Configuration Guide

PT-Series HD Pairing Guide

For additional information visit www.flir.com or write to Teledyne FLIR LLC

Teledyne FLIR LLC
Antennvägen 6
PO Box 7376, SE-187
15 Täby
Stockholm County, 187 66
Sweden

Support: https://support.flir.com/

Document History

Revision	Date	Comment
110	August 2024	Initial release of document; supports multi-device geotracking

Product Registration and Warranty Information

Register the product at https://customer.flir.com.

For warranty information, see https://www.flir.com/support-center/warranty/security/flir-security-product-warranties/.

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1 Pairing a FLIR Security Geotracking Enabled Fixed Camera or Radar with a FLIR PT-Series HD Camera

Pairing a FLIR geotracking enabled fixed camera or radar with a PT-Series HD camera requires the following:

- A user assigned the expert or admin role can enable and configure the geotracking radar interface using *the PT-Series HD camera's web page*.
- Firmware v1.3.0.33.
  - For information about how to update the camera's firmware, see the *PT-Series HD Installation and User Guide*.

You can pair only one geotracking enabled fixed camera or radar at a time to the PT-Series HD camera because it can work with only one connection from another unit that sends the command.

Fixed cameras and radars that can be paired with the PT-Series HD camera include:

- FH-Series R Non-PTZ Cameras
- R-Series Radars
- FC-Series AI Cameras
- FH-Series ID Cameras
- Quasar™ Premium Bullet AI Cameras (CB-650x)

The PT-Series HD camera can follow/engage tracks coming from the different geotracking enabled fixed cameras and radars. These geotracking sources can be configured to generate alarms that are then used as a trigger to perform specific actions.

Using the camera web page of the geotracking enabled fixed camera or radar, configure:

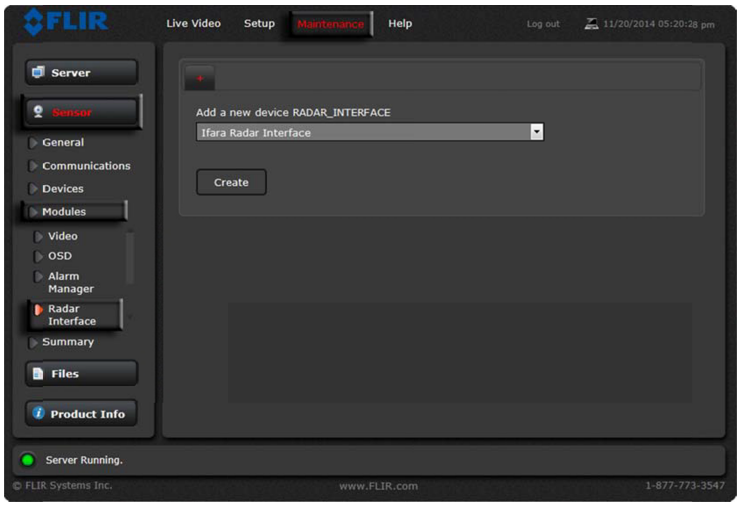
- Georeference—Specify accurate location information.
- Geotracking—Enable track alarms and create alarm regions (areas or tripwires).

To pair a geotracking enabled fixed camera or radar with a PT-Series HD camera:

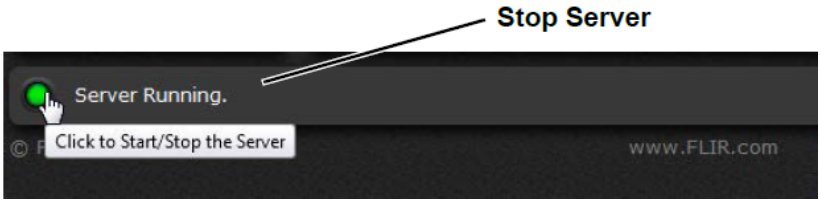
1. Access the PT-Series HD camera and log in to its web page. For information about accessing a PT-Series HD camera, see the *PT-Series HD Installation and User Guide*.

