Daylight Saving time** check box to turn Daylight Savings Time on or off.
3. Tap to save your settings and return to live view mode.

14.2 Language

The system allows you to select the display language of your preference. The default display languages to select from are English, French, and Spanish.



To set your display language preference:

1. Tap , then go to **General Settings > System Settings > Language**.
2. To set your display language preference, tap **EN**, **FR**, or **SP**.
3. Tap to save your settings and return to live view mode.

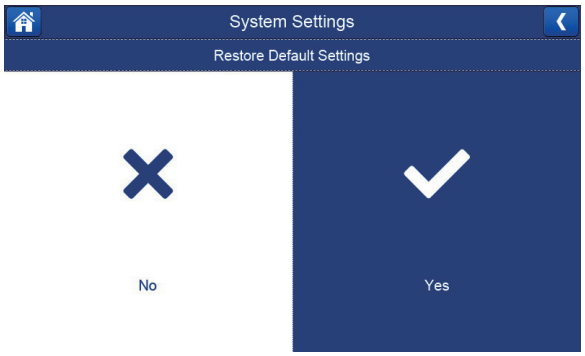
14.3 Default Settings

Restoring default settings will return the system to its out-of-the-box state. Any changes you have made to the system settings will be erased.

NOTE
Restoring default settings does not affect files recorded to the memory card or reset the date and time on the system.

To restore default settings:

1. Tap , then go to **General Settings > System Settings > Default Settings**. A **Restore Default Settings** screen appears.

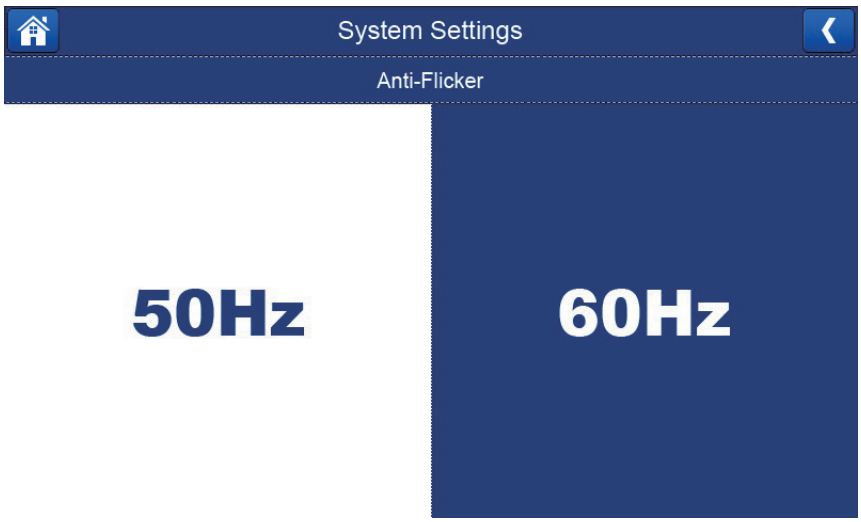


2. Tap **Yes** to confirm. The system takes a few moments to restore default settings.
3. Tap to return to live view mode.

14.4 Anti-Flicker

To set the Anti-Flicker mode depending on the environment:

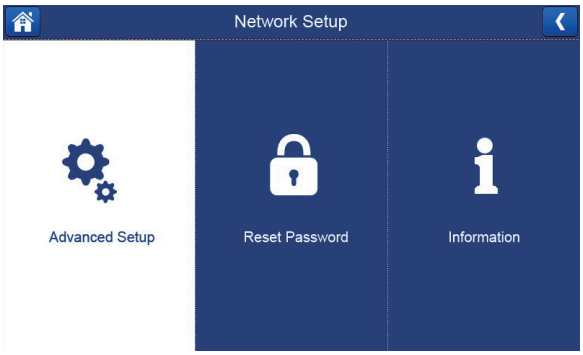
1. Tap , then go to **General Settings > System Settings > Anti-Flicker**. A **Anti-Flicker** screen appears.



2. To set the anti-flicker mode, tap **50Hz**, or **60Hz** depending on the environment.
3. Tap to return to live view mode.

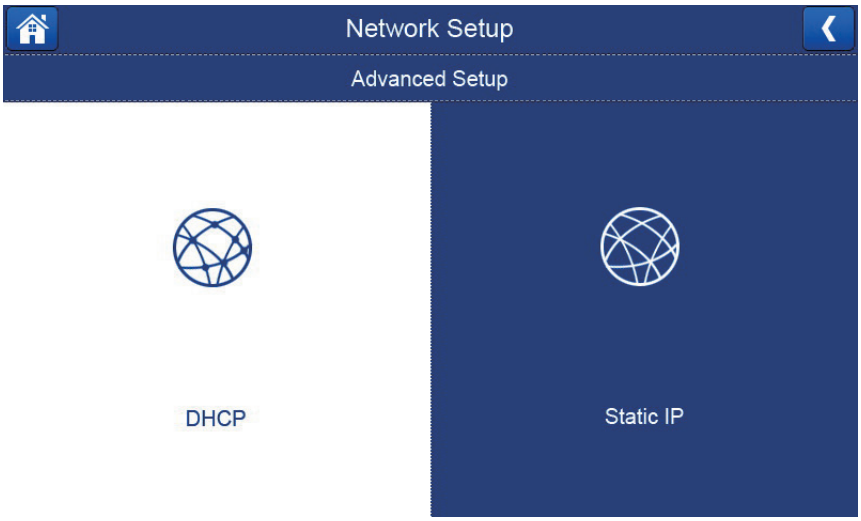
15 Network Setup

Configure the receiver's IP address (advanced), view network information, or reset your remote access password.



15.1 IP Addressing Options

CAUTION
This section is for advanced users only.



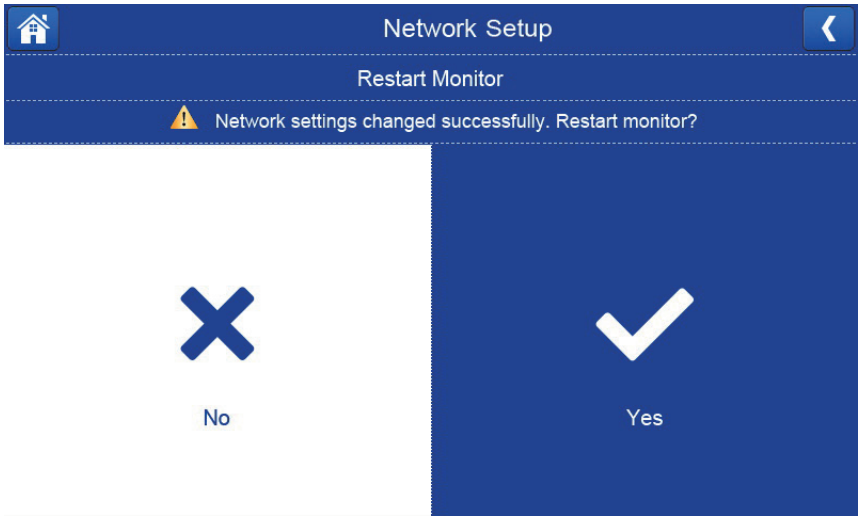
To enable dynamic IP addressing:

NOTE
Dynamic IP addressing is enabled by default.

