# Instruction Manual
# FLIR TCX Thermal Cameras

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# 1 Overview

This manual covers the following topics related to your FLIR TCX Series thermal camera:

- **Web browser configuration interface:** See 4 *Web Configuration Setup*, page 5.
- **Firmware upgrade tool:** See 13 *Firmware Upgrade Tool*, page 137.
- **Central Management Software for PC / Mac:** See 9 *Connecting to Cameras with FLIR Cloud™ CMS*, page 67.
- **Smartphone / tablet apps:** See 11 *Smartphone and Tablet Apps*, page 95.

> 📝 **NOTE**
>
> - For physical installation instructions, please refer to the Quick Connection Guide for your camera model.
> - Some settings described in this manual may not be available depending on the features supported by your camera model.

# 2     Thermal Imaging Overview

The Tri-Mode IP/MPX/Analog Thermal camera is a state-of-the-art thermal imaging device that will provide excellent night visibility and situational awareness without any form of natural or artificial illumination. The sensors do not produce images from visible light like an ordinary camera or the human eye does. Thermal cameras use energy in the infrared band to produce images by sensing subtle differences in temperature and generating images based on those differences.

By using a thermal camera, you are viewing heat, not light. If there is a person in the live view image, you can see there is a person, but identifying who that person is may be impossible regardless of the resolution of your thermal sensor. Similarly, while a higher resolution sensor will detect a person at a greater distance, a low resolution sensor in many cases will still detect the same motion.

The thermal imaging sensor relies on the fact that all objects, even very cold objects like ice, emit thermal energy in the portion of the spectrum that the sensor can detect, the long wave infrared (LWIR). Therefore, unlike a visible-light camera, the thermal imaging sensor produces images based on directly radiated rather than reflected energy.

Any scene displayed by the sensor contains a range of thermal energy (temperatures), from the lowest to the highest, that is present in the scene. These temperatures are grouped by the sensor into a maximum of 256 "shades of gray" based on the thermal image processing settings. Since the TCX Series camera is sensitive enough to distinguish many more than 256 different temperatures, each "shade of gray" will represent a range of temperatures.

For example, in a simplistic case, an image comprised of 60% sky (very cold) will devote 60% of the available "shades of gray" to the sky, leaving only 40% for the remainder of the image. The temperature range assigned to each "shade of gray" is controlled by the choices in the Camera Settings menu or the MPX on-screen display (OSD).

FLIR Systems, Inc. offers a comprehensive selection of training courses to help you to get the best performance and value from your TCX Series cameras. You can find out more at www.flir.com/training.

# 3    Tri-Mode IP/MPX/Analog Overview

The cameras offer three video output modes: standard analog, high definition (MPX), and IP.

- **IP / PoE:** Provides high definition video output through Ethernet. If you are not using PoE, make sure to connect the camera to a power source.
- **MPX:** Provides high definition video output through a BNC connector. To use MPX mode, insert the MPX terminator into the camera's Ethernet cable before you power on the camera. When the terminator is installed, IP / PoE mode is not available. If the camera is powered up without the terminator installed, IP and analog mode is enabled.



MPX terminator

- **Analog:** Provides high definition video output through a BNC connector.

> 📝 **NOTE**
>
> After the camera is powered on, it may take up to 2 minutes for the camera to fully boot up and show a picture.

## 3.1   Connecting the Camera
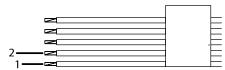
> 📝 **NOTE**
>
> Actual alarm lead configuration may differ from the configurations shown below. Always refer to the alarm lead tag for a full description.

**Mid Bullet Alarm**

The camera can activate an external alarm with an output signal when provided with an external voltage from an alarm receiving device. The camera can accommodate a DC powered device (maximum 2 A @ 30 Vdc) or an AC powered device (maximum 0.5 A @ 125 Vac). When an alarm event occurs, the camera closes an internal relay which completes the circuit. The camera can only operate as a normally open (NO) switch device.

1. ALARM_COM
2. ALARM_NO



The camera can receive two external alarms with input signals provided by an external switch closure. The camera provides two TTL voltage circuits (maximum 5 Vdc). When the camera senses an external switch closure (which completes the circuit), an alarm event occurs. The camera can be configured to sense input signals either as normally open (NO) or normally closed (NC).

3. ALARM_IN1
4. ALARM_IN2
5. ALARM_GND

**PTZ Alarm**

The camera can activate an external alarm with an output signal when provided with an external voltage from an alarm receiving device. The camera can accommodate a DC powered device (maximum 2 A @ 30 Vdc) or an AC powered device (maximum 0.5 A @ 125 Vac). When an alarm event occurs, the camera closes an internal relay which completes the circuit. The camera can only operate as a normally open (NO) switch device.

1. ALARMOUT_1
2. ALARMCOM_1



The camera can receive two external alarms with input signals provided by an external switch closure. The camera provides two TTL voltage circuits (maximum 5 Vdc). When the camera senses an external switch closure (which completes the circuit), an alarm event occurs. The camera can be configured to sense input signals either as normally open (NO) or normally closed (NC).

3. ALARMGND
4. ALARMIN_1
5. ALARMIN_2

# 4 Web Configuration Setup

The camera includes a built-in web interface that can be accessed using a web browser.

## 4.1 Supported Browsers

• Google Chrome™, Mozilla Firefox®, and Apple Safari® (via Webplugin)
• Microsoft Internet Explorer® 8.0 or later, 32-bit version (via ActiveX®)

## 4.2 Internet Explorer Setup

1. Open Internet Explorer® and enter the camera's IP address in the address bar in the following format: **http://IP address:HTTP Port**.

   • For example: **http://192.168.0.100:80**
   • The IP address can be found using the FLIR Cloud CMS. See 9.3 *Adding a Camera over the Local Network (LAN)*, page 68 for details.

2. A notification bar appears asking if you would like to install ActiveX® plugins. Click **Install** or **Allow** to install the plugins.



3. Enter the camera user name (default: **admin**) and password (default: **admin**) and click **Login**.



## 4.3 Safari Setup

1. Open Safari® and enter the camera's IP address in the address bar in the following format: **http://IP address:HTTP Port**.

   • For example: **http://192.168.0.100:80**
   • The IP address can be found using the FLIR Cloud CMS. See 9.3 *Adding a Camera over the Local Network (LAN)*, page 68 for details.

2. A notification appears asking if you want to use the NPMedia plug-in. Click **Trust** to use the plug-in.

3. Enter the camera user name (default: **admin**) and password (default: **admin**) and click **Login**.



| 📝 | **NOTE** |
|---|---|

If video from the camera does not appear after installation, quit Safari® by right-clicking on the Safari® icon in the dock and then selecting **Quit**. Then restart Safari® and log back into your camera.

### 4.4   Firefox Setup

1. Open Firefox® and enter the camera's IP address in the address bar in the following format: **http://IP address:HTTP Port**.

   - For example: **http://192.168.0.100:80**
   - The IP address can be found using the FLIR Cloud CMS. See 9.3 *Adding a Camera over the Local Network (LAN)*, page 68 for details.

2. A notification appears asking if you want to use the MMX plug-in. Click **Allow...** to use the plug-in.



3. Enter the camera user name (default: **admin**) and password (default: **admin**) and click **Login**.



| 📝 | **NOTE** |
|---|---|
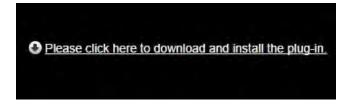
If video from the camera does not appear after installation, quit Firefox® by closing the browser window. Then restart Firefox® and log back into your camera.

### 4.5   Google Chrome Setup

1. Open Chrome™ and enter the camera's IP address in the address bar in the following format: **http://IP address:HTTP Port**.

   - For example: **http://192.168.0.100:80**
   - The IP address can be found using the FLIR Cloud CMS. See 9.3 *Adding a Camera over the Local Network (LAN)*, page 68 for details.

2. Click **Please click here to download and install the plug-in**.



3. The plug-in downloads automatically. When finished, double-click the plug-in in the downloads bar at the bottom of the browser window.



4. Enter the camera user name (default: **admin**) and password (default: **admin**) and click **Login**.
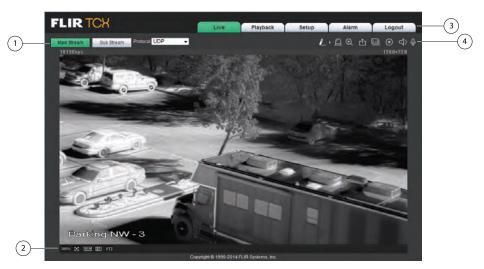


| 📄 | **NOTE** |
|---|---|
| If video from the camera does not appear after installation, quit Chrome™ by closing the browser window. Then restart Chrome™ and log back into your camera. | |

# 5        Live View

Upon login, the web interface opens to the Live View.



> **NOTE**
>
> Some functions are not available on all IP camera models, based on the features available.

1. **Stream/Protocol Select:** Allows you to select the video stream and protocol used in Live View.

    - **Main Stream:** Click to view the Main Stream. The Main Stream provides better picture quality and resolution, but requires higher bandwidth.
    - **Sub Stream:** Click to view the Sub Stream. The Sub Stream is recommended for better performance when viewing the camera over the Internet.
    - **Protocol:** Select the protocol that will be used to stream video: **TCP** or **UDP**.

2. **Video Display Controls (**  **)**

    -  **Original Size:** Click to view the video in its original size. This depends on the resolution and if you are viewing the Main Stream or Sub Stream.

    -  **Full Screen:** Click to view the video in full screen. Double-click or press **ESC** to exit full screen mode.

    -  **Width / Height Ratio:** Click to select **Original** to use the original proportions of the image or **Adaptive** to adapt the image proportions to the size of the screen.

    -  **Realtime / Fluency:** Click to select **Realtime**, **Normal**, or **Fluency**.

    -  **PTZ Controls (PTZ cameras only)**: Click to Hide/Show PTZ camera controls. For details see 5.1 *PTZ Control Panel (PTZ Cameras Only)*

3. **Menu Tabs**

    - **Live:** Click to access Live View.
    - **PTZ:** On micro PT cameras, the PTZ Control Panel is opened using the PTZ tab, which replaces the button on the Video Display Controls panel.
    - **Playback:** Click to playback video from the camera's microSD card (cameras that support microSD only).
    - **Setup:** Click to setup camera functions.
    - **Alarm:** Click to configure alarms.
    - **Logout:** Log out of the camera.

4.  **Live View Functions** ( )

- ![pen icon] **Pen:** Click the pen icon to activate the pen. Then, click-and-drag to draw lines overtop the video display. Click the arrow next to the pen icon to select the pen color ![pen color icons] .

- ![alarm icon] **Alarm Output:** Click to activate an alarm output device connected to the camera (cameras with alarm I/O only).

- ![zoom icon] **Digital Zoom:** Click to activate digital zoom mode. Click-and-drag in the video area to select an area to zoom to, then drag to move the zoomed area or follow motion in the video. Right-click to return to full frame view.

> ![note icon] **NOTE**
>
> This control only zooms the Live View video on the current browser; other video streams are not affected. To set a zoom level for all video streams, see 6 *Setup*, page 13

- ![snapshot icon] **Snapshot:** Click to save a snapshot from the camera to your computer hard drive. To configure the folder where snapshots are saved, see 6.1.13 *Path*, page 28.

> ![note icon] **NOTE**
>
> Depending on your computer's security settings, you may need to run your browser as administrator to save snapshots or manual recordings.

- ![triple snapshot icon] **Triple Snapshot:** Save the next three frames from the camera as snapshots.

- ![manual record icon] **Manual Record**: Click to start manually recording live video to your computer hard drive. Click again to stop recording. To configure the folder where manual recordings are saved, see 6.1.13 *Path*, page 28.

- ![audio output icon] **Audio Output:** Click to mute / un-mute audio coming from the camera (audio-enabled cameras only; must have self-powered microphone connected to the camera).

## 5.1   PTZ Control Panel (PTZ Cameras Only)
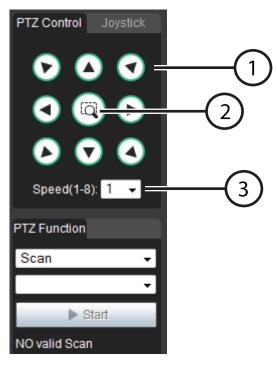
From Live View, click ![PTZ] to open the PTZ control panel.

> ![note icon] **NOTE**
>
> The PTZ control panel only allows you to call pre-configured function. To configure PTZ functions such as preset locations and tours, see 6.3 *PTZ*, page 35

### 5.1.1  PTZ Controls



1. Click the arrows to move the camera.
2. Click the middle button to engage EZoom and then click and drag on the video to set the camera EZoom and position.
3. Adjust the camera speed.

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📑   **NOTE**
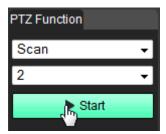
The EZoom is an internal camera setting that will effect all video streams. Click and drag over an area from the left to the right and the camera will zoom in and center the enclosed image. Drag from the right to the left and the camera will zoom out and center the enclosed image.

---

### 5.1.2  Scan

You can use the Scan function to have the camera move automatically between two points.

**To configure the scan function:**

1. Select **Scan** from the dropdown menu under **PTZ Function**.
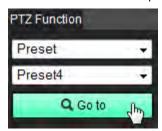


2. Click **Start** to begin the scan.

### 5.1.3  Preset

You can save preset positions in the camera to recall them later.

**To go to a preset location:**

---

1. Select **Preset** from the dropdown menu under **PTZ Function**.



2. Enter the number of the preset you would like to move the camera to.
3. Click **Goto** to move the camera to the preset location.

### 5.1.4   Pattern

You can use the pattern function to record a series of camera movements to recall later.

**To run a pattern:**

1. Select **Pattern** from the dropdown menu under **PTZ Function**.
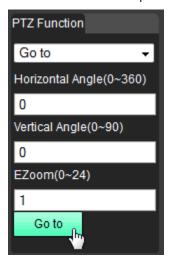


2. Select the pattern to run from the dropdown menu.
3. Click **Start** to run the pattern.

### 5.1.5   Goto

The Goto function allows you to move the camera to a position with specified parameters.

**To move the camera to a specified position:**

1. Select **Goto** from the dropdown menu under **PTZ Function**.



2. Enter the **Horizontal Angle** you would like to move the camera to between 0~360.
3. Enter the **Vertical Angle** you would like to move the camera to between 0~90.
4. Enter the **EZoom** level between 0~24.

5. Click **Goto** to go to the specified position.

### 5.1.6  Pan

You can use pan to have the camera move horizontally between two positions.

**To start a pan:**

1. Select **Pan** from the dropdown menu under **PTZ Function**.



2. Click **Start** to begin panning.

### 5.1.7  Tour

Use tours to have the PTZ camera move automatically to several preset locations in a cycle.

**To start a tour:**

1. Select **Tour** from the dropdown menu under **PTZ Function**.



2. Select the desired tour to run from the dropdown menu.
3. Click **Start** to begin the tour.

# 6 Setup

The Setup menus allow you to configure camera settings.

## 6.1 Camera

The Camera tab allows you to set the camera's thermal image processing (Settings), the video stream parameters (Video), and the audio settings for a camera with a microphone (Audio).

📝 **NOTE**

For the TCX Series Mini Bullet cameras, the only camera settings available are the region of interest (ROI), Mirror, and Flip settings. See 6.1.2 *Region of Interest (ROI)*, page 19 for more information.

### 6.1.1 Settings
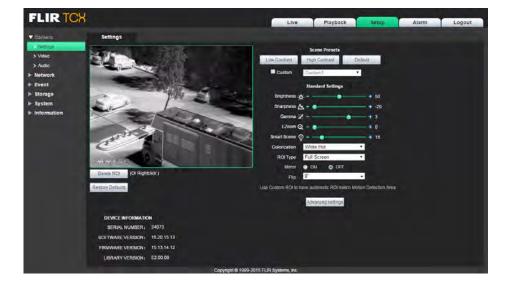
The Settings menu allows you to configure the image sensor's Automatic Gain Control (AGC) settings for the camera. As you make adjustments, the effects will be shown in the video display.

FLIR Systems has developed three Scene Presets that contain AGC values found to provide the best overall thermal image in these different types of low or high contrast scenes. Changes to these Scene Presets can be made using the Standard Settings and additional Advanced settings , as shown below. You can save up to five Custom Scene Presets.
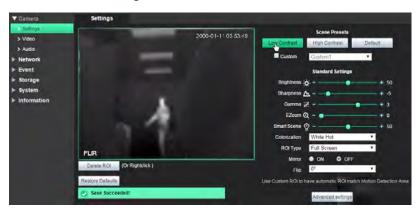
📝 **NOTE**

Default values for settings of the Scene Presets can change between camera models and some camera configurations.

**To configure the thermal image profile:**
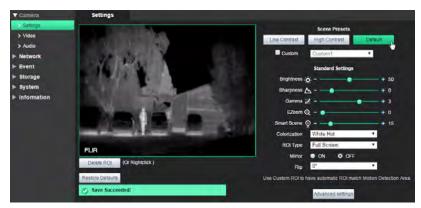
1. Click **Low Contrast**, **High Contrast**, or **Default**.