Note: Whenever you want to make a change in the **Maintenance** section, you must:
1. Stop the camera server.
2. Make the needed changes in the Maintenance section.
3. Start the server again.

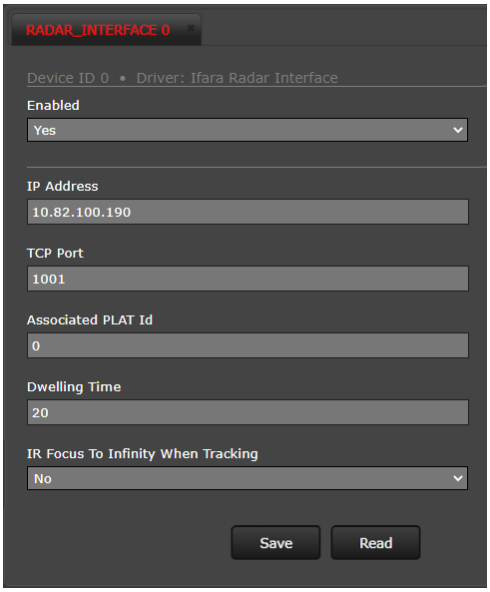
2. Open the **Maintenance** menu and then open **Sensor > Modules > Radar Interface**.
   a. Setup under the **Maintenance** menu configures the camera for startup mode.



3. Stop the camera's server.
   a. Click the Green button next to **Server Running** at the bottom of the menu.
   b. Click **Accept**.



4. Under **Add a new device RADAR_INTERFACE**, select Ifara Radar Interface.
5. Click **Create.** The camera creates the interface and the settings appear.
6. Under **Enabled**, choose Yes.
7. Specify:
   a. **IP Address—**The IP address of the camera to be paired with the PT-Series HD.
   b. **TCP Port—**The TCP port number the paired camera's Nexus server uses (1001). This is not the port for the paired camera nor for its web page.
   c. **Associated PLAT Id—**Make sure it is 0 (zero).
   d. **Dwelling Time—**When the camera is in Track Scan radar mode you can define the time until the camera points at a different target (in seconds). It does not apply to any other camera modes. Default Dwelling Time is set to 10 seconds.
   e. **IR Focus To Infinity When Tracking—**Enable the camera to set the focus at infinity when it is engaged on a geotrack.



8. Click **Save**.

1.1 Configure Georeference on the PT-Series HD Camera

Note: If there are significant elevation differences in the coverage area, you might need to upload a digital elevation model (DEM) file to the PT-Series HD camera. See the *PT-Series HD Installation and User Guide* for instructions.

When a user logs in as **expert** or **admin**, the **Setup** and **Maintenance** are available. The **Maintenance** menu is used for the basic camera configuration. The **Setup** menu is used to make advanced adjustments.

To configure the Georefence Page on the PT-Series HD in the Setup section:

1. Under **Maintenance**, set the Server to Running 

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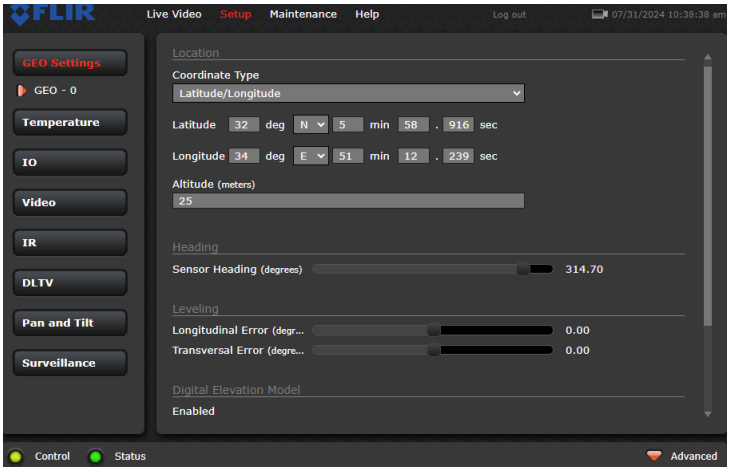
2. Navigate to **Setup > GEO Settings > GEO-0.**

1. 