1. Tap , then go to **General Settings** > **Network Setup** > **Advanced Setup**.
2. Tap **DHCP**.
3. Tap to turn on or off dynamic IP.

NOTE
• 1 : Enable dynamic IP. • 0 : Disable dynamic IP.

4. A **Restart Monitor** prompt appears, tap **Yes**. The system takes a few moments to restart.

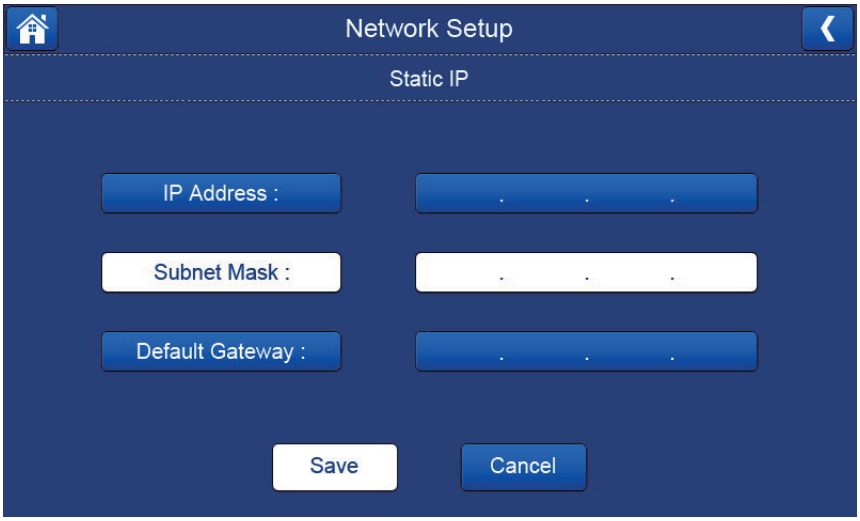


To enable static IP addressing:

NOTE

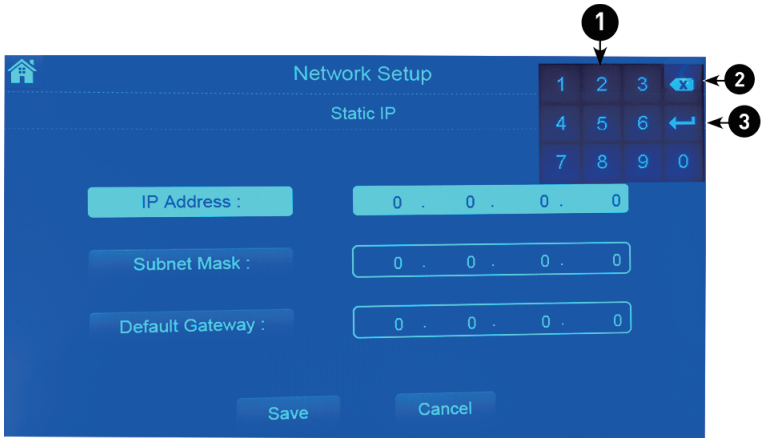
- A static IP address is not required for remote access to the system.
- You may have to configure your router settings if the DHCP server is enabled.

1. Tap , then go to **General Settings > Network Setup > Advanced Setup**.
2. Tap **Static IP**. A **Static IP** configuration screen appears.



3. Tap the text box next to the **IP Address** field. A virtual numeric keypad appears on screen.

NOTE



- 1: Number Keys
- 2: Backspace
- 3: Confirm entry

4. Tap each value inside the text box to move the cursor.

5. Use the virtual numeric keypad to change each value inside the text box and then tap  to confirm the value entered.

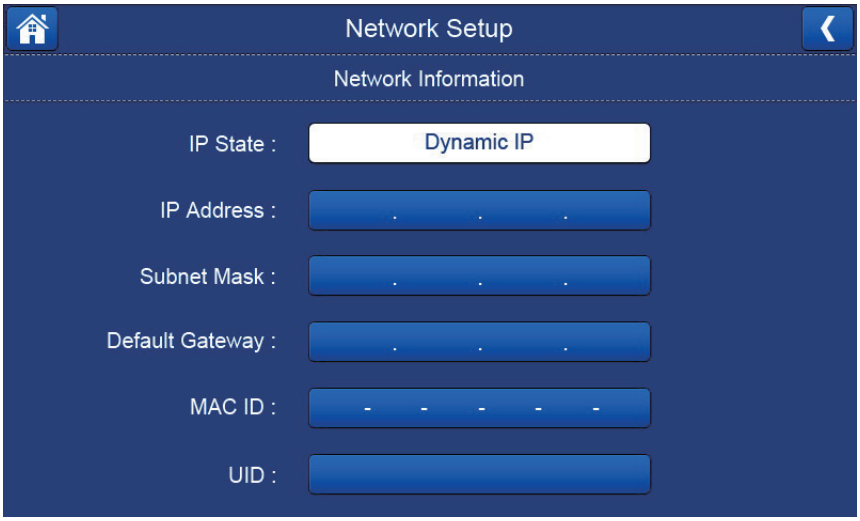
> **NOTE**
>
> - Repeat step 4 and 5 to change each value inside the text box.
> - Ensure that you enter a static IP address that is not in use by another device on your network.

6. Repeat the above process for the **Subnet Mask** and **Default Gateway** fields.
7. Tap **Save** to confirm your settings.
8. A **Restart Monitor** prompt appears, tap **Yes**. The system takes a few moments to restart.

15.2 Information

To view the system's network information:

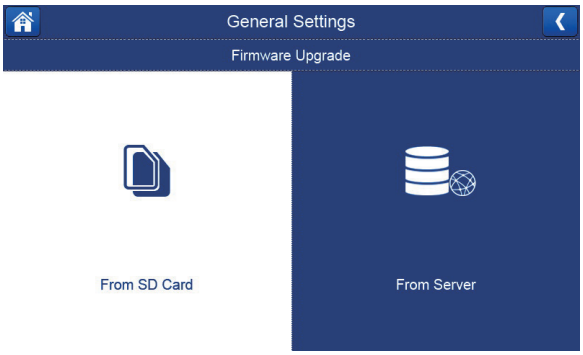
1. Tap  , then go to **General Settings > Network Setup > Information**.
2. The **Network information** screen appears.



3. Tap  to return to live view mode.

16 Firmware Upgrade

Ensure the system is up-to-date with the latest firmware for optimal performance. There are two ways to upgrade firmware: from an SD card or from the server.



To update firmware from server:

1. Connect the included Ethernet cable from the Ethernet port on the receiver to your router. The new download icon ( ) appears on the screen if a new firmware is available in the server to download.
2. Tap , then go to **General Settings > Firmware Upgrade**.
3. Tap **From Server**, then select **Yes**.
   The system takes a few moments to install the latest firmware, then reboots.
4. Tap to return to live view mode.