**Low Contrast**



**High Contrast**



**Default**

2. If needed, you can make fine-tune adjustments using the Sharpness (DDE), Gamma (ACE), and Smart Scene Optimization (SSO) settings. Click **Custom** to save up to five custom Scene Preset settings. Select **Restore** to set all values back to their default settings.
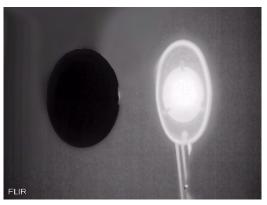
> ⊟  **NOTE**
>
> Scene Preset settings are highly subjective and vary considerably depending upon scene content and viewing or recording preferences. Individual settings may be optimized for each particular environment, but changing conditions affecting the scene content will also affect the image quality. For more information, technical details, or background theory regarding these settings, visit www.flir.com/.

**To configure thermal image settings:**

1. Under **Brightness** (also known as ITT Mean, ITT Offset, or ITT Midpoint), select a value from **0 – 100**. This setting determines the temperature that is at the middle of the 256 "shades of gray" available to the camera. Higher values allow more detail in hotter scenes, while lower values allow more detail in lower temperature scenes.

2. Under **Sharpness** (also known as Digital Data Enhancement), select a sharpness value between **–20 to 100**. Sharpness is used to enhance image details and/or suppress fixed pattern noise. Values above 0 increase sharpness, while values below 0 decrease sharpness. A value of 0 turns DDE off.

3. Under **Gamma** (also known as Active Contrast Enhancement), select a Gamma value from **–8 to 8**. Gamma provides a contrast adjustment dependent on the relative scene temperature. Gamma values greater than 0 give more contrast to the hotter scene content and decrease contrast for the colder scene content. Gamma values less than 0 do the opposite by decreasing the contrast for hotter scene content and leaving more of the "shades of gray" to represent the colder scene content.

4. Under **EZoom**, select the camera zoom factor. EZoom is continuously variable; 16 steps for 320-pixel cameras and 24 steps for 480-pixel or 640-pixel cameras. The zoom factor is stored so that at power-up the last saved field of view is maintained. All video streams are affected by the EZoom setting.

5. Under **Smart Scene**, select a Smart Scene Optimization (SSO) value from **0 to 100**.. This value defines the percentage of the scene that will be allotted a linear mapping. With SSO enabled, the difference in gray shades between two objects is more representative of the difference in temperature, although the optimization in local contrast can be lost.
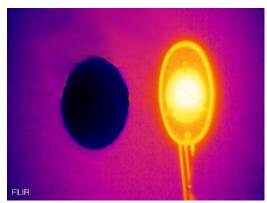
6.  Under **Colorization**, select one of the available colorization palettes. The thermal camera image usually contains 256 "shades of gray" representing different temperatures present in a scene. The colorization palettes provide the ability to add color to the camera image through the use of Look Up Tables (LUT) that map the 256 temperature groupings to colors. Some examples of different LUTs are shown below. Additional LUTs are sometimes added during the firmware update cycle, so you may have LUT options that are not described here.

*   Select the **White Hot** palette to make hot objects appear "white" or brighter than colder objects.
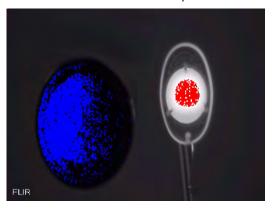


*   Select the **Black Hot** palette to make hot objects appear "black" or darker than colder objects.



*   Select **Ironbow2** palette ranges from blue (coldest) through red, orange, and white (hottest).

- Select the **IceFire** palette to use the same palette as the White Hot palette except coldest temperatures are blue and the hottest temperatures are red.



7.  Under **Mirror**, select **ON** to flip the camera image left and right.

8. Under **Flip**, select one of the options to flip the image. This setting is useful if the camera's lens module was rotated during installation to provide a better view down a long corridor or hallway.
**Mini-Bullet Settings Menu**:
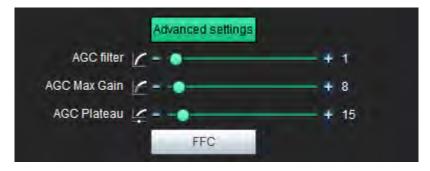


| 📋 | **NOTE** |
|---|---|
| The **Mirror** and **Flip** settings are only available on fixed bullet cameras. | |



**Advanced Thermal Image Settings**

The AGC plateau equalization algorithm performs a non-linear transformation from a 14–bit image to an 8–bit image limiting the maximum number of shades of gray devoted to any particular portion of the scene.

**AGC Filter (0 to 255)**

The AGC filter is used to adjust how quickly the AGC algorithm reacts to a change in a scene. If the AGC filter is set to a low value, when a hot object enters the field of view, the AGC will adjust more slowly, resulting in a gradual transition. A setting of 255 causes an immediate update, a setting of 1 causes the slowest update, and a setting of 0 indicates no updates to AGC.

**AGC Max Gain (0 to 255)**

For scenes with high dynamic range (a wide 14–bit histogram), the maximum gain parameter has little effect. For a very bland scene ( a narrow 14–bit histogram), a higher setting of AGC Max Gain will significantly increase the contrast of the resulting image.

**AGC Plateau (0 to 255)**

When the AGC Plateau value is set to a high value, more shades of gray are mapped to areas of similar temperature. When the AGC Plateau level value is set to a low value, the mapping is more linear. For example, an image comprised of 60% sky (very cold) will devote 60% of the available shades to the sky, leaving only 40% for the remainder of the image.

**FFC**
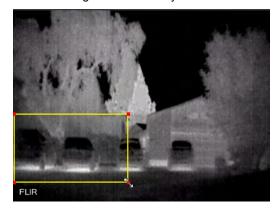
Click **FFC** to manually initiate a flat field correction (FFC), updating the pixel calibration to improve the image quality. The FFC is also performed automatically during changes in temperature.

### 6.1.2  Region of Interest (ROI)

Use the thermal region of interest (ROI) to select only the portion of the scene that the automatic gain control (AGC) will use to optimize the image. The region is automatically adjusted for zoom. You can select a preset ROI or create a custom ROI. The custom ROI Type provides the ability to setup a rectangular region of any size and move it to any location in the image.

**To set up a custom ROI region:**

1. Under **ROI Type**, select **Custom**.
2. Click and drag a corner of the yellow box to resize the ROI region.

3. Click and drag the box to adjust the location of the ROI region.
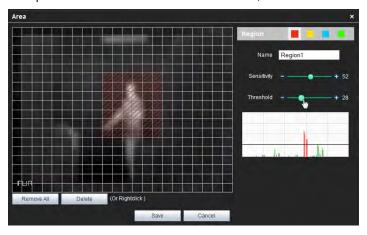


### *6.1.3 Setting ROI to Match Motion Detection Areas*
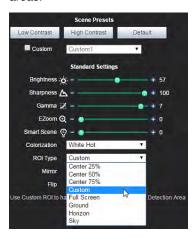
After configuring motion detection areas, you can set up the ROI to include all motion detection areas.

**To set ROI to match motion detection areas:**
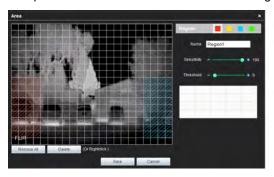
1. Set up motion detection areas. For more details, see 6.4.1 *Motion Detect*, page 38.

2. Click **Camera>Settings** to display the camera settings menu.
3. Under **ROI Type**, select **Custom**. ROI will automatically be set to include all motion areas.



Multiple motion detection areas will result in a single ROI.



### 6.1.4 Video

The Video tab allows you to configure the encoding settings for the camera. Video settings are divided into Main Stream and Sub Stream.



**To configure video quality settings:**

1. Check **Enable** under Sub Stream to enable the sub stream or uncheck to disable.

2. For the Main Stream and Sub Stream, configure the following:

   - **Code Stream Type:** For the Main Stream, select **Continuous** to configure settings when motion is not detected, **Motion** to configure settings when motion is detected, or **Alarm** to configure settings when an alarm is detected.
   - **Encode Mode:** Select the encoding type: **H.264** (Main H.264 profile), **H.264H** (High Profile H.264), **H.264B** (Baseline H.264 profile), **MJPEG**.

   > 📄 **NOTE**
   >
   > A much higher bitrate and faster connection is required to maintain image quality using MJPEG. It is recommended to use H.264 unless you have special requirements.

   - **Resolution:** Select the desired resolution for the video stream. SXGA (1280 x 1024) provides full data from PTZ and Bullet cameras, while 720p (1280 x 720) crops the top and bottom of the image to fit the video resolution. There is a different recommended bit rate depending on the resolution selected.
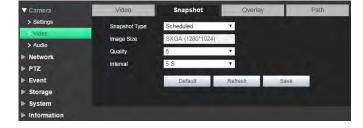
   > 📄 **NOTE**
   >
   > 720p (1280x720) crops the top and bottom of the image to fit the video resolution.

   - **Frame Rate (FPS):** Select the desired frame rate for the video stream between **1** and **30** FPS.
   - **Bit Rate Type:** Select **CBR** (Constant Bit Rate) or **VBR** (Variable Bit Rate). If you select VBR, you can select the **Video Quality** between **1** (lowest) and **6** (best).
   - **Reference Bit Rate:** Recommended bit rate range based on the resolution and frame rate settings you have selected.
   - **Bit Rate:** Select the desired bit rate for each video stream or select **Customized** and enter the bit rate in Kbps.
   - **I Frame:** Select the interval for I frames (30~150 for NTSC, 25~150 for PAL).

3. Under **Watermark Settings**, check to enable watermark to protect against video tampering.
4. Under **Watermark Character**, enter the desired watermark text.
5. Click **Save** to save changes.

### 6.1.5   Snapshot

The Snapshot menu allows you to configure images quality settings for snapshots.



**To configure snapshots:**

1. Configure the following:

   - **Snapshot Type:** Select **Scheduled** to configure snapshots taken using scheduled recording. Select **Event** to configure snapshots activated by alarms.
   - **Image Size:** The image size of snapshots is the same as the resolution for the stream selected.
   - **Quality:** Select the image quality for snapshots between **1** (lowest) and **6** (highest).
   - **Interval:** Select the interval between snapshots between **1** and **7** seconds. Select **Customized** to select an interval from 1~50000 seconds.

2. Click **Save** to save changes.

### 6.1.6   Overlay

The Overlay tab allows you to configure the text and information that appears overtop of the camera image, such as time and date display. Click Enable or Disable for each of the sub tabs described below on the Overlay tab. Click **Save** to save changes.

**To configure video overlay:**

1. Under **Channel Title**, click **Enable** to show the name of the channel on screen. Under **Input channel title**, enter a personalized channel name. Click and drag the Channel Title box to any location on the screen. Click **Save** to save changes.



2. Under **Time Title**, click **Enable** to show the time. Check **Week Display** to show the time and day of the week. Click **Save** to save changes.
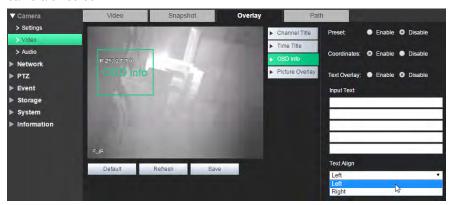
3. Under **Text Overlay** or **OSD info (PTZ)**, click **Enable** to display the **Input Text** and enter a custom message.



**PTZ Camera Only:**

Click **Enable** for Preset to briefly show on screen the Preset name or number when activated. Click **Enable** for Coordinates to show the pan (P) and tilt (T) angles of the camera on screen.



4. Under **Picture Overlay**, click **Upload** to select and upload an image. Move the green overlay box to the desired location in the video frame. Click **Enable** to display the up-loaded bitmap image, and then click **Save** to save changes.



### 6.1.7  Privacy Masking

Configure privacy masks to hide certain parts of the camera image in video recordings (Not available on the PTZ camera).

> ⚠ **CAUTION**
>
> Privacy masks block out parts of the camera image entirely and appear as black boxes in recordings.
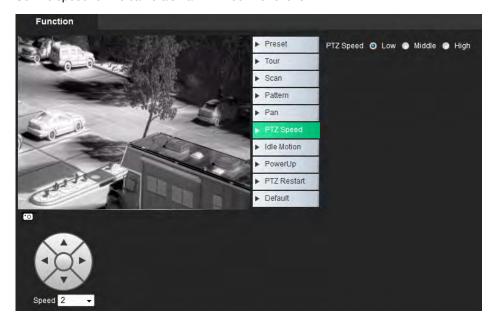
**To configure video overlay:**

1. Under **Privacy Masking**, you can create up to four privacy masks.

   - Click the corners of a privacy area to adjust the size of the privacy area.
   - Right-click to delete the currently selected privacy area.
   - Click-and-drag outside of the privacy areas to create a new privacy area.
   - Click **Save** to save changes.

### 6.1.8   PTZ Speed

Set the speed for the camera's Pan-Tilt-Zoom functions.
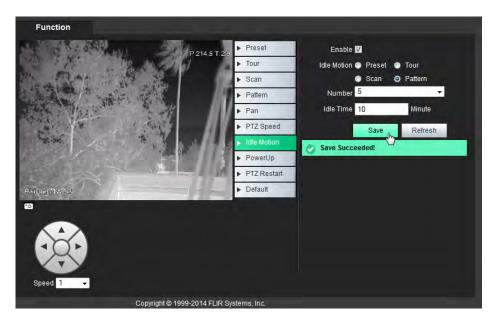


**To set PTZ speed:**

1. Under **PTZ** > **Function**, click **PTZ Speed**.
2. Click either **Low**, **Middle**, or **High** to set the speed of PTZ functions

### 6.1.9   Idle Motion

You can set the camera to perform a certain action when it is left idle for a set period of time.

**To configure idle motion:**

1. Under **PTZ** > **Function**, click **Idle Motion**.
2. Check **Enable** to enable the idle motion feature.
3. Select an idle motion for the camera. You can choose from **Preset**, **Tour**, **Scan**, or **Pattern**.
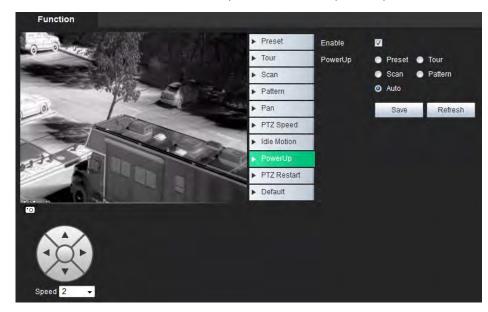
> 📋 **NOTE**
>
> You must setup at least one of the corresponding functions to set it as the idle motion. For example, you must setup at least one tour to select **Tour** as the **Idle Motion**.

4. Under **Idle Time**, set the time in minutes before the idle camera performs the set idle motion.
5. Press the **Save** button to save your selection.

### 6.1.10  Power Up

Choose an action for the PTZ camera to perform when it first powers up.

**To configure the power up function:**

1. Under **PTZ** > **Function**, click **PowerUp**.
2. Check **Enable** to enable the power up feature.
3. Select a power up function for the camera. You can choose from **Preset**, **Tour**, **Scan**, **Pattern**, or select **Auto** to perform the default PTZ diagnostic check on startup.
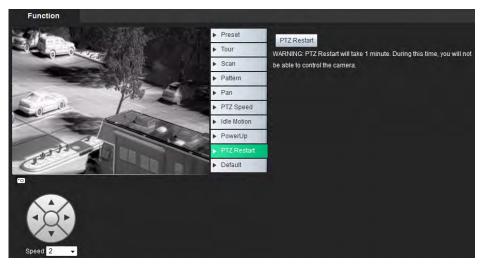
> 📝 **NOTE**
>
> For all options except **Auto**, you must setup at least one of the corresponding functions to set it as the power up function. For example, you must setup at least one tour to select **Tour** as the power up function.

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

### 6.1.11   PTZ Restart

Restart the PTZ camera.



**To restart the PTZ camera:**

1. Under **PTZ** > **Function**, click **PTZ Restart**.
2. Click **PTZ Restart**.
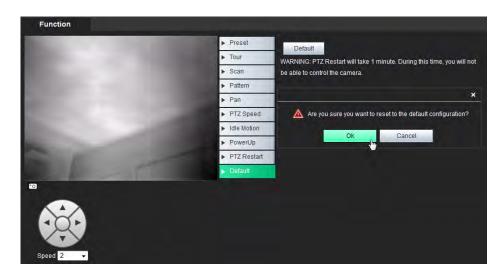
### 6.1.12   Default

Set all PTZ functions back to the default settings.
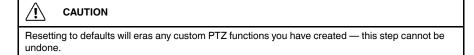
> ⚠ **CAUTION**
>
> Resetting to defaults will erase any custom PTZ functions you have created — this step cannot be undone.
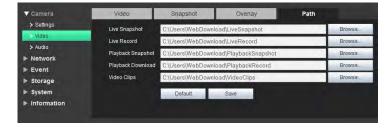
**To reset PTZ defaults:**

1. Under **PTZ** > **Function**, click **Default**.
2. Click the **Default** button. You will be prompted to confirm the reset.