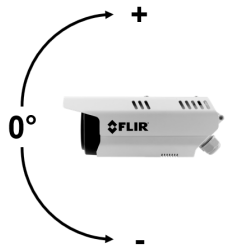
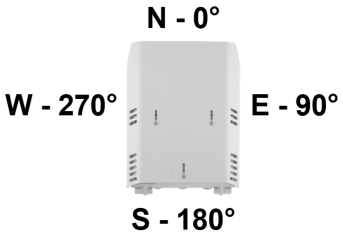
2. Under **Location** > **Coordinate Type**, choose Latitude/Longitude.
3. Retrieve the camera's Latitude and Longitude by Google Maps or a mobile GPS device.
4. Next to **Latitude**, enter the **degrees**, (**N/S**), **minutes**, and **seconds**.
5. Next to **Longitude**, enter the **degrees**, (**E/W**), **minutes**, and **seconds**.
6. Click **Save**.
   a. If you do not save changes within a few seconds, the camera restores the previous latitude and longitude settings, and moves the camera icon back.
7. Enter **Altitude** (also known as Installation Height) in meters, up to 2 decimal places.
8. Under **Heading**, enter **Sensor Heading** (also known as Orientation).
   a. Find using a compass or Google earth.
   b. Fine tune using the Virtual Track feature.
9. Under **Leveling**, enter:

a. **Longitudinal Error** (also known as Installation Tilt) in degrees (should be 0º).

b. **Transversal Error** (also known as Installation Roll) in degrees (should be 0º).

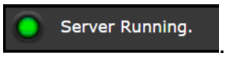
Note:
- The ground altitude (installation height) should be configured the same for all devices in the same installation.
- It is recommended to set all of the devices at 0m to have a reference in height for all devices.
- Make sure the PT-Series HD camera is installed leveled, with a 0º Transversal Error, so that no Longitudinal Error or roll angles are present.

10. Click **Save**.

Longitudinal Error (Installation Tilt)	Transversal Error (Installation Roll)	Platform Heading (Orientation)
The vertical angle of the camera, up to three decimal places. When a camera is pointing down (below horizontal), the tilt angle is negative.	The horizontal rotation angle of the camera, up to three decimal places. Facing a camera leaning to the right, the roll angle is negative.	The direction the camera is pointing, between 0-360 degrees from North, up to two decimal places. For geotracking, this value must be accurate and precise.
		

1.2 Configure Geotracking on the PT-Series HD

To configure the geotracking:

1. Under **Maintenance**, make sure the Server is set to Running 

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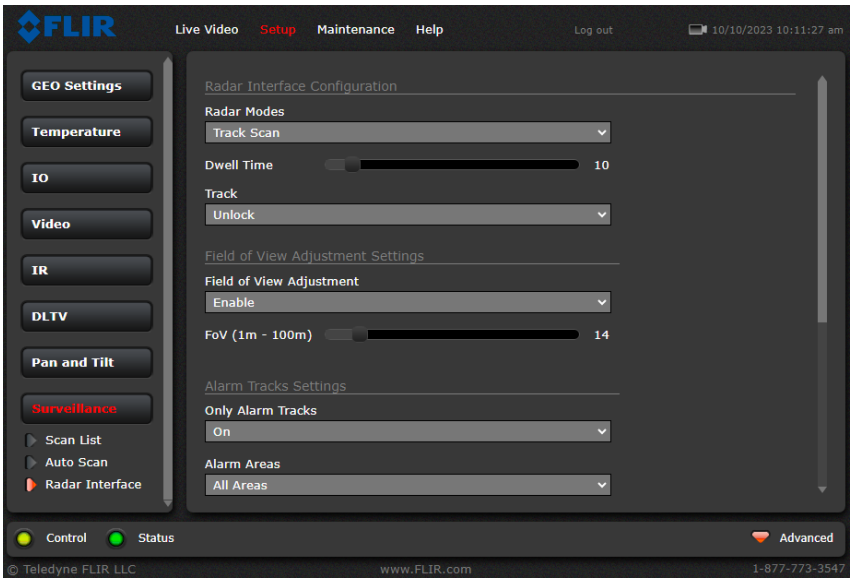
1. Choose the **Setup** menu and navigate to **Surveillance > Radar Interface**.

   a. Configuring the **Setup** menu allows you to make temporary changes in the moment.