To update firmware from SD card:

1. Insert the SD card into the SD card reader (not included) on your PC or Mac.
2. Download the latest firmware from www.lorextechnology.com and transfer it to the root folder on the SD card.
3. Once the transfer is complete, insert the SD card into the card slot on the receiver.
4. Tap , then go to **General Settings > Firmware Upgrade**.
5. Tap **From SD Card**.
6. Tap **Yes**.
   The system takes a few moments to install the latest firmware.
7. Tap to return to live view mode.

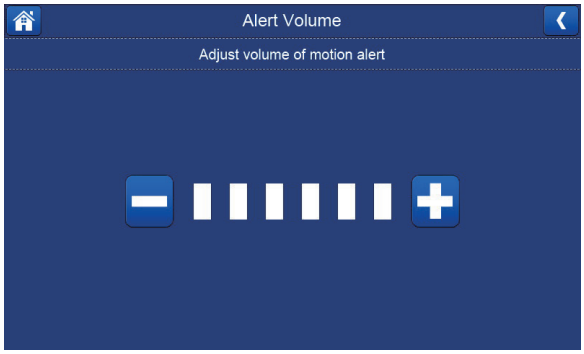
17 Alert Volume

Increase or decrease the volume of the buzzer when motion is detected by the camera (s). If you want to turn off the buzzer sound, turn the alert volume to the minimum setting.

NOTE
By default, the buzzer sound is turned off.

To increase / decrease alert volume:

1. Tap , then select **Alert Volume**. A **Adjust volume of motion alert** screen appears.



2. Tap to increase the alarm volume, or to decrease the alarm volume. Tap repeatedly to disable the alarm buzzer sound.

3. Tap to return to live view mode.

18 Pairing Additional Cameras

NOTE

If you have purchased additional cameras, it is highly recommended to pair the cameras to the receiver before permanent installation.

"Pairing" is an electronic handshake between wireless devices. Wireless devices and components need to be paired in order to communicate with each other.

The camera(s) provided with the system have already been paired to the receiver. By default, the camera(s) included are automatically paired to channels 1 and 2 on the receiver. See the channel label on the camera to check which channel it has been set to.

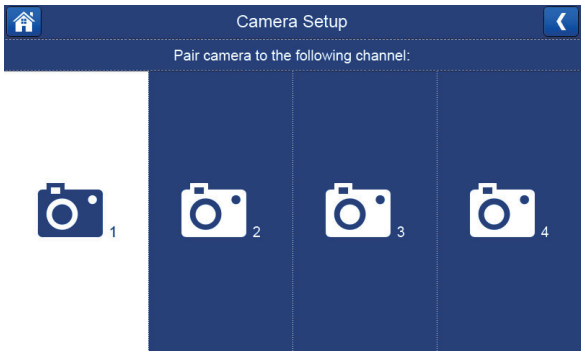
If you have purchased additional accessory cameras, you will need to pair them to the receiver. When pairing cameras, you can select the channel you would like the cameras to be assigned to. You can also use the steps below to reassign your existing cameras to different channels.

NOTE

Accessory cameras are available from www.lorextechnology.com.

To pair an additional camera:

1. Connect the new camera to a power outlet. Place the camera and the receiver within 1ft of each other.
2. Tap , then go to **General Settings > Camera Setup > Pairing**.
3. Select the channel you wish to pair the camera to.



   - If you pair a new camera to a channel that is already being used by an existing camera, the new camera will be connected to that channel. The old camera will automatically be disconnected.
4. Following the on-screen prompt, press the **Pair** button behind the camera. You have 30 seconds to press the **Pair** button on the camera. Once paired, the camera will be immediately displayed on-screen.

NOTE

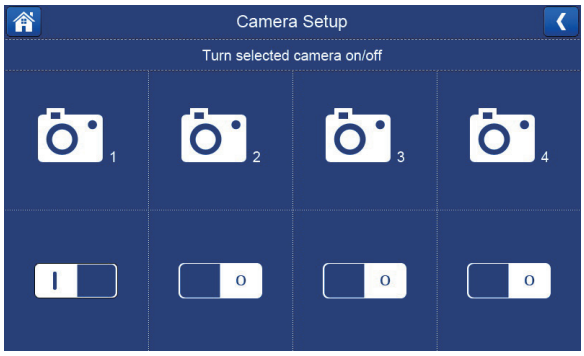
- If you do not press the **Pair** button on the camera during the 30 second pairing window, repeat steps 2~4 to try the pairing process again.
- If the speaker begins squealing, move the camera and receiver away from each other.

19 Camera On / Off

Use the Camera On / Off menu if you need to disable empty channels so they do not appear on the monitor in any viewing mode. You only need to do this if you have moved a camera to a different channel using the pairing function.

To show / hide channels:

1. Tap , then go to **General Settings** > **Camera Setup** > **On / Off**. A **Turn selected camera on/off** screen appears.



2. Below each camera channel, tap to turn on or off the camera channel.

NOTE
• 1: Enable camera channel. • 0: Disable camera channel.

3. Tap to return to live view mode.

NOTE
Any disabled channels will be blacked out in Quad mode.

20 Using the Mobile App

Use the free Lorex SD Pro app to conveniently connect to your system on a smartphone / tablet. The mobile app is free with no recurring fees. View live video from the camera(s) from anywhere with an Internet connection.

20.1 System Requirements

- You must have a high-speed Internet connection to view live video using the mobile app. Traffic congestion may result in choppy video.
- When using a mobile cellular network, data charges may apply. Check with your service provider for details.
- For the latest list of supported apps and devices, visit www.lorextechnology.com.

20.2 Lorex SD Pro for iOS Devices

20.2.1 Getting Started

Use the following instructions to view your camera(s) over the Internet using your iPhone® or iPad®.

1. Connect the included Ethernet cable from the Ethernet port on the LCD receiver to your wireless router. The network icon on the receiver turns green ( ).
   - You may need to turn the receiver off and on again for it to connect to your network.
2. Connect to your home WiFi Internet using your smartphone or tablet. See the user guide provided with your iPhone® or iPad® for details.
3. Download the free Lorex SD Pro app from the App Store.

> **NOTE**
>
> For iPad users, check on the app store for iPhone app.

4. Tap the Lorex SD Pro icon ( ).
5. Tap Add Device.
6. Tap **QRCode** to scan the QR code on the back of the receiver.
   OR

   Tap **Add** if your mobile device does not have a camera.

   You can also tap to search for the system on the network. This option is only available if your smartphone or tablet is connected to the same network as the receiver.
7. Enter a personalized name for the system in the **Name** field, then enter the password in the **Password** field (default **000000**).