> ⚠️ **CAUTION**
>
> Resetting to defaults will eras any custom PTZ functions you have created — this step cannot be undone.

### 6.1.13   Path

The Path tab allows you to configure the folder where snapshots and manual recordings are saved to.



**To configure the recording and snapshot folder:**

1. Configure the following:

   - **Live Snapshot:** The folder on your hard drive where snapshots are stored. Click **Browse** to select a different folder.
   - **Live Record:** The folder on your hard drive where manual recordings are stored. Click **Browse** to select a different folder.
   - **Playback Snapshot:** The folder on your hard drive where playback snapshots are stored. Click **Browse** to select a different folder.
   - **Playback Download:** The folder on your hard drive where playback downloads are stored. Click **Browse** to select a different folder.
   - **Video Clips:** The folder on your hard drive where video clips are stored. Click **Browse** to select a different folder.

> 📝 **NOTE**
>
> An SD / microSD card (not included) must be installed to use playback functions. Check the technical specifications for your camera to see it supports SD / microSD cards.

2. Click **Save** to save changes.

### 6.1.14  Audio

The Audio tab allows you to enable / disable camera audio as well as choose the audio encoding type. The settings in this menu will affect both one-directional and bidirectional audio for the camera.

> **📄 NOTE**
>
> This setting is only available on cameras with a microphone. Check the technical specifications for your camera.



**To configure audio settings:**

1. Check **Enable** under Main Stream, Sub Stream, or both to enable audio.
2. Under **Encode Mode**, select an encoding mode from **PCM**, **G.711A** and **G.711Mu**.
3. Click **Save** to save changes.
4. Under **Attributes**, configure settings and set microphone and speaker volume levels.



5. Click **Save** to save changes.

## 6.2  Network

### 6.2.1  TCP-IP

The TCP-IP menu allows you to configure the camera for DHCP or Static IP addressing.

**To configure IP address settings:**

1. Under **Host Name**, enter the Host Name for the camera up to 32 characters.
2. Under **IP Version**, select **IPV4** or **IPV6**.
3. Under **Mode**, select **Static** or **DHCP**. If you select **Static**, configure the **IP Address**, **Subnet**, **Mask**, **Default Gateway**, **Preferred DNS Server**, and **Alternate DNS Server**.
4. Click **Save** to save changes.

### 6.2.2  Connection

The Connection menu allows you to configure the camera ports and maximum connections to the camera. You must port forward the HTTP (default: **80**) and TCP (default: **35000**) port numbers on your router to enable remote connection to your camera.

---

📝  **NOTE**

---

If you are not using an NVR and are setting up multiple cameras in the same network for remote access, you must assign unique TCP and HTTP ports for each camera. Two cameras cannot share the same port number.

---



**To configure connection settings and ports:**

1. Under **Max Connection**, enter the maximum number of devices that can connect to the camera at the same time between **1** and **20**.

2. Configure the following port settings:

- **TCP Port:** Enter the TCP (Client) Port number (default: **35000**). The TCP port is used to stream video to remote computers or mobile devices. The TCP Port must be port forwarded to enable remote connection to your camera.
- **UDP Port:** Enter the UDP Port number (default: **37778**). The UDP Port is used for special applications only.
- **HTTP Port:** Enter the HTTP Port (default: **80**). The HTTP Port is used to access the camera's web interface. The HTTP Port must be port forwarded to enable remote access.

> 📋 **NOTE**
>
> If you change the HTTP Port to anything other than 80, you must enter colon (:) and the HTTP port in your web browser to access the camera (e.g. http://tomsmith.myddns-flir.com:85).

- **RTSP Port:** Enter the RTSP Port (default: **554**). The RTSP Port is used for special applications. For details on RTSP streaming, see 12 *RTSP Streaming (Advanced)*, page 135.

3. (Optional) To enable HTTPS, check **HTTPs On**. To connect to the camera using HTTPS, you must forward the HTTPS port (default: 443) on your router. You must also connect to the camera using the following format:

- https://IP or DDNS address: HTTPS Port
- **For example:** https://tomsmith.myddns-flir.com:443

4. (Optional) To configure the HTTPS port, enter the custom port number under HTTPS Port (default: **443**).
5. Click **Save** to save changes.

### 6.2.3 ONVIF

The camera supports ONVIF Profile S v2.4. You can enable or disable ONVIF authentication under **Network>Connection>ONVIF**.



### 6.2.4 PPPoE

The PPPoE menu allows you to enter a PPPoE user name and password (usually provided by a DSL provider).

**To configure PPPoE:**

1. Click **Enable**.
2. Under **Username**, enter the PPPoE user name.
3. Under **Password**, enter the PPPoE password.
4. Click **Save** to save your changes.
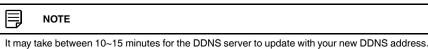
### 6.2.5   DDNS

The DDNS menu allows you to set up the camera with a free FLIR DDNS account for re-mote connectivity. You can register for a FLIR DDNS account at ddns.myddns-flir.com.



**To configure DDNS:**

1. Under **Server Type**, check the checkbox and select **FlirDDNS**.
2. Under **Domain Name**, enter the Domain Name from the confirmation email you re-ceived after registering for DDNS.
3. Under **Username**, enter the User Name from the confirmation email.
4. Under **Password**, enter the Password from the confirmation email.
5. Click **Save**.

> 📝 **NOTE**
>
> It may take between 10~15 minutes for the DDNS server to update with your new DDNS address.

### 6.2.6   IP Filter

The IP Filter allows you to create a white list of device MAC or IP addresses that can ac-cess the camera. If you use the IP filter menu, devices that are not on the white list will not be able to remotely connect to the camera.

---

| 📋 | **NOTE** |
|---|---|

If you enable the IP filter the camera will block any device that is not listed. Make sure the correct devices are added to the list, or you may not be able to access the camera.

**To filter connections based on IP or MAC addresses:**

1. Click **Add IP/MAC**.
2. Select **IP Address** or **MAC Address** and then enter the address of the device you would like to add to the white list.



3. Click **Save**.
4. Check **Trusted Sites**.
5. Click **Save** to save changes.

### 6.2.7   SMTP (Email)

The SMTP menu allows you to set up email alerts for motion or alarms.

**To configure SMTP Settings:**

1. Configure the following:

   - **SMTP Server**: Enter the SMTP server address.
   - **Port**: Enter the Port used by the server.
   - **Anonymity**: Check if the server allows anonymous logins or uncheck to enter credentials to access the server.
   - **Username**: Enter the user name of the sender's account.
   - **Password**: Enter the password of the sender's account.
   - **Sender**: Enter the sender's email account.
   - **Authentication**: Select **SSL** or **TLS**.
   - **Mail Receiver**: Enter the email address that will receive email alerts.
   - **Interval**: Select the interval for sending email alerts. The system will only send email alerts after this interval has passed.
   - **Health Mail**: Check to enable the camera to send health alerts. If you enable health alerts, enter the interval in seconds under **Update Period**.

2. Click **Email Test** to send a test email using the settings you have entered.
3. Click **Save** to save changes.

### 6.2.8   UPnP

UPnP allows you to map port numbers between the LAN and the Internet. Depending on your router version, you may need to disable UPnP function.



### 6.2.9   Bonjour (unsupported)

### 6.2.10   Multicast (Advanced)

When there are multiple hosts receiving the same data packets, multicast is the best option to reduce the bandwidth and the CPU load. The source host can send out one data set.

**To enable multicast:**

1. Under **Main Stream** or **Sub Stream**, click **Enable**. The main stream and sub stream are enabled by default.
2. Under **Multicast Address**, enter the desired multicast IP address.

> 📝 **NOTE**
>
> If there are multiple cameras using multicast on the same network, each camera must have a different multicast IP address. Multicast addresses must be between **224.1.2.4** and **239.255.255.255**. For example, **239.255.42.42**

3. Under **Port**, enter your desired port for main stream, such as **40000** for main stream and **40006** for the sub stream. Main and sub stream should have different ports if multicast IP is the same.

> 📝 **NOTE**
>
> Multicast port numbers must an even number between **1025** and **65529**.

**Use the following URL to retrieve the video:**

• *rtsp://<IP Address>/cam/realmonitor?channel=1&subtype=<0 for main stream or 1 for substream>&unicast=false*

**For example, if the camera has the IP address 192.168.250.226, and multicast data as above, use:**

• **Main Stream:**
  *rtsp://192.168.250.226/cam/realmonitor?channel=1&subtype=0&unicast=false*

• **Sub Stream:**
  *rtsp://192.168.250.226/cam/realmonitor?channel=1&subtype=1&unicast=false*

### 6.2.11   QoS (Service Only)

### 6.3   PTZ

The PTZ submenu allows you to configure preset locations, patterns, and tours for retrieval at any time.
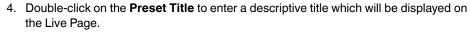
### 6.3.1   Preset

Presets wills save a camera position for quick retrieval.



**To add presets:**

1. Under **PTZ** > **Function**, click **Preset**.
2. Use the PTZ controls to move the camera to the desired location.
3. Click **Add** to add the current location to the list of presets.

4. Double-click on the **Preset Title** to enter a descriptive title which will be displayed on the Live Page.



5. Set the **Preset Image** and **Preset Video Motion Detection** settings. These settings can be unique to each Preset#.
6. Click **Save**. You can now call the preset location from the Live View tab using the PTZ control panel.

**To delete presets:**

• Click next to the preset title you want to delete to remove it from the list.

**To take a snapshot:**

• Click to take a snapshot of the current preset location.

### 6.3.2    Tour

Tours will cycle through a set of presets.



**To add a tour:**

1. Under **PTZ** > **Function**, click **Tour**.
2. Click **Add** beneath the tour list to add a new tour.
3. (Optional) Double-click the tour name to enter a personalized name for the tour.
4. Click **Add** beneath the preset list to add a location to the tour. By default, the newly added location will show the number "1" under the Preset column.
5. Double-click the number "1" under Preset to open a dropdown menu with all of your saved preset locations. Select the preset number you want to use as the first location in the tour.
6. Repeat steps 4 & 5 for as many preset locations you would like in the tour. When finished, press **Save** to save the tour.
   You can press the **Start** button to test the tour, then **Stop** to stop the test.

**To delete a tour:**

- Click ⊖ next to the tour you want to delete to remove it from the list.

### 6.3.3   Scan

An auto scan automatically cycles between a set left and right limit.



**To add a scan cycle:**

1. Under **PTZ** > **Function**, click **Scan**.
2. Under **Scan No.**, select the scan cycle you would like to configure.
3. Click **Set** to open the Set Limits buttons.

> 📝 **NOTE**
>
> Setting the left limit also sets the elevation level of the scan. Manually scan the area you wish to include to select the best elevation for the entire area, then select the left limit.

4. Using the PTZ controls, move the camera to the leftmost point of the scan pattern you want to set and click **Set Left Limit**.
5. Move the camera to the rightmost point of the scan pattern you want to set and click **Set Right Limit**.
6. Under **Speed**, click **/ +** or use the slider to set the speed of the scan cycle. Setting a higher number means the camera will move faster between the left and right limits.
7. Press the **Start** button to test the scan cycle, then **Stop** to stop the test.

### 6.3.4   Pattern

You can set the pattern function to record a series of camera movements to recall later.



**To save a pattern:**

1. Under **PTZ** > **Function**, click **Pattern**.
2. Under **Pattern No.**, select the pattern cycle you would like to configure.

3.  Click **Set**.
4.  Press **Start Record** to start recording a pattern. Move the camera in the desired pattern using the PTZ controls. When finished, press **Stop Record**
5.  Press **Set** again to save the pattern.
6.  Press the **Start** button to test the pattern, then **Stop** to stop the test.

### 6.3.5   Pan

Set the camera to pan continuously at a set speed.



**To setup auto-pan:**

1.  Under **PTZ** > **Function**, click **Pan**.
2.  Under **Pan Speed**, click  **/ +** or use the slider to set the panning speed.
3.  Press the **Start** button to test the auto-pan, the **Stop** to stop the test.

### 6.4   Event

### 6.4.1   Motion Detect

The Video Detect menu allows you to set up motion detection and recording.

| 📋 **NOTE** |
| --- |
| Recording functions require an FTP server or an on-board microSD card. Some camera models do not support these recording features. |



**To set up motion detection settings:**

1.  Check **Enable** to enable motion detection.

2. To configure a schedule when motion detection will be activated, click **Setup** next to **Working Period**.



- Select the day you would like to configure by clicking the **Setup** buttons. You can apply the same schedule to multiple days using the checkboxes.
- Configure up to 6 time periods when motion detection will be activated.
- Click **Save**. Repeat the steps above if you would like to apply a different schedule to different days.

3. Under **Anti-dither**, enter the anti-dither time. After a motion event occurs and motion stops, if motion is detected within the anti-dither time, the system continues the motion event and includes the new motion within the first event, rather than creating a new motion event.

4.  To configure the motion grid, click **Setup** next to **Area**.

    - Click squares on the grid to create motion detection areas. Click on the different colors to set 4 different areas.
    - To move an area, click inside and drag.
    - Right-click to delete the selected area.
    - Click-and-drag outside of all areas to draw a new area. You may have up to 4 motion areas.
    - Use the sliders to adjust the **Sensitivity** and **Threshold** for motion detection.

    > ⚠ **CAUTION**
    >
    > It is recommended to have someone moving in areas of interest on the camera image during setup.
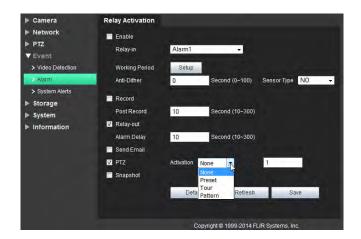
    - The **Sensitivity** determines how sensitive the camera is to motion. For example, if the sensitivity is high, small amounts of motion will score higher on the graph. It is recommended to select a Sensitivity between 30~70.
    - The **Threshold** determines how much motion is required to trigger an alarm or recording. It is represented by the horizontal line on the graph. If the amount of motion in the area exceeds this line, it will trigger an alert. It is recommended to select a Threshold between 10~50.
    - Each motion area can have a separate Sensitivity and Threshold value.
    - Click **Save**.

    

5.  Check **Record** to record when motion is detected. microSD or FTP recording must be configured to use this function.
6.  Enter the number of seconds the camera will record after motion is detected under **Post Record**.
7.  Check **Relay Out** to trigger an external alarm device when the camera detects motion. The camera must have an Alarm Output to use this function.
8.  Enter the number of seconds before the camera will trigger the external device under **Alarm Delay**.
9.  Check **Send Email** for the camera to send an email alert when motion is detected. Email settings must be configured to receive email alerts.
10. Check **PTZ** to select a **Preset**, **Tour**, or **Pattern** that the camera (PTZ camera only) will perform when motion is detected. The selected action must have previously been configured. To configure PTZ actions, see 6.3 *PTZ*, page 35
11. Check **Snapshot** for the camera to save a snapshot when motion is detected. microSD or FTP recording must be configured to use this function.
12. Click **Save** to save changes.

### 6.4.2   Relay Activation (Cameras with Alarm I/O Only)

The Alarm menu allows you to configure settings for alarm devices. Your camera must have an alarm I/O connector to use alarm devices.

**To configure alarm device settings:**

1. Configure the following:

   - Under **Relay-In**, select the alarm device you would like to configure.
   - Check **Enable** to enable the selected alarm input device.
   - Click **Setup** next to Working Period to set a schedule for alarm device activation.
   - Under **Anti-Dither**, enter the latch time in seconds.
   - Under **Sensor Type**, select **NO** (Normally Open) or **NC** (Normally Closed) depending on the type of sensor used.
   - Check **Record** to record when a sensor device is triggered.
   - Under **Post Record**, enter the amount of time the system will record when a sensor device is triggered.
   - Check **Relay-out** to activate an alarm output device (e.g. strobe light) when the sensor device is triggered. The camera must have an alarm output to use this feature. Enter the number of seconds before the camera will trigger the external device under **Alarm Delay**.
   - Check **Send Email** for the camera to send out an alert email when the sensor device is triggered.
   - Check **PTZ** to select a **Preset**, **Tour**, or **Pattern** (or None) that the camera (PTZ camera only) will perform when an alarm occurs. The selected action must have been previously configured. To configure PTZ actions, see 6.3 *PTZ*, page 35.
   - Check **Snapshot** for the camera to save a snapshot to FTP or microSD when the sensor device is triggered.

2. Click **Save** to save changes.

### 6.4.3   System Alerts

System Alerts include notifications for SD Card, Network, and Illegal Access issues. Each event can be configured independently.

| 📑 | **NOTE** |
|---|---|
| The No SD Card warning is only available on cameras that support SD / microSD cards. Check the technical specifications for your camera. | |

**To configure No SD Card errors:**

1. Under **Event Type**, select **No SD Card**.
2. Check **Enable** to enable No SD Card errors.
3. Check **Relay-out** to trigger an alarm out device when No SD Card errors occur. Under **Alarm Delay**, enter the number of seconds before the alarm out device will be activated.

> **NOTE**
>
> Relay-out is only available if your camera supports alarm output. Check the technical specifications for your camera.