3. Under **Radar Mode s**elect one of the following:

   a. **Track Scan—**The PT-Series HD camera performs a tour scanning all active geotracks. It follows each geotrack for a specified dwell time.

   b. **Engage Last—**The PT-Series HD camera follows the most recently detected geotrack.

   c. **Engage Closest—**The PT-Series HD camera follows the geotrack closest to the PT-Series HD camera.

4. Specify a **Dwell Time** between 0-100 seconds. In Track Scan mode, the camera stays on each geotrack for the specified dwell time.

5. Lock the PT-Series HD camera onto a currently engaged track, regardless of the existing mode (available with PT-Series HD firmware V1.3.0.33).

   a. Make sure the **Radar Mode** is not None.

   b. Under **Track**, select **Lock**.

   c. The PT-Series HD camera follows the track as long as the geotracking enabled fixed camera or radar detects the object and provides the geotracking information.

   d. When the geotracking enabled fixed camera or radar no longer detects the object, the PT-Series HD automatically changes **Track** to **Unlock**.

6. Under **Field of View Adjustment**, choose **Enable**. The distance from the geotracking enabled fixed camera or radar to a tracked object determines the PT-Series HD camera's zoom.

7. Specify the horizontal length in meters of the PT-Series HD camera's field of view (FOV) at the tracked object distance (between 1-100 meters).

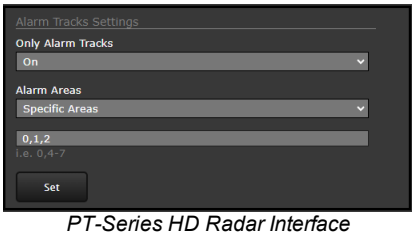
8. Under **Alarm Tracks Settings > Only Alarm Tracks** choose **On**. The PT-Series HD camera only tracks objects detected by the paired camera in a geotracking alarm region.

3. Under **Alarm Areas**, choose one of the following:

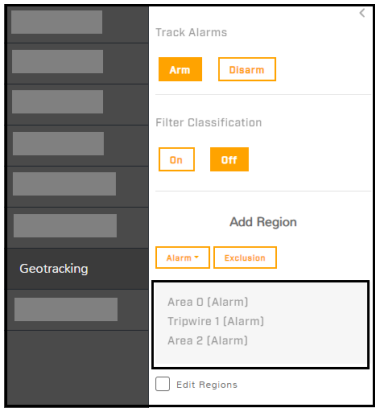
   a. **All Areas—**The PT-Series HD camera tracks objects detected in all of the paired camera's geotracking alarm regions.

   b. **Specific Areas—**The PT-Series HD camera tracks objects detected in specified paired camera alarm regions. To specify regions and ranges of regions, use a comma. For example, you can specify 0, 1, 2 or 0-2.

   c. Click **Set.**



PT-Series HD Radar Interface



Geotracking Page for the Geotracking enabled fixed camera or radar

10. Under **Idle State > Idle State Mode**, specify the behavior of the PT-Series HD camera when it is in geotracking mode and there is no geotrack to engage:

    - **None—**PT-Series HD camera stays at the current position.
    - **P&T Home—**PT-Series HD camera moves to its home position.
    - **Go to Preset—**PT-Series HD camera moves to the specified preset.

