AXIS Radar Autotracking for PTZ

User Manual

AXIS Radar Autotracking for PTZ

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About AXIS Radar Autotracking for PTZ

AXIS Radar Autotracking for PTZ is an application that directs one or more PTZ cameras to where there is movement. It uses motion data from security radars to find objects of interest. The security radars measure the absolute distance and velocity of moving objects. The application calculates the optimal pan, tilt, and zoom values for the cameras using the cameras locations and current view.

The tracker groups together multiple objects to fit in the view of the camera.

These are the priorities used by the tracker:

1. Keep tracking the same object.

Note

The security radar may change the identity of an object. This may cause the tracker to stop tracking it.

2. Minimize camera movement.

3. Every object should be tracked by at least one camera if physically possible.

Limitations

*   For supported cameras, see *axis.com/products/axis-radar-autotracking*

*   The application is suitable for outdoor sites with a limited amount of activity. Crowded sites, like train stations, are not recommended.

*   The security radar can miss some objects visible to the camera. Objects can be out of the security radar detection range or can be obscured.

*   The security radar can change the identity of a physical object during its path through the scene, which could cause unexpected behavior from the tracker.

*   The operator can override the autotracking to manually control the PTZ of the camera. This requires the camera firmware to be updated to version 7.20 or higher.

*   If you change any settings in the security radar, restart the service.

*   The application might disable **Proportional speed** in the camera. This setting is not restored when you remove the camera from the application.

AXIS Radar Autotracking for PTZ

Preparations

- Create a good map image or an aerial photo of the area to be monitored. The image should include the installation points of the camera and the security radar. It should also include two calibrations points. Use landmarks as calibration points or place objects or marking paint that are visible in a photo.

- Note the location where the security radars and cameras are installed.

- Measure the mounting height of the cameras and security radars relative to the area of interest.

- Go to the security radar's webpage and calibrate the security radar.

Additional settings

Install AXIS Radar Autotracking for PTZ

1. Download the application from *axis.com/products/axis-radar-autotracking*.

2. Double-click the downloaded file and follow the instructions in the installation wizard.

As soon as the installation is completed, the application starts running in the background.

Connect security radars and cameras

The cameras and security radars are organized in groups. A group consists of one security radar and one or more cameras that are controlled with motion data from the security radar.

1. In the Windows® task bar, right-click **AXIS Radar Autotracking for PTZ** and select **Open AXIS Radar Autotracking for PTZ**.

2. Select **Create group** and type a name for the group.

3. Select **Add security radar** and enter the security radar's IP address.

    To connect via HTTPS, select **Options** and select **HTTPS**.

4. If the security radar has not yet been configured, configure the security radar: Click **Status: Not configured** and follow the instructions in the application.

5. Select **Add camera** and enter the camera's IP address.

    To connect via HTTPS, select **Options** and select **HTTPS**.

6. Configure the camera: Click **Status: Not configured** and follow the instructions in the application. For more information, see *Calibrate the camera on page 7* .

Use the tracker only outside office hours

1. Go to the security radar's webpage and set up a schedule that defines the hours you want the tracker to work.

2. In the Windows® task bar, right-click **AXIS Radar Autotracking for PTZ** and select **Open AXIS Radar Autotracking for PTZ**.

3. Right-click the group and select **Group settings**.

4. Turn on **Tracking schedule**.

5. Select the schedule you created.

    If you can't find the schedule in the list, click $\circlearrowright$ to refresh the list.

Use zone-specific filters from the security radar

The tracker can be set up to only track during radar alarms. A radar alarm occurs when there is an object moving inside an include zone, matching the object type filter for that include zone.

When the radar alarm occurs, the tracker will track all moving objects, not just those that triggered the alarm. To limit the camera to only track objects inside the include zone, go to **Camera settings**, turn on **Track in zone**, and select the include zone.

1. Go to the security radar's webpage and set up the filter in the include zone.

2. In the Windows® task bar, right-click **AXIS Radar Autotracking for PTZ** and select **Open AXIS Radar Autotracking for PTZ**.

3. Right-click the group and select **Group settings**.

4. Turn on **Only track during radar alarm**.

If you have several include zones, you can turn on **Prioritized zone** and set up one of the include zones to be a prioritized zone. The tracker will track moving objects in a prioritized zone before moving objects in other zones.

Use one camera with multiple security radars

The cameras and security radars are organized in groups. A group consists of one security radars and one or more cameras that are controlled with motion data from the security radar. To use one camera with multiple security radars, create one group for each security radar, and add the same camera to those groups.

1. In the Windows® task bar, right-click **AXIS Radar Autotracking for PTZ** and select **Open AXIS Radar Autotracking for PTZ**.

2. Select **Create group** and type a name for the group.

3. Select **Add security radar** and enter the security radar's IP address.

    To connect via HTTPS, select **Options** and select **HTTPS**.

4. If the security radar has not yet been configured, configure the security radar: Click **Status: Not configured** and follow the instructions in the application. For more information on calibration, see *Calibrate the camera on page 7* .

5. Select **Add camera** and enter the camera's IP address.

    To connect via HTTPS, select **Options** and select **HTTPS**.

6. Configure the camera: Click **Status: Not configured** and follow the instructions in the application.

7. Create a new group for each security radar, and add the same camera to each group.

Access the device's webpages

The application handles the basic settings needed for tracking. To configure the device itself, go to the device's webpages.