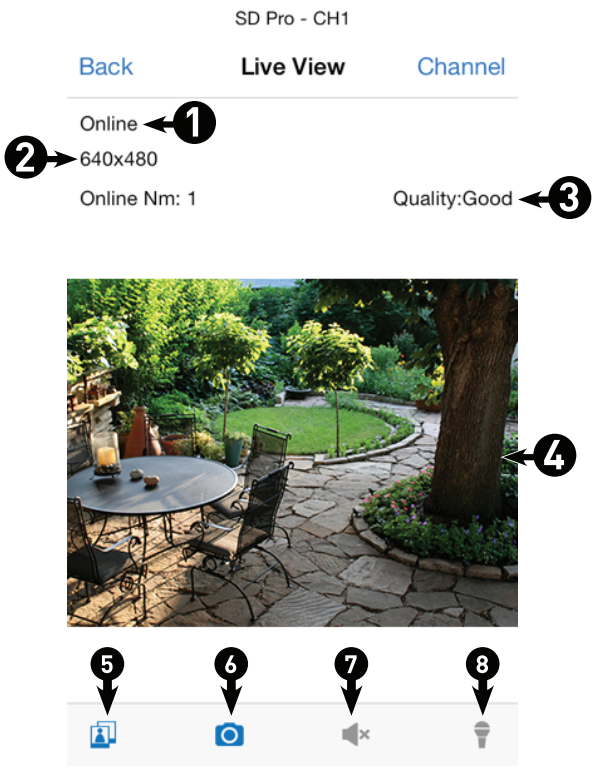
> **NOTE**
>
> If you tapped **Add** in the previous step, enter the UID number printed on the QR code label on the back of the receiver. Otherwise, the **UID** field will be populated automatically.

8. Tap **Save**. The system will show in your device list with an "Online" status.
9. Tap the name of the system. You will be asked to enter a new, secure password. Write your password down for future reference: _____

Live video from the camera(s) appears on your smartphone or tablet.

NOTE
It is recommended to keep the receiver connected to an electrical outlet so the battery does not lose power.

20.2.2 Live Viewing



1. **Network status**
2. **Viewing resolution:** Streaming resolution for the video feed.
3. **Video quality:** Speed of video decoding. Higher quality results in greater bandwidth consumption, which requires a higher connection speed. Reduce quality if video is choppy.
4. **Live video**
5. **Image gallery:** Tap to view snapshot images taken using the app.
6. **Snapshot:** Tap to take a snapshot of the current video display. You can also share snapshots via e-mail. See 20.2.7 *Sharing Snapshots*, page 56.
7. **Mute:** Tap to mute or unmute sound from the current camera.
8. **Intercom:** Tap to enable two-way audio with the currently selected camera. Tap again to disable or listen for a response.

20.2.3 Event Log

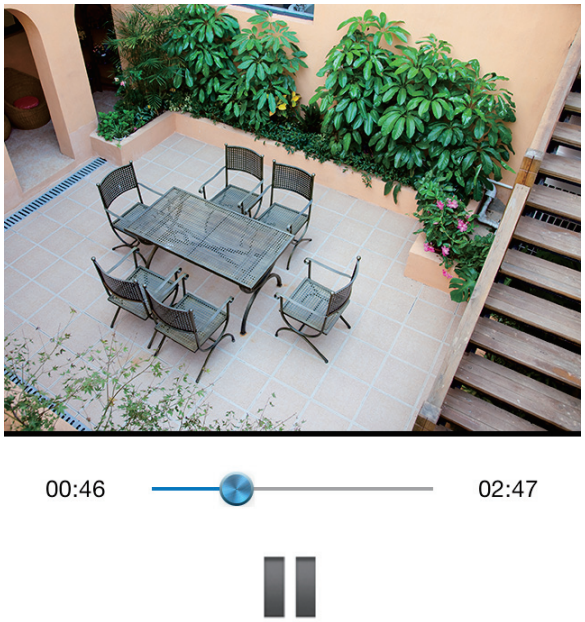
If you have enabled motion recording on the system, use the event log to review motion-based events. Each event is stamped with the date and time when the event took place, as well as the camera that captured the event. These events are uploaded from the memory card inserted into the receiver. If the memory card is removed, the events will not be accessible.

NOTE

Date and time stamps are created using the date and time on your smartphone or tablet and not the receiver.

To open the event log:

1. Tap Event.
2. Tap the UID for the system.
   A list of events appears from the last half day. If you wish to view an event which took place prior to the current date, use the search feature detailed below.
3. Tap an event to preview the video recording.
4. Use the buttons to control video playback:
   - Tap ▶ / ⏸ to start / stop playback.
   - Tilt your smartphone or tablet to view in landscape mode, or hold upright to view in portrait mode.



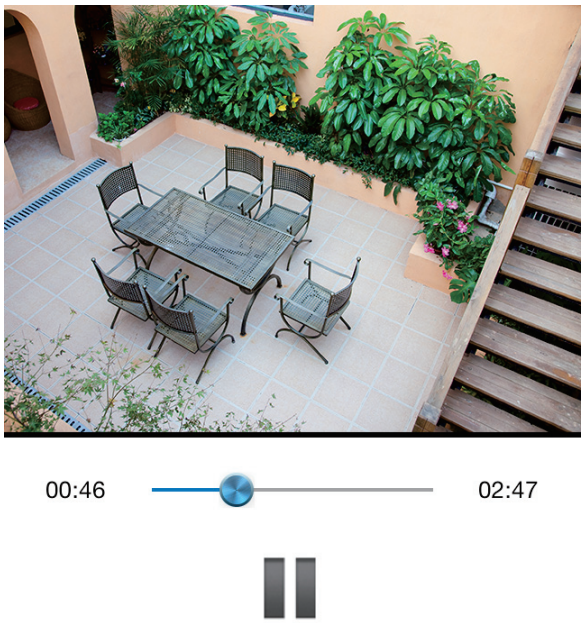
NOTE

Only one device may use video playback at a time.

You can also search for events by specifying a time frame or specific channels.

To search for events:

1. Tap Event.
2. Tap the UID for the system.
   A list of events appears.
3. From the event list, tap Search.
4. Choose a time frame to search for video, or tap **Custom** to configure the start time, end time, and channels included. Tap **Done** to begin the search.
   A list of recordings that meet the specifications of your search appears.
5. Tap any recording to preview it on your device.
6. Use the buttons to control video playback:
   - Tap ▶ / ⏸ to start / stop playback.
   - Tilt your smartphone or tablet to view in landscape mode, or hold upright to view in portrait mode.



NOTE
Only one device may use video playback at a time.

20.2.4 Modify Password

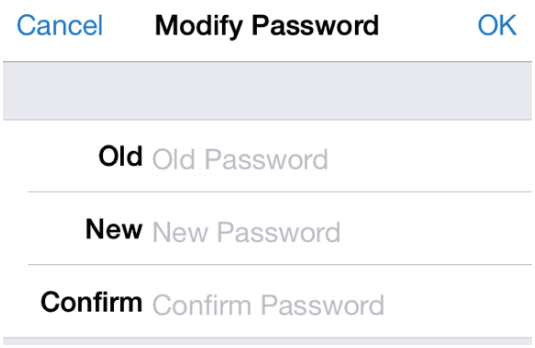
Change the password used for remote access to the system.

NOTE
You can also revert the password to the default password directly on the receiver (default password: **000000**).

