

INSTALLATION GUIDE

AXIS Digital Autotracking



About This Document

This manual is intended for administrators and users of AXIS Digital Autotracking, and is applicable to release 1.1. It includes instructions for using and managing the application. Previous experience of networking will be of use when using this product. Some knowledge of UNIX or Linux-based systems may also be beneficial, for developing shell scripts and applications. Later version of this document will be posted to the Axis website, as required. See also the product's online help, available via the web-based interface.

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Support

Should you require any technical assistance, please contact your Axis reseller. If your questions cannot be answered immediately, your reseller will forward your queries through the appropriate channels to ensure a rapid response. If you are connected to the Internet, you can:

- download user documentation and software updates
- find answers to resolved problems in the FAQ database. Search by product, category, or phrase
- report problems to Axis support staff by logging in to your private support area
- chat with Axis support staff (selected countries only)
- visit Axis Support at www.axis.com/techsup/

AXIS Digital Autotracking

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AXIS Digital Autotracking is an application that allows the camera to discover a moving object, such as a person or a vehicle, zoom in on the object and follow it within the camera's range of coverage. Autotracking continues until the moving object stops or disappears from the camera's field of view. The application is most suitable in environments where movement is unusual (low traffic areas) and could indicate unwanted activity, such as schools, shopping center parking areas and office buildings after opening hours. AXIS Digital Autotracking allows efficient, motion-triggered monitoring while saving on bandwidth and disk space.

Digital autotracking differs from mechanical autotracking in that the camera view is adapted to include all detected moving objects. Mechanical autotracking, which is available in some PTZ cameras, locks on a single object and follows that object until the object is outside the camera's range of coverage.

Application Overview

AXIS Digital Autotracking detects objects moving in the camera's field of view. When a moving object is detected, the application uses one of the product's view areas to zoom in on and track the object. While tracking, the application continues to detect other moving objects in the camera's field of view. If a second moving object is detected, the view area is adapted to include all moving objects. Tracking continues until all objects have stopped or disappeared from the camera's field of view.

The application detects moving objects in the entire field of view. To avoid detecting moving trees, flags, clouds and similar, filters can be set. Movement in areas blocked by privacy masks is always ignored.

When configuring the application, a view area to be used for autotracking is created automatically. This view area is called "Digital Autotracking View" and has a resolution of 640x480. If required, the resolution can be changed or a user-defined view area can be used. Note that PTZ must be enabled in the view area used for autotracking and that the view area's aspect ratio should not be changed; if using a user-defined view area make sure to keep the view area's default aspect ratio. The maximum zoom level is automatically adapted to the view area resolution.

AXIS Digital Autotracking can be used while a guard tour is running. The guard tour will be stopped temporarily when digital autotracking starts and will resume when autotracking stops. Manual pan/tilt/zoom operations, for example using a joystick or mouse, have precedence over autotracking.

The Axis product can be configured to perform actions, for example record video or send a notification message, when autotracking starts or stops. See *Using the Application in an Action Rule*, on page 6.

It is not recommended to run AXIS Digital Autotracking at the same time as other applications or the camera's built-in motion detection.

Requirements

AXIS Digital Autotracking can be installed in Axis network cameras that support view areas and AXIS Camera Application Platform. Go to www.axis.com/applications for more information. The application can be installed on products with firmware 5.50 and later.

AXIS Digital Autotracking is intended for fixed cameras with megapixel resolutions. The application does not require any license.

Upload Application

To upload the application to the Axis product, follow these instructions:

1. Download the application from www.axis.com/applications
2. Go to **Setup > Applications** in the product's web pages.
3. Under **Upload Application**, click **Browse**, locate the application file and then click **Upload Package**.

The application will appear under **Installed Applications** on the **Applications** page and under **Overview** in the menu.

Note

Applications can be uploaded by product administrators only.

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Set up AXIS Digital Autotracking

To set up AXIS Digital Autotracking:

1. Download and install the application as described in *Upload Application, on page 3*.
2. Start the application.
3. Configure the application, see *Digital Autotracking Settings*.
4. Optionally, set up action rules for recording or notification, see *Using the Application in an Action Rule, on page 6*.

A view area to be used for autotracking is created automatically when configuring the application. This view area is called "Digital Autotracking View" and has a resolution of 640x480. To change the resolution, go to **Video & Audio > Video Stream > Digital Autotracking View**.