4. Check **Send Email** to send an email alert when No SD Card errors occur.
5. Click **Save** to save changes.

**To configure Capacity Warnings:**

A Capacity Warning occurs when the recording destination (microSD / SD card or FTP server) reaches capacity.



**To configure Capacity Warnings:**

1. Under **Event Type**, select **Capacity Warning**.
2. Check **Enable** to enable Capacity Warnings.
3. Under **Capacity Limit**, set the percentage of free space on the recording destination that will trigger a Capacity Warning. For example, if you enter 10% and your microSD card is 1GB, a warning will occur when there is only 100MB of free space remaining.

---

4. Check **Relay-out** to trigger an alarm out device when Capacity Warnings occur. Under **Alarm Delay**, enter the number of seconds before the alarm out device will be activated.
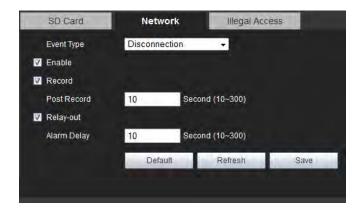
> 📑 **NOTE**
>
> Relay-out is only available if your camera supports alarm output. Check the technical specifications for your camera.

5. Check **Send Email** to send an email alert when Capacity Warnings occur.
6. Click **Save** to save changes.

**To configure SD Card Errors:**

An SD Card Error occurs if an error occurs recording to the SD / microSD card (for example, if the card is damaged or is using the wrong file system).

> 📑 **NOTE**
>
> The SD Card Error warning is only available on cameras that support SD / microSD cards. Check the technical specifications for your camera.



**To configure SD Card Errors:**

1. Under **Event Type**, select **SD Card Error**.
2. Check **Enable** to enable SD Card Errors.
3. Check **Relay-out** to trigger an alarm out device when SD Card Errors occur. Under **Alarm Delay**, enter the number of seconds before the alarm out device will be activated.
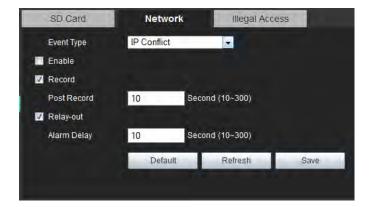
> 📑 **NOTE**
>
> Relay-out is only available if your camera supports alarm output. Check the technical specifications for your camera.

4. Check **Send Email** to send an email alert when SD Card Errors occur.
5. Click **Save** to save changes.

**To configure Disconnection errors:**

A Disconnection error occurs if the camera is disconnected from the network.

**To configure Disconnection Errors:**

1. Check **Enable** to enable Disconnection errors.
2. Check **Record** to record to the microSD / SD card when Disconnection errors occur.

> 📝 **NOTE**
>
> The camera must support microSD / SD card recording to use this function. Check the technical specifications for your camera.

3. Under **Post Record**, enter the number of seconds the camera will record after a Disconnection error.
4. Check **Relay-out** to trigger an alarm out device when Disconnection errors occur. Under **Alarm Delay**, enter the number of seconds before the alarm out device will be activated.
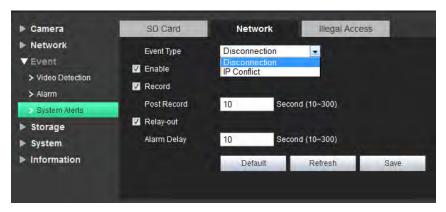
> 📝 **NOTE**
>
> Relay-out is only available if your camera supports alarm output. Check the technical specifications for your camera.

5. Check **Send Email** to send an email alert when Disconnection errors occur.
6. Click **Save** to save changes.

**To configure IP Conflict errors:**

An IP Conflict error occurs if another device is assigned the same IP address as the IP camera.



**To configure IP Conflict errors:**

1. Under **Event Type**, select **IP Conflict**.
2. Check **Enable** to enable IP Conflict errors.

3. Check **Record** to record to the microSD / SD card when IP Conflict errors occur.

> **NOTE**
>
> The camera must support microSD / SD card recording to use this function. Check the technical specifications for your camera.

4. Under **Post Record**, enter the number of seconds the camera will record after an IP Conflict
5. Check **Relay-out** to trigger an alarm out device when IP Conflict errors occur. Under **Alarm Delay**, enter the number of seconds before the alarm out device will be activated.

> **NOTE**
>
> Relay-out is only available if your camera supports alarm output. Check the technical specifications for your camera.

6. Check **Send Email** to send an email alert when IP Conflict errors occur.
7. Click **Save** to save changes.

### 6.4.4   Network

Some cameras group the IP Conflict and Disconnection warnings into a single Network warning tab.



**To enable IP Conflict / Disconnection errors:**

1. Under **Event Type**, select **Disconnection** or **IP Conflict**.
2. Check **Enable** to enable the selected warning type.
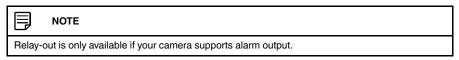
### 6.4.5   Illegal Access

Set the camera to trigger an alarm (if supported) or send an email when the username or password is incorrectly entered multiple times to access the camera.

**To enable Illegal Access errors:**

1. Check **Enable** to enable the Illegal Access warning.
2. Under **Login Error**, enter the number of times that wrong username / password can be entered before the warning is triggered.
3. Check **Relay-out** to trigger an alarm out device when IP Conflict errors occur. Under **Alarm Delay**, enter the number of seconds before the alarm out device will be activated.

> 📑 **NOTE**
>
> Relay-out is only available if your camera supports alarm output.
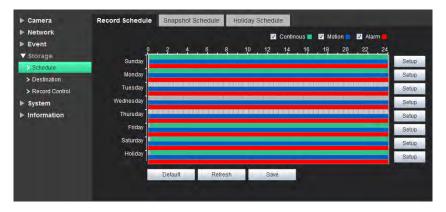
4. Check **Send Email** to send an email alert when IP Conflict errors occur.
5. Click **Save** to save changes.

### 6.5   Storage

The Storage menu allows you to configure recording settings.
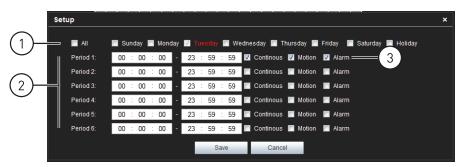
#### 6.5.1   Record Schedule

The Record Schedule determines the schedule for video recording to SD / microSD card or FTP.



**To configure the recording schedule:**

1. Click **Setup** next to the day you would like to configure.
2. Use the checkboxes if you want to copy the schedule to other days.
3. Configure up to 6 time periods for recording. For each period, enter a time range and check the recording types you would like to enable during that period:

   • **Continuous:** Continuous recording.
   • **Motion:** Motion activated recording.
   • **Alarm:** Alarm activated recording.



3.1.   Check to copy schedule
3.2.   Configure up to 6 periods

3.3.    Enable recording types
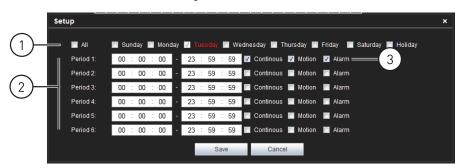
4.  Click **Save**.

### 6.5.2  Snapshot Schedule

The Snapshot schedule determines the schedule for snapshot recording.



**To configure the snapshot schedule:**

1.  Click **Setup** next to the day you would like to configure.
2.  Use the checkboxes if you want to copy the schedule to other days.
3.  Configure up to 6 time periods for recording. For each period, enter a time range and check the recording types you would like to enable during that period:

    • **Continuous:** Continuous recording.
    • **Motion:** Motion activated recording.
    • **Alarm:** Alarm activated recording.



3.1.    Check to copy schedule
3.2.    Configure up to 6 periods
3.3.    Enable recording types

4.  Click **Save**.
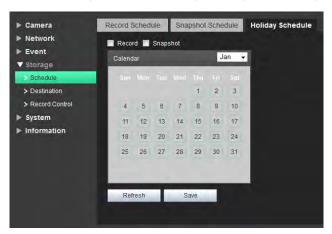
> 📑  **NOTE**
>
> Alternatively, you can click and drag over days and times to determine the schedule for snapshot recording.

### 6.5.3 Holiday Schedule

The Holiday Schedule allows you to set certain days of the year as holidays.



**To configure the holiday schedule:**

1. Check **Record** or **Snapshot** to enable holidays for that recording type.
2. Use the calendar to select which days are holidays.
3. Click **Save**.

### 6.5.4 Path

The Path tab allows you to select if the camera records to microSD or FTP.



**To select the recording destination:**

1. Under **Record** or **Snapshot**, check **Local** to record to the microSD card, check **FTP** to record to FTP, check **NFS** to record using network file system protocol or check **SMB** to record using Server Message Block. For video recording or for taking snapshots, only one option can be selected.
2. Click **Save**.

### 6.5.5   Local

> 📝 **NOTE**
>
> Local storage is only available when the camera has an installed microSD card.

The Local tab allows you to format or configure the microSD card installed in the camera.



- Click **Read Only** to set the microSD card on read only mode. This disables microSD recording.
- Click **Read & Write** to enable recording on the microSD card.
- Click **Hot Swap** to unmount the microSD card if you would like to eject it from the camera.
- Click **Format** and then click **Yes** to format the microSD card. The camera will reboot once the format is completed.

### 6.5.6   FTP

The FTP tab allows you to set up settings for recording to an FTP server.



**To set up FTP settings:**

1. Check **Enable** to enable recording to FTP.
2. Configure the following:

   - **Server Address:** Enter the IP address or DNS address of the FTP server.
   - **Port:** Enter the FTP server port number.
   - **User Name:** Enter the user name for the FTP server.
   - **Password:** Enter the password for the FTP server.
   - **Remote directory:** Enter the recording directory on the FTP server (e.g. share).

   > 📝 **NOTE**
   >
   > The recording directory must be located one level below the root directory. For example, share is acceptable, but not share/recordings.

   - Check **Emergency (Local)** to enable microSD recording if the FTP server cannot be reached.

3. Click **Save** to save changes.

### 6.5.7   NFS

The NFS tab allows you to configure recordings to a NFS (network file system).

**To set up NFS settings:**

1. Check **Enable** to enable recording to NFS.
2. Configure the following:

    • **Server Address:** Enter the IP address or DNS address of the NFS.
    • **Remote directory:** Enter the recording directory on the NFS (e.g. share).

> 📝 **NOTE**
>
> The recording directory must be located one level below the root directory. For example, share is acceptable, but not share/recordings.

3. Click **Save** to save changes.

### 6.5.8  SMB

The SMB tab allows you to configure settings for recording using a server message block.



**To set up SMB settings:**

1. Check **Enable** to enable recording using SMB.
2. Configure the following:

    • **Server Address**: Enter the IP address or DNS address of the SMB server.
    • **Port**: Enter the SMB server port number.
    • **User Name**: Enter the user name for the SMB server.
    • **Password**: Enter the password for the SMB server.
    • **Remote directory**: Enter the recording directory on the SMB server (e.g. share).

3. Click **Save** to save changes.

> 📝 **NOTE**
>
> The recording directory must be located one level below the root directory. For example, share is acceptable but not share/recordings.

### 6.5.9  Record Control

The Record Control menu allows you to configure recording parameters for the camera.

**To configure recording parameters:**

1.  Under **Pack Duration**, enter the duration in minutes that the camera will use to pack video.
2.  Under **Pre-event Record**, enter the duration in seconds that the camera will pre-record before motion events.
3.  Under **Disk Full**, select **Overwrite** to overwrite recordings when the recording medium is full or select **Stop** to stop recording when the recording medium is full.

    • Under **Record Mode**, select **Auto** to record according to the schedule, select **Manual** to record continuously, or select Off to disable recording.

4.  Under **Record Stream**, select **Main Stream** to record using the Main Stream settings, or select **Substream** to record the substream.
5.  Click **Save** to save changes.

## 6.6   System

### 6.6.1   General

The General menu allows you to configure general camera settings.



**To configure general camera settings:**

1.  Under **Device Name**, enter a name for the camera.
2.  Under **Language**, select the language that will be used for the web browser interface.
3.  Under **Video Standard**, select **NTSC** (North America) or **PAL** (Europe).
4.  Click **Save**.

### 6.6.2   Date & Time

The Date & Time tab allows you to set up date and time settings for the IP camera.

**To configure date & time settings:**

1. Configure the following:

   - **Date Format:** Select the date format.
   - **Time Format:** Select the time format (12 hour or 24 hour).
   - **Time Zone:** Select your time zone.
   - **Current Time:** Enter the current time or click **Sync PC** to sync your IP camera to your PC's clock.

2. If your area uses Daylight Savings Time (DST) check **DST Enable**. If you enable DST, configure the following:

   - **DST Type:** Select **Date** to select a date for the time change or select **Week** to select the week and day for the time change.
   - **Start Time** and **End Time:** Enter the start and end times for Daylight Savings.

3. Check **Synchronize with NTP** to synchronize the camera clock with an NTP time server. A constant Internet connection is required to use NTP. If you enable NTP, configure the following:

   - **NTP Server:** Enter the NTP server address.
   - **Port:** Enter the port for the NTP server.
   - **Update Period:** Enter the interval the camera will use to update the time.

4. Click **Save**.
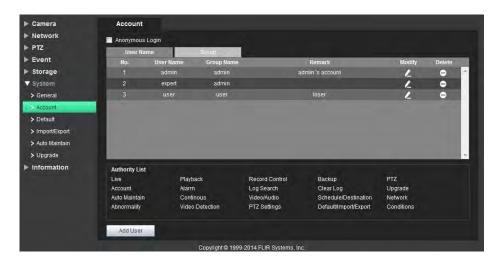
### 6.6.3  Account

The Account menu allows you to configure user accounts and user groups. The camera can support up to 18 user accounts and up to 8 groups. User accounts must be assigned to a group and inherit permissions from user groups, but an individual user account can be given less permissions than the group.

The camera includes a unique admin account that cannot be deleted. The admin account is the only one that can change permissions assigned to user accounts. Accounts given permission to access the Account menu may change the password for other accounts. Accounts not given permission to access the Account menu may not change any account passwords, including their own. It is essential to change the password of the admin account from the default to prevent unauthorized access to your camera.

You may also check **Anonymous Login** to allow users to connect to the camera without entering a user name or password. Users connecting anonymously are given limited access to the camera: they may only view live video and the Alarm list.

**To create a user account:**

1. Click **Add User**.
2. Configure the following:
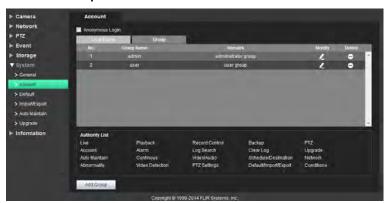


    2.1.   **User Name:** Enter a user name for the user. The user name can be up to 15 characters including letters, numbers, and underscores.

    2.2.   **Password:** Enter a password for the user account. Re-enter the password under **Confirm Password**.

    2.3.   **Group:** Assign the user account to a group. The user account will inherit permissions from the group, which will be updated under Authority List.

    2.4.   **Remark:** (Optional) Enter a description for the user account.

    2.5.   **Authority List:** Use the checkboxes to assign permissions to the user account.

3. Click **Save**.

**To create a user group:**

1. Click the **Group** tab.

2.  Click **Add Group**.



3.  Configure the following:



3.1.    **Group:** Enter a name for the group.
3.2.    **Remark:** (Optional) Enter a description for the group.
3.3.    **Authority List:** Use the checkboxes to assign the default permissions for user accounts added to this group.

4.  Click **Save**.

**To modify a user account or group:**

1.  Select the **User** or **Group** tab.

2.  Click [icon] next to the account or group you would like to modify.

3.  Edit the account or group details and then click **Save**.

**To delete a user account or group:**

1.  Select the **User** or **Group** tab.
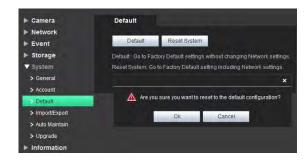
2.  Click [icon] next to the account or group you would like to delete.

3.  Click **OK**.

### 6.6.4   Default

Click **Default** and then click **OK** to reset the camera to default settings. Network settings will remain unchanged. The camera will reboot.

**OR**

Click **Reset System** and then click **OK** to reset the camera to factory default settings, including network setting.

### 6.6.5   Import / Export

The Import/Export menu allows you to export your camera's configuration or import a saved configuration.



**To export the camera's configuration:**
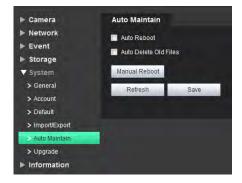
1.  Click **Export**.
2.  Select a location on your computer and then click **Save**.

**To import the camera's configuration:**

1.  Click **Import**.
2.  Select the configuration file you would like to backup and then click **Open**.

### 6.6.6   Auto Maintain

The Auto Maintain menu allows you to reboot the camera manually or on a automatic schedule. It also allows you to automatically delete old video files.
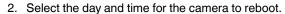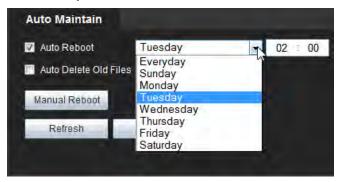


**To manually reboot the camera:**

• Click **Manual Reboot** and then click **OK** to reboot the camera.