To modify your password:

1. In **Device List**, tap ⓘ next to the system name.
2. Tap **Advanced Setting**.

3. Tap **Modify Password**.
4. Enter the following information:

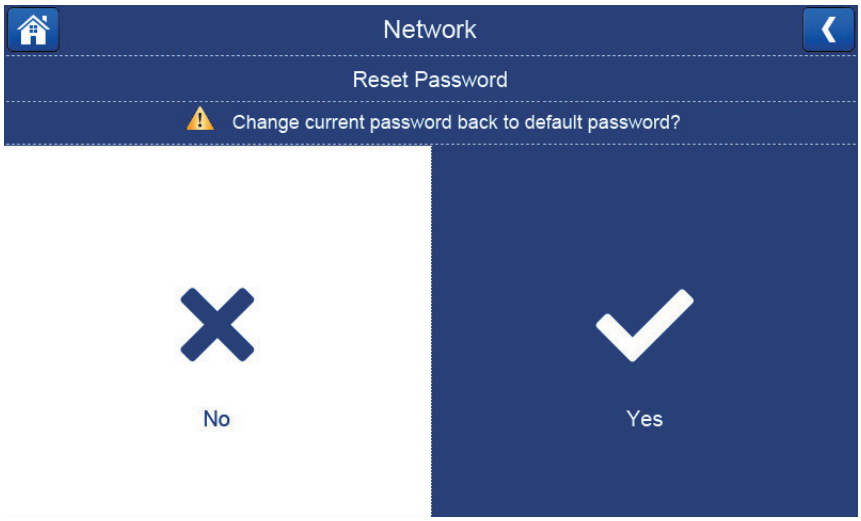


- **Old:** Enter the current password for the system.
- **New:** Enter a new password.
- **Confirm:** Reenter the new password.

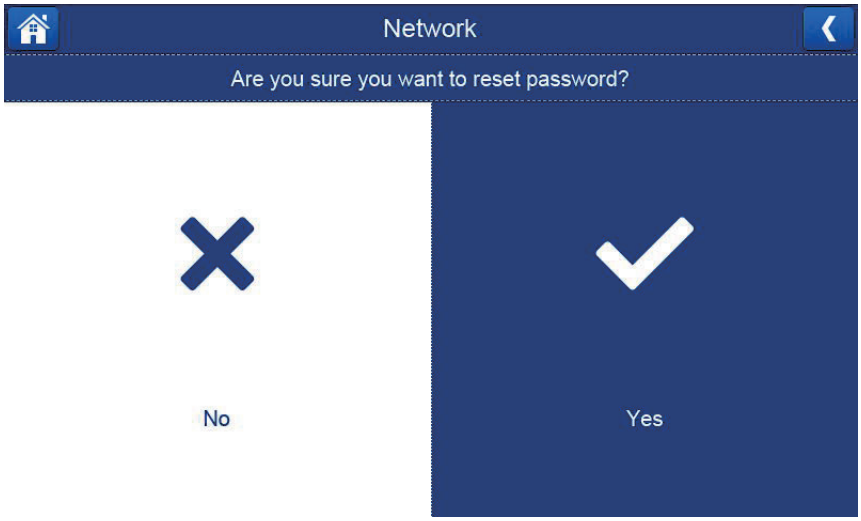
5. Tap **OK**.

To revert to the default password using the receiver:

1. Tap , then go to **General Settings > Network Setup > Reset Password**.
2. The **Reset Password** screen appears. Tap **Yes**.



3. A reconfirmation screen appears. Tap **Yes**.



4. Tap  to return to live view mode.

20.2.5 Setting Alert Interval

The alert interval determines the minimum amount of time between motion alerts on your smartphone / tablet. You may want to increase the interval length to decrease the frequency of alerts on your smartphone / tablet, or even turn smartphone / tablet alerts off. By default, the alert interval is set to 3 minutes.

1. Ensure that your smartphone / tablet has push notifications enabled. See the instruction manual provided with your mobile device for details.
2. Tap  next to the system name.
3. Tap **Advanced Setting > Alert Interval**.
4. Tap one of the time intervals to set the minimum time between motion alerts. Select **OFF** to turn off motion alerts on your smartphone / tablet.

20.2.6 Setting Video Quality

Video quality affects the smoothness of the live video feed on your smartphone or tablet. Video smoothness is affected by connection speed.

1. Tap  next to the system name.
2. Tap **Advanced Setting > Video Quality**.
3. Tap **High**, **Medium**, or **Low**. High video quality results in the most bandwidth consumption, which requires a high speed connection. Reduce quality if video is choppy.

20.2.7 Sharing Snapshots

Share snapshots with friends and family via e-mail.

1. Tap  .
2. Tap the name of the system you wish to share snapshots from.
3. Tap  .
4. Tap the snapshot you want to share, then tap  .
5. Select **Email Photo** to share the snapshot.

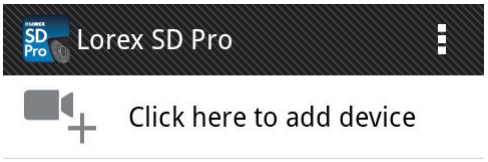
6. Enter the recipient's email address and tap **Send**.

20.3 Lorex SD Pro for Android Devices

20.3.1 Getting Started

Use the following instructions to view your camera(s) over the Internet using your Android™ smartphone or tablet.

1. Connect the included Ethernet cable from the Ethernet port on the LCD receiver to your wireless router. The network icon on the receiver turns green ( ).
   - You may need to turn the receiver off and on again for it to connect to your network.
2. Connect to your home WiFi Internet using your smartphone or tablet. See the user guide provided with your Android™ device for details.
3. Download the free Lorex SD Pro app from the Google Play Store.
4. Tap the Lorex SD Pro icon ( ).
5. Tap **Click here to add device**.



6. Tap **Scan** to scan the QR code.
   OR

   Enter the UID number manually. The UID number is printed below the QR code on the back of the receiver.
7. Enter a personalized name for the system in the **Name** field, then enter the password (default **000000**).
8. Tap **OK**. The system will show in your device list with an "Online" status.
9. Tap the name of the system. You will be asked to enter a new, secure password. Write your password down for future reference: _____

Live video from the camera(s) appears on your smartphone or tablet.

NOTE
It is recommended to keep the receiver connected to an electrical outlet so the battery does not lose power.

20.3.2 Live Viewing

1. **System information:** The system name followed by the channel currently displayed.
2. **Network status**
3. **Viewing resolution:** Streaming resolution for the video feed.
4. **Channel button:** Tap to choose which channel to display.
5. **Video quality:** Speed of video decoding. Higher quality results in greater bandwidth consumption, which requires a higher connection speed. Reduce quality if video is choppy.
6. **Live video**
7. **Image gallery:** Tap to view snapshot images taken using the app.
8. **Snapshot:** Tap to take a snapshot of the current video display. See 20.3.5 *Viewing Snapshots*, page 62
9. **Mute:** Tap to mute or unmute sound from the current camera.
10. **Intercom:** Tap to enable two-way audio with the currently selected camera. Tap again to disable or listen for a response.

20.3.3 Event Log

If you have enabled motion recording on the system, use the event log to review motion-based events. Each event is stamped with the date and time when the event took place, as well as the camera that captured the event. These events are uploaded from the memory card inserted into the receiver. If the memory card is removed, the events will not be accessible.

NOTE
Date and time stamps are created using the date and time on your smartphone or tablet and not the receiver.