Start and Stop the Application

To start the application, select it in the **Installed Applications** list on the **Applications** page and click **Start**.

To stop the application, select it in the list and click **Stop**.

Digital Autotracking Settings

AXIS Digital Autotracking must be started and configured before use. The application can be configured when in **running** or **idle** status.

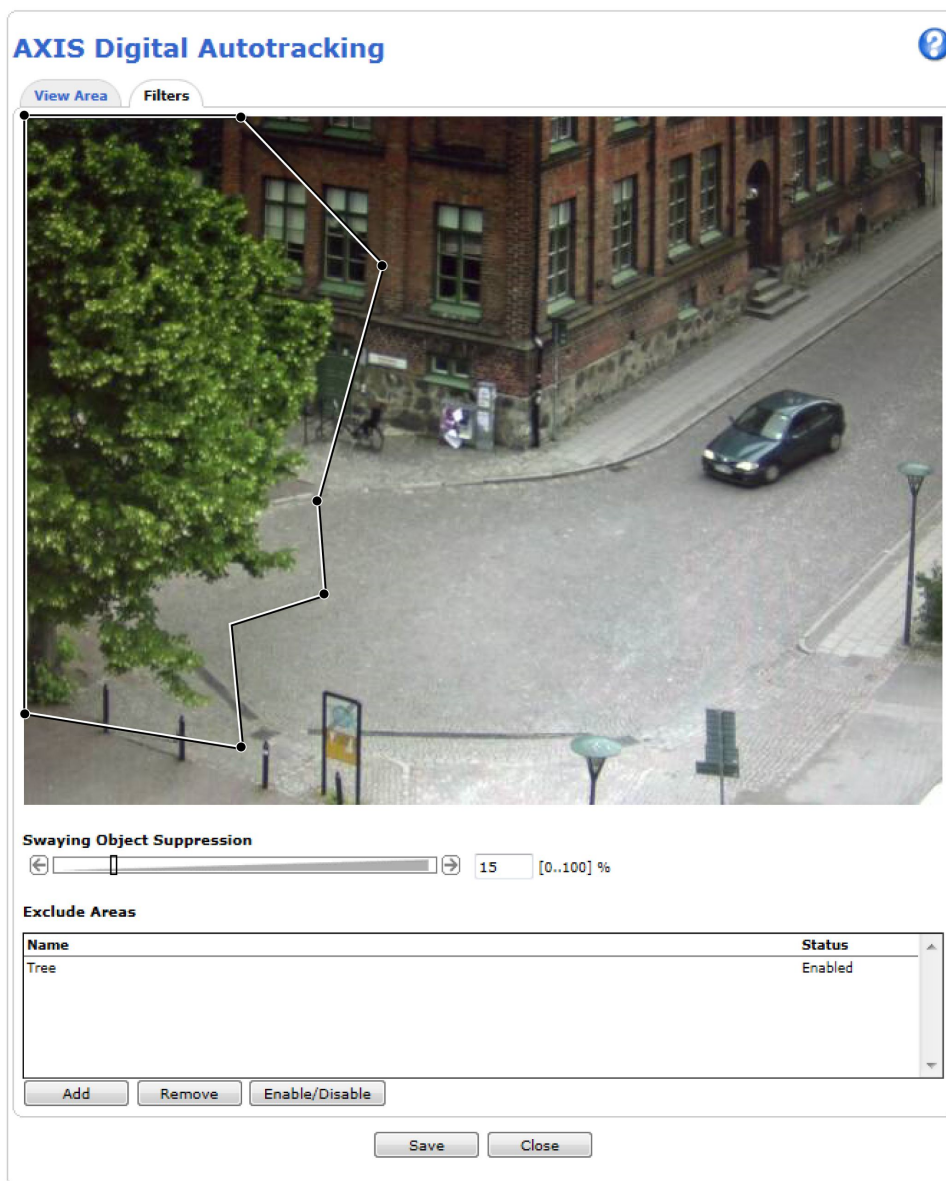
The **Preview Window** can be used to confirm that the application detects and tracks moving objects as intended.

To configure the application, follow these steps.

1. Go to **Applications > Overview**.
2. Select the application and click **Start**.
3. Go to **Applications > Digital Autotracking > Settings**.
4. Click the link **AXIS Digital Autotracking Settings**.
5. If view areas setting is disabled, click **Enable View Areas**.
6. On the **View Area** tab, select the view area to use for autotracking.
7. Optionally, set up Swaying object suppression, see *Swaying object suppression*.
8. Optionally, set up one or more exclude areas, see *Exclude Areas*.
9. When satisfied, click **Save** to save settings.