**To configure auto reboot:**

1.  Check **Auto Reboot** to set the camera to reboot automatically on schedule.

2. Select the day and time for the camera to reboot.



3. Click **Save**.

**To configure auto delete:**

1. Check **Auto Delete Old Files**.
2. Enter the number of days the camera will retain video files.
3. Click **Save**.

### 6.6.7 Upgrade

The Upgrade menu allows you to upgrade the camera firmware. When firmware up-grades are released, they are available for free from www.flirsecurity.com/pro.



**To upgrade the camera firmware:**

1. Download and extract the firmware from www.flirsecurity.com/pro.
2. Click **Browse**.
3. Select the firmware file on your computer and then click **Open**.
4. Click **Upgrade**. The camera will upgrade the firmware and then reboot.

## 6.7 Information

### 6.7.1 Version

The Version menu shows you information related to the product and firmware version.

### 6.7.2   Log

The Log menu allows you to view system logs for the camera.



**To view system logs:**

1. Under **Start Time** and **End Time**, enter the start time and end time for your search.
2. Under **Type**, select the type of log you would like to search for: **All**, **Setting**, **Data**, **Event**, **Record**, **Account**, and **Clear Log**.
3. Click **Search**.

- (Optional) Click **Backup** to save logs to your computer hard drive.
- (Optional) Click **Clear** to delete all system logs.

# 7 Playback (Cameras with microSD only)

Playback mode allows you to playback video from the camera's SD / microSD card.

| 📝 | **NOTE** |
|---|---|
| Playback is only available if your camera supports on-board recording using an SD / microSD card. | |

**To playback video from the microSD card:**

1. Use the calendar to select a day to search for video. The bar on the bottom populates with video recorded on that day.
2. Click in the time bar to start playback.



**OR**

1. Click in the calendar to select a day to search for video.

2. Click [≡]. A list appears with video files from the selected day.

3. Click a time to select it.



4. Click [■] then [▶] to start playback.

### 7.1   Playback Controls



1. Play
2. Stop
3. Next frame
4. Slow
5. Fast
6. Mute
7. Volume
8. Show / hide recording type in time bar
9. Select playback time
10. Zoom into time bar

### 7.2   Backing up Video Files

You can download video files to your computer hard drive. Video files are saved in (.dav) format. You can use the video player available from www.flirsecurity.com/pro to play backup video files.

**To backup video files:**
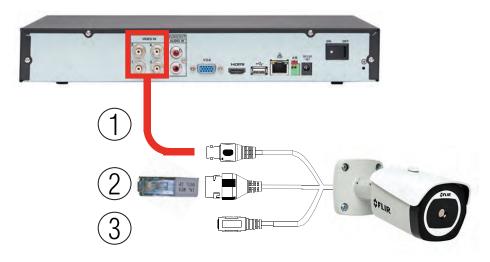
1. Click in the calendar to select a day to search for video.

2. Click [          ]. A list appears with video files from the selected day.

3. Click ![download icon] next to the video file you would like to download to your computer's hard drive.

# 8    Connecting a Camera in MPX Mode

When your TCX Series thermal camera is in MPX mode, you can connect it to a FLIR MPX DVR. To set your camera to MPX mode, insert the MPX terminator before powering on the camera. See the diagram below for details.



1.  Connect the BNC video connector to a **Video IN** port on the DVR using a coaxial cable (not included),
2.  Connect the MPX terminator to the Ethernet port.
3.  Connect the camera to the appropriate power source (not included).

After powering on your DVR, you will have to set communication parameters for your camera.

**To set communication parameters for a camera in MPX mode:**

1.  Double-click on the channel of the MPX camera.
2.  Right-click and click Main Menu.
3.  Click [icon] and select **Setting**. Click **Pan/Tilt/Zoom**.
4.  Configure the following settings:
    *   Under **Channel**, select the channel your MPX camera is connected to.
    *   Under **Control Mode**, select **HDCVI**.
    *   Under **Protocol**, select **DH-SD1**.
5.  Click **OK** to save changes.

## 8.1    MPX On-Screen Display (OSD)
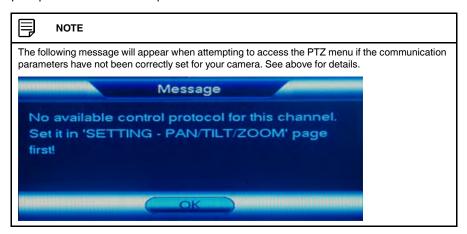
TCX Series thermal cameras feature an on-screen display (OSD) menu that allows you to configure thermal image settings and set the video standard to NTSC or PAL.

### 8.1.1    Accessing the OSD Menu

You can use your a FLIR MPX DVR's PTZ controls to access the OSD menu.

**To access the OSD menu:**

1.  In Live View, double-click the channel that has the MPX camera connected to open in full-screen.

2.  Right-click and click **Pan/Tilt/Zoom**. Enter the system user name and password if prompted. The PTZ menu opens.

---

| 📄 | **NOTE** |
|---|---|

The following message will appear when attempting to access the PTZ menu if the communication parameters have not been correctly set for your camera. See above for details.

**Message**

No available control protocol for this channel. Set it in 'SETTING - PAN/TILT/ZOOM' page first!

OK

---

3.  Click the arrow in the PTZ control window to show advanced controls.

4.  Click ⬜. The OSD menu appears over the camera image.

5.  Use the on-screen controls to configure menu items:

**Menu Operation**

Enter          Cancel
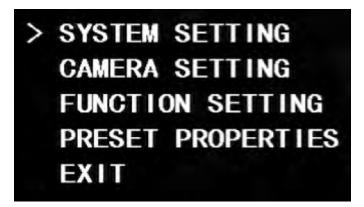
- **Up / down arrows:** Select menu items.
- **Left / right arrows:** Change value for menu items.
- **Cancel:** Exit the OSD menu.
- **Enter:** Enter the menu item.

### *8.1.2 OSD Menu Tree*

The following table shows settings available in the OSD menu. For more information on these setting, see 6.1.1 *Settings*, page 13.

8.1.2.1   TCX PTZ Camera MPX OSD



OSD Top Menu

| Menu Item | Default | Values |
|---|---|---|
| SYSTEM SETTINGS | | |
| SYSTEM INFORMATION | DEVICE INFORMATION | SERIAL NUMBER |
| | | SOFTWARE |
| | | FIRMWARE |
| | | VERSION |
| | | LIBRARY VERSION |
| | | BACK |
| FACTORY DEFAULT | (Enter) | Note: function is executed immediately. |
| RESTART | (Enter) | |
| BACK | (Enter) | Return to previous OSD Menu. |
| CAMERA SETTINGS | | |
| BRIGHTNESS | 50 | 0 – 100 |
| SHARPNESS | 0 | -20 – 100 (increments of 5) |
| GAMMA | 3 | -8 – 8 |
| ROI | Full Screen | • **Full Screen**<br>• **Ground**<br>• **Horizon**<br>• **Sky**<br>• **Center 25%**<br>• **Center 50%**<br>• **Center 75%**<br>• **Custom** |
| SMART SCENE (SSO) | 15 | 0 – 100 (increments of 5) |
| COLORIZATION | White Hot | • **White Hot**<br>• **Black Hot**<br>• **Rainbow**<br><br>Note: Additional options may be available depending on camera configuration or customization. |
| EZOOM | 0X | 0X – 24X |

| PRESET MODE | Default | • **Default**<br>• **Low Contrast**<br>• **High Contrast**<br>• **Custom (1–5)** |
|---|---|---|
| **AGC MAX GAIN** | **8** | **0–255** |
| **AGC FILTER** | **1** | **0–255** |
| **AGC PLATEAU** | **15** | **0–255** |
| **RESTORE SETTINGS** | **(Enter)** | **Factory Defaults** |
| **BACK** | **(Enter)** | **Return to previous OSD Menu.** |
| **FUNCTION SETTINGS** | | |
| **PRESET** | **PRESET NO**<br>**TITLE PRESET**<br>**SETTING**<br>**START**<br>**BACK** | **1–80** |
| **AUTO PAN** | **PAN SPEED**<br>**START**<br>**STOP**<br>**BACK** | **1–8** |
| **AUTO SCAN** | **AUTO SCAN NO**<br>**SET LEFT LIMIT**<br>**SET RIGHT LIMIT**<br>**SCAN SPEED**<br>**START**<br>**STOP**<br>**RETURN** | **1–5**<br>**SET LEFT LIMIT also sets the tilt** |
| **TOUR** | **TOUR NO**<br>**SETTING**<br>**DELETE**<br>**START**<br>**STOP**<br>**RETURN** | **1–8** |
| **PATTERN** | **PATTERN NO**<br>**PROGRAM START**<br>**PROGRAM STOP**<br>**START**<br>**STOP**<br>**RETURN** | **1–5** |
| **PTZ SPEED** | | **1–3** |
| **MENU IDLE** | | **1–5, OFF** |
| **MENU PASSWORD** | **PASSWORD**<br>**SETTING**<br>**BACK**<br>**EXIT** | **ON/OFF**<br>Enter a numeric password and confirm. |
| **PTZ AUTOSTOP** | | **5–30, OFF** |
| **SET ZERO** | | |

| POWER UP | POWER UP | NONE, AUTO, SCAN, PRESET, PATTERN, TOUR |
| | NO | |
| | BACK | |
| | EXIT | |
| IDLE MOTION | IDLE FUNCTION | ON/OFF |
| | IDLE TIME | 1–255 MIN |
| | IDLE ACTION | NONE, PRESET, PATTERN, TOUR, SCAN |
| | PARAMETER (NO) | |
| | BACK | |
| | EXIT | |
| RETURN | (ENTER) | Return to the OSD Top Menu. |
| PRESET PROPERTIES | | |
| PRESET SWITCH | 50 | 1–80 |
| BRIGHTNESS | 50 | 0–100 |
| SHARPNESS | 0 | 20–100, by 5s |
| GAMMA | 3 | 8–8 |
| ROI | FULL SCREEN | -8–8 |
| | | Ground |
| | | Horizon |
| | | Sky |
| | | Center 25% |
| | | Center 50% |
| | | Center 75% |
| | | Custom |
| SMART SCENE (SSO) | 15 | 0–100, by 5s |
| COLORIZATION | White Hot | White Hot |
| | | Black Hot |
| | | Rainbow |
| | | **Note:** Additional options may be available depending on camera configuration or customization. |
| EZOOM | 0X | 0X-24X |
| PRESET MODE | Default | Default |
| | | Low Contrast |
| | | High Contrast |
| | | Custom (1–5) |
| AGC MAX GAIN | 8 | 0–255 |
| AGC FILTER | 1 | 0–255 |
| AGC PLATEAU | 15 | 0–255 |
| BACK | (Enter) | Return to previous OSD Menu. |

### 8.1.2.2 TCX Bullet Camera MPX OSD

| Menu Item | Default | Option |
|---|---|---|
| BRIGHTNESS | 50 | 0 – 100 |
| SHARPNESS | 0 | -20 – 100 (increments of 5) |
| GAMMA | 3 | -8 – 8 |

| ROI | Full Screen | • **Full Screen**<br>• **Ground**<br>• **Horizon**<br>• **Sky**<br>• **Center 25%**<br>• **Center 50%**<br>• **Center 75%**<br>• **Custom** |
|---|---|---|
| **SMART SCENE (SSO)** | **15** | **0 – 100** (increments of 5) |
| **COLORIZATION** | **White Hot** | • **White Hot**<br>• **Black Hot**<br>• **Rainbow**<br><br>**Note:** Additional options may be available depending on camera configuration or customization. |
| **EZOOM** | **0X** | **0X – 16X** |
| **STANDARD** | **NTSC** | **NTSC / PAL** |
| **PRESET MODE** | **Default** | • **Default**<br>• **Low Contrast**<br>• **High Contrast** |
| **RESTORE SETTINGS** | Restore camera to factory defaults. | |
| **DEVICE INFORMATION** | View information about the camera:<br><br>• **SERIAL NUMBER**<br>• **SOFTWARE**<br>• **FIRMWARE**<br>• **LIBRARY VERSION**<br>• **VERSION** | |
| **EXIT** | Exit the OSD menu. | |

### 8.1.2.3   TCX Mini Bullet Camera MPX OSD

| Menu Item | Default | Option |
|---|---|---|
| **ROI** | **Full Screen** | • **Full Screen**<br>• **Ground**<br>• **Horizon**<br>• **Sky**<br>• **Center 25%**<br>• **Center 50%**<br>• **Center 75%**<br>• **Custom** |
| **STANDARD** | **NTSC** | **NTSC / PAL** |
| **DEVICE INFORMATION** | View information about the camera:<br><br>• **SERIAL NUMBER**<br>• **SOFTWARE**<br>• **FIRMWARE**<br>• **LIBRARY VERSION**<br>• **VERSION** | |
| **EXIT** | Exit the OSD menu. | |

# 9 Connecting to Cameras with FLIR Cloud™ CMS



FLIR Cloud™ Client is a central management software that allows you to view and manage multiple FLIR security systems on a PC or Mac. It includes support for FLIR Cloud™ Services, allowing a simple, secure connection to compatible systems over the Internet with no network configuration required.

## 9.1 System Requirements

Your system must meet the system requirements below:

| Description | Requirement |
| --- | --- |
| CPU | Core 2 Duo 3.0GHz |
| Operating System | Windows™ 8/7/Vista<br>Mac OSX 10.7 and above |
| Memory | 2GB |
| Video | 512 MB of video memory and above |
| Network (LAN) | 10/100 BaseT Network |
| Network (WAN) | 1 Mbps upstream<br>High-speed Internet service is required to remotely connect to your system. |

## 9.2 Installing FLIR Cloud™ Client

1. Download and install the client software.

    • **PC Users**: Download and install **FLIR Cloud™ Client for PC** from www.flirsecurity.com/pro.
    • **Mac Users**: Download and install **FLIR Cloud™ Client for Mac** from www.flirsecurity.com/pro. Double click to extract the software. Then, drag the software to **Applications**.

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

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



### 9.3   Adding a Camera over the Local Network (LAN)

You can add cameras over a local network (LAN). The software will automatically scan the network for compatible cameras.

**Prerequisites:**
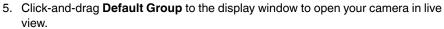
*   Connect the network camera to a router or switch on the network.
*   Install FLIR Cloud™ Client on a computer in the same network as the network camera.
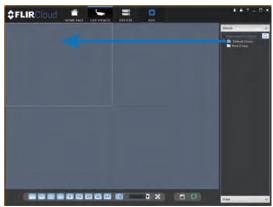
**To add a camera over the LAN:**

1. Click  and then click .

2. The client scans your LAN for connected cameras. Check your camera (a) and click **Add** (b).



3. Enter the password for your system (default: **admin**) and click **OK**.

4. Click  then .

5. Click-and-drag **Default Group** to the display window to open your camera in live view.



**Result**



**9.4    Adding a Camera over the Internet using a DDNS Address**
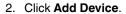
It is recommended to sign up for a free FLIR DDNS address to connect to compatible cameras over the Internet.
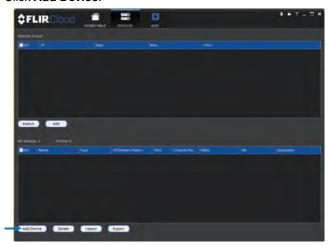
**Prerequisites:**

• Create a DDNS account at http://ddns.myddns-flir.com.
• Input the DDNS address into the network camera locally.
• Port forward the required ports on the router to the camera's local IP address.
• Install FLIR Cloud™ Client on a remote computer.
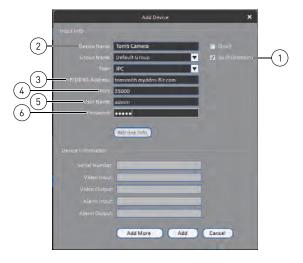
**To add a camera using a DDNS address:**

1. Click [ADD] and then click [DEVICES].

2.  Click **Add Device**.
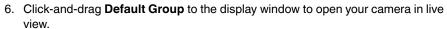


3.  Enter the following:



3.1.  Check **By IP/Domain** to add a camera using the DDNS address.
3.2.  **Device Name**: Choose a name for your camera of your choice.
3.3.  **IP/DDNS Address**: Enter the Domain Name/URL Request you received in the email when you registered for DDNS followed by **.myddns-flir.com**.

| 📝 | **NOTE** |
|---|---|
| For example, if your Domain Name/URL Request is tomsmith, enter *tomsmith.myddns-flir.com* | |

3.4.  **Client Port**: Enter the camera's Client Port.
3.5.  **User Name**: Enter the camera's User Name (default: **admin**).
3.6.  **Password**: Enter the system's Password (default: **admin**).