To take manual control of the PT-Series HD camera when geotracking:

1. Under the **Maintenance** menu, turn off the **Server** 

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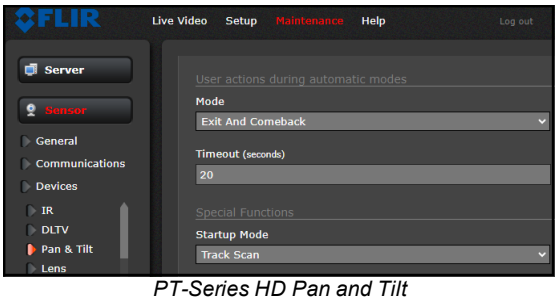
2. In the **Maintenance** menu, open **Sensor > Devices > Pan & Tilt**.

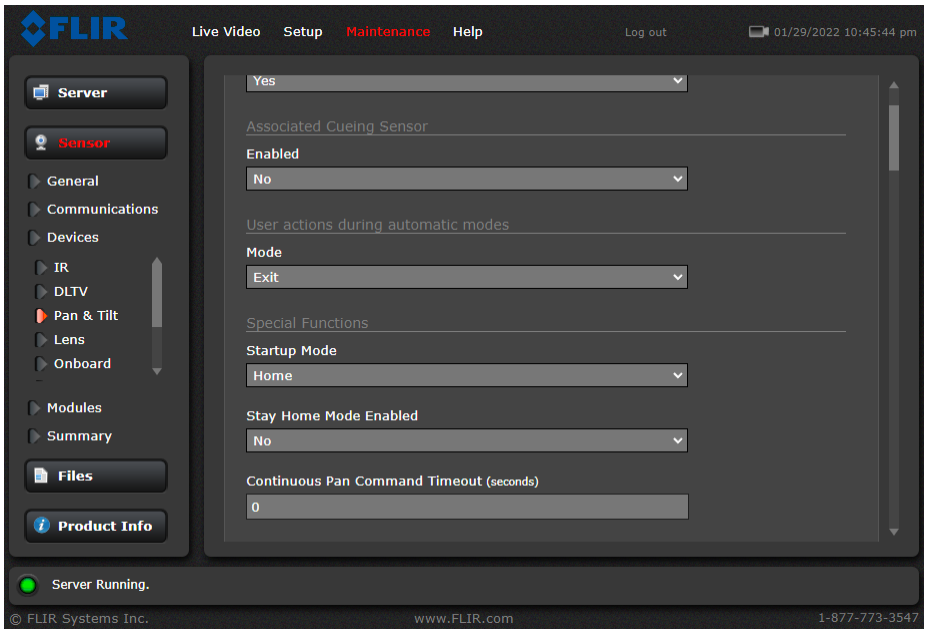


PT-Series HD Pan and Tilt

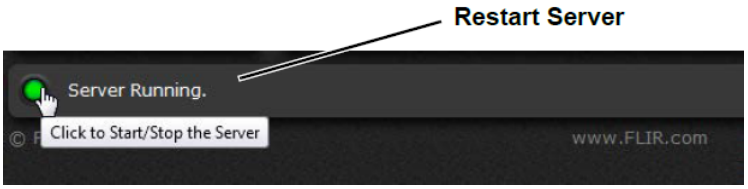
1. Under **Mode**, choose one of the following options:
   a. **None** - No manual control.
   b. **Exit and Comeback** - Take manual control, but will revert back to automatic mode if left for a certain amount of time.
      i. Under **Timeout,** choose the time, in seconds, the device will remain idle before reverting to automation.
   c. **Exit** - Full manual control, automatic mode stops.