1. In the Windows® task bar, right-click **AXIS Radar Autotracking for PTZ** and select **Open AXIS Radar Autotracking for PTZ**.

2. Expand the group that the device belongs to.

3. Right-click the device and select **Copy device address**.

4. Start a web browser.

5. Paste the device address in the browser's address field.

The user manual for the device is available at *axis.com*.

Control when the camera returns to its home position

1. In the Windows® task bar, right-click **AXIS Radar Autotracking for PTZ** and select **Open AXIS Radar Autotracking for PTZ**.

2. Go to **Global settings** > **Return to home delay** and set the time of inactivity before the PTZ camera returns to its home position.

Pause AXIS Radar Autotracking for PTZ

You can pause AXIS Radar Autotracking for PTZ in several ways.

*   To pause all tracking, go to Windows® task bar, right-click **AXIS Radar Autotracking for PTZ** and select **Stop service**.

*   To pause tracking for a specific detection area, go to the security radar's webpage. Go to **Radar** and turn off **Radar transmission**.

- To pause tracking for a specific detection area, go to the security radar's webpage. Go to **Settings** > **Events**. Create an event with **Radar detection** as action and **Detection off** as state.

Disable tracking for one camera

1. In the Windows® task bar, right-click **AXIS Radar Autotracking for PTZ** and select **Open AXIS Radar Autotracking for PTZ**.

2. Expand the group that the camera belongs to.

3. Right-click the camera and select **Turn off**.

Calibrate the camera

To make calibration of the camera easier, there are a few things to consider.

- The calibration is based on three positions: the location of the camera and two calibration points. These three positions create a plane.

- The calibration points are used for calibrating the camera view to the background image. This means that you can choose calibration points outside of the security radar's detection zone.

- Choose the first calibration point in the same direction as the most distant point of the detection zone. Preferably, choose a calibration point that is further away. If the calibration point is close to the security radar, a small angular error will result in large deviations at more distant object locations. The detected object might fall outside of the camera view.

- The second calibration point is preferably chosen at, or beyond, the perimeter of the area of interest. The performance of the camera tracking is best inside the triangle made up of the camera position and the two calibration points.

- Consider height differences when choosing the calibration points. If the three positions are set on different height levels, the application assumes that the whole detection zone is a tilted plane. The security radar has no information on height. If an object is detected on another level than the area set out from the calibration points, the camera might be tracking below the object of interest.

Troubleshooting

Symptom	Corrective action
The camera loses the moving objects.	Go to **Camera settings** and adjust the zoom level to a lower value.
	Recalibrate the camera.
The latest changes didn't take effect.	If you make any changes in the radar configuration, restart the service.
Overshooting, that is when the camera moves back and forth missing the object	Check the network latency. Preferably, the server and cameras should be on the same switch.
	Go to **Camera settings** and decrease the camera speed.
	Limit the network load during setup. See *Lower the network load on page 8* .

Make a screen recording of the trackers behavior

1. In the Windows task bar, right-click **AXIS Radar Autotracking for PTZ** and select **Open AXIS Radar Autotracking for PTZ**.

2. To display additional information, select a group, click the reference map, click ⋮ and select **Show extended information**.

3. Make a screen recording with a suitable application.

Lower the network load

To limit the network load during setup, you can lower the video quality used by the tracker's user interface. This does not affect the quality of the recordings.

1. In the Windows® task bar, right-click **AXIS Radar Autotracking for PTZ** and select **Open AXIS Radar Autotracking for PTZ**.

2. Click ⚙.

3. Select a lower **Video quality**.

4. Click **Close and restart service**.

Turn on debug logging

If you need to contact support it can be helpful to provide debug information. The debug log is saved in the diagnostics report.

Note

> The debug logging must have been on when the problem occurred, otherwise there will not be any debug information in the diagnostics report.
>
> If the debug logging is turned off, turn it on and reproduce the problem before saving the diagnostics report.

1. In the Windows® task bar, right-click **AXIS Radar Autotracking for PTZ** and select **Open AXIS Radar Autotracking for PTZ**.

2. Click ⚙.

3. Under **Troubleshooting**, turn on debug logging.

Export or import settings for backup and migration

Your settings can be exported for backup or migration to another system, and imported to restore your configuration or when migrating from another system.

1. In the Windows® task bar, right-click **AXIS Radar Autotracking for PTZ** and select **Open AXIS Radar Autotracking for PTZ**.

2. Go to **Global settings** > **Backup & migration**.

3. Click **Export** or **Import** and follow the instructions in the application.

Save a diagnostics report

The diagnostic report contains system settings, calibration reports (including images from the security radars and cameras), and debug logs.

1. In the Windows® task bar, right-click **AXIS Radar Autotracking for PTZ** and select **Open AXIS Radar Autotracking for PTZ**.

2. Click ⚙.

3. Under **Troubleshooting**, click **Save diagnostics report**.

Save a calibration report

The calibration report contains calibration information and images from the security radars and cameras.

1. In the Windows® task bar, right-click **AXIS Radar Autotracking for PTZ** and select **Open AXIS Radar Autotracking for PTZ**.

2. Expand the group that the device belongs to.

3. Right-click the device and select **Save calibration report**.

Turn on latency display

1. In the Windows® task bar, right-click **AXIS Radar Autotracking for PTZ** and select **Open AXIS Radar Autotracking for PTZ**.

2. Select the group.

3. In the overview map, click ⋮ and select **Show extended information**.