4.  Click **Add**.

5.  Click [ADD] then [LIVE VIEW].

6.  Click-and-drag **Default Group** to the display window to open your camera in live
    view.



**Congratulations!** You can now connect over the Internet to view and playback video on
your computer.

**Result**

# 10 Using FLIR Cloud™ Client for PC or Mac

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

## 10.1 Home Page

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



**To open tabs:**

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

## 10.2 Live View

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

**To view live video from a system:**

1. Click [ADD] and then click [LIVE VIEW] to create a Live View tab.

2. Click and drag a DVR, NVR, group, or individual camera to open live video. To access individual cameras, you can click **+** to expand groups or systems.

### *10.2.1 Live View Controls*



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

   **Camera toolbar:**

   

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

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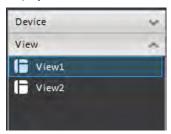
   

2. **Aspect ratio**: Use the drop down menu to select the aspect ratio for the selected camera. **Original** uses the actual aspect ratio of the image. **Full-win** stretches the image to fill up the entire display area.

   

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

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

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

6.  **PTZ Controls**: Controls for PTZ cameras (not included). See 10.3 *Controlling PTZ Cameras*, page 75 for details.

7.  **View**: Click **View** to access view menu. Then double-click on a view to open it in the display area.



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

### 10.2.2   Opening Live View in Multiple Monitors

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

> 📓 **NOTE**
>
> Using multiple monitors significantly increases the amount of computing resources necessary to run the application and may affect performance.

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

1.  Click  and then click  to create a Live View tab.

2.  Click and drag the tab outside of the client window to create a new window. You can drag the window to one of the secondary monitors.



**Result**



## 10.3   Controlling PTZ Cameras

If you have PTZ cameras (not included), you can control them using the client.
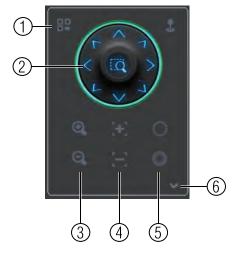
| 📝   **NOTE** |
| --- |
| You must ensure the PTZ camera is properly connected to your system and your system is configured to detect it before you can control them using the client. |

**To control PTZ cameras:**

•  Click the display area with the PTZ cameras and use the on-screen PTZ controls.

**PTZ controls:**

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

2. **Move camera**: Click the arrows to move the camera.

   Click  to open dynamic zoom mode. Then click and drag in the video area to zoom in the camera on an area.

3. **Zoom +/-**: Click to zoom the camera in and out.
4. **Focus +/-**: Click to increase/decrease the focus.
5. **Iris +/-**: Click to increase/decrease the iris.
6. **Advanced**: Click to access advanced PTZ controls.

### 10.3.1    PTZ Presets

Presets will save a camera position for quick retrieval.

**To add presets:**

1. Click  to open the Advanced controls. Select **Preset**.

2. Click .



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



4. Move the camera to the desired position.

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

**To go to a saved preset:**

1. Select the preset number from the list or click  to go to the currently selected preset.
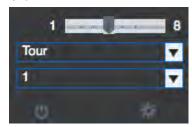
### 10.3.2    PTZ Tours

Tours will cycle through a set of presets.

**To configure a PTZ tour:**

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

2. Click .



3. Under **Cruise ID**, select the number of the tour you would like to configure.
4. (Optional) Under **Cruise Name**, enter a name for the tour.
5. Use the chart to select which presets you would like to include in the tour and the order of presets.



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

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

**To run a PTZ tour:**

1. Select the tour number and click .

### 10.3.3   PTZ Pattern

Patterns automatically cycle the camera between two positions.

**To create a pattern:**

1. Click  to open the Advanced controls. Select **Pattern**.

2. Select the number of the pattern you would like to set up.



3. Move the camera into the desired start position.

4. Click ![icon] to start recording the pattern.

5. Move the camera to the desired end position. Then, click ![icon] to stop recording the pattern.

**To run a pattern:**
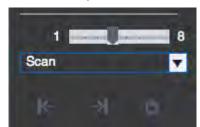
1. Select the pattern number and click ![icon].

### 10.3.4  PTZ Scan

Scan automatically cycles between a left and right point.

**To set up scan mode:**

1. Click ![icon] to open the Advanced controls. Select **Scan**.



2. Move the camera to the desired left position and click ![icon].

3. Move the camera to the desired right position and click ![icon].

**To run scan mode:**

1. Click ![icon].

### 10.3.5  PTZ Pan

Pan makes the camera continuously pan 360°.

**To run Pan mode:**

1. Click ![icon] to open the Advanced controls. Select **Pan**.

2. Click ![icon].

## 10.4  Playback

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

**To access Playback mode:**

• Click ![icon] and then click ![icon] to create a Playback tab.

**To playback video:**

1. Check the channels you would like to play back from in the Device List.
2. Under **Type**, check the file types you would like to search for.

   - **All**: All recordings.
   - **General**: Continuous recordings.
   - **MD**: Motion recordings.
   - **Alarm**: Alarm recordings. Your system must support alarm devices (not included) to use this feature.

3. Under **Stream**, select **Main Stream** to search for Main Stream recordings (high quality) or **Sub Stream** to search for Sub Stream recordings (smaller file size).
4. Select the start time and end time for your search under **From** and **To**. You may not search more than 24 hours of video.
5. Click **Search**. Wait for the client to find video saved to the system.
6. Click inside the play back bar to start playback.

### 10.5   Playback Controls



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



- •  **Snapshot**: Click to save a snapshot.

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

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

18. **Device list**: Select the channels you would like to search or playback video from.

## 10.6 Downloading Video to your Computer Hard Drive

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

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

**To download video files:**

1. Start playing back video using the steps in 10.4 *Playback*, page 78.

2. Click ✂ to start a video clip at the current playback time. Click ✂ to stop the video clip.

3. Configure the following save options:



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

> **NOTE**
>
> The Mac version only supports downloading video to .dav format.
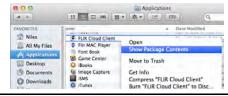
- **Download Video Player**: Check to save a copy of the video player with the down-loaded file.

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

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

## 10.7 Alarm

The Alarm menu allows you to view a list of alarms received by the client software.
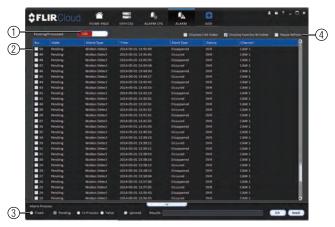
> **NOTE**
>
> You must set up alarms in the Alarm CFG menu before they will appear in this list. See 10.12 *Alarm CFG*, page 86 for more details.

**To access Alarms:**

• Click [ADD] and then click [ALARM].

**Alarm menu overview:**



1. **Number of alarms**: Shows the number of open alarms.
2. **Alarm list**: Shows the list of alarms and information on when they occurred and which systems and channels triggered them.
3. **Alarm Process**: You can close alarms by selecting one of the options and clicking **OK**.
4. **Options**: Check to enable the following:

   • **Display Link Video**: Open live video to monitor alarms on a continuous basis.
   • **Display Overlay Window**: Show the overlay controls. They allow you to enable/disable sound alerts and quickly jump back to the Alarm menu from another tab.

   

   • **Pause Refresh**: Stop refreshing the live video in the video popup.

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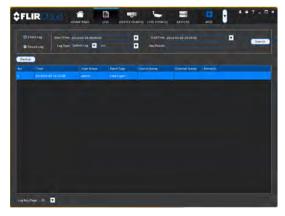
The Log menu allows you to view logs for the client software or to view logs for connected systems.

**To access logs:**

• Click [ADD] and then click [LOG].

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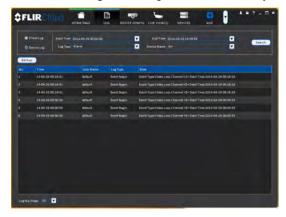
1. Click **Client Log** to view logs for the client software.

2.  Configure the following:

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

3.  Click **Search**.

**To view logs from connected systems:**

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



2.  Configure the following:

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

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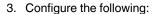
### 10.9   E-map
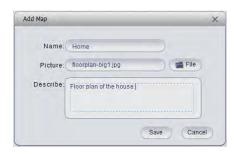
E-Map allows you to place cameras over a still image. For example, you can use the E-Map to create a virtual map of your cameras over a floor plan of your home or business.

**To create an E-map:**
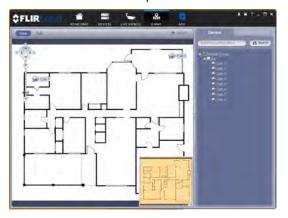
1.  Click  and then click .

2.  Click **Add Map**.

3. Configure the following:



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

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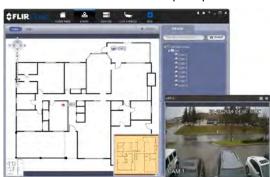


6. Click and drag cameras from the device list to place them on the map.



**To open cameras from the e-map:**

1. Click **View**.

2. Double-click cameras on the map to open live video.
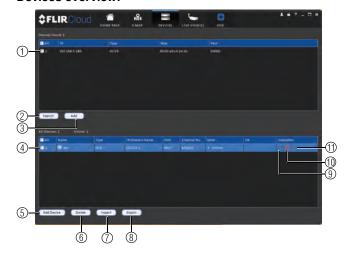


## 10.10   Devices

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

**To access the Devices menu:**

• Click ![ADD] and then click ![DEVICES].

**Devices overview:**



1. **Devices Found**: Shows systems that are connected to the same network as the computer where the client is installed. Once you connect to the system, it moves to the bottom of the screen.
2. **Search**: Refresh the list of systems connected to the network.
3. **Add**: Add checked systems to the client software.
4. **Device list**: Shows a list of systems connected to the client software, and shows which systems are online.
5. **Add Device**: Add a remote system using a Device ID or IP/DDNS address.
6. **Delete**: Delete the selected system.
7. **Import**: Import a list of systems from a saved .xml file.
8. **Export**: Export a list of currently connected systems to an .xml file. This is useful if you need to re-install the software or if you want to open the same list of systems on a different computer.
9. **Delete**: Delete system.
10. **Manual connect/disconnect**: Manually connect/disconnect the system.
11. **Edit**: Edit the connection details for the system.

## 10.11   Device Config

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

**To access the Device Config menu:**

- Click [ADD] and then click [device config].

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



| 📑 | **NOTE** |
|---|---|
| The settings available depend on the model of system you have. | |

## 10.12   Alarm CFG

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

| 📑 | **NOTE** |
|---|---|
| Alarm upload must be enabled on the system in order for it to send the alarm to the client software. | |

**To create alarms:**

1. Click [ADD] and then click [alarm cfg].

2. Click **Add** to create a new alarm.

3. In the **Alarm sources** menu, you set up the parameters that trigger the alarm.



- Under **Alarm Type**, select the alarm type that will trigger an alarm. For example, you can select Motion Detect for the alarm to be triggered by motion.
- Select the systems or channels you would like to trigger an alarm. Continuing the example, if CAM 1 is selected, the alarm will be triggered if there is motion on CAM 1.
- Click **Next**.

4. In the **Alarm link** menu, you set up the responses to alarms. Select the channels that will pop up or alarm out devices (not included; not all systems support alarm out devices) that will be triggered by an alarm.
   For each channel selected, configure the following:



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



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

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

- **Preset**: If you select a PTZ camera, you can select the preset that will be activated when an alarm occurs.
- **Stay Time**: Enter how many seconds the video window will stay open or record when an alarm occurs.

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



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

**To manage alarms:**



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

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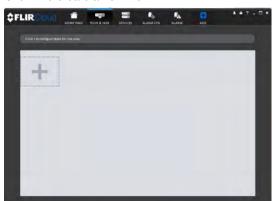
The Tour & Task menu is where you can set up custom views for the system. You can also set up tours, which sets the client to automatically cycle through views.

**To start a tour:**

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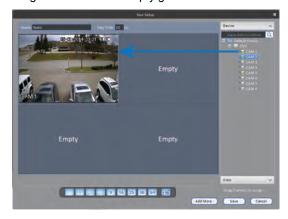
**To add views:**

1. Click  and then click .

2.  Click **+** to create a new view.



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



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

## 10.14   Account

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

**To access the account menu:**

*   Click  and then click .

### 10.14.1   Managing User Accounts

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

📝 **NOTE**
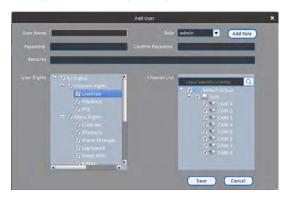
The admin account cannot be deleted. The default user name for the admin account is **admin** and the default password is **admin**.

**To create a user account:**

1. Click **Add**.



2. Configure the following settings for the user account:



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

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

**To switch between user accounts:**

- Click [icon].

**To modify a user account:**

| [icon] | NOTE |
|---|---|
| Admin accounts with Account Setup permissions can change account passwords. A user cannot change his own password. | |

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

**To delete a user account:**

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

### 10.14.2   Managing Roles
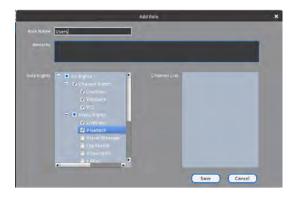
Roles make it easier to manage user accounts by determining the permissions an indi-
vidual user account can have. By default, a new user account is given all the permissions
of the role they are assigned to.

**To create a role:**

1. Click the **Role** tab.
2. Click **Add**.



3. Configure the following settings for the role:



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

4. Click **Save**.

**To modify a role:**

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

**To delete a user account:**

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

### 10.15   General

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

**To access the General menu:**

- • Click  and then click .

### 10.15.1 Basic

The Basic menu contains general settings for the client software.



**The Basic menu contains the following settings:**

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

---

📝 **NOTE**

Click **Save** to save setting changes.

---

### 10.15.2 File

The File menu allows you to select the folders where the client software will save down-loaded video files and snapshots.

**The File menu contains the following options:**

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

---

📄 **NOTE**

---

Click **Save** to save setting changes.

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

---

### 10.15.3   Alarm Prompt

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

---

📄 **NOTE**

---

You must configure alarms in the Alarm CFG menu before the client will play alarm sounds.

---



**The Alarm Prompt menu has the following options:**

- **Open Audio**: Check to enable audio alerts.
- **Loop**: Check to repeat audio alerts until acknowledged.
- **Camera Masking**: Select or preview the sound that will play for camera masking alarms.
- **Motion Detect**: Select or preview the sound that will play for motion detection.
- **Video Loss**: Select or preview the sound that will play for video loss alarms.
- **Disk Full**: Select or preview the sound that will play for disk full alarms.
- **Disk Error**: Select or preview the sound that will play for disk errors.
- **External**: Select or preview the sound that will play for external alarms (triggered by sensor devices, which may not be supported on all systems).

- **E-map flashes when alarm occurs**: If the camera has alarms enabled and is added to an e-map, a 🔔 appears on the e-map when an event occurs.

---

📄 **NOTE**

---

Click **Save** to save changes.

---

### 10.15.4   Version

The Version menu shows you which version of the client software you are using. It is recommended to always run the latest version of the software. To find the latest version of

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the client software, visit www.flirsecurity.com/pro, search for the model number of your product, click on your product in the search results, and click on the **Downloads** tab.

# 11 Smartphone and Tablet Apps

FLIR Cloud™ is a free mobile app that is compatible with iPhone, iPad, and android devices.

| Platform | Supported Versions and Devices | App Name | Get App From |
|---|---|---|---|
| iOS | iPhone/iPad | FLIR Cloud™ | Apple App Store |
| Android | Android | FLIR Cloud™ | Google Play Store |

See www.flirsecurity.com/pro for the latest list of supported apps and devices.

## 11.1   iPhone

**FLIR Cloud™** is an iPhone app that allows you to remotely view your network camera.

### 11.1.1   Prerequisites

* Port **80** and **35000** (or your HTTP and client ports, if you have changed them) must be port forwarded on your router to your camera's IP address.
* You must create a DDNS account, and have the DDNS settings configured in your network camera.
* The network camera must have Internet access.
* You must have a DDNS address to log in remotely.
* An iTunes account.

| ☰ | NOTE |
|---|---|
| You will need to create an iTunes account before you can download the app. An iTunes store account requires a valid credit card number. The app is free of charge. | |

### 11.1.2   Connecting to Your Network Camera on an iPhone

1. Download **FLIR Cloud™** for free from the App Store.

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

┌─────────────────────────────────────────────────────────────────────────┐
│  📄   **NOTE**                                                            │
├─────────────────────────────────────────────────────────────────────────┤
│ The first time it opens, the app will ask for permission to send push notifications and to access Pho- │
│ tos. It will only send notifications if you enable motion-activated push notifications in the Push Con- │
│ fig menu. It needs access to Photos to save snapshots and video clips to the local storage on your │
│ mobile device. │
└─────────────────────────────────────────────────────────────────────────┘

3. In Live View, tap  then  .

4. Configure the following:

4.1.   **Register Mode:** Select **IP/Domain**.
4.2.   **Name:** Choose a name for your network camera of your choice.
4.3.   **Address:** Enter the IP address or DDNS address of your network camera. (e.
       g. tomsmith.myddns-flir.com).
4.4.   **Client Port:** Enter the Client Port (default: **35000**).
4.5.   **User Name:** Enter the network camera's User Name (default: **admin**).
4.6.   **Password:** Enter the network camera's password (default: **admin**).