To configure the PT-Series HD camera to start up in a geotracking mode:

1. In the **Maintenance** menu, open **Sensor > Devices > Pan & Tilt**.

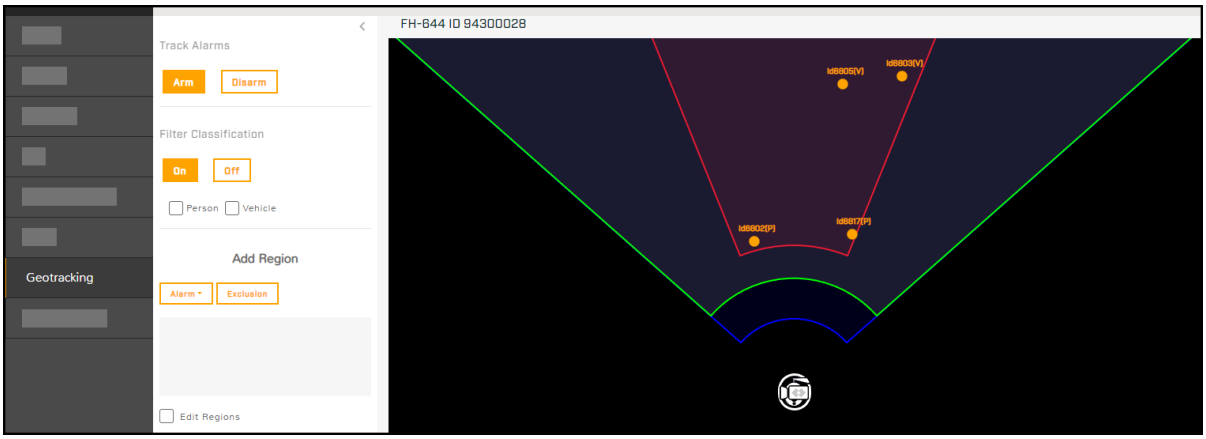


2. Under **Special Functions > Startup Mode**, select one of the geotracking radar modes:
   a. **Track Scan**
   b. **Engage Last**
   c. **Engage Closest**
3. Scroll to the bottom of the page and click **Save**.
4. Restart the camera's server.



1.3 Configure the Geotracking Enabled Fixed Cameras and Radars Geotracking Page

To configure the geotracking enabled fixed cameras and radars Geotracking page:

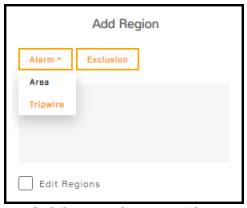


1. On the camera's **Video Analytics** page, choose **Enable**.
2. Navigate to the camera's **Geotracking** page, choose **Arm** or **Disarm**.
   a. **Arm** - provides alarm zone information with tracks.
   b. **Disarm** - provides tracks that can be received by the PT-Series HD camera but without alarm related information. Use if you do not want the camera to react to alarms.

Note:
- PT-Series HD camera won't be able to choose what alarm areas to pay attention to if the geotracking source is disarmed.
- If the PT-Series HD camera has the setting "Only Alarm Tracks" on, no tracks without alarms will be attended but the rest of the actions that are not alarm dependent can still be executed.

To Create Detection/Exclusion Regions:

1. Under **Add Region**, choose **Alarm** or **Exclusion**.
2. The **Alarm** option includes two detection region types, **Area** or **Tripwire**.
   a. Create the intrusion area or tripwire in the desired region.



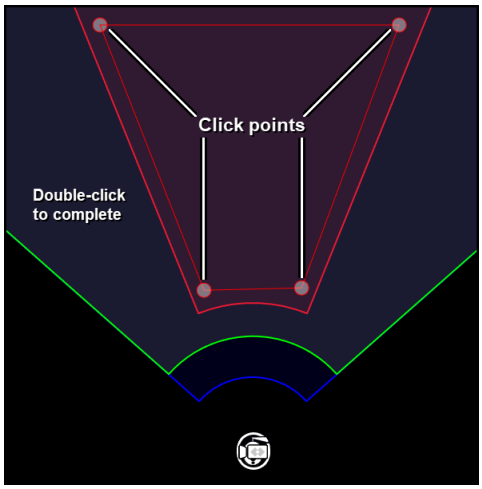
Add a region section from tracks source webpage

b. An intrusion into a geotracking area or over a tripwire triggers a geotracking alarm.

c. Alarms for areas and tripwires appear in red.