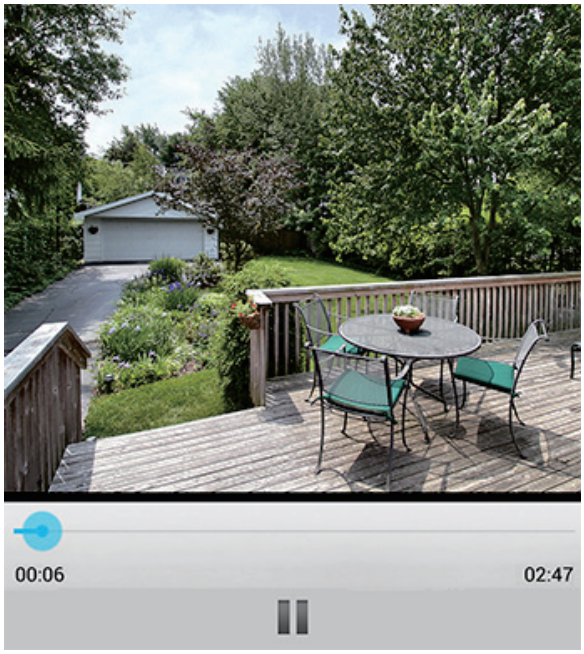
To open the event log:

1. Tap next to the system name.

2. Tap **View Event**.

A list of events appears from the last half day. If you wish to view an event which took place prior to the current date, use the search feature detailed below.

3. Tap an event to preview the video recording.
4. Use the buttons to control video playback:
   - Tap ▶ / ⏸ to start / pause playback.
   - Tilt your smartphone or tablet to view in landscape mode, or hold upright to view in portrait mode.



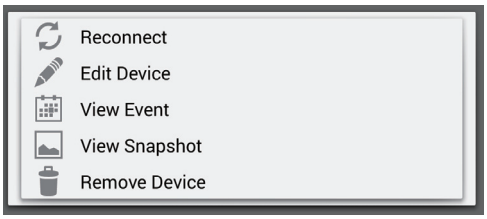
NOTE

Only one device may use video playback at a time.

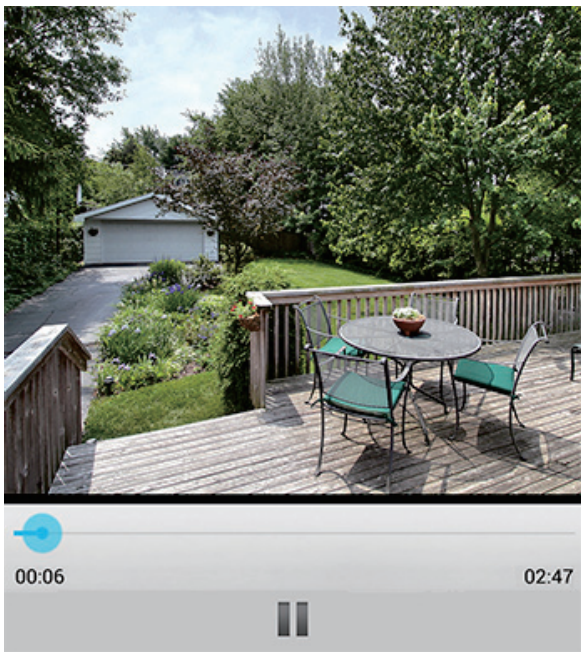
You can also search for events by specifying a time frame or specific channels.

To search for events:

1. Tap next to the system name.
2. Tap **View Event**.



3. Tap .
4. Choose a time frame to search for video, or tap **Custom** to configure the start time, end time, and channels included. Tap **OK** to begin the search.
   A list of recordings that meet the specifications of your search appears.
5. Tap any recording to preview it on your device.
6. Use the buttons to control video playback:
   - Tap / to start / pause playback.
   - Tilt your smartphone or tablet to view in landscape mode, or hold upright to view in portrait mode.



NOTE

Only one device may use video playback at a time.

20.3.4 Modify Password

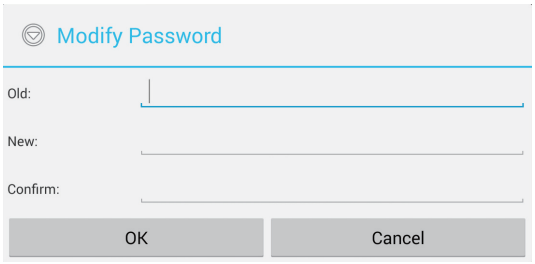
Change the password used for remote access to the system.

NOTE
You can also revert the password to the default directly on the receiver (default password: **000000**)

To modify your password:

1. Tap next to the system name.
2. Tap **Edit Device**.

3. Tap **Advanced > Modify Password**.
4. Enter the following information:

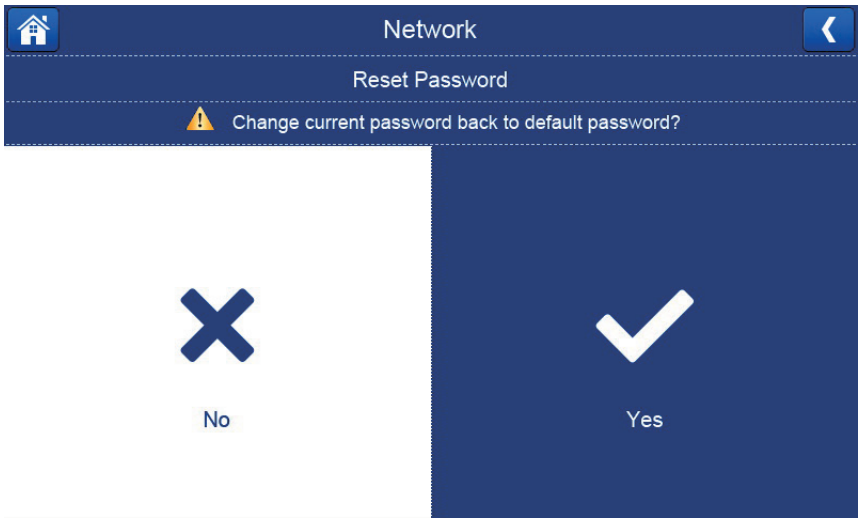


- **Old:** Enter the current password for the system.
- **New:** Enter a new password.
- **Confirm:** Reenter the new password.

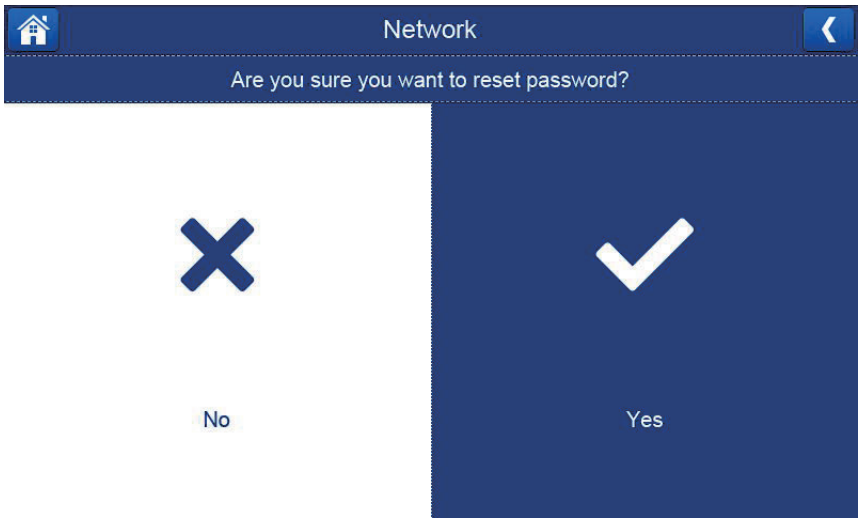
5. Tap **OK**.
6. Tap **OK** repeatedly to save your changes and go back to the device list.