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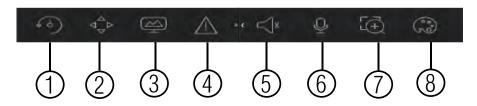6. The app opens in Live View and streams video from your camera.

### 11.1.3   Live View Interface

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

**Live View Overview**



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

     6.1.    **Quick Playback**: Tap to start/stop quick playback.
     6.2.    **PTZ Controls**: Open/close PTZ controls. PTZ camera required.
     6.3.    **Video Quality**: Open/close streaming quality panel.
     6.4.    **Alarms:** Tap to activate an alarm output device connected to the camera (cameras with alarm I/O only).
     6.5.    **Audio:** Tap to mute / un-mute audio coming from the camera (audio-enabled cameras only; must have self-powered microphone connected to the camera).
     6.6.    **Microphone:** Tap to activate the intercom to the camera (audio-enabled cameras only; must have amplifier or speakers connected to the camera.)
     6.7.    **Digital Zoom:** Tap to activate digital zoom mode for the currently selected camera. Pinch the screen inward to zoom out and outward to zoom in.
     6.8.    **Color Settings**: Tap to access color controls for the currently selected camera.

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

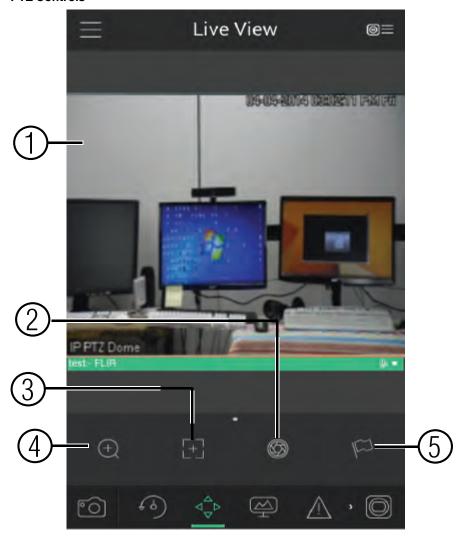### 11.1.4   Controlling PTZ Cameras

If you have PTZ cameras, you can control them from the app.

**To control PTZ cameras:**

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

2.  Tap ⬍ to open PTZ controls.

**PTZ Controls**



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

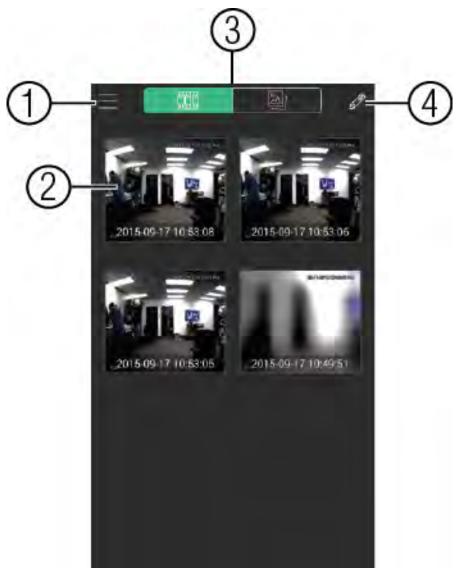| 📝 | **NOTE** |
|---|---|
| You must set presets for the camera using the system's local menus before you can use this feature. | |

### 11.1.5   Viewing Snapshots and Videos with Local Files

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

**To access Local Files:**

• Tap ▤ to access the menu, and then tap **Local Files**.

   **Local Files Overview**



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

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

### 11.1.6  Using Playback Mode on iPhone

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

> 📝 **NOTE**
>
> You must enable Sub Stream recording to use playback mode on mobile devices.

**To use Playback Mode:**

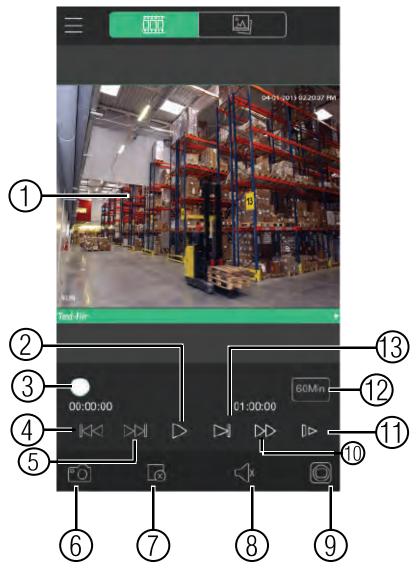1. Tap [icon] to access the menu, and then tap **Playback**.

2. Tap **+** and select a channel to playback.



3. Select the date, then the start and end times to playback.

4. Use the on-screen controls to control playback.

   **Playback Controls**



4.1.    **Display Area**: Double-tap to open in full-screen.
4.2.    **Play/pause.**
4.3.    **Time Bar**: Tap inside the bar to fast forward or rewind.
4.4.    **Previous**: Select previous video file.
4.5.    **Next**: Select next video file.
4.6.    **Snapshot**: Tap to take a snapshot from the selected camera.
4.7.    **Stop All**: Stop playback on all channels.
4.8.    **Audio**: Tap to mute / un-mute audio coming from the camera (audio-enabled cameras only; must have self-powered microphone connected to the camera).
4.9.    **Manual Record**: Tap to start/stop recording to your mobile device's local storage.
4.10.   **Fast.**
4.11.   **Slow.**
4.12.   **Time Range**: Tap to change the range of time shown in the time bar.
4.13.   **Next frame.**

### 11.1.7   Enabling Push Notifications

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



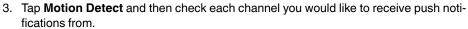> 📝 **NOTE**
>
> Your cameras must have motion detection activated to receive push notifications.

**To Enable Push Notifications:**

1.  Tap [icon] to access the menu, and then tap **Push Config**.

2.  Tap the system you would like to configure.

3. Tap **Motion Detect** and then check each channel you would like to receive push notifications from.
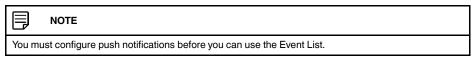


4. Tap ![icon] to save changes. You will now receive a notification when one of the selected cameras detect motion.

### 11.1.8   Using the Event List

The Event List menu shows a list of events that were sent to your device via push notifications.
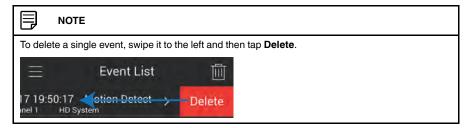
| ![note icon] | **NOTE** |
|---|---|
| You must configure push notifications before you can use the Event List. | |

**To access the Event List:**

• Tap ![menu icon] to access the menu, and then tap **Event List**.

**Event List Overview**



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

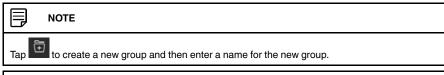| ![note icon] | **NOTE** |
|---|---|
| To delete a single event, swipe it to the left and then tap **Delete**. | |



### 11.1.9   Using Favorites

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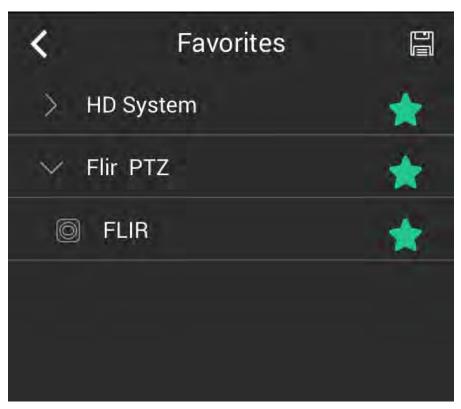
**To use Favorites:**

1. Tap ☰ to access the menu, and then tap **Favorites**.

2. Tap a group to configure an existing group.

> 📄 **NOTE**
>
> Tap 🗁 to create a new group and then enter a name for the new group.

> 📄 **NOTE**
>
> To rename an existing group, press and hold the group. Enter the name in the pop-up that appears and tap **OK**.

3. To add cameras to the group, tap ☆.

4. Select the cameras you would like to add to the group. Tap 💾 to save changes.
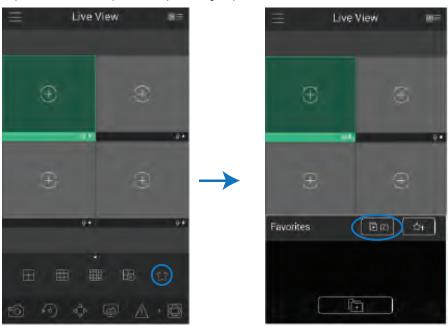


> 📄 **NOTE**
>
> To delete cameras added to the group, select the group in the group list. To delete a camera from the group, swipe the camera to the left and then tap **Delete**.

**To Open Favorites in Live View:**

1. Tap ☰ to access the menu, and then tap **Live View**.

2. Tap [  ], and then tap [  ] to open the group.



### 11.1.10   Using the E-Map

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

**To add an E-Map:**

1. Tap [  ] to access the menu, and then tap **E-Map**.

2. Tap [  ].



3. Select a .jpg image on your mobile device.

4.  Tap ⊕ and select a camera. Drag the camera on the screen to place it on the map. Repeat to add additional cameras.



5.  Tap 💾. Choose a name for your E-Map and then tap **OK**.

**To open cameras from an E-Map:**

1.  Tap ⊙≡ in Live View.

2.  Select the E-Map in the Device List.



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

### 11.1.11   Device Manager

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

**To Access Device Manager:**

- Tap ▤ to access the menu, and then tap **Device Manager**.

**To edit a system:**

1. Tap the system in Device Manager. Tap ✐ .



2. Edit the connection details as needed.
3. Tap **Connect** to save changes and connect to the system.

**To delete a system:**

1. Tap the system you would like to delete.

2. Tap 🗑 . Tap **OK** to confirm.

### 11.2   iPad

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

### 11.2.1   Prerequisites

- Port **80** and **35000** (or your HTTP and Client Ports, if you have changed them) must be port forwarded on your router to your camera's IP address.
- You must create a DDNS account, and have the DDNS settings configured in your network camera.
- The network camera must have Internet access.
- You must have a DDNS address to log in remotely.
- An iTunes account.

> 📄 **NOTE**
>
> You will need to create an iTunes account before you can download the app. An iTunes store account requires a valid credit card number. The app is free of charge.

### 11.2.2   Connecting to your network Camera on an iPad

1. Install FLIR Cloud™ for free from the App Store.

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

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

3. In Live View, tap ▦ then ⚙ .

4. Tap **Device Manager**.

5.  Tap **Add**.



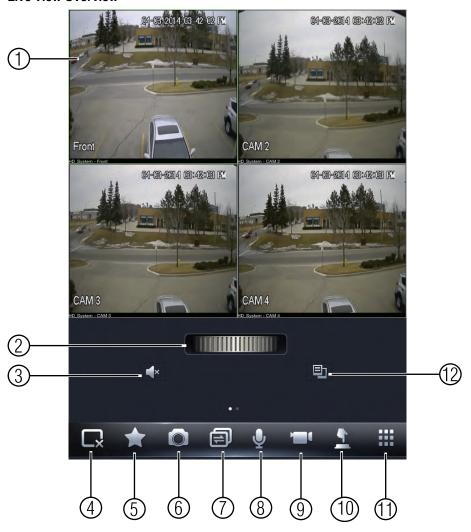6.  Configure the following:



6.1.   **Register Mode**: Select **IP/Domain**.
6.2.   **Name**: Choose a name for your network camera of your choice.
6.3.   **Address**: Enter the IP address or DDNS address of your network camera. (e.
       g. tomsmith.myddns-flir.com).
6.4.   **Client Port**: Enter the Client Port (default: **35000**).
6.5.   **User Name**: Enter the network camera's User Name (default: **admin**).
6.6.   **Password**: Enter the network camera's password (default: **admin**)
6.7.   **Channels**: Enter **1**.

7.  Tap **Start Live View**.
8.  The app opens in Live View and streams video from all connected cameras.

### 11.2.3   Live View Interface

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

**Live View Overview**



1. **Display area**: Double-tap to open camera in full screen.
2. **Favorites**: Slide to select favorites.
3. **Audio:** Tap to mute / un-mute audio coming from the camera (audio-enabled cameras only; must have self-powered microphone connected to the camera).
4. **Disconnect all**: Disconnect all cameras.
5. **Add to favorites**: Add the current view to favorites.
6. **Snapshot**: Tap to take a snapshot from the currently selected channel.

> 📄 **NOTE**
>
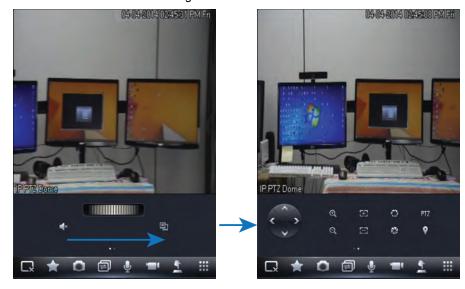> You can view or share snapshots using the Photos app.

7. **Change display view.**
8. **Microphone**: Tap to activate the intercom to the camera (audio-enabled cameras only; must have amplifier or speakers connected to the camera.)
9. **Manual record**: Tap to start/stop manual recording from this channel.
10. **Alarm Output:** Click to activate an alarm output device connected to the camera (cameras with alarm I/O only).
11. **Open menus.**
12. **Select different camera.**
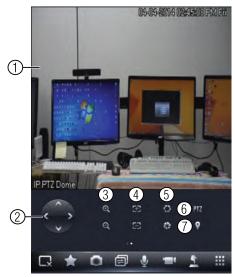
### 11.2.4 Controlling PTZ Cameras

If you have PTZ cameras, you can control them using the app.

**To control PTZ cameras:**

1. In Live View, double-tap the window the PTZ camera is connected to.
2. Slide the middle controls to the right to access PTZ controls.



**PTZ Controls**



1. **Live display**: Swipe to move the camera. Pinch to zoom in/out.
2. **Direction buttons**: Tap to move the camera.
3. **Zoom**: Tap to zoom the camera in/out.
4. **Focus**: Tap **+/-** to adjust the focus.
5. **Iris**: Tap to adjust the iris.
6. **PTZ/EPTZ**: Tap to switch between PTZ and EPTZ mode. Use PTZ mode to control PTZ cameras. Use EPTZ mode to activate digital zoom mode on non-PTZ cameras.
7. **Goto preset**: Tap to go to a camera preset.

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

### 11.2.5   Using Playback Mode on iPad

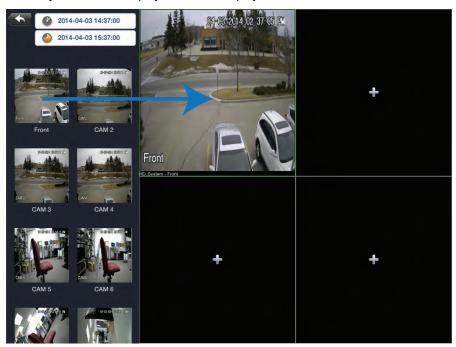You can access recorded video on your system using your iPad.

| 📝   **NOTE** |
|---|
| You must enable Substream recording to use playback mode on mobile devices. |

**To use Playback Mode:**

1.  From Live View, tap [icon] then [icon].

2.  In Portrait Mode: Tap **+**, select the start time and end time for your search, and select the camera you would like to playback.
    **OR**

    In Landscape Mode: Select the start time and end time for your search, and drag the camera you would like to playback to the display area.



3.  Use the playback controls.

**Playback Controls**



1.  **Display area**: Double-tap to open camera in full screen.
2.  **Play/pause.**
3.  **Previous file.**
4.  **Next file.**
5.  **Time range**: Tap to change the range of time shown in the time bar.
6.  **Time Bar**: Tap inside the bar to fast forward or rewind.

| 📝 **NOTE** |
| --- |
| Playback controls are only shown in portrait mode. |

### 11.2.6   Using Local Files to View Manual Recordings

You can view manual recordings saved to your mobile device using the Local Files menu.

**To view manual recordings:**

1.  From live view, tap ▦ then ⚙.

2.  Tap **Local Files**.

3.  Tap a video file to open it.



**To delete videos:**

1.  Tap **Edit**.

2.  Select the videos you would like to delete and tap [trash icon].

### 11.2.7   Enabling Push Notifications

You can have the app send push notifications to the notifications area on your device when one of your cameras detects motion. Once you have received a push notification, you can select it to open video or an image from the camera that detected motion.
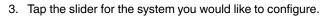
| | NOTE |
| --- | --- |
| | Your cameras must have motion detection activated to receive push notifications. |

**To enable Push Notifications:**

1. From live view, tap ▦ then ⚙.

2. Tap **Push Config**.

3. Tap the slider for the system you would like to configure.

4.  Tap **Motion Detect** then check each channel you would like to receive push notifications from.



5.  Under **Type**, select Playback to attach a video file with each push notification. Or, select **Picture** to attach a still image of the camera that detected motion.
6.  Tap **OK** to save change. Whenever the selected cameras detect motion, you will receive a notification.
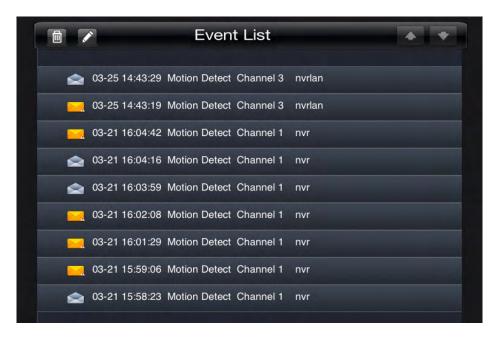
### 11.2.8   Using the Event List

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

| 📑   NOTE |
| --- |
| You must configure push notifications before you can use the Event List. |

**To access the Event List:**

1.  From live view, tap 🏁 then 🗔.
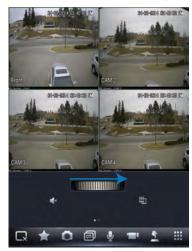
### 11.2.9   Using Favorites

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

**To create favorites:**

1.  In Live View, tap ⭐ to save the cameras that are currently open as a favorite.

2.  Enter a name for the favorite and tap **OK**.

**To open favorites in Live View:**

*   In Live View, slide the dial to cycle through favorites.