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Swaying object suppression

Use this filter to minimize undesired tracking when swaying objects such as flags and trees, or shadows thereof, are present in the camera's field of view.

The filter analyzes each detected object's traveled distance relative to the camera's field of view, to determine if it should be ignored during tracking.

Important

A typical initial filter setting is recommended to be 30%. Continue to adjust the filter in steps of 10% to find a suitable level of suppression. Filter settings above 75% will significantly delay the tracking of moving objects.

A filter value of 100% implies that a detected object has to travel, from its initial point, one third of the image width or height before being tracked.

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A filter value of 50% implies half that distance, thus requiring the object to travel a distance of one sixth of the image width or height before being tracked.

A filter value of 0% disables the filter and the camera will track all detected objects including swaying objects.

Note

When the filter is active, tracking will be delayed until an object meets the filter criteria.

Exclude Areas

An exclude area is an area where moving objects are ignored. The exclude area is a polygon defined by 3–10 points.

To set up an exclude area, follow these steps:

1. Go to **Applications > Digital Autotracking > Settings**.
2. Click the link **AXIS Digital Autotracking Settings**.
3. Select the **Exclude Areas** tab and click **Add**.
4. Enter a name for the area and select the number of polygon points.
5. Click **Create area**.
6. The exclude area is placed in the center of the image. Use the mouse to move and resize the area.
7. When satisfied with the exclude area's position, click **Save**.

Note

Polygons with 3 and 5–10 corners are only available when using AXIS Media Control (AMC) and Internet Explorer.

To disable an exclude area, select the area in the list and click **Enable/Disable**. If an exclude area is disabled, moving objects will be detected in the area.

Using the Application in Live View

AXIS Digital Autotracking can be used for live monitoring.

1. Open the **Live View** page in a browser.
2. From the **Source** list, select the view area used for autotracking. The default view area is **Digital Autotracking View**.

Using the Application in an Action Rule

Using action rules, the Axis product can be configured to perform actions such as record video or send a notification when the application is active.


To set up an action rule, follow these steps

1. Go to **Events > Action Rules** and click **Add**.
2. Select **Enable rule** and enter a descriptive name for the rule.
3. Select **Applications** from the **Trigger** drop-down list.
4. From the second drop-down list, select the application to use as trigger.
5. Optionally, select a **Schedule** and **Additional conditions**. See the online help for details.
6. Under **Actions**, select the desired action for example record video or send a notification.

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Note

The application must either have a status of Idle or Running to appear in the **Trigger** list.

For more information about action rules and events, refer to the product's online help  and User Manual.

Technical Specifications

| Function/group | Item | Specification |
|----------------------|-----------------------------------|---|
| Compatible products | Models | Axis P- and Q-line megapixel network cameras with firmware 5.50 or later, support for view areas and AXIS Camera Application Platform. Complete list of compatible products on www.axis.com/applications |
| Application settings | Settings | View area selection. PTZ must be enabled and the view area's default aspect ratio should be kept. Set the filters Swaying Object Suppression and Exclude Areas. Up to 10 exclude areas; each exclude area is a polygon with 3–10 corners. Maximum view area size is half the resolution of the capture mode. Real time visual confirmation to verify setup |
| Scenarios | Typical applications | Low-traffic areas such as schools, shopping centers, parking areas and office buildings after opening hours . |
| | Limitations | Small and distant objects might not be detected. Weather conditions such as heavy rain or snow may affect detection accuracy. |
| | Bandwidth reduction | Compared with continuous streaming: ~90% reduction* Compared with video motion detection (VMD): ~70% reduction* * AXIS Digital Autotracking in SVGA (800x600) compared with 30 fps and 2 MP. The reduction will vary with video resolution, compression and scene activity. |
| Integration | Camera | Integrates with camera event management system to enable event streaming to Video Management Software and camera actions such as edge storage recording, I/O control, notification, etc. |
| | Application Programming Interface | Open API for software integration, including the ONVIF specification available at www.onvif.org , as well as VAPIX® and AXIS Camera Application Platform from Axis Communications, specifications available at www.axis.com |
| General | Language | English |