To revert to the default password using the receiver:

1. Tap , then go to **General Settings > Network Setup > Reset Password**.
2. The **Reset Password** screen appears. Tap **Yes**.



3. A reconfirmation screen appears. Tap **Yes**.



4. Tap to return to live view mode.

20.3.5 Viewing Snapshots

View snapshots taken with the cameras using the app.

1. Tap next to the system name.

2. Tap **View Snapshot**.

3. Tap any picture to view it in full screen.

20.3.6 Setting Alert Interval

The alert interval determines the minimum amount of time between motion alerts on your smartphone / tablet. You may want to increase the interval length to decrease the frequency of alerts on your smartphone / tablet, or even turn smartphone / tablet alerts off. By default, the alert interval is set to 3 minutes.

1. Ensure that your smartphone / tablet has push notifications enabled. See the instruction manual provided with your mobile device for details.
2. Tap next to the system name.
3. Tap **Edit Device**.

4. Tap **Advanced**.
5. Tap the drop-down menu under **Alert Interval**.
6. Tap one of the time intervals to set the minimum time between motion alerts. Select **OFF** to turn off motion alerts on your smartphone / tablet.
7. Tap **OK** repeatedly to save your changes and go back to the device list.

20.3.7 Setting Video Quality

Video quality affects the smoothness of the live video feed on your smartphone or tablet.

1. Tap next to the system name.
2. Tap **Edit Device**.

3. Tap **Advanced**.
4. Tap the drop-down menu next to **Video Quality** under **Video Setting**.
5. Tap **High**, **Medium**, or **Low**. High video quality results in greater bandwidth consumption, which requires a high speed connection. Reduce quality if video is choppy.
6. Tap **OK** repeatedly to save your changes and go back to the device list.

21 Technical Specifications

21.1 General

Description	Specification
Transmission Frequency	2,400 ~ 2,483.5MHz
Transmission Power	16dBm
Data Rate	4 Mbps
Unobstructed Wireless Range	660ft (200m) outdoors / 165ft (50m)indoors
Spread Spectrum	FHSS
Modulation	GFSK
Operating Temperature	14 ~ 104°F / -10 ~ 40°C
Operating Humidity	< 85%

21.2 Camera

Description	Specification
Image Sensor	1/4" CMOS Image Sensor
Supported Resolutions	720p (1280x720) up to 15 fps VGA (640x480) up to 30 fps QVGA (320x240) up to 30 fps
Minimum Illumination	< 5Lux (IR on) / > 30Lux (IR off)
AGC	Auto
AES Speed	1/30~1/1000 Second
IR LEDs	24 pieces
Night Vision Range	65ft (20m) / 45ft (14m)
PIR Range	16ft (4.9m)
Lens / Lens Type	3.6mm F2.0
View Angle	Diagonal 50°
Power Consumption	Max 480mA (IR on)
Power Supply	9V DC 600mA ±10%
Operating Temperature	14 ~ 122°F / -10 ~ 50°C
Dimensions	L: 8.0in x W: 3.2in x H: 3.0in L: 202mm x W: 81mm x H: 76mm
Weight	0.70lbs / 0.30kg

21.3 Receiver

Description	Specification
Display	7” diagonal
LCD Resolution	800x480
Receiving Sensitivity	-88dBm
Image Processing	MPEG4
Battery	2000mah 3.7V
Power Consumption	Max 1.0A
Power Supply	5V/2A DC ±10%
Operating Temperature	32 ~ 104°F / 0 ~ 40°C

Description	Specification
Dimensions	L: 7.0in, W: 1.0in, H: 4.6in L: 180mm, W: 24.5mm, H: 116mm
Weight	1lbs / 0.44kg

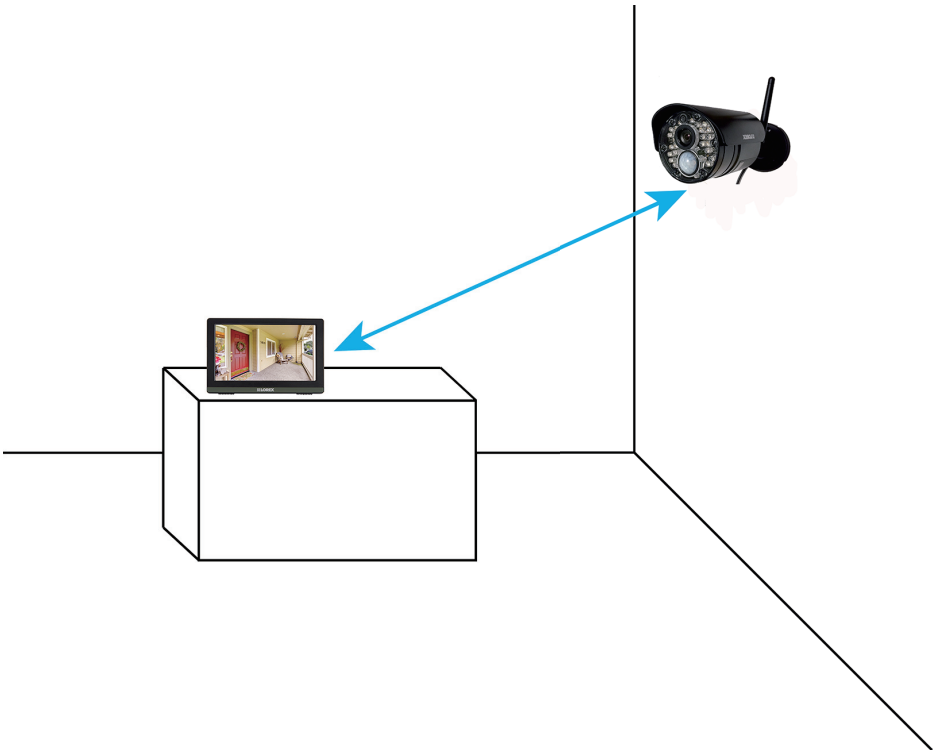
As our products are subject to continuous improvement, Lorex Corporation and its subsidiaries reserve the right to modify product design, specifications, and prices without notice and without incurring any obligation. E&OE

22 Strengthening the Range of the Wireless Signal

There are a few things you should consider when selecting a location for the receiver and camera(s) that will help to boost your wireless signal.

22.1 Clear Line-of-Sight

The digital wireless signal is virtually interference free. However, you should always ensure there is a clear line-of-sight between the camera and the receiver.