**To edit favorites:**

1.  From live view, tap ⬛ then ⚙.

2.  Tap **Favorites**.

3. Tap the favorite you would like to edit.



4. Tap **Edit**.
5. Select the cameras you would like to include in the favorite and then tap **Save**.
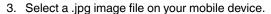
### 11.2.10   Using the E-Map

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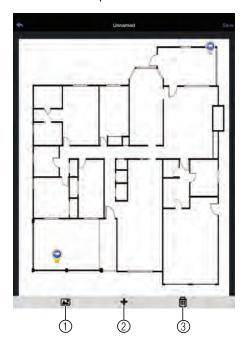
**To add an E-Map:**

1. From live view, tap  then .

2. Tap **Add**.

3.  Select a .jpg image file on your mobile device.



4.  To edit the E-map:



4.1.   **Select Image**: Select different image file to use for your E-Map.
4.2.   **Add Camera**: Tap **+** to select cameras to add to your E-Map. Then drag the
       camera to place it on the E-Map.
4.3.   **Delete E-Map.**

5.  When you complete editing the E-Map, tap **Save** and enter a name for the E-Map to
    save changes.

**To open cameras using the E-Map:**

1.  In live view, tap **+** on an empty display window and select the E-Map.

2.  Tap a camera from the E-map to open.



### 11.2.11   Using the Device Manager

Device Manager allows you to manage your systems.

**To access Device Manager:**

1.  From live view, tap [icon] then [icon].

2.  Tap **Device Manager**.

**To delete a system:**

1.  Tap the system to select it.

2.  Tap [icon]. Tap **Yes** to confirm.



**To modify a system:**

1.  Tap a system to select.
2.  Tap the system again to open the edit screen.
3.  Update the connection details as needed and then tap **Start Live View**.

### 11.3   Android

**FLIR Cloud™** is an Android app that allows you to remotely view your network camera.

#### 11.3.1   Prerequisites

• Port **80** and **35000** (or your HTTP and client ports, if you have changed them) must be port forwarded on your router to your camera's IP address.
• You must create a DDNS account, and have the DDNS settings configured in your network camera.
• The network camera must have Internet access.
• You must have a DDNS address to log in remotely.
• A Google Play account.

#### 11.3.2   Connecting to Your Network Camera on Android

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

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

3. In Live View, tap  then .



4. Configure the following:



    4.1.    **Register Mode:** Select **IP/Domain**.
    4.2.    **Name:** Choose a name for your network camera of your choice.
    4.3.    **Address:** Enter the IP address or DDNS address of your network camera. (e. g. tomsmith.myddns-flir.com).
    4.4.    **Client Port:** Enter the Client Port (default: **35000**).
    4.5.    **User Name:** Enter the network camera's User Name (default: **admin**).
    4.6.    **Password:** Enter the network camera's password (default: **admin**).

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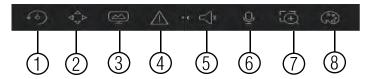6. The app opens in Live View and streams video from your cameras.

#### 11.3.3   Live View Interface

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

**Live View Overview**



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



   6.1.   **Quick Playback**: Tap to start/stop quick playback.
   6.2.   **PTZ Control**: Open/close PTZ controls. PTZ camera required.
   6.3.   **Video Quality**: Open/close streaming quality panel.
   6.4.   **Alarms:** Tap to activate an alarm output device connected to the camera (cameras with alarm I/O only).
   6.5.   **Audio**: Tap to mute / un-mute audio coming from the camera (audio-enabled cameras only; must have self-powered microphone connected to the camera).
   6.6.   **Microphone**: Tap to activate the intercom to the camera (audio-enabled cameras only; must have amplifier or speakers connected to the camera.
   6.7.   **Digital Zoom:** Tap to activate digital zoom mode for the currently selected camera. Pinch the screen inward to zoom out and outward to zoom in.
   6.8.   **Color Settings**: Tap to access color controls for the currently selected camera.

7. **Manual Record**: Tap to start/stop manual recording.
8. **Access Favorites.**
9. **Connect/disconnect all**: Connect to/disconnect from all previously added cameras.

10. **Device List**: Tap to open a list of devices. You can use the Device List to open multiple systems or cameras at once.

### 11.3.4 Controlling PTZ Cameras

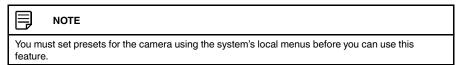If you have PTZ cameras, you can control them from the app.

**To control PTZ cameras:**

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

2. Tap ![icon] to open PTZ controls.

**PTZ Controls**



1. **Live Display**: Swipe to move the camera. Pinch to zoom in/out.
2. **Iris**: Tap to show iris controls.
3. **Focus**: Tap to show focus controls.
4. **Zoom**: Tap to show zoom controls.
5. **Goto preset**: Tap to access preset controls. Then use the sliders to select a preset and then tap the check mark to got the preset.
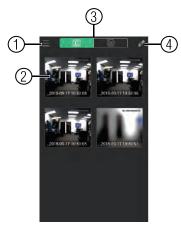
> 📄 **NOTE**
>
> You must set presets for the camera using the system's local menus before you can use this feature.

### 11.3.5 Viewing Snapshots and Videos with Local Files

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

**To access Local Files:**

• Tap [icon] to access the Menu, and then tap **Local Files**.

   **Local Files Overview**



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

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

### 11.3.6  Using Playback Mode on Android

You can access recorded video on your system using your Android phone.

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

**To use Playback Mode:**

1. Tap [icon] to access the Menu, and then tap **Playback**.

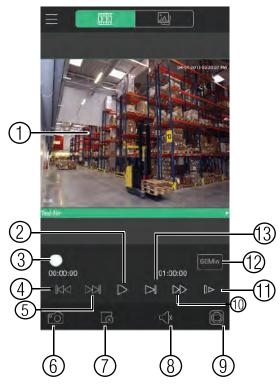2.  Tap **+** and select a channel to playback.



3.  Select the date then the start and end times to playback.

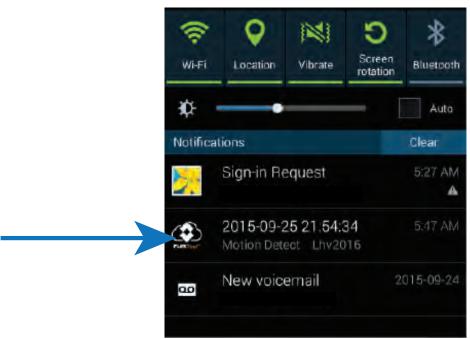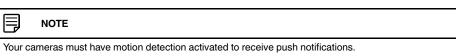4. Use the on-screen controls to control playback.

**Playback Controls**



4.1.   **Display Area**: Double-tap to open in full-screen.
4.2.   **Play/pause.**
4.3.   **Time Bar**: Tap inside the bar to fast forward or rewind.
4.4.   **Previous**: Select previous video file.
4.5.   **Next**: Select next video file.
4.6.   **Snapshot**: Tap to take a snapshot from the selected camera.
4.7.   **Stop All**: Stop playback on all channels.
4.8.   **Audio**: Tap to mute / un-mute audio coming from the camera (audio-enabled cameras only; must have self-powered microphone connected to the camera).
4.9.   **Manual Record**: Tap to start/stop recording to your mobile device's local storage.
4.10.  **Fast.**
4.11.  **Slow.**
4.12.  **Time Range**: Tap to change the range of time shown in the time bar.
4.13.  **Next frame.**

### 11.3.7  Enabling Push Notifications

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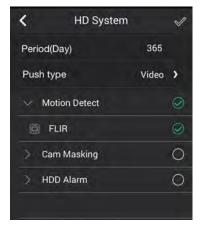
| 📝 | **NOTE** |
|---|---|

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

**To enable Push Notifications:**

1. Tap [icon] to access the menu, and then tap **Push Config**.

2. Tap the system you would like to configure.



3. Tap **Motion Detect** and then check each channel you would like to receive push notifications from.



4. Tap [icon] to save changes. You will now receive a notification when one of the selected cameras detect motion.

### *11.3.8   Using the Event List*

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

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

**To access the Event List:**

• Tap 𝍇 to access the menu, and then tap **Event List**.

**Event List Overview**



1. **Events**: Shows the details of each motion detection event. Tap the event to view the video or snapshot.
2. **Delete All**: Tap to delete all events in the Event List.
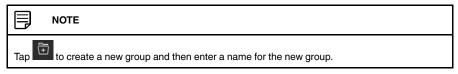
> 📄 **NOTE**
>
> To delete a single event, press and hold the event in the event list and tap **OK** in the pop-up that appears.

### *11.3.9   Using Favorites*

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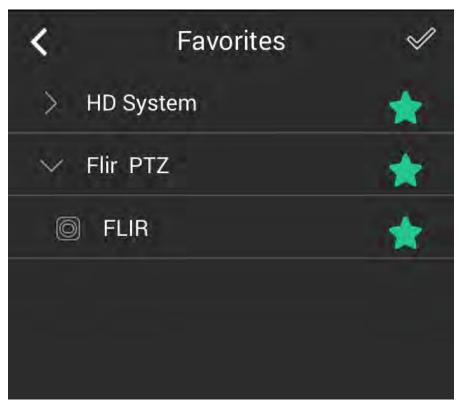
**To use Favorites:**

1. Tap 𝍇 to access the menu, and then tap **Favorites**.

2. Tap a group to configure an existing group.

> 📄 **NOTE**
>
> Tap 🗀 to create a new group and then enter a name for the new group.

3. To add cameras to the group, tap ☆.

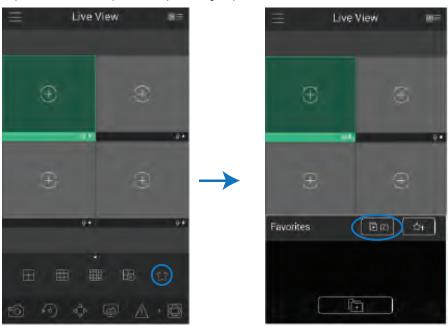4.  Select the cameras you would like to add to the group. Tap  to save changes.



> 📋 **NOTE**
>
> To delete cameras from a group, press and hold the camera and tap delete. Press and hold a group to rename or delete it.

**To open Favorites in Live View:**

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

2.  Tap ☆, and then tap ▣ to open the group.



### 11.3.10   Using the E-Map

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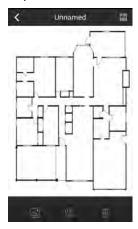
**To add an E-Map:**

1.  Tap ☰ to access the menu, and then tap **E-Map**.

2.  Tap ➕.



3.  Select a .jpg image on your mobile device.

4.  Tap [icon] and select a camera. Drag the camera on the screen to place it on the map. Repeat to add additional cameras.



5.  Tap [icon]. Choose a name for your E-Map and then tap **OK**.

**To open cameras from an E-Map:**

1.  Tap [icon] in Live View.

2.  Select the E-Map in the Device List.



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

### *11.3.11    Device Manager*

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

**To access Device Manager:**

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

**To edit a system:**

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

**To delete a system:**

1. Tap the system you would like to delete.

2. Tap . Tap **OK** to confirm.

# 12      RTSP Streaming (Advanced)

RTSP streaming allows you to stream video from the camera using a web address. It is an optional connectivity method used by 3rd party software applications.
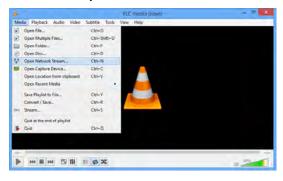
> **📝 NOTE**
>
> The instructions in this section are using VLC Media Player. VLC Media Player is a free software provided at www.videolan.org. FLIR cannot provide support for VLC Media Player or any other 3rd party software. Please contact the software vendor for technical support related to 3rd party software applications.

**To connect to the video stream using VLC Media Player:**

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



3.  Enter the RTSP address in the following format:

    *   rtsp://*<username>*:*<password>*@*<IP address>*:*<port>*/cam/realmonitor?channel=*<channelNo>*&subtype=*<typeNo>*
    *   **<username>**: The user name of the system (default: admin).
    *   **<password>**: The password for the system (default: admin).
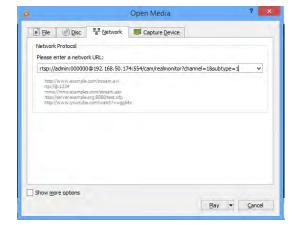    *   **<IP address>**: The IP address of the camera.

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

    *   **<Port>**: The RTSP port (default: 554) of the system.
    *   **<channelNo>**: Enter **1**.
    *   **<typeNo>**: Enter **1** for the Sub Stream of the camera or **0** for the Main Stream. It is recommended to use the Sub Stream if connecting over the Internet.

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

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

If it does not connect, check the following:

• Check that the syntax on the RTSP address is correct.
• Make sure the system is connected to the network.
• If connecting over the Internet, make sure to use the remote IP address of the system and that the RTSP port is open.

# 13     Firmware Upgrade Tool

To perform a firmware upgrade over the LAN or Internet, a Config Tool is available from http://www.flir.com/security/support. In an effort to continuously improve the functionality of our products, firmware upgrades are available as a free download on http://www.flir.com/security/support.

> **NOTE**
>
> The Config Tool is supported on PC only. Firmware upgrades can also be completed using the web browser interface (see 6.6.7 *Upgrade*, page 56).

## 13.1    Installing a Firmware Upgrade Over the LAN

**Prerequisites:**
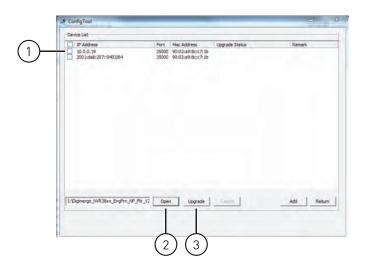
- Connect your network camera to a router or switch on your network.
- Download a firmware upgrade from http://www.flir.com/security/support, if one is available. Extract the contents.

**To perform a firmware upgrade over the LAN:**

1. Download the Config Tool from http://www.flir.com/security/support.
2. Extract the contents into a folder.
3. Open the folder and right-click **ConfigTool.exe** and **Run as administrator**. If a Windows Firewall warning appears, click **Allow Access**. The Config Tool scans your LAN for network cameras.
4. Click **Upgrade**.



5. Check any network cameras you would like to upgrade.
6. Click **Open**. Select the upgrade firmware file (.bin).
7. Click **Upgrade**. Wait for the upgrade to complete. **Do not power off the system or disconnect the power cable during upgrade.** The system will restart when the upgrade is complete.

7.1.    Check network cameras
7.2.    Click **Open** and select firmware file
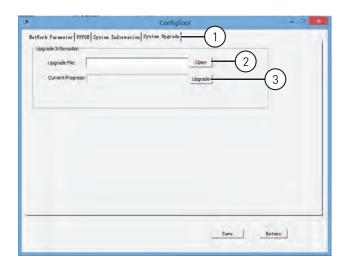7.3.    Click **Upgrade**

## 13.2    Installing a Firmware Upgrade Over the Internet

**Prerequisites:**

- Port forward the Client Port (default: **35000**) on the network camera's local router.
- Obtain the public IP address of the network camera.
- Download a firmware upgrade from www.flirsecurity.com/pro, if one is available. Extract the contents.

1.  Download the Config Tool from www.flirsecurity.com/pro.
2.  Extract the contents into a folder.
3.  Open the folder and right-click **ConfigTool.exe** and **Run as administrator**.
4.  Click **Login**.
5.  Under **IP Address**, enter the public IP address of the network camera. Edit the **User Name**, **Password**, or **Port** if these have been changed from the default values.



6.  Click **Login**. The Config Tool logs in to the network camera.
7.  Click **System Upgrade**.
8.  Click **Open**. Select the firmware file (.bin).
9.  Click **Upgrade**. Wait for the upgrade to complete. **Do not power off the system or disconnect the power cable during upgrade.** The system will restart when the upgrade is complete.

9.1.　　Click **System Upgrade**
9.2.　　Click **Open** and select the firmware file
9.3.　　Click **Upgrade**