3. The **Exclusion** area option:

- Creates an area where the camera neither detects objects nor triggers geotracking alarms.
- **Exclusion** areas appear in yellow in the detection area display.
- **Exclusion** areas are used to eliminate false alarms by blocking trees or bushes moving in the wind.



To Create an Exclusion area:

a. Create the first point of the region. Click and release on the detection area display.

b. Continue adding points (up to 25).

c. Complete the region. Double-click on the detection area display.

d. To cancel creating a region, press **Esc**.

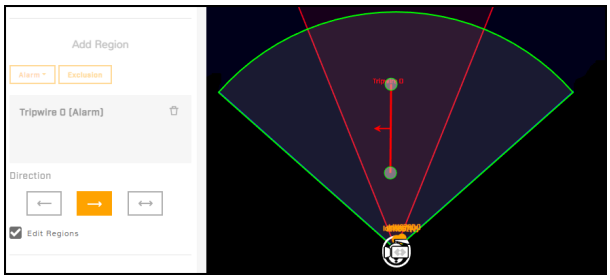
To edit a region:

1. Select **Edit Regions**, and click the region.
2. Move region points by clicking on the point, holding, and dragging.
3. Define a tripwire's detection direction.

a. Tripwires are bidirectional by default.

b. Tripwires can be configured to be unidirectional.

c. When configured as unidirectional, the direction selection arrows refer to the direction of movement over the tripwire *as seen from the first tripwire point created*.



4. To delete a region:

Select the region and click the trash can icon next to it.

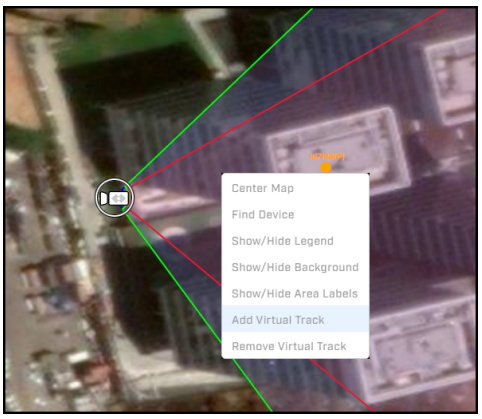
1.4 Confirming PT-Series HD Camera Pairing Configuration

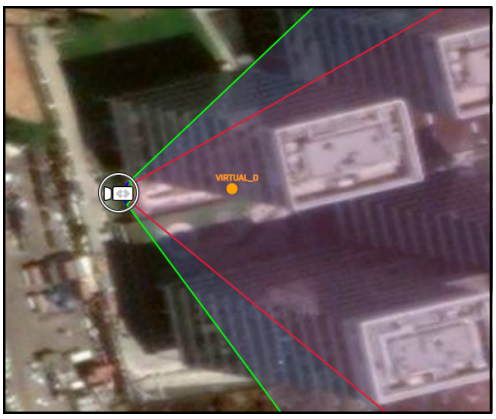
1. If you are not logged in to *the geotracking enabled fixed camera or radar web page*, log in to it.
2. On the **Geotracking** page, right-click on the detection area display, within the geotracking enabled fixed camera or radar detection range, and select **Add Virtual Track**.

A virtual track appears at the right-click point, on the detection area display.

a. The geotracking enabled fixed camera or radar communicates the virtual track to the PT-Series HD camera, which points to the virtual track when pairing is properly configured.

b. The PT-Series HD camera ignores actual geotracks while the virtual track is enabled.





3. Make sure the PT-Series HD camera is pointing at the virtual detected object.
4. Right-click on the geotracking enabled fixed camera or radar detection area display and select **Remove Virtual Track**.

   The virtual track disappears.
5. Check and adjust the PT-Series HD camera's and the geotracking enabled fixed camera or radar georeference settings.
6. Right-click and select **Add Virtual Track** and check again whether the PT-Series HD camera is pointing at the virtual detected object.

Teledyne FLIR LLC
Antennvägen 6
PO Box 7376, SE-187
15 Täby
Stockholm County, 187 66
Sweden

Support:
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