22.2 Obstacles

There should be little to no obstacles obstructing the line-of-sight between the camera and the receiver. Solid objects, such as concrete and metal may limit the range of the wireless signal.

23 Troubleshooting

Problem	Solution
There is no picture from the camera(s)	• Check power to the camera. • Make sure that the cameras and receiver are both ON. • Make sure that the camera is in range of the receiver. • The battery is dead. Connect the receiver to a power outlet using the included power adapter. • The receiver is in Scan mode. Press the power button on the top panel of the receiver to exit Scan mode.
The picture is dropping	• Move the camera closer to the receiver. • Try repositioning the camera, receiver or both to improve the reception. • Ensure you have raised the antenna(s) on the receiver.
The picture is or has become choppy	• The picture may become choppy when experiencing a lower frame rate due to reduced signal strength (i.e. 10 frames per second vs. a higher 20 frames per second). • Try moving the camera closer to the receiver. • Remove obstructions between the receiver and camera.
The picture is white	• Common situation know as "washout" or "whitewash" where a strong light source is pointed at the camera lens. The camera lens IS NOT harmed during a whitewash. • DO NOT point your camera towards a light source.
Bright spot in image while viewing camera at night	• This occurs when a camera is pointed at a window to see outside, because the night vision LED's produce Infrared light that reflects off the glass. If you need to look outside, install the camera outdoors. Please note that the camera **must** be installed under shelter when placed outdoors.
There is no audio from the camera(s)	• Make sure you have removed the protective film from the camera lens. • Make sure the receiver volume is not muted. Turn the receiver volume up.
Cannot hear audio when I speak	• You must release the talk button (TALK) in order to listen to audio from the camera(s).
Cannot connect to the system remotely	• Make sure the receiver is powered on. You **must** connect the receiver to a local power outlet during remote monitoring. • Make sure you have connected the receiver to your router using the included Ethernet cable. • Make sure the receiver shows a green network icon on the LCD display. If the icon is red, you may need to turn the unit off and on again.
Cannot view events on mobile device	• The memory card has been removed from the receiver. Insert a memory card with motion recordings stored on it into the receiver to view events on your smartphone / tablet.
Video streams in live viewing are different sizes	• Cameras are set to different resolutions (i.e., one is set to VGA and the other to HD). The system will record each resolution normally.

24 Frequently Asked Questions

Q: Does a wireless camera require power?

A: Yes. Wireless cameras require two power sources: one connected to the camera, and the other to the receiver. The term "wireless" refers to the lack of a video cable between the camera and the receiver.

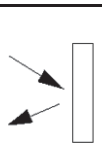
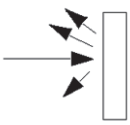
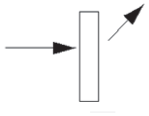
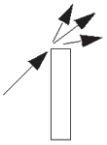
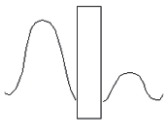
Q: How far can a wireless camera transmit a video signal?

A: In an open field (with line of sight), a typical wireless camera has a range between 250 - 500 feet. 'Line-of-sight' means that there are no obstructions between the camera and receiver. Obstructions include walls, buildings, trees, and certain electronic devices. Materials containing moisture (for example, leaves) may also act as an obstruction. Cubical walls, drywall, glass, and windows generally do not degrade wireless signal strength.

In a closed environment—such as the interior of a house—the wireless camera range is between 100 - 165 feet. The signal range varies depending on the type of building materials or objects the wireless signal must pass through.

The signal range also depends on whether there are competing signals using the same frequency as the camera. For example, signals from cordless phones or routers may affect signal strength. Adaptive Frequency Hopping Spread Spectrum (FHSS) technology featured in the latest Lorex models greatly reduces signal interference.

Range Limiting Factors[1]

				
Reflection	**Scattering**	**Refraction**	**Diffraction**	**Attenuation**
The signal reflects back	The signal scatters back into multiple new signals	The signal bends as it travels through an object (e.g. glass window)	The signal changes direction as it passes around an object	The signal strength weakens as it passes through an object

NOTE

1. Source: Xirrus (2010). "Wi-Fi Range Dynamics". Retrieved online at http://xirrus.gcsmarket.com/pdfs/Xirrus_Wi-Fi_Range.pdf

Signal Reduction Through Materials

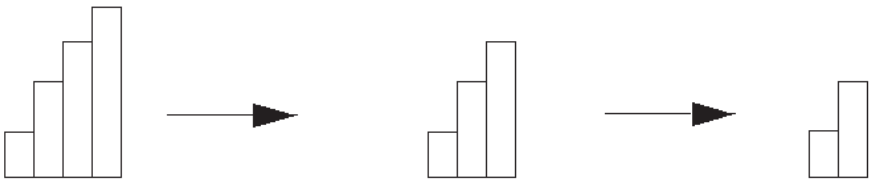
Signal strength decreases as it passes through different types of material. The table below shows how signals become reduced when passing through different materials:

Material	Signal Reduction (%)
Plaster & Wood	10 - 30%
Brick	30 - 50%
Concrete Cinder Blocks	50 - 70%
Metal & Metal Cladding	70 - 90%

NOTE

Signals that must pass through wet or moist materials (e.g. shrubs and trees) may be significantly reduced.

The stronger the signal strength, the higher the video frame rate. The lower the signal strength, the lower the video frame rate.



Full signal strength

(high frame rate)

Low signal strength

(low frame rate)

Q: Are digital wireless camera signals secure?

A: Yes. Lorex digital wireless products feature a wireless transmission method called Frequency Hopping Spread Spectrum (FHSS). This type of signal is highly resistant to eavesdropping as it generates a channel hopping sequence using an algorithm generated by the receiver, which only the camera can follow through the "pairing" function.

Pairing is an electronic handshake between digital wireless devices. Digital wireless cameras can only be paired to one receiver. This is to prevent interception by third parties, and prevents any other device from picking up the signal—this also means that you cannot pair one camera to multiple receivers.

Q: How many frames per second should I expect from a digital wireless camera?

A: Current Lorex digital wireless cameras offer 10 - 30 FPS (Frames Per Second) performance. Actual frame rate depends mainly on signal strength (see the chart in section above).

25 Notices

WARNING

Infants have been STRANGLED in power cords. Keep power cords more than 3 feet away from cribs, bassinets, play yards and other safe sleep environments for infants.

25.1 FCC Notice

This equipment has been certified and found to comply with the limits regulated by the FCC part 15, subpart C. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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 instructions, 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

WARNING

To ensure compliance with the FCC's RF exposure guidelines, this equipment should be installed and operated with minimum distance 20cm (7.87in) between the radiator and nearby persons.

25.2 Industry Canada Notice

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1)This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesirable operation.

This Class B digital apparatus complies with Canadian ICES-003.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

25.3 Modification

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

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

25.4 RoHS

This product is fully compliant with the European Union Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment ("RoHS") Directive (2002/

95/EC). The RoHS directive prohibits the sale of electronic equipment containing certain hazardous substances such as lead, cadmium, mercury, and hexavalent chromium, PBB, and PBDE in the European Union.

NOTE

- 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.
- Please see the label on your device for FCC/IC certification numbers.